UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

EARTHQUAKE DATA REPORT

NOVEMBER 1989

by

U.S. Geological Survey

NATIONAL EARTHQUAKE INFORMATION CENTER[1]

Open-File Report 89-611-A

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1989

1USGS, Denver, Colorado

The following description is for New Publications of the U.S. Geological Survey:

Earthquake Data Report for November, 19 89

The Earthquake Data Report (EDR) is a bulletin produced by the National Earthquake Information Center (NEIC) containing all information used to calculate the locations and magnitudes of events published in the Preliminary Determination of Epicenters (PDE) Monthly Listing for the corresponding month. The EDR is a technical data file intended for users who are familiar with basic seismological practice. Potential users who are unfamiliar with such practice or who desire simply a bulletin of earthquake locations are advised to obtain the PDE Monthly Listing (available from the U.S. Government Printing Office) instead of the EDR. A machine-readable summary of the PDE Monthly Listing is available from the NEIC.

The EDR data are written on 1.2 megabyte, high density, 5 1/4 inch diskettes and are readable by IBM PC or compatible computers running DOS version 2.0 or higher. All files are ASCII and the documentation is given in file AAREADME.DAT on the first disk. Succeeding disks are a continuation of the data file which starts on the first disk. Each disk contains a title page file, named AATPAGEn.DAT, and a data file, OFEDRmmn.DAT, where n is the disk number and mm is a two-character code for the month (JA, FE, MR, etc.).

EDR No. 11-89
Part 1 of 2
P. 1-138

U. S. DEPARTMENT OF THE INTERIOR

Geological Survey

EARTHQUAKE DATA REPORT

The Earthquake Data Report (EDR) is a bulletin of all seismic phase and amplitude data which were associated with events published in the Preliminary Determination of Epicenters (PDE) Monthly Listing. It also contains information about the hypocentral computations (such as standard errors) that are not included in the PDE Monthly Listing. A machine-readable version of this EDR is available from the Books and Open-File Reports Section of the U.S. Geological Survey.

All data in the EDR are grouped by event, with events listed by origin time in date/time order through the month. All times are in Coordinated Universal Time (UTC). Locations are in decimal degrees of geographic latitude and longitude. Depths are in kilometers below the free surface. Hypocentral coordinates are determined by a modified Geiger's method and may be constrained by reported first arriving P-waves, Pdiff, and the DF branch of PKP. Data are corrected for station elevation and for the ellipticity of the Earth. Outliers may be truncated (ie., removed from the calculation) either automatically or manually. The solution is allowed to converge between rounds of automatic truncation to insure a unique result. Convergence is aided by step length damping.

The error bars of the computed hypocentral coordinates are 90% marginal confidence intervals incorporating Baysian information to stabilize estimates derived from small samples (Jordan and Sverdrup, 1981). It is assumed that the travel-time errors *of the data used* are independent, unbiased, and have an expected standard deviation of 1 s. Monte Carlo experiments suggest that the error bars are accurate for events constrained by more than about 30 data. However, care should be exercised in interpreting these numbers in terms of absolute location accuracy because of unmodeled biases. Analysis of events with independently known coordinates indicates that most PDE determinations are accurate to a few tenths of a degree in epicentral position and 25 km in depth. For special studies, we urge that inquiry be made to this office for possible recomputation of hypocenters of interest, using more complete instrumental data.

Restricted focal depths occur in four instances. If at any point in the computation the depth becomes negative, the solution is automatically restricted at 33 km and indicated by "NORMAL DEPTH". If the unrestricted depth computation is unsatisfactory, and in the judgment of the reviewing geophysicist the earthquake probably has a shallow focus, a solution may be held at 33 km. These are also indicated by "NORMAL DEPTH". The geophysicist may restrain the depth at any value indicated by evidence from available seismograms. These are indicated by, for example, "DEPTH = 100 KM (GEOPHYSICIST)". If two or more pP phases are identified, and in general, yield depths within 10 km of the mean, then the depth is automatically restricted to this value and denoted by, for example, "DEPTH = 51 KM (5 DEPTH PHASES)". pP phases may also appear as unidentified second arrivals with associated travel-time residuals. Hypocentral coordinates derived from other sources, such as the California Institute of Technology, the University of California at Berkeley, and the U. S. Department of Energy are noted on the EDR.

Two types of magnitude are computed: body-wave magnitude (m_b) and surface-wave magnitude (M_{SZ}). Each is a 25% trimmed mean of individual station values. Station magnitudes not used in the trimmed mean are marked with an X. This includes station magnitudes of either type which deviate significantly from the mean and surface-wave magnitudes determined from horizontal amplitudes. Body-wave magnitudes are computed according to the formula $\log(A/T) + Q$, derived by Gutenberg and Richter (1956), where A is the P-wave amplitude in micrometers, T is the period in seconds, and Q is the depth-distance factor. Surface-wave magnitudes are computed from the formula $\log(A/T) + 1.66\log(\Delta) + 3.3$, where A is the maximum vertical surface-wave amplitude in micrometers, T is the period in seconds, and Δ is the epicentral distance in degrees. Surface-wave magnitudes are determined only for earthquakes whose focal depths (taking into account the computed standard deviations) are potentially less than 50 km, for stations having

$20° \leq \Delta \leq 160°$, and for reported periods of $18 \leq T \leq 22$ s. No correction for focal depth is used in the M_S calculation. Body-wave magnitudes are not determined from PKP arrivals or for stations having $\Delta \leq 5°$. Amplitude values stated in this report are in nanometers (nm) for body-waves and micrometers (μm) for surface-waves.

The travel-time residual (observed – computed) is based on the 1940 Jeffreys-Bullen P and 1968 Bolt PKP travel-time tables. Phases not used in the computation are marked by an X. The azimuth from the epicenter to the station is measured clockwise from north. The epicentral distance is the central angle in degrees.

Hypocenter Symbols

& Indicates that parameters of the hypocenter were supplied or determined by a computational procedure not normally used by the National Earthquake Information Service (NEIS). The source or nature of the determination is indicated by a 2 to 5 letter code enclosed by angle brackets and appearing in the first line of comments. A "-P" appended to the code indicates that the computation is preliminary. These codes are included with the list of abbreviations in the PDE Monthly Listing.

% Indicates a single network solution. A non-furnished hypocenter has been computed using data reported by a single network of stations for which the date and/or origin time cannot be confirmed from seismograms available to a NEIS analyst. Also, if we define η to be the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse, then $\eta \leq 16.0$ km.

* Indicates a less reliable solution. In general, $8.5 < \eta \leq 16.0$ km.

? Indicates a poor solution, published for completeness of the catalog. In general, $\eta > 16.0$ km. This includes poor solutions computed using data reported by a single network.

The lack of any symbol indicates that $\eta \leq 8.5$ km.

Note: On printers available to the NEIS for this publication, the symbol for degrees (°) appears as "`".

References

Bolt, Bruce A. (1968), Estimation of PKP Travel Times, *Bull. Seis. Soc. Am.*, **58**, pp. 1305–1324.

Gutenberg, B. and C. F. Richter (1956), Magnitude and Energy of Earthquakes, *Ann. di Geofisica*, **9**, no. 1, pp. 1–15.

Jeffreys, Harold and K. E. Bullen (1940), *Seismological Tables*, British Assoc. for the Advancement of Science, Gray Milne Trust.

Jordan, Thomas H. and Keith A. Sverdrup (1981), Teleseismic Location Techniques and their Application to Earthquake Clusters in the South-Central Pacific, *Bull. Seis. Soc. Am.*, **71**, pp. 1105–1130.

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-----------------------------------------
   NOV  01, 1989  00h 08m 27.62± 0.59s
   38.299 N ± 5.3km   21.936 E ± 6.4km
   DEPTH =  10.0km  (geophysicist)
 GREECE                                (364)
      ML 3.2 (THE), 3.0 (ATH).

AGG      0.79  23 ePg   08 42.30  -0.6
                  eSg   08 52.30
VLS      1.07 264 ePg   08 44.00  -3.7X
ITM      1.12 180 ePg   08 48.50  -0.1
ATH      1.44 103 ePb   08 52.20  -1.5
VLI      1.77 153 ePg   09 00.60   2.2
LIT      1.85  13 ePb   08 59.80   0.1
                  eSb   09 23.90
KZN      2.01 356 ePn   09 02.10   0.1
PAIG     2.12  39 ePn   09 02.70  -0.8
SRN      2.18 317 ePn   09 04.60   0.2
KEK      2.18 311 ePb   09 03.50  -1.0
THE      2.46  19 ePn   09 09.00   0.6
OUR      2.58  37 ePn   09 08.70  -1.4
                  eSn   09 40.60
GRG      2.68   8 ePn   09 11.90   0.3
BERA     2.85 328 ePn   09 21.60   7.7X
OHR      2.94 343 ePn   09 16.20   0.9
KNT      2.95  14 ePn   09 15.40   0.0
                  eSn   09 51.40
VAY      3.06   9 ePn   09 17.50   0.7
SRS      3.09  24 ePn   09 17.00  -0.3
TIR      3.44 333 ePn   09 31.00   8.8X
SKO      3.69 354 ePn   09 28.60   2.7
LACI     3.75 334 ePn   09 34.00   7.3X
PUK      4.05 338 ePn   09 35.60   4.7X
CZI      4.63 283 P     09 38.30  -0.9
CSI      4.64 290 P     09 38.30  -1.1
     S.D. = 1.2  on  19 of  24 obs.
-----------------------------------------
*  NOV  01, 1989  01h 23m 21.44± 0.95s
   16.949 N ± 9.4km   62.359 W ± 9.7km
   DEPTH =  33.0km  (normal)
 LEEWARD ISLANDS                       ( 92)
      ML 2.7 (FDF).

BPA      0.49  79 eP    23 32.12   0.2
                  eS    23 40.51
SKI      0.53 316 eP    23 32.50   0.0
                  eS    23 40.58
ANG      0.55  68 eP    23 32.50  -0.2
                  eS    23 40.58
PAG      1.12 144 eP    23 41.50   0.5
                  S     23 57.00
BBL      1.65 149 eP    23 48.00  -0.5
     S.D. = 0.6  on   5 of   5 obs.
-----------------------------------------
*  NOV  01, 1989  01h 32m 35.55± 2.20s
   32.044 S ±15.8km   71.251 W ±14.6km
   DEPTH =  28.1 ±  5.8 km
 NEAR COAST OF CENTRAL CHILE           (135)

JACH     0.85 139 iPd   32 51.80   0.2
                  iS    33 05.00
ROCH     0.95 168 iPd   32 53.50   0.4
                  iS    33 07.50
IHA      1.03 199 eP    32 54.50   0.4
                  eS    33 09.40
PEL      1.20 157 iPc   32 56.70   0.2
                  iS    33 12.20
LCCH     1.45 191 iPc   32 59.50  -0.6
                  iS    33 18.50
SAN      1.49 161 eP    33 00.20  -0.5
                  iS    33 19.00
FCH      1.51 148 iPd   33 01.00  -0.3
                  iS    33 21.00
TACH     1.63 171 iPd   33 02.00  -0.7
                  iS    33 22.00
PCH      1.69 159 iPd   33 02.60  -1.1
                  iS    33 24.00
LNV      1.91 184 eP    33 05.80  -0.9
                  iS    33 28.00
CHCH     1.95 165 iPd   33 06.00  -1.4
                  iS    33 29.50
ZON      2.25  78 iPc   33 11.00  -0.6
                  eS    33 33.80
     S.D. = 0.7  on  12 of  12 obs.
-----------------------------------------
   NOV  01, 1989  01h 48m 27.77± 1.58s
   43.367 N ± 9.7km    5.428 E ± 9.6km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE            (379)
      MD 2.6 (STR).

GELF     0.02 360 Pg    48 29.21  -0.5
BERF     0.20 106 Pg    48 32.26   0.0
PUYF     0.26  50 Pg    48 31.90  -1.4
TREF     0.26 353 Pg    48 32.01  -1.3
PRAF     0.48 337 Pg    48 37.18  -0.3
TAVF     0.52  61 Pg    48 37.55  -0.8
VILF     0.53  23 Pg    48 37.19  -1.3
GANF     0.72  29 Pg    48 41.79  -0.2
CALN     1.13  70 Pg    48 49.30   0.3
MVIF     1.36  66 Pn    48 52.92   0.0
                  Sg    49 12.05
TOUF     1.47  63 Pn    48 54.58   0.1
                  Sg    49 15.99
AURF     1.47  69 Pn    48 54.39  -0.1
                  Sg    49 15.78
AUTN     1.58  66 Pn    48 55.99  -0.1
                  Sg    49 18.96
STV      1.63  57 P     48 56.65   0.0
                  S     49 17.37
PZZ      1.66  46 P     48 58.50   1.3
                  S     49 19.93
SAOF     1.66  67 Pn    48 56.90  -0.2
ENR      1.68  59 P     48 57.58   0.2
                  S     49 18.70
RRL      1.83  32 P     49 01.88   2.1
                  S     49 26.71
IMI      1.87  72 P     48 59.63  -0.5
ROB      2.00  61 P     49 01.68  -0.3
                  S     49 26.58
FIN      2.18  66 P     49 04.24  -0.4
RSP      2.22  36 P     49 04.79  -0.4
LSD      2.43  30 P     49 11.01   2.6
PCP      2.54  61 P     49 09.53  -0.2
CVF      2.65 106 Pn    49 10.31  -1.0
     S.D. = 1.0  on  25 of  25 obs.
-----------------------------------------
   NOV  01, 1989  03h 59m 38.88± 0.66s
   36.586 N ± 5.7km   21.159 E ± 3.1km
   DEPTH =  12.1 ±  2.5 km
 SOUTHERN GREECE                       (368)
      ML 3.7 (THE), 3.6 (ATH).

ITM      0.85  46 ePg   59 54.50  -0.7
VLI      1.44  84 ePb   00 05.20   0.5
VLS      1.65 344 ePb   00 09.00   1.2
ATH      2.46  55 ePb   00 24.50   5.1X
VAM      2.73 115 ePn   00 23.50   0.2
NEO      3.17  30 ePn   00 30.00   0.5
SRN      3.41 345 ePn   00 32.80  -0.1
LIT      3.66  16 ePn   00 37.10   0.6
KZN      3.75   7 ePn   00 38.50   0.7
PAIG     3.88  30 ePn   00 39.70   0.1
KBN      4.04 356 ePn   00 42.80   1.0
PLG      4.19  25 ePn   00 44.50   0.6
BERA     4.22 347 ePn   00 44.20  -0.1
THE      4.28  19 ePn   00 46.00   0.8
SOI      4.33 292 P     00 46.00   0.1
OUR      4.35  30 ePn   00 45.70  -0.5
GRG      4.47  12 ePn   00 47.70  -0.3
LCI      4.51 327 Pd    00 47.40  -1.0
                  eSn   01 35.80
OHR      4.53 357 ePn   00 46.80  -2.0
ROI      4.69 311 P     00 51.80   0.7
MSI      4.74 292 P     00 51.80  -0.1
CZI      4.76 305 P     00 52.60   0.5
                  eS    01 46.60
KNT      4.77  16 ePn   00 52.20   0.0
ATN      4.80 291 Pd    00 53.00   0.3
VAY      4.85  13 ePn   00 53.80   0.4
TIR      4.86 348 ePn   00 53.70   0.3
TDS      4.88 310 P     00 53.90   0.1
                  eSn   01 49.60
SRS      4.91  22 ePn   00 53.90  -0.2
CSI      4.99 311 P     00 55.40   0.1
MEU      5.02 278 Pd    00 55.80  -0.1
                  eSn   01 52.40
PHP      5.12 354 ePn   01 01.20   4.0X
MMN      5.24 311 P     01 00.40   1.6
BRT      5.28 325 Pd    00 58.60  -0.9
                  eSn   01 56.80
MNO      5.33 287 P     01 00.20  -0.1
SKO      5.38   2 ePn   01 01.50   0.6
PUK      5.54 350 ePn   01 02.60  -0.4
MGR      5.65 311 Pd    01 04.20  -0.5
                  eSn   02 06.90
SGO      6.06 313 Pd    01 10.80   0.4
SDI      7.66 314 Pd    01 31.30  -1.6
MNS      8.74 314 P     01 47.70  -0.3
     S.D. = 0.7  on  38 of  40 obs.
-----------------------------------------
*  NOV  01, 1989  04h 24m 52.47± 1.00s
   21.247 S ± 9.6km   68.738 W ±12.1km
   DEPTH = 126.5 ± 13.9 km
 CHILE-BOLIVIA BORDER REGION           (124)

ANT      2.90 212 eP    25 38.00  -0.2
                  eS    26 04.00
YJA      3.15 108 iPc   25 41.00  -1.0
CNCB     4.47   9 P     26 01.00   1.1
                  i     26 21.00
CCH      4.56  33 P     26 00.80  -0.1
LPB      4.73   7 P     26 05.00   1.7X
       1.0s   120.00nm
                  i     26 27.00
ZOBO     4.98   7 P     26 06.00  -0.9
ARE      5.43 331 eP    26 09.00  -3.6X
                  iS    27 09.60
ITB1    13.65 107 Pd    28 04.20   2.3X
ITB     13.83 108 e(P)  28 05.70   1.3
ITB7    13.94 109 e(P)  28 06.60   0.9
PPD     16.22  96 eP    28 29.70  -4.7X
                  e     28 33.10
VAO     20.24  99 eP    29 13.60  -6.3X
                  e     29 15.00
KIC     68.48  74 Pd    35 41.20  -2.2
KVN     75.70 322 iP    36 26.90   1.1
     S.D. = 1.5  on   9 of  14 obs.
-----------------------------------------
   NOV  01, 1989  06h 40m 30.33± 0.13s
   20.995 S ± 3.1km   67.954 W ± 2.8km
   DEPTH = 139.5km  (geophysicist)
   5.9mb ( 65 obs.)
 SOUTHERN BOLIVIA                      (125)
      mb 5.8 (BRK). Depth from
      broadband displacement
      seismograms.
      FAULT PLANE SOLUTION: P-Waves
       NP1:Strike=334 Dip=80 Slip= -65
       NP2:          84     27      -157
       Principal Axes:
        T                 Plg=31  Azm= 44
        P                      49      271
      Comment: The focal mechanism is
        moderately well controlled ond
        corresponds to normol foulting
        with a moderate strike-slip
        component. The preferred fault
        plone is not determined.
      RADIATED ENERGY
       No. of sta:   5  Focal mech.  F
       Energy        1.7±0.7*10**13 Nm
      MOMENT TENSOR SOLUTION
      Dep 132            No. of sta:  9
      Moment Tensor;    Scole 10**18 Nm
        Mrr=-0.06        Mtt= 0.74
        Mff=-0.67        Mrt= 0.76
        Mrf=-1.17        Mtf=-0.29
       Principal axes:
        T  Val=  1.58  Plg=37  Azm= 30
        N        0.02      29      145
        P       -1.60      39      262
      Best Double Couple:Mo=1.6*10**18
       NP1:Strike= 58 Dip=29 Slip=-177
       NP2:        326     89       -61
      CENTROID, MOMENT TENSOR       (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 36C
      Centroid Location:
      Origin Time        06:40:37.9 0.2
      Lot 21.45S 0.03 Lon  67.80W 0.04
      Dep 151.8 1.2 Half-durotion  4.3
      Moment Tensor;    Scale 10**18 Nm
        Mrr=-0.81 0.04  Mtt= 0.13 0.06
        Mff= 0.69 0.06  Mrt= 0.59 0.04
        Mrf=-1.29 0.04  Mtf=-0.63 0.06
       Principal Axes:
        T  Val=  1.84  Plg=28  Azm= 60
        N       -0.26       6       153
        P       -1.58      61       254
      Best Double Couple:Mo=1.7*10**18
```

01d 06h

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        NP1:Strike=134 Dip=18 Slip=-110
        NP2:        335     73       -84
YJA      2.56 118 iPd   41 13.70   1.0
ANT      3.53 220 iPc+  41 18.80  -6.0X
CCH      3.98  26 P     41 17.30 -13.8X
                 i     41 34.60
CNCB     4.16 360 P     41 30.00  -3.8X
SLA      4.35 149 ePd   41 34.80  -1.2
LPB      4.44 358 iPc   41 41.70   4.3X
ZOBO     4.70 358 Pc    41 42.60   1.5
ARE      5.62 323 iPd   41 51.00  -2.1
                 iS    42 50.70
RTRS     9.24 188 ePc   42 34.80  -6.7X
RTLL    10.30 182 iPc   42 48.10  -7.6X
RTCB    10.48 184 ePc   42 49.70  -8.3X
ZON     10.53 183 eP    42 51.00  -7.6X
                 eS    44 51.00
RTBS    10.71 187 ePc   42 53.20  -7.7X
TCA     10.73 164 ePd   42 54.20  -7.2X
MRA     11.55 170 ePd   43 04.80  -7.1X
JACH    11.88 191 eP    43 09.00  -7.4X
                 i     43 12.50
PT08    12.19 316 eP    43 19.10  -1.7
                 eS    45 26.90
PEL     12.34 191 eP    43 13.00  -9.4X
        1.5s  1555.56nm         6.3mb
                 i     43 18.00
                 i(S)  46 05.00
NNA     12.36 315 iPc   43 22.00  -0.7
        1.0s    55.00nm         5.0mb
                 iS    45 41.00
PT10    12.38 314 ePd   43 30.50   7.6X
IHA     12.42 195 eP    43 14.00  -9.4X
                 eS    45 31.00
FCH     12.46 189 eP    43 16.00  -8.2X
                 iS    43 20.00
PCH     12.78 190 eP    43 19.00  -9.2X
                 iS    43 23.60
LCCH    12.84 194 eP    43 19.00  -9.8X
                 i     43 24.10
TACH    12.88 191 eP    43 22.50  -6.9X
                 iS    43 24.60
ITB1    13.03 109 iPd   43 29.10  -2.2
CHCH    13.11 190 iPc   43 27.30  -5.1X
ITB     13.22 109 iPd   43 31.00  -2.8
LNV     13.27 193 eP    43 23.00 -11.3X
ITB7    13.33 111 eP    43 31.70  -3.6X
RFA     13.73 182 ePd   43 32.00  -8.4X
PPD     15.52  97 iPc   44 02.10  -0.9
                 iS    46 51.00
BAA     15.91 150 P     44 04.00  -3.7X
BDF     19.75  78 iPc   44 53.24   1.5
BMA     22.15  99 eP    45 13.40  -2.2
CAYA    23.13 334 eP    45 28.20   2.6X
COTA    23.50 333 eP    45 24.00  -5.3X
PSO     23.88 336 eP    45 35.50   2.7X
BOG     26.15 346 iPc   45 55.00   1.2
                 iS    50 19.00
BMG     28.34 349 iPd   46 26.00  12.7X
SDV     29.81 355 iPc   46 25.50  -1.0
        0.7s  185.70nm          5.9mb
TOV     30.64 356 iPc   46 32.50  -1.2
PLAV    30.68   1 iPc   46 33.50  -0.7
OLLA    30.84   2 iPd   46 34.50  -0.9
GUAC    31.00   1 iPc   46 36.50  -0.4
LLAV    31.29   2 iPd   46 38.80  -0.6
CAR     31.32   2 iPd   46 38.50  -1.2
CUM     31.48   7 iP    46 40.80  -0.1
                 i     51 36.60
MORO    31.67 359 iPd   46 41.50  -1.2
TPP     31.76  12 eP    46 44.77   1.4
UPA     31.89 338 iPd   46 47.00   2.6
        1.1s  172.15nm          5.8mb
      Z  20s    3.19um          5.0Msz
                 i     47 17.00
                 i     49 31.70
                 iS    51 48.00
TBH     32.01  13 eP    46 46.87   1.4
FISA    32.09 357 iPd   46 34.50 -11.7X
TRN     32.10  12 eP    46 46.33   0.1
PIG     32.71  13 eP    46 52.62   1.0
BOT     32.74  13 eP    46 52.62   0.8
SVB     34.68  12 eP    47 07.62  -1.0
SVV     34.73  12 eP    47 08.21  -0.8
SSV     34.75  12 eP    47 08.48  -0.7
SOA     34.80  12 eP    47 09.13  -0.4
BDH     34.96  14 eP    47 12.50   1.5
SLB     35.26  12 eP    47 11.17  -2.4X
BBL     36.84  10 eP    47 24.00  -2.8
PAG     37.30  10 eP    47 27.00  -3.7X
BPA     38.27   9 eP    47 35.23  -3.5X
ANG     38.38   9 eP    47 36.30  -3.3X
SKI     38.43   8 eP    47 36.35  -3.7X
MGP     38.77   1 P     47 41.70  -1.1
PORP    38.83   2 P     47 41.60  -1.7
CPD     38.84   3 P     47 41.50  -2.0
SJG     38.90   3 iP    47 42.00  -2.0
LRS     39.06   2 P     47 43.50  -1.8
LPS     40.79 328 eP    48 01.10   1.5
TPX     42.92 324 iP    48 18.80   1.9
AIA     44.30 178 eP    48 22.30  -5.2X
OXX     47.20 321 iP    48 52.80   1.6
ACX     48.94 318 eP    49 05.30   0.9
IISM    49.08 322 iP    49 06.90   1.5
LVVM    49.16 324 (P)   49 04.90  -1.1
IIT     49.65 321 eP    49 11.70   1.6
III     49.84 319 iP    49 12.70   1.2
PPM     49.87 321 eP    49 12.50   0.4
UNM     50.41 321 (P)   49 16.50   0.6
CRX     50.76 320 iP    49 20.20   1.6
MRX     51.90 319 iP    49 27.80   1.0
HBF     54.92 347 P     49 48.50  -0.2
SGS     55.20 347 P     49 50.30  -0.4
JSC     56.41 347 P     49 58.40  -1.0
PRM     56.46 346 P     49 59.00  -0.8
LHS     56.50 347 P     49 59.00  -1.1
TKL     58.30 345 P     50 11.30  -1.4
GBTN    58.42 344 P     50 11.90  -1.6
RSCP    58.71 343 P     50 13.40  -2.2
PWLA    58.85 341 P     50 14.40  -2.1
BLA     59.07 348 P     50 17.30  -0.7
CVL     59.49 350 P     50 19.80  -1.0
CBN     59.54 351 eP    50 19.00  -2.1
                 e     50 53.00
OLY     60.45 338 P     50 24.80  -2.6
ELC     61.34 341 P     50 31.50  -1.9
RKT     61.65 254 iP    50 35.70  -0.1
        1.4s    330.00nm        6.1mb
SNA     62.24 160 iPd   50 37.00  -2.0
        1.1s    248.10nm        6.1mb
FVM     62.35 340 P     50 38.40  -1.7
TUL     62.43 335 iPd-  50 40.00  -0.6
        1.2s    184.10nm        5.9mb
      Z  19s      3.16um        5.5Msz
                 eS    59 00.00
LNO     62.43 335 iPd   50 39.50  -1.0
                 e     50 55.30
                 e     51 16.00
SIO     62.50 334 eP    50 40.60  -0.5
MEO     62.64 332 iPd   50 40.50  -1.6
CCM     62.68 339 iP    50 41.43  -0.8
                 epP   51 15.20 141kmX
                 eS    58 58.13
                 esS   59 56.40
                 eSKS  00 20.24
                 esSKS 01 23.80
OCO     62.79 333 ePc   50 40.40  -2.6
HRV     63.27 357 eP    50 52.89   6.9X
                 eS    59 06.48
                 esS   00 06.07
                 eSKS  00 23.51
                 esSKS 01 31.82
CLE     63.43 349 iP    50 46.90  -0.2
DLA     64.76 349 P     50 49.00  -6.7X
LDN     64.87 349 P     50 49.90  -6.5X
RSNY    65.50 355 P     50 59.80  -0.6
        0.8s    160.26nm        6.0mb
ALQ     66.57 326 iPc   51 07.30  -0.4
        0.9s     94.54nm        5.7mb
                 pP    51 30.20  89kmX
                 sP    51 42.00
ANMO    66.57 326 iPd   51 07.76   0.1
        0.9s     94.50nm        5.7mb
                 epPc  51 41.36 138kmX
                 esP   51 57.09
                 eS    59 47.80
                 esS   00 47.72
                 e     01 56.25
                 e     04 20.24
LIC     67.39  74 P     51 11.68  -1.3
TIC     67.58  73 P     51 12.96  -1.3
CBM     67.61 360 P     51 13.60  -0.1
KIC     67.71  74 P     51 13.62  -1.4
                 S     00 00.00
TBT     69.07  46 iP    51 22.60  -0.5
SPA     69.13 180 iPd   51 21.90  -1.3
      Z  20s      2.30um        5.4Msz
                 i     53 53.50
GLD     69.73 330 iPd   51 27.40   0.2
        1.2s    222.22nm        5.9mb
                 pP    51 49.00  83kmX
                 sP    52 03.00
GOL     69.76 330 iPd   51 27.00  -0.4
        1.0s    155.00nm        5.8mb
                 sP    52 05.00
GLA     69.93 319 iPc   51 29.00   0.6
                 pP    51 50.00  80kmX
                 sP    52 04.50
CTFE    70.06  47 iP    51 29.70   0.5
GGC     70.27  48 eP    51 30.80   0.2
BAR     70.82 318 iP    51 34.50   0.7
                 e     52 09.00
PLM     71.39 318 eP    51 37.00  -0.3
                 e     52 12.00
TPC     71.39 319 eP    51 37.00  -0.2
                 e     52 13.00
CFTV    71.54  49 iPc   51 37.80  -0.3
PEC     71.93 319 P     51 40.70   0.3
RVR     72.13 318 eP    51 41.00  -0.5
                 e     52 16.00
MSU     72.27 325 P     51 42.80   0.3
GSC     72.66 320 eP    51 45.00   0.3
                 e     52 21.00
MWC     72.71 318 eP    51 45.00  -0.1
                 e     52 20.00
PAS     72.73 318 iPd   51 45.62   0.6
                 e     52 01.51
                 epPd  52 20.88 143kmX
                 esP   52 34.28
                 e     55 15.66
                 eS    01 04.12
                 eSKS  01 39.87
                 esSKS 02 05.69
SBB     72.87 319 eP    51 46.00   0.1
                 e     52 21.00
DAU     73.19 327 P     51 48.30   0.4
CLC     73.48 320 iPd   51 49.50   0.1
                 e     52 25.00
ISA     73.91 319 iPd   51 53.00   1.1
                 e     52 28.00
SYP     74.11 317 eP    51 53.00  -0.2
                 e     52 08.00
BW06    74.13 329 P     51 52.60  -0.6
BLP     74.40 317 P     51 54.90   0.3
BCH     74.60 318 P     51 56.50   0.5
                 pP    52 32.00 143kmX
TNP     74.79 322 P     51 57.00  -0.1
        1.0s     81.25nm        5.4mb
RUV     75.03 259 iP    51 59.80   1.1
        1.4s    405.00nm        6.0mb
RSON    75.05 343 P     51 56.70  -1.4
        1.0s    108.46nm        5.6mb
                 pP    52 32.00 142kmX
VAH     75.25 259 iP    52 00.70   0.8
        1.4s    405.00nm        6.0mb
TPT     75.31 259 iP    52 01.20   0.9
        1.4s    675.00nm        6.2mb
SCH     75.51   1 ePc   52 00.30  -0.2
        0.8s    105.00nm        5.6mb
FRI     75.54 320 iPd   52 00.20  -0.9
PMO     75.56 259 iP    52 02.60   0.9
        1.4s    540.00nm        6.1mb
PRI     75.58 318 eP    52 02.10   0.6
TVO     75.95 256 iP    52 05.00   1.1
        1.4s    470.00nm        6.0mb
KVN     75.95 322 iPc   52 03.80   0.2
                 pP    52 31.80 109kmX
                 sP    52 40.70
LLA     76.05 319 iPd   52 04.60   0.6
PRS     76.14 318 iPd   52 05.20   0.7
PAE     76.28 256 iP    52 06.70   1.0
        1.4s    555.00nm        6.1mb
PPT     76.31 256 iP    52 07.00   1.2
        1.4s    555.00nm        6.1mb
SAO     76.46 318 eP    52 06.50   0.2
SBA     76.48 190 iPd   52 06.30   0.5
CM8     76.62 320 iPd   52 07.53   0.3
                 epPc  52 41.96 138kmX
                 esP   52 56.69
                 eS    01 46.04
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		eSKS	02	06.12		
		e	02	46.40		
		esS	02	48.28		
ARN	76.88	319	P	52	09.00	0.3
MHC	76.94	319	ePd	52	10.00	0.9
GCC	76.97	318	ePd	52	09.70	0.6
PCC	77.50	319	ePd	52	12.40	0.4
BKS	77.65	319	iPd	52	13.60	0.8
	1.3s	262.00nm			5.8mb	
		epP	52	49.10	142kmX	
		esP	53	04.00		
		e	53	37.00		
		ePP	55	12.00		
		iS	01	59.00		
		iSKS	02	20.00		
		isS	02	59.00		
		eSS	07	03.00		
		esSS	08	02.00		
		e	12	29.00		
BRK	77.66	319	ePd	52	13.30	0.5
TIO	77.82	50	iPc	52	15.00	0.9
ORV	78.27	321	iPd	52	16.70	0.5
MIN	78.84	321	ePd	52	19.00	-0.5
AVE	79.03	48	iPc	52	21.50	1.0
		i	52	57.00		
		i	53	28.50		
WDC	79.54	321	iPd	52	22.00	-1.0
LBFM	79.64	322	P	52	24.00	0.1
FHC	80.53	320	ePd	52	29.40	1.0
SES	80.61	334	iPd	52	29.00	0.4
	1.1s	257.00nm			5.9mb	
		pP	52	49.00	74kmX	
IFR	80.75	49	iPc	52	29.00	-0.8
FFC	80.84	341	iPd	52	29.30	-0.3
	1.1s	68.00nm			5.3mb	
LIS	80.98	43	iPc	52	31.60	0.9
NKM	81.60	47	iPc	52	35.50	1.6
EVAL	81.88	45	iPc	52	36.30	0.9
EJIF	82.11	46	iPc	52	38.00	1.4
GRM	82.36	123	iPc	52	39.00	0.8
	1.8s	1318.18nm			6.4mb	
HVD	82.42	120	iPc	52	50.50	11.8X
	1.2s	468.75nm				
EPRU	82.55	46	iPc	52	40.20	1.3
FRS	82.56	119	iPc	52	39.70	0.5
	1.2s	500.00nm			6.2mb	
		i	02	46.60		
EHOR	83.00	45	iPc	52	41.80	0.6
LON	83.09	326	P	52	41.20	-0.3
EMEL	83.21	48	eP	52	43.30	1.0
ATEJ	83.34	46	iPd	52	43.80	0.7
TAF	83.34	49	iPc	52	44.50	1.4
ALOJ	83.38	46	iPc	52	44.00	0.7
AAPN	83.48	46	iPc	52	44.60	0.8
ACHM	83.57	46	iP	52	44.90	0.7
APHE	83.58	47	iPc	52	45.20	0.9
BMW	83.66	325	P	52	44.70	0.3
PNT	83.69	329	ePd	52	45.00	0.6
	0.7s	62.00nm			5.6mb	
EDM	83.69	334	iPd	52	43.50	-0.9
	0.7s	109.00nm			5.8mb	
		pP	53	22.50	156kmX	
EPLA	83.70	43	iPc	52	45.60	0.9
ASMO	83.76	46	iPc	52	45.50	0.3
STS	83.80	40	eP	52	45.80	0.7
AFC	83.84	46	eP	52	46.20	0.6
EBAN	84.16	45	iPc	52	48.00	1.0
ERUA	84.36	41	iPc	52	49.00	1.1
FRB	84.46	360	eP	52	49.00	1.2
	0.7s	38.00nm			5.4mb	
MAW	84.55	163	iPd	52	48.20	-0.3
ENIJ	84.59	47	eP	52	49.20	0.0
BFS	84.76	117	iPc	52	49.00	-1.5
		i	53	25.00		
EMON	84.84	40	iPc	52	51.50	1.2
TOL	84.91	44	iPc	52	50.92	0.2
	1.3s	846.15nm			6.4mb	
		epPc	53	25.85	137kmX	
		eSKS	03	07.71		
SEK	84.95	118	iPc	52	52.00	0.5
	1.0s	190.00nm			5.9mb	
		e	03	09.50		
PGC	85.16	327	eP	52	52.00	0.3
	0.9s	111.00nm			5.7mb	
KSR	85.22	116	iPc	52	52.80	-0.1
		e	03	12.50		
GUD	85.25	43	iPc	52	53.50	0.9

EVIA	85.26	46	iPc	52	53.20	0.5
SLR	86.43	116	iPc	52	55.50	-3.3X
	1.2s	390.63nm			6.2mb	
	Z 20s	6.74um			6.0Msz	
		i	03	23.60		
SLR	86.43	116	ePc	53	00.10	1.3
	1.2s	390.63nm			6.2mb	
	Z 20s	6.74um			6.0Msz	
		epPc	53	33.87	132kmX	
		esP	53	49.27		
		e	03	23.00		
ETOR	86.69	44	iPc	53	00.60	1.0
ECHE	86.78	45	eP	53	00.80	0.8
BCAO	88.30	85	ePc	53	07.57	-0.2
	1.5s	413.00nm			6.2mb	
		e	53	44.30		
		ePP	56	31.00		
EROQ	88.31	45	eP	53	08.20	1.0
BUL	88.77	111	iPd	53	11.10	1.0
		ipP	53	47.00	140kmX	
		iPP	56	37.40		
		iS	03	48.50		
EPF	89.36	43	iPc	53	12.70	0.5
	0.7s	22.40nm			5.3mb	
ESEL	89.46	47	eP	53	13.00	0.3
DRV	90.12	191	eP	53	14.80	-0.6
ECP	90.39	33	eP	53	16.20	-0.4
	0.8s	119.00nm			6.0mb	
LFF	90.55	41	iPc	53	17.90	0.3
ETER	90.63	44	eP	53	18.30	0.3
LPO	90.70	42	iPc	53	18.50	0.2
	1.1s	68.30nm			5.7mb	
ETA	90.77	32	eP	53	17.10	-1.2
	0.9s	98.00nm			5.9mb	
MFF	90.84	40	iPc	53	18.90	0.0
KRI	90.88	108	iPd	53	28.00	8.1X
		ipP	53	57.00	110kmX	
		iPP	56	53.10		
		iS	04	10.90		
DLE	90.94	32	eP	53	18.80	-0.3
LPF	91.04	38	iPc	53	19.30	-0.4
	1.2s	103.50nm			5.9mb	
DMU	91.11	31	eP	53	19.60	-0.3
RJF	91.21	41	iPc	53	20.70	0.1
	1.1s	94.70nm			5.9mb	
GRR	91.32	38	iPc	53	20.70	-0.3
	1.1s	107.40nm			5.9mb	
CAF	91.37	42	iPc	53	21.60	0.2
	0.9s	39.30nm			5.6mb	
YRH	91.64	33	eP	53	22.00	-0.4
	0.8s	91.00nm			6.0mb	
LSF	91.67	41	iPc	53	22.90	0.2
FLN	91.73	38	iPc	53	22.70	-0.2
	1.3s	129.90nm			5.9mb	
LDF	91.85	38	iPc	53	23.20	-0.3
	1.2s	113.00nm			5.9mb	
TCF	92.11	41	iPc	53	24.80	0.0
	0.8s	38.10nm			5.6mb	
LBL	92.25	42	P	53	26.12	0.8
MAF	92.29	41	iPc	53	25.60	0.0
	1.0s	66.00nm			5.8mb	
MZZ	92.33	103	iPd	53	25.60	-1.0
	1.5s	4.00nm			4.4mb X	
		i	54	02.70		
		i	56	33.20		
		i	05	30.30		
PYM	92.34	41	P	53	26.12	0.2
AGO	92.56	41	P	53	26.88	0.0
BGF	92.62	41	iPc	53	27.20	0.1
PLDF	92.82	41	P	53	28.36	0.2
AVF	93.04	41	iPc	53	29.00	0.0
	1.5s	130.50nm			6.0mb	
GRC	93.10	40	P	53	28.99	-0.3
SSF	93.26	40	iPc	53	29.60	-0.4
	1.0s	48.00nm			5.7mb	
SMF	93.27	41	iPc	53	30.30	0.2
PTZ	93.39	107	iPd	53	32.70	1.2
		i	54	09.30		
		i	57	13.60		
LBF	93.51	41	iPc	53	30.90	-0.3
	1.3s	75.80nm			5.8mb	
LOR	93.57	40	iPc	53	31.10	-0.3
	1.0s	42.80nm			5.7mb	
EKA	93.72	31	Pd	53	32.00	0.1
	1.4s	138.40nm			6.0mb	
BNI	94.34	43	Pc	53	35.90	0.7
RRL	94.35	43	P	53	35.83	0.4

PZZ	94.38	44	P	53	36.14	0.7
STV	94.42	44	P	53	36.03	0.5
ENR	94.47	44	P	53	35.52	-0.2
LPG	94.58	43	iPc	53	37.40	0.9
	1.4s	101.90nm			5.9mb	
IMI	94.64	45	P	53	36.24	-0.3
RSP	94.76	43	P	53	37.68	0.6
ROB	94.79	44	P	53	37.16	0.0
LSD	94.82	43	P	53	38.29	0.7
EMS	94.94	42	ePc	53	38.50	0.5
FIN	94.98	45	P	53	37.57	-0.5
SNZO	95.11	222	P	53	32.00	-6.8X
			PP	57	36.00	
			S	04	08.00	
DIX	95.24	43	ePc	53	40.00	0.5
DOU	95.28	38	Pc	53	38.90	-0.3
			SKS	04	02.00	
SNF	95.29	38	iPc	53	39.03	-0.2
PCP	95.34	44	P	53	39.42	-0.3
HAU	95.40	40	iPc	53	39.60	-0.3
ORX	95.42	43	P	53	39.11	-1.0
UCC	95.46	37	P	53	37.00	-3.0X
MMK	95.58	43	ePc	53	41.40	0.4
BSF	95.60	41	iPc	53	40.60	-0.3
	1.3s	53.40nm			5.8mb	
WLF	96.00	39	iPc	53	43.00	0.6
			e	54	19.00	
BOB	96.02	44	Pc	53	43.20	0.4
VAI	96.02	43	Pc	53	41.90	-0.7
CDF	96.14	40	iPc	53	43.10	-0.2
	1.3s	57.70nm			5.9mb	
TMA	96.18	43	ePc	53	43.30	-0.3
PII	96.31	46	Pc	53	44.20	0.2
MEM	96.32	38	iPc	53	43.87	0.0
ZLA	96.43	42	ePc	53	45.00	0.4
BDI	96.50	45	Pc	53	44.80	-0.2
LLS	96.57	42	ePc	53	45.70	0.3
MDI	96.59	43	P	53	44.60	-0.6
SLE	96.61	41	ePc	53	45.40	0.0
MME	96.61	45	Pc	53	45.30	-0.4
GIB	96.62	52	P	53	46.50	0.8
FIR	96.83	46	eP	53	46.00	-0.3
			iPP	57	16.00	
			iS	03	57.00	
SAX	96.94	42	ePc	53	47.50	0.3
SAL	97.05	44	Pc	53	47.30	0.0
RDP	97.06	48	Pc	53	47.80	0.2
RMP	97.07	48	P	53	47.30	-0.2
PGD	97.17	46	P	53	45.80	-2.4
OSS	97.22	43	ePc	53	48.40	0.1
CRE	97.24	46	Pc	53	47.50	-0.9
MNS	97.27	47	Pc	53	48.80	0.4
SFI	97.28	46	P	53	48.40	0.1
WTS	97.36	37	eP	53	48.50	0.0
	0.9s	33.00nm			5.8mb	
ASS	97.51	47	P	53	49.00	-0.5
TNS	97.58	39	eP	53	49.70	0.0
WIT	97.62	36	eP	53	51.00	1.3
SDI	97.81	48	Pc	53	51.20	0.3
CTI	97.94	44	Pc	53	51.60	0.1
SOI	98.15	52	P	53	53.00	0.6
DUI	98.25	49	P	53	53.80	0.9
SGO	98.46	50	Pc	53	54.20	0.5
FUR	98.49	42	eP	53	53.90	0.1
	1.7s	105.00nm			6.1mb	
MGR	98.49	50	P	53	54.20	0.3
CZI	98.60	51	P	53	53.10	-1.3
FVI	98.87	44	Pc	53	55.70	0.2
TDS	98.90	51	P	53	56.20	0.4
CSI	98.90	51	P	53	55.80	-0.1
GRF	99.03	40	iPc	53	56.60	0.4
	1.1s	29.00nm			5.7mb	
ROI	99.04	51	P	53	54.90	-1.6
TRI	99.20	45	eP	53	57.10	0.1
VOY	99.39	44	iPc	53	58.30	0.2
			ePP	57	55.20	
			eS	04	14.40	
KBA	99.40	43	iPc	53	57.80	-0.4
RIY	99.48	45	iPc	53	58.40	0.1
CEY	99.64	45	eP	53	59.50	0.4
			e	54	36.00	
LJU	99.82	44	eP	54	00.00	0.1
			ePP	57	29.00	
			eS	04	27.50	
			e	05	26.00	
			e	07	00.00	
VBY	100.11	45	iPdiff	54	02.70	1.4

01d 06h

```
KMR   100.24  42 ePdiff54 01.50  -0.3
                 i      54 38.00
                 iPP    58 01.20
                 eSKS   04 35.00
KHC   100.26  41 ePdiff54 02.00   0.1
                 e      57 32.50
                 S      04 32.00
CLL   100.67  39 iPdiff54 03.90   0.3
       1.5s    40.00nm          5.8mb
                 epP    54 41.00
                 iSKS   04 34.20
                 PKKP   10 16.00
                 PKKP   10 42.00
ZAG   100.69  45 ePdiff54 05.00   1.2
PTJ   100.70  45 ePdiff54 04.40   0.4
                 e      58 01.60
INK   100.77 340 ePdiff54 03.50  -0.2
BRG   101.08  40 iPdiff54 05.80   0.4
       2.0s    56.00nm          5.9mb
                 e      54 43.00
                 iSKS   04 34.00
                 iPKKP  10 40.40
PRU   101.14  41 Pdiffc54 06.00   0.2
       2.2s    68.00nm          5.9mb
                 e      54 40.50
                 PP     58 06.50
                 iS     04 37.00
                 i      07 00.00
MBC   101.91 349 ePdiff54 10.50   1.9
       1.0s     6.00nm          5.3mb
ZST   102.17  43 ePdiff54 09.70  -0.7
                 e      54 45.80
                 e      57 11.40
                 i      57 29.40
                 i      58 05.20
KSP   102.48  40 ePdiff54 12.00   0.3
                 e      56 58.50
OHR   102.59  51 ePdiff54 14.00   1.5
       1.6s     0.07nm          3.2mb X
NB2   103.04  29 Pdiff 54 15.20   1.2
       1.7s    53.20nm          6.1mb
SKO   103.29  50 Pdiff 54 15.00  -0.5
                 i      57 34.50
                 i      58 21.70
                 iSKS   04 43.00
                 i      08 44.00
VAY   103.93  51 ePdiff54 19.00   0.7
                 i      57 34.50
                 i      58 37.00
SPC   104.45  43 ePdiff54 21.50   0.8
                 e      58 29.60
KRA   104.49  42 ePdiff54 21.40   0.8
FBA   104.59 334 Pdiff 54 20.20  -0.5X
BBTK  111.16  54 ePKP  58 46.00  -3.2X
                 e      59 30.00
DZM   111.81 234 iPKPc 58 51.20   0.3
MSL   118.81  59 ePKP  59 04.00   0.2
                 e      00 22.00
BHD   119.47  63 ePKP  59 05.00  -0.1
                 ePP    00 24.00
                 eSKS   05 50.00
                 eSKKS  07 14.00
                 ePKS   10 24.00
STK   120.29 209 iPKPc 59 06.40  -0.4
RMQ   120.89 219 iPKPc 59 08.30   0.2
                 e      00 33.00
QLP   123.34 215 ePKPd 59 12.70   0.0
                 e      00 51.00
RKG   125.04 185 ePKP  59 14.00  -1.8
NWAO  126.15 185 iPKPc 59 17.30  -0.8
MUN   127.18 184 ePKP  59 19.00  -1.1
CTA   127.21 222 iPKPd 59 19.80  -0.6
       1.2s   167.19nm
                 iSKS   06 15.00
CTAO  127.21 222 ePKP  59 19.73  -0.7
                 ePP    01 17.84
KLB   127.43 186 ePKP  59 19.70  -0.8
       0.4s     6.00nm
COOL  127.68 190 ePKP  59 20.00  -1.1
BAL   128.50 185 ePKP  59 21.30  -1.3
MRWA  129.94 185 ePKP  59 23.30  -2.1
OIS   130.69 215 iPKPd 59 26.20  -0.8
       0.9s    71.00nm
                 e      02 37.00
ASPA  130.77 207 iPKP  59 25.00  -2.2
                 ePP    01 38.80
                 iSKP   02 37.50
                 ePKS   02 48.80
                 eSKKP  12 22.80
WARB  131.01 197 ePKP  59 26.50  -1.0
MAIO  131.98  60 iPKPd 59 30.00   0.8
                 e      01 41.00
                 i      02 44.00
WRA   133.83 210 PKPd  59 13.60 -19.4X
       0.6s     2.00nm
WB5   133.88 210 ePKP  59 15.30 -17.8X
                 i      59 32.20
                 eSKP   01 59.80
                 ePP    02 48.50
MBL   137.42 191 ePKP  59 26.00 -13.8X
                 e      59 38.00
MTN   141.50 211 iPKPc 59 39.20  -8.1X
                 e      01 24.00
JAY   143.48 234 ePKPc 59 46.00  -4.8X
                 e      01 10.00
KSH   144.12  51 ePKP  59 50.50  -0.8
                 pPKP   00 28.00
                 SKS    09 46.00
GBA   146.20  97 PKP   59 56.10   0.8
TLE   146.63 220 ePKPd 59 47.90  -8.1X
       0.8s    13.90nm
GUA   147.80 262 ePKP  59 56.20  -1.7
       1.0s  1168.00nm
GUMO  147.86 262 ePKP  59 56.60  -1.3
       0.9s  1057.12nm
PJG   147.86 262 ePKP  59 56.30  -1.6
OFUJ  148.86 312 PKP   00 03.20   4.3X
AOMJ  149.02 315 ePKP  00 03.70   4.6X
WMO   149.54  36 iPKP  00 00.20   0.3
        Z  32s     1.00um          5.4MszX
                 pPKP   00 43.00
                 PKS    03 25.00
                 SKKS   10 17.50
YAMJ  150.41 311 ePKP  00 06.90   5.6X
KHKI  150.62 187 ePKPd 00 01.60  -0.6
                 e      05 30.00
AAI   150.81 215 ePKP  00 02.50  -0.1
       0.8s     4.00nm
HIA   151.13 350 ePKP  00 08.25   6.2X
                 ePP    03 46.29
                 epPP   04 17.75
                 e      04 47.27
KAKJ  151.16 308 PKP   00 08.50   6.1X
TRT   151.48 181 ePKPd 00 10.00   6.5X
       0.7s   183.00nm
NIIJ  151.56 311 PKP   00 09.30   6.3X
CHJJ  152.09 308 PKP   00 10.70   6.8X
MDJ   152.33 332 ePKP  00 04.00   0.1
MAT   152.45 310 iPKPd 00 11.20   6.8X
       1.0s   155.00nm
MTMJ  152.71 310 PKP   00 12.00   7.2X
MKS   152.95 196 iPKPc 00 14.10   8.5X
                 e      01 55.00
IIDJ  153.13 308 PKP   00 13.20   7.8X
CN2   154.67 337 PKP   00 07.00  -0.1
        Z  19s     0.60um          5.4Msz
                 e      00 30.00
                 PP     04 04.00
                 SS     23 34.00
MNI   156.90 214 ePKP  00 09.60  -1.4
GTA   158.86  27 iPKPd 00 13.60   0.9
        Z  22s     1.50um          5.8Msz
                 PP     04 28.00
                 SKKS   11 06.00
LSA   159.25  61 iPKP  00 15.00   1.2
                 pPKP   00 51.00
HHC   160.20   1 PKPc  00 11.40  -2.7X
        Z  10s     1.30um
        N  11s     0.60um
                 pPKP   00 52.00
BTO   160.38   5 PKP   00 15.50   1.2
                 pPKP   00 48.00
                 SKKS   11 12.00
BJI   160.69 350 PKPd-  00 15.50   1.1
        Z  27s     1.22um
                 sPKP   00 52.00
                 PP     04 40.00
                 sPP    05 16.00
                 eSKKS  11 13.00
                 SS     24 30.00
DAV   160.96 225 ePKP  00 12.00  -3.4X
TSM   162.33 200 ePKPd 00 18.50   1.7
SNG   162.37 140 ePKP  00 15.90  -0.9
                 eS     24 48.10
TIY   163.34 359 ePKP  00 18.20   0.9
        Z  32s     2.30um
                 pPKP   00 55.50
                 SKKS   11 29.00
LZH   163.34  24 PKPd  00 18.00   0.6
        Z  14s   790.00um
                 pPKP   00 55.00
                 sPKP   01 10.00
                 PP     04 51.00
                 PcPP'  08 40.00
                 e      09 10.00
                 SKKS   11 31.00
                 sSKKS  12 21.00
                 SKKKS  12 40.00
                 PS     15 43.50
                 SS     25 08.00
                 SSS    26 34.00
TIA   164.20 345 PKPd  00 18.50   0.4
KKM   164.60 196 ePKPd 00 19.00  -0.2
XAN   166.71  11 PKP   00 20.50   0.2
        E  12s     1.00um
                 pPKP   01 00.00
                 SKKS   11 47.00
SSE   167.02 323 PKPc  00 21.00   0.5
        8.0s     0.50nm
        Z  21s     0.90um
        E  12s     0.50um
                 PP     05 08.00
                 SS     25 42.00
BDT   167.12 105 ePKP  00 22.10   1.2
        1.1s    69.90nm
CHG   167.49  98 iPKPd 00 21.10  -0.1
        1.0s    37.50nm
CHTO  167.49  98 iPKP  00 21.20   0.0
        1.2s    51.74nm
NST   167.51 113 ePKP  00 23.50   2.3X
                 e      01 17.00
                 e      01 30.00
CD2   167.63  35 PKP   00 21.80   0.8
                 pPKP   01 01.00
                 PP     05 16.00
                 SKKS   11 51.00
QCP   169.33 235 ePKP  00 20.00  -2.3X
WHN   170.27 348 PKPd  00 23.00   0.5
                 pPKP   01 03.50
KMI   170.50  63 ePKP  00 23.89   0.8
                 e      01 02.00
                 epPKP  02 15.13
                 eSKP   03 41.54
                 ePP    05 29.77
BAG   170.72 242 ePKP  00 23.00  -0.3
GYA   172.66  41 iPKPd 00 24.40   0.6
                 pPKP   01 03.00
                 e      01 50.00
                 PP     05 45.00
                 SKKS   12 16.00
QZH   172.80 304 ePKP  00 23.00  -0.7
        Z  22s     0.80um
                 PP     05 41.00
QIZ   177.15 133 PKPd  00 26.00   0.9
                 pPKP   01 03.00
                 PP     06 00.00
                 SKKS   12 29.00
                 SS     27 14.00
GZH   177.59 330 ePKP  00 25.00   0.0
                 PP     06 06.00
                 SS     27 28.00
     S.D. = 0.9  on 355 of 422 obs.
-----------------------------------
   NOV  01, 1989  07h 11m 39.10± 0.38s
    7.263 N ±10.3km   80.888 W ±10.9km
   DEPTH =  10.0km  (geophysicist)
   4.9mb (  9 obs.)
 PANAMA                              ( 81)
      Felt at Puerto Morioto, Tres
      Quebradas and Penonome.

CLMC    5.46 128 iPc   13 03.08   0.4
ANCC    5.47 133 eP    13 02.58  -0.1
HOBC    5.54 121 ePc   13 02.25  -1.6
SALC    5.97 135 eP    13 08.98  -0.8
DIAC    6.11 130 eP    13 12.19   0.3
PURC    6.67 137 eP    13 01.10 -18.9X
PPM    20.85 306 eP    16 25.80   1.4
ARE    25.34 159 iPd   17 09.60   1.4
TUL    31.61 337 e(P)  18 03.00  -1.4
        1.0s     6.00nm          4.5mb
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ALO     36.21 323 eP     18 43.30  -1.1
        0.9s      2.73nm          4.1mb
                  pP     18 52.50  31kmX
RTRS    38.80 164 ePd    19 17.90  12.1X
GOL     39.06 330 eP     19 07.90  -0.4
        1.0s     19.50nm          4.7mb
RTLL    40.17 163 e(P)   19 39.00  21.7X
RTBS    40.22 165 e(P)   19 35.70  18.1X
GLA     40.59 314 eP     19 21.00   0.3
JACH    40.91 167 eP     19 36.50  13.1X
LCCH    41.47 168 iPd    19 43.80  16.0X
BAR     41.74 312 eP     19 31.00   0.9
LNV     41.97 168 eP     19 31.50  -0.4
TPC     42.01 314 eP     19 33.00   0.6
PLM     42.21 313 eP     19 35.00   0.8
MWC     43.50 313 eP     19 45.00   0.2
SBB     43.56 314 eP     19 45.00  -0.1
CLC     43.98 316 eP     19 46.00  -2.4
VAO     44.78 133 eP     19 53.50  -1.6
KVN     46.05 319 eP     20 05.10   0.0
SCH     48.75  11 eP     20 25.50  -0.4
EDM     52.87 336 iPc    20 55.40  -1.8
        0.5s     19.00nm          5.3mb
PNT     53.03 329 eP     20 58.00  -0.4
INK     70.10 342 eP     22 52.00  -1.1
MBC     72.07 351 eP     23 04.00  -1.0
        1.4s     11.00nm          4.8mb
AIA     73.36 173 eP     23 12.20  -0.4
NB2     84.72  29 P      24 16.10   1.6
        1.1s     11.80nm          5.0mb
HFS     86.04  30 eP     24 20.40  -0.6
        1.1s     14.30nm          5.1mb
CLL     86.82  39 iP     24 26.30   1.3
        1.5s     25.00nm          5.2mb
BRG     87.47  39 iP     24 29.40   1.2
        1.2s     15.00nm          5.1mb
                  e      24 40.00
KHC     87.48  41 eP     24 30.00   1.7
PRU     87.98  40 eP     24 27.50  -3.1X
                  e      24 45.00
KSP     88.94  39 eP     24 37.00   1.8
ASPA   142.86 240 ePKP   31 12.50  -3.0X
WB5    143.60 246 ePKP   31 11.80  -5.0X
WRA    143.61 246 PKPd   31 11.90  -4.9X
        0.6s      3.10nm
MTN    148.01 257 iPKPc  31 26.00   1.8
NWAO   149.42 211 ePKP   31 28.50   2.5X
GBA    150.12  46 PKP    31 32.00   4.6X
MUN    150.70 211 ePKP   31 31.40   3.5X
      S.D. = 1.2  on  33 of  46 obs.
-----------------------------------------
?  NOV  01, 1989  07h 33m 45.70± 1.19s
   40.447 N ± 8.7km   27.924 E ±17.1km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

BNT      0.09 182 iPg    33 48.20  -0.1
EDC      0.11 205 iPg    33 48.60   0.1
CTT      0.80  29 ePg    34 01.20   0.0
                  eSg    34 08.70
DST      1.00 147 ePg    34 04.70   0.0
                  eSg    34 18.20
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------------
&  NOV  01, 1989  08h 03m 17.90s
   37.098 N           121.845 W
   DEPTH =  10.0km
 CENTRAL CALIFORNIA                  ( 39)
      <BRK>. ML 3.7 (BRK).
      Mo=1.2*10**15 Nm (BRK). Felt at
      San Jose.

GCC      0.14 241 iPd    03 20.70  -0.5
MHC      0.29  34 iPd    03 24.00  -0.1
ARN      0.35  45 iPd    03 24.80  -0.4
SAO      0.46 136 eP     03 26.40  -0.9
PCC      0.59 313 iPc    03 28.80  -1.0
BRK      0.84 337 eP     03 33.20  -0.9
                  eS     03 45.80
PRS      0.85 153 ePc    03 33.50  -0.9
LLA      0.87 123 iPc    03 33.90  -0.7
PRI      1.35 135 eP     03 41.50  -1.3
CMB      1.49  51 iPc    03 44.00  -0.8
NWRM     1.59 329 eP     03 43.00  -3.1
FRI      1.71  93 eP     03 46.00  -1.9
PHAM     1.72 137 eP     03 46.30  -1.7
PKEM     1.74 126 eP     03 46.40  -1.9
BCH      2.38 143 eP     03 55.10  -2.6
ORV      2.47   6 eP     03 57.50  -1.3
BLP      2.79 155 eP     04 00.50  -2.9
ABL      3.09 136 eP     04 05.60  -2.2
KVN      3.54  55 iPc    04 13.10  -1.1
TNP      3.80  74 eP     04 16.60  -1.4
FHC      4.06 336 eP     04 20.50  -0.9
EDM     17.18  18 eP     07 20.00   0.6
FFC     22.27  31 eP     08 16.00  -0.4
        0.9s     16.00nm          4.5mb X
        23 obs. associated
-----------------------------------------
%  NOV  01, 1989  09h 41m 30.49± 0.88s
   39.233 N ± 7.3km   27.762 E ± 8.7km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

DST      0.77  61 ePg    41 45.70   0.2
                  eSg    41 57.70
IZM      0.92 205 iPg    41 48.00  -0.1
                  iSg    42 03.00
EDC      1.12   4 ePn    41 51.00  -0.4
BNT      1.13   6 iPn    41 51.70   0.1
EZN      1.26 299 ePn    41 54.10   0.2
      S.D. = 0.4  on   5 of   5 obs.
-----------------------------------------
   NOV  01, 1989  09h 49m 26.62± 0.66s
    2.492 N ± 3.1km  128.140 E ± 4.2km
   DEPTH =  37.3 ±  6.0 km
   5.5mb ( 27 obs.)  5.1Msz ( 14 obs.)
 HALMAHERA                           (267)
      CENTROID, MOMENT TENSOR        (HRV)
      Data Used: GDSN
      L.P.B.: 13S, 29C
      Centroid Location:
      Origin Time        09:49:28.4 0.7
      Lat  2.96N 0.06 Lon 127.79E 0.08
      Dep  15.0 BDY Half-duration  2.2
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.60 0.13  Mtt=-1.83 0.11
        Mff= 1.23 0.20  Mrt=-1.15 0.47
        Mrf= 0.77 0.30  Mtf=-1.07 0.10
       Principal Axes:
        T  Val=  2.32  Plg=35  Azm=245
        N        0.12      50       99
        P       -2.44      17      347
      Best Double Couple:Mo=2.4*10**17
       NP1:Strike= 31 Dip=52 Slip=  14
       NP2:        293      79      141

MNI      3.46 253 ePc    50 20.20   0.8
                  eS     50 50.00
DAV      5.23 331 eP-    50 44.00  -0.5
AAI      6.14 179 eP     51 02.20   4.9X
TLE      9.30 150 ePd    51 32.00  -9.3X
TSM     10.20 280 ePc    51 57.00   3.3X
MKS     11.56 229 ePd    52 12.00  -0.3
        1.0s      6.00nm          4.7mb
                  e      56 27.00
KKM     12.40 287 ePd    52 25.00   1.3
                  e      52 40.00
KUPT    13.35 200 ePd    52 47.00  10.9X
        1.1s    501.70nm
QCP     13.94 330 ePc    52 49.50   5.6X
MTN     15.52 169 iPc    53 03.00  -1.6
                  e      53 05.00
BAG     15.70 332 eP     53 04.00  -3.1X
KHKI    16.51 229 ePd    53 21.30   4.2X
                  e      59 20.00
MNDI    17.72 119 eP     53 34.00   1.5
GUMO    19.87  55 eP     53 56.80  -1.0
        1.1s    339.22nm          5.6mb
GUA     19.88  56 eP     53 56.60  -1.3
        0.9s    228.57nm          5.5mb
LAT     20.90 116 eP     54 10.00   1.5
KDB     22.37 122 eP     54 23.00  -0.1
WB5     23.06 165 eP     54 29.60  -0.3
                  ePcP   57 29.90
                  eS     58 40.00
                  eScP   01 55.20
WRA     23.11 165 Pc     54 29.90  -0.5
        1.0s    163.70nm          5.5mb
ANP     23.45 345 eP     54 32.00  -1.7
HKC     23.91 327 iP     54 39.30   1.2
                  eS     58 58.00
QZH     24.15 338 iPd    54 40.00  -0.4
        5.0s      4.00nm          3.2mb X
      Z  22s      3.20um          4.8Msz
      N  10s      1.10um
                  S      58 53.00
QIZ     24.31 314 Pd     54 40.00  -2.0
        6.0s      3.80nm          3.1mb X
      E  17s      2.40um
                  PP     55 10.00
KGM     24.81 269 ePc    54 49.00   2.1
MBL     24.87 199 eP     54 47.00  -0.5
GZH     25.00 326 Pd     54 48.00  -0.6
        5.0s      0.50nm          2.4mb X
      Z  22s      5.30um          5.0Msz
      N  14s      2.10um
      E  14s      2.00um
QIS     25.52 154 iPc    54 53.20  -0.3
                  e      54 57.00
ASPA    26.60 168 iPc    55 02.50  -1.1
      Z  21s     10.00um          5.3Msz
                  eS     59 35.40
                  eScP   02 04.80
                  ePcS   02 09.60
                  iScS   05 52.50
                  LR     06 37.70
IPM     27.14 275 ePd    55 08.50  -0.1
NANU    27.78 206 eP     55 13.00  -1.2
SNG     27.81 281 eP     55 13.00  -1.6
                  eS     59 54.50
WARB    28.54 183 eP     55 22.00   0.9
CTA     28.63 142 iPd    55 22.30   0.3
        1.5s    341.67nm          5.8mb
                  iPcP   58 36.80
                  iS     00 05.00
                  iScP   02 11.30
PSI     29.19 271 ePc    55 26.50  -0.6
                  e      58 35.00
                  e      59 50.00
SSE     29.20 348 P+     55 28.00   1.1
        4.0s      1.00nm          2.9mb X
      Z  20s      1.90um          4.7Msz
      N  10s      1.10um
      E  10s      1.60um
                  PcP    58 35.50
                  S      00 20.00
                  sS     00 30.00
NNT     29.86 291 eP     55 32.80  -0.3
LOE     29.87 301 eP     55 31.50  -1.7
MEKA    30.39 197 eP     55 36.50  -1.1
        0.3s      9.00nm          5.0mb
NST     30.54 297 eP     55 39.50   0.4
NJ2     30.68 344 eP     55 45.00   4.9X
      Z  17s      1.80um          4.8MszX
      N  10s      1.30um
      E  11s      1.80um
WHN     30.80 336 Pd     55 42.00   0.8
        6.0s      1.74nm          3.0mb X
      Z  22s      3.26um          4.9Msz
      N  10s      2.97um
      E  10s      2.86um
                  sP     55 56.00
                  S      00 46.00
GYA     31.51 321 iPd    55 49.00   1.4
        4.0s      1.60nm          3.2mb X
      Z  20s      2.10um          4.8Msz
      N  16s      2.30um
      E  16s      1.60um
                  ScP    02 21.60
                  ScS    06 19.00
BDT     32.15 299 eP     55 55.00   1.8
        1.1s     66.60nm          5.4mb
QLP     32.82 153 eP     55 58.00  -0.9
CHG     32.86 302 eP     55 58.90  -0.6
        0.9s     67.65nm          5.5mb
                  e      02 27.30
CHTO    32.86 302 eP     55 58.00  -1.4
        0.9s     79.50nm          5.6mb
FORR    33.16 180 eP     56 01.00  -0.7
KMI     33.24 315 Pd     56 02.50  -0.4
        6.0s      1.30nm          3.0mb X
      Z  18s      4.60um          5.2Msz
      N  16s      1.60um
                  eS     01 22.00
                  sS     01 37.00
MRWA    33.61 199 eP     56 04.30  -1.5
        0.3s      7.00nm          5.0mb
COOL    33.85 191 eP     56 06.30  -1.6
        0.5s     14.00nm          5.1mb
IIDJ    34.05  14 P      56 10.50   0.9
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01d 09h

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BAL     34.67 197 eP     56 14.00  -0.9
CHJJ    34.87  15 P      56 14.20  -2.3
RMO     35.03 147 eP     56 17.00  -1.0
                  e      57 45.00
                  i      58 51.50
                  e      02 34.00
TIA     35.07 344 eP     56 18.00  -0.2
      N  12s      1.80um
                  S      01 50.00
MTMJ    35.08  14 P      56 17.90  -0.6
MAT     35.13  14 iPd    56 18.10  -0.7
        0.9s     115.97nm          5.8mb
      Z  20s      3.90um           5.2Msz
                  eS     01 52.00
KLB     35.30 195 eP     56 19.30  -1.0
        0.3s      6.00nm           5.1mb
KAKJ    35.34  17 P      56 19.20  -1.4
NIIJ    36.00  15 P      56 27.50   1.4
MUN     36.10 197 eP     56 26.00  -1.1
XAN     36.15 332 Pd     56 27.00  -0.5
      E  11s      1.00um
                  S      02 04.00
CD2     36.47 323 eP     56 29.70  -0.5
      Z  24s      2.20um           4.9MszX
      E  12s      1.88um
STK     36.49 161 iPd    56 30.20  -0.1
                  e      02 38.00
NWAO    36.71 195 eP     56 31.00  -1.1
        0.5s     24.00nm           5.3mb
      N  20s      2.20um
      E  20s      3.00um
YAMJ    37.15  16 eP     56 34.50  -1.2
CMS     37.75 155 eP     56 41.00   0.1
RKG     37.85 195 eP     56 46.00   4.3X
TIY     37.90 340 eP     56 40.00  -2.2
        1.0s      0.30nm           3.1mb X
      E  12s      1.40um
                  PP     58 10.00
                  S      02 29.50
BRS     38.03 143 iPc    56 41.50  -1.8
                  ipP    56 46.00  15kmX
OFUJ    38.45  17 P      56 47.00   0.3
ADE     38.56 166 iPc    56 48.70   1.0
        1.0s    190.00nm           5.9mb
BJI     38.92 345 eP     56 49.50  -1.1
        1.0s    230.00nm           5.9mb
      N  15s      1.32um
                  ePcP   59 03.00
                  eS     02 44.00
                  eScP   02 47.00
                  eScS   07 00.00
SNY     39.37 355 eP     56 53.20  -1.1
        0.9s      0.10nm           2.6mb X
      Z  25s      3.40um           5.1MszX
      N  22s      2.90um
      E  19s      3.90um
                  pP     57 06.50  50kmX
                  sP     57 11.80
                  S      02 50.00
LZH     40.28 329 iPd    57 03.40   1.3
        2.5s      0.92nm           3.1mb X
      Z  28s      7.00um           5.4MszX
      N  13s      1.32um
      E  17s      1.80um
                  pP     57 12.00  29kmX
                  sP     57 18.00
                  ScP    02 54.00
HHC     41.01 341 Pc     57 07.80  -0.2
      Z  18s      3.20um           5.2Msz
      N  12s      1.30um
      E  12s      0.80um
                  PP     58 44.00
                  S      03 20.00
CN2     41.20 357 eP     57 10.00   0.6
      Z  20s      2.20um           5.0Msz
      N  12s      0.80um
      E  12s      0.90um
                  epP    57 15.00  17kmX
                  eS     03 22.00
BTO     41.32 339 iPc    57 12.00   1.4
      N  13s      1.20um
      E  13s      0.80um
                  PP     58 48.00
                  S      03 21.50
BWA     41.38 154 eP     57 12.00   1.0
BFD     41.68 163 eP     57 12.00  -1.3
                  e      57 18.00
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SHL     41.74 307 iP     57 12.00  -2.3
                  eS     03 28.00
MDJ     41.97   2 eP     57 15.00  -0.6
      N  12s      1.10um
                  S      03 32.00
CAN     42.39 154 eP     57 19.80   0.5
TOO     42.99 160 eP     57 26.00   1.9
LSA     44.31 311 Pc     57 36.00   0.5
        4.0s      1.59nm           3.2mb X
                  S      04 09.00
DZM     44.68 125 iPd    57 38.80   0.7
                  i      59 25.90
GTA     44.88 329 iPd    57 40.00   0.5
      Z  20s      3.60um           5.3Msz
      N  12s      1.00um
                  PP     59 23.00
                  S      04 10.00
HYB     50.86 290 eP     58 26.00  -0.3
        0.8s    230.80nm           6.2mb
                  eS     05 40.00
GBA     51.30 285 P      58 28.60  -1.0
WMO     54.54 325 iPd    58 53.40   0.0
      Z  28s      4.20um           5.4MszX
                  S      06 33.00
NDI     54.97 304 iPd    58 55.00  -1.8
                  eS     06 36.00
POO     55.46 291 iPc    58 59.50  -1.0
                  iSd    06 42.00
MSZ     58.83 148 P      59 32.00   8.2X
KSH     59.88 315 P      59 34.00   2.6
SMY     62.83  29 P      59 51.00   0.2
        0.7s    174.42nm           6.3mb
QUE     63.99 302 eP     00 00.00   0.8
                  eS     08 34.50
ADK     67.20  34 eP     00 17.70  -1.4
        0.8s     97.30nm           5.9mb
DRV     69.52 175 eP     00 33.60   0.4
MAIO    71.38 307 iPd    00 45.00  -0.3
                  eS     10 05.00
SDN     77.42  34 eP     01 18.80  -0.7
SVW     81.19  29 eP     01 40.80   0.9
TTA     81.36  27 eP     01 41.20   0.4
TAB     82.02 308 eP     01 46.00   1.2
KDC     82.22  32 eP     01 45.30   0.1
SLY     82.57 305 ePc    01 49.00   1.5
BRW     82.90  18 eP     01 50.20   1.7
SBA     82.93 172 eP     01 49.90   1.4
IMA     82.94  24 eP     01 49.10   0.1
        1.1s    107.30nm           5.8mb
MAW     83.09 201 eP     01 49.00  -0.5
BHD     83.42 303 ePc    01 51.00  -0.9
                  eS     12 11.00
PMR     84.35  28 eP     01 55.10  -0.9
MSL     84.50 306 ePc    01 57.50   0.2
                  eS     12 20.00
FBA     85.23  25 P      02 00.00  -0.4
        0.8s     10.34nm           5.1mb
TOA     85.79  28 eP     02 04.50   1.2
KVT     89.96 311 eP     02 23.00  -0.8
BHL     90.69 304 P      02 28.00   0.6
INK     90.79  22 eP     02 26.00  -0.9
DSI     91.06 301 eP     02 31.00   2.1
PRNI    91.47 300 eP     02 31.00   0.1
KEV     91.53 340 eP     02 31.00   0.7
MBH     91.61 300 ePc    02 32.50   1.0
SOD     92.14 338 iP     02 30.30  -2.9
SPA     92.48 180 eP     02 36.10   1.2
      Z  20s      2.12um           5.6Msz
MBC     92.84  13 eP     02 37.00   0.7
        1.0s     13.00nm           5.3mb
SUF     93.29 333 eP     02 38.10  -0.4
        0.8s     10.50nm           5.3mb
NUR     94.46 331 eP     02 52.00   8.0X
VRI     96.16 316 ePd    02 52.50   0.4
MLR     96.76 316 iPc    02 55.00   0.0
PTZ     97.20 256 iP     02 57.00  -0.4
MZZ     99.56 259 iPd    03 09.50   1.3
                  i      07 13.00
HFS     99.76 332 eP     03 07.20  -0.9
        1.4s     41.10nm           5.8mb
SLR     99.96 244 eP     03 11.50   1.6
VAY    100.00 313 eP     03 09.00  -0.6
LSZ    100.25 255 iPdiff03 13.20   1.8
                  i      07 17.20
LIT    100.31 311 ePdiff03 09.80  -1.3
SEK    100.44 242 ePdiff03 10.00  -2.1
NB2    100.51 334 Pdiff 03 10.80  -0.7
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        0.9s      8.30nm           5.3mb
SKO    100.68 313 ePdiff03 14.00   1.4
GMW    100.92  41 Pdiff 03 15.30   1.7
KSP    101.67 323 ePdiff03 17.80   1.0
                  e      06 43.00
LON    101.78  41 Pdiff 03 13.40  -4.1X
PNT    102.41  38 ePdiff03 21.00   0.9
        0.7s      5.00nm           5.3mb
BRG    103.06 324 iPdiff03 25.90   2.9X
        1.0s     14.00nm           5.7mb
EDM    104.61  33 ePdiff03 30.50   0.6
BCAO   109.32 276 ePKPd 07 57.50   1.8
        0.5s      3.00nm
GOL    115.52  43 PKP   08 07.40   0.2
ALQ    116.80  49 ePKP  08 10.10   0.4
KIC    132.14 281 PKP   08 41.00   1.7
LNV    143.76 152 ePKP  08 55.00  -5.0X
TACH   144.23 152 ePKP  09 02.50   1.6
IHA    144.41 151 ePKP  09 01.50   0.3
PCH    144.46 153 ePKP  09 00.50  -0.9
SAN    144.53 152 ePKP  09 00.50  -0.9
PEL    144.77 152 ePKP  09 00.50  -1.4
        0.7s     68.49nm
                  i      09 02.10
FCH    144.80 153 ePKP  09 03.00   0.7
UPA    150.15  67 iPKPc 09 15.20   4.3X
        1.2s    131.25nm
      Z  21s      1.11um           5.6Msz
NNA    153.51 112 ePKP  09 22.00   6.1X
        1.2s     39.06nm
CNCB   158.70 133 PKP   09 27.20   4.1X
LPB    158.79 132 PKP   09 26.00   3.0X
ZOBO   158.94 132 PKP   09 23.00  -0.4
        1.5s     43.01nm
      Z  22s      0.40um           5.2Msz
                  LR     44 40.00
PPD    160.57 182 ePKP  09 28.20   3.9X
      S.D. = 1.1  on 142 of 161 obs.
-----------------------------------
%  NOV  01, 1989  10h 10m 11.07± 0.89s
   39.113 N ± 7.3km   27.632 E ± 9.2km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

IZM      0.77 202 iPg    10 26.10   0.0
                  iSg    10 37.00
DST      0.92  57 ePn    10 28.70   0.1
EZN      1.24 306 iPn    10 34.10   0.1
EDC      1.25   8 ePn    10 34.60   0.4
BNT      1.26  10 ePn    10 34.00  -0.5
      S.D. = 0.5  on   5 of   5 obs.
-----------------------------------
   NOV  01, 1989  10h 25m 52.25± 0.58s
   18.986 N ± 2.9km   68.833 W ± 2.6km
   DEPTH =  26.0 ±  4.3 km
   5.2mb ( 45 obs.)  4.4Msz (  2 obs.)
 MONA PASSAGE                      ( 89)
      Felt at Aguadillo, Moyaguez,
      Cabo Rojo, Guanica and Ponce and
      as far east as Cayey and San
      Juan. Possible small tsunami
      reported near Cabo Rojo.

MGP      1.92 120 P      26 23.70  -0.1
LRS      2.01 110 P      26 26.10   1.0
PORP     2.28 114 P      26 29.30   0.4
SJG      2.69 108 P      26 36.20   1.4
LPR      2.89 103 iP     26 36.20  -1.4
CPD      2.92 108 P      26 39.10   1.0
SKI      6.02 105 eP     27 33.77  11.7X
                  eS     29 02.12
ANG      6.91 104 eP     27 34.14  -0.3
                  eS     29 02.57
BPA      6.91 105 eP     27 34.25  -0.3
                  eS     29 03.76
BBL      7.82 115 eP     27 47.00  -0.3
DPMT     8.03 116 eP     27 51.00   0.9
                  eS     29 21.12
DTMT     8.07 116 eP     27 51.28   0.5
                  eS     29 21.72
FDF      8.48 119 eP     27 56.60   0.1
                  SS     29 30.40
BIM      8.66 120 eP     27 58.49  -0.5
CRM      8.67 118 eP     27 59.08   0.0
MVM      8.79 119 eP     28 01.55   0.9
SVV      9.23 126 eP     28 06.34  -0.5
SVB      9.24 127 eP     28 05.54  -1.4
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01d 10h

		eS	29	47.56	
SSV	9.25	126	eP	28	06.55	-0.6
		eS	29	46.06	
CUM	9.60	151	eP	28	12.00	0.2
		i	29	57.00	
GRW	9.68	133	eP	28	11.72	-1.4
BDH	10.58	122	eP	28	28.62	3.2X
TRN	10.97	138	eP	28	29.98	-0.6
		eS	30	27.49	
BOT	11.03	134	eP	28	35.97	4.4X
TPP	11.19	139	eP	28	32.84	-0.8
		eS	30	30.98	
TBH	11.30	137	eP	28	34.65	-0.6
		eS	30	34.90	
BMG	12.54	200	eP	29	06.00	13.9X
UPA	14.37	228	iPc	29	16.10	0.0
	0.8s	85.07nm			5.4mb	
BOG	15.16	200	e(P)	29	31.00	4.2X
			e(S)	32	30.00	
HBF	17.32	326	P	29	53.00	-0.8
SGS	17.59	326	P	29	55.00	-2.2
LHS	18.75	328	P	30	09.00	-2.5
JSC	18.82	326	P	30	10.00	-2.4
PSO	19.55	206	eP	30	23.00	1.4
CBN	20.55	341	eP	30	31.00	-0.4
			e	34	14.00	
NA2	20.59	340	P	30	31.50	-0.4
BLA	20.80	333	P	30	34.00	-0.2
	1.0s	40.00nm			4.8mb	
TKL	21.22	325	P	30	38.00	-0.3
GBTN	21.46	324	P	30	40.00	-0.8
TBR	22.56	349	P	30	54.00	2.3
PWLA	23.33	317	P	31	00.00	0.7
ELC	25.51	320	P	31	20.00	-0.3
HBVT	25.55	353	P	31	21.70	1.2
PPM	28.15	275	(P)	31	47.69	2.5
LNO	29.13	311	eP	31	54.20	1.1
TUL	29.13	311	eP	31	54.20	0.9
	1.0s	31.70nm			5.0mb	
Z	19s	1.05um			4.5Msz	
SIO	29.42	310	e(P)	32	01.10	5.2X
MEO	30.70	307	iPd	32	07.50	0.2
PT08	31.68	194	iPc	32	17.10	0.7
NNA	31.77	195	iPc	32	17.00	0.1
	0.8s	22.39nm			5.1mb	
ZOBO	35.04	179	P	32	43.80	-2.0
Z	24s	0.48um			4.2MszX	
		LR		05	36.00	
LPB	35.30	179	P	32	48.00	0.2
	1.0s	60.00nm			5.5mb	
		e		38	21.00	
CNCB	35.58	179	P	32	50.30	0.0
		e		38	24.00	
SCH	35.80	2	eP	32	51.50	0.3
CCH	36.24	176	P	32	55.70	0.1
ALQ	36.86	303	eP	33	01.00	0.3
	1.1s	8.54nm			4.5mb	
Z	18s	0.60um			4.4Msz	
GLD	37.51	311	P	33	09.00	3.0X
	1.2s	32.83nm			5.0mb	
GOL	37.60	311	P	33	07.20	0.3
	0.8s	20.83nm			5.0mb	
MSU	42.23	307	P	33	47.00	1.8
FFC	43.70	333	iPd	33	56.30	-0.3
	0.7s	12.00nm			4.8mb	
PPD	44.22	156	eP	34	00.90	-0.3
PLM	45.04	298	P	34	14.40	6.4X
SES	45.81	323	eP	34	15.00	1.3
TNP	46.01	305	P	34	17.50	1.8
	0.9s	7.81nm			4.6mb	
KVN	46.87	306	P	34	23.00	0.6
EDM	48.39	326	ePc	34	33.80	-0.1
CMB	48.47	304	P	34	41.00	6.2X
	1.0s	6.67nm			4.6mb	
PNT	50.50	319	eP	35	05.00	14.8X
LON	51.20	315	P	34	54.50	-1.1
AVE	56.23	62	iP	35	34.00	1.2
		i		36	30.50	
EJIF	57.77	58	eP	35	45.50	1.8
EHOR	57.94	57	eP	35	45.00	0.2
IFR	58.13	62	iP	35	47.50	1.0
GUD	58.82	54	eP	35	51.00	-0.1
AAPN	58.84	57	iP	35	51.70	0.4
ALOJ	58.85	58	iP	35	52.10	0.7
TOL	58.89	54	eP	35	51.80	0.3
ATEJ	58.93	58	iPd	35	53.40	1.4
ACHM	59.07	58	iP	35	54.20	1.3

EBAN	59.09	56	eP	35	53.50	0.6
ASMO	59.14	57	iPc	35	54.00	0.6
APHE	59.19	58	iP	35	54.70	0.9
AFC	59.30	57	eP	35	55.20	0.6
ENIJ	60.37	58	eP	36	02.00	0.3
ETOR	60.41	53	eP	36	03.00	0.9
EKA	60.78	37	Pc	36	04.00	-0.2
	0.9s	24.00nm			5.3mb	
LPF	61.33	45	eP	36	07.90	-0.1
	1.1s	29.30nm			5.3mb	
GRR	61.47	45	eP	36	08.80	-0.2
	0.7s	11.90nm			5.1mb	
FLN	61.74	44	eP	36	10.70	-0.1
	0.7s	11.90nm			5.1mb	
MFF	61.88	47	eP	36	11.50	-0.3
	0.9s	36.00nm			5.5mb	
LDF	61.97	44	eP	36	12.10	-0.3
	0.7s	16.30nm			5.3mb	
EPF	62.19	51	eP	36	14.30	0.3
	0.9s	43.20nm			5.6mb	
EROQ	62.28	53	eP	36	15.00	0.4
EBR	62.35	53	eP	36	16.00	1.0
LFF	62.47	49	eP	36	15.80	0.1
	1.0s	25.60nm			5.3mb	
MBC	62.74	348	ePc	36	17.00	-0.1
	1.0s	21.00nm			5.2mb	
LPO	62.79	49	eP	36	17.80	-0.1
	1.0s	28.00nm			5.3mb	
RJF	63.02	48	eP	36	19.00	-0.4
	1.0s	25.60nm			5.3mb	
LSF	63.03	47	eP	36	19.00	-0.4
	1.1s	29.30nm			5.3mb	
TIC	63.13	92	Pd	36	19.46	-1.1
INK	63.22	338	eP	36	19.00	-1.2
LIC	63.25	93	P	36	20.36	-1.0
CAF	63.41	49	eP	36	21.50	-0.5
	1.1s	31.70nm			5.4mb	
KIC	63.48	92	Pd	36	22.00	-0.9
	0.7s	17.00nm			5.3mb	
TCF	63.50	47	eP	36	22.10	-0.5
	1.1s	46.30nm			5.5mb	
MAF	63.75	47	eP	36	23.60	-0.6
	1.2s	24.90nm			5.2mb	
BGF	63.94	47	eP	36	24.80	-0.6
	0.8s	13.40nm			5.1mb	
ESEL	64.23	54	eP	36	28.00	0.6
AVF	64.29	47	eP	36	27.00	-0.7
	1.1s	34.10nm			5.4mb	
SSF	64.39	46	eP	36	27.70	-0.6
	1.1s	24.40nm			5.2mb	
SMF	64.63	47	eP	36	29.30	-0.6
	1.1s	35.10nm			5.4mb	
LOR	64.63	46	eP	36	29.10	-0.8
	0.7s	17.60nm			5.3mb	
LBF	64.71	46	eP	36	29.50	-1.0
	1.1s	18.00nm			5.1mb	
SNF	64.89	42	Pc	36	31.70	0.2
DOU	65.09	43	Pc	36	32.90	0.1
MEM	65.99	42	Pc	36	38.90	0.4
VITF	66.04	45	P	36	38.75	-0.1
WLF	66.10	43	iPd	36	41.00	1.8
HAU	66.29	45	eP	36	40.10	-0.5
	1.1s	19.50nm			5.1mb	
WTS	66.47	41	iPd	36	41.90	0.3
	0.8s	46.00nm			5.7mb	
BSF	66.59	45	P	36	42.11	-0.5
LOMF	66.64	46	P	36	43.05	0.1
BNI	66.67	48	P	36	43.70	0.5
LPG	66.70	48	eP	36	43.70	0.1
	1.0s	20.00nm			5.2mb	
RRL	66.76	49	P	36	44.38	0.5
ECH	66.82	45	P	36	43.74	-0.2
CDF	66.89	45	P	36	43.78	-0.7
CALN	66.92	50	P	36	45.33	0.5
WLS	66.94	45	P	36	44.31	-0.4
LSD	66.99	48	P	36	45.61	0.3
PZZ	67.02	49	P	36	45.91	0.5
RSP	67.08	48	P	36	46.33	0.5
GWF	67.09	44	P	36	45.70	0.0
DIX	67.12	47	ePd	36	46.70	0.5
DOI	67.12	49	P	36	46.60	0.6
TOUF	67.16	49	P	36	46.45	0.0
STV	67.20	49	P	36	46.22	-0.3
AURF	67.23	50	P	36	46.84	0.1
ENR	67.27	49	P	36	46.22	-0.7
SAOF	67.38	49	P	36	47.60	0.0
FEL	67.41	45	P	36	47.22	-0.6

MMK	67.51	47	ePd	36	49.20	0.6
ORX	67.55	48	P	36	47.35	-1.4
ROB	67.58	49	P	36	48.27	-0.6
IMI	67.63	50	P	36	47.56	-1.7
ZLA	67.69	46	ePd	36	49.10	-0.4
SLE	67.74	45	ePd	36	49.40	-0.4
FIN	67.83	49	P	36	48.68	-1.8
PCP	68.04	49	P	36	51.76	0.0
VAI	68.08	47	P	36	51.80	-0.1
TMA	68.13	47	ePd	36	52.50	0.0
LLS	68.15	46	ePd	36	53.00	0.4
FBA	68.30	333	P	36	52.10	-0.8
	0.9s	12.50nm			5.0mb	
SAX	68.36	46	ePd	36	54.40	0.4
BOB	68.66	48	Pd	36	55.70	0.1
MDI	68.75	47	Pd	36	55.00	-1.0
NB2	68.77	31	P	36	56.90	1.0
	0.9s	21.80nm			5.3mb	
OSS	68.95	46	ePd	36	58.00	0.5
GRC3	69.70	44	ePd	37	01.60	-0.2
	1.2s	26.00nm			5.2mb	
HFS	70.03	32	eP	37	03.00	-0.6
	1.7s	61.30nm			5.4mb	
CTI	70.06	47	Pd	37	03.50	-0.7
CLL	70.36	41	iPc	37	06.20	0.4
	1.6s	24.00nm			5.1mb	
PGD	70.39	49	Pd	37	05.20	-1.1
CRE	70.59	49	P	37	03.20	-4.3X
IMA	70.74	335	P	37	07.00	-1.0
	0.8s	6.38nm			4.8mb	
FVI	70.77	46	Pd	37	07.70	-0.6
BRG	71.00	42	eP	37	10.00	0.3
KBA	71.09	46	eP	37	10.00	-0.5
ASS	71.18	50	Pd	37	10.30	-0.7
MNS	71.30	51	Pd	37	11.40	-0.3
VOY	71.61	47	eP	37	13.00	-0.6
CEY	72.02	47	eP	37	16.50	0.5
LJU	72.05	47	e(P)	37	16.50	0.4
SDI	72.24	51	Pd	37	16.80	-0.6
KSP	72.48	41	eP	37	19.00	0.5
VBY	72.64	47	e(P)	37	19.90	0.4
PTJ	73.05	47	eP	37	22.10	0.0
ZST	73.43	44	iP	37	24.60	0.5
			e	03	51.70	
SGO	73.56	52	P	37	25.00	0.0
MGR	73.82	53	Pd	37	27.00	0.4
KEV	74.36	21	iP	37	29.80	0.7
	0.7s	14.70nm			5.1mb	
CSI	74.45	53	P	37	28.70	-1.6
ROI	74.70	53	P	37	29.20	-2.6
SOD	74.73	24	iP	37	32.20	0.9
BRT	74.91	52	P	37	32.80	0.0
KRA	74.91	42	eP	37	33.50	0.8
NUR	75.37	31	eP	37	35.90	0.9
	0.8s	23.50nm			5.3mb	
		e		41	12.00	
		e		42	36.00	
SUF	75.57	28	eP	37	36.80	0.6
	0.7s	20.20nm			5.3mb	
OHR	77.50	51	eP	37	49.10	1.6
	1.6s	0.12nm			2.7mb	X
SKO	77.75	50	iP	37	49.20	0.4
MLR	79.96	45	iPc	38	03.00	2.1
BCAO	86.09	87	iPd	38	33.30	0.5
	0.6s	121.00nm			6.3mb	X
		id		39	04.30	
DZM	128.37	257	iPKPc	44	55.10	-4.0X
CAN	142.87	236	ePKP	45	20.90	-4.7X
BWA	143.57	237	ePKP	45	22.90	-4.0X
NST	143.89	18	ePKP	45	22.00	-5.8X
RMQ	144.63	251	iPKPc	45	27.90	-0.9
	0.9s	79.00nm				
		i		45	33.70	
TOO	144.82	231	iPKPc	45	28.00	-0.9
CMS	146.41	241	ePKPc	45	32.50	0.8
NNT	146.66	21	iPKPd	45	34.80	2.3X
CTA	146.95	262	iPKPd	45	33.20	0.4
	1.0s	64.00nm				
STK	149.78	239	ePKP	45	37.50	0.5
		i		45	41.80	
ADE	150.88	231	ePKP	45	44.70	6.1X
WB5	158.10	264	ePKP	45	48.50	-0.2
ASPA	158.32	254	iPKPc	45	47.00	-1.9
	1.4s	18.00nm				

S.D. = 0.9 on 188 of 205 obs.

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* NOV 01, 1989 11h 02m 33.80± 3.13s

01d 11h

18.342 S ±17.4km 177.727 W ±11.5km
DEPTH = 474.3 ± 34.3 km
4.2mb (7 obs.)
FIJI ISLANDS REGION (1B1)

WB5	45.17	260	iPc	10 09.30	0.5
WRA	45.19	260	Pc	10 09.30	0.4
	0.4s	3.30nm			4.2mb
ASPA	45.30	255	iPd	10 10.40	0.6
	1.0s	14.00nm			4.4mb
			iPcP	11 37.40	
			iS	16 06.70	
MBL	58.50	256	eP	11 44.40	-1.4
SPA	71.77	180	eP	13 08.10	-0.4
	0.4s	11.18nm			4.8mb
PRS	76.09	44	eP	13 33.50	0.4
PRI	76.44	44	eP	13 35.60	0.4
MWC	77.15	47	eP	13 40.00	0.8
PLM	77.53	48	eP	13 41.00	-0.3
FRI	77.56	44	eP	13 41.20	0.1
SBB	77.57	47	eP	13 41.00	-0.3
ISA	77.65	46	eP	13 42.00	0.3
CMB	77.71	43	eP	13 41.90	-0.1
WDC	77.86	40	eP	13 42.80	0.1
ORV	77.89	41	eP	13 42.50	-0.4
MIN	78.29	40	eP	13 48.40	3.2X
CLC	78.33	46	eP	13 45.00	-0.4
TPC	78.50	48	eP	13 46.00	-0.3
KVN	79.76	43	iP	13 53.10	0.1
TNP	79.81	44	eP	13 53.90	0.6
	1.0s	4.25nm			3.9mb
PNT	84.73	34	eP	14 17.00	-0.7
	0.8s	10.00nm			4.5mb
FBA	86.09	12	iP	14 22.90	-1.0
	0.6s	1.70nm			4.0mb
CHTO	89.76	290	eP	14 41.40	-0.6
	0.9s	2.77nm			4.2mb
KSP	145.70	344	iPKPd	21 18.20	-0.3
CLL	146.02	348	iPKPd	21 18.30	-0.7
	0.7s	26.00nm			
WTS	146.23	355	e(PKP)	21 19.50	0.2
	0.9s	14.00nm			
PRU	146.93	345	PKP	21 21.50	1.0
ZST	147.87	341	ePKP	21 23.60	1.5
KHC	147.96	346	ePKP	21 24.00	1.7X
LJU	150.57	342	e(PKP)	21 29.50	3.2X
VOY	150.76	343	iPKPd	21 29.70	3.0X
VBY	150.84	341	e(PKP)	21 31.20	4.5X
CEY	150.87	342	e(PKP)	21 28.50	1.7X

S.D. = 0.7 on 27 of 33 obs.

NOV 01, 1989 11h 02m 38.59± 1.31s
45.821 N ± 6.1km 17.742 E ±11.9km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.9 (ZAG). Felt in the Codovica area.

BLY	1.14	200	Pn	03 00.00	0.0
			Sn	03 13.50	
ZAG	1.23	270	iPg	03 01.50	0.1
			iSg	03 19.20	
PTJ	1.25	274	iPnd	03 01.80	-0.1
			iSg	03 18.20	
			iSn	03 21.90	
VBY	1.77	261	ePg	03 16.20	6.7X
			iSn	03 37.70	
BUD	1.88	27	eP	03 13.10	2.0X
BEO	2.16	117	eP	03 49.50	34.4X
LJU	2.25	277	e(Pg)	03 25.50	9.1X
			eSn	03 44.90	
CEY	2.32	269	e(Pn)	03 27.00	9.5X
			e(Sn)	03 56.50	
RIY	2.40	260	iPn	03 18.00	-0.6
			iSn	03 48.10	
VOY	2.69	276	ePn	03 22.80	0.0
			eSg	04 09.70	
BZS	2.72	93	ePc	03 16.00	-7.1X
TRI	2.79	269	eP	03 24.40	0.4
			e	03 57.50	
HVAR	2.80	200	iPn	03 24.30	0.1
KHC	4.35	321	ePn	03 47.00	0.7
			eSn	04 49.00	
PRU	4.69	334	eP	03 50.50	-0.6
			eSg	04 21.50	

S.D. = 0.5 on 9 of 15 obs.

• NOV 01, 1989 11h 22m 19.77± 0.73s
3.930 S ±10.8km 151.437 E ± 7.9km
DEPTH = 10.0km (geophysicist)
4.9mb (6 obs.)
NEW IRELAND REGION (190)

RAB	0.78	110	iPd-	22 34.50	-0.4
KDB	6.95	217	eP	24 06.00	1.8
CTA	16.84	197	iPd	26 19.80	2.5X
	1.2s	164.06nm			5.0mb
			iS	29 32.00	
QIS	20.15	214	eP	26 56.00	-1.1
RMQ	22.58	186	iPc	27 22.20	0.4
WB5	22.99	225	eP	27 24.70	-1.1
			eS	31 42.80	
WRA	23.05	225	Pc	27 25.40	-1.0
	1.2s	30.10nm			4.7mb
DZM	23.17	142	iPc	27 28.10	0.4
BRS	23.37	177	iPc	27 29.50	0.0
			e(S)	31 32.00	
QLP	23.56	196	ePc	27 32.00	0.7
ASPA	25.92	219	iPd	27 53.50	-0.5
	1.0s	28.00nm			4.9mb
CHTO	56.39	296	eP	32 04.50	0.4
	1.2s	3.13nm			4.2mb
LZH	59.66	316	eP	32 31.00	4.0X
	1.5s	33.00nm			5.2mb
MBC	93.60	14	eP	35 37.50	0.5
	1.2s	9.00nm			5.0mb
PPD	145.92	140	ePKP	42 01.20	-0.2

S.D. = 0.9 on 13 of 15 obs.

NOV 01, 1989 11h 29m 59.05± 0.11s
11.009 S ± 2.6km 162.208 E ± 2.4km
DEPTH = 33.0km (normal)
5.8mb (32 obs.) 5.3Msz (14 obs.)
SOLOMON ISLANDS (193)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 29C
Centroid Location:
Origin Time 11:30: 0.8 0.6
Lat 11.05S FIX;Lon 162.22E FIX
Dep 15.0 FIX Half-duration 2.2
Moment Tensor; Scale 10**17 Nm
Mrr=-1.61 0.11 Mtt= 1.34 0.12
Mff= 0.27 0.14 Mrt= 0.15 0.39
Mrf= 0.88 0.32 Mtf= 1.21 0.10
Principal Axes:
T Val= 2.23 Plg= 9 Azm=325
N -0.24 23 231
P -1.99 65 75
Best Double Couple:Mo=2.1*10**17
NP1:Strike= 80 Dip=41 Slip= -53
NP2: 215 58 -117

PVC	8.93	139	iPc	32 05.00	-3.8X
DZM	11.72	160	iPd	32 45.00	-2.2
			iS	34 55.00	
RAB	12.03	303	iP+	32 52.00	0.7
			iS	35 28.00	
KDB	14.89	275	eP	33 33.50	4.5X
LAT	15.64	285	eP	33 42.00	3.3X
VUN	17.20	116	ePd	33 58.30	-0.2
SVA	17.23	116	iPc	33 59.40	0.4
CTA	17.81	238	iPd	34 09.40	3.2X
	1.4s	381.40nm			5.3mb
			i	35 39.30	
			iS	37 33.00	
BRS	18.56	207	iPc+	34 16.00	0.7
			ipP	34 24.50	
			isP	34 50.00	
			i	35 13.50	
			eS	37 48.00	
MNDI	18.96	283	eP	34 24.00	3.5X
RMQ	19.96	218	iPd	34 32.60	1.2
	1.0s	235.00nm			5.5mb
COO	21.70	205	eP	34 50.00	0.7
QLP	22.96	225	iPd	35 02.90	1.2
			e	35 09.00	
QIS	23.70	244	iPc	35 10.10	1.1
CMS	25.40	214	iPd	35 25.60	0.5
			e	35 41.00	
AFI	25.56	99	iPd	35 25.00	-1.9
			eS	40 00.00	
BWA	26.49	206	eP	35 34.10	-1.2
CNB	26.87	204	eP	35 40.00	1.2
CAN	27.02	204	eP	35 39.10	-1.0
STK	28.18	219	eP	35 50.00	-0.6
WB5	28.21	248	eP	35 50.80	-0.3
			i	35 55.00	
			e	36 20.30	
WRA	28.25	248	Pc	35 51.20	-0.3
	0.2s	3.60nm			4.7mb X
KRP	29.35	158	P	36 01.60	0.5
TLE	29.62	278	ePd	35 55.00	-8.8X
ASPA	29.74	241	iPd	36 04.40	-0.4
	1.1s	31.00nm			5.0mb
	Z 23s	4.51um			5.0MszX
			e	42 53.40	
			LR	46 15.30	
GUA	29.82	324	e(P)	36 04.50	-1.1
	1.7s	461.54nm			6.0mb
	Z 20s	9.22um			5.4Msz
GUMO	29.89	324	e(P)	36 05.50	-0.6
PJG	29.89	324	e(P)	36 05.50	-0.6
TOO	30.42	207	iPd	36 11.00	0.3
MTN	30.45	263	iPd	36 11.30	0.1
BFD	31.50	211	eP	36 19.00	-1.1
			e	36 26.00	
MNG	31.74	161	eP	36 21.10	-1.1
PGZ	32.00	160	P	36 23.80	-0.7
ADE	32.03	218	eP	36 25.20	0.3
	1.5s	155.56nm			5.7mb
SNZO	32.12	162	P	36 24.00	-1.5
			S	41 48.00	
KNA	32.85	258	eP	36 31.50	-0.6
MSZ	33.90	173	P	36 41.00	0.1
			i	36 45.00	
WARB	36.78	241	eP	37 06.00	0.2
FORR	37.25	233	eP	37 10.20	0.6
MNI	39.17	286	ePd	37 23.00	-2.9X
MBL	41.83	251	iPc	37 48.10	0.4
MKS	42.67	274	ePd	37 54.50	-0.2
			e	40 51.50	
COOL	42.83	236	eP	37 55.50	-0.4
	0.5s	11.00nm			4.8mb
PCI	43.26	280	ePd	38 01.40	1.9
NANU	45.97	249	eP	38 22.00	0.9
KHKI	45.98	269	ePc	38 20.00	-1.3
			e	43 32.50	
BAL	46.41	238	eP	38 24.00	-0.6
NWAO	46.62	235	eP	38 26.00	-0.2
MRWA	46.68	240	eP	38 26.80	0.1
	0.4s	8.00nm			5.0mb
AFR	46.88	104	iP	38 28.20	-0.2
	1.2s	350.00nm			6.2mb
PAE	47.08	104	iP	38 29.60	-0.3
	1.2s	235.00nm			6.1mb
PPT	47.08	104	iP	38 29.80	-0.2
	1.2s	450.00nm			6.3mb
MUN	47.19	236	eP	38 30.50	-0.1
PPN	47.21	104	iP	38 30.90	-0.1
	1.2s	170.00nm			5.9mb
TVO	47.39	104	iP	38 32.40	-0.1
TBI	47.57	112	iP	38 33.90	0.2
	1.2s	340.00nm			6.2mb
QCP	48.07	301	eP	38 47.00	9.2X
PMO	48.70	100	iP	38 43.40	0.8
	1.2s	210.00nm			6.0mb
VAH	48.95	101	iP	38 45.00	0.5
	1.2s	230.00nm			6.1mb
TPT	48.97	100	iP	38 45.20	0.5
	1.2s	135.00nm			5.9mb
TRT	48.98	269	iPd	38 44.10	-0.8
	1.0s	127.40nm			5.9mb
RUV	49.19	101	iP	38 46.80	0.4
	1.2s	225.00nm			6.1mb
BAG	49.38	303	eP	38 46.00	-2.0
HON	50.59	51	P	38 56.40	-0.5
OPA	50.80	50	P	38 58.20	-0.4
			pP	39 26.80	122kmX
KAKJ	51.35	337	eP	39 03.50	1.0
IIDJ	51.63	335	eP	39 04.80	0.0
CHJJ	51.68	336	eP	39 05.50	0.5
MAT	52.42	336	iPd	39 10.30	-0.4
	1.9s	431.58nm			6.1mb
	Z 20s	2.84um			5.3Msz
			eS	46 47.00	
MTMJ	52.62	335	eP	39 11.20	-1.1
NIIJ	52.71	337	eP	39 13.30	0.5
YAMJ	53.14	338	eP	39 16.30	0.3
OFUJ	53.38	340	P	39 17.70	0.0
ANP	53.54	313	eP	39 18.00	-1.2

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AOMJ    55.15 340 eP     39 32.20    1.6
QZH     55.55 311 eP     39 38.00    4.2X
      Z  20s      2.10um          5.2Msz
                   eS     47 09.00
SSE     57.46 318 eP     39 43.00   -4.3X
        1.1s     11.00nm          4.8mb
      Z  20s      1.90um          5.2Msz
      N  16s      0.90um
      E  16s      1.50um
                   S      48 08.00
                   SS     51 20.00
DRV     57.58 190 eP     39 27.40 -20.3X
QIZ     59.62 300 eP     40 07.00    4.4X
      N  18s      1.00um
      E  16s      1.40um
RKT     60.86 110 iP     40 10.20   -0.8
        1.1s    120.00nm          5.9mb
WHN     61.81 313 eP     40 16.00   -1.3
      Z  20s      2.51um          5.4Msz
      N  20s      2.77um
      E  20s      2.59um
                   S      48 28.00
MDJ     62.75 334 eP     40 23.40    0.1
      N  20s      3.90um
IPM     62.82 281 ePd    40 23.10   -1.3
SNY     63.44 329 eP     40 26.60   -1.2
      Z  22s      1.70um          5.2Msz
      N  26s      3.40um
      E  28s      2.20um
CN2     63.98 331 Pc     40 30.60   -0.8
        4.0s      0.90nm          3.2mb X
      Z  18s      1.80um          5.3Msz
      N  14s      0.70um
      E  14s      1.20um
                   eS     49 02.00
                   eSS    53 10.00
PSI     64.40 278 ePc    40 25.50   -9.2X
                   e      43 55.30
ADK     65.24  14 P      40 39.50    0.1
        1.2s    300.00nm          6.3mb
GYA     65.55 306 P      40 42.00   -0.1
      Z  20s      1.20um          5.1Msz
BJI     66.31 323 eP     40 46.50    0.0
        1.5s     39.00nm          5.3mb
      Z  24s      1.59um          5.1MszX
      N  17s      1.28um
                   eS     49 37.00
SBA     66.87 179 iPd    40 51.70    2.2
NST     66.92 292 eP     40 52.00    1.2
TIY     67.21 319 eP     40 51.90   -0.5
      E  16s      1.60um
                   S      49 44.00
XAN     67.56 314 P      40 53.20   -1.5
KMI     68.16 303 Pc     40 58.00   -0.8
      Z  20s      4.30um          5.7Msz
      E  20s      6.30um
                   S      49 40.00
                   SS     49 58.00
CHG     69.05 295 eP     41 03.10   -1.0
        1.2s     23.83nm          5.1mb
CHTO    69.05 295 iP     41 03.10   -1.0
        1.3s     24.92nm          5.1mb
HHC     69.59 321 P      41 09.00    1.8
      Z  26s      2.10um          5.3MszX
      N  16s      1.50um
      E  15s      2.60um
CD2     69.84 309 eP     41 07.80   -1.0
      Z  20s      1.30um          5.2Msz
                   eS     50 18.00
BTO     70.41 320 eP     41 12.00   -0.2
      N  16s      1.40um
      E  16s      1.10um
                   ePP    43 50.50
                   eS     50 20.00
LZH     72.19 314 eP     41 23.50    0.4
        2.5s    194.00nm          5.7mb
      Z  21s      3.40um          5.6Msz
      E  20s      2.60um
                   e(S)   50 37.00
SDN     73.11  21 eP     41 26.50   -1.3
GTA     76.56 315 Pc     41 48.20    0.1
KDC     77.87  23 eP     41 54.50   -0.3
SVW     79.19  19 ePd    42 02.70    0.6
LSA     79.41 303 eP     42 05.00    0.5
TTA     80.43  18 ePd    42 09.30    0.6
PMR     81.75  21 eP     42 15.50    0.0
        1.3s     53.40nm          5.4mb
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TOA     83.15  22 eP     42 23.60    0.7
IMA     83.43  17 ePd    42 24.70    0.3
MAW     83.44 202 iPd    42 25.10    0.8
FBA     84.40  19 ePd    42 28.30   -0.8
FHC     85.16  47 eP     42 34.30    0.9
NWRM    85.22  50 P      42 33.90    0.2
PCC     85.31  51 eP     42 34.00   -0.2
GCC     85.47  51 eP     42 35.30    0.3
BRK     85.52  50 eP     42 35.50    0.3
BKS     85.54  50 ePd    42 35.50    0.2
        0.9s    149.00nm          6.2mb
      Z  20s      2.10um          5.5Msz
      N  20s      1.20um
      E  20s      1.80um
                   e      06 30.00
PRS     85.74  52 eP     42 36.80    0.4
SAO     85.81  51 eP     42 36.80    0.1
MHC     85.83  51 eP     42 37.40    0.4
ARN     85.91  51 P      42 37.90    0.6
WDC     86.13  48 ePd    42 38.50    0.3
LLA     86.15  52 eP     42 38.70    0.2
PRI     86.24  52 eP     42 39.60    0.6
SYP     86.33  54 eP     42 40.00    0.5
ORV     86.59  49 eP     42 40.20   -0.3
WMO     86.63 316 Pd     42 40.80    0.1
      Z  24s      1.50um          5.3MszX
                   S      53 04.50
MIN     86.74  48 eP     42 41.10   -0.3
L8FM    86.83  47 P      42 42.60    0.7
CMB     86.98  51 ePd    42 42.30   -0.2
                   ePKKP  59 41.40
FRI     87.21  52 ePd    42 43.50    0.0
BMW     87.51  42 P      42 45.40    0.5
GBA     87.56 284 P      42 45.00   -0.6
PAS     87.67  55 eP     42 46.00    0.2
MWC     87.78  55 eP     42 46.00   -0.6
ISA     87.82  53 eP     42 46.00   -0.6
PGC     88.07  40 eP     42 48.00    0.7
SBB     88.08  54 eP     42 47.00   -0.9
GMW     88.14  41 P      42 48.30    0.5
                   pP     43 16.60 107kmX
RVR     88.27  55 eP     42 48.00   -0.7
PEC     88.42  55 P      42 49.10   -0.4
BAR     88.52  56 eP     42 49.00   -1.0
LON     88.52  42 P      42 49.70    0.0
PLM     88.53  56 eP     42 50.00   -0.2
CLC     88.55  53 iPd    42 50.50    0.4
RMW     88.74  41 P      42 51.00    0.2
KVN     88.98  50 iPc    42 52.10   -0.2
                   pP     43 06.40  48kmX
GSC     89.05  54 eP     42 53.00    0.5
TPC     89.36  55 eP     42 54.00    0.0
TNP     89.41  51 P      42 54.40    0.1
        0.9s     22.14nm          5.5mb
GLA     90.11  56 eP     42 58.00    0.5
PNT     90.68  40 iPc    43 00.40    0.7
        1.1s     72.00nm          5.9mb
INK     91.01  20 eP     43 01.50    0.7
MSU     93.37  52 P      43 13.00    0.4
EDM     95.42  37 ePc    43 21.00   -0.5
        1.1s     61.00nm          6.0mb
SES     96.32  40 ePd    43 25.00   -0.7
ALQ     97.29  56 eP     43 29.50   -1.1
        1.1s      9.18nm          5.2mb
      Z  18s      1.03um          5.4Msz
SNA     98.17 185 iPc    43 40.00    6.4X
        1.5s     75.00nm          6.0mb
TUL    106.05  56 e(PKP)48 25.50    3.7X
        1.2s     10.00nm
KEV    114.86 344 ePKP   48 41.00    3.5X
SOD    116.51 342 ePKP   48 46.00    5.3X
SUF    119.61 338 ePKP   48 51.80    5.1X
        0.6s      6.20nm
NUR    121.56 337 ePKP   48 56.50    6.0X
        0.7s     12.00nm
CNCB   123.20 118 PKP    48 56.20    0.6
                   i      50 34.00
LPB    123.22 118 ePKP   48 52.00   -3.5X
ZOBO   123.31 118 PKP    48 54.00   -1.9
        1.7s     29.07nm
      Z  22s      0.55um          5.2Msz
                   LR     29 46.00
PTZ    125.21 244 iPKP   48 58.80   -0.2
HFS    125.68 341 ePKP   48 59.20    0.7
        0.7s      3.70nm
NB2    125.71 343 PKP    48 58.20   -0.4
        0.9s      6.20nm
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DSI    126.96 301 ePKP   49 03.00    1.2
PRNI   127.49 300 ePKP   49 03.00    0.0
LSZ    127.50 241 iPKPc  49 05.30    1.8
MBH    127.69 299 ePKP   49 04.00    0.7
MZZ    128.67 246 iPKPc  49 06.00    0.2
                   i      51 10.00
KRA    130.21 329 ePKP   49 11.40    3.9X
SPC    130.58 328 ePKP   49 09.00    0.5
KSP    131.47 332 ePKP   49 15.00    5.1X
                   e      51 17.00
                   e      52 36.80
SRO    132.44 327 ePKP   49 16.10    4.3X
CLL    132.62 334 iPKP   49 15.00    3.0X
         2.5s    160.00nm
                   e      52 40.00
ZST    132.83 329 ePKP   49 17.70    5.2X
PRU    132.88 332 ePKP   49 15.00    2.5X
                   e      49 18.50
PPD    133.53 135 ePKP   49 15.00    0.3
SKO    133.91 319 ePKP   49 17.00    2.2X
KHC    133.92 332 ePKP   49 16.00    1.4
OHR    134.76 318 ePKP   49 16.50    0.0
         1.3s      0.06nm
VBY    135.53 327 e(PKP)49 19.00    1.3
LJU    135.56 328 ePKP   49 17.50   -0.3
VOY    135.90 328 ePKP   49 19.40    0.8
MEM    135.94 338 PKP    49 20.80    2.5X
TRI    136.19 328 ePKP   49 20.40    1.5
DOU    136.87 339 PKP    49 21.00    0.9
                   e      49 35.80
FIR    138.81 328 e(PKP)49 38.00   14.1X
                   e      52 33.00
LSF    141.22 338 ePKP   49 24.10   -4.1X
MFF    141.49 340 ePKP   49 31.40    2.7X
CAF    142.14 337 ePKP   49 25.40   -4.5X
BCAO   143.44 263 iPKPc  49 29.50   -3.5X
         0.7s     45.00nm
                   ic     50 16.00
ETER   143.98 334 e(PKP)49 33.00   -0.1
EPF    144.41 337 ePKP   49 31.90   -2.0
         1.4s     47.90nm
EBR    146.21 335 ePKP   49 39.00    2.1X
ETOR   147.22 338 e(PKP)49 41.00    2.3X
GUD    148.12 340 e(PKP)49 44.50    4.3X
TOL    148.77 339 ePKP   49 46.40    5.3X
EBAN   150.19 337 e(PKP)49 53.00    9.7X
EHOR   151.03 339 e(PKP)49 52.00    7.5X
EJIF   152.33 338 e(PKP)49 55.00    8.5X
NKM    153.20 337 iPKP   50 01.00   13.3X
IFR    154.77 335 ePKP   49 53.00    2.9X
AVE    155.86 338 ePKP   49 54.00    2.6X
KIC    166.30 251 PKP    49 57.60   -5.2X
      S.D. = 0.8  on 165 of 209 obs.
-----------------------------------------
    NOV  01, 1989  11h 32m 28.22± 0.93s
    36.530 N ± 8.7km     2.487 E ± 5.0km
    DEPTH =  10.0km  (geophysicist)
    4.1mb (  3 obs.)
 ALGERIA                            (396)
      mbLg 3.8 (MDD).
ACU      3.04 311 ePn    33 17.00   -0.2
                   eSn    33 48.50
ESEL     3.25   6 iPnd   33 20.20    0.0
                   eSn    33 53.50
ENIJ     3.80 278 ePn    33 29.20    1.0
ECHE     4.10 319 ePn    33 32.50    0.3
                   eSn    34 16.00
TAF      4.34 248 eP     33 34.00   -1.8
                   i      34 10.00
EVIA     4.49 299 ePn    33 38.20    0.3
                   eSn    34 27.00
EBR      4.56 341 ePn    33 38.00   -0.8
                   esS    34 29.50
                   eSg    34 35.00
EROO     4.58 340 ePn    33 39.00   -0.2
                   eSn    34 25.20
AFC      4.89 280 ePn    33 45.20    1.5
ETOR     5.56 322 ePn    33 53.50    0.3
ETER     5.77   3 iPn    33 55.60   -0.3
                   eSn    34 56.50
CGL      6.08  60 iP     34 00.00   -0.4
                   eS     35 05.80
TOL      6.14 305 ePn    34 00.40   -0.7
                   eSn    35 17.30
NKM      6.49 263 eP     34 15.00    8.8X
                   e      35 27.00
```

01d 11h

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GUD      6.63 310 ePn    34 08.00  -0.2
                  eSn    35 18.50
EPF      6.70 346 Pn     34 09.20   0.1
                  Sn     35 17.60
LPO      8.20 353 Pn     34 29.00  -1.1
CAF      8.39 358 Pn     34 32.40  -0.4
LFF      8.50 352 Pn     34 33.20  -1.1
DOI      8.75  23 Pd     34 37.90   0.2
                  eSn    36 09.80
RJF      8.80 356 Pn     34 37.60  -0.7
MAO      8.91  46 Pc     34 39.30  -0.6
CKI      9.03  27 P      34 40.90  -0.7
BNI      9.08  19 P      34 43.80   1.4
LPG      9.52  18 Pn     34 50.40   1.8
LPL      9.53  18 Pn     34 50.60   1.9
MAF      9.68   0 Pn     34 50.10  -0.4
BDI      9.74  37 P      34 50.40  -1.0
TCF      9.75 359 Pn     34 51.60   0.1
MNS      9.81  50 Pd     34 51.70  -0.7
BGF     10.02   1 Pn     34 55.20   0.0
SMF     10.16   5 Pn     34 57.20   0.1
MFF     10.25 350 Pn     34 56.80  -1.6
BSF     11.73  14 Pn     35 17.80  -0.9
HAU     11.82  13 Pn     35 19.20  -0.5
DOU     13.65   6 P      35 45.70   1.7
        0.4s      5.70nm          4.9mb
HFS     24.70  13 eP     37 51.40   1.1
        0.4s      1.20nm          3.9mb
      Z  15s      0.25um          3.8MszX
                  LR     45 31.00
NB2     25.15  10 P      37 57.00   2.3
        0.7s      2.40nm          4.0mb
     S.D. = 1.0  on  37 of  38 obs.
-----------------------------------
   NOV  01, 1989  11h 46m 59.70± 1.78s
   10.949 S ± 6.2km  162.130 E ± 9.0km
   DEPTH =  50.3 ± 15.5 km
   5.0mb (  9 obs.)  5.5Msz (  1 obs.)
 SOLOMON ISLANDS                  (193)

HNR      2.62 305 eP     47 40.00  -0.5
                  eS     48 22.00
DZM     11.81 160 iPd    49 43.50  -4.7X
                  iS     51 46.90
KDB     14.81 274 eP     50 23.00  -4.7X
CTA     17.78 237 iPc    51 07.00   1.7
        1.5s    527.78nm          5.4mb
BRS     18.57 207 iPc    51 15.50   0.5
                  i      51 40.50
                  i(S)   55 20.50
RMQ     19.96 217 iPd    51 30.90   0.4
        1.0s    392.00nm          5.7mb
COO     21.72 204 iPc    51 48.70   0.1
QLP     22.95 225 eP     52 01.50   0.9
CMS     25.40 214 eP     52 24.00  -0.2
BWA     26.51 206 eP     52 33.00  -1.5
CAN     27.04 204 eP     52 41.70   2.4
WB5     28.16 248 eP     52 48.90  -0.7
STK     28.17 219 eP     52 49.00  -0.5
WRA     28.20 248 Pd     52 48.90  -1.0
        1.3s     21.30nm          4.6mb
TOO     30.44 207 eP     53 10.00   0.3
BFD     31.51 211 eP     53 19.00  -0.1
ADE     32.03 218 eP     53 23.50  -0.3
MSZ     33.97 173 P      53 39.00  -1.4
MHZ     34.54 171 P      53 44.00  -1.5
WARB    36.74 241 eP     54 04.00  -0.3
COOL    42.80 236 eP     54 54.00  -0.4
MEKA    43.88 243 eP     55 04.00   0.8
KLB     45.78 236 eP     55 17.50  -0.8
NANU    45.92 249 eP     55 20.00   0.5
BAL     46.38 238 eP     55 23.00  -0.1
NWAO    46.59 235 eP     55 24.00  -0.7
MRWA    46.64 240 eP     55 25.10  -0.1
        0.4s      6.00nm          4.9mb
MUN     47.15 236 eP     55 29.00  -0.2
BJI     66.22 323 eP     57 52.50   7.9X
SBA     66.94 179 eP     57 50.10   1.5
CHTO    68.95 295 eP     58 03.50   1.3
        1.1s      2.36nm          4.0mb
LZH     72.09 314 e(P)   58 20.00  -1.1
        2.5s     67.00nm          5.1mb
SPA     79.12 180 eP     59 00.20  -0.2
        1.1s     34.52nm          5.2mb
      Z  20s      2.21um          5.5Msz
PMR     81.72  21 P      59 15.20   1.3
        1.1s     20.31nm          5.0mb
MAW     83.47 202 eP     59 23.20   0.2
FBA     84.37  19 eP     59 27.10  -0.4
        0.9s      3.30nm          4.4mb
                  pP     59 41.60  50kmX
GBA     87.47 284 P      00 00.00  16.3X
        0.2s      0.60nm
PLM     88.56  56 P      59 48.60  -0.3
KVN     89.00  50 P      59 50.60  -0.3
TNP     89.43  51 P      59 52.60  -0.4
GLA     90.15  56 P      59 57.80   1.6
PNT     90.68  40 eP     59 58.00  -0.3
EDM     95.42  37 eP     00 20.00   0.0
CLL    132.53 334 e(PKP)06 37.00  26.7X
BCAO   143.37 263 iPKPc 06 27.80  -3.6X
        0.9s     27.00nm
                  id     06 43.30
     S.D. = 0.9  on  39 of  45 obs.
-----------------------------------
*  NOV  01, 1989  12h 16m 03.59± 1.56s
   38.006 N ±11.4km   20.694 E ±12.7km
   DEPTH =  10.0km  (geophysicist)
 GREECE                           (364)
      MD 3.4 (ATH). ML 3.2 (THE).

VLS      0.19 334 ePg    16 08.10   0.3
ITM      1.28 130 ePb    16 27.00  -0.4
AGG      1.64  51 ePb    16 34.90   2.4
                  eSb    16 58.50
KEK      1.84 338 ePn    16 36.00   0.5
VLI      2.20 125 ePg    16 49.30   8.6X
KZN      2.45  20 ePn    16 43.20  -1.0
LIT      2.52  33 ePn    16 44.70  -0.5
                  eSn    17 19.50
OHR      3.10   1 ePn    16 53.70   0.2
GRG      3.23  24 ePn    16 54.40  -0.9
                  eSn    17 36.50
OUR      3.45  47 ePn    16 58.70   0.2
                  eSn    17 42.30
KNT      3.58  28 ePn    16 59.50  -0.8
                  eSn    17 44.30
     S.D. = 1.1  on  10 of  11 obs.
-----------------------------------
   NOV  01, 1989  12h 24m 02.96± 0.21s
   39.432 N ± 4.4km  143.249 E ± 3.5km
   DEPTH =  33.3km  (  4 depth phases)
   5.1mb ( 34 obs.)  4.5Msz (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 15C
      Centroid Location:
      Origin Time        12:24: 8.4 1.2
      Lat 39.28N 0.17 Lon 143.53E 0.16
      Dep  31.710.9 Half-duration  1.6
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 2.65 0.58  Mtt= 1.39 0.72
        Mff=-4.04 0.81  Mrt= 5.83 1.79
        Mrf= 4.32 1.83  Mtf= 1.61 0.78
       Principal Axes:
        T  Val=  9.29  Plg=47  Azm=333
        N       -2.86      25      213
        P       -6.42      32      106
      Best Double Couple:Mo=7.9*10**16
       NP1:Strike=143 Dip=26 Slip=  19
       NP2:        37     82      115

OFUJ     1.28 255 iP+    24 25.80   1.2
                  S      24 47.00
AOMJ     2.48 298 eP     24 42.80   0.9
YAMJ     2.81 244 iP+    24 47.70   1.2
NIIJ     3.99 238 P      25 04.40   1.0
KAKJ     4.04 218 P      25 02.10  -1.9
CHJJ     4.77 226 P      25 14.20  -0.2
MAT      4.92 236 iPc    25 17.70   1.2
        0.5s    186.62nm
                  eS     26 29.00
MTMJ     5.15 238 iP+    25 21.00   1.1
IIDJ     5.79 229 P      25 29.40   0.5
TSRJ     6.96 238 P      25 47.80   2.6
MDJ     11.40 301 eP     26 46.50   0.0
      E  14s      4.30um
                  S      28 56.00
CN2     14.01 294 eP     27 19.00  -2.2
      Z  17s      3.00um
      N  12s      1.70um
      E  12s      1.50um
                  epP    27 28.00
                  eS     29 50.00
SNY     15.13 285 Pc     27 35.70  -0.1
      Z  18s      5.50um
      N  16s      1.90um
      E  20s      3.60um
                  sS     30 38.00
SSE     19.81 252 P      28 32.10  -1.4
      Z  20s      1.40um
      N  12s      1.00um
      E  11s      1.20um
                  S      32 28.00
BJI     20.81 280 eP     28 40.00  -3.8X
        1.5s    105.00nm          5.0mb
      Z  16s      4.08um          4.9MszX
      N  12s      0.97um
      E  14s      1.99um
                  eS     31 30.00
                  e      32 32.00
TIA     20.86 269 Pd     28 41.90  -2.6
      Z  16s      4.30um          4.9MszX
      E  15s      4.10um
NJ2     21.09 257 Pc     28 45.00  -1.7
      Z  20s      1.80um          4.5Msz
TIY     24.10 276 eP     29 15.00  -1.5
      E  13s      1.60um
HHC     24.20 284 Pd     29 21.40   3.9X
WHN     25.20 258 Pc     29 27.00   0.0
        1.4s      0.44nm          2.9mb X
      Z  20s      1.88um          4.6Msz
      N  16s      1.98um
      E  16s      2.48um
                  pP     29 35.00  28km
BTO     25.40 283 eP     29 27.00  -1.9
      N  14s      1.40um
      E  16s      5.00um
                  eS     33 55.00
XAN     27.92 270 P      29 51.00  -1.1
LZH     31.16 276 P      30 21.90   0.8
      Z  14s      3.60um          5.2MszX
      E  13s      2.90um
                  e(S)   35 50.00
GYA     33.09 258 iPc    30 37.00  -1.0
        1.4s      0.10nm          2.5mb X
      Z  20s      0.90um          4.5Msz
                  pP     30 47.40  37km
                  S      35 56.00
CD2     33.17 268 eP     30 37.00  -1.5
      Z  14s      2.00um          5.0MszX
GTA     33.31 284 Pc     30 39.70  -0.1
      Z  16s      4.50um          5.3MszX
      E  16s      3.70um
                  S      35 55.00
KMI     36.79 260 Pc     31 09.40  -0.3
WMQ     41.10 295 iPc    31 45.50   0.3
      Z  16s      0.83um          4.7MszX
                  S      37 59.50
SVW     42.73  39 eP     31 59.10   0.8
LSA     43.47 274 Pd     32 08.80   3.6X
IMA     43.89  32 eP     32 08.20   0.4
        1.0s     12.60nm          4.7mb
NST     44.40 250 eP     32 24.00  11.7X
PMR     45.85  38 eP     32 22.70  -0.5
FBA     46.31  33 eP     32 27.00   0.1
NNT     46.74 247 eP     32 32.60   1.8
TOA     47.20  37 eP     32 34.20   0.1
INK     51.60  28 eP     33 06.00  -1.6
MBC     53.82  17 eP     33 24.00  -0.1
        1.0s      7.00nm          4.6mb
NDI     54.66 280 iPd    33 30.00  -0.9
WB5     59.58 190 eP     34 04.50  -1.2
WRA     59.65 190 Pc     34 04.70  -1.5
        1.1s      9.70nm          4.8mb
KEV     61.72 339 eP     34 18.00  -1.8
                  e      34 29.00  37km
POO     62.72 272 iPd    34 26.50  -0.7
GBA     62.85 265 P      34 28.00   0.0
SOD     63.32 337 iP     34 29.20  -1.2
ASPA    63.37 190 eP     34 30.30  -0.9
MAIO    63.84 297 eP     34 35.00   0.6
BMW     64.89  50 P      34 41.20   0.1
DZM     64.91 156 iPc    34 42.00   0.6
RMW     65.21  48 P      34 47.50   4.4X
PNT     65.46  46 eP     34 44.00  -0.6
        0.8s      8.00nm          4.9mb
LON     65.58  49 P      34 45.20  -0.3
SUF     66.49 333 eP     34 49.80  -1.2
        0.6s     13.30nm          5.2mb
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EDM     66.58  40 eP     34 51.00  -0.8
DPW     67.03  46 P      34 54.70  -0.1
WDC     68.49  55 eP     35 03.80  -0.2
NUR     68.51 332 eP     35 03.20  -0.5
        0.6s     17.00nm          5.3mb
SES     69.40  41 eP     35 09.00  -0.4
ORV     69.73  55 e(P)   35 10.50  -1.1
BKS     70.21  57 ePc    35 14.50   0.0
        1.0s     39.00nm          5.4mb
FFC     70.91  34 ePd    35 17.70  -0.8
        0.9s     19.00nm          5.2mb
CMB     71.32  56 eP     35 20.90  -0.4
KVN     72.17  54 P      35 26.20  -0.3
HFS     72.49 336 eP     35 26.80  -1.0
        0.9s     27.40nm          5.3mb
NB2     72.53 338 P      35 27.00  -1.1
        1.1s     39.70nm          5.3mb
TNP     73.30  54 P      35 33.40   0.2
        0.9s      9.11nm          4.8mb
BWA     73.64 176 eP     35 40.80   6.1X
CLC     74.43  56 eP     35 39.00  -0.6
DUG     74.71  50 P      35 45.80   4.6X
SBB     74.97  57 eP     35 43.00   0.3
DAU     75.49  49 P      35 46.30   0.3
KVT     76.06 312 eP     35 49.00   0.2
MSU     76.15  51 P      35 49.90   0.3
BAR     76.96  58 eP     35 54.00   0.0
VRI     77.82 320 ePc    36 00.00   1.6
KRA     77.91 327 ePd    35 59.20   0.4
        1.2s     58.00nm          5.5mb
                  e       36 08.90  31km
SPC     78.43 326 eP     36 02.30   0.4
MLR     78.48 320 eP     36 03.00   0.8
KSP     78.81 329 eP     36 03.80   0.0
GOL     79.36  47 P      36 09.90   2.6
        1.0s      8.75nm          4.7mb
CLL     79.72 331 iPd    36 08.70   0.0
        0.9s     24.00nm          5.2mb
PRU     80.18 329 eP     36 12.20   1.1
        1.3s     21.70nm          5.0mb
                  e       36 16.50  14kmX
SRO     80.31 326 iP     36 13.90   2.1
ZST     80.53 327 eP     36 13.60   0.6
SOP     81.16 327 iPd    36 21.30   4.9X
KHC     81.24 329 eP     36 12.50  -4.3X
        1.1s     12.00nm          4.8mb
                  e       36 39.40 103kmX
GRF     81.70 331 ePc    36 19.70   0.5
        1.2s     35.00nm          5.3mb
RZN     81.83 318 eP     36 21.00   0.8
VTS     81.94 320 iPd    36 22.00   1.3
ALQ     81.95  51 eP     36 22.00   1.0
        1.2s      8.98nm          4.7mb
MMB     82.41 319 eP     36 24.00   1.0
DSI     82.72 305 iPd    36 31.00   6.3X
MEM     82.81 334 Pc     36 24.50  -0.3
VAY     83.20 319 iP     36 28.00   1.0
OUR     83.20 318 iPd    36 27.70   0.6
SKO     83.28 320 iP     36 28.20   0.7
        1.2s     45.00nm          5.5mb
LJU     83.31 327 e(P)   36 27.50  -0.1
GRG     83.55 319 iPd    36 29.20   0.3
VOY     83.59 327 eP     36 28.50  -0.6
CEY     83.60 327 eP     36 28.50  -0.6
FVI     83.60 328 P      36 28.80  -0.2
PAIG    83.66 318 iPd    36 29.40   0.0
PRNI    83.78 304 eP     36 31.00   0.7
TRI     83.90 327 Pc     36 30.50   0.0
LIT     84.14 319 iPd    36 31.78  -0.1
CDF     84.22 332 eP     36 32.30   0.1
        1.1s     11.70nm          5.0mb
OHR     84.24 320 eP     36 32.00  -0.4
        1.1s      0.05nm          2.6mb X
MBH     84.24 304 eP     36 33.00   0.5
CTI     84.50 328 P      36 33.20  -0.5
BSF     84.88 332 eP     36 35.50  -0.1
HAU     84.90 333 eP     36 35.50  -0.1
VAI     85.79 330 Pd     36 39.50  -0.5
PGD     86.24 327 P      36 43.60   1.1
CRE     86.34 327 P      36 43.00   0.1
LOR     86.40 334 eP     36 43.00   0.0
        0.9s     13.70nm          5.2mb
ASS     86.49 326 P      36 44.00   0.4
LBF     86.60 333 eP     36 43.90  -0.2
        0.8s      6.70nm          4.9mb
SSF     86.70 334 eP     36 44.70   0.2
        0.9s      6.50nm          4.9mb
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LPG     86.87 331 eP     36 45.90   0.2
        1.2s     16.00nm          5.1mb
GRR     86.94 337 eP     36 46.00   0.4
        0.9s     16.30nm          5.3mb
SMF     86.94 333 eP     36 45.90   0.2
        1.1s     15.60nm          5.2mb
AVF     86.99 334 eP     36 46.20   0.3
        1.0s     24.80nm          5.4mb
MNS     87.04 326 P      36 46.00  -0.3
SDI     87.08 325 P      36 46.20  -0.3
LPF     87.32 337 eP     36 47.70   0.3
        1.1s     24.40nm          5.4mb
BGF     87.36 334 eP     36 48.30   0.6
MAF     87.75 334 eP     36 50.30   0.7
        1.2s     19.00nm          5.2mb
TCF     87.81 334 eP     36 50.30   0.4
        1.3s     25.20nm          5.3mb
LSF     88.07 335 eP     36 51.60   0.5
        1.0s     16.80nm          5.3mb
MFF     88.31 336 eP     36 52.40   0.2
        1.2s     20.20nm          5.3mb
RJF     88.91 334 eP     36 56.00   0.8
CAF     89.05 334 eP     36 56.90   1.0
        0.8s      4.00nm          4.8mb
ZOBO   144.22  59 PKP    43 38.00  -0.1
LPB    144.42  59 ePKP   43 45.00   6.7X
                  i       45 07.00
CNCB   144.70  59 PKP    43 39.00   0.1
                  i       44 57.00
CCH    146.32  58 PKP    43 47.20   5.9X
PDCR   153.13   5 e(PKP)44 04.00  12.7X
      S.D. = 0.9  on 124 of 137 obs.
-----------------------------------
%  NOV  01, 1989  12h 37m 30.48± 0.81s
   41.024 N ± 8.7km   23.298 E ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 GREECE-BULGARIA BORDER REGION    (363)
      ML 2.2 (THE).

SRS      0.24  67 ePg    37 35.80   0.2
KNT      0.33 295 ePgc   37 37.30  -0.1
                  eSg     37 43.20
GRG      0.68 265 ePgc   37 44.00   0.0
                  eSg     37 53.90
OUR      0.86 143 ePg    37 46.40  -0.7
                  eSg     37 58.50
PAIG     1.13 165 ePb    37 52.30   0.6
      S.D. = 0.7  on   5 of   5 obs.
-----------------------------------
*  NOV  01, 1989  12h 48m 45.89± 1.48s
    6.917 S ± 8.4km  129.916 E ±11.1km
   DEPTH =  77.2 ± 17.1 km
   4.5mb (  3 obs.)
 BANDA SEA                        (280)

TLE      3.09  66 iPc    49 33.50   0.1
                  iS      50 04.90
AAI      3.64 332 eP     49 51.50  10.5X
MTN      6.01 169 iPd    50 17.40   3.2X
                  eS      51 08.00
KNA      8.85 187 iPd    50 54.30   1.0
        0.3s     24.00nm          5.6mb X
                  eS      52 25.00
WB5     13.59 162 eP     51 54.80  -1.9
                  eS      54 16.80
WRA     13.64 162 Pd     51 56.10  -1.3
        0.3s      5.90nm          4.5mb
QIS     16.49 146 iPd    52 34.60   0.7
                  eS      55 24.00
ASPA    17.09 167 iPd    52 41.50   0.1
        0.5s     23.00nm          4.7mb
                  eS      55 35.60
MBL     17.19 214 eP     52 43.50   0.9
CTA     20.56 131 eP     53 22.00   1.3
STK     27.12 158 ePd    54 22.70  -0.9
                  e       59 30.00
BWA     32.26 151 eP     55 10.20   0.9
CAN     33.27 151 eP     55 17.80  -0.2
CHG     39.83 310 eP     56 13.20  -0.3
CHTO    39.83 310 iP     56 13.20  -0.3
        0.8s      4.21nm          4.4mb
      S.D. = 1.1  on  13 of  15 obs.
-----------------------------------
*  NOV  01, 1989  13h 08m 55.32± 1.36s
   11.236 S ±15.2km  162.196 E ±19.5km
   DEPTH =  10.0km  (geophysicist)
   4.3mb (  2 obs.)
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 SOLOMON ISLANDS                  (193)

HNR      2.85 309 eP     09 41.00  -0.7
                  eS      10 22.00
DZM     11.52 160 iPc    11 42.00  -1.0
                  iS      13 47.00
KDB     14.90 275 eP     12 35.00   7.2X
CTA     17.68 238 iPd    13 07.10   3.7X
        0.9s     16.81nm          4.2mb
RMQ     19.77 218 iPc    13 30.00   1.4
                  i       13 36.80
CMS     25.20 214 eP     14 23.60   0.9
                  e       14 30.00
BWA     26.28 206 eP     14 40.70   7.9X
CAN     26.81 204 eP     14 46.10   8.5X
WB5     28.12 249 eP     14 48.50  -1.2
ASPA    29.62 242 eP     14 57.00  -6.2X
MBL     41.75 251 eP     16 45.70  -0.8
NANU    45.88 249 eP     17 19.40  -0.5
CHTO    69.13 295 eP     20 06.10   1.8
        1.0s      3.25nm          4.5mb
BCAO   143.40 262 ePKPc 28 27.60  -5.3X
        0.5s      5.00nm
                  id      28 35.00
PDCR   148.29 138 e(PKP)28 41.00   0.1
      S.D. = 1.3  on   9 of  15 obs.
-----------------------------------
   NOV  01, 1989  13h 32m 15.02± 0.92s
   38.294 N ± 8.3km   21.872 E ± 8.7km
   DEPTH =  10.0km  (geophysicist)
 GREECE                           (364)
      MD 3.5 (ATH).

AGG      0.81  26 eP     32 29.10  -1.7
VLS      1.02 264 ePg    32 32.40  -1.9
ITM      1.11 178 ePb    32 36.30   0.4
NEO      1.46  46 ePb    32 41.70   0.2
VLI      1.79 151 ePg    32 50.50   4.4X
LIT      1.87  15 ePd    32 47.10  -0.2
                  eS      33 15.70
KZN      2.01 358 ePn    32 51.50   2.0
KEK      2.15 312 ePb    32 52.20   0.8
PLG      2.41  30 ePg    33 02.80   7.7X
OHR      2.93 344 iPn    33 07.20   4.6X
VAY      3.07  10 ePn    33 05.30   0.9
SKO      3.69 355 ePn    33 11.50  -1.8
CZI      4.58 283 P      33 26.10   0.2
CSI      4.59 291 P      33 27.10   1.0
      S.D. = 1.4  on  11 of  14 obs.
-----------------------------------
*  NOV  01, 1989  13h 56m 25.05± 0.77s
   38.373 N ± 7.9km   21.717 E ± 9.3km
   DEPTH =  10.0km  (geophysicist)
 GREECE                           (364)
      MD 3.0 (ATH).

AGG      0.81  36 eP     56 40.60  -0.1
                  eS      56 54.10
VLS      0.91 258 ePb    56 42.30  -0.1
ITM      1.20 172 ePb    56 47.60   0.1
NEO      1.50  51 ePb    56 51.70  -0.3
LIT      1.83  19 eP     56 57.20   0.5
                  eS      57 22.20
GRG      2.63  11 eP     57 12.50   4.2X
OHR      2.82 346 ePn    57 18.80   7.7X
      S.D. = 0.4  on   5 of   7 obs.
-----------------------------------
?  NOV  01, 1989  13h 59m 04.96± 1.95s
   21.088 S ±39.8km  179.291 W ±25.7km
   DEPTH = 627.4 ± 16.1 km
   4.5mb (  4 obs.)
 FIJI ISLANDS REGION              (181)

VUN      3.73 325 eP     00 30.10  -0.9
MBU      4.50 335 iPd    00 36.80   0.5
DZM     13.31 263 iPd    01 57.90   1.5
BRS     26.20 251 iPd    03 55.00   0.6
CTA     32.23 266 iPd    04 46.10   0.3
        0.7s     39.73nm          5.2mb
STK     36.45 245 iPd    05 21.20   0.7
QIS     38.35 263 eP     05 35.00  -1.1
ASPA    43.21 257 iPd    06 14.50  -0.2
        0.7s     34.00nm          4.9mb
                  iS      11 58.50
                  eScS    15 08.60
WB5     43.31 263 iPd    06 14.80  -0.7
FORR    47.92 247 eP     06 49.50  -0.9
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01d 14h

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MTN     47.97 272 iPc    06 50.00   -1.0
WARB    49.50 253 iPd    07 03.00    0.8
MBL     56.45 258 iPd    07 50.30   -1.2
NANU    60.08 255 eP     08 25.30    9.6X
PLM     80.44  49 eP     10 14.70    0.2
TNP     82.79  45 eP     10 26.00   -0.3
        1.0s      5.50nm          4.1mb
PNT     87.82  34 eP     10 50.00    0.1
CHTO    89.31 290 eP     10 59.10    1.7
        0.8s      0.73nm          3.6mb
      S.D. = 1.0  on  17 of  18 obs.
-----------------------------------------
   NOV  01, 1989  13h 59m 27.77± 0.27s
   36.462 N ± 3.4km    26.976 E ± 3.0km
   DEPTH = 141.2 ±  4.0 km
   4.6mb ( 30 obs.)
 DODECANESE ISLANDS                (369)
      MD 4.3 (ATH).

KAP      0.92 170 iPbd  59 51.70    0.4
YER      1.25  57 iPg   59 53.50   -0.9
                  iSg   00 09.00
SMG      1.25 355 iPbd  59 53.70   -0.6
APE      1.31 298 iPbc  59 55.00    0.0
NPS      1.63 223 iPnd  59 59.00    0.5
IZM      1.95   7 iPn   00 02.10   -0.1
KSL      2.13  98 iPnc  00 05.40    1.0
VAM      2.49 246 ePn   00 10.00    1.2
KHL      2.75  47 ePn   00 10.00   -2.2
PRK      2.83 349 iPnd  00 13.20    0.0
ATH      3.01 301 ePn   00 16.70    1.3
BCK      3.06  70 iPn   00 17.60    1.4
VLI      3.26 276 ePn   00 19.20    0.4
                  eSn   00 56.50
EZN      3.40 352 iPn   00 20.20   -0.3
DST      3.40  22 iPn   00 20.70    0.1
EDC      3.94  10 iPn   00 27.70    0.0
BNT      3.96  11 iPn   00 27.70   -0.3
NEO      4.11 315 ePn   00 30.70    0.7
ITM      4.11 282 ePn   00 31.00    0.9
PAIG     4.33 324 ePn   00 33.30    0.5
                  eSn   01 21.80
AGG      4.48 306 iPnc  00 36.50    1.5
                  eSn   01 26.00
YLV      4.51  24 iPn   00 35.70    0.3
OUR      4.53 330 iPnd  00 36.20    0.7
PPCY     4.65 108 eP    00 36.50   -0.6
GBZT     4.73  23 iPd   00 39.20    0.9
RDO      4.81 347 ePn   00 39.50    0.2
CTT      4.81  13 iPn   00 38.70   -0.7
HRT      4.84  25 ePn   00 40.70    1.0
ISK      4.88  19 ePn   00 40.00   -0.2
LIT      5.06 317 ePn   00 43.70    0.9
SRS      5.35 331 ePnd  00 47.20    0.6
VLS      5.37 290 ePn   00 46.50   -0.4
CSS      5.38 104 eP    00 45.70   -1.4
                  eSn   01 47.00
DMK      5.39   6 iPn   00 46.60   -0.5
KZN      5.61 315 ePn   00 51.50    1.3
BBTK     5.67  52 iPc   00 53.00    1.9
MMB      5.71 335 iPd   00 52.00    0.5
GRG      5.74 323 ePn   00 53.70    1.8
FAM      5.90 102 eP    00 54.70    0.7
PLD      5.90 343 ePd   00 55.00    0.9
VAY      5.94 326 ePn   00 54.60    0.0
JMB      6.00 357 ePd   00 55.00   -0.4
OHR      6.69 316 ePn   01 05.90    1.0
PVL      6.86 350 iPd   01 06.00   -1.1
SKO      6.98 324 iPn   01 12.10    3.4X
HLW      7.53 150 ePn   01 16.00   -0.1
                  eSn   02 36.00
BHL      7.55 107 Pnc   01 14.00   -2.5
                  Sn    02 33.00
ADI      7.58 114 eP    01 15.80   -1.0
KOT      7.68 147 ePn   01 17.50   -0.6
                  eSn   02 40.00
LCI      8.07 301 P     01 20.70   -2.6
SHMJ     8.15 115 P     01 24.10   -0.3
BURJ     8.43 117 P     01 28.70    0.5
DSI      8.51 123 eP    01 29.10   -0.1
ROI      8.78 294 P     01 31.30   -1.6
                  eS    03 00.50
BRT      8.82 303 Pd    01 31.90   -1.5
SOI      8.85 284 Pd    01 31.30   -2.5
CMP      8.92 351 iPc   01 32.00   -2.7
TDS      8.98 294 Pd    01 33.40   -2.1
CZI      9.01 291 P     01 34.80   -1.0
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                  eS    03 02.50
CSI      9.05 295 P     01 35.60   -0.8
                  eS    03 06.50
MLR      9.05 355 iPd   01 37.00    0.4
PRNI     9.06 130 eP    01 36.40   -0.2
OUTJ     9.10 122 P     01 31.80   -5.4X
MMN      9.30 295 P     01 39.20   -0.5
VRI      9.40 359 ePd   01 41.50    0.4
MEU      9.69 277 P     01 42.30   -2.7
MGR      9.70 296 P     01 42.80   -2.2
HQL      9.87 134 iPc   01 47.50    0.2
MNO      9.91 282 P     01 46.00   -2.0
BADA    10.42 137 iPc   01 47.50   -7.0X
GIB     10.44 282 P     01 52.90   -2.0
HVAR    10.51 313 iP    01 53.90   -1.8
FAI     10.69 278 Pd    01 58.60    0.5
AYN     10.73 132 ePd   01 59.00    0.5
DUI     11.03 302 P     02 02.30   -0.3
SDI     11.49 301 Pd    02 08.20   -0.4
AOI     12.45 309 eP    02 22.37    1.2
MNS     12.53 303 P     02 21.60   -0.6
PTJ     12.55 322 eP    02 23.30    0.9
VBY     12.64 319 eP    02 26.30    2.8
RIY     13.00 317 eP    02 27.70   -0.5
SRO     13.03 333 iP    02 34.70    6.2X
CEY     13.23 318 eP    02 33.00    1.8
LJU     13.37 320 e(P)  02 32.50   -0.5
CRE     13.54 307 P     02 37.80    2.5
TRI     13.57 317 eP    02 36.60    1.1
SPC     13.64 341 iP    02 43.00    6.5X
VOY     13.70 318 iPd   02 38.00    0.7
SFI     13.74 307 P     02 40.20    2.5
ZST     13.80 331 eP    02 43.10    4.7X
PGD     13.80 307 P     02 41.20    2.5
FIR     14.06 306 eP    02 43.00    1.3
KRA     14.51 342 eP    02 42.20   -5.2X
MME     14.60 307 P     02 49.10    0.2
BDI     14.61 306 P     02 47.70   -1.1
KBA     14.67 321 iPc   02 51.50    1.9
        0.8s     43.60nm          4.8mb
                  i     02 53.80
CTI     14.96 315 P     02 54.00    0.8
SAL     15.39 311 P     02 57.90   -0.5
MDI     15.97 311 P     03 07.00    1.4
KHC     16.00 326 eP    03 07.50    1.5
                  e     03 20.50
PCP     16.15 306 P     03 07.32   -0.7
OSS     16.18 314 ePd   03 11.20    2.7
PRU     16.24 330 eP    03 10.00    1.0
                  e     03 11.70
FIN     16.25 304 P     03 08.44   -0.7
KSP     16.30 335 eP    03 11.30    1.7
IMI     16.35 303 P     03 09.98   -0.5
ROB     16.50 304 P     03 12.55    0.2
VAI     16.59 310 P     03 13.00   -0.2
TMA     16.64 311 ePd   03 14.60    0.5
ENR     16.78 304 P     03 15.93    0.2
STV     16.85 304 P     03 16.85    0.3
LLS     16.95 313 ePd   03 18.80    0.9
SAX     16.95 315 ePd   03 19.10    1.1
ORO     16.97 309 P     03 21.50    3.5X
ORX     16.97 309 P     03 16.55   -1.5
PZZ     17.09 304 P     03 18.29   -1.3
MMK     17.17 310 ePd   03 20.10   -0.5
RSP     17.24 306 P     03 18.90   -2.4
LSD     17.42 307 P     03 21.57   -2.2
RRL     17.46 305 P     03 22.90   -1.2
GRF     17.48 324 iPc   03 22.70   -1.4
        0.7s     18.00nm          4.5mb
DIX     17.53 309 ePd   03 25.30    0.3
BNI     17.58 305 P     03 26.60    1.2
ZLA     17.62 314 ePd   03 26.00    0.1
LPG     17.70 307 eP    03 26.20   -0.9
        0.5s     16.70nm          4.6mb
SLE     17.72 315 ePd   03 26.00   -0.9
EMS     17.82 309 ePd   03 28.70    0.3
CLL     17.89 330 iPc   03 28.00   -0.8
        0.7s     18.00nm          4.5mb
                  i     03 31.60
                  e     05 49.00
FEL     18.05 315 P     03 30.69   -0.2
BBS     18.13 313 P     03 31.97    0.4
LOMF    18.47 312 P     03 36.30    0.9
STR     18.57 317 P     03 36.69    0.4
WLS     18.71 316 P     03 37.93    0.1
ECH     18.71 315 P     03 37.56   -0.3
BSF     18.73 314 eP    03 36.20   -1.9
```

```
        0.5s      7.80nm          4.3mb
CDF     18.75 316 P     03 38.66    0.3
GWF     18.87 318 P     03 38.94   -0.6
HAU     19.07 314 eP    03 40.70   -0.9
        0.7s     29.50nm          4.7mb
ESEL    19.22 287 e(P)  03 46.00    2.8
VITF    19.39 314 P     03 44.34   -0.5
LBL     19.92 303 P     03 50.43    0.2
SMF     20.01 308 eP    03 49.70   -1.6
        1.1s     74.20nm          5.0mb
WLF     20.05 318 P     03 48.00   -3.6X
LBF     20.06 309 eP    03 50.40   -1.4
        0.7s      9.90nm          4.3mb
PYM     20.24 305 P     03 53.18   -0.5
LOR     20.25 309 eP    03 52.50   -1.2
        1.0s     26.00nm          4.6mb
AGO     20.26 306 P     03 52.72   -1.1
AVF     20.38 308 eP    03 53.60   -1.4
        0.9s     33.40nm          4.8mb
SSF     20.39 309 eP    03 53.90   -1.1
        0.7s     36.30nm          4.9mb
BGF     20.62 307 eP    03 56.60   -0.8
        0.8s     24.70nm          4.7mb
CAF     20.63 302 eP    03 57.10   -0.5
        0.9s     31.10nm          4.7mb
MEM     20.66 320 P     03 59.20    1.5
MAF     20.69 306 eP    03 57.50   -0.6
        1.1s     29.30nm          4.6mb
GRC     20.75 309 P     03 58.37   -0.3
TCF     20.94 306 eP    03 59.90   -0.7
        0.8s     12.00nm          4.4mb
EBR     21.11 290 eP    04 03.00    0.8
RJF     21.11 303 eP    04 01.90   -0.4
        0.9s     19.60nm          4.5mb
DOU     21.14 317 P     04 02.60    0.1
        0.5s     10.00nm          4.5mb
EROQ    21.17 290 e(P)  04 03.20    0.3
LPO     21.18 301 eP    04 02.70   -0.3
        0.7s     20.70nm          4.7mb
LSF     21.38 305 eP    04 04.70   -0.2
        0.9s     22.90nm          4.6mb
EPF     21.45 296 eP    04 04.30   -1.5
        0.7s      8.10nm          4.2mb
SNF     21.52 318 P     04 06.70    0.4
LFF     21.55 301 eP    04 06.30   -0.3
        0.7s     13.20nm          4.5mb
ECHE    22.20 287 e(P)  04 16.60    3.5X
MFF     22.59 305 eP    04 16.70    0.0
        0.7s      9.70nm          4.3mb
LDF     23.23 310 eP    04 22.50   -0.4
        0.5s     10.20nm          4.5mb
ENIJ    23.37 280 e(P)  04 26.80    2.3
EVIA    23.43 284 e(P)  04 27.20    2.1
FLN     23.51 310 eP    04 24.70   -1.0
        0.4s     16.00nm          4.8mb
LPF     23.61 308 eP    04 25.60   -1.0
        0.5s     13.10nm          4.7mb
GRR     23.61 309 eP    04 25.60   -1.0
        0.5s     26.80nm          5.0mb
EBAN    24.47 283 e(P)  04 36.00    1.0
GUD     24.63 289 e(P)  04 38.00    1.4
HFS     25.18 344 eP    04 40.70   -0.6
        0.4s      7.80nm          4.6mb
NB2     26.56 343 P     04 52.70   -1.2
        0.7s      4.50nm          4.2mb
EKA     27.87 322 P     05 08.00    2.2
        2.0s     88.20nm          5.1mb
BCAO    32.81 196 iPd   05 52.30    2.7
        0.5s     15.00nm          5.0mb
                  id    06 33.00
KIC     41.69 232 P     07 05.90    1.8
LIC     41.98 232 P     07 08.20    1.8
      S.D. = 1.2  on 170 of 180 obs.
-----------------------------------------
% NOV  01, 1989  13h 59m 57.92± 0.68s
   44.614 N ± 5.0km     7.248 E ± 7.4km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 1.6 (GEN).

PZZ      0.15 224 P     00 01.95    0.4
                  S     00 04.01
STV      0.37 172 P     00 05.34   -0.3
                  S     00 10.57
ENR      0.41 162 P     00 05.98   -0.3
                  S     00 11.70
RRL      0.45 313 P     00 06.98   -0.2
```

```
                    S     00 12.11
RSP      0.54   1 P     00 08.83    0.0
                    S     00 16.11
ROB      0.55 125 P     00 09.34    0.3
                    S     00 16.73
     S.D. = 0.4  on   6 of   6 obs.
-----------------------------------------
?  NOV  01, 1989  14h 14m 58.31± 6.13s
   58.083 N ±48.0km    6.441 E ±16.7km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                    (535)
      MD 2.2 (BER).

KMY      1.29 332 eP     15 22.27    0.0
                    eS    15 37.69
BLS1     1.33   9 iP     15 22.52   -0.3
                    eS    15 37.20
ODD1     1.84   3 iP     15 31.33    1.2
                    eS    15 52.28
HYA      3.10 358 iP     15 47.90   -0.1
                    eS    16 23.56
SUE      3.10 345 iP     15 47.64   -0.5
                    eS    16 21.08
NRA0     3.72  42 iPc    15 56.90   -0.2
                    iS    16 40.90
                    iSg   16 52.50
     S.D. = 0.8  on   6 of   6 obs.
-----------------------------------------
?  NOV  01, 1989  14h 33m 56.40± 4.68s
   58.909 N ±39.0km    5.801 E ±10.9km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                    (535)
      ML 1.7 (BER).

KMY      0.42 317 iP     34 04.88    0.0
                    iS    34 11.25
BLS1     0.72  47 iP     34 10.29   -0.3
                    iS    34 20.10
ODD1     1.09  22 iP     34 17.12    0.2
                    eS    34 32.06
NRA0     3.43  55 eP     34 51.10    0.2
                    iSg   35 40.70
     S.D. = 0.4  on   4 of   4 obs.
-----------------------------------------
   NOV  01, 1989  14h 48m 15.69± 0.57s
   38.325 N ± 4.9km   22.121 E ± 7.3km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      MD 3.4 (ATH). ML 3.2 (THE).

AGG      0.71  13 ePg    48 30.20    0.4
                    eSg   48 40.30
ITM      1.15 188 ePg    48 37.30    0.0
VLS      1.21 263 ePb    48 36.80   -1.5
                    eSb   48 56.30
NEO      1.30  41 ePg    48 39.70   -0.1
VLI      1.73 158 ePb    48 46.00    0.0
LIT      1.80   9 ePb    48 47.00    0.1
                    eSb   49 11.30
KZN      2.00 352 ePn    48 50.00    0.1
PAIG     2.01  37 ePb    48 49.30   -0.7
                    eSb   49 13.30
KEK      2.28 308 ePg    48 57.50    3.6X
PLG      2.29  26 ePn    48 53.00   -1.1
OUR      2.47  35 ePnd   48 56.00   -0.6
                    eSn   49 25.80
GRG      2.64   5 ePn    49 01.10    2.1
                    eSn   49 33.60
KNT      2.90  12 ePnd   49 03.20    0.5
                    eSn   49 37.70
OHR      2.96 340 iPn    49 06.20    2.5
SRS      3.01  22 ePn    49 04.10   -0.2
VAY      3.01   6 ePn    49 03.70   -0.6
VAM      3.36 150 ePn    49 10.00    0.8
SKO      3.68 352 ePn    49 11.50   -2.3
CZI      4.76 283 P      49 29.80    0.6
     S.D. = 1.2  on  18 of  19 obs.
-----------------------------------------
%  NOV  01, 1989  15h 03m 10.97± 0.69s
   59.888 N ± 5.9km    6.138 E ± 6.9km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                    (535)
      MD 1.8 (BER).

ODD1     0.25  84 iPg    03 16.00   -0.3
                    iSg   03 18.60
BLS2     0.72 146 iP     03 25.20    0.0
                    eS    03 32.20
KMY      0.82 214 eP     03 26.70    0.0
                    eS    03 39.00
HYA      1.28   1 iP     03 34.50   -0.2
                    iS    03 50.30
SUE      1.36 330 iP     03 36.00    0.1
                    eS    03 52.60
NRA0     2.82  70 eP     03 57.30    0.4
                    iPg   04 00.70
                    iSg   04 36.80
     S.D. = 0.3  on   6 of   6 obs.
-----------------------------------------
&  NOV  01, 1989  16h 26m 05.99s
   54.785 N          162.372 W
   DEPTH =  77.6km
 ALASKA PENINSULA                   ( 12)
      <PAL>.

DRRA     0.15  20 ePc    26 16.69    0.5
SNKA     0.39 217 ePc    26 18.47   -0.3
                    eS    26 27.99
DLG      0.47  41 eP     26 18.81   -0.6
                    eS    26 28.73
BALA     0.47 330 eP     26 19.29   -0.2
                    eS    26 29.27
PS4      0.64  27 ePc    26 20.67   -0.4
                    eS    26 31.98
PVV      0.68  29 ePc    26 20.95   -0.5
                    eS    26 32.77
SQF      1.13  67 eP     26 26.12   -0.7
                    eS    26 41.48
SASA     1.21  62 eP     26 27.13   -0.7
                    eS    26 43.08
NGI      1.35  78 eP     26 29.03   -0.6
                    eS    26 45.90
CNBA     1.61  88 eP     26 32.16   -0.9
IVF      1.97  54 ePd    26 37.22   -0.7
                    eS    26 59.86
        11 obs. associated
-----------------------------------------
   NOV  01, 1989  16h 26m 33.10± 0.85s
   23.278 N ± 7.2km  120.932 E ± 7.8km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN                             (244)

TWF1     0.34  77 iPd    26 39.60   -0.6
                    eS    26 44.60
TWK      0.41 269 iPd    26 41.40   -0.1
                    eS    26 47.50
TWG      0.47 164 iPc    26 42.90    0.2
                    eS    26 50.30
TWQ      1.00 355 iPc    26 52.00    0.0
                    eS    27 06.10
TWC      1.57  32 ePc    27 01.30    0.3
                    eS    27 23.00
ANP      1.97  16 ePd    27 08.80    1.9
        0.7s  1106.85nm
                    eS    27 37.50
SSE      7.79   2 P      28 27.50   -1.7
                    S     29 51.50
NJ2      8.93 349 Pc     28 41.60   -3.5X
WHN      9.32 322 eP     28 59.50    9.1X
GYA     13.33 287 P      29 58.00   12.9X
     S.D. = 1.3  on   7 of  10 obs.
-----------------------------------------
   NOV  01, 1989  17h 01m 11.19± 0.68s
   37.077 N ± 6.4km   28.034 E ± 6.6km
   DEPTH =   5.0km  (geophysicist)
 TURKEY                             (366)

YER      0.21  74 iPg    01 14.30   -1.1
                    iSg   01 18.30
CIN      0.52   5 iPd    01 22.00    0.3
SMG      1.14 304 ePb    01 33.40    0.4
IZM      1.45 335 iPn    01 37.70   -0.5
KSL      1.57 127 ePb    01 41.30    1.5
KAP      1.67 205 ePb    01 40.00   -1.3
KHL      1.72  43 iPn    01 42.20    0.3
BCK      2.07  79 ePn    01 49.90    2.8X
NPS      2.67 228 ePn    01 56.00    0.4
     S.D. = 1.1  on   8 of   9 obs.
-----------------------------------------
*  NOV  01, 1989  17h 10m 43.85± 0.82s
   29.524 S ± 8.1km   70.962 W ±12.3km
   DEPTH = 119.9 ± 27.1 km
 CENTRAL CHILE                      (136)

RTRS     1.45 117 iPc    11 10.00   -1.1
RTBS     2.50 149 ePc    11 25.20    1.1
RTCB     2.70 137 iPd    11 27.50    0.5
                    S     11 42.00
RTLL     2.81 131 iPc    11 28.20   -0.1
ZON      2.82 136 eP     11 33.00    4.5X
RTCV     3.13 139 e(P)   11 33.20    0.6
CFA      3.13 132 iPc    11 33.00    0.3
                    S     11 50.00
JACH     3.16 174 ePd    11 33.30    0.2
                    iS    12 17.50
ROCH     3.44 181 iP     11 37.50    0.6
IHA      3.54 189 eP     11 40.50    2.5X
                    eS    12 27.50
PEL      3.62 176 iPc    11 39.90    0.8
                    i     12 02.40
                    iS    12 26.20
FCH      3.83 172 eP     11 45.50    3.1X
                    iS    12 35.00
SAN      3.93 176 eP     11 43.50    0.2
                    iS    12 31.50
LCCH     3.97 187 iPd    11 42.10   -1.8
                    iS    12 27.00
PCH      4.10 175 eP     11 46.90    1.1
                    iS    12 37.20
TACH     4.12 180 eP     11 45.50   -0.4
                    iS    12 33.80
CHCH     4.40 177 iPd    11 52.50    2.7X
                    iS    12 41.00
LNV      4.43 185 eP     11 49.00   -1.1
                    iS    12 43.80
MRA      5.35 124 ePc    12 01.70   -0.9
RFA      5.64 159 ePc    12 06.20   -0.5
TCA      5.79 110 ePd    12 06.00   -2.8X
ANT      5.82   5 e(P)   12 13.50    4.5X
                    i     13 33.50
SLA      6.82  47 ePc    12 22.30   -0.7
CNCB    12.95  13 P      13 46.00    1.0
LPB     13.20  12 eP     13 48.00   -0.1
ZOBO    13.45  12 P      13 49.00   -2.6X
PPD     19.19  72 eP     15 02.90    2.1X
VAO     22.45  79 e(P)   15 54.00   20.3X
SPA     60.64 180 e(P)   21 11.20   27.0X
        0.8s      2.50nm
     S.D. = 0.9  on  19 of  29 obs.
-----------------------------------------
*  NOV  01, 1989  18h 00m 22.43± 0.79s
   38.404 N ± 8.1km   21.925 E ±10.3km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      MD 2.8 (ATH).

AGG      0.69  27 eP     00 35.60   -0.6
                    eS    00 47.30
VLS      1.07 258 ePg    00 42.80    0.1
ITM      1.22 180 ePb    00 45.00   -0.2
NEO      1.36  48 ePb    00 48.00    0.6
LIT      1.75  14 eP     00 53.00    0.0
VLI      1.87 154 ePg    00 59.50    4.8X
KZN      1.90 356 ePg    01 00.50    5.2X
     S.D. = 0.6  on   5 of   7 obs.
-----------------------------------------
   NOV  01, 1989  18h 25m 34.94± 0.11s
   39.837 N ± 2.4km  142.760 E ± 2.4km
   DEPTH =  28.6km  (geophysicist)
   6.4mb ( 55 obs.)  7.4Msz ( 17 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)
      Ms 7.4 (BRK), 7.1 (PAS).
      Mo=1.3*10**20 Nm (PPT). Felt (IV
      JMA) at Aomori and Morioka; (III
      JMA) at Misawa; (I JMA) at
      Yamagata. Also felt (I JMA) in
      ports of Hokkaido. Tsunomi
      generated with wave heights 56
      cm. at Miyako, 34 cm. at
      Ayukawa, 24 cm. at Hachinohe and
      20 cm. at Ofunato. Depth from
      broadband displacement
      seismograms.
      FAULT PLANE SOLUTION: P-Waves
       NP1:Strike= 15 Dip=76 Slip=  75
       NP2:        243     20       136
       Principal Axes:
        T                 Plg=56  Azm=266
        P                   29       117
      Comment: The focal mechanism is
        poorly controlled and
```

01d 18h

```
        correspands to reverse
        faulting with a moderote left-
        lateral strike-slip component.
        The preferred fault plane is
        NP2.
      RADIATED ENERGY
       No. of sta:  14  Facal mech.  M
       Energy        1.2±0.1*10**15 Nm
      MOMENT TENSOR SOLUTION
      Dep  23            Na. af sta: 20
      Moment Tensor;   Scale 10**19 Nm
        Mrr= 3.25        Mtt=-3.29
        Mff= 0.05        Mrt= 1.14
        Mrf= 6.14        Mtf=-5.37
       Principal axes:
        T  Val=  8.56  Plg=46  Azm=251
        N        0.58      36       29
        P       -9.14      22      136
      Best Double Cauple:Mo=8.8*10**19
       NP1:Strike=271 Dip=39 Slip= 158
       NP2:        18      76       53
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 39C  M.W.: 12S, 33C
      Centraid Location:
      Origin Time        18:25:42.0 0.2
      Lat 39.95N 0.02 Lon 143.08E 0.02
      Dep  24.0 1.1 Half-duration 14.0
      Moment Tensar;   Scale 10**20 Nm
        Mrr= 0.61 0.01  Mtt=-0.07 0.01
        Mff=-0.55 0.01  Mrt= 0.56 0.04
        Mrf= 1.10 0.08  Mtf=-0.11 0.00
       Principal Axes:
        T  Val=  1.40  Plg=57  Azm=302
        N       -0.07       5      204
        P       -1.33      32      111
      Best Double Cauple:Mo=1.4*10**20
       NP1:Strike=183 Dip=14 Slip=  69
       NP2:        25      77       95

OFUJ    1.13 229 iPd   25 55.80   0.9
AOMJ    1.97 292 P     26 09.30   2.4
YAMJ    2.69 233 P     26 18.80   1.5
SAP     3.39 342 P     26 28.00   0.8
                S     27 09.00
NIIJ    3.92 230 P     26 37.10   2.4
KAKJ    4.16 210 P     26 36.50  -1.6
CHJJ    4.81 219 P     26 47.20  -0.1
MAT     4.87 229 iPc   26 49.60   1.5
                eS    27 53.00
MTMJ    5.08 232 P     26 53.20   2.0
IIDJ    5.80 223 P     27 02.30   0.9
TSRJ    6.88 233 P     27 20.00   3.6X
YSS     7.18 360 P     27 20.00  -0.5
WKYJ    8.01 228 P     27 32.40   0.0
YONJ    8.72 241 P     27 42.70   0.5
TKSJ    9.10 233 P     27 47.30   0.0
SHK     9.63 240 eP    27 56.70   2.0
MDJ    10.87 300 eP    28 13.30   1.7
     E  20s  1215.00um
                epP   28 16.00
                sS    30 24.00
SHNJ   10.92 242 eP    28 13.90   1.6
CN2    13.50 293 iPc   28 46.00  -1.0
       5.0s    48.00nm          4.7mb X
     E  15s  2000.00um
                epP   28 52.00
                esS   31 26.00
SNY    14.66 284 iPc   29 03.00   0.9
     N  12s   710.00um
     E  15s   729.00um
                S     31 48.00
DL2    16.37 274 Pc    29 25.00   0.8
     N  15s   535.00um
     E  16s   751.00um
                S     32 20.00
PET    17.09  34 P     29 35.00   1.9
                S     32 47.00
HIA    18.86 308 ePc   29 52.70  -2.4
SSE    19.58 250 iPc   30 00.00  -3.6X
       1.5s  1242.00nm          6.0mb
     N  15s  1220.00um
     E  15s   114.00um
                pP    30 10.00  43kmX
                PP    30 18.00
                S     33 36.00
                SS    33 56.00
                PcP   34 06.00
BJI    20.36 279 ePc   30 09.12  -2.7
     N  15s   354.00um
     E  14s   856.00um
                eS    33 51.00
TIA    20.49 268 Pc    30 10.60  -2.6
       8.0s    18.40nm          3.5mb X
     N  14s   438.00um
     E  13s   717.00um
NJ2    20.82 256 iPc   30 14.50  -2.0
     N  12s   236.00um
     E  13s   619.00um
                S     34 07.00
MGD    20.90  11 P     30 13.00  -4.2X
ANP    23.04 237 iP+   30 38.00  -0.8
                eS    34 52.00
TIY    23.69 275 iPc   30 43.80  -1.2
     E  15s   886.00um
HHC    23.74 283 Pc    30 44.60  -1.0
       9.0s    38.40nm          3.9mb X
     N  14s   370.00um
     E  15s   300.00um
                S     35 00.00
WHN    24.92 257 iPc   30 55.50  -1.4
       1.6s    20.80nm          4.5mb X
     E  16s  1057.00um
                S     35 13.00
BTO    24.94 282 iPc   30 56.00  -1.2
       8.0s    20.30nm          3.8mb X
                pP    31 03.00  25kmX
                PP    31 30.50
SMY    24.98  49 eP    31 00.70   3.4X
QZH    25.13 241 iPc   30 58.00  -1.0
     N  16s   264.00um
GUMO   26.21 175 eP    31 05.50  -3.6X
       1.2s   811.11nm          6.2mb
GUA    26.26 175 eP    31 05.50  -4.1X
       1.2s   687.50nm          6.1mb
XAN    27.55 269 P     31 19.50  -1.8
                S     36 03.00
IRK    29.08 308 P     31 34.00  -0.9
HKC    29.90 243 iP    31 44.00   1.5
                iS    36 41.00
GZH    29.96 245 iPc   31 43.30   0.4
     N  18s   313.00um
     E  18s   271.00um
                S     36 41.00
BAG    30.29 226 eP    31 44.00  -2.2
                e     36 37.50
                e     42 38.00
ADK    30.31  53 P     31 44.00  -1.8
LZH    30.74 276 ePc   31 49.68  -0.3
       8.0s   ***.****nm          6.8mb X
     N  14s   786.90um
     E  15s   267.90um
                epP   31 57.80  28kmX
                esPd  32 00.94
                PPP   33 04.00
                eS    36 46.17
                sS    36 51.00
QCP    31.48 223 eP    32 09.00  12.6X
TIK    32.64 352 iPc   32 04.00  -2.0
                e(S)  37 40.00
GYA    32.81 257 iPc   32 07.00  -1.1
       6.0s    13.60nm          4.0mb X
     N  15s   345.00um
     E  15s   358.00um
                sP    32 22.00
                PP    33 20.00
                S     37 18.00
CD2    32.81 267 P     32 07.00  -1.0
     E  18s   365.00um
                S     37 20.00
GTA    32.85 283 iPc   32 07.60  -0.7
     E  15s   536.00um
                pP    32 16.00  29kmX
                sP    32 21.00
                PP    33 16.00
                S     37 19.00
ILT    35.06  24 P     32 25.00  -1.9
QIZ    35.09 243 iPc   32 28.00   0.3
     E  16s   261.00um
                pP    32 38.00  34kmX
                sP    32 41.00
                PP    33 46.00
                S     37 57.00
                sS    38 19.00
DAV    36.07 210 eP+   32 36.00   0.0
KMI    36.49 259 ePc   32 39.95   0.1
       8.0s    19.10nm          4.0mb X
     N  16s  6000.00um
                epP   32 48.39  28kmX
                esPd  32 51.21
                ePP   34 12.21
                eS    38 16.15
ELT    40.05 309 P     33 05.00  -3.9X
WMQ    40.59 294 ePc   33 14.97   1.4
       5.0s    36.50nm          4.4mb X
     N  15s   575.00um
                esPd  33 25.90
                ePP   34 58.27
                eS    39 22.77
                e     43 21.02
NRI    41.03 334 P     33 15.60  -1.1
KKM    41.25 222 ePd   33 21.50   2.2
       1.0s   138.50nm          5.6mb
                e     33 51.30
MNI    41.55 208 ePc   33 22.00   0.4
TSM    41.89 219 eP    33 24.50   0.1
LOE    41.90 250 eP    33 24.00  -0.5
                e     44 24.00
JAY    42.19 183 ePc   33 26.20  -0.7
       0.8s     9.30nm          4.6mb X
                e     41 41.00
TTA    42.53  36 eP    33 30.90   1.6
SVW    42.65  39 eP    33 30.50   0.3
CHG    43.05 254 ePc+  33 32.00  -1.9
       1.0s   262.50nm          5.9mb
                eS    40 02.80
CHTO   43.05 254 iP    33 33.70  -0.2
LSA    43.07 273 iP    33 33.50  -1.0
       5.0s    12.00nm          3.9mb X
                S     39 59.80
BRW    43.43  24 eP    33 34.90  -1.4
IMA    43.75  32 eP    33 38.50  -0.7
BDT    43.99 252 eP    33 42.00   0.5
       0.9s   345.10nm          6.2mb
NST    44.19 249 iPc   33 45.00   1.9
KDC    44.38  44 eP    33 44.00  -0.2
SHL    44.55 267 iP    33 46.00  -0.2
                eS    40 33.50
RAB    44.66 167 iP-   33 46.00  -0.9
                iS    40 20.00
AAI    45.33 201 eP    33 52.50   0.2
                e     44 50.50
KBR    45.72 248 eP    34 00.00   4.6X
PMR    45.76  38 eP    33 54.20  -1.0
     Z  20s     1.50um          4.9MszX
MNDI   45.77 179 eP    34 10.00  14.0X
COL    46.18  34 ePc   33 58.77   0.3
                eS    40 44.13
                eSS   43 51.19
FBA    46.18  34 P     33 57.40  -1.1
TLE    46.18 194 ePd   33 51.80  -7.1X
       1.0s    11.00nm          4.8mb X
LAT    46.42 174 eP    34 06.00   5.2X
NNT    46.55 247 iPc   34 02.00   0.1
TOA    47.11  37 eP    34 06.00   0.0
BKBZ   47.25 216 ePc   34 10.00   2.5
       1.4s  3262.80nm          7.2mb
TLG    47.92 297 iP    34 13.80   1.2
                eS    41 19.00
KDB    49.23 174 eP    34 26.00   3.3X
MKS    49.71 211 iPd   34 28.00   1.5
       1.1s    15.50nm          4.9mb X
SNG    49.78 241 eP    34 19.00  -8.1X
                eS    41 38.00
FRU    49.98 297 P     34 29.00   0.6
KSH    50.29 292 iPc   34 32.00   1.1
     Z  16s    71.00um          6.8MszX
                eS    41 44.00
INK    51.42  28 eP    34 37.00  -1.9
HNR    51.54 158 eP    34 43.00   2.6
                e     45 48.00
KGM    51.93 234 eP    34 43.00  -0.5
                e     35 31.40
KLM    52.15 236 eP    34 45.70   0.6
KUPT   52.81 204 ePc   34 35.70 -14.3X
       1.0s  1519.90nm
                eS    42 37.00
OPA    53.07  91 P     34 51.50  -0.4
HON    53.28  92 P     34 52.50  -0.9
MTN    53.52 194 eP    34 54.00  -1.1
                e     34 57.00
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MBC	53.54	17	eP	34	54.00	-0.7
	1.0s	230.00nm				6.1mb
SIT	53.59	42	eP	34	57.70	2.5
TSI	53.86	239	ePc	35	01.00	3.3X
KHKI	54.14	214	ePc	34	59.50	-0.2
TAS	54.21	297	P	35	00.50	0.4
NDI	54.21	280	iPc	35	00.00	-0.2
	0.9s	596.64nm				6.6mb
			ePP	37	06.50	
			eS	42	40.00	
PSI	54.22	239	iPd	35	00.60	0.2
	0.8s	54.00nm				5.6mb
			e	45	59.00	
			e	50	00.00	
PPI	55.68	235	eP	35	11.80	0.8
DSH	55.76	294	eP	35	11.00	-0.5
			eS	43	00.00	
PLL	56.26	92	P	35	18.00	2.3
MLH	56.33	92	P	35	17.00	0.9
DES	56.43	92	P	35	17.00	0.5
KNA	56.82	196	eP	35	17.50	-1.5
	1.0s	500.00nm				6.5mb
KBS	58.09	350	iP	35	28.00	0.6
HYB	59.36	268	iPc	35	35.50	-1.6
	1.0s	590.00nm				6.7mb
			iS	43	52.00	
CTA	59.70	176	iPc-	35	37.50	-1.7
			iS	43	45.00	
CTAO	59.70	176	eP	35	41.87	2.7
			epPc	35	50.31	28kmX
WB5	59.92	189	eP	35	38.00	-2.7X
			eS	43	51.90	
			e	05	20.80	
OIS	60.15	183	iPc	35	40.20	-2.0
			e	56	45.00	
APA	60.61	335	iPc	35	45.80	0.9
QUE	61.14	287	eP	35	47.30	-2.0
			(S)	44	12.50	
KEV	61.20	339	ePc	35	48.30	-0.6
	0.8s	132.00nm				6.1mb
			esPd	36	01.21	
			e	37	34.00	
			eS	44	06.49	
			eScS	45	44.98	
			eSS	48	10.24	
PVC	62.04	152	iPc	35	55.50	0.4
POO	62.32	272	eP	35	56.00	-1.2
			iS	44	04.00	
GBA	62.50	265	P	35	56.80	-1.5
SOD	62.80	337	iPKP	35	57.60	-2.0
MAIO	63.32	296	iPc	36	03.30	-0.3
			eS	44	44.00	
TRO	63.41	341	iP	36	03.00	-0.6
PGC	63.65	48	eP	36	05.00	-0.5
	0.8s	76.00nm				5.9mb
ASPA	63.71	189	iPd	36	03.70	-2.4
	1.1s	394.00nm				6.4mb
Z	22s	359.68um				7.5MszX
			eS	44	34.00	
			LR	01	54.70	
			eP'P'	05	06.00	
MCW	63.99	47	P	36	08.50	0.7
MBL	64.34	204	eP	36	08.00	-2.2
	0.7s	75.00nm				5.9mb
GMW	64.61	48	P	36	11.90	0.1
KHI	65.04	294	eP	36	13.00	-2.0
RMW	65.22	48	P	36	17.00	1.2
PNT	65.44	45	eP	36	16.00	-1.2
	0.8s	330.00nm				6.5mb
LON	65.60	49	eP	36	20.13	1.9
			epPd	36	29.73	31kmX
			eS	44	56.85	
			eScS	46	19.61	
LON	65.60	49	eP+	36	16.20	-2.1
MBU	65.71	142	eP	36	17.00	-2.2
LOF	65.85	341	iP	36	22.28	2.9
SUF	65.96	333	eP	36	18.30	-1.9
	0.6s	57.00nm				5.9mb
OLP	66.09	179	eP	36	21.00	-0.3
			i	36	24.50	
RMO	66.22	174	eP	36	21.00	-1.2
			i	36	25.40	
			i	47	19.20	
			i	47	28.90	
PUL	66.32	329	iPc	36	23.00	0.5
			eS	45	08.00	
OBN	66.49	323	P	36	22.60	-1.1

EDM	66.51	40	eP	36	21.50	-2.4
	1.3s	559.00nm				6.5mb
SVA	66.58	143	eP	36	19.60	-5.0X
			eS	45	59.60	
			LR	56	16.00	
SVA	66.58	143	eP	36	25.10	0.5
NANU	67.08	207	eP	36	27.00	-0.7
JNW	67.52	350	eP	36	43.20	13.2X
BRS	67.53	170	iPc+	36	30.50	-0.1
			i	36	33.50	
			i	36	41.50	
			e	36	48.00	
			eS	45	30.00	
FHC	67.53	55	P	36	30.00	-0.7
	0.9s	415.38nm				6.5mb
NUR	67.98	332	eP	36	31.10	-1.9
	0.4s	637.80nm				7.1mb
			i	36	38.60	
			e	39	14.00	
			e	45	28.00	
AFI	68.16	132	eP	36	32.00	-2.8X
			esP	36	44.41	
			ePP	39	17.30	
			eS	45	36.09	
			e	46	06.21	
LBFM	68.54	54	P	36	36.80	-0.4
WDC	68.57	55	eP	36	36.30	-0.8
			e	36	43.50	
			eSKKP	59	15.10	
			eP'P'	04	45.20	
NSS	69.04	339	eP	36	38.98	-0.5
TEH	69.15	300	ePc	36	40.00	-0.9
MIN	69.29	54	eP	36	41.70	0.0
ORV	69.81	55	eP	36	42.70	-2.0
BRK	70.30	57	eP	36	49.70	2.1
Z	20s	260.00um				7.5Msz
BKS	70.31	57	iPd	36	48.00	0.2
	1.4s	1100.00nm				6.8mb
Z	20s	198.00um				7.4Msz
N	20s	55.00um				
E	20s	213.00um				
			i	37	05.50	
			e	38	31.00	
			iS	46	00.00	
			i	46	36.00	
			i	46	49.00	
			eSS	50	24.00	
			e	51	02.00	
			eLQ	53	52.00	
			e	55	22.00	
			eLR	57	49.00	
GDH	70.56	6	iPd	36	52.00	3.3X
	2.0s	1047.06nm				6.6mb
			i	46	02.00	
COO	70.57	172	eP	36	49.00	-0.2
			e	36	52.00	
BKR	70.70	308	iPc	36	50.00	-0.3
			iS	46	12.00	
UPP	70.90	334	iP	36	50.20	-0.7
	1.4s	1900.00nm				7.0mb
MHC	71.00	57	eP	36	50.80	-1.4
			ePP	39	44.00	
			ePPP	41	23.00	
			e	45	53.00	
			iS	46	08.00	
			i	46	40.00	
			e	48	53.00	
			eSS	50	14.00	
			eLQ	53	35.00	
			e	55	34.00	
			eLR	56	55.00	
ERE	71.01	307	P	36	54.00	1.9
CMS	71.02	177	eP	36	51.00	-0.9
			e	36	56.00	
			e	47	49.00	
ARN	71.07	57	P	36	51.00	-1.4
TAB	71.11	304	iP+	36	53.00	0.2
MNK	71.32	326	P	36	51.00	-2.5
STK	71.36	181	eP	36	53.00	-0.9
			e	36	55.60	
			e	37	06.00	
			e	47	50.00	
CMB	71.40	56	eP	36	53.38	-1.1
			epPd	37	03.97	34kmX
			esP	37	06.45	
			ePP	39	46.51	
			e	46	33.00	

			eSKKP	59	12.90	
			eP'P'	04	37.00	
LRM	71.42	46	eP	36	54.20	-0.5
FORR	71.63	193	eP	36	53.00	-2.6
PRS	71.77	58	eP	36	55.70	-0.9
MOL	71.79	340	iP	36	56.24	0.0
LLA	71.88	57	eP	36	56.40	-0.9
HFS	71.97	336	eP	36	56.80	-0.6
	0.9s	144.70nm				6.0mb
Z	19s	202.33um				7.4Msz
			LR	07	43.00	
NB2	72.01	337	P	36	55.70	-2.0
KVN	72.24	54	ePc	36	59.00	-0.6
FRI	72.46	56	eP	36	59.90	-0.7
			e	37	06.80	
			eSKKP	59	12.80	
KER	72.80	300	iPc	37	03.10	0.2
MRWA	73.07	204	eP	37	04.00	-0.2
SLY	73.11	302	iPd	37	04.50	0.0
			iPcP	37	18.50	
			isP	37	39.50	
			iPP	39	43.00	
			iPP	41	49.00	
			i	42	46.00	
			iS	46	28.50	
			iScS	47	00.00	
			iPS	47	15.30	
			iSS	51	35.00	
			iSSS	54	58.00	
COOL	73.17	199	eP	37	04.00	-0.7
HYA	73.32	340	eP	37	05.10	-0.1
TNP	73.37	54	ePd	37	05.80	-0.5
KONO	73.61	337	eP	37	04.24	-2.7
RIV	73.71	173	eP	37	16.00	8.3X
			e	46	36.00	
SYP	73.76	59	eP	37	09.00	0.5
AKU	73.76	352	iP	37	08.90	1.2
	1.7s	1169.23nm				6.6mb
Z	20s	177.30um				7.3Msz
			i	48	09.20	
SUE	73.79	340	eP	37	07.73	-0.2
FRB	73.81	14	eP	37	05.00	-3.0X
	1.0s	623.00nm				6.6mb
ISA	74.05	57	eP	37	11.00	0.9
ABL	74.06	58	P	37	10.40	0.1
SIM	74.07	316	P	37	09.00	-0.9
BWA	74.08	175	eP	37	09.50	-0.4
			i	37	13.70	
BAL	74.15	203	eP	37	10.00	-0.3
MSL	74.15	304	ePd	37	10.50	0.0
			iPcP	37	27.50	
			ePP	40	08.00	
			ePP	42	04.00	
			eS	46	50.00	
			ePS	47	26.00	
BER	74.21	340	iP	37	10.30	-0.1
ODD1	74.25	339	eP	37	11.25	0.5
CLC	74.52	56	eP	37	12.00	-0.8
ADE	74.53	183	iPc	37	15.10	2.6X
	1.1s	278.48nm				6.2mb
KLB	74.76	202	eP	37	14.00	0.1
BW06	74.96	47	ePd	37	13.00	-2.4
CAN	75.01	175	eP	37	14.30	-1.0
			i	37	19.80	
CNB	75.03	174	eP	37	20.00	4.6X
			e	37	39.00	
			e	58	00.00	
SBB	75.07	57	eP	37	17.00	1.0
PAS	75.18	58	ePd	37	16.74	0.2
			epPd	37	26.84	32kmX
			esP	37	29.32	
			ePP	40	06.00	
			ePPP	41	40.00	
			eSKS	46	26.00	
			iS	46	56.00	
			eSS	51	26.00	
			eSSS	55	04.00	
			eLg	57	08.00	
			eLR	59	57.00	
MWC	75.20	58	eP	37	15.00	-1.9
KMY	75.22	339	eP	37	16.35	0.1
BHD	75.26	301	iPd	37	15.00	-1.9
			iPcP	37	25.00	
			iPP	40	22.00	
			iPPP	42	12.00	
			e	42	57.00	
			iS	46	51.00	

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		iScS	47	49.50		
		iSS	51	44.00		
		iSSS	55	13.00		
WAR	75.28	327	eP+	37	14.00	-2.7
			e	39	52.00	
			e	40	15.00	
			e	42	12.00	
			e	46	58.00	
NLU	75.33	50	P	37	17.40	-0.2
GSC	75.35	56	eP	37	20.00	2.4
BRF	75.37	292	eP	37	16.70	-0.9
	0.2s	84.00nm			6.4mb	
BJA	75.40	292	eP	37	16.80	-1.0
CIS	75.48	59	eP	37	21.20	2.9X
KVT	75.51	312	eP	37	18.20	-0.1
SUU	75.54	50	P	37	18.70	0.0
DHR	75.55	292	iPc	37	19.20	0.5
MUN	75.58	203	eP	37	18.30	-0.3
	Z 20s	133.80um			7.2Msz	
	N 20s	64.70um				
	E 20s	83.10um				
		eS	47	00.00		
REY	75.66	353	eP	37	20.60	2.0
RVR	75.79	58	eP	37	21.00	1.0
IAS	75.93	320	eP	37	22.00	1.5
PEC	75.99	58	P	37	21.60	0.4
SGU	76.08	50	P	37	22.20	0.3
NWAO	76.16	202	ePc	37	21.21	-0.6
	0.5s	57.00nm			5.8mb	
		epPd	37	31.31	32kmX	
		esPd	37	34.13		
		eS	47	19.00		
MSU	76.19	51	P	37	22.30	-0.2
PLM	76.52	58	eP	37	26.00	1.6
BIR	76.55	320	eP	37	25.00	1.0
TPC	76.58	57	eP	37	25.00	0.5
PPE	76.59	320	eP	37	24.50	0.3
KAS	76.61	313	iPc	37	25.40	0.8
BFD	76.64	180	eP	37	28.00	3.6X
			e	37	42.60	
CPE	76.66	58	eP	37	28.20	3.3X
PTT	76.69	321	eP	37	27.00	2.2
MMU	76.92	51	P	37	26.20	-0.4
CFR	77.03	319	eP	37	27.50	0.8
RSSD	77.05	43	P+	37	25.50	-1.6
RSON	77.06	33	ePd+	37	25.00	-1.8
	1.6s	1233.60nm			6.7mb	
BAR	77.07	58	eP	37	29.00	1.8
TOO	77.07	178	eP	37	31.00	4.2X
			e	37	44.00	
VRI	77.27	320	ePc	37	28.00	-0.1
RKG	77.30	202	eP	37	30.00	1.9
GAZ	77.35	308	iP	37	27.40	-1.2
BRD	77.36	320	eP	37	30.50	2.0
KRA	77.36	326	eP	37	27.80	-0.6
	1.2s	971.00nm			6.7mb	
	Z 14s	127.10um			7.4MszX	
		i	37	35.30		
		i	37	46.30		
		i	38	01.60		
		i	40	36.00		
		iS	47	28.00		
UZH	77.38	324	iPc	37	28.00	-0.6
		iS	47	25.00		
TLB	77.51	318	ePc	37	30.00	0.7
CVO	77.58	320	eP	37	30.00	0.2
ISR	77.88	319	eP	37	32.50	1.0
SPC	77.88	326	eP	37	32.30	0.7
	Z 17s	599.00um			8.0MszX	
		i(PP)	40	25.20		
		e(S)	47	23.40		
MLR	77.93	320	iPc	37	33.00	1.2
CEI	78.00	323	eP	37	42.00	10.0X
GLA	78.03	57	eP	37	33.00	0.5
PSN	78.07	318	iPc	37	34.00	1.6
BBTK	78.21	312	iPd-	37	36.00	2.6
KSP	78.27	329	ePc	37	32.70	-0.7
		i	37	34.90		
		iPP	40	33.50		
BUC	78.62	319	iPc	37	36.00	0.6
BUC1	78.70	319	eP	37	36.00	0.1
PSZ	78.99	325	iPc	37	37.90	0.4
RYD	79.03	293	ePc	37	36.50	-1.6
DEV	79.12	322	iPd	37	40.00	1.8
BRG	79.17	330	iP	37	40.40	2.0
		eS	48	00.00		
CLL	79.19	331	iPc	37	39.10	0.7

	1.8s	840.00nm			6.5mb	
		eS	47	32.00		
EDR	79.26	341	eP	37	38.70	0.0
	1.1s	376.00nm			6.3mb	
HRT	79.26	315	iP	37	39.70	0.6
GPA	79.28	314	eP	37	40.00	0.8
DRA	79.34	320	ePc	37	42.00	2.6
GOL	79.36	47	P	37	39.20	-0.8
GBZT	79.41	315	iPc	37	40.50	0.7
GLD	79.41	47	ePc	37	39.60	-0.5
	1.0s	840.00nm			6.7mb	
	Z 20s	250.00um			7.6Msz	
ITU	79.42	315	iPc	37	40.00	0.1
ISK	79.43	315	eP	37	41.00	1.1
DMK	79.59	316	iP	37	41.70	0.9
YLV	79.60	315	iP	37	40.20	-0.8
PRU	79.64	329	eP	37	40.30	-0.6
	Z 18s	442.10um			7.8Msz	
		i	37	42.00		
BUD	79.70	325	ePc	37	41.80	0.5
EDU	79.71	342	eP	37	41.20	0.0
	1.1s	135.00nm			5.9mb	
CTT	79.71	316	iP	37	41.20	-0.3
JMB	79.75	318	ePc	37	42.00	0.3
SRO	79.76	326	iP	37	42.90	1.3
	Z 18s	381.20um			7.8Msz	
		i	37	49.00		
		e(S)	47	54.50		
		e	48	10.10		
PVL	79.86	319	iPc	37	43.00	0.8
BZS	79.92	322	eP	37	41.00	-1.5
ZST	79.99	326	iP	37	43.50	0.7
	Z 18s	486.40um			7.9Msz	
		i	37	49.50		
		e	46	54.50		
		e	47	36.30		
		e	48	14.40		
TIM	80.02	323	ePc	37	43.10	0.1
EBH	80.10	342	eP	37	43.30	0.0
ESY	80.18	341	eP	37	43.80	0.1
WIT	80.19	335	ePc	37	45.00	1.2
		ePP	40	56.00		
VIE	80.26	327	eP+	37	45.00	0.8
		iPcP	37	52.50		
		ePP	40	48.00		
		i	40	56.00		
		i(sS)	48	09.00		
VKA	80.26	327	ePc	37	44.50	0.2
	5.0s	9179.00nm			7.0mb X	
	Z 21s	233.30um			7.5Msz	
		iPcP	37	52.50		
		i(PP)	40	53.50		
		iS	47	46.50		
		i(sS)	48	00.50		
		i	48	46.00		
		LR	16	02.00		
QASM	80.33	296	eP	37	44.70	-0.4
EAU	80.45	341	eP	37	44.70	-0.4
	0.8s	199.00nm			6.2mb	
BHL	80.45	306	Pc	37	46.00	0.3
		S	47	50.00		
		PPS	48	46.00		
BNT	80.54	315	iP	37	45.70	-0.2
EDC	80.58	315	eP	37	47.10	1.0
DIM	80.60	318	iP	37	47.00	0.9
SOP	80.62	326	iPc	37	49.10	3.0X
DST	80.68	314	iP	37	47.60	0.9
KHC	80.70	329	eP	37	46.00	-0.6
	1.0s	350.00nm			6.3mb	
		i	37	47.30		
FAM	80.74	308	eP	37	47.50	0.5
HRI	80.82	306	eP	37	47.50	-0.1
WTS	80.83	334	ePc	37	47.00	-0.2
	1.1s	475.00nm			6.4mb	
		iPP	40	59.00		
EKA	80.84	341	P	37	47.00	-0.2
	1.3s	110.30nm			5.7mb	
PGB	80.93	319	iPc	37	48.00	0.0
KDZ	80.94	318	eP	37	49.00	1.0
RAR	80.98	127	P	37	48.00	-0.3
		S	47	56.00		
PLD	80.98	318	eP	37	48.00	-0.2
BEO	81.06	322	iP	37	49.30	0.8
		i(PP)	40	53.70		
		e(S)	48	19.00		
		i	48	50.00		
BCK	81.07	312	eP	37	48.90	0.1

KHL	81.08	313	eP	37	48.80	-0.1
CSS	81.16	308	eP	37	50.00	0.7
GRF	81.16	331	iPc	37	48.80	-0.2
	1.2s	513.00nm			6.4mb	
	Z 19s	354.00um			7.7Msz	
		i	37	54.00		
		ePP	40	55.00		
		eSKS	47	56.00		
		e	48	16.00		
		e	48	48.00		
RDO	81.24	317	eP	37	50.00	0.4
RZN	81.28	318	eP	37	50.00	0.0
DBN	81.28	335	iP+	37	50.00	0.5
	Z 20s	272.00um			7.6Msz	
		ePP	41	02.00		
		eS	48	10.00		
		eSS	53	30.00		
KMR	81.33	328	eP+	37	48.00	-1.9
		ePP	40	59.00		
		eSKS	48	12.00		
VTS	81.39	319	iPc	37	50.00	-0.5
ATZ	81.41	306	eP	37	50.60	0.0
TNS	81.75	332	ePc	37	52.20	0.1
		eS	48	22.00		
EZN	81.78	316	iP	37	52.30	0.0
PPCY	81.81	309	eP	37	52.00	-0.6
MMB	81.86	319	ePc	37	52.00	-0.8
JVI	81.96	305	eP	37	53.50	0.1
ALQ	81.99	51	ePc+	37	53.70	-0.1
	1.0s	350.00nm			6.3mb	
	Z 20s	195.04um			7.5Msz	
		eS	48	10.00		
PRK	82.22	315	eP	37	55.50	0.8
PTJ	82.26	326	ePc	37	55.20	0.3
SRS	82.27	318	iPc	37	55.10	0.1
MEM	82.28	334	P	37	54.90	0.2
IZM	82.29	314	iP	37	56.00	0.9
ZAG	82.32	326	iPc	37	55.20	0.1
		i	41	21.70		
		iS	48	07.00		
SCH	82.38	17	ePc	37	55.50	0.2
	0.8s	82.00nm			5.8mb	
FUR	82.39	330	eP	37	55.30	-0.1
	1.5s	1376.00nm			6.8mb	
	Z 16s	467.00um			7.9MszX	
KBA	82.44	328	iPc	37	55.60	-0.3
	1.4s	224.00nm			6.0mb	
		ic	37	57.00		
		iPcP	38	03.10		
		i	38	05.50		
		ePP	41	05.00		
		i	41	13.60		
		i	41	20.40		
		iSP	48	56.70		
TAU	82.47	177	ePc	37	58.62	3.1X
		epPd	38	07.89	29kmX	
		esP	38	11.20		
KSL	82.58	311	eP	37	56.00	-0.6
KNT	82.60	319	iPc	37	56.20	-0.4
YER	82.61	313	iP	37	56.20	-0.7
BLY	82.62	324	eP	37	57.40	0.7
VAY	82.64	319	iPc	37	56.30	-0.5
	1.6s	1.62nm			3.9mb X	
UCC	82.66	335	iP+	37	56.00	-0.8
		S	48	10.00		
PLE	82.69	322	eP	37	57.20	0.0
SKO	82.72	320	iP	37	56.70	-0.6
	1.5s	1820.00nm			6.9mb	
	N 15s	251.28um				
	E 16s	129.73um				
		i	37	59.00		
		iPcP	38	05.60		
		ipP	38	15.50	68kmX	
		i	38	30.50		
		i	39	03.00		
		iPP	41	11.00		
		i	41	50.00		
		i	42	10.00		
		iS	48	22.00		
		iPS	49	20.00		
		i	50	27.00		
		i	51	12.50		
LJU	82.76	327	eP	37	56.90	-0.5
		eS	48	14.00		
VBY	82.88	326	iPc	37	58.90	0.9
		iS	48	58.50		
PLG	82.90	318	eP	37	57.20	-1.0

SNF	82.93	335	iPc	37 58.93	0.8
THE	82.95	318	eP	37 59.50	1.1
PVY	82.97	321	eP	38 01.00	2.3
SMG	83.01	314	eP	37 59.50	0.7
KRP	83.02	154	P	38 06.90	8.3X
	1.0s	426.00nm			6.5mb
WLF	83.03	333	P	38 00.00	1.4
VOY	83.04	327	eP	37 56.80	-2.2
DMU	83.05	342	eP	37 58.40	-0.3
CEY	83.05	326	eP	37 58.60	-0.3
FVI	83.06	328	P	37 57.90	-0.9
GWF	83.09	332	P	38 00.39	1.3
KKS	83.15	321	eP	38 01.50	2.1
DOU	83.19	334	P+	37 59.00	-0.5
PRNI	83.24	304	eP	38 00.10	-0.1
NKY	83.27	322	eP	38 00.00	-0.2
TRI	83.36	327	P	37 59.80	-0.6
STR	83.36	332	P	38 01.87	1.5
RIY	83.38	326	eP	38 00.00	-0.5
BRY	83.42	322	eP	38 00.00	-1.0
PHP	83.43	320	eP	38 01.50	0.6
TTG	83.44	322	eP	38 02.00	1.1
			eS	48 05.00	
DLE	83.53	342	eP	38 00.70	-0.5
	1.2s	680.00nm			6.7mb
AYN	83.58	302	ePc	38 02.00	0.1
LIT	83.59	318	ePc	38 00.30	-1.5
SDA	83.64	321	eP	38 01.40	-0.5
WLS	83.66	332	P	38 03.01	1.0
CDF	83.68	332	P	38 03.15	0.9
OHR	83.69	320	iP	38 01.10	-1.2
	1.0s	1.18nm			4.0mb X
			i	38 21.90	
			eS	48 23.00	
MBH	83.70	304	eP	38 02.20	-0.3
BDV	83.76	322	eP	38 02.00	-0.6
SLE	83.78	331	ePd	38 01.70	-0.9
HCY	83.79	322	eP	38 01.40	-1.3
NEO	83.80	317	eP	38 02.20	-0.6
ULC	83.80	321	eP	38 01.70	-1.1
KZN	83.80	319	eP	38 01.50	-1.4
LACI	83.83	321	eP	38 03.50	0.6
FEL	83.86	331	P	38 03.73	0.6
SAX	83.88	330	ePd	38 02.80	-0.7
ECH	83.89	332	P	38 04.06	0.9
			S	48 40.06	
HQL	83.93	303	ePc	38 04.70	1.1
CTI	83.96	328	P	38 02.60	-1.1
TIR	83.97	321	eP	38 03.50	-0.1
			iS	48 16.60	
OSS	84.04	329	ePd	38 03.80	-0.3
KBN	84.05	320	iPc	38 04.70	0.7
ZLA	84.05	331	ePd	38 02.60	-1.4
SRFA	84.07	303	eP	38 03.00	-1.3
HVAR	84.18	324	iPc	38 04.30	-0.3
APE	84.19	314	eP	38 04.00	-0.9
MOF	84.21	332	P	38 05.62	0.8
VITF	84.31	333	P	38 05.97	0.8
LLS	84.33	330	ePd	38 05.10	-0.5
BSF	84.35	332	P	38 05.97	0.4
PMO	84.36	115	iP	38 17.90	12.1X
	1.3s	220.00nm			
HAU	84.36	332	eP	38 04.50	-1.0
	1.3s	282.00nm			6.3mb
KAP	84.37	312	eP	38 06.70	1.0
BBS	84.40	331	P	38 06.81	1.1
BERA	84.42	320	eP	38 05.30	-0.6
BADA	84.47	303	iPc	38 06.90	0.6
AGG	84.47	318	ePc	38 05.50	-0.8
ATH	84.52	316	eP	38 08.00	1.6
TPT	84.54	114	iP	38 18.70	12.0X
	1.3s	225.00nm			
VAH	84.70	115	iP	38 19.60	12.1X
	1.3s	130.00nm			
LOMF	84.74	332	P	38 08.45	0.9
SAL	84.77	329	P	38 07.40	-0.1
RUV	84.84	114	iP	38 20.40	12.2X
	1.3s	225.00nm			
MDI	84.96	329	Pd	38 07.80	-0.7
PPT	84.97	118	iP	38 21.20	12.3X
	1.3s	235.00nm			
TMA	85.01	330	ePd	38 08.00	-1.0
WAJH	85.01	300	eP	38 09.50	0.4
SRN	85.02	319	eP	38 09.70	0.8
PAE	85.03	118	iP	38 21.30	12.2X
	1.3s	125.00nm			
VAI	85.25	330	P	38 08.50	-1.4

MMK	85.41	330	ePd	38 10.70	-0.4
SSO	85.44	325	eP	38 11.82	0.9
MNG	85.45	156	eP	38 11.50	0.7
NPS	85.46	313	eP	38 11.00	-0.2
KOT	85.53	306	eP	38 12.00	0.4
DIX	85.59	331	ePd	38 11.60	-0.5
SFI	85.60	327	P	38 12.60	0.9
BRT	85.62	322	P	38 09.90	-2.0
VAL	85.62	344	P	38 12.00	0.3
			S	48 44.00	
CIO	85.64	326	eP	38 11.76	-0.3
PGD	85.69	327	P	38 12.80	0.3
ORX	85.75	330	P	38 12.36	-0.3
ORO	85.76	330	P	38 11.70	-1.0
ALP	85.78	325	eP	38 12.57	-0.3
EMS	85.78	331	ePd	38 13.10	0.2
WEL	85.83	156	P	38 19.20	6.6X
			SKS	48 48.00	
MME	85.86	328	P	38 13.10	-0.3
VLI	85.86	316	eP	38 12.00	-1.2
LOR	85.87	333	eP	38 13.10	0.0
	1.2s	855.40nm			6.9mb
HLW	85.88	306	iPc	38 14.00	0.6
BOB	85.90	329	P	38 12.50	-0.8
ASS	85.94	326	P	38 12.40	-1.2
FIR	85.97	327	iPc	38 14.00	0.4
			S	48 34.00	
FLN	85.97	337	eP	38 12.60	-0.9
	1.3s	620.50nm			6.7mb
VLS	86.01	318	eP	38 14.20	0.3
BDI	86.01	328	P	38 11.30	-2.6
LDF	86.01	336	eP	38 13.20	-0.5
ITM	86.06	317	eP	38 13.00	-1.2
LBF	86.07	333	iPc	38 13.70	-0.4
GRC	86.11	334	P	38 15.58	1.3
VAM	86.14	314	eP	38 16.00	1.4
SSF	86.17	333	eP	38 14.50	0.0
LSD	86.21	330	P	38 15.43	0.3
DUI	86.28	324	P	38 15.30	0.0
PII	86.32	327	P	38 14.90	-0.4
LPG	86.33	331	eP	38 15.20	-0.6
	1.2s	511.40nm			6.6mb
SMF	86.41	333	eP	38 15.20	-0.6
GRR	86.42	337	eP	38 15.10	-0.6
RSP	86.43	330	P	38 16.36	0.3
PCP	86.44	329	P	38 16.36	0.4
AVF	86.46	333	iPc	38 15.40	-0.5
MNS	86.49	325	P	38 15.10	-1.2
SDI	86.53	324	P	38 15.10	-1.4
CKI	86.65	329	P	38 16.80	-0.1
MEO	86.65	46	iPc	38 17.30	0.1
OCO	86.72	45	iPc	38 18.10	0.7
BNI	86.74	330	Pc	38 16.20	-1.4
SGO	86.76	323	P	38 17.10	-0.4
RFI	86.78	324	P	38 17.90	0.3
LPF	86.80	337	eP	38 17.00	-0.6
RRL	86.81	330	P	38 18.20	0.2
BGF	86.83	334	eP	38 17.10	-0.7
FIN	86.85	329	P	38 18.00	0.0
CSI	86.91	322	P	38 19.70	1.4
			eS	49 18.40	
ROB	86.92	329	P	38 17.38	-0.9
ROI	86.94	321	P	38 18.20	-0.3
			eS	49 18.60	
RMP	86.94	325	P	38 18.40	0.0
MMN	86.97	322	P	38 18.40	-0.1
MGR	86.98	322	P	38 17.70	-0.9
RDP	86.98	325	P	38 19.00	0.3
TDS	86.98	322	P	38 18.90	0.3
DOI	86.98	330	P	38 17.40	-1.3
PZZ	87.04	330	P	38 18.72	-0.3
PLDF	87.07	333	P	38 20.25	1.2
MSZ	87.12	162	eP	38 17.00	-1.8
			PP	42 02.00	
MAO	87.12	326	P	38 19.40	0.1
ENR	87.15	330	P	38 18.00	-1.5
AGO	87.17	333	P	38 20.97	1.5
STV	87.17	330	P	38 18.72	-0.9
SIO	87.18	44	eP	38 20.60	0.9
MAF	87.22	334	eP	38 19.50	-0.2
IMI	87.23	329	P	38 19.54	-0.3
TCF	87.28	334	eP	38 19.80	-0.2
SAOF	87.30	329	P	38 20.13	0.0
SSB	87.34	332	P	38 20.11	-0.2
TUL	87.34	44	eP+	38 20.70	0.3
	1.2s	63.60nm			5.8mb
	Z 22s	83.81um			7.1Msz

			eS	49 00.00	
LNO	87.34	44	e(P)	38 21.00	0.7
AUTN	87.34	329	P	38 20.84	0.2
TOUF	87.39	330	P	38 21.06	0.2
CZI	87.42	321	P	38 19.80	-0.9
SBF	87.45	329	P	38 20.60	-0.3
AURF	87.47	329	P	38 20.97	-0.1
PYM	87.48	333	P	38 22.31	1.3
MVIF	87.53	330	P	38 21.49	0.1
LSF	87.55	334	eP	38 20.80	-0.5
GRI	87.60	321	P	38 20.90	-0.8
CALN	87.75	330	P	38 22.60	0.1
MFF	87.78	335	eP	38 21.80	-0.6
LBL	87.84	333	P	38 23.87	1.2
CVF	87.96	328	P	38 23.20	-0.1
CCM	88.03	40	eP	38 24.59	0.9
			epPc	38 33.70	28kmX
			esP	38 35.85	
			eSKS	48 47.90	
			eS	49 05.12	
			eSP	50 29.15	
SLM	88.06	39	P	38 25.00	1.2
	Z 20s	77.50um			7.1Msz
ELF	88.25	31	P	38 26.55	1.9
SOI	88.36	321	P	38 24.20	-1.1
RJF	88.38	334	eP	38 25.20	-0.1
DLA	88.43	31	P	38 27.70	2.2
FVM	88.48	39	P	38 25.00	-0.9
CAF	88.52	333	eP	38 26.00	0.0
LFF	88.96	334	eP	38 28.10	0.0
LPO	89.04	334	eP	38 28.10	-0.3
CBM	89.33	21	P	38 29.70	-0.1
RSNY	89.54	26	P	38 30.00	-0.8
CLE	89.60	32	iP	38 33.70	2.6
MEU	89.68	321	P	38 33.00	1.3
PZI	89.74	321	P	38 32.80	0.9
ERC	90.04	323	P	38 31.10	-2.2
MZX	90.10	59	(P)	38 36.00	2.3
ARO	90.18	285	iP+	38 35.00	0.7
HBVT	90.19	25	P	38 33.00	-0.8
CGL	90.43	326	P	38 34.80	-0.4
ETER	90.52	331	e(P)	38 39.20	3.8X
BNH	90.55	24	P	38 36.50	1.0
EPF	90.78	333	eP	38 36.80	0.1
	1.1s	91.50nm			6.0mb
SCP	91.63	30	eP	38 38.60	-1.9
			esPd	38 51.51	
			ePP	42 21.84	
			eS	49 36.79	
HRV	92.33	25	ePc	38 44.93	1.2
			epPd	38 53.70	27kmX
			eS	49 45.90	
EROQ	92.70	332	e(P)	38 45.50	0.0
ESEL	92.71	330	e(P)	38 47.00	1.5
EMON	92.81	339	e(P)	38 47.00	1.0
ETOR	93.56	334	e(P)	38 50.00	0.5
STS	93.66	339	e(P)	38 54.00	4.2X
BLA	93.67	33	P	38 53.50	3.5X
ERUA	93.72	338	e(P)	38 53.20	3.0X
CBN	94.06	31	e(P)	38 54.00	2.3
ECHE	94.29	333	e(P)	38 55.00	2.2
GUD	94.41	335	e(P)	38 53.50	0.0
AAE	94.84	286	iP	38 56.00	0.0
TOL	95.07	335	iPc	38 57.00	0.6
	1.5s	666.67nm			6.8mb
			iPP	42 50.00	
			iPPP	45 06.00	
			iSKS	49 16.00	
			iS	50 03.00	
			iPS	51 17.00	
			iSS	56 57.00	
			iSSS	00 06.00	
EPLA	95.54	336	e(P)	39 00.00	1.4
EVIA	95.67	333	e(P)	39 00.00	0.7
EBAN	96.53	334	e(P)	39 04.50	1.4
ASMO	97.25	334	eP	39 07.70	1.2
AFC	97.27	333	e(P)	39 10.00	3.4X
EHOR	97.33	335	e(P)	39 08.00	1.3
AAPN	97.42	334	iP	39 07.50	0.3
ACHM	97.50	334	eP	39 11.00	3.4X
APHE	97.59	333	iP	39 09.00	0.9
ALOJ	97.59	334	eP	39 09.00	0.9
LIS	97.70	338	eP	39 10.00	1.7
ATEJ	97.74	334	iP	39 09.50	0.8
III	98.09	58	(P)	39 19.50	8.8X
EPRU	98.10	335	e(P)	39 12.00	1.8
PPM	98.14	57	(P)	39 20.50	9.2X

01d 18h

EJIF	98.65	335	e(P)	39	13.20	0.6
TAF	99.06	332	iPd	39	21.50	6.9X
			i	42	42.00	
			i	43	32.00	
			i	54	20.00	
NKM	99.54	334	eP	39	19.00	2.3
			i	39	30.00	
			i	43	27.00	
OXX	100.82	57	(Pdiff	39	32.50	9.6X
AVE	102.17	335	ePdiff	39	31.00	2.7X
			i	42	46.00	
			i	43	35.00	
NAI	103.04	279	ePdiff	39	37.00	4.1X
TIO	104.29	334	iPdiff	39	31.00	-7.0X
			i	46	00.00	
LPS	107.69	53	ePdiff	40	01.00	7.6X
BCAO	112.51	297	Pdiffd	40	31.60	16.8X
	1.6s	566.00nm				
			ic	43	36.10	
			id	44	59.50	
BCAO	112.51	297	ePdiff	40	13.87	-0.9
	1.6s	566.00nm				
			e	40	31.10	
			ic	43	36.10	
			id	44	59.50	
MZZ	115.37	277	ePKP	44	15.00	-1.1
			i	45	21.00	
			i	54	53.40	
PTZ	115.39	272	iPKP	44	17.00	0.9
			i	45	22.20	
			i	55	01.00	
MGP	116.07	32	PKP	44	06.00	-11.2X
PORP	116.21	31	PKP	44	12.10	-5.3X
SJG	116.35	31	iPKP	44	18.00	0.2
CPD	116.51	31	PKP	44	18.40	0.4
UPA	117.63	49	ePdiff	40	21.00	-16.5X
			e	40	40.00	
			i	45	53.00	
KRI	118.26	271	iPKPc	44	22.50	0.9
			iPP	45	44.90	
			iPS	54	54.00	
			i	56	39.00	
SBA	118.33	174	Pdiffd	40	52.40	13.2X
SBA	118.33	174	e(PKP)	44	22.10	2.3X
LSZ	118.43	274	ePKP	44	21.00	-0.9
			i	45	41.50	
			i	54	52.30	
BUL	120.96	269	ePKP	44	25.90	-0.7
			iPP	45	59.90	
			iPS	55	26.40	
			i	56	52.30	
FISA	121.07	37	ePKP	44	06.00	-20.9X
TOV	122.14	39	ePKP	44	19.50	-9.4X
SDV	122.50	40	ePKP	44	29.70	-0.1
MAW	122.52	207	ePKP	44	29.00	1.1
LLAV	122.92	35	ePKP	44	25.00	-5.4X
LEGH	123.31	314	ePKP	44	32.00	0.9
OLLA	123.32	36	ePKP	44	30.00	-1.2
WEGH	123.43	314	ePKP	44	34.00	2.6
FUO	123.76	45	ePdiff	41	18.00	12.7X
			eS	44	41.00	
BOG	124.28	46	ePdiff	41	19.00	11.3X
			ePP	46	28.00	
SLR	124.28	263	iPKPc	44	31.50	-1.4
	1.5s	333.33nm				
			i	46	06.50	
TIC	125.01	320	PKP	44	35.60	1.2
KIC	125.12	319	PKP	44	35.26	0.6
KSR	125.41	264	iPKPd	44	35.20	0.1
	1.2s	94.00nm				
PRY	125.52	263	iPKPd	44	36.70	1.4
	1.2s	70.00nm				
BFS	126.03	263	iPKPd	44	35.00	-1.3
	1.2s	375.00nm				
SEK	126.12	261	iPKPd	44	35.50	-1.0
	1.0s	65.00nm				
BLF	127.60	261	iPKPc	44	40.50	1.3
			e	46	51.00	
FRS	128.58	261	iPKPc	44	41.40	0.6
	0.9s	54.62nm				
HVD	128.85	260	iPKPd	44	57.00	15.4X
GRM	129.29	256	iPKPc	44	43.00	0.8
	1.5s	166.67nm				
	Z 20s	54.26um				7.2Msz
			i	46	46.50	
SPA	129.65	180	ePKPd	44	44.90	3.0X
	1.0s	10.00nm				

	Z 20s	25.54um				6.9Msz
PT08	135.59	62	ePKP	44	59.30	4.3X
ARE	142.22	62	ePKP	45	09.00	1.9
LPB	144.53	58	ePKP	45	10.00	-1.1
	1.0s	220.00nm				
			i	56	14.00	
CNCB	144.81	58	ePKP	45	10.00	-1.8
			i	45	11.50	
			i	56	10.00	
CCH	146.42	57	PKP	45	15.40	1.3
ANT	147.76	70	iPKPc	45	20.00	4.3X
			ePP	49	32.00	
			eSS	09	02.00	
			eLQ	26	42.00	
			eLR	42	00.00	
AIA	150.17	157	ePKP	45	26.50	8.4X
YJA	150.23	62	ePKPc	45	21.80	1.6
			e	45	25.80	
IHA	151.62	87	ePKP	45	25.00	3.6X
			i	45	47.80	
LCCH	151.86	88	ePKPc	45	31.50	9.8X
LNV	152.16	89	ePKP	45	29.00	6.9X
JACH	152.29	86	ePKP	45	27.00	4.5X
PEL	152.40	87	ePKP	45	29.50	6.9X
			i	45	32.00	
TACH	152.41	88	ePKPc	45	32.00	9.4X
SAN	152.55	87	ePKP	45	26.00	3.2X
PCH	152.72	87	ePKP	45	29.00	5.9X
CHCH	152.74	88	ePKP	45	42.10	19.1X
PDCR	152.75	4	ePKP	45	24.90	1.4
			i	45	32.90	
			e	45	41.20	
FCH	152.78	87	ePKP	45	30.00	6.5X
RTCB	153.14	82	e(PKP)	45	23.60	-0.1
ZON	153.26	82	ePKP	45	30.00	6.1X
RTLL	153.33	81	ePKPd	45	27.00	3.1X
CFA	153.63	82	e(PKP)	45	25.00	0.6
BAO	154.12	24	ePKP	45	25.50	0.0
BDF	154.18	24	ePKP	45	28.07	2.5X
			ePP	49	27.36	
RFA	154.73	88	e(PKP)	45	26.50	0.8
MRA	155.91	81	e(PKP)	45	27.50	0.2
TCA	156.27	78	ePKPd	45	29.00	1.0
PPD	158.58	38	ePKP	45	34.10	3.2X
			e	45	44.90	
			e	46	05.60	
VAO	161.30	29	ePKP	45	36.00	2.2X
			e	45	44.70	
			e	46	24.10	
			e	50	06.30	
BMA	161.93	21	ePKP	45	38.40	4.0X
			e	45	47.10	
			e	46	33.60	
BAA	162.30	79	PKP+	45	46.00	11.6X
	S.D. = 1.1	on 550 of 637 obs.				

NOV 01, 1989 18h 36m 33.89± 0.16s
39.637 N ± 3.2km 143.137 E ± 3.4km
DEPTH = 30.2km (6 depth phases)
6.0mb (40 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.27	244	P	36	57.17	1.6
AOMJ	2.31	294	P	37	12.70	2.1
YAMJ	2.83	240	P	37	19.20	1.3
NIIJ	4.03	235	P	37	36.80	1.7
KAKJ	4.15	215	P	37	35.40	-1.3
CHJJ	4.86	224	P	37	46.40	-0.4
MAT	4.97	233	iPc	37	49.50	1.1
			(S)	38	59.00	
MTMJ	5.19	236	P	37	52.60	1.0
IIDJ	5.87	227	P	38	01.60	0.5
TSRJ	7.00	236	P	38	18.10	1.1
MDJ	11.22	301	eP	39	15.50	0.3
	E 13s	353.00um				
CN2	13.85	293	iPd	39	49.80	-0.5
SNY	14.99	285	iPc	40	04.00	-1.2
	1.1s	0.51nm				2.7mb X
			PP	41	16.00	
SSE	19.79	251	Pd	41	00.50	-4.1X
	1.1s	514.00nm				5.7mb
BJI	20.69	280	eP	41	10.00	-3.9X
	1.2s	41.00nm				4.7mb X
TIA	20.78	269	Pc	41	11.20	-3.7X
	N 14s	331.00um				
TIY	23.99	275	Pd	41	45.00	-1.8
SMY	24.90	48	P	42	00.00	4.8X

	1.0s	266.67nm				5.8mb
WHN	25.16	258	iPc	41	58.00	0.1
	1.1s	1.13nm				3.4mb X
QZH	25.29	242	eP	41	58.00	-1.2
PJG	25.99	176	eP	42	19.10	13.3X
GUMO	25.99	176	eP	42	19.30	13.5X
	1.3s	418.30nm				
GUA	26.04	176	eP	42	19.00	12.7X
	1.0s	120.00nm				
XAN	27.84	269	P	42	21.50	-1.2
ADK	30.20	53	P	42	46.00	2.5
	1.0s	150.00nm				5.8mb
LZH	31.05	276	iPc	42	50.00	-1.5
	2.0s	1.08nm				3.3mb X
	E 15s	268.00um				
GYA	33.05	258	iPc	43	08.00	-0.9
	1.4s	1.30nm				3.6mb X
			S	48	25.00	
GTA	33.18	284	iPc	43	09.80	-0.2
	E 12s	154.00um				
			S	48	22.00	
QIZ	35.26	244	eP	43	26.60	-1.3
KMI	36.74	259	iPc	43	40.50	-0.1
	N 16s	180.00um				
WMQ	40.94	295	iP	44	15.50	0.3
KKM	41.31	223	ePd	44	19.70	1.2
MNI	41.51	208	ePd	44	20.00	0.0
TSM	41.92	219	ePc	44	24.50	1.1
TTA	42.52	36	P	44	28.00	0.1
IMA	43.76	32	P	44	38.00	-0.1
KDC	44.32	44	P	44	41.00	-1.5
NST	44.39	250	iPc	44	45.00	1.5
AAI	45.25	201	e(P)	44	50.50	0.1
PCI	45.64	214	ePd	44	55.20	1.8
	1.2s	9.00nm				4.6mb X
PMR	45.74	38	P	44	53.00	-0.7
FBA	46.19	34	P	44	56.00	-1.2
	0.8s	86.21nm				5.7mb
NNT	46.74	247	iPc	45	03.20	1.0
MKS	49.69	212	iPd	45	26.00	1.0
			e	48	57.20	
INK	51.46	28	eP	45	40.00	2.1
IPM	51.58	239	ePc	45	39.20	-0.3
	1.4s	187.70nm				5.8mb
KGM	52.05	234	ePc	45	43.20	0.1
MTN	53.40	195	eP	45	51.00	-1.9
MBC	53.65	17	eP	45	54.00	-0.2
	1.0s	58.00nm				5.5mb
TSI	54.01	240	ePc	45	59.00	1.4
KHKI	54.14	214	ePc	45	52.20	-6.2X
			e	51	55.20	
NDI	54.54	280	iPc	46	00.50	-0.9
			eS	53	40.00	
TRT	54.91	218	ePd	46	03.00	-1.1
PPI	55.80	235	eP	46	10.00	-0.6
KNA	56.71	197	eP	46	15.50	-1.5
KBS	58.34	350	iP	46	27.80	-0.1
WB5	59.77	190	eP	46	36.30	-2.1
			i	46	46.00	32km
KEV	61.49	339	iP	46	49.00	-0.6
	1.2s	164.80nm				6.0mb
GBA	62.78	265	P	46	58.00	-0.9
SOD	63.10	337	iP	46	59.80	-0.5
ASPA	63.56	189	eP	47	02.50	-1.3
	1.2s	112.00nm				5.9mb
TRO	63.70	341	iP	47	03.50	-0.7
MBL	64.28	204	eP	47	07.10	-1.4
GMW	64.52	48	P	47	10.80	0.8
BMW	64.83	50	P	47	11.60	-0.4
DZM	65.13	156	iPc	47	14.50	0.3
PNT	65.37	46	eP	47	15.00	-0.5
	1.0s	48.00nm				5.6mb
LON	65.51	49	P	47	13.00	-3.4X
SUF	66.27	333	iP	47	19.90	-1.0
	1.0s	106.40nm				5.9mb
EDM	66.47	40	eP	47	21.50	-1.0
	1.3s	82.00nm				5.7mb
NANU	67.04	208	eP	47	25.70	-0.5
WARB	67.26	196	eP	47	28.30	0.7
BRS	67.28	171	iPc	47	26.50	-1.2
			i	47	30.00	11kmX
			i	47	37.20	
			i	47	47.50	
FHC	67.41	55	P	47	28.00	-0.6
	1.0s	84.00nm				5.8mb
NUR	68.29	332	iP	47	32.50	-1.2
	1.0s	128.00nm				6.0mb

LBFM	68.42	54	P	47 33.50	-1.7
WDC	68.45	55	eP	47 47.40	12.4X
ORV	69.68	55	eP	47 46.80	4.1X
BKS	70.18	57	iPc	47 48.30	2.6
	1.4s	131.00nm			5.8mb
UPP	71.21	334	iPc	47 50.50	-1.0
	1.1s	400.00nm			6.4mb
CMB	71.27	56	P	47 51.00	-1.4
	1.2s	62.50nm			5.6mb
LRM	71.35	46	eP	47 53.00	0.0
TAB	71.47	304	e(P)	47 53.00	-0.7
KVN	72.12	54	P	47 56.00	-1.6
HFS	72.27	336	eP	47 57.00	-0.9
	1.1s	251.20nm			6.1mb
NB2	72.31	338	P	47 57.30	-0.8
	1.1s	218.10nm			6.1mb
FRI	72.32	56	eP	47 59.50	0.9
PTI	73.22	48	P	48 05.10	1.1
TNP	73.25	54	P	48 04.00	-0.3
SLY	73.47	303	eP	48 05.00	-0.3
HYA	73.61	340	iP	48 06.30	0.7
SYP	73.62	59	eP	48 12.00	5.6X
BWA	73.85	175	eP	48 07.70	0.4
			e	48 14.00	20km
ISA	73.92	57	eP	48 12.00	4.0X
FRB	73.93	14	eP	48 07.00	-0.4
	1.3s	197.00nm			6.0mb
CLC	74.39	56	eP	48 13.00	2.3
BER	74.50	340	iP	48 11.40	0.6
MSL	74.51	304	eP	48 11.50	0.2
CAN	74.78	175	eP	48 12.20	-0.5
			e	48 18.80	21km
BW06	74.88	47	P	48 13.10	-0.6
SBB	74.93	57	eP	48 19.00	5.1X
PAS	75.03	58	eP	48 19.00	4.6X
MWC	75.06	58	eP	48 17.00	2.2
GSC	75.21	56	eP	48 20.00	4.5X
BHD	75.61	301	iPd	48 12.00	-5.7X
KVT	75.86	312	eP	48 20.00	1.0
MSU	76.09	51	P	48 20.00	-0.7
PLM	76.38	58	eP	48 23.00	0.7
TPC	76.44	57	eP	48 25.00	2.5
TOO	76.86	178	ePc	48 24.80	0.4
			i	48 35.20	33km
BAR	76.93	58	eP	48 27.00	1.9
KAS	76.96	313	iPc	48 26.20	0.9
RSON	77.07	33	P	48 23.80	-1.8
KRA	77.69	326	eP	48 29.00	0.0
	1.1s	222.00nm			6.1mb
			e	48 40.10	36km
GLA	77.90	57	eP	48 36.00	5.5X
SPC	78.21	326	eP	48 31.80	-0.3
KSP	78.59	329	iP	48 34.50	0.6
	1.3s	257.00nm			6.1mb
			iPP	51 30.00	
GOL	79.28	47	P	48 39.00	0.7
BRG	79.49	330	e(P)	48 43.40	4.6X
CLL	79.50	331	iPc	48 38.90	0.1
	1.6s	270.00nm			6.0mb
			i	48 52.60	47kmX
YLV	79.95	315	eP	48 41.00	-0.6
PRU	79.96	329	iPc	48 41.80	0.5
	1.5s	212.10nm			5.9mb
			e	48 53.50	39km
SRO	80.09	326	iP	48 43.30	1.2
			i	49 16.50	131kmX
PVL	80.20	319	eP	48 43.00	0.3
ZST	80.31	327	iP	48 43.90	0.6
WIT	80.50	335	ePc	48 45.00	0.9
			e	49 18.00	130kmX
			ePP	51 50.00	
BNT	80.89	316	iP	48 46.20	-0.3
EDC	80.92	316	eP	48 46.00	-0.6
KHC	81.02	329	P	48 46.20	-0.9
DST	81.03	315	eP	48 47.60	0.3
EKA	81.12	341	Pd	48 48.20	0.8
	1.1s	64.30nm			5.5mb
WTS	81.14	334	iPc	48 47.60	0.1
	1.0s	89.00nm			5.7mb
			i	49 20.00	128kmX
			ePP	51 52.00	
HRI	81.17	306	iPc	48 49.00	0.8
KDZ	81.29	318	eP	48 50.00	1.5
KHL	81.43	313	eP	48 49.00	-0.4
GRF	81.48	331	iPc	48 50.40	1.0
	1.2s	298.00nm			6.2mb
ALQ	81.89	51	e(P)	48 52.00	0.0
	1.0s	35.75nm			5.4mb
TNS	82.06	333	ePc	48 52.90	0.4
DSI	82.53	305	eP	48 55.00	-0.1
MEM	82.58	334	P	48 55.10	0.1
PTJ	82.59	326	eP	48 54.90	-0.5
SRS	82.62	318	iPd	48 55.60	0.1
ZAG	82.65	326	iP	48 55.50	0.0
FUR	82.71	330	iPc	48 56.50	0.7
	1.3s	212.00nm			6.1mb
KRP	82.72	155	P	49 02.20	6.5X
KNT	82.94	319	iPd	48 57.80	0.7
UCC	82.97	335	P	48 57.60	0.5
SNF	83.24	335	Pc	48 58.30	-0.2
DMU	83.33	343	eP	49 00.00	1.1
WLF	83.34	333	P	49 00.00	1.1
FVI	83.38	328	P	49 04.00	4.8X
GWF	83.40	332	P	48 59.31	-0.1
DOU	83.49	335	P	49 00.20	0.4
TRI	83.68	327	Pc	48 59.80	-1.0
RIY	83.71	326	iPd	48 59.90	-1.0
DLE	83.81	342	eP	49 01.80	0.5
	1.1s	268.00nm			6.3mb
LIT	83.93	318	iPd	49 02.30	0.1
WLS	83.97	332	P	49 02.55	0.2
CDF	84.00	332	P	49 02.55	0.0
MBH	84.06	304	eP	49 04.00	1.0
SLE	84.09	331	ePd	49 03.30	0.4
FEL	84.18	331	P	49 03.18	-0.3
SAX	84.20	330	ePd	49 04.50	0.7
ECH	84.21	332	P	49 03.50	0.0
CTI	84.28	328	Pc	49 03.80	-0.2
OSS	84.36	330	ePd	49 05.20	0.7
ZLA	84.37	331	ePd	49 04.90	0.6
HVAR	84.51	324	iPc	49 03.60	-1.4
MOF	84.52	332	P	49 05.07	-0.1
VITF	84.62	333	P	49 05.70	0.2
LLS	84.65	330	ePd	49 06.50	0.5
BSF	84.66	332	P	49 05.07	-0.8
HAU	84.67	332	iPc	49 06.20	0.4
	1.2s	89.20nm			5.8mb
BBS	84.71	332	P	49 06.22	0.2
AGG	84.82	318	iP	49 05.30	-1.4
LOMF	85.06	332	P	49 07.69	-0.1
SAL	85.09	329	P	49 07.50	-0.4
MDI	85.28	329	P	49 07.50	-1.3
TMA	85.33	330	ePd	49 09.60	0.3
AOI	85.48	326	eP	49 10.01	0.1
VAI	85.57	330	Pc	49 10.00	-0.2
MMK	85.73	331	ePd	49 12.30	0.9
DIX	85.91	331	ePd	49 13.20	0.8
SFI	85.93	327	P	49 12.00	-0.1
BRT	85.95	322	P	49 10.40	-1.9
CIO	85.96	326	eP	49 11.92	-0.5
LCI	86.02	321	Pc	49 12.50	-0.1
PGD	86.02	327	P	49 14.20	1.4
ORX	86.07	330	P	49 13.23	0.3
ORO	86.08	330	P	49 13.00	0.0
EMS	86.10	331	ePd	49 13.80	0.6
ALP	86.11	325	eP	49 12.17	-1.1
CRE	86.13	327	P	49 13.60	0.4
LOR	86.18	334	iPc	49 13.60	0.3
	1.1s	206.00nm			6.3mb
BOB	86.22	329	P	49 12.40	-1.2
FLN	86.27	337	iPc	49 14.00	0.3
	1.3s	190.60nm			6.2mb
ASS	86.27	326	P	49 13.00	-0.9
FIR	86.30	327	eP	49 13.00	-0.9
LDF	86.31	337	iPc	49 14.30	0.4
	1.4s	186.40nm			6.1mb
BDI	86.34	328	Pc	49 15.00	0.8
LBF	86.38	333	iPc	49 14.50	0.1
SSF	86.48	334	iPc	49 15.20	0.4
LSD	86.53	331	P	49 16.24	0.8
DUI	86.61	324	Pc	49 16.20	0.6
PII	86.65	328	P	49 13.80	-1.8
LPG	86.65	331	iPc	49 16.70	0.7
	1.0s	93.70nm			6.0mb
GRR	86.72	337	iPc	49 16.60	0.7
SMF	86.72	333	iPc	49 16.40	0.4
RSP	86.75	330	P	49 16.96	0.7
PCP	86.76	329	P	49 15.52	-0.8
AVF	86.76	334	iPc	49 16.60	0.4
MNS	86.82	326	Pc	49 15.90	-0.7
MSZ	86.84	163	P	49 15.00	-1.2
SDI	86.86	325	P	49 15.80	-1.0
BNI	87.06	331	Pc	49 16.00	-1.8
LPF	87.09	337	iPc	49 18.40	0.7
SGO	87.10	323	Pc	49 17.20	-0.6
RRL	87.13	331	P	49 17.78	-0.5
BGF	87.14	334	iPc	49 18.60	0.6
	1.6s	207.70nm			6.1mb
FIN	87.17	329	P	49 16.44	-1.8
ROB	87.24	330	P	49 17.06	-1.5
CSI	87.25	322	P	49 18.60	-0.1
RMP	87.27	325	Pc	49 18.80	0.1
ROI	87.28	322	P	49 19.20	0.4
DOI	87.30	330	P	49 17.60	-1.3
RDP	87.31	325	Pc	49 19.00	0.0
MGR	87.31	323	P	49 18.40	-0.5
TDS	87.32	322	Pc	49 19.00	0.0
PZZ	87.36	330	P	49 18.50	-0.8
ENR	87.47	330	P	49 14.29	-5.5X
STV	87.49	330	P	49 16.96	-2.9
MAF	87.53	334	iPc	49 20.90	1.0
IMI	87.55	329	P	49 19.82	-0.3
TCF	87.59	334	iPc	49 21.00	0.8
CZI	87.76	322	P	49 19.90	-1.2
LSF	87.85	334	iPc	49 22.20	0.7
MFF	88.09	336	iPc	49 23.20	0.6
	1.4s	226.50nm			6.3mb
RJF	88.69	334	iPc	49 26.50	1.0
	1.4s	200.40nm			6.2mb
SOI	88.70	321	Pc	49 25.00	-0.6
CAF	88.83	333	iPc	49 27.40	1.2
LFF	89.27	334	iPc	49 29.30	1.1
	1.5s	265.30nm			6.3mb
LPO	89.34	334	iPc	49 29.50	0.9
	1.5s	177.50nm			6.1mb
GIB	89.74	322	P	49 31.80	1.1
HBVT	90.24	25	P	49 31.00	-1.8
CVT	90.57	323	P	49 38.00	3.6X
EPF	91.09	334	iPc	49 36.90	0.1
	1.5s	73.10nm			5.8mb
EBR	92.99	333	eP	49 56.00	10.6X
TOL	95.37	335	eP	49 57.00	0.5
SLR	124.55	264	iPKPd	55 32.00	-0.1
	0.9s	42.02nm			
KSR	125.68	264	ePKP	55 31.70	-2.7X
	1.0s	10.00nm			
PRY	125.79	263	ePKP	55 29.00	-5.6X
BFS	126.30	263	ePKP	55 32.50	-3.0X
	1.0s	70.00nm			
SEK	126.38	261	iPKPd	55 35.50	-0.2
	1.0s	17.00nm			
BLF	127.86	261	ePKP	55 39.00	0.6
FRS	128.83	261	iPKPd	55 40.80	0.8
	0.9s	12.60nm			
CCH	146.29	57	PKP	56 13.90	1.3

S.D. = 1.0 on 229 of 256 obs.

? NOV 01, 1989 18h 46m 46.32± 4.23s
22.691 S ±25.0km 174.301 W ±52.6km
DEPTH = 33.0km (normal)
TONGA ISLANDS REGION (174)

SVA	8.17	303	eP	48 38.80	-6.8X
MBU	8.69	310	eP	48 53.00	0.2
DZM	17.82	268	iPc	50 53.70	0.1
BRS	30.14	254	iPd	52 50.50	-5.1X
CAN	34.28	240	eP	53 33.10	1.4
BWA	34.59	242	eP	53 33.90	-0.4
CTA	36.75	266	iPc	53 50.00	-2.7X
	0.6s	20.00nm			5.2mb
STK	40.03	247	eP	54 20.00	0.0
ASPA	47.41	258	iPc	55 17.60	-2.2
	0.5s	7.00nm			4.9mb
			i	55 19.50	
WB5	47.72	263	eP	55 19.20	-3.1X
NANU	64.16	255	eP	57 21.00	0.8
	0.4s	7.00nm			5.1mb

S.D. = 1.4 on 7 of 11 obs.

? NOV 01, 1989 18h 49m 05.02± 1.83s
40.108 N ±17.8km 142.466 E ±32.8km
DEPTH = 33.0km (normal)
4.5mb (5 obs.)
NEAR EAST COAST OF HONSHU, JAPAN(228)

OFUJ	1.20	211	eP	49 26.20	0.7
			S	49 47.10	
MAT	4.89	225	iPc	50 17.30	-0.8
			(S)	51 26.00	
SSE	19.46	249	eP	53 32.20	0.4
BJI	20.10	278	eP	53 39.50	0.9

01d 18h

```
GBA     62.30 265 Pc     59 24.90  -1.6
        0.6s     4.60nm          4.8mb
HFS     71.63 336 eP     00 23.40  -1.4
        0.5s     1.50nm          4.3mb
NB2     71.67 337 P      00 23.80  -1.3
        0.9s     2.80nm          4.3mb
LOR     85.52 333 eP     01 42.30   1.5
        0.8s     3.20nm          4.6mb
AVF     86.11 333 eP     01 45.30   1.6
        0.8s     4.00nm          4.7mb
      S.D. = 1.5  on   9 of   9 obs.
-----------------------------------------
?  NOV  01, 1989  19h 29m 31.83± 1.15s
   39.551 N ±15.6km  143.592 E ±26.4km
   DEPTH =  33.0km  (normal)
   4.5mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.30 220 eP     30 35.80  -0.7
MAT      5.20 236 eP     30 50.00   0.6
                  eS     31 56.00
WB5     59.74 190 eP     39 36.00   0.2
NB2     72.52 338 P      40 55.60  -1.3
        0.7s     2.40nm          4.3mb
LOR     86.41 334 eP     42 12.30   0.3
        0.8s     3.20nm          4.6mb
LBF     86.61 334 eP     42 13.40   0.4
AVF     87.00 334 eP     42 15.40   0.6
        0.7s     2.20nm          4.5mb
      S.D. = 0.9  on   7 of   7 obs.
-----------------------------------------
   NOV  01, 1989  19h 52m 45.30± 0.26s
   39.513 N ± 5.5km  143.615 E ± 4.3km
   DEPTH =  29.7km  ( 17 depth phases)
   5.1mb ( 23 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.28 239 P      53 51.00   1.0
KAKJ     4.28 221 P      53 49.20  -0.8
CHJJ     5.03 228 P      54 00.50  -0.3
MAT      5.20 237 iPc    54 04.40   1.3
                  eS     55 06.00
MTMJ     5.44 239 P      54 07.80   1.3
IIDJ     6.06 230 P      54 15.40   0.1
TSRJ     7.25 239 P      54 33.90   2.0
MDJ     11.60 301 eP     55 31.00  -0.8
CN2     14.24 293 eP     56 05.00  -1.8
                  epP    56 11.00
SNY     15.38 285 eP     56 19.20  -2.5
SSE     20.10 252 P      57 17.00  -2.3
        1.0s     0.06nm          1.9mb X
                  sP     27 27.00
BJI     21.07 280 eP     57 26.00  -3.3X
        1.5s     0.14nm          2.2mb X
TIA     21.15 269 Pc     57 27.20  -2.9
NJ2     21.38 257 Pc     57 30.00  -2.5
TIY     24.37 276 Pd     58 00.70  -1.2
HHC     24.46 283 Pd     58 02.00  -0.8
WHN     25.49 259 iPc    58 13.50   1.0
        1.0s     0.24nm          2.8mb X
                  pP     58 22.20  31km
BTO     25.65 283 eP     58 13.20  -0.9
XAN     28.21 270 P      58 37.00  -0.4
LZH     31.44 277 eP     59 06.20  -0.1
        2.0s   150.00nm          5.5mb
GYA     33.38 258 iPc    59 23.00  -0.3
        1.2s     0.10nm          2.6mb X
                  S      04 46.00
CD2     33.46 268 P      59 23.30  -0.5
GTA     33.57 284 iPc    59 25.20   0.4
        1.0s     0.10nm          2.7mb X
      Z  12s    20.80um          6.1MszX
      E  12s    17.30um
WMO     41.32 295 iPc    00 30.50   0.7
CHG     43.59 255 ePc    00 49.80   1.2
        0.9s    19.12nm          4.9mb
CHTO    43.59 255 ePc    00 49.80   1.2
        1.1s    24.44nm          4.9mb
LSA     43.74 274 P      00 52.00   1.8
BDT     44.52 253 eP     00 58.10   2.1
PCI     45.74 214 ePc    01 08.80   3.1X
FBA     46.08  33 eP     01 08.00   0.1
        1.1s     0.90nm          3.6mb X
INK     51.39  28 eP     01 48.00  -0.9
MBC     53.66  17 eP     02 06.00   0.3
        1.0s    19.00nm          5.1mb
NDI     54.92 280 iPc    02 15.20  -0.5
WB5     59.71 190 eP     02 47.80  -1.6
KEV     61.74 339 iP     03 11.20   8.4X
        0.9s    45.60nm          5.6mb
QUE     61.87 287 iPd    03 04.00  -0.4
GBA     63.14 266 P      03 12.00  -0.7
                  e      06 40.00
SOD     63.35 337 iP     03 13.00  -0.5
                  i      03 23.10  33km
ASPA    63.50 190 iPc    03 12.60  -2.3
        0.8s     7.00nm          4.8mb
MAIO    64.05 297 eP     03 27.00   8.3X
RMO     65.83 175 eP     03 30.00   0.1
EDM     66.33  40 ePc    03 31.90  -1.1
SUF     66.55 334 iP     03 33.50  -0.7
        0.6s     7.70nm          5.0mb
WDC     68.22  55 eP     03 44.80  -0.3
                  epP    03 54.00  30km
NUR     68.57 332 eP     03 45.50  -1.4
        0.8s    27.90nm          5.4mb
                  i      03 55.20  31km
ORV     69.45  55 eP     03 51.80  -0.9
                  epP    04 01.00  29km
BKS     69.93  57 ePc    03 55.70   0.0
        0.8s    31.00nm          5.5mb
                  epP    04 05.20  30km
FFC     70.69  34 eP     03 59.00  -0.9
        0.7s     9.00nm          5.0mb
CMB     71.04  56 eP     04 02.00  -0.5
                  epP    04 11.20  30km
LRM     71.17  46 eP     04 03.30  -0.1
                  e      04 12.50  30km
PRS     71.39  58 eP     04 04.00  -0.5
                  epP    04 13.30  30km
UPP     71.48 334 iP     04 03.60  -1.0
        1.0s   100.00nm          5.8mb
                  i      04 12.30  28km
TAB     71.84 305 eP     03 58.00  -9.4X
KVN     71.89  54 eP     04 07.80   0.0
                  pP     04 17.10  30km
FRI     72.08  57 eP     04 08.10  -0.5
                  epP    04 17.30  29km
NB2     72.56 338 P      04 10.50  -0.6
        1.0s    33.00nm          5.3mb
SYP     73.37  59 eP     04 17.00   0.6
ISA     73.67  57 eP     04 31.00  12.9X
FRB     73.96  14 eP     04 18.00  -1.1
CLC     74.15  57 eP     04 21.00   0.2
SBB     74.69  58 eP     04 23.00  -1.0
MWC     74.82  58 eP     04 25.00   0.1
GSC     74.97  57 eP     04 25.00  -0.6
RVR     75.40  58 eP     04 36.00   8.0X
TPC     76.20  57 eP     04 41.00   8.4X
KVT     76.21 312 eP     04 34.00   1.5
BAR     76.68  59 eP     04 44.00   8.8X
VRI     77.94 320 ePc    04 52.00  10.1X
KRA     78.00 327 eP     04 42.80   0.7
SPC     78.52 326 eP     04 45.80   0.5
MLR     78.60 321 eP     04 47.00   1.3
                  e      31 56.00
KSP     78.89 329 ePc    04 47.50   0.5
        1.2s    34.00nm          5.2mb
                  i      04 56.80  30km
                  e      09 08.50
CLL     79.79 331 iP     04 51.60  -0.3
PRU     80.26 329 P      05 04.00   9.6X
        1.0s    28.90nm          5.2mb
SRO     80.40 326 eP     04 51.00  -4.2X
                  i      05 05.50  50kmX
BZS     80.58 323 eP     04 55.50  -0.7
                  e      32 05.50
ZST     80.62 327 eP     05 05.80   9.4X
SOP     81.25 327 eP     05 04.00   4.3X
KHC     81.32 329 eP     05 00.00  -0.1
                  e      05 09.70  31km
WTS     81.41 335 eP     05 10.00   9.6X
        1.0s    18.00nm          5.0mb
HRI     81.54 306 eP     05 12.00  10.4X
GRF     81.77 331 iPc    05 13.50  11.1X
        1.2s    55.00nm
DSI     82.90 305 e(P)   05 10.00   1.5
KBA     83.06 328 e(P)   05 18.50   9.2X
                  e      32 10.00
                  e      32 35.00
VAY     83.32 319 iP     05 11.30   0.8
                  i      05 20.50  29km
SKO     83.40 321 iP     05 12.00   1.1
        1.2s    68.00nm          5.7mb
                  i      05 20.80  28km
FVI     83.68 328 P      05 21.20   9.0X
TRI     83.99 327 Pd     05 22.30   8.5X
CDF     84.28 332 eP     05 15.80   0.4
OHR     84.36 320 iP     05 16.00   0.1
        1.0s     0.07nm          2.8mb X
                  i      05 25.00  28km
MBH     84.43 304 ePc    05 17.00   0.7
CTI     84.58 329 Pd     05 25.40   8.4X
HAU     84.95 333 eP     05 19.00   0.3
VAI     85.86 330 P      05 22.40  -0.8
PGD     86.32 327 P      05 27.00   1.2
LOR     86.45 334 eP     05 26.40   0.2
        0.1s     4.80nm          5.7mb
FLN     86.53 337 eP     05 26.50   0.0
        0.9s    11.10nm          5.1mb
LDF     86.57 337 eP     05 26.90   0.2
ASS     86.58 326 P      05 30.00   3.1X
LBF     86.66 334 eP     05 27.40   0.2
        0.8s     5.30nm          4.8mb
SSF     86.75 334 eP     05 28.10   0.5
LPG     86.94 331 eP     05 29.50   0.6
        0.8s     5.90nm          4.9mb
GRR     86.98 337 eP     05 29.30   0.6
        0.9s    11.10nm          5.1mb
SMF     87.00 334 eP     05 29.20   0.4
AVF     87.04 334 eP     05 29.50   0.5
        0.8s     7.20nm          5.0mb
SDI     87.18 325 P      05 38.00   8.2X
LPF     87.35 337 eP     05 31.00   0.5
BGF     87.41 334 eP     05 31.50   0.7
MAF     87.80 334 eP     05 33.70   1.0
        0.8s     5.90nm          4.9mb
TCF     87.86 334 eP     05 33.80   0.8
LSF     88.12 335 eP     05 35.10   0.9
MFF     88.35 336 eP     05 35.80   0.5
RJF     88.96 334 eP     05 39.20   0.9
CAF     89.11 334 eP     05 40.20   1.2
LFF     89.54 335 eP     05 41.70   0.7
LPO     89.62 334 eP     05 42.20   0.8
ZOBO   143.93  59 PKP    12 13.20  -7.3X
LPB    144.14  59 ePKP   12 21.00   0.3
CNCB   144.41  60 PKP    12 20.60  -0.7
CCH    146.04  58 PKP    12 24.40   0.7
PDCR   153.02   6 ePKP   12 34.80   0.8
      S.D. = 1.0  on  97 of 121 obs.
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*  NOV  01, 1989  19h 57m 12.95± 0.53s
   35.235 N ±10.0km  133.230 E ± 9.5km
   DEPTH =  33.0km  (normal)
   5.0mb (  5 obs.)
 SOUTHERN HONSHU, JAPAN          (232)

SHK      0.84 213 iPc    57 27.50  -0.8
MAT      4.25  71 (P)    58 16.00  -1.0
                  (S)    59 14.00
SSE     10.90 251 (P)    59 53.10   3.4X
        1.0s    24.00nm          5.4mb X
                  eS     01 20.50
                  e(Lg)  02 11.10
BJI     14.34 295 eP     00 35.00  -0.5
        1.5s   105.00nm          5.2mb
LZH     23.85 281 eP     02 25.00   0.7
        1.8s    74.00nm          4.9mb
MTN     47.86 183 eP     05 48.00  -1.6
WB5     54.82 179 iPd    06 43.90   1.8
ASPA    58.58 179 eP     07 09.00   0.2
        0.7s    13.00nm          5.1mb
INK     58.94  26 eP     07 10.00  -0.9
MBC     60.06  15 eP     07 17.50  -1.1
        0.9s    12.00nm          5.0mb
NB2     73.11 334 P      08 54.40  12.8X
        0.8s     2.30nm
FFC     78.65  29 eP     09 18.00   5.1X
        1.0s    15.00nm          5.0mb
LRM     79.93  40 eP     09 21.10   0.8
ISA     82.87  51 eP     09 37.00   1.3
CLC     83.33  51 eP     09 38.00   0.0
SBB     83.89  52 eP     09 42.00   1.1
MWC     84.03  52 eP     09 45.00   3.2X
ZOBO   153.15  51 ePKP   17 07.00   4.8X
LPB    153.36  51 ePKP   17 15.00  12.7X
CNCB   153.64  51 ePKP   17 11.00   8.1X
      S.D. = 1.2  on  13 of  20 obs.
-----------------------------------------
   NOV  01, 1989  20h 20m 02.78± 0.79s
   39.998 N ± 4.2km  142.714 E ± 4.5km
```

01d 20h

DEPTH = 57.1 ± 6.6 km
5.3mb (38 obs.)
NEAR EAST COAST OF HONSHU, JAPAN(228)

SAP	3.23	342	eP	20 53.00	0.9
			S	21 32.20	
NIIJ	4.00	228	P	21 04.10	1.1
KAKJ	4.28	209	P	21 04.60	-2.3
CHJJ	4.92	218	P	21 06.10	-9.8X
MAT	4.95	227	iPc	21 17.00	0.6
			(S)	22 30.00	
MTMJ	5.15	230	P	21 20.20	0.9
IIDJ	5.90	222	P	21 21.90	-7.8X
TSRJ	6.95	232	P	21 45.40	1.1
MDJ	10.76	300	eP	22 36.50	-0.1
CN2	13.41	292	eP	23 12.00	0.1
			pP	23 16.00	
SNY	14.59	283	eP	23 26.50	-0.8
DL2	16.32	273	eP	23 52.00	2.4
SSE	19.60	250	Pc	24 26.00	-3.0X
BJI	20.31	279	eP	24 32.50	-3.8X
	1.5s	105.00nm		4.9mb	
TIA	20.47	268	Pd	24 35.30	-2.8
TIY	23.64	274	eP	25 08.50	-1.1
HHC	23.67	282	Pd	25 08.40	-1.5
BTO	24.87	282	eP	25 19.80	-1.7
WHN	24.92	257	Pc	25 21.50	-0.3
	1.0s	0.26nm		2.7mb X	
			pP	25 32.50	42kmX
			ScP	32 28.00	
QZH	25.18	241	P	25 24.50	0.2
XAN	27.52	268	P	25 43.50	-2.4
GZH	29.99	245	eP	26 07.40	-0.7
LZH	30.70	275	Pc	26 12.50	-1.9
	1.5s	104.00nm		5.3mb	
GTA	32.78	283	Pc	26 31.80	-0.7
	0.8s	0.10nm		2.7mb X	
Z	18s	7.40um		5.4Msz	
E	12s	6.60um			
CD2	32.79	266	eP	26 30.80	-1.8
GYA	32.81	257	iPc	26 30.00	-2.9
	1.2s	0.40nm		3.1mb X	
			S	31 46.20	
QIZ	35.13	243	eP	26 52.10	-0.7
WMQ	40.49	294	iPc	27 37.80	0.3
MNI	41.68	207	ePc	27 47.50	0.2
LOE	41.92	250	iPc	27 49.00	-0.4
TTA	42.42	36	P	27 53.30	0.2
SVW	42.55	39	eP	27 55.40	1.3
LSA	43.02	273	eP	28 02.00	3.1X
CHG	43.06	254	ePc	27 59.00	0.3
	0.9s	30.67nm		5.1mb	
CHTO	43.06	254	iPc	27 59.00	0.3
	0.7s	23.82nm		5.1mb	
BRW	43.29	24	eP	27 57.50	-2.4
IMA	43.63	32	eP	28 02.90	0.0
BDT	44.01	252	eP	28 07.50	1.2
	0.9s	36.30nm		5.1mb	
NST	44.21	249	eP	28 10.00	2.0
PMR	45.66	38	eP	28 20.60	1.6
PCI	45.76	213	ePd	28 22.50	2.2
	1.4s	3.30nm		4.0mb X	
FBA	46.06	34	eP	28 22.30	0.1
NNT	46.58	246	iPc	28 27.80	1.0
TOA	47.00	37	eP	28 34.40	4.6X
MKS	49.83	211	iPd	28 54.00	2.0
			e	30 58.60	
KSH	50.20	292	eP	28 56.00	1.2
INK	51.29	28	eP	29 02.00	-0.5
IPM	51.49	238	ePc	29 05.10	0.4
MBC	53.40	17	eP	29 17.00	-1.2
	1.0s	24.00nm		5.2mb	
MTN	53.66	194	iPc	29 20.00	-0.7
HYB	59.33	267	ePc	30 00.00	-1.4
	1.0s	30.00nm		5.4mb	
WB5	60.07	189	iPc	30 04.70	-1.5
			i	30 16.00	
QUE	61.06	286	iPc	30 12.50	-0.7
GBA	62.48	265	P	30 23.00	0.3
MAIO	63.22	296	iPc	30 27.00	-0.4
ASPA	63.86	189	iPc	30 30.40	-1.1
			e	30 39.00	
DZM	65.60	156	iPc	30 45.10	2.3
RMQ	66.38	174	iPd	30 47.70	0.0
EDM	66.40	40	eP	30 45.50	-2.2
BRS	67.69	170	iP	31 04.50	8.5X
WDC	68.50	55	e(P)	31 02.70	1.6
FFC	70.67	34	eP	31 13.00	-1.0
	1.0s	21.00nm		5.0mb	
UPP	70.74	334	iPc	31 13.20	-1.1
TAB	71.00	304	eP	31 14.00	-2.5
LRM	71.33	46	eP	31 17.20	-1.3
CMB	71.34	56	e(P)	31 17.00	-1.5
HFS	71.81	336	eP	31 19.10	-1.7
	0.6s	33.40nm		5.4mb	
NB2	71.85	337	P	31 19.90	-1.2
	0.8s	43.70nm		5.4mb	
KVN	72.17	54	eP	31 22.30	-1.3
			pP	31 35.20	44kmX
KER	72.69	300	eP	31 27.00	0.4
TNP	73.31	54	eP	31 30.30	0.1
			pP	31 42.00	39kmX
SYP	73.71	59	eP	31 43.00	10.5X
BWA	74.24	175	eP	31 35.80	0.6
			e	31 47.30	
CLC	74.46	56	eP	31 36.00	-0.8
BW06	74.87	47	P	31 38.50	-0.8
SBB	75.01	57	eP	31 40.00	0.0
MWC	75.15	58	eP	31 41.00	0.1
CAN	75.17	175	eP	31 45.90	5.4X
			e	31 57.30	
KVT	75.37	312	iP	31 43.00	1.1
KAS	76.48	313	iPc	31 50.20	2.0
TPC	76.52	57	eP	31 55.00	6.5X
VRI	77.13	320	ePc	31 52.00	0.4
KRA	77.21	326	iPc	31 52.00	0.1
	0.7s	42.00nm		5.5mb	
			e	31 56.50	
SPC	77.73	325	iP	31 55.90	0.9
GLA	77.98	57	eP	31 47.00	-9.5X
BBTK	78.07	312	iPc	31 58.00	1.0
KSP	78.12	329	iPc	31 57.40	0.5
	0.8s	27.00nm		5.3mb	
CLL	79.03	331	iPc	32 01.80	-0.1
	1.1s	35.00nm		5.2mb	
PRU	79.48	329	Pc	32 05.00	0.6
	1.0s	28.90nm		5.2mb	
			e	32 13.50	
CTT	79.57	316	iP	32 05.20	0.2
SRO	79.61	326	iP	32 06.50	1.4
JMB	79.61	318	eP	32 06.00	0.8
PVL	79.72	319	iPc	32 07.00	1.3
ZST	79.83	326	iP	32 06.80	0.5
WIT	80.03	335	eP	32 09.00	1.8
EDC	80.44	315	eP	32 10.00	0.3
SOP	80.46	326	eP	32 14.00	4.4X
KHC	80.55	329	iPc	32 11.00	0.9
	0.9s	23.00nm		5.1mb	
			e	35 05.00	
WTS	80.67	334	iPc	32 11.00	0.4
	0.9s	18.00nm		5.0mb	
			e	32 25.00	
EKA	80.67	341	Pc	32 10.90	0.3
	1.1s	20.90nm		5.0mb	
HRI	80.70	306	eP	32 12.00	0.7
PGB	80.79	319	iPc	32 12.00	0.4
BCK	80.94	312	eP	32 12.00	-0.4
KHL	80.94	313	eP	32 12.00	-0.5
GRF	81.01	330	iPc	32 13.90	1.4
	1.0s	51.00nm		5.4mb	
RZN	81.14	318	iPc	32 14.00	0.4
VTS	81.24	319	iPc	32 15.00	1.0
MMB	81.71	318	iPc	32 17.00	0.6
ALQ	81.92	51	eP	32 17.00	-0.7
	1.0s	7.50nm		4.6mb	
PTJ	82.11	326	eP	32 18.10	-0.3
MEM	82.12	334	Pc	32 18.30	0.1
SRS	82.13	318	iPc	32 18.60	0.1
FUR	82.23	330	iPc	32 19.80	0.9
	0.8s	40.00nm		5.5mb	
KNT	82.45	319	ePc	32 20.50	0.3
VAY	82.50	319	iP	32 21.20	0.8
			i	32 33.30	
OUR	82.50	317	iPc	32 20.60	0.2
SKO	82.58	320	iP	32 21.80	1.0
	1.2s	64.00nm		5.5mb	
			i	32 33.50	
LJU	82.61	326	e(P)	32 20.00	-0.9
VBY	82.73	326	e(P)	32 21.70	0.2
SNF	82.77	335	P	32 21.80	0.2
GRG	82.86	319	iPc	32 22.20	-0.1
WLF	82.87	333	P	32 23.00	0.9
CEY	82.90	326	eP	32 22.50	0.1
FVI	82.90	328	P	32 22.40	0.1
GWF	82.93	332	P	32 22.76	0.2
PAIG	82.96	317	eP	32 22.90	0.1
DOU	83.03	334	P	32 23.10	0.1
PRNI	83.12	304	iPc	32 25.00	1.1
TRI	83.20	327	eP	32 23.40	-0.5
RIY	83.23	326	eP	32 23.20	-0.8
LIT	83.45	318	iP	32 24.90	-0.4
WLS	83.50	332	P	32 25.53	0.0
CDF	83.53	332	P	32 25.84	0.2
OHR	83.54	320	iP	32 25.20	-0.6
	0.9s	0.07nm		2.7mb X	
MBH	83.59	304	iPc	32 27.00	0.9
SLE	83.62	331	ePc	32 26.10	0.0
FEL	83.71	331	P	32 26.63	0.0
SAX	83.73	330	ePc	32 27.10	0.1
ECH	83.73	332	P	32 26.71	0.1
CTI	83.80	328	Pc	32 26.10	-1.0
OSS	83.88	329	ePc	32 28.10	0.5
ZLA	83.90	331	ePc	32 27.80	0.3
HVAR	84.03	324	iP	32 27.40	-0.8
MOF	84.05	332	P	32 28.20	-0.1
LLS	84.18	330	ePc	32 29.50	0.4
BSF	84.19	332	eP	32 29.20	0.1
HAU	84.20	332	iPc	32 29.30	0.3
	0.7s	8.80nm		4.9mb	
BBS	84.24	331	P	32 29.31	0.1
LOMF	84.58	332	P	32 30.97	0.0
SAL	84.62	329	P	32 31.10	0.1
TMA	84.86	330	ePc	32 32.50	0.0
VAI	85.10	330	Pc	32 33.30	-0.1
MMK	85.25	330	ePc	32 35.20	0.6
DIX	85.44	331	ePc	32 36.20	0.7
SFI	85.45	327	P	32 33.40	-1.8
PGD	85.54	327	Pc	32 36.50	0.5
ORX	85.60	330	P	32 35.62	-0.5
ORO	85.60	330	Pc	32 35.60	-0.6
EMS	85.63	331	ePc	32 36.70	0.3
CRE	85.64	327	Pc	32 37.00	0.6
MME	85.71	328	P	32 37.70	0.8
LOR	85.71	333	iPc	32 36.80	0.2
	0.9s	46.50nm		5.6mb	
BOB	85.74	329	P	32 37.00	0.2
ASS	85.79	326	P	32 37.30	0.2
FLN	85.81	337	eP	32 37.40	0.4
	1.2s	29.70nm		5.3mb	
LDF	85.85	336	iPc	32 37.60	0.4
	0.8s	11.80nm		5.1mb	
BDI	85.86	328	P	32 35.50	-1.9
LBF	85.91	333	iPc	32 37.90	0.3
	0.8s	28.70nm		5.5mb	
SSF	86.01	333	iPc	32 38.40	0.4
	0.8s	27.40nm		5.5mb	
LSD	86.06	330	P	32 39.10	0.5
DUI	86.13	324	Pc	32 38.70	-0.1
LPG	86.18	331	iPc	32 39.80	0.5
	0.8s	28.70nm		5.5mb	
SMF	86.25	333	iPc	32 39.60	0.4
	1.1s	39.00nm		5.5mb	
GRR	86.26	337	iPc	32 39.80	0.6
	0.9s	34.00nm		5.5mb	
RSP	86.28	330	P	32 39.51	0.0
PCP	86.29	329	P	32 40.02	0.5
AVF	86.30	333	iPc	32 40.10	0.7
MNS	86.34	325	P	32 38.00	-1.8
SDI	86.38	324	Pc	32 39.50	-0.5
BNI	86.58	330	P	32 41.40	0.4
LPF	86.63	337	iPc	32 41.70	0.7
	1.0s	40.00nm		5.6mb	
RRL	86.65	330	P	32 41.36	-0.2
BGF	86.67	334	iPc	32 41.70	0.4
	0.7s	11.00nm		5.2mb	
FIN	86.70	329	P	32 40.54	-0.9
ROB	86.76	329	P	32 40.54	-1.3
CSI	86.76	322	P	32 41.10	-0.8
ROI	86.79	321	P	32 41.90	-0.1
TDS	86.83	322	P	32 42.60	0.4
ENR	86.99	330	P	32 40.43	-2.6
MAF	87.06	334	iPc	32 44.10	0.9
	0.9s	36.60nm		5.6mb	
IMI	87.07	329	P	32 40.95	-2.4
TCF	87.12	334	iPc	32 44.20	0.7
	1.0s	20.00nm		5.3mb	
CZI	87.28	321	P	32 43.40	-0.9
LSF	87.39	334	iPc	32 45.50	0.7
	0.9s	49.10nm		5.7mb	
MFF	87.62	335	iPc	32 46.50	0.6
	0.9s	34.00nm		5.5mb	

01d 20h

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SOI     88.22 321 Pc     32 48.60  -0.2
RJF     88.22 334 eP     32 49.80   1.0
        0.9s    16.30nm          5.3mb
CAF     88.36 333 iPc    32 50.60   1.1
LFF     88.80 334 eP     32 52.70   1.2
        1.1s    29.30nm          5.5mb
LPO     88.88 334 iPc    32 52.90   1.0
SLR    124.27 264 iPKPd 38 57.50   0.5
KIC    124.97 319 PKP   38 58.20  -0.2
BFS    126.02 263 iPKPd 38 59.00  -1.3
        0.6s    20.00nm
SEK    126.11 261 iPKPc 39 01.50   1.0
        0.7s     6.85nm
ZOBO   144.27  57 PKP   39 31.80  -3.1X
LPB    144.48  58 ePKP  39 34.00  -1.1
CNCB   144.76  58 PKP   39 35.20  -0.5
CCH    146.36  56 ePKP  39 45.00   6.9X
PDCR   152.59   4 ePKP  39 54.60   7.3X
                  e     40 07.60
                  e     40 17.10
      S.D. = 1.0  on 194 of 209 obs.
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   NOV  01, 1989  21h 40m 18.76± 0.44s
   39.689 N ± 6.5km  143.354 E ± 8.1km
   DEPTH =  33.0km  (normal)
   4.8mb (  9 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.20 236 eP     41 22.70   0.6
KAKJ     4.29 217 P      41 22.10  -1.3
CHJJ     5.01 225 P      41 33.20  -0.4
MAT      5.13 234 iPc    41 36.00   0.7
        0.7s    26.03nm          4.8mb
                  (S)    42 39.00
MTMJ     5.36 236 P      41 40.30   1.7
IIDJ     6.03 228 P      41 48.90   0.9
TSRJ     7.17 237 P      42 07.40   3.5X
MDJ     11.34 300 eP     43 02.00   0.6
CN2     13.98 293 eP     43 40.60   3.9X
SSE     19.97 251 P      44 56.00   5.1X
BJI     20.84 280 eP     44 51.50  -8.5X
WHN     25.33 258 Pd     45 44.30   0.3
XAN     28.01 269 P      46 07.20  -1.5
GYA     33.22 258 P      46 54.00  -0.9
GTA     33.33 284 P      46 55.60  -0.2
WMQ     41.07 295 P      48 00.50  -0.3
LSA     43.53 273 eP     48 27.00   5.5X
WB5     59.85 190 eP     50 22.20  -1.2
GBA     62.95 265 P      50 43.00  -1.5
SOD     63.11 337 eP     50 51.00   6.1X
ASPA    63.64 190 eP     50 49.50   0.7
        0.5s    11.00nm          5.2mb
SUF     66.30 333 iP     51 04.60  -1.0
        0.4s     1.40nm          4.4mb
NUR     68.32 332 iP     51 17.30  -1.0
LRM     71.19  46 eP     51 36.30  -0.2
                  e     51 46.50
NB2     72.32 338 P      51 41.60  -1.1
        0.8s     4.60nm          4.5mb
BWA     73.89 176 eP     52 02.00  10.0X
KSP     78.64 329 eP     52 19.00   0.4
PRU     80.00 329 eP     52 27.00   1.0
KHC     81.06 329 eP     52 32.00   0.3
ALQ     81.73  51 eP     52 37.00   1.3
        1.0s     3.25nm          4.3mb
OHR     84.10 320 eP     52 47.80   0.3
LOR     86.21 334 eP     52 58.20   0.3
        0.9s     5.50nm          4.8mb
LBF     86.41 333 eP     52 59.10   0.1
SSF     86.50 334 eP     52 59.70   0.3
LPG     86.69 331 eP     53 01.20   0.5
SMF     86.75 333 eP     53 01.00   0.4
AVF     86.79 334 eP     53 01.20   0.4
        0.9s    11.40nm          5.1mb
PCP     86.80 329 P      52 59.48  -1.5
MAF     87.56 334 eP     53 05.40   0.9
        0.9s     6.50nm          4.9mb
LSF     87.88 335 eP     53 06.90   0.9
        0.9s     8.80nm          5.0mb
ZOBO   144.01  59 ePKP   59 58.00   4.4X
CNCB   144.50  59 ePKP   59 54.00  -0.4
PDCR   152.86   5 e(PKP)00 14.00   7.2X
      S.D. = 0.9  on 34 of 43 obs.
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   NOV  01, 1989  21h 52m 41.37± 0.62s
   44.615 N ± 5.0km    7.222 E ± 6.8km
   DEPTH =  12.7 ±  6.3 km
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 NORTHERN ITALY                    (545)
      ML 2.2 (GEN).

DOI      0.11 171 Pd     52 45.00   0.3
                  eSg    52 46.60
PZZ      0.14 218 P      52 45.23   0.1
                  S      52 47.28
STV      0.38 169 P      52 49.33   0.0
                  S      52 54.25
ENR      0.41 160 P      52 49.84  -0.1
                  S      52 55.28
RRL      0.44 315 P      52 49.74  -0.7
                  S      52 56.10
ROB      0.56 124 P      52 52.61  -0.1
                  S      53 00.00
BNI      0.59 319 Pd     52 53.40   0.3
                  eSg    53 00.10
FIN      0.82 119 P      52 57.23   0.3
                  S      53 07.58
LSD      0.84 357 P      52 58.15   0.6
                  S      53 09.02
IMI      0.85 146 P      52 57.43  -0.2
                  S      53 08.40
      S.D. = 0.4  on  10 of  10 obs.
-----------------------------------
*  NOV  01, 1989  21h 53m 25.48± 0.59s
   39.897 N ±10.0km  142.961 E ± 8.8km
   DEPTH =  33.0km  (normal)
   4.8mb (  9 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)

NIIJ     4.08 231 eP     54 28.50   1.4
KAKJ     4.29 212 P      54 27.30  -2.8X
MAT      5.02 230 iPc    54 40.40  -0.1
        0.9s    41.18nm          4.9mb
                  (S)    55 47.00
MDJ     10.97 300 eP     56 06.00   2.8
SNY     14.79 284 eP     56 55.00   1.0
SSE     19.75 250 P      58 00.00   4.6X
BJI     20.51 279 eP     58 01.00  -2.3
TIY     23.84 275 eP     58 37.60   1.1
WHN     25.08 257 Pd     58 48.80   0.4
XAN     27.71 269 P      59 11.50  -1.2
LZH     30.89 276 eP     59 41.00  -0.3
        1.5s    29.00nm          4.9mb
GYA     32.97 257 P      59 58.40  -1.1
GTA     32.99 283 P      00 00.00   0.5
KMI     36.66 259 eP     00 31.00  -0.1
                  pP     00 40.00  30kmX
WMQ     40.70 294 P      01 05.50   1.0
FBA     46.04  34 eP     01 48.00   0.7
WB5     60.00 189 eP     03 31.50   0.3
GBA     62.66 265 P      03 48.00  -1.3
LRM     71.27  46 eP     04 45.10   1.4
HFS     71.98 336 eP     04 45.10  -2.2
        0.5s     1.60nm          4.3mb
NB2     72.01 338 P      04 46.20  -1.4
        0.9s     6.90nm          4.7mb
KVN     72.08  54 eP     04 50.20   1.7
KRA     77.40 326 eP     05 18.70   0.2
KSP     78.30 329 eP     05 23.50   0.0
CLL     79.21 331 eP     05 29.00   0.6
                  e     05 44.00
PRU     79.67 329 eP     05 31.20   0.3
                  e     05 37.50
KHC     80.73 329 eP     05 37.00   0.3
SKO     82.78 320 eP     05 42.50  -4.9X
OHR     83.74 320 eP     05 52.00  -0.5
LOR     85.88 333 eP     06 02.40  -0.7
        0.8s     4.50nm          4.7mb
LBF     86.09 333 eP     06 03.40  -0.7
        0.9s     3.90nm          4.6mb
SSF     86.18 334 eP     06 04.10  -0.4
LPG     86.36 331 eP     06 05.40  -0.4
SMF     86.43 333 eP     06 05.50  -0.2
AVF     86.47 334 eP     06 05.50  -0.4
        0.8s     5.30nm          4.8mb
MAF     87.23 334 eP     06 09.80   0.1
        0.9s     5.50nm          4.8mb
LSF     87.56 334 eP     06 10.80  -0.4
        0.9s     7.20nm          4.9mb
      S.D. = 1.1  on 34 of 37 obs.
-----------------------------------
?  NOV  01, 1989  22h 09m 29.83± 2.93s
   39.444 N ±17.5km  143.336 E ±39.7km
   DEPTH =  33.0km  (normal)
   4.1mb (  1 obs.)
```

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 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.09 219 P      10 30.80  -0.8
CHJJ     4.83 227 P      10 41.90  -0.2
MAT      4.98 236 iPc    10 45.50   1.2
        0.8s    44.78nm
                  (S)    11 49.00
MDJ     11.45 301 eP     12 22.40   8.4X
BJI     20.87 280 eP     14 09.00  -2.3
WHN     25.27 258 eP     14 55.00   0.5
GTA     33.37 284 eP     16 08.00   0.8
WMQ     41.16 295 eP     17 13.60   1.0
NB2     72.54 338 P      20 54.90  -0.2
        0.9s     2.10nm          4.1mb
      S.D. = 1.4  on   8 of   9 obs.
-----------------------------------
   NOV  01, 1989  22h 34m 26.89± 0.66s
   39.345 N ± 8.8km  143.411 E ± 9.8km
   DEPTH =  33.0km  (normal)
   4.4mb (  4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.05 220 P      35 26.70  -1.4
NIIJ     4.06 240 P      35 28.90   0.7
CHJJ     4.81 228 P      35 38.10  -0.7
                  eS     36 31.10
MAT      4.97 237 iPc    35 41.90   0.6
        0.8s    97.01nm
                  eS     36 50.00
MTMJ     5.22 240 iPd    35 45.60   0.8
IIDJ     5.83 230 P      35 53.30  -0.1
TSRJ     7.02 240 P      36 11.50   1.4
MDJ     11.55 302 eP     37 11.50  -1.0
CN2     14.16 294 P      37 49.40   2.3
SSE     19.90 252 Pc     39 04.50   6.1X
BJI     20.94 281 eP     39 05.50  -3.7X
WHN     25.30 259 P      39 52.00   0.1
                  sP     40 08.00
GYA     33.19 258 P      41 01.60  -1.2
GTA     33.45 284 eP     41 04.20  -0.8
WMQ     41.25 295 iPd    42 10.60   0.2
CHTO    43.40 255 eP     42 27.00  -1.1
        0.8s     1.46nm          3.8mb
INK     51.61  28 eP     43 32.00   0.3
SOD     63.45 337 eP     44 54.00  -1.2
SUF     66.63 333 eP     45 14.80  -1.0
        0.6s     1.50nm          4.3mb
NUR     68.65 332 eP     45 27.00  -1.5
LRM     71.40  46 eP     45 47.00   1.1
KVN     72.12  54 eP     45 51.00   0.8
NB2     72.66 338 P      45 52.00  -0.8
        0.9s     4.80nm          4.5mb
PRU     80.32 329 eP     46 37.00   1.2
LOR     86.53 334 eP     47 08.10   0.4
LBF     86.74 334 eP     47 09.00   0.3
AVF     87.12 334 eP     47 11.10   0.6
        0.7s     2.60nm          4.6mb
      S.D. = 1.1  on  25 of  27 obs.
-----------------------------------
*  NOV  01, 1989  23h 04m 48.19± 1.10s
   39.520 N ±12.4km  143.136 E ±16.9km
   DEPTH =  31.4km  (  2 depth phases)
   4.3mb (  4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     3.97 236 P      05 49.20   0.9
KAKJ     4.06 216 P      05 46.80  -2.8X
CHJJ     4.77 225 P      05 58.40  -1.3
MAT      4.90 234 iPc    06 02.30   0.8
MTMJ     5.13 237 P      06 06.00   1.1
IIDJ     5.79 227 P      06 13.70  -0.5
TSRJ     6.93 237 P      06 30.50   0.3
CN2     13.90 294 eP     08 10.00   4.9X
                  epP    08 17.00
SSE     19.75 252 Pc     09 18.20  -0.1
        1.0s    12.00nm          4.2mb
BJI     20.70 280 eP     09 26.00  -2.2
TIA     20.78 269 Pd     09 27.10  -1.9
NJ2     21.02 257 Pd     09 34.00   2.5X
WHN     25.13 258 P      10 12.00   0.2
        1.4s     0.13nm          2.3mb X
                  pP     10 21.00  32km
XAN     27.84 269 P      10 37.00   0.2
LZH     31.07 276 Pd     11 05.80   0.1
        2.0s     0.05nm          2.0mb X
GYA     33.02 258 P      11 22.00  -0.8
GTA     33.21 284 Pc     11 25.40   1.1
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WMQ    40.98 295 Pc     12 31.30    1.6
CHTO   43.24 255 eP     12 48.90    0.6
       1.0s      1.75nm          3.8mb
QUE    61.51 287 eP     15 04.50   -0.2
GBA    62.77 265 P      15 16.00    3.1X
       0.2s      0.60nm          4.4mb
EDM    66.56  40 ePc    15 43.40    6.2X
NB2    72.41 338 P      16 11.70   -1.2
       1.0s      6.80nm          4.6mb
KRA    77.79 327 eP     16 44.40    0.8
KSP    78.69 329 eP     16 48.50   -0.1
PRU    80.06 329 eP     17 06.00   10.0X
SRO    80.19 326 eP     17 16.70   20.0X
KHC    81.12 329 eP     17 02.30    0.6
VAY    83.07 319 eP     17 22.40   10.5X
SKO    83.15 320 eP     17 13.20    0.9
                i       17 23.00   31km
PRNI   83.66 304 eP     17 16.00    0.8
OHR    84.12 320 eP     17 16.00   -1.3
MBH    84.12 304 ePd    17 18.00    0.6
ZOBO  144.25  59 ePKP   24 15.00   -8.7X
BAO   154.29  25 e(PKP)24 38.00   -0.6
     S.D. = 1.0  on  26 of  35 obs.
-----------------------------------
   NOV  01, 1989  23h 05m 46.31± 0.85s
   39.179 N ± 4.6km  142.997 E ± 4.5km
   DEPTH =  38.7 ±  7.3 km
   5.4mb ( 51 obs.)  5.5Msz (  1 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)

NIIJ    3.69 240 P      06 44.00    1.6
KAKJ    3.72 218 P      06 41.10   -1.6
CHJJ    4.46 227 P      06 54.00    0.8
                S       07 43.10
MAT     4.61 237 iPc    06 57.10    1.6
                (S)     08 01.00
MTMJ    4.86 239 P      07 00.50    1.5
IIDJ    5.48 229 P      07 08.80    1.1
TSRJ    6.66 239 P      07 26.20    1.9
WKYJ    7.74 233 eP     07 34.90   -4.4X
YONJ    8.59 245 P      07 41.10  -10.0X
TKSJ    8.87 237 P      07 54.50   -0.5
SHK     9.48 244 eP     08 02.50   -0.9
MDJ    11.37 303 eP     08 28.50   -0.7
     E  15s      8.60um
                S       10 40.00
KUMJ   11.89 240 eP     08 35.40   -0.8
KAGJ   12.71 235 eP     08 46.30   -0.8
SNY    15.01 286 eP     09 17.30    0.0
     Z  20s      7.00um
     N  13s      2.70um
     E  14s      2.80um
                S       12 05.00
DL2    16.61 276 eP     09 37.40   -0.3
SSE    19.54 252 Pd     10 09.60   -4.0X
       1.0s    248.00nm        5.4mb
     Z  20s      1.90um
     N  14s      2.00um
     E  14s      2.10um
                pP      10 21.00   53kmX
                (S)     15 42.00
BJI    20.66 281 Pc+    10 22.00   -3.2X
       1.5s    236.00nm        5.3mb
     Z  16s      3.84um          4.9MszX
     E  14s      2.98um
                eS      14 18.00
TIA    20.67 270 eP     10 22.40   -2.9
NJ2    20.84 257 Pd     10 24.50   -2.6
TIY    23.93 276 eP     10 56.00   -1.7
     E  14s      2.50um
                sP      11 13.00
                sS      15 21.00
HHC    24.07 284 Pc     10 57.50   -1.6
     N  16s      1.40um
     E  17s      4.80um
WHN    24.96 259 iPc    11 07.50    0.0
       2.0s      1.23nm          3.1mb X
     Z  16s      3.57um          5.0MszX
     N  14s      2.46um
     E  14s      3.92um
                pP      11 13.00   20kmX
                eS      15 28.00
BTO    25.27 284 eP     11 09.50   -1.0
     N  14s      1.40um
     E  16s      7.10um
                pP      11 17.00   27kmX
XAN    27.73 270 P      11 32.00   -1.1
GZH    29.85 246 eP     11 52.00   -0.2
LZH    31.00 277 Pc     12 01.50   -1.0
       1.0s    108.00nm        5.6mb
     Z  15s      3.60um          5.2MszX
     N  13s      1.80um
     E  13s      2.90um
                e(S)    17 25.00
GYA    32.85 258 iPc    12 18.00   -0.6
       1.2s      0.60nm          3.3mb X
     N  15s      1.50um
     E  15s      1.50um
                S       17 30.00
CD2    32.96 268 P      12 18.60   -1.0
GTA    33.18 284 iPc    12 21.20   -0.3
       1.0s      0.10nm          2.7mb X
     Z  15s      3.80um          5.2MszX
     E  16s      5.50um
                S       17 40.00
QIZ    34.96 245 eP     12 32.60   -4.2X
     N  15s      1.10um
     E  14s      1.50um
                eS      18 03.00
WMQ    41.03 295 iPc    13 28.20    0.8
LOE    41.85 251 iPc    13 34.00   -0.3
CHG    43.05 255 ePc    13 44.90    0.8
CHTO   43.05 255 iPc    13 44.30    0.2
       0.8s     40.45nm        5.2mb
LSA    43.29 274 P      13 48.50    2.0
BDT    43.97 253 eP     13 53.10    1.6
       0.9s     53.90nm        5.3mb
NST    44.14 250 iPc    13 55.00    2.1
IMA    44.21  32 P      13 52.70   -0.4
SHL    44.70 268 iP     13 56.10   -1.6
                eS      19 47.50
PMR    46.16  38 P      14 07.20   -1.3
NNT    46.46 247 iPc    14 12.80    1.4
MKS    49.24 212 e(P)d  14 33.60    0.6
                e       16 10.50
KSH    50.71 293 eP     14 44.00   -0.3
IPM    51.25 239 ePc    14 48.90    0.5
       0.9s     39.50nm        5.4mb
INK    51.91  28 eP     14 51.50   -1.3
MBC    54.12  17 eP     15 08.50   -0.5
       1.0s     18.00nm        5.1mb
NDI    54.51 280 iPc    15 12.00   -0.6
       0.5s     59.86nm        5.9mb
WB5    59.30 189 eP     15 44.60   -1.9
                i       15 54.90
HYB    59.52 268 iPc    15 47.50   -0.8
       1.0s     60.00nm        5.7mb
KEV    61.88 339 iP     16 02.60   -1.0
       0.9s     23.70nm        5.3mb
GBA    62.63 265 P      16 09.00   -0.3
ASPA   63.09 189 iPd    16 10.60   -1.5
       1.0s     16.00nm        5.1mb
SOD    63.48 337 iP     16 13.30   -0.9
MAIO   63.77 297 iPc    16 16.30   -0.4
DZM    64.76 156 iPc    16 22.90   -0.2
GMW    64.91  48 P      16 28.50    4.6X
BMW    65.20  49 P      16 29.30    3.5X
PNT    65.77  45 eP     16 33.00    3.6X
SHW    65.94  49 P      16 35.00    4.4X
SUF    66.63 333 iP     16 33.60   -1.0
       0.7s     17.60nm        5.2mb
WARB   66.79 196 eP     16 36.00    0.0
BRS    66.85 171 iPc    16 35.50   -0.9
EDM    66.90  39 eP     16 35.00   -1.5
NUR    68.64 332 iP     16 46.30   -0.9
       0.9s     37.20nm        5.4mb
WDC    68.80  55 eP     16 48.50   -0.1
BKS    70.52  57 ePd    17 02.70    3.6X
       1.2s     31.00nm        5.2mb
FFC    71.23  34 eP     17 02.00   -1.1
       1.3s     29.00nm        5.1mb
UPP    71.57 334 iP     17 04.10   -0.9
       1.0s    100.00nm        5.8mb
CMB    71.62  56 eP     17 06.60    0.8
TAB    71.64 304 eP     17 06.00    0.0
NB2    72.69 338 P      17 11.00   -0.7
       0.8s     30.60nm        5.3mb
KER    73.30 301 ePc    17 15.50   -0.4
TNP    73.61  54 P      17 16.00   -1.7
       0.8s      7.84nm        4.7mb
SYP    73.95  59 eP     17 34.00   14.4X
FRB    74.40  14 eP     17 20.00   -1.5
MSL    74.68 304 ePd    17 23.00   -0.6
CLC    74.73  56 eP     17 25.00    0.9
SBB    75.27  57 eP     17 29.00    1.8
BHD    75.75 301 ePd    17 28.00   -1.8
KVT    76.08 312 eP     17 32.60    1.0
VRI    77.89 320 ePd    17 41.00   -0.5
KRA    78.01 326 iPc    17 42.30    0.2
       0.8s     57.00nm        5.7mb
     Z  18s      2.10um          5.5Msz
     N  18s      2.10um
                e       17 52.00
SPC    78.52 326 eP     17 45.70    0.5
MLR    78.55 320 eP     17 46.00    0.7
BBTK   78.78 313 iPc    17 47.50    0.8
KSP    78.93 329 iPc    17 47.50    0.4
       1.1s     58.00nm        5.5mb
CMP    79.16 321 iPc    17 35.00  -13.5X
PSZ    79.63 325 eP     17 52.10    1.0
GOL    79.67  47 P      17 50.00   -1.7
       1.0s     17.50nm        5.0mb
GLD    79.73  47 P      17 56.50    4.6X
DEV    79.75 322 ePc    17 52.50    0.9
BRG    79.83 330 eP     17 52.40    0.4
CLL    79.85 331 iPc    17 52.20    0.2
       1.0s     60.00nm        5.5mb
PRU    80.30 329 Pc     17 54.70    0.2
       1.0s     36.10nm        5.3mb
                e       18 03.00
CTT    80.31 316 iP     17 55.20    0.5
SRO    80.41 326 iP     17 56.00    0.9
PVL    80.48 319 iPc    17 56.00    0.5
BZS    80.55 323 eP     17 55.00   -0.9
ZST    80.64 327 iP     17 57.00    0.7
WIT    80.87 335 eP     17 59.00    1.6
VKA    80.92 327 eP     17 58.50    0.7
EDC    81.17 316 eP     17 59.00   -0.3
SOP    81.27 327 iPc    18 04.10    4.5X
HRI    81.35 306 eP     18 01.00    0.5
KHC    81.36 329 iPc    18 00.60    0.5
       1.1s     34.00nm        5.3mb
WTS    81.51 334 eP     18 01.00    0.3
       0.9s     23.00nm        5.2mb
EKA    81.52 341 Pd     18 01.40    0.6
       0.9s     10.10nm        4.8mb
PGB    81.55 319 eP     18 02.00    0.7
BCK    81.65 312 eP     18 01.90    0.0
KHL    81.66 313 eP     18 01.60   -0.4
GRF    81.83 331 iPc    18 03.50    1.0
       1.0s     87.00nm        5.7mb
RZN    81.89 318 iPc    18 04.00    0.8
VTS    82.00 320 iPc    18 04.00    0.2
ALQ    82.26  51 eP     18 05.90    0.6
       1.0s      7.50nm        4.7mb
DSI    82.70 305 iPc    18 08.00    0.6
SRS    82.89 318 ePc    18 08.20    0.0
PTJ    82.91 326 eP     18 08.20   -0.1
MEM    82.95 334 P      18 08.40    0.1
FUR    83.05 330 iPc    18 09.50    0.6
       1.0s     57.00nm        5.6mb
KBA    83.09 328 eP     18 10.00    0.7
KNT    83.21 319 ePc    18 09.50   -0.4
OUR    83.26 318 ePc    18 10.10    0.1
VAY    83.26 319 iP     18 10.50    0.4
SKO    83.35 320 iP     18 11.50    1.0
       1.2s     78.00nm        5.7mb
LJU    83.41 327 e(P)   18 20.50    9.7X
VBY    83.53 326 e(P)   18 11.70    0.3
THE    83.57 318 eP     18 11.10   -0.5
SNF    83.61 335 Pc     18 11.40   -0.3
GRG    83.62 319 iPc    18 12.30    0.3
VOY    83.69 327 iPc    18 11.30   -1.0
WLF    83.70 333 P      18 14.00    1.9
CEY    83.70 327 ePc    18 12.10   -0.2
FVI    83.71 328 Pc     18 11.30   -0.9
PAIG   83.71 318 iPc    18 12.30   -0.1
GWF    83.75 332 P      18 12.59    0.1
DOU    83.86 335 P      18 13.50    0.5
TRI    84.01 327 Pc     18 13.00   -0.8
RIY    84.03 326 eP     18 13.00   -0.9
PHP    84.05 321 iPc    18 13.60   -0.5
LIT    84.20 318 iPc    18 14.60   -0.3
MBH    84.22 304 iPc    18 16.00    0.9
SDA    84.27 321 eP     18 15.30    0.2
OHR    84.31 320 iP     18 15.40   -0.1
       1.0s      0.07nm        2.8mb X
WLS    84.32 332 P      18 15.42    0.0
CDF    84.35 332 P      18 15.42   -0.2
SLE    84.44 331 ePc    18 16.00    0.0
FEL    84.53 331 P      18 16.27   -0.3
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01d 23h

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SAX     84.54 330 ePc    18 17.00    0.2
ECH     84.56 332 P      18 16.55    0.0
TIR     84.59 321 eP     18 16.50   -0.3
CTI     84.61 328 Pc     18 16.10   -0.9
OSS     84.70 330 ePc    18 17.80    0.3
ZLA     84.72 331 ePc    18 17.30   -0.1
HVAR    84.81 324 iP     18 16.80   -1.1
MOF     84.87 332 P      18 17.90   -0.3
VITF    84.98 333 P      18 18.65    0.1
LLS     84.99 330 ePc    18 19.30    0.3
BSF     85.02 332 eP     18 19.10    0.1
        1.1s    14.60nm          5.1mb
HAU     85.03 332 iPc    18 19.20    0.3
        0.8s    19.80nm          5.3mb
BBS     85.06 331 P      18 19.29    0.2
LOMF    85.41 332 P      18 21.25    0.3
SAL     85.43 329 Pc     18 20.80   -0.1
MDI     85.62 329 P      18 23.40    1.6
SRN     85.64 320 eP     18 21.70   -0.3
TMA     85.67 330 ePc    18 22.20   -0.2
VAI     85.91 330 Pc     18 22.90   -0.4
MMK     86.07 330 ePc    18 24.80    0.4
SFI     86.25 327 P      18 25.60    0.6
DIX     86.26 331 ePc    18 25.70    0.3
LCI     86.30 321 P      18 24.50   -0.8
PGD     86.35 327 P      18 26.60    0.9
ORO     86.42 330 Pc     18 24.70   -1.3
EMS     86.45 331 ePc    18 26.30    0.1
CRE     86.45 327 Pc     18 26.60    0.5
LOR     86.54 333 iPc    18 26.60    0.2
        0.7s    41.30nm          5.8mb
BOB     86.55 329 P      18 26.60    0.0
ASS     86.59 326 P      18 27.60    0.8
FLN     86.65 337 iPc    18 27.20    0.3
        0.9s    22.90nm          5.4mb
LDF     86.69 336 eP     18 27.40    0.3
        0.8s    16.10nm          5.3mb
LBF     86.74 333 iPc    18 27.70    0.2
        0.8s    33.50nm          5.6mb
GRC     86.78 334 P      18 28.14    0.6
SSF     86.84 334 iPc    18 28.30    0.4
        0.8s    36.80nm          5.7mb
DUI     86.92 324 Pc     18 28.50    0.1
LPG     87.00 331 eP     18 29.50    0.5
        0.9s    31.10nm          5.5mb
SMF     87.08 333 iPc    18 29.40    0.3
        1.1s    48.80nm          5.7mb
GRR     87.10 337 iPc    18 29.60    0.5
        0.9s    42.50nm          5.7mb
AVF     87.13 334 iPc    18 29.70    0.5
MNS     87.14 326 P      18 28.80   -0.6
SDI     87.17 324 Pc     18 29.00   -0.6
LPF     87.47 337 iPc    18 31.50    0.6
        1.1s    36.10nm          5.5mb
BGF     87.50 334 iPc    18 31.40    0.3
        0.9s    13.10nm          5.2mb
CSI     87.54 322 P      18 30.10   -1.3
ROI     87.57 322 P      18 31.10   -0.5
PLDF    87.74 333 P      18 32.75    0.4
AGO     87.84 333 P      18 33.86    1.1
MAF     87.89 334 iPc    18 33.80    0.8
        1.1s    48.80nm          5.7mb
TCF     87.95 334 iPc    18 33.90    0.6
        1.0s    20.80nm          5.4mb
CZI     88.05 322 P      18 32.80   -1.0
PYM     88.15 333 P      18 35.12    0.8
LSF     88.22 334 iPc    18 35.10    0.6
        1.0s    54.80nm          5.8mb
MFF     88.46 336 iPc    18 36.10    0.4
        1.1s    41.00nm          5.6mb
SOI     88.99 321 Pc     18 38.00   -0.3
RJF     89.05 334 eP     18 39.40    0.9
        1.0s    25.60nm          5.5mb
CAF     89.19 333 iPc    18 40.20    1.0
        0.8s    20.10nm          5.5mb
LFF     89.63 334 iPc    18 42.10    0.8
        0.9s    36.00nm          5.7mb
LPO     89.71 334 iPc    18 42.30    0.7
        0.7s    11.00nm          5.3mb
EPF     91.45 334 iPc    18 49.90    0.1
        0.9s     8.80nm          5.2mb
SLR    124.39 263 ePKP   24 43.00   -0.1
LPB    144.72  59 PKP    25 18.00   -3.4X
CNCB   145.00  59 PKP    25 21.80   -0.3
CCH    146.62  58 PKP    25 25.80    1.4
PDCR   153.39   5 ePKP   25 27.60   -6.8X
      S.D. = 0.9  an 196 of 213 obs.
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-----------------------------------------
    NOV  01, 1989  23h 20m 16.54± 0.50s
    39.338 N ± 6.8km  143.556 E ± 7.0km
    DEPTH =  29.3km  (  3 depth phases)
    4.2mb (  3 obs.)
  OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.12 222 iPd    21 18.10   -0.9
                  eS     22 01.70
NIIJ     4.15 241 P      21 20.00    0.5
CHJJ     4.89 229 P      21 29.40   -0.5
MAT      5.06 238 iPc    21 33.10    0.6
                  (S)    22 37.00
MTMJ     5.31 241 P      21 37.20    1.2
IIDJ     5.92 231 P      21 44.80    0.3
MDJ     11.65 301 eP     23 03.50   -0.3
SNY     15.38 286 eP     23 53.20    0.2
SSE     20.01 253 Pc     24 49.00   -0.6
                  pP     24 57.00   30km
BJI     21.06 281 eP     24 56.50   -3.9X
WHN     25.41 259 Pc     25 43.00   -0.1
        1.0s      0.06nm          2.2mb X
                  pP     25 52.00   32km
BTO     25.65 284 eP     25 46.00    0.6
XAN     28.16 270 P      26 08.00   -0.3
GYA     33.30 259 P      26 52.60   -1.3
GTA     33.56 284 Pc     26 56.40    0.3
WMQ     41.35 295 eP     28 01.50    0.1
CHG     43.51 255 eP     28 19.20    0.1
CHTO    43.51 255 eP     28 19.20    0.1
        0.8s      2.01nm          3.9mb
                  pP     28 26.90   26km
INK     51.57  28 eP     29 21.00   -0.5
GBA     63.08 266 P      30 43.00   -0.6
LRM     71.33  46 eP     31 36.10    0.5
KVN     72.03  54 eP     31 40.50    0.6
HFS     72.67 336 eP     31 42.40   -0.6
        0.5s      1.50nm          4.3mb
NB2     72.70 338 P      31 42.80   -0.5
        0.8s      3.00nm          4.4mb
PRNI    84.03 305 eP     32 40.00   -5.7X
OHR     84.46 320 e(P)   32 48.00    0.3
MBH     84.49 304 eP     32 49.00    1.1
      S.D. = 0.6  on  25 of  27 obs.
-----------------------------------------
?   NOV  01, 1989  23h 25m 48.41± 6.34s
    34.248 S ±45.3km   71.209 W ±13.0km
    DEPTH =  10.0km  (geophysicist)
  NEAR COAST OF CENTRAL CHILE      (135)

LNV      0.34 330 iPd    25 56.00    0.6
                  iS     26 12.00
CHCH     0.56  56 iPc    26 00.30    0.5
                  iS     26 18.00
TACH     0.63  21 iPc    26 02.00    0.8
                  iS     26 20.50
LCCH     0.83 339 iP     26 02.00   -2.4
                  iS     26 25.00
PCH      0.85  43 iPc    26 04.60   -0.3
                  iS     26 25.50
SAN      0.91  30 ePd    26 06.00    0.1
                  iS     26 28.60
PEL      1.18  22 iPd    26 10.00   -0.5
                  iS     26 36.00
FCH      1.19  40 iPc    26 10.10   -0.8
                  iS     26 36.00
IHA      1.27 343 eP     26 13.80    1.8
                  eS     26 36.00
ROCH     1.28   7 iP     26 12.00   -0.4
                  iS     26 33.50
JACH     1.64  18 iPc    26 17.50    0.0
                  iS     26 48.50
      S.D. = 1.2  on  11 of  11 obs.
-----------------------------------------
?   NOV  01, 1989  23h 37m 07.50± 3.67s
    39.224 N ±37.8km  144.954 E ±52.3km
    DEPTH =  33.0km  (normal)
    4.3mb (  2 obs.)
  OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.84 233 P      38 20.30    0.4
CHJJ     5.69 238 P      38 31.40   -0.6
MAT      5.97 245 iPc    38 34.70   -1.2
                  (S)    39 46.00
MTMJ     6.24 247 P      38 38.20   -1.5
IIDJ     6.74 239 P      38 47.30    0.6
CN2     15.30 294 eP     40 50.00    7.4X
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SSE     21.02 255 Pc     42 01.50   11.0X
        1.0s     24.00nm
BJI     22.14 281 eP     41 57.00   -4.8X
WHN     26.46 260 eP     42 45.00    1.7
                  pP     42 51.00   21kmX
GYA     34.35 260 P      43 54.00    0.6
GTA     34.64 285 eP     43 56.80    0.9
WMQ     42.39 295 Pd     45 03.40    3.1X
CHTO    44.53 256 eP     45 18.70    0.8
HFS     73.21 337 eP     48 44.20    7.6X
        0.4s      1.40nm          4.3mb
NB2     73.21 338 P      48 35.00   -1.7
        0.8s      2.80nm          4.3mb
      S.D. = 1.3  an  10 of  15 obs.
-----------------------------------------
?   NOV  01, 1989  23h 52m 45.52± 3.25s
    39.075 N ±37.9km  144.061 E ±50.3km
    DEPTH =  33.0km  (normal)
    3.8mb (  1 obs.)
  OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.21 228 P      53 49.20    0.2
NIIJ     4.39 247 P      53 52.50    0.9
CHJJ     5.03 235 P      54 00.70    0.0
MAT      5.28 243 eP     54 03.00   -1.2
                  eS     55 08.00
NB2     73.10 338 P      04 14.00    0.0
        0.7s      0.80nm          3.8mb
      S.D. = 1.1  on   5 of   5 obs.
-----------------------------------------
    NOV  02, 1989  01h 09m 42.52± 0.38s
    39.404 N ± 6.1km  143.520 E ± 5.7km
    DEPTH =  27.3km  (  7 depth phoses)
    4.7mb ( 15 obs.)  4.6Msz (  2 obs.)
  OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.15 221 P      10 44.60   -1.0
                  S      11 30.70
NIIJ     4.16 240 P      10 46.40    0.6
                  S      11 32.90
CHJJ     4.91 228 P      10 56.10   -0.3
MAT      5.08 237 iPc    10 59.80    1.0
                  eS     12 04.00
MTMJ     5.32 240 P      11 03.60    1.3
IIDJ     5.94 230 P      11 11.20    0.2
TSRJ     7.13 240 P      11 29.00    1.4
MDJ     11.59 301 eP     12 29.00   -0.2
CN2     14.21 294 eP     13 05.00    1.0
      N  12s      1.80um
      E  12s      1.70um
                  epP    13 10.00
SNY     15.34 285 eP     13 18.50   -0.1
      Z  14s      3.10um
      N  12s      1.70um
      E  14s      2.70um
SSE     20.00 252 Pc     14 15.50   -0.2
        1.0s     36.00nm          4.7mb
      Z  16s      1.80um
      N  12s      1.30um
      E  12s      1.10um
                  pP     14 22.00   25km
                  eS     19 05.00
BJI     21.02 280 Pd     14 23.50   -2.7
        1.5s     79.00nm          4.9mb
      Z  16s      2.10um          4.6MszX
      N  12s      0.90um
      E  13s      1.28um
                  eS     18 11.00
TIA     21.07 270 eP     14 23.80   -3.1X
NJ2     21.29 257 Pc     14 27.20   -1.8
      Z  14s      1.40um          4.5MszX
TIY     24.31 276 eP     14 59.00    0.1
      N  12s      1.20um
HHC     24.41 284 eP     14 58.40   -1.4
      Z  20s      2.10um          4.6Msz
      E  15s      1.90um
                  eS     19 18.00
WHN     25.40 259 Pc     15 09.50    0.3
        1.0s      0.12nm          2.5mb X
                  pP     15 18.70   33km
BTO     25.61 283 eP     15 12.00    0.8
      N  12s      0.70um
      E  15s      2.80um
XAN     28.13 270 eP     15 33.50   -0.8
      N  12s      1.20um
      E  13s      1.20um
LZH     31.38 277 eP     16 02.30   -1.0
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        1.5s     35.00nm          5.0mb
     Z  15s      2.70um          5.0MszX
     N  12s      1.30um
     E  13s      2.20um
                   eS     21 46.00
CD2     33.38 268 eP      16 19.50   -1.2
     N  12s      0.90um
GTA     33.52 284 Pc      16 22.00    0.0
     Z  14s      2.10um          5.0MszX
     E  14s      1.60um
KMI     36.99 260 Pc      16 51.50   -0.2
                  pP      17 01.00   32km
WMO     41.30 295 Pc      17 27.70    0.5
     Z  16s      0.80um          4.7MszX
CHG     43.50 255 eP      17 46.00    0.7
CHTO    43.50 255 eP      17 45.90    0.6
        0.8s      4.03nm          4.2mb
                  pP      17 53.20   24km
KSH     51.00 293 eP      18 44.00   -0.1
INK     51.52  28 eP      18 47.50    0.0
WB5     59.59 190 eP      19 45.00   -1.2
                  i       20 31.00  200kmX
KEV     61.82 339 eP      19 59.00   -1.9
GBA     63.05 266 P       20 10.00    0.3
                  e       23 52.00
SOD     63.43 337 iP      20 05.80   -5.7X
                  i       20 11.50   18km
MAIO    64.04 297 eP      20 16.00   -0.1
SUF     66.61 334 iP      20 31.90   -0.2
        0.5s      2.40nm          4.6mb
NUR     68.63 332 iP      20 44.40   -0.4
        0.6s      7.80nm          5.0mb
FFC     70.82  34 eP      20 58.00   -0.3
        0.8s      8.00nm          4.9mb
LRM     71.30  46 eP      21 02.00    0.3
                  e       21 11.70   31km
KVN     72.01  54 eP      21 07.20    1.2
HFS     72.60 336 eP      21 07.90   -1.0
        0.5s      3.10nm          4.6mb
     Z  19s      0.29um          4.6Msz
                  LR      54 16.00
NB2     72.63 338 P       21 08.60   -0.5
        0.8s      5.30nm          4.6mb
TNP     73.15  54 P       21 12.00   -0.7
        0.8s      4.41nm          4.5mb
KRA     78.05 327 eP      21 40.70    0.7
KSP     78.95 329 eP      21 45.80    0.9
                  e       22 23.70  153kmX
                  e       25 28.70
CLL     79.85 331 eP      21 49.00   -0.8
                  e       22 28.00  157kmX
SRO     80.45 326 e(P)    22 04.00   11.0X
                  e       22 31.40  106kmX
ZST     80.67 327 eP      22 09.30   15.1X
                  e       22 33.00   89kmX
SOP     81.30 327 eP      22 02.30    4.8X
KHC     81.37 329 eP      21 59.20    1.3
                  e       22 37.50  154kmX
GRF     81.83 331 ePKP    22 01.30    1.0
MMB     82.57 319 eP      22 05.00    0.7
VAY     83.35 319 eP      22 09.30    1.0
                  i       22 47.00  150kmX
SKO     83.43 321 iP      22 10.00    1.3
                  i       22 19.00   28km
                  i       22 47.50
                  i       22 57.20
                  i       25 52.00
OHR     84.40 320 eP      22 13.70    0.1
        0.8s      0.03nm          2.5mb X
LOR     86.52 334 eP      22 24.10    0.0
        0.8s      4.50nm          4.8mb
LBF     86.72 334 eP      22 25.10    0.0
        0.8s      5.30nm          4.8mb
SSF     86.82 334 eP      22 25.80    0.3
LPG     87.00 331 eP      22 27.20    0.4
        0.8s      4.00nm          4.7mb
AVF     87.10 334 eP      22 27.30    0.4
        0.9s      8.80nm          5.0mb
MAF     87.87 334 eP      22 31.50    0.9
        0.8s      4.00nm          4.8mb
ZOBO   144.05  59 ePKP    29 17.00   -1.3
CNCB   144.53  60 ePKP    29 19.00   -0.1
     S.D. = 0.9  on  56 of  61 obs.
-----------------------------------
*  NOV  02, 1989  01h 13m 25.94± 0.84s
   39.567 N ±11.1km  143.378 E ±12.8km
   DEPTH =  30.1km  (  5 depth phases)
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     4.5mb (  5 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.15 237 P       14 29.50    0.7
KAKJ     4.21 218 P       14 27.80   -1.8
                  S       15 14.00
CHJJ     4.94 226 P       14 39.30   -0.7
MAT      5.08 235 eP      14 43.00    1.0
                 (S)       15 42.00
MTMJ     5.31 238 P       14 45.90    0.6
MDJ     11.41 301 eP      16 17.50    7.6X
SSE     19.94 252 P       17 58.50    0.2
        1.0s      0.01nm          1.2mb X
                  pP      18 06.50   31km
BJI     20.88 280 eP      18 06.00   -1.9
HHC     24.27 283 eP      18 41.00   -0.5
WHN     25.32 258 Pd      18 53.00    1.5
        1.0s      0.07nm          2.2mb X
                  pP      19 01.50   30km
BTO     25.46 283 eP      18 52.00   -0.9
LZH     31.25 276 eP      19 44.50   -0.7
        2.5s     80.00nm          5.1mb
GYA     33.21 258 P       20 02.60    0.2
GTA     33.38 284 iPc     20 05.00    1.3
OIZ     35.40 244 eP      20 15.00   -6.1X
     E  15s      1.00um
KMI     36.91 259 eP      20 35.00    0.9
                  pP      20 43.50   29km
CHTO    43.43 255 eP      21 28.60    0.8
        1.0s      5.00nm          4.2mb
                  pP      21 38.00   31km
INK     51.43  28 eP      22 30.00    0.2
GBA     62.96 265 Pc      23 51.30   -0.8
        0.7s      5.40nm          4.8mb
LRM     71.27  46 eP      24 44.60    0.0
                  e       24 53.90   30km
HFS     72.41 336 eP      24 50.40   -0.4
        0.4s      1.00nm          4.2mb
NB2     72.44 338 P       24 51.20    0.2
        1.0s      4.50nm          4.4mb
OHR     84.20 320 e(P)    25 56.00    0.3
     S.D. = 1.0  on  21 of  23 obs.
-----------------------------------
   NOV  02, 1989  01h 42m 38.56± 0.41s
   39.534 N ± 6.8km  143.511 E ± 6.6km
   DEPTH =  33.0km  (normal)
   4.8mb (  9 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.22 239 P       43 43.20    1.1
KAKJ     4.24 220 P       43 41.60   -0.9
CHJJ     4.99 227 iP+     43 52.90   -0.2
MAT      5.14 236 iPc     43 56.40    1.1
                 (S)       45 03.00
MTMJ     5.38 239 P       43 59.80    1.1
IIDJ     6.02 229 P       44 08.80    1.2
MDJ     11.52 301 eP      45 23.50   -0.2
CN2     14.16 293 eP      46 01.00    2.3
SSE     20.03 252 P       47 11.00   -0.4
     N  12s      0.50um
                  eS      51 04.00
BJI     20.99 280 eP      47 16.50   -4.8X
     Z  16s      0.64um          4.1MszX
TIA     21.07 269 eP      47 19.50   -2.7
     Z  15s      1.10um          4.4MszX
HHC     24.37 283 eP      47 53.20   -1.6
WHN     25.42 258 Pc      48 05.00    0.3
        1.0s      0.08nm          2.3mb X
                  pP      48 14.00   32kmX
XAN     28.13 270 P       48 28.00   -1.6
LZH     31.35 276 eP      48 57.70   -0.7
     Z  14s      0.80um          4.5MszX
GYA     33.31 258 P       49 15.00   -0.5
CD2     33.38 268 P       49 15.20   -0.8
GTA     33.48 284 P       49 17.00    0.1
     Z  14s      0.60um          4.5MszX
KMI     37.00 260 eP      49 47.00   -0.1
WMQ     41.24 295 iPc     50 22.40    0.4
CHG     43.52 255 eP      50 42.00    1.2
CHTO    43.52 255 eP      50 41.20    0.4
        0.8s      4.03nm          4.2mb
FBA     46.11  33 eP      51 10.30    9.4X
INK     51.41  28 eP      51 41.00   -0.9
WB5     59.72 190 eP      52 41.00   -1.3
GBA     63.06 266 P       53 04.00   -1.0
ASPA    63.51 190 eP      53 14.50    6.7X
LON     65.36  49 P       53 09.80   -9.9X
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LRM     71.22  46 eP      53 56.30   -0.1
KVN     71.94  54 P       54 01.20    0.4
HFS     72.48 336 eP      54 02.10   -1.3
        0.5s      7.40nm          4.9mb
NB2     72.51 338 P       54 02.60   -1.0
        0.8s      7.00nm          4.7mb
TNP     73.08  54 P       54 08.00    0.5
KSP     78.83 329 eP      54 39.60    0.1
CLL     79.73 331 eP      54 44.00   -0.3
                  e       55 04.00
PRU     80.20 329 eP      54 47.50    0.6
KHC     81.26 329 eP      54 53.00    0.5
ALQ     81.73  51 eP      54 56.50    1.0
        1.0s      3.00nm          4.3mb
VAY     83.25 319 eP      55 03.60    0.6
SKO     83.33 320 eP      55 04.00    0.6
OHR     84.29 320 eP      55 08.00   -0.3
LOR     86.40 334 eP      55 18.80    0.1
        0.8s      5.90nm          4.9mb
LBF     86.60 334 eP      55 19.80    0.1
        0.8s      4.00nm          4.7mb
SSF     86.70 334 eP      55 20.50    0.4
LPG     86.88 331 eP      55 22.00    0.6
        0.8s     27.40nm          5.5mb
AVF     86.98 334 eP      55 21.90    0.4
        0.8s      4.50nm          4.8mb
MAF     87.75 334 eP      55 26.30    1.1
        0.8s      4.50nm          4.8mb
ZOBO   143.99  59 ePKP    02 19.00    5.6X
LPB    144.20  59 (PKP)   02 19.00    5.5X
CNCB   144.47  59 ePKP    02 14.00   -0.2
     S.D. = 1.0  on  44 of  50 obs.
-----------------------------------
   NOV  02, 1989  01h 45m 53.37± 0.24s
   41.257 N ± 2.6km   19.986 E ± 2.4km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                          (391)
      ML 3.8 (SKO), 3.5 (THE), 3.3
      (TTG). MD 3.7 (ATH). Felt (IV)
      at Tirona and Elbason.

TIR      0.13 315 iPgc     45 56.70    0.3
PHP      0.55  38 iPgc     46 02.70   -1.8
BERA     0.55 183 iPgc     46 03.30   -1.3
OHR      0.63 103 iPc      46 04.20   -1.9
                  iSg     46 13.70
PUK      0.79 355 iPgd     46 06.90   -1.8
SDA      0.84 334 iPgc     46 10.10    0.5
VLO      0.87 205 iPg      46 10.30    0.2
KKS      0.88  21 iPg      46 10.00   -0.2
KBN      0.89 135 iPgc     46 08.80   -1.6
ULC      0.90 322 iPgd     46 10.40   -0.1
                  iSg     46 26.00
TTG      1.29 335 iPgd     46 17.30    0.0
                  eSg     46 37.60
SKO      1.30  56 iPg      46 17.30   -0.2
PVY      1.34 360 iPgd     46 17.90   -0.2
                  eSg     46 38.00
BDV      1.34 320 ePg      46 18.70    0.6
                  eSg     46 40.50
SRN      1.38 180 ePn      46 19.90    1.4
KEK      1.55 185 ePn      46 22.20    1.2
HCY      1.63 317 iPnc     46 23.60    1.4
                  eSn     46 48.00
KZN      1.66 124 ePn      46 22.50   -0.1
NKY      1.72 335 iPnc     46 25.10    1.5
                  eSn     46 51.50
LCI      1.80 240 Pc       46 23.60   -1.0
                  eSg     46 49.40
GRG      1.85  99 ePn      46 25.30   -0.1
                  eSn     46 51.20
BRY      1.96 327 iPnd     46 29.30    2.2
                  eSn     46 58.00
PLE      2.12 348 iPnd     46 32.00    2.6
                  eSn     47 03.20
BRT      2.14 261 Pd       46 30.00    0.4
KNT      2.20  92 ePnc     46 30.50    0.0
                  eSn     46 57.80
LIT      2.23 120 ePn      46 31.10    0.2
                  eSn     47 01.90
THE      2.34 104 ePn      46 32.50    0.0
                  eSn     47 02.80
SRS      2.73  92 ePn      46 38.50    0.5
                  eSn     47 12.10
VTS      2.75  60 eP       46 39.00    0.5
                  iSg     47 16.00
PLG      2.77 107 ePn      46 40.00    1.4
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02d 01h

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MMB      2.83  82 eP     46 41.00    1.5
AGG      2.87 140 ePn    46 41.70    1.7
                 eSn    47 18.50
ROI      3.10 238 P      46 44.50    1.2
PAIG     3.11 114 ePn    46 42.70   -0.7
                 eSn    47 21.50
VLS      3.11 171 ePn    46 42.20   -1.2
NEO      3.15 127 ePn    46 44.00    0.0
OUR      3.17 106 ePn    46 44.10   -0.1
CSI      3.18 244 P      46 43.00   -1.4
TDS      3.21 241 P      46 44.20   -0.6
                 eSn    47 25.10
HVAR     3.25 307 iPn    46 45.10   -0.3
MMN      3.34 247 P      46 48.20    1.6
MGR      3.55 253 Pd     46 50.40    0.8
                 eSn    47 33.60
RZN      3.58  82 eP     46 53.00    2.7X
CZI      3.58 237 P      46 50.60    0.5
SGO      3.61 260 Pd     46 50.70    0.2
DUI      4.17 277 Pd     46 58.70    0.1
RDO      4.19  90 ePn    46 59.00    0.3
ITM      4.34 159 ePn    47 01.50    0.6
SOI      4.40 225 P      47 00.20   -1.4
                 eSn    47 50.70
BZS      4.52  15 ePc    47 03.50    0.2
SDI      4.66 278 Pd     47 05.50    0.0
CIO      5.44 293 iPn    47 14.52   -2.0
                 eSn    48 16.69
MNS      5.57 284 Pd     47 17.80   -0.6
RIY      5.78 317 ePn    47 20.10   -1.0
CEY      6.03 320 ePn    47 24.50   -0.3
                 e(Sn)  48 38.50
LJU      6.21 322 e(Pn)  47 26.50   -0.7
TRI      6.35 317 e(P)   47 28.60   -0.6
VOY      6.50 319 ePn    47 30.00   -1.5
                 eSn    48 47.20
FVI      7.45 318 Pd     47 43.90   -0.7
CTI      7.71 311 P      47 45.30   -3.1X
     S.D. = 1.1  on  58 of  60 obs.
-----------------------------------------
   NOV  02, 1989  02h 22m 01.84± 0.22s
   14.140 S ± 7.7km  170.492 E ± 6.2km
   DEPTH =  33.0km  (normal)
   5.3mb (  9 obs.)  4.5Msz (  1 obs.)
 VANUATU ISLANDS REGION              (185)

PVC      4.15 210 iPd    23 03.50   -1.0
SVA      8.61 118 eP     23 18.20  -49.1X
DZM      8.78 205 iPc    24 09.30   -0.2
BRS     21.14 229 iPd    26 48.50    2.1
PMG     23.32 279 eP     27 10.00    2.0
COO     23.68 223 iPc    27 14.10    2.6
RMQ     23.76 235 iPc    27 14.40    2.1
        0.9s   389.00nm          5.9mb
QLP     27.49 239 eP     27 47.70    0.4
STK     31.78 231 iPc    28 26.50    1.0
WB5     34.96 256 eP     28 51.10   -2.1
ASPA    35.80 249 iPd    28 58.00   -2.3
        0.8s    73.00nm          5.7mb
      Z  19s     0.84um          4.5Msz
                 e      29 06.60
                 LR     42 24.30
MTN     38.27 267 eP     29 20.00   -1.1
KNA     40.30 262 eP     29 37.20   -0.8
WARB    42.68 247 eP     29 57.60    0.2
COOL    48.14 241 eP     30 39.00   -2.0
MBL     48.61 254 eP     30 44.30   -0.4
NWAO    51.73 239 eP     31 07.00   -1.4
        1.0s    50.00nm          5.4mb
PCI     51.77 280 ePc    31 10.50    1.6
NANU    52.60 252 eP     31 14.80   -0.2
KKM     57.46 287 ePc    31 49.50   -1.0
CN2     70.80 327 eP     33 15.80   -1.3
PSI     72.84 277 ePc    33 28.80   -1.0
BJI     73.81 320 eP     33 34.50   -0.4
TIY     74.98 316 Pc     33 42.50    0.6
XAN     75.63 311 P      33 45.70    0.1
HHC     77.19 318 P      33 55.50    1.1
CHG     77.70 293 eP     33 58.20    0.7
CHTO    77.70 293 eP     33 58.20    0.8
        1.0s    6.00nm          4.6mb
BTO     78.07 317 eP     34 00.00    0.8
LZH     80.26 311 eP     34 11.70    0.4
        2.5s    8.00nm          4.3mb
      Z  25s     0.80um          5.0MszX
                 pP     34 18.50   22kmX
                 sP     34 23.50
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                 e(S)   43 06.50
TTA     81.13  15 P      34 16.80    1.7
ARN     81.76  48 P      34 19.20    0.3
SYP     81.77  51 eP     34 19.00   -0.2
PMR     81.94  18 P      34 18.40   -0.8
        1.7s   108.17nm          5.6mb
BCH     81.95  51 P      34 20.00   -0.1
WDC     82.43  45 eP     34 22.80    0.5
CMB     82.87  48 P      34 25.00    0.3
        1.3s    16.39nm          5.0mb
FRI     82.95  49 eP     34 23.20   -1.8
MWC     83.12  52 eP     34 25.00   -1.2
LBFM    83.20  45 P      34 27.00    0.5
ISA     83.35  51 eP     34 27.00   -0.2
SBB     83.47  52 eP     34 27.00   -0.9
RVR     83.56  53 eP     34 28.00   -0.2
BAR     83.63  54 eP     34 29.00    0.3
PEC     83.69  53 P      34 31.00    2.0
PLM     83.72  53 eP     34 29.00   -0.3
CLC     84.07  51 eP     34 31.00    0.1
IMA     84.31  14 P      34 31.50    0.0
        1.5s    38.85nm          5.4mb
GSC     84.48  52 eP     34 33.00    0.0
GTA     84.54 313 P      34 33.40    0.2
BMW     84.59  39 P      34 33.50    0.3
TPC     84.62  53 eP     34 34.00    0.3
FBA     84.87  17 eP     34 33.90   -0.3
        1.2s     0.80nm          3.8mb X
KVN     84.92  48 P      34 35.00   -0.2
GLA     85.21  54 eP     34 38.00    1.4
GMW     85.34  39 P      34 36.30   -0.6
LON     85.59  40 P      34 37.60   -0.6
RMW     85.90  39 P      34 39.80    0.0
PNT     88.01  38 eP     34 50.00    0.1
MSU     89.06  50 P      34 56.20    0.7
DAU     90.34  48 P      35 02.00    0.5
ALQ     92.41  55 P      35 10.90   -0.1
        1.5s    19.71nm          5.3mb
WMQ     94.56 314 P      35 20.50    0.0
SPC    137.37 331 ePKP   41 24.60    0.5
CLL    138.72 339 ePKP   41 27.00    0.8
                 eSg    06 16.00
ZST    139.53 333 ePKP   41 31.00    3.2X
KHC    140.28 336 ePKP   41 21.00   -8.2X
PDCR   140.46 131 e(PKP)41 24.00   -6.5X
SKO    141.46 322 ePKP   41 30.00   -1.5
LJU    142.30 332 e(PKP)41 32.50   -0.4
OHR    142.36 321 ePKP   41 25.50   -7.7X
VBY    142.38 331 e(PKP)41 30.80   -2.2X
FLN    144.68 350 ePKP   41 35.10   -1.7
LDF    144.78 349 ePKP   41 35.40   -1.6
VAI    144.81 338 PKP    41 34.60   -2.5X
GRR    145.11 350 ePKP   41 36.80   -0.7
CIO    145.11 330 ePKP   41 36.84   -1.0
LOR    145.14 344 ePKP   41 37.00   -0.7
SFI    145.15 333 PKP    41 37.20   -0.5
PGD    145.24 333 PKP    41 38.50    0.3
ORO    145.31 338 PKPd   41 37.00   -1.1
LBF    145.37 344 ePKP   41 37.70   -0.4
SSF    145.42 344 ePKP   41 38.00   -0.1
MME    145.44 334 PKPd   41 27.20  -11.4X
ASS    145.44 331 PKPd   41 38.60    0.2
BOB    145.48 336 PKP    41 37.30   -1.1
LPF    145.48 350 ePKP   41 38.30    0.1
FIR    145.53 333 ePKP   41 39.00    0.6
BDI    145.59 334 PKP    41 39.00    0.4
DUI    145.59 327 PKPd   41 38.10   -0.6
AVF    145.71 344 ePKP   41 38.70    0.1
SMF    145.71 344 ePKP   41 38.80    0.1
ROI    145.84 323 PKP    41 39.90    0.7
LPG    145.85 339 ePKP   41 39.90    0.6
CSI    145.87 323 PKP    41 38.30   -0.9
SDI    145.89 328 PKP    41 38.50   -0.7
SGO    145.90 325 PKPd   41 38.90   -0.2
TDS    145.92 323 PKPd   41 39.60    0.4
MNS    145.95 330 PKPd   41 37.50   -1.7
MMN    145.97 324 PKP    41 39.80    0.6
MGR    146.05 324 PKP    41 37.80   -1.6
BGF    146.06 345 ePKP   41 39.80    0.6
BNI    146.26 339 PKPd   41 40.50    0.7
CZI    146.33 323 PKP    41 40.00    0.1
RDP    146.40 329 PKP    41 40.50    0.5
MAF    146.44 345 ePKP   41 41.00    1.1
TCF    146.47 345 ePKP   41 41.20    1.3
LSF    146.67 346 ePKP   41 41.60    1.4
MFF    146.70 348 ePKP   41 41.70    1.5
SOI    147.11 321 PKPd   41 42.80    1.7
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RJF    147.56 345 ePKP   41 44.80    3.1X
CAF    147.78 344 ePKP   41 45.30    3.2X
LFF    148.09 346 ePKP   41 46.00    3.5X
LPO    148.23 345 ePKP   41 46.30    3.5X
EPF    149.99 345 ePKP   41 50.40    4.8X
BCAO   150.73 253 iPKPd  41 52.50    5.0X
        0.8s    17.00nm
                 id     42 02.00
                 ic     43 25.80
     S.D. = 1.0  on 102 of 116 obs.
-----------------------------------------
   NOV  02, 1989  02h 22m 51.52± 0.55s
   39.422 N ± 9.3km  143.468 E ± 8.8km
   DEPTH =  33.0km  (normal)
   4.6mb (  6 obs.)  4.3Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.13 240 P      23 54.70    0.8
KAKJ     4.14 220 P      23 52.70   -1.2
CHJJ     4.89 228 P      24 03.70   -0.9
MAT      5.05 237 iPc    24 07.40    0.4
        0.8s   117.91nm          5.4mb
                 eS     25 10.00
MTMJ     5.29 239 P      24 11.10    0.7
IIDJ     5.92 230 P      24 19.90    0.7
MDJ     11.55 301 eP     25 37.00   -0.1
BJI     20.97 280 eP     27 30.50   -3.6X
      Z  16s     0.58um          4.1MszX
TIY     24.27 276 eP     28 08.00    1.3
      Z  20s     1.00um          4.3Msz
WHN     25.36 259 P      28 17.50    0.4
                 pP     28 22.50   18kmX
GYA     33.25 258 P      29 27.00   -1.0
GTA     33.48 284 P      29 29.60   -0.2
WMQ     41.26 295 eP     30 35.60    0.5
CHTO    43.46 255 eP     30 53.00   -0.2
        1.0s     2.25nm          3.9mb
INK     51.53  28 eP     31 56.00    0.3
LRM     71.32  46 eP     34 11.30    1.3
                 e      35 08.60
KVN     72.04  54 eP     34 15.30    0.9
HFS     72.57 336 eP     34 15.70   -1.2
        0.4s     0.60nm          3.9mb
NB2     72.60 338 P      34 16.40   -0.7
        0.8s     2.40nm          4.2mb
TNP     73.17  54 P      34 22.20    1.2
        1.5s    29.04nm          5.1mb
KSP     78.91 329 eP     34 52.00   -0.9
ALQ     81.83  51 eP     35 07.00   -1.9
        1.5s    20.83nm          4.9mb
     S.D. = 1.0  on  21 of  22 obs.
-----------------------------------------
   NOV  02, 1989  03h 14m 55.09± 0.69s
   41.351 N ± 6.3km   20.003 E ± 5.7km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                             (391)
      MG 2.5 (TIR).

TIR      0.10 267 iPgc   14 57.30   -0.5
LACI     0.36 322 ePg    15 02.30   -0.2
PHP      0.47  44 ePg    15 03.70   -0.9
BERA     0.65 184 ePg    15 08.10    0.0
SDA      0.76 331 ePg    15 10.90    0.9
SKO      1.24  60 ePg    15 18.50    0.3
                 i      15 20.30
                 i      15 34.10
VAY      1.93  90 ePn    15 28.70    0.4
     S.D. = 0.8  on  7 of  7 obs.
-----------------------------------------
*  NOV  02, 1989  03h 40m 30.62± 0.41s
   14.307 S ±14.5km  170.513 E ±15.9km
   DEPTH =  33.0km  (normal)
   5.1mb (  3 obs.)
 VANUATU ISLANDS REGION              (185)

PVC      4.02 212 iPc    41 32.80    1.4
DZM      8.63 206 iPc    42 35.00   -1.4
RMQ     23.68 236 eP     45 44.00    3.7X
        1.0s   118.00nm          5.4mb
CTA     23.86 253 iPc    45 44.00    1.9
        1.9s   131.58nm          5.1mb
WB5     34.94 256 eP     47 20.80   -1.0
ASPA    35.76 249 iPc    47 27.80   -1.0
        1.1s    18.00nm          4.9mb
SBB     83.56  52 eP     53 04.00    6.9X
RVR     83.64  53 eP     52 57.00   -0.4
CLC     84.15  51 eP     53 01.00    0.9
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TPC     84.71  53 eP     53 03.00   0.1
KVN     85.02  48 eP     53 04.40  -0.1
FBA     85.03  17 eP     53 03.10  -0.6
         1.8s      0.90nm              3.7mb X
PNT     88.13  38 eP     53 20.00   0.8
FLN    144.85 350 ePKP   00 04.00  -1.9
GRR    145.28 350 ePKP   00 05.60  -1.0
LOR    145.30 344 ePKP   00 06.00  -0.7
LBF    145.53 344 ePKP   00 06.60  -0.6
SSF    145.59 344 ePKP   00 07.00  -0.2
LPF    145.65 350 ePKP   00 07.00  -0.2
AVF    145.88 344 ePKP   00 07.90   0.2
SMF    145.88 344 ePKP   00 07.90   0.2
LPG    146.01 339 ePKP   00 08.80   0.4
BGF    146.22 345 ePKP   00 08.80   0.5
LSF    146.84 346 ePKP   00 10.60   1.3
MFF    146.86 348 ePKP   00 10.60   1.3
LPO    148.39 345 ePKP   00 15.10   3.3X
BCAO   150.70 253 iPKPd  00 21.20   4.9X
         0.8s      8.00nm
      S.D. = 1.0  on  23 of  27 obs.
-----------------------------------
   NOV  02, 1989  04h 01m 29.73± 0.43s
   41.782 N ± 4.0km    19.286 E ± 3.9km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                            (391)
      ML 2.8 (TTG).

ULC      0.18 352 iPgc   01 34.00   0.2
                  iSg    01 36.80
SDA      0.28  34 iPgd   01 36.00   0.4
LACI     0.35 115 iPgd   01 37.20   0.3
BDV      0.61 326 iPgd   01 42.10   0.1
                  eSg    01 52.00
TIR      0.62 135 ePg    01 42.70   0.6
TTG      0.65 358 ePg    01 41.60  -1.1
                  iSg    01 51.10
PHP      0.87  96 ePg    01 44.70  -1.7
HCY      0.89 319 ePg    01 46.80   0.1
                  eSg    02 01.50
KKS      0.89  70 ePg    01 46.00  -0.8
PVY      0.96  32 ePg    01 47.60  -0.5
                  eSg    02 03.20
NKY      1.05 348 ePg    01 50.00   0.4
                  eSg    02 06.00
BERA     1.19 155 ePg    01 52.90   1.0
BRY      1.25 334 ePg    01 54.30   1.3
                  eSg    02 12.00
OHR      1.32 120 iPn    01 54.40   0.2
PLE      1.55   3 ePg    01 59.70   2.2
                  eSg    02 20.50
SKO      1.62  83 iPn    01 59.80   1.4
                  iSn    02 21.90
KBN      1.63 135 ePn    02 02.00   3.4X
LCI      1.76 215 P      01 55.90  -4.6X
BRT      1.81 241 P      02 01.70   0.5
VAY      2.51 100 ePn    02 10.40  -0.8
HVAR     2.52 305 e(Pn)  02 15.20   3.8X
MGR      3.27 241 P      02 21.00  -1.0
SDI      4.09 271 P      02 32.90  -0.8
                  eSn    03 20.80
BZS      4.19  23 ePc    02 34.00  -1.0
VOY      5.76 319 ePn    02 56.40  -1.0
                  eSn    04 01.30
      S.D. = 1.0  on  22 of  25 obs.
-----------------------------------
?  NOV  02, 1989  04h 01m 40.14± 1.54s
   39.437 N ±25.5km  143.432 E ±35.7km
   DEPTH =  33.0km  (normal)
   4.1mb (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.13 220 P      02 41.60  -0.9
CHJJ     4.88 227 P      02 52.70  -0.4
MAT      5.04 237 iPd    02 55.90   0.5
IIDJ     5.91 230 P      03 08.70   1.0
INK     51.53  28 eP     10 45.00   0.7
HFS     72.54 336 eP     13 04.60  -0.7
         0.4s      1.00nm              4.2mb
NB2     72.58 338 P      13 05.40  -0.2
         0.8s      1.60nm              4.1mb
      S.D. = 0.9  on   7 of   7 obs.
-----------------------------------
   NOV  02, 1989  05h 17m 09.48± 0.43s
   44.664 N ± 3.7km   10.566 E ± 4.3km
   DEPTH =  10.6 ±  2.9 km
 NORTHERN ITALY                     (545)

MME      0.48 168 Pc     17 19.60   0.3
                 eSg     17 27.00
BDI      0.60 178 Pd     17 21.30  -0.3
                 eSg     17 30.80
BOB      0.80 278 P      17 25.30   0.2
                 eSg     17 38.80
PII      0.94 182 P      17 28.30   0.9
                 eSg     17 40.80
SAL      0.94 358 P      17 28.40   1.0
                 eSg     17 41.20
PGD      1.14 133 P      17 32.00   1.0
                 eSg     17 48.60
MDI      1.27 332 P      17 33.40   0.5
                 eSg     17 51.40
PCP      1.45 266 P      17 36.69   1.0
                 S       17 56.89
CTI      1.58  29 P      17 37.40  -0.2
                 eSn     18 00.00
CKI      1.65 262 P      17 39.40   0.8
                 eSn     17 59.10
VAI      1.75 314 P      17 41.30   1.4
                 eSn     18 03.00
FIN      1.75 256 P      17 39.56  -0.4
                 S       18 01.71
TMA      1.87 321 ePc    17 41.40  -0.5
ROB      1.96 260 P      17 42.74  -0.4
                 S       18 06.68
OSS      2.04 352 ePd    17 45.30   0.9
IMI      2.06 250 P      17 44.07  -0.5
                 S       18 08.74
ORD      2.07 299 P      17 45.70   1.0
ORX      2.07 299 P      17 45.92   1.2
                 S       18 08.22
ENR      2.29 260 P      17 47.86  -0.1
                 S       18 15.40
STV      2.36 261 P      17 48.48  -0.4
                 S       18 16.43
LLS      2.46 334 ePc    17 51.20   0.8
FVI      2.48  38 P      17 49.80  -0.6
PZZ      2.48 268 P      17 49.15  -1.5
                 S       18 19.91
VOY      2.72  59 ePn    17 52.60  -1.4
                 eSn     18 25.40
SAX      2.72 342 ePc    17 55.20   1.0
LPG      2.83 288 Pn     17 53.80  -1.9
EMS      2.92 300 ePd    17 58.80   1.9
SLE      3.42 336 ePd    18 02.60  -1.2
HAU      4.44 320 Pn     18 16.60  -1.7
                 Sn      19 05.80
      S.D. = 1.1  on  29 of  29 obs.
-----------------------------------
&  NOV  02, 1989  05h 50m 11.00s
   37.057 N          121.797 W
   DEPTH =  12.0km
   4.5mb (  8 obs.)
 CENTRAL CALIFORNIA                 ( 39)
      <BRK>. ML 4.9 (BRK).
      Mo=9.8*10**15 Nm (BRK). Felt (V)
      ot Compbell, Gilroy, Los Gotos
      ond Soquel; (IV) ot Aptos,
      Aromos, Son Juon Boutista and
      Wotsonville. Felt throughout the
      Son Froncisco Boy oreo.

GCC      0.16 260 iPd    50 14.40  -0.5
MHC      0.31  24 iPd    50 17.50  -0.1
ARN      0.36  36 iPd    50 18.30  -0.2
SAO      0.41 136 ePc    50 18.50  -0.9
PCC      0.64 314 iPd    50 22.80  -0.8
PRS      0.80 155 iPc    50 25.70  -0.7
LLA      0.81 122 ePc    50 26.00  -0.6
BKS      0.89 337 iPd    50 26.80  -1.1
                 iS      50 39.80
BRK      0.89 336 eP     50 26.50  -1.4
PRI      1.29 135 ePc    50 33.60  -1.2
CMB      1.49  49 ePd    50 36.70  -0.9
NWRM     1.64 329 eP     50 37.00  -2.7
PHAM     1.66 137 eP     50 38.50  -1.5
FRI      1.67  92 ePd    50 39.20  -1.0
PKEM     1.68 126 eP     50 39.00  -1.4
BCH      2.33 143 ePc    50 47.50  -2.3
ORV      2.51   5 eP     50 50.20  -2.0
BLP      2.74 155 eP     50 53.00  -2.5
ABL      3.04 136 eP     50 57.40  -2.5
LTCM     3.16 355 eP     51 00.00  -1.4
KVN      3.53  55 iPd    51 05.80  -1.2
TNP      3.78  73 ePd    51 09.60  -0.9

FHC      4.11 336 eP     51 13.00  -2.0
LBFM     4.28 359 eP     51 16.20  -1.5
LRM     11.21  36 eP     52 54.70   0.4
PNT     12.36   7 eP     53 11.00   1.5
         0.7s      8.00nm              5.1mb
ALQ     12.60  95 eP     53 13.00   0.0
         1.0s      4.00nm              4.6mb
EDM     17.21  17 ePc    54 11.50  -1.1
         1.3s     98.00nm              4.8mb
MEO     18.93  90 iPd    54 34.10   0.1
TUL     20.92  85 e(P)   54 56.90   1.1
         1.2s     10.90nm              4.1mb
FFC     22.28  31 eP     55 08.00  -1.3
         1.0s     26.00nm              4.6mb
PMR     29.91 334 eP     56 20.50   0.0
         1.1s     10.31nm              4.6mb
INK     31.98 352 eP     56 38.00  -0.6
IMA     34.42 338 eP     56 59.50  -0.5
         1.0s      3.75nm              4.3mb
MBC     39.30   1 eP     57 41.00   0.2
         1.0s      5.00nm              4.1mb
         35 obs. associated
-----------------------------------
   NOV  02, 1989  06h 00m 23.27± 0.69s
   36.407 N ± 4.2km    9.104 W ± 6.4km
   DEPTH =  92.5 ±  9.4 km
   4.5mb (  1 obs.)
 WEST OF GIBRALTAR                  (384)
      mbLg 4.3 (MDD).

FAR      1.10  56 P      00 42.60  -1.9
                  S      00 57.80
EVAL     2.22  57 iPnc   00 58.80  -0.3
LIS      2.31 359 iPd    01 01.00   0.8
                  iS     01 26.30
MTH      2.49 358 iP     01 03.50   0.9
                  iS     01 31.00
PLAT     2.72  95 eP     01 07.00   1.2
EJIF     2.93  88 iPn    01 09.50   0.8
                  eSn    01 43.50
SRQ      3.02  92 eP     01 10.00   0.1
NKM      3.15 107 iPnc   01 13.00   1.3
                  iSn    01 41.50
                  i      01 44.50
                  i      01 50.00
EPRU     3.16  79 Pn     01 12.00   0.1
                  Sn     01 47.00
EHOR     3.39  64 iPnc   01 14.80  -0.2
AVE      3.40 155 iPnd   01 15.20   0.0
                  i      01 16.50
                  iSn    01 46.00
                  i      01 52.50
MTE      4.18  17 P      01 19.60  -6.3X
                  S      02 02.50
EPLA     4.36  32 iPn    01 28.00  -0.5
                  eSn    02 15.40
AFC      4.54  78 iPnd   01 31.00  -0.1
                  eSn    02 20.00
EBAN     4.59  66 iPnc   01 31.20  -0.4
                  eSn    02 20.80
EMEL     5.11 101 ePn    01 37.50  -1.4
                  eSn    02 31.40
TOL      5.28  47 iPnd   01 42.60   1.3
                  ePb    01 47.20
                  ePg    02 07.20
                  eSn    02 47.20
                  eSb    03 05.70
                  i(Sg)  03 18.20
ENIJ     5.56  82 ePn    01 44.80  -0.4
                  eSn    02 44.50
TAF      5.68 104 ePn    01 48.00   1.2
                  iSn    02 45.00
                  i      02 46.00
TIO      5.68 164 iPnd   01 46.00  -0.9
                  iSn    02 48.00
EVIA     5.70  65 iPn    01 46.10  -1.0
                  eSn    02 45.50
GUD      5.74  41 iPnc   01 47.00  -0.7
                  eSn    02 48.00
EZAM     5.74   3 iPnc   01 47.90   0.3
                  eSn    02 47.50
ERUA     6.17  14 ePn    01 53.00  -0.5
                  eSn    02 58.00
STS      6.48   4 iPnd   01 57.50  -0.3
                  eSn    03 05.50
ETOR     7.06  49 iPn    02 05.50  -0.3
                  eSn    03 18.50
```

02d 06h

```
EMON     7.15  10 ePn    02 07.30    0.3
ECHE     7.16  61 iPn    02 06.60   -0.7
EROQ     8.65  56 ePn    02 28.00    0.5
EBR      8.71  57 ePn    02 29.00    0.7
                  e     04 08.00
                  e     04 43.50
                  e     05 04.00
BOH      9.14  40 P      02 35.15    0.9
ELYF     9.19  40 P      02 35.37    0.4
ISSF     9.20  42 P      02 35.51    0.4
LHE      9.22  43 P      02 35.21   -0.1
MADF     9.27  41 P      02 36.93    1.0
ATE      9.29  42 P      02 36.46    0.2
OGE      9.47  42 P      02 39.14    0.5
EPF      9.83  45 Pn     02 44.00    0.4
                  Sn     04 27.80
LFF     11.33  38 Pn     03 03.10   -0.4
                  Sn     05 01.20
LPO     11.38  40 Pn     03 03.80   -0.4
                  Sn     05 02.40
RJF     11.97  39 Pn     03 11.10   -1.0
CAF     12.00  41 Pn     03 11.90   -0.6
                  Sn     05 17.00
MFF     12.19  31 Pn     03 14.00   -0.9
LSF     12.66  36 Pn     03 20.50   -0.6
TCF     13.01  37 Pn     03 25.20   -0.5
MAF     13.14  38 Pn     03 27.20   -0.2
BGF     13.51  38 Pn     03 33.00    0.8
DOU     16.89  32 P      04 19.70    4.6X
      0.5s    15.40nm            4.5mb
KHC     20.85  45 iPc    05 05.50    6.1X
                  e     05 17.00
PRU     21.82  44 eP     05 15.50    6.5X
ZST     22.56  50 iP     05 23.70    7.4X
OHR     23.72  69 eP     05 54.50   26.8X
      S.D. = 0.8  on  46 of  52 obs.
-----------------------------------------
*  NOV  02, 1989  06h 23m 56.21± 1.00s
   41.207 N ±12.7km  107.027 W ± 9.3km
   DEPTH =   5.0km  (geophysicist)
 WYOMING                            (460)
      ML 3.0 (NEIS). Felt at Saratoga.

GOL      1.97 139 iPn    24 31.60    0.8
                  iPg    24 35.40
GLD      2.00 136 (Pn)   24 30.60   -0.7
                  ePg    24 35.20
                  eSg    25 02.40
PV08     2.91 206 P      24 48.15    3.8X
RW2      2.95 191 P      24 51.90    7.1X
                  S      25 30.08
RW3      3.00 190 P      24 52.57    7.0X
RW1      3.00 192 P      24 51.36    5.7X
                  S      25 32.09
PV07     3.03 205 P      24 50.45    4.5X
PV06     3.08 201 P      24 52.03    5.4X
RW6      3.08 193 P      24 53.54    6.8X
                  S      25 35.43
PV09     3.15 212 P      24 54.53    6.8X
PV04     3.16 208 P      24 52.67    4.9X
RW5      3.18 192 P      24 55.83    7.6X
                  S      25 37.78
PV03     3.27 206 P      24 56.21    6.9X
PV02     3.27 204 P      24 56.85    7.4X
PV01     3.29 202 P      24 57.43    7.7X
DAU      3.31 257 iPn    24 51.00    1.0
                  ePg    24 58.70
                  eLg    25 39.00
ALPW     3.53 305 P      24 59.80    6.8X
LOHW     3.58 313 P      24 53.30   -0.4
PACW     3.71 318 P      24 52.70   -3.0X
TARW     3.89 312 P      25 04.50    6.3X
PTI      4.31 294 P      25 04.40    0.3
DUG      4.51 259 P      25 06.90    0.0
MSU      4.79 237 ePn    25 10.00   -1.0
                  ePg    25 19.60
                  eLg    26 25.00
ALQ      6.27 176 ePg    25 53.00   21.1X
                  eLg    27 13.00
      S.D. = 0.9  on   7 of  24 obs.
-----------------------------------------
?  NOV  02, 1989  07h 09m 27.40± 1.72s
   39.822 N ±20.4km  142.602 E ±29.6km
   DEPTH =  33.0km  (normal)
   3.8mb (  3 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)

NIIJ     3.82 229 P      10 26.50    1.2
KAKJ     4.09 209 P      10 24.10   -5.0X
                  $      11 10.50
CHJJ     4.72 218 iP+    10 35.80   -2.4
                  $      11 29.70
MAT      4.76 228 iPc    10 39.20    0.5
                  eS     11 38.00
MTMJ     4.97 231 P      10 42.50    0.7
IIDJ     5.71 222 P      10 51.50   -0.7
CHTO    42.92 254 (P)    17 25.10    0.3
      0.8s      0.55nm          3.3mb
WRA     59.95 189 Pc     19 33.80    1.1
      0.3s      0.30nm          3.9mb
NB2     71.98 337 P      20 48.60   -0.7
      0.9s      2.20nm          4.2mb
      S.D. = 1.4  on   8 of   9 obs.
-----------------------------------------
   NOV  02, 1989  07h 22m 39.09± 0.22s
   36.041 N ± 4.0km  106.225 E ± 3.9km
   DEPTH =  10.0km  (geophysicist)
   5.0mb ( 21 obs.)
 NORTHERN CHINA                     (323)

LZH      1.93 272 iPgc   23 16.90    4.5X
                  Sg     23 41.00
XAN      2.98 131 Pnc    23 28.00    0.7
                  Pg     23 35.20
                  Sg     24 09.50
TIY      5.25  70 Pnc    23 57.80   -1.8
                  Pg     24 15.80
                  Sn     25 00.40
                  Sg     25 20.70
BTO      5.44  32 iPnc   24 03.90    1.6
                  Sg     25 29.60
CD2      5.52 203 Pn     24 03.20   -0.1
                  Sn     25 05.00
                  Sg     25 31.10
GTA      6.09 305 iPnc   24 12.60    1.1
      Z  11s      4.00um
      E  10s      3.80um
                  Sn     25 19.40
                  Sg     25 51.00
HHC      6.37  40 Pnc    24 15.40    0.0
                  Sn     25 25.90
                  Sg     25 55.20
WHN      8.73 127 eP     24 49.50    1.2
      Z  12s      2.41um
      N  10s      3.30um
      E  10s      2.05um
BJI      8.81  60 eP     24 46.50   -2.8
      Z  10s      6.08um
      N  10s      2.01um
                  eLg    27 18.00
TIA      8.82  86 eP     24 50.60    1.0
GYA      9.56 178 iPd    24 58.00   -1.9
                  sP     25 05.40
NJ2     11.21 107 Pc     25 22.00   -0.3
      Z  14s      2.40um
      N  12s      1.20um
      E  12s      1.90um
                  S      27 28.00
KMI     11.29 196 eP     25 21.50   -2.2
      Z  10s      2.70um
      E  10s      1.80um
                  eS     27 25.00
                  sS     27 34.00
LSA     14.15 248 eP     26 02.80    0.6
WMQ     16.18 304 iPd    26 28.50    0.4
      Z  16s      1.40um          4.5MszX
CN2     16.64  56 eP     26 36.50    2.7
      Z  10s      1.60um          4.6Msz
      N  10s      0.60um
      E  10s      1.70um
                  pP     26 38.60
                  eS     29 45.00
OIZ     17.24 168 eP     26 41.40   -0.2
      E  12s      0.90um
                  eS     29 51.00
CHG     18.33 202 eP     26 56.50    1.4
CHTO    18.33 202 eP     26 55.60    0.5
      0.7s      5.08nm          3.8mb X
LOE     18.99 193 eP     27 07.00    3.8X
MDJ     19.72  57 eP     27 12.50    0.9
BDT     19.79 201 eP     27 14.00    1.5
KSH     24.10 287 P      27 59.70    3.9X
NDI     25.51 262 eP     28 10.00    0.7
OUE     33.25 271 eP     29 19.40    0.6

GBA     34.15 237 P      29 27.00    0.5
      1.1s      5.90nm          4.4mb
MAIO    37.44 285 eP     29 56.00    1.7
HRI     56.86 289 eP     32 37.00   10.6X
DSI     57.85 288 eP     32 34.00    0.8
VRI     58.52 306 ePd    32 38.00    0.3
UPP     58.96 324 iP     32 39.50   -1.1
MBH     59.02 286 eP     32 42.00    0.6
HFS     60.71 325 eP     32 50.80   -1.9
      0.6s     19.50nm          5.4mb
IMA     61.52  27 eP     33 02.10    3.8X
WB5     61.67 150 iPc    32 58.40   -1.2
WRA     61.71 150 Pc     32 58.60   -1.3
NAO     61.75 326 P      32 57.80   -1.9
      0.7s     11.10nm          5.1mb
SVW     62.86  33 eP     33 07.70    0.6
KSP     63.02 315 eP     33 08.20   -0.1
SKO     63.56 304 eP     33 12.00    0.0
FBA     64.24  27 eP     33 16.00   -0.1
MBC     64.34  11 eP     33 17.00    0.4
      0.9s     12.00nm          5.1mb
CLL     64.70 316 iP     33 18.90   -0.4
      1.0s     14.00nm          5.1mb
                  i      33 24.10
ASPA    64.90 152 iPc    33 20.20   -0.6
      0.6s     11.00nm          5.2mb
PMR     65.39  31 eP     33 22.80   -0.7
      0.5s      6.80nm          5.1mb
TOA     66.32  29 eP     33 30.20    0.6
KBA     66.44 312 iP     33 30.50   -0.2
LCI     66.65 304 P      33 30.00   -1.9
TRI     66.83 310 P      33 38.00    5.0X
INK     66.92  20 ePc    33 32.60   -0.7
FVI     67.01 312 P      33 37.00    2.9
CTI     67.96 311 P      33 39.00   -1.3
TDS     68.06 304 P      33 41.00    0.1
SGO     68.31 305 P      33 42.00   -0.4
MGR     68.36 304 P      33 38.00   -4.7X
SDI     68.73 307 P      33 48.00    2.9
SFI     68.88 309 P      33 50.00    4.1X
CRE     68.97 309 P      33 47.00    0.4
SOI     69.03 302 P      33 45.00   -1.9
MNS     69.13 308 P      33 47.00   -0.5
CDF     69.34 315 eP     33 48.60   -0.2
VAI     69.78 312 P      33 56.00    4.6X
BSF     69.92 315 eP     33 52.00   -0.4
PCP     70.61 311 P      33 55.30   -1.3
LSD     70.96 313 P      33 59.41    0.5
RSP     71.06 312 P      33 57.97   -1.4
ROB     71.15 311 P      33 59.10   -0.7
LPG     71.18 313 iPc    34 00.70    0.4
      0.8s     20.10nm          5.3mb
IMI     71.34 311 P      34 00.74   -0.3
ENR     71.46 311 P      34 00.43   -1.3
RRL     71.47 312 P      34 01.66   -0.3
LOR     71.90 316 iPc    34 03.40   -0.8
      0.4s      2.80nm          4.7mb
LBF     71.99 315 iPc    34 04.00   -0.8
SSF     72.21 316 eP     34 05.60   -0.5
      0.5s      3.90nm          4.8mb
SMF     72.25 315 iPc    34 05.90   -0.4
      0.5s      6.10nm          4.9mb
AVF     72.45 315 iPc    34 07.20   -0.3
      0.9s     10.40nm          4.9mb
MAF     73.22 315 iPc    34 12.20    0.2
      0.8s     15.30nm          5.1mb
LDF     73.35 318 eP     34 12.40   -0.3
TCF     73.39 315 iPc    34 13.10    0.1
      0.6s      8.10nm          5.0mb
GRR     73.86 318 eP     34 15.50   -0.2
      0.8s     16.10nm          5.1mb
CAF     74.25 314 iPc    34 18.70    0.6
      0.5s      2.40nm          4.5mb
RJF     74.35 315 eP     34 19.20    0.6
      0.7s      6.60nm          4.8mb
MFF     74.53 317 iPc    34 19.80    0.2
      0.7s     19.80nm          5.3mb
LFF     75.01 315 eP     34 23.00    0.6
      0.5s      7.80nm          5.0mb
BWA     80.40 146 eP     34 53.90    1.7
CAN     81.41 146 eP     34 58.30    0.8
EDM     84.70  23 ePc    35 14.90    0.7
BCAO    85.55 272 iPc    35 19.40    0.3
      0.7s      9.00nm          5 1mb
PNT     85.79  28 iP     35 20.00    0.3
      0.8s     11.00nm          5.1mb
LRM     91.36  26 eP     35 47.70    1.1
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                    e      35 53.50
      S.D. = 1.1  on  81 of  90 obs.
-----------------------------------------
*  NOV  02, 1989  07h 34m 56.92± 2.02s
   17.765 N ±14.0km  101.621 W ±16.2km
   DEPTH =  62.6 ± 22.6 km
 NEAR COAST OF GUERRERO, MEXICO   ( 58)

ACX      1.91 118 iPc    35 27.31  -0.4
                  iS     35 56.05
MRX      1.97  12 iP     35 28.21  -0.4
                  iS     35 56.31
III      2.14  73 iP     35 31.30   0.2
                  (S)    35 53.20
CRX      2.46  48 iP     35 36.50   0.7
                  (S)    36 15.30
UNM      2.79  56 iP     35 39.80  -0.6
                  iS     36 19.30
IIC      3.00  48 (P)    35 28.90 -14.5X
                  iS     36 24.75
PPM      3.12  65 iP     35 44.72  -0.6
                  iS     36 22.09
SMMM     3.36  54 (P)    35 28.60 -19.6X
IIT      3.39  68 eP     35 46.50  -2.3
                  iS     36 35.84
AGX      4.14 351 (P)    36 07.37   8.2X
                  (S)    37 06.17
IISM     4.21  73 iP     36 01.10   1.0
                  (S)    36 49.80
OXX      4.73  98 iP     36 08.97   1.4
                  S      37 05.06
LVVM     5.28  67 iP     36 15.00  -0.2
                  (S)    37 44.92
MZX      7.04 321 (P)    36 49.50   9.9X
ALQ     17.64 347 e(P)   39 02.00   1.8
BAR     20.11 320 eP     39 27.00  -1.3
TPC     20.77 324 eP     39 34.00  -1.1
RVR     21.45 322 eP     39 42.00   0.2
SBB     22.20 323 eP     39 57.00   7.6X
CLC     22.89 325 eP     39 57.00   0.9
EDM     36.55 348 eP     41 58.50   0.2
INK     54.39 346 eP     44 19.00  -0.3
      S.D. = 1.1  on  17 of  22 obs.
-----------------------------------------
?  NOV  02, 1989  08h 15m 14.85± 3.42s
   38.822 N ±48.5km  143.582 E ±13.7km
   DEPTH =  33.0km  (normol)
   4.1mb (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     3.76 227 P      16 11.60  -0.3
NIIJ     3.95 248 eP     16 13.30  -1.3
CHJJ     4.58 234 P      16 23.40  -0.2
MAT      4.83 244 iPd    16 27.60   0.4
       0.7s      9.59nm
                  eS     17 31.00
MTMJ     5.10 246 eP     16 31.90   0.9
IIDJ     5.62 235 eP     16 39.10   0.7
WB5     59.03 190 eP     25 13.80   0.0
                  e      25 23.80
WRA     59.09 190 Pc     25 14.40   0.1
       0.5s      0.80nm          4.1mb
      S.D. = 0.8  on   8 of   8 obs.
-----------------------------------------
?  NOV  02, 1989  08h 27m 15.72± 2.52s
   35.288 N ±24.0km  138.961 E ±11.1km
   DEPTH =  33.0km  (normol)
 HONSHU, JAPAN                     (227)

CHJJ     0.76   2 iP+    27 35.20   5.2X
                  S      28 01.90
IIDJ     0.88 283 P      27 31.70   0.0
                  S      27 56.50
KAKJ     1.35  47 iPd    27 38.40   0.1
                  S      28 07.70
MAT      1.39 334 iPc    27 39.70   0.7
                  (S)    28 04.00
MTMJ     1.60 324 iPd    27 41.80  -0.3
NIIJ     1.95   1 iP+    27 46.70  -0.4
                  S      28 22.50
      S.D. = 0.6  on   5 of   6 obs.
-----------------------------------------
&  NOV  02, 1989  08h 35m 10.64s
   61.041 N          148.875 W
   DEPTH =  36.7km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>.

PMS      0.39 302 iP     35 19.23  -0.6
                  Sn     35 25.60
PME      0.59 353 eP     35 22.37  -0.2
                  Sn     35 31.13
PWA      0.78 322 eP     35 25.14  -0.1
                  Sn     35 36.49
SLKM     0.85 232 eP     35 25.46  -0.8
GLI      0.88 100 iP     35 25.72  -1.0
SEW      0.98 197 eP     35 26.93  -1.1
SUA      1.00 296 eP     35 28.11  -0.3
VZW      1.13  88 eP     35 29.83  -0.4
FID      1.21 103 eP     35 29.91  -1.4
VLZ      1.24  85 eP     35 31.56  -0.1
NCA      1.37  45 eP     35 33.44  -0.3
KLU      1.50  71 eP     35 35.78   0.2
CUT      1.52 335 eP     35 36.69   0.9
CGLM     1.54 281 eP     35 36.40   0.2
NNL      1.56 231 eP     35 37.09   0.7
SKT      1.58 308 eP     35 37.19   0.4
                  eS     35 58.51
RDT      1.79 256 eP     35 39.80   0.0
                  Sn     36 02.41
CNPM     1.92 219 iP     35 40.78  -0.8
        18 obs. associated
-----------------------------------------
*  NOV  02, 1989  09h 34m 40.91± 1.77s
   39.788 N ± 9.3km  143.173 E ±11.7km
   DEPTH =  33.6 ± 14.2 km
   4.9mb ( 11 obs.)  3.9Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.14 233 iPd    35 45.70   2.3
KAKJ     4.29 214 P      35 44.70  -0.8
CHJJ     4.98 223 P      35 53.80  -1.6
MAT      5.08 232 iPc    35 58.60   1.8
       1.0s     117.00nm          5.3mb
                  (S)    37 04.00
MTMJ     5.30 235 P      36 00.00   0.1
IIDJ     5.99 226 P      36 10.10   0.4
MDJ     11.17 300 eP     37 20.00  -1.2
SSE     19.87 251 P      39 11.00  -1.0
                  sP     39 23.00
BJI     20.69 279 eP     39 17.00  -3.5X
     Z  20s      0.48um          3.9Msz
TIA     20.81 268 eP     39 19.90  -1.9
NJ2     21.11 256 Pc     39 25.00   0.1
WHN     25.21 258 Pd     40 06.00   1.0
       1.0s      0.04nm          2.0mb X
BTO     25.26 283 eP     40 04.60  -1.0
XAN     27.87 269 P      40 28.40  -1.1
LZH     31.07 276 e(P)   40 58.00  -0.2
     Z  12s      0.50um          4.4MszX
GYA     33.11 258 P      41 15.60  -0.4
GTA     33.17 284 Pd     41 16.80   0.3
     Z  16s      0.60um          4.4MszX
KMI     36.79 259 Pc     41 47.50  -0.2
WMQ     40.90 294 iPd    42 22.20   0.7
CHTO    43.34 254 eP     42 42.70   1.1
       1.0s      3.50nm          4.1mb
INK     51.31  28 eP     43 42.00  -1.4
WB5     59.92 190 eP     44 45.20  -0.8
WRA     59.99 190 Pd     44 45.40  -1.0
       0.5s      1.20nm          4.3mb
GBA     62.82 265 P      45 05.70   0.0
HFS     72.14 336 eP     46 02.50  -1.1
       0.8s      3.70nm          4.4mb
NB2     72.18 338 P      46 03.40  -0.5
       0.9s      5.10nm          4.5mb
LOR     86.05 334 eP     47 19.50   0.2
       0.9s     10.40nm          5.1mb
LBF     86.26 333 eP     47 20.50   0.2
       1.0s     10.80nm          5.0mb
SSF     86.35 334 eP     47 21.20   0.5
LPG     86.53 331 eP     47 22.60   0.6
SMF     86.60 333 eP     47 22.50   0.6
       0.9s      8.10nm          5.0mb
AVF     86.64 334 iPc    47 22.70   0.6
       0.8s      9.40nm          5.1mb
MAF     87.40 334 iPc    47 26.90   1.1
       0.9s      8.10nm          5.0mb
LSF     87.73 334 eP     47 28.30   0.9
CAF     88.71 334 eP     47 33.70   1.5
       0.8s      5.30nm          4.9mb
      S.D. = 1.1  on  34 of  35 obs.
-----------------------------------------
   NOV  02, 1989  10h 03m 11.55± 0.37s
   39.596 N ± 7.5km  143.137 E ± 7.2km
   DEPTH =  33.0km  (normol)
   4.7mb ( 11 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.01 235 iPd    04 13.50   1.3
KAKJ     4.12 216 P      04 12.20  -1.5
                  eS     04 59.80
CHJJ     4.83 224 iP+    04 23.90   0.1
MAT      4.94 233 iPc    04 26.80   1.4
       0.8s     186.57nm
                  (S)    05 34.00
MTMJ     5.17 236 P      04 30.10   1.3
IIDJ     5.84 227 P      04 38.90   0.7
TSRJ     6.98 237 eP     04 54.30   0.2
MDJ     11.24 301 eP     05 55.00   2.1
CN2     13.87 293 eP     06 31.50   3.6X
     Z  14s      0.40um          3.9Msz
     N  12s      0.40um
                  pP     06 38.00
                  eS     09 11.00
SSE     19.78 251 P      07 46.50   4.8X
                  pP     07 57.50  49kmX
BJI     20.69 280 eP     07 41.50  -9.7X
     Z  15s      0.29um          3.8MszX
NJ2     21.04 257 eP     07 53.00  -1.8
WHN     25.15 258 Pd     08 35.00  -0.1
       0.8s      0.03nm          1.9mb X
GYA     33.04 258 iPc    09 44.80  -1.3
GTA     33.19 284 P      09 47.60   0.3
     Z  16s      0.60um          4.4MszX
KMI     36.73 259 Pd     10 17.50  -0.3
WMQ     40.95 295 eP     10 53.00   0.4
CHG     43.26 254 eP     11 12.20   0.5
CHTO    43.26 254 iP     11 12.00   0.4
       0.6s      3.79nm          4.3mb
INK     51.49  28 eP     12 15.00  -0.5
MBC     53.69  17 eP     12 32.00   0.2
       1.0s      7.00nm          4.6mb
                  pP     12 41.00  30kmX
WB5     59.73 190 eP     13 14.10  -1.3
WRA     59.80 190 Pc     13 14.40  -1.4
GBA     62.77 265 P      13 35.00  -1.1
SOD     63.13 337 eP     13 35.00  -2.8
PNT     65.40  46 eP     13 59.00   6.1X
SUF     66.31 333 eP     13 57.00  -1.4
NUR     68.33 332 eP     14 10.00  -1.2
WDC     68.47  55 e(P)   14 12.70   0.3
FFC     70.82  34 eP     14 36.00   9.4X
       1.0s     18.00nm          5.1mb
CMB     71.30  56 eP     14 30.30   0.5
LRM     71.38  46 eP     14 30.90   0.5
                  e      14 40.60
KVN     72.14  54 P      14 35.80   0.8
HFS     72.31 336 eP     14 34.00  -1.3
       0.4s      3.10nm          4.7mb
NB2     72.34 338 P      14 34.80  -0.8
       0.7s      3.90nm          4.5mb
TNP     73.28  54 P      14 41.90   0.2
       0.8s      4.17nm          4.5mb
MSU     76.12  51 P      14 59.50   1.5
KHC     81.06 329 Pc     15 25.50   1.0
ALQ     81.92  51 eP     15 29.00  -0.4
       1.0s      3.50nm          4.3mb
OHR     84.06 320 eP     15 39.50  -0.7
LOR     86.21 334 eP     15 50.90   0.1
       0.7s      4.40nm          4.8mb
LBF     86.42 333 iPc    15 51.80   0.0
SSF     86.51 334 eP     15 52.50   0.3
       0.8s      5.90nm          4.9mb
LPG     86.69 331 eP     15 53.80   0.3
       0.8s      5.90nm          4.9mb
AVF     86.80 334 iPc    15 53.90   0.3
       0.6s      5.70nm          5.0mb
MORO   121.90  37 ePdiff18 44.00  11.4X
TOV    122.14  39 ePdiff18 35.20   1.5
SDV    122.50  41 iPdiff18 27.40  -8.0X
       0.7s     85.70nm
BMG    122.76  44 iPdiff18 28.00  -8.5X
CAR    122.86  36 ePdiff18 41.00   4.1X
LLAV   122.95  36 iPdiff18 41.00   3.7X
GUAC   122.98  36 ePdiff18 39.00   1.5
OLLA   123.35  36 iPdiff18 37.50  -1.6
CUM    124.11  33 iPdiff18 44.00   1.7
                  i      19 10.60
      S.D. = 1.1  on  44 of  54 obs.
-----------------------------------------
*  NOV  02, 1989  10h 03m 20.49± 1.29s
```

02d 10h

49.190 N ± 8.6km 8.375 E ±15.5km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
ML 3.2 (LDG). MD 2.9 (STR).

GWF	0.54	247	Pg	03	31.45	0.0
			Sg	03	39.19	
WLS	1.03	221	Pg	03	39.82	-0.2
			Sg	03	54.84	
TNS	1.04	3	ePn	03	40.10	0.0
			eSn	03	54.90	
CDF	1.07	223	Pg	03	40.14	-0.5
			Sg	03	55.12	
ECH	1.27	220	Pg	03	44.73	0.7
			Sg	04	02.14	
FEL	1.34	191	Pn	03	43.92	-1.3
			Pg	03	45.78	
MOF	1.57	212	Pg	03	50.09	1.5
BSF	1.72	218	Pg	03	52.40	1.7
			Sg	04	16.68	
HAU	1.79	229	Pn	03	50.90	-0.8
			Pg	03	54.80	
			Sg	04	18.20	
BBS	1.82	199	Pg	03	54.77	2.6X
VITF	1.86	239	Pg	03	56.42	3.8X
			Sg	04	22.04	
GRF	1.92	74	eP	03	58.00	4.4X
	1.1s	27.00nm				
LOMF	2.11	210	Pg	04	01.17	4.8X
LOR	3.58	239	Pn	04	16.00	-1.2
			Pg	04	27.50	
			Sg	05	13.00	
LBF	3.68	235	Pg	04	31.00	12.3X
			Sg	05	16.40	
SSF	3.90	239	Pg	04	34.40	12.7X
			Sg	05	23.20	
SMF	3.97	232	Pg	04	36.00	13.3X
			Sg	05	26.50	
AVF	4.14	236	Pg	04	38.00	12.9X
BGF	4.56	237	Pg	04	46.40	15.3X
			Sg	05	44.00	

S.D. = 1.2 on 10 of 19 obs.

NOV 02, 1989 10h 12m 20.89± 0.20s
22.210 S ± 3.7km 68.426 W ± 4.6km
DEPTH = 113.6km (13 depth phases)
5.4mb (40 obs.)
NORTHERN CHILE (123)
Felt (IV) at Tolabre, Chuquicamato and Tamar; (III) at Toconoo and Colomo; (II) at San Pedro and Antofogasto.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 11S, 23C
Centroid Location:
Origin Time 10:12:33.0 0.5
Lat 22.50S 0.06 Lon 68.47W 0.07
Dep 120.5 2.9 Half-duration 2.0
Moment Tensor; Scale 10**17 Nm
Mrr= 0.16 0.09 Mtt=-0.82 0.14
Mff= 0.66 0.14 Mrt= 0.41 0.08
Mrf=-1.41 0.08 Mtf=-0.21 0.15
Principal Axes:
T Val= 1.91 Plg=40 Azm= 78
N -0.76 20 330
P -1.15 43 220
Best Double Couple:Mo=1.5*10**17
NP1:Strike=235 Dip=20 Slip= -5
NP2: 330 88 -110

ANT	2.36	231	iPc+	12	58.20	-1.0
			eS	13	22.80	
YJA	2.71	90	iPc	13	08.90	4.6X
SLA	3.68	134	ePc	13	20.70	3.7X
CNCB	5.39	5	iPd	13	42.60	1.8
LPB	5.66	3	Pd	13	46.00	1.7
			S	14	20.00	
ZOBO	5.92	3	iPd	13	46.00	-2.1
ARE	6.41	333	iP	13	50.20	-4.4X
			iS	14	56.00	
RTRS	7.98	186	iPd	14	13.80	-1.8
RTLL	9.08	180	iPc	14	27.00	-3.6X
RTCB	9.25	182	iPd	14	29.00	-3.9X
ZON	9.30	181	eP	14	29.00	-4.6X
CFA	9.36	179	iPc	14	30.50	-3.9X
RTBS	9.46	185	ePc	14	32.20	-3.4X
TCA	9.71	160	ePd	14	36.20	-2.9
MRA	10.44	167	ePd	14	45.00	-3.7X
JACH	10.61	190	eP	14	47.00	-4.0X
			i	14	51.00	
PEL	11.07	190	iPc	14	57.00	-0.2
			i(S)	17	26.00	
IHA	11.14	194	eP	14	57.20	-0.8
			e	15	47.00	
			eS	18	20.00	
FCH	11.20	188	iP	15	01.40	2.3X
SAN	11.37	190	eP	14	56.50	-4.6X
PCH	11.52	189	eP	14	58.00	-5.0X
LCCH	11.56	193	iPd	15	02.00	-1.5
TACH	11.61	190	eP	15	03.40	-0.8
CHCH	11.84	189	eP	15	07.50	0.2
LNV	11.99	192	eP	15	02.00	-7.2X
RFA	12.51	180	ePc	15	11.00	-5.1X
PT08	12.81	321	eP	15	20.60	0.2
			eS	17	29.90	
NNA	12.96	320	eP	15	19.50	-2.5
	1.0s	68.00nm			5.2mb	
			i	15	29.50	
			eS	17	38.00	
PT10	12.96	320	eP	15	30.00	8.0X
			eS	17	36.00	
ITB1	13.11	103	e(P)	15	23.50	-0.4
ITB	13.30	104	e(P)	15	27.00	0.7
ITB7	13.38	105	eP	15	33.50	6.1X
PPD	15.86	93	eP	15	58.40	-0.6
			i	16	00.20	
VAO	19.83	96	eP	16	43.70	-1.4
BAO	20.40	75	eP	16	51.10	0.1
BMA	22.43	96	eP	17	10.00	-1.1
			e	17	16.80	
			e	17	21.00	
CAYA	24.03	336	eP	17	29.00	1.8
GGP	24.04	334	eP	17	29.00	1.6
COTA	24.40	335	eP	17	31.50	0.8
PSO	24.83	338	eP	17	36.00	1.4
BOG	27.23	348	eP	17	57.00	0.4
			eS	22	22.00	
PDCR	29.53	76	eP	18	15.00	-1.8
UPA	32.86	339	iPd	18	47.20	1.3
	0.9s	57.14nm			5.4mb	
SJS	35.44	333	iPc	19	10.50	2.3
SRA	35.73	332	iPc	19	12.90	2.2
SVB	35.96	12	eP	19	10.65	-1.7
SVV	36.01	12	eP	19	10.92	-1.9
SOA	36.07	12	eP	19	11.54	-1.8
SLB	36.54	12	eP	19	15.68	-1.6
BIM	37.20	12	eP	19	20.76	-2.1
MVM	37.27	12	eP	19	21.04	-2.4
FDF	37.40	12	eP	19	24.30	-0.3
CRM	37.46	12	eP	19	22.70	-2.3
MGP	39.99	2	P	19	43.80	-2.2
PORP	40.05	3	P	19	44.00	-2.5
CPD	40.08	4	P	19	44.00	-2.7
OXX	47.88	322	eP	20	51.30	1.6
PPM	50.54	322	iP	21	12.30	1.9
HBF	56.01	348	P	21	48.70	-1.1
JSC	57.49	347	P	21	58.80	-1.4
LHS	57.59	348	P	21	59.20	-1.8
TKL	59.36	345	P	22	11.00	-2.3
GBTN	59.47	345	P	22	11.70	-2.3
BLA	60.17	349	P	22	17.80	-1.1
	0.6s	27.27nm			5.5mb	
CVL	60.61	351	P	22	20.60	-1.1
ELC	62.34	341	P	22	31.00	-2.3
TBR	63.26	355	P	22	38.00	-1.3
LNO	63.34	335	ePc	22	38.10	-1.8
			e	23	07.40	
TUL	63.34	335	ePc	22	38.50	-1.5
	1.2s	101.80nm			5.6mb	
			e	23	07.80	
FVM	63.35	341	P	22	37.80	-2.2
SIO	63.40	335	ePc	22	41.00	0.6
MEO	63.51	332	iPc	22	39.20	-1.9
CLE	64.53	349	iP	22	46.60	-1.0
HBVT	66.38	356	P	22	58.20	-1.2
ALQ	67.33	327	iPc	23	05.90	0.0
	0.9s	56.72nm			5.5mb	
			epP	23	34.50	115km
SPA	67.92	180	iPd	23	10.10	0.9
	0.9s	159.09nm			5.9mb	
			i	23	38 70	
LIC	68.16	73	Pc	23	10.66	-0.5
	0.9s	76.50nm			5.6mb	
	Z 22s	0.20um			4.3Msz	
TIC	68.35	73	Pc	23	12.00	-0.4
	1.0s	142.00nm			5.8mb	
KIC	68.47	73	Pc	23	12.70	-0.5
	1.0s	206.00nm			6.0mb	
CBM	68.82	0	P	23	14.00	-0.5
GLD	70.56	331	P	23	25.70	0.0
	1.0s	82.50nm			5.5mb	
			pP	23	55.00	117km
GLA	70.57	320	eP	23	26.00	0.3
			e	23	55.00	
GOL	70.59	331	P	23	25.20	-0.7
	1.0s	107.50nm			5.6mb	
BAR	71.43	318	eP	23	31.00	0.2
			e	24	00.00	
PLM	72.00	319	eP	23	35.00	0.6
			e	24	04.00	
TPC	72.03	320	eP	23	35.00	0.6
			e	24	04.00	
PEC	72.55	319	P	23	38.00	0.5
			pP	24	06.00	110km
RVR	72.75	319	eP	23	39.00	0.4
			e	24	08.00	
GSC	73.31	320	eP	23	43.00	1.1
			e	24	12.00	
MWC	73.33	319	eP	23	42.00	-0.1
			e	24	12.00	
SBB	73.50	319	eP	23	43.00	0.0
			e	24	13.00	
CLC	74.13	320	eP	23	46.00	-0.6
			e	24	16.00	
ISA	74.55	320	eP	23	50.00	1.0
			e	24	17.00	
SYP	74.71	318	eP	23	50.00	-0.1
			e	24	20.00	
SBA	75.21	190	iPd	23	54.20	2.0
TNP	75.47	322	P	23	55.00	0.6
	0.8s	19.61nm			5.0mb	
			pP	24	24.00	114km
CER	76.32	121	iPd	23	59.50	0.3
	1.0s	40.00nm			5.2mb	
KVN	76.64	322	P	24	01.00	0.1
			pP	24	30.00	114km
LLA	76.67	319	iPd	24	02.00	1.0
			epP	24	30.70	112km
SCH	76.72	1	ePc	24	00.20	-0.6
	0.7s	41.00nm			5.3mb	
PRS	76.75	319	eP	24	02.20	0.8
			epP	24	31.30	114km
CMB	77.27	320	eP	24	04.70	0.4
			epP	24	33.80	114km
GCC	77.58	319	ePd	24	06.90	1.0
			epP	24	36.00	114km
BKS	78.27	319	ePc	24	11.00	1.3
	0.7s	22.00nm			5.1mb	
			ipP	24	40.00	113km
			esP	24	53.70	
			e	25	04.30	
BRK	78.29	319	eP	24	10.50	0.7
			epP	24	40.00	115km
LRM	78.62	330	eP	24	12.40	0.6
			e	24	20.50	
ORV	78.93	321	eP	24	14.30	1.0
			epP	24	43.00	112km
			esP	24	57.30	
AVE	80.17	48	iP	24	21.50	1.5
			i	24	51.50	
WDC	80.20	321	iPd	24	19.30	-0.8
			epP	24	48.60	114km
			esP	24	59.00	
FHC	81.19	321	P	24	26.00	0.7
	0.8s	35.29nm			5.2mb	
FFC	81.84	341	iPd	24	29.60	1.3
	1.6s	95.00nm			5.3mb	
GRM	82.08	123	iPc	24	30.00	-0.2
	1.0s	30.00nm			5.1mb	
HVD	82.20	120	iPc	24	44.00	12.9X
	1.0s	50.00nm				
FRS	82.36	119	iPc	24	33.00	1.3
NKM	82.74	47	iPc	24	35.00	1.6
DPW	82.82	329	P	24	34.00	0.4
EVAL	83.05	45	eP	24	36.00	1.0
EJIF	83.26	46	eP	24	38.00	2.0
BLF	83.30	119	iPc	24	38.00	1.2
			i	25	08.00	
MAW	83.52	163	eP	24	38.00	1.1
EPRU	83.70	46	eP	24	40.00	1.7

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LON     83.85 326 P      24 38.30  -0.5
EHOR    84.17  45 eP     24 42.00   1.5
TAF     84.47  49 iPd    24 43.00   0.8
ATEJ    84.49  47 iPc    24 43.50   1.1
PNT     84.50 329 eP     24 43.00   1.0
        0.8s    11.00nm          4.8mb
ALOJ    84.53  46 iP     24 44.00   1.4
EDM     84.59 335 eP     24 41.00  -1.4
BFS     84.61 117 iPc    24 41.50  -1.8
                i        25 12.50
AAPN    84.63  46 iPc    24 43.90   0.8
ACHM    84.72  46 iPc    24 44.50   1.1
APHE    84.73  47 iPc    24 44.70   1.1
SEK     84.76 118 iPc    24 45.00   0.9
        1.0s    20.00nm          5.0mb
EPLA    84.89  43 eP     24 45.00   0.8
ASMO    84.91  46 iP     24 45.20   0.7
AFC     84.99  46 eP     24 45.50   0.6
KSR     85.09 116 iPc    24 45.70  -0.1
        0.8s    12.50nm          4.9mb
PRY     85.17 117 eP     24 44.50  -1.6
EBAN    85.32  46 eP     24 47.50   1.1
ERUA    85.56  41 eP     24 48.50   1.0
ENIJ    85.74  47 eP     24 48.80   0.3
TOL     86.08  44 iPc    24 51.00   0.9
        1.3s   269.23nm          6.1mb
SLR     86.29 116 iPc    24 52.30   0.6
        0.9s    19.33nm          5.1mb
GUD     86.43  43 eP     24 53.00   1.1
ETOR    87.87  44 eP     25 00.00   1.2
BCAO    88.85  85 iPc    25 04.80   0.8
        0.6s    18.00nm          5.3mb
                ic       28 31.40
LSZ     90.26 107 iPd    25 15.50   4.8X
EPF     90.54  43 eP     25 11.70   0.5
        1.1s    15.60nm          5.1mb
LFF     91.75  42 iPc    25 17.10   0.5
        1.0s    36.00nm          5.6mb
LPO     91.90  42 iPc    25 17.80   0.5
        1.0s    16.00nm          5.2mb
MFF     92.05  40 iPc    25 18.20   0.2
        1.1s    24.40nm          5.4mb
LPF     92.26  38 iPc    25 18.80  -0.1
        1.1s    29.30nm          5.5mb
RJF     92.40  42 eP     25 19.80   0.1
        1.0s    13.60nm          5.2mb
MZZ     92.49 103 iP     25 21.30   0.4
GRR     92.55  38 iPc    25 20.10  -0.1
        1.0s    24.00nm          5.4mb
CAF     92.56  42 eP     25 20.70   0.3
        1.2s    22.00nm          5.3mb
LSF     92.88  41 iPc    25 21.90   0.1
FLN     92.95  38 eP     25 22.00  -0.1
        1.0s    20.00nm          5.4mb
LDF     93.07  38 eP     25 22.60  -0.1
TCF     93.31  41 iPc    25 23.90   0.1
PTZ     93.47 107 iPd    25 27.50   2.1
MAF     93.49  41 iPc    25 24.90   0.2
        1.2s    20.80nm          5.3mb
BGF     93.82  41 iPc    25 26.30   0.1
        1.1s    21.90nm          5.4mb
AVF     94.24  41 eP     25 28.10   0.0
SSF     94.46  41 eP     25 28.70  -0.4
SMF     94.47  41 iPc    25 29.40   0.2
        1.3s    33.90nm          5.6mb
LBF     94.71  41 iPc    25 30.00  -0.3
        0.9s     8.80nm          5.2mb
LOR     94.77  41 iPc    25 30.10  -0.4
        1.2s    24.90nm          5.5mb
LPG     95.76  43 iPc    25 36.50   1.0
        1.2s    24.90nm          5.6mb
HAU     96.61  41 eP     25 38.70  -0.2
BSF     96.80  41 eP     25 39.70  -0.2
CDF     97.34  41 eP     25 42.30   0.0
MBC    103.01 349 ePdiff 26 09.00   2.0
        1.0s     4.00nm          5.2mb
WRA    132.57 210 PKP    31 13.00 -11.3X
        0.7s     0.80nm
WB5    132.61 210 ePKP   31 23.20  -1.2
                  e      31 56.40
                  ePP    33 46.20
                  iSKP   34 42.70
GBA    146.47  99 PKP    31 50.60   1.2
GUA    147.18 260 ePKP   31 52.80   2.2X
        0.8s   101.49nm
GUMO   147.24 261 ePKP   31 53.10   2.4X
        1.0s   224.00nm
PJG    147.24 261 ePKP   31 53.20   2.5X
NDI    148.39  71 iPKPd  31 53.00   0.8
AAI    149.56 214 ePKP   32 04.00   9.6X
MKS    151.67 197 ePKPc  32 07.00   9.4X
MDJ    153.18 331 ePKP   31 42.50 -16.3X
CHG    167.69 104 ePKP   32 15.80   0.7
XAN    167.99  11 iPKPc  31 54.50 -20.4X
GYA    173.84  46 iPKPd  32 12.00  -6.1X
        S.D. = 1.2  on 158 of 186 obs.
-----------------------------------------
*  NOV  02, 1989  10h 16m 06.84± 1.12s
   10.710 N ± 7.1km  122.273 E ±13.8km
   DEPTH =  73.4 ± 12.1 km
   4.6mb (  4 obs.)
 PANAY, PHILIPPINE ISLANDS          (254)

QCP      4.07 343 eP     17 28.00  19.9X
DAV      4.86 138 eP     17 20.00   0.9
BAG      5.90 344 eP     17 33.00  -0.8
TSM      7.67 213 ePc    17 57.50  -0.6
ANP     14.41 357 e(P)   19 32.00   3.4X
QIZ     14.58 306 eP     19 28.20  -2.5X
        E  12s     0.50um
LOE     21.00 291 eP     20 49.00   2.6X
GYA     21.51 319 P      20 52.40   0.8
KMI     23.42 310 eP     21 08.50  -2.0X
                pP       21 14.50  22kmX
                sP       21 19.00
TIA     25.81 350 eP     21 34.00   1.1
BJI     29.71 351 eP     22 06.00  -2.1X
WB5     32.65 159 eP     22 32.30  -1.8
WRA     32.70 159 P      22 34.00  -0.5
        0.8s     3.30nm          4.2mb
ASPA    36.01 162 iPd    23 02.60  -0.3
        0.7s     6.00nm          4.6mb
                iS       29 13.30
MUN     42.84 188 eP     24 00.00   0.7
NWAO    43.66 186 eP     24 07.00   1.1
        0.6s    20.00nm          5.1mb
GBA     43.88 278 P      24 12.00   4.0X
ADE     48.02 162 iPd    24 41.20   0.6
INK     85.31  21 eP     28 36.00  -0.6
MBC     86.13  12 eP     28 40.00  -0.6
        1.0s     6.00nm          4.6mb
      S.D. = 1.0  on  13 of  20 obs.
-----------------------------------------
   NOV  02, 1989  10h 27m 47.34± 1.11s
   27.247 N ± 7.1km  128.575 E ± 7.7km
   DEPTH =  83.0 ±  9.5 km
   5.1mb ( 14 obs.)
 RYUKYU ISLANDS                     (238)

NAH      1.30 218 eP     28 10.00  -0.5
                S        28 30.50
SSE      7.51 302 P      29 32.50  -3.7X
        1.5s    68.00nm          5.1mb
      Z  20s     1.90um
      N  12s     0.80um
      E  12s     0.80um
QZH      9.26 258 P      29 59.00  -1.2
NJ2      9.72 302 Pc     30 05.40  -0.9
      Z  20s     1.50um
MAT     12.36  39 (P)    30 43.00   1.4
WHN     12.89 288 eP     30 48.50  -0.1
TIA     13.21 315 eP     30 51.60  -1.2
SNY     15.11 346 eP     31 19.20   1.8
BJI     16.39 324 eP     31 34.00   0.5
        1.0s    54.00nm          4.7mb
      Z  20s     0.60um
                eS       34 36.00
CN2     16.71 352 eP     31 38.00   0.5
      Z  14s     0.40um          4.1MszX
      E  13s     0.60um
                pP       31 40.00
TIY     17.13 312 eP     31 43.40   0.5
      E  13s     0.90um
BTO     20.30 316 eP     32 16.50  -2.4
      N  13s     0.50um
      E  13s     0.40um
                pP       32 23.00  24kmX
                eS       36 13.00
CD2     21.98 285 eP     32 35.40  -0.3
                eS       36 48.00
LZH     22.77 299 eP     32 45.50   1.9
        1.5s    50.00nm          4.7mb
      Z  18s     1.10um          4.3Msz
      N  11s     0.40um
                sP       33 09.00
                eS       36 40.80
KMI     23.27 271 Pd     32 50.50   1.9
LOE     26.64 254 eP     33 21.00   0.9
GTA     26.80 304 P      33 21.00  -0.6
CHTO    28.48 259 eP     33 37.90   1.2
        0.9s    32.18nm          5.0mb
BDT     29.06 256 eP     33 44.00   2.1
NDI     45.10 284 iPc    35 56.50  -0.6
QIS     48.71 166 iPd    35 55.40 -29.9X
                e        36 25.00
GBA     49.49 265 P      36 32.60   1.1
CTA     50.07 158 eP     36 37.00   1.2
POO     50.83 272 iPd    36 42.30   0.6
BWA     64.15 162 eP     38 13.00  -2.2
                e        38 30.00
CAN     65.15 162 eP     38 20.00  -1.6
INK     67.84  23 eP     38 37.00  -1.2
KEV     68.61 339 iP     38 41.50  -1.5
        0.7s    18.70nm          5.1mb
MBC     68.77  14 ePc    38 42.50  -1.4
        0.8s    20.00nm          5.1mb
SOD     69.60 336 iP     38 47.80  -1.3
SUF     71.59 332 eP     38 59.00  -2.1
NUR     73.16 330 iP     39 09.40  -1.0
UPP     76.56 331 iP     39 28.70  -1.1
        1.0s   100.00nm          5.7mb
HFS     78.07 332 eP     39 36.60  -1.6
        0.8s    22.70nm          5.1mb
NB2     78.54 334 P      39 39.70  -1.2
        0.8s    23.20nm          5.1mb
VRI     78.58 316 ePd    39 41.50   0.2
KRA     80.52 322 ePc    39 51.70   0.1
        0.6s    29.00nm          5.4mb
                e        40 14.30
KSP     82.06 324 iP     40 00.50   0.9
BRG     83.27 325 iP     40 06.00   0.1
        1.4s    16.00nm          4.8mb
VAY     83.42 313 iP     40 07.30   0.5
PRU     83.47 324 P      40 07.50   0.6
CLL     83.49 325 iPc    40 07.80   0.8
        1.0s    25.00nm          5.1mb
SKO     83.81 314 iP     40 09.50   0.7
KHC     84.48 323 iPc    40 13.00   0.9
        1.2s     9.50nm          4.7mb
OHR     84.67 314 eP     40 13.00  -0.2
WDC     85.66  46 eP     40 20.00   1.9
FFC     87.55  27 iPc    40 27.50   0.5
        0.8s    20.00nm          5.3mb
CMB     88.45  47 eP     40 32.80   1.0
KVN     89.36  46 eP     40 36.90   0.7
      S.D. = 1.2  on  47 of  49 obs.
-----------------------------------------
?  NOV  02, 1989  10h 37m 29.66± 2.42s
   39.212 N ±27.0km  143.940 E ±37.0km
   DEPTH =  33.0km  (normal)
   4.0mb (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.23 226 P      38 33.30  -0.2
                eS       39 19.40
NIIJ     4.36 245 P      38 35.30   0.0
CHJJ     5.04 233 P      38 44.60  -0.3
MAT      5.26 241 iPc    38 47.90  -0.1
                eS       39 56.00
MTMJ     5.52 244 P      38 51.60  -0.1
IIDJ     6.08 234 eP     39 00.30   0.7
NB2     72.93 338 P      48 57.20   0.0
        0.7s     1.30nm          4.0mb
      S.D. = 0.4  on   7 of   7 obs.
-----------------------------------------
?  NOV  02, 1989  11h 30m 54.29± 2.40s
   39.238 N ±26.7km  143.888 E ±37.0km
   DEPTH =  33.0km  (normal)
   4.0mb (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.22 225 P      31 57.60  -0.3
                S        32 44.10
NIIJ     4.33 244 P      31 59.30  -0.2
CHJJ     5.02 232 P      32 09.20  -0.1
MAT      5.24 241 iPc    32 12.30  -0.1
        0.9s    30.25nm          4.8mb X
                (S)      33 17.00
MTMJ     5.49 243 P      32 16.00   0.0
IIDJ     6.06 234 eP     32 24.70   0.7
NB2     72.89 338 P      42 21.60   0.0
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02d 11h

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        0.7s      1.30nm          4.0mb
     S.D. = 0.4   on    7 of    7 obs.
-----------------------------------------
*  NOV  02, 1989  11h 38m 33.52± 2.19s
   27.939 N ±22.4km  127.141 E ± 9.6km
   DEPTH = 216.5 ± 31.5 km
   4.5mb (  2 obs.)
 RYUKYU ISLANDS                     (238)

SSE      6.07 303 P      40 02.00   -0.5
WHN     11.47 286 P      41 13.00    0.8
MAT     12.69  45 (P)    41 28.00    0.4
XAN     16.76 296 Pc     42 16.10   -1.3
GYA     18.28 270 P      42 33.60   -0.1
KMI     22.00 268 Pc     43 12.50    1.4
CHTO    27.38 257 iPc    44 00.60   -0.2
        0.8s     12.26nm          4.7mb
WB5     48.05 171 iPd    46 52.80   -0.1
WRA     48.11 171 Pd     46 53.00   -0.4
        0.7s     10.20nm          4.3mb
     S.D. = 1.0   on    9 of    9 obs.
-----------------------------------------
&  NOV  02, 1989  11h 40m 17.38s
   61.988 N          150.526 W
   DEPTH =    5.6km
 SOUTHERN ALASKA                      (  2)
      <AGS-P>. ML 3.8 (PMR).

CUT      0.44  16 iP      40 26.22    0.1
PWA      0.46 137 iPd     40 27.40    0.8
SKT      0.47 270 iP      40 27.10    0.2
                  Sn      40 34.16
SUA      0.54 191 eP      40 28.91    0.8
PLRM     0.77 120 iP      40 32.16   -0.6
PMR      0.77 120 iPd     40 32.30   -0.5
GHO      0.79 105 eP      40 32.40   -0.8
PME      0.80 116 iP      40 32.80   -0.4
PMS      0.88 148 iPd     40 34.20   -0.5
CGLM     0.98 227 eP      40 35.28   -1.2
HUR      1.08  22 eP      40 36.82   -1.2
SPU      1.09 223 eP      40 37.03   -1.3
NKA      1.30 196 eP      40 43.33    1.6
SLKM     1.49 174 eP      40 43.54   -1.3
KTH      1.58 354 eP      40 44.69   -1.4
RND      1.62  28 eP      40 45.11   -1.6
RDT      1.68 213 eP      40 46.12   -1.5
MCK      1.90  22 eP      40 49.43   -1.2
RED      1.91 216 eP      40 49.50   -1.4
SEW      1.96 164 eP      40 50.85   -0.7
NNL      1.99 191 eP      40 52.47    0.5
GLI      1.99 122 iP      40 51.76   -0.2
TOA      2.05  85 ePc     40 52.90   -0.1
VZW      2.12 114 eP      40 53.77   -0.1
VLZ      2.18 111 eP      40 54.35   -0.4
KLU      2.25 101 eP      40 54.09   -1.7
ILIM     2.25 213 eP      40 55.06   -0.8
FID      2.31 121 eP      40 55.78   -0.9
SDG      2.39  75 eP      40 56.77   -1.0
CNPM     2.50 188 eP      40 57.97   -1.3
PAX      2.55  65 eP      40 58.97   -1.1
SVW      2.59 252 eP      40 58.20   -2.5
NEA      2.68  13 eP      40 59.31   -2.6
OPT      2.69 211 eP      41 02.11    0.0
TTA      2.72 293 eP      40 59.80   -2.7
WRH      2.73  23 eP      40 59.98   -2.5
DDM      2.80  48 eP      41 03.12   -0.5
HDA      2.92  32 eP      41 02.87   -2.4
CCB      2.94  23 eP      41 02.50   -3.0
RDS      3.04  20 eP      41 04.23   -2.8
FBA      3.17  22 eP      41 06.00   -2.8
GLM      3.32  24 eP      41 08.24   -2.8
CDD      3.43 208 eP      41 13.03    0.4
SHU      3.49 196 eP      41 13.80    0.5
TGL      3.90 105 eP      41 18.12   -1.2
BALM     4.03 100 eP      41 19.87   -1.3
IMA      4.32 343 ePc     41 22.40   -2.9
KDC      4.37 194 eP      41 25.20   -0.6
DWY      5.46  63 P       41 39.60   -1.7
INK      9.53  41 eP      42 36.00   -2.1
EDM     21.48  97 eP      45 08.00   -0.5
        51 obs. associated
-----------------------------------------
   NOV  02, 1989  11h 51m 46.45± 0.24s
   39.490 N ± 4.5km  143.098 E ± 4.1km
   DEPTH =  26.6km  (  5 depth phases)
   5.2mb ( 30 obs.)  5.1Msz (  5 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
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```
        CENTROID, MOMENT TENSOR     (HRV)
        Data Used: GDSN
        L.P.B.: 11S, 19C
        Centroid Location:
        Origin Time        11:51:46.9 1.1
        Lat 39.04N 0.10 Lon 143.53E 0.10
        Dep  33.0 FIX Half-duration  1.6
        Moment Tensor;    Scale 10**16 Nm
          Mrr= 6.17 0.44   Mtt=-0.27 0.63
          Mff=-5.90 0.65   Mrt= 4.95 1.10
          Mrf= 2.75 1.37   Mtf=-1.97 0.56
         Principal Axes:
          T  Val=  9.01  Plg=62  Azm=347
          N        -1.10      20      214
          P        -7.91      19      117
        Best Double Couple:Mo=8.5*10**16
         NP1:Strike=178 Dip=32 Slip=  50
         NP2:         43     66      112

SAP      3.81 340 eP      52 46.00    1.4
                  eS      53 36.00
NIIJ     3.93 236 P       52 47.30    0.9
KAKJ     4.01 216 P       52 45.50   -2.2
CHJJ     4.73 225 P       52 56.90   -1.0
MAT      4.85 234 iPc     53 00.90    1.3
                  eS      54 07.00
MTMJ     5.09 237 P       53 04.30    1.3
IIDJ     5.75 227 P       53 12.30    0.0
TSRJ     6.89 237 P       53 30.10    1.7
WKYJ     7.99 231 eP      53 40.80   -2.9X
YONJ     8.79 244 eP      53 53.90   -0.9
TKSJ     9.11 236 P       53 58.20   -0.9
SHK      9.69 243 eP      54 07.70    0.5
MDJ     11.27 301 Pc      54 30.00    1.2
      E  14s     12.50um
CN2     13.88 294 Pc      55 03.00   -0.6
        1.5s      0.20nm          2.7mb X
      Z  15s      7.90um          4.3Msz
      N  12s      2.40um
      E  12s      5.00um
                  pP      55 10.50
                  S       57 42.00
SNY     15.00 285 Pc      55 16.00   -2.2
      Z  16s     13.90um          4.4MszX
      N  13s      2.40um
      E  14s      6.90um
                  pP      55 26.00
DL2     16.65 275 P       55 40.00    0.5
      Z  14s      5.40um
      N  14s      5.50um
      E  17s      6.00um
                  S       58 45.00
SSE     19.71 252 Pc      56 16.50   -0.3
        1.5s      3.06nm          3.4mb X
      Z  20s      2.30um
      N  14s      4.80um
      E  14s      3.40um
                  sP      56 28.00
                  S       59 58.00
                  sS      00 08.00
BJI     20.68 280 Pc+     56 24.00   -2.8
        1.7s    301.00nm          5.4mb
      Z  16s     10.49um          5.3MszX
      N  12s      2.26um
      E  14s      6.16um
                  eS      00 16.00
TIA     20.75 269 eP      56 24.50   -3.1X
        4.0s      0.90nm          2.5mb X
      Z  15s      9.60um          5.3MszX
      N  13s      2.10um
      E  13s      6.60um
NJ2     20.99 257 Pc      56 28.00   -2.0
      Z  18s      4.20um          4.9Msz
      N  13s      3.20um
      E  13s      2.20um
ANP     23.07 238 eP      56 52.00    1.1
TIY     23.98 276 eP      56 59.00   -0.6
      Z  17s      8.64um          5.3MszX
      N  15s      4.20um
      E  18s      6.40um
                  PP      57 39.00
HHC     24.07 283 P       56 59.00   -1.6
      N  14s      2.55um
      E  15s      7.12um
                  sP      57 13.00
                  PP      57 37.00
WHN     25.09 258 iPc     57 10.00   -0.3
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        3.0s      1.58nm          3.1mb X
      Z  16s     41.60um          6.0MszX
      N  13s     33.10um
      E  13s     47.50um
                  pP      57 18.00   28km
                  S       01 36.00
QZH     25.20 242 eP      57 08.00   -3.3X
      Z  15s      4.00um          5.1MszX
      E  13s      2.90um
BTO     25.27 283 iPc     57 11.00   -1.1
      N  13s      2.70um
      E  16s     14.70um
                  pP      57 18.00   25km
                  S       01 27.00
XAN     27.81 270 Pc      57 34.30   -1.1
      E  13s      3.80um
GZH     30.05 246 eP      57 57.70    2.2
      Z  16s      4.00um          5.2MszX
      N  13s      1.80um
      E  13s      1.70um
BAG     30.24 227 eP      57 59.00    1.5
LZH     31.04 276 Pc      58 04.00   -0.4
        2.0s    164.00nm          5.5mb
      Z  15s      9.40um          5.6MszX
      N  12s      1.90um
      E  13s      7.10um
                  pP      58 10.00   21km
                  sP      58 12.50
                  eS      03 07.00
                  sS      03 16.00
                  SS      04 50.00
GYA     32.99 258 iPc     58 20.40   -1.0
        2.0s      0.80nm          3.3mb X
      Z  18s      2.00um          4.9Msz
      N  14s      1.90um
      E  14s      3.80um
                  S       03 36.00
CD2     33.06 267 P       58 21.00   -0.9
GTA     33.18 284 iPc     58 23.00    0.0
        1.0s      0.10nm          2.7mb X
      Z  16s     11.40um          5.7MszX
      E  16s      9.00um
                  PP      59 34.00
                  S       03 36.00
                  sS      03 52.00
KMI     36.68 259 Pc+     58 53.00   -0.2
        3.0s      0.70nm          3.0mb X
      Z  20s      4.60um          5.3Msz
      N  15s      2.70um
      E  15s      2.80um
                  pP      59 02.00   30km
                  S       04 36.00
                  sS      04 55.00
WMQ     40.97 295 iPc     59 29.60    1.1
      Z  14s      2.40um          5.2MszX
LOE     42.03 250 eP      59 37.00   -0.4
TTA     42.66  36 P       59 38.50   -3.6X
        1.0s     10.00nm          4.5mb
SVW     42.75  39 eP      59 43.60    0.7
CHG     43.20 255 iPc     59 47.20    0.2
        1.1s     28.48nm          4.9mb
CHTO    43.20 255 iPc     59 47.00    0.0
        1.0s     20.75nm          4.8mb
LSA     43.35 273 P       59 50.50    1.9
      E  17s      2.10um
                  S       06 15.00
IMA     43.90  32 eP      59 52.00   -0.2
PMR     45.87  38 eP      00 06.70   -1.1
        0.9s     15.70nm          4.9mb
FBA     46.32  33 eP      00 11.00   -0.4
NNT     46.65 247 eP      00 15.00    0.5
TOA     47.23  37 eP      00 19.00    0.3
MKS     49.55 212 e(P)c   00 39.00    2.0
SNG     49.84 241 eP      00 40.20    0.8
                  eS      07 57.00
KSH     50.67 293 P       00 47.00    1.4
      N  15s      4.80um
                  eS      07 58.00
INK     51.60  28 eP      00 51.00   -1.1
MBC     53.80  17 eP      01 08.00   -0.3
        1.0s     18.00nm          5.0mb
NDI     54.53 280 iPc     01 14.00   -0.4
                  eS      09 19.00
HYB     59.60 268 eP      01 49.50   -1.1
WB5     59.62 190 eP      01 47.00   -3.4X
QUE     61.49 287 eP      02 02.60   -0.9
POO     62.60 272 iPc     02 10.60   -0.2
```

```
                iSn    10 15.80
GBA    62.73 265 P     02 11.00   -0.7
ASPA   63.41 189 iPc   02 13.40   -2.5
       1.0s     6.00nm          4.7mb
                e      02 33.30  77kmX
MAIO   63.71 296 eP    02 17.00   -1.0
DZM    65.01 156 iPc   02 38.00   11.5X
PNT    65.50  46 eP    02 29.00   -0.3
       0.7s     6.00nm          4.8mb
LON    65.63  49 P     02 30.00   -0.3
RMO    65.85 174 eP    02 32.00    0.4
EDM    66.61  40 eP    02 35.50   -0.9
WDC    68.56  55 eP    02 49.60    0.8
ORV    69.79  55 eP    02 57.20    0.8
FFC    70.93  34 eP    03 04.00    1.0
       0.9s    15.00nm          5.1mb
UPP    71.33 334 iP    03 04.20   -1.1
CMB    71.38  56 eP    03 07.60    1.5
LRM    71.48  46 eP    03 06.70   -0.1
TAB    71.52 304 eP    03 07.00   -0.1
KVN    72.23  54 P     03 10.00   -1.4
HFS    72.39 336 eP    03 09.90   -1.8
       0.8s    17.70nm          5.1mb
     Z  18s     1.04um          5.2Msz
                LR     35 12.00
NB2    72.43 338 P     03 11.40   -0.6
       0.8s    20.10nm          5.2mb
TNP    73.36  54 P     03 16.80   -1.2
       0.8s     5.88nm          4.7mb
BWA    73.71 175 eP    03 19.00   -0.6
CLC    74.50  56 eP    03 33.00    8.6X
CAN    74.64 175 eP    03 26.20    1.3
SBB    75.04  57 eP    03 32.00    4.4X
MWC    75.17  58 eP    03 39.00   10.5X
RVR    75.76  58 eP    03 39.00    7.4X
KVT    75.93 312 eP    03 33.60    1.1
MSU    76.21  51 P     03 34.00   -0.4
CFR    77.47 319 eP    03 42.00    1.1
VRI    77.70 320 ePd   03 43.00    0.8
KRA    77.79 326 eP    03 42.90    0.3
       0.8s    38.00nm          5.5mb
     Z  18s     2.60um          5.6Msz
     N  18s     3.10um
                i      03 44.20   4kmX
                e      03 50.00
TLB    77.94 319 eP    03 44.00    0.5
ISR    78.31 320 eP    03 48.00    2.3
BBTK   78.63 313 eP    03 48.00    0.4
KSP    78.70 329 iP    03 48.20    0.6
CMP    78.96 321 ePc   03 51.00    1.8
GOL    79.41  47 P     03 49.00   -3.0X
BRG    79.60 330 iP    03 52.60    0.1
       2.0s    64.00nm          5.3mb
                i      04 01.60  29km
CLL    79.62 331 iPc   03 52.40   -0.1
       1.7s    49.00nm          5.3mb
     Z  17s     1.00um          5.2MszX
GBZT   79.84 315 iPd   03 54.70    0.8
PRU    80.07 329 P     03 55.50    0.5
     Z  17s     1.80um          5.5MszX
     N  14s     1.40um
     E  15s     1.40um
                e      04 14.50  70kmX
SRO    80.19 326 iP    03 57.00    1.3
PVL    80.29 319 iPd   03 57.00    0.7
ZST    80.42 327 eP    03 57.20    0.3
SOP    81.05 327 eP    04 05.70    5.5X
KHC    81.13 329 iPc   04 01.00    0.3
       1.0s    14.00nm          4.9mb
     Z  16s     1.80um          5.5MszX
     N  16s     1.20um
     E  16s     1.00um
BEO    81.49 323 e(P)  04 03.00    0.4
KHL    81.51 313 eP    04 03.60    0.7
GRF    81.59 331 iPc   04 04.00    0.9
       1.0s    48.00nm          5.5mb
VTS    81.82 320 iPc   04 06.00    1.4
ALQ    82.01  51 eP    04 05.00   -0.7
       1.0s    10.00nm          4.8mb
KKB    82.41 319 iPc   04 09.00    1.5
DSI    82.59 305 eP    04 10.00    1.5
KBA    82.87 328 ePd   04 10.50    0.5
                e      07 33.00
VAY    83.08 319 iP    04 11.20    0.3
SKO    83.16 320 iP    04 12.00    0.7
       1.8s   145.00nm          5.8mb
                i      04 35.00  86kmX
LJU    83.20 327 e(P)  04 12.00    0.5
VBY    83.31 326 e(P)  04 12.00    0.0
VOY    83.48 327 eP    04 13.20    0.2
FVI    83.49 328 P     04 12.50   -0.4
PRNI   83.65 304 iPc   04 11.00   -3.1X
TRI    83.79 327 eP    04 13.60   -0.8
CDF    84.11 332 eP    04 15.90   -0.3
       0.9s    11.10nm          5.1mb
M8H    84.11 304 iPc   04 17.00    0.7
OHR    84.12 320 eP    04 16.00   -0.3
       0.9s     0.05nm          2.8mb X
CTI    84.39 328 P     04 17.00   -0.6
HAU    84.79 332 eP    04 18.80   -0.7
       0.9s    11.10nm          5.1mb
SAL    85.20 329 P     04 22.00    0.5
VAI    85.68 330 P     04 24.00    0.1
BRT    86.05 322 P     04 30.00    4.1X
LCI    86.11 321 P     04 26.00   -0.1
CRE    86.23 327 P     04 27.00    0.1
LOR    86.29 334 eP    04 26.30   -0.7
       0.8s    18.80nm          5.4mb
BOB    86.33 329 P     04 22.00   -5.3X
ASS    86.38 326 P     04 28.50    1.0
LBF    86.50 333 eP    04 27.20   -0.8
       1.1s    31.70nm          5.5mb
SSF    86.59 334 eP    04 28.00   -0.5
       1.0s    20.80nm          5.3mb
LPG    86.76 331 eP    04 29.20   -0.5
       0.9s    14.70nm          5.2mb
SMF    86.84 333 eP    04 29.10   -0.6
AVF    86.88 334 eP    04 29.30   -0.5
       0.9s    26.80nm          5.5mb
SDI    86.97 325 P     04 29.00   -1.4
CKI    87.08 329 P     04 19.00  -11.8X
BNI    87.17 331 P     04 33.00    1.5
SGO    87.19 323 P     04 31.00   -0.4
CSI    87.35 322 P     04 30.70   -1.5
ROI    87.37 322 P     04 31.70   -0.7
TUL    87.41  44 eP    04 36.50    3.9X
       0.8s     4.30nm          4.8mb
LNO    87.41  44 e(P)  04 35.80    3.4X
MAF    87.65 334 eP    04 33.50   -0.1
       1.0s    14.80nm          5.2mb
TCF    87.71 334 eP    04 33.70   -0.2
       1.0s    20.00nm          5.4mb
CZI    87.86 322 P     04 32.70   -1.9
LSF    87.97 334 eP    04 34.90   -0.2
SOI    88.80 321 P     04 33.00   -6.2X
ZOBO  144.29  59 PKP   11 18.00   -4.7X
LPB   144.49  59 ePKP  11 22.00   -0.9
CNCB  144.77  59 PKP   11 22.80   -0.7
CCH   146.39  57 PKP   11 27.50    1.6
PDCR  153.08   5 ePKP  11 31.70   -4.1X
        S.D. = 1.0  on 132 of 153 obs.
-----------------------------------
   NOV  02, 1989  11h 59m 48.89± 0.21s
   39.638 N ± 5.1km  143.700 E ± 3.8km
   DEPTH =  29.4km  (  6 depth phases)
   4.9mb ( 23 obs.)  5.5Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ    4.40 238 P     00 55.90    0.5
                S     01 48.30
KAKJ    4.42 220 P     00 54.30   -1.3
                S     01 44.10
CHJJ    5.17 228 P     01 06.00   -0.3
                S     02 04.30
MAT     5.32 236 iPc   01 09.10    0.7
        0.8s   197.76nm          5.7mb
                eS    02 11.00
MTMJ    5.56 239 P     01 12.50    0.6
IIDJ    6.19 230 P     01 21.20    0.4
TSRJ    7.37 239 P     01 39.30    2.1
WKYJ    8.45 233 eP    01 53.30    1.0
YONJ    9.27 245 eP    02 04.80    1.1
TKSJ    9.57 237 eP    02 07.00   -0.8
CN2    14.25 293 P     03 08.80   -1.8
SNY    15.41 285 Pc    03 26.10    0.3
DL2    17.11 275 eP    03 48.30    1.0
BJI    21.11 280 eP    04 30.00   -3.3X
NJ2    21.47 257 Pd    04 35.00   -2.0
HHC    24.49 283 Pd    05 05.40   -1.3
WHN    25.58 258 P     05 17.40    0.4
        1.0s     0.11nm          2.4mb X
                pP    05 26.00  31km
XAN    28.27 270 P     05 40.50   -1.2
LZH    31.49 276 eP    06 10.00   -0.4
       2.0s    61.00nm          5.1mb
     Z  14s     2.50um          5.0MszX
     E  13s     1.60um
                pP    06 15.00  17kmX
                sP    06 19.00
GYA    33.47 258 P     06 27.00   -0.7
CD2    33.53 268 eP    06 26.80   -1.3
GTA    33.60 284 iPc   06 28.40   -0.3
KMI    37.17 260 Pc    06 59.50    0.2
                pP    07 04.00  15kmX
                sP    07 07.50
WMQ    41.33 295 iPc   07 34.10    0.6
CHG    43.69 255 eP    07 53.90    0.9
CHTO   43.69 255 iPc   07 53.90    0.9
       0.7s     5.88nm          4.5mb
FBA    45.94  34 P     08 09.50   -0.9
       0.9s    12.08nm          4.8mb
INK    51.25  28 ePd   08 51.20   -0.3
MBC    53.52  17 eP    09 08.00   -0.4
       1.0s     8.00nm          4.7mb
WB5    59.85 190 eP    09 53.00   -1.0
WRA    59.91 190 Pd    09 53.00   -1.5
       0.7s     8.50nm          5.0mb
KEV    61.65 339 iP    10 13.00    7.2X
GBA    63.21 266 P     10 17.00    0.2
SOD    63.26 337 iP    10 15.70   -0.8
                i     10 24.20  27km
ASPA   63.64 190 eP    10 18.00   -1.4
       0.9s     9.00nm          4.9mb
MAIO   64.06 297 eP    10 31.00    8.7X
RMW    64.81  48 P     10 27.00   -0.1
PNT    65.06  46 eP    10 28.00   -0.6
       0.8s     8.00nm          4.9mb
LON    65.18  49 P     10 29.00   -0.4
EDM    66.19  40 ePc   10 35.20   -0.6
SUF    66.46 334 eP    10 37.00   -0.3
LBFM   68.07  54 P     10 48.00   -0.1
WDC    68.09  55 eP    10 48.30    0.4
NUR    68.49 332 eP    10 49.00   -1.0
       0.6s    10.40nm          5.1mb
     Z  18s     2.70um          5.5Msz
                i     10 58.30  30km
                LR    35 08.00
MIN    68.81  55 eP    10 52.40   -0.2
ORV    69.33  55 eP    10 55.20   -0.4
BKS    69.81  57 ePc   10 59.30    0.8
       1.0s    22.00nm          5.2mb
                epP   11 08.40  29km
                esP   11 12.10
FFC    70.55  34 eP    11 03.00    0.3
       1.1s    22.00nm          5.2mb
CMB    70.91  56 eP    11 05.70    0.4
LRM    71.04  46 eP    11 06.20    0.0
                e     11 15.90  31km
PRS    71.26  58 eP    11 07.60    0.2
UPP    71.39 335 iP    11 07.20   -0.5
KVN    71.77  54 P     11 10.50   -0.1
FRI    71.96  57 eP    11 11.50    0.0
HFS    72.44 336 eP    11 13.10   -0.9
       0.4s     1.90nm          4.5mb
NB2    72.47 338 P     11 13.90   -0.3
       0.9s    12.80nm          4.9mb
TNP    72.90  55 P     11 17.00   -0.4
       0.9s    11.72nm          4.9mb
ISA    73.55  57 eP    11 21.00    0.0
CLC    74.03  57 eP    11 24.00    0.3
SBB    74.56  58 eP    11 27.00    0.1
MWC    74.69  58 eP    11 28.00    0.2
GSC    74.85  57 eP    11 29.00    0.4
DAU    75.09  50 P     11 31.00    0.8
RVR    75.28  58 eP    11 16.00  -14.9X
MSU    75.75  52 P     11 34.50    0.7
TPC    76.08  57 eP    11 28.00   -7.5X
BAR    76.55  59 eP    11 35.00   -3.2X
VRI    77.89 320 ePd   11 43.00   -2.3
GOL    78.96  47 P     11 52.00    0.4
ALQ    81.55  51 eP    12 06.00    0.6
       1.1s    12.66nm          4.9mb
VAY    83.27 320 eP    12 15.00    1.1
SKO    83.34 321 iP    12 15.00    0.7
                i     12 24.00  28km
                i     12 37.20
OHR    84.31 320 eP    12 19.30    0.0
       0.9s     0.04nm          2.6mb X
LOR    86.37 334 eP    12 30.10    0.7
       1.0s    10.80nm          5.0mb
LBF    86.57 334 eP    12 31.10    0.7
```

02d 12h

```
        0.7s      5.50nm          4.9mb
SSF    86.67 334 eP     12 31.80   1.0
        0.8s      4.00nm          4.7mb
SMF    86.91 334 eP     12 32.90   0.8
        1.0s      4.00nm          4.6mb
AVF    86.95 334 eP     12 33.30   1.1
        0.8s      8.00nm          5.0mb
LNO    86.97  44 e(P)   12 42.10   9.7X
TUL    86.97  44 eP     12 42.50  10.0X
        0.7s      6.20nm          4.9mb
BGF    87.33 334 eP     12 35.00   1.0
        1.0s     12.00nm          5.1mb
MAF    87.72 334 eP     12 37.50   1.6
        1.0s     10.00nm          5.1mb
LSF    88.04 335 eP     12 38.70   1.2
ZOBO  143.81  59 ePKP   19 21.00  -2.9X
     Z  24s      0.20um          4.8MszX
                 LR     00 54.00
LPB   144.02  59 ePKP   19 24.00  -0.1
CNCB  144.29  60 PKP    19 24.70   0.0
CCH   145.92  58 PKP    19 29.50   2.3X
     S.D. = 0.9  on  77 of  87 obs.
-----------------------------------------
*  NOV  02, 1989  13h 19m 19.32± 1.30s
   31.282 S ±16.5km   67.303 W ± 9.4km
   DEPTH =  33.0km  (normal)
 SAN JUAN PROVINCE, ARGENTINA     (137)

CFA      0.86 248 iPc    19 36.00   0.9
                  S      19 49.20
RTLL     1.00 267 iPd    19 38.20   1.1
RTCV     1.20 241 iPc    19 39.40  -0.5
ZON      1.21 257 iPc    19 40.00   0.0
                  eS     19 56.00
RTCB     1.30 261 iPc    19 41.10  -0.2
                  S      19 58.00
MRA      1.76 130 iPc    19 48.00   0.0
RTBS     1.88 258 ePd    19 48.50  -1.1
                  S      20 10.80
RTRS     2.16 300 ePc    19 53.50  -0.2
                  S      20 21.20
     S.D. = 0.9  on   8 of   8 obs.
-----------------------------------------
*  NOV  02, 1989  13h 30m 45.30± 1.10s
   42.578 N ±11.6km   24.068 E ±16.3km
   DEPTH =  10.0km  (geophysicist)
 BULGARIA                         (359)

SRS      1.50 194 ePc    31 11.00  -1.3
                  eS     31 33.20
KNT      1.66 212 ePc    31 13.90  -0.7
                  eS     31 35.20
VAY      1.68 222 ePn    31 14.40  -0.5
SKO      2.04 254 ePn    31 21.00   0.9
OUR      2.24 182 ePc    31 24.80   1.8
VRI      3.80  29 ePc    31 45.00  -0.2
     S.D. = 1.5  on   6 of   6 obs.
-----------------------------------------
   NOV  02, 1989  13h 42m 14.48± 0.16s
   40.018 N ± 3.1km  143.252 E ± 3.2km
   DEPTH =  27.6km  ( 11 depth phases)
   5.6mb ( 51 obs.)  5.2Msz ( 11 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 31C
      Centroid Location:
      Origin Time        13:42:17.5 0.4
      Lat 39.92N 0.05 Lon 143.48E 0.06
      Dep  27.2 2.9 Half-duration  2.2
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 1.22 0.05  Mtt= 0.17 0.07
        Mff=-1.39 0.08  Mrt= 1.26 0.16
        Mrf= 1.43 0.21  Mtf=-0.29 0.06
       Principal Axes:
        T  Val=  2.37  Plg=58  Azm=327
        N       -0.08      16      210
        P       -2.29      27      112
      Best Double Couple:Mo=2.3*10**17
       NP1:Strike=168 Dip=23 Slip=  46
       NP2:        35     74      106

SAP      3.36 335 eP     43 06.00  -0.3
NIIJ     4.33 232 P      43 21.60   1.5
KAKJ     4.51 213 P      43 21.20  -1.6
                  S      44 12.90
CHJJ     5.19 222 P      43 32.10  -0.3
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MAT      5.27 230 iPc    43 35.10   1.6
                  eS     44 34.00
MTMJ     5.49 233 P      43 38.30   1.7
IIDJ     6.20 225 P      43 46.60   0.0
TSRJ     7.29 234 P      44 03.30   1.5
                  S      45 44.30
WKYJ     8.42 229 eP     44 15.00  -2.6
SHK     10.05 240 eP     44 40.40   0.4
MDJ     11.11 299 Pc     44 54.00  -0.5
     N  14s     18.40um
                  S      47 00.00
CN2     13.79 292 iPc    45 29.00  -1.3
        1.0s      0.06nm          2.4mb X
     Z  17s     10.60um          4.6MszX
     N  13s      6.00um
     E  13s      3.00um
                  pP     45 37.00
SNY     14.98 283 iPc    45 45.00  -1.0
     Z  17s     18.00um
     N  13s      6.00um
     E  15s      9.20um
                  sP     45 59.00
                  S      48 33.00
DL2     16.74 273 P      46 07.00  -1.5
     Z  24s      4.90um
     N  15s      6.40um
     E  17s      6.00um
                  S      49 13.00
SSE     20.00 250 P      46 43.50  -4.2X
        1.1s    139.00nm          5.2mb
     Z  20s      1.90um          4.9MszX
     N  14s      8.10um
     E  14s      4.90um
                  pP     46 52.00  32km
                  S      50 40.00
                  sS     50 59.00
BJI     20.71 279 Pc+    46 51.50  -3.5X
        2.0s    690.00nm          5.7mb
     Z  18s     10.28um          5.2Msz
     N  13s      4.13um
     E  16s      6.40um
                  eS     50 43.00
TIA     20.88 268 Pc     46 53.40  -3.4X
        5.0s      1.30nm          2.6mb X
     Z  16s     13.90um          5.4MszX
     N  14s      2.70um
     E  14s     10.40um
                  eS     50 42.00
NJ2     21.23 256 iPc    46 57.50  -2.8
     Z  18s      8.70um          5.2Msz
     N  15s      5.30um
     E  15s      6.10um
ANP     23.45 237 eP     47 22.00  -0.5
TIY     24.05 274 Pc     47 26.00  -2.2
     Z  17s      6.00um          5.1MszX
     N  14s      5.70um
                  PP     48 00.00
                  sS     51 52.00
HHC     24.07 282 iPc    47 26.00  -2.5
     Z  20s     17.70um          5.5Msz
     N  12s      1.40um
     E  16s      7.70um
                  PP     47 59.00
                  S      51 40.00
BTO     25.27 282 iPc    47 38.50  -1.5
     N  16s      5.20um
     E  16s     14.30um
                  pP     47 43.00  16kmX
                  PP     48 19.00
WHN     25.32 257 Pd     47 39.00  -1.4
        3.0s      2.25nm          3.3mb X
     Z  18s      7.90um          5.3Msz
     N  14s      8.45um
     E  14s      5.58um
                  pP     47 47.00  28km
                  S      52 01.00
QZH     25.55 241 iPc    47 42.50  -0.1
        4.0s      1.60nm          3.0mb X
     Z  18s      3.50um          4.9Msz
     E  13s      3.20um
                  S      52 10.00
GUMO    26.37 176 eP     47 54.50   4.3X
     Z  22s      1.61um          4.5Msz
GUA     26.42 176 eP     47 54.50   3 9X
XAN     27.93 269 Pc     48 03.00  -1 4
     N  14s      5.20um
     E  12s      4.30um
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GZH     30.37 245 iPc    48 26.00  -0.3
        1.6s      0.10nm          2.4mb X
     Z  12s      6.30um          5.5MszX
     N  13s      4.70um
     E  13s      4.50um
                  S      53 27.00
BAG     30.69 226 eP     48 28.00  -1.3
                  eS     53 30.00
LZH     31.10 275 Pc     48 32.00  -0.8
        2.0s    234.00nm          5.7mb
     Z  15s      7.90um          5.5MszX
     E  14s      6.00um
                  sP     48 40.00
                  PP     49 32.00
                  eS     53 30.00
                  sS     53 42.00
QCP     31.87 224 eP     48 32.00  -7.5X
GTA     33.18 283 iPc    48 51.00   0.1
        1.0s      0.20nm          3.0mb X
     Z  17s     13.20um          5.7MszX
     E  16s      9.60um
                  PP     50 03.00
                  PcP    51 33.60
                  S      54 03.00
                  sS     54 24.00
                  PcS    55 18.40
CD2     33.20 267 P      48 49.80  -1.3
     Z  14s      5.70um          5.4MszX
     N  13s      7.20um
                  esS    53 20.00
GYA     33.22 257 iPc    48 50.60  -0.7
        2.0s      1.10nm          3.4mb X
     Z  18s      4.00um          5.2Msz
     N  15s      4.50um
     E  15s      7.70um
                  pP     48 59.00  29km
                  S      54 06.00
QIZ     35.51 244 Pc     49 11.50   0.6
     N  15s      3.10um
     E  15s      3.90um
                  eS     54 50.00
DAV     36.42 211 eP     49 15.50  -3.1X
KMI     36.90 259 iPc+   49 23.00   0.1
        3.0s      1.20nm          3.2mb X
     Z  18s     17.10um          5.9Msz
     N  14s      4.90um
     E  16s      6.10um
                  pP     49 31.50  29km
                  S      55 08.00
                  sS     55 20.00
WMQ     40.86 294 iPc    49 56.50   1.0
        1.2s      0.20nm          2.7mb X
     Z  20s      4.80um          5.4Msz
     N  13s      1.60um
     E  13s      1.80um
                  S      56 04.00
KKM     41.64 223 ePc    50 02.00  -0.2
MNI     41.89 208 iPd    50 04.70   0.7
TTA     42.16  36 eP     50 08.20   2.3
TSM     42.27 219 ePc    50 09.20   2.0
SVW     42.27  39 eP     50 07.00   0.2
LOE     42.32 250 eP     50 07.50  -0.1
IMA     43.39  32 eP     50 15.30  -0.7
        1.0s     10.10nm          4.5mb
LSA     43.43 273 P      50 18.00   0.8
        3.0s      0.10nm          2.1mb X
     E  17s      1.80um
                  sS     57 02.00
CHG     43.46 254 iPc    50 17.90   1.0
        1.0s     57.00nm          5.3mb
CHTO    43.46 254 iPc    50 17.70   0.8
        0.9s     44.54nm          5.2mb
KDC     43.99  44 P      50 19.00  -1.7
BDT     44.41 252 iPc    50 26.00   1.5
        1.0s     63.20nm          5.4mb
PMR     45.38  38 eP     50 29.40  -2.5
FBA     45.82  34 eP     50 35.10  -0.2
PCI     46.00 214 ePd    50 37.70   0.5
        1.5s      7.00nm          4.4mb X
TOA     46.74  38 eP     50 42.60  -0.1
NNT     46.97 247 iPd    50 46.20   1.3
MKS     50.06 212 ePc    51 10.00   1.2
SNG     50.20 241 eP     51 11.80   1.8
        1.4s    255.81nm          6.0mb
                  eS     58 42.50
KSH     50.57 292 Pd     51 13.50   0.8
     N  16s      6.20um
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                PP    53 12.00
                esS   58 38.00
INK   51.08  28 eP    51 15.00  -1.0
      0.9s     25.00nm          5.2mb
IPM   51.85 238 ePc   51 23.00   0.4
      1.1s     73.50nm          5.5mb
KGM   52.35 234 ePd   51 27.00   0.8
MBC   53.26  17 eP    51 32.00  -0.3
MTN   53.79 195 eP    51 36.00  -0.7
                i     51 45.00  30km
KHKI  54.51 214 ePc   51 41.00  -1.1
                e     55 23.60
NDI   54.56 280 iPc   51 42.00  -0.5
      0.1s   1111.11nm          7.8mb X
                eS    59 32.00
PSI   54.64 239 ePc   51 42.30  -0.9
      0.8s     24.10nm          5.3mb
KBS   57.98 350 iP    52 06.00  -0.3
HYB   59.74 268 iPc   52 19.50   0.1
      1.2s    128.60nm          5.9mb
CTA   59.86 177 iPd   52 20.00   0.1
      1.4s     72.09nm          5.6mb
                iS    00 29.00
WB5   60.16 190 eP    52 20.20  -1.8
                i     52 28.90  28km
WRA   60.23 190 Pc    52 20.70  -1.7
      0.9s     28.60nm          5.4mb
QIS   60.35 184 eP    52 21.70  -1.6
KEV   61.17 339 iPc   52 27.60  -0.8
      1.0s     72.00nm          5.8mb
QUE   61.45 287 iPc   52 30.70  -0.4
                eS    00 58.00
POO   62.70 272 iPc   52 29.20 -10.2X
      1.2s    165.63nm
                iS    01 16.00
SOD   62.78 337 iPc   52 38.60  -0.6
GBA   62.90 265 P     52 41.00   0.4
TRO   63.36 341 iP    52 42.30  -0.7
MAIO  63.58 296 iPc+  52 45.00   0.0
                eS    01 32.00
ASPA  63.95 190 iPc   52 46.20  -1.1
      1.1s     34.00nm          5.4mb
BMW   64.51  50 P     52 50.00  -1.0
PNT   65.05  46 eP    52 53.00  -1.3
      0.7s      9.00nm          5.0mb
LON   65.19  49 P     52 54.00  -1.3
EDM   66.12  40 ePd   53 00.10  -1.1
RMQ   66.36 175 iPd   53 03.00   0.2
                e     53 11.00  26km
WARB  67.65 196 eP    53 11.00   0.0
NUR   68.00 332 iPc   53 12.00  -0.8
      0.5s     39.40nm          5.8mb
    Z  16s      4.00um          5.7MszX
                LR    25 32.00
WDC   68.16  55 eP    53 14.00  -0.2
ORV   69.39  55 eP    53 21.00  -0.8
BKS   69.89  57 ePc   53 25.20   0.3
      1.2s     44.00nm          5.4mb
FFC   70.42  34 eP    53 26.00  -1.8
      0.8s     12.00nm          5.1mb
UPP   70.90 334 iPc   53 29.50  -1.1
      1.2s    200.00nm          6.1mb
CMB   70.99  56 eP    53 31.40  -0.2
LRM   71.02  46 eP    53 30.80  -1.2
TAB   71.33 304 eP    53 33.00  -0.8
PRS   71.36  58 eP    53 33.60  -0.2
KVN   71.82  54 P     53 34.40  -2.4
HFS   71.96 336 eP    53 35.60  -1.4
      1.2s    184.80nm          6.0mb
    Z  17s      1.72um          5.4MszX
                LR    25 26.00
NB2   71.99 338 P     53 36.40  -0.8
      1.1s    107.40nm          5.8mb
FRI   72.04  57 eP    53 37.60  -0.2
TNP   72.96  54 P     53 43.20  -0.4
      1.2s     28.23nm          5.2mb
SLY   73.34 303 ePd   53 45.50   0.0
SYP   73.35  59 eP    53 47.00   1.3
FRB   73.54  14 eP    53 45.00  -1.1
AKU   73.64 352 iP    53 45.60  -1.1
      1.2s     62.50nm          5.5mb
CLC   74.11  57 eP    53 49.00  -1.0
BWA   74.23 176 eP    53 51.00   0.6
                i     53 59.90  29km
SBB   74.65  58 eP    53 53.00  -0.2
MWC   74.79  58 eP    53 54.00  -0.2
CAN   75.15 175 eP    53 57.20   1.4
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                e     54 05.00  25km
RVR   75.37  58 eP    53 54.00  -3.3X
BHD   75.49 301 ePd   53 56.00  -1.9
KVT   75.67 312 eP    53 49.80  -9.1X
MSU   75.78  52 P     53 59.40  -0.5
PLM   76.11  58 eP    54 03.00   1.3
TPC   76.16  57 eP    54 01.00  -0.8
CLI   76.62 320 eP    54 04.50   0.4
BAR   76.65  59 eP    54 06.00   1.4
KAS   76.77 313 eP    54 06.50   1.4
CFR   77.15 319 eP    54 07.00   0.0
VRI   77.38 320 ePc   54 08.50   0.2
KRA   77.42 327 iPc   54 08.60   0.2
      0.8s     71.00nm          5.7mb
    Z  18s      3.80um          5.8Msz
    N  16s      2.90um
                e     54 23.30  52kmX
GLA   77.62  57 eP    54 12.00   2.1
TLB   77.63 319 eP    54 10.00   0.4
ISR   77.99 320 eP    54 12.50   0.8
KSP   78.31 329 iPc   54 14.10   0.7
      1.2s     86.00nm          5.7mb
                ePP   56 59.00
BBTK  78.36 313 eP    54 14.00   0.0
CMP   78.63 321 ePd   54 15.00  -0.3
GOL   78.96  47 P     54 19.00   1.5
BRG   79.21 330 iPc   54 18.40   0.2
      2.0s     80.00nm          5.4mb
    N  18s      2.50um
    E  18s      4.00um
                e     54 26.50  26km
CLL   79.21 331 iPc   54 18.20   0.0
    Z  17s      2.00um          5.5MszX
RYD   79.31 293 iPc   54 19.70   0.4
PRU   79.68 329 P     54 21.50   0.7
    Z  15s      2.20um          5.6MszX
    N  19s      1.90um
    E  17s      2.20um
YLV   79.74 315 iP    54 21.00  -0.4
BUD   79.77 325 iPc   54 22.00   0.7
SRO   79.82 326 iP    54 22.30   0.7
CTT   79.84 316 eP    54 22.60   0.7
PVL   79.97 319 iPc   54 24.00   1.5
BZS   80.01 323 eP    54 23.00   0.4
ZST   80.04 327 iP    54 23.70   0.9
                e     55 17.20 222kmX
                e     57 13.40
WIT   80.19 335 ePc   54 25.00   1.6
VKA   80.32 327 e(P)  54 21.00  -3.3X
    Z  15s      1.70um          5.5MszX
                LR    35 44.00
8HL   80.65 307 P     54 27.00   0.6
SOP   80.67 327 iPc   54 30.60   4.5X
EDC   80.71 316 eP    54 26.20  -0.3
KHC   80.74 329 iPc   54 27.30   0.8
      1.0s     50.00nm          5.5mb
    Z  16s      2.10um          5.6MszX
    N  16s      1.50um
    E  16s      1.50um
                e     54 52.00  94kmX
EKA   80.79 341 P     54 27.00   0.4
      1.4s     67.80nm          5.5mb
WTS   80.84 334 iPc   54 27.20   0.3
      1.0s     53.00nm          5.5mb
                e     54 44.50  62kmX
HRI   81.02 306 eP    54 30.00   1.6
PGB   81.05 319 iPc   54 30.00   1.7
KDZ   81.07 318 iPc   54 30.00   1.7
BEO   81.15 323 iP    54 28.40  -0.3
KHL   81.23 313 eP    54 29.00  -0.4
RDO   81.37 317 eP    54 30.90   1.0
RZN   81.40 318 iPc   54 31.00   0.7
VTS   81.49 320 iPc   54 32.00   1.3
ALQ   81.58  51 eP    54 31.30  -0.1
      1.1s     14.24nm          4.9mb
    Z  18s      0.41um          4.8Msz
TNS   81.76 333 ePc   54 32.00   0.1
MMB   81.97 319 iPc   54 34.00   0.9
KKB   82.09 319 iPc   54 35.00   1.3
MEM   82.28 334 P     54 34.70   0.3
PTJ   82.33 326 eP    54 34.90   0.0
ZAG   82.38 326 iP    54 35.50   0.4
DSI   82.39 305 eP    54 34.00  -1.3
SRS   82.39 319 iPc   54 35.30   0.1
FUR   82.42 330 iPc   54 36.40   1.1
      1.0s     86.00nm          5.8mb
KBA   82.48 328 ePc   54 35.50  -0.3
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      1.2s    100.00nm          5.8mb
                e(PP) 57 40.00
UCC   82.66 335 P     54 37.00   0.6
KNT   82.71 319 iPc   54 37.00   0.1
VAY   82.76 319 iPc   54 37.70   0.6
OUR   82.77 318 ePc   54 37.20   0.0
LJU   82.82 327 ePc   54 37.50   0.1
SKO   82.83 320 iPc   54 38.40   0.9
      1.2s    132.00nm          5.9mb
    Z  16s      2.72um          5.7MszX
    N  16s      2.34um
    E  16s      1.70um
                i     54 45.80  23km
                i     57 06.00
                iS    04 56.00
                i     05 07.00
                LR    35 59.50
SNF   82.93 335 Pc    54 38.10   0.3
VBY   82.94 326 iPc   54 38.40   0.4
PLG   83.01 318 eP    54 38.50   0.0
WLF   83.03 334 Pd    54 40.00   1.7
VOY   83.10 327 e(P)  54 35.00  -3.9X
                e     54 38.40  11kmX
CEY   83.11 327 eP    54 38.50  -0.4
DOU   83.19 335 P     54 39.10  -0.1
PAIG  83.22 318 iPc   54 39.50   0.0
TRI   83.41 327 iPc   54 39.90  -0.5
CDF   83.70 332 iPc   54 42.50   0.5
      1.2s     61.80nm          5.7mb
LIT   83.71 318 iPc   54 41.60  -0.4
OHR   83.79 320 iPc   54 42.70   0.2
      1.1s      0.11nm          3.0mb X
AYN   83.81 303 ePc   54 43.70   1.0
KZN   83.92 319 eP    54 42.80  -0.4
MBH   83.92 304 iPc   54 44.00   0.8
NEO   83.92 318 eP    54 43.20   0.0
CTI   84.00 328 P     54 43.00  -0.6
BSF   84.37 332 iPc   54 45.50   0.1
      1.2s     29.70nm          5.4mb
HAU   84.38 333 iPc   54 45.60   0.3
      1.0s     33.60nm          5.5mb
AGG   84.59 318 iPc   54 45.30  -1.2
BADA  84.69 303 ePc   54 48.00   0.9
SAL   84.81 329 P     54 47.00  -0.4
MDI   85.00 329 P     54 48.00  -0.3
AOI   85.22 326 eP    54 49.64   0.1
VAI   85.29 330 Pc    54 49.70  -0.1
KEK   85.35 320 eP    54 50.40   0.1
NPS   85.61 313 eP    54 51.40  -0.3
SFI   85.66 327 P     54 52.90   1.2
CIO   85.70 326 eP    54 51.88  -0.2
BRT   85.71 322 P     54 50.10  -1.9
KOT   85.73 306 eP    54 52.00  -0.3
PGD   85.75 327 P     54 53.00   0.6
LCI   85.77 321 P     54 53.00   0.7
ORX   85.78 330 P     54 52.30  -0.2
ORO   85.79 330 P     54 52.00  -0.5
ALP   85.85 325 eP    54 53.13   0.3
CRE   85.85 327 P     54 53.00   0.1
LOR   85.88 334 iPc   54 53.40   0.6
      1.0s     93.70nm          6.0mb
BOB   85.94 329 P     54 53.40   0.2
FLN   85.96 337 iPc   54 53.70   0.6
      1.2s     77.30nm          5.8mb
LDF   86.00 337 iPc   54 53.80   0.4
      1.4s    113.20nm          5.9mb
ASS   86.01 326 P     54 53.00  -0.6
FIR   86.02 327 eP    54 53.00  -0.5
BDI   86.06 328 P     54 53.00  -0.8
LBF   86.08 333 iPc   54 54.30   0.4
VLS   86.13 318 eP    54 54.20   0.0
SSF   86.18 334 iPc   54 55.10   0.8
ITM   86.19 317 eP    54 54.10  -0.4
LSD   86.24 331 P     54 55.79   0.8
MEO   86.25  47 e(P)  54 55.50   0.6
DUI   86.35 324 P     54 55.50   0.2
LPG   86.36 331 iPc   54 56.30   0.7
      1.0s     62.50nm          5.8mb
GRR   86.40 337 iPc   54 56.00   0.7
      1.2s    160.60nm          6.1mb
SMF   86.42 333 iPc   54 55.90   0.4
AVF   86.46 334 iPc   54 56.20   0.5
RSP   86.46 330 P     54 55.27  -0.6
PCP   86.48 329 P     54 55.17  -0.7
MNS   86.56 326 P     54 55.50  -0.7
SDI   86.60 325 P     54 55.00  -1.5
CKI   86.68 329 P     54 56.40  -0.4
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02d 13h

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BNI     86.77 331 P      54 58.50   1.1
LPF     86.78 337 iPc    54 58.10   0.9
        1.2s   136.80nm          6.1mb
BGF     86.84 334 iPc    54 58.30   0.8
        1.3s    57.70nm          5.6mb
RRL     86.84 331 P      54 58.14   0.3
SGO     86.84 323 P      54 57.50  -0.1
FIN     86.89 329 P      54 57.12  -0.7
LNO     86.94  44 eP     54 59.00   0.9
TUL     86.94  44 e(P)   54 59.40   1.2
        1.2s    12.30nm          5.0mb
ROB     86.95 330 P      54 56.81  -1.4
CSI     87.00 322 P      54 57.50  -1.0
DOI     87.02 330 P      54 55.00  -3.5X
ROI     87.03 322 P      54 58.30  -0.3
MGR     87.06 323 P      54 57.00  -1.7
PZZ     87.07 330 P      54 58.14  -0.7
TDS     87.07 322 P      54 59.00   0.2
STV     87.21 330 P      54 57.12  -2.3
MAF     87.23 334 iPc    55 00.70   1.3
IMI     87.27 329 P      54 58.96  -0.8
TCF     87.29 334 iPc    55 00.80   1.1
CZI     87.52 322 P      55 00.00  -0.9
LSF     87.55 335 iPc    55 02.00   1.0
MFF     87.78 336 iPc    55 03.00   1.0
        1.2s   101.10nm          6.0mb
RJF     88.38 334 eP     55 06.40   1.4
        1.0s    53.60nm          5.8mb
SOI     88.46 321 P      55 05.10  -0.3
CAF     88.53 334 eP     55 07.20   1.5
        1.2s    89.20nm          6.0mb
LFF     88.96 334 eP     55 09.20   1.5
        1.1s   102.50nm          6.1mb
LPO     89.04 334 eP     55 09.40   1.3
        1.0s    44.00nm          5.7mb
BCAO   112.76 297 ePKPd  01 05.70  15.0X
        0.5s     5.00nm
                  id     01 36.00
SLR    124.68 264 iPKPc  01 14.20   0.9
        1.0s    20.00nm
TIC    125.12 320 PKP    01 14.20  -0.1
KIC    125.23 320 PKP    01 14.00  -0.5
LIC    125.48 320 PKP    01 14.80  -0.2
KSR    125.81 265 ePKP   01 15.40  -0.2
PRY    125.92 263 ePKP   01 16.40   0.6
BFS    126.43 264 ePKP   01 14.00  -2.7X
SEK    126.52 262 ePKP   01 08.50  -8.4X
        1.0s    10.00nm
PDCR   152.54   5 ePKP   02 03.80   0.9
                  e      02 08.80
                  e      02 17.60
     S.D. = 1.0  on 253 of 270 obs.
-----------------------------------
   NOV  02, 1989  15h 43m 20.52± 0.55s
   19.973 S ± 7.2km  133.779 E ± 5.3km
   DEPTH =  10.0km  (geophysicist)
   4.1mb (  3 obs.)
 NORTHERN TERRITORY, AUSTRALIA   (591)

WB5      0.56  81 iPd    43 32.50   0.6
QIS      5.50  97 iPd    44 45.40   0.9
                  eS     45 46.00
                  e      46 06.00
KNA      6.36 311 eP     44 57.90   1.3
        0.3s    14.00nm          5.4mb X
                  eS     46 07.00
MTN      7.53 340 eP     45 11.00  -2.0
                  eS     46 33.00
WARB     9.02 225 eP     45 37.90   4.1X
                  eS     47 20.00
OLP     11.64 126 eP     46 09.00  -0.8
                  eS     48 16.00
CTA     11.73  93 iPc    46 00.30 -10.7X
        0.9s    10.50nm
FORR    11.98 204 eP     46 13.80  -0.5
MBL     13.12 262 eP     46 30.00   0.4
                  eS     48 48.00
STK     13.78 151 eP     46 38.00  -0.2
                  eS     49 45.60
MEKA    15.48 242 eP     47 00.60   0.0
        0.3s     9.00nm          4.5mb
COOL    15.74 224 eP     47 03.00  -1.0
        0.3s     3.00nm          4.0mb
                  eS     49 50.00
MRWA    18.59 237 eP     47 41.00   1.2
BWA     19.38 141 eP     47 53.50   4.0X
NWAO    19.61 226 eP     47 52.00  -0.1
        0.4s     3.00nm          3.9mb
                  eS     51 23.00
MUN     19.78 229 eP     47 54.00   0.2
                  eS     51 23.00
     S.D. = 1.0  on  13 of  16 obs.
-----------------------------------
%  NOV  02, 1989  15h 48m 02.64± 2.02s
   18.368 N ±11.4km  101.196 W ±19.9km
   DEPTH =  33.0km  (normal)
 GUERRERO, MEXICO                (59)

MRX      1.33   0 iP     48 24.80  -0.2
                  iS     48 43.70
CRX      1.77  54 (P)    48 32.50   0.8
ACX      1.96 139 iP     48 34.50   0.3
                  iS     49 00.50
PPM      2.53  74 iP     48 42.30  -0.5
                  iS     49 16.80
OXX      4.45 106 eP     49 09.50  -0.3
     S.D. = 0.7  on   5 of   5 obs.
-----------------------------------
*  NOV  02, 1989  15h 55m 19.34± 0.82s
   40.034 N ± 8.2km  143.546 E ±13.4km
   DEPTH =  33.0km  (normal)
   4.2mb (  4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.52 233 P      56 27.70   0.4
KAKJ     4.66 216 P      56 27.90  -1.2
                  eS     57 21.20
CHJJ     5.36 224 P      56 38.20  -0.9
MAT      5.46 232 iPc    56 40.90   0.4
        0.6s    20.00nm          4.8mb
                  (S)    57 49.00
MTMJ     5.68 234 P      56 44.50   0.8
IIDJ     6.37 226 P      56 54.40   1.0
BJI     20.93 279 (P)    59 55.00  -6.5X
WHN     25.55 257 eP     00 46.00  -0.7
GYA     33.44 258 P      01 56.80  -0.6
WMQ     41.06 294 eP     03 01.60   0.3
CHTO    43.68 254 eP     03 22.80   0.0
        0.7s     0.64nm          3.5mb
WB5     60.21 190 eP     05 26.00  -0.5
WRA     60.28 190 P      05 28.00   1.1
        0.6s     0.90nm          4.1mb
KEV     61.24 339 eP     05 39.00   6.1X
SOD     62.85 337 iP     05 44.10   0.3
GBA     63.12 265 P      05 46.00  -0.2
SUF     66.06 333 eP     06 17.90  13.3X
        0.7s     1.90nm
NUR     68.09 332 eP     06 17.00  -0.5
NB2     72.06 338 P      06 41.90   0.2
        0.8s     2.90nm          4.3mb
     S.D. = 0.7  on  16 of  19 obs.
-----------------------------------
?  NOV  02, 1989  16h 17m 58.46± 2.12s
   39.487 N ±11.6km  143.225 E ±26.5km
   DEPTH =  33.0km  (normal)
   3.8mb (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.01 237 P      18 59.50   0.4
KAKJ     4.07 217 P      18 58.00  -2.0
                  eS     19 45.10
CHJJ     4.80 226 P      19 09.50  -0.8
MAT      4.93 235 iPc    19 12.80   0.6
        0.6s    40.00nm
                  (S)    20 23.00
MTMJ     5.17 238 P      19 16.40   0.8
IIDJ     5.82 228 P      19 25.40   0.6
MDJ     11.35 301 eP     20 40.00  -1.4
BJI     20.78 280 eP     22 35.00  -4.0X
WHN     25.19 258 Pd     23 23.00   0.6
GYA     33.08 258 P      24 32.40  -1.0
WMQ     41.06 295 P      25 41.00   0.6
CHTO    43.30 255 e(P)   26 00.40   1.5
        0.6s     0.42nm          3.4mb
NB2     72.47 338 P      29 23.30   0.0
        0.9s     2.90nm          4.3mb
     S.D. = 1.2  on  12 of  13 obs.
-----------------------------------
   NOV  02, 1989  16h 26m 49.17± 0.73s
   40.328 N ± 5.7km   29.559 E ± 5.6km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                          (366)

YLV      0.28 329 iPg    26 55.00   0.0
GBZT     0.47 349 ePg    26 58.40  -0.3
                  iSg    27 05.80
GPA      0.58  94 iPg    27 00.90   0.0
ISK      0.83 333 ePg    27 05.00  -0.2
                  eSg    27 18.00
DST      1.02 225 iPn    27 08.50   0.1
CTT      1.19 314 iPn    27 12.10   0.8
                  iSg    27 26.50
BNT      1.25 272 iPn    27 12.50   0.0
EDC      1.30 271 ePn    27 12.70  -0.5
KHL      2.00 181 ePn    27 27.60   4.1X
DMK      2.02 318 ePn    27 26.50   2.8X
     S.D. = 0.4  on   8 of  10 obs.
-----------------------------------
%  NOV  02, 1989  16h 40m 50.20± 0.93s
   44.591 N ± 8.8km    7.398 E ± 6.7km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                  (545)
     ML 2.0 (GEN).

PZZ      0.23 248 P      40 55.70   0.5
                  S      40 58.66
STV      0.35 189 P      40 56.97  -0.5
                  S      41 02.70
ROB      0.45 131 P      40 59.37   0.0
                  S      41 04.58
RRL      0.55 307 P      41 01.20  -0.1
                  S      41 09.08
FIN      0.70 123 P      41 04.16   0.2
                  S      41 13.61
IMI      0.77 152 P      41 05.29   0.1
                  S      41 15.35
     S.D. = 0.4  on   6 of   6 obs.
-----------------------------------
   NOV  02, 1989  17h 16m 28.60± 0.43s
   33.087 N ± 7.3km   94.089 E ± 6.2km
   DEPTH =  10.0km  (geophysicist)
   4.7mb (  7 obs.)
 QINGHAI PROVINCE, CHINA         (325)

LSA      4.21 217 iPn    17 40.00   5.3X
                  Pg     17 49.50
                  Sg     18 44.00
GTA      7.82  35 ePn    18 25.60   0.3
     Z  10s      3.20um
CD2      8.49 102 eP     18 35.40   0.8
     Z  10s      2.10um
                  eS     20 09.00
LZH      8.58  67 eP     18 36.50   0.6
     Z  12s      2.10um
     N  12s      3.10um
                  Lg     20 59.00
KMI     10.96 134 eP     19 05.00  -3.7X
WMQ     11.83 337 eP     19 21.30   1.0
     Z  13s      1.80um
     N  10s      0.80um
XAN     12.41  82 P      19 24.50  -3.7X
GYA     12.76 118 P      19 31.40  -1.5
     N  10s      1.10um
     E  10s      0.80um
BTO     14.78  55 eP     20 03.50   4.0X
     N  10s      0.80um
     E  11s      0.80um
CHG     14.87 162 eP     20 35.00  34.4X
CHTO    14.87 162 eP     20 01.30   0.7
TIY     15.65  68 eP     20 12.50   1.7
                  e      20 12.80
                  i      20 16.50
KSH     15.92 299 eP     20 21.80   7.5X
HHC     15.95  56 P      20 17.00   2.2X
     Z  16s      1.20um
     N  12s      1.70um
     E  12s      1.00um
BJI     19.02  62 eP     20 55.00   2.0
     Z  12s      0.84um
     N  10s      1.09um
                  eS     24 29.00
QIZ     19.87 131 eP     21 04.20   1.4
HYB     20.96 226 eP     21 14.00  -0.2
NNT     21.05 164 eP     21 10.50  -4.6X
POO     23.22 236 eP     21 36.50  -0.3
QUE     23.26 270 eP     21 40.00   2.6X
                  eS     26 08.00
GBA     24.63 222 P      21 52.00   1.6
SNY     24.89  61 eP     21 50.30  -2.4
CN2     26.64  57 Pc     22 07.00  -2.1
     Z  14s      0.50um          4.2MszX
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     N  12s      0.70um
                  pP     22 13.00   21kmX
BBTK    48.94 296 eP     25 17.00    0.0
SUF     51.13 327 eP     25 33.50    0.2
        0.8s      3.80nm          4.4mb
SOD     51.28 333 eP     25 34.00   -0.3
UPP     55.37 323 iP     26 04.80    0.1
HFS     57.28 324 eP     26 17.60   -0.8
        0.5s      2.90nm          4.6mb
NB2     58.31 325 P      26 24.70   -1.0
        0.9s      5.20nm          4.6mb
WRA     65.26 138 P      27 10.00   -2.8
LPG     65.57 309 eP     27 15.20    0.3
        0.8s     11.20nm          5.1mb
SBF     65.76 308 eP     27 15.60   -0.2
        0.8s      5.30nm          4.8mb
SSF     67.00 312 eP     27 20.70   -3.0X
        1.0s      8.00nm          4.9mb
BCAO    75.49 266 iPd    28 16.00    0.8
        0.5s      6.00nm          4.9mb
SPA    122.91 180 e(PKP)35 26.00    0.3
        0.5s      2.78nm
PPD    147.55 281 ePKP   36 15.70    3.4X
     S.D. = 1.3   on   25 of   36 obs.
-----------------------------------------
?  NOV  02, 1989  17h 38m 04.77± 3.95s
   31.278 S ±14.8km   68.692 W ±17.4km
   DEPTH =   87.3 ± 41.3 km
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTLL     0.20 105 iPc    38 18.00    0.1
RTCB     0.23 204 iPd    38 18.00   -0.1
CFA      0.51 130 iPc    38 19.50    0.0
                   S     38 32.00
RTCV     0.60 167 iP     38 20.30    0.0
RTBS     0.75 239 iPd    38 21.80    0.0
                   S     38 35.30
RTRS     1.29 329 iPc    38 28.00    0.0
     S.D. = 0.1   on    6 of    6 obs.
-----------------------------------------
?  NOV  02, 1989  18h 16m 03.78± 7.57s
   37.298 S ±77.9km   177.064 E ±36.8km
   DEPTH =   33.0km  (normal)
 OFF E. COAST OF N. ISLAND, N.Z.  (160)

HBZ      1.03 107 eP     16 21.90    0.0
       0.1s     19.00nm
KIW      3.94 205 P      17 04.50    1.2
MTW      4.04 197 eP     17 05.50    0.6
CAW      4.11 202 eP     17 05.70   -0.1
BLW      4.25 196 eP     17 07.50   -0.3
WDW      4.28 201 P      17 08.10   -0.1
MRW      4.33 204 P      17 08.50   -0.5
MOW      4.35 198 P      17 08.80   -0.5
TCW      4.47 208 P      17 10.60   -0.3
     S.D. = 0.6   on    9 of    9 obs.
-----------------------------------------
%  NOV  02, 1989  18h 28m 10.26± 0.91s
   38.765 N ± 6.2km   16.058 E ±21.4km
   DEPTH =   10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

CZI      0.46   7 P      28 18.90   -0.6
SOI      0.69 180 P      28 23.90    0.0
                 eSg     28 33.70
ROI      0.90  26 P      28 27.20   -0.3
TDS      0.92  14 P      28 27.50   -0.3
                 (Sg)    28 38.50
CSI      1.03  10 P      28 31.10    1.4
MMN      1.13 357 P      28 31.40    0.1
MGR      1.43 344 P      28 35.90   -0.3
                 eSg     28 52.20
     S.D. = 0.8   on    7 of    7 obs.
-----------------------------------------
   NOV  02, 1989  19h 25m 32.04± 0.55s
   37.300 N ± 5.3km   20.808 E ± 3.7km
   DEPTH =   10.0km  (geophysicist)
   3.5mb (   1 obs.)
 IONIAN SEA                        (399)
      ML 3.9 (THE), 3.8 (ATH).

VLS      0.89 349 iPgc   25 48.90   -0.3
ITM      0.90  97 ePg    25 48.40   -0.9
VLI      1.80 108 ePb    26 04.60    1.3
AGG      2.10  34 ePn    26 09.80    2.1
                 eSn     26 34.30
KEK      2.54 342 ePn    26 15.10    1.2
SRN      2.65 346 ePn    26 17.00    1.4
NEO      2.76  43 ePn    26 23.10    5.9X
LIT      3.09  25 ePnc   26 22.00    0.2
                 eSn     26 58.30
VAM      3.33 124 ePn    26 26.30    1.1
PAIG     3.46  40 ePn    26 26.40   -0.5
                 eSn     27 08.00
BERA     3.46 349 ePn    26 28.00    1.0
PLG      3.70  33 ePn    26 30.20   -0.2
THE      3.73  26 ePn    26 31.20    0.4
                 eSn     27 13.90
OHR      3.81 360 iPn    26 32.60    0.6
SOI      3.85 283 P      26 32.10   -0.4
                 eSn     27 15.10
GRG      3.86  18 ePnd   26 32.50   -0.2
OUR      3.91  38 ePn    26 33.00   -0.4
                 eSn     27 16.40
ROI      4.03 306 P      26 39.20    4.1X
                 eSn     27 23.40
TIR      4.11 350 ePn    26 37.20    1.1
CZI      4.15 299 P      26 37.80    1.1
                 eSn     27 24.60
KNT      4.18  22 ePn    26 37.70    0.4
                 eSn     27 24.30
TDS      4.22 305 P      26 41.80    3.9X
VAY      4.24  18 iPn    26 38.00   -0.1
CSI      4.32 306 P      26 44.40    5.1X
                 eS      27 33.40
SRS      4.38  29 ePn    26 39.60   -0.5
                 eSn     27 30.20
LACI     4.41 349 ePn    26 40.00   -0.5
BRT      4.54 323 P      26 41.80   -0.6
                 eSn     27 31.80
MMN      4.57 306 P      26 46.80    4.0X
SKO      4.69   6 iPn    26 43.60   -0.9
                 eSn     27 32.00
MEU      4.70 269 P      26 43.40   -1.3
                 eSn     27 34.60
SDA      4.82 348 ePn    26 46.60    0.3
MMB      4.84  27 iPd    26 45.00   -1.7
KKB      4.89  20 eP     26 42.00   -5.3X
MNO      4.89 279 P      26 46.80   -0.8
MGR      4.99 306 P      26 49.30    0.6
                 (Sn)    27 50.40
BCI      5.09 354 iPn    26 50.00   -0.1
RZN      5.32  33 iPd    26 53.00   -0.6
SGO      5.38 309 P      26 55.00    0.7
                 (Sn)    27 56.00
VTS      5.60  18 eP     26 58.00    0.5
KDZ      5.62  38 iP     26 56.00   -1.7
PVL      6.85  29 eP     27 08.00   -6.9X
VOY     10.14 332 e(P)   28 00.10   -0.6
                 eS      29 48.50
NB2     24.52 349 P      30 51.20   -1.3
        0.6s      0.80nm          3.5mb
     S.D. = 1.0   on   36 of   43 obs.
-----------------------------------------
*  NOV  02, 1989  19h 42m 37.59± 0.89s
   39.382 N ±10.4km  143.620 E ±13.7km
   DEPTH =   33.0km  (normal)
   4.3mb (   4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.18 222 P      43 40.20   -0.5
                 eS      44 25.20
NIIJ     4.21 241 P      43 42.10    1.0
CHJJ     4.95 229 P      43 51.30   -0.3
MAT      5.13 238 iPc    43 54.50    0.3
                 (S)     44 59.00
MTMJ     5.37 241 P      43 58.40    0.7
IIDJ     5.98 231 P      44 07.60    1.4
CN2     14.29 294 eP     46 08.70    9.2X
      Z  14s      0.40um
                 eS      48 48.00
BJI     21.10 281 eP     47 20.00   -1.4
      Z  16s      0.29um          3.8MszX
TIA     21.15 270 eP     47 21.00   -1.0
WHN     25.47 259 Pd     48 04.00   -0.2
GYA     33.36 259 P      49 14.40   -0.6
                 pP      49 25.00   38kmX
GTA     33.60 284 eP     49 17.00    0.0
KMI     37.06 260 eP     49 47.00    0.4
WMQ     41.38 295 P      50 23.00    0.8
CHTO    43.56 255 eP     50 39.90   -0.3
        0.7s      0.64nm          3.5mb
INK     51.51  28 eP     51 43.00    1.4
WB5     59.58 190 eP     52 39.00   -1.4
KEV     61.86 339 eP     53 03.00    7.5X
SOD     63.48 337 eP     53 07.00    0.9
SUF     66.67 334 eP     53 26.80    0.1
        0.6s      1.80nm          4.3mb
NUR     68.69 332 eP     53 37.00   -2.4
HFS     72.65 336 eP     54 03.80    0.4
        0.4s      3.10nm          4.7mb
NB2     72.68 338 P      54 04.40    0.7
        0.7s      2.10nm          4.2mb
     S.D. = 1.0   on   21 of   23 obs.
-----------------------------------------
*  NOV  02, 1989  20h 49m 10.26± 0.94s
   20.710 S ±12.4km  178.734 W ± 8.8km
   DEPTH = 599.3 ± 10.5 km
   4.7mb ( 13 obs.)
 FIJI ISLANDS REGION               (181)

MBU      4.43 327 iPd    50 39.00   -0.3
DZM     13.87 262 iPc    52 08.70    1.3
KRP     17.86 195 P      52 47.10    1.6
CTA     32.79 265 iPd    54 57.40    0.3
        0.7s     75.34nm          5.4mb
PMG     34.72 284 eP     55 14.00    0.7
        0.9s     73.95nm          5.3mb
WB5     43.87 263 iPd    56 26.00   -0.8
MTN     48.48 271 eP     57 01.00   -0.9
FORR    48.54 247 iPc    57 01.40   -0.8
        0.5s     44.00nm          5.2mb
WARB    50.11 253 iPd    57 13.00   -0.8
        0.4s     12.00nm          4.8mb
COOL    54.51 246 eP     57 44.00   -1.3
        0.4s      4.00nm          4.1mb
MBL     57.04 258 iPd    58 01.70   -1.0
        0.4s     17.00nm          4.6mb
KLB     57.34 245 eP     58 04.00   -0.7
NWAO    57.66 243 eP     58 06.00   -0.8
        0.5s      5.00nm          4.0mb
BAL     58.34 246 eP     58 10.00   -1.5
        0.4s      5.00nm          4.1mb
PCI     63.05 280 ePd    58 44.00    1.7
MAT     69.97 324 eP     59 23.00   -1.2
SYP     78.31  46 eP     00 11.00    0.0
PRS     78.44  44 eP     00 11.70    0.3
PRI     78.79  44 eP     00 13.60    0.2
BKS     78.82  42 ePc    00 13.80    0.5
        0.7s     39.00nm          4.9mb
MWC     79.45  47 eP     00 17.00    0.0
SBB     79.87  47 eP     00 18.00   -1.0
FRI     79.91  44 eP     00 18.50   -0.5
CMB     80.08  43 eP     00 20.00    0.0
WDC     80.27  40 eP     00 21.00    0.1
ORV     80.29  41 eP     00 20.60   -0.3
MDJ     80.30 325 eP     00 21.00    0.1
CLC     80.65  46 eP     00 23.00    0.0
TPC     80.78  48 eP     00 24.00    0.3
GLA     81.08  50 eP     00 25.00   -0.2
SNY     81.93 320 Pc     00 29.40    0.2
BJI     85.56 316 eP     00 47.00    0.0
PNT     87.21  34 eP     00 55.00    0.2
        0.7s     15.00nm          4.9mb
ALQ     88.07  52 eP     00 58.80   -0.5
        1.0s      5.00nm          4.3mb
KMI     88.83 297 Pc     01 05.00    1.9
LRM     89.31  40 eP     01 04.40   -0.5
CHG     89.67 290 iPd    01 08.10    1.4
        0.9s     12.18nm          4.8mb
CHTO    89.67 290 iPd    01 08.20    1.5
        0.8s     10.43nm          4.8mb
INK     94.66  15 eP     01 27.00   -1.5
SOD    130.66 347 ePKP   07 13.00   -1.7
SUF    134.70 344 ePKP   07 12.80   -9.7X
NUR    136.94 343 iPKP   07 09.90  -16.9X
                 e       07 18.00
NB2    139.10 353 PKP    07 20.70  -10.1X
        0.7s      2.30nm
HFS    139.63 350 ePKP   07 21.70  -10.0X
        0.3s      4.60nm
KVT    144.23 312 ePKP   07 39.00   -1.4
EKA    145.27   4 PKPd   07 42.00    0.4
        1.2s     34.80nm
KAS    145.66 314 iPKPd  07 44.30    1.5
DMU    146.28   9 iPKPd  07 44.50    1.2
CLI    146.62 327 ePKP   07 46.00    1.9
BHL    146.90 301 PKPc   07 48.00    3.0X
DLE    146.93   9 iPKPd  07 46.10    1.8
HRI    146.98 300 iPKPd  07 48.50    3.3X
KRA    147.19 338 ePKP   07 47.50    2.7X
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02d 21h

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VRI    147.36 326 ePKPc 07 48.50    3.2X
DSI    147.64 297 ePKP  07 49.00    2.9X
KSP    147.68 342 iPKPd 07 49.10    3.5X
         0.8s     35.00nm
WIT    147.68 354 ePKPd 07 49.50    4.0X
SPC    147.79 336 e(PKP)07 45.70   -0.4
CLL    148.10 346 ePKP  07 45.00   -1.3
PRNI   148.19 294 iPKPd 07 51.50    4.4X
BRG    148.28 345 iPKPd 07 50.60    4.0X
         0.8s     30.00nm
                   i    07 55.80
WTS    148.48 353 ePKPd 07 51.00    4.2X
         0.9s     62.00nm
PRU    148.94 343 PKPd  07 51.80    4.2X
                   e    07 58.50
SRO    149.65 337 ePKP  07 53.40    4.7X
                   e    08 02.10
ZST    149.75 339 ePKP  07 54.50    5.6X
                   e    08 02.30
KHL    149.96 312 iPKP  07 54.40    4.8X
KHC    149.98 344 PKP   07 49.50    0.3
                   i    07 54.60
                   i    08 03.40
DOU    150.56 356 iPKPc 07 55.90    5.9X
WLF    150.85 353 PKP   07 57.00    6.6X
FUR    151.44 346 iPKPc 07 58.10    6.7X
                   i    08 09.40
CDF    151.94 351 ePKP  07 59.00    6.8X
         0.6s      6.10nm
FLN    151.98   2 ePKP  07 58.60    6.5X
         0.8s     16.10nm
LDF    152.16   2 ePKP  07 58.40    6.0X
         0.8s      8.00nm
SRS    152.20 322 iPKPd 07 58.20    5.5X
GRR    152.33   3 ePKP  07 59.40    6.8X
         0.8s     21.40nm
HAU    152.46 353 ePKP  07 59.80    6.9X
         0.6s      5.40nm
OUR    152.47 320 ePKPc 07 59.20    6.1X
KNT    152.57 323 ePKP  08 13.80   20.6X
BSF    152.58 352 ePKP  08 00.10    6.9X
         0.5s      3.40nm
VAY    152.65 323 ePKP  07 59.80    6.5X
                   i    08 15.00
LPF    152.68   3 ePKP  08 00.40    7.3X
         0.6s     14.40nm
GRG    152.99 323 ePKPd 08 00.00    6.2X
LOR    153.42 356 ePKP  08 02.20    8.0X
         0.5s      4.30nm
LIT    153.50 322 iPKPd 08 11.40   16.9X
SSF    153.65 357 ePKP  08 02.80    8.3X
         0.6s      3.60nm
LBF    153.70 356 ePKP  08 03.50    8.9X
         0.6s      2.10nm
AGG    154.29 320 ePKPd 08 02.80    7.2X
      S.D. = 1.0  on  49 of  87 obs.
-----------------------------------------
*  NOV  02, 1989  21h 29m 44.85± 3.37s
   51.266 N ±25.9km   15.976 E ±18.7km
   DEPTH =  10.0km  (geophysicist)
 POLAND                                (548)

KSP      0.47 155 iP     29 54.20   -0.2
         0.5s     35.00nm
                   iS    30 03.50
BRG      1.34 254 iPg    30 09.00   -0.5
                   iSg   30 28.80
PRU      1.57 216 ePn    30 13.00    0.2
                   Pg    30 15.00
                   Sn    30 31.80
                   Sg    30 38.50
CLL      1.87 273 i(Pg)  30 17.30    0.2
                   iSg   30 42.90
KHC      2.63 217 Pn     30 28.50    0.3
                   Pg    30 34.70
                   Sg    31 04.00
      S.D. = 0.5  on   5 of   5 obs.
-----------------------------------------
?  NOV  02, 1989  22h 35m 40.69± 2.24s
   39.408 N ±19.1km  143.667 E ±31.8km
   DEPTH =  33.0km  (normal)
   4.1mb (  4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     4.23 222 P      36 43.00   -1.4
                   eS    37 29.80
NIIJ     4.26 241 P      36 45.50    0.6
MAT      5.17 238 iPc    36 58.20    0.3
         0.8s    132.84nm          5.5mb X
MTMJ     5.42 240 P      37 01.90    0.5
IIDJ     6.03 231 P      37 09.70   -0.2
SSE     20.11 253 e(P)   40 21.50    7.1X
BJI     21.13 281 eP     40 22.00   -2.8
      Z  16s      0.29um          3.8MszX
WHN     25.51 259 P      41 08.00    0.3
                  pP     41 17.20   33kmX
GYA     33.40 259 eP     42 17.60   -0.8
GTA     33.63 284 P      42 21.00    0.7
WMQ     41.40 295 P      43 26.60    1.2
CHTO    43.61 255 eP     43 44.90    1.3
         1.0s      1.50nm          3.7mb
GBA     63.17 266 P      46 09.00    1.2
         0.7s      1.20nm          4.1mb
HFS     72.64 336 eP     47 06.70    0.2
         0.5s      1.20nm          4.1mb
NB2     72.67 338 P      47 05.70   -1.0
         0.7s      1.70nm          4.2mb
      S.D. = 1.3  on  14 of  15 obs.
-----------------------------------------
    NOV  03, 1989  00h 59m 22.31± 0.76s
     8.555 N ± 9.7km   82.823 W ± 6.1km
    DEPTH =  50.1 ±  7.5 km
    4.7mb (  3 obs.)
  PANAMA-COSTA RICA BORDER REGION ( 80)
        MD 4.9 (UPA). Felt (IV) at
        Puerto Armuelles; (III) at
        Bugabo, Boquete, Cerro Punta and
        David, Panama. Felt (IV) at
        Golfito, (II) at Quepos and San
        Jose, Costa Rica.

ACR      0.36 285 iPc    59 30.90   -1.1
                  S      59 45.00
LIO      1.46 352 iPc    59 47.20    0.6
OCR      1.59 304 iPc    59 46.50   -2.0
LCR2     1.66 315 iPc    59 49.00   -0.7
SJS      1.83 319 iPd    59 51.90   -0.2
                  S      00 17.00
UPA      3.28  82 iPnc   00 13.10    0.6
                  iPg    00 21.80
                  iSn    00 49.00
                  iSg    00 56.40
PSO      9.14 143 eP     01 36.00    1.2
BOG      9.54 114 eP     01 43.00    2.8X
BMG      9.77  98 eP     01 59.00   15.8X
SDV     12.05  88 eP     02 15.50    1.2
TOV     12.92  84 eP     02 27.20    1.5
FISA    13.56  77 eP     02 41.50    7.5X
OLLA    15.88  83 eP     03 04.00   -0.2
OXX     15.98 303 eP     03 06.20    0.6
PORP    18.35  57 P      03 35.30    0.3
PPM     18.55 306 eP     03 39.60    1.7
CPD     18.95  58 P      03 41.00   -1.3
MRX     20.95 304 (P)    04 05.30    1.8
NNA     21.26 164 iP     04 20.50   13.9X
         0.9s     12.60nm
SVB     21.69  76 eP     04 11.03    0.1
ARE     27.27 156 e(P)   05 03.00   -1.4
ZOBO    28.64 149 P      05 16.50   -0.6
      Z  24s      0.18um          3.6MszX
                  LR     16 16.00
LPB     28.87 150 P      05 29.00    9.9X
CNCB    29.17 150 eP     05 25.00    3.1X
GLA     38.32 314 eP     06 41.00    0.9
BAR     39.45 312 eP     07 07.00   17.4X
TPC     39.74 315 eP     06 48.00   -3.9X
PLM     39.93 313 eP     06 55.00    1.3
SBB     41.30 314 eP     07 05.00    0.3
CLC     41.72 316 eP     07 09.00    0.8
ISA     42.25 315 eP     07 13.00    0.4
INK     68.28 342 eP     10 19.00   -0.8
MBC     70.51 351 ePc    10 31.50   -1.8
         0.5s     10.00nm          5.0mb
TIC     77.02  85 P      11 11.60   -0.8
LIC     77.07  86 P      11 12.20   -0.4
KIC     77.33  85 P      11 13.40   -0.7
NB2     84.54  29 P      11 49.10   -2.1
         1.2s      6.90nm          4.6mb
HFS     85.89  30 ePKP   11 55.40   -2.5
         0.6s      2.20nm          4.6mb
WB5    142.32 249 ePKP   18 50.00   -2.0X
GBA    150.53  42 PKP    19 08.00    2.6
      S.D. = 1.3  on  31 of  40 obs.
-----------------------------------------
%  NOV  03, 1989  01h 17m 15.95± 1.02s
   31.190 S ±10.4km   69.110 W ±11.4km
   DEPTH =  33.0km  (normal)
 SAN JUAN PROVINCE, ARGENTINA     (137)

RTCB     0.40 138 iPd    17 26.80    1.7
RTBS     0.55 212 iPd    17 27.30    0.0
RTLL     0.57 104 iPc    17 28.00    0.4
RTCV     0.83 144 ePc    17 30.20   -1.0
CFA      0.85 119 iPd    17 30.50   -1.1
                  S      17 45.00
RTRS     1.06 343 iPc    17 34.50    0.0
      S.D. = 1.3  on   6 of   6 obs.
-----------------------------------------
*  NOV  03, 1989  01h 24m 52.90± 0.82s
   40.938 N ±10.4km   15.128 E ±13.4km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                       (390)

SGO      0.40 160 Pd     25 01.30    0.2
                  eSg    25 07.60
MGR      0.86 158 P      25 08.80   -0.7
                  eSg    25 24.50
DUI      0.88 325 P      25 10.40    0.5
MMN      1.24 148 P      25 20.20    4.3X
SDI      1.25 308 P      25 15.60   -0.6
CSI      1.46 142 P      25 23.70    4.4X
BRT      1.57  92 P      25 21.00    0.1
                  eSn    25 41.70
TDS      1.58 144 P      25 19.50   -1.5
ROI      1.75 141 P      25 28.60    5.0X
CZI      1.88 155 P      25 27.40    2.0
      S.D. = 1.4  on   7 of  10 obs.
-----------------------------------------
?  NOV  03, 1989  01h 42m 38.88± 5.87s
   21.539 S ±44.8km  177.954 W ±38.3km
   DEPTH = 468.0 ± 59.9 km
   4.4mb (  3 obs.)
 FIJI ISLANDS REGION                  (181)

DZM     14.50 265 iPc    45 46.00    0.4
CAN     31.98 237 eP     48 28.10    1.5
BWA     32.20 239 eP     48 28.10   -0.4
ASPA    44.33 258 iPc    50 07.30   -0.5
         0.5s      6.00nm          4.3mb
WB5     44.49 263 eP     50 07.80   -1.3
FORR    48.89 247 iPc    50 42.50   -0.1
         0.4s     22.00nm          4.9mb
MBL     57.58 258 eP     51 43.80   -1.2
KVN     82.24  43 eP     54 10.90   -0.4
CHTO    90.64 290 eP     54 53.70    2.0
         0.9s      3.20nm          4.3mb
      S.D. = 1.4  on   9 of   9 obs.
-----------------------------------------
*  NOV  03, 1989  01h 55m 01.34± 1.37s
   40.778 N ±11.5km   21.242 E ± 9.3km
   DEPTH =  10.0km  (geophysicist)
 GREECE                               (364)
      ML 2.3 (SKO).

OHR      0.47 315 iPgc   55 10.60   -0.4
                  iSg    55 18.00
VAY      1.14  61 ePn    55 22.40   -0.3
LIT      1.17 125 ePd    55 23.50    0.3
                  e      55 42.30
SKO      1.20   7 iPg    55 24.50    0.8
                  iSg    55 40.20
KNT      1.31  72 ePd    55 25.20   -0.4
                  e      55 43.60
      S.D. = 0.7  on   5 of   5 obs.
-----------------------------------------
    NOV  03, 1989  02h 03m 07.61± 0.77s
    39.822 N ± 6.6km   23.626 E ± 6.6km
    DEPTH =  10.0km  (geophysicist)
  AEGEAN SEA                          (365)
      ML 2.7 (THE).

PAIG     0.11  21 iPgc   03 10.50    0.0
                  eSg    03 14.30
PLG      0.57 346 ePg    03 18.20   -1.0
OUR      0.58  28 iPgc   03 17.60   -1.7
                  eSg    03 25.50
NEO      0.60 211 ePg    03 19.10   -0.7
LIT      0.92 288 ePb    03 26.00    0.8
                  eSb    03 42.50
THE      0.95 328 ePb    03 27.30    1.5
                  eSb    03 42.00
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AGG      1.28 232 ePb   03 31.30  -0.1
                  eSb   03 51.40
SRS      1.29 359 ePb   03 30.50  -1.1
                  e     03 50.60
KNT      1.45 338 ePb   03 34.70   0.8
                  eSb   03 57.10
GRG      1.47 321 ePb   03 35.40   1.2
                  eSb   03 57.40
KZN      1.50 289 ePb   03 35.00   0.3
VAY      1.70 332 ePn   03 40.70   3.3X
RDO      1.97  47 ePn   03 42.60   1.3
EZN      2.08  89 iPn   03 43.60   0.7
OHR      2.51 302 ePn   03 47.00  -2.2
     S.D. = 1.3  on  14 of  15 obs.
-----------------------------------
&  NOV  03, 1989  03h 27m 03.60s
   58.460 N          142.288 W
   DEPTH =  10.0km  (geophysicist)
 GULF OF ALASKA                  ( 15)
      <AGS-P>.

YAH      1.93   8 eP    27 32.11  -4.9
                  eS    27 52.85
PCA      1.94  32 eP    27 32.12  -5.0
                  eS    27 51.95
BCPM     2.03  41 eP    27 33.18  -5.0
                  eS    27 54.33
HON      2.03  59 iP    27 33.29  -4.9
                  eS    27 56.06
SLKM     4.54 300 eP    28 08.00  -5.9
         5 obs. associated
-----------------------------------
?  NOV  03, 1989  04h 40m 29.75± 3.95s
    0.058 N ±30.6km  123.687 E ±30.9km
   DEPTH = 162.6 ± 36.8 km
   4.5mb (  5 obs.)
 MINAHASSA PENINSULA              (265)

PCI      3.97 256 iPc   41 31.00   0.5
                  iS    42 07.00
MKS      6.72 219 iPc   42 07.00  -0.1
MTN     14.79 150 eP    43 52.00  -0.3
         0.2s    53.00nm          5.5mb X
WB5     22.41 153 eP    45 14.80  -0.7
WRA     22.45 153 Pd    45 15.60  -0.4
         0.6s     4.10nm          4.1mb
ASPA    25.58 158 iPc   45 44.60  -1.0
         0.7s     9.00nm          4.5mb
QIS     25.74 144 iPc   45 46.80  -0.2
         0.4s    10.00nm          4.8mb
CHTO    30.62 309 eP    46 30.20  -0.6
         0.6s     0.84nm          3.6mb
FORR    31.02 173 iPd   46 31.10  -3.0X
         0.5s    30.00nm          5.3mb
BWA     41.39 148 eP    48 03.40   1.8
CAN     42.38 149 eP    48 10.60   0.9
     S.D. = 1.1  on  10 of  11 obs.
-----------------------------------
   NOV  03, 1989  05h 49m 47.41± 0.17s
   39.514 N ± 3.7km  143.205 E ± 3.0km
   DEPTH =  24.7km  ( 15 depth phases)
   5.2mb ( 44 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      Felt (I JMA) at Miyoko,
      Hachinohe and Morioka.

MIY      0.96 278 iPd   50 05.60   0.4
                  iS    50 17.60
MRK      1.58 277 iPd   50 15.80   1.6
                  S     50 35.60
HAC      1.64 309 iPd   50 14.20  -0.7
                  S     50 34.70
NIIJ     4.01 237 iP+   50 50.00   1.3
KAKJ     4.08 217 iP+   50 48.80  -1.0
                  eS    51 34.60
CHJJ     4.80 225 eP    50 59.00  -1.0
                  eS    51 55.80
MTMJ     5.17 237 P     51 06.90   1.6
IIDJ     5.82 228 P     51 14.50   0.0
                  eS    52 23.90
TSRJ     6.98 238 P     51 32.30   1.7
SHK      9.77 243 eP    52 10.00   0.5
MDJ     11.33 301 eP    52 31.00   0.3
     E  14s      2.40um
                  epP   52 37.00
                  S     54 35.00
CN2     13.95 294 eP    53 07.00   1.4
     Z  14s      0.90um
     N  14s      0.80um
     E  14s      0.80um
                  pP    53 11.00
                  eS    55 46.00
SNY     15.07 285 Pc    53 21.00   0.7
     Z  14s      2.00um
     E  14s      1.10um
SSE     19.80 252 P     54 12.00  -6.9X
     Z  12s      0.50um
     E  10s      0.40um
                  pP    54 17.00  19km
                  e(S)  58 48.00
BJI     20.76 280 eP    54 25.50  -3.3X
         1.0s    18.00nm          4.4mb
     Z  14s      1.17um          4.4MszX
     N  13s      0.59um
     E  14s      0.99um
                  e     58 12.00
TIA     20.83 269 Pd    54 26.30  -3.3X
NJ2     21.07 257 Pc    54 30.00  -2.0
     Z  14s      0.90um          4.3MszX
ANP     23.16 238 eP    54 54.70   1.8
TIY     24.06 276 eP    55 01.00  -0.6
     N  14s      0.80um
HHC     24.15 283 Pd    55 00.60  -1.9
WHN     25.18 258 Pc    55 12.00  -0.4
                  pP    55 17.50  20km
QZH     25.28 242 eP    55 15.40   2.1
     Z  16s      0.70um          4.3MszX
     N  16s      0.70um
                  eS    59 39.00
BTO     25.35 283 eP    55 13.00  -1.0
     N  13s      0.70um
     E  15s      1.60um
XAN     27.89 270 P     55 35.50  -1.8
LZH     31.12 276 Pd    56 10.00   3.7X
         1.8s    59.00nm          5.1mb
     Z  15s      1.20um          4.7MszX
     E  14s      1.00um
                  pP    56 15.00  17km
GYA     33.07 258 iPc   56 22.40  -1.0
                  S     01 39.80
CD2     33.14 267 eP    56 22.20  -1.6
GTA     33.26 284 P     56 23.80  -1.1
     Z  16s      1.30um          4.7MszX
     E  14s      0.90um
KMI     36.77 259 Pc    56 55.00  -0.1
WMQ     41.03 295 iPc   57 30.00  -0.3
TTA     42.59  36 P     57 42.60  -0.1
SVW     42.68  39 eP    57 44.40   0.9
CHG     43.29 255 ePc   57 49.00   0.1
         1.0s    29.75nm          5.0mb
CHTO    43.29 255 iPc   57 49.00   0.1
         0.9s    23.44nm          4.9mb
LSA     43.43 274 P     57 55.00   4.5X
IMA     43.84  32 eP    57 53.30   0.4
         0.9s    12.20nm          4.7mb
                  e     59 40.00 609kmX
KDC     44.38  44 eP    57 56.30  -0.9
PMR     45.80  38 eP    58 08.00  -0.5
         1.1s    24.00nm          5.0mb
FBA     46.26  33 eP    58 12.40   0.3
NNT     46.74 247 eP    58 16.00  -0.4
INK     51.54  28 iPc   58 52.30  -0.5
MTN     53.29 195 iPc   59 06.00  -0.4
MBC     53.75  17 ePc   59 08.60  -0.6
         1.0s    12.00nm          4.9mb
NDI     54.61 280 eP    59 15.30  -0.9
WB5     59.66 190 iPc   59 50.20  -1.7
WRA     59.72 190 Pc    59 50.90  -1.4
         0.8s    21 10nm          5.3mb
KEV     61.63 339 eP    00 02.00  -2.8
POO     62.68 272 iPd   00 12.30  -0.3
GBA     62.82 265 P     00 12.70  -0.7
SOD     63.23 337 iP    00 14.70  -0.8
ASPA    63.45 190 iPc   00 16.60  -0.8
         1.0s    23.00nm          5.3mb
MBL     64.19 204 eP    00 21.30  -0.9
GMW     64.56  48 P     00 24.80   0.2
BMW     64.87  50 P     00 26.80   0.2
DZM     65.00 156 iPc   00 28.20   0.6
RMW     65.18  48 P     00 28.40  -0.2
PNT     65.42  46 eP    00 30.00  -0.1
         0.8s    14.00nm          5.1mb
LON     65.55  49 P     00 30.60  -0.4
SUF     66.40 333 iP    00 35.00  -1.1
         0.6s     9.50nm          5.1mb
EDM     66.54  40 ePc   00 36.20  -1.0
DPW     67.00  46 P     00 39.90  -0.3
WARB    67.16 196 iPc   00 41.80   0.5
         0.7s    34.00nm          5.6mb
NUR     68.42 332 iP    00 47.90  -0.9
         0.7s    13.30nm          5.2mb
LBFM    68.45  54 P     00 50.10   0.4
WDC     68.47  55 eP    00 49.80   0.3
                  epP   00 57.30  24km
MIN     69.20  55 eP    00 53.60  -0.6
ORV     69.71  55 eP    00 57.00  -0.1
                  epP   01 05.00  26km
FFC     70.86  34 eP    01 03.50  -0.3
         0.7s    21.00nm          5.4mb
ARN     70.96  57 P     01 04.90   0.1
                  pP    01 13.10  26km
CMB     71.30  56 eP    01 07.10   0.2
                  epP   01 15.40  27km
UPP     71.34 334 iP    01 05.40  -1.2
LRM     71.40  46 eP    01 07.50  -0.1
FORR    71.40 194 eP    01 07.10  -0.1
         0.4s     3.00nm          4.7mb
PRS     71.65  58 eP    01 09.00   0.0
                  epP   01 16.70  25km
KVN     72.15  54 P     01 12.20   0.1
                  pP    01 20.80  28km
FRI     72.35  56 eP    01 12.80  -0.2
                  epP   01 21.40  28km
HFS     72.40 336 eP    01 11.80  -1.2
         0.6s    19.10nm          5.3mb
     Z  16s      0.13um          4.3MszX
                  LR    33 06.00
NB2     72.44 338 P     01 12.50  -0.7
         0.7s    19.90nm          5.3mb
TNP     73.28  54 P     01 18.80   0.0
         0.7s    11.48nm          5.0mb
                  pP    01 27 70  29km
BWA     73.73 176 eP    01 21.20   0.3
CAN     74.66 175 eP    01 27.00   0.7
DUG     74.68  50 P     01 27.20   0.4
         0.9s     9.40nm          4.8mb
BW06    74.93  47 P     01 27.80  -0.5
                  pP    01 36.30  27km
DAU     75.46  49 P     01 32.10   0.6
MSU     76.13  51 P     01 35.70   0.5
KRA     77.82 327 eP    01 43.90  -0.1
SPC     78.34 326 eP    01 47.10   0.0
KSP     78.73 329 iP    01 49.20   0.2
GOL     79.33  47 P     01 54.00   1.2
         1.0s    13.75nm          4.9mb
GLD     79.38  47 P     01 53.80   0.8
         1.2s    25.25nm          5.1mb
BRG     79.62 330 iP    01 54.10   0.3
                  e     02 02.10  25km
CLL     79.64 331 iPc   01 53.60  -0.3
         0.9s    21.00nm          5.2mb
                  e     02 08.00  50kmX
PRU     80.09 329 P     01 57.00   0.6
                  e     02 05.00  25km
SRO     80.22 326 eP    02 12.00  14.9X
ZST     80.44 327 eP    01 53.80  -4.5X
KHC     81.16 329 iPc   02 02.50   0.4
         1.0s    10.50nm          4.8mb
                  e     02 10.70  26km
EKA     81.25 341 Pc    02 02.40   0.0
         0.7s     6.90nm          4.8mb
GRF     81.61 331 iPc   02 05.40   1.0
         0.7s    21.00nm          5.3mb
ALQ     81.93  51 eP    02 07.00   0.4
         1.0s    10.50nm          4.8mb
VAY     83.11 319 eP    02 12.50   0.2
SKO     83.19 320 iP    02 14.00   1.3
FVI     83.51 328 P     02 18.50   4.3X
PRNI    83.71 304 iP    02 17.00   1.4
CDF     84.13 332 eP    02 17.80   0.3
         1.0s     9.60nm          5.0mb
OHR     84.16 320 eP    02 17.70   0.0
         0.9s     0.04nm          2.7mb X
MBH     84.17 304 iPc   02 19.00   1.1
CTI     84.41 328 P     02 17.20  -1.8
HAU     84.81 333 eP    02 20.90   0.1
         0.8s     8.00nm          5.0mb
VAI     85.70 330 P     02 25.00  -0.2
PGD     86.15 327 P     02 29.00   1.2
LOR     86.31 334 eP    02 28.70   0.4
         0.8s    25.50nm          5.5mb
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03d 06h

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LDF     86.45 337 eP     02 29.70   0.8
        0.8s    10.70nm          5.1mb
LBF     86.51 333 eP     02 29.60   0.2
        0.8s    16.60nm          5.3mb
SSF     86.61 334 eP     02 30.20   0.4
        0.8s    17.40nm          5.3mb
MEO     86.62  47 eP     02 30.30   0.2
LPG     86.78 331 eP     02 31.50   0.5
        0.8s    16.10nm          5.3mb
GRR     86.85 337 eP     02 31.50   0.6
        0.6s    10.80nm          5.3mb
SMF     86.85 333 eP     02 31.30   0.3
        1.0s    20.80nm          5.3mb
AVF     86.90 334 eP     02 31.80   0.7
        0.8s    38.90nm          5.7mb
LPF     87.23 337 eP     02 33.20   0.5
        0.8s    21.40nm          5.5mb
BGF     87.27 334 eP     02 33.50   0.5
        1.0s    18.00nm          5.3mb
MAF     87.66 334 eP     02 35.90   1.0
        0.8s    10.70nm          5.2mb
LSF     87.99 334 eP     02 37.20   0.8
        0.9s    24.50nm          5.5mb
MFF     88.22 336 eP     02 38.20   0.7
        0.6s     5.40nm          5.1mb
SOI     88.83 321 P      02 38.80  -1.7
CAF     88.96 334 eP     02 42.20   1.0
        0.6s     5.40nm          5.1mb
LFF     89.40 334 eP     02 43.90   0.7
        0.8s    14.50nm          5.3mb
LPO     89.48 334 eP     02 44.10   0.5
        0.8s     9.10nm          5.1mb
SLR    124.59 263 iPKPc 08 46.50   0.0
ZOBO   144.20  59 PKP   09 19.40  -4.4X
LPB    144.41  59 PKP   09 23.00  -1.0
CNCB   144.69  59 PKP   09 24.30  -0.3
TACH   152.08  89 ePKP  09 42.00   6.8X
SAN    152.22  88 ePKP  09 42.00   6.6X
PCH    152.39  88 ePKP  09 43.00   7.3X
FCH    152.45  88 ePKP  09 42.00   5.9X
PDCR   153.05   5 ePKP  09 37.60   0.6
                  e    09 44.40
PPD    158.62  40 ePKP  09 45.50   1.5
      S.D. = 0.9  on 125 of 138 obs.
-----------------------------------
*  NOV  03, 1989  06h 22m 48.35± 0.96s
   38.314 N ± 9.5km   21.750 E ±11.5km
   DEPTH =   5.0km  (geophysicist)
 GREECE                            (364)
      MD 3.1 (ATH).

AGG      0.84  33 eP     23 04.20  -0.9
VLS      0.92 262 ePg    23 06.00  -0.5
ITM      1.14 173 ePb    23 10.50   0.3
NEO      1.52  49 ePb    23 15.50  -0.7
VLI      1.85 149 ePg    23 23.50   2.5X
LIT      1.87  18 eP     23 23.60   2.2X
KZN      1.99   0 ePg    23 26.00   2.9X
OHR      2.89 346 ePn    23 39.50   3.6X
KNT      2.98  17 eP     23 38.90   1.8
      S.D. = 1.5  on   5 of   9 obs.
-----------------------------------
*  NOV  03, 1989  06h 24m 35.19± 1.52s
   37.185 N ±12.4km   20.614 E ±10.0km
   DEPTH =  10.0km  (geophysicist)
 IONIAN SEA                        (399)
      ML 3.6 (ATH).

VLS      0.99 359 iPgc   24 54.00   0.0
                  eSg    25 09.20
ITM      1.05  90 ePg    24 53.30  -1.7
VLI      1.92 103 ePb    25 09.70   1.5
AGG      2.28  36 ePc    25 14.50   1.0
ATH      2.59  71 ePg    25 23.50   5.7X
KEK      2.60 346 ePg    25 26.50   8.5X
SRN      2.73 350 ePn    25 27.90   8.0X
NEO      2.95  43 ePn    25 22.50  -0.5
KZN      3.25  16 ePn    25 29.00   1.8
LIT      3.26  26 ePd    25 35.80   8.4X
BERA     3.55 352 ePn    25 42.40  11.0X
OHR      3.92   2 ePn    25 37.00   0.2
CZI      4.07 301 P      25 38.40  -0.4
TIR      4.20 352 ePn    25 49.70   9.1X
KNT      4.35  23 ePd    25 42.30  -0.5
VAY      4.40  20 ePn    25 42.60  -0.9
LACI     4.50 351 ePn    25 52.80   7.9X
SKO      4.82   7 ePn    25 49.00  -0.6
                  i      26 44.50
      S.D. = 1.2  on  11 of  18 obs.
-----------------------------------
*  NOV  03, 1989  07h 15m 12.39± 0.69s
   37.017 N ± 9.0km   70.864 E ±16.8km
   DEPTH =  33.0km  (normal)
   4.5mb (  3 obs.)
 AFGHANISTAN-USSR BORDER REGION  (717)

QUE      7.55 207 eP     17 03.00  -0.1
                  eS     18 48.00
MAIO     9.16 269 eP     17 39.00  13.6X
                  eS     19 14.00
NDI      9.88 145 eP     17 35.10   0.0
                  iS     19 18.10
HYB     20.67 159 eP     19 54.00   1.9X
GBA     24.04 164 P      20 25.60   0.2
NUR     37.35 324 eP     22 24.00   0.9
SUF     37.43 328 eP     22 24.00   0.2
        0.6s     5.20nm          4.6mb
SOD     39.22 335 iP     22 38.00  -0.8
HFS     42.59 322 eP     23 06.40  -0.2
        0.6s     5.40nm          4.5mb
MBC     66.83   3 eP     25 57.50  -4.9X
        0.7s     3.00nm          4.5mb
      S.D. = 0.6  on   7 of  10 obs.
-----------------------------------
*  NOV  03, 1989  08h 15m 13.57± 1.03s
   39.567 N ± 9.5km  143.188 E ±13.7km
   DEPTH =  33.0km  (normal)
   4.3mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.03 236 P      16 15.50   1.0
KAKJ     4.12 216 P      16 13.90  -1.8
CHJJ     4.83 225 P      16 24.90  -1.0
MTMJ     5.19 237 P      16 31.80   0.8
IIDJ     5.85 227 P      16 40.10  -0.2
TSRJ     6.99 237 P      16 57.60   1.3
MDJ     11.29 301 eP     17 56.00   0.4
SSE     19.81 252 eP     19 43.50  -0.6
BJI     20.74 280 eP     19 51.00  -2.7
        1.5s    21.00nm          4.3mb
      Z  14s     0.29um          3.8MszX
TIA     20.82 269 Pd     19 54.50  -0.1
WHN     25.18 258 iPd    20 38.00   0.6
GYA     33.07 258 P      21 47.60  -0.8
GTA     33.23 284 P      21 50.60   0.9
KMI     36.76 259 eP     22 20.50   0.4
WMO     41.00 295 P      22 56.50   1.5
INK     51.50  28 eP     24 17.00  -0.5
WB5     59.71 190 eP     25 18.80   1.6
WRA     59.77 190 Pc     25 22.00   4.3X
        0.8s     1.50nm          4.2mb
GBA     62.81 265 P      25 38.00  -0.4
NB2     72.39 338 P      26 37.70  -0.2
        0.6s     3.00nm          4.5mb
      S.D. = 1.2  on  19 of  20 obs.
-----------------------------------
   NOV  03, 1989  08h 33m 39.22± 1.60s
   6.388 S ± 9.6km  105.140 E ±11.5km
   DEPTH =  91.6 ± 14.1 km
   5.1mb ( 14 obs.)
 SUNDA STRAIT                      (276)

KGM      8.54 348 ePc    35 43.00   0.9
KHKI    10.57 101 eP     36 07.10  -2.4
                  eS     37 03.30
                  e      40 01.00
IPM     11.64 339 ePd    36 26.50   2.6
NANU    18.95 149 eP     37 55.00  -0.9
                  eS     41 10.00
MBL     20.45 137 eP     38 10.00  -1.6
KNA     24.96 114 eP     38 55.30  -0.4
CHG     25.78 346 eP     39 03.20  -0.2
        1.0s    14.25nm          4.4mb
CHTO    25.78 346 eP     39 02.90  -0.4
        0.9s    10.02nm          4.3mb
MTN     26.40 106 eP     39 09.50   0.4
                  e      40 28.00
WARB    28.43 136 iPc    39 26.80  -0.6
COOL    28.62 150 eP     39 28.00  -1.1
WB5     31.39 118 iPc    39 53.30  -0.5
                  iPcP   42 46.00
WRA     31.39 118 Pc     39 53.50  -0.3
        0.6s    18.60nm          5.0mb
FORR    32.49 141 eP     40 02.50  -0.7
ASPA    32.55 125 iPd    40 03.60  -0.2
        0.8s    33.00nm          5.2mb
      Z  22s     0.16um          3.6MszX
                  e      40 26.80
                  iPcP   42 49.20
                  LR     52 13.80
HYB     35.35 312 eP     40 27.00  -0.9
QIS     36.25 116 iPc    40 35.80   0.3
        0.3s    14.00nm          5.4mb
LSA     38.32 340 P      40 53.00  -0.3
POO     39.57 309 iPd    41 03.40   0.1
        0.8s    17.16nm          5.0mb
PMG     41.70  97 eP     41 22.00   1.1
        0.8s   101.49nm          5.7mb
ADE     42.00 137 iPc    41 24.20   1.1
        0.6s    24.00nm          5.2mb
CTA     42.14 113 iPc    41 25.20   0.8
        0.9s    19.33nm          4.9mb
QLP     42.27 123 iPc    41 27.40   2.0
STK     42.42 131 iPc    41 28.00   1.5
        0.4s    26.00nm          5.4mb
                  e      41 48.00
                  i      43 19.30
NDI     44.04 324 iPc    41 37.80  -1.9
                  eS     48 04.50
TIY     44.40   8 eP     41 42.80   0.3
GTA     45.83 354 eP     41 53.20  -0.7
BWA     48.67 131 eP     42 18.80   2.6
CAN     49.48 132 eP     42 23.80   1.4
WMO     52.41 344 eP     42 43.00  -1.4
CN2     53.23  18 Pc     42 48.70  -1.6
BCAO    87.12 275 iPc    46 17.20   0.4
        0.4s     7.00nm          5.1mb
LIT     88.48 310 iPc    46 22.80   0.0
OHR     89.91 311 eP     46 29.00  -0.5
SUF     90.61 333 eP     46 32.70   0.5
        0.7s    14.40nm          5.3mb
NUR     90.85 331 iP     46 33.90   0.6
        0.5s    11.20nm          5.4mb
SOD     91.45 338 iP     46 36.00   0.0
KEV     91.86 340 eP     46 38.00   0.2
HFS     96.21 330 eP     46 58.20   0.2
        0.5s     1.30nm          4.7mb
EDM    123.79  27 iPKP   52 28.50   0.6
ALQ    139.33  41 ePKP   52 59.00   0.8
        0.8s     1.87nm
MEO    144.26  35 iPKPd  53 05.40  -1.2
SIO    144.76  31 iPKP   53 07.50   0.1
LNO    144.90  30 iPKPc  53 07.20  -0.3
TUL    144.90  30 iPKPc  53 07.20  -0.4
        0.9s    45.90nm
      S.D. = 1.1  on  45 of  45 obs.
-----------------------------------
&  NOV  03, 1989  10h 47m 56.40s
   36.918 N          121.680 W
   DEPTH =   8.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.3 (BRK).
      Mo=2.5*10**14 Nm (BRK).

SAO      0.24 129 iPd    48 01.20  -0.3
GCC      0.28 294 iPc    48 01.70  -0.4
MHC      0.42   4 iPd    48 05.00   0.0
ARN      0.45  15 iPd    48 05.40   0.0
PRS      0.64 157 iPd    48 08.50  -0.7
LLA      0.66 117 iPc    48 09.10  -0.7
PCC      0.81 316 iPc    48 11.00  -1.2
BKS      1.05 335 ePc    48 14.80  -1.7
                  eS     48 29.90
BRK      1.06 334 eP     48 15.00  -1.5
                  eS     48 30.60
PRI      1.13 133 eP     48 17.00  -0.8
PHAM     1.50 136 eP     48 21.90  -1.7
CMB      1.52  42 eP     48 23.00  -0.9
PKEM     1.53 124 eP     48 24.00   0.0
FRI      1.58  87 eP     48 24.50  -0.2
BCH      2.16 143 eP     48 31.00  -2.3
ORV      2.64   3 eP     48 36.50  -3.5
KVN      3.54  52 eP     48 51.20  -1.8
TNP      3.73  71 eP     48 53.00  -2.8
      18 obs. associated
-----------------------------------
   NOV  03, 1989  10h 55m 59.09± 0.46s
   41.188 N ± 6.5km   22.120 E ± 4.4km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.9 (SKO), 2.7 (THE).
```

```
GRG      0.31 137 iPgc   56 05.50  -0.1
                  eSg    56 10.40
VAY      0.36  69 iPg    56 06.70   0.1
                  i      56 11.00
                  iSg    56 17.40
KNT      0.59  92 ePgc   56 10.70  -0.3
                  eSg    56 19.70
THE      0.85 131 ePg    56 15.20  -0.2
                  eSg    56 29.10
SKO      0.93 327 iPg    56 15.80  -1.1
                  iSg    56 27.50
OHR      1.00 266 iPg    56 16.30  -1.8
                  iSg    56 29.70
SRS      1.11  93 ePb    56 19.90  -0.1
                  eSb    56 35.80
LIT      1.12 165 ePb    56 19.80  -0.3
                  eSb    56 37.00
PHP      1.36 292 iPgc   56 21.50  -2.5
KKS      1.56 305 ePn    56 27.00   0.2
OUR      1.65 120 ePb    56 29.00   0.8
                  eSb    56 52.70
TIR      1.71 276 ePn    56 30.00   1.0
BERA     1.71 254 ePn    56 30.60   1.5
PAIG     1.73 136 ePb    56 29.60   0.2
                  eSb    56 54.50
LACI     1.87 285 ePn    56 31.00  -0.3
BCI      1.93 308 ePn    56 33.70   1.4
SRN      2.08 232 ePn    56 38.40   4.0X
SDA      2.13 294 ePn    56 37.20   2.0
AGG      2.17 176 ePn    56 35.50  -0.3
                  eSb    57 05.40
     S.D. = 1.2  on  18 of  19 obs.
-----------------------------------
%  NOV  03, 1989  10h 57m 41.17± 1.06s
   59.861 N ± 6.3km    5.058 E ±10.6km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                  (535)

KMY      0.66 172 eP     57 54.11  -0.2
                  eS     58 03.72
ODD1     0.79  86 eP     57 56.55  -0.1
                  eS     58 09.48
BLS2     1.11 120 iP     58 02.40   0.4
                  eS     58 17.47
SUE      1.21 353 iP     58 03.90   0.3
                  eS     58 19.91
HYA      1.42  23 iP     58 06.77  -0.2
                  eS     58 25.50
NRA0     3.34  72 eP     58 34.40  -0.1
                  ePg    58 39.60
                  eSg    59 27.40
     S.D. = 0.3  on   6 of   6 obs.
-----------------------------------
   NOV  03, 1989  10h 58m 57.67± 0.73s
   41.223 N ± 5.5km   22.082 E ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                       (383)
     ML 2.3 (THE), 2.0 (SKO).

GRG      0.36 138 iPg    59 04.50  -0.6
                  eSg    59 09.50
VAY      0.38  75 iPg    59 05.80   0.3
                  i      59 09.40
                  iSg    59 11.70
KNT      0.62  95 ePg    59 09.60  -0.5
                  eSg    59 18.60
SKO      0.89 327 iPg    59 14.50  -0.2
                  iSg    59 26.50
THE      0.89 131 ePg    59 14.40  -0.4
                  eSg    59 27.40
OHR      0.98 264 ePg    59 26.50  10.3X
                  iSg    59 28.40
SRS      1.14  95 ePb    59 19.20   0.1
                  eSb    59 35.20
LIT      1.16 164 ePb    59 19.00  -0.4
                  eSg    59 35.40
OUR      1.69 121 ePb    59 28.00   0.6
                  eSb    59 51.40
PAIG     1.78 136 ePb    59 29.10   0.5
                  eSb    59 53.40
AGG      2.21 175 ePn    59 35.50   0.6
     S.D. = 0.5  on  10 of  11 obs.
-----------------------------------
?  NOV  03, 1989  11h 01m 11.64± 4.95s
   43.804 N ±23.5km    6.977 E ±26.1km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE       (379)

STV      0.51  30 P      01 21.90   0.0
                  S      01 30.61
ENR      0.53  37 P      01 22.41   0.0
                  S      01 31.33
IMI      0.67  81 P      01 24.97   0.0
                  S      01 35.95
PZZ      0.71   7 P      01 25.69   0.0
ROB      0.81  52 P      01 27.43   0.0
     S.D. = 0.0  on   5 of   5 obs.
-----------------------------------
   NOV  03, 1989  11h 28m 43.34± 0.71s
   37.220 N ± 7.5km   28.223 E ± 7.3km
   DEPTH =   5.0km  (geophysicist)
 TURKEY                           (366)

YER      0.10 151 iPg    28 43.60  -1.9
                  iSg    28 46.60
SMG      1.21 294 ePn    29 06.20   0.0
IZM      1.40 327 iPn    29 08.50  -1.1
KHL      1.51  43 ePn    29 11.40   0.3
KSL      1.55 135 ePn    29 12.70   1.1
KAP      1.87 207 ePn    29 16.20  -0.1
BCK      1.90  82 ePn    29 17.30   0.5
NPS      2.88 228 ePn    29 32.00   1.3
     S.D. = 1.3  on   8 of   8 obs.
-----------------------------------
*  NOV  03, 1989  11h 31m 07.53± 2.01s
   24.287 N ± 7.5km  121.910 E ±19.7km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN                           (244)

TWC      0.33 350 iPc    31 13.80  -0.5
                  eS     31 18.40
TWD      0.35 234 iPd    31 14.20  -0.6
                  eS     31 18.90
TWZ      0.86 340 iPd    31 24.20   0.1
ANP      0.96 338 iPc    31 26.20   0.3
       0.6s  1840.00nm
                  eS     31 38.20
TWO      0.98 270 ePc    31 26.50   0.3
TWF1     1.09 211 ePc    31 28.30   0.3
     S.D. = 0.6  on   6 of   6 obs.
-----------------------------------
?  NOV  03, 1989  11h 50m 18.05± 5.94s
   41.780 N ±44.0km   23.302 E ±12.2km
   DEPTH =  10.0km  (geophysicist)
 GREECE-BULGARIA BORDER REGION    (363)
     ML 2.5 (THE), 2.0 (SKO).

KNT      0.69 206 iPgd   50 31.10  -0.6
                  eSg    50 41.20
SRS      0.70 162 iPgc   50 31.50  -0.3
                  eSg    50 42.50
VAY      0.72 230 iPg    50 32.30   0.2
                  iSg    50 42.30
GRG      1.07 220 iPbd   50 38.00  -0.1
                  eSb    50 53.00
THE      1.17 193 ePb    50 40.70   0.7
                  eSb    50 58.00
OUR      1.53 160 ePb    50 45.60   0.2
                  eSb    51 08.90
     S.D. = 0.6  on   6 of   6 obs.
-----------------------------------
?  NOV  03, 1989  12h 36m 24.98± 2.25s
   6.788 S ±15.7km  129.630 E ±17.7km
   DEPTH =  77.7 ± 27.0 km
   4.5mb (  2 obs.)
 BANDA SEA                        (280)

TLE      3.31  70 Pc     37 15.20  -0.2
                  iS     37 37.50
MTN      6.20 166 eP     37 58.00   2.1
                  eS     38 58.00
KNA      8.95 185 eP     38 33.40  -0.3
                  eS     40 04.00
W85     13.80 161 eP     39 37.10  -1.5
                  i      39 39.00
                  eS     42 00.00
WRA     13.85 161 Pd     39 37.60  -1.6
       0.6s     4.60nm          4.0mb
QIS     16.76 146 eP     40 18.00   1.7
                  eS     43 10.00
MBL     17.15 213 eP     40 20.70  -0.4
                  eS     43 17.00
ASPA    17.28 167 eP     40 21.70  -1.0
     Z  23s      0.35um
                  eS     43 14.10

                  LR     51 04.80
WARB    19.50 188 eP     40 49.00   0.3
                  eS     44 14.00
NANU    20.75 219 iPd    41 02.00   0.4
                  eS     44 45.00
FORR    23.98 183 eP     41 33.90   0.6
       0.5s    25.00nm          4.9mb
MRWA    25.75 208 eP     41 50.10   0.0
     S.D. = 1.3  on  12 of  12 obs.
-----------------------------------
   NOV  03, 1989  14h 08m 47.34± 0.61s
    5.689 N ± 3.1km  126.570 E ± 4.5km
   DEPTH =  58.5 ±  5.5 km
   5.2mb ( 25 obs.)
 MINDANAO, PHILIPPINE ISLANDS     (259)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 26C
      Centroid Location:
      Origin Time        14:08:49.3 0.5
      Lat  4.91N 0.09 Lon 126.57E 0.10
      Dep  46.7 4.7 Half-duration  1.7
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 6.27 0.60  Mtt= 3.69 0.65
        Mff=-9.96 1.04  Mrt= 3.52 0.90
        Mrf=-1.60 0.80  Mtf=-3.80 0.61
       Principal Axes:
        T  Vol=  9.38  Plg=51  Azm= 17
        N        1.59     39      192
        P      -10.97      2      284
      Best Double Couple:Mo=1.0*10**17
       NP1:Strike= 47 Dip=55 Slip= 140
       NP2:       163     59       43

DAV      1.71 325 iPd-   09 14.00  -1.2
TSM      8.59 261 eP     10 53.50   1.9
PCI      9.39 226 iPc    11 02.00  -0.5
                  iS     12 22.50
AAI      9.45 170 ePc    11 04.00   0.5
KKM     10.31 272 ePc    11 16.00   0.8
QCP     10.40 329 eP     11 13.00  -3.4X
BAG     12.17 332 eP     11 40.00  -0.4
                  eS     14 12.00
MKS     12.95 213 iPc    11 53.00   2.5
KHKI    17.73 218 eP     12 51.50  -0.3
                  e      18 54.90
MTN     18.96 166 eP     13 03.00  -3.8X
                  e      13 04.00
                  e      20 07.00
GUMO    19.66  65 eP     13 12.20  -2.2
       0.8s    55.64nm          4.9mb
     Z  24s      1.56um          4.5Msz
PJG     19.66  65 eP     13 13.00  -1.4
ANP     19.98 346 eP     13 13.00  -4.8X
QZH     20.62 339 P      13 24.00  -0.2
       4.0s     0.70nm          2.3mb X
     Z  26s      2.40um          4.4MszX
     N  16s      1.50um
QIZ     21.01 311 P      13 29.20   0.9
     E  16s      1.20um
                  eS     17 18.50
KNA     21.41 174 eP     13 31.50  -0.8
       0.7s   107.00nm          5.3mb
GZH     21.49 325 eP     13 28.00  -5.1X
     Z  16s      1.90um          4.6MszX
                  sS     17 36.50
KGM     23.48 262 ePd    13 54.00   1.3
IPM     25.47 269 ePd    14 12.00   0.2
       1.0s   107.30nm          5.3mb
                  e      17 44.30
SSE     25.77 349 P      14 15.00   0.6
       1.0s     6.90nm          4.1mb X
     Z  20s      0.70um          4.2Msz
     N  14s      0.70um
                  S      18 48.00
                  sS     19 06.00
SNG     25.83 275 iPd    14 15.80   0.7
                  eS     18 58.00
WB5     26.54 163 eP     14 19.70  -1.9
                  i      14 26.00
                  eS     18 55.70
                  iScP   21 23.70
LOE     26.94 298 eP     14 25.00  -0.3
                  e      17 47.00
NJ2     27.20 346 Pc     14 27.00  -0.5
                  S      19 08.00
WHN     27.27 337 Pd     14 29.00   0.9
```

03d 14h

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      Z  24s      1.37um          4.4MszX
      N  22s      2.56um
      E  24s      4.45um
                   eS     19 08.00
NNT     27.35 286 eP     14 20.00  -9.1X
MBL     27.49 194 eP     14 29.00  -1.2
PSI     27.73 265 iPd    14 32.40  -0.1
        1.0s     55.20nm          5.1mb
NST     27.77 293 iPc    14 34.00   1.1
GYA     28.06 320 iPd    14 35.80   0.2
      N  18s      1.10um
      E  18s      1.20um
                   pP     14 44.20  30kmX
OIS     29.06 154 eP     14 43.00  -1.4
BDT     29.31 295 eP     14 47.20   0.5
KMI     29.92 313 eP     14 52.00  -0.3
KMI     29.92 313 iPd    14 53.00   0.7X
        1.3s      0.20nm          2.7mb X
      Z  20s      2.50um          4.8Msz
                   pP     15 12.50  85kmX
                   eS     19 06.00
CHG     29.92 298 ePd    14 51.90  -0.3
        1.0s     10.25nm          4.5mb
                   e      17 55.00
                   e      21 34.90
CHTO    29.92 298 iP     14 51.80  -0.4
        0.7s     22.40nm          5.0mb
ASPA    30.04 166 eP     14 51.50  -1.7
      Z  21s      1.04um          4.4Msz
                   ePcP   17 53.50
                   LR     28 57.50
NANU    30.08 201 eP     14 52.00  -1.5
TIA     31.59 345 Pd     15 07.00   0.3
WARB    31.68 180 eP     15 07.20  -0.4
CTA     32.11 143 iPc    15 10.90  -0.4
        1.2s     21.88nm          4.9mb
                   i      16 36.60
                   iS     20 23.00
XAN     32.61 332 Pc     15 14.70  -0.9
                   S      20 32.00
CD2     32.99 322 eP     15 18.00  -1.0
      Z  18s      1.40um          4.7Msz
                   eS     20 32.00
MEKA    33.04 193 iPd    15 18.60  -0.8
        0.3s     18.00nm          5.4mb
TIY     34.38 340 eP     15 30.80  -0.2
      Z  30s      1.26um          4.5MszX
      N  12s      0.40um
                   S      20 58.00
BJI     35.46 346 eP     15 40.00   0.0
        1.0s      0.10nm          2.7mb X
      Z  20s      0.60um          4.3Msz
                   PcP    18 11.00
                   eS     21 15.00
                   eScS   26 00.00
SNY     36.08 356 eP     15 44.10  -1.1
MRWA    36.16 196 eP     15 45.10  -1.0
        0.3s      4.00nm          4.8mb
FORR    36.36 178 iPc    15 47.00  -0.7
QLP     36.36 153 eP     15 47.00  -0.8
COOL    36.73 188 iPd    15 49.80  -1.1
        0.4s      6.00nm          4.9mb
LZH     36.75 328 Pc     15 51.50   0.3
        2.0s     94.00nm          5.4mb
      Z  27s      2.50um          4.9MszX
      E  20s      2.30um
                   pP     16 02.00  36kmX
                   PP     17 22.00
                   eS     21 30.00
BAL     37.30 194 iPd    15 54.80  -0.8
        0.6s     30.00nm          5.4mb
HHC     37.50 341 Pd     15 58.60   1.2
BTO     37.80 339 eP     16 01.00   1.2
      N  19s      0.90um
      E  15s      0.40um
                   S      21 48.00
CN2     37.97 359 Pd     16 03.20   2.1
KLB     38.01 192 eP     16 01.00  -0.6
SHL     38.62 305 iP     16 07.00   0.0
                   eS     22 07.00
MUN     38.74 194 eP     16 07.00  -0.7
        0.6s     37.00nm          5.4mb
MDJ     38.86   3 eP     16 08.00  -0.6
NWAO    39.41 192 iPd    16 13.30   0.0
        0.6s     37.00nm          5.4mb
STK     40.01 160 eP     16 18.00  -0.2
LSA     41.05 310 iP     16 28.50   1.1
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                   S      22 36.00
GTA     41.35 328 iPc    16 29.20  -0.1
      Z  24s      1.60um          4.8MszX
      E  15s      0.70um
ADE     42.03 165 iPc    16 35.40   0.6
        0.3s    119.48nm          6.1mb
COO     43.45 148 eP     16 47.00   0.5
BWA     44.92 154 eP     16 59.50   1.3
                   e      22 31.50
8FD     45.18 162 eP     17 01.00   0.8
CAN     45.93 154 eP     17 07.10   0.9
                   e      18 57.60
                   e      22 34.00
CNB     46.08 154 eP     17 10.00   2.5
TOO     46.51 159 eP     17 12.00   1.2
DZM     47.81 127 iPc    17 22.60   1.3
HYB     48.33 288 eP     17 24.50  -0.9
GBA     49.00 283 P      17 29.00  -1.4
WMQ     51.04 324 iPd    17 45.50  -0.3
      Z  22s      1.90um          5.1Msz
NDI     51.93 302 iP     17 51.00  -1.7
POO     52.91 289 eP     17 59.50  -0.7
KSH     56.53 314 P      18 27.20   0.8
MSZ     62.35 148 P      19 08.00   2.0
MAIO    68.21 307 iPc    19 43.50  -0.7
        1.1s     31.21nm          5.2mb
                   eS     29 08.00
TTA     79.24  27 eP     20 48.50   0.8
KDC     80.38  32 e(P)   20 54.30   0.6
IMA     80.67  24 ePc    20 56.50   1.2
        1.0s     16.00nm          4.9mb
PMR     82.31  29 eP     21 04.00   0.3
        1.0s     21.60nm          5.1mb
FBA     83.03  25 eP     21 07.50   0.0
TOA     83.73  28 eP     21 12.40   1.3
MAW     85.53 200 eP     21 20.00   0.1
KVT     86.70 311 eP     21 26.60   0.3
KEV     88.01 340 eP     21 33.00   1.0
INK     88.41  21 ePc    21 33.80  -0.1
PRNI    88.52 300 e(P)   21 35.00  -0.3
SOD     88.61 338 iP     21 34.80  -0.1
MBH     88.67 300 eP     21 36.00   0.0
MBC     90.09  13 ePc    21 43.50   1.7
        1.0s     12.00nm          5.2mb
NUR     90.92 331 iP     21 46.20   0.4
        0.8s     23.50nm          5.6mb
VRI     92.78 316 ePd    21 55.00   0.3
MLR     93.39 316 iPd    21 57.00  -0.7
SPA     95.65 180 iPd    22 08.80   1.2
        0.7s      5.86nm          5.2mb
                   i      22 17.10
KRA     96.22 322 eP     22 18.10   7.7X
HFS     96.22 332 eP     22 09.70  -0.5
        0.9s     19.20nm          5.6mb
KNT     96.49 312 iPd    22 10.00  -1.8
VAY     96.69 313 eP     22 11.00  -1.7
NB2     96.97 334 P      22 13.10  -0.6
        0.7s      9.80nm          5.4mb
LIT     97.04 311 ePd    22 12.40  -1.9
OHR     98.04 313 eP     22 17.00  -1.9
KSP     98.19 323 eP     22 20.00   0.7
BUL     99.39 251 iPd    22 25.70   0.3
        0.9s      3.78nm          4.9mb
BRG     99.58 324 iP     22 26.00   0.4
        0.9s     14.00nm          5.5mb
CLL     99.97 324 iPd    22 27.60   0.3
KHC    100.43 322 ePdiff 22 30.30   0.8
BCAO   107.43 276 iPKPc  27 11.50   1.4
        0.6s      6.00nm
ALO    115.82  47 ePKP   27 26.00   0.2
        0.8s      1.49nm
KIC    129.95 283 PKP    27 54.12   1.0
        0.8s     19.50nm
TIC    130.16 284 PKP    27 54.38   0.8
        0.9s     17.50nm
LIC    130.26 283 PKP    27 54.62   0.9
        0.9s     27.50nm
LNV    147.30 152 ePKP   28 27.40   3.5X
PCH    148.00 152 ePKP   28 29.50   4.3X
SAN    148.07 152 ePKP   28 30.00   4.8X
PEL    148.31 152 iPKPc  28 30.00   4.4X
        0.4s     25.42nm
CNCB   161.97 129 PKP    28 48.90   4.5X
                   i      29 35.00
LP8    162.04 128 ePKP   28 52.00   7.7X
PPD    163.62 187 ePKP   28 47.80   2.5X
                   e      29 40.10
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      S.D. = 1.0  on 108 of 122 obs.
-----------------------------------------
?  NOV  03, 1989  14h 40m 34.97± 7.44s
   42.671 N ±60.3km   23.235 E ±30.6km
   DEPTH =  10.0km  (geophysicist)
 BULGARIA                          (359)
VAY      1.44 200 ePn    41 01.00   0.0
SKO      1.50 243 ePn    41 02.00   0.0
KNT      1.53 190 ePc    41 02.20  -0.2
                  eS     41 27.10
SRS      1.58 170 iPd    41 03.90   0.9
                  eS     41 29.40
OUR      2.40 166 eP     41 14.20  -0.7
      S.D. = 0.8  on   5 of   5 obs.
-----------------------------------------
%  NOV  03, 1989  14h 52m 56.57± 2.83s
   44.079 N ±13.9km    8.519 E ±16.3km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 1.8 (GEN).

FIN      0.26 300 P      53 02.06   0.0
                  S      53 07.60
PCP      0.46   2 P      53 05.96   0.0
                  S      53 12.83
IMI      0.48 250 P      53 06.27  -0.2
                  S      53 14.37
ROB      0.51 295 P      53 06.68  -0.3
                  S      53 15.19
ENR      0.80 281 P      53 12.01  -0.2
                  S      53 24.73
STV      0.88 281 P      53 14.00   0.5
                  S      53 26.47
PZZ      1.10 293 P      53 17.65   0.3
      S.D. = 0.4  on   7 of   7 obs.
-----------------------------------------
&  NOV  03, 1989  16h 04m 49.20s
   36.512 N          121.120 W
   DEPTH =   7.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.5 (BRK).

LLA      0.18  54 iPd    04 52.70  -0.3
PRS      0.27 228 iPd    04 54.60  -0.2
SAO      0.36 314 eP     04 56.20  -0.4
PRI      0.52 135 eP     04 59.90   0.2
                  eS     05 11.60
GCC      0.87 307 eP     05 05.90  -0.3
                  eS     05 19.70
MHC      0.93 333 eP     05 07.60   0.3
FRI      1.23  67 eP     05 11.50  -0.8
         7 obs. ossocioted
-----------------------------------------
   NOV  03, 1989  16h 52m 23.08± 0.21s
   44.753 N ± 1.7km    7.313 E ± 2.6km
   DEPTH =   8.9 ±  2.2 km
 NORTHERN ITALY                    (545)
      ML 3.0 (LDG), 3.0 (GEN). MD 2.5
      (STR).

DOI      0.25 191 P      52 28.50   0.1
                  eSg    52 31.70
PZZ      0.29 211 P      52 28.90  -0.2
                  S      52 32.28
RSP      0.40 354 P      52 31.85   0.6
                  S      52 38.27
RRL      0.41 294 Pc     52 31.31  -0.2
                  S      52 36.53
STV      0.51 179 Pc     52 32.74  -0.6
                  S      52 38.89
ENR      0.53 172 Pc     52 33.13  -0.7
                  S      52 40.03
BNI      0.54 304 Pc     52 33.70  -0.4
                  eSg    52 40.20
ROB      0.61 139 P      52 35.57   0.3
                  S      52 44.02
LSD      0.71 351 P      52 37.70   0.3
                  S      52 47.20
TOUF     0.74 184 Pg     52 37.62  -0.2
AUTN     0.76 174 Pg     52 38.24   0.0
CKI      0.76 115 P      52 38.80   0.7
                  eSg    52 48.90
SAOF     0.79 167 Pg     52 37.75  -0.8
FIN      0.84 130 Pc     52 39.90   0.5
                  S      52 50.37
LPG      0.84 332 Pg     52 39.70   0.0
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                    Sg     52 50.70
AURF     0.87 179 Pg     52 39.24   -0.7
LPL      0.87 332 Pg     52 40.10    0.1
                    Sg     52 51.30
SBF      0.89 174 Pg     52 40.20   -0.2
                    Sg     52 52.00
PCP      0.90 103 P      52 41.66    1.1
                    S      52 52.94
IMI      0.94 154 P      52 40.85   -0.3
                    S      52 51.60
ORO      0.99  28 P      52 41.40   -0.7
                    eSg    52 56.00
ORX      1.00  28 P      52 40.74   -1.5
                    S      52 52.03
CALN     1.05 197 Pg     52 43.40    0.4
FRF      1.28 202 Pn     52 47.30    0.3
                    Pg     52 47.80
                    Sg     53 03.80
LRG      1.47 208 Pn     52 50.20    0.5
                    Pg     52 51.30
                    Sg     53 10.00
VAI      1.52  42 P      52 49.20   -1.2
                    eSg    53 09.30
BOB      1.52  89 P      52 50.60    0.0
LMR      1.53 203 Pg     52 51.40    0.8
                    Sg     53 10.80
CVF      2.46 152 Pn     53 02.51   -1.5
SMF      3.08 309 Pn     53 13.00    0.2
                    Sn     53 48.40
LBF      3.23 315 Pn     53 14.20   -0.7
HAU      3.32 349 Pn     53 16.50    0.2
AVF      3.44 308 Pn     53 17.80   -0.1
LOR      3.48 317 Pn     53 18.80    0.3
BGF      3.61 302 Pn     53 20.80    0.4
                    Sn     54 01.60
CAF      3.74 274 Pn     53 22.00   -0.2
      S.D. = 0.6  on  36 of  36 obs.
-----------------------------------------
?  NOV  03, 1989  17h 05m 51.63± 5.97s
   32.956 S ±21.7km   72.040 W ±45.8km
   DEPTH =  25.7 ±  7.4 km
 OFF COAST OF CENTRAL CHILE        (134)

IHA      0.34 102 iPc    05 59.30    0.0
                    iS     06 06.20
LCCH     0.65 143 iPd    06 03.50   -0.8
                    iS     06 14.00
ROCH     0.87  91 iPc    06 07.50   -0.7
                    iS     06 20.10
LNV      1.13 152 iPc    06 11.50   -0.2
                    iS     06 27.00
PEL      1.15 100 iPd    06 12.50    0.3
                    iS     06 28.50
TACH     1.16 127 iPd    06 11.70   -0.5
                    iS     06 27.50
JACH     1.25  78 iPd    06 13.50   -0.1
                    iS     06 30.50
SAN      1.26 114 eP     06 13.50   -0.1
                    iS     06 31.60
PCH      1.44 118 iPd    06 16.60    0.3
                    iS     06 36.00
FCH      1.51 105 iPd    06 13.50   -4.1X
                    iS     06 38.50
CHCH     1.52 130 iPd    06 18.50    1.1
                    iS     06 38.00
      S.D. = 0.7  on  10 of  11 obs.
-----------------------------------------
   NOV  03, 1989  17h 39m 10.87± 0.12s
    1.285 S ± 2.5km  148.713 E ± 3.1km
   DEPTH =  16.6km  (geophysicist)
   5.7mb ( 35 obs.)  5.7Msz ( 24 obs.)
 ADMIRALTY ISLANDS REGION          (199)
      Depth from broadband
      displacement seismograms.
      FAULT PLANE SOLUTION: P-Waves
       NP1:Strike=127 Dip=87 Slip= 145
       NP2:        219      55        4
       Principal Axes:
        T                 Plg=26  Azm= 77
        P                    22       178
      Comment: The focal mechanism is
        poorly controlled and
        corresponds to strike-slip
        faulting with a large reverse
        component. The preferred fault
        plane is not determined.
      RADIATED ENERGY
       No. of sta:   4  Focal mech.  F
       Energy        9.2±3.8*10**13 Nm
      MOMENT TENSOR SOLUTION
      Dep   6            No. of sta: 11
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 1.33        Mtt=-5.62
        Mff= 4.29        Mrt= 6.70
        Mrf=-5.18        Mtf=-0.99
       Principal axes:
        T  Val=  9.89  Plg=42  Azm= 64
        N        0.06      30      303
        P       -9.96      34      190
      Best Double Couple:Mo=9.9*10**17
       NP1:Strike=223 Dip=31 Slip=   9
       NP2:        125      86      120
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 17S, 40C
      Centroid Location:
      Origin Time        17:39:16.5 0.2
      Lat  0.95S 0.03 Lon 148.53E 0.03
      Dep  15.0 FIX Half-duration  3.6
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 2.74 0.17  Mtt=-8.53 0.18
        Mff= 5.79 0.23  Mrt= 6.67 0.70
        Mrf=-3.50 0.41  Mtf=-0.75 0.18
       Principal Axes:
        T  Val=  9.32  Plg=41  Azm= 69
        N        2.35      39      295
        P      -11.67      25      183
      Best Double Couple:Mo=1.0*10**18
       NP1:Strike=224 Dip=40 Slip=  14
       NP2:        123      81      129

RAB      4.50 130 iPd-   40 20.80    0.9
                    iS     41 14.00
LAT      5.60 198 eP     40 41.00    5.5X
MNDI     6.99 226 eP     41 03.00    7.8X
PMG      8.22 191 iPd    41 15.00    2.7
         1.8s  1181.82nm          6.8mb X
                    eS     41 22.00
HNR     13.80 126 eP     42 32.00    3.9X
                    eS     45 22.00
GUMO    15.26 346 eP     42 46.50   -0.8
         1.7s  2853.66nm          6.3mb
PJG     15.26 346 eP     42 46.80   -0.5
CTA     18.84 187 iPd    43 33.20    0.7
         1.1s   725.32nm          5.8mb
                    i      43 51.00
                    iS     47 10.00
CTAO    18.84 187 ePd    43 33.20    0.7
AAI     20.64 263 ePc    43 51.70   -0.6
         0.6s     3.60nm          3.9mb X
MTN     20.87 236 iPd    43 53.70   -1.0
QIS     21.12 204 iPd    43 56.70   -0.6
WB5     23.21 216 iPd    44 17.80   -0.3
                    iPcP   48 09.10
                    eS     48 27.10
KNA     24.36 233 eP     44 29.50    0.2
         1.2s    38.00nm          4.9mb
DAV     24.54 290 eP     44 32.00    1.0
RMO     25.06 180 iPd    44 35.90   -0.1
                    e      44 39.00
                    e      45 14.00
PVC     25.26 131 iP     44 35.00   -2.9X
QLP     25.52 189 iPd    44 40.20   -0.1
                    e      44 54.00
BRS     26.25 172 iP     44 47.00   -0.1
                    i      44 54.00
                    i      45 06.00
                    eS     49 06.00
ASPA    26.48 212 iPd    44 49.10   -0.2
         1.2s   345.00nm          5.9mb
       Z  20s    39.80um          5.9Msz
                    LR     55 37.30
DZM     26.92 141 iPc    44 52.30   -1.1
COO     29.29 174 iPc    45 15.20    0.5
                    e      45 24.00
                    e      45 54.00
MKS     29.45 262 iPc    45 18.00    1.7
CMS     30.16 185 ePd    45 21.40   -1.0
         1.2s   167.00nm          5.7mb
TSM     31.10 280 ePc    45 32.30    1.4
STK     31.17 192 iPd    45 29.60   -1.6
                    e      46 07.00
                    e      46 30.00
OCP     31.60 301 eP     45 27.00   -8.3X

RIV     32.46 176 eP     45 41.00   -1.5
                    e      45 47.00
                    eS     51 00.00
BAG     32.87 304 eP     45 45.90   -0.6
                    eS     50 46.00
BWA     32.97 180 iPd    45 46.70   -0.3
KKM     33.25 283 ePc    45 48.50   -1.4
         0.7s    51.80nm          5.6mb
                    e      46 03.50
KHKI    33.71 257 eP     45 51.00   -2.6
                    e      49 19.80
CNB     33.86 179 iPc    45 55.00    0.2
         1.0s   365.00nm          6.3mb
CAN     33.86 180 iPd    45 54.50   -0.3
MBL     34.40 233 eP     45 58.00   -1.6
FORR    35.30 212 iPd    46 06.10   -1.0
BFD     36.17 188 ePd    46 13.80   -0.6
         1.0s   152.00nm          5.8mb
TOO     36.23 184 iPd    46 15.30    0.3
         1.0s   450.00nm          6.3mb
                    i      47 41.00
ANP     37.23 317 eP     46 26.00    2.4
IIDJ    37.94 346 P      46 27.60   -1.8
KAKJ    38.14 349 P      46 29.30   -1.6
CHJJ    38.23 347 P      46 29.00   -2.8
MEKA    38.41 226 eP     46 33.00   -0.4
         0.6s   110.00nm          5.8mb
TSRJ    38.51 343 P      46 33.60   -0 5
NANU    38.56 234 eP     46 34.50   -0.2
SHK     38.68 339 eP     46 34.80   -0.7
MAJO    38.88 346 eP     46 37.59    0.3
                    ePP    48 09.55
QZH     39.13 314 P      46 39.40   -0.1
         4.0s     1.00nm          2.9mb X
       Z  15s     2.30um          5.1MszX
       N  12s     1.80um
                    S      52 40.00
                    sS     52 46.00
                    SS     55 22.00
COOL    39.35 219 iPd    46 40.50   -0.8
         1.0s   125.00nm          5.6mb
NIIJ    39.37 348 P      46 39.30   -2.0
HKC     41.04 307 iP     46 58.00    2.8
                    S      53 15.00
SSE     41.49 323 Pc     46 58.50   -0.3
         1.0s   174.00nm          5.7mb
       Z  20s     4.70um          5.4Msz
       N  14s     1.30um
       E  14s     4.20um
                    sP     47 16.00
                    PPP    49 12.00
                    S      53 12.00
                    sS     53 28.00
                    iSS    56 24.00
MRWA    41.75 225 eP     47 00.40   -0.6
KLB     41.99 221 eP     47 02.00   -0.9
BAL     42.08 223 iPd    47 02.80   -0.9
         1.1s    13.00nm          4.6mb X
GZH     42.09 307 P      47 04.20    0.3
         1.0s     0.10nm          2.5mb X
       Z  22s     2.90um          5.1Msz
       N  14s     3.40um
       E  14s     2.80um
QIZ     43.18 300 P      47 13.60    0.7
       N  15s     3.50um
                    S      53 39.00
                    SS     56 48.00
NWAO    43.19 220 ePd    47 11.90   -0.8
         1.2s     6.00nm          4.2mb X
                    epPc   47 16.04  14kmX
                    esP    47 18.03
MUN     43.26 222 eP     47 12.00   -1.3
         1.1s     4.00nm          4.1mb X
       Z  20s    20.60um          6.0Msz
       N  20s    25.00um
       E  20s    16.20um
NJ2     43.57 322 Pc     47 16.40    0.6
       Z  24s     3.90um          5.2MszX
       N  12s     2.50um
       E  10s     1.30um
KRP     44.01 149 P      47 20.80    1.5
         0.6s    61.00nm          5.6mb
KGM     45.50 274 ePc    47 32.00    0.3
WHN     45.51 317 eP     47 32.30    0.8
       Z  20s     2.51um          5.2Msz
       N  12s     2.36um
       E  12s     1.71um
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03d 17h

TCW		45.97	153	P	47 35.10	0.2
CAW		46.25	152	P	47 36.60	-0.5
WEL		46.25	153	Pc	47 37.00	-0.1
		1.3s	*******	nm		8.3mb X
				S	54 22.00	
				SS	58 10.00	
WDW		46.34	153	P	47 36.80	-1.0
MSZ		46.43	161	P	47 38.30	-0.2
PGZ		46.44	151	P	47 38.10	-0.5
		0.9s	228.00	nm		6.2mb
MTW		46.49	152	P	47 38.00	-1.0
BLW		46.64	152	P	47 39.40	-0.8
DL2		47.11	331	P	47 44.20	0.3
		5.0s	0.70	nm		3.0mb X
	N	16s	2.60	um		
	E	16s	2.50	um		
				S	54 38.00	
KLM		47.25	275	eP	47 46.00	0.5
TIA		47.50	325	Pd	47 46.10	-1.0
		5.0s	1.00	nm		3.1mb X
	Z	19s	2.80	um		5.3Msz
	N	14s	2.80	um		
	E	14s	2.00	um		
				S	54 38.50	
IPM		48.00	277	ePc	47 51.00	-0.4
		0.9s	74.10	nm		5.7mb
				e	49 21.10	
SNY		48.57	335	Pc	47 54.20	-1.1
	Z	23s	5.70	um		5.5MszX
	N	15s	1.50	um		
	E	14s	1.30	um		
				sS	55 06.00	
SNG		48.72	281	eP	47 56.70	-0.2
		1.0s	120.00	nm		5.9mb
				eS	54 59.30	
MDJ		48.77	342	iPd	47 56.50	-0.4
	E	14s	2.40	um		
				epP	48 05.00	28kmX
				S	54 59.00	
GYA		49.03	307	iPc	48 00.60	1.3
	Z	24s	2.80	um		5.2MszX
	N	18s	7.50	um		
	E	18s	4.60	um		
CN2		49.48	338	Pd	48 01.40	-0.9
		5.0s	0.90	nm		3.0mb X
	Z	20s	3.70	um		5.4Msz
	N	14s	1.80	um		
	E	14s	1.10	um		
				pP	48 09.50	27kmX
LOE		49.87	294	eP	48 06.00	0.3
BJI		50.74	328	eP	48 12.10	0.1
		0.8s	59.00	nm		5.6mb
	Z	16s	3.01	um		5.4MszX
	E	16s	4.08	um		
				epP	48 16.41	14kmX
				esP	48 19.55	
				eS	55 27.08	
NST		50.86	291	ePc	48 15.50	2.2
TIY		51.27	323	eP	48 15.50	-0.7
	E	10s	3.20	um		
				S	55 37.00	
XAN		51.28	317	Pc	48 15.30	-1.0
	N	13s	2.70	um		
	E	14s	1.70	um		
				S	55 36.00	
KMI		51.65	304	eP	48 20.41	0.9
	Z	18s	5.40	um		5.6Msz
	E	17s	2.60	um		
				epPc	48 25.71	18kmX
				esP	48 28.52	
				PP	50 24.00	
				eS	55 47.05	
				e	56 05.00	
				e	56 06.47	
				eSS	58 02.46	
BDT		52.32	293	eP	48 26.10	1.8
CHG		52.81	295	ePc	48 28.60	0.6
		1.1s	25.32	nm		5.1mb
				eS	56 02.00	
CHTO		52.81	295	eP	48 28.30	0.3
		0.9s	13.21	nm		4.9mb
				pP	48 34.40	20kmX
CD2		53.37	311	P	48 31.40	-0.6
	Z	14s	1.60	um		5.2MszX
	N	14s	2 50	um		
				S	56 06.50	
BSI		53.77	278	eP	48 34.00	-1.1

HHC		53.84	325	eP	48 35.00	-0.3
	Z	20s	5.70	um		5.6Msz
	N	15s	2.60	um		
	E	14s	0.80	um		
BTO		54.57	324	P	48 40.50	-0.2
	N	16s	3.00	um		
	E	20s	1.80	um		
				pP	48 45.50	16kmX
				PP	50 44.50	
LZH		55.88	316	eP	48 50.79	0.4
		1.5s	0.17	nm		2.9mb X
				epPc	48 55.92	17kmX
				esP	48 58.90	
				e	50 49.00	
				eS	56 42.14	
HIA		56.21	338	eP	48 51.61	-0.8
				epP	48 57.24	18kmX
				esP	49 00.22	
				eS	56 41.69	
HON		56.68	63	P	48 55.00	-1.1
	Z	20s	3.19	um		5.4Msz
OPA		56.78	63	P	48 56.00	-0.9
SMY		57.89	18	e(P)	49 03.80	-0.3
GTA		60.32	318	iPc	49 21.00	-0.5
		0.7s	0.10	nm		3.1mb X
	Z	18s	1.50	um		5.2Msz
	N	11s	1.00	um		
				S	57 35.00	
				sS	57 44.00	
ADK		60.49	24	iPc	49 21.30	-0.8
SHL		61.02	300	iP	49 27.40	0.9
				eS	58 50.00	
DRV		65.54	184	eP	49 54.80	-0.5
SDN		69.95	28	eP	50 21.90	-1.2
WMQ		70.41	318	eP	50 27.14	0.8
		8.0s	1.10	nm		3.0mb X
	Z	20s	2.20	um		5.4Msz
	N	15s	1.00	um		
	E	14s	0.90	um		
				epP	50 32.11	16kmX
				esP	50 34.26	
				eS	59 42.74	
HYB		71.50	289	eP	50 33.00	-0.3
		1.0s	40.00	nm		5.5mb
				eS	59 52.00	
GBA		72.13	285	Pc	50 35.70	-1.4
		0.8s	16.90	nm		5.2mb
NDI		74.45	300	iPd	50 49.80	-0.6
		0.9s	37.82	nm		5.4mb
				eS	00 24.00	
KDC		74.99	28	eP	50 52.70	-0.2
SVW		75.26	24	eP	50 55.10	0.5
TTA		76.07	23	P	50 58.50	-0.7
		0.8s	63.79	nm		5.7mb
POO		76.07	289	iPc	51 00.00	0.1
		0.9s	47.06	nm		5.6mb
SBA		77.11	176	iPd	51 06.10	1.5
KSH		77.55	311	P	51 09.50	1.6
	N	16s	1.80	um		
				pP	51 16.00	21kmX
PMR		78.24	26	ePc	51 10.40	-0.7
		0.9s	66.10	nm		5.7mb
	Z	20s	4.50	um		5.8Msz
IMA		78.57	21	eP	51 13.20	0.2
		0.9s	38.80	nm		5.4mb
TOA		79.73	26	eP	51 19.50	0.2
COL		80.20	23	eP	51 20.43	-1.3
				ePP	54 24.33	
				eS	01 20.71	
				eSKS	01 39.58	
FBA		80.20	23	eP	51 20.10	-1.6
BRW		80.45	15	e(P)	51 23.20	0.4
QUE		83.52	300	eP	51 40.50	0.6
				eS	02 05.50	
INK		86.67	21	iPc	51 53.70	-0.9
		1.1s	119.00	nm		6.0mb
				pP	52 10.00	57kmX
MAW		87.23	202	iPd	51 57.60	0.3
		1.1s	100.00	nm		6.0mb
SPA		88.72	180	iPd	52 05.00	0.3
		1.0s	71.50	nm		5.9mb
	Z	20s	2.39	um		5.6Msz
FHC		88.78	49	eP	52 08.40	3.0X
PGC		89.52	42	eP	52 10.00	1.4
BMW		89.58	44	P	52 09.60	0.5
WDC		89.87	50	ePc	52 10.80	0.3
PCC		89.90	53	e(P)	52 11.00	0.3

BRK		90.01	52	eP	52 11.30	0.1
BKS		90.03	52	eP	52 11.90	0.6
		1.0s	122.00	nm		6.1mb
MAIO		90.12	306	eP	52 13.00	1.1
				eS	03 08.00	
GCC		90.20	53	eP	52 11.50	-0.6
LBFM		90.39	49	P	52 13.00	-0.1
MHC		90.49	53	ePc	52 14.70	1.1
				eLQ	16 14.00	
				eLR	21 06.00	
LON		90.57	43	P	52 14.00	0.3
ARN		90.58	53	P	52 13.40	-0.5
MIN		90.58	50	eP	52 14.00	0.0
RMW		90.59	43	P	52 14.70	0.9
ORV		90.64	51	ePc	52 14.10	0.0
PRS		90.69	54	ePc	52 14.60	0.2
LLA		91.03	54	ePc	52 16.00	0.0
PRI		91.25	54	ePc	52 18.50	1.4
CMB		91.50	52	ePc	52 17.90	-0.2
MBC		91.70	14	eP	52 20.00	1.8
		1.0s	19.00	nm		5.4mb
BCH		91.72	55	P	52 20.00	0.7
SYP		91.80	56	eP	52 21.00	1.3
FRI		92.03	53	ePc	52 21.30	0.8
PNT		92.06	41	eP	52 21.00	0.6
		0.9s	49.00	nm		5.9mb
ISA		93.03	55	eP	52 25.00	-0.2
KVN		93.28	51	P	52 26.20	-0.3
MWC		93.39	56	eP	52 27.00	-0.1
SBB		93.58	56	eP	52 28.00	0.2
CLC		93.74	54	eP	52 28.00	-0.5
RVR		93.96	56	eP	52 17.00	-12.5X
TNP		93.99	52	P	52 30.20	0.4
		0.8s	20.59	nm		5.6mb
PEC		94.14	56	P	52 30.00	-0.4
GSC		94.40	55	eP	52 32.00	0.4
PLM		94.40	57	eP	52 31.00	-0.8
BAR		94.58	57	eP	52 32.00	-0.4
TPC		95.06	56	eP	52 34.00	-0.6
EDM		95.79	37	eP	52 37.50	0.0
GLA		96.12	57	eP	52 41.00	1.5
LRM		97.08	44	eP	52 43.90	0.1
SES		97.52	39	eP	52 45.00	-0.4
		0.9s	46.00	nm		6.1mb
BW06		99.48	47	P	52 53.50	-1.2
TAB		100.54	308	e(Pdif	53 02.00	2.5X
				e	57 08.00	
KEV		101.76	342	ePdiff	53 03.00	-0.9
FFC		102.12	34	ePdiff	53 07.00	1.1
		1.1s	19.00	nm		5.6mb
ALQ		102.88	55	ePdiff	53 09.00	-1.1
	Z	18s	2.23	um		5.7Msz
GOL		103.04	50	Pdiff	53 10.00	-0.8
	Z	18s	1.82	um		5.6Msz
SOD		103.06	340	iPdiff	53 08.80	-1.0
NUR		107.24	335	ePdiff	53 27.00	-1.5
NUR		107.24	335	ePKP	57 34.00	-3.6X
				e	57 56.00	
				e	04 06.00	
				e	07 16.00	
				e	13 16.00	
				e	16 56.00	
RSON		108.10	36	PKP	57 40.00	0.4
	Z	20s	5.65	um		6.1Msz
BBTK		110.55	312	ePKP	57 31.00	-13.7X
TUL		111.24	52	ePKP	57 47.00	1.0
		0.9s	4.90	nm		
	Z	19s	4.41	um		6.1Msz
				LR	33 00.00	
NB2		112.22	339	PKP	57 45.80	-1.3
		0.9s	1.50	nm		
MLR		113.36	320	ePKP	58 00.00	10.1X
PTZ		116.12	254	ePKP	58 05.00	9.0X
KSP		116.41	328	ePKP	57 56.00	0.6
				e	58 58.20	
SLR		116.56	240	iPKPc	57 56.00	-0.7
	Z	18s	4.12	um		6.1Msz
SRO		116.95	325	ePKP	58 04.00	7.5X
VAY		117.31	317	ePKP	57 57.70	0.3
ZST		117.44	326	ePKP	57 57.80	0.4
BFS		117.53	239	ePKP	57 59.00	0.5
BRG		117.60	329	ePKP	57 58.00	0.3
		1.2s	10.00	nm		
BUL		117.61	247	iPKPd	57 59.50	0.7
		1.0s	13.50	nm		
KSR		117.72	240	ePKP	58 02.10	3.2X
SKO		117.80	318	ePKP	57 58.00	-0.4

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CLL   117.81 330 iPKP  57 57.50  -0.5
                  e    58 21.00
PRU   117.82 328 ePKP  57 59.00   0.9
      Z  18s     2.10um          5.8Msz
      N  17s     1.10um
      E  19s     1.10um
                  e    59 15.00
OHR   118.61 317 ePKP  58 01.30   1.3
KIM   118.64 236 ePKP  58 04.00   3.4X
KHC   118.83 328 iPKPd 58 00.90   0.8
       1.0s      6.00nm
      Z  19s     2.00um          5.8Msz
      N  19s     1.10um
      E  18s     1.00um
                  e    59 24.80
LSZ   118.96 252 iPKP  58 20.00  18.6X
RSCP  119.23  49 PKP   58 01.00  -0.3X
CLE   119.67  42 iPdiff54 28.10   3.7X
KBA   120.17 326 e(PKP)58 02.00  -0.9
                  e    59 29.50
CER   121.27 229 iPKPd 58 07.50   2.2X
MEM   121.60 333 PKP   58 06.70   1.5
SNF   122.43 334 PKP   58 08.20   1.4
BSF   123.14 330 ePKP  58 09.20   0.7
       0.8s      9.10nm
HAU   123.24 331 ePKP  58 09.30   0.7
       0.8s      5.30nm
FIR   123.29 324 ePKP  58 11.00   2.3X
LPG   124.72 328 ePKP  58 12.00   0.1
       0.9s      8.10nm
LOR   124.96 331 ePKP  58 12.90   1.0
       0.8s      9.90nm
SSF   125.28 331 ePKP  58 13.50   1.0
       1.0s     16.80nm
SMF   125.41 331 ePKP  58 13.50   0.7
       0.8s      9.40nm
BGF   125.96 331 ePKP  58 14.50   0.6
       1.0s     18.00nm
GRR   126.24 335 ePKP  58 16.10   1.7
       0.8s     11.80nm
MAF   126.33 331 ePKP  58 15.60   0.9
       1.2s     17.80nm
LPF   126.60 335 ePKP  58 15.90   0.9
       0.8s     21.40nm
LNV   128.54 137 ePKP  58 21.00   1.8
PEL   129.50 136 iPKPd 58 23.00   1.9
       0.6s     16.67nm
BCAO  130.15 275 ePKPd 58 23.30   0.4
       0.5s      8.00nm
                  ic   58 24.90
                  ic   58 41.50
                  ic   01 46.90
UPA   131.39  79 iPKPd 58 25.60   0.5
       1.0s     44.00nm
      Z  20s     1.95um          5.8Msz
YJA   139.29 127 ePKPc 58 33.50  -6.9X
CNCB  139.59 118 PKP   58 35.00  -6.2X
LPB   139.59 118 PKP   58 40.00  -1.0
      Z  18s     2.06um          5.9Msz
                  eLR  44 38.00
ZOBO  139.67 117 PKP   58 31.00 -10.4X
       1.1s     66.71nm
      Z  19s     1.64um          5.8Msz
                  i    58 41.30
                  LR   45 24.00
PMV   139.76  78 iPKP  58 53.40  11.7X
TOV   140.79  76 ePKP  58 37.10  -5.7X
FISA  140.96  74 iPKP  58 37.30  -5.8X
CCH   140.97 120 PKP   58 39.50  -3.9X
MORO  142.01  74 ePKP  58 40.00  -5.1X
GUAC  143.16  75 ePKP  58 44.50  -2.6X
LLAV  143.55  74 iPKPc 58 43.60  -4.1X
OLLA  143.64  75 iPKP  58 44.30  -3.5X
ITB7  145.64 141 ePKP  58 49.50  -1.4
ITB1  145.85 141 e(PKP)58 50.50  -0.6
ITB   145.86 141 e(PKP)58 50.90  -0.3
CUM   146.08  73 iPKP  58 51.00  -0.8
BPA   146.09  61 ePKP  58 51.00  -0.8
PAG   146.65  62 ePKP  58 52.00  -0.8
BBL   147.03  63 ePKP  58 55.00   1.7
SVB   148.03  67 ePKP  58 57.67   2.7X
LEGH  148.66 279 ePKP  59 01.00   5.0X
KOGH  148.67 280 ePKP  59 03.00   6.9X
KUK   148.78 280 ePKP  59 01.00   4.8X
WEGH  148.81 279 ePKP  59 00.00   3.8X
PPD   149.68 141 ePKP  58 59.10   1.7
                  e    59 04.40
                  e    59 15.90
                  e    59 25.40
VAO   151.43 149 ePKP  59 07.60   7.6X
KIC   153.05 281 PKPc  59 10.68   8.2X
       0.8s    35.50nm
TIC   153.27 282 PKPc  59 11.02   8.2X
LIC   153.35 281 PKPc  59 11.26   8.3X
BAO   156.44 136 e(PKP)58 50.00 -17.2X
      S.D. = 1.0  on 205 of 246 obs.
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&  NOV  03, 1989  19h 09m 01.60s
   38.567 N          119.652 W
   DEPTH =  11.0km
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      <BRK>. ML 4.5 (BRK).
      Mo=4.1*10**15 Nm (BRK). Felt
      (IV) at Coleville, Markleeville
      and South Lake Tahoe,
      California. Also felt (IV) at
      Genoa, Nevada. Felt in the
      Carson City-Lake Tahoe area,
      Nevada. Also felt in the Jackson
      area, California.

CMB     0.78 228 iPd   09 15.90  -0.9
                 eS    09 26.00
KVN     1.31  68 iPd   09 24.80  -1.0
FRI     1.57 182 iPd   09 29.90   0.4
                 i     09 47.40
ORV     1.74 305 iPc   09 32.20   0.2
ARN     1.92 231 eP    09 35.80   1.2
TNP     1.97 103 iPc   09 34.70  -0.8
MHC     1.99 233 iPd   09 37.10   1.4
ZSP     2.14 254 iPc   09 38.80   1.1
                 iS    10 06.50
BKS     2.15 252 iPc   09 38.80   1.0
BRK     2.17 252 ePc   09 38.80   0.7
LLA     2.20 208 iPd   09 39.30   0.7
SAO     2.29 219 ePd   09 40.70   0.8
MIN     2.33 320 ePc   09 41.10   0.5
PCC     2.40 245 ePc   09 41.70   0.2
GCC     2.41 231 e(P)  09 41.70   0.2
LTCM    2.52 311 eP    09 44.60   1.5
PKEM    2.53 188 eP    09 44.50   1.3
PRI     2.55 199 ePc   09 45.60   1.9
PRS     2.62 212 ePd   09 45.00   0.5
WDC     3.00 313 iPd   09 50.20   0.2
LBFM    3.27 329 eP    09 54.60   0.7
BCH     3.39 186 eP    09 56.40   0.8
FHC     4.02 305 eP    10 05.00   0.6
DUG     5.54  71 eP    10 24.60  -1.6
PLM     5.67 156 P     10 31.00   3.0X
MSU     5.86  88 eP    10 30.00  -0.7
LON     8.33 350 eP    11 07.00   1.8
LRM     9.00  34 eP    11 15.80   1.2
SES    13.32  25 eP    12 12.00  -1.0
       29 obs. associated
-----------------------------------
&  NOV  03, 1989  19h 12m 26.20s
   38.585 N          119.637 W
   DEPTH =   6.0km
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      <BRK>. ML 3.5 (BRK).

CMB     0.80 227 iPd   12 40.90  -1.3
                 iS    12 51.20
KVN     1.29  68 eP    12 49.40  -1.2
FRI     1.59 182 iPd   12 54.80  -0.1
                 iS    13 14.90
ORV     1.74 304 ePc   12 56.90  -0.3
                 iS    13 20.00
ARN     1.94 231 eP    13 00.70   0.6
TNP     1.97 104 eP    12 59.60  -1.0
MHC     2.01 233 e(P)  13 02.30   1.1
                 i     13 02.90
ZSP     2.16 254 e(P)  13 05.00   1.8
BKS     2.16 252 eP    13 04.30   1.0
BRK     2.18 252 e(P)  13 04.40   0.8
LLA     2.22 208 ePc   13 04.50   0.4
SAO     2.31 219 iPc   13 05.70   0.2
MIN     2.33 320 ePc   13 07.80   2.0
PCC     2.42 244 ePc   13 07.50   0.5
GCC     2.43 231 e(P)  13 10.80   3.7
LTCM    2.52 311 eP    13 10.00   1.7
PRI     2.57 199 ePd   13 10.40   1.2
PRS     2.64 212 ePc   13 10.20   0.1
LBFM    3.26 329 eP    13 22.50   3.5
       19 obs. associated
-----------------------------------
*  NOV  03, 1989  19h 20m 58.99± 1.45s
   37.385 N ±12.6km   20.990 E ± 9.0km
   DEPTH =  10.0km  (geophysicist)
 IONIAN SEA                        (399)
      MD 3.3 (ATH).

ITM     0.77 105 ePg   21 13.50  -0.6
VLS     0.85 338 ePg   21 13.70  -1.7
VLI     1.69 113 ePg   21 32.60   3.9X
AGG     1.95  32 eP    21 35.70   3 3X
KEK     2.51 338 ePg   21 46.20   5 8X
NEO     2.60  42 ePn   21 42.50   0.7
LIT     2.95  23 ePc   21 47.90   1.1
KZN     2.98  12 ePg   21 55.20   8.0X
GRG     3.73  17 ePd   21 57.30  -0.6
OUR     3.76  37 ePd   21 57.70  -0.5
KNT     4.05  21 eP    22 02.50   0.2
VAY     4.12  17 ePn   22 04.00   0.8
CZI     4.24 297 P     22 05.80   0.8
      S.D. = 1.1  on   9 of  13 obs.
-----------------------------------
*  NOV  03, 1989  19h 21m 57.96± 1.21s
    0.337 N ±13.2km   98.149 E ±13.0km
   DEPTH =  33.0km  (normal)
 NORTHERN SUMATERA                 (706)

PSI     2.47  18 iPc   22 35.00  -1.7
                 eS    22 41.50
TSI     3.17   8 e(P)  22 09.00 -37.7X
KLM     4.44  52 eP    23 09.00   4.2X
                 e     24 14.30
IPM     5.10  34 ePc   23 11.10  -3.0X
                 e     24 31.50
KGM     5.43  72 eP    23 19.00   0.2
BSI     5.86 331 eP    23 25.00   0.1
                 eS    24 28.00
SNG     7.23  20 eP    23 45.50   1.5
GBA    24.38 304 P     27 17.00   2.5X
WB5    40.77 122 eP    29 37.80  -0.2
SLR    72.07 243 iPc   33 14.50  -7.0X
BCAO   79.62 274 iPc   34 04.40   0.1
       0.4s      8.00nm          5.1mb X
      S.D. = 1.3  on   6 of  11 obs.
-----------------------------------
   NOV  03, 1989  19h 33m 27.31± 0.79s
   38.571 N ± 9.5km  119.580 W ± 7.1km
   DEPTH =  10.0km  (geophysicist)
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      ML 2.7 (BRK).

CMB     0.83 230 ePd   33 41.90  -1.5
                 iS    33 52.70
KVN     1.25  67 eP    33 50.70   0.0
FRI     1.58 184 iPd   33 55.80   0.4
ORV     1.79 304 ePc   33 58.50   0.0
TNP     1.92 104 eP    34 00.30  -0.3
MHC     2.04 234 ePc   34 03.80   1.6
LLA     2.23 209 ePc   34 05.40   0.5
SAO     2.33 220 eP    34 05.60  -0.7
      S.D. = 1.1  on   8 of   8 obs
-----------------------------------
&  NOV  03, 1989  20h 47m 02.90s
   38.567 N          119.650 W
   DEPTH =  13.0km
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      <BRK>. ML 3.4 (BRK).

CMB     0.79 228 iPd   47 17.20  -0.7
                 iS    47 27.70
KVN     1.30  68 ePd   47 26 10  -0.8
FRI     1.57 182 iPd   47 31.20   0.7
                 eS    47 51.30
ORV     1.75 305 ePc   47 33.30   0.2
                 iS    47 56.50
ARN     1.92 231 eP    47 36.80   1.2
TNP     1.97 103 eP    47 36.10  -0.4
MHC     1.99 233 ePc   47 48.20  11.4
BKS     2.15 252 eP    47 40.60   1.7
LLA     2.20 208 ePc   47 40.90   1.2
SAO     2.29 219 iP    47 42.60   1.6
MIN     2.33 320 ePc   47 43.20   1.5
PRS     2.62 212 ePc   47 46 50   0.9
       12 obs. associated
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&  NOV  03, 1989  21h 07m 45.80s
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03d 21h

38.568 N 119.650 W
DEPTH = 15.0km
CALIFORNIA-NEVADA BORDER REGION (40)
<BRK>. ML 3.2 (BRK).

CMB	0.79	228	iPc	08 00.20	-0.5
			iS	08 10.50	
KVN	1.30	68	eP	08 08.90	-0.7
FRI	1.57	182	iPd	08 14.20	1.0
			eS	08 34.10	
ORV	1.75	305	ePc	08 16.30	0.6
			eS	08 39.20	
ARN	1.92	231	eP	08 20.00	1.7
TNP	1.97	103	eP	08 18.50	-0.7
MHC	1.99	233	e(P)	08 21.70	2.3
LLA	2.20	208	e(P)	08 23.80	1.4
SAO	2.30	219	e(P)	08 25.00	1.3

9 obs. ossocioted

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* NOV 03, 1989 21h 17m 12.87± 2.11s
32.566 S ±18.8km 70.976 W ± 8.2km
DEPTH = 33.0km (normol)
CHILE-ARGENTINA BORDER REGION (127)

JACH	0.34	110	iPd	17 21.00	-0.3
			iS	17 31.00	
ROCH	0.41	184	iPc	17 23.10	0.8
			iS	17 34.10	
PEL	0.63	157	iPd	17 25.60	0.3
			iS	17 39.00	
IHA	0.72	231	eP	17 27.20	0.6
			iS	17 38.00	
SAN	0.92	163	iPc	17 30.00	0.5
			iS	17 46.50	
FCH	0.95	143	iPd	17 30.50	0.3
			iS	17 47.00	
LCCH	1.03	209	iPc	17 30.60	-0.5
			iS	17 48.50	
PCH	1.12	160	iPd	17 32.50	0.1
			iS	17 51.10	
CHCH	1.39	169	iP	17 35.50	-0.7
			iS	17 57.50	
LNV	1.43	195	iPd	17 35.70	-1.0
			iS	18 00.50	

S.D. = 0.7 on 10 of 10 obs.

NOV 03, 1989 21h 30m 22.24± 0.65s
38.631 N ± 5.3km 26.803 E ± 7.8km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
MD 3.1 (ATH).

IZM	0.43	123	iPg	30 30.90	-0.1
			iSg	30 37.90	
PRK	0.74	326	ePn	30 36.70	0.0
			eSn	30 48.00	
SMG	0.92	178	iPnd	30 38.90	-0.9
			eSn	30 53.30	
EZN	1.25	343	iPn	30 44.40	-1.0
DST	1.72	55	ePn	30 52.30	-0.1
APE	1.86	213	ePn	30 55.50	1.1
EDC	1.90	25	ePn	30 55.00	0.0
BNT	1.93	26	ePn	30 56.50	1.1

S.D. = 0.9 on 8 of 8 obs.

? NOV 03, 1989 21h 32m 03.09± 3.94s
46.749 N ±34.6km 18.329 E ±11.7km
DEPTH = 10.0km (geophysicist)
HUNGARY (549)
ML 2.7 (VKA).

BUD	0.88	33	ePn	32 19.00	-0.9
SRO	1.07	359	i(Pg)	32 23.80	0.7
			iSg	32 32.00	
SOP	1.53	308	eP	32 30.90	0.5
PSZ	1.58	42	ePn	32 31.90	0.6
ZST	1.67	331	e(Pn)	32 25.00	-7.5X
			i	32 49.50	
VKA	2.04	319	e(Pg)	32 37.00	-0.9
			e(Sg)	33 10.00	
KHC	3.98	308	eP	33 15.10	9.6X
			e	34 03.50	

S.D. = 1.1 on 5 of 7 obs.

? NOV 03, 1989 22h 45m 01.99± 3.41s
39.528 N ±19.9km 143.470 E ±41.9km
DEPTH = 30.8km (2 depth phases)
4.3mb (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

MDJ	11.50	301	eP	47 47.50	0.5
SSE	20.00	252	P	49 35.00	0.2
BJI	20.96	280	eP	49 43.00	-1.7
	1.0s		12.00nm		4.3mb
	Z 13s		0.30um		3.9MszX
TIA	21.03	269	eP	49 44.90	-0.6
TIY	24.26	276	eP	50 18.50	1.1
WHN	25.38	258	P	50 28.50	0.4
			pP	50 37.80	33km
BTO	25.54	283	eP	50 29.10	-0.5
GYA	33.28	258	P	51 39.00	0.1
GTA	33.45	284	eP	51 41.00	0.6
KMI	36.97	260	eP	52 11.00	0.4
			pP	52 19.50	29km
WMO	41.21	295	eP	52 45.60	0.1
GBA	63.02	266	P	55 28.00	-0.5

S.D. = 0.8 on 12 of 12 obs.

% NOV 03, 1989 23h 17m 02.42± 1.10s
18.001 N ±21.2km 66.591 W ± 6.3km
DEPTH = 33.0km (normol)
PUERTO RICO REGION (90)

PORP	0.07	320	P	17 07.20	-0.9
LRS	0.38	320	P	17 11.30	0.0
			S	17 17.50	
SJG	0.43	75	iP	17 11.80	-0.3
			S	17 17.80	
MGP	0.47	271	P	17 13.10	0.5
CPD	0.64	87	P	17 15.10	0.0
			S	17 23.30	
LPR	0.75	66	P	17 17.20	0.6
			S	17 26.50	

S.D. = 0.7 on 6 of 6 obs.

NOV 04, 1989 00h 18m 28.14± 0.92s
43.210 N ±10.8km 4.743 E ± 4.5km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
ML 3.1 (LDG). MD 2.5 (STR).

GELF	0.53	71	Pg	18 37.89	-1.0
			Sg	18 44.80	
TREF	0.62	48	Pg	18 40.33	-0.4
PRAF	0.67	27	Pg	18 41.28	-0.2
			Sg	18 52.23	
BERF	0.70	81	Pg	18 41.38	-0.7
			Sg	18 51.79	
PUYF	0.77	65	Pg	18 42.28	-0.9
			Sg	18 54.37	
VILF	0.96	47	Pg	18 46.36	0.0
			Sg	19 00.19	
TAVF	1.04	67	Pg	18 47.84	0.0
			Sg	19 01.87	
GANF	1.16	47	Pg	18 49.75	0.0
			Sg	19 06.01	
LRG	1.21	78	Pn	18 50.40	-0.2
			Sg	19 05.80	
LMR	1.30	84	Pn	18 51.40	-0.7
			Pg	18 52.30	
			Sg	19 08.00	
FRF	1.43	75	Pn	18 53.10	-1.0
			Pg	18 54.40	
			Sg	19 12.90	
CALN	1.65	70	Pg	18 58.63	1.2
			Sg	19 20.16	
MVIF	1.88	68	Pg	19 02.40	1.6
			Sg	19 27.11	
TOUF	1.99	65	Pg	19 04.43	2.1
AURF	2.00	69	Pg	19 04.35	2.0
SBF	2.06	71	Pn	19 01.50	-1.8
			Pg	19 06.60	
			Sg	19 32.00	
AUTN	2.10	67	Pg	19 06.54	2.5
			Sg	19 33.76	
STV	2.14	60	P	19 07.48	3.1X
PZZ	2.14	52	P	19 07.28	2.8
RRL	2.26	40	P	19 10.76	4.5X
IMI	2.39	72	P	19 09.94	1.9
ROB	2.51	63	P	19 09.23	-0.5
CAF	2.58	313	Pn	19 10.80	0.1
			Sg	19 51.80	
RSP	2.65	42	P	19 11.23	-0.6
FIN	2.70	67	P	19 11.79	-0.7
LPL	2.71	31	Pn	19 12.00	-0.8
LPO	2.96	301	Pn	19 16.40	0.4
			Sg	20 04.40	
PCP	3.05	63	P	19 16.51	-0.9
CVF	3.10	101	Pn	19 15.60	-2.4
EPF	3.23	268	Pn	19 20.20	0.3
			Sg	20 12.80	
LFF	3.36	302	Pn	19 22.30	0.5
			Sg	20 17.40	
MAF	3.39	333	Pn	19 21.00	-1.1
			Sg	20 15.70	
BGF	3.61	339	Pn	19 24.00	-1.2
			Sg	20 22.50	

S.D. = 1.3 on 31 of 33 obs.

NOV 04, 1989 01h 12m 10.91± 0.49s
40.257 N ± 4.7km 20.647 E ± 5.0km
DEPTH = 10.0km (geophysicist)
GREECE-ALBANIA BORDER REGION (392)
ML 2.8 (THE). MD 3.1 (ATH).

LSK	0.11	199	iPgd	12 12.60	-1.3
KBN	0.39	19	iPgd	12 17.80	-1.0
SRN	0.62	233	iPg	12 22.50	-0.9
BERA	0.69	310	iPgc	12 21.00	-3.6X
KEK	0.85	230	ePg	12 26.10	-1.2
KZN	0.86	86	ePg	12 26.30	-1.2
			eSg	12 40.20	
OHR	0.86	8	iPg	12 26.30	-1.2
			iSg	12 38.50	
TIR	1.24	332	ePn	12 35.50	1.6
LIT	1.42	96	ePb	12 36.70	-0.1
			eSb	12 59.40	
PHP	1.44	354	ePn	12 31.80	-5.2X
GRG	1.51	62	ePb	12 37.90	-0.1
			eSb	12 58.80	
LACI	1.55	333	ePn	12 39.30	0.8
AGG	1.79	133	ePn	12 42.90	0.8
			eSn	13 08.70	
VAY	1.81	53	ePn	12 42.40	0 1
THE	1.81	77	ePn	12 41.70	-0.6
			eSn	13 08.30	
SKO	1.81	19	iPn	12 43.60	1.2
			iSn	13 09.50	
KNT	1.93	61	ePn	12 44.00	-0.2
			eSn	13 08.90	
SDA	1.96	334	ePn	12 49.60	5.1X
VLS	2.08	181	ePb	12 48.80	2.5
BCI	2.15	348	ePn	12 50.30	3.0X
NEO	2.20	115	ePb	12 50.20	2.1X
PAIG	2.35	97	ePn	12 51.00	0.9
SRS	2.40	68	ePn	12 50.70	-0.2
			eSn	13 21.00	
OUR	2.55	87	ePn	12 53.10	0.1

S.D. = 1.1 on 19 of 24 obs.

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* NOV 04, 1989 01h 19m 41.37± 0.91s
26.129 S ±11.1km 27.825 E ±16.4km
DEPTH = 5.0km (geophysicist)
REPUBLIC OF SOUTH AFRICA (584)
MG 3.2 (BUL).

SLR	0.57	47	iPd	19 52.00	-0.8
			S	19 58.80	
PRY	0.86	201	iPc	19 57.50	-0.9
			S	20 08.00	
BFS	1.21	230	iPd	20 04.00	-0.4
			S	20 17.00	
SEK	2.19	185	eP	20 20.50	1.4
	0.7s		184.93nm		
			S	20 46.50	
BLF	3.30	206	eP	20 44.00	9.0X
			S	21 20.00	
KIM	3.76	225	eP	20 44.50	3.0X
			S	21 24.00	
BUL	6.00	7	iPn	21 13.90	0.8
			iSn	22 18.60	
			iSg	22 48.90	

S.D. = 1.4 on 5 of 7 obs.

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* NOV 04, 1989 01h 53m 03.48± 2.07s
38.010 N ±13.2km 20.310 E ±15.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.2 (ATH). ML 3.1 (THE).

VLS	0.28	53	iPgd	53 07.50	-1.8

```
ITM      1.53 122 ePb    53 30.50  -0.4
KEK      1.75 347 ePb    53 33.50  -0.5
AGG      1.88  57 ePb    53 38.60   2.6
                  eSb    54 01.20
KZN      2.56  26 ePn    53 45.60  -0.1
NEO      2.62  60 ePn    53 45.50  -1.1
LIT      2.69  38 ePn    53 48.00   0.4
                  eSn    54 21.10
OHR      3.12   7 ePn    53 53.00  -0.7
THE      3.33  37 ePn    53 57.40   0.8
GRG      3.36  28 ePn    53 58 60   1.5
                  eSn    54 36.70
OUR      3.68  50 ePn    54 01.30  -0.3
KNT      3.73  32 ePnc   54 01.40  -0.9
                  eSn    54 45.20
SRS      4.01  38 ePn    54 06.80   0.6
     S.D. = 1.3  on  13 of  13 obs.
-----------------------------------
*  NOV  04, 1989  02h 41m 06.04± 1.00s
   42.741 N ± 7.9km   13.183 E ± 7.4km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                    (381)

ALP      0.29  82 iPg    41 11.56  -0.7
                  iSg    41 13.68
CIO      0.46 356 iPg    41 15.03  -0.3
                  iSg    41 22.00
ASS      0.51 311 P      41 15.70  -0.6
                  eSg    41 22.30
MNS      0.51 226 P      41 16.80   0.3
                  eSg    41 23.60
AOI      0.87  21 ePg    41 23.95   1.2
                  eSg    41 37 80
SDI      1.14 155 P      41 32.70   5.4X
                  eSn    41 50.50
     S.D. = 1.1  on   5 of   6 obs.
-----------------------------------
?  NOV  04, 1989  02h 44m 41.05± 6.42s
   17.843 N ±62.9km   66.641 W ±26.0km
   DEPTH =  33.0km  (normal)
 PUERTO RICO REGION               ( 90)

PORP     0.21   1 P      44 47.20  -0.6
LRS      0 49 337 P      44 51.90   0.4
                  S      44 57.90
SJG      0.54  60 iP     44 51.90  -0.4
                  S      44 58.00
CPD      0.72  74 P      44 55 00   0.3
                  S      45 03.00
LPR      0.87  58 P      44 57.20   0.3
                  S      45 07.60
     S.D. = 0.6  on   5 of   5 obs
-----------------------------------
   NOV  04, 1989  02h 49m 16.73± 0.48s
   39.809 N ± 6.4km  143.272 E ± 7.4km
   DEPTH =  33.0km  (normal)
   4.8mb ( 16 obs )  3.8Msz (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ     1.44 240 eP     49 42.00   1.3
                  eS     50 03.40
AOMJ     2.34 290 eP     49 55 00   1.3
YAMJ     3.00 238 eP     50 04.40   1.3
NIIJ     4.22 234 iPd    50 21.50   1.2
KAKJ     4.35 215 P      50 20.60  -1.6
                  S      51 11.50
CHJJ     5.05 223 iP+    50 31.80  -0.4
MTMJ     5.38 235 P      50 37.90   1.1
IIDJ     6.06 226 P      50 47.00   0.5
TSRJ     7.18 236 P      51 03.10   1.0
MDJ     11.22 300 eP     51 58.00   0.1
CN2     13.88 292 Pc     52 33.20   0.0
     Z  15s      0.60um
     N  11s      0.30um
     E  11s      0.30um
                  pP     52 40.00
SSE     19.94 251 eP     53 48 00  -0.7
     E  10s      0.20um
BJI     20.76 279 eP     53 52.50  -4.6X
     Z  20s      0.30um          3.7Msz
TIA     20.89 268 Pc     53 55.80  -2.7
BTO     25.33 283 eP     54 40.50  -1.6
LZH     31.14 276 eP     55 32.00  -2.7
     Z  20s      0.30um          4.0Msz
GYA     33 19 258 iPc    55 51 20  -1.4
GTA     33.24 284 iPd    55 52.80  -0.2
KMI     36.87 259 Pd     56 24.50   0.3
```

```
WMQ     40.96 294 Pc     56 58.00   0.2
CHG     43.42 254 eP     57 18.20   0.1
CHTO    43.42 254 eP     57 18.00  -0.1
        0.9s      4.05nm          4.2mb
INK     51.26  28 eP     58 19.00   0.1
MBC     53.45  17 eP     58 42.50   7.3X
        1.0s      4.00nm          4.4mb
WB5     59.96 190 eP     59 21.00  -1.1
WRA     60.02 190 Pd     59 30.00   7.5X
        0.7s      4.00nm          4.7mb
KEV     61.37 339 eP     59 38.00   6.8X
GBA     62.89 265 Pd     59 38.80  -3.3X
        1.0s      9.50nm          4.9mb
SOD     62.98 337 iP     59 41.10  -0.9
HFS     72.16 336 eP     00 38.90  -0.7
        0.5s      6.70nm          4.9mb
NB2     72.19 338 P      00 38.70  -1.2
        0.7s      5.00nm          4.6mb
KSP     78.50 329 eP     01 16.00   0.1
                  e      07 29.00
PRU     79.87 329 P      01 23.80   0.5
                  e      05 10.00
                  Sn     06 02.50
KHC     80.93 329 P      01 29.80   0.8
GRF     81.38 331 iPc    01 32.20   0.9
        0.7s      5.00nm          4.6mb
ALQ     81.70  51 eP     01 34.00   0.5
        1 0s      3.25nm          4.3mb
OHR     83.96 320 eP     01 45.00   0.2
LOR     86.07 334 eP     01 55.50   0.3
        0.8s      9.90nm          5.1mb
LBF     86.27 333 eP     01 56.50   0.2
        0.8s      7.20nm          5.0mb
SSF     86.37 334 eP     01 56.40  -0.3
        0.8s      4.00nm          4.7mb
LPG     86.55 331 eP     01 58.50   0.5
        1.0s     12.80nm          5.1mb
SMF     86 61 333 eP     01 58 60   0.7
        0.8s      5.30nm          4.8mb
AVF     86 66 334 eP     01 58.70   0.6
        0.7s     13.20nm          5.3mb
TCF     87.48 334 eP     02 02.80   0.7
        1 0s     12.00nm          5.1mb
LSF     87.74 335 eP     02 04.20   0.8
        0.8s     14.70nm          5.3mb
ZOBO   144 00  58 ePKP   08 36 00 -15.5X
LPB    144.21  59 (PKP)  08 55.00   3.3X
CNCB   144.49  59 PKP    08 52.00  -0.3
PDCR   152.75   5 ePKP   09 04.80   0.2
     S.D. = 1.0  on  42 of  49 obs.
-----------------------------------
   NOV  04, 1989  03h 03m 35.91± 0.24s
   44.248 N ± 2.4km   12.112 E ± 2.4km
   DEPTH =  12.7 ±  2.0 km
 NORTHERN ITALY                   (545)
      ML 3.5 (LDG), 3.4 (KBA), 2.7
      (LJU)  MD 3.6 (TRI), 3.4 (FIR).

SFI      0.38 210 Pd     03 43.20  -0.6
                  eSg    03 48.40
RSM      0.40 143 P      03 44.10  -0.2
                  eSg    03 49.00
CRE      0.63 191 P      03 47.20  -1.2
                  eSg    03 57.10
FIR      0.78 233 iPgc   03 51.00   0.2
                  iSg    04 03.00
BDI      1.11 261 P      03 57.50   1.0
                  eSn    04 14.10
ASS      1 24 161 P      03 58.40  -0.4
                  eSn    04 16.80
PII      1.26 246 P      03 59.00  -0.1
                  eSn    04 17 70
AOI      1.28 122 iPg    04 00.76   1.3
                  iSg    04 21.03
CIO      1 29 144 iPg    03 59.43  -0.2
                  iSg    04 19.13
SSO      1 35 135 ePn    04 02.23   1.8
                  eSn    04 24.54
SAL      1.77 321 P      04 08.20   1.9
                  eSn    04 31.70
ALP      1.81 144 iPn    04 07.63   0.4
                  iSn    04 38.03
CTI      1.83 350 P      04 08.40   1.0
                  eSn    04 32 90
TRI      1.87  38 iPnd   04 07 70  -0.2
                  iSn    04 32.10
                  iSg    04 39.70
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MNS      1.91 167 P      04 08.80   0.3
                  eSn    04 30.70
RIY      1.95  55 iPnd   04 08 80  -0.3
                  iPg    04 13.10
                  i(Sn)  04 34.60
                  iSg    04 40.50
BOB      1.98 286 P      04 13.20   3.7X
                  eSn    04 36.60
VOY      2.18  35 iPnc   04 12.70   0.2
                  eSg    04 49.60
CEY      2.22  47 ePnc   04 13.00   0.0
                  eSn    04 42.00
MDI      2.29 313 Pc     04 14.90   1.0
                  eSn    04 42.30
FVI      2.39  11 P      04 16.40   1.1
                  eSn    04 47 60
LJU      2.48  43 iPnd   04 17.00   0.4
                  e      04 26.50
                  iSn    04 48.00
VBY      2.56  60 eP     04 27.90  10.1X
                  iSn    04 50.20
SDI      2.83 153 Pc     04 22.60   0.9
                  eSn    04 53 00
VAI      2.87 306 P      04 23.30   1.2
CVF      2.90 236 Pn     04 23.20   0.6
                  Sn     04 56.60
KBA      2.96  17 iPnd   04 24.70   1.1
                  iPgd   04 34.50
                  i      04 54.50
                  iSn    05 00 40
                  iSg    05 14 50
                  i      05 19.20
ZAG      3.16  59 eP     04 36.50  10.2X
                  iSn    05 09.50
PTJ      3.19  57 ePn    04 33.70   7.0X
                  eSn    05 09.90
SBF      3.39 265 Pn     04 30.40   0.7
                  Sn     05 10.40
BLY      3.66  80 eP     04 54.00  20.5X
FRF      4.01 262 Pn     04 39.00   0.7
                  Sn     05 24.80
LPG      4.01 290 Pn     04 38.60   0.0
                  Sn     05 24.00
LPL      4.03 290 Pn     04 39.00   0.2
LMR      4.16 259 Pn     04 40 20  -0.3
LRG      4.24 261 Pn     04 42.20   0.6
                  Sn     05 29.80
GRB5     4.87 357 e(Pg)  05 07.60  17.0X
VKA      4.96  34 iPnc   04 51.80  -0.1
                  eSn    05 47.00
KHC      4.99  11 Pn     04 51.60  -0.6
                  ePg    05 00.00
                  Sg     05 50.50
BSF      5.15 316 Pn     04 54.70   0.0
                  Sn     05 51 00
CDF      5.34 323 Pn     04 57.00  -0.4
HAU      5.49 315 Pn     04 59.00  -0.4
                  Sn     05 59.10
SMF      6.29 295 Pn     05 10.20  -0.5
                  Sn     06 19.00
LBF      6.33 298 Pn     05 10.50  -0.7
                  Sn     06 19.00
LOR      6.52 301 Pn     05 13.40  -0.4
                  Sn     06 24.20
AVF      6.66 296 Pn     05 15.00  -0.8
BRG      6.74  10 e(P)   05 31.00  14.0X
                  e      06 30.00
                  e      07 20.00
BGF      6.92 293 Pn     05 18.20  -1.3
                  Sn     06 33.00
CLL      7.09   5 iPd    05 21 00  -0.8
                  eSg    07 31.00
     S.D. = 0.8  on  42 of  49 obs.
-----------------------------------
&  NOV  04, 1989  03h 09m 19.80s
   35.370 N          117.790 W
   DEPTH =   5.0km
 CENTRAL CALIFORNIA               ( 39)
      <PAS-P>. ML 3.2 (PAS).

CLC      0.47  19 iPc    09 28.70  -0.6
ISA      0.63 298 iPc    09 31.50  -0.9
SBB      0.68 182 eP     09 32.50  -0.9
GSC      0.81  95 ePc    09 35 00  -1.0
ABL      1 28 247 eP     09 42.70  -1.5
PEC      1.56 160 eP     09 47.30  -1.0
BCH      1.89 265 eP     09 51.60  -1.5
```

04d 03h

```
PKEM     2.01 291 eP     09 55.70    0.9
PLM      2 15 159 eP     09 55.70   -1.3
BLP      2.29 250 eP     09 59.50    0.7
TNP      2.75   9 eP     10 05.00   -0.5
KVN      3 68 356 eP     10 17.60   -1.2
        12 obs. ossociated
-------------------------------------
*  NOV  04, 1989  03h 12m 08.16± 1.99s
   32.748 S ±10.2km   71.591 W ±12.8km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF CENTRAL CHILE      (135)

ROCH     0.54 115 iPd    12 19.80    0.7
                  iS     12 29.10
LCCH     0.73 179 iPd    12 22.50    0.1
                  iS     12 34.00
JACH     0.84  86 iPnc   12 23.00   -1.5
                  iS     12 35.80
PEL      0.86 118 iPd    12 25.10    0.4
                  iS     12 39.00
SAN      1.05 132 iPd    12 28.20    0.2
                  iS     12 44.90
TACH     1.06 149 iPc    12 28.50    0.4
                  iS     12 43.50
LNV      1.21 173 iPc    12 30.10   -0.6
                  iS     12 49.50
FCH      1.24 118 iPc    12 31.00   -0.4
                  iS     12 49.60
PCH      1 25 134 iPd    12 31.10   -0.4
                  iS     12 54.00
CHCH     1.42 147 iPc    12 34.30    0.3
                  iS     12 56.30
ZON      2.75  65 eP     12 54.00    0.9
     S.D. = 0.8  on  11 of  11 obs.
-------------------------------------
   NOV  04, 1989  03h 14m 35.17± 0.22s
   44.253 N ± 2.2km   12.127 E ± 2.0km
   DEPTH =  16.4 ±  2.5 km
 NORTHERN ITALY                   (545)
      ML 3.8 (KBA), 3.7 (LDG), 3.7
      (VKA). MD 3.9 (TRI).

SFI      0.39 211 Pd     14 42.30   -0.9
                  eSg    14 48.90
RSM      0.40 144 P      14 43.00   -0.4
                  eSg    14 47.70
CRE      0.64 192 P      14 46.20   -1.4
                  eSg    14 56.10
FIR      0.79 233 iPg    14 50.00    0.0
                  iSg    15 02.00
BDI      1.12 261 P      14 56.30    0.6
                  eSn    15 12.90
ASS      1.24 162 P      14 57.20   -0.6
                  eSn    15 15.00
PII      1.27 246 P      14 58.10    0.0
                  eSn    15 16.20
AOI      1.28 123 iPn    14 59.29    1.0
                  iSn    15 19.87
CIO      1.29 145 iPn    14 57.96   -0.5
                  iSn    15 18.18
SSO      1.34 135 ePn    15 00.32    1.2
                  eSn    15 22.08
SAL      1.77 321 P      15 06.80    1.6
                  eSn    15 29.10
ALP      1.81 144 iPnc   15 07.06    1.0
                  iSn    15 37.15
CTI      1.83 350 Pd     15 07.40    1.2
                  eSg    15 30.10
TRI      1.86  38 Pd     15 06.90    0.3
                  eSn    15 31.70
MNS      1.91 168 P      15 08.10    0.7
                  eSn    15 30.00
RIY      1.94  55 iPnd   15 07.80    0.0
                  iPg    15 12.30
                  i(Sn)  15 33.60
                  iSg    15 39.80
MAO      1.97 202 P      14 46.10  -22.1X
BOB      1.98 286 P      15 09.60    1.1
                  eSn    15 34.60
VOY      2.17  34 iPnd   15 11.20   -0.1
                  eSg    15 48.50
CEY      2.21  47 ePnd   15 11.80    0.1
                  iSn    15 40.50
                  iSg    15 50.30
MDI      2 29 312 Pd     15 13.80    1.0
                  eSn    15 43.70
FVI      2.39  11 P      15 15.60    1.5
                  eSn    15 44.80
LJU      2.47  43 iPnd   15 16.00    0.6
                  iSn    15 47.00
RDP      2.53 170 P      15 18.54    2.3
RDP      2.53 170 P      15 14.70   -1.6
VBY      2.55  60 e(Pn)  15 17.00    0.5
                  iSn    15 47.80
PCP      2.58 278 P      15 20.00    2.9X
CKI      2.77 275 P      15 20.40    0.8
                  eSn    15 51.90
FIN      2.82 270 P      15 20.77    0.4
SDI      2.83 153 P      15 21.30    0.8
                  eSn    15 53.00
VAI      2.87 305 P      15 21.50    0.5
                  eSn    15 55.20
CVF      2.91 236 Pn     15 22.40    0.8
                  Sn     15 58.20
KBA      2.95  16 iPnd   15 23.70    1.4
                  iPg    15 33.30
                  iSn    15 58.90
                  iSg    16 12.20
ROB      3.06 272 P      15 24.77    1.0
IMI      3.07 265 P      15 24.56    0.6
ZAG      3.15  59 e(Pn)  15 24.50   -0.5
                  iSn    16 02.50
PTJ      3.17  57 ePn    15 25.50    0.0
                  eSn    16 13.30
ORO      3.25 296 P      15 25.70   -0.8
                  eSn    16 05.80
ENR      3.38 271 P      15 29.28    0.9
SBF      3.40 265 Pn     15 29.20    0.5
                  Sn     16 09.50
STV      3.45 272 P      15 30.10    0.7
DOI      3.51 276 Pd     15 31.10    0.9
                  eSn    16 10.80
RSP      3.59 286 P      15 30.00   -1.4
PZZ      3.61 276 P      15 31.74    0.0
BLY      3.65  80 eP     15 45.60   13.4X
LSD      3.73 291 P      15 32.56   -1.0
RRL      3.87 282 P      15 34.92   -0.6
BNI      3.97 284 P      15 37.10    0.3
LPG      4.02 290 Pn     15 37.20   -0.4
FRF      4.02 262 Pn     15 38.00    0.7
                  Sn     16 23.20
LPL      4.04 290 Pn     15 38.00    0.2
KMR      4.05  19 ePn    15 39.00    1.2
                  eSn    16 28.00
LMR      4.17 259 Pn     15 39.20   -0.3
                  Sn     16 26.60
LRG      4.25 261 Pn     15 41.20    0.6
                  Sn     16 29.00
SOP      4.62  40 eP     15 49.10    3.3X
VKA      4.95  34 iPnd   15 50.30   -0.3
                  e      16 45.00
                  iSn    16 47.60
                  e      17 24.00
KHC      4.98  11 Pn     15 50.50   -0.5
                  Pg     15 59.80
                  Sg     16 48.00
BSF      5.16 316 Pn     15 53.60    0.0
                  Sn     16 48.40
ZST      5.24  39 iP     15 53.00   -1.6
                  e      17 31.40
CDF      5.35 323 Pn     15 56.00   -0.2
                  Sn     16 53.20
GRF      5.48 354 iPn    15 58.10    0.1
                  iPg    16 23.60
                  iSn    17 00.00
                  iSg    17 37.00
HAU      5.50 315 Pn     15 57.70   -0.6
                  Sn     16 58.00
SRO      5.59  48 eP     16 49.30   49.8X
PRU      5.97  15 ePn    16 04.00   -0.9
                  e      16 13.00
                  Sn     17 10.00
SMF      6.30 295 Pn     16 09.20   -0.4
                  Sn     17 16.40
LBF      6.33 298 Pn     16 09.20   -0.9
                  Sn     17 18.00
LOR      6.52 300 Pn     16 12.20   -0.6
                  Sn     17 22.00
SSF      6.66 298 Pn     16 13.80   -0.9
                  Sn     17 25.00
AVF      6.67 295 Pn     16 14.00   -0.8
BRG      6 74  10 ePn    16 15.00   -0.7
                  e      16 44.00
                  e      17 07.00
                  e      17 27.00
                  e      17 45 00
                  e      18 08 00
                  e      18 20.00
BGF      6.93 293 Pn     16 17 50   -0 9
                  Sn     17 32.20
MAF      7.03 290 Pn     16 19.40   -0.5
CLL      7.09   4 i(Pn)  16 19.70   -0 9
                  e      18 41.00
OHR      7.12 113 ePn    16 19.50   -1 7
KSP      7.17  22 eP     16 40.00   18 2X
                  e      18 00.00
     S.D. = 0 9  on  69 of  75 obs
-------------------------------------
*  NOV  04, 1989  03h 16m 22.17± 1.89s
   44.154 N ±16.9km   12.101 E ± 6 9km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                   (545)

SFI      0.29 218 P      16 28.20   -0 1
                  eSg    16 34 40
RSM      0.34 132 P      16 29.00   -0 2
                  eSg    16 35.10
CRE      0.54 192 P      16 32.20   -0.9
                  eSg    16 42.00
FIR      0.72 239 ePg    16 38.50    2 2
                  iSg    16 50.00
BDI      1.09 266 P      16 41.20   -1 5
                  eSn    16 58.40
CIO      1.22 141 e(Pg)  16 44.81   -0 1
                  iSg    17 04.00
AOI      1.24 119 ePg    16 45.75    0 5
                  eSg    17 04.56
     S.D. = 1.4  on   7 of   7 obs
-------------------------------------
?  NOV  04, 1989  03h 37m 07 82± 4.22s
   44.109 N ±33.0km   12.100 E ± 8 3km
   DEPTH =  10 0km  (geophysicist)
 NORTHERN ITALY                   (545)

SFI      0.26 224 Pd     37 13.50    0.2
                  eSg    37 19.60
RSM      0.31 125 P      37 14.30    0 0
                  eSg    37 21.00
PGD      0.36 230 Pd     37 15.10   -0 2
                  eSg    37 22.30
CRE      0.49 193 P      37 17.80    0 0
                  eSg    37 27.30
     S D. = 0.3  on   4 of   4 obs
-------------------------------------
   NOV  04, 1989  03h 57m 53.68± 1 69s
    9.515 N ± 5.4km  126 450 E ±11 9km
   DEPTH =  58.6 ± 15.5 km
   4.9mb ( 11 obs.)  4.0Msz (  3 obs.)
 MINDANAO, PHILIPPINE ISLANDS     (259)

DAV      2.56 200 eP     58 34.00    0.5
                  eS     59 22.50
OCP      7.32 315 eP     59 56.00   15.7X
BAG      8.93 321 eP     00 01.50   -1.3
                  eS     02 20.00
PCI     12.27 213 ePc    01 02.80   14 9X
QIZ     18.65 302 P      02 09.30   -0.1
                  eS     05 34.00
SSE     22.02 348 Pc     02 45.00    0 3
        1.0s    47.00nm          4 9mb
     Z  20s      0.50um          3 9Msz
                  sS     06 52.00
MTN     22.70 168 eP     02 51.00   -0 4
NJ2     23.51 344 Pc     03 00.00    0 9
WHN     23.77 333 iPc    03 04.00    2 3
        1.0s     0.04nm          1 9mb X
KGM     24.17 253 eP     03 08.00    2 2
IPM     25.70 261 ePd    03 21.50    1.3
NST     26.39 286 eP     03 31.20    4 6X
TIA     27.90 344 Pd     03 39 20   -0 9
XAN     29.24 329 P      03 48 00   -4 3X
WB5     30.23 165 eP     04 03.00    1.8
WRA     30.29 165 Pd     04 04.00    2 3
        0.8s     2.00nm          3 9mb
TIY     30.79 338 eP     04 05.80   -0 2
     Z  20s      0.75um          4 3Msz
     E  15s      0.50um
                  eS     09 13 00
BJI     31.75 345 eP     04 13.50   -0 8
        1.5s    52.00nm          5 1mb
     Z  20s      0.30um          4 0Msz
```

```
QIS     32.56 157 eP     04 19.00  -2.6
ASPA    33.77 168 eP     04 35.30   3.2X
HHC     33.88 340 eP     04 33.30   0.3
MDJ     35.08   4 eP     04 42.50  -0.5
MEKA    36.73 192 eP     04 56.40  -0.8
GTA     38.10 326 P      05 07.40  -1.4
MRWA    39.80 194 eP     05 21.00  -1.9
COOL    40.49 187 eP     05 27.00  -1.5
BAL     40.97 193 eP     05 32.00  -0.4
MUN     42.40 193 eP     05 44.00  -0.2
        0.8s    17.00nm          4.9mb
NWAO    43.11 191 eP     05 50.00   0.1
        0.8s    17.00nm          4.9mb
ADE     45.73 166 eP     06 11.00   0.0
GBA     48.13 280 P      06 30.00  -0.1
BWA     48.41 156 eP     06 32.80   0.8
                  e      13 52.00
CAN     49.42 156 eP     06 39.70  -0.1
                  e      14 00.20
MAIO    65.88 305 eP     08 35.00  -0.7
IMA     77.25  24 eP     09 44.80   1.7
        0.7s     3.00nm          4.4mb
INK     84.92  22 eP     10 24.00   0.8
SOD     85.05 337 eP     10 24.00   0.1
SUF     86.30 333 eP     10 29.70  -0.5
        0.6s     6 40nm          5.0mb
MBC     86.40  13 ePd    10 31.50   1.0
        1.0s    12.00nm          5.0mb
MBH     86.70 299 e(P)   10 33.00   0.2
NUR     87.54 331 eP     10 36 00  -0.2
        0.7s    10.70nm          5.1mb
HFS     92.80 332 eP     11 00.00  -0.8
        1.1s    14.90nm          5.3mb
NB2     93.51 334 P      11 03.00  -1.2
        0.8s     2.10nm          4.6mb
      S.D. = 1.2  on  38 of  43 obs.
-----------------------------------
?  NOV  04, 1989  04h 24m 56.64± 0.80s
   29.151 S ±22.8km  178.639 W ±15.2km
   DEPTH = 189.7 ±  8.5 km
   4.3mb (  4 obs )
 KERMADEC ISLANDS                (178)

RAO      0.64  99 iP     25 23.40   0.0
                  iS     25 43.90
ASPA    42.63 266 eP     32 36.40   0.4
        0.5s    12 00nm          4.7mb
WB5     43.50 271 eP     32 43.10   0.0
                  e      34 24 80
WRA     43.50 271 Pd     32 42.40  -0.7
        0.6s     4.40nm          4.2mb
SPA     61.01 180 iPc    34 52.10   0.0
        0.9s     7.73nm          4.5mb
CHTO    92.64 290 e(P)   37 48.50   0.4
        0.6s     0.84nm          4.0mb
KEV    136.78 347 ePKP   43 57.00  -0.1
NUR    144.95 340 iPKP   44 08.10  -3.7X
        0.7s    24.00nm
NB2    147.44 351 PKP    44 15 30  -0.7
        0.6s     2.00nm
HFS    147.91 348 ePKP   44 17.30   0.6
        0.5s     2.40nm
BCAO   150.51 217 ePKPd  44 10.10 -12.0X
        0.4s     5 00nm
                   ic    44 25.90
                   id    45 45.30
                   ic    46 38.20
      S.D. = 0 6  on   9 of  11 obs.
-----------------------------------
   NOV  04, 1989  05h 16m 10.03± 0.73s
   49.088 N ± 7.4km    8.389 E ± 6.6km
   DEPTH =  10.0km  (geophysicist)
 GERMANY                         (543)
      ML 3.3 (LDG), 2.7 (KBA). MD 2.6
      (UCC), 2.5 (STR).

GWF      0.52 258 Pg     16 21.50   1.0
CDF      1.00 228 Pg     16 30.00   1.0
                  Sg     16 46.00
TNS      1.14   2 ePn    16 30.50  -0.9
                  eSn    16 44.30
FEL      1.24 192 Pg     16 33.50   0.4
                  Sg     16 53.50
WLF      1.57 292 iP     16 39 00   1 0
BSF      1.65 221 Pn     16 39 40   0 2
                  Sg     17 06.40
HAU      1.74 232 Pn     16 40.30  -0.1
                  Pg     16 45.20
                  Sg     17 08 80
GRF      1.95  71 eP     16 48.00   4.5X
        1.1s    30.00nm
LOMF     2.03 212 Pg     16 51.50   6.8X
                  Sg     17 19.50
MEM      2.17 316 P      16 52.80   6.2X
DOU      2.67 294 iP     17 00.60   6.8X
SNF      3.02 300 P      17 07.80   9.1X
KHC      3.41  87 Pn     17 04.00  -0.3
                  Sg     17 43.30
LOR      3.54 241 Pn     17 05.40  -0.7
                  Pg     17 19.50
                  Sg     18 03.20
LBF      3.63 236 Pg     17 21.00  13.5X
                  Sg     18 05.80
LPG      3.76 198 Pn     17 07.20  -2.4
SSF      3.85 240 Pg     17 24.40  13.8X
                  Sg     18 14.20
KBA      3.88 119 ePn    17 13.00   1.8
                  i      17 58.10
SMF      3.92 233 Pg     17 25.00  13.5X
                  Sg     18 16.00
AVF      4.09 238 Pn     17 29.00  15.1X
                  Sg     18 21.00
PRU      4.11  75 eP     17 29.00  14.8X
                  Sn     18 20.50
BGF      4.51 238 Pn     17 19.00  -0.9
                  Pg     17 36.20
                  Sg     18 35.50
MAF      4.87 236 Pg     17 43.20  18.2X
                  Sg     18 46.00
      S.D. = 1.3  on  12 of  23 obs.
-----------------------------------
?  NOV  04, 1989  06h 16m 57.88± 0.87s
   60.547 S ±21.7km   26.469 W ±20.6km
   DEPTH =  33.0km  (normol)
   5.3mb (  2 obs.)
 SOUTH SANDWICH ISLANDS REGION   (153)

SNA     13.90 145 iPc    20 14.30  -0.1
        0.8s    17.91nm          4.9mb
PCH     39.15 293 eP     24 24 00   0.1
LNV     39.28 292 eP     24 24.40  -0.4
SAN     39.35 293 eP     24 26 00   0.4
PEL     39.62 293 iPd    24 28 50   0.7
        0.3s    53.25nm          5.8mb
PPD     42.24 325 eP     24 48.70  -0.6
CNCB    52.82 307 P      26 14.00   1.2
LPB     53.12 307 P      26 16.00   1.2
ZOBO    53.37 307 P      26 13.90  -2.9
KIC     68.86  23 P      28 01.40   0.4
MBC    148.22 333 ePKP   36 41.00   4.5X
        1.0s    4.00nm
INK    149 42 316 ePKP   36 43.50   4.9X
      S.D. = 1.3  on  10 of  12 obs.
-----------------------------------
   NOV  04, 1989  06h 35m 09.89± 0.20s
   16.240 S ± 8.6km  173.244 W ± 6.4km
   DEPTH =  33.0km  (normol)
   5.3mb ( 17 obs.)
 TONGA ISLANDS                   (173)

AFI      2.72  32 iPd    35 46.00  -6.2X
                  S      36 17.00
DZM     20.04 250 iPc    39 44.50   1.3
KRP     23.76 202 P      40 23.10   2.9X
BRS     33.34 245 iPc    41 39.90  -7.3X
                  i      42 45.00
COO     34.87 240 eP     42 00.00  -0.4
CTA     38.61 258 iPc    42 32.90   0.9
CAN     38.65 233 eP     42 31.80  -0.4
                  i      42 36.00
                  e      42 43.50
BWA     38.81 235 eP     42 31.60  -2.0
                  e      42 43 20
PMG     39.15 275 eP     42 39 00   2.4
CMS     40.14 240 iPc    42 43 90  -0.7
                  e      42 46 00
TOO     42.06 231 eP     43 00.00  -0.3
STK     43.76 241 iPc    43 14.10   0.0
                  e      43 17 00
WB5     49.78 258 eP     44 00.70  -1.1
                  e      45 34.80
WRA     49.80 257 Pc     44 01.30  -0.6
        0.7s    5.20nm          4.7mb
ASPA    50.00 253 eP     44 02.30  -1.1
        0.8s    62.00nm          5.7mb
      Z  22s     1.40um          4.9MszX
                  LR     03 13.80
GUMO    50.92 303 eP     44 16.50   6.1X
MTN     53.82 266 iPc    44 31.40  -0.7
                  e      44 34.00
WARB    56.49 249 eP     44 50.00  -1.5
        0.7s    13.00nm          5.1mb
COOL    61.12 243 eP     45 22.00  -1.6
MBL     63.18 254 eP     45 36.10  -1.3
MUN     65.27 242 eP     45 51.00   0.1
NANU    66.93 252 eP     46 01.80   0.1
SYP     71.48  44 eP     46 30.00   0.4
PRS     71.64  42 ePd    46 30.70   0.3
GCC     71.67  41 ePd    46 30.50   0.1
PCC     71.71  41 ePd    46 30.70   0.0
BCH     71.80  44 P      46 31.50   0 0
SAO     71.85  42 ePd    46 31.50  -0.1
PRI     71.98  43 ePd    46 33.10   0.6
NWRM    72.00  39 P      46 32.00  -0.4
BRK     72.02  40 ePd    46 32.70   0.2
MHC     72.08  41 ePd    46 33.50   0.4
LLA     72.09  42 ePd    46 33.30   0.3
ARN     72.15  41 P      46 33.80   0.4
PAS     72.49  45 eP     46 35.00  -0.4
MWC     72.61  45 eP     46 36.00  -0 4
BAR     72.73  47 eP     46 36.00  -0.9
RVR     72.95  46 eP     46 38.00  -0.2
PLM     72.96  47 eP     46 38.00  -0 4
SBB     73.03  45 eP     46 38 00  -0.7
PEC     73.05  46 P      46 38.00  -0.8
FRI     73.11  42 ePd    46 38.80  -0.2
ISA     73.15  44 eP     46 39.00  -0.3
CMB     73.29  41 ePc    46 40.10   0.0
ORV     73.53  39 ePd    46 41.20  -0.2
WDC     73.54  38 ePd    46 41.80   0.4
LTCM    73.56  38 P      46 41.00  -0.5
CLC     73.82  44 eP     46 42 00  -1 2
SPA     73.86 180 iPd    46 44.20   1.0
        1.3s    47 50nm          5.3mb
                  i      46 57.50
TPC     73.94  47 eP     46 43.00  -0.9
MIN     73.95  39 ePd    46 43.70  -0.3
GSC     74.07  45 eP     46 45.00   0.3
GLA     74.24  48 eP     46 46.00   0.3
LBFM    74.41  38 P      46 46.60  -0.1
KVN     75.34  41 P      46 52.20   0.1
TNP     75.35  43 P      46 52.40   0.2
        0.8s    39.22nm          5.5mb
BMW     76.95  33 P      47 00.00  -0.9
LON     77.88  33 P      47 05.50  -0.4
PGC     78.27  31 eP     47 08.00   0.1
RMW     78.33  33 P      47 08.40  -0.1
MSU     78.92  44 P      47 12.90   0.8
PMR     79.91  11 eP     47 16.10  -0.5
        1.3s    49 90nm          5.4mb
TTA     80.06   8 eP     47 18.00   0.5
PNT     80.64  32 ePd    47 21.00   0.2
        1.1s    52.00nm          5.4mb
TOA     80.97  13 eP     47 22.70   0.4
ALQ     81.22  50 iPd    47 25.00   0.6
        0.9s    17.44nm          5.1mb
CN2     81.82 320 P      47 28.00   0.9
LRM     82.58  3B ePd    47 31.60   0.3
BW06    82.79  42 P      47 32.00  -0.5
FBA     83.19  11 P      47 32.80  -0.9
        0.8s    72.41nm          5.8mb
                  pP     47 45.20  41kmX
IMA     83.37   8 eP     47 35.20   0.4
        1.4s    24.70nm          5.1mb
GLD     84.25  46 P      47 40.00   0.1
        1.2s    75.76nm          5.7mb
SES     85.80  35 eP     47 47.00  -0 2
        1.1s   115.00nm          6.0mb
EDM     86.12  31 iPd    47 48.20  -0.5
        1.2s    77.00nm          5.8mb
BJI     86.15 313 eP     47 50.00   0.9
        1.0s    12.00nm          5.1mb
MAW     87.05 199 eP     47 54.00   0.9
MEO     87.06  53 iPc    47 54.00   0.3
TIY     87.90 310 eP     47 59.30   1 6
      Z  28s     0.90um          5.0MszX
INK     89.04  14 eP     48 02.00  -0.4
SIO     89.14  52 eP     48 03.60   0.0
XAN     89.24 306 P      48 05.50   1.3
TUL     89.59  52 eP     48 05.50  -0.2
        1.0s    5.70nm          4.8mb
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04d 06h

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LNO     89.59  52 e(P)   48 04.70  -0.9
CHTO    93.12 289 eP     48 21.30  -1.0
         1.0s     5.75nm          5.0mb
SNA     93.44 177 e(P)   48 25.00   2.1
MBC     97.72  11 eP     48 42.00  -0.1
         1.0s     5.00nm          5 0mb
PDCR   126.38 119 e(PKP)54 07.00  -5.0X
SOD    127.29 350 ePKP   54 28.00  15.9X
NUR    133.93 348 iPKP   54 26.00   1.1
         0.6s    10.40nm
                 i       54 32.80
NB2    135.15 357 PKP    54 28.40   1.1
         0.8s     3.20nm
SLL    135.57 355 ePKP   54 15.10 -13.0X
         0.6s     2.00nm
BUL    137.95 211 iPKP   54 35.10   1.1
         0.8s     3.73nm
WTS    144.33 360 e(PKP)54 44.00  -0.1
         0.8s     8.00nm
                 e       54 57.50
KRA    144.62 345 iPKPd  54 43.20  -1.5
KSP    144.64 350 iPKPc  54 43.70  -1.0
CLL    144.66 353 iPKPd  54 43 20  -1.5
         0.9s    17.00nm
                 i       54 57.20
BRG    144.97 352 iPKP   54 44.50  -0.7
         1.1s    17.00nm
UCC    145.47   3 PKP    54 46.60   0.5
ENN    145.55   1 ePKPd  54 46.50   0.3
         1.0s    28.00nm
MEM    145.71   1 iPKP   54 46.88   0.4
PRU    145.75 351 PKPd   54 47.50   0.9
         1.2s    61.10nm
                 e       54 57.00
SNF    145.76   3 iPKP   54 46.33  -0.2
KAS    145.80 323 ePKP   54 49.50   2.4X
VRI    146.06 335 ePKPd  54 49.00   1.7
TNS    146.08 358 ePKP   54 48.00   0.8
DOU    146.19   3 PKP    54 48.80   1.5
                 e       55 01.20
GRF    146.44 355 iPKPd  54 50.10   2.3X
WLF    146.66   1 iPKPd  54 50.00   2.0X
MLR    146.69 335 iPKPc  54 51.00   2.5X
KHC    146.73 352 iPKPd  54 51.00   2.7X
                 e       55 02.50
ZST    147.02 347 ePKP   54 51.60   2.9X
FLN    147.03   9 ePKP   54 50.60   1.9X
VKA    147.11 348 ePKPd  54 52.00   3.1X
         0.9s    49.20nm
LDF    147.24   8 ePKP   54 52.10   3.0X
GRR    147.34   9 ePKP   54 51.50   2.3X
BBTK   147.36 321 iPKPd  54 43.50  -6.2X
LPF    147.65  10 ePKP   54 52.70   3.0X
CDF    147.91 359 ePKP   54 53.80   3.5X
FUR    147.95 354 ePKP   54 54.00   3.8X
         0.8s    80.00nm
HAU    148.32   1 ePKP   54 54.80   3.9X
BSF    148.50 360 ePKP   54 55.00   3.8X
KBA    148.77 351 ePKPd  54 55.00   3.2X
         0.7s    17.50nm
PVL    148.79 333 ePKP   54 57.00   5.3X
HRI    148.84 308 ePKP   54 57.00   4.7X
LOR    148.97   4 ePKP   54 56.40   4.5X
SSF    149.15   4 ePKP   54 57.20   5.0X
MFF    149.19   9 ePKP   54 56.70   4.5X
LBF    149.26   4 ePKP   54 57.10   4.7X
AVF    149.41   5 ePKP   54 57.40   4.9X
SMF    149.59   4 ePKP   54 57.90   5.1X
BGF    149.60   5 ePKP   54 57.80   5.0X
LSF    149.76   7 ePKP   54 58.10   5.0X
TCF    149.80   6 ePKP   54 58.20   5.0X
PGB    149.83 334 ePKPd  54 59.00   5.6X
MAF    149.90   6 ePKP   54 58.80   5.5X
KDZ    150.01 331 iPKPd  54 59.00   5.4X
VTS    150.20 335 iPKP   55 00.00   5.9X
RZN    150.29 332 ePKP   55 00.00   5.7X
PRNI   150.61 304 ePKPd  55 01.50   6.6X
RJF    150.69   8 ePKP   55 00.70   6.2X
MMB    150.81 333 ePKPd  55 01.00   6.1X
LPG    150.83   0 ePKP   55 02.10   7.0X
KKB    150.85 334 iPKPd  55 02.00   7.1X
MBH    150.91 303 iPKPd  55 02.30   7.0X
LFF    150.94   9 ePKP   55 01.20   6.3X
EZN    150.97 328 iPKP   55 00.00   4.9X
CAF    151.13   7 ePKP   55 01.80   6.6X
SRS    151.25 333 iPKPc  55 01.30   5.8X
LPO    151.26   8 ePKP   55 02.00   6.6X
SKO    151.41 337 iPKP   55 02.50   6.8X
KNT    151.51 334 iPKPc  55 02 10   6.2X
VAY    151.52 335 ePKP   55 02.30   6.4X
GRG    151.89 334 iPKPc  55 03.10   6.6X
OHR    152.40 337 ePKP   55 03 50   6.2X
         1.3s     0.25nm
LIT    152.56 333 iPKPc  55 04.50   7.0X
EPF    152.74  10 ePKP   55 05.60   7.9X
AGG    153.52 332 iPKPc  55 06.40   7.5X
BCAO   163.52 226 iPKPc  55 12.10   0.9
         1.6s    26.00nm
                 ic      56 04.00
      S.D. = 0.8  on  99 of 158 obs.
-----------------------------------
&  NOV  04, 1989  07h 16m 04.90s
   37.775 N          122.155 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.6 (BRK)
      Mo=3.8*10**14 Nm (BRK). Felt (V)
      ot Dublin and San Lorenzo. Felt
      (III) ot Emeryville. Felt in the
      East San Francisco Bay area from
      Richmond to Hayward.

BKS      0 12 328 iPc    16 07.70  -0.1
                  eS     16 10.00
BRK      0.13 320 iPc    16 07.70  -0.2
ZSP      0 19 335 iPc    16 09.30   0.3
PCC      0.33 213 iPd    16 11.40  -0.2
MHC      0.59 137 iPc    16 16.40  -0.5
ARN      0.65 130 iPc    16 17.30  -0 7
GCC      0.75 170 iPd    16 19.00  -0.7
                  iS     16 29.80
NWRM     0.89 320 eP     16 21.20  -0.9
SAO      1.16 150 iP     16 24.80  -1.8
CM8      1.42  79 iPc    16 29.20  -1.8
LLA      1.51 140 eP     16 30.20  -1.9
PRS      1.57 156 ePc    16 31.10  -1.9
ORV      1.85  16 ePd    16 33.80  -3.3
PRI      2.02 143 ePd    16 38.40  -1.2
FRI      2.10 111 ePc    16 38.10  -2.6
PHAM     2 39 143 eP     16 43 00  -1.9
LTCM     2.43   1 eP     16 43.40  -2.0
MIN      2.60   9 e(P)   16 45.50  -2.5
BCH      3.08 147 eP     16 52.00  -2.7
FHC      3.34 335 eP     16 57.50  -0.9
KVN      3.43  67 eP     16 57.80  -2.0
LBFM     3.57   3 eP     17 00.80  -1.0
TNP      3.92  84 eP     17 04.50  -2.2
        23 obs. associated
-----------------------------------
%  NOV  04, 1989  07h 56m 15.35± 0.82s
   43.398 N ± 5.5km    5.426 E ± 6.2km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE        (379)
      MD 2.5 (STR).

GELF     0.01 177 Pg     56 16.72  -0.6
BERF     0.21 114 Pg     56 19.89  -0.1
TREF     0.23 352 Pg     56 19.57  -0.7
PUYF     0.24  56 Pg     56 19.39  -1.1
PRAF     0.45 335 Pg     56 25 10   0.6
TAVF     0.51  64 Pg     56 24.92  -0.8
GANF     0.69  30 Pg     56 29.25   0.1
MVIF     1.35  68 Pn     56 40.66   0.4
                  Sg     56 59.49
TOUF     1.46  64 Pn     56 42.38   0.5
                  Sg     57 02.46
AURF     1.46  70 Pn     56 42.74   0.8
                  Sg     57 02.92
AUTN     1.57  67 Pn     56 44.20   0.7
                  Sg     57 06.15
SAOF     1.65  68 Pn     56 44.39  -0.2
      S.D. = 0.7  on  12 of  12 obs.
-----------------------------------
*  NOV  04, 1989  08h 10m 18.55± 2.09s
   15.664 N ±19.5km   98.388 W ±10.4km
   DEPTH =  16.9 ±  6.8 km
   4.0mb (  2 obs.)
 OFF COAST OF GUERRERO, MEXICO     ( 65)

ACX      1.85 311 iP     10 49.00  -0.9
                  iS     11 13.00
OXX      2 13  48 iPd    10 59 00   4.9X
III      2.89 339 iP     11 05 00   0.2
                  iS     11 42.50
IIT      3.34   1 eP     11 11.50   0.2
                  iS     11 55.00
PPM      3.39 356 eP     11 13.00   0 7
                  (S)    11 49.50
IISM     3.44  16 eP     11 13.00   0.5
                  iS     12 02.50
UNM      3.73 348 iP     11 22.70   5 9X
                  iS     12 04.00
CRX      3.92 342 iP     11 26.50   6.9X
EVV      4.02  46 (P)    11 42.00  21.3X
LVVM     4.45  24 iP     11 26.00  -0.8
                  iS     12 36.00
MRX      4.83 327 (P)    11 40.00   7 8X
SCX      5.63  78 (P)    11 43.50   0.0
                  iS     12 32.00
TUL     20.30   6 eP     14 55.00  -1.3
         0.5s    11.60nm          4.5mb
ALQ     20.52 341 eP     14 59.00   0.1
         1.0s     2.25nm          3.5mb
INK     57.18 345 eP     20 08.00   1.4
      S.D. = 1.0  on  10 of  15 obs.
-----------------------------------
*  NOV  04, 1989  08h 13m 16.09± 1.21s
   24.045 S ±12.0km   66 670 W ± 9 3km
   DEPTH = 198.4 ± 12.1 km
   4.3mb (  4 obs.)
 SALTA PROVINCE, ARGENTINA         (129)

ANT      3.45 275 iPc    14 10.80  -0 7
                  iS     14 50.50
CCH      6.65   4 P      14 54.60   1 8
CNCB     7.30 350 Pc     15 03.40   1 7
                  S      16 25 00
LPB      7.59 350 P      15 07 00   1 5
                  eS     16 29 00
ZOBO     7.86 350 P      15 07.00  -2 1
                  S      16 36.50
ARE      8.80 328 eP     15 19 00  -1 9
                  iS     16 50.60
PPD     14 28  85 eP     16 31 00   0 3
                  e      16 34.10
VAO     18 10  91 iPc    17 14.80  -0 9
                  i      17 16.20
                  i      17 24.20
                  e      17 35.30
BAO     19.44  68 eP     17 30.50   0.8
BMA     20.71  91 eP     17 41 10  -1.2
PDCR    28 49  71 eP     18 51.00  -4.0X
LNO     65.68 334 e(P)   23 40.40  -0.6
TUL     65.68 334 eP     23 41.50   0.3
         1.0s     6.00nm          4.3mb
SPA     66.10 180 ePd    23 44 80   1.1
         0.7s    16.41nm          4.9mb
KIC     67.48  72 P      23 51.40  -1.5
ALQ     69.75 326 eP     24 06.00  -0 7
         0.8s     4.29nm          4.2mb
MAW     81.30 163 eP     25 12.00   1 0
PNT     86.90 328 eP     25 40 00   0.8
         0.5s     3.00nm          4.4mb
WRA    131.72 207 PKP    32 09.00   1.4
         0.6s     2.30nm
WB5    131.77 207 ePKP   32 07.80   0.1
GBA    144.57 100 PKP    32 30.00  -1.1
      S D. = 1.4  on  20 of  21 obs.
-----------------------------------
%  NOV  04, 1989  09h 03m 50.18± 1.40s
   18.194 N ±10.2km  100 643 W ±14.1km
   DEPTH =  33.0km  (normol)
 GUERRERO, MEXICO                  ( 59)

III      1.13  81 iP     04 09.70  -0 2
                  iS     04 23.00
CRX      1.51  37 eP     04 16.50   1 0
ACX      1.51 150 iP     04 15.50   0.2
                  (S)    04 28.50
MRX      1.59 341 iP     04 16.00  -0.3
PPM      2.10  65 iPd    04 23.50  -0.7
                  (S)    04 40.00
OXX      3.90 106 (P)    04 53.00   3.6X
      S.D. = 0.9  on   5 of   6 obs
-----------------------------------
?  NOV  04, 1989  09h 44m 02.95± 1.11s
   43.070 N ± 6.4km   13.537 E ±11.6km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                     (381)
      MD 2.4 (SSO).
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ALP      0.29 174 iPg    44 08.83  -0.3
                  iSg    44 13.31
CIO      0.31 294 iPg    44 09.21  -0.3
                  iSg    44 14.31
AOI      0.48   6 iPg    44 12.89   0.1
                  iSg    44 21.01
ASS      0.64 270 P      44 12.70  -3.2X
                  eSg    44 24.60
MNS      0.93 223 Pc     44 21.20   0.4
                  eSg    44 35.00
     S.D. = 0.6  on   4 of   5 obs.
-----------------------------------------
?  NOV  04, 1989  10h 05m 15.53± 8.15s
   64.742 N ±21.6km   30.755 E ±70.8km
   DEPTH =  10.0km  (geophysicist)
 FINLAND-USSR BORDER REGION        (723)
      ML 3.4 (BER).

TRO      6.72 322 iP     06 57.00   0.5
                  eS     07 59.94
LOF      7.68 304 eP     07 08.97  -1.0
                  eS     08 20.80
NSS      8.07 277 eP     07 15.69   0.3
                  eS     08 31.50
HFS      9.14 248 eP     07 29.70  -0.6
       0.2s     3.70nm          5.4mb
NRA0     9.67 254 iPc    07 38.00   0.4
                  iS     09 21.90
MOL     10.52 269 eP     07 49.60   0.4
                  eS     09 29.70
     S.D. = 0.8  on   6 of   6 obs.
-----------------------------------------
   NOV  04, 1989  11h 24m 09.99± 0.68s
   44.584 N ± 5.8km    9.681 E ± 5.5km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)

BOB      0.25 318 Pd     24 14.20  -1.1
                  eSg    24 16.90
PCP      0.81 267 P      24 26.01   0.2
                  S      24 36.57
BDI      0.84 128 P      24 26.20  -0.1
                  eSg    24 41.30
CKI      1.02 261 P      24 30.00   0.8
                  eSg    24 43.10
FIN      1.12 251 P      24 30.42  -0.6
MDI      1.19   1 P      24 32.50   0.3
                  eSg    24 48.00
ROB      1.33 258 P      24 33.81  -0.7
IMI      1.45 243 P      24 35.75  -0.6
ORX      1.60 312 P      24 38.93   0.5
                  S      24 58.93
STV      1.72 259 P      24 40.78   0.5
RSP      1.81 289 P      24 41.70   0.1
PZZ      1.85 268 P      24 42.52   0.4
     S.D. = 0.7  on  12 of  12 obs.
-----------------------------------------
*  NOV  04, 1989  12h 50m 51.99± 0.99s
   21.034 S ±14.0km  169.100 E ±17.1km
   DEPTH =  10.0km  (geophysicist)
   4.7mb (  5 obs.)
 LOYALTY ISLANDS REGION            (189)

DZM      2.68 247 iPc    51 33.80  -2.2
                  iS     52 15.10
PVC      3.36 347 iP     51 46.50   0.9
RMQ     19.39 250 eP     55 22.00   0.9
CTA     21.41 268 iPd    55 43.70   1.4
       1.0s     25.00nm         4.6mb
BWA     22.59 229 eP     55 54.80   0.7
                  e      57 45.90
CAN     22.67 227 eP     55 57.40   2.6X
                  e      57 44.00
CMS     23.28 239 eP     56 02.00   1.3
WRA     32.54 266 Pd     57 20.50  -5.1X
       0.6s     2.00nm          4.2mb
ASPA    32.61 259 iPd    57 22.70  -3.5X
       0.8s     34.00nm         5.3mb
SPA     69.09 180 ePc    02 00.80   0.6
       1.1s     8.33nm          4.8mb
CHG     79.28 295 eP     02 58.90  -0.8
CHTO    79.28 295 iP     02 58.00  -1.7
       0.8s     6.77nm          4.7mb
SKO    145.72 315 iPKP   10 31.00  -1.5
KHC    145.84 331 PKP    10 31.50  -1.0
BCAO   146.99 244 ePKPd  10 35.00  -0.4
       0.8s     14.00nm
                  id     10 36.40
                  id     10 52.60
DOU    148.51 341 PKP    10 38.40   1.7
                  e      10 48.50
     S.D. = 1.4  on  13 of  16 obs.
-----------------------------------------
&  NOV  04, 1989  14h 39m 38.94s
   58.764 N          153.186 W
   DEPTH =  71.7km
 KODIAK ISLAND REGION              ( 13)
      <AGS-P>.

CDD      0.29 305 eP     39 49.52  -0.9
SHU      0.46 107 iP     39 51.05  -0.6
                  eS     39 59.78
AUI      0.59 348 eP     39 52.18  -0.7
                  eS     40 02.05
AUE      0.60 351 iP     39 52.61  -0.5
AUW      0.63 347 eP     39 52.75  -0.6
MCNL     0.73 306 iP     39 53.93  -0.6
OPT      0.89 359 iP     39 55.81  -0.7
                  eS     40 08.36
XLV      1.03  47 eP     39 57.44  -0.7
CNPM     1.26  52 eP     40 00.30  -0.9
ILIM     1.33   5 eP     40 00.73  -1.4
NNL      1.61  36 eP     40 05.75   0.0
RED      1.67   7 eP     40 05.56  -1.2
NKA      2.22  26 eP     40 15.83   1.7
SLKM     2.31  39 eP     40 13.67  -1.8
SEW      2.33  53 eP     40 13.42  -2.4
       15 obs. associated
-----------------------------------------
   NOV  04, 1989  14h 48m 46.40± 0.37s
   44.875 N ± 4.0km   18.180 E ± 4.3km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      MD 3.5 (TRI). ML 2.5 (LJU).

BLY      0.72 260 iPg    49 00.30  -0.3
                  iSg    49 10.90
BEO      1.62  91 iPn    49 15.50   0.4
                  iSn    49 36.40
PLE      1.78 150 ePn    49 17.00  -0.5
                  eSn    49 41.00
ZAG      1.81 302 i(Pn)  49 18.00   0.1
                  iSn    49 43.50
PTJ      1.87 304 ePn    49 18.30  -0.5
                  eSn    49 44.50
BRY      1.99 172 ePn    49 21.00   0.4
                  eSn    49 47.60
HVAR     2 11 217 iPn    49 22.50   0.4
                  iSn    49 50.20
NKY      2.15 164 ePn    49 23.20   0.4
                  eSn    49 50.00
VBY      2.16 288 ePn    49 28.00   5.1X
                  iSn    49 56.70
HCY      2.44 174 ePn    49 26.00  -0.9
                  eSn    49 57.00
BZS      2.54  72 iPd    49 27.50  -0.8
TTG      2.57 162 ePn    49 29.00   0.3
                  eSn    50 02.30
BUD      2.67  12 eP     49 38.00   7.8X
CEY      2.79 289 eP     49 32.00   0.1
                  eSn    50 05.00
LJU      2.82 296 e(Pn)  49 33.00   0.7
                  eSn    50 04.00
SRO      2.94   2 i(Pn)  49 38.30   4.3X
                  i      49 47.00
                  i      50 09.70
                  e      50 24.00
TRI      3.23 287 ePn    49 38.80   0.8
                  iSn    50 16.40
                  iSg    50 27.90
VOY      3.23 292 ePn    49 37.50  -0.7
                  eSn    50 15.50
PSZ      3.27  21 ePn    49 39.30   0.6
ZST      3.40 348 eP     49 42.30   1.7
VKA      3.63 340 eP     49 42.00  -1.7
       0.5s     28.20nm
                  iSg    50 23.80
KHC      5.29 325 Pn     50 07.00  -0.4
                  Pg     50 15.00
                  Sg     51 08.50
MLR      5.52  81 eP     50 28.00  17.2X
PRU      5.68 336 eP     50 50.00  37.2X
                  e      51 15.00
                  eSg    51 29.00
ISK      8.84 112 ePg    51 33.50  36.5X
                  eSg    51 35.80
     S.D. = 0.8  on  19 of  25 obs.
-----------------------------------------
*  NOV  04, 1989  14h 53m 47.84± 0.82s
   46.090 N ±20.0km  150.870 E ±12.5km
   DEPTH = 100.0km  (geophysicist)
   4.5mb ( 12 obs.)
 KURIL ISLANDS                     (221)

NIIJ    12.51 229 P      56 40.10  -3.3X
KAKJ    12.74 223 P      56 41.80  -4.5X
                  eS     58 54.10
CHJJ    13.43 226 P      56 52.10  -3.4X
MTMJ    13.64 230 P      56 55.90  -2.3X
IIDJ    14.43 227 P      57 06.30  -2.0X
TSRJ    15.41 232 P      57 20.10  -0.6X
TTA     33.94  41 P      00 23.00   0.0
       0.7s     7.27nm          4.6mb
IMA     35.25  36 P      00 34.40   0.2
       0.7s    13.44nm          5.0mb
KDC     35.77  50 P      00 38.00  -0.5
PMR     37.15  43 P      00 49.80  -0.2
       0.9s    10.42nm          4.8mb
FBA     37.64  38 P      00 55.00   0.9
       0.8s    18.97nm          5.1mb
INK     43.04  32 ePc    01 39.40   0.9
MBC     45.74  20 eP     02 01.00   1.0
       1.0s     4.00nm          4.2mb
CHTO    50.45 255 eP     02 37.80   0.6
       0.9s     0.64nm          3.7mb
                  pP     03 02.70 104kmX
PNT     56.85  51 eP     03 23.00  -1.0
       0.7s     6.00nm          4.7mb
KEV     57.44 340 eP     03 48.00  20.2X
EDM     57.88  45 eP     03 30.50  -0.7
SOD     59.30 338 eP     03 54.00  13.3X
FFC     62.23  39 iPc    04 01.00   0.2
       0.6s     8.00nm          4.9mb
CMB     63.09  62 e(P)   04 08.30   1.6
KVN     63.84  60 P      04 11.50  -0.3
TNP     64.99  60 P      04 18.40  -0.9
       0.8s     3.92nm          4.4mb
NUR     65.13 334 eP     04 08.00 -11.5X
SLL     68.32 339 eP     04 38.50  -1.2
       0.4s     1.50nm          4.2mb
NB2     68.34 340 P      04 39.40  -0.4
       0.6s     0.80nm          3.8mb
ALQ     73.50  57 eP     05 11.00  -0.4
       0.8s     3.36nm          4.2mb
PDCR   145.50  17 e(PKP)13 16.00   0.2
     S.D. = 0.8  on  18 of  27 obs.
-----------------------------------------
   NOV  04, 1989  15h 39m 15.45± 0.34s
    3.484 S ± 4.3km   80.321 W ± 6.8km
   DEPTH =  36.0km  (  8 depth phases)
   5.0mb ( 13 obs.)
 PERU-ECUADOR BORDER REGION        (110)
      Felt (IV) in the Tumbes-Piura
      area, Peru.

GGP      3.71  28 iP+    40 13.80   1.4
                  eS     40 57.00
CAYA     4.24  33 P      40 21.20   1.3
                  eS     41 16.00
COTA     4.28  28 P      40 10.20 -10.2X
PSO      5.53  33 eP     40 38.50   0.6
NNA      9.12 158 iPd    41 26.80  -1.1
       0.8s    48.51nm          5.7mb
                  eS     43 06.50
PT10     9.16 159 eP     41 27.00  -1.3
                  e(S)   43 08.00
PT08     9.21 156 iPc    41 28.60  -0.8
                  iS     43 11.10
BOG     10.19  38 eP     41 55.50  12.6X
                  eS     44 00.00
UPA     12.41   4 iPd    42 14.40   1.9
       1.3s   103.85nm          5.8mb
     Z  19s     2.08um          3.8MszX
BMG     12.74  35 eP     42 36.00  18.9X
ARE     15.54 147 iPc    42 56.00   1.9
SDV     15.63  38 eP     42 56.30   1.2
TOV     16.85  38 eP     43 11.80   1.4
LPB     17.67 138 P      43 22.00   0.9
       1.1s   177.22nm          5.1mb
     Z  18s     4.12um          4.4MszX
                  LR     49 40.00
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04d 15h

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CNCB    17.95 138 iPc    43 25.90    1.2
                  S      47 52.00
FISA    18.28  37 eP     43 27.50   -0.7
MORO    18.61  40 eP     43 31.00   -1.3
GUAC    18.80  44 eP     43 35.00    0.3
OLLA    19.01  45 eP     43 34.40   -2.7
LLAV    19.32  44 eP     43 38.30   -2.5
YJA     23.49 144 ePd    44 25.60    2.1
SLA     25.50 147 eP     44 44.00    1.5
TCA     31.42 154 ePd    45 35.30   -0.4
LNV     31.43 166 eP     45 35.50   -0.2
PPD     33.65 126 eP     45 53.50   -1.7
BAO     34.02 113 eP     45 55.00   -3.7X
PDCR    41.72 105 eP     46 57.00   -6.0X
MEO     41.76 337 e(P)   47 03.30    0.2
TUL     41.78 341 eP     47 03.20    0.0
        1.2s    27.30nm          4.9mb
                  e      47 13.70   36km
LNO     41.78 341 eP     47 03.30    0.3
                  e      47 13.60   35km
ALQ     45.43 329 ePc    47 34.00    1.0
        0.9s    15.76nm          4.9mb
BAR     49.79 319 eP     48 18.00   11.1X
TPC     50.31 321 eP     48 23.00   12.1X
PLM     50.34 320 P      48 14.00    2.7X
RVR     51.08 320 eP     48 28.00   11.4X
GSC     51.56 322 eP     48 32.00   11.6X
SBB     51.80 320 eP     48 22.00   -0.3
RSSD    51.95 338 eP     48 22.60   -0.8
                  pP     48 34.20   41km
CLC     52.38 322 eP     48 38.00   11.4X
ISA     52.83 321 eP     48 47.00   17.1X
BW06    53.10 333 iP     48 31.70   -0.3
        0.7s    2.63nm          4.3mb
                  pP     48 41.50   32km
TNP     53.64 324 eP     48 36.20    0.2
                  pP     48 47.50   39km
KVN     54.80 324 eP     48 44.00   -0.5
                  pP     48 55.30   39km
RSON    55.34 350 eP     48 46.00   -1.9
                  pP     48 56.50   35km
CMB     55.51 322 e(P)   49 00.30   10.8X
ORV     57.14 323 ePc    49 02.40    1.3
                  e      49 12.10   32km
LBFM    58.50 324 eP     49 10.60   -0.2
SES     59.81 338 eP     49 19.00   -0.6
PNT     62.62 332 eP     49 39.00    0.5
        0.8s    14.00nm          5.1mb
EDM     62.94 338 iPd    49 39.00   -1.6
LIC     75.79  83 Pd     50 59.56   -0.7
TIC     75.84  82 Pd     50 59.76   -0.8
KIC     76.09  83 Pd     51 01.52   -0.4
        0.6s    19.50nm          5.3mb
INK     80.43 342 eP     51 24.00   -0.6
MBC     82.71 351 eP     51 37.00    0.6
        0.7s    6.00nm          4.8mb
PMR     83.13 333 P      51 39.00    0.2
        0.8s    4.31nm          4.6mb
FBA     83.77 337 P      51 44.00    2.0
        1.0s    5.00nm          4.6mb
SPA     86.54 180 iPd    51 57.40    1.4
        1.2s    64.08nm          5.7mb
BCAO    99.08  86 eP     52 54.90    0.0
        1.0s    1.40nm          4.4mb
TIY    143.98 343 ePKP   58 47.20   -2.2X
GTA    144.24 360 ePKP   58 47.20   -2.7X
MTN    144.80 242 iPKPd  58 50.10   -1.2
        0.8s    57.00nm
SSE    145.86 326 ePKP   58 52.50   -0.2
LZH    147.33 354 PKP    58 57.50    2.4X
XAN    148.40 345 PKP    58 59.50    2.7X
WHN    149.72 334 PKP    59 02.80    4.0X
CD2    152.45 352 ePKP   59 09.80    6.8X
GBA    155.84  64 PKPc   59 07.40   -0.5
        0.5s    1.20nm
     S.D. = 1.2  on  49 of  68 obs.
-----------------------------------------
   NOV  04, 1989  15h 48m 23.07± 1.92s
   41.777 N ± 5.3km  126.720 W ±19.3km
   DEPTH =  10.0km  (geophysicist)
   4.5mb (  1 obs.)
 OFF COAST OF NORTHERN CALIFORNIA( 34)
      ML 3.8 (BRK).

FHC     2.28 114 eP      49 00.40   -1.0
WDC     3.37 109 ePc     49 17.10    0.2
                  e      50 00.10
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LTCM    3.82 113 e(P)    49 23.00   -0.1
MIN     4.12 109 eP      49 27.30   -0.3
ORV     4.55 117 e(P)    49 33.10   -0.4
GT2     4.68  42 eP      49 34.79   -0.7
PGO     4.82  39 eP      49 37.78    0.5
NLO     4.91  28 eP      49 38.57   -0.2
VLMM    5.07  41 eP      49 40.65   -0.3
VLL     5.19  43 eP      49 43.01    0.3
VFP     5.21  45 eP      49 43.54    0.5
RVW     5.23  32 eP      49 43.25    0.1
LVP     5.30  35 eP      49 44.12   -0.1
BMW     5.33  27 eP      49 43.96   -0.6
MTMW    5.35  36 eP      49 44.20   -0.8
APM     5.38  41 eP      49 45.54    0.1
HSR     5.48  35 eP      49 47.66    0.8
CDFW    5.49  36 eP      49 46.51   -0.5
YEL     5.51  35 eP      49 47.36    0.1
ESD     5.51  35 eP      49 47.84    0.5
ERK     5.52  33 eP      49 47.70    0.3
GULW    5.56  40 eP      49 48.04    0.1
VTHM    5.63  51 eP      49 48.25   -0.6
APW     5.68  30 eP      49 50.23    0.7
KOSW    5.71  33 eP      49 49.74   -0.2
CPW     5.80  25 eP      49 50.07   -1.1
ARN     5.97 136 eP      49 54.00    0.4
KVN     7.12 110 eP      50 10.50    0.5
FRI     7.23 129 eP      50 11.70    0.4
SES    13.86  46 eP      51 43.00    1.2
ALQ    17.28 107 eP      52 28.00    1.9X
FFC    20.82  43 eP      53 05.00   -1.9X
        1.0s    22.00nm          4.5mb
MEO    23.10  98 e(P)    53 32.00    2.1X
     S.D. = 0.6  on  30 of  33 obs.
-----------------------------------------
?  NOV  04, 1989  15h 58m 26.69± 3.25s
   34.937 N ±28.8km   14.958 E ±14.0km
   DEPTH = 111.8 ± 34.1 km
 MEDITERRANEAN SEA                (400)

MEU     2.16 359 Pd      59 01.00   -1.4
FAI     2.55 336 P       59 07.80    0.3
MNO     3.00 356 P       59 14.10    0.5
GIB     3.14 346 Pc      59 15.90    0.5
                 eSn     59 54.10
SOI     3.25  15 Pd      59 16.50   -0.3
                 eSn     59 55.60
MSI     3.29   8 Pd      59 18.00    0.6
ERC     3.63 329 P       59 21.70   -0.4
                 eSn     00 05.50
CZI     4.38  12 P       59 37.10    5.0X
ROI     4.80  15 P       59 38.20    0.2
TDS     4.84  13 P       59 38.00   -0.5
CSI     4.95  12 P       59 41.40    1.4
MGR     5.21   5 P       59 43.40   -0.2
VLS     5.57  53 ePn     59 47.50   -1.0
ITM     6.07  66 ePn     00 00.50    5.0X
KEK     6.13  38 ePn     59 56.70    0.5
BRT     6.19  16 P       59 55.90   -1.1
                 eSn     01 04.20
AGG     7.17  53 ePbc    00 12.10    1.6
                 eSb     00 31.50
KZN     7.61  43 ePn     00 18.30    1.8
OHR     7.69  35 ePn     00 21.30    3.7X
LIT     7.90  47 ePb     00 19.70   -0.6
NEO     7.91  54 ePn     00 21.30    0.7
GRG     8.40  42 ePn     00 26.40   -0.8
                 eSn     00 56.60
THE     8.51  46 ePn     00 28 10   -0.5
PAIG    8.54  52 ePn     00 28.40   -0 6
SKO     8.67  34 ePn     00 33.50    2.7X
                 i       02 03 00
VAY     8.75  41 ePn     00 31.70   -0 1
KNT     8.82  43 ePn     00 32.90    0.1
                 eSn     01 05.40
OUR     8.96  50 ePn     00 34.60   -0.1
SRS     9.19  45 ePn     00 37.10   -0.7
MLR    13.46  35 eP      01 40.00    5.7X
     S.D. = 0.9  on  25 of  30 obs.
-----------------------------------------
%  NOV  04, 1989  16h 54m 08.79± 0.91s
   41.139 N ± 8.1km   23.019 E ± 5.0km
   DEPTH =  10.0km  (geophysicist)
 GREECE-BULGARIA BORDER REGION    (363)
      ML 2.0 (THE).

KNT     0.09 284 iPgd    54 11.40    0.0
                 eSg     54 13.90
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SRS     0.43  93 ePgd    54 17.60    0.0
                 eSg     54 20.40
GRG     0.50 249 ePgc    54 19.00    0.0
                 eSg     54 27.40
THE     0.51 185 ePg     54 18.80   -0.3
                 iSg     54 26.50
OUR     1.09 137 ePg     54 28.80   -0.4
                 eSg     54 44.30
LIT     1.11 201 ePbd    54 29.60   -0.1
PAIG    1.31 157 ePb     54 33.70    0.7
     S.D. = 0.4  on   7 of   7 obs.
-----------------------------------------
%  NOV  04, 1989  17h 05m 59.75± 0.75s
   37.790 N ± 9.7km    4.583 W ± 6.2km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                            (377)
      mbLg 2.9 (MDD).

EHOR    0.53 273 iPg     06 09.30   -1.1
                 eSg     06 16.00
EBAN    0.73  59 ePg     06 15.20    1.1
                 eSg     06 23.00
EPRU    0.97 212 ePn     06 18.00   -0.2
                 eSn     06 31.00
AFC     0.98 123 ePg     06 17.80   -0.7
                 eSg     06 32.00
EJIF    1.51 208 ePn     06 27.80    0.9
                 eSn     06 47.80
EVAL    1.73 264 ePn     06 30.90    0.9
                 eSn     06 52.40
EVIA    1.84  62 ePn     06 31.00   -0.8
                 eSn     06 57.00
EPLA    2.56 333 ePg     06 48.40    6.5X
                 eSg     07 20.50
GUD     2.87   7 ePg     06 54.50    8.0X
                 eSg     07 28.80
     S.D. = 1.1  on   7 of   9 obs.
-----------------------------------------
*  NOV  04, 1989  17h 28m 31.53± 0.87s
   17.002 N ± 8.1km   62.330 W ± 6.9km
   DEPTH =  10.0km  (geophysicist)
 LEEWARD ISLANDS                  ( 92)
      ML 2.8 (FDF).

BPA     0.46  84 eP      28 40.61   -0.2
                 S       28 45.00
ANG     0.50  72 eP      28 41.88    0.2
                 eS      28 48.58
SKI     0.51 310 eP      28 41.86    0.0
                 eS      28 48.48
PAG     1.15 147 eP      28 53.00   -0.1
                 S       29 07.90
BBL     1.68 151 eP      29 01.30    0.1
                 S       29 18.00
     S.D. = 0.2  on   5 of   5 obs.
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   NOV  04, 1989  18h 04m 02.49± 0.16s
   72.255 N ± 2.9km   0.630 E ± 3.5km
   DEPTH =  10.0km  (geophysicist)
   5.1mb ( 49 obs.)  5.2Msz ( 17 obs.)
 NORWEGIAN SEA                    (642)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 13S, 24C
      Centroid Location:
      Origin Time        18:04:10.9 0.5
      Lat 72.04N 0.08 Lon   1.77E 0.09
      Dep  15.0 FIX Half-duration  2.0
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-1.82 0.09  Mtt= 0.43 0.15
        Mff= 1.38 0.10  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf= 1.01 0.08
      Principal Axes:
        T  Val=  2.03  Plg= 0  Azm=122
        N       -0.21       0       32
        P       -1.82      90      180
      Best Double Couple:Mo=1.9*10**17
       NP1:Strike=212 Dip=45 Slip= -90
       NP2:        32     45      -90

JNE     3.10 250 eP      04 51.50   -0.8
JNW     3.12 251 eP      04 51.30   -1.3
JMI     3.26 250 eP      04 53.50   -1.0
LOF     6.02 127 eP      05 32.58   -1.1
                 eS      06 33.90
TRO     6.53 105 eP      05 36.67   -4.2X
                 eS      06 43.70
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KBS      7.24  17 eP     05 47.10  -3.7X
NSS      8.79 146 eP     06 08.30  -4.1X
                eS      07 38.80
KEV      8.91  93 eP     06 08.00  -6.1X
       0.5s    37.90nm          6.0mb
     Z  20s    10.70um
                i       06 19.40
                LR      09 06.00
AKU      9.38 235 iP     06 24.80   4.4X
       0.9s    30.25nm          5.7mb
RGS      9.98 153 eP     06 25.00  -3.8X
                eS      08 03.50
MOL     10.08 161 iP     06 25.41  -4.7X
                eS      08 05.90
SOD     10.16 106 iP     06 27.80  -3.4X
HYA     11.35 166 eP     06 42.00  -5.4X
                eS      08 37.00
SUE     11.36 170 eP     06 44.00  -3.7X
                eS      08 38.00
NB2     11.99 155 P      06 52.60  -3.6X
       0.9s    39.10nm          5.7mb
NRA0    12.33 154 iPc    06 57.20  -3.5X
                iS      09 01.60
HFS     13.21 150 eP     07 09.10  -3.4X
       0.9s    98.10nm          5.9mb
     Z  16s     8.19um          5.4MszX
                LR      10 36.00
SUF     13.53 122 iP     07 13.10  -3.5X
       0.9s   207.70nm          6.1mb X
NUR     15.04 129 iP     07 33.00  -3.4X
       1.3s   358.30nm          5.6mb
     Z  20s    20.30um          5.0MszX
                LR      12 24.00
EKA     17.07 187 P      08 01.00  -1.3
       1.9s   217.40nm          5.0mb
GDH     17.58 287 iP+    08 11.00   2.4
                i       11 42.00
                i       12 59.00
                i       25 05.00
DBN     20.33 172 eP     08 40.00  -1.0
                e(S)    12 49.00
WTS     20.52 169 eP     08 43.00   0.1
       0.9s    43.00nm          4.8mb
                e       08 50.50
UCC     21.60 174 P+     08 54.20   0.2
ENN     21.69 171 eP     08 54.00  -1.0
       1.0s   147.00nm          5.3mb
                i       09 06.00
CLL     21.72 159 iPd    08 54.80  -0.5
       1.9s   300.00nm          5.4mb
     Z  21s     7.50um          5.1Msz
                eS      12 58.00
MEM     21.86 171 P      08 56.30  -0.3
SNF     21.88 174 P      08 57.20   0.4
WAR     21.98 145 eP     08 59.00   1.2
     Z  18s    19.20um          5.6Msz
                e       13 24.00
BRG     22.26 157 iPd    09 00.50  -0.2
       2.0s   360.00nm          5.5mb
     N  22s     7.00um
     E  22s     5.00um
                i       09 14.00
                i       09 38.50
                eS      13 08.00
DOU     22.31 173 Pc     09 01.20   0.1
                S       13 02.00
TNS     22.39 167 ePd    09 02.60   0.6
KSP     22.59 154 eP     09 02.50  -1.4
KSP     22.59 154 iP     09 03.50  -0.4
       0.9s    82.00nm          5.2mb
                i       09 08.00
                eS      12 57.50
WLF     22.81 171 P      09 03.00  -3.0X
GRF     23.14 162 iPd    09 10.80   1.5
       1.4s    99.00nm          5.2mb
     Z  19s     9.10um          5.2Msz
PRU     23.20 157 ePc    09 09.80  -0.1
       1.1s    64.20nm          5.1mb
     Z  20s     5.90um          5.0Msz
     N  22s     5.60um
     E  16s     3.10um
                e       10 35.00
                S       13 24.00
GWF     23.57 168 P      09 14.36   0.8
FLN     23.58 182 eP     09 13.50   0.0
       1.0s    36.00nm          4.9mb
LDF     23.74 181 eP     09 15.50   0.3
       1.1s    73.20nm          5.2mb
KRA     23.90 148 eP     09 16.10  -0.6
       1.3s   135.00nm          5.4mb
     Z  20s    11.10um          5.3Msz
     N  20s    10.50um
                e       09 17.10
                e       09 22.60
                eS      13 39.00
KHC     23.94 159 iPc    09 18.00   0.9
       1.2s    40.00nm          4.9mb
     Z  20s     7.00um          5.1Msz
     N  20s     5.90um
     E  20s     3.60um
GRR     23.96 182 eP     09 16.70  -0.5
       0.9s    29.40nm          4.9mb
CDF     24.12 169 P      09 18.00  -0.9
VITF    24.24 171 P      09 19.28  -0.7
ECH     24.30 169 P      09 19.05  -1.6
HAU     24.47 171 eP     09 22.90   0.6
       1.2s    47.60nm          5.0mb
FUR     24.66 163 iPc    09 26.90   2.8
       1.0s    53.00nm          5.2mb
MOF     24.67 169 P      09 22.43  -1.8
BSF     24.67 170 P      09 23.04  -1.2
FEL     24.70 168 P      09 22.52  -2.0
KMR     25.06 158 eP     09 30.00   2.1
                i       09 32.20
BBS     25.07 169 P      09 28.47   0.4
LOR     25.11 175 eP     09 29.00   0.6
       1.0s    26.00nm          4.9mb
VKA     25.12 155 ePd    09 29.50   1.0
       6.0s  2015.00nm          6.0mb X
     Z  15s     5.00um          5.1MszX
                e       13 24.00
                LR      20 08.00
LOMF    25.15 170 P      09 29.13   0.3
ZST     25.29 154 iP     09 30.90   0.8
SSF     25.31 175 eP     09 30.50   0.2
       1.2s    41.60nm          5.0mb
LBF     25.40 175 eP     09 31.50   0.3
       1.0s    26.00nm          4.9mb
AVF     25.58 176 eP     09 31.90  -0.9
       1.0s    24.00nm          4.8mb
MFF     25.74 181 eP     09 34.00  -0.3
       0.8s    25.20nm          5.0mb
SRO     25.84 152 eP     09 35.40   0.2
                i       09 39.20
KBA     25.94 160 eP     09 38.50   2.1
       1.2s    40.00nm          5.0mb
                e       09 43.00
PSZ     25.97 150 iP     09 37.00   0.5
TCF     26.06 178 eP     09 36.30  -1.0
       1.0s    40.00nm          5.1mb
LSF     26.09 179 eP     09 36.70  -0.9
       1.0s    26.00nm          4.9mb
MAF     26.13 177 eP     09 37.80  -0.1
       1.0s    20.00nm          4.8mb
VAI     26.75 167 P      09 45.60   2.1
CTI     26.79 163 P      09 45.40   1.2
MDI     26.90 166 P      09 49.00   4.0X
ORO     26.94 169 P      09 48.50   3.0X
LPG     26.99 170 eP     09 46.30   0.1
       1.0s    24.00nm          4.8mb
BNI     27.43 171 P      09 52.20   2.2
MBC     27.44 333 eP     09 50.00   0.3
       1.0s    12.00nm          4.6mb
CKI     28.15 168 P      09 56.10  -0.3
BZS     28.48 148 eP     10 00.50   1.2
                e       23 11.50
BEO     29.08 150 eP     10 06.00   1.3
VRI     29.15 141 eP     10 06.00   0.7
EPF     29.30 180 eP     10 05.30  -1.5
       0.9s    12.10nm          4.7mb
MLR     29.36 142 eP     10 09.00   1.6
CMP     29.41 144 ePc    10 18.00  10.2X
BUC     30.43 143 eP     10 16.00  -0.8
SKO     32.01 150 iP     10 34.00   3.3X
       1.7s    46.00nm          5.1mb
     N  16s     1.07um
                i       11 02.00
                i       11 14.00
                iPP     11 32.00
TOL     32.54 187 eP     10 45.00   9.7X
OHR     32.76 151 eP     10 36.00  -1.3
       1.2s     0.07nm          2.5mb X
VAY     32.83 149 eP     10 32.60  -5.2X
KNT     33.03 148 ePc    10 41.60   2.0
GRG     33.16 149 ePd    10 38.30  -2.4
SRS     33.19 147 ePc    10 40.50  -0.5
LIT     34.01 149 ePc    10 47.50  -0.6
OUR     34.02 147 ePd    10 47.20  -0.9
CTT     34.03 141 eP     10 47.00  -1.2
ISK     34.23 140 eP     10 52.00   2.1
PAIG    34.37 148 ePc    10 53.30   2.2
AGG     35.04 150 ePd    10 58.30   1.4
KVT     35.71 131 eP     11 03.00   0.3
BBTK    36.17 136 eP     11 07.00   0.4
INK     36.47 333 ePc    11 07.80  -0.9
       0.9s    28.00nm          5.1mb
KHL     36.97 141 eP     11 14.00   0.7
IMA     40.86 344 P      11 48.00   2.5
       1.2s    12.69nm          4.5mb
TAB     41.11 121 eP+    11 49.00   1.2
FBA     41.46 340 P      11 51.00   0.8
       1.0s    30.00nm          5.0mb
BHL     42.50 135 P      12 00.00   0.8
                PP      13 40.00
                S       18 22.00
FFC     42.57 303 iPd    11 59.20  -0.2
       1.2s    68.00nm          5.3mb
SLY     43.22 123 ePc    12 08.50   3.6X
                ePP     13 48.50
                eS      18 29.00
RSNY    43.81 273 P      12 10.00   0.3
     Z  22s     3.70um          5.3Msz
RSON    43.82 294 P      12 10.50   0.9
     Z  22s     6.35um          5.5Msz
TTA     44.15 345 P      12 13.00   0.8
PMR     44.83 340 P      12 17.00  -0.6
       0.9s    12.50nm          4.8mb
     Z  22s     2.15um          5.0Msz
BHD     45.15 125 ePd    12 19.50  -1.0
                ePP     14 02.50
                eS      18 34.00
HLW     45.53 142 iPc    12 24.00   0.4
                eS      19 06.00
KOT     45.56 141 eP     12 25.00   1.2
MAIO    46.44 107 eP     12 32.00   1.2
                e       14 27.00
                eS      19 20.00
EDM     46.72 311 ePd    12 32.30  -0.5
TBR     46.82 271 P      12 33.40  -0.2
WMQ     48.08  76 iPc    12 44.40   0.7
     Z  20s     1.80um          5.0Msz
                PP      14 36.00
                S       19 49.00
KSH     48.51  89 eP     12 47.00  -0.1
SES     48.79 308 eP     12 48.00  -1.0
       1.5s   187.00nm          5.9mb
PNT     51.78 314 eP     13 14.00   2.1
       0.7s     8.00nm          4.8mb
BLA     52.32 275 P      13 15.70  -0.4
LRM     53.39 307 eP     13 24.30   0.1
FVM     54.63 284 P      13 31.80  -1.3
LON     54.69 315 P      13 32.00  -1.5
GBTN    54.90 278 P      13 34.40  -0.7
LHS     54.96 274 P      13 34.70  -0.8
BMW     55.26 316 P      13 39.00   1.3
JSC     55.29 274 P      13 37.00  -0.9
RSCP    55.38 279 P      13 36.00  -2.6
       1.4s    98.23nm          5.6mb
BW06    55.52 303 P      13 38.00  -1.8
GTA     55.67  68 eP     13 40.20  -0.6
     Z  20s     1.30um          5.0Msz
GLD     57.20 298 P      13 52.10   0.2
       1.6s    60.19nm          5.4mb
     Z  18s    14.26um          6.1Msz
GOL     57.29 298 P      13 52.00  -0.6
     Z  18s    10.18um          6.0Msz
BTO     57.35  59 eP     13 51.50  -1.3
     N  15s     1.60um
     E  15s     0.80um
                eS      21 56.00
HHC     57.52  57 P      13 53.80  -0.1
MDJ     58.09  41 eP     13 57.00  -0.8
     E  12s     0.90um
                S       22 05.00
TUL     58.13 288 e(P)   14 00.50   2.4
       1.0s     6.00nm          4 6mb
DUG     58.77 305 P      14 03.40   0.6
NDI     58.87  93 eP     14 03.00  -0.4
BJI     59.44  54 eP     14 07.00  -0.2
       1.5s    26.00nm          5.1mb
SNY     59.49  47 eP     14 05.40  -2.1
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04d 18h

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LZH     59.91  66 eP     14 10.00  -0.7
        5.0s      0.47nm          2.9mb X
      Z  20s      2.30um          5.3Msz
      N  18s      1.90um
      E  13s      0.90um
                   ePP    16 20.00
                   eS     22 24.00
MEO     59.99 290 e(P)   14 11.70   0.6
MSU     60.20 304 P      14 13.00   0.3
TIY     60.70  58 Pc     14 15.90   0.0
      Z  20s      2.13um          5.3Msz
      E  21s      3.60um
                   S      22 39.00
WDC     60.73 313 eP     14 16.20   0.2
MIN     60.74 312 eP     14 16.90   0.6
KVN     61.15 309 P      14 18.00  -1.2
TNP     61.86 308 P      14 23.00  -1.0
        1.0s      8.33nm          4.9mb
ALQ     62.05 297 P      14 24.00  -1.3
        1.4s     21.63nm          5.1mb
      Z  18s      5.15um          5.7Msz
LSA     62.18  80 P      14 27.00   0.5
        4.0s      0.42nm          3.0mb X
                   eS     22 50.00
CMB     62.66 310 eP     14 29.00  -0.1
XAN     63.23  62 eP     14 31.50  -1.4
TIA     63.31  54 Pc     14 32.90  -0.4
      Z  16s      1.90um          5.4MszX
      N  14s      0.90um
      E  14s      0.50um
                   eS     23 07.50
FRI     63.50 309 ePd    14 36.00   1.5
CLC     64.11 307 eP     14 38.00  -0.7
LLA     64.15 310 eP     14 29.20  -9.7X
GSC     64.41 306 eP     14 46.00   5.3X
ISA     64.47 308 eP     14 42.00   1.0
CD2     64.74  68 eP     14 42.40  -0.4
TPC     65.35 305 eP     14 49.00   2.3
TIC     65.64 186 P      14 46.06  -2.5
MWC     65.74 307 eP     14 51.00   1.6
RVR     65.79 306 eP     14 51.00   1.5
KIC     65.91 186 P      14 48.36  -1.9
GLA     66.05 304 eP     14 52.00   0.8
PLM     66.27 306 eP     14 55.00   2.2
BAR     66.87 305 eP     14 58.00   1.6
NIIJ    67.01  35 P      14 56.50  -0.7
MTMJ    67.43  36 P      14 59.60  -0.4
NJ2     67.70  54 Pc     15 01.00  -0.6
WHN     67.98  58 Pc     15 02.50  -0.9
TSRJ    68.11  38 P      15 02.20  -1.9
CHJJ    68.17  35 P      15 04.10  -0.4
KAKJ    68.22  34 eP     15 04.20  -0.6
IIDJ    68.52  37 eP     15 08.80   2.0
BCAO    68.65 161 iPd    15 06.10  -1.6
        0.5s     23.00nm          5.6mb
                   ic     15 16.80
SSE     69.18  52 Pd     15 10.00  -0.8
        1.0s     24.00nm          5.3mb
      Z  20s      0.90um          5.0Msz
      N  13s      0.60um
      E  13s      0.30um
                   SS     28 44.00
HYB     69.85  96 iPc    15 14.50  -0.6
KMI     69.91  71 Pc+    15 15.00  -0.6
      Z  25s      1.30um          5.1MszX
                   sP     15 26.50
                   S      24 24.00
                   iS     24 26.00
GBA     73.11  98 P      15 34.00  -0.5
CHG     74.75  76 iPd    15 43.50  -0.5
        1.0s     35.00nm          5.3mb
BDT     76.25  77 eP     15 53.00   0.5
LOE     76.90  74 eP     15 54.00  -2.2
                   e      29 06.00
QIZ     77.70  66 eP     16 00.50  -0.1
      E  21s      1.80um
                   eS     25 53.00
NST     78.07  76 eP     16 05.00   2.4
BAG     83.09  57 eP     16 29.00  -0.6
SNG     86.25  78 eP     16 46.00   0.8
PDCR    88.57 219 eP     16 51.70  -4.6X
ASPA   124.93  55 ePKP   23 02.30  -1.3
KRP    145.50   7 PKP    23 41.80   0.6
MAW    145.53 143 ePKP   23 40.00  -0.3
MSZ    151.68  19 PKP    23 57.00   6.4X
      S.D. = 1.2  on 165 of 192 obs.
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    NOV  04, 1989  18h 17m 13.81± 0.13s
    72.281 N ± 2.4km     0.594 E ± 2.8km
    DEPTH =  10.0km  (geophysicist)
    5.3mb ( 61 obs.)  5.3Msz ( 12 obs.)
NORWEGIAN SEA                      (642)
      CENTROID, MOMENT TENSOR      (HRV)
      Doto Used: GDSN
      L.P.B.:  9S, 16C
      Centroid Location:
      Origin Time        18:17:20.1 1.2
      Lot 72.13N 0.20 Lon    1.32E 0.27
      Dep  15.0 FIX Holf-durotion  1.7
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-1.52 0.34  Mtt= 0.73 0.47
        Mff= 0.79 0.20  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf= 0.38 0.28
       Principol Axes:
        T  Vol=  1.14  Plg= 0  Azm=133
        N        0.38       0        43
        P       -1.52      90       180
      Best Double Couple:Mo=1.3*10**17
       NP1:Strike=223 Dip=45 Slip= -90
       NP2:        43      45       -90
JNE     3.10 250 eP     18 01.40  -2.2
JNW     3.12 251 eP     18 02.20  -1.7
JMI     3.25 250 eP     18 04.40  -1.4
LOF     6.05 127 iP     18 42.93  -2.4
                   eS   19 40.67
TRO     6.55 105 iP     18 48.41  -4.0X
                   iS   19 53.21
NSS     8.82 146 iP     19 20.32  -3.8X
                   eS   20 45.40
KEV     8.93  94 iP     19 21.20  -4.3X
        0.5s     36.50nm          6.0mb
      Z  22s      8.60um
                   i    19 29.00
                   LR   22 06.00
AKU     9.38 235 iP     19 29.70  -2.1
        0.8s     50.75nm          6.0mb
RGS    10.01 153 eP     19 36.00  -4.5X
                   eS   21 14.00
MOL    10.10 161 iP     19 37.42  -4.4X
                   eS   21 12.52
SOD    10.18 106 iP     19 38.40  -4.4X
HYA    11.37 166 eP     19 53.80  -5.3X
                   eS   21 47.00
SUE    11.39 170 eP     19 53.00  -6.4X
                   eS   21 46.00
NB2    12.02 154 P      20 03.70  -4.2X
        0.9s     33.70nm          5.6mb
NRA0   12.35 154 iPc    20 08.70  -3.7X
                   iSg  22 21.50
HFS    13.24 150 eP     20 20.40  -3.7X
        1.0s     83.10nm          5.8mb
      Z  15s      6.08um          5.2Msz
                   LR   24 01.00
SUF    13.55 122 iP     20 24.50  -3.7X
        0.7s     53.90nm          5.6mb
NUR    15.07 129 iP     20 44.00  -4.1X
        1.4s    425.40nm          5.7mb
      Z  20s      8.60um          4.0Msz
                   LR   25 34.00
EKA    17.09 187 P      21 12.00  -1.9
        1.2s     70.80nm          4.7mb
DMU    18.73 194 eP     21 34.80   0.5
DLE    19.32 193 eP     21 41.00  -0.4
        0.9s     76.00nm          5.0mb
DBN    20.35 172 eP     21 52.00  -0.6
WTS    20.54 169 eP     21 54.50   0.0
        1.0s     68.00nm          5.0mb
UCC    21.63 174 P      22 07.40   1.8
ENN    21.72 171 ePc    22 06.00  -0.6
        1.0s    204.00nm          5.5mb
CLL    21.75 159 iPd    22 07.40   0.5
        2.0s    390.00nm          5.5mb
      Z  20s      6.00um          5.0Msz
                   iS   26 12.00
MEM    21.88 171 iP     22 07.41  -0.8
SNF    21.91 174 P      22 08.90   0.5
WAR    22.00 145 eP     22 12.00   2.6
      Z  18s     15.20um          5.5Msz
                   e    26 20.00
BRG    22.29 157 iPc    22 11.50  -0.8
        1.6s    240.00nm          5.4mb
      N  19s      3.00um
      E  19s      3.00um
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                   i    22 13.50
                   i    22 18.20
                   eS   26 26.00
DOU    22.34 173 P      22 13.60   0.9
                   S    26 23.00
TNS    22.41 167 ePd    22 14.80   1.2
KSP    22.62 154 iPc    22 14.80  -0.7
        0.9s     89.00nm          5.3mb
                   i    22 16.80
                   i    22 19.60
                   eS   26 08.80
WLF    22.83 171 P      22 19.00   1.4
GRF    23.17 162 iPc    22 22.70   1.8
        1.0s     57.00nm          5.1mb
      Z  19s      6.70um          5.1Msz
PRU    23.23 157 Pc     22 22.00   0.5
        1.4s     90.00nm          5.1mb
      Z  20s      4.60um          4.9Msz
      N  22s      3.80um
      E  14s      2.50um
                   e    23 31.00
                   eS   26 34.00
GWF    23.60 168 P      22 26.84   1.7
FLN    23.60 182 eP     22 24.70  -0.4
        1.0s     52 00nm          5.1mb
LDF    23.77 181 eP     22 26.90   0.2
KRA    23.93 148 eP     22 28.20  -0.1
        0.9s     70.00nm          5.2mb
      Z  20s      7.70um          5.2Msz
      N  20s      7.10um
                   i    22 29.70
                   i    22 34.20
KHC    23.97 159 P      22 28.50  -0.2
        1.3s     84.00nm          5.2mb
GRR    23.98 182 eP     22 28.80   0.0
        1.0s     64.00nm          5.2mb
CDF    24.14 169 P      22 30.41  -0.1
WLS    24.15 169 P      22 30.36  -0.1
ECH    24.33 169 P      22 32.08  -0.2
LPF    24.34 183 eP     22 32.20  -0.1
        1.0s     68.00nm          5.2mb
HAU    24.50 171 eP     22 35.00   1.1
        1.0s     56.00nm          5.2mb
FUR    24.69 163 iPc    22 37.00   1.3
MOF    24.69 169 P      22 35.53  -0.3
BSF    24.70 170 P      22 35.82   0.0
FEL    24.72 168 P      22 35.33  -0.8
KMR    25.09 158 eP     22 40.00   0.5
BBS    25.10 169 P      22 39.46  -0.2
LOR    25.14 175 eP     22 40.20   0.2
        0.9s     31.10nm          5.0mb
VKA    25.15 155 ePc    22 40.50   0.4
        5.5s   1724.00nm          6.0mb X
      Z  15s      3.90um          5.0MszX
                   LR   33 14.00
LOMF   25.18 170 P      22 39.30  -1.1
SSF    25.34 175 eP     22 42 10   0.3
        1.0s     42.00nm          5.1mb
LBF    25.43 175 eP     22 42.90   0.2
        1.0s     50.00nm          5.2mb
AVF    25.60 176 eP     22 44.40   0.1
        1.2s     56.50nm          5.1mb
FRB    25.69 287 eP     22 41.00  -4.0X
SOP    25.75 155 eP     22 49.90   4.2X
SMF    25.76 175 eP     22 45.90   0.1
        1.3s     64.90nm          5.2mb
MFF    25.76 181 eP     22 45.50  -0.3
        1.2s    121.30nm          5.5mb
BGF    25.83 176 eP     22 46.40   0.0
        0.8s     36.20nm          5.1mb
SRO    25.87 152 eP     22 47.40   0.6
KBA    25.97 160 eP     22 48.00   0.0
        1.0s     40.20nm          5.1mb
                   i    22 53.90
PSZ    26.00 150 eP     22 48.10   0.0
TCF    26.08 177 eP     22 49.50   0.6
        1.0s     58.00nm          5.2mb
MAF    26.16 177 eP     22 49.40  -0.1
        1.0s     40.00nm          5.1mb
FVI    26.39 161 Pd     22 52.30   0.7
VAI    26.77 167 P      22 55.10   0.0
CTI    26.82 163 Pd     22 58.40   2.7
MDI    26.93 166 P      22 58.00   1.5
ORO    26.96 169 Pd     22 57.50   0.5
LPG    27.02 170 eP     22 57.40  -0.4
        1.2s     68.40nm          5.2mb
MBC    27.41 333 eP     23 02.00   1.3
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        1.3s    28.00nm          4.8mb
PTJ     27.43 156 eP     23 02.50    1.3
BNI     27.46 171 Pd     23 03.00    1.4
VRI     29.18 141 ePc    23 17.00    0.1
EPF     29.33 180 eP     23 18.00   -0.4
        0.8s    18.80nm          4.9mb
CMP     29.44 144 ePd    23 21.00    1.7
CFR     30.11 139 eP     23 13.00  -12.3X
SKO     32.04 150 iP     23 41.20   -1.1
      Z  16s     4.22um          5.2MszX
      N  15s     4.10um
      E  16s     1.36um
                 i        23 45.80
                 i(PcP)   26 20.00
                 i        27 35.00
                 iS       28 50.00
                 iSS      30 50.00
                 iSSS     31 08.00
                 LR       37 56.00
SCH     32.38 274 ePd    23 45.80    0.6
        1.2s    71.00nm          5.5mb
MMB     32.78 147 ePc    23 48.00   -0.8
OHR     32.79 151 iPc    23 48.30   -0.5
        1.4s     0.25nm          2.9mb X
VAY     32.85 149 eP     23 48.50   -0.8
KNT     33.06 148 iPc    23 50.30   -0.9
GRG     33.18 149 iPc    23 51.60   -0.6
SRS     33.22 147 iPc    23 51.00   -1.5
TDS     33.63 158 P      23 49.90   -6.2X
ROI     33.74 157 P      23 57.20    0.1
LIT     34.03 149 iPc    23 58.70   -0.9
CZI     34.04 158 P      23 58.50   -1.1
OUR     34.05 147 iPc    23 58.90   -0.8
CTT     34.06 141 eP     23 59.70   -0.1
PAIG    34.39 148 iPc    24 02.00   -0.7
KAS     34.94 134 eP     24 10.00    2.5
AGG     35.06 150 iPc    24 07.30   -1.2
ASMO    35.07 186 eP     24 09.00    0.4
AAPN    35.13 187 eP     24 08.40   -0.8
APHE    35.47 186 eP     24 14.00    1.9
ATEJ    35.52 186 eP     24 13.50    1.0
KVT     35.74 131 eP     24 15.00    0.8
BBTK    36.19 136 eP     24 20.00    1.9
INK     36.44 333 ePc    24 19.80    0.0
        1.1s    94.00nm          5.5mb
KHL     37.00 141 eP     24 25.00    0.1
BCK     38.04 140 iP     24 34.20    0.6
IMA     40.83 344 P      24 58.00    1.4
        1.0s    11.25nm          4.5mb
TAB     41.13 121 e(P)   25 06.00    6.7X
FBA     41.43 340 P      25 03.00    1.7
        1.0s    33.75nm          5.0mb
TIO     41.63 190 iP     25 03.00   -0.4
MSL     41.91 125 eP     25 06.50    1.0
                e        31 27.00
FFC     42.54 303 iPc    25 11.40    0.9
        1.3s    99.00nm          5.4mb
HRI     43.15 135 eP     25 16.00    0.1
SLY     43.24 123 ePd    25 18.50    2.1
                e        26 58.50
                e        29 26.00
HBVT    43.52 272 P      25 19.00    0.4
RSON    43.80 294 P      25 21.10    0.3
        1.0s    46.10nm          5.2mb
      Z  22s     3.70um          5.3Msz
RSNY    43.80 273 P      25 21.50    0.6
      Z  22s     1.06um          4.7Msz
TTA     44.12 345 P      25 25.40    2.1
        1.1s    15.63nm          4.8mb
DSI     44.71 136 eP     25 29.00    0.6
PMR     44.80 340 P      25 29.20    0.5
        1.0s    20.00nm          5.0mb
BHD     45.17 125 ePc    25 31.00   -1.0
                e        27 12.50
                e        30 47.00
                e        32 11.00
HLW     45.56 142 eP     25 26.00   -9.1X
PRNI    45.82 137 ePd    25 37.00   -0.2
MAIO    46.46 107 eP     25 43.00    0.7
                e        27 33.00
EDM     46.69 311 eP     25 42.50   -1.4
        1.1s    51.00nm          5.5mb
TBR     46.80 271 P      25 45.70    0.8
WMO     48.08  76 iPd    25 55.50    0.5
      Z  16s     1 70um          5.1MszX
                eS       32 58.50
KSH     48.52  89 eP     25 59.00    0.5
SES     48.76 308 eP     26 01.00    0.9
        1.3s   123.00nm          5.8mb
PNT     51.76 314 eP     26 24.00    1.0
        0.7s     9.00nm          4.8mb
BLA     52.31 275 P      26 26.80   -0.5
        1.0s    35.00nm          5.2mb
LRM     53.37 307 eP     26 35.40    0.0
LON     54.67 315 P      26 44.80    0.2
TKL     54.76 277 P      26 45.20   -0.2
GBTN    54.89 278 P      26 45.80   -0.5
JSC     55.28 274 P      26 48.00   -1.1
RSCP    55.37 279 P      26 48.70   -1.1
        1.3s   253.38nm          6.1mb
BW06    55.49 303 P      26 50.60   -0.3
        1.2s    16.44nm          4.9mb
GTA     55.67  68 Pd     26 51.60   -0.5
      Z  18s     5.80um          5.7Msz
GLD     57.18 298 P      27 03.40    0.4
        1.3s    57.47nm          5.4mb
      Z  18s     8.74um          5.9Msz
GOL     57.27 298 P      27 03.40   -0.3
      Z  18s     6.93um          5.8Msz
BTO     57.35  59 eP     27 02.00   -2.1
HHC     57.51  57 P      27 05.20    0.0
MDJ     58.08  41 eP     27 08.50   -0.5
MDJ     58.08  41 eP     27 18.00    9.0X
        2.0s     0.10nm          2.5mb X
      Z  17s     2.63um          5.4MszX
      N  14s     1.29um
TUL     58.11 288 e(P)   27 07.10   -2.2
        0.7s     4.50nm          4.6mb
DUG     58.75 305 P      27 14.50    0.6
NDI     58.88  93 iP     27 14.50   -0.3
UYO     59.35 286 iPd    27 17.50   -0.5
BJI     59.44  54 eP     27 18.00   -0.5
        2.0s   105.00nm          5.6mb
      Z  17s     2.63um          5.4MszX
      N  14s     1.29um
SNY     59.48  47 Pc     27 17.00   -1.7
      Z  28s     1.10um          4.8MszX
      N  29s     1.40um
      E  23s     2.00um
LBFM    59.82 313 P      27 22.00    0.5
LZH     59.91  66 Pd     27 21.20   -0.8
        2.5s   181.00nm          5.8mb
      Z  18s     2.20um          5.3Msz
      N  17s     0.80um
      E  13s     0.80um
                 ePP      29 35.50
                 e(S)     35 16.00
MSU     60.17 304 P      27 24.80    0.9
TIY     60.69  58 Pd     27 27.00   -0.2
WDC     60.70 313 eP     27 26.90   -0.3
MIN     60.71 312 ePc    27 27.60    0.1
KVN     61.13 309 P      27 30.40    0.1
ORV     61.44 312 eP     27 32.00   -0.2
TNP     61.84 308 P      27 34.80   -0.4
        1.2s    20.16nm          5.2mb
ALQ     62.03 297 P      27 36.10   -0.4
        1.4s    24.04nm          5.2mb
      Z  20s     3.72um          5.5Msz
LSA     62.18  80 Pc     27 38.60    0.7
CMB     62.64 310 ePc    27 40.50    0.2
BRK     63.22 312 eP     27 41.60   -2.4
XAN     63.23  62 Pd     27 43.00   -1.2
TIA     63.30  54 Pd     27 44.00   -0.6
FRI     63.47 309 ePc    27 46.40    0.7
LLA     64.12 310 ePc    27 51.20    1.2
ISA     64.44 308 eP     27 53.00    0.8
PRS     64.49 311 ePc    27 53.20    0.8
CD2     64.74  68 P      27 53.50   -0.7
SBB     65.22 307 eP     27 57.00   -0.2
TPC     65.33 305 eP     27 59.00    1.1
TIC     65.66 186 P      27 58.12   -1.9
MWC     65.71 307 eP     28 01.00    0.5
RVR     65.77 306 eP     28 01.00    0.4
SYP     65.89 309 eP     28 02.00    0.4
KIC     65.93 186 Pd     28 00.24   -1.5
        1.0s    46.00nm          5.6mb
GLA     66.02 304 eP     28 03.00    0.7
KUK     66.02 181 eP     28 02.00   -0.3
LIC     66.08 186 P      28 00.90   -1.8
KOGH    66.13 181 eP     28 02.00   -1.0
PLM     66.25 306 eP     28 06.00    2.0
LEGH    66.56 181 eP     28 05.00   -0.8
WEGH    66.62 181 eP     28 05.00   -1.1
BAR     66.84 305 eP     28 10.00    2.4
NIIJ    66.99  35 P      28 07.80   -0.6
POO     67.39 100 iPc    28 10.50   -0.7
MTMJ    67.42  36 P      28 11.10   -0.1
NJ2     67.69  54 Pd     28 11.00   -1.8
      Z  17s     1.80um          5.4MszX
WHN     67.98  58 Pd     28 13.50   -1.2
TSRJ    68.10  38 P      28 15.30   -0.1
CHJJ    68.15  35 P      28 15.00   -0.7
KAKJ    68.21  34 P      28 15.40   -0.6
IIDJ    68.51  36 P      28 15.40   -2.6
BCAO    68.68 161 iPd    28 18.10   -1.1
        1.0s    95.00nm          5.9mb
                ic       28 24.00
GYA     69.76  67 iPd    28 25.40   -0.5
HYB     69.87  96 ePd    28 25.50   -1.0
        1.0s    50.00nm          5.6mb
KMI     69.91  71 Pd     28 26.00   -0.9
GBA     73.13  98 P      28 46.00    0.1
LLAV    73.28 251 iPd    28 47.50    0.5
GUAC    73.68 252 eP     28 48.70   -0.7
OLLA    73.71 251 iP     28 49.60    0.1
CHG     74.75  76 iPd    28 55.00   -0.4
        1.0s    50.00nm          5.5mb
TOV     74.81 254 eP     28 57.40    1.6
BDT     76.25  77 eP     29 03.80   -0.1
        1.1s    51.60nm          5.5mb
QIZ     77.70  66 eP     29 12.50    0.6
      E  19s     1.30um
NST     78.07  76 eP     29 16.00    2.0
BAG     83.08  57 eP     29 40.90    0.0
MZZ     85.30 152 iPd    29 52.50    0.6
SNG     86.26  78 eP     29 56.70    0.1
PDCR    88.58 219 eP     30 08.00    0.4
PTZ     88.72 150 eP     30 08.00   -0.4
LSZ     89.27 153 eP     30 11.00   -0.1
PSI     89.99  81 iPc    30 14.00   -0.5
        0.7s    17.20nm          5.4mb
BUL     94.12 154 iPd    30 33.90    0.5
        0.9s     4.62nm          4.9mb
ASPA   124.93  54 iPKPc  36 14.00   -0.9
        0.9s     8.00nm
SNA    142.37 182 iPKPc  36 41.70   -4.5X
        0.9s    33.61nm
KRP    145.47   7 PKP    36 52.90    0.4
MAW    145.56 143 ePKP   36 52.00    0.3
        0.9s    35.00nm
MSZ    151.66  19 PKP    37 09.00    7.1X
SPA    162.17 180 ePKP   37 11.80   -2.5X
        1.2s     9.86nm
      S.D. = 1.0  on 201 of 224 obs.
-----------------------------------------
?  NOV  04, 1989  19h 39m 37.07± 3.79s
   17.655 S ±38.4km  178.837 W ±31.0km
   DEPTH = 570.3 ± 44.7 km
   4.2mb (  4 obs.)
 FIJI ISLANDS REGION                (181)

DZM     14.53 250 iPc    42 41.10   -0.1
CTA     33.09 260 iPc    45 28.20    0.2
        1.0s    22.00nm          4.7mb
CAN     33.54 232 eP     45 32.10    0.4
CMS     34.80 240 iPd    45 42.90    0.7
ASPA    44.47 254 iPd    47 00.20    0.2
        0.5s    82.00nm          5.5mb X
FORR    49.72 244 eP     47 39.10   -0.4
        0.4s    22.00nm          5.0mb
COOL    55.70 244 eP     48 21.00   -1.4
MBL     57.65 256 eP     48 35.10   -0.7
FBA     85.65  13 eP     51 15.10   -1.3
ALQ     86.26  52 eP     51 20.90    0.7
        1.1s     1.27nm          3.6mb
CHTO    88.53 290 e(P)   51 32.50    1.6
        0.8s     0.55nm          3.5mb
      S.D. = 1.1  on  11 of  11 obs.
-----------------------------------------
   NOV  04, 1989  20h 08m 05.74± 0.52s
   36.728 N ± 5.1km    2.379 E ± 3.9km
   DEPTH =  10.0km  (geophysicist)
   4.5mb (  3 obs.)
 ALGERIA                            (396)
      MD 4.7 (STR).

ESEL     3.06   7 ePn    08 55.60    0.6
                eSn      09 30.60
ENIJ     3.69 275 ePn    09 02.00   -2.1
                eSn      09 44.00
ECHE     3.89 318 ePn    09 07.00    0.1
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04d 20h

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                    eSn   09 52.00
EVIA    4.32 298    ePn   09 12.70   -0.3
                    eSn   10 02.40
TAF     4.34 245    e(P)  09 14.00    0.7
                    e     09 22.00
                    i     09 34.50
                    i     09 40.00
EROQ    4.37 340    ePn   09 13.80    0.2
                    eSn   10 02.80
AFC     4.77 278    ePn   09 19.00   -0.5
EBAN    5.11 288    ePn   09 22.80   -1.4
                    eSn   10 19.50
ETOR    5.36 321    ePn   09 29.50    1.8
                    eSn   10 30.50
ETER    5.58   4    ePn   09 30.40   -0.4
                    eSn   10 31.00
TOL     5.95 304    eP    09 36.00   -0.1
                    ePP   10 55.50
GUD     6.43 309    ePn   09 42.00   -1.0
                    eSn   10 52.60
NKM     6.44 261    eP    09 45.00    2.1
                    i     10 00.50
                    i     11 10.00
                    i     11 14.00
EPF     6.49 347    Pn    09 44.50    0.9
                    Sn    10 53.00
LRG     7.38  23    Pn    09 56.50    0.5
FRF     7.57  24    Pn    09 58.00   -0.7
                    Sn    11 19.60
CVF     7.68  39    Pn    09 59.80   -0.6
CALN    7.82  25    P     10 01.77   -0.6
LPO     8.00 354    Pn    10 04.20   -0.5
MVIF    8.03  25    P     10 04.79   -0.6
                    S     11 32.31
AURF    8.09  26    P     10 05.72   -0.3
                    S     11 34.10
SBF     8.10  27    Pn    10 05.40   -0.9
TOUF    8.17  26    P     10 06.78   -0.5
                    S     11 35.04
CAF     8.19 358    Pn    10 08.00    0.5
AUTN    8.22  26    P     10 07.15   -0.8
                    S     11 38.44
SAOF    8.25  27    P     10 07.65   -0.7
LFF     8.30 352    Pn    10 08.40   -0.5
IMI     8.31  29    P     10 08.17   -1.1
STV     8.40  25    P     10 10.63    0.2
ENR     8.42  26    P     10 10.22   -0.4
LBL     8.52   4    P     10 12.33    0.3
PZZ     8.56  23    P     10 13.40    0.7
RJF     8.59 356    Pn    10 12.90   -0.1
DOI     8.60  24    P     10 13.40    0.2
                    eSg   10 21.20
ROB     8.64  27    P     10 13.81    0.1
FIN     8.69  29    P     10 12.78   -1.6
AVE     8.73 250    eP    11 00.00   45.0X
                    i     11 33.00
                    i     12 35.00
                    i     13 25.00
RRL     8.84  21    P     10 18.01    1.4
CKI     8.90  28    P     10 16.00   -1.3
                    (Sg)  10 24.00
BNI     8.93  20    P     10 18.70    0.9
                    eSg   10 31.60
PYM     9.03   3    P     10 23.07    4.0X
PCP     9.10  29    P     10 18.63   -1.4
RSP     9.19  22    P     10 22.93    1.6
AGO     9.33   3    P     10 23.68    0.4
LPG     9.36  19    Pn    10 25.40    1.5
LPL     9.37  19    Pn    10 25.60    1.6
MAF     9.49   1    Pn    10 25.20   -0.2
LSF     9.54 356    Pn    10 25.00   -1.0
TCF     9.55 359    Pn    10 26.20   -0.1
BGF     9.83   2    Pn    10 30.00   -0.1
ORX     9.84  24    P     10 30.52    0.1
MFF    10.04 350    Pn    10 32.00   -1.0
AVF    10.08   4    Pn    10 34.00    0.5
BSF    11.56  15    Pn    10 53.20   -0.7
HAU    11.64  13    Pn    10 54.70   -0.2
CDF    12.22  16    Pn    11 01.90   -0.8
DOU    13.46   6    P     11 20.70    1.6
       0.4s    11.40nm          5.2mb X
KHC    14.84  30    P     11 38.20    0.9
CLL    16.43  24    eP    12 02.00    4.2X
MLR    19.74  56    iPd   12 39.00    0.3
HFS    24.53  14    eP    13 26.80    0.6
       1.2s    16.80nm          4.6mb
NB2    24.97  10    P     13 32.80    2.3
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```
       0.8s     4.30nm          4.2mb
BCAO   35.40 151 e(P)   15 03.30   -0.5
       1.1s     0.40nm          3.2mb X
BUL    61.75 152 iPc    18 27.20    0.3
       1.0s     6.50nm          4.8mb
     S.D. = 1.0  on  61 of  64 obs.
-----------------------------------------
   NOV  04, 1989  20h 12m 04.87± 0.20s
   39.118 N ± 4.0km  143.354 E ± 3.7km
   DEPTH =  30.2km  ( 11 depth phoses)
   5.4mb ( 54 obs.)  5.7Msz ( 11 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
       Felt (II JMA) at Morioka, Aomori
       and Hachinohe; (I JMA) at
       Sendai, Miyako and Niigata. Also
       felt (I JMA) at Kushiro,
       Hokkaido.
       CENTROID, MOMENT TENSOR     (HRV)
       Data Used: GDSN
       L.P.B.: 14S, 34C
       Centroid Location:
       Origin Time        20:12: 8.0 0.3
       Lat 39.03N 0.05 Lon 143.32E 0.05
       Dep  18.0 2.1 Half-duration  3.3
       Moment Tensor;   Scale 10**17 Nm
         Mrr= 4.44 0.18  Mtt= 0.44 0.18
         Mff=-4.88 0.24  Mrt= 3.18 0.54
         Mrf= 4.80 0.79  Mtf=-1.26 0.20
        Principal Axes:
         T  Val=  7.38  Plg=62  Azm=318
         N        0.28     12      205
         P       -7.66     25      109
       Best Double Couple:Mo=7.5*10**17
        NP1:Strike=175 Dip=23 Slip=  58
        NP2:        29     71      103

KAKJ    3.85 222 P      13 01.20   -2.2
                eS      13 51.10
NIIJ    3.91 243 P      13 04.50    0.2
SAP     4.22 339 eP     13 07.00   -1.7
                eS      13 56.00
CHJJ    4.62 230 P      13 13.10   -1.4
MAT     4.82 239 P      13 18.00    0.8
MTMJ    5.07 242 P      13 21.60    0.7
IIDJ    5.66 232 P      13 28.70   -0.4
TSRJ    6.87 241 eP     13 46.50    0.3
YSS     7.91 357 P      13 56.00   -4.6X
WKYJ    7.92 234 eP     13 59.90   -1.0
YONJ    8.82 247 eP     14 13.10   -0.2
TKSJ    9.07 238 P      14 15.20   -1.5
SHK     9.70 245 ePc    14 25.70    0.2
SHNJ   11.03 247 eP     14 44.60    1.0
MDJ    11.63 303 iPc    14 52.00    0.2
     E  14s    59.60um
                S       17 00.00
KUMJ   12.10 241 eP     14 57.50   -0.6
KAGJ   12.90 236 eP     15 09.40    0.6
CN2    14.21 295 iPc    15 18.00   -8.1X
     Z  15s    28.20um
     N  13s    13.80um
     E  13s    28.90um
                S       17 58.00
SNY    15.29 287 iPc    15 39.00   -1.1
       1.2s     0.20nm          2.2mb X
     N  11s    10.20um
     E  12s    17.80um
                pP      15 48.00
                S       18 30.00
DL2    16.89 276 eP     15 57.00   -3.5X
     Z  12s    22.50um
     N  12s    12.90um
     E  12s    24.10um
SSE    19.79 253 P+     16 30.00   -5.6X
       1.0s   106.00nm          5.1mb
     Z  20s    10.20um
     N  14s    23.50um
     E  14s    14.00um
                sP      16 45.00
                PPP     16 56.00
                S       20 04.00
                sS      20 20.00
                SS      20 30.00
TIA    20.94 270 Pd     16 44.40   -3.2X
     Z  13s    37.20um          5.9MszX
     N  12s    16.60um
     E  12s    27.90um
                epP     16 50.00   21km
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                eS      20 30.00
BJI    20.94 281 ePc    16 44.00   -3.5X
       1.5s   380.00nm          5.6mb
     Z  20s     3.59um          4.7Msz
     N  14s     7.74um
     E  14s    23.80um
                eS      20 48.00
NJ2    21.10 258 Pc     16 48.00   -1.1
     Z  14s    40.30um          6.0MszX
     N  13s    17.00um
     E  13s    33.10um
                sS      20 52.00
ANP    23.05 239 iP+    17 08.00   -0.7
                iS      21 24.00
TIY    24.21 276 Pc     17 18.30   -1.6
     N  12s    17.80um
     E  14s    31.10um
                sS      21 42.50
HHC    24.35 284 P      17 19.80   -1.5
     Z  18s    56.90um          6.1Msz
     N  12s    13.50um
     E  15s    25.70um
                sS      21 46.50
SMY    25.12  47 e(P)   17 30.50    2.1
QZH    25.20 243 iPc    17 28.00   -1.4
       8.0s     4.90nm          3.2mb X
     Z  15s    18.00um          5.7MszX
     N  14s    19.90um
WHN    25.22 259 iPc    17 29.50    0.0
       8.0s     5.63nm          3.2mb X
     Z  16s    26.20um          5.8MszX
     N  14s    11.60um
     E  14s    36.40um
                S       21 55.00
GUMO   25.46 177 eP     17 30.50   -1.4
GUA    25.52 176 eP     17 31.50   -0.9
     Z  17s     9.52um          5.4MszX
BTO    25.55 284 iPc    17 30 00   -2.7
     N  14s    10.90um
     E  16s    56.20um
                pP      17 36.00   21km
XAN    28.00 270 P      17 53.50   -1.6
       8.0s     3.40nm          3.1mb X
     N  13s     7.30um
     E  12s    24.90um
HKC    29.99 245 P      18 14.00    1.0
                S       23 12.00
GZH    30.08 247 P      18 14.60    0.8
       9.0s     2.00nm          2.9mb X
     Z  16s    26.80um          6.0MszX
     N  14s    16.80um
     E  14s    27.60um
                S       23 12.00
BAG    30.13 228 eP+    18 12.00   -2.5
                eS      22 50.00
ADK    30.38  52 P      18 13.50   -2.6
       0.9s    83.33nm          5.5mb
LZH    31.28 277 iP+    18 24.00   -0.5
       8.0s  2465.00nm          6.1mb X
     Z  14s    38.20um          6.2MszX
     N  13s    23.60um
     E  13s    26.10um
                pP      18 39.00   61kmX
                sP      18 44.00
                PP      19 22.00
                PPP     19 38.00
                eS      23 20.00
                sS      23 38.00
                SS      24 55.00
QCP    31.29 225 eP     18 35.00   10.6X
GYA    33.11 259 iPc    18 39.40   -1.0
       3.0s     1.70nm          3.4mb X
     N  13s     8.40um
     E  13s    15.10um
                pP      18 50.00   38km
                S       23 56.00
CD2    33.24 268 Pc     18 42.00    0.5
     Z  14s    18.60um          5.9MszX
     N  13s    22.80um
GTA    33.47 285 iPc    18 43.00   -0.5
       1.2s     0.20nm          2.9mb X
     Z  16s    33.50um          6.2MszX
                S       23 56.00
QIZ    35.19 245 Pc     19 00.00    1.7
     N  14s    14.00um
     E  15s    14.50um
                S       24 35.00
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DAV     35.69 211 eP     19 04.00    1.5
KMI     36.81 260 Pc     19 11.50   -0.7
         1.5s      0.40nm          3.1mb X
      Z  15s     29.90um          6.2MszX
      N  13s     10.20um
      E  13s     11.50um
                   pP     19 18.00   22km
                   sP     19 22.50
                   PP     20 39.00
                    S     24 57.00
                   SS     27 24.00
KKM     41.04 224 ePd    19 49.00    1.7
WMQ     41.31 295 P      19 49.40    0.2
         7.0s      3.80nm          3.2mb X
      Z  16s     12.70um          5.9MszX
      N  12s      8.20um
      E  12s      6.70um
TSM     41.63 220 ePc    19 54.10    2.1
LOE     42.09 251 eP     19 55.50   -0.3
TTA     42.84  36 P      19 59.70   -1.8
         0.9s     27.08nm          5.0mb
SVW     42.92  39 eP     20 02.30    0.1
CHG     43.30 255 iPc    20 05.90    0.2
         1.2s     46.09nm          5.1mb
                   eS     26 36.00
CHTO    43.30 255 iP     20 05.60   -0.1
         1.0s     30.00nm          5.0mb
LSA     43.57 274 iP     20 10.50    2.2
      N  15s      5.30um
      E  16s      7.30um
                   sP     20 20.00
                    S     26 35.50
BRW     43.90  24 eP     20 10.70    0.9
IMA     44.12  31 eP     20 13.30    1.4
         0.8s     10.90nm          4.7mb
BDT     44.22 253 eP     20 14.00    0.9
         1.1s     43.30nm          5.2mb
NST     44.38 251 eP     20 16.00    1.6
KDC     44.58  43 eP     20 15.50   -0.1
AAI     44.83 202 eP     20 26.80    8.8X
PMR     46.04  38 eP     20 26.30   -0.8
         1.0s     31.30nm          5.2mb
      Z  18s      3.30um          5.3Msz
FBA     46.53  33 eP     20 30.70   -0.2
NNT     46.69 248 eP     20 34.00    1.2
TOA     47.41  37 eP     20 39.20    1.2
MKS     49.33 212 iPc    20 57.00    3.7X
SNG     49.84 242 eP     20 58.00    0.7
                   eS     28 10.00
KSH     50.99 293 iP     21 08.00    2.0
      E  12s     13.60um
                   PP     23 06.00
IPM     51.45 239 ePd    21 11.10    1.5
         1.0s     38.10nm          5.3mb
INK     51.84  28 eP     21 10.00   -1.8
         0.6s     26.00nm          5.4mb
KGM     51.89 235 eP     21 15.00    2.2
MTN     52.94 195 eP     21 20.00   -0.6
                    e     21 29.00   30km
MBC     54.09  17 eP     21 28.00   -0.5
         1.0s     38.00nm          5.4mb
NDI     54.79 280 iPc    21 33.50   -0.8
                   eS     29 29.00
KBS     58.88 350 eP     22 04.80    2.2
CTA     58.96 177 eP     22 14.00   10.3X
                   iS     30 01.00
HYB     59.79 268 eP     22 08.50   -1.3
         1.0s     50.00nm          5.6mb
KEV     62.04 339 eP     22 23.00   -1.3
         0.8s     41.10nm          5.6mb
      Z  18s     12.00um          6.1Msz
                    e     30 44.00
                    e     32 12.00
                   LR     54 28.00
POO     62.81 272 eP     22 29.00   -1.1
GBA     62.90 266 Pc     22 26.80   -3.9X
         1.1s     63.00nm          5.7mb
ASPA    63.08 190 eP     22 31.60    0.0
         0.9s     17.00nm          5.2mb
      Z  22s      3.33um          5.5MszX
                   LR     46 52.10
BOM     63.41 273 eP     22 32.80   -1.2
                   eS     31 07.30
SOD     63.64 337 iP     22 33.50   -1.4
MBL     63.88 205 eP     22 35.00   -1.9
MAIO    64.05 297 eP     22 38.00   -0.2
                   eS     32 20.00
TRO     64.24 341 iP     22 38.70   -0.1
DZM     64.59 156 iPc    22 42.00    0.3
RMO     65.46 175 eP     22 47.50    0.5
PNT     65.62  45 eP     22 49.00    1.0
         1.0s     26.00nm          5.3mb
LON     65.72  49 P      22 47.60   -1.2
EDM     66.77  40 eP     22 55.00   -0.3
         1.2s     46.00nm          5.5mb
SUF     66.81 334 iP     22 54.00   -1.4
         0.6s     28.10nm          5.5mb
WARB    66.81 196 eP     22 56.00    0.2
FHC     67.57  55 P      23 10.00    9.4X
         1.0s     40.00nm          5.5mb
WDC     68.61  55 eP     23 05.20   -1.8
                    e     23 10.40   17kmX
NUR     68.83 332 iP     23 07.20   -0.8
         0.7s     29.40nm          5.5mb
      Z  22s      8.20um          5.9Msz
                    e     32 10.00
                    e     33 04.00
                   LR     51 34.00
ORV     69.84  55 eP     23 13.70   -0.9
BRK     70.30  57 e(P)   23 15.20   -2.2
FFC     71.13  34 eP     23 21.00   -1.1
         0.7s     12.00nm          5.1mb
CMB     71.43  56 ePc    23 24.50    0.2
LRM     71.59  46 eP     23 26.00    0.6
TAB     71.90 304 iP+    23 28.00    0.7
KVN     72.29  54 P      23 27.00   -2.6
FRI     72.47  56 eP     23 32.40    2.0
HFS     72.81 336 eP     23 30.90   -1.1
         1.0s     54.40nm          5.5mb
      Z  17s      5.63um          5.9MszX
                   LR     52 45.00
NB2     72.85 338 P      23 31.20   -1.1
         0.9s     37.70nm          5.4mb
BWA     73.32 176 eP     23 35.80    0.6
                    e     23 40.10   14kmX
TNP     73.42  54 P      23 34.40   -1.9
         1.1s     20.56nm          5.1mb
KER     73.57 301 ePc    23 36.50   -0.6
SYP     73.74  59 eP     23 55.00   16.9X
SLY     73.89 303 ePd    23 39.00    0.3
                   ePcP  23 50.50
                   ePP   26 28.00
                   eS    33 09.00
                    e     34 12.50
CAN     74.25 175 eP     23 47.80    7.2X
CLC     74.54  56 eP     23 41.00   -1.6
MSL     74.94 305 ePd    23 45.80    1.0
                    e     23 56.50   35km
                   eS     33 20.00
SBB     75.07  57 eP     23 48.00    2.3
BW06    75.12  47 P      23 45.70   -0.3
MWC     75.20  58 eP     23 55.00    8.4X
GSC     75.36  56 eP     24 02.00   14.6X
DAU     75.63  49 P      23 49.40    0.3
NWAO    75.67 202 eP     23 30.00  -18.8X
      Z  20s      1.10um          5.2Msz
RVR     75.79  58 eP     23 53.00    3.3X
BHD     76.02 301 ePd    23 50.00   -1.0
                   eS     33 31.00
WAR     76.13 328 e(P)   23 52.00    0.7
      Z  14s     11.00um          6.3MszX
                    e     33 28.00
KVT     76.33 312 eP     23 52.00   -0.7
TPC     76.59  57 eP     23 57.00    2.7
IAS     76.78 321 eP     24 00.00    5.0X
BAR     77.05  58 eP     24 02.00    5.1X
RSON    77.41  33 P      23 57.70   -0.7
      Z  20s      2.26um          5.5Msz
CFR     77.88 319 eP     24 03.00    2.0
GLA     78.04  57 eP     24 02.00   -0.3
VRI     78.12 320 eP     24 04.00    1.6
KRA     78.21 327 eP     24 03.60    0.8
         0.9s     75.00nm          5.7mb
      Z  18s     11.70um          6.3Msz
      N  18s     10.00um
                    e     24 13.30   31km
                   eS     33 56.00
MLR     78.77 320 ePc    24 07.00    0.8
BBTK    79.03 313 eP     24 08.00    0.3
KSP     79.12 329 ePc    24 07.50   -0.3
         0.9s     47.00nm          5.5mb
                   id     24 09.50    6kmX
                    e     27 00.00
CMP     79.38 321 ePd    24 12.00    2.6
BUC     79.46 320 eP     24 10.00    0.3
GLD     79.56  47 P      24 11.00    0.3
      Z  20s      2.00um          5.5Msz
PSZ     79.84 325 iP     24 12.00    0.2
BRG     80.02 330 iP     24 13.00    0.3
         2.0s    100.00nm          5.5mb
                    i     24 14.50    5kmX
                    i     24 24.20
                   eS     34 16.00
CLL     80.04 331 iPc    24 12.00   -0.7
         1.1s     62.00nm          5.5mb
ITU     80.26 316 iPc    24 13.00   -1.1
ISK     80.26 316 eP     24 14.00   -0.1
PRU     80.49 329 ePc    24 15.30    0.1
         1.0s     54.90nm          5.5mb
      Z  17s     10.20um          6.2MszX
      N  20s      6.80um
      E  19s      9.50um
                    e     24 26.00   34km
CTT     80.54 316 eP     24 15.70    0.1
BUD     80.55 325 eP     24 12.20   -3.3X
JMB     80.59 318 eP     24 17.00    1.2
SRO     80.61 326 eP     24 16.70    0.9
                    i     24 25.80   29km
BZS     80.77 323 eP     24 27.00   10.3X
ZST     80.84 327 eP     24 18.00    1.0
VKA     81.12 327 ePc    24 18.00   -0.5
         3.0s    604.00nm          6.1mb
      Z  13s      5.10um          6.1MszX
                   ipP    24 29.50   38km
                    e     27 04.00
                   LR     07 03.00
BHL     81.25 307 P      24 20.00    0.4
                   PP     27 22.00
                    S     34 30.00
EDC     81.41 316 eP     24 19.00   -1.2
SOP     81.47 327 eP     24 24.20    3.9X
KHC     81.55 329 iPc    24 21.00    0.2
         0.9s     18.50nm          5.1mb
      Z  18s      9.40um          6.2Msz
      N  18s      6.20um
      E  16s      7.50um
                    i     24 31.70   34km
HRI     81.61 306 e(P)   24 22.00    0.5
EKA     81.67 341 P      24 22.00    0.8
         1.3s     40.00nm          5.3mb
WTS     81.68 335 eP     24 22.00    0.7
         1.0s     20.00nm          5.1mb
                    e     24 42.00   74kmX
PGB     81.78 319 eP     24 23.00    0.9
PLD     81.83 319 eP     24 23.00    0.7
KHL     81.91 313 eP     24 24.00    1.1
BEO     81.91 323 eP     24 24.60    1.9
GRF     82.02 331 ePc    24 26.60    3.4X
         1.0s     87.00nm          5.7mb
ALQ     82.09  51 P      24 21.00   -3.1X
         1.6s     22.97nm          5.0mb
RZN     82.12 318 iPc    24 24.00   -0.1
KMR     82.19 328 eP+    24 25.00    0 9
VTS     82.23 320 iPc    24 25.00    0.4
MMB     82.70 319 ePc    24 27.00    0.1
KKB     82.83 319 iPc    24 28.00    0.5
DSI     82.97 305 eP     24 29.50    1.1
ENN     83.02 334 eP     24 28.00   -0.3
         1.0s     31.00nm          5.4mb
SRS     83.12 319 ePd    24 30.00    1.0
PTJ     83.12 326 eP     24 29.00   -0.1
MEM     83.12 334 P      24 27.00   -1.8
FUR     83.24 330 eP     24 30.50    1.0
KBA     83.29 328 ePc    24 30.50    0.5
         0.8s     25.60nm          5.4mb
                    i     24 32.20    5kmX
                    e     27 45.00
                    e     27 52.00
KNT     83.44 319 ePc    24 31.20    0.5
VAY     83.49 319 iP     24 30.00   -0.9
SKO     83.57 320 iP     24 31.50    0.2
         8.5s    1943.00nm          6.3mb X
      Z  15s      9.50um          6.3MszX
      N  15s     10.28um
                    i     24 33.00    5kmX
                    i     24 42.20
                   iPP    27 55.00
                   iPPP   29 40.00
                   iS     34 54.00
                   iSS    40 28.00
                    i     43 28.00
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04d 20h

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                    LR     05 04.00
SNF     83.78 335 P        24 32 60    0.4
WLF     83.87 334 P        24 35.00    2.3
FVI     83.91 328 P        24 34.80    1.9
PRNI    84.03 304 eP       24 34.00    0.1
DOU     84.03 335 P        24 33.60    0.1
DLE     84.35 342 iPd      24 36.70    1.7
LIT     84.43 319 eP       24 33.60   -2.1
WLS     84.51 332 P        24 36.15    0.2
OHR     84.53 320 eP       24 36.00   -0.3
        1.0s     0.10nm            3.0mb X
CDF     84.53 332 P        24 35.37   -0.8
FEL     84.72 332 P        24 36.42   -0.7
ECH     84.74 332 P        24 36.35   -0.8
CTI     84.81 329 P        24 36.20   -1.4
MOF     85.06 332 P        24 37.43   -1.4
BSF     85.20 332 P        24 38.62   -0.9
HAU     85.21 333 eP       24 39.30   -0.2
        0.8s    18.80nm           5.4mb
BBS     85.25 332 P        24 39.23   -0.5
AGG     85.31 318 eP       24 38.60   -1.6
LOMF    85.59 332 P        24 40.91   -0.6
MDI     85.81 329 P        24 38.80   -3.6X
VAI     86.10 330 Pd       24 43.40   -0.5
ORO     86.61 330 P        24 40.40   -6.2X
HLW     86.68 306 iPc      24 48.00    1.0
                  eS       35 14.00
LOR     86.72 334 eP       24 46.80   -0.2
        1.0s    58.00nm           5.8mb
MEO     86.81  47 e(P)      24 57.70   10.0X
FLN     86.82 337 eP       24 47.00   -0.4
        0.8s    18.80nm           5.4mb
FIR     86.82 327 eP       24 30.00  -17.5X
LDF     86.86 337 eP       24 47.20   -0.4
        1.0s    29.60nm           5.5mb
LBF     86.92 333 eP       24 47.80   -0.2
        0.8s    29.50nm           5.6mb
SSF     87.02 334 eP       24 48.30   -0.1
        1.0s    38.00nm           5.6mb
LPG     87.19 331 eP       24 49.80    0.2
        1.0s    26.00nm           5.4mb
SMF     87.26 333 eP       24 49.40   -0.2
        1.2s    53.50nm           5.7mb
GRR     87.26 337 eP       24 49.50    0.0
        1.1s    68.30nm           5.8mb
AVF     87.30 334 eP       24 49.80    0.0
TUL     87.53  44 eP       24 52.50    1.4
        1.2s     5.50nm           4.7mb
BNI     87.59 331 P        24 42.00   -9.4X
LPF     87.64 337 eP       24 51.60    0.3
        1.2s    53.50nm           5.7mb
MAF     88.07 334 eP       24 54.10    0.6
        1.0s    36.80nm           5.6mb
TCF     88.13 334 eP       24 54.10    0.3
        1.0s    28.00nm           5.5mb
LSF     88.39 335 eP       24 55.60    0.6
        1.0s    44.00nm           5.7mb
MFF     88.63 336 eP       24 56.60    0.4
        0.8s    16.10nm           5.4mb
CAF     89.37 334 eP       25 00.20    0.4
        1.0s    34 80nm           5.6mb
UYO     89.56  45 e(P)      25 04.00    3.2X
ARO     90.82 285 iP       25 08.00    1.1
BUL    121.40 269 iPKPc    30 58.30    1.1
        0.7s     3.08nm
KIC    125.96 320 PKP      31 06.40    0.4
SNA    143.99 199 e(PKP)31 31 00   -6.8X
        0.8s    17.91nm
ZOBO   144.31  59 ePKP     31 39.00   -1.7
     Z  20s      1.05um           5.6Msz
                    LR     21 08.00
LPB    144.51  60 PKP      31 45.50    4.7X
CNCB   144.79  60 PKP      31 41.50    0.0
CCH    146.42  58 PKP      31 46.00    2.1X
AIA    149.33 158 ePKP     31 46.80    0.2
YJA    150.15  64 ePKP     31 51.40    1.6
LNV    151.71  90 ePKP     32 05.00   13.8X
PEL    151.98  88 ePKP     32 04.00   12.3X
PDCR   153.43   5 ePKP     31 54.20    0.1
BAO    154.58  26 e(PKP)32 06.00   10.2X
     S D. = 1.1  on 199 of 236 obs.
-----------------------------------------
% NOV  04, 1989  20h 35m 26.85± 0.87s
   39.300 N ± 6.8km   27.959 E ±10.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)
```

```
DST      0.60  59 iPg    35 38.10   -0.9
                eSg     35 47.10
EDC      1.05 356 ePn    35 46.80    0.2
IZM      1.05 211 iPg    35 46.10   -0.6
                iSg     36 01.10
BNT      1.06 358 iPn    35 47.40    0.7
KHL      1.56 128 ePn    35 56.00    1.2
YLV      1.67  40 iPn    35 55.80   -0.5
       S.D. = 1.1  on   6 of   6 obs.
-----------------------------------------
   NOV  04, 1989  20h 47m 21.02± 0.23s
   30.580 N ± 4.2km   57.554 E ± 3.1km
   DEPTH =  33.0km  (normol)
   4.8mb ( 17 obs.)
 IRAN                                (348)
       Felt in the Kermon areo.

KHI      3.67  14 iPd    48 15.80   -1.2
MAIO     5.93  15 iPnc   48 48.60   -0.4
       0.7s    15.88nm          4.7mb
                eSn     49 04.00
TEH      7.29 316 ePd    49 07.50   -0.6
BRF      7 61 236 iPn    49 10.60   -1.7
BJA      7.64 235 ePn    49 10.90   -1.9
                eSn     50 37.20
DHR      7.79 239 eP     49 13.50   -1.5
KER      9.59 296 eP     49 38.00   -2.0
SLY     11.28 300 eP     50 04.00    1.1
                e       52 33.00
                i       53 16.00
RYD     11.32 242 ePd    49 57.80   -5.7X
                iS      52 04.30
BHD     11.51 287 ePd    50 01.50   -4.5X
                e       51 05.50
                eS      52 26.50
                i       53 05.00
                i       53 48.00
TAB     11.91 312 eP     50 12.00    0.5
OASM    13.13 254 eP     50 22.40   -5.4X
MSL     13.34 300 ePc    50 30.00   -0.5
                eS      53 25.00
                eSS     54 33.00
NDI     17 20  91 iPc    51 19.80   -0.6
KSH     17.47  55 P      51 23.00   -0.9
HRI     18.71 284 ePc    51 40.00    0.9
AYN     18.80 270 eP     51 40.00   -0.1
BHL     18.82 286 Pc     51 42.00    1.6
                S        55 28.00
WAJH    18.98 262 ePc    51 42.50    0.2
DSI     19.02 279 eP     51 44.00    1.3
POO     19.04 125 eP     51 43.50    0.4
PRNI    19.45 275 ePc    51 48.00    0.2
SRFA    19.49 271 ePc    51 48.10   -0.1
BADA    19.72 270 ePc    51 50.90    0.1
KVT     20.29 307 eP     51 56.00   -0.7
CSS     20.82 289 eP     52 02.50    0.4
KAS     21.99 306 iPc    52 15.40    1.4
BBTK    22.21 301 iPc    52 16.00   -0.2
HLW     22.65 275 eP     52 21.00    0.5
                eS      56 32.00
ASW     22.82 260 eP     52 28.00    5.8X
                eS      56 36.00
AMAN    22.84 259 iPd    52 27.00    4.6X
AGRW    23.05 259 iPd    52 28.00    3.5X
AKRL    23.13 259 iPd    52 29.00    3.8X
HYB     23.18 120 iPd    52 27.20    1.4
       1.2s   185.70nm          5.5mb
AGMR    23 32 259 iPd    52 31.00    3.9X
BCK     23 33 294 eP     52 28.70    1.5
KHL     24.31 296 iP     52 36.50   -0.1
HRT     24.75 302 eP     52 42.00    1.1
GBA     24.93 128 Pd     52 41.20   -1.4
       0.8s     6.10nm          4.2mb
GBA     24.93 128 P      52 50.00    7.4X
ISK     25.26 302 eP     52 42.00   -3.6X
CTT     25.74 302 eP     52 48.70   -1.5
EDC     25.97 300 eP     52 52.00   -0.3
IZM     26.07 296 iP     52 54.00    0.7
WMO     27.24  53 P      53 04.00    0.0
MLR     28.79 310 eP     53 20.00    2.0
CMP     29.31 309 ePc    53 37.00   14.4X
VAY     30.10 301 eP     53 29.00   -0.6
SKO     31.04 302 eP     53 38.00    0.1
KRA     34 17 316 eP     53 03.60   -1.5
                e        54 12.00
GTA     35.46  64 iPd    54 16.80    0.4
     Z  16s     6.10um          5.5MszX
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```
SOP     35.61 310 eP     54 21.60    4.1X
KSP     36.63 316 eP     54 26.00    0.0
KHC     37.88 312 iP     54 36.50    0.0
                e        54 47.30
BRG     38.07 315 eP     54 46.50    8.4X
        1.0s     8.00nm          4.5mb
CLL     38.76 315 iP     54 44.40    0.6
        2.1s    72.00nm          5.1mb
LZH     38.78  69 eP     54 43.50   -1.0
        2.0s     0.07nm          2.1mb X
                sP       54 55.00
CHG     39.18  98 eP     54 47.90    0.1
GRF     39.50 312 eP     54 50.00   -0.1
        1.0s     6.00nm          4.3mb
KMI     40.12  86 Pc     54 56.50    0.8
HFS     41.46 328 eP     55 07.20    1.3
        0.8s     9.70nm          4.6mb
LPG     42.00 305 eP     55 11.90    0.9
        0.8s     9.40nm          4.6mb
NB2     42.95 329 P      55 17.20   -1.0
        1.2s     5.70nm          4.2mb
GYA     43.08  83 P      55 20.00    0.1
XAN     43.19  71 eP     55 20.00   -0.6
BTO     43.26  62 eP     55 20.80   -0.4
DOU     43.80 312 P      55 25.10   -0.1
LBF     43.98 308 eP     55 27.70    0.8
        1.2s    20.80nm          4.8mb
LOR     44.08 308 eP     55 26.60   -1.0
        1.2s    11.90nm          4.6mb
SSF     44.31 308 eP     55 27.70   -1.7
        1.0s    14.00nm          4.7mb
HHC     44.42  61 P      55 31.60    1.1
BCAO    45.01 243 iPd    55 35.20   -0.3
        0.8s    49.00nm          5.5mb
                ic       55 38.50
                ic       55 53.20
TIY     45.43  66 eP     55 39.00    0.4
     Z  14s     6.31um          5.7MszX
     N  13s     3.80um
BJI     48.00  62 ePc    55 55.00   -3.7X
        1.5s   183.00nm          5.9mb X
MZZ     49.81 218 eP     56 14.00    1.0
PTZ     51.21 213 eP     56 25.00    1.3
LSZ     53.64 216 eP     56 43.00    1.2
BUL     57.60 213 eP     57 12.10    1.8
SLR     62.62 210 iPc    57 43.00   -1.6
KIC     62.98 261 P      57 45.98   -1.2
TIC     63.08 261 P      57 46.52   -1.3
LIC     63.30 261 P      57 48.02   -1.2
PRY     64.01 210 eP     57 33.00  -20.8X
BFS     64.28 210 iPc    57 55 00   -0.5
        0.6s    13.33nm          5.2mb
SEK     65.16 209 iPc    58 01.00   -0.3
        0.8s    18.66nm          5.2mb
KIM     66.77 211 eP     58 13.00    1.5
FRS     67.39 210 eP     58 16.50    1.3
        0.4s    16.95nm          5.5mb
GRM     69.97 207 e(P)   58 30.50   -0.7
MBC     73.42 359 eP     58 51.50    0.4
        1.0s     7.00nm          4.6mb
BRW     75.56  11 e(P)   59 19.10   15.5X
INK     81.07   4 eP     59 34.00    0.3
TOA     85.68  11 eP     59 46.80  -10.7X
EDM     96.18 355 eP     00 50.00    3.1X
     S.D. = 1.0  on  75 of  93 obs.
-----------------------------------------
   NOV  04, 1989  20h 51m 13.86± 0.20s
   39.097 N ± 4.1km  143.574 E ± 3.4km
   DEPTH =  26.9km  (  5 depth phoses)
   5.3mb ( 39 obs.)  5.5Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
       Felt (I JMA) ot Aomori, Morioka,
       Miyako and Hochinohe.

KAKJ     3.95 224 P       52 12.70   -1.4
                S        52 56.10
NIIJ     4.05 244 P       52 16.10    0.5
                eS       53 03.90
CHJJ     4.74 232 P       52 24.80   -0.6
                eS       53 18.50
MTMJ     5.21 243 P       52 33.10    1.0
IIDJ     5.78 233 P       52 40.40    0.3
TSRJ     7.01 242 P       52 58.00    0.6
WKYJ     8.05 235 eP      53 11.30   -0.7
YONJ     8.96 247 eP      53 24 60    0.0
TKSJ     9.21 239 eP      53 26.10   -1.8
SHK      9.85 246 eP      53 39.00    2.2
```

```
SHNJ    11.18 247 eP     53 55.80   0.9
MDJ     11.79 302 eP     54 02.50  -0.7
      E  14s     10.10um
                  S      56 12.00
KUMJ    12.24 242 eP     54 08.70  -0.6
KAGJ    13.03 237 eP     54 19.30  -0.5
CN2     14.38 295 eP     54 36.00  -1.5
SNY     15.46 287 Pc     54 49.40  -2.2
      Z  13s      8.10um
      N  13s     17.20um
      E  13s      5.10um
DL2     17.06 276 eP     55 12.50   0.5
SSE     19.95 253 Pc     55 46.50  -0.1
        1.0s     71.00nm          4.9mb
      Z  16s      3.60um          4.0Msz
      N  20s      4.00um
                  pP     55 53.00  25km
                  (S)    59 40.00
                  (sS)   59 59.50
TIA     21.11 270 Pc     55 54.80  -3.9X
      Z  14s      6.10um          5.1MszX
      N  13s      2.60um
      E  13s      3.50um
                  eS     59 43.50
NJ2     21.26 258 Pd     55 57.50  -2.7
ANP     23.19 240 eP     56 20.00   0.6
TIY     24.39 277 Pd     56 30.80  -0.2
OZH     25.35 244 Pc     56 39.00  -1.1
      Z  14s      3.20um          5.0MszX
      N  14s      3.20um
                  S      01 08.00
WHN     25.38 259 iPc    56 41.00   0.6
        1.5s      0.76nm          3.1mb X
      N  14s      4.60um
      E  14s      8.50um
                  S      01 08.00
BTO     25.72 284 eP     56 40.00  -3.7X
GZH     30.23 247 eP     57 25.20   0.7
ADK     30.26  52 P      57 22.60  -1.9
        0.8s     55.17nm          5.4mb
LZH     31.45 277 Pc     57 35.00  -0.4
        2.0s      0.12nm          2.4mb X
      Z  14s      4.30um          5.3MszX
      E  13s      3.70um
                  pP     57 40.00  17km
                  sP     57 44.00
GYA     33.27 259 iPc    57 50.20  -1.1
        1.4s      0.10nm          2.5mb X
                  S      03 08.00
CD2     33.41 268 eP     57 51.40  -1.0
GTA     33.64 285 iPc    57 54.40   0.0
        1.2s      0.10nm          2.6mb X
KMI     36.98 260 Pc+    58 23.00   0.0
        1.5s      0.20nm          2.7mb X
                  pP     58 32.50  32km
WMQ     41.47 295 iP     59 00.00   0.0
      Z  14s      2.50um          5.2MszX
                  S      05 14.00
LOE     42.25 251 eP     59 06.00  -0.5
TTA     42.76  36 P      59 10.00  -0.3
        1.0s     18.75nm          4.8mb
SVW     42.83  39 eP     59 11.90   1.0
                  id     59 21.50
LSA     43.74 274 P      59 20.00   0.8
IMA     44.04  31 eP     59 20.80   0.0
        0.9s     11.10nm          4.7mb
BDT     44.37 254 eP     59 25.00   1.2
KDC     44.48  43 eP     59 23.20  -1.0
                  e      59 32.30
NST     44.53 251 eP     59 27.40   2.3
PCI     45.38 214 ePc    59 32.00   0.2
PMR     45.95  38 P      59 35.00  -0.9
        0.9s     22.00nm          5.1mb
                  ed     59 44.90
FBA     46.45  33 eP     59 39.90   0.2
MKS     49.41 212 e(P)   00 16.00  12.7X
SNG     49.98 242 eP     00 09.20   1.4
KSH     51.16 293 eP     00 17.00   0.3
IPM     51.59 239 ePc    00 20.60   0.5
INK     51.77  28 ePc    00 20.00  -0.8
        0.9s     38.00nm          5.3mb
MTN     52.96 195 ePd    00 30.00  -0.2
MBC     54.06  17 eP     00 37.50  -0.2
        1.1s     38.00nm          5.3mb
                  pP     00 47.00  31km
NDI     54.96 281 iPc    00 44.00  -1.0
HYB     59.96 269 iPc    01 19.50  -0.9
        1.0s     30.00nm          5.4mb
KEV     62.12 339 iP     01 33.00  -1.3
        0.9s     22.00nm          5.3mb
POO     62.98 273 eP     01 39.50  -1.2
GBA     63.07 266 Pc     01 39.80  -1.5
        0.9s     36.00nm          5.5mb
SOD     63.72 337 iP     01 44.00  -0.9
MAIO    64.21 297 eP     01 49.00   0.3
DZM     64.50 156 iPc    01 51.20   0.7
PNT     65.51  46 eP     01 57.00   0.2
        1.0s     24.00nm          5.3mb
LON     65.61  49 P      01 57.10  -0.4
EDM     66.67  40 eP     02 03.50  -0.7
        1.2s     53.00nm          5.5mb
SUF     66.90 334 iP     02 04.30  -1.1
        0.6s     14.90nm          5.3mb
WDC     68.48  55 eP     02 16.10   0.4
NUR     68.93 332 iP     02 17.20  -0.8
        0.8s     32.30nm          5.5mb
SES     69.48  41 eP     02 21.00  -0.7
ORV     69.71  55 e(P)   02 23.10  -0.2
FFC     71.05  34 iPd    02 30.70  -0.4
        0.8s     20.00nm          5.3mb
CMB     71.29  56 ePc    02 33.30   0.3
LRM     71.49  46 ePc    02 34.70   0.5
TAB     72.05 305 eP     02 38.00   0.4
KVN     72.16  54 P      02 38.70   0.4
HFS     72.90 336 eP     02 40.80  -1.2
        0.9s     26.40nm          5.3mb
      Z  17s      0.98um          5.2MszX
                  LR     36 39.00
NB2     72.93 338 P      02 41.40  -0.9
        0.9s     24.40nm          5.2mb
BWA     73.29 176 eP     02 44.00  -0.5
TNP     73.29  54 P      02 45.30   0.3
        1.0s     12.50nm          4.9mb
KER     73.72 301 eP     02 47.00  -0.5
CAN     74.22 175 eP     02 48.50  -1.4
FRB     74.37  14 eP     02 49.50  -0.9
CLC     74.40  56 eP     02 50.00  -1.3
SBB     74.93  58 eP     02 55.00   0.6
BW06    75.00  47 P      02 54.00  -0.9
MWC     75.06  58 eP     03 04.00   8.7X
DAU     75.52  50 P      02 58.60   0.7
MSU     76.16  52 P      03 02.50   1.0
KVT     76.47 312 eP     03 03.00   0.1
RSON    77.34  33 P      03 05 60  -1.9
        1.0s     27.11nm          5.2mb
GLA     77.91  57 eP     03 12.00   1.0
VRI     78.24 320 ePd    03 14.00   1.4
KRA     78.33 327 ePc    03 12.90   0.0
        1.0s     68.00nm          5.6mb
      Z  18s      1.90um          5.5Msz
      N  16s      2.60um
                  e      03 22.60
MLR     78.90 321 iPc    03 17 00   0.7
KSP     79.23 329 iPc    03 18.30   0.4
        1.0s     39.00nm          5.4mb
                  i      03 28.10
                  e      06 06.50
PSZ     79.95 325 iP     03 22.80   0.9
BRG     80.13 330 iPc    03 22.50  -0.2
        1.2s     25.00nm          5.1mb
                  i      03 32.10
CLL     80.14 331 iP     03 22.40  -0.3
        1.0s     31.00nm          5.3mb
                  ipP    03 31.70  30km
PRU     80.60 329 ePc    03 26.00   0.8
      Z  16s      2.10um          5.6MszX
                  e      03 34.50
JMB     80.73 318 eP     03 27.00   1.0
SRO     80.73 326 iP     03 26.70   0.8
ZST     80.95 327 iP     03 28.00   0.9
SOP     81.58 327 eP     03 34 30   3.9X
KHC     81.66 329 iPc    03 31 40   0.6
        1.0s     14.00nm          4.9mb
                  i      03 41.00
EKA     81.74 342 P      03 32.00   0.9
        1.1s     16.60nm          5.0mb
HRI     81.76 306 eP     03 32 00   0.3
PGB     81.90 319 ePc    03 33.00   0.8
KHL     82.04 314 eP     03 33.00  -0.1
GRF     82.12 331 iPc    03 33.90   0.7
        1.0s     43.00nm          5.4mb
                  i      03 43 50
RZN     82.25 319 ePc    03 35.00   0 8
VTS     82.36 320 iPc    03 35.00   0 3
MMB     82.83 319 ePc    03 37.00  -0.1
KKB     82.95 320 eP     03 38.00   0.3
ENN     83.11 334 eP     03 34.00  -4.2X
        1.0s     23.00nm          5.3mb
                  ic     03 47.90
DSI     83.12 305 eP     03 40.00   1.4
PTJ     83.23 326 eP     03 38.90  -0.2
SRS     83.24 319 ePd    03 39.60   0.4
KNT     83.57 319 ePd    03 41.20   0.4
VAY     83.62 319 eP     03 41.50   0.5
SKO     83.70 321 iPc    03 42.50   1.1
                  i      03 52.00
FVI     84.02 328 P      03 44.40   1.5
PRNI    84.18 305 eP     03 45.00   0.9
LIT     84.56 319 iPd    03 45.60  -0.2
CDF     84.63 332 P      03 46.61   0.5
OHR     84.66 320 eP     03 45.00  -1.4
ECH     84.84 332 P      03 47.49   0.4
CTI     84.92 329 P      03 47.20  -0.4
MOF     85.16 332 P      03 48.84   0.1
BSF     85.30 332 P      03 49.60   0.1
HAU     85.31 333 eP     03 49.70   0.2
        0.9s     13.10nm          5.2mb
BBS     85.35 332 P      03 48.73  -0.9
LOMF    85.69 332 P      03 51.95   0.5
VAI     86.21 330 Pd     03 53.70  -0.2
MSZ     86.23 163 eP     03 55.00   1.3
LOR     86.81 334 eP     03 57.20   0.3
        0.8s     21.40nm          5.4mb
LBF     87.01 334 eP     03 58.10   0.2
        0.9s     15.30nm          5.2mb
SSF     87.11 334 eP     03 58.60   0.3
        0.8s     14.70nm          5.3mb
LPG     87.29 331 eP     04 00.10   0.5
        1.0s     22.00nm          5.4mb
SMF     87.36 334 eP     04 00.00   0.5
        1.0s     26.80nm          5.5mb
AVF     87.40 334 eP     04 00.30   0.6
        1.0s     30.80nm          5.5mb
LNO     87.43  44 e(P)   04 09.40   9.5X
TUL     87.43  44 eP     04 09.60   9.6X
        1.3s     10.10nm          4.9mb
MAF     88.16 334 eP     04 04.00   0.6
        1.0s     18.00nm          5.3mb
TCF     88.22 334 eP     04 04.50   0.8
        0.8s      5.30nm          4.9mb
LSF     88.48 335 eP     04 05.70   0.7
        1.0s     22.80nm          5.5mb
CAF     89.46 334 eP     04 10.50   0.8
        1.0s     18.00nm          5.3mb
ZOBO   144.17  60 PKP    10 48.00  -1.9
LPB    144.37  60 ePKP   10 46.00  -4.1X
CNCB   144.65  60 PKP    10 50.00  -0.7
CCH    146.29  59 PKP    10 55.50   2.4X
PEL    151.81  89 iPKPc  11 07.50   6.6X
PDCR   153.43   6 ePKP   11 01.40  -2.2X
      S.D. = 0.9  on 137 of 149 obs.
-----------------------------------------
*  NOV  04, 1989  20h 57m 32.96± 2.03s
   36.602 N ±18.3km   21.201 E ± 9.5km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN GREECE                    (368)
      ML 3.5 (ATH).

ITM      0.82  45 ePg    57 48.00  -0.8
VLI      1.40  85 ePb    57 59.00   0.5
VLS      1.65 343 ePb    58 03.50   1.5
ATH      2.43  55 ePg    58 21.20   7.9X
AGG      2.58  20 eP     58 16.10   0.7
NEO      3.14  30 ePn    58 23.30  -0.1
LIT      3.64  16 eP     58 30.90   0.4
KNT      4.74  16 eP     58 44.90  -1.3
CZI      4.78 305 P      58 45.90  -0.8
      S.D. = 1.1  on   8 of   9 obs.
-----------------------------------------
   NOV  04, 1989  21h 56m 42.61± 0.23s
   39.300 N ± 4.3km  143.336 E ± 4.1km
   DEPTH =  21.1km  (  8 depth phases)
   5.3mb ( 48 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      Felt (I JMA) at Aomori, Morioka,
      Miyoko and Hachinohe.
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 11S, 20C
      Centroid Location:
      Origin Time        21:56:47.4 1.1
```

04d 21h

```
      Lat 38.90N 0.12 Lon 143.39E 0.12
      Dep  15.0 FIX Half-duration 1.5
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 6.97 0.88  Mtt= 0.69 0.86
        Mff=-7.66 1.08  Mrt= 2.70 2.53
        Mrf= 5.47 3.91  Mtf=-6.44 1.12
      Principal Axes:
        T  Val=  8.84  Plg=73  Azm=289
        N        4.18      3       28
        P      -13.02     17      119
      Best Double Couple:Mo=1.1*10**17
       NP1:Strike=213 Dip=28 Slip=  96
       NP2:        26     62       87

KAKJ    3.98 220 iP+   57 42.60  -1.2
                eS     58 29.70
NIIJ    3.98 240 iP+   57 45.30   1.5
SAP     4.05 339 eP    57 44.00  -0.7
CHJJ    4.73 228 iP+   57 54.30  -0.2
                eS     58 48.80
MTMJ    5.14 240 iP+   58 02.20   1.8
IIDJ    5.76 230 iP+   58 09.80   0.7
TSRJ    6.95 240 P     58 26.60   0.8
WKYJ    8.02 233 eP    58 39.70  -1.1
YONJ    8.88 246 P     5B 53.40   0.7
TKSJ    9.15 237 eP    58 55.00  -1.5
SHK     9.77 244 eP    59 05.80   0.8
SHNJ   11.09 246 eP    59 25.20   2.2
MDJ    11.53 302 eP    59 29.40   0.5
     E  14s    11.30um
                epP    59 35.00
                S      01 40.00
KUMJ   12.17 240 eP    59 37.30  -0.4
KAGJ   12.99 235 eP    59 47.50  -1.1
SNY    15.23 286 Pc    00 17.00  -0.9
       0.7s      0.10nm          2.2mb X
     Z  16s      8.60um          5.2Msz
     N  13s      3.70um
     E  13s      4.40um
                S      03 10.00
DL2    16.85 276 eP    00 39.50   0.7
     Z  16s      3.90um
     N  13s      2.80um
     E  12s      4.20um
SSE    19.83 252 Pc    01 11.50  -3.3X
       1.0s    165.00nm          5.3mb
     Z  20s      1.90um          4.0Msz
     E  14s      4.20um
                sP     01 19.50
                PP     01 38.00
                S      05 00.00
                sS     05 10.00
BJI    20.90 281 Pc    01 23.00  -2.9
       1.5s    341.00nm          5.5mb
     Z  16s      7.00um          5.1MszX
     E  14s      3.97um
TIA    20.93 270 Pc    01 23.60  -2.7
     Z  14s      8.20um          5.3MszX
     N  12s      3.20um
     E  12s      5.90um
                esP    01 34.00
                S      05 10.70
NJ2    21.12 258 Pd    01 26.00  -2.2
     Z  12s      3.60um          5.0MszX
     N  12s      2.20um
     E  12s      2.10um
                sS     05 34.00
ANP    23.13 239 eP    01 48.50   0.2
TIY    24.18 276 eP    01 56.20  -2.3
     N  13s      3.20um
                S      06 10.00
HHC    24.30 284 P     01 59.00  -0 6
     Z  17s     11.30um          5.4MszX
     E  16s      6.60um
                sS     06 27.50
WHN    25.24 259 iPc   02 09.30   0.7
       1.2s      0.71nm          3.2mb X
     Z  14s      4.73um          5.2MszX
     N  12s      2.36um
     E  14s      6.41um
                pP     02 13.00  13km
QZH    25.27 243 Pc    02 08.00  -0.9
     Z  14s      3.70um          5.1MszX
     N  13s      3.20um
BTO    25.49 284 P     02 09.00  -2.0
     N  13s      1.90um
     E  15s      9.30um
                pP     02 15.00  21km
                PP     02 50.00
                eS     06 39.00
XAN    27.99 270 Pc    02 33.10  -0.8
GZH    30.14 246 P     02 54.80   1.6
     Z  16s      3.40um          5.1MszX
     N  12s      1.90um
     E  11s      2.20um
                S      07 55.00
BAG    30.25 227 eP    02 52.90  -1.5
LZH    31.25 277 iPc   03 02.70  -0.4
       2.5s    228.00nm          5.6mb
     Z  13s      8.00um          5.6MszX
     E  13s      6.00um
                e      03 07.00  15km
                sP     03 12.50
                ePP    04 03.00
                eS     07 58.00
GYA    33.13 258 iPc   03 18.60  -1.0
       2.0s      0.80nm          3.3mb X
     Z  14s      1.70um          4.9MszX
     N  13s      1.60um
     E  13s      3.40um
                S      08 35.00
CD2    33.23 268 P     03 19.60  -0.7
     N  14s      4.50um
GTA    33.41 284 iPc   03 22.60   0.7
       1.0s      0.10nm          2.7mb X
     Z  16s      7.90um          5.5MszX
                S      08 35.00
QIZ    35.25 245 eP    03 39.50   1.7
     N  13s      1 60um
     E  13s      1.60um
                eS     09 07.00
KMI    36.83 260 P+    03 52.00   0.7
     Z  14s      4.50um          5.4MszX
     N  13s      1.10um
     E  13s      2.50um
                pP     03 56.00  13km
                eS     09 34.00
KKM    41.17 224 ePd   04 28.50   1.2
WMQ    41.22 295 iPc   04 28.30   0.9
     Z  16s      1.40um          4.9MszX
                S      10 44.00
TSM    41.76 220 eP    04 33.50   1.5
LOE    42.14 251 eP    04 35.00  -0.2
TTA    42.70  36 P     04 44.00   4.6X
       0.9s     12.92nm          4.7mb
SVW    42.79  39 eP    04 40.70   0.6
CHG    43.33 255 iPc   04 45.90   1.0
       1.1s     35.76nm          5.0mb
CHTO   43.33 255 iPc   04 45.40   0.5
       1.1s     34.45nm          5.0mb
LSA    43.54 274 P     04 48.00   0.9
     N  15s      1.90um
                S      11 18.00
IMA    43.97  32 eP    04 49.70   0.0
       1.0s      9.30nm          4.6mb
BDT    44.26 253 eP    04 53.20   0.8
NST    44.42 250 eP    04 55.50   1.8
PCI    45.44 214 ePc   05 01.00  -0.9
PMR    45.91  38 eP    05 04.00  -1.0
       0.9s      9.60nm          4.7mb
FBA    46.38  33 P     05 07.30  -1.5
       0.8s     21.55nm          5.2mb
NNT    46.75 248 eP    04 55 50 -16.7X
MKS    49.48 212 iPc   05 46.50  13.1X
SNG    49.91 242 iPd   05 38.50   1.7
KSH    50.91 293 P     05 45.00   0.7
IPM    51.54 239 ePc   05 49.40   0.2
       0.9s     27.30nm          5.2mb
INK    51.68  28 eP    05 49 00  -0.6
KGM    51.98 235 eP    05 54.00   1.5
MTN    53.11 195 eP    05 59.00  -1.8
PSI    54.33 239 ePd   06 09 00  -0.9
                e      08 00.00 586kmX
PSI    54.33 239 ePd   06 00.00  -9.9X
NDI    54.75 280 iPc   06 12.50  -0.4
HYB    59.78 268 eP    06 48.00  -0.7
KEV    61.86 339 eP    06 56.00  -6.2X
POO    62.79 272 iPc   07 08 00  -1.0
GBA    62.90 266 Pd    07 07.00  -2 7
       0.9s     36.50nm          5.5mb
ASPA   63.25 190 iPc   07 10.40  -1.4
       0.9s      7.00nm          4.8mb
BOM    63.38 273 eP    07 11.10  -1.8
                eS     15 45.30
SOD    63.47 337 iP    07 11.90  -0.9
                i      07 21.20  30km
MAIO   63.96 297 iPc   07 16.20  -0.4
TRO    64.06 341 eP    07 16.00  -0.6
DZM    64.76 156 iPc   07 21.80   0.0
PNT    65.50  46 eP    07 26.00  -0.3
LON    65.61  49 P     07 28.00   0.9
EDM    66.63  40 eP    07 32.50  -1.0
SUF    66.64 333 iP    07 32.40  -0.9
       0.9s     28.90nm          5.4mb
WDC    68.52  55 ePc   07 46.60   1.1
NUR    68.66 332 iP    07 44.80  -1.2
       0.9s     37.20nm          5.5mb
                i      07 54.40  31km
SES    69.45  41 eP    07 50.00  -1.1
ORV    69.75  55 e(P)  07 52.50  -0.6
FFC    70.98  34 iPd   07 59.20  -1.1
       1.0s     19.00nm          5.2mb
CMB    71.33  56 e(P)  08 04.00   1.2
LRM    71.48  46 eP    08 03.40  -0.4
TAB    71.78 304 eP    08 06.00   0.4
KVN    72.19  54 P     08 07.00  -1.1
FRI    72.38  57 e(P)  08 11.80   2.8
HFS    72.64 336 eP    08 09.00  -1.1
       1.1s     49.30nm          5.5mb
     Z  17s      0.77um          5.0MszX
                LR     38 55.00
NB2    72.68 338 P     08 09.70  -0.7
       1.0s     34.40nm          5.4mb
TNP    73.32  54 P     08 14.00  -0.8
       0.9s      5.99nm          4.6mb
KER    73.46 301 ePc   08 15.00  -0.5
BWA    73.51 176 eP    08 16.50   1.1
FRB    74.22  14 eP    08 22.00   2.8
CLC    74.45  56 eP    08 21.00  -0.1
SBB    74.98  57 eP    08 35.00  10.8X
BW06   75.00  47 P     08 23.40  -1.0
MWC    75.11  58 eP    08 44.00  18 9X
BHD    75.92 301 Pd    08 28.50  -1.0
KVT    76.20 312 eP    08 31.80   0.8
RSON   77.27  33 P     08 35.00  -1.7
       1.0s     13.56nm          4.9mb
KAS    77.31 313 iPc   08 39.40   2.2
VRI    77.97 320 ePd   08 42.00   1 3
MLR    78.62 320 eP    08 45.00   0.6
BBTK   78.90 313 eP    08 46.00   0.0
KSP    78.96 329 iPc   08 46.40   0.4
       1.1s     43.00nm          5.4mb
                i      08 55.60  29km
                e      11 19.00
CMP    79.23 321 ePc   08 49.00   1.4
GLD    79.45  47 P     08 50.00   0.9
       1.4s     33.78nm          5.2mb
PSZ    79.68 325 iP    08 50.70   0.6
BRG    79.86 330 iP    08 50.90   0.1
       1.2s     25.00nm          5.1mb
                e      11 45.00
CLL    79.87 331 iPc   08 50.50  -0.4
       1.2s     48.00nm          5.4mb
PRU    80.33 329 eP    08 53.50   0.1
       1.5s     33.50nm          5.1mb
                e      08 58.50  16km
BUD    80.39 325 eP    08 55.00   1.3
SRO    80.45 326 eP    08 55.30   1.3
PVL    80.56 319 iPc   08 55.00   0.3
BZS    80.62 323 eP    08 55.00   0.0
ZST    80.68 327 eP    08 56.10   0.9
VKA    80.96 327 e(P)  08 58.00   1.3
SOP    81.31 327 iPc   09 03.10   4.5X
KHC    81.39 329 iPc   08 59.80   0.8
       1.0s     21.00nm          5.1mb
                e      09 27.50 107kmX
EKA    81.49 341 P     09 00.00   0.6
       1.1s     17.80nm          5.0mb
WTS    81.51 335 eP    09 00.00   0.5
       0.9s     18.00nm          5.1mb
                e      09 10.50  33kmX
PGB    81.63 319 ePc   09 01.00   0.6
BCK    81.76 312 eP    09 01.70   0.5
GRF    81.85 331 iPc   09 02.30   0.9
       1.1s     70.00nm          5.6mb
RZN    81.98 318 iPc   09 03.00   0.6
ALQ    81.98  51 P     09 02.50  -0.1
       1.4s     11.54nm          4.7mb
VTS    82.08 320 iPc   09 03.00   0.1
MMB    82.56 319 iPc   09 06.00   0.8
KKB    82.68 319 ePc   09 07.00   1.2
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ENN     82.85 334 eP     09 06.50    0.0
        1.0s     12.00nm          5.0mb
PTJ     82.96 326 eP     09 07.00   -0.3
SRS     82.97 319 ePd    09 07.90    0.5
ZAG     83.01 326 iP     09 18.70   11.3X
FUR     83.07 330 eP     09 08.50    0.7
KBA     83.13 328 eP     09 08.50    0.2
        0.8s     28.20nm          5.5mb
                  e      12 19.50
KNT     83.29 319 ePc    09 09.00    0.0
VAY     83.34 319 iP     09 09.40    0.2
SKO     83.42 320 iPc    09 10.60    1.0
FVI     83.75 328 P      09 11.60    0.4
GWF     83.77 332 P      09 09.42   -1.9
DLE     84.17 342 iPd    09 14.00    0.8
        1.2s    119.00nm          6.0mb
LIT     84.29 319 ePc    09 13.50   -0.6
CDF     84.37 332 P      09 14.50    0.1
OHR     84.39 320 iP     09 14.00   -0.6
        1.0s      0.80nm          3.9mb X
FEL     84.55 332 P      09 15.13   -0.3
ECH     84.58 332 P      09 15.26   -0.1
CTI     84.65 329 Pd     09 15.50   -0.4
MOF     84.89 332 P      09 16.93   -0.1
VITF    84.99 333 P      09 17.33    0.0
BSF     85.03 332 P      09 15.26   -2.5
HAU     85.04 333 eP     09 17.80    0.1
        0.8s     10.70nm          5.1mb
BBS     85.08 332 P      09 17.98    0.0
AGG     85.17 318 eP     09 17.30   -1.2
LOMF    85.42 332 P      09 19.77    0.0
VAI     85.94 330 P      09 21.90   -0.2
LOR     86.55 334 eP     09 25.50    0.3
        1.0s     44.00nm          5.6mb
FLN     86.64 337 eP     09 25.60    0.0
        1.1s     29.30nm          5.4mb
LDF     86.68 337 eP     09 25.90    0.1
        1.1s     34.10nm          5.5mb
LBF     86.75 333 eP     09 26.40    0.1
        1.0s     30.00nm          5.5mb
SSF     86.85 334 eP     09 26.90    0.2
        1.0s     30.00nm          5.5mb
LPG     87.02 331 eP     09 28.30    0.4
        1.0s     28.00nm          5.4mb
GRR     87.09 337 eP     09 28.10    0.3
        1.0s     40.00nm          5.6mb
SMF     87.09 333 eP     09 28.10    0.2
        1.2s     56.50nm          5.7mb
AVF     87.13 334 eP     09 28.50    0.5
        1.0s     46.00nm          5.7mb
BNI     87.42 331 P      09 31.00    1.3
LPF     87.46 337 eP     09 30.10    0.5
        1.3s     79.40nm          5.8mb
MAF     87.90 334 eP     09 32.60    0.9
        1.1s     41.50nm          5.7mb
TCF     87.96 334 eP     09 32.60    0.5
        1.2s     50.50nm          5.7mb
LSF     88.22 335 eP     09 33.90    0.6
        0.8s     22.80nm          5.6mb
CAF     89.20 334 eP     09 38.00    0.0
        1.0s     24.00nm          5.4mb
LPO     89.71 334 eP     09 41.00    0.6
        1.2s     38.00nm          5.5mb
BUL    121.39 269 iPKPd  15 36.20   -0.1
        1.0s      5.00nm
SLR    124.67 263 iPKPc  15 42.00   -0.5
        1.0s     12.00nm
ZOBO   144.23  59 PKP    16 18.00   -1.6
LPB    144.43  59 PKP    16 19.00   -0.8
CNCB   144.71  60 PKP    16 20.00   -0.4
CCH    146.34  58 PKP    16 25.00    2.1X
     S.D. = 1.1  on 165 of 176 obs.
-----------------------------------
   NOV  04, 1989  22h 19m 57.28± 1.32s
   31.699 S ± 6.3km   72.105 W ±12.8km
   DEPTH =  42.8 ± 11.1 km
   4.9mb (  1 obs.)
 OFF COAST OF CENTRAL CHILE        (134)

IHA     1.38 164 eP      20 21.00    0.6
                 iS      20 40.90
ROCH    1.57 144 iPd     20 22.80   -0.5
                 iS      21 41.50
JACH    1.61 128 iPd     20 22.20   -1.6
                 iS      20 41.00
LCCH    1.83 166 iPd     20 27.50    0.7
                 iS      20 53.00
PEL     1.87 141 iPd     20 27.00   -0.5
SAN     2.13 146 iPc     20 30.60   -0.5
                 iS      20 56.50
TACH    2.18 154 iPd     20 32.00    0.1
                 iS      21 01.00
FCH     2.23 137 iPd     20 32.50   -0.4
                 iS      20 58.50
LNV     2.32 166 iPc     20 33.50   -0.3
                 iS      21 04.20
PCH     2.34 145 iPc     20 33.70   -0.5
                 iS      21 01.50
CHCH    2.54 152 iPd     20 37.50    0.5
                 iS      21 09.80
RTRS    2.74  57 iPc     20 41.20    1.5
RTCB    2.83  87 iPc     20 41.80    0.6
ZON     2.93  88 eP      20 43.00    0.5
RTCV    3.04  94 iPc     20 45.30    1.2
RTLL    3.13  84 iPd     20 45.30    0.0
CFA     3.30  89 iPd     20 48.00    0.2
ANT     8.10  11 e(P)    22 12.00   16.8X
CNCB   15.29  15 P       23 38.20    5.8X
LPB    15.53  14 eP      23 34.00   -1.4
ZOBO   15.78  14 P       23 38.80    0.0
PPD    20.87  68 eP      24 36.00   -2.1
LIC    74.11  72 P       31 30.60   -0.6
KIC    74.42  72 P       31 32.40   -0.6
        0.8s     12.50nm          4.9mb
BUL    88.28 113 iPd     32 47.60    1.6
GBA   146.78 116 PKPc    39 36.60    1.6
        0.8s      9.30nm
      S.D. = 1.0  on  24 of  26 obs.
-----------------------------------
?  NOV  04, 1989  22h 47m 59.32± 5.71s
   31.647 S ±35.0km   69.822 W ±38.1km
   DEPTH =  10.0km  (geophysicist)
 SAN JUAN PROVINCE, ARGENTINA     (137)

RTCB    0.89  80 ePd     48 18.00    1.6
RTCV    1.12 101 iPd     48 20.60    0.3
RTLL    1.20  75 iPd     48 21.00   -0.7
CFA     1.35  89 iPc     48 23.00   -1.2
                 S       48 41.50
RTRS    1.50  12 iPd     48 26.30    0.0
                 S       48 46.30
      S.D. = 1.5  on   5 of   5 obs.
-----------------------------------
&  NOV  04, 1989  23h 34m 44.10s
   33.940 N          119.220 W
   DEPTH =   1.0km
 SOUTHERN CALIFORNIA                ( 43)
      <PAS-P>. ML 3.1 (PAS).

SYP     0.86 313 iPd     34 59.90   -1.4
CIS     0.86 128 eP      35 00.60   -0.8
ABL     0.91 360 iPd     35 00.90   -1.3
MWC     1.01  73 eP      35 02.70   -1.4
SCI     1.11 149 eP      35 04.90   -0.9
BLP     1.16 303 eP      35 04.50   -2.1
SBB     1.37  57 eP      35 08.40   -2.0
BCH     1.43 330 eP      35 09.20   -2.1
PEC     1.71  91 eP      35 12.40   -2.9
PLM     2.05 106 eP      35 17.20   -3.1
KVN     5.18  10 eP      36 04.20   -0.6
       11 obs. associated
-----------------------------------
&  NOV  05, 1989  00h 12m 53.94s
   63.035 N          151.011 W
   DEPTH = 111.7km
 CENTRAL ALASKA                     (  1)
      <AGS-P>.

KTH     0.52   4 iP      13 11.18   -0.3
                 eS      13 23.62
HUR     0.63  95 eP      13 12.34    0.2
CUT     0.72 151 eP      13 12.80    0.0
RND     1.05  68 eP      13 15.20   -0.9
SKT     1.09 193 eP      13 16.10   -0.4
MCK     1.17  52 eP      13 16.54   -0.9
PWA     1.49 159 eP      13 20.75   -0.3
SUA     1.58 175 eP      13 21.97   -0.4
                 eS      13 43.75
GHO     1.60 142 eP      13 21.90   -0.6
PME     1.69 146 eP      13 22.53   -1.0
NCG     1.72 199 eP      13 23.48   -0.6
WRH     1.94  41 eP      13 25.12   -1.6
KNK     2.02 143 eP      13 26.46   -1.3
NCA     2.21 116 eP      13 28.82   -1.4
HDA     2.27  51 eP      13 29.60   -1.4
TTA     2.29 270 eP      13 29.94   -1.3
FBA     2.35  36 eP      13 30.72   -1.3
TOA     2.43 110 eP      13 32.04   -1.1
DDM     2.44  70 eP      13 33.10   -0.1
PAX     2.53  89 eP      13 33.35   -1.1
SLKM    2.56 171 eP      13 34.12   -0.8
KLU     2.84 121 eP      13 36.18   -2.4
GLI     2.85 138 eP      13 36.43   -2.2
VLZ     2.91 129 eP      13 36.74   -2.7
FID     3.14 135 eP      13 40.41   -2.2
GLB     3.73 112 eP      13 48.38   -2.2
       26 obs. associated
-----------------------------------
*  NOV  05, 1989  01h 25m 31.19± 1.77s
   39.074 N ±11.9km  143.408 E ±13.6km
   DEPTH =  37.3 ± 12.7 km
   4.0mb (  4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      Felt (I JMA) at Aomori, Morioka,
      Miyako and Hachinohe.

OFUJ    1.35 271 eP      25 54.10    0.2
YAMJ    2.79 252 eP      26 14.80    0.3
KAKJ    3.85 223 P       26 27.40   -2.0
                 eS      27 11.20
NIIJ    3.93 244 P       26 30.70    0.1
CHJJ    4.63 231 P       26 39.90   -0.7
                 eS      27 32.20
MAT     4.83 240 iPc     26 43.90    0.4
        0.8s     26.87nm
                 (S)     27 46.00
MTMJ    5.08 242 P       26 47.90    0.8
IIDJ    5.66 232 P       26 55.00   -0.2
TSRJ    6.89 241 P       27 13.60    1.2
CN2    14.27 295 eP      28 57.40    4.8X
SSE    19.82 253 P       30 01.00   -0.5
        1.0s      0.01nm          1.2mb X
                 pP      30 12.00   49kmX
                 PP      30 24.50
WHN    25.25 259 Pc      30 55.00   -0.3
XAN    28.05 270 P       31 21.00    0.0
LZH    31.33 277 e(P)    31 52.30    1.9
     Z  14s      0.40um          4.2MszX
GYA    33.14 259 P       32 05.40   -0.8
GTA    33.52 285 eP      32 09.00   -0.4
KMI    36.84 260 Pd      32 36.50   -1.5
                 pP      32 47.50   39kmX
WMQ    41.36 295 P       33 15.00   -0.2
CHG    43.33 255 eP      33 32.10    0.7
CHTO   43.33 255 eP      33 32.00    0.6
        1.0s      1.50nm          3.7mb
INK    51.85  28 eP      34 38.00    0.6
WRA    59.32 190 P       35 33.00    1.3
        0.4s      0.30nm          3.8mb
KEV    62.09 339 eP      35 38.00  -12.1X
HFS    72.87 336 eP      36 56.70   -1.1
        0.6s      1.70nm          4.2mb
NB2    72.91 338 P       36 57.60   -0.5
        0.8s      3.40nm          4.4mb
      S.D. = 1.0  on  23 of  25 obs.
-----------------------------------
*  NOV  05, 1989  01h 27m 37.57± 1.19s
   36.555 N ±11.5km   21.102 E ± 7.3km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN GREECE                    (368)
      ML 3.6 (ATH).

ITM     0.91  46 ePb     27 53.10   -1.9
VLI     1.49  83 ePn     28 05.00    0.7
VLS     1.67 346 ePb     28 09.00    2.0
ATH     2.52  55 ePb     28 20.20    1.0
AGG     2.65  21 eP      28 22.10    1.0
VAM     2.76 114 ePn     28 22.30   -0.4
NEO     3.22  31 ePn     28 29.00   -0.2
LIT     3.71  17 ePd     28 37.10    1.0
KZN     3.78   8 ePn     28 37.00   -0.2
SOI     4.30 292 P       28 44.20   -0.3
LCI     4.51 328 P       28 45.60   -1.8
CZI     4.74 306 P       28 51.30    0.5
KNT     4.81  16 eP      28 50.30   -1.4
      S.D. = 1.3  on  13 of  13 obs.
-----------------------------------
&  NOV  05, 1989  01h 30m 42.40s
   37.077 N          121.925 W
   DEPTH =  15.0km
 CENTRAL CALIFORNIA                 ( 39)
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05d 01h

<BRK>. ML 4.2 (BRK).
Mo=1.4*10**15 Nm (BRK). Felt at Santa Cruz, Palo Alto and Menlo Park.

GCC	0.07	231	iPc	30	44.70	-0.8
MHC	0.35	40	iPc	30	49.70	-0.1
			iS	30	54.85	
ARN	0.41	49	iPc	30	50.60	-0.3
SAO	0.49	129	iPd	30	50.80	-1.5
PCC	0.56	319	iPd	30	52.80	-0.5
BKS	0.84	343	iPd	30	57.40	-0.7
			eS	31	09.05	
BRK	0.84	342	ePd	30	57.20	-0.9
			iS	31	09.20	
PRS	0.87	149	iPd	30	57.90	-0.7
ZSP	0.91	343	iPd	30	59.50	0.2
LLA	0.91	120	iPd	30	58.30	-1.1
PRI	1.38	132	ePc	31	05.80	-1.3
			i	31	07.30	
CMB	1.55	52	iPc	31	08.40	-1.2
NWRM	1.57	331	eP	31	07.80	-2.0
PHAM	1.75	135	eP	31	10.60	-1.7
FRI	1.78	92	iPc	31	11.30	-1.4
PKEM	1.78	124	eP	31	11.80	-1.0
8CH	2.41	141	eP	31	19.50	-2.4
ORV	2.50	8	eP	31	21.20	-1.9
ABL	3.12	135	eP	31	29.50	-2.7
KVN	3.60	56	ePc	31	37.40	-1.6
TNP	3.87	74	eP	31	42.00	-0.8
FHC	4.05	337	eP	31	43.00	-2.1

22 obs. associated

NOV 05, 1989 02h 01m 29.14± 0.54s
38.708 N ± 5.4km 24.657 E ± 5.6km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
ML 3.0 (ATH).

ATH	1.04	225	ePb	01	49.20	0.4
			eSn	02	05.00	
NEO	1.27	299	ePn	01	52.50	-0.2
PRK	1.37	66	ePb	01	55.00	0.8
EZN	1.71	49	ePn	01	59.00	-0.1
APE	1.78	157	ePn	01	59.10	-1.0
AGG	1.84	281	eP	02	02.70	1.6
SMG	1.99	119	ePn	02	02.50	-0.6
IZM	2.07	98	ePn	02	11.00	6.7X
LIT	2.18	310	eP	02	06.60	0.6
VLI	2.41	215	ePn	02	08.70	-0.5
RDO	2.53	15	ePn	02	10.00	-0.8
SRS	2.54	342	eP	02	10.40	-0.7
KNT	2.80	332	eP	02	15.10	0.3
MMB	2.96	346	ePc	02	16.00	-1.1
EDC	2.97	56	ePn	02	20.00	2.8
RZN	2.98	1	eP	02	16.00	-1.4
VAY	3.06	329	ePn	02	19.40	1.0
KKB	3.38	340	ePd	02	22.00	-1.0
YLV	4.09	62	ePn	02	37.00	3.9X

S.D. = 1.2 on 17 of 19 obs.

? NOV 05, 1989 02h 09m 12.61± 4.03s
32.461 S ±31.6km 71.413 W ±16.4km
DEPTH = 31.9 ± 5.9 km
NEAR COAST OF CENTRAL CHILE (135)

IHA	0.60	199	iPc	09	25.10	0.5
			iS	09	36.30	
ROCH	0.61	146	iPc	09	25.60	0.5
JACH	0.73	108	iPc	09	26.50	-0.1
			iS	09	38.00	
LCCH	1.02	187	iPd	09	30.60	-0.1
			iS	09	40.50	
SAN	1.17	148	iPc	09	32.90	0.0
			iS	09	49.50	
TACH	1.25	162	iPd	09	34.00	0.0
			iS	09	51.50	
FCH	1.28	133	iPc	09	34.10	-0.6
			iS	09	52.20	
PCH	1.38	147	iPc	09	35.70	-0.2
			iS	09	54.50	
LNV	1.49	180	iPd	09	36.10	-1.3
			iS	09	56.00	
CHCH	1.60	157	iPc	09	39.60	0.5
			iS	10	00.50	

S.D. = 0.7 on 10 of 10 obs.

& NOV 05, 1989 02h 19m 45.12s
63.188 N 149.756 W
DEPTH = 103.8km
CENTRAL ALASKA (1)
<AGS-P>.

HUR	0.22	165	eP	19	59.74	1.4
			eS	20	09.66	
RND	0.46	61	eP	20	01.06	-0.3
			eS	20	13.07	
KTH	0.64	305	iP	20	02.36	-0.4
MCK	0.66	34	iP	20	02.55	-0.3
CUT	0.82	197	eP	20	04.20	0.0
NEA	1.43	12	iP	20	10.48	-0.6
SKT	1.46	215	eP	20	11.04	-0.5
GHO	1.47	164	eP	20	11.88	0.2
			eS	20	31.79	
WRH	1.49	29	iP	20	11.14	-0.6
PWA	1.54	182	iP	20	13.15	0.7
PME	1.60	168	eP	20	13.22	0.0
PLRM	1.63	169	eP	20	13.27	-0.2
			eS	20	35.19	
CCB	1.70	30	eP	20	13.70	-0.7
HDA	1.74	44	eP	20	14.48	-0.6
SUA	1.79	195	eP	20	16.26	0.5
RDS	1.79	23	eP	20	15.10	-0.6
NCA	1.81	130	eP	20	16.17	0.2
DDM	1.85	69	eP	20	16.76	0.3
KNK	1.88	161	eP	20	16.69	-0.2
FBA	1.92	26	iP	20	16.86	-0.5
PAX	1.96	94	eP	20	18.40	0.4
TOA	1.98	122	eP	20	18.54	0.4
SDG	2.04	107	eP	20	18.97	0.0
GLM	2.08	29	eP	20	18.91	-0.6
NCG	2.11	213	eP	20	19.42	-0.5
KLU	2.47	132	eP	20	23.69	-0.9
DOT	2.60	77	eP	20	25.88	-0.5
VLZ	2 62	141	eP	20	24.90	-1.6
SLKM	2.70	185	eP	20	27.92	0.2
SEW	3.10	177	eP	20	32.79	-0.2
RED	3.13	209	eP	20	34.18	0.7
ILIM	3.47	208	eP	20	39.46	1.3
CNPM	3 74	192	eP	20	41.24	-0.6

33 obs. associated

NOV 05, 1989 02h 41m 49.27± 0.49s
36.569 N ± 4.9km 21.183 E ± 3.0km
DEPTH = 10.0km (geophysicist)
4.0mb (3 obs.)
SOUTHERN GREECE (368)
ML 3.9 (ATH).

ITM	0.85	44	iPgc	42	05.20	-0.5
VLI	1.42	83	ePb	42	16.20	1.1
VLS	1.67	344	ePn	42	20.20	1.5
ATH	2.46	55	ePn	42	31.00	1.0
AGG	2.61	20	ePc	42	34.40	2.1
VAM	2.71	114	ePn	42	34.30	0.7
NEO	3.17	30	ePn	42	40.70	0.5
KEK	3 32	341	ePn	42	42.50	0.2
SRN	3.43	345	ePn	42	44.40	0.5
APE	3.52	81	ePn	42	45.50	0.3
LIT	3.67	16	ePc	42	47.40	0.1
KZN	3.76	7	ePn	42	49.30	0.7
NPS	3.82	109	ePb	42	58.50	9.0X
VLO	4.11	342	ePn	42	47.70	-5.7X
THE	4.29	18	eP	42	55.40	-0.6
SOI	4.35	292	Pd	42	57.20	0.3
GRI	4.39	302	P	42	58.04	0.5
LCI	4.53	327	P	42	58.70	-0.7
			(Sn)	43	41.10	
OHR	4.55	356	iPn	43	00.70	1.0
SMG	4.66	74	ePb	43	06.20	4.9X
ROI	4.72	311	P	43	01.90	-0.3
MSI	4.77	292	P	43	02.70	-0.2
KNT	4.78	16	iPd	43	02.90	-0.1
CZI	4.79	305	P	43	03.60	0.4
ACI	4.82	307	P	43	04.90	1.3
VAY	4.87	12	ePn	43	03.70	-0.5
TIR	4.88	348	ePn	43	06.20	1.8
TDS	4.91	310	P	43	05.10	0.2
SRS	4.92	22	ePd	43	04.30	-0.6
CSI	5.01	311	P	43	08.30	2.0
MEU	5.04	278	P	43	06.80	0.0
			eSn	43	54.50	
PZI	5.05	277	P	43	05.88	-1.0
LACI	5.19	348	ePn	43	08.00	-0.7
EZN	5.19	50	eP	42	18.00	-50.8X
BRT	5.31	325	P	43	10.10	-0.4
			eSn	43	59.80	
MNO	5.35	287	P	43	11.10	-0.2
			eSn	44	00.50	
MMB	5.39	21	eP	43	10.00	-1.7
SKO	5.40	2	ePn	43	11.00	-0.8
E	13s		2.39um			
			i	43	31.00	
			i	43	55.00	
KKB	5.49	15	eP	43	13.00	-0.1
SDA	5.59	347	ePn	43	15.50	1.0
MGR	5.68	311	P	43	15.60	-0.1
			iSn	44	06.10	
RDO	5.69	35	ePn	43	15.20	-0.7
RZN	5.80	27	eP	43	17.00	-0.6
BCI	5.85	352	iPnc	43	23.10	5.0X
SGO	6.09	313	P	43	21.70	0.3
			eSn	44	17.80	
VTS	6.21	14	eP	43	23.00	-0.4
KSL	6.79	91	ePn	43	31.20	-0.2
DUI	7.29	316	P	43	37.00	-1.5
SDI	7.69	314	P	43	43.70	-0.3
MLR	9.61	20	eP	44	11.00	0.3
BBTK	9.68	67	eP	45	04.00	52.3X
VBY	9.98	335	e(Pn)	44	15.30	-0.4
PTJ	10.12	339	eP	44	44.40	26.8X
KHC	13.73	339	P	45	07.20	1.0
KSP	14.70	348	eP	45	24.00	5.1X
NUR	24.06	4	eP	47	03.00	-2.2
HFS	24.07	351	eP	47	03.60	-1.7
	0.5s		1.70nm			3.9mb
NB2	25.30	349	P	47	15.20	-2.0
	0.9s		2.80nm			4.0mb
BCAO	32.07	185	ePc	48	18.40	-0.2
	0.6s		4.00nm			4.5mb
			id	48	34.80	

S.D. = 1.0 on 51 of 59 obs.

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* NOV 05, 1989 03h 10m 36.21± 2.56s
44.106 N ± 8.4km 8.673 E ±16.8km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.6 (GEN).

FIN	0.35	287	P	10	43.24	-0.2
			S	10	49.29	
CKI	0.43	319	P	10	44.70	-0.2
			eSg	10	51.10	
PCP	0.45	348	P	10	45.39	0.1
			S	10	52.57	
IMI	0.60	251	P	10	47.44	-0.9
			S	10	55.85	
ROB	0.61	288	P	10	47.85	-0.7
			S	11	56.87	
SAOF	0.81	262	Pg	10	51.81	-0.2
			Sg	11	03.40	
AUTN	0.91	263	Pg	10	53.76	0.1
ENR	0.91	278	P	10	54.11	0.4
			S	11	06.00	
STV	0.98	279	P	10	55.34	0.5
			S	11	07.64	
AURF	1.00	258	Pg	10	55.19	0.0
TOUF	1.03	265	Pg	10	56.31	0.5
DOI	1.10	292	P	10	57.00	0.1
			eSg	11	11.50	
MVIF	1.12	260	Pg	10	57.55	0.3
PZZ	1.20	290	P	10	58.72	0.1
			S	11	12.67	

S.D. = 0.4 on 14 of 14 obs.

& NOV 05, 1989 03h 40m 12.21s
59.462 N 153.696 W
DEPTH = 80.8km
SOUTHERN ALASKA (2)
<AGS-P>.

GLI	3.59	64	eP	41	03.64	-3.0
			Sn	41	43.20	
FID	3.84	67	eP	41	06.46	-3.6
			Sn	41	48.61	
VZW	3.90	63	eP	41	08.74	-2.3
VLZ	4.03	62	eP	41	10.09	-2.6
			Sn	41	54.90	
KLU	4.35	59	eP	41	14.55	-2.8

5 obs. associated

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&  NOV  05, 1989  03h 42m 52.30s
   37.020 N          121.788 W
   DEPTH =   8.0km
 CENTRAL CALIFORNIA                    ( 39)
      <BRK>. ML 2.7 (BRK).

GCC      0.17 273 iPc    42 55.40  -0.6
                  iS     42 58.30
MHC      0.34  20 iPd    42 59.30   0.0
                  iS     43 04.60
SAO      0.37 133 iPd    42 59.40  -0.5
ARN      0.39  32 iPd    43 00.00  -0.2
PCC      0.67 316 ePc    43 04.80  -1.0
PRS      0.76 154 ePd    43 06.70  -0.7
LLA      0.79 120 ePc    43 07.00  -0.8
BKS      0.93 338 iPc    43 09.70  -0.5
                  eS     43 23.00
BRK      0.93 336 ePc    43 09.50  -0.7
                  eS     43 22.60
PRI      1.26 134 ePc    43 15.50  -0.5
CMB      1.51  47 ePc    43 18.30  -1.4
FRI      1.67  90 ePc    43 20.20  -1.7
KVN      3.55  54 eP     43 47.30  -1.7
        13 obs. ossociated
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   NOV  05, 1989  04h 22m 19.77± 0.39s
   25.150 N ± 5.8km  124.672 E ± 5.6km
   DEPTH =  89.2km  (  2 depth phases)
   4.6mb ( 14 obs.)
 NORTHEAST OF TAIWAN                   (245)

TWC      2.62 259 ePd    23 01.30   0.4
                  eS     23 20.80
TWZ      2.80 270 ePd    23 05.10   1.7
ANP      2.86 271 eP     23 05.80   1.5
TWD      3.00 250 ePd    23 05.10  -0.9
TWK      4.25 245 ePc    23 23.70   0.1
QZH      5.52 269 Pc     23 40.80  -0.3
                  eS     24 40.30
SSE      6.67 333 P      23 57.50   0.5
                  sP     24 29.00
                  S      25 11.00
NJ2      8.57 325 Pd     24 23.00   0.1
                  S      25 55.00
WHN     10.59 303 Pc     24 51.00   0.6
                  eS     26 51.70
QIZ     15.03 249 eP     25 53.50   4.9X
MAT     16.23  42 (P)    26 06.00   2.3
GYA     16.27 278 iPc    26 07.20   2.8
TIY     16.29 323 Pd     26 06.60   2.1
      Z  18s      0.60um
XAN     16.30 307 P      26 04.80   0.2
BJI     16.47 336 eP     26 07.50   0.9
        1.2s     19.00nm          4.2mb
CN2     18.62   2 Pd     26 32.00  -0.9
HHC     19.09 328 eP     26 41.50   3.3X
                  pP     26 58.00  82km
CD2     19.32 292 eP     26 38.80  -1.8
                  eS     30 15.00
KMI     19.86 275 eP     26 44.50  -1.9
KKM     20.65 204 ePc    26 53.50  -1.0
LZH     20.94 306 eP     26 56.50  -0.8
LZH     20.94 306 P      27 02.00   4.7X
        1.8s    135.00nm          5.0mb
      Z  15s      0.30um          3.8MszX
                  pP     27 16.20  63kmX
                  eS     33 35.00
GUMO    22.22 117 eP     27 11.70   1.7
        1.2s    305.56nm          5.5mb
PJG     22.22 117 eP     27 11.80   1.8
GUA     22.28 117 eP     27 11.20   0.6
        1.0s    152.00nm          5.3mb
LOE     22.70 255 iPc    27 16.00   1.3
CHG     24.65 260 eP     27 35.00   1.4
        0.9s      9.45nm          4.2mb
CHTO    24.65 260 iP     27 34.50   0.9
        0.9s      8.95nm          4.2mb
GTA     25.27 310 eP     27 37.80  -1.6
PCI     26.32 191 ePc    27 50.70   1.7
        1.2s      4.50nm          3.9mb
WMQ     35.35 311 P      29 07.00  -1.4
MTN     38.29 170 iPd    29 31.60  -1.6
WB5     45.74 167 iPc    30 30.00  -3.9X
WRA     45.80 167 Pd     30 33.90  -0.5
        0.9s     29.30nm          5.1mb
ASPA    49.34 169 iPc    31 01.50  -0.5
CTA     49.62 153 iPc    31 03.90  -0.3
        1.1s     24.05nm          5.1mb
WARB    51.07 178 iPc    31 15.00  -0.1
COOL    55.82 184 iPc    31 48.10  -1.9
MAIO    56.19 298 eP     31 53.00   0.1
SOD     70.08 336 iP     33 22.40  -1.4
INK     71.13  23 eP     33 30.00  -0.1
MBC     71.62  13 eP     33 32.00  -0.9
        0.4s      5.00nm          4.7mb
SUF     71.75 331 eP     33 31.60  -2.3
        0.5s      1.50nm          4.1mb
NUR     73.19 329 eP     33 41.00  -1.3
HFS     78.26 331 eP     34 09.80  -1.2
        0.4s      2.60nm          4.5mb
NB2     78.84 333 P      34 12.90  -1.3
        0.4s      1.10nm          4.1mb
SES     90.12  32 eP     35 12.00   0.9
                  pP     35 38.00  97km
FFC     90.95  25 eP     35 15.00   0.2
        0.9s     15.00nm          5.3mb
      S.D. = 1.3  on  44 of  48 obs.
-----------------------------------------
?  NOV  05, 1989  05h 17m 04.43± 2.97s
   25.718 S ±16.9km  179.844 E ±18.6km
   DEPTH = 548.1 ± 31.3 km
   4.8mb ( 11 obs.)
 SOUTH OF FIJI ISLANDS                 (171)

DZM     12.78 284 iPd    19 50.00  -1.5
BRS     24.26 260 iPc    21 41.40   1.1
COO     25.09 252 iPd    21 49.40   1.7
CAN     28.15 243 eP     22 14.90   0.5
BWA     28.46 245 eP     22 15.30  -1.8
CMS     30.33 251 eP     22 33.00  -0.2
TOO     31.38 239 iPc    22 42.90   0.8
CTA     31.39 273 iPd    22 42.90   0.6
        0.7s     68.49nm          5.4mb
STK     33.95 251 eP     23 04.70   1.0
        0.4s     21.00nm          5.1mb
OIS     37.26 269 iPd    23 31.50   0.4
        0.4s     12.00nm          4.9mb
ASPA    41.63 263 iPd    24 06.00  -0.5
        1.0s     48.00nm          5.0mb
WB5     42.17 268 iPd    24 10.90   0.2
WRA     42.17 268 Pd     24 10.60  -0.2
        0.8s     39.20nm          5.0mb
FORR    45.53 251 iPc    24 36.40  -0.3
        0.4s     60.00nm          5.5mb
WARB    47.55 257 iPc    24 51.80  -0.5
        0.3s      6.00nm          4.6mb
COOL    51.44 250 eP     25 20.30  -0.8
        0.4s      7.00nm          4.4mb
KLB     54.17 248 eP     25 40.10  -0.4
        0.3s      4.00nm          4.2mb
BAL     55.25 249 iPc    25 47.60  -0.4
        0.4s     12.00nm          4.6mb
MUN     55.40 248 iPc    25 49.00  -0.1
MRWA    56.14 251 eP     25 54.00  -0.3
NANU    58.26 258 iPc    26 09.40   0.6
SPA     64.43 180 ePc    26 49.10   0.5
        0.8s     10.00nm          4.4mb
KVN     86.65  44 eP     28 52.30   1.2
PPD    111.35 129 e(PKP)34 36.00  -2.1
UPP    143.71 345 iPKP   35 37.70  -0.1
NB2    143.85 351 PKP    35 38.40   0.3
        0.8s      5.30nm
HFS    144.29 348 ePKP   35 39.20   0.4
        0.3s      4.00nm
      S.D. = 1.0  on  27 of  27 obs.
-----------------------------------------
?  NOV  05, 1989  05h 28m 08.31± 4.41s
   28.720 S ±39.3km   67.658 W ±11.7km
   DEPTH =  33.0km  (normol)
 LA RIOJA PROVINCE, ARGENTINA          (138)

RTRS     2.14 227 iPd    28 42.30   0.0
RTLL     2.69 195 iPc    28 50.70   0.4
CFA      2.92 190 iPc    28 53.50   0.0
                  S      29 29.50
RTCB     2.93 199 iPd    28 53.70   0.0
RTCV     3.22 193 iP     28 57.50  -0.3
TCA      3.73 135 ePc    29 05.00   0.0
      S.D. = 0.3  on   6 of   6 obs.
-----------------------------------------
&  NOV  05, 1989  06h 22m 32.89s
   60.334 N          153.096 W
   DEPTH = 136.8km
 SOUTHERN ALASKA                       (  2)
      <AGS-P>.

RED      0.18  62 iP     22 51.07   0.8
ILIM     0.26 165 iP     22 51.36   0.9
RDT      0.42  55 iP     22 52.01  -0.6
                  Sn     23 06.53
OPT      0.69 186 eP     22 53.72  -0.5
NNL      0.95 107 eP     22 56.24   0.0
AUE      0.99 188 eP     22 55.88  -0.7
                  Sn     23 13.03
BGL      0.99  20 eP     22 56.56  -0.2
NKA      1.01  65 eP     22 57.80   1.1
BRLK     1.25 116 eP     22 59.21   0.1
MCNL     1.31 209 iP     22 58.79  -1.0
                  Sn     23 17.42
CDD      1.44 191 eP     23 00.02  -1.1
SLKM     1.44  82 eP     22 59.87  -1.3
SVW      1.46 303 iP     23 00.20  -1.3
SUA      1.61  44 eP     23 02.75  -0.5
                  eS     23 25.53
SHU      1.75 167 eP     23 03.84  -0.8
SKT      1.82  24 eP     23 05.00  -0.5
SEW      1.83  96 eP     23 04.31  -1.3
PMS      1.96  61 eP     23 06.19  -1.0
PWA      2.05  48 eP     23 07.21  -1.0
CUT      2.48  32 eP     23 12.92  -0.7
                  eS     23 44.11
GHO      2.49  53 eP     23 11.93  -1.9
KNK      2.51  62 eP     23 11.92  -2.2
GLI      3.01  77 eP     23 17.62  -2.8
FID      3.30  80 eP     23 21.12  -3.1
KTH      3.39  17 eP     23 24.68  -0.8
VLZ      3.42  74 eP     23 23.33  -2.4
KLU      3.69  69 eP     23 27.28  -2.3
TOA      3.79  59 eP     23 29.43  -1.4
WRH      4.76  27 eP     23 42.04  -1.7
HDA      4.99  32 iP     23 45.23  -1.6
        30 obs. ossociated
-----------------------------------------
   NOV  05, 1989  07h 32m 04.80± 0.50s
   39.448 N ± 4.8km   28.237 E ± 5.5km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                                (366)
      MD 3.4 (ATH).

DST      0.34  62 iPg    32 11.20  -0.7
                  eSg    32 16.00
BNT      0.94 345 iPg    32 22.80   0.1
                  iSg    32 34.80
EDC      0.94 342 iPg    32 23.30   0.5
                  iSg    32 36.80
IZM      1.30 216 iPn    32 27.20  -1.6
YLV      1.42  38 iPn    32 29.80  -0.9
KHL      1.51 138 iPn    32 30.90  -1.0
EZN      1.52 285 ePn    32 32.00  -0.1
PRK      1.54 263 ePb    32 32.00  -0.3
CTT      1.70   5 ePn    32 34.00  -0.7
ISK      1.73  21 ePn    32 34.20  -0.9
HRT      1.76  38 iPg    32 35.00  -0.5
ITU      1.76  20 iPnc   32 38.00   2.5
                  iSg    33 03.00
CIN      1.85 184 eP     32 38.00   1.2
SMG      2.05 213 ePn    32 41.00   1.3
DMK      2.40 351 ePn    32 44.50  -0.2
RDO      2.67 310 ePn    32 48.60   0.0
BBTK     3.51  82 ePg    33 02.00   1.3
                  eSg    34 01.00
      S.D. = 1.1  on  17 of  17 obs.
-----------------------------------------
*  NOV  05, 1989  07h 32m 48.57± 0.82s
   23.136 S ± 9.2km   68.565 W ±10.5km
   DEPTH = 135.6 ± 11.1 km
 NORTHERN CHILE                        (123)

ANT      1.79 251 iPc    33 20.30  -0.4
                  iS     33 43.00
YJA      2.99  72 iPc    33 35.50  -0.8
SLA      3.23 120 ePd    33 40.30   1.2
CCH      6.16  22 P      34 19.00   0.2
CNCB     6.32   5 P      34 21.20   0.0
LPB      6.58   4 eP     34 25.00   0.4
ARE      7.19 337 eP     34 40.00   7.3X
ITB1    13.06  99 Pc     35 56.30   6.3X
PPD     15.97  89 e(P)   36 18.00  -9.0X
VAO     19.87  94 eP     37 09.90  -1.5
                  e      37 22.90
BAO     20.78  73 eP     37 20.00  -0.7
```

05d 07h

```
BMA     22.49  94 e(P)  37 38.00   0.6
KIC     68.86  73 P     43 41.70   0.9
     S.D. = 1.0  on  10 of  13 obs.
-----------------------------------------
&  NOV  05, 1989  08h 27m 30.44s
   57.650 N          142.992 W
   DEPTH =  10.0km  (geophysicist)
 GULF OF ALASKA                    ( 15)
      <AGS-P>.

YAH      2.80  13 iP    28 10.82  -5.4
                  eS    28 42.49
HQN      2.81  48 eP    28 10.66  -5.6
                  eS    28 42.80
PCA      2.84  29 eP    28 11.19  -5.5
                  eS    28 42.18
BCPM     2.90  36 eP    28 11.95  -5.5
                  eS    28 43.85
KLU      4.13 340 eP    28 28.00  -7.0
                  eS    29 14.00
SLKM     4.70 311 iP    28 36.80  -6.3
         6 obs. associated
-----------------------------------------
   NOV  05, 1989  09h 00m 59.25± 1.02s
   35.743 N ±10.6km   22.969 E ± 7.3km
   DEPTH =  25.6 ±  5.7 km
   4.2mb (  4 obs.)
 MEDITERRANEAN SEA                 (400)
      ML 3.6 (ATH).

VLI      0.97 359 iPbc  01 15.20  -2.0
VAM      1.06 108 ePb   01 19.00   0.6
ITM      1.66 330 ePb   01 29.00   1.9
NPS      2.21 102 ePn   01 36.00   1.0
ATH      2.30  15 ePb   01 37.00   0.7
APE      2.45  57 ePn   01 37.10  -1.4
VLS      3.09 323 ePn   01 48.70   1.2
AGG      3.31 351 ePc   01 51.10   0.5
KAP      3.43  92 ePn   01 52.20  -0.1
NEO      3.56   3 ePn   01 53.00  -1.2
LIT      4.37 355 ePc   02 07.60   2.0
KZN      4.65 349 ePn   02 11.20   1.5
KEK      4.69 329 ePn   02 10.80   0.6
KSL      5.38  84 ePn   02 20.00   0.1
SRS      5.39   5 eP    02 21.00   0.9
KNT      5.41 359 eP    02 20.10  -0.3
VAY      5.58 357 ePn   02 23.00   0.3
OHR      5.62 343 ePn   02 21.00  -2.4
SOI      6.01 295 P     02 20.80  -7.9X
ROI      6.35 309 P     02 33.40  -0.3
CZI      6.45 305 P     02 32.70  -2.3
TDS      6.55 309 P     02 36.50   0.1
MGR      7.32 309 P     02 46.50  -0.7
                  eSn   03 58.50
DOU     19.59 323 Pc    05 28.90   0.6
         0.5s      6.10nm          4.1mb
HFS     25.13 349 eP    06 22.30  -1.1
         0.4s      3.20nm          4.3mb
NB2     26.41 347 P     06 34.60  -0.7
         0.4s      0.80nm          3.7mb
EKA     26.54 326 P     06 38.00   1.5
         0.6s      7.40nm          4.5mb
     S.D. = 1.3  on  26 of  27 obs.
-----------------------------------------
?  NOV  05, 1989  09h 55m 46.99± 3.39s
   31.485 S ±30.9km   68.820 W ±28.6km
   DEPTH = 105.9 ± 24.1 km
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTCB     0.02  95 iPd   56 02.20   0.0
ZON      0.14 117 iPd   56 02.00  -0.3
                  eS    56 14.00
RTLL     0.34  63 iPc   56 02.70   0.0
CFA      0.51 104 iPc   56 04.00   0.3
                  S     56 16.00
RTRS     1.42 337 iPc   56 13.00   0.1
                  S     56 33.00
MRÄ      2.80 110 iPc   56 31.00   0.1
TCA      3.62  89 ePc   56 42.00  -0.1
                  S     57 24.00
     S.D. = 0.2  on   7 of   7 obs.
-----------------------------------------
?  NOV  05, 1989  11h 13m 04.13± 3.01s
   38.737 N ±11.7km   15.172 E ±30.5km
   DEPTH =  33.0km  (normal)
 SICILY                            (398)

CZI      0.89  57 P     13 21.60   1.4
                  eS    13 35.00
SOI      0.96 133 Pd    13 21.20  -0.1
                  eSn   13 37.20
TDS      1.29  44 P     13 25.00  -1.0
                  eSg   13 46.50
CSI      1.35  40 P     13 27.10   0.2
ROI      1.37  52 P     13 26.40  -0.8
MGR      1.43  12 P     13 28.20   0.2
     S.D. = 1.1  on   6 of   6 obs.
-----------------------------------------
   NOV  05, 1989  11h 38m 18.47± 0.47s
   36.747 N ± 4.9km    2.399 E ± 3.2km
   DEPTH =  10.0km  (geophysicist)
   4.6mb ( 10 obs.)
 ALGERIA                           (396)
     MD 4.3 (STR). mbLg 4.0 (MDD).

ESEL     3.04   7 ePn   39 07.80   0.3
                  eSn   39 41.00
ENIJ     3.71 275 ePn   39 14.50  -2.6
                  eSn   39 58.00
ECHE     3.89 318 ePn   39 20.50   0.9
                  eSn   40 04.30
EVIA     4.32 297 ePn   39 25.50  -0.3
EROO     4.36 340 iPnc  39 26.80   0.6
                  eSn   40 14.00
TAF      4.36 245 eP    39 26.00  -0.4
                  e     39 30.00
                  i     39 32.00
                  i     40 54.00
                  i     41 02.00
AFC      4.78 278 ePn   39 32.20  -0.3
                  eSn   40 25.00
EBAN     5.12 288 ePn   39 36.50  -0.5
                  eSn   40 34.00
ETOR     5.35 321 ePn   39 42.00   1.6
ETER     5.56   3 ePn   39 43.00  -0.2
                  eSn   40 42.00
TOL      5.96 304 ePn   39 49.50   0.7
                  ePb   39 59.00
                  eSn   40 56.00
                  eSb   41 07.00
EHOR     6.19 282 ePn   39 50.50  -1.6
                  eSn   41 01.00
GUD      6.43 309 ePn   39 55.50  -0.2
                  eSn   41 06.00
NKM      6.45 261 iP    39 57.50   1.6
                  i     40 04.00
                  i     41 07.00
                  i     43 01.00
EPF      6.47 346 Pn    39 57.40   1.2
                  Sn    41 05.50
GELF     7.02  18 P     40 03.74  -0.1
BERF     7.03  20 P     40 03.92   0.0
PUYF     7.23  19 P     40 06.97   0.2
TREF     7.24  17 P     40 07.34   0.5
LMR      7.29  24 Pn    40 06.40  -1.2
LRG      7.35  23 Pn    40 08.00  -0.4
PRAF     7.36  16 P     40 08.78   0.2
TAVF     7.41  21 P     40 09.45   0.2
EPLA     7.44 299 ePn   40 10.00   0.3
                  eSn   41 30.00
VILF     7.54  19 P     40 11.70   0.7
FRF      7.54  24 Pn    40 10.00  -1.1
                  Sn    41 29.50
CVF      7.66  39 P     40 10.77  -2.0
                  S     41 31.35
GANF     7.72  19 P     40 13.58   0.0
CALN     7.79  25 P     40 14.17  -0.6
LPO      7.98 354 Pn    40 17.60   0.4
MVIF     8.01  25 P     40 16.21  -1.5
                  S     41 42.84
AURF     8.06  26 P     40 17.07  -1.4
SBF      8.08  27 Pn    40 17.10  -1.6
TOUF     8.15  25 P     40 18.75  -1.0
                  S     41 47.15
CAF      8.17 358 Pn    40 20.40   0.4
AUTN     8.19  26 P     40 18.41  -2.0
                  S     41 47.34
SAOF     8.23  27 P     40 18.75  -2.0
LFF      8.28 352 Pn    40 21.00  -0.4
IMI      8.29  29 P     40 21.03  -0.6
STV      8.37  25 P     40 22.26  -0.5
ENR      8.39  26 P     40 22.16  -0.9
LBL      8 50   4 P     40 24.37  -0.1
PZZ      8.53  23 P     40 25.44   0.4

RJF      8.57 356 Pn    40 26.20   0.7
DOI      8.58  24 P     40 24.50  -1.1
                  eSn   41 52.20
ROB      8.61  27 P     40 25.24  -0.8
FIN      8.67  29 P     40 24.93  -1.9
RRL      8.81  21 P     40 30.06   1.0
CKI      8.88  28 P     40 28.30  -1.3
                  eSn   42 01.40
BNI      8.90  20 P     40 31.30   1.1
PYM      9.01   3 P     40 34.94   3.4X
PCP      9.08  29 P     40 30.57  -1.9
RSP      9.16  22 P     40 34.88   1.2
ERUA     9.27 310 iP     40 34.80  -0.4
AGO      9.31   3 P     40 36.12   0.4
LPG      9.34  19 Pn    40 38.00   1.7
LPL      9.35  19 Pn    40 38.20   1.8
LSD      9.41  21 P     40 39.08   1.8
MAF      9.47   1 Pn    40 37.80   0.0
LSF      9.52 356 Pn    40 38.00  -0.5
TCF      9.53 359 Pn    40 39.00   0.2
BDI      9.61  38 P     40 39.40  -0.5
BGF      9.81   2 Pn    40 42.70   0.2
ORX      9.82  24 P     40 42.47  -0.3
SMF      9.95   6 Pn    40 44.40  -0.1
MFF     10.03 350 Pn    40 45.40  -0.1
AVF     10.06   4 Pn    40 46.50   0.5
VAI     10.29  26 P     40 51.00   1.9
BSF     11.54  15 Pn    41 05.10  -1.2
HAU     11.62  13 Pn    41 06.50  -0.8
CDF     12.20  16 Pn    41 13.60  -1.5
DOU     13.44   6 P     41 32.90   1.4
                  S     43 58.20
SNF     13.83   5 P     41 39.40   2.7
MEM     14.10   9 P     41 43.60   3.4X
ENN     14.24   9 eP    41 44.00   1.9
         0.5s      8.00nm          4.7mb
KHC     14.82  30 Pd    41 49.80   0.1
         1.0s      7.00nm          4.1mb
OHR     14.97  67 eP    41 54.20   2.5
WTS     15.56  10 e(P)  42 14.00  14.7X
SKO     15.62  65 eP    41 58.50  -1.7
                  i     42 21.00
ZST     15.73  39 eP    42 06.90   5.3X
PRU     15.88  30 eP    42 05.00   1.5
                  e     42 42.00
SRO     16.12  42 eP    42 09.90   3.3X
VAY     16.32  68 eP    42 08.40  -0.7
BRG     16.37  27 eP    42 13.90   4.2X
         0.9s      9.00nm          3.9mb
CLL     16.41  24 eP    42 14.00   3.8X
         1.2s     22.00nm          4.2mb
KKB     16.79  66 eP    42 16.00   0.8
BZS     16.93  52 eP    42 16.00  -0.9
VTS     17.04  64 iPd   42 21.00   2.6
PSZ     17.04  44 eP    42 19.60   1.2
KSP     17.25  31 eP    42 21.00   0.1
PGB     17.72  64 eP    42 28.00   1.2
RZN     17.97  67 eP    42 31.00   0.9
SPC     17.98  41 eP    42 31.00   0.9
KRA     18.36  38 eP    42 38.60   4.0X
PVL     18.70  63 iPc   42 39.00   0.2
CMP     19.04  56 ePc   42 47.00   3.9X
MLR     19.72  56 iPd   42 51.50   0.4
VRI     20.36  56 eP    42 57.00  -0.7
HFS     24.50  14 eP    43 38.30  -0.4
         1.1s     21.80nm          4.7mb
NB2     24.95  10 P     43 43.70   0.6
         0.9s     15.10nm          4.7mb
SUF     29.84  22 eP    44 25.30  -2.3
SOD     33.62  17 eP    45 01.00   0.3
BCAO    35.41 151 ePd   45 17.00   0.4
         1.0s     10.00nm          4.6mb
                  ic    45 19.90
FFC     68.31 323 eP    49 21.00  -0.6
         1.3s     34.00nm          5.4mb
LNO     75.23 304 e(P)  50 03.20   0.2
TUL     75.23 304 eP    50 03.20   0.0
         1.4s     18.90nm          4.9mb
SES     75.33 323 eP    50 03.00  -0.6
SIO     75.67 304 e(P)  50 04.70  -1.0
LRM     79.06 320 eP    50 25.90   1.3
PNT     80.11 326 ePc   50 31.00   1.1
         0.8s      6.00nm          4.6mb
WRA    134.99  82 PKP   57 41.00   1.1X
         0.6s      0.60nm
TOO    150.69 103 ePKP  58 13.00   6.5X
     S.D. = 1.1  on 101 of 112 obs.
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&  NOV  05, 1989  13h 37m 34.30s
   37.058 N          121.915 W
   DEPTH =  15.0km
 CENTRAL CALIFORNIA                  ( 39)
      <BRK>. ML 4.5 (BRK).
      Mo=2.6*10**15 Nm (BRK). Felt at
      Santa Cruz, Halfmoon Bay, San
      Jase and San Francisco.

GCC      0.07 247 iPd    37 36.80  -0.6
MHC      0.36  38 iPd    37 41.70  -0.2
ARN      0.42  46 iPd    37 42.50  -0.4
SAO      0.48 128 iPd    37 42.40  -1.5
PCC      0.58 320 iPd    37 44.90  -0.7
PRS      0.85 149 iPd    37 49.50  -0.7
BKS      0.86 343 iPc    37 49.50  -0.8
                  iS     38 02.10
BRK      0.86 341 iPc    37 49.30  -1.1
                  i      37 50.00
LLA      0.90 119 iPd    37 50.00  -1.0
ZSP      0.93 343 iPc    37 50.80  -0.7
PRI      1.36 132 ePd    37 57.20  -1.6
                  i      37 58.30
CMB      1.56  51 ePd    38 00.40  -1.1
NWRM     1.60 331 eP     37 59.00  -3.0
PHAM     1.73 134 eP     38 02.00  -2.0
PKEM     1.76 124 eP     38 03.00  -1.4
FRI      1.77  91 iPd    38 02.90  -1.6
BCH      2.39 141 eP     38 11.00  -2.5
ORV      2.51   7 eP     38 13.10  -2.1
BLP      2.78 153 eP     38 16.30  -2.7
ABL      3.10 134 eP     38 21.10  -2.7
MIN      3.29   4 eP     38 24.90  -1.5
WDC      3.55 352 eP     38 24.40  -5.5
KVN      3.61  55 eP     38 29.30  -1.7
TNP      3.87  73 eP     38 33.40  -1.3
FHC      4.07 337 eP     38 36.00  -1.3
SES     15.45  27 eP     41 17.00   3.9
        26 obs. associated
-----------------------------------------
   NOV  05, 1989  13h 42m 04.47± 0.26s
   39.145 N ± 5.1km  143.477 E ± 4.4km
   DEPTH =  30.6km  (  9 depth phases)
   5.1mb ( 40 abs.)  4.7Msz (  2 abs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 11S, 22C
      Centraid Lacatian:
      Origin Time        13:42: 8.1 0.9
      Lat 39.07N 0.11 Lon 143.52E 0.11
      Dep  15.0 FIX Half-duration  1.8
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 4.36 0.32  Mtt= 0.35 0.35
        Mff=-4.71 0.43  Mrt= 2.33 0.99
        Mrf= 4.67 1.30  Mtf=-1.02 0.38
       Principal Axes:
        T  Val=  6.83  Plg=64  Azm=308
        N        0.33      9      200
        P       -7.16     24      106
      Best Double Couple:Mo=7.0*10**16
       NP1:Strike=177 Dip=22 Slip=  66
       NP2:        23     70       99

SAP      4.23 338 eP     43 07.00  -1.4
                  eS     43 46.00
MAT      4.91 240 iPc    43 19.50   1.4
                  eS     44 19.00
SHK      9.80 245 eP     44 26.80   0.4
MDJ     11.70 302 Pd     44 51.80  -0.5
      Z  14s     11.60um
      E  12s      5.40um
                  S      47 04.00
CN2     14.29 295 iPc    45 24.00  -2.6
       4.0s      0.80nm          2.7mb X
      Z  14s      3.50um
      N  13s      1.50um
      E  13s      3.90um
                  pP     45 33.00
                  eS     48 09.00
SNY     15.38 286 Pc     45 40.40  -0.4
      Z  14s      4.80um
      N  13s      2.60um
      E  13s      2.50um
                  S      48 32.00
DL2     16.98 276 P      46 00.00  -1.2
      Z  12s      1.90um
                  sS     49 20.00
SSE     19.89 253 eP     46 34.00  -2.2
       1.0s     69.00nm          4.9mb
      Z  15s      3.10um
      N  12s      2.40um
                  pP     46 44.80  47kmX
                  sP     46 49.60
                  eS     50 12.00
                  sS     50 30.00
BJI     21.03 281 Pc+    46 44.50  -3.5X
       1.5s    210.00nm          5.3mb
      N  12s      0.97um
      E  14s      1.99um
                  eS     50 37.00
TIA     21.04 270 eP     46 46.20  -1.9
      Z  15s      5.00um          5.0MszX
      N  13s      2.00um
      E  12s      3.00um
                  S      50 38.00
NJ2     21.20 258 Pd     46 48.50  -1.2
      Z  14s      3.40um          4.9MszX
      N  13s      0.90um
      E  13s      2.50um
                  sS     50 52.00
ANP     23.15 240 eP     47 08.00  -1.2
TIY     24.31 276 eP     47 19.00  -1.3
      Z  18s      3.65um          4.9Msz
      N  14s      1.60um
      E  16s      2.20um
                  pP     47 32.00  53kmX
                  sS     51 48.00
HHC     24.44 284 eP     47 20.00  -1.7
      Z  15s      5.60um          5.2MszX
      N  12s      0.80um
      E  15s      2.90um
QZH     25.30 243 Pc     47 29.00  -0.8
      Z  14s      2.40um          4.9MszX
      N  15s      2.90um
      E  15s      2.20um
                  S      51 56.00
WHN     25.32 259 iPc    47 30.00   0.1
       1.5s      0.82nm          3.1mb X
      Z  14s      2.96um          5.0MszX
      E  14s      3.59um
                  pP     47 40.00  37km
                  eS     51 56.00
GUMO    25.49 177 eP     47 43.50  11.9X
      Z  18s      1.16um          4.4Msz
BTO     25.64 284 P      47 31.00  -2.0
      N  14s      1.40um
      E  15s      5.40um
                  PP     48 18.00
XAN     28.10 270 P      47 55.00  -0.5
      E  12s      2.00um
                  sS     52 51.00
GZH     30.18 247 eP     48 15.00   0.8
      Z  14s      2.10um          4.9MszX
      N  14s      1.70um
      E  12s      1.50um
                  S      53 17.00
BAG     30.22 228 eP     48 13.50  -1.4
LZH     31.37 277 Pc     48 24.50  -0.3
       2.0s    108.00nm          5.3mb
      Z  14s      4.40um          5.3MszX
      N  13s      2.20um
      E  13s      3.10um
                  pP     48 30.00  19kmX
                  sP     48 34.00
                  ePP    49 37.00
                  S      53 36.00
GYA     33.21 259 iPc    48 40.20  -0.6
       1.2s      0.10nm          2.6mb X
      Z  16s      1.20um          4.7MszX
      N  14s      2.30um
      E  14s      1.20um
                  S      53 58.60
CD2     33.34 268 eP     48 41.00  -0.8
      Z  14s      1.80um          4.9MszX
      N  13s      3.20um
GTA     33.55 285 iPc    48 44.00   0.2
       1.2s      0.10nm          2.6mb X
      Z  16s      4.10um          5.2MszX
                  PP     49 54.00
                  S      54 04.00
QIZ     35.29 245 eP     49 00.00   1.3
      N  15s      1.10um.
      E  13s      1.60um
                  eS     54 33.00
KMI     36.91 260 Pc     49 12.50  -0.1
KMI     36.91 260 P+     49 13.00   0.4X
      Z  14s      3.50um          5.3MszX
      N  15s      2.10um
      E  15s      2.50um
                  pP     49 22.00  30km
                  S      54 58.00
WMQ     41.38 295 Pc     49 50.00   0.6
      Z  16s      1.40um          4.9MszX
TSM     41.71 220 ePc    49 54.00   1.8
LOE     42.19 251 eP     49 56.80   0.6
TTA     42.76  36 P      50 00.00  -0.4
SVW     42.84  39 eP     50 01.30   0.2
CHG     43.40 255 ePc    50 06.90   0.9
       1.0s     22.50nm          4.9mb
CHTO    43.40 255 iPc    50 06.90   0.9
       1.0s     20.00nm          4.8mb
                  pP     50 16.20  31km
LSA     43.66 274 P      50 11.50   2.9
      E  17s      1.20um
                  eS     56 40.00
IMA     44.04  31 eP     50 11.30   0.4
       0.8s      5.60nm          4.4mb
BDT     44.32 253 eP     50 14.00   0.6
NST     44.48 251 eP     50 18.00   3.3X
KDC     44.50  43 e(P)   50 13.70  -0.7
PCI     45.38 214 ePc    50 24.50   2.6
PMR     45.96  38 eP     50 24.90  -1.1
       0.7s     11.00nm          4.9mb
FBA     46.45  33 eP     50 29.40  -0.5
TOA     47.33  37 eP     50 36.70  -0.2
SNG     49.94 242 eP     50 59.50   2.0
                  eS     58 08.60
KSH     51.07 293 iPd    51 08.00   1.9
      N  12s      1.30um
IPM     51.55 239 ePd    51 11.00   1.1
INK     51.77  28 iPc    51 10.00  -0.8
       0.7s     20.00nm          5.2mb
MTN     52.99 195 eP     51 20.00  -0.5
MBC     54.04  17 ePd    51 27.40  -0.2
       0.9s     10.00nm          4.8mb
NDI     54.88 280 iPc    51 33.50  -0.9
       1.0s     50.00nm          5.5mb
WB5     59.33 190 eP     52 03.80  -2.1
HYB     59.89 268 eP     52 09.00  -1.0
       1.0s     30.00nm          5.4mb
KEV     62.05 339 eP     52 22.00  -1.9
       0.8s     19.10nm          5.3mb
POO     62.90 272 iPd    52 30.00  -0.3
GBA     63.00 266 P      52 30.00  -0.9
ASPA    63.12 190 eP     52 28.90  -2.5
      Z  22s      0.31um          4.4MszX
                  LR     16 53.40
SOD     63.65 337 iP     52 33.90  -0.6
MAIO    64.12 297 eP     52 38.00  -0.2
                  eS     01 18.00
DZM     64.58 156 iPd    52 41.00  -0.1
RMW     65.27  48 P      52 54.00   8.6X
PNT     65.53  46 eP     52 47.00   0.0
       0.8s     10.00nm          5.0mb
LON     65.63  49 P      52 54.00   6.3X
SUF     66.83 334 iP     52 54.50  -0.5
       0.5s     12.20nm          5.3mb
WDC     68.51  55 e(P)   53 09.20   3.2X
NUR     68.85 332 iP     53 06.50  -1.1
       0.7s     16.00nm          5.2mb
SES     69.50  41 eP     53 11.00  -0.9
ORV     69.75  55 e(P)   53 17.30   3.7X
FFC     71.05  34 eP     53 20.50  -0.7
       0.9s     20.00nm          5.2mb
CMB     71.33  56 e(P)   53 22.80  -0.5
LRM     71.51  46 eP     53 23.90  -0.5
TAB     71.96 305 eP     53 25.00  -2.2
KVN     72.19  54 P      53 27.30  -1.3
PRI     72.25  58 e(P)   53 11.80 -17.0X
NB2     72.86 338 P      53 31.00  -0.9
       0.9s     23.10nm          5.2mb
TNP     73.32  54 P      53 36.00   0.8
       0.9s      4.56nm          4.5mb
BWA     73.34 176 eP     53 34.90   0.0
FRB     74.34  14 eP     53 40.00  -0.4
MSU     76.19  52 P      53 52.00   0.3
KVT     76.38 312 eP     53 53.00   0.5
VRI     78.16 320 ePd    54 03.50   1.3
KRA     78.24 327 eP     54 03.60   1.1
```

05d 13h

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      Z  16s      1.70um          5.5MszX
      N  16s      2.00um
                   e      54 12.50   28km
SPC     78.76 326 eP      54 05.50   -0.2
MLR     78.81 321 eP      54 08.00    2.1
BBTK    79.08 313 eP      54 08.00    0.5
KSP     79.15 329 eP      54 07.30   -0.2
        1.0s     31.00nm          5.3mb
                   id     54 08.40   4kmX
                   e      57 05.00
CMP     79.42 321 ePc     54 10.00    0.9
PSZ     79.87 325 iP      54 12.50    1.0
BRG     80.05 330 iPd     54 13.30    1.0
        1.3s     24.00nm          5.0mb
                   i      54 22.50   29km
                   eSg    56 13.00
CLL     80.06 331 iPc     54 12.60    0.2
        1.1s     37.00nm          5.3mb
                   ipP    54 22.10   30km
PRU     80.52 329 eP      54 15.00    0.2
        1.0s     14.50nm          4.9mb
                   e      54 25.00   32km
SRO     80.64 326 eP      54 16.20    0.7
BZS     80.81 323 eP      54 16.50    0.1
ZST     80.87 327 iP      54 18.30    1.6
KHC     81.58 329 iPd     54 21.50    1.0
        1.0s     17.00nm          5.0mb
EKA     81.67 341 Pc      54 21.90    1.1
        1.3s     25.90nm          5.1mb
WTS     81.70 335 eP      54 21.50    0.6
        1.0s     13.00nm          4.9mb
BEO     81.95 323 eP      54 22.70    0.3
ALQ     81.99  51 P       54 23.30    0.2
DSI     83.03 305 ePd     54 30.00    1.8
ENN     83.03 334 eP      54 28.00    0.1
        1.0s     14.00nm          5.0mb
                   e      54 37.00   28km
SRS     83.16 319 iPd     54 29.20    0.4
KBA     83.32 328 eP      54 30.50    0.8
        0.8s     19.20nm          5.3mb
KNT     83.48 319 ePd     54 31.00    0.6
VAY     83.53 319 iP      54 31.40    0.8
OUR     83.53 318 iPd     54 31.00    0.4
SKO     83.61 320 iP      54 31.90    0.8
        1.1s     68.00nm          5.7mb
      Z  16s      1.19um          5.4MszX
      N  16s      1.37um
      E  15s      0.60um
                   i      54 41.30   30km
                   LR     36 03.50
GRG     83.88 319 iPd     54 32.80    0.3
PAIG    83.99 318 iPd     54 33.30    0.3
PRNI    84.09 304 iPd     54 35.00    1.3
LIT     84.47 319 iPd     54 35.40   -0.1
MBH     84.55 304 iPd     54 37.50    1.5
CDF     84.56 332 eP      54 36.20    0.4
        0.8s     10.70nm          5.1mb
OHR     84.57 320 eP      54 36.00    0.0
        0.9s      0.06nm          2.8mb X
BSF     85.22 332 eP      54 39.30    0.1
        1.0s      8.00nm          4.9mb
HAU     85.23 333 eP      54 39.20    0.1
        0.8s      8.00nm          5.0mb
LOR     86.73 334 eP      54 46.90    0.3
        0.9s     22.90nm          5.4mb
LBF     86.94 334 eP      54 47.80    0.2
        0.8s     12.00nm          5.2mb
SSF     87.03 334 eP      54 48.50    0.5
        1.0s     18.00nm          5.3mb
LPG     87.21 331 eP      54 49.80    0.5
        0.9s     19.60nm          5.4mb
SMF     87.28 333 eP      54 49.80    0.6
        1.0s     12.00nm          5.1mb
AVF     87.32 334 eP      54 50.10    0.7
        0.8s     24.10nm          5.5mb
MAF     88.08 334 eP      54 54.10    1.0
        1.0s     24.80nm          5.5mb
TCF     88.15 334 eP      54 54.30    0.9
        0.8s      6.70nm          5.0mb
LSF     88.41 335 eP      54 55.20    0.5
        1.0s     26.00nm          5.5mb
SNA    144.04 199 ePKP    01 35.60   -1.8
LPB    144.42  60 ePKP    01 39.00   -1.2
CNCB   144.69  60 PKP     01 39.80   -1.0
CCH    146.33  58 PKP     01 47.00    3.8X
PDCR   153.39   6 ePKP    02 01.40    7.8X
      S.D. = 1.1  on 119 of 130 obs.
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%  NOV  05, 1989  14h 18m 37.69± 0.76s
   43.420 N ± 5.8km     5.490 E ± 5.7km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE        (379)
      MD 2.6 (STR).

GELF     0.06 231 Pg     18 38.90   -1.1
BERF     0.18 126 Pg     18 41.79    0.0
PUYF     0.19  54 Pg     18 40.73   -1.2
TREF     0.22 339 Pg     18 41.22   -1.2
PRAF     0.45 329 Pg     18 46.37   -0.5
TAVF     0.46  64 Pg     18 45.43   -1.6
VILF     0.46  21 Pg     18 47.03   -0.1
GANF     0.65  28 Pg     18 50.78    0.0
      S.D. = 0.8  on   8 of   8 obs.
-----------------------------------------
   NOV  05, 1989  14h 32m 43.31± 0.44s
   48.803 N ± 2.8km  128.069 W ± 4.7km
   DEPTH =  10.0km  (geophysicist)
   4.6mb (  7 obs.)
 VANCOUVER ISLAND REGION           ( 25)

ETB      1.16  60 Pnc    33 07.18    2.2
EDB      1.24  30 Pnc    33 07.18    0.9
                  S      33 25.80
GDR      1.64  53 Pnc    33 13.70    1.4
OZB      1.71  84 Pn     33 13.73    0.4
BTB      1.80  67 Pnc    33 15.91    1.1
                  S      33 40.79
PHC      1.95  12 Pn     33 16.70    0.0
                  S      33 42.80
ALB      2.18  76 Pn     33 20.59    0.5
MGB      2.24  84 Pn     33 20.94   -0.1
                  S      33 51.17
OSP      2.37 101 eP     33 23.00    0.2
OTR      2.58 105 eP     33 25.91    0.0
OBC      2.77 105 eP     33 28.38   -0.2
OOW      2.80 111 eP     33 28.94   -0.1
STW      3.00 101 eP     33 31.53   -0.2
PGC      3.06  91 eP     33 32.00   -0.6
OSD      3.08 107 eP     33 33.17    0.1
BBB      3.39 360 Pnd    33 36.40   -0.8
                  S      34 16.50
MCW      3.47  90 eP     33 38.00   -0.4
ONR      3.48 122 eP     33 38.97    0.5
BLN      3.49 101 eP     33 38.87    0.2
SMW      3.50 113 eP     33 38.36   -0.6
HDW      3.55 107 eP     33 39.29   -0.3
OHW      3.71  95 eP     33 41.47   -0.4
GMW      3.75 108 eP     33 42.00   -0.5
BMW      4.02 124 eP     33 45.00   -1.2
RMW      4.40 105 eP     33 52.00    0.2
LON      4.69 114 eP     33 55.50   -0.4
SHW      4.74 121 eP     33 57.00    0.4
PNT      5.58  82 eP     34 08.00   -0.4
DPW      6.64  94 eP     34 22.20   -1.2
LBFM     8.64 147 eP     34 52.20    0.8
WDC      9.11 152 ePc    34 58.20    0.5
MIN      9.63 149 ePc    35 05.50    0.5
EDM     10.27  59 eP     35 13.50   -0.2
ORV     10.37 151 ePc    35 15.30    0.2
LRM     11.02 100 eP     35 22.60   -1.5
SES     11.17  75 eP     35 25.00   -1.0
KVN     12.10 140 eP     35 39.30    0.5
CMB     12.12 150 ePc    35 38.30   -0.6
MHC     12.38 155 e(P)   35 45.30    2.9X
SAO     12.97 156 e(P)   35 50.70    0.5
LLA     13.25 154 e(P)   35 53.20   -0.8
TNP     13.29 140 eP     35 55.00    0.3
        1.5s     23.99nm          5.0mb
FRI     13.29 150 e(P)   35 54.30   -0.1
BW06    14.24 108 eP     36 09.00    1.8
CLC     15.09 145 eP     36 19.00    0.8
GSC     15.85 144 eP     36 28.00   -0.1
SBB     16.02 148 eP     36 29.00   -1.2
MWC     16.36 149 eP     36 34.00   -0.7
RVR     16.80 148 eP     36 41.00    0.9
FFC     17.14  60 eP     36 42.00   -2.3
        0.5s      7.00nm          4.0mb X
FFC     17.14  60 eP     36 47.00    2.7X
        0.7s     67.00nm          4.9mb
TPC     17.19 144 eP     36 48.00    2.9X
PLM     17.56 147 eP     36 51.00    1.1
GLA     18.60 143 eP     37 02.00   -0.5
FBA     19.26 334 eP     37 10.00   -0.3
        1.3s     29.48nm          4.4mb
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ALQ     21.13 123 eP     37 31.00    0.3
        1.2s     11.72nm          4.1mb
TUL     26.89 107 eP     38 31.50    5.5X
        1.5s     17.90nm          4.5mb
MBC     27.77   4 eP     38 32.00   -1.6
        1.2s      5.00nm          4.2mb
CLL     74.86  24 eP     44 25.00   -0.4
BRG     75.51  24 eP     44 29.50    0.4
        1.2s     11.00nm          4.8mb
                   e      44 36.50
KSP     76.14  22 eP     44 33.50    0.8
KHC     76.99  25 P      44 38.90    1.4
      S.D. = 0.9  on  58 of  62 obs.
-----------------------------------------
?  NOV  05, 1989  14h 54m 58.58± 1.28s
   21.297 S ± 9.3km   69.103 W ±24.9km
   DEPTH = 200.8 ± 42.0 km
 NORTHERN CHILE                    (123)

ANT      2.69 207 iPc    55 45.00    0.0
                  i(S)   56 11.10
CNCB     4.59  14 iPc    56 08.90    0.0
CCH      4.79  36 P      56 20.50    9.2X
LPB      4.83  12 eP     56 12.00    0.1
ARE      5.31 334 eP     56 18.00    0.0
                  iS     57 13.60
PPD     16.56  96 eP     58 41.00    0.0
                  e      58 44.70
BAO     20.79  78 eP     59 30.50    4.9X
      S.D. = 0.1  on   5 of   7 obs.
-----------------------------------------
   NOV  05, 1989  15h 01m 07.24± 0.39s
   48.827 N ± 3.0km  128.074 W ± 4.5km
   DEPTH =  10.0km  (geophysicist)
   4.8mb (  9 obs.)
 VANCOUVER ISLAND REGION           ( 25)

ETB      1.15  61 Pn     01 31.26    2.6
EDB      1.22  30 Pn     01 31.08    1.2
                  S      01 49.86
GDR      1.63  53 Pnc    01 38.00    1.9
OZB      1.71  85 Pn     01 37.73    0.5
                  S      02 02.38
BTB      1.80  68 Pnc    01 39.93    1.3
                  S      02 04.78
PHC      1.93  12 Pn     01 40.50    0.2
                  S      02 06.70
ALB      2.18  77 Pnc    01 44.71    0.7
MGB      2.24  84 Pn     01 44.99    0.0
OSP      2.38 102 eP     01 46.33   -0.5
OTR      2.59 105 eP     01 49.02   -0.9
OBC      2.78 105 eP     01 52.03   -0.6
OOW      2.81 111 eP     01 51.69   -1.5
STW      3.01 101 eP     01 55.06   -0.7
PGC      3.07  92 eP     01 56.00   -0.5
OSD      3.09 107 eP     01 56.68   -0.4
BBB      3.36 360 Pnd    02 00.20   -0.6
                  S      02 40.50
MCW      3.47  90 eP     02 02.00   -0.4
ONR      3.49 122 eP     02 01.93   -0.7
BLN      3.50 102 eP     02 02.35   -0.4
SMW      3.51 114 eP     02 02.60   -0.4
HDW      3.56 107 eP     02 03.20   -0.5
GMW      3.76 108 eP     02 06.00   -0.6
BMW      4.03 124 eP     02 08.50   -1.9
RMW      4.41 106 eP     02 16.00    0.1
LON      4.71 114 eP     02 19.60   -0.4
SHW      4.75 121 eP     02 20.30   -0.4
PNT      5.58  82 eP     02 32.00   -0.3
DPW      6.65  95 eP     02 46.10   -1.3
FHC      8.53 159 e(P)   03 12.20   -1.5
LBFM     8.66 147 eP     03 16.00    0.3
WDC      9.14 152 iPc    03 22.60    0.6
MIN      9.65 149 ePc    03 29.50    0.3
EDM     10.26  59 eP     03 37.50    0.0
ORV     10.40 151 eP     03 39.40    0.1
LRM     11.02 100 eP     03 46.60   -1.6
SES     11.17  76 eP     03 49.00   -0.9
KVN     12.12 140 eP     04 03.30    0.3
CMB     12.14 150 e(P)   04 05.20    2.1
MHC     12.40 155 e(P)   04 07.50    0.8
LLA     13.27 154 eP     04 17.40   -0.8
TNP     13.31 140 eP     04 19.20    0.3
        1.2s     28.23nm          5.2mb
PRI     13.80 154 e(P)   04 24.80   -0.4
BW06    14.25 108 eP     04 33.00    1.7
DAU     14.61 119 eP     04 37.50    1.4
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ISA     14.93 148 eP     04 40.00   -0.1
CLC     15.11 145 eP     04 43.00    0.6
MSU     15.42 126 eP     04 47.50    1.0
GSC     15.87 144 eP     04 54.00    1.7
SBB     16.04 148 eP     04 54.00   -0.4
MWC     16.38 149 eP     05 01.00    2.1
TOA     16.71 329 eP     05 01.80   -1.0
RVR     16.83 148 eP     05 04.00   -0.3
FFC     17.14  60 eP     05 06.00   -2.1
        0.6s     12.00nm          4.2mb X
FFC     17.14  60 eP     05 12.00    3.9X
        0.7s     90.00nm          5.0mb
TPC     17.22 144 eP     05 11.00    1.7
PMR     17.43 325 e(P)   05 15.00    3.3X
        1.3s     22.70nm          4.1mb
PLM     17.59 147 eP     05 13.00   -1.1
BAR     18.26 148 eP     05 24.00    1.7
GLA     18.62 143 eP     05 26.00   -0.7
FBA     19.24 334 eP     05 34.20    0.3
INK     19.73 354 eP     05 40.00    0.5
TTA     20.86 323 eP     05 49.70   -1.7
ALQ     21.15 123 eP     05 54.50   -0.3
        1.2s     39.93nm          4.7mb
IMA     21.82 332 eP     06 01.00   -0.2
        1.5s     30.41nm          4.5mb
RSON    22.14  72 eP     06 05.00    0.6
MEO     25.88 112 e(P)   06 41.20    0.5
TUL     26.90 107 eP     06 50.10    0.1
        1.2s     26.40nm          4.8mb
MBC     27.74   4 eP     06 58.50    1.2
        1.0s      6.00nm          4.3mb
NB2     65.68  20 P      11 53.20   -0.3
        1.1s      9.60nm          4.9mb
CLL     74.84  24 eP     12 54.00    4.8X
BRG     75.49  24 eP     13 01.50    8.6X
        1.1s     16.00nm          5.0mb
                 e      13 06.50
KSP     76.12  22 eP     13 01.50    5.0X
KHC     76.97  25 P      13 09.00    7.7X
VRI     83.16  17 ePd    13 35.00    0.6
LPB     83.98 123 (P)    13 45.00    5.6X
CNCB    84.27 123 P      13 39.60   -1.4
CCH     85.75 122 P      13 47.50   -0.6
BUL    145.81  41 ePKP   20 41.30   -6.6X
SLR    150.47  47 iPKPd  21 00.00    5.0X
        1.0s     20.00nm
FRS    152.18  57 ePKP   21 02.50    5.3X
     S.D. = 1.0  on  70 of  80 obs.
-----------------------------------------
   NOV  05, 1989  15h 08m 26.08± 0.24s
   40.046 N ± 4.5km  142.691 E ± 4.5km
   DEPTH =  42.5km  (  7 depth phoses)
   5.2mb ( 41 obs.) 4.7Msz (  1 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)

SAP      3.18 342 eP     09 15.00    0.3
                  eS     09 54.00
MAT      4.97 227 iPc    09 41.60    1.5
       0.6s   520.00nm
                  eS     10 54.00
SHK      9.69 239 eP     10 47.40    1.5
MDJ     10.72 299 eP     11 01.00    1.0
     Z  16s      4.00um
                  sS     13 08.00
CN2     13.38 292 eP     11 35.70    0.2
       0.8s      0.03nm          2.2mb X
     Z  20s      1.50um
     N  10s      0.70um
     E  10s      0.50um
                  pP     11 40.40
                  eS     14 01.00
SNY     14.56 283 Pc     11 51.80    0.8
DL2     16.30 273 eP     12 16.00    2.5
SSE     19.60 250 P      12 50.50   -3.1X
       1.0s     69.00nm          4.9mb
HHC     23.64 282 P      13 32.40   -1.9
BTO     24.84 282 eP     13 42.00   -3.9X
     N  16s      0.50um
     E  16s      0.50um
XAN     27.50 268 P      14 08.50   -2.0
GZH     30.00 245 eP     14 33.40    0.5
LZH     30.67 275 eP     14 36.50   -2.5
       1.5s     58.00nm          5.1mb
                  pP     15 00.00 105kmX
                  sP     15 06 70
GTA     32.75 283 P      14 56.60   -0.5
     Z  18s      1.50um          4.7Msz
                 PcP     17 41.60
CD2     32.77 266 P      14 54.80   -2.5
GYA     32.80 257 iPc    14 56.20   -1.4
       1.0s      0.10nm          2.6mb X
                  S      20 12.00
QIZ     35.13 243 eP     15 15.70   -2.0
KMI     36.48 258 Pc     15 29.00   -0.3
WMQ     40.45 294 Pc     16 02.30    0.3
MNI     41.71 207 e(P)   16 13.00    0.5
LOE     41.92 250 iPc    16 13.60   -0.7
TSM     42.02 218 ePc    16 16.50    1.5
TTA     42.39  37 P      16 26.00    8.3X
       0.9s     11.46nm          4.6mb
LSA     43.00 273 eP     16 24.40    0.8
CHG     43.05 254 iPc    16 23.90    0.4
       0.8s     16.98nm          4.8mb
CHTO    43.05 254 iPc    16 23.70    0.2
       0.9s     19.18nm          4.8mb
IMA     43.60  32 eP     16 28.40    0.9
       0.9s      5.70nm          4.3mb
                  e      16 35.10   22kmX
BDT     44.01 252 eP     16 31.10   -0.1
NST     44.21 249 eP     16 35.00    2.1
PMR     45.63  38 P      16 43.50   -0.2
       0.8s     12.50nm          4.9mb
PCI     45.79 213 ePc    16 47.30    1.9
FBA     46.03  34 eP     16 47.60    0.8
                  i      16 55.70   27kmX
NNT     46.58 246 iPc    16 52.30    0.6
SNG     49.84 240 eP     17 17.50    0.5
KSH     50.16 292 eP     17 20.40    1.0
INK     51.26  28 eP     17 27.50    0.3
IPM     51.50 238 ePc    17 29.60   -0.1
MBC     53.36  17 eP     17 42.50   -0.3
       1.0s     19.00nm          5.1mb
MTN     53.71 194 eP     17 44.60   -1.3
                  i      17 58.40   51km
NDI     54.13 279 iPc    17 47.70   -1 4
       1.0s     40.00nm          5.4mb
PSI     54.29 238 ePd    17 49.60   -0.8
HYB     59.31 267 eP     18 25.00   -1.2
WB5     60.12 189 eP     18 29.80   -1.7
                  i      18 42.70   46km
KEV     60.99 339 eP     18 35.00   -1.9
       0.8s     19.10nm          5.3mb
QUE     61.03 286 iPc    18 37.00   -1.0
POO     62.27 271 iPc    18 45.20   -1.1
GBA     62.47 265 Pc     18 45.70   -1.8
       0.7s     18.00nm          5.3mb
SOD     62.59 337 iP     18 46.40   -1.3
MAIO    63.18 296 eP     18 51.00   -1.1
ASPA    63.91 189 eP     18 57.50    0.7
                  e      19 08.40   36km
PNT     65.33  46 eP     19 05.00   -0.9
LON     65.50  49 P      19 18.20   11.2X
DZM     65.65 156 iPc    19 21.90   13.8X
SUF     65.75 333 iP     19 07.40   -0.9
       0.5s     20.80nm          5.4mb
WARB    67.56 196 eP     19 21.00    0.8
NUR     67.77 332 iP     19 20.20   -0.9
       0.7s     24.00nm          5.4mb
WDC     68.49  55 e(P)   19 30.80    4.8X
FFC     70.64  34 iPc    19 38.20   -0.7
       0.8s     16.00nm          5.1mb
LRM     71.31  46 eP     19 43.50    0.1
CMB     71.33  56 e(P)   19 42.30   -1.1
NB2     71.80 337 P      19 45.10   -0.7
       0.7s     30.90nm          5.4mb
KVN     72.15  54 P      19 48.50    0.0
TNP     73.29  54 P      19 54.50   -0.7
       0.8s      2.82nm          4.3mb
FRB     73.62  14 eP     19 56.00   -0.3
KVT     75.33 312 eP     20 07.60    0.9
VRI     77.08 320 ePd    20 17.00    0.6
KRA     77.16 326 iPc    20 17.00    0.3
       0.7s     38.00nm          5.5mb
                  i      20 30.50   47km
SPC     77.68 325 eP     20 19.80    0.0
MLR     77.73 320 eP     20 20.00   -0.1
BBTK    78.03 312 iPc    20 23.00    1.2
KSP     78.07 329 iPc    20 21.90    0.2
       0.8s     25.00nm          5.3mb
                  i      20 34.60   43km
                  e      23 08.50
                  e      23 29.70
PSZ     78.78 325 eP     20 26.10    0.3
BRG     78.97 330 iP     20 26.50   -0.1
       1.1s     19.00nm          5.0mb
                  e      20 38.00   38km
                  e      23 18.00
                  e      23 37.00
CLL     78.98 331 iPc    20 26.30   -0.3
       1.1s     32.00nm          5.2mb
                 epP     20 38.00   39km
PRU     79.43 329 Pc     20 29.80    0.7
       0.9s     14.00nm          4.9mb
SRO     79.56 326 eP     20 30.00    0.2
BZS     79.72 322 eP     20 35.00    4.2X
ZST     79.78 326 e(P)   20 32.00    0.9
KHC     80.50 329 iPc    20 35.70    0.8
       0.9s     18.00nm          5.0mb
EKA     80.62 341 Pd     20 36.00    0.6
       1.3s     29.40nm          5.1mb
WTS     80.62 334 eP     20 36.00    0.6
       0.8s     12.00nm          4.9mb
PGB     80.74 319 iPc    20 37.00    0.6
KHL     80.90 313 iP     20 36.70   -0.6
RZN     81.09 318 iPc    20 39.00    0.6
VTS     81.19 319 iPc    20 39.00    0.2
ALQ     81.90  51 P      20 43.40    0.7
ENN     81.96 334 eP     20 42.50    0.1
       0.8s     10.00nm          4.9mb
MEM     82.06 334 Pc     20 43.00    0.0
FUR     82.18 330 eP     20 44.50    0.8
       0.8s     40.00nm          5.5mb
KBA     82.23 328 eP     20 44.50    0.3
       1.0s     26.80nm          5.2mb
                  e      23 52.50
                  e      24 03.00
KNT     82.40 319 iPd    20 37.20   -7.8X
VAY     82.45 319 eP     20 45.60    0.4
SKO     82.53 320 iP     20 46.50    0.9
       1.1s     53.00nm          5.5mb
                  i      21 03.40   60kmX
                  i      21 11.60
SNF     82.72 335 P      20 45.00   -1.4
GRG     82.81 319 iPd    20 46.90   -0.2
FVI     82.85 328 P      20 42.60   -4.5X
PAIG    82.91 317 ePd    20 47.50   -0.1
DOU     82.98 334 P      20 47.50   -0.3
PRNI    83.08 304 e(P)   20 49.00    0.3
LIT     83.40 318 ePd    20 49.40   -0.7
CDF     83.48 332 P      20 50.29   -0.2
OHR     83.49 320 iP     20 50.80    0.1
       1.0s      0.07nm          2.7mb X
FEL     83.66 331 P      20 51.44    0.0
ECH     83.68 332 P      20 51.54    0.1
CTI     83.75 328 P      20 51.00   -1.0
VITF    84.10 333 P      20 53.42   -0.1
HAU     84.15 332 eP     20 54.10    0.3
       0.8s     10.70nm          5.0mb
AGG     84.28 318 ePd    20 53.60   -1.0
LOMF    84.53 332 P      20 55.84    0.0
VAI     85.04 330 Pd     20 58.40    0.2
LOR     85.66 333 eP     21 01.80    0.4
       0.8s     30.80nm          5.6mb
LBF     85.86 333 eP     21 02.70    0.3
       0.8s     24.10nm          5.5mb
SSF     85.96 333 eP     21 03.40    0.6
       0.8s     23.30nm          5.5mb
LPG     86.13 331 eP     21 04.60    0.5
       0.8s     24.10nm          5.5mb
SMF     86.20 333 eP     21 04.40    0.3
       1.1s     39.00nm          5.5mb
GRR     86.21 337 eP     21 04.60    0.6
       1.0s     48.00nm          5.7mb
AVF     86.25 333 eP     21 04.80    0.6
BNI     86.53 330 P      21 06.50    0.6
LPF     86.58 337 eP     21 06.60    0.7
       0.8s     17.10nm          5.3mb
BGF     86.62 334 eP     21 06.60    0.5
       0.8s     12.00nm          5.2mb
MAF     87.01 334 eP     21 09.00    1.0
       0.8s     22.80nm          5.5mb
TCF     87.07 334 eP     21 08.40    0.1
       0.8s     12.60nm          5.2mb
LSF     87.33 334 eP     21 10.40    0.8
       0.8s     12.60nm          5.2mb
MFF     87.57 335 eP     21 11.70    1.0
       1.0s     32.00nm          5.5mb
SLR    124.26 264 iPKPd 27 21.30   -0.8
       0.9s     12.60nm
KIC    124.92 319 PKP   27 23.00   -0.5
LIC    125.18 319 PKP   27 23.50   -0.5
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05d 15h

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SEK    126.10 261 iPKPc 27 25.50  -0.2
        0.8s     7.46nm
FRS    128.56 261 ePKP  27 17.00 -13.0X
LPB    144.47  58 ePKP  28 03.00   2.8X
SNA    144.69 200 iPKPd 27 57.50  -1.0
        1.0s    15.00nm
CNCB   144.75  58 PKP   28 00.40  -0.5
CCH    146.35  56 PKP   28 05.50   2.2
PDCR   152.55   4 ePKP  28 21.10   8.7X
                e      28 31.60
     S.D. = 1.0  on 122 of 134 obs.
-----------------------------------------
   NOV  05, 1989  15h 56m 20.63± 0.21s
   39.159 N ± 4.5km  143.515 E ± 3.7km
   DEPTH =  28.7km  ( 12 depth phases)
   5.2mb ( 36 obs.)  4.5Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.:  9S, 20C
      Centroid Locatian:
      Origin Time        15:56:29.1 1.9
      Lat 39.06N 0.13 Lon 143.35E 0.15
      Dep  15.0 FIX Half-duration  1.5
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 4.87 0.40  Mtt= 1.29 0.46
        Mff=-6.16 0.57  Mrt= 0.37 1.20
        Mrf= 3.08 1.84  Mtf=-3.65 0.45
       Principal Axes:
        T  Vol=  5.77  Plg=70  Azm=242
        N        2.56      14       18
        P       -8.33      13      111
      Best Double Couple:Mo=7.1*10**16
       NP1:Strike=220 Dip=34 Slip= 116
       NP2:          9     60       73

OFUJ     1.44 267 iP+    56 45.70   0.8
AOMJ     2.79 301 P      57 05.90   1.6
YAMJ     2.89 251 P      57 06.50   0.7
KAKJ     3.96 223 P      57 15.10  -5.9X
                 S       58 04.00
NIIJ     4.04 243 P      57 22.70   0.7
CHJJ     4.75 231 P      57 31.50  -0.6
                 S       58 24.90
MAT      4.95 240 iPc    57 35.90   1.0
                 eS      58 34.00
MTMJ     5.20 242 P      57 39.50   0.9
IIDJ     5.78 232 P      57 46.60  -0.2
TSRJ     7.00 241 P      58 04.50   0.6
WKYJ     8.05 235 eP     58 18.30  -0.3
YONJ     8.95 247 P      58 31.30   0.3
TKSJ     9.20 239 P      58 32.70  -1.7
SHK      9.83 245 eP     58 45.00   1.8
SHNJ    11.16 247 eP     59 02.70   1.4
MDJ     11.72 302 eP     59 06.50  -2.4
      Z  14s      1.24um
      E  13s     12.40um
KUMJ    12.23 241 eP     59 15.00  -0.7
KAGJ    13.03 236 eP     59 25.70  -0.7
CN2     14.31 295 iPc    59 41.00  -2.2
         4.0s      0.80nm          2.7mb X
      Z  14s      3.40um          5.1MszX
      N  13s      1.20um
      E  13s      3.20um
                  pP     59 50.00
SNY     15.40 286 Pc     59 53.70  -3.7X
      Z  14s      4.50um          4.9MszX
      N  14s      1.90um
      E  14s      3.90um
                  S      02 49.00
DL2     17.01 276 P      00 18.00   0.1
      Z  18s      2.10um          5.0MszX
                  sS     03 34.00
SSE     19.92 253 eP     00 50.00  -2.9
      Z  14s      2.70um
      N  14s      2.40um
      E  14s      1.90um
                  sP     01 01.00
                  PP     01 07.50
                  eS     04 32.00
                  sS     04 42.00
BJI     21.06 281 eP     01 01.00  -3.6X
         1.4s    203.00nm          5.3mb
      Z  15s      4.08um          4.9MszX
      E  15s      2.93um
                  eS     04 52.00
TIA     21.07 270 eP     01 02.10  -2.7
      Z  15s      4.70um          5.0MszX
      N  13s      2.20um
      E  13s      3.80um
                  S      04 54.50
NJ2     21.23 258 Pc     01 03.00  -3.4X
      Z  14s      3.60um          4.9MszX
      N  12s      1.40um
      E  14s      2.40um
                  isS    05 12.00
ANP     23.18 240 eP     01 26.00   0.1
TIY     24.33 276 eP     01 34.50  -2.5
      N  12s      2.20um
                  PP     02 11.50
HHC     24.47 284 eP     01 36.00  -2.3
      Z  16s      6.20um          5.2MszX
      N  13s      1.40um
      E  15s      2.70um
                  S      05 51.00
                  sS     06 04.00
OZH     25.33 243 Pc     01 46.00  -0.5
      Z  14s      2.60um          4.9MszX
      N  15s      2.90um
      E  15s      2.20um
                  sS     06 18.00
WHN     25.35 259 iPc    01 47.00   0.4
         2.0s      1.54nm          3.3mb X
      Z  14s      2.69um          4.9MszX
      N  14s      2.11um
      E  14s      3.92um
                  pP     01 56.00  32km
                  eS     06 02.00
BTO     25.66 284 iPc    01 46.00  -3.7X
      N  15s      1.20um
      E  15s      5.80um
                  PP     02 32.00
XAN     28.13 270 P      02 11.00  -1.2
      E  12s      2.50um
                  eS     07 00.00
GZH     30.21 247 eP     02 31.50   0.6
      Z  13s      2.30um          5.0MszX
      N  14s      1.30um
      E  13s      1.70um
                  S      07 32.00
BAG     30.25 228 eP     02 30.10  -1.4
LZH     31.40 277 Pc     02 40.00  -1.5
         2 0s    103.00nm          5.3mb
      Z  15s      4.70um          5.3MszX
      N  12s      1.10um
      E  13s      3.70um
                  pP     02 46.00  21km
                  sP     02 50.00
                  S      07 44.00
GYA     33.24 259 iPc    02 56.60  -0.9
         1.4s      0.10nm          2.5mb X
      N  14s      2.20um
      E  14s      1.00um
CD2     33.37 268 P      02 57.40  -1.1
      Z  14s      1.80um          4.9MszX
      N  13s      2.70um
                  eS     08 20.00
GTA     33.58 285 P      03 00.40   0.0
         1.0s      0.10nm          2.7mb X
      Z  16s      4.70um          5.3MszX
                  PP     04 14.00
                  S      08 18.00
QIZ     35.32 245 eP     03 13.00  -2.4
      N  14s      1.10um
      E  16s      1.80um
DAV     35.79 212 eP     03 19.50   0.2
KMI     36.94 260 Pc+    03 29.00  -0.3
      Z  14s      3.50um          5.3MszX
      N  13s      1.10um
      E  13s      1.10um
                  S      09 12.00
MNI     41.23 209 eP     04 05.50   0.8
WMO     41.40 295 Pc     04 06.30   0.3
      Z  16s      1.40um          4.9MszX
                  S      10 22.00
TSM     41.74 220 ePc    04 10.50   1.7
LOE     42.23 251 iPd    04 13.10   0.2
SVW     42.81  39 eP     04 18.50   1.3
CHG     43.43 255 iPc    04 23.10   0.4
         1.2s     28.52nm          4.9mb
LSA     43.69 274 iP     04 26.60   1.3
      E  16s      0.99um
                  sP     04 39.00
                  eS     10 55.00
BRW     43.81  24 eP     04 26.10   1.0
IMA     44.02  31 eP     04 28.00   0.9
         1.0s     12.30nm          4.7mb
                  e      04 38.30  35km
BDT     44.35 253 eP     04 30.60   0.5
KDC     44.47  43 e(P)   04 30.10  -0.5
NST     44.51 251 eP     04 34.00   2.6
PCI     45.41 214 ePd    04 40.70   2.2
PMR     45.93  38 eP     04 41.70  -0.5
         0.6s     15.20nm          5.1mb
FBA     46.42  33 eP     04 46.20   0.1
NNT     46.83 248 eP     04 56.30   6.5X
TOA     47.30  37 eP     04 53.70   0.6
MKS     49.44 212 ePd    05 23.00  12.9X
SNG     49.97 242 eP     05 16.00   1.8
KSH     51.09 293 iPd    05 24.00   1.3
      N  14s      1.30um
IPM     51.58 239 ePd    05 27.30   0.8
INK     51.74  28 iPd    05 27.00   0.0
MTN     53.01 195 eP     05 36.00  -1.1
MBC     54.02  17 eP     05 44.00   0.1
         1.0s     19.00nm          5.1mb
NDI     54.91 280 iPc    05 50.20  -0.9
WB5     59.35 190 eP     06 20.20  -2.2
HYB     59.92 268 ePc    06 26.00  -0.6
         1.2s     42.90nm          5.5mb
QUE     61.90 287 eP     06 38.80  -1.3
KEV     62.04 339 eP     06 40.00  -0.3
POO     62.93 272 iPd    06 46.50  -0.4
GBA     63.03 266 P      06 47.00  -0.5
ASPA    63.14 190 eP     06 44.00  -4.0X
         0.9s      7.00nm          4.8mb
      Z  21s      0.37um          4.5Msz
                  LR     31 10.60
SOD     63.65 337 iP     06 40.10 -10.8X
SOD     63.65 337 iP     06 50.10  -0.8
DZM     64.58 156 iPc    06 58.20   0.7
PNT     65.50  46 eP     07 03.00  -0.2
LON     65.60  49 P      07 03.20  -0.8
SUF     66.83 334 eP     07 10.60  -0.8
         0.8s     18.40nm          5.2mb
WARB    66.89 196 eP     07 12.00  -0.2
FHC     67.44  55 ePd    07 16.60   0.8
NEW     67.46  46 P      07 14.50  -1.3
         0.6s     15.38nm          5.3mb
WDC     68.48  55 ePd    07 22.20   0.0
NUR     68.85 332 iP     07 23.00  -1.1
         0.8s     19.10nm          5.3mb
SES     69.47  41 ePd    07 27.50  -0.7
ORV     69.72  55 e(P)   07 28.90  -0.9
FFC     71.02  34 iPd    07 37.10  -0.4
         0.6s      8.00nm          5.0mb
CMB     71.30  56 ePd    07 38.80  -0.7
LRM     71.48  46 eP     07 40.90   0.2
KVN     72.16  54 P      07 44.60  -0.2
FRI     72.34  57 e(P)   07 43.90  -1.8
NB2     72.86 338 P      07 47.80  -0.6
         1.0s     31.40nm          5.3mb
TNP     73.29  54 P      07 51.00  -0.5
         0.7s      3.89nm          4.5mb
BWA     73.36 176 eP     07 52.80   1.4
CLC     74.41  56 eP     07 58.00   0.2
SBB     74.94  58 eP     08 11.00  10.1X
BW06    75.00  47 P      08 00.00  -1.3
GSC     75.23  56 eP     08 03.00   0.4
RVR     75.66  58 eP     08 05.00   0.1
KVT     76.39 312 eP     08 10.00   1.0
BAR     76.93  59 eP     08 10.00  -2.1
RSSD    77.15  43 P      08 12.50  -0.9
GLA     77.91  57 eP     08 19.00   1.5
VRI     78.17 320 ePd    08 20.00   1.3
KRA     78.25 327 ePc    08 19.30   0.3
         1.0s     62.00nm          5.6mb
      Z  16s      1.80um          5.5MszX
      N  16s      2.10um
                  e      08 28.20  28km
MLR     78.82 321 eP     08 08.00 -14.4X
BBTK    79.09 313 eP     08 24.00   0.0
KSP     79.15 329 iPc    08 24.00   0.0
         1.1s     40.00nm          5.3mb
                  id     08 33.70  31km
                  e      11 18.00
CMP     79.43 321 iPc    08 27.00   1.4
GLD     79.45  47 P      08 25.00  -1.0
         1.4s     89.19nm          5.6mb
PSZ     79.8B 325 eP     08 27.90  -0.1
BRG     80.05 330 iPc    08 28.90   0.1
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        1.2s     23.00nm          5.1mb
                   i      08 37.50  27km
                   e      08 52.00
                   e      09 07.00
CLL     80.06 331 iPc     08 28.60  -0.2
        1.3s     41.00nm          5.3mb
                  iPP     08 37.90  30km
PRU     80.52 329 Pc      08 32.00   0.7
        1.0s     21.70nm          5.1mb
                   e      08 40.50  27km
SRO     80.65 326 eP      08 33.00   1.0
                   e      08 42.30  30km
BZS     80.81 323 eP      08 33.00   0.1
ZST     80.87 327 eP      08 33.50   0.3
KHC     81.58 329 iP      08 37.90   1.0
        1.0s     17.50nm          5.0mb
                   i      08 47.30  30km
EKA     81.67 342 P       08 38.00   0.8
        1.2s     19.40nm          5.0mb
WTS     81.70 335 eP      08 38.00   0.6
        1.0s      8.00nm          4.7mb
BEO     81.95 323 eP      08 39.20   0.3
ALO     81.96  51 P       08 40.00   0.6
        0.8s      4.76nm          4.6mb
RZN     82.17 319 iPc     08 42.00   1.7
VTS     82.28 320 iPc     08 41.00   0.2
KKB     82.88 320 iPc     08 44.00   0.2
ENN     83.03 334 eP      08 45.00   0.6
        0.9s     14.00nm          5.1mb
DSI     83.04 305 eP      08 47.00   2.2
KBA     83.32 328 e(P)    08 47.00   0.8
KNT     83.49 319 ePc     08 46.90   0.0
VAY     83.54 319 iP      08 47.60   0.5
                   i      08 56.00  27km
OUR     83.54 318 ePc     08 47.20   0.1
SKO     83.62 321 iPc     08 48.20   0.6
        1.1s     62.00nm          5.7mb
      Z  15s      1.22um          5.4MszX
      N  15s      1.37um
      E  20s      0.72um
                   i      08 57.00  28km
                  LR      50 20.00
GRG     83.89 319 ePd     08 49.40   0.4
GWF     83.96 333 P       08 48.41  -0.8
LIT     84.48 319 ePc     08 51.00  -1.0
WLS     84.53 332 P       08 52.07   0.0
CDF     84.56 332 P       08 52.31   0.0
MBH     84.57 304 ePc     08 54.00   1.5
OHR     84.58 320 iP      08 52.30  -0.2
        1.0s      0.07nm          2.8mb X
FEL     84.74 332 P       08 51.47  -1.8
ECH     84.76 332 P       08 52.67  -0.6
CTI     84.84 329 P       08 53.00  -0.8
MOF     85.08 332 P       08 55.95   1.0
BSF     85.22 332 P       08 54.75  -0.9
HAU     85.23 333 eP      08 55.80   0.2
        0.8s      8.00nm          5.0mb
BBS     85.27 332 P       08 55.93   0.1
VAI     86.13 330 P       08 59.90  -0.1
LOR     86.73 334 eP      09 03.50   0.5
        1.0s     38.00nm          5.6mb
LBF     86.94 334 eP      09 04.50   0.4
        1.0s     18.00nm          5.3mb
SSF     87.03 334 eP      09 05.00   0.5
        1.0s     18.80nm          5.3mb
LPG     87.21 331 eP      09 06.10   0.4
        1.2s     35.70nm          5.5mb
SMF     87.28 333 eP      09 06.10   0.4
        1.0s     22.80nm          5.4mb
AVF     87.32 334 eP      09 06.60   0.8
        1.0s     42.00nm          5.7mb
BNI     87.62 331 P       09 09.40   1.9
MAF     88.09 334 eP      09 10.60   1.0
        1.2s     36.80nm          5.6mb
TCF     88.15 334 eP      09 10.90   1.0
        1.0s     12.00nm          5.2mb
LSF     88.41 335 eP      09 11.90   0.8
        1.0s     46.00nm          5.8mb
SNA    144.07 199 ePKP    15 52.00  -1.9
        0.9s     22.69nm
LPB    144.38  60 ePKP    15 56.00  -0.6
CNCB   144.66  60 PKP     15 55.80  -1.4
PDCR   153.38   6 ePKP    16 11.00   0.9
                   e      16 29.10
      S.D. = 1.1  on 150 of 161 obs.
-----------------------------------
?  NOV  05, 1989  16h 11m 48.49± 1.06s
    31.549 S ±14.3km   68.767 W ±48.5km
    DEPTH = 244.5 ±  9.7 km
  SAN JUAN PROVINCE, ARGENTINA     (137)

RTCB     0.07 335 iPd     12 19.10  -1.5
                  S      12 31.20
RTLL     0.33  49 iPc     12 19.80  -1.1
RTCV     0.37 148 ePd     12 22.20   1.2
                  S      12 37.00
CFA      0.45  97 iPd     12 22.00   0.8
                  S      12 36.00
RTRS     1.50 336 iPc     12 27.20   0.7
                  S      12 45.00
CCH     14.30  10 P       15 02.00   0.0
AIA     33.84 177 eP      18 09.20  -0.1
      S.D. = 1.4  on   7 of   7 obs.
-----------------------------------
    NOV  05, 1989  16h 46m 21.78± 0.95s
     9.050 N ± 3.6km  126.469 E ± 4.8km
    DEPTH =  59.9 ±  9.2 km
    5.0mb ( 21 obs.)
  MINDANAO, PHILIPPINE ISLANDS     (259)
        CENTROID, MOMENT TENSOR     (HRV)
        Data Used: GDSN
        L.P.B.: 12S, 21C
        Centroid Location:
        Origin Time        16:46:22.2 0.5
        Lat  9.10N 0.06 Lon 126.69E 0.08
        Dep  32.2 5.8 Half-duration  1.9
        Moment Tensor;   Scale 10**16 Nm
          Mrr= 7.78 0.72  Mtt= 1.34 0.72
          Mff=-9.11 1.11  Mrt= 0.61 1.28
          Mrf= 9.61 1.76  Mtf= 1.83 0.67
         Principal Axes:
          T  Val= 12.28  Plg=64  Azm=286
          N        1.31       8       178
          P      -13.60      24        84
        Best Double Couple:Mo=1.3*10**17
         NP1:Strike=157 Dip=22 Slip=  67
         NP2:          1      69       99

DAV      2.14 204 eP      46 57.90   2.2
        1.2s   2550.00nm
OCP      7.66 317 eP      47 40.00 -33.2X
MNI      7.73 192 ePd     48 14.00  -0.1
BAG      9.30 322 eP      48 35.50  -0.5
                  eS      50 34.00
TSM      9.62 241 ePc     48 44.50   4.4X
KKM     10.59 254 ePc     48 56.00   2.5
        1.0s     98.40nm          5.8mb
PCI     11.89 214 ePc     49 14.80   3.9X
        1.0s      6.70nm          4.6mb
MKS     15.80 206 ePd     50 06.00   4.0X
OZH     17.50 336 eP      50 23.00  -0.2
      N  15s      1.20um
                  sS      53 45.00
GUMO    18.59  74 eP      50 36.30  -0.4
        1.4s    269.23nm          5.3mb
PJG     18.59  74 eP      50 36.50  -0.2
GUA     18.62  74 eP      50 37.00  -0.1
        1.2s    112.50nm          4.9mb
GZH     18.79 320 eP      50 38.60  -0.5
OIZ     18.92 303 eP      50 40.00  -0.6
      N  17s      1.10um
      E  17s      1.60um
                  eS      54 12.50
MTN     22.24 168 eP      51 15.00   0.1
SSE     22.48 348 P       51 17.00  -0.1
        1.0s      0.04nm          1.7mb X
                  pP      51 27.10  38kmX
                  PP      51 38.00
                  S       55 20.00
                  sS      55 36.00
NJ2     23.95 344 Pc      51 31.70   0.2
KGM     24.06 254 eP      51 34.00   1.3
WHN     24.19 334 P       51 33.20  -0.6
KNA     24.74 175 eP      51 39.00  -0.2
LOE     25.45 292 iPd     51 45.80  -0.1
GYA     25.54 315 P       51 50.40   3.6X
      N  14s      1.30um
      E  14s      0.80um
                  sS      56 28.00
IPM     25.64 262 ePd     51 49.00   1.3
        0.8s     41.20nm          5.0mb
SNG     25.66 268 eP      51 51.80   4.0X
                  eS      56 21.00
SHK     25.99  12 eP      51 52.70   1.9
NNT     26.49 280 iPd     51 56.70   1.2
NST     26.54 287 iPc     51 58.00   2.1
KMI     27.67 308 Pd      52 05.50  -1.0
      Z  28s      2.10um          4.6MszX
                   S      57 32.00
BDT     27.93 290 eP      52 08.00  -0.6
PSI     28.10 259 ePd     52 11.00   0.8
        1.0s     34.50nm          4.9mb
TIA     28.34 344 eP      52 11.30  -0.8
CHG     28.38 293 ePc     52 12.00  -0.7
        1.0s     16.00nm          4.6mb
                   e      55 24.50
                   e      59 02.10
CHTO    28.38 293 iP      52 11.90  -0.8
        1.0s     14.00nm          4.5mb
MAT     29.37  20 eP      52 20.00  -1.4
        1.2s     34.38nm          4.9mb
                  eS      57 22.00
WB5     29.78 165 eP      52 22.50  -2.7
CD2     30.35 319 eP      52 28.80  -1.3
                  eS      57 25.00
MBL     30.72 192 eP      52 32.00  -1.4
TIY     31.23 338 eP      52 35.50  -2.3
      Z  20s      0.88um          4.4Msz
      N  15s      0.50um
QIS     32.13 156 iPc     52 44.20  -1.6
        0.7s     37.00nm          5.3mb
BJI     32.20 345 eP      52 45.00  -1.2
        1.2s      0.02nm          1.8mb X
                  ScP     59 13.00
SNY     32.75 356 iPc     52 51.00   0.1
ASPA    33.32 168 eP      52 54.10  -2.1
      Z  24s      0.32um          3.9MszX
                  LR      06 31.10
LZH     33.89 326 e(P)    53 00.00  -1.2
      Z  20s      1.30um          4.7Msz
      E  14s      0.50um
BTO     34.65 338 eP      53 06.00  -1.6
CTA     34.89 146 iPc     53 09.20  -0.5
        0.9s     15.97nm          4.9mb
                  iS      58 36.00
                  iScP    59 22.00
                  iScS    03 30.00
WARB    35.02 180 eP      53 10.60  -0.1
MDJ     35.54   4 eP      53 15.50   0.6
GTA     38.49 326 eP      53 38.80  -1.2
LSA     38.90 307 P       53 44.00   0.0
MRWA    39.36 195 eP      53 47.00  -0.2
        0.3s      3.00nm          4.6mb
FORR    39.70 178 eP      53 49.40  -0.5
COOL    40.03 187 eP      53 52.10  -0.6
BAL     40.53 193 eP      53 57.00   0.3
KLB     41.26 191 eP      54 02.70  -0.1
MUN     41.96 193 eP      54 09.00   0.5
NWAO    42.66 191 eP      54 09.30  -4.9X
        0.8s     28.00nm          5.1mb
STK     43.19 161 eP      54 18.00  -0.5
RKG     43.81 191 eP      54 29.00   5.5X
        0.9s     94.00nm          5.6mb
BRS     44.29 146 iPc     54 25.50  -2.1
                   i      54 30.00
                  i(S)    00 02.00
ADE     45.28 166 iPc     54 36.00   0.6
        1.0s    110.00nm          5.7mb
HYB     47.27 285 ePc     54 51.50   0.1
        1.0s    120.00nm          5.8mb
BWA     47.98 155 eP      54 57.30   0.6
GBA     48.23 280 P       54 58.00  -0.8
WMQ     48.30 323 P       54 58.20  -0.9
      Z  20s      0.80um          4.7Msz
BFD     48.39 163 eP      55 00.00   0.3
                   i      55 06.80
CAN     48.99 155 eP      55 04.30  -0.2
TOO     49.68 160 eP      55 10.00   0.3
DZM     49.93 129 iPc     55 18.10   6.2X
NDI     50.13 300 iPc     55 11.00  -2.3
POO     51.81 286 iPd     55 25.60  -0.6
BOM     52.80 287 eP      55 34.00   0.5
                  eS      02 55.50
QUE     59.20 300 eP      56 18.50  -1.1
MSZ     65.24 149 P       57 00.00   0.8
MAIO    66.16 306 iPd     57 05.70   0.2
SVW     76.29  29 eP      58 07.80   2.1
TAB     76.74 307 eP      58 09.00   0.2
BRW     77.25  19 eP      58 12.60   1.8
KDC     77.62  33 eP      58 14.50   1.5
IMA     77.66  24 eP      58 15.20   1.9
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05d 16h

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        0.6s      9.30nm          5.0mb
PMR    79.44  29 eP     58 23.70   0.8
        0.7s     17.90nm          5.1mb
FBA    80.06  26 eP     58 26.80   0.6
TOA    80.83  28 eP     58 32.70   2.3
KVT    84.45 311 eP     58 49.00  -0.4
KEV    84.84 340 eP     58 52.00   1.3
INK    85.34  22 eP     58 55.00   1.7
SOD    85.48 338 iP     58 54.10   0.1
SUF    86.72 333 eP     59 00.30   0.1
        0.5s      5.40nm          5.0mb
PRNI   86.75 300 eP     59 02.00   0.9
MBC    86.85  13 ePd    59 02.40   1.8
        0.6s     13.00nm          5.3mb
MBH    86.94 299 eP     59 02.00   0.1
NUR    87.95 331 eP     58 55.00 -11.1X
                 i      59 31.00
MAW    88.63 200 eP     59 09.50   0.4
VRI    90.29 316 ePc    59 18.00   0.5
NB2    93.93 334 P      59 32.00  -2.0
        0.9s      3.20nm          4.8mb
KSP    95.46 323 eP     59 41.50   0.3
KIC   129.02 286 PKP    05 26.00   0.4
TIC   129.20 286 PKP    05 26.30   0.4
LIC   129.33 286 PKP    05 26.50   0.3
      S.D. = 1.2  on  88 of  98 obs.
-----------------------------------
   NOV  05, 1989  16h 50m 05.63± 0.53s
   44.979 N ± 4.1km    6.784 E ± 7.5km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 2.6 (LDG), 2.5 (GEN).

RRL     0.06 179 P      50 08.64   0.5
                 S      50 12.95
BNI     0.11 314 Pc     50 07.40  -1.2
                 eSg    50 10.20
RSP     0.38  63 P      50 15.19   1.8
                 S      50 23.66
LPG     0.52 358 Pg     50 14.90  -1.3
                 Sg     50 23.20
PZZ     0.53 154 P      50 16.03  -0.3
                 S      50 25.32
LPL     0.54 356 Pg     50 14.70  -1.9
                 Sg     50 23.60
LSD     0.55  29 P      50 16.74   0.0
                 S      50 26.42
DOI     0.58 145 P      50 16.50  -0.9
                 eSg    50 26.80
STV     0.83 152 P      50 21.28  -0.5
                 S      50 34.53
ENR     0.88 149 P      50 22.27  -0.3
                 S      50 36.03
SBF     1.21 157 Pg     50 29.40   1.2
                 Sg     50 47.00
FRF     1.42 184 Pg     50 31.40  -0.1
                 Sg     50 50.60
LRG     1.55 191 Pg     50 32.50  -0.8
                 Sg     50 53.60
LMR     1.66 187 Pg     50 34.60  -0.2
                 Sg     50 56.40
SMF     2.65 310 Pg     50 50.50   1.4
                 Sg     51 22.00
LBF     2.80 317 Pg     50 54.00   2.6
                 Sg     51 27.50
HAU     3.04 354 Pg     51 00.80   6.1X
LOR     3.06 319 Pg     50 59.00   4.0X
BGF     3.18 301 Pn     50 51.20  -5.4X
                 Pg     51 00.60
      S.D. = 1.3  on  16 of  19 obs.
-----------------------------------
?  NOV  05, 1989  18h 00m 09.46± 3.01s
   39.872 N ±25.8km  143.454 E ±41.2km
   DEPTH =  33.0km  (normol)
   4.8mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

MAT     5.30 233 iPc    01 28.40   0.0
        0.9s     36.13nm          4.9mb
                 (S)    02 35.00
BJI    20.89 279 eP     04 49.00  -2.2
WHN    25.44 258 iPd    05 36.50   0.7
        1.0s      0.03nm          1.8mb X
LZH    31.27 276 Pd     06 29.00   0.4
        1.5s     38.00nm          5.0mb
GYA    33.34 258 P      06 46.00  -0.6
GTA    33.36 284 Pc     06 47.60   0.9
WMQ    41.06 294 Pd     07 53.00   1.6
CHTO   43.57 254 eP     08 12.70   0.6
GBA    63.04 265 P      10 35.00  -0.8
NB2    72.18 338 P      11 32.00  -0.6
        1.0s      4.60nm          4.4mb
      S.D. = 1.2  on  10 of  10 obs.
-----------------------------------
   NOV  05, 1989  19h 00m 44.28± 0.44s
   36.590 N ± 4.3km  121.206 W ± 4.2km
   DEPTH =   5.0km  (geophysicist)
 CENTRAL CALIFORNIA                ( 39)
      ML 2.3 (NEIS).

LLA     0.21  83 iPc    00 49.30   0.7
SAO     0.26 312 iPc    00 50.10   0.6
PRS     0.29 207 iPd    00 50.40   0.3
                 iS     00 54.20
PRI     0.63 136 iPc    00 57.10   0.3
GCC     0.77 305 eP     00 59.30  -0.4
                 iS     01 13.10
ARN     0.80 341 eP     01 00.70   0.4
MHC     0.83 335 ePd    01 01.50   0.6
                 eS     01 13.60
PHAM    1.00 139 e(P)   01 03.00  -0.7
PKEM    1.03 120 e(P)   01 04.50   0.3
FRI     1.27  71 ePc    01 07.40  -0.9
                 eS     01 23.60
PCC     1.31 314 ePc    01 07.90  -1.0
CMB     1.58  24 ePc    01 13.00  -0.1
                 eS     01 34.50
      S.D. = 0.7  on  12 of  12 obs.
-----------------------------------
*  NOV  05, 1989  19h 06m 56.95± 0.64s
   39.713 N ±10.8km  143.723 E ±10.3km
   DEPTH =  28.6km  (  2 depth phoses)
   4.7mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ    4.45 238 P      08 05.00   0.7
KAKJ    4.49 220 P      08 04.10  -0.6
                 S      08 52.60
CHJJ    5.23 227 P      08 14.60  -0.7
                 S      09 12.40
MAT     5.38 236 iPc    08 17.90   0.5
        0.9s     28.57nm          4.8mb
                 eS     09 24.00
MTMJ    5.61 238 P      08 21.20   0.4
IIDJ    6.26 229 eP     08 30.90   1.1
TSRJ    7.42 238 eP     08 50.40   4.3X
WHN    25.61 258 Pd     12 25.50   0.0
                 pP     12 33.80  30km
GYA    33.51 258 P      13 35.40  -0.8
GTA    33.60 284 eP     13 36.20  -0.7
WMQ    41.32 295 eP     14 41.50  -0.1
CHTO   43.73 255 e(P)   15 01.30  -0.1
                 pP     15 09.60  28km
WB5    59.92 190 eP     17 01.80  -0.9
SUF    66.41 334 eP     17 52.70   7.6X
        0.6s      4.50nm          4.8mb
CMB    70.86  56 eP     18 13.70   0.5
LRM    70.97  46 eP     18 14.50   0.5
NB2    72.41 338 P      18 29.80   7.8X
        0.9s      3.70nm          4.4mb
      S.D. = 0.7  on  14 of  17 obs.
-----------------------------------
?  NOV  05, 1989  19h 24m 03.77± 2.71s
   39.605 N ±19.9km  143.825 E ±37.9km
   DEPTH =  27.9km  (  2 depth phoses)
   3.7mb (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ    4.46 222 P      25 10.60  -0.6
NIIJ    4.46 240 P      25 11.20  -0.1
CHJJ    5.22 229 P      25 21.10  -0.9
MAT     5.38 237 iPc    25 24.10  -0.2
        1.0s     39.00nm          4.9mb X
                 (S)    26 34.00
MTMJ    5.62 239 P      25 27.80   0.0
IIDJ    6.25 231 P      25 36.90   0.4
TSRJ    7.43 239 eP     25 54.70   1.6
WHN    25.67 259 eP     29 32.00  -0.9
                 pP     29 38.70  24km
GYA    33.56 258 P      30 42.20  -1.4
GTA    33.70 284 eP     30 44.00  -0.7
WMQ    41.43 295 P      31 49.50   0.1
CHTO   43.77 255 eP     32 11.30   2.6
        0.9s      0.43nm          3.2mb
                 pP     32 20.90  32km
NUR    68.57 332 eP     35 13.00   7.4X
NB2    72.54 338 P      35 29.80   0.1
        0.8s      1.70nm          4.1mb
      S.D. = 1.2  on  13 of  14 obs.
-----------------------------------
%  NOV  05, 1989  19h 46m 27.49± 2.03s
   11.212 N ± 8.7km   61.893 W ±27.9km
   DEPTH =  33.0km  (normol)
 WINDWARD ISLANDS                  ( 95)
      MD 3.5 (TRN).

TRN     0.74 139 eP     46 41.70   0.3
                 eS     46 54.68
GRW     0.97  14 eP     46 45.73   0.9
                 eS     47 00.14
TPP     0.99 154 eP     46 44.13  -0.9
                 eS     47 01.23
TBH     1.09 132 eP     46 47.68   1.2
                 eS     47 02.16
BOT     1.15  92 eP     46 46.67  -0.7
                 eS     47 04.44
SVB     2.14  17 eP     47 00.07  -1.5
                 eS     47 28.11
SVV     2.19  17 eP     47 01.11  -1.3
                 eS     47 29.79
SOA     2.27  19 eP     47 04.28   0.9
                 eS     47 33.64
SLB     2.73  18 eP     47 11.15   1.2
                 eS     47 43.61
      S.D. = 1.3  on   9 of   9 obs.
-----------------------------------
*  NOV  05, 1989  20h 35m 26.20± 1.03s
   67.043 N ±13.6km  136.169 W ±13.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN YUKON TERRITORY, CANADA(677)

INK     1.62  37 eP     35 55.00   0.1
DWY     3.29 206 P      36 18.00  -0.8
FBA     5.21 251 eP     36 46.20   0.2
IMA     7.05 270 eP     37 11.20  -0.8
PMR     7.84 232 eP     37 23.40   0.6
PWA     8.03 234 eP     37 26.30   0.8
      S.D. = 0.9  on   6 of   6 obs.
-----------------------------------
%  NOV  05, 1989  20h 48m 24.70± 0.91s
   40.286 N ±10.0km   26.952 E ± 8.4km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

EZN     0.67 226 iPg    48 37.70  -0.2
                 iSg    48 47.20
EDC     0.70  85 iPg    48 37.90  -0.6
                 iSg    48 47.40
BNT     0.74  84 iPg    48 38.80  -0.5
                 iSg    48 47.30
CTT     1.41  52 ePn    48 51.00   0.5
DST     1.46 117 ePn    48 51.90   0.8
DMK     1.65  21 iPn    48 53.80   0.0
      S.D. = 0.7  on   6 of   6 obs.
-----------------------------------
?  NOV  05, 1989  21h 42m 05.46±23.05s
   43.039 N ±93.9km  128.628 W ±158.km
   DEPTH =  10.0km  (geophysicist)
 OFF COAST OF OREGON               ( 30)
      CL 3.4 (SEA).

KMOR    4.51  53 eP     43 14.67  -0.7
NLO     4.79  49 eP     43 19.68   0.2
GT2     5.04  63 eP     43 22.85  -0.1
PGO     5.06  59 eP     43 23.54   0.5
BMW     5.16  46 eP     43 24.25  -0.3
TCO     5.22  76 eP     43 25.58   0.0
RVW     5.23  51 eP     43 25.60   0.1
VLMM    5.35  60 eP     43 27.30  -0.1
LVP     5.38  54 eP     43 27.72  -0.1
TDH     5.41  63 eP     43 27.98  -0.3
MTMW    5.47  55 eP     43 28.93  -0.2
ERK     5.55  52 eP     43 30.09  -0.1
VLL     5.55  62 eP     43 30.27   0.1
JLK     5.57  54 eP     43 30.53   0.0
APW     5.58  48 eP     43 30.37  -0.1
YEL     5.58  53 eP     43 31.02   0.3
CDFW    5.62  55 eP     43 31.06   0.0
VFP     5.63  64 eP     43 31.72   0.3
TDL     5.64  52 eP     43 31.62   0.1
KOSW    5.72  51 eP     43 32.98   0.4
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LMW      5.78  49 eP     43 33.70   0.2
     S.D. = 0.3  on  21 of  21 obs.
-----------------------------------------
*  NOV  05, 1989  22h 29m 50.34± 0.35s
   49.684 S ±10.7km  115.159 W ±10.2km
   DEPTH =  10.0km  (geophysicist)
   5.2mb (  7 obs.)  5.7Msz ( 10 obs.)
 EASTER ISLAND CORDILLERA          (684)
      Ms 5.9 (BRK).
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 19S, 48C
      Centroid Location:
      Origin Time        22:29:58.9 0.2
      Lat 50.04S 0.03 Lon 114.88W 0.04
      Dep  15.0 FIX Half-duration  3.5
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.23 0.16  Mtt= 2.75 0.21
        Mff=-2.98 0.15  Mrt= 0.42 0.49
        Mrf= 1.84 0.47  Mtf= 7.75 0.16
      Principal Axes:
        T  Val=  8.39  Plg=10  Azm=324
        N        0.18      77      185
        P       -8.57       8       56
      Best Double Couple:Mo=8.5*10**17
        NP1:Strike=100 Dip=77 Slip=   1
        NP2:        10     89      167

SPA     40.51 180 ePd    37 35.40   4.6X
      0.7s     11.72nm          4.7mb
    Z  20s      9.46um          5.6Msz
SNZO    48.22 252 P      38 40.00   7.2X
                  PP     40 48.00
                  S      45 40.00
                  ScS    48 32.00
                  SS     49 20.00
ARE     48.32  63 eP     38 35.00   0.8
PT10    48.90  53 e(P)   38 39.00   0.7
NNA     49.04  53 eP     38 38.40  -1.0
      1.0s     15.00nm          5.0mb
    Z  20s      5.14um          5.5Msz
CNCB    50.10  66 P      38 48.50   0.3
                  S      45 04.00
LPB     50.25  66 P      38 49.00  -0.1
    Z  25s     20.88um          6.0MszX
                  S      45 07.00
                  LR     53 52.00
ZOBO    50.44  66 P      38 50.00  -0.8
    Z  18s      2.96um          5.3Msz
                  S      45 06.00
                  LR     53 58.00
CCH     50.76  69 P      38 52.40  -0.5
SNA     50.96 156 e(P)   38 53.00  -0.3
      1.0s     34.00nm          5.2mb
PSO     60.19  45 eP     40 05.00   3.9X
MAW     63.03 179 eP     40 18.00  -1.1
BOG     64.72  46 eP     40 38.00   6.7X
                  iS     49 20.50
BRS     70.91 250 eP     41 10.50   0.9
                  eS     50 32.00
PDCR    71.52  88 eP     41 13.90   0.5
HON     80.26 320 P      42 00.00  -2.5
    Z  20s      5.32um          5.9Msz
CTA     80.30 251 iPd    42 04.40   1.4
      1.2s     31.25nm          5.2mb
                  iS     52 12.00
BAR     82.01 359 eP     42 19.00   7.5X
GLA     82.37   0 eP     42 15.00   1.6
PLM     82.68 359 P      42 16.00   0.8
RVR     83.33 358 eP     42 15.00  -3.2X
TPC     83.42 359 eP     42 20.00   1.2
                  e      48 35.00
MWC     83.58 358 eP     42 17.00  -2.8
QIS     83.95 245 eP     42 22.00   0.1
SBB     84.03 358 eP     42 21.00  -0.9
ALQ     84.61   7 P      42 24.50  -0.5
      1.6s     39.37nm          5.4mb
    Z  20s      2.13um          5.5Msz
GSC     84.63 359 eP     42 28.00   3.1X
ASPA    84.80 239 eP     42 25.20  -1.0
    Z  22s      5.05um          5.9MszX
                  LR     13 15.00
CLC     85.15 358 eP     42 28.00   0.5
                  e      48 43.00
MEO     85.37  14 eP     42 34.00   5.4X
PRI     85.59 356 eP     42 31.20   1.5
FRI     86.39 356 ePc    42 34.30   0.8
TUL     86.93  16 eP     42 40.00   3.8X
      1.5s     17.90nm          5.1mb
    Z  21s      2.14um          5.5Msz
                  LR     12 00.00
TNP     87.41 358 P      42 39.00   0.3
      2.0s     65.48nm          5.6mb
CMB     87.46 356 e(P)   42 39.90   1.1
MSU     87.86   2 P      42 40.00  -0.9
KVN     88.39 358 P      42 41.00  -2.4
ORV     89.04 355 e(P)   42 47.30   1.1
GLD     89.48   8 P      42 52.00   3.4X
    Z  20s      3.00um          5.7Msz
BW06    92.21   4 P      43 00.00  -1.1
PMR    114.21 343 PKP    48 30.00  -0.4
    Z  20s      3.00um          5.9Msz
KMI    141.78 244 ePKP   49 26.00   2.0X
    Z  30s      2.60um          5.8MszX
BJI    143.01 275 ePKP   49 19.00  -6.4X
    Z  24s      1.59um          5.7MszX
WTS    144.12  63 e(PKP)49 31.00   4.2X
      2.5s     261.00nm
TIY    144.15 269 ePKP   49 25.70  -1.8
XAN    144.20 261 PKP    49 25.00  -2.7X
TNS    144.46  67 ePKPc  49 28.30   0.7
OGA    144.71  73 ePKP   49 28.30  -0.1
CTI    144.75  75 PKP    49 26.60  -1.7
CD2    145.39 252 ePKP   49 30.80   1.0
FVI    145.69  75 PKP    49 32.50   2.8X
BRT    145.85  86 PKP    49 35.90   5.7X
HYB    145.96 204 ePKP   49 31.00  -0.1
KBA    146.24  74 ePKP   49 31.00   0.1
      2.8s     29.40nm
                  e      49 37.00
HHC    146.43 273 PKP    49 34.00   2.7X
    Z  24s      1.50um          5.7MszX
KHC    147.17  71 iPKP   49 36.00   3.9X
      1.0s     64.00nm
    Z  20s      1.30um          5.7Msz
BTO    147.30 271 ePKP   49 33.50   0.8
CLL    147.55  67 ePKP   49 35.00   2.4X
      2.3s    105.00nm
                  i      49 41.20
BRG    147.98  68 ePKP   49 38.00   4.7X
                  e      49 43.00
                  e      55 52.00
                  e      55 58.00
PRU    148.05  70 ePKP   49 38.70   5.3X
      2.5s    163.40nm
                  e      50 28.00
POO    148.09 196 ePKP   49 38.00   3.5X
OHR    148.30  89 ePKP   49 33.70  -0.5
      2.1s      0.40nm
                  e      55 50.00
NB2    148.40  48 PKP    49 35.40   1.7
      2.2s    169.30nm
VKA    148.55  74 ePKP   49 43.00   8.7X
      3.0s    425.00nm
LZH    148.73 259 PKPd   49 40.00   4.8X
LZH    148.73 259 PKP    49 45.00   9.8X
    Z  26s      1.40um          5.6MszX
    N  20s      1.20um
                  sPKP   50 51.00
                  ePP    53 05.00
                  PKS    53 13.30
                  PPP    55 55.00
                  e(SKKS59 34.00
                  eSS    11 45.00
ZST    149.02  74 ePKP   49 41.30   6.3X
                  e      53 16.80
SKO    149.15  88 iPKP   49 40.20   4.7X
      1.7s    116.00nm
    Z  20s      1.51um          5.8Msz
    N  20s      0.73um
    E  20s      1.37um
                  i      49 45.70
                  i      55 59.10
                  LR     00 30.00
KSP    149.38  69 ePKP   49 36.50   1.0
                  e      49 42.50
                  e      55 55.50
VAY    149.56  90 iPKP   49 42.00   5.9X
                  e      55 55.40
SRO    149.64  75 ePKP   49 43.00   7.0X
BEO    149.82  82 ePKP   49 41.00   4.7X
MBH    149.87 120 ePKP   49 43.00   6.1X
PRNI   150.37 120 ePKP   49 45.00   7.3X
BZS    150.90  81 ePKPc  49 43.50   5.6X
SPC    151.31  74 ePKP   49 44.80   6.1X
KRA    151.39  72 ePKP   49 47.00   8.5X
                  e      49 51.80
LSA    151.81 235 PKP    49 44.00   3.6X
HRI    152.95 116 e(PKP)49 49.00   7.5X
KEV    153.04  28 ePKP   49 46.00   5.7X
GTA    153.27 261 ePKP   49 44.00   2.2X
    Z  28s      1.00um          5.5MszX
SOD    153.97  33 iPKP   49 49.70   8.0X
VRI    154.29  84 ePKPd  49 50.00   7.2X
NUR    154.99  49 ePKP   49 54.00  10.8X
BBTK   155.36 101 ePKP   49 46.00   1.5
TAB    162.36 124 e(PKP)49 55.00   2.4X
                  e      50 02.00
MAIO   166.07 162 iPKPd  49 59.20   3.2X
KSH    167.07 222 ePKP   50 02.00   5.3X
     S.D. = 1.2  on  43 of  88 obs.
-----------------------------------------
*  NOV  05, 1989  23h 22m 49.51± 0.89s
   22.417 S ± 9.2km   69.623 W ±15.3km
   DEPTH = 214.7 ± 13.7 km
   4.7mb (  1 obs.)
 NORTHERN CHILE                    (123)

ANT      1.47 209 iPc    23 24.40  -0.2
                  iS     23 43.70
CNCB     5.79  16 P      24 15.20  -0.3
CCH      5.98  34 P      24 14.80  -3.0X
LPB      6.03  14 P      24 21.00   2.5X
      1.0s    260.00nm          5.3mb X
                  i      24 35.00
ARE      6.18 343 eP     24 21.00   0.7
ZOBO     6.28  13 P      24 21.50  -0.3
                  i      24 55.00
PEL     10.73 185 eP     25 26.00   7.2X
LNV     11.60 187 eP     25 23.50  -6.4X
ITB1    14.15 102 Pd     26 04.20   2.3X
ITB     14.33 103 e(P)   26 04.00  -0.1
ITB7    14.40 104 e(P)   26 05.60   0.6
BMA     23.52  96 eP     27 35.80  -5.9X
PDCR    30.65  76 eP     28 49.50   3.5X
TUL     63.08 336 eP     33 09.60  13.5X
      1.0s      7.70nm
KIC     69.59  74 P      33 45.60   8.0X
BUL     89.70 112 eP     35 37.60  12.6X
BCAO    89.97  85 ePc    35 25.90  -0.3
      0.6s      6.00nm          4.7mb
                  ic     36 19.10
GBA    147.53 100 PKP    42 20.00  12.6X
     S.D. = 0.6  on   7 of  18 obs.
-----------------------------------------
   NOV  05, 1989  23h 56m 53.28± 0.63s
   44.619 N ± 9.0km    9.224 E ± 4.9km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)

BOB      0.22  47 Pc     56 57.30  -0.7
                  eSg    57 01.80
PCP      0.49 261 P      57 03.52   0.3
                  S      57 09.26
CKI      0.70 254 P      57 07.30   0.1
                  eSg    57 16.00
FIN      0.84 241 P      57 09.06  -0.4
                  S      57 20.13
ROB      1.02 252 P      57 12.54  -0.1
                  S      57 26.18
BDI      1.13 119 P      57 15.30   0.8
                  eSg    57 30.50
IMI      1.19 234 P      57 14.29  -1.3
ENR      1.35 254 P      57 18.59   0.4
STV      1.41 255 P      57 19.31   0.2
RSP      1.50 292 P      57 20.95   0.7
     S.D. = 0.7  on  10 of  10 obs.
-----------------------------------------
&  NOV  06, 1989  01h 24m 33.32s
   59.806 N          153.231 W
   DEPTH = 126.2km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>.

OPT      0.15 180 eP     24 50.23   0.9
ILIM     0.31  26 eP     24 50.38   0.6
                  Sn     25 05.11
AUE      0.45 189 eP     24 51.31  -0.6
AUW      0.45 196 eP     24 51.56  -0.4
RED      0.66  20 eP     24 52.49  -0.9
                  eS     25 07.82
```

06d 01h

MCNL	0.84	223	iP	24 53.71	-1.0
			Sn	25 09.17	
CDD	0.90	194	eP	24 54.44	-0.9
			eS	25 10.03	
NNL	1.00	75	eP	24 56.48	0.3
CNPM	1.05	105	eP	24 55.91	-0.8
			Sn	25 13.41	
BGM	1.10	249	eP	24 54.73	-2.4
BRLK	1.19	91	eP	24 57.30	-0.8
NKA	1.37	46	eP	25 01.03	1.1
CKL	1.46	17	eP	25 00.33	-0.9
			Sn	25 22.31	
SLKM	1.66	64	eP	25 02.20	-1.2
			Sn	25 24.92	
SVW	1.76	319	iPd	25 03.00	-1.7
SEW	1.93	79	eP	25 05.48	-1.1
			Sn	25 30.22	
SUA	2.07	35	eP	25 07.37	-1.1
			eS	25 33.70	
KDC	2.10	169	iPd	25 06.50	-2.2
PMS	2.32	50	iPd	25 10.20	-1.4
MTU	2.82	84	eP	25 17.05	-1.0
KNK	2.85	54	eP	25 16.16	-2.4
GHO	2.89	45	eP	25 16.79	-2.3
CUT	2.98	28	eP	25 18.35	-1.8
GLI	3.24	68	eP	25 22.06	-1.5
TTA	3.41	338	ePd	25 23.50	-2.5
FID	3.49	71	eP	25 24.68	-2.3
VZW	3.54	66	eP	25 26.42	-1.3
NCA	3.82	52	eP	25 29.08	-2.4
KLU	3.98	62	eP	25 31.13	-2.5
TOA	4.14	53	ePc	25 34.00	-1.8
NEA	5.17	20	eP	25 46.63	-3.0
WRH	5.27	25	eP	25 47.88	-3.0
FBA	5.70	24	ePc	25 53.70	-3.2
IMA	6.29	358	eP	26 03.20	-1.9

34 obs. associated

& NOV 06, 1989 03h 40m 48.00s
33.180 N 115.590 W
DEPTH = 1.0km
SOUTHERN CALIFORNIA (43)
<PAS-P>. ML 3.2 (PAS).

GLA	0.65	101	iPc	41 00.50	-0.5
TPC	1.00	338	iPc	41 06.10	-1.7
PLM	1.08	280	ePc	41 07.20	-2.1
PEC	1.49	299	eP	41 12.70	-3.3
KVN	6.20	342	e(P)	42 23.00	-0.1

5 obs. associated

NOV 06, 1989 04h 06m 18.95± 0.71s
38.019 N ± 5.1km 22.205 E ± 9.7km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 3.0 (ATH).

ITM	0.87	195	ePg	06 35.20	-0.4
ATH	1.20	92	ePg	06 41.20	0.0
VLI	1.42	156	ePb	06 45.40	0.6
NEO	1.51	31	ePb	06 45.50	-0.6
KZN	2.31	352	ePn	06 58.00	0.3
VAM	3.06	148	ePn	07 08.20	0.0
VAY	3.31	5	ePn	07 12.00	0.2

S.D. = 0.5 on 7 of 7 obs.

NOV 06, 1989 04h 41m 20.85± 0.73s
34.810 N ± 3.9km 24.283 E ± 3.0km
DEPTH = 29.3 ± 5.7 km
4.4mb (25 obs.)
CRETE (370)
ML 4.5 (THE), 4.3 (ATH).

VAM	0.60	354	iPbd	41 32.00	-0.8
NPS	1.18	67	ePn	41 44.50	3.0X
VLI	2.20	330	ePn	41 57.20	1.2
APE	2.47	24	ePn	42 00.80	0.8
KAP	2.48	72	ePn	42 03.60	3.4X
ITM	3.04	322	ePn	42 08.50	0.4
ATH	3.19	352	ePn	42 11.60	1.5
SMG	3.55	35	ePn	42 16.70	1.4
YER	3.99	53	iP	42 24.40	2.8X
IZM	4.31	33	iP	42 27.50	1.4
AGG	4.49	340	ePn	42 28.70	0.1
KSL	4.52	72	iPnd	42 30.60	1.5
NEO	4.57	350	ePn	42 30.00	0.2
PRK	4.70	19	ePn	42 31.60	0.0
PAIG	5.13	355	ePnd	42 38.50	0.8
EZN	5.26	17	iP	42 39.00	-0.5
LIT	5.47	345	ePn	42 42.60	0.1
KHL	5.48	49	iP	42 44.80	2.0
OUR	5.52	358	ePn	42 43.30	0.2
BCK	5.75	61	iP	42 48.60	2.1
KZN	5.84	341	ePn	42 48.00	0.2
DST	5.91	35	iP	42 49.90	1.2
KEK	6.06	325	ePn	42 48.50	-2.3
SRN	6.10	327	ePn	42 50.00	-1.4
EDC	6.21	26	eP	42 53.90	0.9
GRG	6.31	347	ePn	42 54.50	0.1
SRS	6.32	355	ePn	42 54.60	0.1
RDO	6.40	9	ePn	42 55.20	-0.4
KNT	6.44	351	ePn	42 56.10	0.0
TPE	6.44	329	ePn	42 57.00	0.9
PPCY	6.63	87	eP	42 58.00	-0.8
VAY	6.64	349	ePn	42 59.40	0.5
MMB	6.78	356	iPd	43 01.00	0.0
VLO	6.81	328	ePn	43 01.20	0.0
BERA	6.81	331	ePn	43 00.60	-0.7
OHR	6.87	337	iPn	43 00.70	-1.5
RZN	6.88	3	iPd	43 03.00	0.6
KDZ	6.89	7	iPd	43 02.00	-0.4
KKB	7.11	353	eP	43 05.00	-0.5
CTT	7.12	26	eP	43 06.00	0.3
PLD	7.29	2	eP	43 09.00	1.0
DIM	7.30	7	iP	43 08.00	-0.1
ISK	7.30	30	eP	43 08.00	-0.1
ITU	7.31	29	eP	43 36.00	27.7X
HRT	7.36	34	eP	43 09.90	0.8
SOI	7.39	299	P	43 07.40	-2.0
			eSn	44 23.40	
TIR	7.40	333	ePn	43 07.50	-2.0
CSS	7.44	86	eP	43 08.20	-1.9
LCI	7.46	320	P	43 06.90	-3.5X
			eSn	44 27.10	
SKO	7.49	344	ePn	43 08.90	-2.0
	1.0s		78.00nm		5.7mb X
Z	10s		1.02um		
N	12s		1.23um		
E	12s		2.44um		
			i	43 15.20	
			i	44 27.20	
			Lg	45 32.10	
			LR	45 55.50	
PHP	7.50	337	ePn	43 08.90	-2.1
DMK	7.51	20	iP	43 10.90	-0.3
LACI	7.71	334	ePn	43 10.60	-3.2X
PGB	7.73	359	iPd	43 13.00	-1.3
HLW	7.75	128	ePn	43 14.00	-0.5
			eSn	44 38.00	
ROI	7.78	310	P	43 11.60	-3.3X
VTS	7.82	354	iPc	43 16.00	0.4
CZI	7.86	306	P	43 13.20	-2.9
MEU	7.92	289	P	43 16.00	-1.0
			eSn	44 37.10	
TDS	7.97	310	P	43 18.50	0.9
FAM	7.99	86	eP	43 18.00	0.2
PUK	8.00	336	ePn	43 15.30	-2.6
CSI	8.07	310	P	43 16.60	-2.4
ULC	8.16	333	ePn	43 17.00	-3.2X
			eSn	44 41.00	
BCI	8.23	338	iPnd	43 20.30	-0.9
BRT	8.25	319	P	43 18.70	-2.7
			eSn	44 43.60	
BBTK	8.41	51	iPc	43 25.00	1.1
PVL	8.43	5	iPd	43 23.00	-1.0
PVY	8.47	338	ePn	43 22.50	-2.1
			eSn	44 51.00	
TTG	8.56	334	ePn	43 22.00	-3.7X
			eSn	44 51.00	
MGR	8.74	310	Pd	43 26.70	-1.5
HRI	9.63	96	eP	43 38.00	-2.7
SHMJ	9.78	99	P	43 41.20	-1.4
DSI	9.84	106	iP	43 41.50	-2.0
			eS	45 26.00	
SALJ	9.93	103	P	43 42.80	-2.0
KAS	9.93	46	ePg	43 45.50	0.7
			iSg	43 55.00	
BURJ	9.95	102	P	43 43.10	-2.0
MBH	10.28	116	iP	43 48.50	-0.9
HQL	10.67	118	eP	43 53.70	-1.1
MLR	10.74	6	iPc	43 53.50	-2.4
SRFA	10.96	119	eP	43 57.00	-1.8
BADA	11.07	122	ePd	43 57.30	-3.0X
KVT	11.20	53	eP	44 04.00	2.0
VRI	11.20	9	ePd	44 01.50	-0.5
AYN	11.59	118	ePd	44 06.30	-0.9
AKRL	13.32	144	eP	44 32.50	2.1
AGMR	13.34	145	eP	44 35.00	4.3X
PSZ	13.50	347	eP	44 34.20	1.4
SRO	13.74	343	eP	44 55.40	19.6X
ZST	14.41	340	e(P)	44 48.30	3.7X
KRA	15.57	350	eP	45 03.50	3.8X
KHC	16.35	334	P	45 13.00	3.2X
			e	45 21.00	
PRU	16.76	338	eP	45 16.50	1.6
			i	45 32.20	
KSP	17.04	343	eP	45 16.50	-2.0
			e	45 35.20	
BRG	17.72	338	eP	45 27.50	0.6
	1.4s		23.00nm		4.1mb
			e	45 42.00	
CLL	18.40	337	eP	45 36.00	0.8
	1.3s		30.00nm		4.3mb
			e	45 52.00	
BSF	18.43	320	eP	45 35.50	-0.3
	0.8s		13.40nm		4.2mb
HAU	18.77	320	eP	45 39.00	-0.9
	0.8s		8.00nm		4.0mb
LBF	19.52	315	eP	45 47.60	-1.1
	0.6s		4.50nm		3.9mb
LOR	19.73	315	eP	45 49.70	-1.4
	0.6s		4.50nm		3.9mb
AVF	19.79	314	eP	45 51.00	-0.5
	0.7s		5.50nm		4.0mb
BGF	19.98	312	eP	45 52.90	-0.7
	0.8s		8.00nm		4.1mb
TCF	20.25	311	eP	45 56.10	-0.3
	0.6s		5.40nm		4.1mb
LPO	20.25	306	eP	45 56.20	-0.3
	0.7s		25.10nm		4.7mb
RJF	20.27	308	eP	45 56.20	-0.4
	0.6s		12.60nm		4.4mb
MEM	20.64	325	P	45 55.60	-4.7X
LFF	20.64	306	eP	46 00.10	-0.4
	0.6s		19.80nm		4.7mb
ENN	20.79	326	eP	46 00.00	-1.9
	1.0s		12.00nm		4.2mb
			e	46 11.00	
DOU	20.98	323	Pc	46 02.40	-1.5
	0.9s		37.50nm		4.8mb
WTS	21.27	329	eP	46 08.00	1.3
	0.8s		9.00nm		4.2mb
			e	46 20.00	
SNF	21.40	323	P	46 08.70	0.6
MFF	21.85	310	eP	46 12.50	-0.2
	0.6s		14.40nm		4.6mb
AFC	22.61	284	eP	46 22.00	1.5
LDF	22.72	315	eP	46 20.70	-0.5
	0.6s		9.00nm		4.4mb
APHE	22.73	284	iPc	46 23.50	1.8
ASMO	22.76	285	iP	46 23.00	1.1
EBAN	22.78	287	eP	46 24.00	2.0
ACHM	22.84	284	iP	46 25.50	2.8X
ATEJ	23.00	283	iPd	46 26.20	1.9
FLN	23.01	315	eP	46 23.70	-0.4
	0.6s		9.00nm		4.5mb
LPF	23.01	313	eP	46 24.10	0.0
	0.8s		18.80nm		4.7mb
TOL	23.04	291	eP	46 26.00	1.5
GRR	23.05	314	eP	46 24.60	0.0
	0.6s		12.60nm		4.6mb
AAPN	23.06	284	iP	46 26.00	1.1
GUD	23.18	293	eP	46 26.60	0.6
EJIF	24.20	283	eP	46 37.50	1.7
NKM	24.26	280	iPd	46 38.00	1.7
NUR	25.72	0	iP	46 47.60	-2.4
	0.6s		9.10nm		4.6mb
NB2	27.56	346	P	47 03.70	-3.3X
	0.9s		5.80nm		4.3mb
SUF	27.96	2	iP	47 07.60	-2.9
	0.8s		12.80nm		4.7mb
BCAO	30.69	191	iPd	47 37.20	1.8
	0.5s		7.00nm		4.7mb
			id	48 02.90	
SOD	32.63	2	iP	47 49.30	-2.5
KEV	35.03	2	eP	48 11.00	-1.5
TIC	38.91	231	P	48 46.50	0.7
KIC	38.95	230	Pc	48 46.90	0.8
LIC	39.24	230	Pc	48 49.30	0.8
WMO	48.80	59	P	50 05.50	0.2
GBA	52.22	100	P	50 32.20	0.7

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GTA     58.76  61 Pd     51 18.00  -0.6
CD2     65.19  69 eP     52 01.60  -0.1
HHC     66.43  56 Pc     52 10.00   0.4
XAN     67.64  63 Pc     52 17.20  -0.1
TIY     68.46  58 Pd     52 22.00  -0.4
GYA     69.54  72 P      52 29.00  -0.2
BJI     69.92  55 eP     52 27.50  -3.7X
CN2     73.94  48 P      52 55.00  -0.1
INK     75.86 352 eP     53 04.00  -1.6
FFC     79.60 332 eP     53 27.00   0.5
        0.8s      8.00nm          4.8mb
EDM     84.92 336 ePd    53 57.50   3.3X
     S.D. = 1.3  on 129 of 149 obs.
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%  NOV  06, 1989  04h 59m 35.50± 0.74s
   29.080 S ± 6.7km   25.369 E ± 6.9km
   DEPTH =   5.0km  (geophysicist)
 REPUBLIC OF SOUTH AFRICA          (584)

KIM      0.61 302 iPd    59 47.50  -0.3
                  S      59 59.00
BLF      0.72  92 iPc    59 50.00   0.1
                  S      00 03.80
HVD      1.52 176 iPd    00 04.00   0.4
                  S      00 18.00
SEK      2.12  70 iPc    00 11.50  -0.7
                  S      00 47.00
BFS      2.51  30 iPc    00 19.50   1.8
                  S      00 59.50
PRY      2.84  41 iPc    00 22.40  -0.1
                  S      01 12.20
SLR      4.22  39 iPc    00 41.00  -1.0
                  S      01 43.00
GRM      4.34 167 iPc    00 43.50  -0.2
                  S      01 27.50
     S.D. = 1.0  on   8 of   8 obs.
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&  NOV  06, 1989  05h 46m 21.25s
   62.550 N          151.216 W
   DEPTH =  88.7km
   3.7mb (  1 obs.)
 CENTRAL ALASKA                    (  1)
      <AGS-P>. Felt (III) at Cantwell
      and Talkeetna. Felt (II) at
      Butte, Palmer and Sutton.

CUT      0.46 108 iP     46 35.86   0.1
SKT      0.59 195 iP     46 37.11   0.2
HUR      0.84  59 iP     46 39.11  -0.3
KTH      1.02   7 iP     46 41.05  -0.4
PWA      1.10 145 iPc    46 42.30   0.0
SUA      1.11 168 iP     46 42.75   0.1
                  eS     46 59.22
NCG      1.23 202 iP     46 44.13   0.0
GHO      1.33 125 iP     46 45.54   0.3
PLRM     1.37 133 eP     46 45.35  -0.3
PMR      1.37 133 ePc    46 45.40  -0.3
RND      1.38  50 iP     46 45.29  -0.6
PME      1.38 131 eP     46 45.95   0.1
PMS      1.53 148 ePc    46 47.60  -0.1
NKA      1.81 180 eP     46 53.92   2.5
RDT      2.06 197 eP     46 54.87   0.0
SLKM     2.10 166 eP     46 55.17  -0.2
NCA      2.13 103 iP     46 55.40  -0.3
TTA      2.24 282 iPc    46 56.60  -0.7
NEA      2.25  24 iP     46 55.73  -1.6
WRH      2.38  35 eP     46 57.81  -1.3
TOA      2.40  99 iPc    46 59.30  -0.1
NNL      2.52 181 eP     47 02.57   1.6
SVW      2.54 237 iPd    47 01.10  -0.2
GLI      2.58 129 iP     47 00.65  -1.2
CCB      2.60  34 iP     47 00.65  -1.4
SEW      2.60 160 eP     47 01.41  -0.6
ILIM     2.62 200 eP     47 01.95  -0.4
SDG      2.63  88 eP     47 02.31  -0.2
RDS      2.66  30 eP     47 01.71  -1.3
HDA      2.67  44 iP     47 01.85  -1.2
PAX      2.68  78 eP     47 03.02  -0.2
KLU      2.71 111 eP     47 02.13  -1.6
DDM      2.73  61 iP     47 03.63  -0.3
BRLK     2.80 177 eP     47 05.91   1.0
FBA      2.81  31 iPd    47 03.80  -1.1
FID      2.89 127 iP     47 04.59  -1.5
DMW      2.90  56 eP     47 04.90  -1.3
OPT      3.07 199 eP     47 08.71   0.2
AUI      3.40 199 eP     47 13.50   0.4
DOT      3.43  68 eP     47 12.43  -1.2
                  Sn     47 53.37
IMA      3.69 344 iPd    47 16.20  -1.1
CDD      3.82 199 eP     47 19.43   0.5
MID      3.93 141 eP     47 20.40   0.0
KDC      4.86 188 ePc    47 31.10  -2.2
DWY      5.52  69 P      47 40.30  -2.3
SDN      8.67 218 ePc    48 26.90   1.2
BRW      9.05 349 ePc    48 28.40  -2.5
INK      9.33  44 eP     48 32.00  -2.8
SIT      9.70 117 e(P)   48 36.00  -3.7
MBC     17.33  25 eP     50 18.00  -0.4
        0.6s      3.00nm          3.7mb
EDM     21.87  98 eP     51 07.50  -0.1
KVN     30.88 124 eP     52 32.00   0.9
        52 obs. associated
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*  NOV  06, 1989  06h 03m 58.43± 1.08s
   39.167 N ±10.1km  141.660 E ±13.1km
   DEPTH =  70.7 ±  7.5 km
   4.8mb ( 10 obs.)
 HONSHU, JAPAN                     (227)

OFUJ     0.09 176 iP+    04 06.50  -2.1
                  eS     04 26.80
YAMJ     1.61 233 P      04 27.00   1.7
AOMJ     1.71 325 eP     04 26.80   0.2
NIIJ     2.84 228 P      04 43.50   1.1
KAKJ     3.18 202 P      04 39.70  -7.4X
                  S      05 27.90
CHJJ     3.76 215 P      04 51.60  -3.7X
MAT      3.78 227 iPc    04 56.20   0.6
        1.5s   569.44nm
                  (S)    06 00.00
MTMJ     3.99 231 P      04 59.90   1.3
IIDJ     4.74 220 P      05 06.90  -2.2
TSRJ     5.79 233 P      05 25.70   2.0
MDJ     10.51 305 eP     06 30.00   1.5
      Z  14s      2.10um          4.9MszX
                  S      08 40.00
CN2     13.00 296 eP     07 07.40   5.7X
      Z  13s      0.80um
      N  13s      0.60um
      E  13s      0.80um
                  epP    07 13.40
SNY     14.02 287 eP     07 19.20   4.3X
SSE     18.56 251 e(P)   08 12.20   0.2
      Z  18s      0.70um
      N  11s      0.70um
      E  10s      0.40um
                  sP     08 26.50
                  eS     12 05.00
TIA     19.63 269 eP     08 22.60  -1.3
      E  12s      1.05um
BJI     19.64 281 eP     08 22.00  -1.9
      Z  14s      0.59um          5.9Msz
      N  13s      0.44um
TIY     22.90 276 eP     08 59.40   2.6
      E  13s      0.70um
WHN     23.94 257 Pd     09 07.00   0.2
        1.6s      0.20nm          2.3mb X
      Z  12s      0.70um          4.4MszX
                  pP     09 17.50  40kmX
BTO     24.26 284 eP     09 09.00  -1.0
      N  14s      0.70um
      E  14s      0.70um
XAN     26.69 269 P      09 32.50  -0.2
LZH     29.97 276 eP     10 00.00  -2.3
        1.5s     19.00nm          4.6mb
      Z  14s      0.70um          4.5MszX
GYA     31.83 257 iPd    10 17.40  -1.3
                  pP     10 28.80  43kmX
CD2     31.92 267 eP     10 18.60  -0.8
GTA     32.18 284 Pc     10 21.20  -0.4
KMI     35.53 259 Pd     10 50.00  -0.7
WMQ     40.09 295 P      11 26.70  -1.8
CHG     42.04 254 eP     11 43.90  -0.8
CHTO    42.04 254 eP     11 44.00  -0.6
        1.0s      7.00nm          4.4mb
INK     52.41  28 eP     12 46.00 -19.2X
                  pP     12 56.50  36kmX
WB5     59.13 188 eP     13 39.50 -14.4X
WRA     59.20 188 P      13 41.00 -13.4X
        1.1s      4.20nm
KEV     61.52 339 eP     14 08.00  -1.7
GBA     61.59 265 Pd     14 06.00  -4.9X
        1.0s     10.90nm          4.9mb
SOD     63.08 337 iP     14 10.20  -9.9X
                  i      14 20.80
SUF     66.17 333 eP     14 40.30   0.2
        0.9s      9.60nm          4.7mb
NUR     68.16 332 eP     14 53.60   0.9
NB2     72.30 337 P      15 17.60  -0.2
        1.0s     11.80nm          4.8mb
SRO     79.83 325 e(P)   16 02.60   2.3
LOR     86.08 333 eP     16 33.40   1.0
        0.6s      4.50nm          4.7mb
LBF     86.28 332 eP     16 33.90   0.4
        1.0s      8.00nm          4.8mb
SSF     86.38 333 eP     16 35.00   1.1
        0.6s      3.60nm          4.6mb
SMF     86.62 332 eP     16 36.30   1.2
        1.0s     10.00nm          4.9mb
AVF     86.67 333 eP     16 36.10   0.8
        1.0s     18.80nm          5.2mb
LPB    145.61  57 (PKP) 23 31.00   0.0
CNCB   145.89  58 ePKP  23 18.00 -13.6X
CCH    147.50  56 PKP   23 20.20 -13.7X
     S.D. = 1.4  on  35 of  46 obs.
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&  NOV  06, 1989  06h 22m 51.40s
   36.985 N          121.782 W
   DEPTH =  15.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.6 (BRK).

GCC      0.18 285 iPc    22 55.30  -0.6
                  iS     22 58.30
SAO      0.35 129 iPd    22 57.80  -1.0
MHC      0.37  17 iPd    22 59.10  -0.2
                  iS     23 04.70
ARN      0.41  29 iPd    22 59.70  -0.2
PCC      0.70 317 iPd    23 04.20  -0.6
                  iS     23 14.20
PRS      0.73 153 iPd    23 04.80  -0.5
                  iS     23 15.20
LLA      0.77 118 iPc    23 05.30  -0.6
BRK      0.96 337 e(P)   23 08.90  -0.4
                  eS     23 21.50
ZSP      1.03 339 ePc    23 09.10  -1.3
                  e(S)   23 25.70
PRI      1.23 133 ePc    23 14.00   0.1
CMB      1.53  46 ePc    23 15.70  -2.5
                  eS     23 35.10
PHAM     1.60 135 eP     23 17.80  -1.4
FRI      1.66  89 e(P)   23 18.30  -1.7
KVN      3.56  54 eP     23 45.50  -2.0
        14 obs. associated
-------------------------------------
   NOV  06, 1989  06h 33m 30.70± 0.44s
   38.089 N ± 4.1km   23.134 E ± 5.3km
   DEPTH =  23.2 ±  3.8 km
   4.5mb (  2 obs.)
 GREECE                            (364)
      ML 3.8 (THE), 3.6 (ATH).

ATH      0.47 104 ePg    33 40.20  -0.2
AGG      1.13 326 ePbd   33 49.90  -1.2
                  eSb    34 06.20
NEO      1.22   3 ePb    33 53.30   0.9
ITM      1.32 227 ePb    33 51.00  -2.8X
VLI      1.38 187 ePb    33 53.50  -1.1
PAIG     1.88  13 ePnc   34 02.70   0.8
                  eSn    34 28.70
VLS      2.01 273 ePn    34 04.20   0.4
LIT      2.07 346 iPnc   34 04.80   0.1
                  eSn    34 32.40
APE      2.16 117 ePn    34 06.10   0.1
OUR      2.34  16 ePnd   34 08.80   0.4
KZN      2.46 335 ePn    34 11.00   0.8
THE      2.54 357 ePn    34 12.00   0.6
                  eSn    34 44.50
PRK      2.71  64 ePg    34 22.00   8.2X
VAM      2.81 162 ePn    34 15.00  -0.1
GRG      2.92 349 ePnd   34 17.00   0.3
SMG      2.95  96 ePn    34 18.00   0.9
SRN      3.03 307 ePn    34 20.60   2.4
EZN      3.03  54 eP     34 27.00   8.7X
SRS      3.05   7 ePnd   34 19.10   0.6
                  eSn    34 57.10
KNT      3.07 357 ePnc   34 19.20   0.3
                  eSn    34 57.30
VAY      3.26 352 eP     34 21.70   0.2
IZM      3.26  83 iP     34 25.60   4.0X
TPE      3.28 313 ePn    34 26.00   4.2X
```

06d 06h

```
NPS      3.45 144 ePn    34 26.00    1.7
OHR      3.52 330 eP     34 22.80   -2.4
MMB      3.53   7 iPc    34 25.00   -0.4
RDO      3.57  31 ePn    34 26.00    0.0
BERA     3.59 318 ePn    34 26.80    0.6
KKB      3.77 359 iPd    34 29.00    0.2
RZN      3.80  18 iPd    34 28.00   -1.3
KDZ      3.97  26 iP     34 31.00   -0.5
SKO      4.09 342 iP     34 34.80    1.5
       1.0s     51.00nm
KAP      4.11 127 ePn    34 37.00    3.3X
TIR      4.12 323 ePn    34 44.70   11.0X
EDC      4.31  57 eP     34 48.00   11.6X
LACI     4.42 324 ePn    34 48.00   10.1X
VTS      4.50   1 iPc    34 40.00    0.7
BCI      4.87 332 ePn    34 50.70    6.3X
PVL      5.39  17 iPc    34 48.00   -3.7X
VRI      8.22  18 ePc    35 25.00   -6.4X
CLL     15.03 335 iPd    37 08.40    5.2X
       1.3s     17.00nm          4.2mb
EKA     24.72 323 P      38 51.00   -0.2
       1.3s     27.00nm          4.7mb
EDM     81.56 335 eP     45 47.50   -0.2
     S.D. = 1.0  on  30 af  43 obs.
-----------------------------------------
*  NOV  06, 1989  07h 45m 28.09± 0.99s
   21.637 S ± 9.1km   67.500 W ±11.8km
   DEPTH =  33.0km  (normal)
 CHILE-BOLIVIA BORDER REGION       (124)

YJA      1.93 106 iPc    46 00.00    0.4
                  S      46 26.00
ANT      3.39 232 iP     46 19.70   -0.3
                  e(S)   46 59.00
CCH      4.42  17 eP     46 33.50   -1.4
CNCB     4.82 355 P      46 42.00    1.2
                  S      47 40.00
LPB      5.11 354 Pd     46 45.60    0.8
ZOBO     5.37 354 Pd     46 47.90   -0.7
     S.D. = 1.3  on   6 of   6 obs.
-----------------------------------------
   NOV  06, 1989  08h 09m 17.38± 0.81s
   24.876 N ± 5.8km  122.163 E ± 8.5km
   DEPTH =  10.0km  (geophysicist)
   4.2mb (  1 obs.)
 TAIWAN REGION                      (243)

TWC      0.39 227 iPc    09 24.60   -0.8
                  eS     09 27.90
TWZ      0 57 293 iPd    09 29.20    0.2
ANP      0.66 298 iPc    09 31.00    0.4
                  eS     09 33.80
TWD      0.95 213 ePd    09 35.30   -0.1
                  eS     09 46.80
TWG      2.28 206 ePc    09 56.30    0.7
SSE      6.26 352 P      10 51.50   -0.5
     E  12s      0.60um
                  eLg    12 50.60
WB5     46.04 164 eP     17 43.10    0.0
WRA     46.10 164 Pc     17 43.70    0.1
       0.5s      1.50nm          4.2mb
     S.D. = 0.5  on   8 of   8 obs.
-----------------------------------------
&  NOV  06, 1989  08h 27m 15.80s
   37.107 N          121.892 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA                  ( 39)
      <BRK>. ML 2.7 (BRK). Foreshock,
      ML 0.8, 10.3 seconds earlier.

GCC      0.11 227 iPd    27 18.10   -0.5
                  iS     27 20.50
MHC      0.31  40 iPc    27 22.20    0.0
                  iS     27 27.50
                  i      27 29.00
ARN      0.38  50 iPd    27 23.20   -0.3
SAO      0.49 133 iP     27 24.90   -0.9
PCC      0.55 315 iPd    27 26.20   -0.8
BKS      0.82 341 ePd    27 31.20   -0.5
                  eS     27 42.60
BRK      0.82 339 ePd    27 31.20   -0.5
                  eS     27 42.10
PRS      0.88 151 ePc    27 31.90   -0.9
                  eS     27 45.50
ZSP      0.89 341 ePd    27 32.30   -0.6
                  iS     27 45.70
LLA      0.90 122 ePc    27 32.40   -0.8
PRI      1.38 134 e(P)   27 41.70    0.4
CMB      1.51  52 ePc    27 42.00   -1.1
                  eS     28 01.50
FRI      1.75  93 e(P)   27 46.50    0.0
KVN      3.57  56 eP     28 11.20   -1.4
       14 obs. associated
-----------------------------------------
%  NOV  06, 1989  08h 27m 29.35± 4.00s
   41.422 N ±27.8km   29.619 E ±15.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

ISK      0.55 230 iPg    27 40.00   -0.6
HRT      0.60 176 ePg    27 41.10   -0.4
GBZT     0.65 192 ePg    27 42.20   -0.1
YLV      0.87 192 iPg    27 46.40    0.2
CTT      0.94 253 ePg    27 47.20    0.0
GPA      1.25 155 iPg    27 52.08   -0.5
     S.D. = 0.4  on   6 of   6 obs.
-----------------------------------------
*  NOV  06, 1989  08h 43m 37.92± 1.23s
     5.389 S ±20.4km  149.250 E ±13.0km
   DEPTH = 156.4 ± 12.5 km
   4.4mb (  3 obs.)
 NEW BRITAIN REGION                 (192)

LAT      2.57 241 eP     44 21.00    0.4
                  eS     44 53.00
RAB      3.14  68 eP     44 28.00    0.1
PMG      4.50 207 eP     44 44.50   -1.1
                  eS     45 33.00
CTA     14.90 191 iPc    47 04.10    2.1
       1.0s     16.50nm          4.3mb
QIS     17.75 211 iPc    47 35.50   -1.3
WB5     20.42 224 eP     48 04.50   -0.2
WRA     20.49 224 Pd     48 04.30   -1.0
       0.4s      5.70nm          4.4mb
RMQ     20.99 181 eP     48 10.00   -0.3
                  e      48 27.00
ASPA    23.43 218 eP     48 35.20    1.1
       0.5s     12.00nm          4.6mb
DZM     23.49 137 iPc    48 34.30   -0.5
WARB    29.91 224 eP     49 34.00    0.8
     S.D. = 1.2  on  11 of  11 obs.
-----------------------------------------
?  NOV  06, 1989  08h 52m 09.09± 3.96s
   36.104 N ±22.7km   30.746 E ±29.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

KSL      0.94 271 ePn    52 28.00    1.0
BCK      1.36 355 iPn    52 34.60    0.5
YER      2.23 298 iPn    52 47.70    1.0
KHL      2.42 337 ePn    52 49.20   -0.2
CIN      2.60 306 ePg    52 52.00    0.1
                  iSg    53 10.00
KAP      2.95 260 ePn    52 57.00    0.1
SMG      3.52 298 ePn    53 03.00   -1.9
NPS      4.26 260 ePn    53 15.00   -0.5
     S.D. = 1.1  on   8 of   8 obs.
-----------------------------------------
   NOV  06, 1989  08h 56m 19.39± 0.90s
   40.101 N ± 3.7km  142.318 E ± 3.8km
   DEPTH =  49.0 ±  7.5 km
   5.4mb ( 58 obs.)  4.9Msz ( 13 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)
      Felt (IV) at Misawa.
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 26C
      Centroid Location:
      Origin Time        08:56:24.1 0.4
      Lat 40.06N 0.05 Lon 142.05E 0.04
      Dep  56.2 3.1 Half-duration  2.0
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 1.11 0.05  Mtt= 0.37 0.06
        Mff=-1.48 0.08  Mrt= 0.47 0.06
        Mrf= 0.83 0.08  Mtf=-0.47 0.08
       Principal Axes:
        T  Val=  1.46  Plg=68  Azm=326
        N        0.42      14       200
        P       -1.87      17       106
      Best Double Couple:Mo=1.7*10**17
       NP1:Strike=175 Dip=30 Slip=  62
       NP2:        27      64       105

SAP      3.05 346 eP     57 07.00    0.8
                  eS     57 43.00
MAT      4.80 224 iPc    57 33.80    2.8
       1.0s    910.00nm
                  eS     58 33.00
SHK      9.48 237 eP     58 37.00    0.9
MDJ     10.44 300 Pc     58 50.00    0.7
     Z  18s     11.00um
CN2     13.09 292 Pc     59 24.00   -0.8
       5.0s      0.90nm          2.9mb X
     Z  18s      4.20um          5.5Msz
     N  15s      2.00um
     E  15s      2.60um
                  pP     59 30.00
                  esS    02 00.00
SNY     14.27 283 Pc     59 39.00   -1.2
       1.0s      0.50nm          3.1mb X
     Z  20s      7.10um          3.9Msz
     N  13s      1.40um
     E  16s      3.40um
                  esS    02 28.00
DL2     16.02 272 eP     00 02.00   -0.8
     Z  28s      3.20um
     N  12s      1.20um
                  eS     03 04.00
SSE     19.36 249 P      00 43.50   -0.2
       1.0s    177.00nm          5.3mb
     Z  20s      1.50um
     N  12s      0.80um
     E  16s      1.70um
                  sP     01 00.00
                  sS     04 31.00
BJI     19.99 278 Pc+    00 47.00   -3.4X
       1.2s    146.00nm          5.2mb
     Z  18s      3.58um          3.8MszX
     N  14s      1.38um
                  eS     04 20.00
TIA     20.17 267 Pd     00 50.10   -2.2
     Z  18s      3.90um          4.8Msz
     E  17s      3.40um
                  S      04 26.00
NJ2     20.56 254 Pc     00 54.50   -1.8
     Z  17s      2.40um          4.6MszX
     N  11s      0.70um
     E  10s      0.50um
                  pP     01 07.00  54kmX
                  PP     01 19.00
                  S      04 42.00
ANP     22.90 236 eP     01 22.00    2.1
TIY     23.33 274 eP     01 22.50   -1.5
     N  19s      2.20um
     E  18s      1.90um
HHC     23.35 282 Pc     01 22.50   -1.7
     Z  20s      6.30um          5.1Msz
     N  13s      0.80um
     E  20s      5.90um
                  S      05 30.00
                  SS     06 12.00
BTO     24.55 282 P      01 34.00   -1.8
     N  13s      0.40um
     E  17s      4.30um
                  PP     02 10.00
                  S      05 54.50
WHN     24.65 256 Pd     01 36.50   -0.1
     Z  20s      2.70um          4.7Msz
     N  16s      1.90um
     E  16s      2.30um
QZH     24.97 240 Pc     01 38.00   -1.7
       6.0s      0.70nm          2.4mb X
     Z  20s      1.50um          4.5Msz
     N  18s      1.40um
                  S      06 02.00
PJG     26.51 174 eP     01 40.20 -13.9X
GUMO    26.51 174 eP     01 40.10 -14.0X
XAN     27.22 268 iPd    01 59.00   -1.6
     E  14s      1.70um
GZH     29.76 244 Pc     02 24.00    0.5
     N  15s      1.60um
     E  13s      0.70um
                  S      07 20.50
LZH     30.38 275 P      02 28.00   -1.1
       1.5s      0.09nm          2.3mb X
     Z  26s      2.70um          4.8MszX
     E  14s      0.70um
                  PP     03 32.00
                  sS     07 46.00
GTA     32.46 283 iPc    02 46.00   -1.2
       1.0s      0.10nm          2.6mb X
```

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      Z  18s      5.00um          5.3Msz
CD2     32.49 266 eP     02 45.20  -2.3
      Z  22s      1.40um          4.6Msz
      N  13s      1.30um
GYA     32.54 256 iPc    02 46.60  -1.4
      1.2s      0.10nm          2.5mb X
      Z  20s      1.60um          4.7Msz
      N  18s      2.10um
      E  18s      3.00um
                  S      07 53.00
QIZ     34.90 243 eP     03 09.40   1.1
      N  16s      0.90um
      E  14s      0.50um
                  eS     08 39.50
KMI     36.21 258 Pc     03 19.50  -0.2
      Z  20s      8.20um          5.5Msz
      N  16s      2.10um
                  sP     03 29.50
                  eS     08 45.00
                  sS     08 58.00
WMO     40.17 294 iPc    03 52.70   0.3
      Z  19s      1.40um          4.8Msz
                  ScP    09 41.50
                  S      09 57.50
LOE     41.68 249 iPc    04 04.00  -0.8
TSM     41.89 218 ePd    04 08.90   2.4
LSA     42.71 272 iP     04 15.00   1.2
      3.0s      0.50nm          2.7mb X
                  S      10 35.00
CHG     42.79 253 iPc    04 14.90   0.9
      1.0s     69.50nm          5.3mb
BRW     43.32  24 eP     04 17.20  -0.4
IMA     43.70  32 eP     04 21.00   0.0
      1.0s     31.30nm          5.0mb
BDT     43.75 251 iPc    04 22.60   0.9
      0.9s     45.40nm          5.2mb
NST     43.97 249 iPd    04 26.00   2.5
PCI     45.68 212 ePd    04 37.00  -0.2
PMR     45.76  38 eP     04 36.50  -0.8
      1.0s     20.00nm          5.0mb
FBA     46.15  34 eP     04 40.50   0.2
NNT     46.35 246 iPc    04 43.80   1.4
SNG     49.62 240 iPc    05 09.00   1.1
      1.1s    113.92nm          5.8mb
KSH     49.88 292 P      05 10.50   0.6
IPM     51.29 237 ePc    05 21.20   0.5
      1.0s     60.90nm          5.6mb
                  e      05 31.90
INK     51.35  28 iPc    05 20.10  -0.4
      0.6s    113.00nm          6.1mb
TPI     53.16 225 ePd    05 35.20   0.5
                  e      05 42.20
MBC     53.39  17 ePc    05 35.00  -0.6
      1.0s     45.00nm          5.5mb
MTN     53.69 194 iPd    05 38.20  -0.2
      0.8s     53.00nm          5.6mb
NDI     53.84 279 iPc    05 38.80  -0.7
PSI     54.07 238 ePd    05 41.00  -0.4
      1.0s     20.00nm          5.1mb
                  e      08 10.00
KHKI    54.18 213 ePc    05 41.00  -1.0
                  e      07 30.00
KLI     56.45 227 eP     05 58.00  -0.6
KBS     57.77 350 iP+    06 06.80  -0.4
HYB     59.03 267 iPc    06 16.00  -0.8
      1.0s     70.00nm          5.7mb
WB5     60.13 189 iPc    06 27.70   3.6X
                  i      06 36.40
WRA     60.19 189 Pc     06 23.00  -1.6
      0.8s     22.00nm          5.3mb
QIS     60.39 183 eP     06 24.00  -1.9
QUE     60.74 286 iPc    06 28.00  -0.6
KEV     60.84 339 iP     06 27.40  -1.0
      1.0s     60.00nm          5.7mb
POO     61.98 271 iPc    06 37.00   0.1
GBA     62.19 264 P      06 37.80  -0.5
SOD     62.42 337 iP     06 38.00  -1.2
MAIO    62.90 296 iPc    06 42.60  -0.3
                  eS     14 32.00
TRO     63.05 341 iP     06 42.00  -1.2
ASPA    63.92 189 iPc    06 48.70  -0.7
      1.3s     25.00nm          5.1mb
      Z  22s      0.57um          4.7MszX
                  LR     33 40.30
PNT     65.50  45 eP     06 59.00  -0.5
      1.0s     22.00nm          5.1mb
SUF     65.57 333 iP     06 58.50  -1.2
      0.7s     47.70nm          5.6mb
LON     65.68  49 P      07 01.00   0.2
DZM     65.82 155 iPc    07 01.70  -0.1
RMQ     66.52 174 eP     07 07.60   1.5
EDM     66.52  39 ePc    07 05.00  -1.0
NEW     67.46  45 P      07 10.00  -2.0
      1.1s     43.75nm          5.4mb
WARB    67.54 195 eP     07 12.50  -0.1
NUR     67.58 332 iP     07 11.20  -1.3
      0.7s     26.70nm          5.4mb
FHC     67.66  55 ePd    07 10.40  -3.0X
WDC     68.69  55 ePd    07 22.20   2.4
SES     69.37  41 eP     07 22.00  -1.8
MIN     69.41  54 e(P)   07 23.70  -0.7
ORV     69.94  55 e(P)   07 29.40   2.0
TAB     70.69 304 eP     07 31.00  -1.2
FFC     70.75  34 eP     07 31.00  -1.1
      0.9s     28.00nm          5.2mb
LRM     71.48  45 ePc    07 36.80  -0.2
CMB     71.54  56 ePd    07 37.20   0.0
NB2     71.64 337 P      07 36.40  -1.0
      0.9s     53.20nm          5.5mb
KVN     72.35  54 P      07 40.90  -1.3
FRI     72.59  56 e(P)   07 43.80   0.4
AKU     73.45 352 iP     07 49.70   1.9
      1.0s     44.00nm          5.3mb
TNP     73.49  54 P      07 48.00  -0.9
      1.1s     21.10nm          5.0mb
ISA     74.19  57 eP     08 05.00  12.2X
BWA     74.37 175 eP     07 53.40  -0.1
CLC     74.66  56 eP     07 55.00  -0.5
BW06    75.02  46 P      07 56.30  -1.4
      1.3s     34.84nm          5.1mb
KVT     75.08 311 iP     07 58.50   0.7
SBB     75.21  57 eP     07 58.00  -0.7
MWC     75.35  58 eP     08 01.00   1.3
RVR     75.94  57 eP     07 54.00  -8.7X
CLI     76.10 320 eP     08 03.50   0.1
PPE     76.16 319 eP     08 04.00   0.2
CFR     76.61 318 eP     08 06.50   0.2
PLM     76.67  58 eP     08 20.00  12.9X
TPC     76.72  57 eP     08 04.00  -3.2X
VRI     76.85 320 ePc    08 07.50  -0.1
KRA     76.95 326 iPc    08 08.50   0.4
      0.8s     66.00nm          5.7mb
      Z  18s      1.60um          5.4Msz
      N  18s      2.20um
                  e      08 11.80
RSON    77.02  33 P      08 07.00  -1.5
      0.8s     16.03nm          5.1mb
RSSD    77.08  43 P      08 07.90  -1 4
TLB     77.09 318 eP     08 09.00   0.1
CVO     77.16 320 eP     08 10.00   0.6
BAR     77.22  58 eP     08 13.00   3.1X
ISR     77.46 319 eP     08 12.00   0.9
SPC     77.47 325 iP     08 11.60   0.4
BBTK    77.78 312 iPc    08 14.00   1.0
KSP     77.87 328 iPc    08 13.70   0.6
      1.0s     49.00nm          5.5mb
                  e      10 42.30
                  e      11 01.00
                  id     11 06.70
                  e      11 24.50
GLA     78.17  57 eP     08 15.00  -0.2
PSZ     78.57 325 iP     08 17.50   0.3
RYD     78.61 293 iPc    08 16.90  -0.8
CLL     78.79 330 iPc    08 17.90  -0.3
      1.4s     57.00nm          5.3mb
PRU     79.24 329 ePc    08 21.20   0.6
      1.0s     30.40nm          5.2mb
      Z  16s      1.30um          5.4MszX
                  e      08 41.00
JMB     79.33 317 iPc    08 22.00   0.7
SRO     79.35 325 iP     08 22.60   1.3
PVL     79.44 318 iPc    08 23.00   1.2
GLO     79.47  46 P      08 24.00   1.6
BZS     79.51 322 eP     08 22.50   0.4
ZST     79.58 326 iP     08 22.90   0.4
QASM    79.91 295 iP     08 24.30  -0.4
BHL     80.02 306 P      08 25.50   0.2
BNT     80.11 315 iP     08 25.90   0.4
EDC     80.15 315 eP     08 26.40   0.7
DIM     80.17 318 eP     08 27.00   1.2
SOP     80.21 326 eP     08 25.80  -0.1
KHC     80.30 329 iP     08 26.70   0.3
      1.0s     25.00nm          5.1mb
      Z  19s      1.60um          5.4Msz
      N  19s      0.70um
      E  19s      1.00um
                  e      08 40.60
WTS     80.45 334 eP     08 27.00   0.0
      0.9s     18.00nm          5.0mb
EKA     80.48 341 Pc     08 27.30   0.1
      0.9s     17.60nm          5.0mb
PGB     80.51 319 iPc    08 29.00   1.3
KDZ     80.52 317 iPc    08 29.00   1.3
BEO     80.65 322 eP     08 28.20   0.0
KHL     80.65 313 eP     08 28.30  -0.2
RDO     80.82 317 eP     08 30.00   0.8
RZN     80.86 318 iPc    08 31.00   1.3
VTS     80.96 319 iPc    08 31.00   0.8
MMB     81.44 318 iPc    08 34.00   1.5
KKB     81.56 319 iPc    08 39.00   5.9X
ENN     81.78 334 ePc    08 34.00  -0.1
      0.7s     18.00nm          5.2mb
KBA     82.03 328 iPc    08 35.60  -0.1
      0.8s     41.00nm          5.5mb
ALQ     82.09  51 P      08 37.00   0.8
      1.0s     15.25nm          5.0mb
KSL     82.15 311 eP     08 36.00  -0.3
VAY     B2.22 319 iPc    08 37.30   0.8
SCH     82.22  17 eP     08 35.80  -0.6
      0.8s     32.00nm          5.4mb
SKO     82.30 320 iPc    08 37.80   0.8
      1.2s    125.00nm          5.8mb
SMG     82.59 314 eP     08 38.20  -0.3
FVI     82.65 328 Pc     08 37.40  -1.2
DMU     82.70 342 eP     08 39.30   0.5
DOU     82.80 334 P      08 39.30  -0.1
PRNI    82.81 304 iPc    08 49.00   9.1X
PHP     83.01 320 iPc    08 40.00  -0.6
OGA     83.14 329 iPc    08 41.80   0.3
      1.1s     20.00nm          5.1mb
DLE     83.17 342 eP     08 41.40   0.2
SDA     83.22 321 eP     08 41.20  -0.5
OHR     83.27 320 eP     08 37.20  -4.8X
      1.0s      0.12nm          2.9mb X
                  i      08 42.20
MBH     83.28 303 iPc    08 43.00   0.8
CDF     83.29 332 iPc    08 42.20   0.1
      0.8s     21.40nm          5.2mb
NEO     83.37 317 eP     08 42.00  -0.6
LACI    83.41 321 eP     08 43.00   0.4
TIR     83.55 320 eP     08 43.00  -0.4
CTI     83.56 328 Pc     08 42.70  -0.8
APE     83.77 314 eP     08 44.00  -0.6
KAP     83.94 312 eP     08 45.50   0.0
BSF     83.96 332 eP     08 45.20  -0.3
      0.8s     11.80nm          5.0mb
HAU     83.97 332 iPc    08 45.50   0.1
      0.8s     11.80nm          5.0mb
TPE     84.28 319 eP     08 43.50  -3.6X
VAI     84.85 329 Pc     08 49.60  -0.2
NPS     85.03 313 eP     08 50.20  -0.7
KOT     85.10 305 eP     08 51.50   0.2
SFI     85.20 327 P      08 52.30   0.8
PGD     85.29 327 P      08 53.50   1.2
CRE     85.39 326 Pc     08 53.60   0.9
VLI     85.44 315 eP     08 51.80  -1.1
LOR     85.48 333 iPc    08 53.30   0.3
      0.8s     41.90nm          5.7mb
BOB     85.49 328 Pc     08 53.20   0.0
ASS     85.54 326 P      08 54.40   1.0
VLS     85.58 318 eP     08 53.50  -0.2
FLN     85.60 336 iPc    08 53.40  -0.1
      0.8s     17.10nm          5.3mb
ITM     85.63 316 eP     08 52.40  -1.5
LDF     85.64 336 iPc    08 53.60  -0.1
      0.6s     11.50nm          5.2mb
LBF     85.68 333 iPc    08 54.30   0.2
      0.Bs     30.80nm          5.6mb
VAM     85.71 314 eP     08 54.10  -0.2
SSF     85.78 333 iPc    08 54.90   0.4
      0.8s     32.20nm          5.6mb
LSD     85.82 330 P      08 55.19   0.2
LPG     85.94 330 eP     08 56.10   0.4
      0.8s     41.90nm          5.7mb
SMF     86.02 333 iPc    08 56.00   0.3
      0.9s     40.90nm          5.7mb
RSP     86.04 330 P      08 57.13   1.2
PCP     86.04 329 P      08 55.39  -0.5
GRR     86.04 336 iPc    08 56.10   0.3
      0.8s     32.20nm          5.6mb
AVF     86.07 333 iPc    08 56.20   0.3
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06d 09h

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SDI     86.12 324 P      09 07.30   11.0X
BNI     86.34 330 Pc     08 57.50    0.0
RRL     86.41 330 P      08 57.95    0.0
LPF     86.42 336 iPc    08 58.20    0.6
        0.8s    37.60nm          5.7mb
ROB     86.51 329 P      08 59.08    0.9
TDS     86.56 321 P      09 08.40    9.9X
PZZ     86.64 330 P      09 00.52    1.6
PLDF    86.68 333 P      08 58.76   -0.3
AGO     86.78 333 P      08 59.41    0.0
MAF     86.83 333 eP     09 00.50    0.8
TCF     86.90 334 iPc    09 00.70    0.7
        0.8s    17.40nm          5.3mb
PYM     87.09 333 P      09 00.61   -0.4
LSF     87.16 334 iPc    09 01.90    0.6
TUL     87.38  44 eP     08 56.70   -5.8X
        1.0s     4.00nm          4.6mb
      Z  20s     0.52um          4.9Msz
                 LR     38 23.00
MFF     87.40 335 iPc    09 03.30    0.9
        0.8s    44.00nm          5.7mb
LBL     87.45 332 P      09 02.31   -0.3
RJF     87.99 333 eP     09 06.10    0.8
        0.9s    22.90nm          5.4mb
CAF     88.13 333 eP     09 07.20    1.2
        0.8s    16.60nm          5.3mb
LFF     88.58 334 eP     09 09.20    1.1
        0.8s    24.10nm          5.5mb
LPO     88.65 333 eP     09 09.30    0.9
        1.0s    32.00nm          5.6mb
UYO     89.42  44 e(P)   09 19.70    7.5X
BCAO   112.09 297 ePKPc  15 09.10   17.7X
        0.9s    13.00nm
                 ic     15 34.20
SLR    123.98 263 iPKPc  15 13.90   -0.2
        0.9s    25.21nm
TIC    124.59 319 PKP    15 15.00   -0.3
LIC    124.96 319 PKP    15 15.60   -0 4
      Z  20s     0.35um          5.0Msz
PRY    125.22 263 ePKP   15 16.10   -0.3
BFS    125.73 263 ePKP   15 12.50   -4.9X
SEK    125.83 261 iPKPd  15 17.50   -0.1
        0.8s     8.96nm
FRS    128.28 261 ePKP   15 22.00    0.0
        1.0s    13.00nm
                 i      25 39.00
ZOBO   144.47  57 PKP    15 51 00   -1.9
      Z  24s     0.28um          4.9MszX
                 LR     05 32.00
SNA    144.65 200 iPKPc  15 49.50   -1.4
        1.0s    26.00nm
LPB    144.68  57 PKP    15 52.00   -1.1
CNCB   144.96  57 PKP    15 54.00    0.3
CCH    146.56  56 PKP    15 57.60    1.5
ANT    147.99  69 iPKP   16 02.30    4.5X
                 i      16 16 00
PDCR   152.51   3 ePKP   16 05.60    0.7
                 e      16 14.10
                 e      16 23.60
      S.D. = 1.0  on 207 of 228 obs.
-----------------------------------
   NOV  06, 1989  08h 56m 21.14± 1.94s
   12.489 N ±29.1km   88.504 W ±17.1km
   DEPTH =  33.0km  (normal)
   4.6mb (  2 obs.)
 OFF COAST OF CENTRAL AMERICA      ( 76)
      Felt (II) at San Salvador, El
      Salvador.

SSS      1.36 330 iPd    56 44.30    0.2
                 eS     56 56.00
TPX      4.37 304 (P)    57 42.00   15.0X
                 iS     58 24.00
OXX      9.17 301 (P)    58 11.50  -22.9X
                 iS     00 19.50
PPM     11.73 305 eP     59 10.00    0.2
                 (S)    01 50.00
TUL     24.23 345 ePd    01 36.50    0.5
        1.1s    12.20nm          4.4mb
LNO     24.23 345 eP     01 36.20    0.3
KVN     37.24 321 eP     03 31.90    0.1
SES     42.06 339 eP     04 11.00   -0.4
FFC     43.45 349 eP     04 22.00   -0.6
        0.5s     9.00nm          4.8mb
EDM     45.20 339 iP     04 36.00   -0.8
TNS     84.91  40 ePc    08 54.70    0.5
CMP     97.09  41 ePc    10 04.00   12.6X
BLF    117.45 116 ePKP   15 21.00   15.0X
      S.D. = 0.6  on   9 of  13 obs.
-----------------------------------
   NOV  06, 1989  10h 40m 34.57± 0.34s
   39.199 N ± 3.7km   21.564 E ± 2.9km
   DEPTH =  10.0km  (geophysicist)
   4.6mb (  2 obs.)
 GREECE                            (364)
      ML 3.8 (THE), 3.7 (ATH), 3.7
      (TTG).

AGG      0.62 106 iPgc    40 47.30    0.2
                 eSg    40 57.30
KZN      1.12   8 ePg    40 54.80   -0.8
LIT      1.15  38 iPbc   40 55.60   -0.5
                 eSb    41 11.30
LSK      1.21 322 iPgd   40 56.30   -0.8
VLS      1.27 217 ePb    40 56.50   -1.7
NEO      1.29  85 ePg    40 59.50    1.0
SRN      1.39 300 iPn    41 00.10    0.2
KEK      1.46 291 ePb    41 01.50    0.5
KBN      1.54 338 iPnd   41 04.00    2.0
TPE      1.62 313 iPnc   41 06.50    3.2X
PAIG     1.79  65 iPb    41 05.30   -0.4
                 eSb    41 31.00
THE      1.79  37 ePb    41 05.10   -0.6
                 eSb    41 30.10
GRG      1.87  20 iPnd   41 06.40   -0.5
                 eSn    41 32.00
BERA     1.95 321 iPnd   41 10.90    2.9
OHR      2.00 343 iPn    41 10.20    1.4
ITM      2.04 172 ePb    41 12.50    3.2
VLO      2.04 309 iPn    41 12.70    3.4X
ATH      2.08 125 ePn    41 11.80    1.8
OUR      2.18  58 iPnc   41 11.10   -0.3
                 eSn    41 41.00
KNT      2.21  27 iPnd   41 11.40   -0.4
                 eSn    41 40 70
VAY      2.26  20 iPn    41 12.30   -0.1
SRS      2.47  38 ePnd   41 14.90   -0.6
                 eSn    41 47.50
TIR      2.51 329 ePn    41 18.30    2.3
PHP      2.63 341 iPnc   41 18.10    0.4
VLI      2.70 156 ePn    41 20.50    1.6
SKO      2 77 358 ePn    41 19.70   -0.1
        0.9s   444.00nm
                 iPb    41 22.60
                 i      41 28.20
                 iSn    41 49.40
                 iSb    41 55.00
                 iSg    41 56.80
                 Lg     42 10.00
                 e      42 16.50
LACI     2.82 330 ePn    41 22.00    1.6
MMB      2.90  34 eP     41 22.00    0.3
KKB      2.91  23 iPc    41 21.00   -0.7
LCI      3.00 293 P      41 22.40   -0.7
KKS      3.00 343 iPn    41 26.60    3.6X
PUK      3.11 336 iPn    41 26.90    2.4
SDA      3.22 331 ePn    41 28.30    2.2
ULC      3.28 328 ePn    41 29.20    2.2
                 eSn    42 06.50
BCI      3.36 341 iPnd   41 29.20    1.1
RZN      3.46  43 iPd    41 30.00    0.3
PVY      3.60 341 ePn    41 33.00    1.3
                 eSn    42 14.00
VTS      3.61  20 iPd    41 32.00    0.2
RDO      3.61  56 ePn    41 30.80   -0.9
PRK      3.66  88 ePn    41 30.00   -2.4
TTG      3.67 332 ePn    41 33.70    1.2
                 eSn    42 16.00
EZN      3.74  79 iPn    41 33.10   -0.4
BRT      3.74 298 Pd     41 33.50   -0.1
PLD      3.76  38 eP     41 35.00    1.2
APE      3.78 123 ePn    41 35.60    1.4
KDZ      3.83  49 iPd    41 34.00   -0.8
IVA      3.88 342 ePn    41 38.00    2.4
                 eSn    42 21.20
PGB      3.89  30 eP     41 35.00   -0.7
ROI      3.89 277 P      41 34.60   -1.1
HCY      3.99 325 ePn    41 37.60    0.5
                 eSn    42 21.50
TDS      4.07 278 P      41 38.70    0.5
                 eSn    42 26.90
CSI      4.12 280 P      41 36.70   -2.3
DIM      4.15  45 eP     41 43.00    3.7X
CZI      4.22 272 P      41 39.30   -1.0
VAM      4.33 150 ePn    41 43.50    1.6
SMG      4.40 108 ePn    41 43.50    0.6
PLE      4.44 339 ePn    41 44.30    0.8
                 eSn    42 34.00
IZM      4.52  98 ePn    41 45.70    1.0
PVL      4.92  34 eP     41 49.00   -1.2
EDC      4.99  75 eP     41 53.00    1.8
SGO      5.00 288 P      41 52.20    0.8
JMB      5.01  48 eP     41 51.00   -0.6
BNT      5.03  75 iP     41 50.90   -1.0
NPS      5.09 139 ePn    41 56.00    3.3X
DMK      5.40  59 eP     41 55.00   -2.1
DST      5.49  84 iP     41 58.80    0.4
HVAR     5.54 317 i(Pn)  41 58.30   -0.8
CTT      5.61  68 iP     41 58.40   -1.6
MEU      5.63 250 P      41 57.20   -3.3X
                 eSn    42 59.10
KAP      5.76 127 ePn    42 07.00    4.8X
BZS      6.41   0 ePc    42 10.50   -0.8
SDI      6.42 295 Pd     42 11.80    0.3
BLY      6.43 331 eP     42 19.00    7.4X
CMP      6.59  22 iPc    42 02.00  -11.9X
ALP      7.02 303 iPn    42 18.92   -1.1
                 eSn    43 31.62
MNS      7.45 298 P      42 24.10   -1.9
CIO      7.50 305 iPn    42 25.88   -0.8
                 eSn    43 45.45
VRI      7.68  28 ePc    42 29.00   -0.1
VBY      7.84 326 ePn    42 30.50   -0.8
                 eSn    43 54.00
PTJ      7.87 330 eP     43 00.20   28.4X
RIY      8.12 321 ePn    42 34.80   -0.5
                 iSn    44 01.50
CEY      8.40 323 eP     42 39.00   -0.1
                 eSn    44 10.00
CRE      8.47 305 P      42 38.90   -1.4
VOY      8.86 323 e(Pn)  42 42.00   -3.7X
                 e(Sn)  44 20.20
FVI      9.80 322 P      42 56.80   -1.6
CTI     10.01 316 P      42 58.30   -3.1X
KHC     11.46 333 eP     43 23.20    2.0
CLL     13.52 336 iP     44 00.80   12.1X
        1.2s    16.00nm
UPP     20.83 354 iP     45 15.70   -2.8
NB2     22.79 347 P      45 36.30   -2.0
        0.7s     5.90nm          4.2mb
BCAO    34.72 185 iPc    47 25.60   -1.2
        0.4s    10.00nm          5.1mb
KIC     40.39 223 P      48 13.00   -1.4
LIC     40.66 223 P      48 15.00   -1.6
INK     71.20 350 eP     51 53.00   -2.0
      S.D. = 1.4  on  81 of  94 obs.
-----------------------------------
   NOV  06, 1989  10h 52m 00.65± 0.45s
   48.287 N ± 4.0km    7.231 E ± 5.3km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 2.9 (LDG). MD 2.1 (STR).

ECH      0.09 214 Pg     52 03.89    0.7
                 Sg     52 05.93
CDF      0.13  13 Pg     52 04.18    0.3
WLS      0.15  33 Pg     52 04.47    0.3
                 Sg     52 06.97
MOF      0.44 189 Pg     52 09.71    0.0
                 Sg     52 15.97
BSF      0.54 213 Pg     52 11.51   -0.1
                 Sg     52 18.89
HAU      0.66 245 Pg     52 13.60   -0.1
                 Sg     52 22.20
FEL      0.67 128 Pg     52 13.77   -0.2
                 Sg     52 22.64
GWF      0.74  20 Pg     52 14.69   -0.5
                 Sg     52 24.24
VITF     0.84 266 Pg     52 16.55   -0.2
LOMF     0.98 196 Pg     52 19.11   -0.1
LOR      2.49 247 Pg     52 48.00    6.1X
                 Sg     53 18.40
LBF      2.56 241 Pg     52 49.10    6.2X
                 Sg     53 21.20
SSF      2.80 245 Pg     52 53.50    7.2X
                 Sg     53 29.20
SMF      2.83 236 Pg     52 53.80    7.1X
                 Sg     53 29.00
AVF      3.02 242 Pg     52 57.50    8.1X
                 Sg     53 35.80
MAF      3.79 239 Pg     53 11.60   11.2X
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TCF      3.96 242 Pg     53 14.40   11.7X
     S.D. = 0.4   on   10 of   17 obs.
-----------------------------------------
?  NOV  06, 1989  12h 16m 46.41± 1.86s
    1.796 N ±24.3km   126.817 E ±15.0km
    DEPTH =   33.0km   (normal)
    4.5mb (   2 obs.)
 MOLUCCA PASSAGE                    (266)

MNI      2.01 260 iPd    17 18.30   -0.3
                  eS     17 40.20
PCI      7.48 249 ePd    18 37.00    1.0
                  eS     19 38.00
KNA     17.54 174 eP     20 49.00   -1.1
WB5     22.78 161 eP     21 47.70    0.3
                  eS     25 33.60
QIS     25.51 151 eP     22 15.00    1.3
ASPA    26.23 165 eP     22 19.80   -0.6
        1.0s     15.00nm          4.6mb
GBA     50.21 286 Pc     25 41.00   -0.6
        0.7s      2.80nm          4.4mb
     S.D. = 1.1   on    7 of    7 obs.
-----------------------------------------
%  NOV  06, 1989  12h 25m 53.75± 3.98s
    33.967 S ±24.7km    71.396 W ±19.1km
    DEPTH =   10.0km   (geophysicist)
 NEAR COAST OF CENTRAL CHILE        (135)

TACH     0.49  51 iPd    26 14.40   10.6X
                  iS     26 31.10
LCCH     0.51 344 iPc    26 04.10    0.0
                  iS     26 12.50
CHCH     0.62  87 iPd    26 06.60    0.3
                  iS     26 16.70
PCH      0.81  65 iPd    26 09.50   -0.1
                  iS     26 22.00
PEL      1.01  36 iPc    26 13.50    0.5
                  iS     26 27.50
ROCH     1.04  18 iPd    26 14.00    0.4
                  iS     26 30.00
FCH      1.12  56 iPd    26 14.40   -0.6
                  iS     26 31.10
JACH     1.45  28 iPd    26 19.50   -0.6
                  iS     26 40.50
     S.D. = 0.6   on    7 of    8 obs.
-----------------------------------------
?  NOV  06, 1989  12h 40m 29.81± 9.23s
    40.366 N ±67.7km    28.906 E ±21.7km
    DEPTH =   10.0km   (geophysicist)
 TURKEY                             (366)

YLV      0.41  60 iPg    40 36.90   -1.3
GBZT     0.59  44 iPgc   40 42.10    0.4
ISK      0.71   9 iPg    40 43.40   -0.4
                  iSg    40 51.80
HRT      0.74  52 ePg    40 45.60    1.3
                  eSg    40 54.80
CTT      0.86 335 iPg    40 46.30   -0.1
                  iSg    40 55.80
GPA      1.08  94 iPn    40 51.40    1.3X
BBTK     3.00  99 eP     41 28.00    9.6X
                  eS     42 10.00
     S.D. = 1.3   on    5 of    7 obs.
-----------------------------------------
    NOV  06, 1989  12h 40m 32.97± 0.58s
    38.087 N ± 5.2km    23.110 E ± 6.4km
    DEPTH =   10.0km   (geophysicist)
 GREECE                             (364)
      ML 2.6 (ATH).

ATH      0.49 103 ePb    40 43.50    0.5
AGG      1.12 327 ePc    40 54.20    0.3
                  e      41 12.90
NEO      1.22   4 ePn    40 56.00    0.3
ITM      1.30 226 ePn    40 56.50   -0.6
VLI      1.37 186 ePn    40 57.40   -0.7
APE      2.18 117 ePn    41 09.50   -0.3
PLG      2.30   6 ePn    41 12.00    0.5
PRK      2.73  64 ePn    41 16.00   -1.7
VAM      2.81 162 ePb    41 20.50    1.7
EZN      3.05  54 iPn    41 09.20  -12.9X
IZM      3.28  83 ePn    41 16.00   -9.5X
OHR      3.51 330 eP     41 28.70    0.0
     S.D. = 1.0   on   10 of   12 obs.
-----------------------------------------
*  NOV  06, 1989  13h 27m 53.19± 1.84s
    9.601 N ±14.0km    84.262 W ±18.0km
    DEPTH =   33.0km   (normal)
 COSTA RICA                         ( 78)
      ML 4.0 (SJR). Felt (III) at
      Aserri and (II) at San Jose.
      Also felt at Ciudad Colon, San
      Pablo de Heredia and Alajuela.

LCR2     0.29  61 iPd    28 02.00    0.9
SJS      0.39  31 iPc    28 02.20   -0.1
                  S      28 08.20
SRA      0.51 339 iPc    28 03.95   -0.1
                  S      28 11.10
ACR      1.43 131 eP     28 17.50    0.4
UPA      4.71  97 iPc    29 02.70   -1.0
         0.6s     89.33nm
                  S      29 52.80
     S.D. = 1.0   on    5 of    5 obs.
-----------------------------------------
%  NOV  06, 1989  14h 49m 21.75± 0.71s
    60.700 N ± 6.2km     6.466 E ± 8.2km
    DEPTH =   10.0km   (geophysicist)
 SOUTHERN NORWAY                    (535)

ODD1     0.79 174 iP     49 36.70   -0.5
                  iS     49 46.08
SUE      0.91 294 eP     49 38.71   -0.4
                  iS     49 50.37
BLS1     1.33 172 iP     49 46.24    0.0
                  eS     50 01.75
KMY      1.61 203 iP     49 51.10    0.8
                  eS     50 10.30
MOL      1.95  15 eP     49 55.40    0.3
                  eS     50 20.70
NRA0     2.49  87 eP     50 02.90   -0.1
                  iPg    50 08.50
                  iSg    50 42.20
     S.D. = 0.6   on    6 of    6 obs.
-----------------------------------------
    NOV  06, 1989  15h 12m 53.71± 1.06s
    25.742 N ± 4.1km   125.583 E ± 4.4km
    DEPTH =   30.6 ±   7.9 km
    5.1mb ( 13 obs.)  5.3Msz (   1 obs.)
 SOUTHWESTERN RYUKYU ISLANDS        (246)
      CENTROID, MOMENT TENSOR       (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 23C
      Centroid Location:
      Origin Time        15:12:54.2 0.3
      Lat 25.64N 0.08 Lon 124.85E 0.09
      Dep  15.0 FIX Half-duration  2.0
      Moment Tensor,    Scale 10**17 Nm
        Mrr=-0.99 0.11  Mtt= 1.04 0.08
        Mff=-0.05 0.16  Mrt= 0.44 0.39
        Mrf=-0.63 0.30  Mtf= 1.39 0.09
       Principal Axes:
        T  Val=  1.99  Plg= 0  Azm=146
        N        -0.23      45       56
        P        -1.76      45      236
      Best Double Couple:Mo=1.9*10**17
       NP1:Strike=271 Dip=60 Slip= -35
       NP2:         20      60     -145

ANP      3.72 262 eP     13 52.00    1.5
OZH      6.37 264 Pc     14 30.00    2.0
         7.0s      1.40nm          2.8mb X
     Z  15s      6.50um
     N  10s     10.40um
                  S      15 42.00
SSE      6.59 325 P      14 27.00   -4.0X
     Z  20s     14.40um
                  pP     14 33.30
                  Lg     16 42.00
KAGJ     7.16  40 eP     14 44.10    5.2X
KUMJ     8.18  33 eP     14 53.70    0.5
NJ2      8.62 31B Pd     15 00.50    1.2
     Z  16s     19.50um
     N  10s     20.80um
                  S      16 34.00
SHNJ     9.63  29 eP     15 16.60    3.4X
BAG     10.39 208 eP     15 22.00   -1.9
SHK     10.69  33 eP     15 25.30   -2.6
HKC     10.98 254 eP     15 32.00    0.3
WHN     11.00 298 P      15 30.00   -2.1
     Z  16s     10.70um          4.6MszX
     N  12s     34.00um
     E  12s     22.40um
TKSJ    11.02  40 eP     15 26.80   -5.5X
GZH     11.46 259 Pd     15 38.50    0.2
     N  10s      5.70um
     E  10s      5.60um
QCP     11.83 202 eP     15 28.00  -15.3X
WKYJ    12.10  43 eP     15 47.70    0.6
TIA     12.70 327 P      15 52.50   -2.5
     Z  15s     23.20um          4.7Msz
     N  10s     16.70um
     E  10s     14.60um
DL2     13.54 347 P      16 05.00   -1.0
        6.0s      0.90nm          2.8mb X
     Z  14s     10.30um          4.5Msz
     N  12s      9.70um
     E  12s     13.70um
IIDJ    14.37  45 eP     16 15.90   -1.1
MTMJ    15.03  41 eP     16 30.30    4.7X
MAT     15.24  42 eP     16 37.00    8.7X
        1.0s     19.00nm          4.3mb
     Z  20s      3.55um          5.9Msz
                  eS     19 36.00
CHJJ    15.41  45 eP     16 37.50    6.9X
QIZ     16.01 249 eP     16 36.00   -2.3
     N  10s      3.90um
SNY     16.13 355 Pc     16 40.00    0.3
        1.2s      0.10nm          1.8mb X
     Z  14s     25.50um          5.3Msz
     N  12s     12.10um
     E  10s      7.80um
                  sP     16 51.50
                  PP     16 54.20
NIIJ    16.18  42 eP     16 42.60    2.2
KAKJ    16.27  47 eP     16 47.70    6.2X
BJI     16.29 333 eP+    16 41.50   -0.2
        1.2s    178.00nm          5.1mb
     Z  15s     15.10um          5.5Msz
     N  10s     10.34um
     E  10s      3.63um
                  eS     19 56.00
TIY     16.34 320 eP     16 44.00    1.5
XAN     16.63 304 P      16 46.60    0.4
     N  12s     19.00um
     E  11s     13.60um
GYA     17.01 277 P      16 53.00    1.9
     Z  14s      5.00um          4.9MszX
CN2     18.02 360 Pc     17 04.20    0.8
        1.0s      0.10nm          1.9mb X
     Z  13s      9.50um          4.9MszX
                  sP     17 13.20
DAV     18.55 180 eP     17 10.00   -0.1
HHC     19.05 326 Pc     17 15.40   -0.7
     N  14s     11.30um
     E  15s      6.90um
MDJ     19.11   9 eP     17 15.00   -1.7
     Z  20s      5.80um
                  S      20 40.00
BTO     19.68 323 P      17 22.00   -1.4
     N  13s      9.90um
     E  13s      8.10um
                  sP     17 33.00
CD2     19.88 290 Pd     17 24.70   -0.8
     Z  10s     12.40um
     N  12s     28.00um
                  pP     17 33.00   32kmX
                  eS     21 05.20
KMI     20.64 273 Pd     17 33.50   -0.1
KMI     20.64 273 eP     17 34.00    0.4X
     Z  12s     13.70um          5.5MszX
     E  10s      6.50um
                  pP     17 40.00   22kmX
                  sP     17 44.00
                  PPP    17 56.00
                  S      20 57.00
                  SS     21 22.00
LZH     21.27 304 P      17 41.50    1.6
        8.0s    595.00nm          5.1mb X
     Z  14s     12.70um          5.5MszX
     N  11s     10.50um
     E  10s      5.20um
                  pP     17 47.00   20kmX
                  sP     17 50.50
                  PP     18 02.00
                  eS     21 25.00
                  sS     21 41.00
                  SS     21 59.00
                  Lg     24 30.00
KKM     21.54 206 ePc    17 43.00    0.3
GUMO    21.78 120 eP     17 48.40    3.4X
```

06d 15h

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        1.1s   249.71nm          5.6mb
                pP     18 08.70  96kmX
                eTT    39 06.70
PJG     21.78 120 eP   17 48.50   3.5X
GUA     21.85 120 eP   17 47.50   1.9
        1.7s   800.00nm          5.9mb
MNI     24.17 182 e(P) 18 17.50   9.1X
GTA     25.53 309 eP   18 20.20  -1.2
     Z  15s    10.50um          5.5MszX
     N  11s     8.10um
                S      22 48.00
CHG     25.57 260 eP   18 21.00  -0.8
CHTO    25.57 260 eP   18 20 80  -0.9
        1.2s     5.56nm          4.0mb
NST     25.78 252 eP   18 25.00   1.3
PCI     27.07 193 ePd  18 36.50   1.0
NNT     27.63 247 eP   18 40.60  -0.1
LSA     30.67 285 eP   19 08.20  -0.2
     N  10s     2.10um
     E  10s     1.10um
IPM     31.57 232 ePc  19 15.00  -0.9
TPI     33.23 214 ePc  19 30.50   0.2
                e      20 20.00
WMO     35.59 310 iPc  19 50.60   0.1
     Z  16s     8.90um          5.6MszX
     N  12s     4.10um
     E  12s     1.90um
KLI     36.47 216 eP   19 58.30   0.3
MTN     38.73 171 eP   20 15.00  -2.0
NDI     42.88 285 eP   20 50.00  -1.2
HYB     44.32 269 eP   21 03.00   0.0
WB5     46.14 169 eP   21 16.10  -1.2
GBA     46.68 265 P    21 22.00   0.3
OIS     47.99 162 eP   21 30.00  -1.9
POO     48.21 272 eP   21 15.00 -18.8X
BOM     49.03 273 eP   22 09.70  29.7X
                eS     29 54.20
ASPA    49.77 170 iPc  21 45.20  -0.4
        1.1s    21.00nm          5.1mb
     Z  23s     1.20um          4.8MszX
                LR     41 47.50
CTA     49.79 154 iPc  21 51.90   6.2X
        1.2s    25.00nm          5.1mb
                iS     29 02.00
MAIO    56.64 298 eP   22 37.00   0.5
                eS     30 32.00
DZM     61.88 137 iPc  23 13.30   0.5
TTA     62.16  30 P    23 13.00  -1.2
SVW     62.44  33 eP   23 15.10  -1.0
IMA     63.03  27 P    23 21.00   1.0
BWA     63.64 159 eP   23 27.80   3.6X
KDC     64.37  36 P    23 27.80  -0.9
CAN     64.65 159 eP   23 37.20   6.4X
PMR     65.49  32 eP   23 34.30  -1.6
        1.5s    55.60nm          5.4mb
FBA     65.59  28 eP   23 37.00   0.6
INK     70 27  23 eP   24 04.50  -1.1
BBTK    76.03 308 eP   24 44.00   3.9X
VRI     77.76 315 ePc  24 49.00  -0.4
NB2     78.68 333 P    24 49.20  -5.1X
        1.1s     9.90nm          4.7mb
KRA     80.01 321 eP   25 00.70  -0.9
                e      25 19.90
KSP     81.65 323 eP   25 13.00   2.8X
                e      25 32.50
CLL     83.17 324 eP   25 22.00   3.9X
BMW     85.02  40 P    25 28.70   1.1
PNT     85.47  37 eP   25 38.00   8.3X
        0.6s     6.00nm          5.0mb
EDM     86.26  31 eP   25 33.50  -0.1
VGB     86.97  40 P    25 36.80  -0.4
DPW     87.07  37 P    25 38.60   0.9
LBFM    88.62  44 P    25 46.10   0.6
WDC     88.63  45 ePc  25 48.80   3.5X
SES     89.18  32 eP   25 47.00  -0.7
MIN     89.35  45 ePc  25 57.00   8.1X
FFC     90.07  25 eP   25 48.00  -3.8X
        1.2s    27.00nm          5.4mb
CMB     91.43  46 eP   25 58.00  -0.4
LRM     91.44  36 eP   25 59.70   1.1
KVN     92.31  44 P    26 02.90   0.2
TNP     93.44  45 P    26 08.60   0.7
        0.8s     4.04nm          4.9mb
MSU     96.29  42 P    26 21.30   0.3
RSSD    96 96  34 P    26 25.00   1.1
TUL    107.29  34 e(Pdif27 10.70   0.8
        0.8s     2.20nm          5.3mb
```

```
     Z  20s     0.77um          5.3Msz
                LR     06 24.00
ZOBO   164.12  56 PKP  32 58.00   1.7
     Z  24s     0.40um
LPB    164.30  57 PKP  32 59.00   2.7X
CNCB   164.56  58 PKP  33 00.00   3.3X
     S.D. = 1.2  an  73 of 101 abs.
-----------------------------------
*  NOV  06, 1989  15h 42m 14.03± 1.79s
   14.344 N ±18.2km   92.798 W ±10.5km
   DEPTH =  64.2 ± 10.5 km
   4.5mb (  7 abs.)
 NEAR COAST OF CHIAPAS, MEXICO    ( 69)
       Felt in San Marcos, Quiche and
       Huehuetenanga Departments,
       Guatemala.

TPX      0.76  43 iPc   42 28.53  -1.0
                iS     42 41.14
SCX      2.38   4 iP   42 53.65   2.2
                eS     43 23.87
OXX      4.66 306 eP   43 21.00  -2.7
EVV      4.77 329 (P)  43 26.50   1.5
IISM     6.37 317 eP   43 49.00   1.6
                (S)    44 57.50
IIT      7.04 312 (P)  43 44.50 -12.5X
                (S)    45 04.00
PPM      7.30 311 eP   44 00.00  -0.8
III      7.55 303 (P)  44 10.00   5.9X
                (S)    45 46.50
UYO     19.79 356 eP   46 39.30  -2.6
RSCP    22.14  16 P    47 05.00  -0.7
        0.5s    11.89nm          4.6mb
ALO     23.92 331 eP   47 24.00   0.7
        1.0s     9.50nm          4.2mb
GLA     27.35 317 P    47 56.60   1.5
DAU     30.58 332 P    48 24.00  -0.2
RSSD    31.19 344 P    48 28.70  -0.8
BW06    31.80 336 P    48 34.70  -0.2
KVN     33.20 323 P    48 47.20   0.2
LRM     35.48 336 ePc  49 07.20   0.6
LON     40.40 329 P    49 48.10   0.7
FFC     40.93 352 eP   49 51.00  -0.6
        0 6s     6.00nm          4.6mb
PNT     41.22 333 eP   49 55.00   0.9
        0.5s     5.00nm          4.6mb
PDCR    59.50 114 e(P) 52 14.00   0.7
INK     59.89 344 eP   52 14.50  -0.7
MBC     63.48 353 eP   52 39.00  -0.1
        0.7s     5.00nm          4.6mb
EKA     78.14  36 P    54 07.00  -0.7
        2.0s    43.60nm          5.1mb
NB2     84.21  28 P    54 39.60   0.0
        0.9s     2.20nm          4.2mb
KIC     86.57  84 P    54 53.20   1.1
LOE    145.35 335 iPKPc 01 46.50  -0.6
BDT    146.52 339 ePKP  01 51.60   2.7X
GBA    150.60  20 PKP   02 01.50   6.1X
     S.D  = 1.3  on  25 of  29 obs.
-----------------------------------
*  NOV  06, 1989  16h 12m 00.92± 0.95s
     5.978 S ± 9.8km  131.672 E ±13.2km
   DEPTH =  33.0km  (normal)
   4.4mb (  3 obs.)
 BANDA SEA                        (280)

AAI      4.15 303 ePd   13 04.50   1.0
MTN      6.85 184 iPc   13 43.20   1.6
                eS     14 55.00
MNI     10.04 317 ePc   14 25.50  -0.6
KNA     10.12 196 iPd   14 27.00  -0.1
                iS     16 13.30
PCI     12.84 293 ePd   15 05.00   1.1
WB5     14.07 170 eP    15 17.00  -3.1X
                i      15 19.00
                eS     17 48.00
OIS     16.41 153 eP    15 49.00  -1.5
        0.4s    25.00nm          4.7mb
                eS     18 39.00
ASPA    17.72 173 eP   16 05.60  -1.3
                eS     19 10.20
MBL     18.96 216 eP   16 20.90  -1.2
CTA     19.94 136 iPc  16 34.10   1.0
        0.9s    25.21nm          4.5mb
WARB    20.66 193 eP   16 42.00   1.4
                eS     20 22.00
NANU    22.69 222 eP   17 01.00   0.1
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FORR    24.97 187 eP   17 22.40  -0.6
MRWA    27.46 211 eP   17 45.50  -0.5
BWA     32.27 154 eP   18 30.20   1.3
CAN     33.28 154 eP   18 41.50   3.9X
CHTO    40.59 308 eP   19 37.70  -1.7
        0.6s     0.84nm          3.7mb
     S.D. = 1.2  an  15 of  17 abs.
-----------------------------------
%  NOV  06, 1989  16h 26m 11.40± 1.32s
   26.383 S ±11.8km   27.254 E ±11.6km
   DEPTH =   5.0km  (geophysicist)
 REPUBLIC OF SOUTH AFRICA         (584)

PRY      0.58 160 iPc   26 22.20  -0.8
                S      26 28.10
BFS      0.66 219 iPd   26 25.00   0.3
                S      26 27.00
SLR      1.13  55 iPd   26 33.00  -0.1
        0.9s   428.57nm
                S      26 45.40
SEK      1.96 170 iPd   26 47.50   1.7
                S      27 11.00
KIM      3.22 222 iPd   27 04.00   0.2
                S      28 40.00
FRS      3.76 207 iPc   27 10.00  -1.4
                S      27 52.50
GRM      6.93 185 e(P)  28 04.00   7.8X
     S.D. = 1.4  an   6 of   7 abs.
-----------------------------------
%  NOV  06, 1989  17h 13m 12.82± 1.94s
   31.348 S ±16.4km   68.534 W ±11.7km
   DEPTH = 106.6 ± 21.4 km
 SAN JUAN PROVINCE, ARGENTINA     (137)

RTLL     0.06  72 iPc   13 27.80  -0.3
RTCB     0.27 239 iPd   13 28.40  -0.2
CFA      0.36 136 iPd   13 29.00   0.3
                S      13 41.50
RTCV     0.51 180 iPc   13 30.00   0.3
                S      13 43.00
RTBS     0.85 248 e(P)  13 32.20  -0.2
                S      13 47.70
RTRS     1.42 326 iPd   13 39.00   0.2
                S      13 58.00
TCA      3.37  91 iPc   14 04.50  -0.1
     S.D. = 0.4  an   7 of   7 abs.
-----------------------------------
*  NOV  06, 1989  17h 16m 35.52± 0.81s
   36.033 N ±17.7km  139.371 E ±13.7km
   DEPTH =  79.8 ± 12.1 km
   4.6mb (  1 abs.)
 HONSHU, JAPAN                    (227)

CHJJ     0.31 273 iP+   16 47.90  -0.1
                S      16 56.20
KAKJ     0.67  75 iP+   16 51.10   0.1
                S      17 01.20
MAT      1.07 299 iPd   16 55.80   0.1
                iS     17 09.80
NIIJ     1.24 346 iPd   16 57.70  -0.1
                S      17 14.20
WB5     55.81 186 eP    26 05.50  -1.2
ASPA    59.60 186 iPd   26 34.40   1.2
        0.6s     3.00nm          4.6mb
     S.D. = 1.2  an   6 of   6 abs.
-----------------------------------
*  NOV  06, 1989  19h 08m 13.88± 1.11s
     6.569 S ±14.4km  129.989 E ±20.7km
   DEPTH = 177.5 ± 22.3 km
   4.5mb (  1 obs.)
 BANDA SEA                        (280)

AAI      3.38 328 e(P)  09 07.50  -0.1
MTN      6.34 170 iPd   09 47.00   0.9
                eS     10 55.00
KNA      9.20 187 eP    10 23.50  -0.5
                eS     12 01.00
WB5     13.90 163 eP    11 23.40  -1.2
                e      11 26.80
                eS     13 50.50
OIS     16.74 147 eP    12 00.00   0.3
                eS     14 57.00
ASPA    17.41 168 eP    12 07.90   0.3
        0.5s    10.00nm          4.5mb
                eS     15 16.00
MBL     17.52 213 iPd   12 09.10   0.3
                eS     15 24.00
```

```
     S.D. = 0.9  on   7 of   7 obs.
-------------------------------------
   NOV  06, 1989  20h 00m 26.62± 0.52s
   48.286 N ± 4.7km     7.259 E ± 5.9km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 2.4 (LDG). MD 1.8 (STR).

ECH      0.10 224 Pg     00 29.95   0.6
                  Sg     00 31.96
CDF      0.13   5 Pg     00 30.24   0.4
                  Sg     00 32.47
WLS      0.14  26 Pg     00 30.55   0.5
                  Sg     00 33.05
MOF      0.44 191 Pg     00 35.85   0.2
                  Sg     00 42.01
BSF      0.55 215 Pg     00 37.55  -0.4
                  Sg     00 45.05
FEL      0.65 129 Pg     00 39.39  -0.3
                  Sg     00 48.73
HAU      0.67 246 Pg     00 39.80  -0.2
                  Sg     00 47.60
GWF      0.73  19 Pg     00 40.24  -0.8
                  Sg     00 50.61
VITF     0.86 266 Pg     00 42.87  -0.2
LBF      2.57 241 Pg     01 15.20   6.1X
                  Sg     01 47.60
SMF      2.84 236 Pg     01 20.00   7.1X
BGF      3.46 242 Pg     01 31.20   9.6X
     S.D. = 0.5  on   9 of  12 obs.
-------------------------------------
   NOV  06, 1989  20h 52m 21.20± 1.09s
   11.315 S ± 4.4km  162.435 E ± 3.8km
   DEPTH =  39.2 ±  9.6 km
   5.5mb ( 20 obs.)  6.0Msz ( 23 obs.)
 SOLOMON ISLANDS                   (193)
      Ms 6.0 (BRK), 6.0 (PAS). Felt at
      Houroha and Mwoniwowo, San
      Cristobal.
      CENTROID, MOMENT TENSOR    (HRV)
      Data Used: GDSN
      L.P.B.: 16S, 42C
      Centroid Location:
      Origin Time        20:52:26.1 0.2
      Lat 11.36S 0.03 Lon 161.93E 0.03
      Dep  15.0 FIX Half-duration  4.3
      Moment Tensor;   Scale 10**18 Nm
        Mrr= 0.35 0.03  Mtt=-0.75 0.04
        Mff= 0.40 0.04  Mrt=-0.04 0.10
        Mrf=-1.11 0.11  Mtf= 1.29 0.03
       Principal Axes:
        T  Val=  1.88  Plg=33  Azm=117
        N       -0.11      51      332
        P       -1.77      17      219
      Best Double Couple:Mo=1.8*10**18
       NP1:Strike=262 Dip=53 Slip=  13
       NP2:        165     80      142

HNR      3.08 307 iP-    53 07.00  -1.6
                  iS     53 43.00
PVC      8.55 139 iP     54 23.50  -2.0
DZM     11.36 161 iPd    55 04.00  -0.2
                  iS     57 06.10
RAB     12.39 304 eP     55 20.00   2.1
                  iS     58 10.00
PMG     15.15 276 eP     55 55.50   1.3
LAT     15.93 286 eP     56 07.00   2.7
SVA     16.90 115 eP     56 20.10   3.5X
CTA     17.84 239 iPd-   56 27.20  -1.1
      1.2s   543.75nm          5.6mb
                  i      56 51.80
                  i      57 10.80
                  iS     59 48.00
BRS     18.39 208 iPc    56 35.80   0.8
                  e      56 40.00
                  i      56 56.00
                  i      57 02.00
RMO     19.85 219 iPd    56 52.90   1.0
                  e      57 06.00
COO     21.52 205 ePc    57 09.80   0.7
                  e      57 13.00
QLP     22.91 226 eP     57 23.00   0.2
QIS     23.77 244 eP     57 31.00  -0.2
RIV     24.67 203 eP     57 40.00   0.2
                  eS     02 16.00
CMS     25.27 215 eP     57 45.00  -0.5
      1.0s   151.00nm          5.5mb
AFI     25.29  99 eP     57 47.00   1.0
                  e(S)   02 00.00
                  e      07 00.00
BWA     26.32 207 eP     57 55.10  -0.2
CAN     26.83 205 eP     58 06.20   6.2X
STK     28.08 220 eP     58 11.80   0.5
WB5     28.31 249 eP     58 12.60  -0.9
                  eS     02 10.00
                  ePcP   02 24.00
                  eScS   20 10.80
WRA     28.35 249 P      58 14.00   0.1
ASPA    29.79 242 eP     58 24.70  -2.1
      1.2s    56.00nm          5.2mb
        Z  22s    46.06um          6.1Msz
                  LR     08 47.40
GUA     30.20 324 eP     58 31.50   1.1
        Z  22s    44.15um          6.1Msz
TOO     30.25 207 eP     58 32.00   1.3
GUMO    30.26 324 eP     58 32.00   1.0
MTN     30.64 264 eP     58 33.00  -1.3
SNZO    31.77 162 eP     59 00.00  16.1X
                  S      03 56.00
KNA     33.01 259 eP     58 53.50  -1.5
      1.0s   119.00nm          5.7mb
AAI     34.75 280 eP     59 12.00   1.8
WARB    36.83 241 eP     59 27.00  -0.7
FORR    37.25 233 eP     59 30.30  -0.8
MNI     39.46 286 ePc    59 49.80  -0.1
DAV     40.98 295 eP     00 00.00  -2.3
MBL     41.94 251 eP     00 09.30  -0.8
COOL    42.85 237 eP     00 16.00  -1.5
MKS     42.91 275 iPc    00 20.00   1.8
PCI     43.53 281 ePd    00 24.40   1.2
KLB     45.83 237 eP     00 41.50   0.1
NANU    46.07 250 eP     00 43.00  -0.4
BAL     46.44 238 eP     00 46.00  -0.3
AFR     46.60 103 eP     00 48.00   0.4
      1.4s   120.00nm          5.7mb
NWAO    46.63 235 eP     00 47.00  -0.7
                  eS     07 44.00
TSM     46.76 287 eP     00 54.50   5.6X
TVO     47.10 104 eP     00 51.00  -0.7
      1.4s   185.00nm          5.9mb
MUN     47.20 237 eP     00 52.00  -0.3
QCP     48.42 301 eP     00 52.00  -9.9X
PMO     48.43 100 iP     01 03.00   1.0
      1.5s   185.00nm          5.9mb
VAH     48.68 100 iP     01 04.70   0.8
      1.5s   155.00nm          5.8mb
TPT     48.69 100 iP     01 04.50   0.5
      1.5s   175.00nm          5.9mb
RUV     48.92 100 iP     01 06.50   0.8
      1.5s   155.00nm          5.8mb
KKM     49.12 288 ePc    01 06.50  -1.0
TRT     49.20 270 ePc    01 08.00   0.0
BAG     49.73 303 eP     01 08.00  -4.2X
                  eS     08 15.00
HON     50.61  50 P      01 30.00  11.4X
        Z  20s    15.43um          6.0Msz
KAKJ    51.72 337 eP     01 29.30   2.5
IIDJ    52.00 335 P      01 30.30   1.3
CHJJ    52.04 336 eP     01 30.90   1.6
MAT     52.79 335 eP     01 34.00  -0.9
      0.8s    9.70nm          4.8mb
        Z  20s    9.93um          5.9Msz
                  iS     09 02.00
TSRJ    52.89 333 eP     01 39.50   3.9X
MTMJ    52.99 335 P      01 35.60  -0.9
NIIJ    53.08 337 eP     01 37.10   0.1
ANP     53.91 313 eP     01 46.00   2.6
TPI     54.95 275 ePc    01 51.00  -0.1
                  e      04 15.00
QZH     55.91 311 Pc     01 58.00   0.1
        Z  22s    6.90um          5.7Msz
        N  15s    4.60um
                  PcP    02 58.00
                  S      09 36.00
                  ScS    11 36.00
KLI     57.29 271 eP     02 05.80  -2.1
SSE     57.83 318 eP     02 10.50  -0.8
        Z  20s    9.50um          5.9Msz
        N  14s    6.10um
        E  14s    1.80um
                  pP     02 44.00 142kmX
                  sP     03 04.00
                  S      10 04.00
                  sS     10 54.00
                  SS     14 00.00
HKC     57.92 305 eP     02 12.00  -0.1
GZH     58.97 306 P      02 21.00   1.5
        Z  25s    17.70um          6.1MszX
        N  17s    3.40um
        E  17s    5.30um
QIZ     59.97 300 eP     02 26.60   0.2
        N  22s    6.90um
                  eS     10 34.00
NJ2     59.97 317 Pc     02 26.00  -0.2
        Z  22s    6.90um          5.7Msz
        N  14s    4.50um
        E  14s    3.90um
KGM     60.24 279 eP     02 29.20   0.8
RKT     60.54 110 iP     02 31.20   0.9
      1.4s   145.00nm          5.9mb
YSS     60.69 345 eP     02 34.00   3.2X
                  iS     10 48.00
WHN     62.18 313 P      02 41.00  -0.2
        Z  24s    8.10um          5.8MszX
        N  16s    5.40um
        E  20s    7.70um
MDJ     63.12 334 eP     02 45.00  -2.2
        Z  25s   11.40um          5.9MszX
                  S      11 15.00
TIA     63.69 320 eP     02 48.30  -2.8
        Z  22s    6.90um          5.8Msz
        N  20s    9.00um
        E  16s    2.40um
                  eS     11 17.80
SNY     63.81 328 Pc     02 51.00  -0.8
        Z  25s   14.50um          6.1MszX
        N  17s    5.10um
        E  16s    5.40um
                  S      11 22.00
                  sS     11 44.00
PET     64.15 357 eP     02 53.00  -0.8
                  eS     11 34.00
SNG     64.19 284 eP     02 54.90   0.2
                  eS     11 28.00
CN2     64.35 331 Pd     02 52.00  -3.3X
      1.5s    0.10nm          2.7mb X
        Z  18s    8.10um          6.0Msz
        N  13s    3.90um
        E  13s    3.20um
                  S      11 30.00
                  SS     15 44.00
PSI     64.67 278 ePc    03 06.00   8.1X
                  e      06 40.00
TSI     65.21 279 e(P)   03 05.00   3.6X
ADK     65.48  14 P      03 00.50  -1.9
      1.0s    60.00nm          5.6mb
GYA     65.91 306 P      03 09.00   3.2X
        Z  22s    3.10um          5.5Msz
        N  18s    7.50um
        E  18s    2.30um
                  S      11 50.00
LOE     66.41 295 eP     03 08.00  -1.0
SBA     66.57 179 P-     03 13.60   4.6X
NNT     66.61 289 eP     03 11.00   0.7
BJI     66.69 323 eP     03 09.00  -1.4
        Z  24s    8.60um          5.9MszX
        N  19s    8.47um
                  eS     11 40.00
NST     67.24 292 eP     03 16.00   1.7
TIY     67.59 319 eP     03 16.20   0.0
        N  16s    7.30um
                  S      12 03.00
XAN     67.93 314 Pc     03 18.00  -0.4
        N  17s    6.80um
        E  17s    4.60um
                  S      12 15.00
KMI     68.51 303 Pc     03 22.50   0.1
KMI     68.51 303 P+     03 24.00   1.6
        Z  25s   14.90um          6.1MszX
        E  18s    4.60um
                  sP     03 49.00
                  S      12 18.00
                  S      12 22.00
                  sS     12 50.00
                  SS     16 44.00
CHG     69.38 295 ePc    03 27.20  -0.4
      1.0s   11.25nm          4.8mb
CHTO    69.38 295 eP     03 25.00  -2.6
      1.1s   10.90nm          4.8mb
HHC     69.97 321 P      03 30.40  -0.5
        Z  24s   11.60um          6.0MszX
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06d 21h

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      N  16s      5.50um                  |
      E  19s      6.30um                  |
                   sP     03 54.50        |
                   S      12 40.00        |
CD2     70.21 309 eP      03 30.40  -2.1  |
      Z  27s      8.00um          5.8MszX |
      N  14s      6.10um                  |
                   S      12 42.00        |
BTO     70.78 320 P       03 35.00  -0.9  |
      N  15s      5.00um                  |
      E  15s      3.60um                  |
                   SS     17 19.00        |
LZH     72.56 314 eP      03 47.50   0.8  |
       4.0s     403.00nm         5.7mb X |
      Z  16s     10.20um          6.2MszX |
      N  15s      2.60um                  |
      E  15s      2.60um                  |
                   pP     04 05.00  64kmX |
                   eS     13 07.00        |
                   SS     17 40.00        |
GTA     76.93 315 eP      04 11.20  -0.4  |
      Z  16s      4.80um          5.9MszX |
      E  16s      6.20um                  |
                   S      13 58.00        |
SPA     78.76 180 ePc     04 23.30   2.0  |
       0.9s      8.64nm          4.7mb   |
      Z  20s      4.28um          5.8Msz  |
SVW     79.40  19 ePd     04 25.00   0.3  |
LSA     79.76 303 P       04 30.00   2.2  |
      N  15s      1.10um                  |
                   sP     04 48.50        |
TTA     80.65  18 ePd     04 31.60   0.3  |
PMR     81.95  21 eP      04 39.20   1.2  |
       1.1s     18.80nm          5.0mb   |
      Z  21s      9.10um          6.1Msz  |
MAW     83.25 202 eP      04 46.00   1.3  |
TOA     83.35  22 eP      04 45.60   0.3  |
IMA     83.66  17 eP      04 46.70  -0.2  |
       1.6s     40.30nm          5.3mb   |
FBA     84.61  19 ePc     04 50.40  -1.2  |
FHC     85.21  47 eP      04 53.90  -1.2  |
MHC     85.85  51 ePc     04 57.80  -0.7  |
LLA     86.17  52 eP      05 01.20   1.3  |
WDC     86.17  48 ePc     04 59.80   0.0  |
PRI     86.25  52 ePc     04 58.80  -1.6  |
SYP     86.33  54 eP      05 12.00  11.1X |
ORV     86.62  49 eP      05 01.90  -0.1  |
WMO     87.00 316 eP      05 04.00   0.1  |
      Z  22s      9.40um          6.2Msz  |
CMB     87.01  50 ePc     05 04.90   0.9  |
FRI     87.23  52 eP      05 04.60  -0.4  |
HYB     87.60 288 eP      05 08.00   0.8  |
PAS     87.66  55 eP      05 07.00  -0.2  |
                  ePP     08 25.00        |
                  ePPP    10 36.00        |
                  eSKS    15 44.00        |
                  eS      15 51.00        |
                  e       16 56.00        |
                  eSS     21 42.00        |
                  eSSS    26 40.00        |
                  eLg     28 20.00        |
                  eLR     31 40.00        |
MWC     87.77  55 eP      05 08.00   0.0  |
GBA     87.85 284 P       05 13.00   4.7X |
SBB     88.08  54 eP      05 09.00  -0.3  |
RVR     88.26  55 eP      05 08.00  -2.1  |
BAR     88.50  56 eP      05 12.00   0.7  |
PLM     88.51  56 eP      05 10.00  -1.5  |
CLC     88.55  53 eP      05 12.00   0.5  |
KVN     89.01  50 P       05 13.70  -0.1  |
TPC     89.35  55 eP      05 15.00  -0.4  |
TNP     89.42  51 P       05 16.20   0.4  |
       1.8s     39.47nm          5.4mb   |
GLA     90.10  56 eP      05 19.00   0.2  |
PNT     90.77  40 eP      05 21.00  -0.5  |
       0.5s      5.00nm          5.1mb   |
NDI     91.22 299 ePKP    05 30.00   6.0X |
                  ePP     08 36.00        |
                  ePS     18 18.00        |
INK     91.22  20 eP      05 22.00  -1.2  |
MSU     93.39  52 P       05 36.00   1.9  |
KSH     94.38 309 eP      05 34.00  -4.5X |
      Z  22s      6.50um          6.0Msz  |
      E  18s      6.80um                  |
                  eSKS    16 05.00        |
EDM     95.53  37 eP      05 43.50   0.2  |
SES     96.41  40 eP      05 47.00  -0.5  |
ALO     97.28  56 P       06 02.80  10.9X |
      Z  20s      5.21um          6.0Msz  |
GOL     98.80  51 P       06 10.00  11.3X |
      Z  20s     14.00um          6.5Msz  |
GLD     98.92  51 P       06 10.00  10.8X |
      Z  19s     15.92um          6.5Msz  |
QUE    100.29 299 ePdiff06 05.50  -0.2    |
OXX    103.49  75 (Pdiff06 20.00  -0.2    |
TUL    106.04  56 Pdiff 06 42.00  11.1X   |
      Z  20s     10.80um          6.4Msz  |
                   LR     41 37.00        |
RSON   107.44  40 Pdiff 06 50.00  13.2X   |
      Z  21s      5.43um          6.1Msz  |
RSCP   114.34  56 PKP    11 10.00  11.0X  |
      Z  22s      4.23um          6.0Msz  |
KEV    115.21 344 ePKP   10 57.00  -2.5X  |
      Z  22s      5.20um          6.1Msz  |
                   e      21 44.00        |
                   e      28 06.00        |
                   LR     00 20.00        |
SOD    116.86 342 ePKP   10 59.00  -3.7X  |
TAB    117.41 307 ePKP   11 05.00   0.1   |
                   e      12 16.00        |
OBN    119.31 328 ePKP   11 13.00   5.3X  |
                   eSKS   18 10.00        |
SUF    119.98 338 ePKP   11 08.70  -0.1   |
       0.6s      1.90nm                  |
NUR    121.93 337 ePKP   11 12.00  -0.5   |
      Z  20s      8.60um          6.4Msz  |
                   e      28 44.00        |
                   LR     06 24.00        |
SLR    122.14 230 ePKP   11 18.50   4.2X  |
      Z  21s     25.09um          6.8Msz  |
PTZ    125.27 244 ePKP   11 13.00  -7.5X  |
NB2    126.06 343 PKP    11 19.00  -1.7   |
       0.9s      3.30nm                  |
BHL    126.63 304 PKP    11 25.00   2.3X  |
HRI    126.69 303 ePKP   11 24.00   1.2   |
BBTK   127.34 312 ePKP   11 23.00  -0.9   |
LSZ    127.55 241 ePKP   11 26.00   1.1   |
MBH    128.03 299 e(PKP)11 25.00  -0.3   |
MZZ    128.75 246 ePKP   11 28.00   0.7   |
KRA    130.58 329 ePKP   11 25.40  -4.1X  |
CLL    132.99 334 e(PKP)11 40.00   6.0X  |
PPD    133.16 135 ePKP   11 35.10  -0.2   |
ZST    133.21 329 e(PKP)11 52.50  17.9X  |
                   e      12 03.30        |
                   e      15 10.70        |
PRU    133.25 332 ePKP   11 36.50   1.9   |
      Z  25s      6.30um          6.2MszX |
      N  25s      3.90um                  |
      E  20s      2.30um                  |
                   e      11 45.50        |
KHC    134.30 332 PKP    11 37.30   0.6   |
      Z  25s      5.50um          6.2MszX |
      N  24s      3.80um                  |
                   e      14 12.00        |
KMR    134.78 330 ePKP   11 32.00  -5.6X  |
DOU    137.24 339 PKP    11 52.60  10.4X  |
                   e      13 33.10        |
LOR    139.87 337 ePKP   11 49.70   2.6X  |
       0.8s      2.60nm                  |
SSF    140.17 337 ePKP   11 51.50   3.9X  |
       0.9s      3.20nm                  |
BGF    140.84 338 ePKP   11 53.20   4.3X  |
       1.0s     10.00nm                  |
MFF    141.86 340 ePKP   11 56.10   5.4X  |
       1.0s     16.00nm                  |
BCAO   143.62 262 iPKPc 11 52.10  -2.6X  |
       1.2s    118.00nm                  |
                   ic     12 09.00        |
                   id     15 41.40        |
EPF    144.78 337 ePKP   11 57.70   1.8   |
       1.1s     14.60nm                  |
EBR    146.58 335 ePKP   12 11.50  12.7X  |
PDCR   148.07 137 ePKP   12 02.60   0.6   |
TOL    149.13 339 ePKP   12 09.00   6.0X  |
                   iPKKP  12 43.50        |
                   ePP    16 13.00        |
                   eSS    35 05.00        |
ASMO   151.25 337 ePKP   12 12.00   5.6X  |
AAPN   151.44 337 ePKP   12 12.70   6.1X  |
ACHM   151.50 337 ePKP   12 12.50   5.8X  |
APHE   151.58 336 ePKP   12 14.00   7.1X  |
ATEJ   151.74 337 ePKP   12 12.00   4.8X  |
KIC    166.41 250 PKP    12 25.40   1.2   |
       1.1s     32.50nm                  |
LIC    166.62 249 PKP    12 23.60  -0.8   |
TIC    166.77 251 PKP    12 23.78  -0.7   |
      S.D. = 1.2  on 140 of 187 obs.      |
-----------------------------------------
    NOV  06, 1989  21h 00m 38.18± 0.32s
     3.191 S ± 4.9km   80.584 W ± 5.4km
    DEPTH =  33.0km  ( 18 depth phases)
    5.2mb ( 21 obs.)  5.3Msz (  2 obs.)
  PERU-ECUADOR BORDER REGION        (110)
                                        |
GGP      3.59  34 ePn     01 35.20   1.7  |
                  eS      02 24.50        |
OUR      3.63  34 ePn     01 36.50   2.6  |
CAYA     4.16  39 iPd     01 43.40   1.9  |
COTA     4.16  33 P       01 32.70  -8.8X |
                  eS      01 53.50        |
PSO      5.44  37 eP      02 01.50   2.1  |
NNA      9.49 157 iP      02 56.90   1.1  |
       0.6s      9.33nm          5.2mb   |
      Z  20s      1.24um          3.9Msz  |
                  eS      04 44.50        |
PT10     9.53 158 e(P)    03 02.00   5.8X |
                  e(S)    05 05.00        |
PT08     9.59 156 eP      02 57.30  -0.1  |
                  eS      04 55.90        |
BOG     10.13  40 e(P)    03 24.00  19.1X |
                  e(S)    05 49.00        |
PT03    11.73 157 e(P)    03 33.10   6.8X |
UPA     12.14   5 ePd+    03 33.20   1.4  |
       1.0s     26.00nm          5.3mb   |
      Z  22s      3.93um          4.5Msz  |
BMG     12.65  36 eP      03 57.00  18.2X |
SDV     15.57  40 eP      04 21.00   3.8X |
ARE     15.93 146 eP      04 26.00   4.0X |
TOV     16.79  40 eP      04 32.50  -0.1  |
ZOBO    17.86 138 PKP     04 45.00  -1.5  |
       1.0s     30.50nm          4.4mb   |
      Z  20s      2.86um          5.0MszX |
                  SKS     08 46.00        |
                  LR      51 00.00        |
LPB     18.07 138 PKP     04 49.80   0.9  |
      Z  22s      3.70um                  |
                  SKS     10 20.00        |
                  LR      50 08.00        |
FISA    18.21  38 eP      04 49.50  -0.8  |
CNCB    18.34 138 PKP     04 52.30  -0.2  |
MORO    18.55  41 iPd     04 52.50  -2.1  |
OLLA    18.99  46 iPd     04 57.50  -2.4  |
CAR     19.24  45 eP      05 00.00  -2.8  |
LLAV    19.30  45 eP      04 59.00  -4.5X |
CCH     19.99 136 P       05 12.50   1.2  |
CUM     21.24  50 iP      05 20.20  -3.6X |
TRN     23.53  54 eP      05 46.46   0.0  |
PORP    25.19  33 P       06 03.00   0.5  |
LRS     25.28  32 P       06 03.50   0.2  |
SJG     25.50  33 eP      06 05.00  -0.4  |
CPD     25.57  34 P       06 06.00  -0.1  |
PPM     28.36 322 (P)     06 44.50  12.4X |
PRM     37.11 358 P       07 46.50  -1.0  |
RSCP    38.87 353 P       08 01.80  -0.5  |
UYO     39.39 342 iPd     08 07.00   0.4  |
OLY     39.82 346 P       08 09.60  -0.5  |
POW     40.37 347 P       08 14.20  -0.5  |
ELC     41.06 349 P       08 19.00  -1.3  |
                  pP      08 29.60  37km  |
MEO     41.39 337 e(P)    08 23.50   0.4  |
LNO     41.42 341 e(P)    08 23.40   0.3  |
TUL     41.42 341 iP      08 23.70   0.4  |
       1.2s     77.30nm          5.3mb   |
      Z  21s      0.99um          4.7Msz  |
                  i       08 34.50        |
                  LR      20 00.00        |
SIO     41.44 341 e(P)    08 23.30  -0.1  |
FVM     41.97 348 P       08 27.00  -0.8  |
                  pP      08 37.40  36km  |
ALO     45.05 330 ePc     08 53.80   0.8  |
       1.0s     62.00nm          5.5mb   |
                  epP     09 04.10  35km  |
GLD     48.36 335 P       09 20.90   1.9  |
GLA     48.46 321 eP      09 24.00   4.3X |
BAR     49.40 319 eP      09 37.00  10.0X |
TPC     49.92 321 eP      09 41.00  10.1X |
PLM     49.95 320 P       09 33.80   2.4  |
RVR     50.69 320 eP      09 47.00  10.3X |
MSU     50.73 328 P       09 38.00   0.7  |
                  pP      09 48.70  37km  |
GSC     51.17 322 eP      09 52.00  11.5X |
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MWC     51.27 320 eP     09 52.00   10.6X
SBB     51.41 320 eP     09 52.00    9.6X
DAU     51.68 330 P      09 45.40    0.8
                pP       09 54.80   31km
CLC     51.99 322 eP     09 56.00    9.3X
BW06    52.72 333 P      09 51.70   -0.6
        1.1s     16.67nm          4.9mb
                pP       10 01.90   34km
TNP     53.25 324 P      09 57.10    0.9
        1.1s     35.71nm          5.3mb
                pP       10 06.80   32km
PRI     54.13 320 e(P)   10 03.80    1.2
                epP      10 12.60   29km
KVN     54.41 324 P      10 04.80    0.1
                pP       10 15.00   34km
LLA     54.60 320 e(P)   10 05.60   -0.3
                epP      10 15.30   32km
PRS     54.70 320 eP     10 06.80    0.1
                epP      10 16.70   32km
RSON    55.00 350 P      10 06.50   -2.1
CMB     55.12 322 P      10 10.00    0.2
MHC     55.48 321 eP     10 12.90    0.4
                epP      10 23.00   33km
LRM     56.39 334 ePc    10 18.70   -0.4
                e        10 29.10
ORV     56.75 323 eP     10 21.70    0.3
                epP      10 32.00   34km
WDC     58.01 323 eP     10 28.10   -2.1
                epP      10 38.20   33km
LBFM    58.11 324 P      10 31.20    0.0
SCH     58.93   9 eP     10 34.20   -2.2
FHC     59.02 323 e(P)   10 38.40    1.1
                epP      10 47.60   30km
SES     59.44 338 eP     10 40.00   -0.1
                pP       10 49.00   29km
FFC     60.38 346 eP     10 45.00   -1.4
        0.7s     10.00nm          5.1mb
LON     61.56 329 P      10 54.20   -0.4
BMW     62.12 328 P      10 58.60    0.2
                pP       11 09.20   35km
PNT     62.24 332 eP     10 59.00   -0.1
        0.9s     31.00nm          5.4mb
EDM     62.57 338 iPd    11 00.00   -1.2
        0.8s     30.00nm          5.5mb
INK     80.07 342 eP     12 46.00    0.2
        1.1s     42.00nm          5.3mb
                pP       12 56.00   32km
PMR     82.76 333 P      12 59.50   -0.4
        1.1s     18.75nm          5.1mb
FBA     83.40 337 P      13 02.20   -1.0
        0.9s     10.83nm          5.0mb
LPF     85.37  41 eP     13 13.40   -0 1
        1.2s     26.10nm          5.3mb
EKA     85.48  34 P      13 16.00    2.2
        1.6s     47.40nm          5.5mb
GRR     85.55  41 eP     13 14.20   -0.2
        1.0s     28.00nm          5.4mb
MFF     85.74  43 eP     13 15.30    0.0
        1.2s     23.80nm          5.3mb
FLN     85.86  41 eP     13 16.00    0.1
        1.0s     12.00nm          5.1mb
LDF     86.07  41 eP     13 16.80   -0.1
        0.8s      8.00nm          5.0mb
IMA     86.10 337 P      13 16.00   -1.0
        1.0s      7.50nm          4.9mb
SPA     86.83 180 ePc    13 30.20    9.6X
        1.1s     20.24nm          5.3mb
CLL     94.72  39 ePKP   13 58.00    0.6
      Z  19s      4.50um          6.0Msz
GTA    143.95 359 ePKP   20 09.20   -3.3X
SSE    145.47 326 e(PKP)20 14.00   -1.1
NDI    147.00  38 ePKP   20 19.00    1.3
LZH    147.01 353 ePKP   20 18.00    0.2
        1.5s     38.00nm
XAN    148.05 345 PKPd   20 22.50    3.2X
CD2    152.13 352 ePKP   20 30.60    5.0X
HYB    155.12  54 ePKP   20 29.00   -1.0
      S.D. = 1.2  on  73 of  95 obs.
-----------------------------------
*  NOV  06, 1989  22h 04m 59.57± 0.77s
   40.181 N ±11.3km  143.024 E ±11.7km
   DEPTH =  33.0km  (normal)
   4.7mb (  9 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

MAT      5.25 228 iPc    06 19.60    1.8
        1.0s     84.00nm          5.2mb
                (S)      07 34.00
MDJ     10.87 298 eP     07 36.00    0.0
CN2     13.56 291 eP     08 16.60    4.7X
SSE     19.89 250 e(P)   09 31.40    0.5
BJI     20.51 278 eP     09 35.00   -2.4
TIA     20.71 267 eP     09 36.60   -2.9X
NJ2     21.10 255 Pc     09 42.00   -1.5
HHC     23.87 282 eP     10 09.20   -1.7
WHN     25.19 257 eP     10 23.70    0.2
XAN     27.76 268 P      10 47.00   -0.3
GTA     32.97 283 P      11 34.00    0.6
GYA     33.08 257 iPc    11 35.00    0.5
WMQ     40.63 294 P      12 38.40    0.4
CHG     43.34 254 eP     13 01.00    0.7
CHTO    43.34 254 eP     13 00.90    0.6
        0.7s      2.06nm          4.0mb
INK     51.02  28 eP     13 59.00   -0.9
WB5     60.29 189 eP     15 05.00   -2.2
GBA     62.74 265 P      15 24.00    0.1
NB2     71.77 338 P      16 19.30   -0.9
        0.9s      7.00nm          4.7mb
KHC     80.51 329 Pd     17 11.00    1.4
LOR     85.65 333 eP     17 36.20    0.2
        0.8s      4.00nm          4.7mb
LBF     85.86 333 eP     17 37.10    0.1
        0.8s      3.20nm          4.6mb
SSF     85.95 334 eP     17 37.70    0.3
        1.0s      4.00nm          4.6mb
SMF     86.20 333 eP     17 39.90    1.2
        1.0s      6.00nm          4.8mb
AVF     86.24 334 eP     17 39.10    0.2
        0.8s      9.40nm          5.1mb
LSF     87.32 334 eP     17 44.80    0.6
MFF     87.56 336 eP     17 45.80    0.5
        0.8s      5.30nm          4.9mb
      S.D. = 1.1  on  25 of  27 obs.
-----------------------------------
?  NOV  06, 1989  22h 40m 11.74± 1.02s
   42.708 N ± 8.1km   13.144 E ± 7.6km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                    (381)
      MD 2.0 (SSO).

ALP      0.33  77 iPg     40 18.36   -0.2
                iSg      40 22.15
MNS      0.47 227 Pc      40 21.50    0.2
                eSg      40 27.50
CIO      0.49 360 ePg     40 22.13    0.5
                iSg      40 29.84
ASS      0.51 316 Pd      40 21.60   -0.4
                eSg      40 28.00
      S.D. = 0.7  on   4 of   4 obs.
-----------------------------------
   NOV  06, 1989  23h 12m 33.86± 0.71s
   43.760 N ± 4.9km    7.669 E ± 4.3km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE       (379)
      ML 2.5 (LDG), 2.3 (GEN).

SBF      0.20 301 Pg      12 38.60    0.3
                Sg       12 41.60
IMI      0.22  47 P       12 38.78    0.2
                S        12 41.97
SAOF     0.24 340 Pg      12 38.98    0.0
                Sg       12 41.86
AURF     0.28 297 Pg      12 40.12    0.4
AUTN     0.29 323 Pg      12 40.12    0.0
TOUF     0.40 310 Pg      12 42.10    0.1
ENR      0.50 339 P       12 43.66   -0.4
                S        12 50.07
STV      0.54 333 P       12 44.40   -0.5
                S        12 51.71
ROB      0.55  15 P       12 44.91   -0.2
                S        12 52.45
CALN     0.57 269 Pg      12 46.33    0.9
FIN      0.59  41 P       12 46.30    0.4
                S        12 54.55
FRF      0.77 255 Pg      12 49.00    0.1
                Sg       13 00.00
PZZ      0.85 331 P       12 50.05   -0.3
                S        13 00.54
LMR      0.95 244 Pg      12 50.80   -1.1
                Sg       13 05.00
LRG      1.00 253 Pg      12 52.70   -0.1
                Sg       13 07.20
      S.D. = 0.5  on  15 of  15 obs.
-----------------------------------
%  NOV  06, 1989  23h 20m 29.00± 0.90s
   39.156 N ± 7.2km   27.917 E ±10.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

DST      0.71  51 iPg     20 41.70   -1.4
                eSg      20 50.70
IZM      0.91 214 iPn     20 46.30   -0.2
                iSg      20 59.80
EDC      1.19 358 ePn     20 51.00   -0.2
BNT      1.20   0 iPn     20 51.40    0.1
KHL      1.51 123 ePn     20 56.40    0.3
YLV      1.80  38 iPn     21 01.80    1.4
      S.D. = 1.2  on   6 of   6 obs.
-----------------------------------
   NOV  06, 1989  23h 20m 31.03± 0.68s
   48.901 N ± 3.5km  128.102 W ± 6.6km
   DEPTH =  10.0km  (geophysicist)
   4.1mb (  2 obs.)
 VANCOUVER ISLAND REGION          ( 25)

ETB      1.13  65 Pn      20 53.44    1.2
EDB      1.17  33 Pn      20 53.11    0.3
GDR      1.60  56 Pn      21 00.00    0.6
OZB      1.72  87 Pn      21 00.87   -0.4
                S        21 25.16
BTB      1.79  70 Pn      21 02.79    0.5
                S        21 27.44
PHC      1.86  13 Pn      21 02.80   -0.3
MGB      2.25  86 Pn      21 08.16   -0.8
                S        21 37.66
BBB      3.29 360 Pn      21 22.30   -1.2
                S        22 02.40
MCW      3.49  92 eP      21 26.00   -0.5
CMW      3.99  95 eP      21 34.08    0.4
BMW      4.09 125 eP      21 33.50   -1.5
MBW      4.10  89 eP      21 35.15    0.0
JCW      4.16  97 eP      21 34.33   -1.6
RPW      4.39  93 eP      21 38.75   -0.5
LMW      4.51 118 eP      21 41.23    0.2
RVW      4.56 125 eP      21 41.72    0.2
RVC      4.56 113 eP      21 42.11    0.4
ERK      4.68 122 eP      21 43.72    0.2
FMW      4.75 112 eP      21 44.89    0.3
LON      4.75 115 eP      21 44.50    0.0
SHW      4.81 122 eP      21 44.50   -0.8
JLK      4.88 122 eP      21 46.45    0.2
MTMW     4.92 124 eP      21 46.92    0.1
WPW      4.94 114 eP      21 47.97    0.9
CDFW     4.96 122 eP      21 47.73    0.4
GLK      4.97 116 eP      21 48.00    0.5
ASR      5.20 120 eP      21 50.58   -0.2
TBM      5.32 106 eP      21 53.09    0.5
ETW      5.35 101 eP      21 52.94    0.0
EBG      5.44 109 eP      21 54.30    0.1
GT2      5.47 131 eP      21 54.15   -0.4
VLL      5.57 126 eP      21 56.42    0.4
WTV      5.57  99 eP      21 55.35   -0.6
WDC      9.21 153 ePc     22 46.50   -0.3
ORV     10.47 151 eP      23 03.50   -0.6
KVN     12.19 140 eP      23 27.50   -0.2
CLC     15.19 146 eP      24 08.00    0.9
FFC     17.11  60 eP      24 35.20    3.6X
        0.7s     16.00nm          4.3mb
TPC     17.29 144 eP      24 36.00    2.0
INK     19.65 354 eP      25 03.50    1.0
ALQ     21.21 123 eP      25 18.00   -1.2
        1.0s      5.25nm          3.9mb
      S.D. = 0.8  on  40 of  41 obs.
-----------------------------------
&  NOV  06, 1989  23h 37m 24.50s
   37.642 N          122.488 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.3 (BRK).
      Mo=7.7*10**13 Nm (BRK). Felt at
      Daly City, South San Francisco,
      San Bruno and Pacifica.

PCC      0.17 149 iPd     37 27.80   -0.4
                iS       37 30.10
BRK      0.29  38 iPc     37 30.30   -0.3
                i        37 33.60
                iS       37 34.60
BKS      0.31  40 iPc     37 30.80   -0.1
                iS       37 35.40
ZSP      0.35  31 iPd     37 31.80    0.1
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06d 23h

```
GCC      0.73 147 ePc   37 37.80  -1.1
                iS      37 47.50
MHC      0.74 114 iPc   37 38.60  -0.6
                eS      37 50.00
ARN      0.81 111 iPc   37 39.80  -0.6
SAO      1.21 136 eP    37 45.80  -1.3
PRS      1.58 145 ePc   37 53.50   0.7
LLA      1.60 129 ePc   37 53.40   0.3
CMB      1.71  76 ePc   37 53.50  -1.2
                eS      38 15.20
FRI      2.31 105 e(P)  38 03.00  -0.3
KVN      3.73  66 eP    38 29.00   5.4
       13 obs. associated
-----------------------------------------
   NOV  07, 1989  00h 30m 29.47± 0.77s
   39.787 N ± 7.5km  143.400 E ±11.3km
   DEPTH =  33.0km  (normal)
   4.8mb (  9 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.29 235 P     31 34.90   0.9
KAKJ     4.39 216 P     31 34.10  -1.4
CHJJ     5.10 224 P     31 45.10  -0.6
MAT      5.22 233 iPc   31 47.90   0.6
       1.1s   107.59nm          5.2mb
                (S)     32 55.00
MTMJ     5.44 236 P     31 51.60   1.1
IIDJ     6.12 227 P     32 00.40   0.4
TSRJ     7.25 237 P     32 17.00   1.2
MDJ     11.32 300 eP    33 12.00   0.1
CN2     13.98 292 eP    33 49.80   2.5
SSE     20.03 251 e(P)  35 01.50  -0.8
BJI     20.86 279 eP    35 07.00  -3.9X
      Z  14s     0.35um          3.9MszX
HHC     24.23 283 eP    35 42.40  -1.9
WHN     25.39 258 Pd    35 55.50   0.2
BTO     25.43 283 eP    35 54.00  -1.8
LZH     31.24 276 (P)   36 46.50  -1.8
GYA     33.28 258 P     37 06.60   0.5
CD2     33.30 267 eP    37 05.00  -1.2
GTA     33.34 284 Pd    37 06.20  -0.4
      Z  16s     0.60um          4.4MszX
WMQ     41.06 294 iPc   38 11.50   0.1
CHTO    43.51 255 eP    38 31.70   0.1
       0.9s     2.56nm          4.0mb
WB5     59.95 190 eP    40 34.90   0.1
KEV     61.43 339 eP    40 53.00   8.6X
GBA     62.99 265 P     40 55.00  -0.5
SOD     63.04 337 eP    40 54.00  -1.1
SUF     66.23 333 eP    41 14.90  -0.9
       0.5s     3.30nm          4.7mb
NUR     68.25 332 eP    41 28.00  -0.6
NB2     72.24 338 P     41 52.50  -0.4
       0.7s     3.80nm          4.5mb
PRU     79.93 329 eP    42 37.00   0.6
KHC     81.00 329 P     42 43.50   1.4
LOR     86.13 334 eP    43 08.20  -0.1
       0.8s     5.90nm          4.9mb
LBF     86.34 333 eP    43 09.90   0.6
       0.8s     6.70nm          4.9mb
SSF     86.43 334 eP    43 10.60   0.9
       0.8s     4.00nm          4.7mb
SMF     86.68 333 eP    43 12.00   1.1
       0.8s     4.00nm          4.7mb
AVF     86.72 334 eP    43 12.20   1.1
       0.7s     7.70nm          5.0mb
     S.D. = 1.1  on  32 of  34 obs.
-----------------------------------------
   NOV  07, 1989  00h 59m 58.33± 0.67s
   38.308 N ± 6.2km   23.605 E ±11.0km
   DEPTH =  10.0km  (geophysicist)
 GREECE                            (364)
     ML 2.5 (ATH).

ATH      0.35 165 ePb   00 05.60   0.1
NEO      1.04 343 ePn   00 18.60   0.6
AGG      1.23 306 eP    00 20.70  -0.5
VLI      1.67 199 ePn   00 28.00   0.2
APE      1.97 128 ePn   00 31.80  -0.3
PLG      2.07 357 ePn   00 33.30  -0.2
     S.D. = 0.5  on   6 of   6 obs.
-----------------------------------------
   NOV  07, 1989  03h 00m 59.41± 0.64s
   38.062 N ± 5.8km    2.101 W ± 5.9km
   DEPTH =   5.0km  (geophysicist)
 SPAIN                             (377)
     mbLg 3.5 (MDD).

EVIA     0.66 331 iPg   01 12.70   0.2
ENIJ     1.09 185 iPgc  01 19.80  -0.6
                eSg     01 34.20
EBAN     1.33 275 iPnd  01 24.60   0.1
                eSn     01 44.00
AFC      1.40 235 iPnc  01 27.00   1.2
                eSn     01 45.00
ACU      1.40  71 iPn   01 26.80   1.1
                eSn     01 46.00
ECHE     1.76  30 ePn   01 30.80   0.0
TOL      2.37 321 e(Pn) 01 41.00   1.4
                iPg     01 47.00
                iSn     02 16.00
                iSg     02 25.00
EHOR     2.50 265 ePn   01 40.60  -0.8
                eSn     02 12.00
ETOR     2.75   1 ePn   01 45.20   0.1
GUD      3.03 329 ePn   01 49.60   0.6
                eSn     02 25.50
EROQ     3.37  34 ePn   01 53.00  -0.8
EBR      3.41  35 eP    02 21.00  26.7X
EPLA     3.69 304 ePn   01 56.70  -1.6
EVAL     3.71 264 ePg   02 13.00  14.4X
                eSg     02 57.00
EPF      5.30  20 Pn    02 20.30  -0.9
     S.D. = 1.0  on  13 of  15 obs.
-----------------------------------------
   NOV  07, 1989  03h 24m 54.81± 0.28s
    7.068 N ± 5.2km   77.667 W ± 3.8km
   DEPTH =  10.0km  (geophysicist)
   4.9mb ( 35 obs.)  4.2Msz (  3 obs.)
 PANAMA-COLOMBIA BORDER REGION    ( 82)
     MD 5.1 (UPA).

UPA      2.65 316 iPd-  25 37.20  -1.2
                iS      26 15.50
FUQ      4.22 112 iP    26 02.00   1.1
BOG      4.33 124 iPd   26 05.00   2.5
                iS      27 59.00
BMG      4.56  90 iPd   26 24.00  18.5X
ACR      5.67 286 iPc   26 21.00  -0.3
PSO      5.85 177 eP    26 25.00   1.0
COTA     6.72 186 P     26 50.20  13.7X
LCR2     6.81 293 eP    26 35.50  -1.9
SJS      6.93 295 eP    26 37.00  -2.1
CAYA     6.95 183 eP    26 39.40  -0.3
SDV      7.20  75 iPnc  26 44.30   1.4
       0.4s    55.50nm          6.1mb X
                iSn     28 05.90
SRA      7.34 295 eP    26 43.00  -1.9
TOV      8.24  70 iPnc  26 57.70   0.3
                iSn     28 30.60
FISA     9.22  63 iPd   27 11.00   0.0
                iS      28 57.00
MORO     9.98  67 eP    27 20.00  -1.4
GUAC    10.74  72 eP    27 31.50  -0.4
                eS      29 31.00
OLLA    11.14  74 eP    27 35.00  -2.3
                eS      29 35.00
CAR     11.15  71 eP    27 36.00  -1.5
                eS      29 38.00
LLAV    11.25  72 iP    27 37.00  -1.9
                eS      29 40.00
CUM     13.76  75 eP    28 11.00  -1.4
PORP    15.32  44 P     28 32.20  -0.7
LRS     15.35  42 P     28 31.50  -1.8
SVB     17.29  68 eP    28 55.44  -2.6
SVV     17.33  68 eP    29 01.92   3.3X
SSV     17.36  68 eP    29 02.31   3.3X
SLB     17.67  66 eP    29 02.71  -0.1
SKI     17.79  54 eP    29 15.88  11.6X
BPA     18.35  56 eP    29 15.63   4.4X
NNA     18.95 178 eP    29 27.70   9.1X
       1.0s    15.00nm          4.2mb
PT10    19.03 178 e(P)  29 26.00   6.4X
OXX     21.10 300 (P)   29 44.50   2.2
PPM     23.61 302 (P)   30 12.00   4.5X
ARE     24.16 165 iPd   30 13.50   0.9
LPB     25.29 158 P     30 21.00  -2.6
      Z  18s     0.69um          4.2Msz
                eLR     38 20.00
CNCB    25.59 158 P     30 24.90  -1.6
RSCP    29.31 347 P     31 00.30   0.5
       1.0s    20.61nm          4.9mb
UYO     31.11 332 e(P)  31 24.30   8.6X
TUL     33.16 333 eP    31 35.70   2.1
       1.0s     2.00nm          4.0mb

      Z  21s     0.43um          4.1Msz
                LR      41 00.00
BAO     37.05 128 eP    32 06.50  -0.7
ALQ     38.35 320 P     32 19.80   1.8
       1.2s     8.68nm          4.4mb
PPD     38.78 139 eP    32 17.90  -3.6X
VAO     42.36 136 eP    32 47.90  -3.3X
                e       32 56.90
PDCR    42.97 117 eP    32 52.50  -3.7X
PLM     44.71 311 P     33 09.00  -1.3
TNP     47.24 317 P     33 30.70   0.4
       1.0s     6.25nm          4.7mb
KVN     48.32 317 P     33 39.70   0.9
SCH     48.41   8 eP    33 39.50   0.6
EDM     54.38 334 eP    34 22.50  -1.5
INK     71.30 341 eP    36 15.00  -1.2
TIC     72.05  85 Pc    36 20.60  -1.1
       0.6s     9.00nm          5.0mb
LIC     72.09  86 Pc    36 20.90  -1.0
       0.7s    22.00nm          5.3mb
      Z  22s     0.16um          4.3Msz
KIC     72.36  86 Pc    36 22.65  -0.9
       0.8s    21.50nm          5.3mb
ALOJ    72.66  53 eP    36 26.10   1.0
AAPN    72.67  53 eP    36 25.70   0.6
ATEJ    72.72  54 eP    36 26.50   1.0
MBC     72.78 350 eP    36 24.00  -0.9
       0.7s     4.00nm          4.6mb
TOL     72.93  51 iPd   36 27.30   0.8
ASMO    72.97  53 eP    36 27.50   0.6
APHE    72.99  54 iP    36 28.10   1.1
DMU     73.02  36 eP    36 26.80   0.2
DLE     73.11  36 eP    36 27.20   0.0
EKA     75.42  35 Pd    36 40.60   0.1
       0.9s     8.40nm          4.8mb
LPF     75.84  42 iPc   36 43.20   0.2
       1.0s    20.00nm          5.2mb
GRR     75.99  42 iPc   36 44.20   0.3
       0.6s    16.20nm          5.3mb
FLN     76.27  42 iPc   36 45.90   0.4
       0.6s    12.60nm          5.2mb
MFF     76.33  44 iPc   36 46.20   0.4
       0.6s    10.80nm          5.1mb
EPF     76.45  48 iPc   36 47.50   0.8
       0.8s    16.60nm          5.2mb
LDF     76.50  42 iPc   36 47.10   0.4
       0.6s     9.70nm          5.1mb
WEGH    76.80  86 eP    36 48.00  -1.1
KOGH    76.83  85 eP    36 49.00  -0.4
LFF     76.84  46 iPc   36 49.30   0.6
       0.6s     9.70nm          5.1mb
LEGH    76.94  86 eP    36 49.00  -0.9
LPO     77.14  46 iPc   36 50.80   0.4
       0.8s    24.10nm          5.3mb
RJF     77.41  45 iPc   36 52.30   0.4
       0.8s    13.40nm          5.1mb
LSF     77.46  44 eP    36 52.50   0.3
       0.8s     8.00nm          4.9mb
CAF     77.78  46 iPc   36 54.40   0.4
       0.8s     9.40nm          4.9mb
TCF     77.93  44 eP    36 55.20   0.4
       0.8s     5.90nm          4.7mb
MAF     78.18  44 eP    36 56.50   0.4
       0.8s     9.40nm          4.9mb
BGF     78.38  44 eP    36 57.60   0.4
       0.8s     9.90nm          4.9mb
AVF     78.74  44 iPc   36 59.30   0.1
       0.8s     4.00nm          4.5mb
SSF     78.85  44 iPc   36 59.80   0.0
       0.8s     6.70nm          4.7mb
SMF     79.07  44 iPc   37 01.10   0.1
       1.0s    12.00nm          4.9mb
LOR     79.10  43 iPc   37 01.20   0.0
       0.6s     4.50nm          4.7mb
LBF     79.17  44 eP    37 01.50  -0.1
       0.8s     4.00nm          4.5mb
DOU     79.65  40 Pc    37 04.20   0.1
       0.9s    25.00nm          5.2mb
ENN     80.52  40 ePc   37 09.00   0.4
       0.8s    12.00nm          4.9mb
MEM     80.57  40 P     37 09.30   0.4
WLF     80.66  41 P     37 09.00  -0.4
WTS     81.08  39 ePc   37 12.50   1.0
       0.7s    17.00nm          5.2mb
BSF     81.09  43 eP    37 12.00   0.1
       0.6s     6.10nm          4.8mb
CDF     81.41  42 eP    37 13.80   0.3
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NB2     83.33  29 P      37 24.00   0.9
        0.7s     5.60nm          4.9mb
CLL     84.96  39 eP     37 31.00  -0.5
KHC     85.53  41 Pc     37 37.20   2.7
PRU     86.06  40 eP     37 38.00   1.0
KEV     88.45  20 eP     37 50.00   1.8
SOD     88.98  22 iP     37 51.20   0.4
KRA     89.50  40 eP     37 55.30   1.7
                e        38 07.60
NUR     89.92  29 eP     37 55.50   0.2
SUF     90.04  27 eP     37 55.90   0.0
        0.7s     3.70nm          4.7mb
SUF     90.04  27 iP     38 13.20  17.3X
        0.6s     6.40nm
ASPA   145.50 238 iPKPd 44 33.60  -2.1
        0.8s     9.00nm
WB5    146.43 245 ePKP  44 36.10  -1.2
WRA    146.43 244 PKPc  44 36.30  -1.0
        0.7s     5.00nm
GBA    147.86  50 PKP   44 41.60   1.9
                e        47 49.70
KMI    148.00 359 ePKP  44 42.00   2.0
     S.D. = 1.2  on  92 of 106 obs.
-----------------------------------
*  NOV  07, 1989  03h 27m 23.17± 1.87s
   39.142 N ± 8.6km  143.509 E ±13.6km
   DEPTH =  32.5 ±  9.3 km
   4.8mb (  8 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ     1.43 268 iP+    27 47.30   0.2
                eS       28 08.60
AOMJ     2.80 301 P      28 08.00   1.4
YAMJ     2.89 252 P      28 08.30   0.4
                eS       28 45.70
KAKJ     3.95 223 eP     28 21.70  -1.3
                eS       29 10.70
NIIJ     4.03 243 P      28 25.50   1.4
                eS       29 14.40
CHJJ     4.73 231 eP     28 33.00  -1.1
                S        29 29.90
MAT      4.93 240 iPd    28 37.80   0.8
        0.8s   222.39nm
                (S)      29 54.00
MTMJ     5.18 242 P      28 40.60   0.0
IIDJ     5.77 232 P      28 49.70   0.9
TSRJ     6.99 241 eP     29 06.00   0.1
MDJ     11.72 302 eP     30 10.00  -1.1
     Z  21s      1.30um
                ePP      30 20.20
CN2     14.31 295 eP     30 43.40  -2.0
                pP       30 48.00
SNY     15.40 286 eP     30 57.80  -1.8
SSE     19.91 253 eP     31 56.20   1.3
     Z  16s      0.80um          5.1Msz
     N  14s      0.67um
                sP       32 04.50
BJI     21.06 281 Pd     32 04.50  -2.2
     Z  16s      0.35um          3.8MszX
TIA     21.06 270 eP     32 04.10  -2.7
TIY     24.33 277 eP     32 41.50   2.4
     N  12s      0.40um
HHC     24.47 284 eP     32 40.00  -0.4
WHN     25.34 259 Pd     32 50.20   1.6
        1.0s     0.07nm          2.2mb X
                sP       32 59.00
BTO     25.66 284 eP     32 52.00   0.3
     N  12s      0.30um
     E  15s      0.60um
XAN     28.13 270 Pd     33 12.00  -2.2
LZH     31.40 277 eP     33 44.00   0.5
     Z  12s      0.50um          4.4MszX
GYA     33.23 259 P      34 00.00   0.5
CD2     33.36 268 eP     34 00.80   0.3
GTA     33.58 285 P      34 03.00   0.6
     Z  16s      0.40um          4.2MszX
WMQ     41.41 295 iPc    35 09.00   1.0
CHTO    43.42 255 eP     35 26.70   2.1
NDI     54.91 281 eP     36 52.50  -0.6
WB5     59.33 190 eP     37 23.10  -1.2
WRA     59.40 190 Pd     37 23.30  -1.5
        0.7s     2.10nm          4.4mb
GBA     63.03 266 Pc     37 48.50  -1.0
        0.6s     5.90nm          4.9mb
NUR     68.86 332 iP     38 25.90  -0.3
        0.6s     7.80nm          5.0mb
NB2     72.87 338 P      38 49.10  -1.3
        0.9s     6.60nm          4.6mb
KRA     78.26 327 eP     39 21.80   0.8
                e        39 31.00  29kmX
LOR     86.75 334 eP     40 05.30   0.2
        1.0s     8.80nm          4.9mb
LBF     86.95 334 eP     40 06.30   0.2
        0.8s     2.60nm          4.5mb
SMF     87.29 333 eP     40 10.10   2.4
        0.8s     4.50nm          4.8mb
AVF     87.34 334 eP     40 08.40   0.5
        0.8s     6.70nm          4.9mb
     S.D. = 1.4  on  38 of  38 obs.
-----------------------------------
   NOV  07, 1989  06h 16m 03.58± 0.84s
   45.688 N ±10.5km   15.657 E ± 5.8km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
     ML 2.6 (KBA), 2.4 (ZAG). MD 3.0
     (TRI), 3.0 (LJU).

ZAG      0.26  60 iPg     16 09.40   0.3
                iSg      16 14.00
PTJ      0.30  45 iPgd    16 09.60  -0.3
                eSg      16 14.80
VBY      0.34 237 iPgd    16 09.80  -0.7
                iSg      16 14.60
LJU      0.86 295 iPgc    16 19.60  -0.6
                iSg      16 32.00
CEY      0.86 274 e(Pg)   16 21.20   1.0
                eSg      16 31.90
RIY      0.96 249 iPg     16 22.30   0.5
                iSg      16 33.30
VOY      1.28 286 ePn     16 27.20  -0.2
                eSn      16 45.80
TRI      1.33 272 iPgd    16 27.90  -0.1
                iSg      16 45.30
KBA      2.12 312 iPgd    16 43.70   4.0X
                id       16 47.20
                eSg      17 10.00
                i        17 12.10
FVI      2.19 295 P      16 40.70   0.1
CTI      2.82 279 P      16 43.00  -6.6X
                eSn      17 35.00
KHC      3.72 338 eP     17 48.40  46.0X
                e        18 05.40
     S.D. = 0.6  on   9 of  12 obs.
-----------------------------------
   NOV  07, 1989  06h 57m 57.30± 1.39s
   32.699 S ± 8.2km   69.840 W ± 9.2km
   DEPTH = 118.4 ± 19.2 km
 MENDOZA PROVINCE, ARGENTINA      (139)

JACH     0.64 271 iPd     58 16.00  -0.4
                iS       58 30.00
FCH      0.73 211 iPd     58 18.00   0.6
                iS       58 33.00
PEL      0.84 238 iPd     58 17.70  -0.3
                iS       58 33.00
SAN      1.02 222 iPd     58 20.00   0.3
                iS       58 37.00
ROCH     1.02 254 iPc     58 19.60  -0.4
                iS       58 36.00
PCH      1.08 211 iPd     58 20.80   0.4
                iS       58 39.50
RTBS     1.09  18 iPc     58 20.70   0.4
                S        58 37.30
TACH     1.32 224 iPd     58 23.10   0.1
                iS       58 43.00
RTCV     1.38  53 ePc     58 23.30  -0.4
CHCH     1.41 209 iPc     58 24.60   0.6
                iS       58 45.00
RTCB     1.50  36 ePd     58 25.00  -0.1
LCCH     1.65 241 iPd     58 26.50  -0.2
                iS       58 47.50
CFA      1.74  52 ePd     58 27.50  -0.4
                S        58 49.80
RTLL     1.79  41 iPd     58 28.40  -0.2
LNV      1.82 226 iP      58 28.00  -0.8
                iS       58 51.50
RTRS     2.54   7 ePd     58 39.00   0.9
                S        59 10.50
     S.D. = 0.5  on  16 of  16 obs.
-----------------------------------
?  NOV  07, 1989  07h 23m 09.27± 8.71s
   53.604 N ±81.3km  155.313 W ±28.0km
   DEPTH =  33.0km  (normol)
 SOUTH OF ALASKA                   ( 17)
     ML 4.2 (PMR).

SDN      3.49 302 eP     24 02.40  -0.1
KDC      4.45  20 iPc    24 14.70  -1.4
SVW      7.53 359 eP     25 00.10   0.6
PMS      8.26  20 eP     25 09.60  -0.1
TOA      9.81  26 eP     25 32.10   1.1
INK     17.98  27 eP     27 22.00   4.2X
     S.D. = 1.3  on   5 of   6 obs.
-----------------------------------
   NOV  07, 1989  07h 24m 15.74± 0.62s
   36.424 N ± 7.7km   26.627 E ± 4.9km
   DEPTH = 162.3 ± 10.1 km
 DODECANESE ISLANDS                (369)

KAP      0.98 153 iP     24 41.00  -0.8
APE      1.09 306 eP     24 42.70  -0.1
SMG      1.29   7 eP     24 44.20  -0.3
NPS      1.42 216 eP     24 45.50  -0.3
YER      1.51  61 iPn    24 47.00   0.3
VAM      2.22 243 eP     24 55.00   0.5
                eS       25 21.50
KSL      2.41  96 ePc    24 57.40   0.6
VLI      2.99 277 eP     25 04.50   0.6
BCK      3.34  71 iPn    25 09.50   1.0
CSS      5.65 103 eP     25 37.50  -1.2
KOT      7.81 145 ePn    26 08.50   1.0
                eSn      27 26.50
HRI      8.12 110 eP     26 11.00  -0.9
CZI      8.76 292 P      26 19.50  -0.6
PRNI     9.26 129 eP     26 27.00   0.3
MBH      9.58 131 eP     26 31.00   0.0
     S.D. = 0.8  on  15 of  15 obs.
-----------------------------------
%  NOV  07, 1989  08h 32m 26.04± 3.09s
   44.154 N ±27.6km    7.407 E ±11.8km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
     ML 2.2 (GEN).

ENR      0.07   7 P      32 27.86  -0.7
                S        32 29.19
STV      0.11 326 P      32 28.98   0.0
                S        32 30.42
ROB      0.36  67 P      32 33.19  -0.3
                S        32 38.21
PZZ      0.41 328 P      32 34.62   0.1
                S        32 39.34
FIN      0.58  84 P      32 37.60  -0.2
                S        32 46.01
PCP      0.90  64 P      32 43.85   0.5
     S.D. = 0.5  on   6 of   6 obs.
-----------------------------------
   NOV  07, 1989  08h 45m 49.42± 0.66s
   45.940 N ± 7.7km   15.061 E ± 4.3km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
     ML 3.0 (KBA), 2.2 (ZAG). MD 2.9
     (LJU), 2.8 (TRI).

LJU      0.38 286 iPgc   45 57.00  -0.3
                iSg      46 02.30
VBY      0.46 163 iPgd   45 58.40  -0.3
                iSg      46 04.50
CEY      0.49 246 iPgc   45 59.30   0.0
                eSg      46 05.50
PTJ      0.63  93 iPgc   46 01.90  -0.2
                eSg      46 12.10
ZAG      0.66 101 iPg    46 02.60   0.1
                iSg      46 13.50
RIY      0.76 219 iPgc   46 05.20   0.9
                iSg      46 14.20
VOY      0.82 277 iPnc   46 04.70  -0.7
                eSn      46 17.70
TRI      0.94 256 ePg    46 06.60  -0.7
                iSg      46 19.40
KBA      1.64 314 iPgc   46 21.60   3.0X
                iSn      46 41.40
                iSg      46 43.30
                i        46 44.20
FVI      1.71 293 P      46 20.50   1.1
                eSg      46 46.30
CTI      2.38 274 P      46 33.00   3.8X
                eSn      47 04.00
ZST      2.65  31 eP     47 13.60  40.6X
     S.D. = 0.7  on   9 of  12 obs.
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07d 09h

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   NOV  07, 1989  09h 03m 07.66± 1.13s
    4.329 S ± 5.4km  152.409 E ± 7.6km
   DEPTH =  40.6 ± 10.1 km
   5.0mb (  9 obs.)  4.7Msz (  4 obs.)
 NEW BRITAIN REGION                (192)

RAB      0.27 300 iPc+  03 15.00  -0.7
LAT      5.86 247 eP    04 40.00   5.6X
KDB      7.30 225 eP    04 59.00   4.5X
HNR      9.04 125 eP    05 19.00   0.3
                  eS    07 01.00
CTA     16.77 200 iPd+  07 04.20   2.9
         1.4s   209.30nm          5.1mb
                  i     07 42.50
                  iS    10 20.00
GUA     19.25 337 eP    07 42 60  10.9X
         0.8s    77.61nm
GUMO    19.31 337 eP    07 43.00  10.6X
         1.2s   227.78nm
PJG     19.31 337 eP    07 43.10  10.7X
OIS     20.38 217 iPd   07 43.70  -0.1
                  i     07 45.80
DZM     22.27 144 iPc   08 02.60  -0.4
RMQ     22.31 189 eP    08 04.60   1.3
         1.0s   118.00nm          5.3mb
                  e     08 14.00
MTN     22.66 247 eP    08 07.00   0.3
BRS     22.94 179 iPc   08 09.70   0.3
                  e     08 20.00
                  e     08 41.00
                  eS    12 28.00
WB5     23.41 227 iPc   08 14.40   0.4
                  iS    12 33.10
WRA     23.47 227 Pc    08 14.80   0.2
         0.6s    73.40nm          5.4mb
OLP     23.47 199 eP    08 16.00   1.4
                  e     08 28.00
KNA     25.86 242 eP    08 39.50   2.0
ASPA    26.24 221 eP    08 41.20   0.2
      Z  22s      1.85um          4.6MszX
                  eS    13 09.00
                  LR    19 33.60
CMS     27.71 192 eP    08 54.00  -0.3
DAV     29.08 293 eP    09 20.50  13.7X
STK     29.23 199 eP    09 07.00  -1.0
BWA     30.17 187 eP    09 20.00   3.6X
CAN     31.00 185 eP    09 24.90   1.2
PCI     32.71 275 ePd   09 36.00  -2.8
WARB    32.88 226 eP    09 40.00  -0.2
ADE     33.02 201 e(P)  09 41.20  -0.2
         0.8s    19.40nm          5.0mb
BFD     33.92 194 eP    09 48.00  -1.1
                  e     10 00.00
FORR    34.93 218 iPd   09 56.50  -1.3
         0.4s     7.00nm          4.9mb
MBL     35.78 239 eP    10 04.00  -1.2
OCP     36.33 302 eP    10 16.00   6.2X
BAG     37.62 304 eP    10 21.60   0.7
                  eS    16 14.00
COOL    39.55 224 eP    10 35.30  -1.4
KRP     39.55 151 P     10 38.20   1.7
                  e     12 55.00
NANU    40.01 240 eP    10 39.50  -1.1
KAGJ    40.85 331 eP    10 45.70  -1.6
TCW     41.63 155 P     10 53.50  -0.1
MNG     41.67 153 eP    10 53.50  -0.5
CAW     41.89 154 P     10 55.40  -0.3
SNZO    41.90 155 eP    10 57.00   1.3
                  eS    17 12.00
WDW     41.98 154 P     10 55.80  -0.7
                  e     11 04.70
KUMJ    42.00 332 eP    10 57.00   0.3
PGZ     42.03 153 eP    10 56.50  -0.4
CHJJ    42.08 344 P     10 38.10 -19.3X
MTW     42.12 154 eP    10 56.40  -1.2
                  e     11 05.90
MOW     42.22 154 eP    10 57.90  -0.6
                  e     11 09.10
BAL     42.59 228 eP    11 00.00  -1.7
MAT     42.77 343 (P)   11 01.00  -2.0
         0.6s     4.00nm          4.3mb
                  eS    17 15.00
NWAO    43.44 225 eP    11 08.50   0.0
      N  20s      1.80um
      E  20s      2.10um
MUN     43.67 227 eP    11 09.70  -0.7
SSE     46.13 322 eP    11 31.50   1.5
         1.0s    12.00nm          4.8mb
      Z  20s     0.70um          4.6Msz
      E  14s     0.40um
                   sP    11 43.50
                   S     18 16.00
                   sS    18 28.00
                   eSS   21 23.00
QIZ     47.89 300 eP     11 51.60   7.4X
                   eS    18 42.00
NJ2     48.23 321 Pd     11 48.50   1.9
TIA     52.11 324 eP     12 13.70  -2.4
MDJ     52.85 340 eP     12 21.00  -0.5
CN2     53.71 336 eP     12 26.60  -1.2
      Z  16s     0.70um          4.8MszX
GYA     53.80 307 P      12 37.20   8.3X
BJI     55.29 326 eP     12 42.50   3.1X
      Z  22s     0.92um          4.8Msz
                   eS    20 20.00
TIY     55.92 322 eP     12 46.40   2.2
      E  23s     2.40um
                   eS    20 32.50
XAN     56.01 316 eP     12 44.50  -0.4
KMI     56.40 304 Pc     12 51.50   3.5X
                   sP    12 59.00
CHTO    57.43 295 eP     12 57.00   1.8
CD2     58.14 311 eP     13 02.20   2.2
                   eS    21 05.00
HHC     58.44 324 eP     13 03.00   1.0
BTO     59.19 323 eP     13 08.00   0.8
      N  14s     0.30um
      E  14s     0.30um
                   S     21 14.00
LZH     60.62 316 eP     13 25.50   8.3X
LZH     60.62 316 P      13 28.00  10.8X
         1.2s    52.00nm
      Z  22s     0.50um          4.6Msz
                   (S)   21 22.00
DRV     62.82 186 eP     13 23.00  -8.2X
GTA     65.05 317 eP     13 46.20  -0.2
      Z  20s     0.60um          4.8Msz
WMQ     75.13 317 P      14 50.00   2.3
GBA     76.48 285 Pc     14 54.80  -0 8
         0.9s     5.00nm          4.5mb
SVW     76.54  23 eP     15 04.00   8.7X
IMA     80.15  20 eP     15 15.90   0.9
FBA     81.60  22 eP     15 20.70  -1.8
KSH     82.32 311 eP     15 31.40   4.5X
SPA     85.70 180 eP     15 43.20  -0.4
         0.8s    16.67nm          5.3mb
                   i     15 53.30
MAW     85.85 203 eP     15 43.00  -1.1
INK     88.16  21 eP     15 52.00  -3.2X
WDC     89.03  49 e(P)   16 14.10  14.2X
NB2    116.34 340 PKP    21 46.20  -2.1X
         0.8s     1 30nm
CLL    122.25 331 e(PKP)22 08.00   8.2X
KHC    123.34 329 ePKP   22 04.00   2.0
BCAO   134.01 272 iPKPc  22 26.60   3.1X
         0.5s     8.00nm
                   ic    22 44.00
                   ic    26 09.10
CNCB   134.90 119 ePKP   22 30.00   4.2X
                   i     22 36.20
LPB    134.91 118 ePKP   22 34.00   8.4X
PPD    145.00 139 ePKP   22 40.00  -3.1X
VAO    146.89 146 ePKP   22 44.60  -1.7
                   e     22 54.10
                   e     22 57.00
BMA    148.64 150 ePKP   22 50.30   1.2
BAO    151.69 135 ePKP   22 57.50   3.6X
      S.D. = 1.3  on  61 of  88 obs.
-----------------------------------
   NOV  07, 1989  09h 48m 01.19± 1.04s
   32.606 S ± 8.0km   68.781 W ±11.8km
   DEPTH =  10.0km  (geophysicist)
 MENDOZA PROVINCE, ARGENTINA       (139)

RTCV     0.77  16 iPd    48 16.20  -0.1
CFA      1.10  25 iPd    48 21.50  -0.3
RTBS     1.10 329 iPc    48 21.80   0.0
RTCB     1.12 359 iPd    48 22.00  -0.2
RTLL     1.30  12 iPd    48 25.00  -0.3
FCH      1.46 240 iPd    48 26.60  -1.3
                   iS    48 46.50
JACH     1.53 267 iPd    48 27.90  -0.8
                   iS    48 47.50
PEL      1.69 251 iPd    48 30.20  -0.7
                   iS    48 52.10
PCH      1.77 235 iPd    48 32.50   0.3
                   iS    48 56.00
SAN      1.79 241 ePc    48 33.00   0.6
ROCH     1.91 258 iPd    48 34.80   0.4
CHCH     2.05 229 iPc    48 37.50   1.3
                   iS    49 04.60
TACH     2.09 239 iPd    48 37.00   0.3
                   iS    49 04.50
RTRS     2.50 346 e(P)   48 43.80   1.3
LCCH     2.50 249 iPd    48 43.10   0.6
                   iS    49 16.00
LNV      2.58 238 iPd    48 42.50  -1.2
                   iS    49 19.60
      S.D. = 0.8  on  16 of  16 obs.
-----------------------------------
?  NOV  07, 1989  10h 11m 22.54± 3.88s
   40.727 N ±10.8km   29.867 E ±28.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

HRT      0.18 302 ePg    11 26.80   0.2
GBZT     0.33 281 ePg    11 29.50   0.2
                   iSg   11 36.50
YLV      0.41 247 iPg    11 30.50  -0.4
GPA      0.55 142 iPg    12 29.10  55.3X
ISK      0.70 299 ePg    11 36.20  -0.2
CTT      1.17 292 ePg    11 43.50  -0.8
DST      1.47 221 ePn    11 48.60  -0.5
BNT      1.53 257 iPn    11 51.40   1.5
      S.D. = 0.9  on   7 of   8 obs.
-----------------------------------
   NOV  07, 1989  10h 52m 51.31± 0.46s
   52.795 N ±10.7km  166.964 W ± 4.8km
   DEPTH =  33.0km  (normol)
   4.7mb (  7 obs.)
 FOX ISLANDS, ALEUTIAN ISLANDS   (  9)

SDN      4.58  54 eP     54 00.10   0.1
ADK      6.03 265 ePc    54 20.20  -0.3
PMS     12.67  41 eP     55 51.10  -0.7
TOA     14.50  42 eP     56 16.30   0.5
IMA     14.88  21 eP     56 27.30   6.5X
INK     22.19  33 eP     57 44.00  -1.7
MBC     29.61  21 eP     58 56.00   1.0
         0.6s     8.00nm          4.7mb
EDM     31.63  67 eP     59 13.00  -0.1
SES     34.08  71 eP     59 35.00   0.5
KVN     35.95  93 eP     59 51.00   0.3
TNP     37.09  93 eP     00 00.00  -0.3
         0.8s     2.45nm          4.1mb
BW06    38.88  81 eP     00 16.00   0.7
MSU     39.88  88 eP     00 23.00  -0.7
MAT     41.17 269 eP     00 35.00   1.0
         1.2s    21.88nm          4.8mb
CN2     44.30 287 eP     00 58.70  -0.7
ALQ     45.68  88 eP     01 10.00  -0.8
         1.0s     2.00nm          4.0mb
SNY     46.60 2B6 Pd     01 18.00   0.4
BJI     52.04 289 eP     01 59.00  -0.6
HHC     54.13 292 Pc     02 15.00  -0.2
BTO     55.16 293 eP     02 23.40   0.6
TIY     55.76 289 eP     02 27.60   0.5
SOD     59.72 354 eP     02 53.00  -1.4
XAN     60.37 288 Pd     02 58.60  -0.8
GTA     61.58 298 eP     03 06.20  -1.5
LZH     61.78 293 (P)    03 08.50  -0.6
SUF     64.37 353 iP     03 25.20  -0.3
         0.3s     2.90nm          4.9mb
CD2     65.63 289 eP     03 34.80   0.7
NB2     66.51   1 P      03 38.80  -0.5
         1.4s     8.80nm          4.7mb
NUR     66.66 354 eP     03 40.00  -0.2
KSP     76.70 358 eP     04 41.30   1.0
SPC     78.21 355 eP     04 49.30   0.5
KHC     78.45 360 P      04 52.20   2.2
ZST     79.33 357 eP     04 58.20   3.5X
KBA     80.51 360 eP     05 03.00   1.7
         1.1s    19.80nm          5.0mb
      S.D. = 0.9  on  32 of  34 obs.
-----------------------------------
%  NOV  07, 1989  11h 36m 12.21± 0.97s
   39.084 N ± 7.9km   27.660 E ±10.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

IZM      0.75 205 iPg    36 27.00   0.0
```

```
                    iSg    36 39.00
DST      0.91  55 iPg    36 29.60  -0.1
                  eSg    36 43.60
EDC      1.27   7 ePn    36 35.00  -0.8
EZN      1.27 306 ePn    36 35.70  -0.1
BNT      1.29   9 ePn    36 37.00   0.9
     S.D. = 0.9  on   5 of   5 obs.
-----------------------------------------
*  NOV  07, 1989  11h 54m 52.64± 0.67s
   15.790 S ±26.6km   71.860 W ±15.6km
   DEPTH = 174.5 ± 10.3 km
 SOUTHERN PERU                        (117)

ARE      0.76 152 iP     55 18.00  -0.8
                  iS     55 36.00
LPB      3.69 102 P      55 51.00   0.4
CNCB     3.86 106 Pc     55 53.40   0.4
PT03     4.20 295 eP     55 57.20   0.3
                  i      55 58.10
                  eS     56 46.10
PT08     5.93 309 iP     56 20.40   0.5
                  eS     57 25.80
NNA      6.14 307 iPd    56 21.90  -0.4
       0.6s     12.67nm          4.3mb
                  iS     57 27.00
ITB1    18.60 121 eP     59 01.00   1.8
ITB7    18.98 122 e(P)   59 02.00  -1.2
PPD     20.40 111 eP     59 17.90   0.2
                  e      59 22.40
PDCR    31.89  88 eP     01 02.40  -1.2
     S.D. = 1.1  on  10 of  10 obs.
-----------------------------------------
*  NOV  07, 1989  12h 04m 19.96± 0.85s
   9.717 S ±10.7km  111.674 E ±11.9km
   DEPTH =  10.0km  (geophysicist)
   4.5mb (  2 obs.)
 SOUTH OF JAVA                        (282)

TRT      2.21  25 ePc    04 55.70  -1.6
                  iS     05 20.00
KHKI     4.11  71 ePd    05 25.10   0.9
                  e(S)   06 17.20
                  e      09 32.00
NANU    13.30 164 eP     07 30.00  -1.4
                  eS     09 54.00
WB5     24.12 117 eP     09 37.70   0.6
WRA     24.12 117 Pd     09 36.30  -0.8
       0.7s     7.60nm          4.4mb
ASPA    25.36 126 iPc    09 50.20   1.3
       0.8s    10.00nm          4.6mb
GBA     41.13 304 P      12 06.00  -0.1
POO     46.70 307 iPd    12 52.20   1.1
     S.D. = 1.3  on   8 of   8 obs.
-----------------------------------------
%  NOV  07, 1989  13h 00m 26.03± 0.89s
   40.484 N ± 8.4km   29.291 E ± 8.4km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                               (366)

YLV      0.10  37 iPg    00 28.00  -0.9
GBZT     0.33  21 ePg    00 33.00   0.2
                  iSg    00 39.00
HRT      0.44  40 ePg    00 35.30   0.2
CTT      0.93 316 ePn    00 44.00   0.2
DST      1.01 210 iPn    00 45.60   0.3
BNT      1.05 263 iPn    00 45.40  -0.5
     S.D. = 0.6  on   6 of   6 obs.
-----------------------------------------
   NOV  07, 1989  13h 05m 19.67± 0.90s
   17.140 N ±12.2km   62.330 W ± 8.8km
   DEPTH =  33.0km  (normal)
 LEEWARD ISLANDS                      ( 92)

SKI      0.44 296 eP     05 29.35   0.0
                  eS     05 39.80
BPA      0.46 102 eP     05 29.89   0.1
                  eS     05 40.83
ANG      0.48  88 eP     05 29.84  -0.1
                  eS     05 40.81
PAG      1.27 150 eP     05 41.61   0.4
                  S      06 01.50
BBL      1.80 153 eP     05 48.60  -0.4
     S.D. = 0.4  on   5 of   5 obs.
-----------------------------------------
?  NOV  07, 1989  13h 23m 04.85± 1.03s
   39.121 N ± 8.8km   27.575 E ±10.4km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                               (366)

IZM      0.76 199 iPg    23 19.50  -0.3
                  iSg    23 31.00
DST      0.95  59 iPg    23 23.60   0.6
                  eSg    23 36.60
EZN      1.20 306 iPn    23 27.70   0.6
EDC      1.24  10 ePn    23 27.00  -1.0
BNT      1.26  12 ePn    23 25.00  -3.3X
     S.D. = 1.3  on   4 of   5 obs.
-----------------------------------------
*  NOV  07, 1989  13h 50m 20.74± 1.12s
   37.153 N ± 9.8km   71.692 E ± 7.9km
   DEPTH = 125.0 ± 14.9 km
   4.4mb (  5 obs.)
 AFGHANISTAN-USSR BORDER REGION  (717)
      Felt (III) at Khorog and (II) at
      Komarov, USSR.

KSH      4.08  54 P      51 24.50   2.0
                  S      52 12.60
QUE      7.99 211 eP     52 15.90   0.2
NDI      9.64 150 iPd    52 35.20  -2.3
       0.5s     4.23nm          4.5mb
                  iS     54 15.00
MAIO     9.83 269 eP     52 39.00  -1.2
       0.6s    12.63nm          4.9mb
                  eS     54 22.00
KHI     11.03 258 eP     52 57.40   1.1
WMO     13.87  56 eP     53 31.00  -2.1
                  S      56 01.30
LSA     17.84 109 P      54 23.00   0.0
HYB     20.57 161 ePd    54 52.00   0.6
GTA     22.16  76 iPc    55 08.40   1.2
GBA     24.01 166 P      55 26.00   1.0
                  S      00 26.00
LZH     25.77  83 eP     55 42.50   0.9
CHTO    30.05 120 eP     56 21.60   1.5
       1.0s     1.75nm          3.7mb
XAN     30.31  85 P      56 21.20  -1.0
WHN     35.81  88 P      57 09.50  -0.1
NB2     44.20 323 P      58 18.30  -0.2
       0.9s     7.20nm          4.4mb
MAT     52.20  69 iPc    59 19.10  -1.6
       0.8s     3.73nm          4.3mb
INK     73.17  10 eP     01 39.00   0.1
     S.D. = 1.4  on  17 of  17 obs.
-----------------------------------------
%  NOV  07, 1989  14h 34m 41.61± 1.62s
   43.048 N ±18.1km    0.914 W ± 9.5km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                             (378)
      MD 1.7 (STR).

ISSF     0.09 103 Pg     34 43.72  -0.6
                  Sg     34 48.53
BOH      0.09 307 Pg     34 44.73   0.4
MADF     0.12  35 Pg     34 44.36  -0.3
                  Sg     34 46.31
ELYF     0.13 335 Pg     34 44.51  -0.4
ATE      0.16  76 Pg     34 46.02   0.7
                  Sg     34 49.26
     S.D. = 0.8  on   5 of   5 obs.
-----------------------------------------
*  NOV  07, 1989  15h 00m 35.61± 0.69s
   39.732 N ± 9.7km  143.573 E ±10.5km
   DEPTH =  33.0km  (normal)
   4.6mb ( 11 obs.)  3.7Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

MAT      5.29 235 iPc    01 56.70   2.2
       1.1s    84.81nm          5.1mb
                  eS     03 22.00
MDJ     11.46 300 eP     03 19.00  -1.0
     Z  21s     0.90um
CN2     14.12 293 eP     03 57.50   2.2
SSE     20.14 252 e(P)   05 08.50  -1.1
BJI     21.00 280 eP     05 16.00  -2.5
     Z  18s     0.29um          3.7Msz
NJ2     21.40 257 Pd     05 21.50  -1.0
TIY     24.32 275 eP     05 46.50  -4.8X
WHN     25.50 258 P      06 03.20   0.7
                  pP     06 08.50  19kmX
BTO     25.57 283 eP     06 04.40   1.1
XAN     28.18 269 P      06 26.00  -1.0
GYA     33.40 258 P      07 13.00  -0.3
GTA     33.48 284 iPc    07 14.00   0.0
WMO     41.20 295 iPd    08 19.50   0.8
CHTO    43.62 255 eP     08 38.00  -0.6
       0.7s     1.11nm          3.7mb
WB5     59.92 190 eP     10 41.00   0.3
WRA     59.99 190 Pd     10 40.60  -0.6
       0.5s     1.60nm          4.4mb
GBA     63.12 265 P      11 02.00  -0.4
SOD     63.14 337 iP     11 09.00   7.1X
SUF     66.34 333 eP     11 21.60  -1.1
       0.5s     2.00nm          4.5mb
NUR     68.36 332 eP     11 32.00  -3.4X
NB2     72.35 338 P      11 58.80  -0.9
       0.9s     4.50nm          4.5mb
PRU     80.05 329 eP     12 43.50   0.4
                  e      12 52.50
KHC     81.11 329 eP     12 50.70   1.9
LOR     86.24 334 eP     13 14.80  -0.2
       0.9s     3.20nm          4.6mb
LBF     86.45 334 eP     13 15.60  -0.4
       0.8s     5.30nm          4.8mb
SSF     86.54 334 eP     13 16.50   0.1
SMF     86.79 334 eP     13 17.50  -0.1
       0.6s     1.80nm          4.5mb
AVF     86.83 334 eP     13 17.80   0.0
       0.8s     6.70nm          4.9mb
MAF     87.59 334 eP     13 22.10   0.6
       1.0s     8.00nm          4.9mb
TCF     87.65 334 eP     13 22.70   0.9
       1.0s     6.00nm          4.8mb
LSF     87.91 335 eP     13 23.20   0.2
     S.D. = 1.1  on  28 of  31 obs.
-----------------------------------------
*  NOV  07, 1989  15h 13m 51.46± 0.86s
   40.312 N ±11.5km  143.535 E ±11.7km
   DEPTH =  33.0km  (normal)
   4.7mb (  7 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ     1.89 230 iP+    14 22.40   0.3
                  eS     14 47.80
MAT      5.63 230 iPc    15 14.80  -0.2
       0.8s    23.13nm          4.8mb
                  eS     16 19.00
CN2     13.88 290 eP     17 08.50   0.5
SNY     15.13 282 eP     17 25.00   0.7
SSE     20.30 250 eP     18 32.70   5.5X
BJI     20.88 278 eP     18 31.00  -2.1
XAN     28.16 268 eP     19 42.10  -0.6
GTA     33.32 283 iPc    20 28.60   0.2
GYA     33.49 257 P      20 29.60  -0.4
WMO     40.94 294 P      21 33.20   0.8
CHTO    43.75 254 eP     21 56.00   0.5
       0.8s     0.73nm          3.5mb X
INK     50.72  28 eP     22 49.00  -0.5
SUF     65.81 333 eP     24 34.00  -1.1
       0.8s     7.10nm          4.8mb
NB2     71.80 338 P      25 11.40  -0.9
       0.9s     3.40nm          4.4mb
KSP     78.17 329 eP     25 48.50  -0.3
LPG     86.21 331 eP     26 31.80   0.8
       0.8s     4.00nm          4.7mb
SMF     86.26 333 eP     26 31.50   0.6
       1.0s     6.00nm          4.8mb
AVF     86.30 334 eP     26 31.70   0.7
       0.8s     5.30nm          4.8mb
MAF     87.06 334 eP     26 35.70   0.9
       1.0s     4.00nm          4.6mb
     S.D. = 0.9  on  18 of  19 obs.
-----------------------------------------
   NOV  07, 1989  15h 56m 02.58± 0.51s
   44.418 N ± 4.0km    8.307 E ± 4.3km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                       (545)
      ML 2.5 (GEN).

CKI      0.02 289 Pc     56 03.30  -1.2
                  eSg    56 04.20
PCP      0.21  54 P      56 06.70  -0.5
                  S      56 10.72
FIN      0.22 199 P      56 06.50  -0.9
                  S      56 10.41
ROB      0.34 249 P      56 08.85  -0.7
                  S      56 14.21
IMI      0.59 211 P      56 13.49  -1.1
                  S      56 21.33
ENR      0.66 254 P      56 15.11  -0.8
                  S      56 24.26
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07d 15h

```
SAOF     0.69 232 Pg     56 17.47    1.2
STV      0.73 256 P      56 17.16    0.2
                  S      56 26.49
AUTN     0.76 237 Pg     56 17.40   -0.2
DOI      0.76 277 P      56 17.80    0.2
                  eSg    56 27.30
TOUF     0.86 242 Pg     56 19.91    0.6
PZZ      0.87 276 P      56 19.07   -0.3
                  S      56 30.69
AURF     0.88 233 Pg     56 20.55    1.0
BOB      0.89  66 P      56 20.40    0.7
MVIF     0.98 238 Pg     56 22.31    1.0
RSP      1.05 315 P      56 22.05   -0.4
                  S      56 35.25
RRL      1.20 295 P      56 24.77   -0.3
                  S      56 39.06
CALN     1.22 237 Pg     56 26.44    1.1
ORX      1.24 349 P      56 25.97    0.3
                  S      56 41.42
LSD      1.32 322 P      56 27.01   -0.2
                  S      56 42.94
     S.D. = 0.8  on  20 of  20 obs.
-----------------------------------------
?  NOV  07, 1989  16h 12m 41.86± 3.44s
   32.787 S ±16.2km   71.695 W ±27.5km
   DEPTH =  62.1 ± 19.7 km
   3.9mb (  1 obs.)
 NEAR COAST OF CENTRAL CHILE      (135)
      Felt (IV) in the Valparaiso
      area.

PEL      0.92 113 iPd    12 58.50   -0.6
RTCB     2.78  63 iPc    13 21.00   -3.9X
RTCV     2.83  72 ePc    13 27.30    1.7
ZON      2.84  65 iPd    13 27.70    1.9
RTLL     3.10  63 iP     13 30.00    0.6
CFA      3.16  69 iPc    13 31.00    0.8
RTRS     3.23  37 iPc    13 31.80    0.6
MRA      5.07  87 ePc    13 55.80   -1.2
TCA      6.20  78 ePc    14 11.00   -2.0
CYA      6.68  51 ePd    14 15.20   -4.3X
ANT      9.12   7 e(P)   14 44.00   -9.2X
ARE     16.25   1 eP     16 30.00    2.1X
CNCB    16.26  13 P      16 26.50   -1.7
LPB     16.51  12 eP     16 31.00   -0.2
PPD     20.99  64 eP     17 17.90   -4.3X
VAO     23.88  72 eP     17 50.70    0.0
BMA     26.30  75 e(P)   18 11.00   -2.5
PDCR    35.97  64 e(P)   19 31.00   -7.6X
LIC     74.12  72 P      24 13.60    0.1
KIC     74.43  72 P      24 15.50    0.2
BCAO    92.57  86 eP     25 49.20    1.2
        1.4s     0.70nm          3.9mb
GBA    145.99 117 PKP    32 17.00    1.2
HYB    149.15 112 ePKP   32 26.00    5.1X
     S.D. = 1.5  on  16 of  23 obs.
-----------------------------------------
?  NOV  07, 1989  18h 06m 30.85± 5.99s
   33.438 S ±43.3km   73.154 W ±38.4km
   DEPTH =  33.0km  (normal)
 OFF COAST OF CENTRAL CHILE       (134)

PEL      2.09  83 iPd    07 05.00    0.7
RTCB     4.16  63 eP     07 33.00   -0.8
RTCV     4.20  69 iPd    07 35.00    0.8
ZON      4.23  65 iPd    07 34.50   -0.1
RTLL     4.49  63 iPc    07 14.20  -24.1X
RTRS     4.53  45 iPc    07 38.40   -0.4
ANT      9.99  15 e(P)   09 10.00   14.9X
CNCB    17.20  17 P      10 33.20    2.4
LPB     17.44  16 eP     10 32.00   -1.7
PPD     22.38  65 eP     11 26.80   -0.9
GBA    146.77 119 PKP    26 24.00   14.3X
     S.D. = 1.5  on   8 of  11 obs.
-----------------------------------------
?  NOV  07, 1989  19h 29m 23.40± 4.04s
   24.261 S ±22.5km  178.359 E ±40.8km
   DEPTH = 663.1 ± 32.4 km
   5.0mb (  5 obs.)
 SOUTH OF FIJI ISLANDS            (171)

DZM     11.18 279 iPc    31 53.10   -1.4
BRS     23.23 257 iPd    33 46.50    1.1
RMQ     26.82 259 ePd    34 18.80    2.1
CAN     27.66 240 eP     34 24.10    0.1
BWA     27.91 242 eP     34 26.70    0.7
CMS     29.57 249 eP     34 40.00   -0.1
CTA     29.98 272 iPd    34 44.10    0.4
        0.7s     73.97nm          5.4mb
                  i      35 42.00
TOO     31.00 237 iPd    34 52.30    0.2
        0.6s    175.00nm          5.8mb
                  i      35 50.60
STK     33.20 248 iPd    35 11.60    1.1
ASPA    40.50 261 iPd    36 10.40    0.5
        0.6s     37.00nm          5.0mb
WB5     40.88 267 iPd    36 12.90    0.0
WARB    46.57 256 iPd    36 55.40   -1.4
KNA     47.16 271 iPc    37 01.10   -0.2
COOL    50.68 249 eP     37 26.00   -1.0
KLB     53.46 248 eP     37 46.00   -0.7
        0.3s     11.00nm          4.7mb
NWAO    53.72 246 eP     37 48.00   -0.5
RKG     53.76 245 iPc    37 48.00   -0.8
BAL     54.50 249 eP     37 53.10   -0.9
MUN     54.71 247 iPc    37 55.10   -0.3
MRWA    55.35 250 iPc    37 59.50   -0.4
CHTO    88.41 291 eP     41 08.90    0.3
        1.0s      5.00nm          4.2mb
NB2    142.19 350 PKP    47 32.20  -11.1X
        0.8s      1.10nm
HRI    146.17 294 ePKP   47 51.00    0.1
PRNI   146.98 289 ePKP   47 53.00    0.8
MBH    147.10 288 ePKP   47 53.00    0.7X
     S.D. = 0.9  on  23 of  25 obs.
-----------------------------------------
?  NOV  07, 1989  20h 01m 19.32±15.93s
   32.188 S ±86.6km   72.441 W ±95.9km
   DEPTH =  10.0km  (geophysicist)
 OFF COAST OF CENTRAL CHILE       (134)

LCCH     1.48 150 iPd    01 45.50   -0.4
                  iS     01 56.50
JACH     1.64 108 iPd    01 48.50    0.1
                  iS     02 02.00
PEL      1.76 123 iPd    01 49.60   -0.5
                  iS     02 03.50
TACH     1.93 140 iPd    01 52.50    0.0
                  iS     02 07.40
LNV      1.96 154 iP     01 53.10    0.2
                  iS     02 08.10
FCH      2.14 123 iP     01 55.90    0.1
                  iS     02 24.00
PCH      2.16 132 eP     01 56.00    0.1
                  iS     02 16.90
CHCH     2.30 140 iPd    01 58.50    0.6
                  iS     02 19.80
     S.D. = 0.4  on   8 of   8 obs.
-----------------------------------------
%  NOV  07, 1989  20h 03m 51.67± 1.97s
   33.148 S ±11.9km   71.411 W ±12.6km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF CENTRAL CHILE      (135)

LCCH     0.35 202 iPd    03 59.00    0.1
                  iS     04 10.00
PEL      0.61  90 iPd    04 02.60   -1.4
                  iS     04 17.00
TACH     0.64 142 iPd    04 05.50    1.0
                  iS     04 20.50
SAN      0.70 116 eP     04 05.50    0.0
                  iS     04 22.40
LNV      0.81 180 iP     04 06.10   -1.2
                  iS     04 23.50
JACH     0.83  56 iPd    04 08.90    1.1
                  iS     04 27.50
PCH      0.89 122 iP     04 09.00    0.3
FCH      0.96 101 iPd    04 08.90   -1.2
                  iS     04 27.50
CHCH     1.01 141 iPd    04 12.10    1.3
                  iS     04 33.00
     S.D. = 1.2  on   9 of   9 obs.
-----------------------------------------
   NOV  07, 1989  20h 53m 05.53± 1.10s
   42.027 N ± 7.3km  142.393 E ± 6.8km
   DEPTH =  70.6 ±  8.6 km
   4.8mb ( 37 obs.)
 HOKKAIDO, JAPAN  REGION          (224)

SAP      1.30 323 iP     53 28.70    0.6
                  iS     53 45.10
MAT      6.37 212 iPd    54 39.80    1.0
        0.8s     16.42nm          4.5mb
                  (S)    55 54.00
MDJ      9.68 290 eP     55 25.00    0.6
CN2     12.55 284 eP     56 04.00    1.2
BJI     19.86 273 eP     57 31.00   -2.3
        1.0s     18.00nm          4.3mb
TIA     20.41 262 eP     57 36.60   -2.5
NJ2     21.21 250 Pc     57 45.00   -2.1
TIY     23.33 269 eP     58 07.10   -1.0
WHN     25.23 252 P      58 28.00    1.7
XAN     27.41 264 P      58 45.00   -1.3
GTA     32.14 280 eP     59 28.00   -0.4
GYA     33.09 253 P      59 35.80   -1.0
WMQ     39.48 292 P      00 31.00    0.5
IMA     42.05  33 eP     00 50.60   -0.8
        0.8s      3.40nm          4.2mb
CHTO    43.43 251 eP     01 04.80    1.8
        1.0s      9.50nm          4.6mb
PMS     44.07  40 eP     01 06.90   -0.9
FBA     44.53  35 ePc    01 10.60   -0.8
INK     49.63  29 eP     01 50.00   -1.2
MBC     51.54  18 eP     02 04.50   -1.1
        0.5s      2.00nm          4.4mb
NDI     53.61 278 iPc    02 21.50   -0.1
KEV     59.06 338 eP     02 59.00   -1.1
SOD     60.68 336 iP     03 09.70   -1.4
WB5     62.04 189 eP     03 19.70   -1.0
                  e      03 39.00
GBA     62.45 263 P      03 24.00    0.4
SUF     63.89 333 iP     03 31.10   -1.4
        0.6s     10.40nm          5.0mb
NUR     65.92 331 iP     03 44.30   -1.3
        0.6s     17.00nm          5.2mb
FFC     69.12  34 iPc    04 05.10   -0.7
        0.7s      8.00nm          4.8mb
HFS     69.86 335 eP     04 08.90   -1.3
        0.5s     14.90nm          5.2mb
NB2     69.89 337 P      04 09.30   -1.1
        0.6s      9.10nm          4.9mb
KVN     71.17  54 iP     04 19.40    0.6
TNP     72.32  55 iP     04 26.00    0.3
        0.6s      2.13nm          4.3mb
KRA     75.39 326 eP     04 43.40    0.5
RSSD    75.63  43 eP     04 44.40   -0.3
                  pP     04 55.70   37kmX
KSP     76.26 328 ePc    04 47.80    0.0
CLL     77.15 330 iPc    04 52.60   -0.1
        0.8s     14.00nm          5.0mb
PRU     77.62 329 ePc    04 56.00    0.6
                  e      05 17.50
EKA     78.68 341 P      05 01.00   -0.1
        0.7s      4.70nm          4.5mb
KHC     78.69 329 P      05 02.10    0.8
WTS     78.75 334 eP     05 01.50    0.1
        0.7s     10.00nm          4.9mb
ENN     80.08 334 eP     05 08.50   -0.2
ALQ     80.83  51 eP     05 14.10    0.9
        0.7s      1.54nm          4.0mb
FVI     81.06 327 P      05 18.00    4.1X
CDF     81.63 332 eP     05 17.20    0.2
        0.6s      3.60nm          4.5mb
PRNI    81.80 304 eP     05 19.00    0.9
CTI     81.96 328 P      05 21.00    2.2
MBH     82.27 303 iPc    05 22.00    1.5
BSF     82.29 332 eP     05 20.20   -0.3
HAU     82.30 332 eP     05 20.60    0.2
VAI     83.23 329 P      05 25.50    0.4
PGD     83.71 327 P      05 30.00    2.1
ORX     83.72 330 P      05 27.86    0.0
ORO     83.73 330 P      05 35.50    7.6X
LOR     83.79 333 iPc    05 28.20    0.1
        0.8s     10.70nm          4.9mb
CRE     83.82 326 P      05 28.50    0.1
BOB     83.89 328 P      05 29.00    0.3
LBF     84.00 333 iPc    05 29.30    0.2
        0.8s      9.40nm          4.9mb
BDI     84.02 327 P      05 29.00   -0.3
SSF     84.09 333 iPc    05 29.90    0.4
        0.8s      8.00nm          4.8mb
LSD     84.18 330 P      05 30.42    0.1
LPG     84.29 330 iPc    05 31.60    0.6
        0.6s      5.70nm          4.8mb
GRR     84.30 336 eP     05 30.90    0.3
        0.8s      9.10nm          4.9mb
SMF     84.34 333 iPc    05 31.20    0.4
        0.6s      6.30nm          4.8mb
AVF     84.38 333 iPc    05 31.40    0.4
        0.6s     15.30nm          5.2mb
RSP     84.40 330 P      05 31.14   -0.1
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PCP     84.43 329 P      05 31.45   0.1
SDI     84.60 324 P      05 32.00  -0.2
CKI     84.63 329 P      05 32.00  -0.3
LPF     84.68 336 eP     05 33.00   0.6
        0.8s      8.00nm          4.8mb
BNI     84.70 330 P      05 32.00  -0.8
BGF     84.75 333 iPc    05 33.80   0.9
        0.6s      3.60nm          4.6mb
RRL     84.77 330 P      05 33.91   0.6
FIN     84.84 329 P      05 32.58  -0.8
ROB     84.89 329 P      05 33.29  -0.4
PZZ     85.01 330 P      05 32.88  -1.5
MAF     85.14 333 iPc    05 35.70   0.9
        0.6s      9.90nm          5.0mb
TCF     85.20 334 iPc    05 35.80   0.6
        0.8s      4.00nm          4.5mb
IMI     85.21 329 P      05 33.29  -2.0
SBF     85.43 329 eP     05 36.00  -0.4
        0.8s     13.40nm          5.0mb
LSF     85.46 334 iPc    05 37.00   0.6
        0.6s     12.60nm          5.1mb
MFF     85.68 335 eP     05 38.20   0.7
        0.8s     10.70nm          5.0mb
FRF     85.98 329 eP     05 38.80  -0.3
        0.8s     10.70nm          5.0mb
LRG     86.18 330 eP     05 40.20   0.2
        0.8s     24.10nm          5.3mb
LMR     86.23 329 eP     05 40.40   0.1
        0.6s      7.90nm          5.0mb
RJF     B6.30 333 eP     05 41.50   0.9
        0.6s      3.60nm          4.6mb
CAF     86.44 333 iPc    05 42.70   1.3
        0.7s     15.40nm          5.2mb
LFF     86.87 334 iPc    05 44.60   1.2
        0.6s      7.90nm          5.0mb
LPO     86.95 333 iPc    05 44.90   1.1
        0.7s     11.90nm          5.1mb
PDCR   150.59   3 ePKP   12 46.00   0.6
                  e      12 51.30
      S.D. = 1.0   on  86 of  88 obs.
-----------------------------------------
&  NOV  07, 1989  23h 22m 13.70s
   36.968 N          122.230 W
   DEPTH =   7.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.0 (BRK).

GCC     0.20  72 iPd    22 17.40  -0.4
                 i      22 19.40
                 iS     22 20.50
PCC     0.54 347 iPc    22 23.90  -0.7
                 iS     22 33.40
MHC     0.60  51 iPd    22 25.60  -0.2
                 eS     22 36.45
SAO     0.66 108 iPd    22 25.60  -1.4
                 iS     22 34.60
ARN     0.67  55 eP     22 16.50 -10.8
BRK     0.90 358 iPc    22 30.50  -0.8
                 iS     22 43.20
BKS     0.91 360 iPc    22 30.60  -0.7
                 eS     22 43.30
PRS     0.94 132 ePc    22 30.80  -1.1
                 eS     22 44.00
ZSP     0.98 359 eP     22 31.70  -0.8
                 iS     22 45.90
LLA     1.09 108 ePd    22 33.40  -1.1
PRI     1.51 123 e(P)   22 40.60  -0.6
CMB     1.81  53 ePd    22 44.00  -1.6
PHAM    1.86 127 eP     22 43.70  -2.6
FRI     2.02  89 ePc    22 46.70  -1.8
       14 abs. associated
-----------------------------------------
&  NOV  07, 1989  23h 42m 37.70s
   37.227 N          122.037 W
   DEPTH =  11.0km
   4.4mb (  1 abs.)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.3 (BRK).
      Mo=3.8*10**15 Nm (BRK). Felt
      strongly in the southern San
      Francisca Bay area including
      Cupertino, Palo Alto, San Jose
      and Sunnyvole. Also felt in the
      San Francisco-Berkeley-Hayward
      area.

GCC     0.20 171 iPd    42 41.60  -0.5
MHC     0.34  70 iPd    42 44.70   0.0
PCC     0.39 315 iPd    42 45.10  -0.6
ARN     0.42  73 iPd    42 46.00  -0.3
SAO     0.66 134 iPc    42 49.50  -1.3
                 eS     43 01.55
BKS     0.67 346 iPd    42 50.40  -0.5
                 eS     42 59.90
BRK     0.67 345 iPd    42 50.40  -0.5
ZSP     0.74 346 iPd    42 51.80  -0.3
PRS     1.04 149 iPc    42 56.00  -1.3
LLA     1.07 124 iPc    42 56.40  -1.3
NWRM    1.40 332 eP     43 01.00  -2.1
CMB     1.54  58 ePc    43 03.80  -1.4
PRI     1.55 134 ePc    43 03.80  -1.5
FRI     1.88  96 iPc    43 08.20  -1.8
PHAM    1.92 136 eP     43 08.70  -1.9
PKEM    1.94 126 eP     43 09.30  -1.6
ORV     2.36  10 iPc    43 15.40  -1.6
BCH     2.58 142 eP     43 17.20  -3.0
MIN     3.13   6 ePc    43 27.00  -1.0
ABL     3.29 135 eP     43 27.40  -3.0
WDC     3.37 353 ePc    43 29.80  -1.5
KVN     3.60  58 eP     43 32.80  -1.9
FHC     3.88 338 eP     43 39.50   1.0
LBFM    4.12   2 eP     43 41.70  -0.3
PEC     5.18 128 eP     43 54.00  -3.1
PLM     5.73 131 eP     44 01.00  -3.9
GLA     7.23 123 eP     44 22.00  -3.8
EDM    17.10  18 eP     46 43.00   4.9
FFC    22.24  32 eP     47 36.00   0.3
        0.8s     11.00nm          4.4mb
       29 obs. associated
-----------------------------------------
   NOV  07, 1989  23h 55m 16.28± 0.52s
   39.360 N ± 4.9km   27.648 E ± 4.5km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

DST     0.80  72 iPg    55 31.50  -0.3
                 eSg    55 42.50
EDC     1.00   9 iPn    55 35.30   0.1
BNT     1.02  12 iPn    55 35.50   0.0
EZN     1.12 295 iPn    55 37.00  -0.3
CIN     1.79 169 ePn    55 47.00  -0.4
                 iSg    56 11.00
YLV     1.79  47 iPn    55 46.90  -0.6
KHL     1.79 125 ePn    55 48.50   0.9
CTT     1.88  18 ePn    55 49.00   0.2
GBZT    1.98  43 ePn    55 50.00  -0.2
                 iSg    56 20.00
KDZ     2.85 324 iP     56 03.00   0.4
RZN     3.23 317 eP     56 08.00  -0.1
MMB     3.73 308 eP     56 27.00  11.8X
BBTK    3.98  81 ePg    56 32.00  13.3X
                 eSg    57 25.00
PVL     4.23 336 iP     56 23.00   0.9
VAY     4.35 298 e(Pn)  56 42.00  18.1X
VTS     4.66 315 eP     56 28.00  -0.5
      S.D. = 0.5   on  13 of  16 obs.
-----------------------------------------
*  NOV  07, 1989  23h 59m 00.90± 0.61s
    2.988 S ± 8.6km  139.178 E ± 9.0km
   DEPTH =  33.0km  (normol)
   4.8mb (  4 obs.)
 NEAR N. COAST OF WEST IRIAN       (197)

MNDI    5.46 125 eP     00 24.00   1.6
LAT     8.60 115 eP     01 05.00  -1.1
                 eS     01 30.00
KDB    10.22 129 eP     01 30.00   1.6
MTN    12.62 219 eP     02 03.40   2.4
                 eS     04 21.00
KNA    16.31 218 eP     02 53.00   3.9X
                 eS     05 57.00
GUMO   17.41  19 eP     02 49.80 -13.2X
WB5    17.43 195 eP     03 02.00  -1.3
                 i      03 07.90
                 iS     06 11.50
OIS    17.47 179 eP     03 02.00  -1.8
                 eS     06 06.00
CTA    18.35 158 eP     03 17.00   2.4
ASPA   21.18 193 iPc    03 45.50  -0.5
        0.9s     70.00nm          5.1mb
      Z  23s      0.23um          3.5MszX
                 eS     07 37.30
                 LR     12 15.70
RMO    25.11 159 eP     04 24.00  -0.4
WARB   26.01 206 eP     04 32.00  -0.8
MBL    26.09 225 eP     04 37.40   3.8X
STK    28.83 176 eP     04 57.00  -1.3
FORR   29.62 200 iPc    05 06.00   0.5
        0.4s     13.00nm          5.0mb
BWA    32.44 166 iPd    05 30.00  -0.3
COOL   32.56 210 eP     05 31.00  -0.4
CAN    33.44 165 iPd    05 38.10  -0.9
BAL    34.73 215 eP     05 51.00   0.9
CHTO   45.13 300 iP     07 17.90   1.5
        1.2s      7.29nm          4.5mb
BJI    47.74 336 P      07 31.00  -5.6X
CN2    48.19 347 Pd     07 39.40  -0.7
                 esP    07 56.40
GBA    63.41 287 Pd     09 29.30  -0.7
        1.1s      6.20nm          4.6mb
WMQ    65.52 322 Pd     09 43.60   0.2
MAIO   83.46 307 eP     11 28.00   1.0
KIC   143.89 277 (PKP)  18 32.30  -3.4X
TIC   144.15 277 (PKP)  18 33.30  -2.8X
CNCB  146.74 127 PKP    18 40.50  -0.5
LPB   146.80 127 (PKP)  18 38.00  -3.0X
ZOBO  146.92 126 PKP    18 40.00  -1.4
      S.D. = 1.3   on  23 of  30 obs.
-----------------------------------------
%  NOV  08, 1989  00h 46m 18.62± 1.64s
   39.665 N ± 9.8km   16.807 E ±19.0km
   DEPTH =  30.0 ± 12.3 km
 SOUTHERN ITALY                    (390)

ROI     0.21 243 P      46 25.50   0.5
TDS     0.36 269 Pc     46 26.70  -0.3
                 eSg    46 36.00
CSI     0.41 286 P      46 27.50  -0.3
ACI     0.56 236 P      46 29.40  -0.7
CZI     0.69 230 P      46 32.40   0.4
MGR     1.07 297 P      46 37.90   0.3
BRT     1.25  14 P      46 39.90  -0.2
                 eSg    46 58.40
SGO     1.45 308 Pc     46 43.30   0.3
                 eSg    47 06.90
      S.D. = 0.5   on   8 of   8 obs.
-----------------------------------------
   NOV  08, 1989  01h 43m 36.11± 1.14s
   39.517 N ± 8.0km  122.652 W ± 9.1km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN CALIFORNIA               ( 36)
      ML 2.8 (BRK).

LTCM    0.80  30 eP     43 53.00   0.9
ORV     0.89  87 ePc    43 53.80   0.1
                 iS     44 09.90
WDC     1.06   5 iPc    43 56.10  -0.5
                 iS     44 11.00
MIN     1.15  44 ePd    43 58.20  -0.1
FHC     1.64 322 e(P)   44 06.00   0.3
LBFM    1.92  17 eP     44 09.50  -0.4
CMB     2.31 129 e(P)   44 15.60   0.1
KVN     3.56  96 eP     44 33.00  -0.4
      S.D. = 0.5   on   8 of   8 obs.
-----------------------------------------
   NOV  08, 1989  04h 17m 46.62± 0.34s
   45.505 N ± 3.9km    6.621 E ± 3.6km
   DEPTH =  10.3 ±  3.4 km
 FRANCE                            (538)
      ML 2.7 (LDG).

LSD     0.38  97 P      17 54.15  -0.3
                 S      18 00.20
BNI     0.45 175 P      17 55.70  -0.2
                 eSg    18 02.40
RSP     0.57 128 P      17 58.05  -0.2
                 S      18 06.97
RRL     0.60 169 P      17 58.56  -0.3
                 S      18 07.79
ORO     0.96  82 Pd     18 05.30   0.3
                 eSg    18 17.60
ORX     0.96  82 P      18 05.05   0.0
                 S      18 19.27
PZZ     1.06 161 P      18 06.97   0.4
                 S      18 21.71
DOI     1.09 156 P      18 07.80   0.6
SBF     1.74 160 Pg     18 23.70   6.6X
                 Sg     18 47.60
SMF     2.25 302 Pn     18 24.00  -0.4
                 Pg     18 28.20
                 Sg     18 57.10
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08d 04h

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BSF      2.33   3 Pg     18 30.70   5.0X
                  Sg     19 01.00
LBF      2.36 310 Pn     18 26.80   0.8
                  Pg     18 30.60
                  Sg     19 00.60
HAU      2.51 356 Pn     18 27.80  -0.3
                  Pg     18 34.60
                  Sn     18 57.60
LOR      2.60 314 Pn     18 30.00   0.6
                  Pg     18 35.60
                  Sg     19 07.20
AVF      2.61 301 Pn     18 29.80   0.3
                  Pg     18 36.20
                  Sg     19 07.70
SSF      2.66 307 Pg     18 36.80   6.5X
                  Sg     19 09.00
BGF      2.83 293 Pn     18 32.30  -0.4
                  Pg     18 40.50
                  Sg     19 16.50
MAF      2.92 286 Pn     18 33.50  -0.5
                  Pg     18 41.60
                  Sg     19 18.80
     S.D. = 0.5  on  15 of  18 obs.
-----------------------------------
?  NOV  08, 1989  05h 06m 34.09± 3.20s
   37.290 S ±26.4km  140.432 E ±21.9km
   DEPTH =  10.0km  (geophysicist)
   3.4mb (  1 obs.)
 NEAR SOUTH COAST OF AUSTRALIA   (600)
      ML 4.2 (TOO), 4.2 (STK), 4.2
      (CMS).

BFD      1.69  87 iPc    07 04.20   0.4
                  eS     07 29.00
TOO      4.04  96 iPd    07 37.40   0.1
                  eS     08 26.00
STK      5.48  10 ePn    07 58.00   0.2
                  ePg    08 14.00
                  eSn    09 00.00
                  eSg    09 31.00
BWA      7.09  69 iPd    08 21.90   1.5
                  iPg    08 30.00
                  eS     09 47.50
CAN      7.19  77 eP     08 20.10  -1.8
                  iPg    08 26.70
                  i(S)   09 47.20
CMS      7.31  39 eP     08 23.00  -0.4
                  eS     09 48.00
ASPA    14.69 336 eP     09 59.60  -4.3X
     Z  20s      0.47um
                  eS     12 35.10
                  LR     22 40.30
WRA     18.08 341 P      10 47.00  -0.1
      0.6s      1.70nm          3.4mb
WB5     18.14 341 eP     10 41.90  -5.8X
     S.D. = 1.2  on   7 of   9 obs.
-----------------------------------
   NOV  08, 1989  05h 12m 42.17± 0.33s
   27.655 S ± 4.2km   69.000 W ± 8.3km
   DEPTH = 117.6km  ( 12 depth phases)
   4.9mb (  8 obs.)
 NORTHERN CHILE                   (123)

RTRS     2.54 189 iPd    13 26.40   3.5X
RTLL     3.69 173 iPd    13 40.30   1.9
RTCB     3.82 177 ePc    13 41.80   1.5
ZON      3.89 176 eP     13 43.00   1.9
                  eS     14 23.00
CFA      3.99 171 iPc    13 44.00   1.5
SLA      4.29  48 iPd    13 48.00   1.3
JACH     5.20 195 iPd    13 59.00   0.0
TCA      5.31 135 iPc    14 00.20  -0.4
ROCH     5.58 198 eP     14 03.50  -0.8
                  iS     15 06.00
PEL      5.66 194 iPc    14 04.10  -1.2
                  iS     14 56.00
FCH      5.76 191 iPd    14 08.00   1.0
                  iS     15 03.50
SAN      5.95 194 eP     14 07.50  -1.8
                  iS     15 13.00
PCH      6.09 192 iPc    14 10.50  -0.7
                  iS     15 03.50
TACH     6.21 195 iPc    14 10.70  -2.1
LCCH     6.21 200 iPc    14 10.10  -2.7
YJA      6.32  31 ePc    14 14.00  -0.7
CHCH     6.42 192 eP     14 14.00  -1.7
LNV      6.61 198 iPd    14 15.00  -3.3X
                  iS     15 05.50
CCH     10.56  15 P      15 07.50  -4.3X
CNCB    10.83   5 P      15 13.60  -2.1
LPB     11.10   4 P      15 18.00  -1.1
ZOBO    11.36   4 P      15 20.80  -1.8
                  LR     19 16.00
ARE     11.38 348 eP     15 12.00 -10.6X
PPD     17.00  75 eP     16 33.50  -0.6
VAO     20.44  82 eP     17 10.60  -1.6
PDCR    31.72  68 eP     18 55.20  -1.8
AIA     37.73 177 eP     19 50.50   3.0X
RSCP    64.83 345 P      23 09.90  -0.6
      0.8s     32.05nm          5.3mb
                  pP     23 38.90 118km
TUL     68.09 337 eP     23 31.50   0.4
      1.3s     25.10nm          4.9mb
                  i      24 00.90 118km
LNO     68.09 337 e(P)   23 30.90  -0.1
                  e      24 00.80 121km
SIO     68.12 336 e(P)   23 31.00  -0.3
FVM     68.31 342 P      23 31.50  -1.0
      0.9s     32.20nm          5.2mb
                  pP     24 01.20 120km
LIC     70.29  72 P      23 45.20   0.2
     Z  22s      0.22um          4.4Msz
TIC     70.52  71 P      23 46.90   0.5
KIC     70.60  72 Pc     23 47.40   0.5
      1.0s     44.00nm          5.2mb
ALQ     71.63 328 eP     23 54.30   1.4
      1.0s      5.50nm          4.3mb
                  epP    24 23.50 116km
RSSD    78.30 335 P      24 32.00   1.3
                  pP     25 01.30 115km
BW06    79.41 331 P      24 37.80   1.0
      0.8s      6.61nm          4.5mb
                  pP     25 08.00 118km
KVN     80.65 323 P      24 43.80   0.4
                  pP     25 14.80 122km
ORV     82.84 322 eP     24 56.50   2.0
                  e      25 26.80 118km
LRM     83.09 331 eP     24 57.90   1.9
                  e      25 28.70 120km
WDC     84.13 322 ePc    25 01.50   0.5
                  e      25 31.70 117km
BUL     87.27 111 iPc    25 24.40   7.2X
      0.7s      3.42nm          4.5mb
                  ipP    25 53.50 111km
EDM     89.28 335 eP     25 26.00   0.1
BCAO    89.85  85 iPc    25 30.70   1.3
      0.7s     14.00nm          5.2mb
                  id     26 06.00 137kmX
ASPA   124.40 206 iPKPd  31 30.00   0.7
      0.6s      7.00nm
WRA    127.56 208 PKPc   31 35.50   0.0
      0.5s      4.60nm
WB5    127.61 208 ePKP   31 36.50   0.9
                  e      32 10.00
GBA    145.75 107 PKP    32 10.00   1.1
                  e      32 44.10
     S.D. = 1.3  on  43 of  49 obs.
-----------------------------------
&  NOV  08, 1989  06h 14m 24.00s
   39.829 N          105.016 W
   DEPTH =   5.0km  (geophysicist)
 COLORADO                         (479)
      <SPEC>. ML 2.5 (NEIS)  Felt (IV)
      at Thornton and (III) at
      Eastlake, Montbello, Northglenn
      and in parts of Denver. A small
      aftershock, ML 1.8, occurred
      about 90 seconds later.

GLD      0.18 244 iPc    14 28.00   0.3
                  e(S)   14 34.00
GOL      0.30 245 iPc    14 30.00  -0.2
                  e(S)   14 34.00
RSSD     4.35   9 e(Pn)  15 31.80  -0.7
                  ePg    15 40.40
BW06     4.51 312 ePn    15 32.40  -2.4
                  ePg    15 47.00
DAU      4.82 279 ePn    15 40.00   0.7
ALQ      5.01 194 e(Pg)  15 54.20  12.4
MSU      5.72 259 ePn    15 52.00   0.1
TUL      8.28 115 e(P)   16 51.10  23.5
      0 7s      2.40nm
                  eLg    18 41.50
      8 obs. associated
-----------------------------------
   NOV  08, 1989  07h 10m 49.01± 0.90s
   43.310 N ± 8.0km   20.712 E ± 8.7km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                       (383)
      ML 2.5 (TTG).

IVA      0.74 234 iPgd   11 02.80  -0.8
                  iSg    11 11.60
PVY      0.90 217 ePg    11 05.50  -0.8
                  eSg    11 17.00
PLE      0.96 272 ePg    11 07.50   0.1
                  eSg    11 20.50
NKY      1.35 249 ePg    11 14.50   0.5
                  eSg    11 31.00
TTG      1.38 231 ePg    11 15.00   0.7
                  eSg    11 31.50
SKO      1.44 158 eP     11 15.50   0.3
BEO      1.52 353 eP     11 39.50  23.3X
BZS      2.40  15 iPc    11 28.50  -0.4
     S.D. = 0.8  on   7 of   8 obs.
-----------------------------------
   NOV  08, 1989  08h 25m 51.23± 0.56s
   41.305 N ± 4.9km   20.094 E ± 5.8km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                          (391)
      ML 3.0 (SKO), 2.5 (TTG).

TIR      0.18 284 iPgc   25 54.00  -1.2
LACI     0.44 319 ePg    25 59.00  -1.2
PHP      0.46  34 iPgc   25 59.50  -1.1
OHR      0.57 110 iPgc   26 01.00  -1.8
                  iSg    26 10.30
BERA     0.61 190 ePg    26 02.00  -1.5
PUK      0.75 349 ePg    26 06.70   0.8
SDA      0.84 328 ePg    26 09.30   1.9
ULC      0.91 316 ePg    26 07.20  -1.5
                  eSg    26 22.20
TPE      1.01 184 ePn    26 11.70   1.3
BCI      1.06 359 ePg    26 09.90  -1.3
SKO      1.21  56 iPg    26 14.60   0.9
                  iSg    26 30.70
LSK      1.22 161 ePn    26 14.70   0.8
TTG      1.28 331 ePg    26 15.40   0.4
                  eSg    26 35.00
PVY      1.29 356 ePg    26 14.60  -0.6
                  eSg    26 37.00
BDV      1.36 316 ePg    26 15.60  -0.6
                  eSg    26 37.50
HCY      1.65 314 ePn    26 21.50   1.2
                  eSn    26 46.50
NKY      1.71 332 ePn    26 22.00   0.6
                  eSn    26 48.00
VAY      1.87  89 ePn    26 24.60   1.1
BRY      1.97 325 ePn    26 27.00   1.9
                  eSn    26 57.00
     S.D. = 1.3  on  19 of  19 obs.
-----------------------------------
*  NOV  08, 1989  10h 15m 09.44± 0.78s
     5.623 S ± 8.1km   76.026 W ±16.9km
   DEPTH =  33.0km  (normal)
   4.9mb (  1 obs.)
 NORTHERN PERU                    (111)

GGP      5.99 335 ePn    16 40.40   1.7
CAYA     5.99 341 eP     16 34.70  -4.0X
PT08     6.32 185 iPd    16 44.10   1.0
                  eS     17 49.20
COTA     6.35 339 P      16 27.50 -16.3X
NNA      6.37 187 iPc    16 43.00  -0.6
      0.7s     23.97nm          5.1mb X
                  eS     17 51.20
PT10     6.48 188 iP     16 44.50  -0.5
                  eS     17 55.00
PSO      6.89 349 eP     17 22.00  30.8X
BOG     10.36  11 e(P)   17 39.00  -0.3
                  e(S)   19 14.00
ZOBO    13.11 144 P      18 15.50  -1.1
     Z  18s      0.24um
                  LR     23 30.00
LPB     13.34 145 eP     18 18.00  -1.4
CNCB    13.63 145 eP     18 25.00   1.6
CCH     15.17 141 eP     18 45.00   1.7
KIC     72.14  82 (P)    26 44.30  10.9X
INK     83.77 342 eP     27 34.00  -2.3
SPA     84.41 180 eP     27 40.20   0.4
      0.8s      7.50nm          4.9mb
```

```
     S.D. = 1.5  on  11 of  15 obs.
-------------------------------------
*  NOV  08, 1989  11h 20m 48.27± 0.57s
    8.592 N ±11.6km   39.774 W ±11.7km
    DEPTH =  10.0km  (geophysicist)
    4.8mb ( 10 obs.)  4.5Msz (  1 obs.)
  CENTRAL MID-ATLANTIC RIDGE        (406)

PDCR   20.99 178 eP     25 35.30   0.9
                e       25 39.70
                e       28 51.20
                i       38 51.20
VAO    32.18 193 eP     27 15.80  -2.9
EPF    49.04  39 eP     29 38.20   0.7
       0.8s     6.70nm          4.7mb
CAF    51.11  38 eP     29 51.70  -1.5
       1.2s    14.80nm          4.8mb
TCF    51.92  36 eP     29 58.20  -1.2
       1.0s    10.80nm          4.7mb
MAF    52.10  36 eP     29 59.10  -1.6
       1.2s     7.10nm          4.5mb
BGF    52.44  36 eP     30 01.40  -1.9
       1.2s    23.80nm          5.0mb
LNO    57.63 307 e(P)   30 40.50  -0.5
                e       33 27.40
TUL    57.63 307 eP     30 42.10   1.0
       1.0s    12.30nm          4.9mb
     Z  22s     0.42um          4.5Msz
                e       30 48.80
                e       33 27.40
                LR      48 00.00
BCAO   58.04  90 eP     30 46.00   1.6
                pP      30 51.70  19kmX
MOX    59.51  35 e(P)   30 59.00   5.0X
MEO    59.61 305 iPd    30 55.30   0.3
KHC    60.02  37 P      30 57.00  -0.6
CLL    60.59  35 eP     31 02.00   0.6
       1.9s    25.00nm          5.0mb
                e       31 15.00
PRU    60.94  37 eP     31 03.50  -0.3
                e       31 20.50
ZST    61.84  39 eP     31 16.30   6.4X
KSP    62.31  36 eP     31 17.50   4.5X
SRO    62.48  40 eP     31 19.70   5.5X
KRA    64.22  38 eP     31 27.50   1.9
                e       31 32.80
HFS    64.97  26 (P)    31 29.50  -0.8
       0.4s     1.70nm          4.6mb
ALQ    66.03 304 e(P)   31 36.00  -1.9
MLR    66.95  44 eP     31 44.00   0.6
FFC    67.14 326 eP     31 43.50  -0.8
       1.0s    13.00nm          5.1mb
SES    71.50 320 eP     32 12.00   0.7
FRS    73.21 125 eP     32 23.00   1.4
                i       36 37.20
EDM    73.34 323 eP     32 23.00   0.9
HVD    73.65 125 eP     32 45.00  20.6X
KVN    75.59 308 eP     32 36.90   1.4
MBC    79.23 346 eP     32 57.00   2.2
       1.2s    11.00nm          4.7mb
INK    83.47 338 eP     33 17.00  -0.1
WRA   167.36 154 PKP    41 07.00  10.7X
       0.8s     0.50nm
     S.D. = 1.4  on  25 of  31 obs.
-------------------------------------
   NOV  08, 1989  11h 23m 02.23± 0.23s
   23.711 S ± 3.4km   67.755 W ± 6.1km
   DEPTH = 136.1km  ( 14 depth phases)
   5.0mb (  9 obs.)
 CHILE-ARGENTINA BORDER REGION     (127)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 12S, 20C
      Centroid Location:
      Origin Time        11:23:15.1 0.7
      Lat 23.74S 0.09 Lon  68.03W 0.12
      Dep 148.3 4.1 Half-duration  1.6
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.00 0.08  Mtt=-1.06 0.11
        Mff= 1.06 0.10  Mrt= 0.45 0.08
        Mrf=-0.18 0.07  Mtf=-0.57 0.11
       Principal Axes:
        T  Val=  1.27  Plg=13  Azm= 74
        N        0.05      68      308
        P       -1.32      17      168
      Best Double Couple:Mo=1.3*10**17
       NP1:Strike=210 Dip=68 Slip=  -3
```

```
       NP2:        301      87      -158
SLA     2.30 117 iPc    23 45.10   4.3X
YJA     2.58  54 iPc    23 46.20   1.5
CYA     5.03 160 e(P)   24 20.00   3.2X
CCH     6.48  14 P      24 35.50  -1.2
RTRS    6.61 193 ePd    24 39.40   1.2
CNCB    6.87 358 iPd    24 42.00  -0.3
LPB     7.15 357 iPd    24 45.10  -0.8
        1.0s  1160.00nm          6.3mb X
                S       26 40.00
ZOBO    7.41 357 iPd    24 47.80  -1.8
                LR      39 20.00
RTLL    7.62 185 iPc    24 51.70  -0.1
RTCB    7.80 187 iPd    24 54.30  -0.1
ZON     7.85 186 eP     24 55.00   0.0
CFA     7.88 183 iPd    24 55.00  -0.3
ARE     8.02 333 eP     24 52.00  -5.6X
                iS      26 16.60
RTBS    8.06 190 ePd    24 57.80   0.1
TCA     8.10 160 iPd    24 59.00   0.6
                S       26 25.00
RTCV    8.15 185 iPd    24 59.30   0.3
MRA     8.85 169 iPd    25 08.00  -0.3
JACH    9.28 195 eP     25 12.00  -2.2
PEL     9.74 195 iPd    25 17.00  -3.3X
                i(S)    27 18.10
FCH     9.84 193 eP     25 22.00   0.2
                iS      27 09.50
SAN    10.04 194 eP     25 21.50  -2.6
                iS      27 26.50
PCH    10.17 193 eP     25 23.50  -2.4
LCCH   10.29 198 iPc    25 23.10  -4.3X
TACH   10.29 195 eP     25 25.50  -2.0
                e       27 15.00
CHCH   10.50 193 ePd    25 29.00  -1.2
                i       27 16.00
LNV    10.70 197 iPd    25 28.10  -4.7X
                iS      27 28.00
RFA    11.04 183 ePd    25 35.70  -1.7
ITB1   12.24  97 Pd     25 52.70  -0.3
PT03   12.30 320 eP     25 51.90  -2.0
ITB    12.41  98 Pd     25 54.60  -0.7
ITB7   12.45  99 e(P)   26 01.80   5.9X
PT08   14.37 323 eP     26 21.90   1.0
                iS      28 48.30
PPD    15.25  87 eP     26 29.50  -2.1
                i       26 35.10
                i       26 38.70
                e       26 48.30
BMA    21.71  92 eP     27 43.30  -0.1
                e       27 46.50  12kmX
                e       27 52.50
AIA    41.60 178 eP     30 39.50   1.8
JSC    59.08 347 P      32 49.20  -1.1
PRM    59.13 346 P      32 49.60  -1.0
LHS    59.18 347 P      32 50.00  -1.0
SNA    59.65 159 iPd    32 53.50  -0.3
        0.9s    30.25nm          5.3mb
TKL    60.96 345 P      33 01.40  -1.7
GBTN   61.07 345 P      33 02.20  -1.7
RSCP   61.36 343 P      33 04.10  -1.7
PWLA   61.47 341 P      33 04.40  -2.1
BLA    61.76 349 P      33 07.60  -0.9
NAV    61.93 348 P      33 08.80  -0.8
CVL    62.18 350 P      33 10.40  -0.8
NA2    62.22 351 P      33 10.40  -1.0
UYO    62.91 335 iPc    33 15.20  -0.9
OLY    63.03 338 P      33 13.60  -3.2X
POW    63.52 339 P      33 18.20  -1.9
ELC    63.95 341 P      33 20.80  -2.0
                pP      33 54.00 138km
FVM    64.96 340 P      33 27.60  -1.7
                pP      34 00.00 133km
SPA    66.43 180 ePd    33 41.10   2.4
        0.9s    90.00nm          5.7mb
LIC    68.01  72 Pd     33 48.60  -0.5
     Z  20s     0.09um          4.0Msz
TIC    68.21  72 Pd     33 50.02  -0.4
KIC    68.32  72 Pd     33 50.44  -0.6
        1.1s    66.50nm          5.4mb
ALQ    68.92 327 eP     33 54.90   0.3
        0.9s    10.92nm          4.7mb
                epP     34 28.00 135km
WEGH   71.85  75 eP     34 13.00   0.5
LEGH   72.01  75 eP     34 13.00  -0.4
KOGH   72.15  75 eP     34 15.00   0.7
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GLD    72.17 330 P      34 15.00   0.9
GOL    72.20 330 P      34 14.80   0.5
        0.8s     8.33nm          4.5mb
BAR    72.96 318 eP     34 19.00   0.4
                e       34 54.00 142km
PLM    73.54 319 eP     34 23.00   0.8
                e       34 54.00 123kmX
TPC    73.57 320 eP     34 21.00  -1.2
PEC    74.09 319 P      34 26.40   1.2
                pP      35 00.40 137km
RVR    74.29 319 eP     34 27.00   0.7
MSU    74.60 325 P      34 29.80   1.5
                pP      35 03.80 137km
MWC    74.86 319 eP     34 31.00   1.2
SBB    75.03 319 eP     34 31.00   0.4
DAU    75.56 327 P      34 35.30   1.5
CLC    75.67 320 eP     34 35.00   0.8
ABL    75.99 318 P      34 37.80   1.6
                pP      35 11.10 133km
ISA    76.09 320 eP     34 38.00   1.5
                e       35 12.00 136km
DUG    76.18 326 P      34 38.70   1.6
BW06   76.56 330 P      34 40.00   0.8
        0.7s     5.26nm          4.4mb
WIN    76.79 109 iPc    34 42.50   1.5
TNP    77.03 322 P      34 43.40   1.5
                pP      35 16.40 131km
KVN    78.20 322 P      34 49.00   0.7
                pP      35 22.80 135km
LRM    80.22 330 eP     35 00.30   1.2
                e       35 35.50 140km
ORV    80.48 321 P      35 01.70   1.4
                pP      35 35.90 136km
LBFM   81.88 322 P      35 09.00   1.2
                pP      35 43.20 135km
MAW    81.92 163 eP     35 10.00   2.6
SES    83.12 334 eP     35 14.00   0.2
                pP      35 49.00 138km
FFC    83.46 341 eP     35 16.00   0.6
        1.1s    16.00nm          4.8mb
EDM    86.21 334 ePc    35 29.00  -0.1
TOL    86.73  44 eP     35 33.50   1.6
BUL    87.63 111 iPc    35 39.90   3.0X
        1.1s    43.67nm          5.4mb
BCAO   88.37  84 iPc    35 41.90   1.5
        0.7s    13.00nm          5.1mb
KRI    89.86 108 iPd    35 54.10   6.6X
ASPA  128.42 206 iPKPc  41 56.20   1.2
WRA   131.56 208 PKPc   42 02.40   1.4
        0.7s     5.80nm
WB5   131.60 208 ePKP   42 02.80   1.7
                e       42 42.20
                e       45 16.00
GBA   145.61 101 PKP    42 28.00   1.4
MAT   154.25 306 (PKP)  42 50.00  10.9X
        1.3s    13.46nm
     S.D. = 1.3  on  84 of  95 obs.
-------------------------------------
%  NOV  08, 1989  15h 08m 07.76± 1.66s
   41.750 N ±19.6km   28.358 E ±11.6km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

DMK     0.45 279 iPg    08 17.00   0.0
                iSg     08 24.00
CTT     0.60 175 iPg    08 20.20   0.2
                iSg     08 28.20
ISK     0.86 142 ePg    08 24.10  -0.3
                eSg     08 36.20
GBZT    1.26 139 ePn    08 31.30   0.1
                iSg     08 49.00
HRT     1.35 133 ePn    08 33.20   0.5
YLV     1.41 147 iPn    08 33.00  -0.5
     S.D. = 0.5  on   6 of   6 obs.
-------------------------------------
   NOV  08, 1989  15h 20m 51.75± 1.01s
    6.265 S ± 6.1km  108.020 E ± 8.3km
   DEPTH = 298.0 ± 11.6 km
   4.9mb ( 18 obs.)
 JAVA                               (277)

TRT     4.80 108 iPc    22 06.30  -1.1
                iS      22 08.00
MKS    11.44  85 e(P)   23 30.00   1.4
IPM    12.84 327 ePc    23 46.90   1.2
        0.8s    89.10nm          5.1mb
SNG    15.26 331 eP     24 14.80   0.2
```

08d 15h

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NANU    17.75 157 iPd    24 41.50    0.6
                  e      25 00.00
                  eS     28 06.00
MBL     18.71 143 iPd    24 50.70    0.0
                  eS     28 24.00
KNA     22.42 117 iPd    25 25.80   -1.2
NST     23.15 340 eP     25 36.00    2.1
MTN     23.70 108 iPc    25 37.90   -1.1
                  e      30 07.00
MRWA    24.04 163 iPd    25 42.30    0.3
        0.3s     5.00nm          4.4mb
BAL     25.55 162 eP     25 55.80    0.0
        0.6s    66.00nm          5.2mb
CHG     26.48 340 iPc    26 04.20    0.0
        0.9s    21.22nm          4.6mb
CHTO    26.48 340 iPc    26 04.00   -0.2
        1.1s    26.80nm          4.6mb
                  pP     27 00.40 302kmX
MUN     26.70 164 iPd    26 06.20    0.1
        0.6s    63.00nm          5.2mb
KLB     26.80 161 eP     26 06.60   -0.4
COOL    27.41 155 eP     26 11.90   -0.7
        0.3s     5.00nm          4.5mb
                  e      27 04.00 271kmX
NWAO    27.88 163 eP     26 16.00   -0.7
        0.8s    43.00nm          5.0mb
WRA     28.95 120 Pd     26 24.80   -1.5
        0.8s    41.00nm          5.0mb
ASPA    30.31 128 iPd    26 37.40   -0.8
        0.4s    47.00nm          5.4mb
                  e      27 41.70 339kmX
                  e      31 13.40
                  e      32 44.40
FORR    30.87 145 iPd    26 42.50   -0.4
        0.3s    20.00nm          5.1mb
GYA     32.55 358 P      26 58.00    0.4
OIS     33.76 118 iPd    27 07.10   -0.8
        0.2s    13.00nm          5.1mb
GBA     36.22 303 P      27 27.00   -1.6
CD2     37.19 354 eP     27 36.20   -0.4
LSA     39.26 336 Pd     27 54.40    0.2
CTA     39.56 114 iPd    27 56.20   -0.1
        1.0s    32.00nm          4.6mb
XAN     40.09   1 Pd     28 00.60    0.2
ADE     40.19 139 iPc    28 02.30    1.1
        0.8s    74.63nm          5.1mb
STK     40.39 133 iPd    28 03.40    0.5
        0.7s    73.00nm          5.1mb
POO     41.74 307 eP     28 11.50   -2.6
CMS     43.34 130 iPd    28 27.00    0.2
RMO     43.68 122 iPd    28 31.20    1.6
TIY     43.94   5 Pc     28 31.60    0.1
GTA     46.07 351 P      28 48.60    0.2
BWA     46.62 133 eP     28 54.10    1.4
BRS     47.37 122 iPc    28 59.00    0.5
                  i(PcP)30 01.30
CAN     47.46 133 eP     28 59.10    0.0
COO     47.71 126 iPc    29 02.70    1.6
        0.8s    37.00nm          4.8mb
CN2     52.27  16 eP     29 33.00   -2.0
MAW     68.36 197 eP     31 23.50    0.6
BUL     77.95 251 iPd    32 20.50    1.2
        1.0s     8.50nm          4.4mb
BCAO    89.97 274 iPc    33 19.50    0.1
        0.4s     6.00nm          4.9mb
      S.D. = 1.0  on  42 of  42 obs.
-----------------------------------------
?  NOV  08, 1989  16h 04m 45.93± 4.23s
   19.695 S ±79.1km  178.749 W ±72.3km
   DEPTH = 707.9 ± 13.2 km
 FIJI ISLANDS REGION                (181)

VUN      3.13 302 ePc    06 14.70   -0.1
DZM     14.04 258 iPc    07 44.10    0.2
BRS     27.16 248 iPc    09 50.30    9.7X
CTA     32.88 263 iPd    10 28.80    0.2
        0.8s    38.81nm
WB5     44.00 261 iPd    11 57.10   -0.3
WRA     44.02 261 Pd     11 56.90   -0.6
        0.3s     3.80nm
ASPA    44.03 256 iPd    11 57.80    0.3
        0.3s    34.00nm
                  eS     17 38.00
WARB    50.40 252 iPd    12 45.00    0.1
MBL     57.25 257 iPd    13 32.50   -0.1
        0.4s     4.00nm
CHTO    89.31 290 e(P)   16 31.90    0.2
```

```
      S.D. = 0.4  on   9 of  10 obs.
-----------------------------------------
   NOV  08, 1989  16h 49m 10.78± 0.22s
    4.529 S ± 4.0km  139.013 E ± 4.4km
   DEPTH =  33.0km  (normal)
   5.1mb ( 10 obs.)  4.5Msz (  2 obs.)
 WEST IRIAN                         (201)

JAY      2.62  40 ePd    49 49.00   -2.7
TLE      6.34 260 ePd    50 46.00    1.7
LAT      8.22 105 eP     51 13.00    2.2
KDB      9.46 122 eP     51 27.00   -0.9
MTN     11.35 223 iPd    51 51.40   -2.4
                  eS     53 54.00
RAB     13.12  89 e(P)   52 16.00   -1.5
                  eS     55 00.00
KNA     15.02 221 eP     52 41.00   -1.5
                  eS     55 23.50
WB5     15.92 196 eP     52 50.00   -4.0X
                  i      52 57.10
                  eS     55 32.50
                  iScS   04 29.50
OIS     15.94 178 iPd    52 50.20   -4.2X
                  eS     55 37.00
                  e      56 14.00
                  e      57 59.00
WRA     15.98 196 Pc     52 51.10   -3.8X
        0.6s     7.20nm          4.0mb X
CTA     17.00 156 iPd    53 08.70    1.0
        1.4s   290.70nm          5.2mb
                  i      53 20.70
                  iS     56 31.00
DAV     17.69 311 eP     53 22.00    5.6X
GUMO    18.91  18 eP     53 27.20   -4.3X
MKS     19.48 267 iPd    53 42.00    3.9X
ASPA    19.66 194 iPc    53 39.20   -0.8
        1.1s   243.00nm          5.4mb
      Z  21s     2.06um          4 9MszX
                  eS     57 09.90
                  LR     01 04.70
                  e      10 28.50
SVO     21.15 104 eP     53 55.00   -0.5
HNR     21.34 104 eP     53 56.00   -1.4
                  e(S)   57 54.00
OLP     22.49 168 ePd    54 09.40    0.5
TSM     22.66 292 ePc    54 13.90    3.4X
RMO     23.74 158 eP     54 22.30    1.2
                  e      00 10.00
WARB    24.58 208 iPd    54 30.30    1.1
        0.3s    16.00nm          5.1mb
                  eS     58 54.00
MBL     24.90 227 eP     54 33.30    1.0
                  e      59 11.00
KKM     25.07 295 ePc    54 39.00    4.9X
STK     27.32 175 eP     54 53.00   -1.6
                  e      00 01.00
CMS     27.57 167 eP     54 56.00   -0.9
                  e      04 29.00
NANU    28.94 230 eP     55 09.00   -0.3
ADE     30.29 180 e(P)   55 21.50    0.2
BWA     31.00 165 eP     55 29.90    2.3
COOL    31.15 211 eP     55 28.00   -0.9
        0.4s    10.00nm          5.0mb
DZM     31.78 126 iP     55 34.00   -0.7
BAL     33.39 216 eP     55 49.00    0.5
NWAO    34.81 213 eP     56 00.00   -0.7
      Z  20s     1.10um          4.6Msz
      N  20s     0.60um
      E  20s     0.60um
OZH     35.39 327 eP     56 07.40    1.7
SSE     39.30 336 eP     56 38.00   -0.5
SNG     40.04 287 eP     56 45.50    0.6
MAT     40.86 359 eP     56 49.00   -2.3
WHN     42.10 328 eP     57 02.70    1.2
NNT     42.58 294 iPd    57 06.20    0.6
LOE     42.78 302 iPd    57 07.00   -0.3
NST     43.40 298 eP     57 14.00    1.7
BDT     45.04 300 eP     57 25.10   -0.5
TIA     45.41 335 eP     57 27.90   -0.4
CHG     45.77 302 iPd    57 31.00   -0.4
        0.9s    23.53nm          5.1mb
CHTO    45.77 302 iP     57 31.10   -0.3
        0.8s    18.67nm          5.1mb
KMI     45.94 312 Pc     57 32.50   -0.3
XAN     47.73 326 Pc     57 46.00   -0.7
SNY     48.23 345 iPd    57 50.60    0.2
CD2     48.73 319 eP     57 54.40   -0.1
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TIY     48.75 332 eP     57 54.70    0.2
BJI     49.07 337 eP     57 56.50   -0.3
        1.5s    26.00nm          5.0mb
                  e      59 21.00
CN2     49.64 347 eP     58 00.50   -0.7
MDJ     49.65 351 eP     58 01.30    0.1
HHC     51.68 334 eP     58 17.00    0.1
LZH     52.11 324 eP     58 20.50    0.2
        1.5s    38.00nm          5.1mb
BTO     52.18 332 P      58 20.00   -0.7
GTA     56.71 324 Pc     58 53.40   -0.4
LSA     57.09 310 P      58 57.10   -0.1
GBA     63.70 287 P      59 41.00   -0.8
WMQ     66.62 322 P      00 00.40    0.1
POO     68.13 292 iPc    00 09.50   -0.7
KSH     72.52 314 eP     00 37.00    0.3
SVW     82.34  26 eP     01 31.90    1.4
TTA     82.92  25 ePc    01 34.20    0.7
MAIO    84.24 307 eP     01 36.00   -4.8X
                  i      01 42.00
IMA     85.11  22 ePc    01 45.50    0.9
PMR     85.44  27 eP     01 46.00   -0.1
        0.8s    38.10nm          5.7mb
BRW     86.25  17 eP     01 51.10    1.2
TOA     86.93  27 eP     01 54.10    0.6
FBA     87.02  24 eP     01 53.60   -0.2
INK     93.24  22 eP     02 22.00   -0.8
MBC     97.14  14 eP     02 40.00   -0.6
        0.9s     6.00nm          5.1mb
WDC     99.34  50 ePc    02 53.80    2.6
MIN    100.07  50 ePdiff02 55.70    0.9
ORV    100.18  51 e(Pdif02 55.60    0.4
CMB    101.13  52 ePdiff03 04.30    4.8X
KVN    102.85  51 Pdiff 03 09.00    1.7
NUR    105.76 332 ePKP  07 28.00   -4.2X
LRM    106.12  44 iPKPc 07 37.30    3.5X
                  e      08 12.60
FFC    110.14  33 iPKPc 07 42.80    2.1X
        1.0s    54.00nm
NB2    111.46 336 PKP   07 50.80    7.7X
        0.9s    10.00nm
BCAO   120.67 272 iPKPd 08 02.10    0.0
        0.6s     7.00nm
                  id     09 30.00
LPG    121.82 322 ePKP  08 04.00    0.3
        0.8s     4.00nm
LOR    122.60 325 ePKP  08 04.40   -0.3
        0.8s     6.70nm
LBF    122.69 325 ePKP  08 05.40    0.5
        1.0s    10.00nm
SSF    122.92 325 ePKP  08 05.90    0.6
        1.0s    12.00nm
TCF    124.09 325 ePKP  08 08.30    0.6
        0.8s    10.70nm
KIC    143.88 275 PKPd  08 43.34   -2.2X
TIC    144.15 275 PKPd  08 44.18   -1.8
LIC    144.16 274 PKPd  08 44.28   -1.7
      Z  20s     0.08um          4.5Msz
CNCB   145.92 129 PKP   08 52.00    2.4X
LPB    145.99 129 PKP   08 52.20    2.7X
        1.0s   120.00nm
ZOBO   146.13 128 PKP   08 51.00    1.0
        1.0s    55.00nm
PPD    151.73 159 ePKP  09 05.30    7.5X
VAO    152.02 168 ePKP  09 06.30    8.0X
      S.D. = 1.1  on  75 of  94 obs.
-----------------------------------------
   NOV  08, 1989  16h 55m 22.72± 0.20s
   23.633 N ± 4.1km  141.903 E ± 4.1km
   DEPTH = 139.1km  (  7 depth phases)
   5.2mb ( 21 obs.)
 VOLCANO ISLANDS REGION             (213)

GUMO    10.38 164 eP     57 50.30    1.2
        1.1s   320.38nm          5.9mb
PJG     10.38 164 eP     57 50.20    1.1
GUA     10.44 164 eP     57 51.00    1.1
        1.0s   160.00nm          5.7mb
MAT     13.25 347 iPc    58 21.90   -4.7X
        0.8s    50.75nm          5.0mb
                  eS     00 43.00
SHK     13.52 326 eP     58 29.00   -1.0
SAP     19.38 359 eP     59 38.00   -2.0
SSE     19.83 297 Pc     59 45.40    0.8
        1.0s   122.00nm          5.3mb
                  S      03 21.00
                  sS     04 05.00
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NJ2     22.01 297 Pd    00 06.40   0.0
                iS      04 03.00
                sS      04 47.00
DL2     22.99 316 eP    00 17.60   1.7
MDJ     23.23 337 eP    00 18.20   0.0
SNY     23.72 324 Pc    00 22.00  -0.9
CN2     24.25 330 iPd   00 28.00   0.1
TIA     24.79 306 Pd    00 32.60  -0.5
WHN     25.44 292 Pc    00 42.50   3.3X
                pP      01 10.50 134km
BJI     27.16 313 eP    00 55.00   0.2
        1.5s    26.00nm          4.6mb
TIY     28.83 306 eP    01 10.70   0.7
                eS      05 44.00
HHC     30.66 311 eP    01 25.20  -1.0
BTO     31.64 310 eP    01 33.90  -0.8
LZH     35.05 300 eP    02 04.50   0.3
        2.0s    47.00nm          4.9mb
KMI     35.62 281 Pc    02 11.00   1.8
GTA     38.80 304 eP    02 34.40  -1.2
CHTO    40.22 272 eP    02 48.80   1.5
        1.0s     3.25nm          4.0mb X
                pP      03 19.90 139km
BDT     40.58 269 eP    02 52.00   1.7
ADK     42.34  37 eP    03 04.20   0.0
        0.7s    65.50nm          5.4mb
WB5     43.87 190 iP    03 16.00  -0.9
WRA     43.94 190 Pd    03 16.60  -0.9
        0.5s    33.00nm          5.3mb
LSA     45.47 289 P     03 32.40   2.2
WMQ     48.45 308 iPd   03 54.10   1.2
DZM     51.32 150 iPd   04 13.00  -1.9
WARB    51.68 198 iPd   04 17.00  -0.5
SDN     52.56  37 ePc   04 22.50  -1.2
FORR    55.77 194 iPd   04 45.40  -1.8
        0.3s    64.00nm          6.0mb
SVW     56.34  31 ePc   04 51.50   0.3
TTA     56.57  29 eP    04 52.50  -0.3
BWA     58.07 174 eP    05 01.20  -2.3
IMA     58.30  26 ePc   05 05.00   0.0
        0.8s    16.10nm          5.0mb
BRW     58.73  19 eP    05 08.00   0.4
CAN     59.01 173 eP    05 08.00  -2.0
PMR     59.50  31 eP    05 11.80  -1.3
        0.9s    67.50nm          5.6mb
FBA     60.50  27 ePd   05 19.70  -0.2
                pP      05 54.10 145km
GBA     61.48 273 P     05 26.00  -1.2
INK     66.28  24 iPc   05 57.00  -0.6
        0.6s    47.00nm          5.6mb
MBC     69.29  15 iPc   06 16.00  -0.2
        0.5s    32.00nm          5.4mb
KEV     76.16 341 eP    06 56.00  -0.5
GMW     76.37  44 P     06 58.60   0.5
BMW     76.45  45 P     06 57.50  -1.2
RMW     77.02  44 P     07 02.20   0.4
LON     77.27  44 P     07 03.00  -0.2
SOD     77.52 339 iP    07 03.70  -0.4
FHC     77.90  51 ePc   07 07.40   0.6
VGB     78.39  45 P     07 09.80   0.5
WDC     79.01  51 iPc   07 13.20   0.5
                e       07 48.00 139km
DPW     79.13  42 P     07 13.60   0.3
LBFM    79.18  50 P     07 14.00   0.0
EDM     79.74  36 iPc   07 17.40   1.0
        0.8s    42.00nm          5.2mb
MIN     79.76  51 ePc   07 16.50  -0.5
ORV     80.13  51 ePc   07 18.50  -0.3
SUF     80.20 335 iP    07 18.00  -0.6
        0.7s    19.40nm          5.0mb
BRK     80.22  53 eP    07 19.20   0.0
BKS     80.24  53 eP    07 19.90   0.5
        0.9s    62.00nm          5.4mb
PCC     80.27  53 ePc   07 21.50   2.0
GCC     80.73  54 ePc   07 22.00   0.0
MHC     80.88  53 ePc   07 23.20   0.3
ARN     80.95  53 P     07 22.10  -1.1
PRS     81.47  54 ePc   07 28.10   2.3
CMB     81.52  52 ePc   07 26.30   0.2
                e       07 56.20 116kmX
                e       08 01.50
LLA     81.67  54 ePc   07 27.20   0.3
PRI     82.07  54 ePc   07 29.00  -0.1
FRI     82.43  53 ePc   07 30.80   0.0
                e       08 01.00 117kmX
                e       08 06.00
KVN     82.75  51 P     07 32.60  -0.1
                pP      08 08.90 144km
BCH     82.88  55 P     07 34.00   0.7
SYP     83.23  55 eP    07 36.00   0.9
TNP     83.79  51 P     07 38.20   0.2
        0.9s    16.67nm          4.9mb
CLC     84.47  53 eP    07 41.00  -0.2
SBB     84.78  55 eP    07 43.00   0.2
MWC     84.80  55 eP    07 43.00  -0.1
UPP     85.21 335 iP    07 43.30  -1.0
GSC     85.27  54 eP    07 46.00   0.7
RVR     85.41  55 eP    07 45.00  -0.9
PEC     85.61  55 P     07 46.80  -0.2
DUG     85.92  48 P     07 49.00   0.5
PLM     86.07  55 eP    07 49.00  -0.4
TPC     86.35  54 eP    07 50.00  -0.6
HFS     86.49 337 eP    07 49.20  -1.5
        0.6s    15.20nm          5.1mb
BAR     86.50  56 eP    07 51.00  -0.3
BW06    86.85  44 P     07 52.90  -0.2
DAU     86.87  47 P     07 53.80   0.4
MSU     87.15  49 P     07 55.10   0.5
                pP      08 30.00 136km
GLA     87.73  55 eP    07 58.00   0.7
GOL     91.13  45 P     08 14.00   0.7
        0.8s     9.38nm          5.0mb
GLD     91.20  45 P     08 14.30   0.7
        1.0s    37.50nm          5.5mb
KSP     91.74 329 iPc   08 15.30  -0.2
ALQ     92.90  50 eP    08 21.80   0.3
        1.0s     8.50nm          4.9mb
                epP     08 57.00 136km
CLL     92.93 331 eP    08 20.00  -1.0
PCH    149.96 117 ePKPd 14 58.20   4.9X
ZOBO   150.88  81 PKP   14 55.00  -0.7
        1.0s    25.00nm
LPB    150.99  81 PKP   14 57.00   1.4
CNCB   151.19  82 PKP   14 57.00   0.9
      S.D. = 1.0  on  95 of  98 obs.
-----------------------------------
    NOV  08, 1989  17h 40m 05.48± 0.53s
    42.600 N ± 4.6km   19.059 E ± 4.5km
    DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                          (383)
       ML 2.6 (TTG).

NKY     0.22 348 iPgc   40 10.70   0.4
                iSg     40 15.30
TTG     0.23 139 iPgc   40 10.90   0.6
                iSg     40 15.70
BDV     0.36 208 iPnd   40 13.20   0.3
                iSg     40 20.00
HCY     0.44 250 iPgd   40 14.40  -0.1
                eSg     40 21.60
BRY     0.48 309 ePg    40 15.00  -0.3
                eSg     40 22.00
ULC     0.65 167 ePg    40 18.00  -0.5
                eSg     40 28.40
IVA     0.68  66 ePg    40 19.00   0.1
                eSg     40 29.50
PVY     0.68  90 ePg    40 18.50  -0.5
                eSg     40 29.50
SKO     1.87 109 ePn    40 57.50  19.6X
OHR     1.98 138 ePn    40 42.70   3.3X
HVAR    2.00 288 i(Pg)  40 42.60   2.9X
                iSg     41 05.30
      S.D. = 0.5  on   8 of  11 obs.
-----------------------------------
&   NOV  08, 1989  18h 35m 05.37s
    61.447 N          149.997 W
    DEPTH =  30.6km
 SOUTHERN ALASKA                     (  2)
       <AGS-P>.

PWA     0.21  15 iP     35 11.94   0.1
                eS      35 17.21
PMS     0.29 134 eP     35 12.61  -0.3
PLRM    0.44  70 iP     35 13.85  -1.0
                Sn      35 21.25
PME     0.50  68 iP     35 14.77  -1.0
                iS      35 22.81
GHO     0.61  57 iP     35 16.40  -1.2
                Sn      35 25.89
NKA     0.93 221 eP     35 22.40   0.2
SLKM    0.95 187 eP     35 19.93  -2.7
CUT     0.97 352 eP     35 21.93  -0.9
CGLM    0.98 263 eP     35 21.99  -1.1
                Sn      35 34.93
RDT     1.46 234 eP     35 28.33  -1.7
                Sn      35 48.02
HUR     1.55   6 eP     35 31.10   0.0
                Sn      35 50.59
NNL     1.55 205 eP     35 30.68  -0.4
NCA     1.61  69 eP     35 31.06  -1.0
BRLK    1.74 195 eP     35 31.63  -2.4
FID     1.85 111 eP     35 32.96  -2.5
TOA     1.93  68 eP     35 36.31  -0.5
KLU     1.96  87 eP     35 35.21  -1.9
ILIM    2.00 228 eP     35 36.45  -1.3
                Sn      36 01.93
CNPM    2.02 198 eP     35 35.95  -2.1
RND     2.04  15 eP     35 37.21  -1.1
        20 obs. associated
-----------------------------------
*   NOV  08, 1989  18h 51m 27.17± 0.79s
    37.755 N ± 9.4km   26.771 E ±10.8km
    DEPTH =  21.6 ±  9.4 km
 DODECANESE ISLANDS                  (369)
       MD 3.1 (ATH).

SMG     0.07 131 iPbc   51 31.50   0.4
                eSb     51 35.00
CIN     1.06  98 iPgc   51 47.00   0.4
                iSg     52 04.00
APE     1.20 236 ePn    51 48.80   0.0
YER     1.35 117 ePn    51 50.20  -0.7
PRK     1.54 345 ePn    51 53.00  -0.5
EZN     2.10 351 ePn    52 02.00   0.4
KHL     2.25  75 ePn    52 09.90   6.1X
      S.D. = 0.8  on   6 of   7 obs.
-----------------------------------
%   NOV  08, 1989  19h 22m 05.46± 2.32s
    36.159 N ±24.0km    4.372 W ± 8.5km
    DEPTH =  10.0km  (geophysicist)
 STRAIT OF GIBRALTAR                 (385)
       mbLg 3.2 (MDD).

EJIF    0.93 289 eP     22 23.50   0.2
                eS      22 37.50
EHOR    1.80 337 ePn    22 36.00  -0.7
                eSn     23 00.00
ENIJ    1.91  64 ePn    22 38.20  -0.2
EBAN    2.06  13 ePn    22 41.00   0.5
                eSn     23 08.50
EVIA    2.89  30 ePn    22 52.60   0.2
                eSn     23 26.80
      S.D. = 0.7  on   5 of   5 obs.
-----------------------------------
    NOV  08, 1989  19h 30m 19.98± 0.44s
    41.827 N ± 4.1km   20.059 E ± 4.3km
    DEPTH =  10.0km  (geophysicist)
 ALBANIA                             (391)
       ML 3.0 (SKO), 2.7 (TTG).

PHP     0.32 116 iPgc   30 25.80  -0.8
LACI    0.32 234 iPgc   30 26.00  -0.7
KKS     0.36  47 iPg    30 28.00   0.6
SDA     0.46 294 iPgc   30 29.30   0.0
TIR     0.50 197 iPgd   30 30.00  -0.1
BCI     0.54   1 iPg    30 30.90   0.0
ULC     0.62 283 iPgc   30 31.30  -1.2
                iSn     30 41.00
PVY     0.77 355 ePg    30 34.50  -0.6
                eSg     30 47.00
TTG     0.85 316 ePg    30 35.40  -0.9
                eSg     30 49.40
OHR     0.91 142 iPg    30 35.70  -1.7
                iSg     30 51.90
BDV     1.02 297 ePg    30 38.90  -0.4
                eSg     30 55.50
SKO     1.04  82 ePg    30 38.70  -0.9
                i       30 39.60
                iSg     30 54.00
BERA    1.13 184 ePn    30 45.40   4.3X
NKY     1.26 322 ePg    30 44.10   0.6
                eSg     31 03.50
HCY     1.32 299 ePg    30 43.70  -0.6
                eSg     31 04.20
KBN     1.33 154 ePn    30 43.50  -1.0
TPE     1.53 181 ePn    30 50.00   2.6
BRY     1.55 314 ePn    30 48.50   0.7
                eSn     31 12.00
PLE     1.58 342 ePn    30 50.00   1.8
                eSn     31 13.00
LSK     1.73 166 ePn    30 52.40   2.1
```

08d 19h

```
VAY      1.95 104 ePn   30 53.70   0.2
     S.D. = 1.2  on  20 of  21 obs.
-----------------------------------------
   NOV  08, 1989  19h 37m 10.68± 0.99s
   36.971 N ± 9.8km    3.652 W ± 7.1km
   DEPTH =  10.0km  (geophysicist)
 STRAIT OF GIBRALTAR                (385)
      mbLg 2.6 (MDD).

AFC      0.30  17 ePg   37 16.00  -0.9
                  eSg   37 20.50
ENIJ     1.15  90 ePg   37 32.00  -0.2
EBAN     1.20 355 ePg   37 32.60  -0.4
                  eSg   37 48.00
EPRU     1.26 270 ePn   37 35.00   0.8
                  eSn   37 53.00
EHOR     1.53 304 ePn   37 38.00   0.0
EJIF     1.55 251 ePn   37 37.50  -0.8
EVIA     1.90  28 ePn   37 45.00   1.5
                  eSn   38 08.00
     S.D. = 1.1  on   7 of   7 obs.
-----------------------------------------
   NOV  08, 1989  20h 07m 10.54± 0.93s
   30.898 N ± 4.6km  141.491 E ± 6.4km
   DEPTH =  40.6 ±  7.4 km
   5.1mb ( 25 obs.)  4.7Msz (  5 obs.)
 SOUTH OF HONSHU, JAPAN             (211)
      CENTROID, MOMENT TENSOR       (HRV)
      Doto Used: GDSN
      L.P.B.: 11S, 23C
      Centroid Locotion:
      Origin Time        20:07:12.6 0.8
      Lot 30.77N 0.13 Lon 141.37E 0.07
      Dep  18.1 4.9 Half-durotion  1.5
      Moment Tensor;   Scole 10**16 Nm
        Mrr= 3.97 0.27  Mtt= 0.89 0.30
        Mff=-4.86 0.38  Mrt=-0.72 0.74
        Mrf= 1.62 0.86  Mtf=-0.04 0.31
      Principal Axes:
        T  Val=  4.40  Plg=75  Azm=221
        N        0.74      11      358
        P       -5.14      10       90
      Best Double Couple:Mo=4.8*10**16
       NP1:Strike=194 Dip=36 Slip= 109
       NP2:        350     56       76

KAKJ     5.41 349 P     08 29.20  -1.6
IIDJ     5.47 328 P     08 32.40   0.7
CHJJ     5.54 339 P     08 31.30  -1.5
                  S     09 36.50
WKYJ     5.98 305 P     08 40.80   1.8
MAT      6.26 335 iPc   08 42.70  -0.1
        1.3s   409.62nm          5.9mb
                  eS    09 52.00
MTMJ     6.45 333 eP    08 45.10  -0.5
TSRJ     6.53 317 P     08 48.10   1.5
NIIJ     6.65 343 eP    08 46.40  -1.9
TKSJ     7.00 298 P     08 55.10   1.9
YAMJ     7.36 351 eP    08 54.40  -3.8X
                  S     10 14.70
YONJ     7.98 305 eP    09 09.70   2.8
OFUJ     8.16   1 P     09 03.90  -5.5X
                  S     10 30.30
KAGJ     9.10 275 eP    09 27.90   5.5X
KUMJ     9.23 283 P     09 29.90   5.8X
SHNJ     9.34 293 eP    09 29.10   3.5X
MDJ     16.59 329 eP    11 00.00  -1.6
     Z  28s      2.10um
SSE     17.41 276 eP    11 13.00   1.0
SSE     17.41 276 eP    11 19.40   7.4X
     Z  20s      1.40um
     N  14s      1.00um
     E  14s      1.40um
                  sP    11 31.40
                  esS   14 50.00
GUMO    17.51 169 eP    11 15.70   2.4
        1.0s   252.00nm          5.3mb
GUA     17.56 169 eP    11 15.70   1.7
SNY     18.05 312 iPc   11 20.80   1.0
        1.0s      0.04nm         1.5mb X
     Z  16s      1.90um          4.5MszX
     N  14s      1.20um
     E  14s      1.10um
                  S     14 43.00
CN2     18.08 320 eP    11 19.00  -1.3
     Z  15s      2.40um
     N  14s      1.00um
     E  14s      2.00um
                  pP    11 25.50
ANP     18.52 257 e(P)  11 36.00  10.2X
NJ2     19.34 279 Pd    11 34.00  -1.4
     Z  20s      1.50um
TIA     20.96 291 eP    11 51.30  -1.1
     Z  16s      2.40um          4.7MszX
     E  15s      2.30um
QZH     21.07 259 eP    11 52.00  -1.5
     Z  20s      1.20um          4.3Msz
     N  20s      1.90um
BJI     22.49 301 ePd   12 07.00  -0.6
        1.5s   105.00nm          5.1mb
     Z  18s      2.64um          4.7Msz
     E  16s      1.67um
                  eS    16 08.00
WHN     23.32 276 eP    12 15.50  -0.3
     Z  18s      1.80um          4.6Msz
     N  16s      1.40um
     E  16s      1.90um
                  eS    16 20.00
BAG     23.91 238 eP    12 22.00   0.1
TIY     24.88 294 Pd    12 31.00   0.0
        1.0s      0.10nm          2.3mb X
     N  16s      2.00um
HHC     26.10 301 Pd    12 42.20  -0.1
     Z  20s      3.40um          4.9Msz
     N  15s      0.60um
     E  17s      2.20um
BTO     27.19 300 eP    12 52.00  -0.4
     N  16s      1.50um
     E  16s      3.40um
GYA     30.80 271 P     13 23.40  -1.5
LZH     31.68 290 eP    13 30.50  -2.1
        1.1s     19.00nm          4.8mb
     Z  16s      0.80um          4.5MszX
     E  15s      0.40um
                  (S)   18 46.00
CD2     32.28 280 eP    13 35.50  -2.2
     Z  16s      1 07um          4.6MszX
     E  16s      0.79um
KMI     34.57 270 Pd    13 57.00  -0.9
     Z  14s      1.20um          4.8MszX
                  S     19 44.00
GTA     34.87 296 Pd    13 59.00  -1.1
     Z  16s      2.00um          5.0MszX
     E  15s      1.90um
LOE     38.48 259 iPd   14 29.00  -1.6
CHG     40.21 263 iPc   14 44.90  -0.1
        0.9s     14.50nm          4.8mb
CHTO    40.21 263 iPc   14 44.60  -0.4
        1.0s      9.00nm          4.5mb
WMQ     43.94 303 iPd   15 16.40   1.1
MTN     44.62 194 eP    15 20.00  -0.8
WB5     50.95 189 eP    16 08.60  -1.5
WRA     51.01 189 Pd    16 09.40  -1.2
        0.8s     12.60nm          5.0mb
QIS     51.19 182 eP    16 10.00  -2.0
KSH     53.18 298 eP    16 22.00  -5.0X
FBA     54.32  30 eP    16 34.00  -0.8
        0.7s      1.40nm          4.1mb
ASPA    54.74 189 iPc   16 36.80  -1.5
        0.6s     12.00nm          5.1mb
     Z  22s      0.33um          4.3MszX
                  LR    38 45.60
NDI     55.12 285 iPc   16 40.80  -0.4
        0.9s     58.82nm          5.6mb
DZM     57.86 152 iPc   17 01.50   0 8
INK     59.85  25 eP    17 12.00  -1.9
GBA     60.98 269 P     17 22.00  -0.4
MBC     62.39  15 eP    17 30.00  -1.1
        1.0s      6.00nm          4.7mb
QUE     63.00 291 eP    17 35.00  -0.9
BWA     65.30 174 eP    17 51.10   0.6
CAN     66.24 173 eP    17 55.70  -0.8
                  e     18 27.80 132kmX
MAIO    66.56 299 iPc   18 00.20   1.4
KEV     69.21 340 eP    18 15.00   0.3
SOD     70.65 338 iP    18 23.60   0.1
SUF     73.50 334 iP    18 40.50   0.0
        0.8s     14.40nm          5.0mb
EDM     74.15  37 eP    18 43.00  -1.5
TAB     75.36 306 eP    18 53.00   1.1
NUR     75.40 333 iP    18 51.50   0.0
UPP     78.50 335 iP    19 08.60  -0.1
LRM     78.52  43 eP    19 09.20  -0.3
FFC     78.84  32 eP    19 10.00  -0.7
        0.9s      9.00nm          4.7mb
HFS     79.71 336 eP    19 15.00  -0.2
        0.9s     16.50nm          5.0mb
NB2     79.87 338 P     19 16.40   0.2
        0.8s     12.30nm          4.9mb
KVT     80.71 312 eP    19 22.80   1.8
VRI     83.46 320 ePd   19 37.00   1.8
MLR     84.12 320 eP    19 39.50   0.8
KRA     84.22 326 iPc   19 39.90   1.0
        1.1s     79.00nm          5.7mb
     Z  18s      1.10um          5.3Msz
                  e     19 44.70  15kmX
                  e     19 55.00
SPC     84.66 326 eP    19 42.70   1.3
BHL     84.92 307 P     19 44.50   1.6
HRI     85.21 306 eP    19 45.00   0.7
KSP     85.35 329 iPc   19 45.60   1.0
        1.0s     37.00nm          5.5mb
                  e     23 04.00
CLL     86.45 331 iPc   19 50.40   0.4
        1.5s     40.00nm          5.4mb
SRO     86.54 326 eP    19 51.10   0.6
PRU     86.75 329 ePc   19 52.00   0.5
ZST     86.85 326 eP    19 52.90   0.9
PRNI    87.37 304 eP    19 56.00   1.1
MBH     87.78 304 eP    19 57.50   0.7
KHC     87.80 329 Pc    19 56.70   0.0
        1.3s     10.00nm          4.9mb
PTJ     89.03 325 eP    20 02.60  -0.1
LJU     89.62 326 e(P)  20 05.50   0.2
VBY     89.66 325 eP    20 06.50   1.0
OHR     89.82 319 eP    20 01.50  -4.9X
CEY     89.89 326 e(P)  20 06.50  -0.1
VOY     89.93 326 e(P)  20 06.80  -0.1
FVI     90.04 327 P     20 06.60  -0.6
TRI     90.23 326 P     20 07.30  -0.8
CTI     90.97 328 Pc    20 11.20  -0.5
VAI     92.41 329 Pc    20 18.20   0.1
PGD     92.57 326 P     20 20.60   1.4
LOR     93.35 333 eP    20 23.00   0.5
        0.8s      8.00nm          5.2mb
LBF     93.53 332 eP    20 23.70   0.3
        1.0s     10.00nm          5.2mb
LPG     93.57 330 eP    20 24.50   0.6
        1.1s     17.00nm          5.4mb
SSF     93.65 333 eP    20 24.60   0.7
        1.0s     12.00nm          5.3mb
SMF     93.86 332 eP    20 25.30   0.4
        1.0s     10.00nm          5.2mb
AVF     93.94 333 eP    20 25.70   0.5
        0.8s     14.70nm          5.5mb
BNI     93.96 330 P     20 25.60   0.1
AIA    142.13 163 ePKP  26 37.00  -2.3X
ZOBO   149.32  68 PKP   26 55.00   1.7
     Z  24s      0.13um          4.6MszX
                  eLR   18 36.00
LPB    149.48  69 ePKP  27 00.00   6.6X
CNCB   149.73  69 ePKP  26 57.00   3.1X
                  e     27 00.00
     S.D. = 1.1  on  93 of 105 obs.
-----------------------------------------
&  NOV  08, 1989  21h 03m 21.00s
   36.943 N          121.603 W
   DEPTH =   4.0km
 CENTRAL CALIFORNIA                  ( 39)
      <BRK>. ML 2.8 (BRK).

SAO      0.22 144 iPd   03 25.70   0.3
GCC      0.33 286 iPc   03 27.30  -0.3
                  iS    03 33.30
MHC      0.40 356 iPd   03 29.10   0.1
                  iS    03 35.50
ARN      0.41   8 iPd   03 29.00  -0.2
LLA      0.62 121 iPc   03 32.90  -0.5
PRS      0.64 163 iPd   03 33.30  -0.5
PCC      0.83 312 iPc   03 36.50  -1.1
BKS      1.06 332 eP    03 40.70  -0.8
BRK      1.07 331 ePc   03 40.80  -0.8
PRI      1.10 136 ePc   03 42.50   0.2
ZSP      1.13 333 ePc   03 42.30  -0.4
                  eS    03 58.30
CMB      1.46  41 ePc   03 46.30  -1.9
FRI      1.52  88 ePc   03 47.70  -1.3
KVN      3.48  52 e(P)  04 19.00   1.8
        14 obs. associated
-----------------------------------------
?  NOV  08, 1989  21h 06m 32.48± 9.14s
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37.113 N ±46.2km 20.182 E ±79.0km
DEPTH = 10.0km (geophysicist)
IONIAN SEA (399)
ML 3.7 (ATH).

VLS	1.11	17	ePg	06 53.20	-0.1
VLI	2.24	99	ePb	07 10.20	0.0
KEK	2.61	354	ePg	07 24.70	9.3X
ATH	2.94	72	ePg	07 22.50	2.5X
NEO	3.25	47	ePn	07 22.00	-2.5X
KZN	3.42	21	ePn	07 28.00	1.0
LIT	3.49	31	ePc	07 35.10	7.2X
KBN	3.54	8	ePn	07 31.00	2.5X
OHR	4.02	7	ePn	07 33.50	-2.0X
KNT	4.56	27	ePd	07 41.60	-1.5
VAY	4.59	23	ePn	07 44.70	1.2
SKO	4.95	11	ePn	07 48.00	-0.6

S.D. = 1.3 on 6 of 12 obs.

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* NOV 08, 1989 21h 23m 48.99± 1.91s
31.292 S ± 9.6km 68.209 W ±13.9km
DEPTH = 10.0km (geophysicist)
SAN JUAN PROVINCE, ARGENTINA (137)

RTLL	0.23	260	iPc	23 54.20	0.3
CFA	0.31	185	iPc	23 56.00	0.4
ZON	0.47	238	iPd	23 58.00	-0.6
			eS	24 06.00	
RTCB	0.54	249	iPd	24 00.00	0.0
RTCV	0.63	206	iPd	24 00.00	-1.7
RTBS	1.12	251	iPd	24 09.80	-0.2
RTRS	1.55	316	iPd	24 16.20	-0.5
JACH	2.45	235	iPd	24 31.00	1.2
			iS	25 06.90	
FCH	2.69	220	iPd	24 35.00	1.6
			iS	25 13.00	
PEL	2.79	228	iPd	24 35.20	0.6
			iS	25 18.00	
ROCH	2.91	234	ePc	24 37.20	0.8
PCH	3.03	219	ePd	24 38.50	0.5
			iS	25 19.50	
TACH	3.30	224	iPd	24 41.50	-0.2
			iS	25 23.20	
CHCH	3.34	217	ePd	24 42.50	0.1
			iS	25 26.00	
LCCH	3.58	232	iPd	24 46.00	0.3
LNV	3.79	225	iPc	24 46.00	-2.6
			iS	25 32.00	

S.D. = 1.1 on 16 of 16 obs.

? NOV 08, 1989 21h 41m 27.74± 2.12s
7.560 S ±16.7km 129.056 E ±19.9km
DEPTH = 130.3 ± 26.2 km
4.5mb (3 obs.)
BANDA SEA (280)

TLE	4.14	63	iPc	42 30.10	-0.1
			iS	43 30.80	
MTN	5.64	159	iPd	42 52.10	1.6
			eS	43 53.00	
KNA	8.14	182	eP	43 24.20	-0.3
			eS	44 51.50	
WB5	13.29	158	eP	44 30.80	-1.7
			eS	46 51.20	
WRA	13.33	158	Pd	44 31.30	-1.8
	0.2s		1.20nm		4.0mb
MBL	16.19	212	eP	45 08.80	-0.4
			eS	47 58.00	
QIS	16.47	143	eP	45 13.00	0.4
			eS	48 05.00	
ASPA	16.68	164	eP	45 16.60	1.4
	0.4s		22.00nm		4.8mb
			eS	48 12.60	
WARB	18.66	187	eP	45 39.10	0.7
			eS	48 59.00	
FORR	23.19	182	eP	46 23.80	0.1
	0.4s		10.00nm		4.6mb

S.D. = 1.4 on 10 of 10 obs.

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* NOV 08, 1989 21h 48m 29.58± 0.94s
36.190 N ±21.8km 31.370 E ±24.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

BCK	1.41	334	ePn	48 56.20	0.8
PPCY	1.53	148	eP	48 57.50	0.6
CSS	2.01	127	eP	49 02.50	-1.5
KHL	2.59	326	ePn	49 09.90	-2.4X
CIN	2.98	299	eP	49 17.00	-0.8
HRI	4.63	128	e(P)	49 44.00	2.7X
DSI	5.69	143	e(P)	49 57.00	0.9
MBH	7.05	154	e(P)	50 10.00	-5.3X

S.D. = 1.5 on 5 of 8 obs.

? NOV 08, 1989 22h 56m 27.71± 3.13s
66.983 N ±11.5km 21.691 E ±33.5km
DEPTH = 10.0km (geophysicist)
SWEDEN (536)
MD 3.0 (BER).

TRO	2.85	340	iP	57 13.93	-0.1
			eS	57 46.02	
LOF	3.33	294	eP	57 21.11	0.3
			eS	57 58.70	
NSS	4.70	243	iP	57 39.90	-0.4
			eS	58 31.10	
NRA0	7.70	220	eP	58 22.70	0.3
			iS	59 45.60	

S.D. = 0.6 on 4 of 4 obs.

NOV 09, 1989 00h 29m 10.36± 0.24s
29.541 N ± 4.8km 140.742 E ± 4.7km
DEPTH = 112.4km (8 depth phases)
4.8mb (14 obs.)
SOUTH OF HONSHU, JAPAN (211)

MAT	7.30	344	eP	30 55.00	-0.9
	0.5s		176.06nm		5.9mb X
			eS	32 16.00	
GUMO	16.33	166	eP	32 55.40	1.1
	0.7s		96.57nm		5.2mb
PJG	16.33	166	eP	32 55.50	1.2
GUA	16.39	165	eP	32 54.80	-0.3
	0.5s		78.87nm		5.2mb
SSE	16.96	280	eP	33 06.60	4.6X
MDJ	17.45	333	eP	33 06.00	-2.0
CN2	18.74	324	eP	33 23.00	-0.1
NJ2	18.97	283	Pc	33 25.00	-0.4
TIA	20.89	295	eP	33 47.10	1.8
BJI	22.67	304	eP	34 01.50	-1.1
WHN	22.86	279	eP	34 05.50	0.9
HHC	26.26	303	eP	34 31.70	-5.1X
BTO	27.33	302	eP	34 47.80	1.3
XAN	27.36	288	Pc	34 45.20	-1.6
CHG	39.41	264	ePd	36 31.00	0 1
	0.9s		23.11nm		5.0mb
CHTO	39.41	264	iPd	36 31.20	0.3
	0.9s		23.44nm		5.0mb
			pP	36 57.00	112km
BDT	40.01	262	eP	36 37.00	1.2
WMO	44.14	304	P	37 08.00	-1.3
WB5	49.52	188	eP	37 49.00	-2.4
			e	38 17.00	120km
			iPcP	39 11.80	
			iScP	42 56.50	
WRA	49.58	188	Pc	37 49.30	-2.7
	0.3s		2.60nm		4.6mb
SVW	51.92	34	eP	38 09.80	0.5
TTA	52.00	31	P	38 09.70	-0.2
	0.9s		8.33nm		4.7mb
KDC	53.25	38	P	38 17.50	-1.5
ASPA	53.31	188	eP	38 16.30	-3.6X
IMA	53.50	28	eP	38 20.80	-0.2
BRW	53.56	21	eP	38 21.50	0.4
PMR	55.08	33	eP	38 31.40	-1.0
	0.9s		17.40nm		5.0mb
FBA	55.82	29	eP	38 37.70	0.0
DZM	56.97	151	iPc	38 45.90	-0.5
GBA	60.31	269	P	39 09.00	-0.7
INK	61.35	25	eP	39 15.00	-1.0
MBC	63.87	15	eP	39 34.00	1.4
	0.5s		2.00nm		4.3mb
KEV	70.26	340	iP	40 13.10	0.4
	0.6s		9.10nm		4.8mb
SOD	71.67	338	iP	40 21.50	0.3
GMW	72.89	45	P	40 29.50	0.7
BMW	73.07	46	P	40 30.20	0.3
LON	73.83	45	P	40 34.80	0.5
PNT	74.01	42	eP	40 35.00	-0.3
SUF	74.44	334	iP	40 37.70	0.3
	0.5s		10.40nm		4.9mb
EDM	75.62	37	ePc	40 44.40	0.0
WDC	76.10	51	ePc	40 47.70	0.4
NUR	76.31	333	iP	40 48.40	0.3
MIN	76.84	51	eP	40 51.30	-0.4
			e	41 19.70	111km
ORV	77.28	52	ePc	40 53.80	-0.1
			e	41 22.40	112km
ARN	78.29	54	P	40 59.60	0.1
SES	78.31	38	ePc	40 59.30	-0.1
			pP	41 27.00	107km
CMB	78.76	53	ePc	41 02.30	0.2
			e	41 31.00	112km
PRS	78.88	55	ePc	41 03.10	0.3
LLA	79.05	54	eP	41 04.00	0.3
UPP	79.44	335	iP	41 05.30	0.1
FRI	79.74	53	eP	41 07.20	-0.1
			e	41 36.30	113km
KVN	79.84	51	P	41 08.30	0.2
LRM	79.95	43	eP	41 09.20	0.6
			e	41 38.20	113km
HFS	80.68	336	eP	41 11.40	-0.4
	0.5s		10.40nm		4.9mb
NB2	80.88	338	P	41 13.10	0.2
	0.6s		4.10nm		4.4mb
TNP	80.92	51	P	41 13.30	-0.5
	1.0s		10.83nm		4.6mb
DUG	82.74	48	P	41 23.50	0.3
	0.6s		2.47nm		4.3mb
PEC	83.09	55	P	41 24.60	-0.3
BW06	83.36	44	P	41 26.30	-0.1
PLM	83.58	55	P	41 27.30	-0.3
DAU	83.62	47	P	41 28.40	0.5
BBTK	83.92	313	eP	41 30.00	0.9
MSU	84.07	49	P	41 31.10	1.1
VRI	84.08	320	ePc	41 32.00	2.3
MLR	84.75	320	eP	41 20.00	-13.2X
GLA	85.19	55	P	41 33.80	-1.7
KSP	86.17	328	iPc	41 40.60	0.7
ZOBO	150.41	70	PKP	48 47.00	1.2
	1.0s		14.50nm		
LPB	150.56	70	PKP	48 48.00	2.2X
CNCB	150.80	71	PKP	48 48.50	2.2X

S.D. = 1.0 on 64 of 70 obs.

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* NOV 09, 1989 00h 49m 12.74± 2.95s
38.074 N ±26.4km 22.039 E ±14.9km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 2.9 (ATH).

VLS	1.15	276	ePb	49 34.20	0.0
NEO	1.54	37	ePb	49 40.30	0.0
LIT	2.05	10	ePd	49 47.80	0.1
KZN	2.24	355	ePn	49 50.20	-0.3
OHR	3.18	343	ePn	50 04.00	0.2

S.D. = 0.2 on 5 of 5 obs.

NOV 09, 1989 01h 36m 57.79± 0.31s
46.399 N ± 6.4km 150.153 E ± 4.9km
DEPTH = 190.0km (geophysicist)
5.0mb (42 obs.)
KURIL ISLANDS (221)

OFUJ	9.61	223	eP	39 07.60	-5.3X
MDJ	14.53	270	eP	40 14.00	-1.6X
CN2	17.62	270	Pd	40 48.60	-3.9X
BJI	25.43	268	eP	42 11.00	1.7
	1.0s		4B.00nm		5.1mb
HHC	28.28	273	Pc	42 35.20	-0.1
TIY	29.09	266	eP	42 42.80	0.3
XAN	33.45	263	P	43 19.60	-0.8
TTA	34.03	41	ePc	43 25.40	0.2
SVW	34.16	45	eP	43 27.00	0.8
BRW	35.19	27	ePc	43 34.80	0.1
IMA	35.29	36	ePc	43 36.10	0.3
LZH	35.85	270	iPc	43 41.50	0.6
	1.0s		66.00nm		5.2mb
GTA	37.00	278	iPc	43 50.60	0.1
PMR	37.27	44	eP	43 52.80	0.5
	0.9s		13.50nm		4.6mb
FBA	37.70	38	ePc	43 56.70	0.8
CD2	38.81	263	iPc	44 05.80	0.2
GYA	39.65	255	P	44 12.80	0.3
INK	43.04	32	iPc	44 40.10	0.6
	0.6s		22.00nm		4.9mb
WMO	43.14	290	iPd	44 40.60	-0.2
KMI	43.17	257	eP	44 41.00	-0.4
MBC	45.62	20	ePc	44 59.60	-0.4
	0.5s		14.00nm		4.7mb
CHG	50.05	254	ePc	45 35.10	0

09d 01h

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        0.9s    12.60nm          4.5mb
CHTO    50.05 254 iPc   45 35.50   0.5
        0.8s     9.15nm          4.4mb
KSH     52.92 291 eP    45 56.50   0.2
KEV     56.98 340 eP    46 23.00  -2.0
PNT     57.04  51 eP    46 25.00  -0.8
        0.6s     6.00nm          4.5mb
EDM     58.02  45 iPc   46 31.90  -0.6
        0.6s    22.00nm          5.1mb
NDI     58.46 280 iPc   46 35.40  -0.4
SOD     58.82 338 iP    46 35.60  -2.3
SES     60.87  46 eP    46 51.00  -1.1
CMB     63.38  62 e(P)  47 09.60   0.7
KVN     64.12  60 iPd   47 14.00   0.2
                pP      47 57.70 186kmX
MAIO    65.23 297 eP    47 21.00   0.2
FRB     66.03  18 eP    47 22.00  -3.3X
        0.4s    26.00nm          5.4mb
UPP     67.23 336 iP    47 30.80  -2.1
WB5     67.49 196 eP    47 33.90  -1.1
WRA     67.56 196 Pd    47 33.90  -1.6
        0.9s     5.00nm          4.3mb
NB2     67.88 340 P     47 35.00  -2.1
        0.7s    12.70nm          4.8mb
HFS     68.05 338 eP    47 35.60  -2.5
        0.5s    20.80nm          5.1mb
GBA     68.37 267 P     47 40.00  -0.6
ASPA    71.27 196 iPd   47 58.10   0.1
ALQ     73.75  56 eP    48 13.00   0.3
KRA     74.70 329 eP    48 17.00  -0.7
        0.7s    38.00nm          5.2mb
KSP     75.27 332 iPc   48 20.00  -0.9
        0.8s    25.00nm          5.0mb
SPC     75.32 329 iP    48 21.70   0.3
CLL     75.91 334 iPc   48 23.30  -1.2
        1.1s    40.00nm          5.1mb
MLR     76.15 323 ePd   48 26.00  -0.1
EKA     76.17 345 P     48 26.00   0.1
        0.8s    18.20nm          4.9mb
PSZ     76.51 328 eP    48 27.70  -0.3
PRU     76.58 332 iP    48 28.50   0.3
MOX     76.91 334 eP    48 31.00   0.9
WTS     77.05 338 eP    48 30.50  -0.2
        0.7s    35.00nm          5.2mb
HOF     77.13 334 eP    48 30.80  -0.5
SRO     77.17 329 eP    48 31.60   0.1
ZST     77.27 330 eP    48 32.60   0.6
BBTK    77.56 316 eP    48 34.00   0.1
KHC     77.64 332 P     48 34.30   0.2
ENN     78.40 338 eP    48 37.50  -0.7
        0.7s    29.00nm          5.1mb
                i       48 41.90
MEM     78.53 338 Pc    48 38.70  -0.1
SNF     79.06 339 P     48 41.40  -0.3
WLF     79.35 337 P     48 43.40   0.1
DOU     79.36 338 P     48 43.50   0.1
PTJ     79.64 329 eP    48 44.00  -1.1
FVI     80.12 332 Pd    48 47.20  -0.2
CDF     80.18 336 eP    48 47.70  -0.2
        0.6s    12.60nm          4.8mb
OGA     80.44 333 eP    48 50.10   0.7
BHL     80.67 310 P     48 52.00   1.3
HAU     80.81 336 eP    48 51.00  -0.1
        0.6s     9.00nm          4.7mb
BSF     80.84 336 eP    48 51.10  -0.3
        0.6s     5.40nm          4.5mb
SKO     80.90 324 iP    48 51.20  -0.4
        1.0s    49.00nm          5.2mb
                e       48 52.00
CTI     B0.97 332 Pd    48 51.20  -0.9
HRI     81.11 309 eP    48 54.00   1.0
FLN     81.B3 341 eP    48 56.50   0.1
        0.6s    25.90nm          5.1mb
OHR     81.88 324 eP    48 56.00  -0.8
        0.8s     0.06nm          2.4mb X
LDF     81.91 341 eP    48 56.90   0.1
        0.6s    14.40nm          4.9mb
AI      B2.04 334 Pd    48 57.70   0.3
OR      B2.16 338 eP    48 58.40   0.3
        0.6s    28.10nm          5.2mb
R       B2.27 341 eP    48 59.30   0.7
        0.6s    50.50nm          5.4mb
        82.39 337 eP    4B 59.40   0.0
        0.6s    15.30nm          4.9mb
        82.44 338 eP    48 59.80   0.2
        0.6s    20.20nm          5.0mb
        82.49 334 P     48 59.08  -0.9
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LPF     82.64 341 eP    49 01.20   0.6
        0.8s    56.40nm          5.4mb
AVF     82.73 338 eP    49 01.40   0.4
        0.5s    18.90nm          5.1mb
SMF     82.74 337 eP    49 01.40   0.3
SFI     82.79 331 P     49 02.50   1.2
BOB     82.81 333 Pd    49 02.20   0.6
PGD     82.87 331 Pd    49 03.30   1.3
LSD     82.89 335 P     49 02.56   0.3
MME     82.93 332 Pd    49 03.50   1.1
LPG     82.97 335 eP    49 03.40   0.7
        0.8s    25.50nm          5.0mb
CRE     83.01 331 P     49 03.20   0.5
BDI     83.08 332 Pd    49 02.60  -0.4
BGF     83.08 338 eP    49 03.30   0.5
        0.6s    14.40nm          4.9mb
RSP     83.14 335 P     49 03.49   0.2
ALP     83.20 329 eP    49 03.99   0.3
PCP     83.30 333 P     49 03.28  -0.8
BNI     83.40 335 Pd    49 05.70   1.0
PII     83.41 332 P     49 04.30  -0.2
MAF     83.46 338 eP    49 05.70   0.9
CKI     83.49 334 Pd    49 04.80  -0.1
RRL     83.49 335 P     49 05.64   0.4
TCF     83.49 338 eP    49 05.60   0.6
        0.8s    21.40nm          4.9mb
LSF     83.70 339 eP    49 06.60   0.6
FIN     83.70 334 P     49 05.54  -0.5
DOI     83.73 334 P     49 05.00  -1.3
ROB     83.73 334 P     49 06.15  -0.1
PRNI    83.77 308 iPc   49 07.50   0.9
PZZ     83.77 334 P     49 05.64  -0.9
MFF     83.78 340 eP    49 07.00   0.6
        0.6s    34.20nm          5.3mb
ENR     83.93 334 P     49 05.90  -1.4
STV     83.94 334 P     49 05.95  -1.4
SDI     84.06 329 P     49 07.40  -0.5
IMI     84.07 334 P     49 08.21   0.2
SBF     84.25 334 eP    49 08.80  -0.1
        0.6s     5.10nm          4.4mb
MBH     84.28 308 iPc   49 10.00   0.9
RJF     84.59 338 eP    49 11.50   1.1
        0.6s    19.80nm          5.0mb
CAF     84.80 338 eP    49 12.60   1.1
        0.8s    41.60nm          5.2mb
CSI     84.81 326 P     49 11.50  -0.2
ROI     84.88 326 P     49 12.60   0.5
TDS     84.90 326 Pd    49 12.20   0.1
LMR     85.01 334 eP    49 13.00   0.4
        0.8s    16.10nm          4.8mb
LFF     85.12 339 eP    49 14.30   1.2
        0.7s    53.70nm          5.4mb
LPO     85.25 338 eP    49 14.70   0.9
        0.8s    37.60nm          5.2mb
CZI     85.36 326 P     49 10.60  -3.7X
EPF     87.01 338 eP    49 23.00   0.5
        0.7s    12.50nm          4.9mb
PDCR   145.34  16 ePKP  56 14.70   0.3
      S.D. = 0.8  on 121 of 126 obs.
-----------------------------------------
&  NOV  09, 1989  02h 05m 17.40s
   36.842 N          121.557 W
   DEPTH =   5.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).

SAO      0.12 130 iPd   05 19.80  -0.1
GCC      0.40 298 ePd   05 25.00  -0.4
MHC      0.50 352 iPd   05 27.70   0.2
                  eS    05 35.20
ARN      0.51   2 iPd   05 27.40  -0.2
PRS      0.53 163 ePd   05 27.70  -0.3
LLA      0.54 114 ePc   05 27.90  -0.4
                  iS    05 36.90
PCC      0.93 315 ePc   05 34.50  -1.1
PRI      1.00 134 ePd   05 36.80  -0.1
BKS      1.17 333 eP    05 39.30  -0.3
BRK      1.17 332 e(P)  05 39.50  -0.2
                  e(S)  05 56.20
ZSP      1.23 333 ePc   05 40.80   0.0
FRI      1.49  84 e(P)  05 41.80  -3.0
                  eS    06 03.30
CMB      1.51  38 eP    05 43.50  -1.7
                  eS    06 02.60
KVN      3.51  50 eP    06 20.50   6.6
        14 obs. associated
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%  NOV  09, 1989  02h 08m 09.30± 0.63s
   11.391 N ± 5.9km   42.710 E ± 3.5km
   DEPTH =  10.0km  (geophysicist)
 ETHIOPIA                          (558)
      ML 3.5 (ARO).

SGH      0.09 302 iP+   08 11.94   0.1
ARO      0.19  45 iP    08 14.20   0.6
                  S     08 18.12
DAF      0.28 321 iP+   08 15.18   0.0
KSU      0.29 296 iP+   08 15.50   0.2
GBR      0.34 226 iP+   08 16.31   0.0
HLD      0.34 307 iP+   08 16.11  -0.2
TDD      0.45  25 iP+   08 18.63   0.1
ATA      0.49  82 iP+   08 19.39   0.1
MKL      0.54  53 iP+   08 20.05  -0.1
OBO      0.82  44 iP+   08 24.50  -0.7
      S.D. = 0.4  on  10 of  10 obs.
-----------------------------------------
   NOV  09, 1989  02h 26m 51.51± 0.34s
    6.670 S ± 5.2km  132.272 E ± 6.9km
   DEPTH =  33.0km  (normol)
   4.9mb (  9 obs.)
 TANIMBAR ISLANDS REGION           (281)

AAI      5.03 306 ePd   28 08.10   1.5
MTN      6.24 190 iPc   28 24.90   1.1
JAY      9.36  64 ePd   29 06.80  -0.5
KNA      9.66 201 eP    29 10.50  -0.8
                  eS    30 53.50
WB5     13.29 171 eP    29 56.30  -4.2X
                  i     29 58.10
                  eS    32 17.00
WRA     13.35 172 Pc    29 57.20  -4.0X
        0.5s    13.90nm          5.2mb
PMG     14.98 101 eP    30 23.00   0.3
OIS     15.53 153 iPc   30 26.50  -3.3X
                  e     30 39.00
                  eS    33 06.60
ASPA    16.97 175 iPc   30 45.40  -2.8
        0.7s   104.00nm          5.1mb
      Z  22s     0.36um          4.5Msz
                  eS    33 40.60
                  LR    37 18.40
CTA     19.03 136 iPc   31 14.10   0.5
        1.0s    40.00nm          4.6mb
WARB    20.13 195 eP    31 25.00  -0.8
        0.4s    14.00nm          4.7mb
                  eS    34 57.00
KKM     20.40 308 ePd   31 28.00  -0.7
OLP     22.85 151 iPd   31 54.60   1.5
                  e     36 04.00
FORR    24.37 189 iPd   32 08.50   0.7
        0.5s    43.00nm          5.3mb
RMQ     25.20 143 eP    32 15.00  -0.8
                  e     32 32.00
STK     26.55 162 ePd   32 28.50   0.2
                  e     37 04.00
BRS     28.35 139 iPd   32 44.00  -0.8
                  i     32 59.50
ADE     28.78 169 iPd   32 49.20   0.7
        0.6s    29.33nm          5.2mb
BWA     31.39 154 eP    33 13.20   1.5
                  e     33 25.10
BFD     31.78 164 eP    33 15.00  -0.1
CAN     32.40 154 eP    33 21.00   0.4
                  e     33 35.20
LOE     38.51 309 eP    34 12.20  -0.6
NST     38.81 305 iPc   34 17.00   1.7
SSE     39.02 345 P     34 17.40   0.6
        0.8s    16.00nm          4.8mb
BDT     40.57 306 eP    34 30.50   0.7
CHG     41.48 308 iPc   34 37.30   0.0
        1.0s    15.00nm          4.7mb
CHTO    41.48 308 iPc   34 37.70   0.4
        1.0s    14.25nm          4.7mb
XAN     46.13 333 P     35 14.00  -0.7
TIY     47.87 339 Pc    35 27.90  -0.6
BJI     48.79 344 eP    35 34.50  -0.9
GTA     54.80 329 iPc   36 20.60  -0.2
GBA     58.04 290 P     36 42.00  -2.1
WMQ     64.37 326 iPd   37 27.00   0.4
CNCB   149.25 140 PKPd  46 41.90   6.3X
LPB    149.38 139 PKP   46 42.00   6.3X
ZOBO   149.55 139 PKP   46 42.00   5.9X
CCH    149.96 143 PKP   46 43.50   7.1X
      S.D. = 1.1  on  30 of  37 obs.
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*  NOV  09, 1989  02h 36m 31.11± 2.12s
   31.333 S ± 8.3km   68.142 W ±15.5km
   DEPTH =  10.0km  (geophysicist)
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTLL     0.28 271 iPc    36 37.40    0.4
CFA      0.29 197 iPc    36 37.50    0.4
ZON      0.51 245 iPd    36 41.20   -0.2
                  eS     36 50.00
RTCV     0 62 213 iPd    36 43.30   -0.4
RTBS     1.17 253 iPd    36 52.80   -0.1
RTRS     1.62 315 iPd    36 59.70   -0.1
     S.D. = 0.4  on   6 of   6 obs.
-----------------------------------------
   NOV  09, 1989  03h 19m 26.16± 0.23s
   11.419 S ± 4.8km  118.098 E ± 6.2km
   DEPTH =  37.4km  (  7 depth phases)
   5.3mb ( 19 obs.)  4.5Msz (  4 obs.)
 SOUTH OF SUMBAWA ISLAND           (291)
      Felt (II) at Kohong-Kahong,
      Bali.
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 22C
      Centroid Location:
      Origin Time        03:19:22.4 1.9
      Lat 12.26S 0.14 Lon 118.52E 0.09
      Dep  74.0 5.4 Half-duration  2.0
      Moment Tensor;   Scale 10**16 Nm
        Mrr=-5.93 0.60  Mtt= 6.61 0.84
        Mff=-0.68 1.24  Mrt= 1.62 0.80
        Mrf=-0.48 0.60  Mtf=-2.51 0.60
      Principal Axes:
        T  Val=  7.60  Plg= 7  Azm= 17
        N       -1.46       0       107
        P       -6.14      83       197
      Best Double Couple:Mo=6.9*10**16
       NP1:Strike=107 Dip=38 Slip= -90
       NP2:        287     52       -90

KHKI     3.90 321 iPc    20 25.60    0 4
                  iS     21 07 00
                  e      31 32.00
MKS      6.31  13 iPc    21 03.00    3.7X
                  i(S)   32 05.00
TRT      6.53 304 ePc    21 00.60   -1.7
                  iS     21 32.80
KNA     11.23 114 eP     22 05.40   -1.9
                  eS     24 06.00
NANU    11.35 192 iPc    22 07.20   -1.7
MEKA    15.12 179 eP     22 55.00   -3.9X
TSM     15.54 360 eP     23 10.50    6.2X
WARB    16.75 152 eP     23 17.50   -2.3
        0.3s    39.00nm          5.1mb
                  eS     26 11.00
KKM     17.45 354 ePc    23 30.80    2.2
                  e      23 41.50
WB5     17.77 120 eP     23 30.30   -2.2
                  eS     26 40.50
WRA     17.78 120 Pc     23 31.50   -1.1
        1.0s    38.30nm          4.5mb
BAL     19.14 184 iPd    23 46.80   -2.3
ASPA    19.35 131 eP     23 51.40   -0.3
        0.6s   244.00nm          5.6mb
      Z  22s      1.52um
                  eS     27 11.40
                  LR     30 43.50
COOL    19.57 172 iPd    23 51.80   -2.3
                  eS     27 10.00
DAV     19.83  22 eP     23 59.00    2.1
KGM     19.85 311 ePd    23 56.80   -0.3
KLB     20.08 181 eP     23 59.00   -0.4
MUN     20.53 185 iPd    24 04.60    0.5
                  eS     27 31.00
NWAO    21.42 182 eP     24 12.50   -0.6
      Z  20s      1.50um          4.4Msz
      N  20s      1.30um
      E  20s      1.30um
FORR    21.44 156 eP     24 12.70   -0.6
                  eS     28 00.00
QIS     22.56 116 eP     24 26.00    1.4
                  e      28 33.00
IPM     23.26 312 ePd    24 31.20   -0.2
        0.9s   169.50nm          5.5mb
                  e      24 51.80
SNG     25.37 316 ePd    24 51.00   -0.7
                  eS     29 13.00
QCP     26.06   7 eP     24 54.40   -3.6X
BAG     27.76   5 eP     25 16.50    2.7
BSI     28.23 305 eP     25 18.00    0.0
CTA     28.40 111 iPc    25 20.90    1.4
        1.1s    31.65nm          4.9mb
QLP     28.86 125 eP     25 32.00    8.4X
                  e      31 04.00
STK     29.73 137 iPc    25 31.90    0.6
                  i      25 39.20
                  e      31 15.00
ADE     30.01 145 eP     25 33.80    0.0
        0.9s    38.66nm          5.2mb
NST     32.26 326 iPd    25 35.00  -18.6X
CMS     32.47 132 eP     25 56.00    0.6
                  e      26 45.00
                  e      32 23.00
RMQ     32.53 122 eP     25 56.00    0.1
LOE     32.89 330 eP     25 57.50   -1.6
BFD     33.77 144 iPc    26 07.60    1.0
                  i      26 15.00
                  e      32 52.00
BDT     34.16 326 eP     26 10.00   -0.1
        0.8s     4.50nm          4.5mb
CHG     35.49 328 iPd    26 21.00   -0.5
        1.1s    35.44nm          5.2mb
CHTO    35.49 328 iPd    26 21.30   -0.2
        1.2s    35.76nm          5.2mb
                  e      26 27.40
TOO     35.79 141 eP     26 26.00    2.0
                  i      26 33.60
                  i      26 41.20
BWA     35.87 135 eP     26 27.90    3.2X
                  e      26 35.30
BRS     36.20 121 iPd    26 30.00    2.4
                  i      26 44.10
GUA     36.36  48 e(P)   26 48.20   19.3X
        1.0s   120.00nm
GUMO    36.36  48 e(P)   26 42.50   13.6X
PJG     36.36  48 e(P)   26 42 00   13.1X
CAN     36.76 135 eP     26 33.30    1.2
                  e      26 40.80
GYA     39.26 344 iPd    26 53.00   -0.2
        1.2s     0.06nm          2.2mb X
KMI     39.29 338 Pd-    26 55.00    1.4
      Z  20s     0.80um          4.5Msz
                  pP     27 05.00   34km
                  eS     32 29.00
                  sS     32 54.00
WHN     41.87 355 Pd     27 14.50    0.0
                  pP     27 26.00   41km
SSE     42.37   4 e(P)   27 15.50   -3.1X
                  pP     27 26.50   39km
                  PPP    29 29.50
                  eS     33 36.00
NJ2     43.23   1 Pd     27 25.00   -0.5
CD2     44.28 342 iPd    27 33.60   -0.6
                  pP     27 43.00   31km
XAN     46.04 349 iPd    27 47.50   -0.6
DZM     47.32 109 iPc    27 55.90   -2.6
GBA     47.38 301 P      27 58.00   -0.9
TIA     47.38 359 eP     27 57.20   -1.4
LSA     48.43 328 iP     28 07.50    0.0
        3.0s     0.54nm          3.1mb X
                  eS     35 01.50
HYB     48.45 306 iPd    28 06.00   -1.3
        1.0s   100.00nm          5.8mb
LZH     49.13 345 iPd    28 12.00   -0.4
        1.5s     0.21nm          2.9mb X
      Z  20s     0.25um          4.2Msz
                  pP     28 23.50   41km
                  sP     28 34.50
                  PcP    29 37.00
TIY     49.16 354 eP     28 11.30   -1.2
      Z  26s     0.60um          4.5MszX
IIDJ    50.27  21 eP     28 20.70   -0.3
CHJJ    51.17  22 eP     28 25.80   -2.0
BJI     51.23 358 eP     28 27.00   -1.1
MAT     51.33  21 eP     28 27.00   -2.0
        1.2s    46.88nm          5.3mb
                  (S)    35 40.00
KAKJ    51.74  23 eP     28 30.20   -1.9
NIIJ    52.23  21 eP     28 40.40    4.6X
BTO     52.29 352 P      28 34.50   -1.9
                  pP     28 45.00   36km
HHC     52.35 354 eP     28 35.40   -1.4
POO     52.83 304 iPd    28 40.80    0.2
        0.9s    82.35nm          5.7mb
SNY     53.22   5 Pd     28 41.30   -1.7
GTA     53.36 342 iPd    28 43.60   -0.7
        1.2s     0.10nm          2.7mb X
                  PcP    29 52.00
CN2     55.36   6 eP     28 56.50   -2.2
                  sP     29 16.00
NDI     56.12 316 iPd    29 01.80   -2.7
                  eS     36 42.00
MDJ     56.74  10 eP     29 07.00   -1.6
WMQ     61.55 335 iPd    29 41.50   -0.6
      Z  24s     0.50um          4.6MszX
KSH     63.99 325 iPc    29 59.00    0.7
                  pP     30 11.00   41km
                  eS     38 26.00
QUE     64.27 312 iPd    29 59.40   -1.0
MAW     66.67 200 eP     30 15.00    0.0
SBA     70.77 170 eP     30 41.90    1.7
KHI     72.34 311 eP     30 50.30   -0.3
MAIO    72.74 314 iPd    30 53.30    0.5
        1.1s    63.02nm          5.5mb
                  eS     40 20.00
KER     81.16 308 iPd    31 39.50   -0.3
NAI     81.22 270 eP     31 19.00  -21.7X
SLY     82.82 308 iPc    31 48.00   -0.2
BHD     82.94 306 ePc    31 48.50   -0.4
TAB     83.03 311 eP     31 51.00    1.5
MSL     84.88 309 ePd    32 01.00    2.4
SLR     84.96 245 iPd    31 57.00   -2.5
        0.9s    16.81nm          5.2mb
BUL     85.66 250 iPc    32 04.90    1.8
        1.0s    15.00nm          5.2mb
BFS     86.07 243 iPd    32 04.00   -1.0
        0.9s   126.05nm          6.1mb
KSR     86.17 245 eP     32 04.00   -1.6
        0.8s     7.50nm          5.0mb
HVD     86.49 240 eP     32 20.50   13.5X
FRS     86.80 240 eP     32 10.00    1.7
SWZ     87.30 243 iPc    32 13.00    2.0
        1.0s    45.00nm          5.7mb
AYN     88.64 300 ePd    32 18.70    1.6
BADA    89.41 299 ePd    32 22.50    1.7
HQL     89.54 300 ePd    32 22.90    1.5
DSI     89.79 302 eP     32 25.00    2.5
MBH     89.80 300 iPd    32 24.00    1.4
PRNI    89.83 301 eP     32 25.00    2.2
KVT     91.51 311 eP     32 30.00   -0.3
BBTK    93.68 310 eP     32 41.00    0.6
VRI     99.04 315 ePc    33 04.50    0 0
BCAO   100.22 272 iPdiff33 10.80    0.1
        0.5s     9.00nm          5.6mb
                  id     33 18.90
                  id     33 27.20
ZST    105.74 317 ePKP   37 55.10    7.8X
                  e      38 16.80
KSP    106.22 320 ePKP   38 08.30   20.1X
INK    107.31  22 ePdiff33 57.00   16.1X
PRU    107.37 319 PKP    38 08.20   17.8X
        1.0s    14.50nm
VOY    107.98 315 e(PKP)38 00.90    9.1X
PNT    119.44  39 ePKP   38 15.00    1.6
        0.8s    10.00nm
WDC    119.58  50 ePKPc  38 07.40   -6.5X
                  e      38 15.20
                  e      38 22.90
PRS    121.21  54 ePKPc  38 18.90    1.7
LLA    121.51  54 ePKPc  38 19.80    2.0X
                  e      38 36.10
EDM    121.64  34 ePKPc  38 18.50    1.0
CMB    121.70  52 ePKPc  38 19.50    1.4
                  e      38 35.80
FRI    122.42  53 ePKPc  38 20.90    1.5
                  e      38 37.40
KIC    123.37 270 PKPd   38 22.22    0.3
        1.0s    23.50nm
LIC    123.63 270 PKP    38 22.82    0.4
      Z  20s     0.20um          4.8Msz
TIC    123.69 270 PKP    38 22.86    0.3
SES    124.17  36 ePKP   38 23.00    0.5
                  pP     38 32.00
MWC    124.24  56 ePKP   38 25.00    1.7
CLC    124.31  54 ePKP   38 25.00    1.7
SBB    124.34  56 ePKP   38 25.00    1.6
RVR    124.83  57 ePKP   38 25.00    0.8
PLM    125.37  57 ePKP   38 44.00   18.5X
TPC    125.89  56 ePKP   38 45.00   18.6X
GLA    127.10  57 ePKP   38 48.00   19.3X
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09d 03h

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ALQ    133.32  52 ePKP  38 42.00    1.3
        1.0s     4.50nm
MEO    139.37  49 ePKP  38 46.00   -5.8X
UYO    142.67  47 iPKPd 38 56.90   -0.8
PPD    145 17 197 ePKP  39 01.80   -0.5
                   e    39 10.50
                   e    39 19.00
OXX    145.82  76 iPKPd 39 08.00    4.3X
YJA    146.43 174 ePKPc 39 07.20    2.3X
PDCR   147.17 224 ePKP  39 04.50   -1.2
                   e    39 25.00
CBN    149.95  25 ePKP  39 10.00    0.6
ARE    150.72 161 ePKP  39 19.00    7.5X
CCH    151.08 172 PKP   39 15.00    2.9X
PT03   151.24 151 ePKPd 39 20.90    8.9X
CNCB   151.32 168 PKP   39 16.00    3.3X
LPB    151.56 167 PKP   39 22.00    9.1X
        1.1s   101.27nm
ZOBO   151.81 167 PKP   39 16.00    2.5X
        1.1s    52.20nm
                   i    39 22.00
NNA    152.42 147 iPKPc 39 16.30    2.5X
        1.1s    36.71nm
                   i    39 22.50
     S.D. = 1.4  on 107 of 141 obs.
-----------------------------------------
*  NOV  09, 1989  04h 15m 50.99± 0.80s
   15.282 S ±14.9km   72.548 W ±12.6km
   DEPTH = 124.2 ±  8.3 km
   5.0mb ( 16 obs.)
 SOUTHERN PERU                      (117)

ARE      1.55 139 iPd   16 21.00    1.0
                  iS    16 42.00
LPB      4.46 107 P     17 00.00    1.9
        1.0s   160.00nm
CNCB     4.65 110 Pc    17 02.50    1.7
PT08     5.10 310 iPd   17 06.50   -0.3
                  iS    17 58.30
NNA      5.31 308 iPd   17 08.10   -1.2
        0.5s    42.25nm          4.9mb
                  iS    18 06.50
PT10     5.35 306 eP    17 09.00   -0.8
                  eS    18 10.00
CCH      6.49 110 P     17 25.50   -0.3
ITB1    19.43 121 Pd    20 09.30   -0.8
ITB     19.64 122 eP    20 10.60   -1.7
ITB7    19.81 123 eP    20 11.20   -2.9
PPD     21.20 112 eP    20 26.50   -1.7
                   e    20 29.50
                   i    20 31.60
                   i    20 37.20
SDV     24.09   5 eP    20 56.30   -0.2
TOV     25.06   6 eP    21 06.80    1.3
VAO     25.33 112 eP    21 07.30   -0.7
                   e    21 18.10
                   e    21 26.80
OLLA    25.77  13 eP    21 11.00   -1.2
LLAV    26.21  13 eP    21 15.00   -1.2
FISA    26.57   7 eP    21 24.00    4.7X
BMA     27.81 110 eP    21 30.50   -0.1
PDCR    32.54  89 eP    22 08.70   -3.7X
LIC     70.21  78 Pc    26 50.68   -2.1
TIC     70.35  77 P     26 51.62   -2.0
KIC     70.52  77 Pc    26 52.96   -1.7
        0.6s    34.50nm          5.4mb
SES     73.61 335 eP    27 14.00    1.7
EDM     76.70 336 eP    27 29.50   -0.3
WIN     83.95 112 iPc   28 10.50    1.4
        0.9s    21.01nm          5.0mb
LFF     89.27  43 eP    28 34.80    0.6
        0.6s     7.90nm          5.0mb
MFF     89.34  41 eP    28 34.80    0.3
        0.6s     7.20nm          4.9mb
LPO     89.47  43 eP    28 35.70    0.5
        0.6s     5.40nm          4.8mb
CAF     90.14  43 eP    28 38.70    0.4
        0.6s     5.40nm          4.8mb
LSF     90.28  42 eP    28 39.20    0.3
        0.8s     9.40nm          4.9mb
TCF     90.73  42 eP    28 41.00    0.0
        0.6s     4.50nm          4.8mb
MAF     90.94  42 eP    28 42.10    0.2
        0.8s     9.90nm          5.0mb
BGF     91.24  42 eP    28 43.60    0.3
        0.8s    14.70nm          5.2mb
AVF     91.65  42 eP    28 45.20    0.1
        0.8s     5.90nm          4.9mb
SMF     91.91  42 eP    28 46.50    0.1
        0.8s     9.40nm          5.1mb
BCAO    92.20  86 iPd   28 49.90    1.5
        0.6s    12.00nm          5.3mb
LPG     93.45  44 eP    28 55.10    1.3
        0.8s     9.40nm          5.1mb
INK     93.96 341 eP    28 57.00    1.7
BUL     94.93 112 iPc   29 03.90    2.9
        0.8s     7.46nm          5.1mb
WRA    136.13 218 PKP   35 04.00    3.9X
        0.8s     1.10nm
GBA    150.90  89 PKP   35 33.10    7.9X
     S.D. = 1.4  on  37 of  41 obs.
-----------------------------------------
?  NOV  09, 1989  06h 57m 13.83± 3.97s
    5.496 S ±36.7km  154.559 E ±15.9km
    DEPTH = 199.0 ± 21.5 km
    4.8mb (  5 obs.)
 SOLOMON ISLANDS                    (193)

PMG      8.31 242 eP    59 12.00    0.0
CTA     16.60 208 iPd   00 56.90    0.0
        0.9s    25.21nm          4.6mb
DZM     20.09 146 iPc   01 33.90   -0.1
QIS     20.86 223 iPc   01 41.20   -0.3
                   i    01 43.50
RMQ     21.60 194 iPd   01 48.50   -0.2
        0.4s    41.00nm          5.3mb
BRS     21.84 184 iPd   01 51.50    0.4
WB5     24.29 232 iPc   02 15.00    0.4
WRA     24.35 232 Pd    02 15.50    0.4
        0.5s    11.80nm          4.8mb
WARB    33.68 229 eP    03 38.00    0.0
        0.3s     3.00nm          4.5mb
FORR    35.41 221 iPd   03 52.00   -0.5
        0.5s    17.00nm          4.9mb
     S.D. = 0.4  on  10 of  10 obs.
-----------------------------------------
%  NOV  09, 1989  07h 31m 34.19± 0.71s
   43.410 N ± 4.5km    5.426 E ± 5.3km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE         (379)
      MD 2 5 (STR).

GELF     0.03 177 Pg    31 35.68   -0.5
BERF     0.22 116 Pg    31 38.83   -0.1
TREF     0.22 352 Pg    31 38.58   -0.3
PUYF     0.23  58 Pg    31 38.37   -0.9
PRAF     0.44 335 Pg    31 43.61    0.5
VILF     0.49  25 Pg    31 43.51   -0.6
TAVF     0.50  65 Pg    31 43.96   -0.5
GANF     0.68  31 Pg    31 48.13    0.4
CALN     1.12  72 Pg    31 55.75    0.5
MVIF     1.34  68 Pn    31 59.28    0.2
TOUF     1.45  65 Pn    32 00.99    0.3
                  Sg    32 21.49
AURF     1.46  70 Pn    32 01.23    0.5
AUTN     1.57  67 Pn    32 02.70    0.4
                  Sg    32 25.26
SAOF     1.65  69 Pn    32 03.20   -0.1
     S.D. = 0.5  on  14 of  14 obs.
-----------------------------------------
   NOV  09, 1989  08h 36m 44.23± 1.04s
   17.043 N ± 7.6km   99.463 W ± 5.4km
   DEPTH =  56.5 ±  7.4 km
   5.1mb ( 27 obs.)  4.1Msz (  1 obs.)
 GUERRERO, MEXICO                   ( 59)
      Felt at Acapulco.

ACX      0.42 246 iP    36 45.02 -10.1X
III      1.33 360 iP    37 07.50    0.5
                  (S)   37 47.43
PPM      2.16  21 iP    37 19.37    0.4
                  (S)   37 50.64
IIT      2.25  29 iP    37 19.77   -0.2
                  (S)   37 44.68
UNM      2.29   7 iP    37 20.25   -0.3
CRX      2.36 355 iP    37 22.93    1.4
                  (S)   37 59.65
OXX      2.62  89 iP    37 24.97   -0.2
                  iS    37 59.30
IIC      2.72   4 (P)   37 27.12    0.5
                  (S)   38 44.86
IISM     2.77  45 iP    37 26.88   -0.2
MRX      3.11 328 iP    37 31.50   -0.5
                  iS    37 55.00
LVVM     3.92  46 (P)   37 44.00    0.7
EVV      4.16  70 eP    37 36.00  -10.8X
AGX      5.50 331 (P)   38 25.72   20.1X
                  (S)   39 39.72
SCX      6.54  92 (P)   38 24.00    3.8X
TPX      7.24 106 (P)   37 48.00  -42.0X
SRA     16 15 113 iPd   40 31.00    1.8
UYO     17.63  14 iPd   40 45.70   -1.8
MEO     17.68   2 iPd   40 47.40   -0.8
SIO     18.84   8 ePc   41 00.50   -1.8
                   i    41 10 00
ALQ     18.89 342 ePc   41 02.00   -1.1
        0.9s    17.86nm          4 3mb
TUL     19.07   9 iPc+  41 02.90   -2.1
        1.0s   141.30nm          5.2mb
      Z  20s     1.20um          4.5MszX
                   i    41 14.30
                   eS   44 46.00
                   LR   46 00.00
LNO     19.08   9 iPc   41 02.70   -2.2
                   i    41 13.70
GLA     21.12 322 eP    41 27.00    0.6
BAR     22.00 318 eP    41 36.00    0.8
PLM     22.56 319 eP    41 42.00    1.1
TPC     22 58 322 eP    41 41.00    0.0
GOL     23.15 348 P     41 46.50   -0.2
        0.7s    30.34nm          4.8mb
RVR     23.31 320 eP    41 49.00    1.0
GSC     23.87 323 eP    41 55.00    1.5
MWC     23.88 319 eP    41 54.00    0.2
SBB     24.05 320 eP    41 56.00    0.8
MSU     24.12 335 P     41 57.00    1.0
CLC     24.69 323 eP    42 02.00    0.6
ISA     25.10 321 eP    42 06.00    0.7
SYP     25.30 317 eP    42 07.00   -0.3
DAU     25.43 339 P     42 09.40    0.8
DUG     25.81 336 P     42 12.00    0.0
        0.8s     4.17nm          4.0mb X
TNP     26.12 327 P     42 15.50    0.6
        0.8s    20.10nm          4.7mb
FRI     26.73 322 ePc   42 21.10    0.9
PRI     26.75 319 ePc   42 21.30    0.7
BW06    27.06 344 P     42 22.60   -0.9
        1.1s    22.62nm          4.7mb
LLA     27.23 320 ePc   42 24.60   -0.2
KVN     27.30 327 P     42 26.20    0.5
PRS     27.31 319 e(P)  42 25.60    0.0
CMB     27.83 323 ePc   42 30.30    0.0
PTI     28.00 340 P     42 32.40    0.5
MHC     28.12 320 ePc   42 33.70    0.6
GCC     28.14 319 ePc   42 31.80   -1.3
BRK     28 84 321 eP    42 34.50   -4.8X
ORV     29.51 324 ePc   42 46.20    0.9
MIN     30.11 325 eP    42 50.20   -0.7
LRM     30.67 342 ePc   42 56 20    0.3
WDC     30.79 324 ePc   42 54.70   -1.9
FHC     31.75 323 eP    43 05.80    0.6
TBR     32.39  37 P     43 10.90    0.3
RSNY    34.52  32 P     43 28.90   -0.2
        0.9s    24.78nm          5.1mb
SES     34.55 347 ePc   43 29.00   -0.3
LON     34.92 333 P     43 32.40   -0.2
BMW     35.35 331 P     43 36.90    0.7
GMW     35.96 333 P     43 41.80    0.5
PNT     36.10 338 ePc   43 43.00    0.5
        0.9s    39.00nm          5.3mb
FFC     37.66 358 eP    43 55.00   -0.4
EDM     37.71 346 iPc   43 55.50   -0.4
        0.8s    95.00nm          5.8mb
ZOBO    45.28 135 eP    44 58.00   -1.0
      Z  20s     0.22um          4.1Msz
SCH     45.28  26 ePd   44 58.00    0.1
LPB     45.48 136 eP    45 06.00    5.6X
CNCB    45.76 136 P     45 01.00   -1.7
FR8     51.25  17 eP    45 44.00    0.0
INK     55.59 345 iPc   46 15.30   -0.7
        0.9s    45.00nm          5.5mb
PMR     56.50 334 eP    46 22.40   -0.3
        0.7s    14.60nm          5 1mb
FBA     57.67 338 eP    46 29.20   -1.7
SVW     59.11 332 eP    46 38.80   -2.3
TTA     59.98 334 eP    46 44.90   -2.1
MBC     60.12 355 ePc   46 47.50   -0.2
        0.9s    20.00nm          5.2mb
PDCR    66.46 112 eP    47 27.70   -2.6
LPF     83.00  42 eP    49 06.30    1.6
        0.8s    18.80nm          5.1mb
```

```
GRR     83.01  42 eP     49 06.60   1.9
         0.6s    11.50nm            5.1mb
FLN     83.13  41 eP     49 06.50   1.1
         0.6s    12.60nm            5.1mb
LDF     83.41  41 eP     49 08.40   1.6
         0.8s    13.40nm            5.0mb
LFF     85.14  45 eP     49 16.80   1.3
         0.8s    16.10nm            5.2mb
LSF     85.23  43 eP     49 16.60   0.6
         1.0s    18.80nm            5.2mb
EPF     85.49  46 eP     49 18.30   0.9
         1.0s    14.00nm            5.1mb
LPO     85.53  45 eP     49 18.40   0.9
         1.0s    12.00nm            5.0mb
RJF     85.54  44 eP     49 18.30   0.7
         0.8s    18.80nm            5.3mb
TCF     85.66  43 eP     49 18.80   0.6
         1.0s    26.00nm            5.3mb
MAF     85.92  43 eP     49 19.90   0.5
         1.0s    26.00nm            5.4mb
BGF     85.98  43 eP     49 20.10   0.4
         0.8s    10.70nm            5.1mb
SSF     86.23  42 eP     49 21.40   0.5
         0.8s     4.00nm            4.7mb
LOR     86.38  42 eP     49 22.30   0.6
         0.8s    13.40nm            5.2mb
LBF     86.56  42 eP     49 22.80   0.2
         0.8s     6.70nm            4.9mb
CDF     88.07  40 eP     49 29.80  -0.1
         1.0s     8.00nm            4.9mb
BRG     90.88  36 e(P)   49 43.60   0.6
WB5    129.04 258 ePKP   55 46.50  -1.7
WRA    129.07 258 PKPd   55 47.00  -1.3
         0.6s     2.00nm
HYB    145.70   3 iPKPc  56 18.00  -0.8
         1.0s    40.00nm
GBA    149.39   6 PKPc   56 24.00  -0.7
         0.8s    10.90nm
GBA    149.39   6 PKP    56 28.30   3.6X
      S.D. = 1.0  on  89 of  97 obs.
-----------------------------------------
%  NOV  09, 1989  08h 55m 20.07± 0.86s
   44.363 N ± 8.3km     8.151 E ± 6.1km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                     (545)
      ML 2.3 (GEN).

FIN      0.16 165 P      55 23.68  -0.1
                  S      55 26.15
ROB      0.21 251 P      55 25.74   1.0
                  S      55 29.32
PCP      0.33  58 P      55 27.07   0.1
                  S      55 31.79
IMI      0.49 203 P      55 30.04   0.0
ENR      0.54 256 P      55 30.86  -0.2
STV      0.61 259 P      55 31.58  -0.8
      S.D. = 0.7  on   6 of   6 obs.
-----------------------------------------
   NOV  09, 1989  09h 07m 56.74± 0.40s
   33.909 S ± 5.4km    70.553 W ± 4.9km
   DEPTH =  96.4 ±  2.6 km
   5.0mb ( 14 obs.)
 CHILE-ARGENTINA BORDER REGION    (127)
      Felt (V) ot Vina del Mor ond
      Volparaiso; (IV) ot Sontiogo,
      Chile.

CHCH     0.09 254 iPc    08 10.20  -0.4
PCH      0.29   7 iPc    08 11.10  -0.1
TACH     0.41 308 iPc    08 11.50  -0.3
SAN      0.46 349 iPc    08 11.80  -0.3
                  iS     08 22.00
FCH      0.62  21 iPc    08 13.80   0.1
LNV      0.71 266 iPc    08 13.80  -0.3
PEL      0.77 352 iPc    08 14.50  -0.3
LCCH     0.95 297 iPc    08 16.20  -0.4
ROCH     1.01 338 iPc    08 17.00  -0.5
JACH     1.22 358 iPd    08 19.70  -0.2
IHA      1.27 314 iP     08 20.40   0.1
                  iS     08 37.50
RTBS     2.43  23 iPd    08 37.00   1.6
RTCV     2.66  40 e(P)   08 39.20   0.6
RTCB     2.83  32 iPd    08 42.00   1.0
ZON      2.84  34 iPd    08 42.00   1.0
CFA      3.01  41 iPd    08 44.00   0.6
RTLL     3.12  35 iPc    08 45.10   0.3
RTRS     3.84  14 iPd    08 55.50   0.8
```

```
CCH     16.93  15 P      11 46.00  -3.3X
CNCB    17.18   8 Pd     11 52.80   0.1
ARE     17.39 357 eP     11 54.00  -1.0
LPB     17.44   8 Pd     11 56.00   0.2
         1.2s     328.13nm          5.4mb
      Z  24s      4.26um            6.1Msz
                     i   30 40.00
                    LR   42 06.00
ZOBO    17.70   8 iPd    11 58.10  -1.0
      Z  21s      4.52um
                     i   38 40.00
                    LR   41 08.00
PPD     20.67  60 eP     12 27.20  -3.6X
                     e   12 31.30
                     e   12 33.10
                     e   16 12.70
NNA     22.56 344 iPd    12 50.30   0.6
         0.7s    23.97nm          4.6mb
VAO     23.36  68 eP     12 57.40   0.0
BMA     25.72  71 eP     13 18.60  -1.1
PDCR    35.64  61 eP     14 44.80  -2.5
SDV     42.56 360 eP     15 43.60  -1.2
TOV     43.46   1 eP     15 47.00  -4.9X
UPA     43.50 347 iPc    15 52.80   0.7
OLLA    43.83   5 eP     15 53.50  -1.5
LLAV    44.28   5 eP     15 57.00  -1.6
MORO    44.58   3 eP     16 00.00  -1.0
RSCP    70.56 347 P      19 01.90  -1.2
                    pP   19 24.90  88kmX
OLY     71.77 342 P      19 09.50  -0.8
MAW     72.91 163 eP     19 17.00   0.3
TUL     73.35 339 eP     19 19.00  -0.6
         0.9s    15.10nm          4.8mb
                     e   19 41.40
LNO     73.36 339 eP     19 18.80  -0.7
                     e   19 41.50
SIO     73.36 338 eP     19 19.00  -0.6
                     e   19 41.70
LIC     73.58  71 P      19 20.88  -0.4
TIC     73.84  70 P      19 22.46  -0.4
FVM     73.88 344 P      19 21.30  -1.3
                    pP   19 44.00  86kmX
KIC     73.88  71 Pc     19 22.72  -0.4
         0.8s    25.00nm          5.1mb
WIN     75.92 108 iPc    19 35.00   0.0
         0.9s    21.01nm          5.0mb
ALO     76.30 330 eP     19 37.00   0.3
         1.0s     7.00nm          4.5mb
                    epP  20 00.00  87kmX
FRS     78.46 118 iPd    19 49.50   0.9
         1.0s    25.00nm          5.0mb
PLM     79.81 322 P      19 57.50   1.5
                    pP   50 20.70
GLD     80.00 334 P      19 57.80   1.0
         1.0s    25.00nm          5.0mb
                    pP   20 20.50  85kmX
GOL     80.01 333 P      19 56.60  -0.4
         0.6s    11.83nm          4.9mb
PEC     80.38 322 P      19 59.80   1.0
SEK     80.92 118 iPc    20 02.00  -0.1
         0.8s    14.93nm          4.9mb
MSU     81.76 328 P      20 07.30   1.2
                    pP   20 30.00  85kmX
DAU     82.94 330 P      20 13.30   1.0
                    pP   20 36.10  85kmX
DUG     83.42 329 P      20 15.50   0.9
         0.6s     2.06nm          4.2mb
                    pP   20 38.50  86kmX
RSSD    83.43 336 P      20 14.40  -0.2
                    pP   20 37.90  88kmX
TNP     83.72 325 P      20 17.50   1.3
         0.8s    43.38nm          5.4mb
                    pP   20 40.50  86kmX
PRI     83.94 321 eP     20 16.00  -1.2
BW06    84.26 332 P      20 18.60  -0.2
                    pP   20 42.30  89kmX
LLA     84.44 321 eP     20 21.50   1.9
                    epP  20 44.00  84kmX
KVN     84.91 325 P      20 23.00   0.9
                    pP   20 46.00  86kmX
CMB     85.24 323 e(P)   20 24.00   0.4
BUL     86.24 112 iPc    20 30.70   1.5
         0.8s    19.03nm          5.2mb
ORV     86.97 323 e(P)   20 33.50   1.5
                    epP  20 56.40  85kmX
WDC     88.26 323 ePd    20 38.00  -0.2
                    epP  21 01.30  86kmX
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LBFM    88.52 324 P      20 40.70   1.0
                    pP   21 03.90  85kmX
BCAO    91.69  86 iPd    20 55.70   0.9
         0.8s    18.00nm          5.4mb
WRA    121.43 208 PKPc   26 39.70  -0.9
         0.5s     1.00nm
WB5    121.47 208 ePKP   26 40.40  -0.3
GBA    144.63 117 PKP    27 23.00  -1.0
      S.D. = 0.9  on  67 of  70 obs.
-----------------------------------------
?  NOV  09, 1989  09h 16m 49.14± 5.24s
   31.464 S ±13.7km    67.977 W ±46.7km
   DEPTH =  33.0km  (normol)
 SAN JUAN PROVINCE, ARGENTINA     (137)

CFA      0.27 237 iPc    16 56.00  -0.5
                  S      17 05.00
RTLL     0.44 287 iPc    17 56.80  57.9X
ZON      0.60 262 iPc    17 00.50  -0.8
                  eS     17 10.00
RTCV     0.62 230 iPd    17 02.00   0.5
RTCB     0.70 268 iP     17 02.00  -0.7
RTBS     1.28 261 iPd    17 12.00   1.3
                  S      17 29.40
RTRS     1.81 315 iPd    17 18.80   0.3
      S.D. = 1.1  on   6 of   7 obs.
-----------------------------------------
   NOV  09, 1989  09h 20m 12.56± 0.45s
   31.532 S ± 6.2km    69.270 W ± 8.1km
   DEPTH = 128.6 ±  6.6 km
 SAN JUAN PROVINCE, ARGENTINA     (137)
      Felt (II) ot Son Juon.

RTBS     0.20 230 iPd    20 30.30  -0.3
RTCB     0.40  84 iPd    20 31.00  -0.3
ZON      0.51  92 eP     20 31.00  -0.8
RTCV     0.71 118 iPd    20 33.80   0.7
RTLL     0.71  74 iPd    20 37.50   4.3X
CFA      0.88  95 iPc    20 35.00   0.4
RTRS     1.37 353 iPc    20 39.60   0.2
JACH     1.60 224 iPd    20 42.10  -0.1
                  iS     21 06.00
FCH      1.99 205 iPd    20 48.20   1.1
                  iS     21 16.00
ROCH     2.06 225 iPd    20 47.70  -0.2
                  iS     21 13.70
SAN      2.25 211 iPd    20 50.50   0.5
                  iS     21 19.00
PCH      2.33 206 iPd    20 51.60   0.4
                  iS     21 22.60
TACH     2.54 213 iPd    20 53.20  -0.6
                  iS     21 24.50
CHCH     2.66 206 iPd    20 55.50   0.1
                  iS     21 28.50
LCCH     2.74 224 iPd    20 51.60  -4.8X
                  iS     21 22.60
LNV      3.02 216 iPd    20 59.00  -0.9
                  iS     21 33.30
CNCB    14.70   5 P      23 37.00   1.1
LPB     14.97   4 eP     23 45.00   5.8X
ZOBO    15.23   4 P      23 42.00  -0.6
PPD     18.60  64 e(P)   24 22.00  -0.5
      S.D. = 0.7  on  17 of  20 obs.
-----------------------------------------
?  NOV  09, 1989  09h 27m 32.25± 1.31s
   39.035 S ±27.9km    91.700 W ±10.4km
   DEPTH =  10.0km  (geophysicist)
   4.7mb (  5 obs.)  4.8Msz (  1 obs.)
 WEST CHILE RISE                    (686)

CHCH    17.66  80 eP     31 40.50   0.5
SAN     17.85  78 eP     31 42.50   0.3
PEL     17.96  77 iPd    31 44.90   1.3
         0.5s    21.13nm          4.5mb
ARE     28.60  44 e(P)   33 30.00  -1.1
CNCB    30.32  50 P      33 46.80   0.0
LPB     30.47  49 P      33 48.00   0.1
ZOBO    30.66  49 Pc     33 49.10  -0.7
         1.5s    32.26nm          5.0mb
PPD     38.34  76 eP     34 54.10  -1.0
BOG     46.40  25 eP     35 48.00 -13.1X
                  eS     42 56.00
UYO     72.88 358 iPc    39 04.50   1.5
JSC     73.58   9 P      39 05.50  -1.6
MEO     73.72 354 e(P)   39 09.40   1.4
LHS     73.84   9 P      39 06.00  -2.6
OLY     74.17   0 P      39 11.10   0.7
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09d 09h

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TUL     74.67 357 eP     39 13.30  -0.1
        1.0s     14.30nm          5.0mb
      Z  20s      0.55um          4.8Msz
                  e      39 18.50
                  LR     59 00.00
LNO     74.67 357 eP     39 14.00   0.7
ALQ     74.86 347 eP     39 14.00  -0.8
        1.0s      5.00nm          4.5mb
MSU     79.43 344 P      39 41.10   0.9
TNP     80.25 340 P      39 43.40  -1.2
DAU     81.06 345 P      39 49.90   0.9
CMB     81.10 337 eP     39 48.30  -0.6
BW06    83.03 347 P      39 58.60  -0.4
        1.0s      3.80nm          4.5mb
WDC     84.09 337 ePc    40 02.40  -1.8
LRM     86.51 346 eP     40 19.00   2.6
SES     90.66 348 eP     40 38.00   2.2
BHD    144.34  85 ePKPd  47 08.00  -2.1X
MSL    144.46  80 ePKPd  47 08.00  -2.2X
SLY    146.02  82 ePKPd  47 12.00  -0.9
MAIO   157.07  88 ePKP   47 29.00  -0.2
      S.D. = 1.3  on  26 of  29 abs.
-----------------------------------------
   NOV  09, 1989  10h 12m 36.69± 1.02s
   41.990 N ± 8.8km   19.136 E ± 7.3km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                              (391)
      ML 2.4 (TTG).

ULC      0.09 108 iPgd  12 39.20  -0.1
                  iSg    12 41.30
SDA      0.27  84 iPgd  12 42.80   0.4
BDV      0.37 322 ePg   12 44.00  -0.3
                  eSg    12 50.30
TTG      0.45  12 ePg   12 45.00  -0.8
                  eSg    12 52.50
HCY      0.66 314 ePg   12 48.60  -1.2
                  eSg    12 58.70
BCI      0.79  61 iPgd  12 51.30  -0.7
PVY      0.87  46 ePg   12 52.70  -0.8
                  eSg    13 07.00
BRY      1.01 334 ePg   12 57.00   1.1
PHP      1.02 107 ePn   12 55.10  -0.9
PLE      1.35   8 ePg   13 03.70   2.0
                  eSg    13 23.00
OHR      1.53 125 ePn   13 05.00   0.9
SKO      1.72  90 ePn   13 07.00   0.2
                  eSn    13 31.50
      S.D. = 1.1  on  12 of  12 obs.
-----------------------------------------
*  NOV  09, 1989  10h 39m 45.78± 1.48s
   22.509 S ± 9.4km   70.691 W ±14.2km
   DEPTH = 100.0 ± 17.6 km
   4.5mb (  2 obs.)
 NEAR COAST OF NORTHERN CHILE         (122)

YJA      4.82  87 ePc    40 57.80   0.1
SLA      5.25 116 ePc    41 04.30   0.8
ARE      6.06 353 eP     41 11.00  -3.8X
                  iS     42 14.00
CNCB     6.22  25 P      41 17.00  -0.2
LPB      6.43  23 Pd     41 20.80   0.9
        1.2s   812.50nm          6.0mb X
ZOBO     6.66  22 Pd     41 22.00  -1.3
CYA      7.38 144 e(P)   41 31.80  -0.8
PEL     10.59 180 eP     42 07.50  -8.6X
LNV     11.42 183 eP     42 48.90  21.9X
NNA     12.00 330 eP     42 35.00   0.2
        0.7s      6.16nm          4.4mb
                  eS     44 44.00
ITB1    15.10 101 e(P)   43 09.40  -5.5X
VAO     21.88  96 eP     44 28.80  -3.0X
                  e      44 33.40
                  e      44 36.80
BMA     24.49  96 eP     44 57.20   0.1
SPA     67.63 180 eP     50 39.60   5.8X
        0.6s      5.28nm          4.6mb
KVN     75.61 324 eP     51 21.90   0.2
                  pP     51 41.00  71kmX
                  sP     51 50.00
EDM     83.98 336 eP     52 24.00  18.1X
WRA    131.24 212 PKPc   58 54.20   5.8X
        0.6s      0.70nm
WB5    131.28 212 ePKP   58 54.10   5.6X
GBA    148.49 101 PKP    59 27.00   7.8X
      S.D. = 0.9  on   9 of  19 obs
-----------------------------------------
*  NOV  09, 1989  13h 10m 41.17± 1.18s
   34.446 N ±11.4km   25.805 E ±10.5km
   DEPTH =  33.0km  (normal)
 CRETE                                (370)
      MD 4.2 (HLW), 3.9 (ATH).

NPS      0.83 349 ePn   10 56.80   0.4
KAP      1.57  45 ePb   11 10.10   3.0X
VAM      1.63 306 ePn   11 08.40   0.5
APE      2.63 355 ePn   11 20.90  -1.3
VLI      3.26 315 ePb   11 37.00   5.9X
YER      3.35  36 iPn   11 33.00   0.4
KSL      3.51  61 ePn   11 35.10   0.3
KHL      4.90  37 ePn   11 44.00 -10.4X
DST      5.62  23 ePg   12 53.40  48.7X
                  iSg    13 03.40
KOT      6.81 130 ePn   12 21.00  -0.3
                  eSn    13 36.50
DSI      8.54 107 iPd   12 43.50  -1.9X
                  eS     14 15.00
PRNI     8.78 115 e(P)  12 45.00  -3.8X
MBH      9.00 119 eP    12 52.00   0.2X
CZI      9.10 304 P     12 49.50  -3.6X
ATN      9.13 297 P     12 49.90  -3.8X
                  eSn    14 17.70
MEU      9.23 290 P     12 51.00  -4.0X
                  eSn    14 22.20
CSI      9.27 308 P     13 34.00  38.4X
DEV     11.64 350 iPd   13 21.00  -6.9X
      S.D. = 0.9  on   6 of  18 abs.
-----------------------------------------
   NOV  09, 1989  14h 17m 11.42± 0.81s
   39.462 N ± 5.7km  122.739 W ± 8.3km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN CALIFORNIA                  ( 36)
      ML 2.6 (BRK).

LTCM     0.88  32 eP    17 29.00   0.2
ORV      0.96  84 ePc   17 30.80   0.6
                  eS     17 45.80
NWRM     1.01 187 eP    17 30.00  -1.0
WDC      1.13   8 ePd   17 32.40  -0.6
                  eS     17 47.30
MIN      1.24  44 ePd   17 34.30  -0.7
FHC      1.64 325 e(P)  17 42.20   1.1
                  e      17 43.60
LBFM     1.99  19 eP    17 46.00  -0.3
CMB      2.33 127 ePc   17 52.30   1.2
KVN      3.62  95 eP    18 09.10  -0.5
      S.D. = 0.9  on   9 of   9 obs.
-----------------------------------------
*  NOV  09, 1989  14h 45m 51.56± 1.41s
   43.411 N ± 7.0km   13.903 E ±11.9km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                        (381)
      MD 3.1 (SSO).

AOI      0.26 302 iPg   45 56.19  -0.9
                  iSg    45 58.32
SSO      0.37 252 ePg   45 59.63   0.4
                  iSg    46 06.34
CIO      0.59 249 iPg   46 02.99  -0.7
                  iSg    46 13.53
ALP      0.67 201 ePg   46 05.13   0.1
                  iSg    46 17.09
ASS      0.97 250 P     46 09.00  -1.0
                  eSg    46 13.00
MNS      1.36 222 P     46 16.60   0.0
                  eSg    46 23.80
CRE      1.44 279 P     46 19.50   1.8
PGD      1.65 287 P     46 23.20   2.4X
RIY      1.96  10 eP    46 28.00   2.8X
                  iSn    46 50.50
VBY      2.31  24 eP    46 45.20  15.0X
                  e(Sn)  47 00.20
VOY      2.62 360 e(Pn) 46 34.40  -0.3
                  eSn    47 13.00
BOB      3.48 294 P     46 47.50   0.5
      S.D. = 1.0  on   9 of  12 obs.
-----------------------------------------
*  NOV  09, 1989  17h 01m 08.09± 1.37s
   5.453 S ±13.5km  131.215 E ±19.6km
   DEPTH =  33.0km  (normol)
   4.4mb (  4 obs.)
 BANDA SEA                            (280)

MTN      7.35 181 iPd   02 57.70   1.9
                  eS     04 11.00
KNA     10.51 193 eP    03 38.50  -1.1
                  eS     05 27.50
WB5     14.66 168 eP    04 31.70  -3.4X
                  eS     07 09.80
WRA     14.72 168 Pd    04 32.10  -3.8X
        0.5s      8.40nm          4.4mb
OIS     17.08 152 iPd   05 06.40   0.3
                  eS     08 05.00
ASPA    18.29 172 iPc   05 19.80  -1.4
        0.4s     44.00nm          5.0mb
                  eS     08 28.40
TRT     18.59 262 ePc   05 25.00   0.2
WARB    21.07 191 eP    05 52.20   0.2
        0.3s      4.00nm          4.4mb
CHG     39.91 308 eP    08 40.80  -0.2
CHTO    39.91 308 iP    08 41.20   0.2
        0.8s      4.03nm          4.2mb
      S.D. = 1.2  on   8 of  10 abs.
-----------------------------------------
%  NOV  09, 1989  18h 29m 45.78± 1.05s
   66.997 N ± 9.0km   20.671 E ±11.4km
   DEPTH =  10.0km  (geophysicist)
 SWEDEN                               (536)
      MD 2.9 (BER).

TRO      2.73 347 iP    30 30.09  -0.2
                  eS     31 02.66
LOF      2.96 296 iP    30 33.82   0.2
                  eS     31 13.40
NSS      4.36 239 iP    30 55.14   1.7
                  eS     31 40.80
SUF      4.89 149 eP    31 00.70  -0.3
        0.2s      0.60nm
NUR      6.75 163 eP    31 28.10   0.9
MOL      7.14 238 iP    31 32.10  -0.6
NRA0     7.46 217 eP    31 35.60  -1.6
                  eS     32 54.90
                  eSg    33 43 60
      S.D. = 1.3  on   7 of   7 obs.
-----------------------------------------
   NOV  09, 1989  18h 39m 54.07± 0.72s
   6.232 N ± 4.8km  125.376 E ± 6.3km
   DEPTH = 121.7 ±  7.5 km
   5.0mb ( 10 abs.)
 MINDANAO, PHILIPPINE ISLANDS         (259)

DAV      0.87  13 eP    40 15.00  -0.3
                  eS     40 31.80
TSM      7.54 255 ePc   41 44.30   1.5
KKM      9.11 269 ePc   42 04.50   0.4
        1.1s     81.90nm          5.4mb
OCP      9.36 334 eP    41 29.10 -38.3X
AAI     10.25 164 eP    42 17.50  -1.7
                  eS     44 00.00
BAG     11.15 335 eP    42 32.10   0.8
QZH     19.71 341 Pd    44 16.00  -0.3
MTN     19.80 163 iPc   44 17.00  -0.3
                  e      47 46.00
KNA     22.10 171 eP    44 40.00  -0.3
IPM     24.30 267 ePc   45 02.10   0.4
        0.8s     41.20nm          5.0mb
LAT     25.09 120 eP    45 11.00   1.9
LOE     25.63 298 eP    45 13.50  -0.6
NNT     26.06 286 eP    45 17.00  -1.0
WHN     26.31 338 P     45 21.50   1.4
NST     26.47 293 iPd   45 24.00   2.3
PMG     26.69 125 eP    45 24.00   0.2
GYA     26.89 321 iPc   45 26.00   0.4
WB5     27.41 161 iPd   45 29.00  -1.3
                  eS     49 58.70
WRA     27.47 161 Pc    45 29.50  -1.3
        0.8s     11.30nm          4.5mb
CHG     28.62 298 eP    45 40.10  -1.1
CHTO    28.62 298 iP    45 40.80  -0.4
        1.0s      6.00nm          4.2mb
KMI     28.68 313 eP    45 42.00   0.1
OIS     30.07 153 iPd   45 53.00  -1.0
                  e      46 01.00
ASPA    30.86 165 eP    45 59.30  -1.7
        0.5s     15.00nm          5.0mb
                  eS     50 52.50
XAN     31.59 333 Pc    46 06.00  -1.3
CD2     31.84 323 iPc   46 09.50   0.0
WARB    32.25 178 eP    46 13.00   0.0
CTA     33.25 142 iPd   46 22.00   0.1
        1.0s     14.00nm          4.7mb
```

```
TIY     33.48 341 eP     46 23.20  -0.5
BJI     34.66 348 eP     46 32.50  -1.2
        1.0s     18.00nm          4.8mb
SNY     35.48 358 Pc     46 39.60  -1.0
LZH     35.68 329 eP     46 43.00   0.5
        1.0s     33.00nm          5.1mb
HHC     36.62 342 P      46 50.00  -0.3
FORR    36.96 176 iPc    46 52.20  -0.9
OLP     37.39 152 eP     46 56.00  -0.8
MDJ     38.41   5 eP     47 06.00   0.8
LSA     39.79 310 P      47 18.40   1.0
GTA     40.27 329 iPc    47 20.80   0.0
STK     40.94 159 iPc    47 27.00   0.9
        0.6s     23.00nm          5.1mb
BRS     42.65 143 iPd    47 40.20  -0.1
                  i      47 46.50
ADE     42.86 164 iPd    47 43.00   1.1
        0.9s     36.97nm          5.1mb
BWA     45.93 153 iPd    48 08.80   2.4
CAN     46.94 153 iPd    48 15.80   1.4
HYB     47.04 288 iPd    48 16.30   0.9
TOO     47.45 158 iPc    48 20.00   1.7
GBA     47.72 283 P      48 20.00  -0.7
DZM     49.08 126 iPc    48 31.60   0.4
WMQ     49.91 325 iPd    48 37.00  -0.3
NDI     50.64 302 eP     48 41.00  -2.0
KSH     55.31 314 eP     49 17.40   0.0
MAIO    66.94 307 iPd    50 35.60  -0.2
INK     88.34  21 eP     52 33.00   0.1
      S.D. = 1.1  on  51 of  52 obs.
-----------------------------------
*  NOV  09, 1989  19h 49m 59.79± 0.71s
   52.173 S ±10.4km  161.091 E ± 9.4km
   DEPTH =  10.0km  (geophysicist)
   5.0mb (  6 obs.)  4.7Msz (  1 obs.)
 MACQUARIE ISLANDS REGION          (167)

MCQ      2.66 208 iPc    50 42.90  -0.5
                  eS     51 13.00
CBZ      4.96  98 iPd    51 16.00   0.0
                  S      52 09.20
MSZ      8.77  34 P      52 08.50  -0.9
TOO     18.25 317 iPc    54 16.20   1.5
CAN     18.93 328 eP     54 27.10   4.1X
                  i      54 30.30
                  eTT    10 52.00
BFD     19.88 312 iPc    54 33.80  -0.1
BWA     19.94 328 eP     54 32.80  -1.8
                  e      54 35.80
                  eTT    11 30.00
ADE     23.48 308 eP     55 11.20   0.9
        0.8s     22.39nm          4.8mb
STK     24.77 317 iPc    55 24.30   1.6
DZM     30.33  10 iPc    56 14.30   0.6
CTA     34.05 335 iPd    56 52.00   5.9X
        1.2s     29.69nm          5.1mb
ASPA    35.24 313 eP     56 54.50  -1.8
        0.9s     31.00nm          5.2mb
      Z  18s      1.19um          4.7Msz
                  LR     10 24.10
WARB    36.67 302 iPd    57 08.00  -0.4
        0.7s     39.00nm          5.3mb
WRA     38.32 317 Pd     57 20.80  -1.5
        0.9s     18.30nm          4.8mb
WB5     38.37 317 eP     57 21.00  -1.7
HNR     42.63 358 eP     57 59.00   1.2
CHG     88.85 303 eP     02 56.70   1.5
CHTO    88.85 303 eP     02 56.30   1.1
        1.0s      4.25nm          4.7mb
INK    129.50  26 ePKP   09 09.00   0.2
      S.D. = 1.3  on  17 of  19 abs.
-----------------------------------
   NOV  09, 1989  21h 02m 35.01± 0.75s
   35.589 N ± 7.1km  118.106 W ± 7.2km
   DEPTH =   5.0km  (geophysicist)
 CENTRAL CALIFORNIA                ( 39)
      ML 3.0 (BRK).

BCH      1.67 257 eP     03 05.50   0.4
PKEM     1.69 287 eP     03 05.40   0.0
PHAM     1.88 278 eP     03 08.00  -0.1
FRI      1.91 318 ePc    03 07.50  -0.9
                  i      03 28.20
                  iS     03 30.00
PRI      2.15 286 ePc    03 11.90  -0.2
PLM      2.46 155 eP     03 16.50  -0.1
LLA      2.52 295 e(P)   03 17.50   0.2
TNP      2.59  16 eP     03 18.40   0.0
PRS      2.75 287 ePc    03 20.30  -0.3
CMB      3.05 324 e(P)c  03 25.90   1.1
                  eS     04 02.60
KVN      3.46   0 eP     03 33.80   3.0X
      S.D. = 0.6  on  10 of  11 obs.
-----------------------------------
*  NOV  09, 1989  21h 47m 55.78± 3.95s
   49.169 N ±27.6km    6.859 E ±12.2km
   DEPTH =  10.0km  (geophysicist)
 GERMANY                           (543)
      MD 1.0 (STR).

GWF      0.54 111 Pg     48 06.26  -0.4
CDF      0.81 160 Pg     48 11.89   0.4
                  Sg     48 24.14
WLS      0.82 156 Pg     48 11.08  -0.7
                  Sg     48 24.81
ECH      0.97 168 Pg     48 13.96  -0.4
                  Sg     48 28.84
VITF     1.12 212 Pg     48 16.30  -0.4
MOF      1.33 172 Pg     48 20.88   0.5
                  Sg     48 39.76
FEL      1.50 149 Pg     48 23.84   0.9
      S.D. = 0.7  on   7 of   7 obs.
-----------------------------------
*  NOV  09, 1989  22h 05m 33.30± 0.45s
   61.447 S ± 6.6km  154.310 E ±11.3km
   DEPTH =  10.0km  (geophysicist)
   5.1mb (  8 obs.)  5.1Msz (  1 obs.)
 BALLENY ISLANDS REGION            (702)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 19S, 42C
      Centroid Location:
      Origin Time        22:05:46.4 0.4
      Lat 60.94S 0.04 Lon 153.69E 0.07
      Dep  15.0 FIX Half-duration  2.5
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.20 0.10  Mtt= 2.42 0.10
        Mff=-2.21 0.11  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf=-1.99 0.11
       Principal Axes:
        T  Val=  3.16  Plg= 0  Azm=200
        N       -0.21      90      180
        P       -2.95       0      110
      Best Double Couple:Mo=3.0**10**17
       NP1:Strike=245 Dip=90 Slip=-180
       NP2:        335     90        0

DRV      8.15 224 eP     07 33.60  -0.8
SBA     16.96 171 P      09 29.60  -2 1
MHZ     18.62  35 eP     09 53.40   0.8
MSZ     18.62  32 P      09 51.00  -1.4
SNZO    23.65  41 P      10 47.00   1.9
                  S      15 12.00
TOO     24.53 343 eP     10 55.00   1.2
        1.0s     69.00nm          5.3mb
BFD     25.39 338 eP     11 02.60   0.6
CNB     26.34 351 iPc    11 11.40   0.5
CAN     26.36 350 iPc    11 11.00  -0.1
BWA     27.30 349 iPc    11 19.00  -0.7
ADE     28.31 332 iPd    11 29.30   0.5
        1.0s     28.00nm          5.0mb
STK     30.72 338 eP     11 50.00  -0.3
RMQ     35.15 351 iPc    12 27.70  -1.2
        0.9s     87.00nm          5.6mb
MAW     36.35 220 eP     12 41.00   2.5
DZM     40.24  18 iPc    13 11.50  -0.2
ASPA    40.28 330 iPc    13 11.30  -0.6
        1.1s     32.00nm          4.9mb
      Z  22s      1.77um          4.9MszX
                  LR     26 30.60
CTA     41.71 349 iPc+   13 23.50  -0.1
        1.4s    167.44nm          5.6mb
                  iS     19 44.00
WRA     43.76 332 Pd     13 39.70  -0.7
        0.9s     26.50nm          5.0mb
MTN     51.35 331 iPd    14 38.80  -0.9
PMG     52.21 351 eP     14 46.00  -0.2
GUMO    75.16 351 eP     17 14.20  -3.0X
PJG     75.16 351 eP     17 14.40  -2.8
LOE     88.97 311 eP     18 29.80   0.7
WIN     B9.50 219 iPd    18 41.50   9.5X
        1.0s     15.00nm          5.2mb
CHG     91.29 309 eP     18 41.00   1.2
CHTO    91.29 309 eP     18 40.70   0.9
        1.0s      5.75nm          4.9mb
LP8     95.29 139 P      19 00.00   1.0
      Z  22s      0.74um          5.1Msz
                  LR     50 30.00
ZOBO    95.53 139 P      19 01.00   0.7
      Z  24s      0.70um          5.1MszX
                  LR     50 32.00
MAIO   123.33 286 ePKP   24 32.00   0.7
RZN    144.14 260 ePKPd  25 09.00  -1.1
MMB    144.53 259 iPKPd  25 09.00  -1.6
KNT    144.59 258 iPKPd  25 08.60  -2.1X
VAY    144.87 258 ePKP   25 10.50  -0.6
VRI    146.32 267 ePKPd  25 14.50   1.1
MLR    146.42 266 iPKPc  25 15.00   1.2
MBC    147.58  26 ePKPd  25 16.80   2.3X
        1.1s     22.00nm
BEO    148.54 260 ePKP   25 26.50   9.5X
NKM    150.97 216 ePKP   25 32.00  11.0X
KRA    152.51 267 ePKP   25 42.10  19.4X
      S.D. = 1.2  on  32 of  39 obs.
-----------------------------------
?  NOV  09, 1989  23h 38m 30.86±11.75s
   44.731 N ±44.0km  129.521 W ±83.9km
   DEPTH =  10.0km  (geophysicist)
 OFF COAST OF OREGON               ( 30)

CPW      4.99  61 eP     39 47.29  -0.3
OBC      5.01  47 eP     39 48.07   0.2
OSD      5.08  50 eP     39 48.83  -0.2
APW      5.18  66 eP     39 49.89  -0.4
STW      5.30  48 eP     39 51.90   0.0
MTMW     5.31  73 eP     39 51.77  -0.4
HDW      5.35  55 eP     39 53.22   0.4
MEW      5.39  60 eP     39 53.78   0.5
LMW      5.42  67 eP     39 53.83   0.0
KOSW     5.43  69 eP     39 53.59  -0.2
CDFW     5.44  73 eP     39 54.11   0.1
BLN      5.59  52 eP     39 56.70   0.6
VBEM     5.65  84 eP     39 57.15   0.1
RVC      5.72  65 eP     39 58.13   0.2
PGC      5.73  45 eP     39 57.50  -0.4
        0.3s     43.00nm          5.6mb X
VFP      5.74  81 eP     39 58.58   0.2
ASR      5.76  73 eP     39 58.42  -0.1
FMW      5.91  65 eP     40 00.63  -0.1
WPW      5.92  68 eP     40 00.72  -0.1
MCW      6.06  47 eP     40 02.30  -0.4
JCW      6.28  54 eP     40 06.14   0.3
      S.D. = 0.3  on  21 of  21 obs.
-----------------------------------
&  NOV  10, 1989  00h 04m 16.11s
   61.035 N          152.304 W
   DEPTH = 121.4km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>.

CKL      0.16 354 iP     04 32.59   1.1
                  Sn     04 45.68
SPU      0.19  39 eP     04 32.38   0.9
                  Sn     04 45.79
BGL      0.23 350 iP     04 32.83   1.1
CRP      0.24  17 eP     04 32.87   1.1
CGLM     0.31  28 iP     04 32.77   0.8
NCG      0.38  11 iP     04 33.13  -0.8
RDT      0.47 186 eP     04 33.51  -0.8
                  iS     04 47.85
NKA      0.60 119 eP     04 36.35   1.3
RED      0.66 201 eP     04 34.80  -0.9
SUA      0.87  60 eP     04 37.32  -0.1
ILIM     1.01 199 eP     04 37.91  -0.8
                  Sn     04 55.33
SKT      1.02  21 eP     04 37.67  -1.1
                  Sn     04 54.95
NNL      1.11 153 eP     04 39.89   0.2
SLKM     1.15 116 eP     04 39.54  -0.6
PWA      1.32  61 eP     04 41.53  -0.4
                  eS     05 02.16
PMS      1.35  80 eP     04 41.42  -0.9
BRLK     1.46 150 eP     04 42.57  -1.0
                  Sn     05 03.23
OPT      1.46 199 eP     04 43.03  -0.6
                  eS     05 03.99
CNPM     1.61 160 eP     04 44.29  -1.0
                  Sn     05 06.17
PLRM     1.63  69 eP     04 42.77  -2.7
CUT      1.68  34 eP     04 44.77  -1.4
                  eS     05 07.97
```

10d 00h

```
SEW      1.69 122 eP    04 45.27  -1.0
                Sn    05 07.55
AUL      1.75 199 eP    04 46.12  -0.9
GHO      1.79  64 eP    04 45.68  -1.8
KNK      1.90  77 eP    04 47.25  -1.6
                eS    05 12.26
CDD      2.22 198 eP    04 51.63  -1.2
KTH      2.61  14 eP    04 55.61  -2.4
FID      2.86  93 eP    04 58.18  -3.1
RND      2.88  33 eP    04 59.66  -1.9
KLU      3.12  79 eP    05 02.43  -2.3
TOA      3.12  67 eP    05 03.61  -1.2
MCK      3.13  29 eP    05 04.37  -0.5
PAX      3.76  56 eP    05 11.65  -1.8
WRH      3.96  27 eP    05 13.02  -2.9
DDM      4.07  45 eP    05 17.17  -0.4
CCB      4.17  28 eP    05 15.38  -3.4
HDA      4.18  34 eP    05 16.59  -2.4
       37 obs. associated
-----------------------------------------
*  NOV  10, 1989  00h 25m 54.15± 0.96s
   43.140 N ±17.4km  144.552 E ±14.2km
   DEPTH =  48.3 ± 10.0 km
   4.3mb (  2 obs.)
 HOKKAIDO, JAPAN  REGION          (224)

KUSJ     0.12 110 P     26 01.00  -0.4
                S     26 05.90
HOOJ     1.20 231 P     26 15.10   0.3
                S     26 29.40
ASAJ     1.70 306 P     26 22.20   0.4
                S     26 43.80
INK     47.88  30 eP    34 30.00   1.3
KEV     58.61 337 eP    35 47.00  -1.0
SOD     60.29 337 eP    35 46.00 -13.6X
NB2     69.47 338 P     36 59.30   0.3
        0.7s      2.00nm          4.2mb
HFS     69.50 336 eP    36 58.30  -0 9
        0.6s      2.80nm          4.4mb
      S.D. = 1.1  on   7 of   8 obs.
-----------------------------------------
&  NOV  10, 1989  00h 31m 15.60s
   36.960 N          121.748 W
   DEPTH =  18.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).

GCC      0.21 289 iPc   31 20.10  -0.7
                iS    31 23.50
SAO      0.31 129 iPd   31 21.30  -1.1
MHC      0.39  13 iPd   31 23.70  -0.1
                iS    31 29.60
ARN      0.42  24 iPd   31 24.20  -0.1
PRS      0.70 154 iPd   31 28.40  -0.5
                iS    31 39.00
LLA      0.73 118 iPc   31 28.80  -0.7
                iS    31 38.70
PCC      0.74 317 ePc   31 29.25  -0.4
BKS      0.99 337 eP    31 33.40  -0.6
BRK      1.00 336 e(P)  31 32.90  -1.1
                eS    31 46.90
ZSP      1.06 338 e(P)  31 32.40  -2.8
                e(S)  31 50.90
PRI      1.19 133 ePc   31 37.50   0.0
                eS    31 54.50
CMB      1.53  45 ePd   31 41.10  -1.0
                eS    31 59.50
FRI      1.63  88 eP    31 41.90  -1.7
KVN      3.56  53 eP    32 09.50  -1.8
       14 obs. associated
-----------------------------------------
   NOV  10, 1989  02h 12m 02.16± 0 68s
   58.426 N ± 6.5km  157.105 W ± 7.0km
   DEPTH =  46.6 ± 24.6 km
 ALASKA PENINSULA                  ( 12)
      ML 4.0 (PMR).

CDD      1.88  73 eP    12 31.86  -0.5
AUW      2.11  62 eP    12 35.35  -0.3
AUL      2.13  62 eP    12 35.75  -0.2
OPT      2.35  57 eP    12 38.99  -0.1
                Sn    13 12.16
KDC      2.54 104 iPd   12 42.00   0.2
ILIM     2.70  50 eP    12 43.95  -0.2
                Sn    13 20.80
SVW      2.79  15 eP    12 46.40   0 9
RED      2.98  46 eP    12 47.79  -0.4
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RDT      3.22  46 eP    12 51.26  -0.3
CNPM     3.23  68 eP    12 51.50  -0.2
NNL      3.40  59 eP    12 54.03   0.1
BRLK     3.48  65 eP    12 54.75  -0.4
SDN      3.61 212 e(P)  12 56.70  -0.2
                e     13 01.90
SPU      3.76  41 eP    12 58.27  -0.9
NCG      3.89  38 eP    13 01.27   0.2
SLKM     4.09  56 eP    13 02.30  -1 5
SKT      4.52  36 eP    13 09.67  -0.2
TTA      4.55   6 eP    13 09.30  -1 0
                e     13 22.50
PMS      4.74  50 iPd   13 14.00   1.1
PMR      5.11  48 e(P)  13 19.30   1.3
GHO      5.29  47 eP    13 20.67  -0.1
TOA      6.57  51 eP    13 38.80   0.1
IMA      7.83  10 e(P)  14 00.10   3.7X
INK     14.37  37 eP    15 23.50  -0.7
      S.D. = 0.7  on  23 of  24 obs.
-----------------------------------------
   NOV  10, 1989  03h 19m 11.92± 0.61s
   37.396 N ± 6.0km   15.185 E ± 5.8km
   DEPTH =  20.6 ±  5.5 km
 SICILY                            (398)
      ML 3.1 (ROM). Felt at Catania.

MEU      0.36 215 iP    19 19.60  -0.1
PZI      0.42 211 P     19 20.60  -0.1
MNO      0.66 324 Pd    19 23.40  -1.4
                eSn   19 33.90
ATN      0.79  16 Pc    19 27.10   0.2
                eSg   19 39.90
MSI      0.86  20 P     19 28.50   0.5
GMB      0.94  35 eP    19 30.50   1.0
                eS    19 48.00
GIB      1.09 303 Pd    19 31.80  -0.3
LPI      1.11 350 P     19 33.10   0.8
FAI      1.21 265 Pd    19 34.00   0.3
MCT      1.26 281 P     19 35.60   1.1
CVT      1.92 279 P     19 44.50   0.6
CZI      1.97  22 P     19 44.90   0.4
ERC      2.16 288 P     19 48.00   0.6
ROI      2.43  26 P     19 52.00   0.8
TDS      2.43  21 Pd    19 51.30   0.1
PTS      2.62 258 P     19 53.20  -0.7
MGR      2.75   6 Pc    19 54.90  -0.9
SGO      3.16   2 P     20 02.10   0.6
LCI      3.64  36 P     20 07.70  -0.7
BRT      3.81  24 Pd    20 09.40  -1.4
      S.D. = 0.8  on  20 of  20 obs.
-----------------------------------------
&  NOV  10, 1989  03h 42m 03.80s
   36.677 N          121.343 W
   DEPTH =   5.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).

SAO      0.12 317 iP    42 06.70   0.4
LLA      0.33 100 iPc   42 10.30  -0.1
PRS      0.35 184 iPc   42 10.50  -0.3
GCC      0.63 304 ePd   42 15.80  -0.6
                eS    42 25.80
ARN      0.69 347 iPd   42 17.30  -0.3
MHC      0.71 340 ePd   42 17.60  -0.3
                iS    42 29.00
PRI      0.76 134 ePc   42 18.50  -0.7
PHAM     1.13 137 eP    42 24.50  -1.0
PCC      1.17 315 ePd   42 24.50  -1.6
FRI      1.35  76 ePd   42 27.80  -1.3
                eS    42 45.30
BKS      1.39 330 eP    42 30.60   0.7
BRK      1.40 329 e(P)  42 30.70   0.7
CMB      1.56  29 ePc   42 30.90  -1.3
                eS    42 50.00
KVN      3.49  46 eP    43 06.50   6.4
       14 obs. associated
-----------------------------------------
   NOV  10, 1989  04h 05m 30.61± 1.07s
   30.078 N ± 7.2km  130.984 E ± 5.9km
   DEPTH =  56.1 ±  8.9 km
   4.8mb ( 11 obs.)  3.9Msz (  1 obs.)
 KYUSHU, JAPAN                     (235)

KAGJ     1.11 356 iP+   05 49.20  -0.9
                eS    06 05.60
KUMJ     2.45 357 P     06 08.00  -0.9
                eS    06 38.40
```

```
SHNJ     4.04   1 eP    06 29.60  -1.7
                eS    07 18.00
SHK      4.67  17 eP    06 41.80   1.6
SSE      8.51 279 P     07 33.50  -0.2
        1.0s     47.00nm          5.3mb
      N  13s      2.00um
      E  14s      9.50um
                sP    07 42.40
                Lg    10 03.80
ANP      9.71 242 e(P)  08 07.00  16.7X
NJ2     10.59 284 Pd    08 02.00  -0.2
      N  13s      0.60um
      E  14s      3.10um
TIA     13.12 301 eP    08 36.80   0.8
      Z  15s      4.20um
      N  13s      1.90um
      E  13s      3.70um
SNY     13.16 335 eP    08 39.30   2.8
      Z  14s      6.10um
      N  12s      2.50um
      E  12s      2.10um
                eS    11 11.00
WHN     14.38 276 Pd    08 52.50   0.0
      Z  12s      2.40um
      N  12s      1.80um
      E  12s      2.40um
CN2     14.39 344 Pc    08 57.60   5.0X
      Z  15s      6.50um
      N  12s      3.10um
      E  12s      0.70um
MDJ     14.55 356 eP    08 59.50   4.7X
      Z  16s      2.00um
      N  12s      1.50um
BJI     15.66 313 eP    09 12.00   3.0X
        1.5s     47.00nm          4.4mb
      Z  14s      6.45um
      N  14s      2.15um
      E  12s      2 60um
                eS    12 20.00
BAG     16.61 217 eP    09 28.80   7.4X
TIY     17.16 301 eP    09 29.40   1.3
      E  13s      3.00um
HHC     19.0B 310 eP    09 54.50   3.0X
      N  14s      2.70um
      E  18s      2.50um
XAN     19.11 288 Pc    09 49.50  -2.2
BTO     20.02 307 eP    10 02.00   0.5
      N  15s      2.00um
      E  15s      3.00um
GUMO    20.83 139 eP    10 11.10   1.3
      Z  19s      0.49um          3.9Msz
GYA     21.71 266 iPd   10 19.00   0.2
      N  16s      1.70um
      E  16s      1.60um
CD2     23.46 279 P     10 36.60   0.8
      Z  13s      1 80um          4.7MszX
      N  14s      2.70um
LZH     23.48 292 eP    10 38.00   1.9
        1.5s     53.00nm          4.8mb
      Z  15s      4.40um          5.0MszX
      N  14s      1.10um
      E  14s      2.30um
                PPP   11 18.00
                (S)   14 48.00
KMI     25.48 266 Pd    10 56.00   0.5
GTA     27.14 298 eP    11 10.20  -0.3
      Z  14s      2.30um          4.9MszX
      E  13s      1.50um
CHG     31.15 256 iPd   11 45.50  -0.9
        0.9s     22.06nm          4.9mb
CHTO    31.15 256 iPd   11 45.90  -0.4
        0.7s     16.36nm          4.9mb
WMQ     36.80 304 P     12 34.50  -0.3
      Z  16s      1.70um          4.9MszX
IPM     37.99 234 ePc   12 45.90   1.0
WB5     49.77 176 eP    14 18.90  -0.7
                e     14 29.90
WRA     49.84 176 Pc    14 19.10  -1.0
        0.9s      3.50nm          4.4mb
GBA     51.88 264 P     14 35.40  -0.4
ASPA    53.51 177 eP    14 54.70   7.1X
        1.3s     10.00nm          4.7mb
MAIO    58.92 297 iPd   15 27.00   0.7
INK     64.40  24 ePc   16 01.90  -0.7
MBC     65.52  14 eP    16 09.00  -0.7
        1.0s     11.00nm          4.8mb
KEV     66.76 338 eP    16 17.00  -0.7
```

```
SOD     67.87 336 iP     16 24.80   0.0
NUR     71.78 330 eP     16 48.00  -0.6
UPP     75.11 331 iP     17 08.00   0.0
HFS     76.54 333 eP     17 14.80  -1.3
        0.6s      3.50nm          4.5mb
      Z  16s      0.32um          4.7MszX
                LR     52 37.00
NB2     76.93 334 P      17 16.60  -1.8
        0.7s      5.50nm          4.7mb
VRI     78.02 316 eP     17 23.50  -1.1
PNT     79.13  39 eP     17 31.00   0.4
KRA     79.60 322 eP     17 34.00   0.9
                e        17 44.30
EDM     80.06  33 ePd    17 36.00   0.5
KSP     81.02 324 eP     17 54.00  13.4X
BRG     82.18 325 e(P)   17 59.40  12.8X
CLL     82.36 326 eP     17 59.00  11.4X
SES     82.94  35 eP     17 51.00   0.3
KHC     83.46 324 P      18 08.70  15.3X
      Z  14s      1.00um          5.3MszX
      N  15s      0.60um
MOX     83.46 326 eP     18 04.00  10.7X
FFC     84.07  28 eP     17 57.00   0.7
        0.9s     13.00nm          5.0mb
CMB     84.99  49 ePd    18 01.90   0.6
FRI     86.03  49 ePd    18 06.90   0.5
ZOBO   157.74  56 ePKP   25 24.00   0.9X
      S.D. = 1.1  on  42 of  55 obs.
-----------------------------------
&  NOV  10, 1989  06h 40m 42.80s
   32.390 N          115.290 W
   DEPTH =   6.0km  (geophysicist)
 CALIFORNIA-MEXICO BORDER REGION ( 45)
      <PAS-P>. ML 3.3 (PAS).

IKP      0.74 291 iPc    40 56.70  -0.8
GLA      0.77  30 iPd    40 56.50  -1.6
BAR      1.20 284 eP     41 04.90  -0.7
PLM      1.63 306 eP     41 09.70  -2.7
PEC      2.17 314 eP     41 17.00  -3.0
NOP      3.80 349 P      41 50.50   7.3
ABL      4.10 308 P      41 53.20   5.7
LSM      4.41 350 P      41 51.00  -1.0
BCH      4.87 306 P      42 01.00   2.6
TNP      5.89 345 eP     42 22.50   9.5
KVN      7.03 342 eP     42 44.50  15.6
        11 obs. associated
-----------------------------------
   NOV  10, 1989  08h 03m 31.68± 0.50s
   27.512 N ± 6.3km  103.841 E ± 8.4km
   DEPTH =  10.0km  (geophysicist)
   4.7mb (  5 obs.)
 YUNNAN PROVINCE, CHINA          (318)

KMI      2.58 203 Pn     04 14.50   0.2
GYA      2.73 112 iPgd   04 18.80   2.3
                Sg      04 53.00
CD2      3.39 359 iPnc   04 29.60   3.9X
                Pg      04 38.50
                Sn      05 13.60
                Sg      05 28.60
LZH      8.55   0 eP     05 41.50   2.9
        1.5s     38.00nm          5.5mb
      Z  20s      1.30um
      N  10s      1.20um
                Lg      08 20.00
GZH      9.66 115 P      05 52.80  -0.9
WHN      9.68  69 eP     05 55.00   1.0
      Z  10s      2.50um
CHG      9.76 208 eP     05 55.90   0.8
CHTO     9.76 208 eP     05 56.00   0.9
QIZ     10.08 146 eP     05 53.60  -6.0X
GTA     12.33 345 eP     06 31.00   0.7
      Z  10s      1.00um
      E  11s      2.60um
TIY     12.48  33 iPc    06 31.00  -1.2
BTO     14.02  20 P      06 51.00  -1.6
      N  12s      1.80um
      E  10s      1.00um
                eS      09 27.00
TIA     14.22  49 eP     06 58.80   3.6X
      N  11s      1.50um
      E  10s      1.40um
HHC     14.75  24 P      07 02.60   0.4
      Z  12s      2.50um
      N  10s      1.10um
BJI     16.14  36 eP     07 21.00   0.9
      Z  16s      1.16um
WMQ     20.84 326 eP     08 11.50  -4.5X
      Z  11s      0.60um          4.2MszX
CN2     23.82  41 eP     08 47.00   1.5
      Z  12s      0.70um          4.4MszX
      N  10s      0.40um
      E  10s      0.50um
                pP      08 53.00  21kmX
HYB     25.39 252 eP     09 03.00   2.1
WB5     55.62 145 eP     13 08.10  -2.0
                i        13 22.00
WRA     55.66 145 Pc     13 09.10  -1.3
        1.1s      5.00nm          4.5mb
ASPA    58.57 147 iPc    13 30.40  -0.6
        0.8s      5.00nm          4.7mb
KEV     59.92 337 eP     13 39.00  -0.8
SOD     60.02 334 iP     13 39.80  -0.7
SUF     60.33 329 iP     13 42.20  -0.5
        0.5s      2.30nm          4.6mb
NUR     61.20 326 eP     13 45.00  -3.6X
HFS     66.63 327 eP     14 22.80  -1.4
        0.8s      7.10nm          4.9mb
NB2     67.57 328 P      14 28.60  -1.6
INK     75.61  19 eP     15 17.00  -1.1
      S.D. = 1.5  on  23 of  28 obs.
-----------------------------------
?  NOV  10, 1989  09h 52m 18.31± 4.66s
   51.915 N ±73.7km  170.407 W ±37.2km
   DEPTH =  33.0km  (normal)
   4.5mb (  2 obs.)
 FOX ISLANDS, ALEUTIAN ISLANDS   (  9)

ADK      3.89 272 eP     53 17.00  -0.2
IMA     16.51  24 e(P)   56 09.50   0.7
FBA     17.45  33 e(P)   56 19.00  -1.4
INK     24.08  33 ePd    57 31.80   0.7
SOD     60.35 353 eP     02 40.00  14.3X
NB2     67.39 359 P      03 12.20   0.3
        0.6s      1.60nm          4.3mb
HFS     68.26 358 eP     03 17.20  -0.1
        0.4s      2.40nm          4.6mb
      S.D. = 1.0  on   6 of   7 obs.
-----------------------------------
   NOV  10, 1989  10h 33m 38.46± 0.70s
   18.705 S ± 5.5km  169.194 E ± 8.1km
   DEPTH = 250.0 ±  7.0 km
   5.2mb (  4 obs.)
 VANUATU ISLANDS                 (186)

PVC      1.27 319 iPd    34 15.00  -0.4
                iS      34 42.00
DZM      4.23 217 iPc    34 45.40  -0.1
                iS      35 39.80
HNR     12 86 315 ePc    36 35.00   1.2
MNG     22.50 167 P      38 18.20   0.3
        0.4s     67.00nm          5.5mb
KIW     22.62 169 P      38 19.50   0.4
PGZ     22.67 166 P      38 19.40  -0.1
        0.4s     30.00nm          5.2mb
TCW     22.85 170 eP     38 22.30   1.0
CAW     22.89 169 P      38 21.80   0.1
MRW     22.94 169 eP     38 22.20   0.1
MTW     23.02 168 P      38 22.50  -0.4
WDW     23.03 169 P      38 22.60  -0.4
BLW     23.22 168 P      38 24.50  -0.3
MOW     23.23 168 P      38 24.50  -0.4
WB5     32.86 262 eP     39 50.20  -0.8
WRA     32.88 262 P      39 51.00  -0.2
        0.3s      0.50nm          3.6mb X
ASPA    33.22 255 iPc    39 53.00  -1.1
        0.4s     30.00nm          5.3mb
WARB    39.89 251 eP     40 50.80   1.0
MBL     46.32 258 eP     41 41.70   0.1
CHTO    78.39 294 eP     45 15.20   2.0
        1.0s      4.25nm          4.1mb
PRS     85.36  49 ePc    45 49.90   1.1
TTA     85.83  15 eP     45 50.50  -0.2
PMR     86.64  19 eP     45 54.00  -0.4
ORV     86.75  46 ePc    45 56.20   0.7
CMB     86.83  48 ePc    45 56.60   0.6
FRI     86.85  49 ePc    45 56.50   0.5
MIN     87.04  46 eP     45 57.60   0.6
IMA     89.01  14 eP     46 05.00  -0.9
FBA     89.58  17 eP     46 06.50  -1.8
INK     96.05  18 eP     46 36.50  -1.4
KHC    143.84 333 ePKP   52 44.00  -1.3
SKO    144.11 317 iPKPc  52 45.00  -0.9
        0.7s     52.00nm
OHR    144.96 316 ePKP   52 47.00  -0.5
DOU    146.34 342 PKP    52 51.40   2.0
CDF    146.93 338 ePKP   52 52.40   1.9
HAU    147.61 338 ePKP   52 54.10   2.6
BCAO   148.02 247 iPKPd  52 57.00   3.8
        0.5s      8.00nm
FLN    148.87 347 ePKP   52 57.40   3.9
LDF    148.95 346 ePKP   52 57.40   3.8
LOR    149.08 340 ePKP   52 58.00   4.1
LBF    149.29 340 ePKP   52 58.00   3.7
GRR    149.31 347 ePKP   52 58.00   3.9
SSF    149.37 341 ePKP   52 58.70   4.4
LPG    149.56 335 ePKP   52 59.90   4.9
LPF    149.68 347 ePKP   52 58.90   4.2
BGF    150.03 341 ePKP   53 00.20   4.9
TCF    150.47 342 ePKP   53 01.20   5.2
MFF    150.82 345 ePKP   53 01.60   5.1
      S.D. = 0.9  on  33 of  47 obs.
-----------------------------------
?  NOV  10, 1989  12h 06m 46.91± 0.72
   48.957 N ±15.7km  156.146 E ±16.6k
   DEPTH =  33.0km  (normal)
   4.7mb (  5 obs.)
 KURIL ISLANDS REGION            (222

FBA     33.16  40 eP     13 20.20  -1.7
        0.8s      0.30nm          3.2mb
INK     38.69  34 eP     14 08.00  -0.7
CHG     54.60 258 eP     16 15.00   0.6
CHTO    54.60 258 iP     16 15.00   0.6
        0.7s      2.70nm          4.4mb
KVN     59.35  65 eP     16 51.00   2.8
WB5     71.22 202 eP     18 03.90  -0.6
WRA     71.29 202 Pc     18 03.90  -1.0
        0.7s      1.20nm          4.1mb
CLL     75.26 337 iPd    18 27.20  -0.6
        0.9s     14.00nm          5.0mb
PRU     76.06 336 eP     18 32.00  -0.4
MOX     76.22 338 e(P)   18 33.00  -0.3
ZST     76.95 333 eP     18 38.00   0.7
KHC     77.10 336 Pc     18 38.50   0.3
        1.0s      8.00nm          4.7mb
KBA     79.04 335 eP     18 49.50   0.4
        0.9s     20.30nm          5.1mb
      S.D. = 1.2  on  13 of  13 obs.
-----------------------------------
   NOV  10, 1989  13h 00m 18.69± 0.47
   17.245 S ± 7.7km  167.737 E ± 9.1k
   DEPTH =  10.0km  (geophysicist)
   4.6mb (  5 obs.)  4.3Msz (  1 obs.
 VANUATU ISLANDS                 (186

PVC      0.74 132 iPd    00 33.10   0.0
                iS      00 46.00
DZM      4.95 194 iPc    01 34.00  -1.0
                iS      02 28.00
HNR     10.85 315 eP     02 58.00   0.9
                eS      04 57.00
RMQ     19.85 239 iPc    04 53.60   0.7
                i       05 04.00
CTA     20.55 259 iPd    05 03.80   3.6
        1.2s     39.06nm          4.6mb
BWA     24.32 222 eP     05 37.70   0.1
CNB     24.32 219 eP     05 41.00   3.3
                e        05 44.00
CMS     24.42 230 eP     05 39.00   0.5
CAN     24.55 219 eP     05 42.30   2.5
WB5     31.71 260 eP     06 43.80  -1.3
WRA     31.74 260 Pd     06 43.80  -1.5
        0.7s      3.00nm          4.3mb
ASPA    32.29 253 iPc    06 49.10  -1.0
        0.6s      7.00nm          4.8mb
      Z  20s      0.62um          4.3Msz
                epP     06 59.30  37km
                LR      19 02.30
CN2     72.02 329 eP     11 44.00  -0.7
SPA     72.86 180 ePc    11 48.90  -0.7
        1.0s     10.50nm          4.9mb
BJI     74.50 321 eP     11 59.00  -0.2
TIY     75.41 318 eP     12 04.00  -0.6
CHTO    76.53 295 e(P)   12 11.30   0.1
        1.2s      4.17nm          4.4mb
GTA     84.72 314 eP     12 55.00   0.5
CLL    140.52 335 ePKP   20 07.00  17.1
CDF    145.06 337 ePKP   19 57.00  -1.0
        0.8s     10.70nm
```

10d 13h

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CTI    145.07 330 PKP    19 57.00   -1.2
BSF    145 72 337 ePKP   19 58.60   -0.6
        0.8s      5.30nm
HAU    145.74 338 ePKP   19 59.20    0.1
        1.0s     12.00nm
ROI    146.51 318 PKP    20 01.50    0.8
VAI    146.51 333 PKP    20 02.00    1.6
CZI    146.99 317 PKP    20 01.40    0.1
LOR    147.24 340 ePKP   20 05.40    3.8X
        0.8s      4.00nm
BCAO   147.25 251 iPKPd  20 04.40    1.8
        0.5s      9.00nm
LBF    147.45 339 ePKP   20 06.80    4.9X
        0.8s      6.70nm
SSF    147.54 340 ePKP   20 06.60    4.6X
        0.8s      5.90nm
LPG    147.66 335 ePKP   20 06.60    3.9X
        0.8s      8.00nm
BNI    148.05 334 PKP    20 06.50    3.4X
     S.D. = 1.1   on   24 of   32 obs.
-----------------------------------------
?  NOV  10, 1989  13h 15m 45.72± 3.16s
   34.093 N ±30.8km   23.113 E ±10.8km
   DEPTH =  10.0km   (geophysicist)
 CRETE                                (370)
      MD 4.1 (ATH).

VAM      1.59  34 ePn    16 12.90   -1.0
NPS      2.37  60 ePn    16 25.50    0.3
VLI      2.62 357 ePn    16 30.00    1.2
KAP      3.64  65 ePn    16 43.50    0.2
VLS      4.56 334 ePn    16 55.70   -0.6
OHR      7.24 346 ePn    17 34.20    0.0
CZI      7.59 314 P      17 39.00    0.0
     S.D. = 0.8   on    7 of    7 obs.
-----------------------------------------
   NOV  10, 1989  13h 42m 51.18± 0.15s
   22.772 S ± 2.9km   65.936 W ± 3.7km
   DEPTH = 265.7km  ( 14 depth phases)
   5.3mb ( 59 obs.)
 JUJUY PROVINCE, ARGENTINA          (128)
      CENTROID, MOMENT TENSOR       (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 28C
      Centroid Location:
      Origin Time        13:43: 2.7 0.3
      Lat 22.64S 0.04 Lon  65.57W 0.04
      Dep 284.4 1.7 Half-duration  2.4
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.63 0.08  Mtt=-0.90 0.12
        Mff= 1.54 0.12  Mrt= 1.16 0.11
        Mrf=-2.79 0.09  Mtf= 0.41 0.11
       Principal Axes:
        T  Val=  3.47  Plg=35  Azm= 85
        N       -0.30      20      340
        P       -3.17      48      226
      Best Double Couple:Mo=3.3*10**17
       NP1:Strike=229 Dip=21 Slip= -19
       NP2:        337     83     -110

YJA      0.72  34 iPd    43 27.20   -1.0
SLA      1.99 168 iPc    43 36.20    0.8
ANT      4.22 256 iPc    43 56.70   -2.0
                  i(S)   44 34.50
CCH      5.37 358 iPd    44 12.20   -0.6
CYA      5.65 179 iPd    44 16.90    1.0
CNCB     6.24 342 iPd    44 23.00   -0.8
LPB      6.53 341 P      44 27.00   -0.3
                  i      45 38.00
                  Lg     57 37.00
ZOBO     6.79 342 Pd     44 29.00   -1.7
RTRS     8.01 202 iPd    44 46.00    0.6
ARE      8.17 319 iPc    44 44.00   -3.7X
                  i(S)   45 06.00
TCA      8.62 172 iPd    44 52.00   -1.1
                  S      46 25.00
RTLL     8.82 194 iPc    44 53.20   -2.4
CFA      9.04 193 iPd    44 55.50   -2.9X
RTCB     9.05 196 iPd    44 56.80   -1.8
RTCV     9.34 194 iPc    45 01.00   -1.3
MRA      9.60 179 iPd    45 03.00   -2.5
JACH    10.70 202 iPd    45 19.10   -0.2
                  iS     45 25.20
ITB1    10.74 102 Pc     45 20.20    0.4
ITB     10.93 103 Pc     45 22.90    0.7
ITB7    11.01 105 e(P)   45 20.00   -3.2X
PEL     11.15 201 iPd    45 24.40   -0.5
FCH     11.19 199 iPd    45 26.00    0.2
                  iS     45 31.50
SAN     11.43 200 iPd    45 27.50   -0.8
                  iS     45 33.00
PCH     11.53 199 iPd    45 29.50   -0.3
                  iS     45 34.50
TACH    11.70 201 eP     45 30.00   -1.7
                  iS     45 35.20
LCCH    11.76 204 iPd    45 30.80   -1.6
                  iS     45 36.30
CHCH    11.87 199 iPd    45 33.40   -0.4
                  iS     47 26.30
LNV     12.14 202 iPc    45 35.10   -2.0
                  iS     45 39.90
RFA     12.16 190 ePd    45 35.10   -2.4
PPD     13.55  90 iPc    45 54.00   -0.6
                  i      46 06.10
                  i      46 18.80
PT08    14.76 315 iPc    46 08.80   -0.9
                  iS     48 43.00
NNA     14.93 314 iPc    46 10.00   -1.5
        1.0s    150.00nm          5.3mb
                  eS     48 51.50
PT10    14.96 314 eP     46 10.00   -1.7
                  eS     48 52.00
VAO     17.48  94 iPc    46 38.80   -0.9
                  i      46 46.30
                  e      46 52.00
                  i      46 55.50
                  eS     49 48.10
BAO     18.36  70 iPc    46 49.40    0.5
BMA     20.09  94 eP     47 06.00   -0.1
                  e      47 12.60   25kmX
                  e      50 17.50
CAYA    25.56 331 eP     48 00.00    1.4
COTA    25.95 331 eP     47 49.00  -13.1X
PSO     26.28 334 eP     48 06.00    1.1
PDCR    27.46  73 eP     48 12.70   -2 4
                  e      48 15.30    9kmX
                  e      48 28.00
                  e      49 08.00
                  e      54 43.10
SDV     31.80 351 iPd    48 51.20   -2.2
        0.3s     25.00nm          5.3mb
TOV     32.58 353 eP     48 57.70   -2.3
OLLA    32.60 358 iPd    48 58.00   -2.2
CUM     33.08   3 iP     49 02.60   -1.5
FISA    33.99 354 iPc    49 09.00   -3.0X
BIM     37.36   8 ePc    49 38.19   -2.1
MVM     37.42   8 ePc    49 38.74   -2.0
FDF     37.57   8 eP     49 40.09   -1 9
AIA     42.48 179 eP     50 23.00    1.4
SNA     59.93 159 iPd    52 31.50    0.2
        0.9s    159.66nm          5.6mb
RSCP    60.96 342 P      52 36.00   -2.7
        0.7s    304.50nm          6.0mb
                  pP     53 35.10  262km
UYO     62.79 334 iPc    52 49.10   -1.6
RKT     62.98 255 iP     52 53.80    1.6
        1.2s    115.00nm          5.4mb
LNO     64.84 333 iP     53 02.50   -1.3
TUL     64.84 333 iPc    53 03.00   -0.9
        1.2s     75.00nm          5.3mb
SIO     64.92 333 eP     53 03.10   -1.3
MEO     65.09 331 iPc    53 04.00   -1.6
LIC     66.13  72 P      53 10.74   -1.8
TIC     66.33  71 P      53 12.48   -1.4
KIC     66.44  72 Pc     53 12.82   -1.7
        0.8s    139.00nm          5.7mb
SPA     67.37 180 iPd    53 30.80   11.0X
        1.5s    392.05nm
ALO     69.09 325 eP     53 29.90   -0.8
        0.9s     46.22nm          5.2mb
                  epP    54 28.30  251kmX
GLD     72.20 329 P      53 49.00   -0.2
GLA     72.50 318 eP     53 51.00    0.1
                  e      54 57.00  285kmX
BAR     73.39 317 eP     53 56.00    0.0
                  e      55 01.00  280kmX
PLM     73.96 317 eP     54 00.00    0.5
                  e      55 05.00  280kmX
TPC     73.96 319 eP     54 00.00    0.7
                  e      55 05.00  280kmX
PEC     74.50 318 P      54 01.90   -0.5
RVR     74.70 318 eP     54 04.00    0.5
                  e      55 05.00  261km
MSU     74.80 324 P      54 04.50    0.2
                  pP     55 05.90  262km
SBA     75.07 190 P      54 04.90   -0.1
GSC     75.22 319 eP     54 07.00    0.5
                  e      55 13.00  284kmX
MWC     75.28 317 eP     54 07.00    0.0
                  e      55 13.00  284kmX
PAS     75.30 317 eP     54 07.00    0.1
SBB     75.44 318 eP     54 07.00   -0.8
                  e      55 09.00  265km
TBI     75.68 250 eP     54 11.00    1.7
        1.0s    130.00nm          5.6mb
DAU     75.70 326 P      54 09.50    0.1
                  pP     55 14.60  279kmX
CLC     76.05 319 eP     54 11.00   -0.1
                  e      55 16.00  278kmX
DUG     76.36 325 P      54 12.50   -0.3
        1.0s     25.00nm          4.9mb
ABL     76.41 317 P      54 14.30    0.9
ISA     76.48 318 eP     54 15.00    1.5
                  e      55 16.00  259km
RUV     76.54 259 iP     54 16.60    2.5
        1.2s    130.00nm          5.5mb
BW06    76.61 329 P      54 13.20   -1.1
        0.8s      6.71nm          4.4mb
SYP     76.68 317 eP     54 15.00    0.3
                  e      55 18.00  269km
VAH     76.75 259 iP     54 17.40    2.1
        1.2s    195.00nm          5.7mb
TPT     76.83 259 iP     54 18.30    2.6
        1.2s    175.00nm          5.7mb
BLP     76.97 316 P      54 16.00   -0.1
PMO     77.07 259 iP     54 19.60    2.6
        1.2s    170.00nm          5.7mb
BCH     77.17 317 P      54 18.00    0.6
SCH     77 27 359 eP     54 16.00   -1.3
RSON    77 29 342 P      54 16.20   -1 4
        0.8s     29.25nm          5.1mb
TNP     77.34 321 P      54 18.60    0.2
        0.7s     20.00nm          5.0mb
TVO     77.34 256 iP     54 21.00    2.4
        1.3s    250.00nm          5.8mb
PPN     77.59 256 iP     54 22.00    2.1
        1.3s     60.00nm          5.2mb
PAE     77.67 256 iP     54 22.70    2.4
        1.3s    180.00nm          5.6mb
PPT     77.70 256 iP     54 23.00    2.5
        1.3s    260.00nm          5.8mb
PHAM    77.78 317 P      54 20.80    0.2
PTI     78.07 327 P      54 23.00    0.8
FRI     78.10 319 eP     54 20.40   -1.9
PRI     78.15 318 ePd    54 22.90    0.2
                  epP    55 25.40  265km
KVN     78.50 321 P      54 23.10   -1.6
LLA     78.62 318 ePd    54 25.40    0.3
                  epP    55 27.40  262km
PRS     78.71 317 ePd    54 25.80    0.2
AVE     78.85  47 iP     54 27.00    0.6
SAO     79.03 318 eP     54 27.40    0.1
CMB     79.19 319 ePd    54 27.80   -0.4
                  epP    55 32.60  275km
ARN     79.45 318 P      54 30.10    0.5
MHC     79.51 318 ePd    54 30.70    0.7
GCC     79.54 318 eP     54 30.70    0.7
HVD     79.92 119 iPd    54 32.20   -0.3
        1.0s     30.00nm          5.0mb
                  i      54 42.00   31kmX
PCC     80.07 318 eP     54 32.90    0.1
FRS     80.07 118 iPd    54 33.50    0.4
        0.9s     21.01nm          4.9mb
BKS     80.21 318 eP     54 34.30    0.8
        1.0s     78.00nm          5.4mb
BRK     80.23 318 ePd    54 33.80    0.2
LRM     80.27 329 eP     54 34.90    0.9
                  e      55 39.40  273km
ORV     80.83 320 ePd    54 37.20    0.5
                  epP    55 39.90  264km
SWZ     80.98 116 iPc    54 38.00   -0.1
        0.9s     19.33nm          4.9mb
MIN     81.39 320 ePd    54 39.70   -0.1
EVAL    81.85  44 eP     54 43.00    1.0
EJIF    82.00  45 eP     54 44.30    1.4
WDC     82.09 320 ePd    54 41.80   -1.4
LBFM    82.20 321 P      54 43.40   -0.6
BFS     82 30 116 iPc    54 42.50   -2.4
        1.1s    101.27nm          5.5mb
                  i      55 46.00  267km
SEK     82.47 117 iPd    54 46.00    0.2
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        1.0s    20.00nm          4.8mb
KSR    82.77 115 iPd   54 46.30  -1.1
        1.2s    30.00nm          4.9mb
EHOR   82.94  44 eP    54 48.00   0.4
SES    83.04 333 eP    54 48.00   0.1
        0.8s    49.00nm          5.3mb
                  pP   55 51.00 264km
FHC    83.09 320 eP    54 49.30   0.9
ATEJ   83.22  45 eP    54 50.00   0.7
ALOJ   83.27  45 eP    54 50.50   1.0
AAPN   83.38  45 eP    54 50.70   0.7
APHE   83.46  46 eP    54 51.00   0.6
ASMO   83.65  45 eP    54 51.60   0.2
EPLA   83.75  42 eP    54 52.50   0.8
EBAN   84.08  44 eP    54 54.20   0.8
DPW    84.50 328 P     54 55.50   0.2
EVIA   85.18  45 eP    54 59.50   0.6
GUD    85.27  42 eP    55 00.50   1.1
LON    85.60 325 P     55 00.40  -0.4
EDM    86.10 334 iP    55 02.00  -1.0
                  pP   56 07.50 274km
PNT    86.17 328 iPc   55 04.20   0.8
        0.9s    37.00nm          5.2mb
BMW    86.19 324 P     55 03.90   0.3
BCAO   86.61  84 iPc   55 06.20  -0.1
        1.4s    70.00nm          5.3mb
                  ic   56 12.80 278kmX
                  ic   58 28.00
GMW    86.63 325 P     55 06.10   0.5
ETOR   86.69  43 eP    55 07.00   0.8
MCW    87.37 326 P     55 09.90   0.7
PGC    87.67 326 eP    55 11.00   0.5
LFF    90.65  41 eP    55 25.20   0.6
        0.8s    34.90nm          5.3mb
LPO    90.79  41 eP    55 25.70   0.5
        0.8s    16.10nm          5.0mb
MFF    91.02  39 iPc   55 26.50   0.3
        0.8s    61.70nm          5.6mb
LPF    91.29  37 iPc   55 27.30  -0.1
        1.0s    56.00nm          5.5mb
RJF    91.31  41 eP    55 28.00   0.4
        1.0s    17.60nm          5.0mb
CAF    91.45  41 eP    55 28.70   0.4
        0.8s    18.80nm          5.1mb
GRR    91.58  37 iPc   55 28.60  -0.2
        0.8s    30.60nm          5.3mb
LSF    91.81  40 iPc   55 30.10   0.2
        0.8s    21.40nm          5.2mb
FLN    92.00  37 eP    55 30.60  -0.1
        1.2s    65.40nm          5.5mb
LDF    92.11  37 iPc   55 31.10  -0.1
        0.8s    26.80nm          5.3mb
TCF    92.24  40 iPc   55 31.90   0.0
        0.8s    16.10nm          5.1mb
MAF    92.42  40 eP    55 32.80   0.1
        0.8s    13.40nm          5.0mb
BGF    92.75  40 iPc   55 34.20   0.0
        1.1s    19.50nm          5.0mb
AVF    93.17  40 iPc   55 36.20   0.1
        1.2s    32.70nm          5.3mb
SMF    93.39  40 iPc   55 37.20   0.0
        1.0s    38.00nm          5.4mb
SSF    93.40  40 eP    55 37.00  -0.2
        0.9s    20.30nm          5.2mb
LRG    93.40  44 iPc   55 38.40   1.2
        0.8s    26.80nm          5.4mb
LMR    93.44  44 iPc   55 38.20   0.8
        0.9s    20.90nm          5.2mb
FRF    93.64  44 iPc   55 38.90   0.6
        0.8s    21.40nm          5.3mb
LBF    93.64  40 eP    55 38.40   0.1
        1.0s    16.00nm          5.1mb
LOR    93.71  40 iPc   55 38.40  -0.2
        0.8s    15.30nm          5.2mb
SBF    94.28  44 iPc   55 42.10   0.7
        1.0s    44.00nm          5.6mb
LPG    94.61  42 eP    55 44.20   1.0
        1.0s    36.00nm          5.5mb
HAU    95.54  40 eP    55 47.00   0.0
        0.6s     7.90nm          5.1mb
BSF    95.72  40 eP    55 47.80  -0.1
        1.0s    16.00nm          5.2mb
CDF    96.28  40 eP    55 50.30  -0.1
        1.0s    16.00nm          5.2mb
OGA    97.88  42 iPd   55 58.70   0.9
        1.4s    39.00nm          5.5mb
KHC   100.36  41 Pdiff 56 09.00   0.1
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BRG   101.25  39 e(Pdif56 13.50   0.8
        1.4s    16.00nm          5.4mb
PRU   101.27  40 ePdiff56 09.00  -3.8X
                  e     56 13.00
INK   103.09 339 ePdiff56 20.60   0.2
CTA   127.07 219 iPKPc 01 26.60   0.7
        1.0s    30.00nm
WARB  129.83 195 ePKP  01 31.00   0.0
ASPA  129.97 204 iPKPd 01 31.20  -0.1
        1.0s    61.00nm
                  eSKP  04 28.80
                  iPKS  04 54.50
                  eSKS  08 14.80
QIS   130.24 212 iPKPc 01 32.30   0.4
MAIO  131.23  61 ePKP  01 35.00   1.5
                  e     02 42.00
WRA   133.16 207 PKP   01 21.00 -16.4X
        1.0s     2.90nm
WB5   133.20 207 ePKP  01 25.00 -12.5X
                  i     01 38.20
                  ePP   04 04.10
                  eSKS  04 41.00
MTN   140.85 207 iPKPc 01 44.90  -6.9X
                  e     01 51.00
KSH   143.71  54 ePKP  01 55.00  -1.3
JAY   143.85 229 ePKPc 01 56.00  -1.2
        1.0s   166.20nm
GBA   144.11  98 PKP   01 55.00  -2.4X
HYB   146.28  93 ePKPd 02 02.50   1.4
        0.8s    69.20nm
                  e     03 10.00
NDI   146.38  72 ePKP  02 02.00   1.1
GUA   149.34 258 ePKP  02 10.70   4.8X
        1.0s   256.00nm
GUMO  149.40 258 ePKP  02 11.00   5.0X
        1.0s   328.00nm
PJG   149.40 258 ePKP  02 11.10   5.1X
WMQ   149.78  40 PKP   02 11.60   5.7X
AAI   150.30 209 ePKP  02 13.00   5.6X
MKS   151.68 191 iPKPc 02 19.50  10.0X
MNI   156.35 208 ePKP  02 27.50  11.6X
CN2   157.01 339 ePKP  02 15.80  -0.1
GTA   159.45  33 ePKP  02 19.80   0.8
BTO   161.90  10 ePKP  02 23.60   2.2X
BJI   162.69 355 ePKP  02 23.00   1.0
LZH   164.04  32 PKP   02 25.50   1.8
TIY   165.04   5 ePKP  02 26.60   2.2X
TIA   166.35 349 PKPc  02 26.90   1.5
CD2   167.74  46 ePKP  02 28.40   1.7
XAN   167.90  21 PKPd  02 28.10   1.4
WHN   172.26 358 ePKP  02 30.50   1.6
GYA   172.33  60 PKP   02 30.60   1.3
      S.D. = 1.1  on 189 of 209 obs.
-----------------------------------
%  NOV  10, 1989  13h 52m 35.12± 0.79s
   19.219 N ± 8.8km   98.977 W ± 7.2km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL MEXICO                   (523)
      Felt at Mexico City.

UNM     0.23 300 (P)   52 39.50  -0.6
                 (S)   52 44.00
PPM     0.36 115 iP    52 43.20   0.4
                 iS    52 47.48
IIC     0.61 334 iP    52 48.20   0.6
                 (S)   53 03.44
IIT     0.66 107 iP    52 47.81  -0.7
                 iS    52 56.65
CRX     0.69 286 (P)   52 58.90   9.9X
III     0.96 209 iP    52 53.76   0.2
                 iS    53 09.08
IISM    1.53  98 iP    53 06.41   3.9X
                 (S)   53 25.11
ACX     2.48 200 iP    53 21.00   4.7X
                 iS    53 52.05
OXX     3.02 134 iP    53 29.50   5.5X
      S.D. = 0.9  on   5 of   9 obs.
-----------------------------------
   NOV  10, 1989  14h 13m 22.57± 1.12s
   49.312 N ± 4.9km  128.897 W ±10.5km
   DEPTH =  10.0km  (geophysicist)
   4.2mb (  2 obs.)
 VANCOUVER ISLAND REGION          ( 25)

EDB     1.29  63 Pnc   13 47.11   0.7
ETB     1.54  87 Pn    13 50 82   0.7
PHC     1.69  34 Pn    13 53 00   0.8
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                 S     14 16.50
GDR     1.91  75 Pn    13 55.20  -0.2
BTB     2.21  85 Pnc   14 00.32   0.3
OZB     2.26  98 Pn    13 59.90  -0.7
MGB     2.78  95 Pn    14 07.13  -0.9
                 S     14 43.23
BBB     2.92  10 Pn    14 09.00  -0.8
                 S     14 45.80
MCW     4.04  97 eP    14 26.50   0.7
BMW     4.75 125 eP    14 34.50  -1.5
LON     5.40 116 eP    14 45.00  -0.1
PNT     6.07  86 eP    14 54.00  -0.5
        0.4s    14.00nm          5.1mb X
WDC     9.82 150 eP    15 46.70  -0.1
MIN    10.35 147 ePc   15 54.80   0.6
EDM    10.50  62 eP    15 56.00  -0.1
SES    11.58  78 eP    16 11.00   0.1
KVN    12.84 139 eP    16 28.50   0.5
FFC    17.37  62 eP    17 26.00  -0.4
        0.6s    21.00nm          4.4mb
ALQ    21.87 123 eP    18 18.00   0.6
        1.0s     6.25nm          4.0mb
      S.D. = 0.7  on  19 of  19 obs.
-----------------------------------
&  NOV  10, 1989  14h 24m 59 70s
   36.918 N          121.508 W
   DEPTH =   4.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 2.8 (BRK).

SAO     0.16 162 iPd   25 03.30   0.3
GCC     0.41 286 iPd   25 07.40  -0.5
ARN     0.43 357 iPd   25 08.50   0.2
MHC     0.44 346 iPd   25 08.70   0.2
LLA     0.54 123 iPc   25 10.10  -0.5
PRS     0.60 169 iPd   25 11.20  -0.4
PCC     0.91 310 iPc   25 16.70  -0.9
                 iS    25 31.70
PRI     1.03 139 ePd   25 19.80   0.0
BKS     1.12 329 eP    25 19.40  -1.8
BRK     1.13 328 ePd   25 20.40  -0.9
CMB     1.43  38 e(P)  25 25 60  -0.9
                 eS    25 43.20
FRI     1.44  87 ePc   25 24.60  -2.0
KVN     3.43  51 eP    26 00.00   4.7
       13 obs. associated
-----------------------------------
%  NOV  10, 1989  14h 33m 13.51± 0.81s
   38 158 N ± 7.8km    5.108 W ± 8.5km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                            (377)
      mbLg 2.8 (MDD).

EHOR    0.36 198 iP    33 20.60  -0.2
                 eS    33 26.50
EBAN    1.04  89 iP    33 32.00  -1.2
                 eS    33 46.40
EVAL    1.42 247 eP    33 39.50   0.2
                 eS    33 58.20
AFC     1.53 126 eP    33 42.00   0.9
EPLA    2.05 339 eP    33 47.40  -1.1
                 eS    34 13.00
GUD     2.59  16 eP    33 57.60   1.3
                 eS    34 27.80
      S.D. = 1.3  on   6 of   6 obs.
-----------------------------------
?  NOV  10, 1989  15h 15m 50.14± 1.79s
   21.288 S ±28.5km  178.900 W ±22.7km
   DEPTH = 566.8 ± 14.8 km
   4.5mb (  8 obs.)
 FIJI ISLANDS REGION              (181)

VUN     4.10 322 iPc   17 14.00  -0.5
MBU     4.85 332 iPc   17 20.60   0.2
DZM    13.65 264 iPd   18 47.20   1.6
CAN    31.38 237 eP    21 27.90   1.1
BWA    31.57 238 eP    21 27.30  -1.2
ASPA   43.53 258 iPd   23 06.20   0.2
        0.7s    32.00nm          5.0mb
                 iPcP  24 40.00
                 eS    28 53.50
WB5    43.65 263 iPd   23 06.70  -0.3
                 eS    28 56.00
WRA    43.66 263 Pd    23 06.30  -0.8
        0.3s     3.30nm          4.3mb
FORR   48.18 247 eP    23 41.10  -0.3
        0.4s    15.00nm          4.9mb
```

10d 15h

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KNA     49.75 267 iPd    23 52.80  -0.4
         0.4s     15.00nm          4.9mb
WARB    49.79 253 eP     23 53.20  -0.3
MBL     56.77 258 iPd    24 42.30  -0.8
         0.3s      6.00nm          4.4mb
TSM     66.71 285 ePd    25 57.90  10.5X
QCP     68.87 296 eP     26 13.20  12.7X
KVN     82.66  43 iP     27 16.10   0.3
TNP     82.68  44 eP     27 16.20   0.2
         0.8s      2.50nm          3.8mb
FBA     89.19  13 iP     27 45.00  -1.3
         0.9s      2.80nm          4.2mb
CHTO    89.72 290 eP     27 51.10   1.4
         0.8s      3.11nm          4.3mb
CNCB   102.43 114 Pdiff  28 32.00 -16.0X
LPB    102.45 113 (Pdiff 28 32.00 -15.9X
WMQ    106.81 311 ePKP   33 00.80 -12.2X
KSH    114.63 305 ePKP   33 40.50  12.4X
NB2    139.65 352 PKP    34 07.10  -7.7X
         0.6s      1.50nm
HFS    140.17 350 ePKP   34 07.40  -8.3X
         0.3s      4.20nm
EKA    145.85   4 PKPc   34 26.30   0.7
         0.8s      7.30nm
BHL    147.06 300 PKP    34 32.00   3.7X
HRI    147.13 299 e(PKP) 34 32.00   3.5X
KSP    148.18 342 iPKP   34 34.10   4.7X
PRNI   148.28 294 ePKP   34 35.00   4.7X
MBH    148.46 292 iPKPd  34 35.00   4.5X
CLL    148.62 346 iPKPd  34 34.40   4.3X
         1.0s     17.00nm
                   i     34 40.10
BRG    148.80 344 iPKP   34 34.50   4.1X
         1.1s     16.00nm
                   i     34 40.50
WTS    149.03 353 ePKP   34 35.50   4.9X
         0.9s     18.00nm
PRU    149.45 343 ePKPd  34 36.00   4.6X
         0.8s     12.40nm
MOX    149.55 347 ePKP   34 37.00   5 5X
ENN    150.34 354 ePKP   34 38.50   5.9X
         0.9s     10.00nm
                   e     34 46.50
MEM    150.48 354 PKP    34 38.80   5.9X
KHC    150.49 343 PKP    34 39.40   6.4X
                   e     34 49.20
DOU    151.12 355 PKP    34 40.10   6.2X
      S.D. = 0.9  on  17 of  39 obs
-----------------------------------
   NOV  10, 1989  15h 23m 49.16± 1.05s
    3.430 N ± 4.8km  126.752 E ± 8.3km
   DEPTH =  72.0 ± 10.6 km
   5.1mb ( 16 obs.)
 TALAUD ISLANDS                    (263)

MNI      2.75 224 ePd    24 33.70   1.9
                  e(S)   25 13.00
DAV      3.82 342 eP     24 45.00  -1.8
AAI      7.22 168 eP     25 34.50   0.3
MKS     11.26 220 iPd    26 45.50  16.1X
BAG     14.25 335 eP     27 09.90   0.8
JAY     15.14 113 ePd    27 22.50   2.0
         0.8s    198.00nm          5.4mb
MTN     16.75 165 eP     27 38.00  -2.6
KNA     19.16 174 eP     28 08.00  -1.8
         0.9s    186.00nm          5.3mb
GUMO    20.54  59 eP     28 04.80 -19.4X
PJG     20.54  59 eP     28 04.50 -19.7X
QIZ     22.66 314 eP     28 45.80   0.4
QZH     22.79 341 eP     28 45.50  -1.0
WB5     24.34 162 iPc    29 01.00  -0.7
                  eS     33 18.00
WRA     24.40 162 Pd     29 00.00  -2.2
         0.2s     42.40nm          5.5mb
MBL     25.36 195 eP     29 12.00   0.7
IPM     25.69 273 ePd    29 18.20   3.8X
QIS     26.97 153 iPc    29 25.40  -0.7
         1.0s     75.00nm          5.2mb
ASPA    27.82 166 iPc    29 32.80  -1.0
         0.8s     22.00nm          4.8mb
SSE     28.01 350 P      29 36.50   1.1
         1.4s     31.00nm          4.7mb
                   pP    29 50.50  57kmX
                   PP    30 18.00
                   e(S)  34 08.00
NANU    28.06 202 eP     29 37.00   1.1
LOE     28.20 301 iPd    29 36.50  -0.8
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WHN     29.41 338 Pc     29 48.00   0.1
NJ2     29.42 346 Pc     29 50.00   1.9
WARB    29.44 180 eP     29 49.10   0.8
         0.3s      8.00nm          4.9mb
CTA     30.22 141 eP     29 55.00  -0.3
CHG     31.19 301 eP     30 04.00   0.1
CHTO    31.19 301 eP     30 03.80  -0.1
         0.6s      2.95nm          4.2mb
TIA     33.81 346 eP     30 26.00  -0.5
FORR    34.11 178 iPd    30 28.70  -0.3
         0.5s     36.00nm          5.6mb
OLP     34.29 151 eP     30 30.00  -0.7
XAN     34.69 333 Pd     30 32.00  -2.1
CD2     34.90 324 eP     30 37.80   1.9
DL2     35.62 353 eP     30 41.00  -0.8
RMQ     36.57 146 eP     30 48.00  -2.0
BJI     37.68 347 eP     30 59.00  -0.1
         1.0s     66.00nm          5.5mb
STK     37.85 159 eP     31 01.00   0.3
         0.5s     48.00nm          5.7mb
SNY     38.33 356 Pd     31 04.40  -0.2
LZH     38.77 330 eP     31 09.00   0.4
      Z  26s      0.40um          4.1MszX
                   pP    31 18.00  30kmX
CMS     39.19 154 eP     31 11.00  -0.9
BRS     39.61 142 iPc    31 14.60  -0.9
                   e     31 25.00
HHC     39.69 342 eP     31 17.80   1.7
ADE     39.81 165 iPc    31 17.70   0.6
         0.9s     52.10nm          5.5mb
CN2     40.22 359 eP     31 19.00  -1.2
MDJ     41.09   3 eP     31 32.50   5.1X
COO     41.47 146 iPd    31 31.40   0.7
LSA     42.65 312 iP     31 41.60   0.6
BWA     42.83 153 eP     31 43.80   2.0
BFD     42.99 161 eP     31 43.00   0.0
GTA     43.36 329 eP     31 45.40  -0.8
      Z  18s      0.60um          4.5Msz
CAN     43.83 153 iPd    31 51.00   1.1
TOO     44.35 159 iPc    31 56.60   2.5
                   e     33 38.00
DZM     46.35 125 iPc    32 10.90   0.7
GBA     49.71 285 P      32 36.00  -0.4
POO     53.84 290 eP     33 07.00  -0.3
MSZ     60.36 147 P      33 43.10  -9.8X
MAIO    69.71 307 eP     34 53.00  -0.7
TTA     81.16  27 P      35 58.00  -0.1
         1.0s     15.00nm          4.9mb
KDC     82.17  32 P      36 08.00   4.7X
IMA     82.65  24 eP     36 07.10   1.2
PMR     84.20  29 eP     36 13.90   0.3
         1.0s     12.00nm          4.9mb
FBA     84.98  25 P      36 19.00   1.5
KEV     90.18 340 eP     36 58.00  15.5X
INK     90.43  21 eP     36 42.50  -1.1
SOD     90.75 338 eP     36 55.00   9.9X
SUF     91.83 333 eP     36 49.30  -0.9
NUR     92.97 331 eP     36 46.00  -9.5X
SLL     98.34 333 eP     37 18.90  -1.0
         0.5s      2.80nm          5.0mb
NB2     99.06 334 P      37 22.80  -0.5
         0.9s      2.90nm          4.8mb
UPA    151.04  65 iPKPd 43 37.20   6.8X
CNCB   160.35 134 ePKP  43 50.00   7.0X
LPB    160.44 133 ePKP  43 53.00  10.1X
ZOBO   160.59 132 PKP   43 45.00   1.8
      S.D. = 1.2  on  59 of  72 obs.
-----------------------------------
*  NOV  10, 1989  16h 58m 03.61± 1.33s
   31.052 S ±11.1km  117.414 E ±14.0km
   DEPTH =  10.0km  (geophysicist)
   3.0mb (  1 obs.)
 WESTERN AUSTRALIA                 (590)

KLB      0.61 151 iPd    58 16.00   0.0
BAL      0.75 306 iPd    59 00.50  42.1X
MUN      1.38 228 iPc    58 34.40   5.5X
NWAO     1.88 185 iPc    58 43.80   7.8X
                   i     58 47.40
MRWA     2.20 326 iPc    58 40.80   0.0
COOL     3.21  88 iPc    59 00.50   5.4X
                   i     59 10.40
                   iS    59 39.70
MEKA     4.53  13 eP     59 16.00   2.2X
                   eS    00 03.00
FORR     9.18  91 eP     00 21.50   2.5X
         0.4s     13.00nm          5.6mb X
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                   eS    02 01.00
WARB     9.45  61 iPd    00 23.10   0.4
         0.3s      8.00nm          5.7mb X
                   eS    02 03.00
MBL     10.09  13 eP     00 27.00  -4.5X
         0.3s      1.00nm          4.8mb X
                   eS    02 09.00
ASPA    16.38  67 iPc    01 53.40  -1.8X
                   eS    04 43.50
WRA     18.84  58 P      02 27.00   1.2
         0.5s      0.50nm          3.0mb
WB5     18.90  58 eP     02 25.00  -1.6
                   eS    05 42.20
      S.D. = 1.4  on   5 of  13 obs.
-----------------------------------
   NOV  10, 1989  18h 46m 05.72± 0.76s
   21.276 S ± 9.7km  179.150 W ± 6.6km
   DEPTH = 618.6 ±  9.5 km
   5.1mb ( 18 obs.)
 FIJI ISLANDS REGION               (181)

VUN      3.95 325 iPc    47 33.30   0.7
DZM     13.42 264 iPd    48 59.90   1.7
                   iS    51 23.00
HNR     23.31 297 eP     50 29.00  -1.1
BRS     26.26 251 iPc    50 56.50   0.5
RMQ     29.76 254 eP     51 26.00  -0.1
         1.0s    167.00nm          5.6mb
TPT     30.57  84 eP     51 32.00  -1.0
         0.8s     35.00nm          5.0mb
RUV     30.74  84 eP     51 33.00  -1.4
         0.8s     40.00nm          5.1mb
CNB     30.90 236 iPd    51 37.20   1.4
CAN     31.19 236 eP     51 38.80   0.7
BWA     31.38 238 eP     51 37.90  -1.9
CTA     32.35 266 iPd    51 47.90  -0.1
         0.8s    157.46nm          5.7mb
CMS     32.86 245 iPd    51 52.70   0.6
         0.8s     64.00nm          5.3mb
PMG     34.49 285 iPd    52 06.00   0.2
TOO     34.57 234 ePd    52 06.70   0.3
         0.5s     20.00nm          5.0mb
LAT     35.81 289 eP     52 18.00   1.4
STK     36.49 245 iPd    52 23.10   1.0
         0.9s     52.00nm          5.1mb
                   e     53 50.00
QIS     38.46 263 eP     52 37.00  -1.2
         0.3s     13.00nm          4.9mb
JAY     43.28 290 ePd    53 15.70  -0.9
ASPA    43.30 258 iPd    53 16.10  -0.6
         0.7s    141.00nm          5.6mb
                   iScP  57 45.50
                   iS    58 58.40
                   iScS  02 08.20
WB5     43.42 263 iPd    53 16.80  -0.8
                   e     57 56.20
                   eS    59 00.00
WRA     43.43 263 Pc     53 17.00  -0.7
         0.7s     50.60nm          5.1mb
FORR    47.97 247 eP     53 51.10  -1.0
         0.4s     29.00nm          5.1mb
MTN     48.10 272 iPd    53 52.00  -1.3
KNA     49.52 267 iPd    54 02.80  -0.9
         0.4s     36.00nm          5.2mb
WARB    49.57 253 iPd    54 03.10  -1.0
MBL     56.55 258 iPd    54 52.20  -1.3
         0.5s     39.00nm          4.9mb
MRWA    58.56 248 iPd    55 07.00   0.0
MNI     59.19 285 eP     55 09.80  -1.5
SPA     68.85 180 iPc    56 11.90   0.4
         1.0s     41.50nm          4.9mb
NJ2     79.55 310 iPd    57 11.50   0.4
PLM     80.47  49 eP     57 16.00  -0.1
SBB     80.54  47 eP     57 16.00  -0.3
AIA     80.68 157 eP     57 17.50   1.1
CLC     81.32  46 eP     57 20.00  -0.2
TPC     81.44  48 eP     57 21.00   0.1
GLA     81.75  50 eP     57 24.00   1.6
WHN     82.04 307 P      57 24.50   0.7
IPM     82.20 278 ePd    57 25.90   0.9
         0.9s     86.30nm          5.3mb
CN2     82.26 323 Pd     57 24.20  -0.4
TIA     83.01 313 Pd     57 28.30  -0.3
BJI     85.69 316 eP     57 41.50   0.0
         1.0s     42.00nm          5.1mb
NNT     86.42 285 iPd    57 46.50   1.0
TIY     87.00 312 eP     57 48.70   0.8
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XAN     87.75 308 iPc    57 52.60    1.1
BDT     88.85 289 eP     57 58.00    1.3
         1.0s     41.40nm          5.3mb
CHTO    89.50 290 iPd    58 01.00    1.3
         0.9s     18.97nm          5.0mb
GTA     96.63 310 eP     58 31.40   -0.6
NB2    139.61 352 PKP    04 17.30   -8.0X
         0.8s      2.40nm
HFS    140.12 350 ePKP   04 17.30   -8.9X
         0.3s      1.60nm
KAS    145.77 313 iPKPc  04 38.10    1.5
BHL    146.85 300 PKP    04 41.00    2.5X
HRI    146.92 299 ePKP   04 42.00    3.3X
HRI    146.92 299 iPKPd  04 45.00    6.3X
BBTK   147.12 311 ePKP   04 37.00   -1.8
DSI    147.54 296 ePKP   04 43.00    3.4X
KRA    147.56 337 ePKP   04 41.70    2.7X
                  e      04 46.70
VRI    147.61 325 ePKPc  04 42.00    2.7X
KSP    148.10 341 ePKP   04 39.50   -0.4
         1.0s     25.00nm
                  i      04 43.70
                  i      04 49.10
                  e      07 11.50
SPC    148.15 336 ePKP   04 44.00    3.7X
CLL    148.55 345 ePKPd  04 44.00    3.5X
         1.2s     31.00nm
                  e      07 08.00
BRG    148.72 344 iPKP   04 44.90    4.1X
         1.2s     17.00nm
                  i      04 51.00
                  e      07 13.00
WTS    148.99 353 ePKP   04 46.00    4.9X
         0.9s     19.00nm
PRU    149.37 343 PKPd   04 46.10    4.3X
         0.9s     15.40nm
MOX    149.49 346 ePKP   04 46.50    4.5X
SRO    150.01 336 e(PKP)04 57.00   14.2X
ZST    150.13 338 e(PKP)04 48.50    5.5X
                  e      04 57.60
                  e      07 15.80
ENN    150.30 353 ePKP   04 48.50    5.3X
         0.8s     12.00nm
                  e      04 57.00
BZS    150.35 330 ePKP   04 49.00    5.6X
KHC    150.41 343 iPKPd  04 49.40    5.9X
         0.9s     10.00nm
MEM    150.45 353 PKP    04 48.80    5.4X
DOU    151.09 355 PKPc   04 50.30    5.9X
         1.0s     38.90nm
WLF    151.36 353 PKP    04 51.50    6.8X
CDF    152.44 351 ePKP   05 06.50   20.0X
         0.8s      5.30nm
LJU    152.88 339 e(PKP)04 54.00    6.9X
VBY    153.09 337 e(PKP)04 56.00    8.6X
VOY    153.10 340 ePKP   04 53.60    6.1X
      S.D. = 1.0  on  50 of  76 obs.
-----------------------------------
?  NOV  10, 1989  19h 49m 47.57± 2.85s
    6.694 S ±22.9km  147.925 E ±22.4km
   DEPTH =  68.4 ± 11.2 km
   4.6mb (  2 obs.)
 EAST PAPUA NEW GUINEA REGION     (207)

LAT      0.92 272 iPd    50 05.00   -0.2
                  eS     50 19.00
PMG      2.80 196 iPd    50 32.00    1.0
                  eS     51 10.00
WB5     18.58 224 eP     54 01.00   -0.8
WRA     18.64 224 Pc     54 01.60   -0.9
         0.7s      9.90nm          4.1mb
RMO     19.70 178 eP     54 13.00   -1.2
OLP     20.09 190 eP     54 18.00   -0.2
KNA     20.82 243 eP     54 25.50   -0.2
ASPA    21.60 217 iPd    54 34.20    0.6
         0.5s     34.00nm          5.0mb
      Z  22s      0.10um          3.2MszX
                  i      54 38.00
                  eS     58 32.80
                  LR     02 45.00
STK     25.75 192 eP     55 14.00    0.5
BWA     27.60 179 eP     55 30.30   -0.2
WARB    28.06 224 eP     55 35.30    0.6
FORR    30.38 215 eP     55 55.00   -0.3
MBL     30.74 239 eP     55 58.30   -0.4
MRWA    37.52 229 eP     56 58.50    1.7
      S.D. = 0.9  on  14 of  14 obs.
-----------------------------------
*  NOV  10, 1989  21h 08m 12.45± 1.24s
    36.317 N ± 9.9km   71.058 E ± 8.2km
    DEPTH = 111.3 ± 14.9 km
    4.7mb (  7 obs.)
 AFGHANISTAN-USSR BORDER REGION   (717)

KSH      5.00  50 Pn     09 27.20    0.7
                  Sn     10 23.00
QUE      7.01 211 P      09 55.00    0.7
                  eS     11 12.80
NDI      9.22 144 eP     10 22.00   -2.0
                  eS     12 01.00
MAIO     9.33 273 iPd    10 23.80   -1.9
         0.7s     14.29nm          4.9mb
                  eS     12 04.00
KHI     10.39 262 eP     10 41.00    1.2
WMO     14.76  54 P      11 33.00   -3.8X
                  S      14 13.00
POO     17.89 171 eP     13 18.00   62.4X
LSA     18.08 106 eP     12 08.50   -9.8X
TAB     19.77 282 eP     12 42.00    5.9X
HYB     19.96 159 eP     12 41.50    3.4X
                  eS     16 12.00
GTA     22.87  74 Pc     13 08.60    1.6
GBA     23.33 164 P      13 14.00    2.6
                  S      18 08.00
CHTO    30.09 118 e(P)   14 12.00   -1.5
NUR     38.00 324 iP     15 20.90    0.1
SUF     38.10 328 iP     15 22.00    0.4
         0.7s      8.00nm          4.7mb
KRA     38.96 307 eP     15 29.40    0.5
SOD     39.92 335 eP     15 32.00   -4.6X
BRG     42.77 308 e(P)   16 01.60    1.4
         1.2s     11.00nm          4.5mb
HFS     43.24 322 eP     16 03.50   -0.3
         1.2s     31.60nm          5.0mb
NB2     44.55 323 P      16 14.00   -0.5
         0.7s      7.40nm          4.6mb
BCAO    57.64 250 ePc    17 52.30   -1.1
         0.5s      5.00nm          4.8mb
                  ed     18 26.00
MBC     67.52   3 ePc    18 57.70   -0.2
         0.5s      4.00nm          4.6mb
INK     74.08   9 ePd    19 35.80   -1.6
FBA     74.63  16 eP     19 40.40   -0.3
         0.9s      0.60nm          3.4mb X
      S.D. = 1.4  on  18 of  24 obs.
-----------------------------------
?  NOV  10, 1989  21h 29m 33.53± 3.66s
    44.496 N ±12.7km    9.206 E ±27.5km
    DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                   (545)
      ML 2.6 (GEN).

PCP      0.47 276 P      29 42.16   -1.0
                  S      29 49.25
FIN      0.77 249 P      29 48.35   -0.2
                  S      30 00.28
ROB      0.98 259 P      29 52.01   -0.1
                  S      30 05.79
IMI      1.11 239 P      29 54.12   -0.3
                  S      30 09.53
ENR      1.31 259 P      29 57.99    0.2
                  S      30 15.02
STV      1.37 260 P      29 58.73    0.0
                  S      30 16.17
ORX      1.43 323 P      29 58.08   -1.5
                  S      30 15.23
PZZ      1.51 271 P      30 01.17    0.5
                  S      30 19.99
RSP      1.53 296 P      30 01.13    0.0
                  S      30 19.76
LSD      1.74 304 P      30 05.22    1.0
RRL      1.78 285 P      30 06.47    1.7
      S.D. = 1.0  on  11 of  11 obs.
-----------------------------------
    NOV  10, 1989  22h 53m 20.01± 0.23s
    48.995 N ± 4.6km  156.260 E ± 4.0km
    DEPTH =  28.3km  (  5 depth phases)
    5.3mb ( 58 obs.)  4.5Msz (  4 obs.)
 KURIL ISLANDS REGION             (222)

NIIJ    17.18 233 eP     57 15.20   -4.2X
KAKJ    17.38 229 eP     57 22.60    0.7
CHJJ    18.09 231 eP     57 32.10    1.3
MTMJ    18.31 234 eP     57 32.80   -0.7X
MDJ     18.73 267 eP     57 37.00   -1.5
      Z  16s      1.80um
      N  16s      1.40um
                  SS     01 27.50
IIDJ    19.09 232 eP     57 44.10    1.1
TSRJ    20.07 235 eP     57 52.90   -0.9
WKYJ    21.27 234 eP     58 06.60    0.4
YONJ    21.72 239 P      58 10.50   -0.2
CN2     21.79 268 eP     58 07.60   -3.6X
      Z  15s      1.60um          4.5MszX
      N  12s      0.60um
                  sP     58 18.00
                  eS     02 08.00
TKSJ    22.28 236 P      58 16.90    0.6
SHK     22.64 239 eP     58 20.40    0.6
SNY     23.90 265 Pd     58 32.10    0.1
      Z  16s      1.40um          4.5MszX
KUMJ    25.15 239 eP     58 44.60    0.5
TTA     29.33  44 eP     59 20.80   -1.3
         1.0s     16.25nm          4.7mb
BJI     29.65 268 eP     59 22.50   -2.6
         1.2s     24.00nm          4.9mb
      Z  12s      0.90um          4.6MszX
      N  18s      0.84um
                  eS     04 32.00
IMA     30.74  38 eP     59 33.30   -1.4
         0.9s      6.77nm          4.5mb
KDC     31.11  54 eP     59 36.40   -1.3
SSE     31.88 249 P      59 45.30    0.5
         1.0s      1.40nm          3.8mb X
      Z  20s      0.50um          4.2Msz
      N  14s      0.70um
                  eS     05 14.00
HHC     32.28 273 Pd     59 47.00   -1.4
      Z  14s      1.70um          4.9MszX
      N  12s      0.70um
      E  12s      0.60um
NJ2     32.68 253 Pc     59 51.00   -0.8
      Z  20s      1.20um          4.6Msz
FBA     33.08  40 eP     59 54.30   -0.7
         0.7s     14.90nm          5.0mb
TIY     33.36 267 Pd     59 57.30   -0.5
      E  16s      1.10um
BTO     33.42 273 eP     59 56.50   -1.8
      N  15s      1.40um
      E  14s      1.40um
WHN     36.55 255 Pc     00 24.50   -0.4
         1.0s      0.06nm          2.4mb X
                  pP     00 33.50   30km
XAN     37.83 265 P      00 32.50   -3.2X
INK     38.61  34 ePc    00 42.60    0.8
         0.8s     23.00nm          5.0mb
LZH     39.95 271 P      00 53.50    0.0
         1.5s      0.06nm          2.1mb X
GTA     40.73 278 Pc     00 59.00   -0.9
MBC     41.75  21 ePc    01 08.30    0.7
         1.0s     15.00nm          4.7mb
CD2     43.18 265 eP     01 19.70   -0.2
GYA     44.26 258 iPc    01 28.40   -0.4
         1.2s      0.10nm          2.5mb X
WMO     46.10 291 iPd    01 42.70   -0.5
KMI     47.73 260 Pc     01 56.00   -0.4
      Z  20s      0.90um          4.7Msz
                  pP     02 09.00   48kmX
                  eS     09 06.00
PNT     52.19  55 iPc    02 34.00    3.9X
         0.7s     18.00nm          5.1mb
LSA     52.26 274 eP     02 31.80    0.4
EDM     53.24  49 ePc    02 36.80   -1.0
LOE     53.94 254 eP     02 42.80   -0.5
                  e      07 16.00
CHG     54.68 258 iPc    02 49.20    0.4
         1.0s     32.50nm          5.3mb
CHTO    54.68 258 iP     02 49.00    0.2
         0.9s     27.28nm          5.3mb
                  pP     02 56.10   23km
LBFM    55.56  65 eP     02 54.80   -0.4
WDC     55.65  66 ePc    02 55.20   -0.3
                  eScP   07 33.30
KSH     55.78 293 eP     02 56.00   -0.7
MIN     56.35  65 e(P)   02 56.10   -4.7X
                  eScP   07 38.00
ORV     56.91  66 e(P)   02 58.90   -5.7X
                  eScP   07 41.20
FFC     57.65  42 eP     03 09.00   -0.7
         1.0s     18.00nm          5.1mb
SOD     57.91 339 iP     03 09.00   -2.3
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10d 23h

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CMB     58.54  67 e(P)  03 16.00  -0.2
KVN     59.26  65 eP    03 20.60  -0.8
BW06    61.72  56 eP    03 37.60  -0.5
        0.7s     3.02nm          4.5mb
NDI     62.01 282 eP    03 38.00  -1.9
DAU     62.35  59 eP    03 44.50   2.0
NUR     64.06 336 eP    03 52.00  -1.0
AKU     65.57 357 iP    04 03.30   0.7
        1.0s    40.00nm          5.5mb
                i       08 36.60
NB2     66.76 342 P     04 08.30  -2.1
        0.9s     9.60nm          4.9mb
HFS     67.07 341 eP    04 10.10  -2.2
        0.8s    13.80nm          5.1mb
QUE     67.46 290 eP    04 14.80  -0.7
ALQ     68.87  61 eP    04 24.10  -0.1
        0.9s     5.33nm          4.6mb
HYB     69.04 273 ePc   04 24.90  -0.3
WB5     71.29 202 eP    04 37.90  -0.8
POO     71.32 277 iPc   04 39.40   0.3
        0.9s    60.50nm          5.7mb
WRA     71.36 202 Pd    04 38.60  -0.5
        0.8s     8.60nm          4.9mb
BOM     71.74 278 ePc   04 41.40  -0.1
GBA     72.54 271 P     04 46.00  -0.3
TAB     73.45 309 e(P)  04 52.00   0.4
                e       09 24.00
SIO     73.91  54 eP    04 54.00  -0.1
LNO     74.06  53 eP    04 53.90  -0.9
TUL     74.06  53 eP    04 54.50  -0.4
        1.0s    12.30nm          4.9mb
                e       04 58.80  14kmX
KRA     74.44 332 iPd   04 56.70  -0.2
        0.8s    47.00nm          5.6mb
                e       04 59.70  10kmX
EKA     74.62 348 Pc    04 57.20  -0.6
        1.1s    36.10nm          5.3mb
KSP     74.80 335 iPc   04 58.60  -0 4
        1.0s    37.00nm          5.4mb
ASPA    75.04 201 eP    05 01.20   0.6
      Z  20s     0.21um          4.4Msz
                ePP     09 33.90
                LR      39 10.50
SPC     75.11 332 eP    05 01.20   0.2
PPE     75.17 326 eP    05 00.00  -1.2
CLL     75.26 337 iPc   05 00.80  -0.8
        1.3s    88.00nm          5.6mb
                i       05 11.90  36km
WIT     75.33 341 eP    05 03.00   1.1
BRG     75.41 336 iP    05 01.80  -0.6
        1.1s    34.00nm          5.3mb
SLY     75.77 308 eP    05 04.50  -0.2
VRI     75.80 326 ePc   05 04.00  -0.7
CFR     75.85 325 eP    05 04.00  -1.0
KER     75.89 306 ePc   05 05.50  -0.1
KVT     76.00 318 eP    05 06.30   0.3
PRU     76.06 336 Pc    05 05.80  -0.3
        1.1s    35.20nm          5.3mb
WTS     76.07 341 eP    05 06.50   0.4
        1.0s    65.00nm          5.6mb
                e       05 20.50  49kmX
MOX     76.22 338 iP    05 07.00   0.0
        1.1s    53.00nm          5.5mb
PSZ     76.34 331 iPc   05 07.80  -0.1
MSL     76.36 310 ePd   05 09.00   0.9
TLB     76.40 325 eP    05 08.00  -0.1
HOF     76.46 337 iPc   05 08.20  -0.2
        1.1s    58.00nm          5.5mb
ISR     76.49 326 eP    05 09.00   0.3
KAS     76.75 319 iPd   05 11.10   0.8
SRO     76.93 332 eP    05 11.90   0.9
ZST     76.95 333 eP    05 11.10   0.0
KHC     77.10 336 iPc   05 13.00   1.0
        1.0s    46.00nm          5.5mb
                e       05 20.20  23km
VKA     77.12 334 ePc   05 12.00  -0.1
        1.0s    29.60nm          5.3mb
TNS     77.37 339 ePc   05 13.40  -0.1
ENN     77.42 341 ePc   05 13.50  -0.2
        1.0s    91.00nm          5.8mb
                e       05 26.00  42kmX
MEM     77.55 341 iPc   05 14.44   0.1
SOP     77.57 333 iPc   05 15.80   1.3
UCC     77.71 342 P     05 13.30  -2.0
BZS     77.81 329 eP    05 14.50  -1.4
                e       09 48.50
                e       22 06.50
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                e       33 37.00
SNF     78.00 342 iPc   05 16.86   0.0
BHD     78.15 307 ePd   05 12.00  -6.0X
DOU     78.33 342 Pd    05 19.20   0.5
        1.0s    52.80nm          5.5mb
WLF     78.41 341 P     05 19.60   0.5
BBTK    78.45 319 eP    05 19.00  -0.7
                e       05 28.00  29km
GWF     78.73 340 P     05 21.14   0.2
BEO     78.90 330 iP    05 22.00   0.1
KBA     79.04 335 iPc   05 23.30   0.4
        1.0s   126.00nm          5.9mb
WLS     79.32 340 P     05 24.10  -0.1
CDF     79.34 340 P     05 23.75  -0.6
PTJ     79.36 333 eP    05 24.10  -0.4
ZAG     79.42 333 iPc   05 25.20   0.5
ECH     79.55 340 P     05 25.32  -0.1
FVI     79.64 335 P     05 24.40  -1.4
LJU     79.65 334 e(P)  05 26.00   0.1
FEL     79.67 339 P     05 25.95  -0.3
VITF    79.81 340 P     05 26.39  -0.4
VOY     79.84 334 eP    05 26.40  -0.7
OGA     79.85 337 iPc   05 28.00   0.7
        1.2s    75.00nm          5.6mb
MOF     79.90 339 P     05 27.08  -0.3
KDZ     79.90 325 iPd   05 29.00   1.6
VTS     79.90 327 iPc   05 28.00   0.4
VBY     79.92 333 eP    05 28.10   0.7
HAU     79.93 340 eP    05 27.40  -0.1
        1.0s    28.00nm          5.2mb
CEY     79.95 334 e(P)  05 27.00  -0.6
BSF     79.99 340 P     05 27.36  -0.6
TRI     80.17 334 P     05 28.00  -0.7
BBS     80.17 339 P     05 28.75  -0.1
LOMF    80.44 339 P     05 29.67  -0.6
CTI     80.45 336 Pc    05 30.00  -0.4
FLN     80.57 345 eP    05 30.90   0.1
        1.0s    60.00nm          5.6mb
KKB     80.58 326 eP    05 32.00   1.0
MMB     80.59 326 iPd   05 32.00   0.9
LDF     80.67 344 eP    05 31.40   0.0
        1.2s    59.50nm          5.5mb
GRR     81.00 345 eP    05 33.30   0.2
        1.0s    80.00nm          5.7mb
SKO     81.08 328 iP    05 34.00   0.4
        1.5s    71.00nm          5.5mb
KHL     81.10 320 eP    05 33.40  -0.5
EZN     81.12 323 eP    05 34.00   0.2
LOR     81.17 341 eP    05 34.00  -0.1
        1.0s    30.00nm          5.3mb
VAY     81.24 327 iP    05 35.00   0.5
VAI     81.36 338 Pc    05 35.20   0.2
LPF     81.38 345 eP    05 35.80   0.8
        1.0s    40.00nm          5.4mb
LBF     81.42 341 eP    05 35.50   0.1
        1.2s    20.80nm          5.0mb
SSF     81.44 342 eP    05 35.90   0.5
        0.8s     8.00nm          4.8mb
AVF     81.73 342 eP    05 37.40   0.5
        1.0s    24.00nm          5.2mb
SMF     81.77 341 eP    05 37.30   0.1
        1.2s    50.50nm          5.4mb
ORX     81.78 338 P     05 40.86   3.5X
BHL     82.02 314 P     05 40.00   1.2
BGF     82.06 342 eP    05 39.10   0.4
        1.0s    14.80nm          5.0mb
OHR     82.06 328 eP    05 35.50  -3.3X
LSD     82.14 339 P     05 40.65   1.2
LPG     82.20 339 eP    05 40.90   1.1
        1.2s    47.60nm          5.4mb
BOB     82.22 337 Pc    05 40.30   0.7
SFI     82.35 335 Pc    05 41.10   0.9
RSP     82.41 338 P     05 41.16   0.5
MME     82.42 336 Pc    05 40.10  -0.8
PGD     82.43 335 Pc    05 42.10   1.3
MAF     82.44 342 eP    05 41.70   1.0
        1.0s    40.00nm          5.4mb
TCF     82.45 342 eP    05 41.50   0.8
        0.8s     9.40nm          4.9mb
HRI     82.49 313 eP    05 42.00   0.7
BDI     82.57 336 Pc    05 42.40   1.0
CRE     82.59 335 P     05 41.80   0.2
MFF     82.60 344 eP    05 42.50   1.0
        0.8s    13.40nm          5.1mb
LSF     82.62 343 eP    05 42.20   0.6
        1.0s    28.00nm          5.3mb
BNI     82.64 339 P     05 43.40   1.5
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FIR     82.65 335 eP    05 44.00   2.3
PCP     82.66 337 P     05 41.47  -0.4
RRL     82.74 339 P     05 43.32   0.8
CKI     82.83 337 Pc    05 42.50  -0.2
ASS     82.90 334 Pc    05 43.20   0.0
PZZ     83.05 338 P     05 44.45   0.4
FIN     83.05 337 P     05 43.11  -0.8
ROB     83.06 338 P     05 43.42  -0.5
ENR     83.23 338 P     05 43.32  -1.6
STV     83.24 338 P     05 44.45  -0.5
IMI     83.41 338 P     05 45.47  -0.3
MNS     83.53 334 P     05 46.40   0.0
CAF     83.78 342 eP    05 48.70   1.1
        0.8s     9.90nm          5.0mb
LFF     84.03 343 eP    05 49.80   1.0
        0.8s    13.40nm          5.2mb
DSI     84.06 313 ePd   05 50.00   0.9
RFI     84.13 332 P     05 51.45   2.1
        1.6s   183.00nm          6.0mb
LPO     84.19 342 eP    05 50.60   1.0
        0.6s    12.60nm          5.3mb
LRG     84.22 338 eP    05 50.20   0.4
        0.8s    13.40nm          5.2mb
LMR     84.30 338 eP    05 50.60   0.4
        1.0s    16.00nm          5.2mb
MGR     84.70 331 P     05 52.50   0.3
ROI     84.88 330 P     05 54.00   0.8
CZI     85.34 330 P     05 55.50   0.1
MBH     85.78 312 ePd   05 59.00   1.2
EPF     85.95 343 eP    05 59.80   1.3
        0.8s     8.00nm          5.0mb
PZI     87.73 330 P     06 07.90   0.6
        1.2s   105.60nm          6.0mb
ZOBO   131.42  64 ePKP  12 30.00  -2.1
LPB    131.64  64 (PKP) 12 34.00   1.6
CNCB   131.93  64 ePKP  12 34.00   0.9
PPD    145.32  49 ePKP  12 56.00  -0.6
                e       13 10.20
      S.D. = 0.9  on 185 of 195 obs.
-----------------------------------
   NOV  10, 1989  22h 57m 51.99± 0.25s
   48.992 N ± 5.3km  156.265 E ± 3.9km
   DEPTH =  20.6km  (  6 depth phoses)
   5.4mb ( 62 obs.)  5.2Msz (  2 obs.)
 KURIL ISLANDS REGION            (222)
MDJ     18 73 267 eP    02 10.00  -1.4X
      Z  16s     1.80um
      N  12s     0.90um
CN2     21.79 268 Pd    02 40.00  -4.2X
      Z  15s     1.90um          4.6MszX
      N  12s     0.80um
      E  12s     0.70um
                pP      02 46.00  22km
                eS      06 40.00
SHK     22.64 239 eP    02 53.50   0.7
TTA     29.33  44 eP    03 51.60  -3.5X
BJI     29.66 268 eP    03 57.50  -0.6
        1.1s    21.00nm          4.9mb
IMA     30.74  38 eP    04 07.00  -0.7
        0.8s     7.33nm          4.6mb
BRW     31.00  27 eP    04 09.70   0.0
KDC     31.11  54 eP    04 09.40  -1.3
TIA     31.16 261 eP    04 10.50  -1.0
SSE     31.89 249 P     04 18.40   0.5
        1.0s    28.00nm          5.1mb
HHC     32.29 273 P     04 17.80  -3.6X
NJ2     32.69 253 Pc    04 24.50  -0.3
FBA     33.08  40 eP    04 27.40  -0 6
        0.9s    35.42nm          5.3mb
TIY     33.37 267 eP    04 30.30  -0.5
BTQ     33.43 273 P     04 30.00  -1.3
WHN     36.55 255 iPc   04 57.50  -0.4
        0.9s     0.10nm          2.7mb X
                pP      05 01.00  12km
GUA     36.57 199 eP    06 43.30 105.0X
XAN     37.83 265 Pc    05 05.30  -3.4X
INK     38.61  34 ePc   05 15.50   0.7
        0.7s    24.00nm          5.1mb
LZH     39.95 271 eP    05 26.50  -0.1
        1.5s    56.00nm          5.1mb
      Z  14s     1.80um          5.1MszX
      N  14s     1.10um
      E  13s     0.60um
                pP      05 31.50  17km
                (S)     11 20.00
GTA     40.73 278 iPc   05 32.20  -0.7
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10d 23h

	Z	15s	2.30um		5.2MszX			0.9s	41.90nm		5.5mb		LOR	81.18	341	eP	10	07.00	-0.2
	E	12s	1.10um				Z	18s	1.10um		5.2Msz			1.0s	36.00nm				5.4mb
MBC		41.75	21	ePc	05 41.50 0.8		N	17s	0.50um				VAY	81.25	327	iP	10	07.60	0.0
		1.0s	18.00nm		4.8mb		E	17s	0.70um				KNT	81.27	326	iPd	10	07.80	0.1
CD2		43.18	265	eP	05 52.80 -0.2				e	09 46.40	23km		VAI	81.37	338	Pc	10	08.50	0.4
GYA		44.27	258	iPc	06 01.80 -0.1	WTS		76.08	341	iPc	09 39.40	0.1	BCK	81.37	319	eP	10	08.50	0.1
		1.2s	0.10nm		2.5mb X	MOX		76.22	338	iPc	09 40.00	-0.2	LPF	81.38	345	eP	10	08.50	0.3
WMQ		46.10	291	iPc	06 15.30 -1.0			1.0s	60.00nm		5.6mb			0.8s	40.20nm				5.5mb
	Z	14s	1.20um		5.0MszX	PSZ		76.35	331	iPc	09 40.60	-0.4	LBF	81.42	341	eP	10	08.20	-0.3
KMI		47.73	260	Pc	06 29.00 -0.5	MSL		76.37	310	ePd	09 41.50	0.3		0.8s	10.70nm				4.9mb
PNT		52.18	55	eP	07 05.00 1.9	TLB		76.40	325	eP	09 41.00	-0.2	SSF	81.45	342	eP	10	08.40	-0.2
		0.8s	13.00nm		4.9mb	HOF		76.46	337	iPc	09 41.00	-0.5		0.6s	5.40nm				4.8mb
LSA		52.26	274	P	07 04.70 0.3			1.0s	64.00nm		5.6mb		PHP	81.68	328	iPd	10	09.20	-0.6
EDM		53.23	49	ePc	07 10.00 -0.9	ISR		76.49	326	ePd	09 42.00	0.2	AVF	81.74	342	eP	10	10.20	0.1
		0.7s	24.00nm		5.3mb	DMU		76.50	350	eP	09 41.80	0.1		0.8s	22.80nm				5.3mb
CHG		54.69	258	iPc	07 22.80 0.9	KAS		76.76	319	iPc	09 44.80	1.4	SMF	81.77	341	eP	10	10.40	0.1
		1.0s	57.50nm		5.6mb	SRO		76.93	332	iP	09 44.80	0.7		1.0s	34.00nm				5.3mb
CHTO		54.69	258	iPd	07 22.30 0.4				e	27 01.60			ORX	81.78	338	P	10	11.37	0.9
		0.9s	464.62nm		6.5mb X	ZST		76.95	333	iP	09 44.00	-0.2	LACI	81.98	329	eP	10	11.80	0.4
			pP		07 29.70 24km	DLE		77.06	350	eP	09 44.80	0.0	BHL	82.02	314	P	10	17.00	5.1X
KSH		55.79	293	eP	07 28.90 -0.9			0.9s	106.00nm		5.9mb		BGF	82.06	342	eP	10	12.00	0.2
BDT		55.80	256	eP	07 30.60 0.7	KHC		77.10	336	iPc	09 46.00	0.9		1.0s	28.00nm				5.3mb
KEV		55.93	341	eP	07 28.00 -2.2			1.0s	57.00nm		5.6mb		OHR	82.06	328	eP	10	10.00	-1.9
NST		56.25	254	eP	07 35.00 1.9		Z	18s	1.00um		5.2Msz			1.0s	0.06nm				2.6mb X
SOD		57.91	339	iP	07 41.20 -3.2X		N	18s	0.50um				LSD	82.15	339	P	10	13.01	0.4
LRM		58.16	55	eP	07 46.80 0.1				e	10 04.00	66kmX		TIR	82.18	328	eP	10	12.50	0.1
NNT		58.83	252	eP	07 51.00 -0.4	PSN		77.11	324	eP	09 46.00	0.8	LPG	82.20	339	eP	10	13.80	0.9
KVN		59.26	65	eP	07 53.50 -0.9	VKA		77.12	334	iPc	09 45.60	0.4		0.8s	29.50nm				5.4mb
TNP		60.41	65	eP	08 02.00 -0.3			0.8s	31.80nm		5.4mb		BOB	82.22	337	P	10	13.50	0.8
		0.8s	6.86nm		4.8mb	DEV		77.14	329	ePc	09 45.50	0.2	RSP	82.41	338	P	10	14.24	0.5
DUG		61.60	61	eP	08 10.20 -0.1	TNS		77.37	339	ePc	09 46.60	0.0	MME	82.42	336	P	10	15.10	1.1
CLC		61.68	67	eP	08 10.00 -0.8	ENN		77.42	341	iPc	09 47.00	0.2	PGD	82.43	335	P	10	15.40	1.4
BW06		61.72	56	eP	08 10.80 -0.4			1.0s	114.00nm		5.9mb		MAF	82.44	342	eP	10	14.80	1.0
		1.1s	5.21nm		4.6mb	MEM		77.55	341	iPd	09 48.01	0.5		0.9s	44.80nm				5.6mb
SUF		61.82	336	iP	08 08.60 -2.7	SOP		77.57	333	iPc	09 48.40	0.7	TCF	82.45	342	eP	10	14.00	0.1
		0.6s	17.00nm		5.4mb	UCC		77.72	342	P	09 48.50	0.1		0.8s	18.80nm				5.2mb
SBB		62.29	68	eP	08 14.00 -0.9	SNF		78.00	342	iPd	09 50.41	0.4	PLDF	82.46	341	P	10	14.46	0.5
DAU		62.35	59	eP	08 15.40 -0.1	BHD		78.16	307	ePd	09 50.00	-1.1	AGO	82.49	341	P	10	14.99	1.0
MWC		62.46	69	eP	08 29.00 12.8X	DOU		78.34	342	iPd	09 52.30	0.5	KBN	82.49	327	eP	10	14.10	0.1
TPC		63.77	68	eP	08 19.00 -5.6X	WLF		78.41	341	P	09 54.00	1.8	HRI	82.50	313	eP	10	15.00	0.6
NUR		64.06	336	iP	08 23.90 -2.2	BBTK		78.45	319	iPc	09 53.00	0.2	BDI	82.57	336	P	10	15.50	0.9
		0.9s	25.30nm		5.4mb	GWF		78.73	340	P	09 54.15	0.1	MFF	82.60	344	eP	10	15.10	0.5
GLA		65.23	68	eP	08 30.00 -4.1X	JMB		78.76	325	eP	09 54.00	-0.3		0.8s	29.50nm				5.4mb
NB2		66.76	342	P	08 41.40 -2.1	BEO		78.90	330	iP	09 55.00	0.0	LSF	82.62	343	eP	10	15.30	0.6
		0.9s	15.00nm		5.1mb	KBA		79.04	335	iPc	09 56.60	0.6		0.8s	28.20nm				5.4mb
HFS		67.07	341	eP	08 42.50 -2.9			0.8s	117.00nm		6.0mb		FIR	82.65	335	eP	10	16.00	1.1
		0.8s	14.60nm		5.2mb	WLS		79.32	340	P	09 56.86	-0.5	CIO	82.65	334	eP	10	15.87	0.8
	Z	17s	0.39um		4.7MszX	CDF		79.34	340	P	09 57.51	0.0	PCP	82.66	337	P	10	15.57	0.6
			LR	33 22.00		PTJ		79.36	333	i(P)c	09 52.40	-5.2X	RRL	82.74	339	P	10	16.90	1.3
QUE		67.46	290	eP	08 47.10 -1.5	ZAG		79.43	333	iPc	09 58.00	0.2	CKI	82.84	337	P	10	16.10	0.2
MAIO		67.62	300	eP	08 49.00 -0.4	DIM		79.52	325	eP	09 59.00	0.6	ALP	82.91	333	eP	10	17.56	1.1
ALO		68.87	61	eP	08 57.00 -0.3	ECH		79.55	340	P	09 58.53	0.0	ASS	82.91	334	P	10	16.50	0.2
		1.0s	4.38nm		4.6mb	PGB		79.59	326	P	09 59.00	0.1	PZZ	83.05	338	P	10	17.01	-0.1
HYB		69.04	273	iPc	08 58.30 0.0	FVI		79.64	335	P	09 59.50	0.5	FIN	83.06	337	P	10	17.21	0.2
		1.0s	40.00nm		5.5mb	LJU		79.65	334	e(P)	09 59.00	-0.1	ROB	83.06	338	P	10	17.01	-0.1
SCH		70.43	25	ePd	09 06.20 0.0	FEL		79.67	339	P	09 59.03	-0.3	ENR	83.24	338	P	10	17.11	-0.9
WB5		71.29	202	eP	09 11.00 -0.8	PLD		79.78	326	eP	10 00.00	0.2	LBL	83.24	341	P	10	16.84	-1.0
POO		71.32	277	iPc	09 12.70 0.5				e	33 47.00			STV	83.25	338	P	10	17.52	-0.5
		0.8s	79.10nm		5.9mb	VITF		79.82	340	P	10 00.23	0.4	IMI	83.42	338	P	10	19.16	0.2
WRA		71.35	202	Pc	09 11.20 -1.0	VOY		79.84	334	eP	09 59.70	-0.5	RJF	83.53	342	eP	10	19.60	0.2
		0.8s	12.30nm		5.1mb	OGA		79.86	337	iPc	10 01.40	0.9		1.0s	20.00nm				5.3mb
BOM		71.74	278	iPc	09 14.60 0.0			1.0s	69.00nm		5.6mb		MNS	83.53	334	P	10	19.70	0.2
GBA		72.55	271	P	09 19.00 -0.5	MOF		79.90	339	P	10 00.27	-0.2	SBF	83.58	338	eP	10	19.70	0.0
KRA		74.44	332	iPd	09 30.00 0.0	KDZ		79.90	325	iPc	10 01.00	0.5		0.8s	24.10nm				5.4mb
		0.7s	68.00nm		5.8mb	VTS		79.91	327	iP	10 00.00	-0.7	RYD	83.60	300	ePc	10	20.00	-0.2
	Z	16s	1.10um		5.2MszX	VBY		79.93	333	eP	10 00.70	0.2	CAF	83.78	342	eP	10	21.50	0.8
	N	16s	1.50um			HAU		79.94	340	eP	10 00.20	-0.4		0.6s	9.90nm				5.2mb
EKA		74.63	348	Pd	09 31.10 0.1			0.8s	21.40nm		5.2mb		MKRJ	83.95	312	P	10	23.00	1.1
		0.5s	22.70nm		5.5mb	CEY		79.96	334	e(P)	10 00.50	-0.3	LFF	84.04	343	eP	10	22.80	0.9
KSP		74.81	335	iPc	09 31.70 -0.4	BSF		80.00	340	P	10 00.85	-0.2		0.6s	22.30nm				5.6mb
		0.9s	44.00nm		5.5mb	RZN		80.14	325	iPc	10 02.00	0.0	FRF	84.05	338	eP	10	22.00	-0.1
			e	09 39.80	26km	TRI		80.18	334	ePc	10 01.30	-0.5		0.6s	5.40nm				5.0mb
SPC		75.12	332	eP	09 33.80 -0.3	LOMF		80.44	339	P	10 03.77	0.4	DSI	84.07	313	eP	10	23.00	0.7
PPE		75.18	326	eP	09 32.50 -1.8	CTI		80.45	336	P	10 02.80	-0.7	LPO	84.19	342	eP	10	21.70	-1.1
CLL		75.26	337	iPc	09 34.00 -0.7	FLN		80.58	345	eP	10 03.50	-0.5		0.6s	16.20nm				5.4mb
		1.0s	100.00nm		5.8mb			1.0s	84.00nm		5.7mb		LRG	84.22	338	eP	10	23.50	0.6
			i	09 50.50	60kmX	KKB		80.58	326	eP	10 05.00	0.9		0.6s	12.60nm				5.3mb
WIT		75.34	341	eP	09 36.00 0.9	MMB		80.59	326	iPd	10 05.00	0.8	LMR	84.30	338	eP	10	23.40	0.1
BRG		75.41	336	iPc	09 34.60 -1.0	LDF		80.68	344	eP	10 04.10	-0.4		0.6s	9.00nm				5.2mb
		1.2s	36.00nm		5.3mb			0.8s	33.30nm		5.4mb		CVF	84.42	336	eP	10	23.90	-0.1
			e	11 37.00	585kmX	GRR		81.00	345	eP	10 06.50	0.3		0.6s	10.80nm				5.3mb
			e	11 58.00				0.8s	72.50nm		5.8mb		CSI	84.79	330	P	10	26.20	0.3
VRI		75.80	326	ePc	09 37.50 -0.4	SRS		81.05	326	ePd	10 06.20	-0.4	ROI	84.89	330	P	10	25.80	-0.5
CFR		75.85	325	eP	09 37.50 -0.6	SKO		81.08	328	iP	10 06.50	-0.2	CZI	85.35	330	P	10	26.20	-2.4
CER		75.89	306	eP	09 26.00 -12.7X			1.5s	71.00nm		5.5mb		MBH	85.79	312	iPd	10	31.50	0.6
CVT		76.00	318	eP	09 39.80 0.7	KHL		81.10	320	eP	10 06.90	-0.1	EPF	85.95	343	eP	10	30.60	-1.1
PRU		76.06	336	Pc	09 39.20 0.0	EZN		81.12	323	iP	10 07.10	0.2		0.5s	8.70nm				5.2mb

10d 23h

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AYN     85.97 311 eP     10 32.70   0.8
PZI     87.73 330 P      10 40.75   0.3
        0.5s     17.50nm          5.6mb
TOL     89.81 345 eP     10 52.00   1.8
BCAO   115.35 312 ePdiff12 58.80  13.3X
        0.6s      4.00nm
ZOBO   131.42  64 PKP    17 05.80   0.5
LPB    131.64  64 ePKP   17 00.00  -5.5X
CNCB   131.93  64 PKP    17 07.80   1.6
PPD    145.32  49 ePKP   17 29.50  -0.3
                  e      17 38.00
                  e      17 43.00
      S.D. = 0.8  on 196 of 211 obs.
-----------------------------------
   NOV  10, 1989  23h 15m 09.62± 0.62s
   48.983 N ±11.5km  156.318 E ±12.7km
   DEPTH =  22.5km  (  2 depth phases)
   4.8mb ( 24 obs.)
 KURIL ISLANDS REGION            (222)

FBA     33.07  40 e(P)  21 43.90  -1.3
INK     38.60  34 eP    22 33.00   0.9
MBC     41.75  21 eP    22 58.50   0.5
        0.8s      5.00nm         4.3mb
EDM     53.22  49 eP    24 39.50  11.4X
CHG     54.72 258 eP    24 39.50   0.0
CHTO    54.72 258 iP    24 39.70   0.2
        0.7s      5.40nm         4.7mb
                  pP    24 46.40  22km
                  sP    24 50.20
BW06    61.69  57 eP    25 28.20  -0.2
        1.0s      2.75nm         4.3mb
SUF     61.84 336 eP    25 27.00  -1.8
        0.5s      2.70nm         4.6mb
NUR     64.08 336 iP    25 42.00  -1.6
NB2     66.78 342 P     25 59.00  -2.0
        0.7s      2.10nm         4.4mb
HFS     67.09 341 eP    26 01.00  -1.9
        0.6s      5.10nm         4.8mb
HYB     69.08 273 eP    26 15.50  -0.4
WB5     71.29 202 eP    26 28.20  -0.9
WRA     71.36 202 Pc    26 29.30  -0.3
        0.9s      3.30nm         4.4mb
POO     71.36 277 iPd   26 30.40   0.6
GBA     72.58 271 P     26 37.00   0.0
KRA     74.47 333 ePd   26 47.10  -0.4
        0.7s     25.00nm         5.4mb
EKA     74.64 348 Pc    26 47.80  -0.6
        0.6s      6.90nm         4.9mb
KSP     74.83 335 ePd   26 49.30  -0.3
SPC     75.14 332 eP    26 51.00  -0.6
CLL     75.28 337 iPc   26 51.10  -1.1
        1.2s     25.00nm         5.1mb
BRG     75.44 336 eP    26 52.00  -1.0
        1.2s     11.00nm         4.8mb
PRU     76.08 336 Pc    26 56.50  -0.2
        0.8s      6.90nm         4.7mb
MOX     76.24 338 eP    26 58.00   0.4
        1.0s     19.00nm         5.1mb
ZST     76.98 333 iP    27 02.20   0.5
KHC     77.12 336 iPc   27 03.30   0.7
        1.0s     11.00nm         4.9mb
                  e      27 10.50  23km
MEM     77.57 341 Pc    27 04.80  -0.2
DOU     78.36 342 P     27 09.70   0.4
KBA     79.06 335 ePc   27 13.50   0.0
        1.0s     40.00nm         5.4mb
CDF     79.36 340 eP    27 15.00   0.0
        1.0s     12.00nm         4.9mb
PTJ     79.38 333 eP    27 14.60  -0.5
OGA     79.88 337 eP    27 18.60   0.7
GRR     81.02 345 eP    27 25.10   1.4
        0.8s     16.10nm         5.1mb
LPF     81.40 345 eP    27 26.60   1.0
        0.8s     13.40nm         5.0mb
AVF     81.76 342 eP    27 28.40   0.9
        0.8s      8.00nm         4.8mb
LPG     82.23 339 eP    27 31.70   1.3
        0.6s      3.90nm         4.6mb
MAF     82.46 342 eP    27 32.70   1.5
        0.6s      3.90nm         4.7mb
TCF     82.47 342 eP    27 32.40   1.1
        0.8s      5.90nm         4.7mb
LSF     82.64 343 eP    27 33.50   1.3
        1.0s     10.00nm         4.9mb
FIR     82.68 335 eP    27 31.00  -1.3
CAF     83.80 342 eP    27 39.70   1.5
        0.6s      7.20nm         5.1mb
PRNI    85.29 312 eP    27 49.00   3.1X
MBH     85.82 312 e(P)  27 50.00   1.5
AIA    153.26 143 ePKP  35 03.40   5.4X
      S.D. = 1.0  on  41 of  44 obs.
-----------------------------------
   NOV  10, 1989  23h 21m 40.66± 0.97s
   46.088 N ± 3.0km  151.699 E ± 2.2km
   DEPTH =  56.3 ±  8.4 km
   5.6mb ( 62 obs.)  5.0Msz (  7 obs.)
 KURIL ISLANDS                   (221)
      CENTROID, MOMENT TENSOR    (HRV)
      Data Used: GDSN
      L.P.B.: 13S, 23C
      Centroid Location:
      Origin Time        23:21:39.7 0.6
      Lat 46.02N 0.05 Lon 152.20E 0.07
      Dep  40.9 3.2 Half-duration  1.9
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 1.12 0.04  Mtt=-0.15 0.05
        Mff=-0.97 0.06  Mrt=-0.22 0.09
        Mrf= 0.51 0.09  Mtf=-0.74 0.06
      Principal Axes:
       T  Val=  1.35  Plg=66  Azm=226
       N        0.10     22       25
       P       -1.45      8      118
      Best Double Couple:Mo=1.4*10**17
       NP1:Strike=232 Dip=42 Slip= 124
       NP2:        10     56       63
KUSJ     5.82 242 iP+   23 03.80  -2.5X
                  eS    24 06.80
ASAJ     6.71 256 P     23 20.90   2.1
SAP      8.00 251 eP    23 36.00  -0.7X
                  eS    25 14.00
MDJ     15.61 273 Pc    25 18.00  -0.3X
      Z  24s      3.30um
      N  14s      1.20um
                  S     28 08.00
SMY     15.99  57 eP    25 22.80  -0.3
SHK     18.49 238 eP    25 52.60  -1.6X
CN2     18.70 272 eP    25 50.00  -6.7X
        1.0s      0.20nm         2.3mb X
      Z  17s      3.10um
      N  15s      1.10um
      E  15s      1.80um
                  eS    29 23.00
SNY     20.64 268 Pc    26 16.50  -1.1
        1.2s      0.45nm         2.7mb X
      Z  18s      3.40um         4.8Msz
      N  13s      0.60um
      E  14s      1.50um
DL2     23.21 263 Pc    26 43.00  -0.2
      Z  30s      1.10um         4.1MszX
      N  14s      0.90um
                  sP    26 57.00
                  eS    30 47.00
BJI     26.49 270 eP    27 13.00  -1.3
        1.2s     72.00nm         5.1mb
      Z  16s      2.90um         4.9MszX
      E  13s      1.28um
                  eS    31 44.00
TIA     27.65 261 Pc    27 24.70  -0.2
      E  13s      0.50um
                  PcP   30 39.40
                  S     32 04.00
SSE     27.95 248 P     27 27.40  -0.1
        1.5s    275.00nm         5.7mb
      Z  20s      0.90um         4.4Msz
                  pP    27 43.40  68kmX
                  e(S)  32 55.00
NJ2     28.87 253 iPc   27 36.00   0.2
HHC     29.37 274 Pc    27 39.40  -1.0
      Z  16s      2.40um         4.9MszX
      N  14s      0.90um
      E  14s      1.10um
                  S     32 30.00
TIY     30.15 268 Pc    27 47.00  -0.3
        1.0s      0.10nm         2.5mb X
      E  17s      1.60um
                  S     32 46.00
BTO     30.54 275 eP    27 50.00  -0.8
      N  15s      0.60um
      E  17s      1.20um
WHN     32.82 255 iPc   28 10.00  -0.6
        1.0s      0.19nm         2.9mb X
      E  11s      0.48um
                  pP    28 17.50  26kmX
TTA     33.56  41 eP    28 16.60  -0.3
XAN     34.48 265 iP    28 25.00  -0.1
      N  15s      1.20um
                  S     33 50.00
IMA     34.92  36 iPc   28 28.20  -0.4
        1.0s     36.90nm         5.3mb
BRW     34.99  26 ePc   28 29.00   0.1
KDC     35.33  50 eP    28 30.80  -1.2
PMR     36.75  43 eP    28 44.30   0.4
        0.7s     13.00nm         5.0mb
LZH     36.93 272 iPc   28 46.50   0.6
        1.5s      0.26nm         2.9mb X
                  sP    29 00.00
FBA     37.29  38 iPc   28 48.60   0.2
GTA     38.11 279 iPc   28 55.40  -0.3
        0.8s      0.04nm         2.4mb X
      Z  15s      1.20um         4.8MszX
      N  22s      2.50um
                  PcP   31 10.40
                  ScS   39 02.00
TOA     38.12  42 eP    28 56.30   0.8
BAG     39.33 231 eP    29 05.00  -1.2
CD2     39.85 265 iPc   29 10.30   0.1
        1.0s      0.25nm         3.0mb X
                  S     35 11.50
GYA     40.61 257 iPc   29 16.40  -0.2
        1.2s      0.20nm         2.8mb X
INK     42.73  32 iPc   29 33.90   0.6
        0.6s     55.00nm         5.5mb
KMI     44.16 259 Pc    29 45.50  -0.2
      Z  20s      0.90um         4.7Msz
                  pP    29 56.50  38kmX
                  PP    31 29.00
WMQ     44.25 291 P     29 45.20  -0.9
MBC     45.55  20 ePc   29 55.60  -0.3
        0.5s      6.00nm         4.7mb
LSA     49.33 273 iP    30 27.80   1.2
                  eS    37 30.00
LOE     50.14 252 iPc   30 31.50  -0.8
                  i     31 51.00
CHG     51.01 256 iPc   30 39.50   0.6
        1.0s    137.50nm         5.9mb
CHTO    51.01 256 iPc   30 39.40   0 5
        1.0s     51.70nm         5.5mb
                  pP    30 43.10  12kmX
                  sP    30 51.00
BDT     52.07 254 eP    30 47.20   0.3
        1.0s     48.30nm         5.5mb
NST     52.45 252 eP    30 51.80   2.1
KSH     54.03 292 eP    31 00.80  -0.5
                  PcP   32 07.00
NNT     54.96 250 iPc   31 08.00  -0.2
PNT     56.40  52 iPc   31 18.30   0.0
        0.9s     35.00nm         5.4mb
EDM     57.48  45 iPc   31 25.40  -0.5
        0.7s     76.00nm         5.9mb
KEV     57.64 340 eP    31 26.00  -0.7
        0.9s     32.10nm         5.4mb
SNG     58.47 245 eP    31 34.50   1 3
        1.1s    106.33nm         5.9mb
FHC     58.69  62 e(P)c 31 35.40   0.9
SOD     59.51 338 iP    31 37.50  -2.3
TRO     59.53 343 eP    31 38.90  -1.0
NDI     59.57 281 iPc   31 40.00  -0.7
LBFM    59.64  61 P     31 42.20   0.8
WDC     59.70  62 iPc   31 41.90   0.4
IPM     60.22 243 ePc   31 45.50   0.2
SES     60.30  47 iPc   31 45.00  -0.5
        1.0s     60.00nm         5.7mb
MIN     60.42  61 iPc   31 46.40  -0.2
ORV     60.96  62 ePc   31 49.90  -0.2
BRK     61.51  64 ePc   31 54.20   0.4
MTN     61.52 203 eP    31 53.00  -0.9
BKS     61.52  64 ePc   31 54.40   0.5
        0.8s     78.00nm         5.9mb
PCC     61.66  64 ePc   31 54.40  -0.4
LOF     61.87 344 iPc   31 53.99  -1.8
FFC     61.87  39 iPc   31 55.60  -0.4
        0.8s     35.00nm         5.5mb
GCC     62.19  65 ePc   31 58.60   0.2
MHC     62.22  64 ePc   31 59.00   0.2
ARN     62.29  64 P     31 57.90  -1.2
LRM     62.38  52 ePc   32 00.00   0.2
CMB     62.58  63 ePc   32 01.30   0.3
SAO     62.70  64 e(P)  32 01.80   0.0
PRS     63.02  65 ePc   32 04.10   0.2
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10d 23h

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LLA     63.11  64 ePc   32 04.90    0.4
SUF     63.20 335 iP    32 02.70   -2.0
        0.4s     11.00nm          5.3mb
PRI     63.58  65 ePc   32 08.40    0.7
FRI     63.65  63 ePc   32 08.00    0.0
BCH     64.56  65 P     32 14.00   -0.1
SYP     65.04  66 eP    32 15.00   -2.3
ISA     65.26  64 eP    32 18.00   -0.6
NSS     65.30 342 iPc   32 16.60   -1.7
NUR     65.38 334 iP    32 17.20   -1.6
        0.7s     33.40nm          5.5mb
CLC     65.71  63 eP    32 21.00   -0.4
BW06    65.92  53 P     32 23.10    0.2
        1.0s     35.00nm          5.3mb
HYB     66.03 271 iPc   32 22.60   -1.0
        1.0s     70.00nm          5.6mb
                  e     32 53.50
CTA     66.04 186 iPc   32 22.20   -1.3
        1.0s     35.00nm          5.3mb
SBB     66.30  64 eP    32 25.00   -0.2
MAIO    66.32 298 iPc   32 25.30   -0.1
        0.9s     12.79nm          4.9mb
MWC     66.45  65 eP    32 26.00   -0.3
GSC     66.53  63 eP    32 27.00    0.3
RVR     67.03  64 eP    32 29.00   -0.8
PEC     67.23  64 P     32 31.00   -0.1
WB5     67.51 198 iPc   32 31.80   -1.0
                  i     32 43.30
WRA     67.58 198 Pd    32 32.60   -0.6
        0.9s     36.80nm          5.4mb
PLM     67.77  65 eP    32 34.00   -0.7
TPC     67.79  64 eP    32 34.00   -0.6
UPP     67.94 337 iP    32 33.20   -1.8
KHI     68.26 297 eP    32 37.50   -0.2
AKU     68.28 355 iP    32 38.10    1.0
        1.0s     68.00nm          5.6mb
BAR     68.34  65 eP    32 38.00    0.0
NB2     68.53 341 P     32 37.20   -1.6
        0.8s     36.50nm          5.4mb
POO     68.54 275 iPc   32 39.40   -0.1
        0.8s     89.55nm          5.8mb
DZM     69.14 165 iPd   32 43.90    0.9
GLA     69.25  64 eP    32 44.00    0.4
GBA     69.43 268 P     32 44.00   -0.9
REY     70.00 357 iP    32 49.00    1.4
ASPA    71.28 197 eP    32 55.20   -0.7
        1.5s     54.00nm          5.3mb
                  ipP   33 07.40   41kmX
RMQ     72.28 183 eP    33 01.00   -0.7
                  e     33 13.00
TAB     72.83 307 eP    33 06.00    0.8
MBL     72.90 211 eP    33 04.50   -1.0
ALQ     73.02  57 P     33 07.20    0.7
        1.0s     17.75nm          4.9mb
BRS     73.14 179 eP    32 51.00 -15.7X
                  i     33 06.50
                  i     33 18.00
SCH     74.32  22 eP    33 13.30   -0.1
KER     75.03 304 iPc   33 18.40    0.4
SLY     75.05 306 iP    33 18.50    0.6
WARB    75.44 203 iPc   33 21.10    1.0
        0.7s     36.00nm          5.4mb
KRA     75.51 330 iPc   33 20.00   -0.3
        0.7s     85.00nm          5.8mb
      Z  18s      1.00um          5.2Msz
      N  18s      1.80um
                  e     33 30.30
                  e     33 32.50
PTT     75.68 325 eP    33 14.00   -7.3X
PPE     75.76 324 ePd   33 21.50   -0.3
MSL     75.80 308 ePd   33 23.00    0.9
KVT     75.98 315 eP    33 24.00    0.8
KSP     76.05 333 iPc   33 23.10   -0.2
        1.0s     62.00nm          5.5mb
SPC     76.14 330 iP    33 24.40    0.3
COO     76.30 180 iPc   33 26.90    2.0
CFR     76.37 323 ePc   33 24.50   -0.7
VRI     76.41 324 ePc   33 25.00   -0.4
CLL     76.65 335 iP    33 26.40   -0.3
        1.1s    130.00nm          5.8mb
                  i     33 37.50
EKA     76.74 346 Pd    33 27.30    0.2
        1.1s     83.90nm          5.6mb
BRG     76.75 334 iPc   33 26.80   -0.5
        1.2s     44.00nm          5.3mb
                  i     33 32.50
                  i     33 42.00
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KAS     76.85 317 iPc   33 28.90    0.8
TLB     76.90 322 ePc   33 28.50    0.4
WIT     77.03 339 eP    33 30.00    1.3
MLR     77.04 324 eP    33 18.00  -11.1X
ISR     77.08 324 ePd   33 30.00    0.8
PSZ     77.33 329 iPc   33 30.90    0.3
PRU     77.35 333 Pc    33 30.60    0.1
        0.9s     46.10nm          5.5mb
      Z  18s      0.80um          5.1Msz
                  e     33 40.90
BHD     77.37 305 iPd   33 30.00   -0.9
CMS     77.39 185 eP    33 32.00    1.2
CMP     77.59 325 iPd   33 34.00    2.0
MEO     77.61  52 iPc   33 32.30    0.0
MOX     77.65 335 iPc   33 32.00   -0.2
        1.0s     73.00nm          5.6mb
WTS     77.74 339 iPc   33 32.80    0.2
        0.8s    100.00nm          5.9mb
HOF     77.87 335 iPc   33 33.50    0.1
        1.1s     97.00nm          5.7mb
FKO     77.92  51 ePd   33 33.50   -0.4
DEV     77.92 326 ePc   33 34.00    0.2
SRO     77.98 330 iP    33 35.20    1.2
BUD     78.01 329 iPc   33 34.80    0.6
ZST     78.07 331 iPc   33 35.20    0.7
SIO     78.14  50 eP    33 35.00   -0.1
VKA     78.27 331 iPc   33 36.20    0.5
        1.0s     57.60nm          5.5mb
LNO     78.29  50 iP    33 35.80    0.0
TUL     78.29  50 eP    33 36.50    0.5
        1.2s     40.90nm          5.3mb
                  e     33 47.40
KHC     78.40 333 iPc   33 37.40    1.0
        1.0s     89.00nm          5.7mb
      Z  18s      0.80um          5.1Msz
      N  18s      0.40um
                  e     33 56.40
BBTK    78.53 317 iPc   33 38.00    0.6
SOP     78.70 331 iPc   33 39.00    1.0
DMU     78.74 347 iPc   33 38.20    0.1
TNS     78.92 337 ePc   33 39.30    0.0
DHR     78.97 296 iPc   33 39.60   -0.2
ENN     79.09 339 iPc   33 40.20    0.1
        0.9s    102.00nm          5.8mb
PVL     79.15 323 iPc   33 42.00    1.5
MEM     79.21 339 iPc   33 40.78    0.1
JMB     79.23 322 iPc   33 41.00    0.0
DLE     79.27 347 iPc   33 41.10    0.1
        0.9s    182.00nm          6.0mb
GPA     79.33 318 eP    33 41.00   -0.6
TOD     79.38 336 ePc   33 41.79    0.0
UCC     79.45 340 Pc+   33 42.30    0.3
ABH     79.48 337 iPc   33 42.33    0.1
SNF     79.73 340 P     33 43.60    0.1
BEO     79.75 327 iP    33 43.80    0.1
RUP     79.77 338 ePc   33 43.94    0.1
DIM     80.02 322 eP    33 46.00    0.8
STU     80.03 336 iPc   33 45.00   -0.2
        1.0s     80.00nm          5.6mb
DOU     80.04 339 iPc   33 45.30    0.1
WLF     80.04 338 iPc   33 45.50    0.3
PGB     80.18 324 iPc   33 47.00    0.8
BWA     80.19 183 eP    33 47.10    1.0
GWF     80.28 337 P     33 46.77    0.2
KBA     80.29 333 iPc   33 46.80    0.0
        0.9s    150.00nm          5.9mb
UYO     80.32  50 iPd   33 46.90   -0.1
BNT     80.36 320 iP    33 46.80   -0.3
EDC     80.39 320 iP    33 46.50   -0.8
KDZ     80.40 322 iPc   33 48.00    0.7
PTJ     80.45 330 iPc   33 47.50   -0.1
ZAG     80.51 330 iPc   33 48.00    0.2
VTS     80.54 324 iPc   33 48.00   -0.2
ELC     80.60  45 P     33 48.30   -0.1
DST     80.65 319 iP    33 48.70    0.0
RZN     80.67 323 iPc   33 47.00   -1.9
RDO     80.76 322 iPc   33 49.50    0.3
LJU     80.81 331 eP    33 48.50   -0.8
WLS     80.87 337 P     33 49.89    0.2
CDF     80.89 337 P     33 49.97    0.1
FVI     80.90 333 Pc    33 49.40   -0.3
VOY     81.03 332 ePc   33 49.50   -1.1
VBY     81.04 331 ePc   33 50.30   -0.2
CAN     81.07 182 eP    33 51.00    0.3
ECH     81.10 337 P     33 51.11    0.2
CEY     81.11 331 eP    33 50.50   -0.5
VAL     81.12 349 iP    33 51.40    0.6
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MMB     81.16 323 iPc   33 52.00    0.7
FEL     81.18 336 P     33 51.38    0.0
KKB     81.20 324 iPc   33 52.00    0.5
OGA     81.20 334 iPc   33 52.40    0.7
        0.8s     68.00nm          5.6mb
KHL     81.26 318 iP    33 51.90   -0.1
TRI     81.36 332 ePc   33 51.30   -0.9
VITF    81.42 338 P     33 52.82    0.4
MOF     81.44 337 P     33 52.79    0.0
BCK     81.45 316 iP    33 52.50   -0.4
RIY     81.47 331 iPc   33 52.00   -0.8
EZN     81.50 321 iP    33 52.10   -0.9
HAU     81.51 337 iPc   33 53.40    0.4
        0.8s     59.10nm          5.6mb
BSF     81.55 337 P     33 53.23   -0.1
SRS     81.61 323 ePc   33 53.50   -0.1
BBS     81.69 336 P     33 54.13    0.1
BHL     81.69 311 P     33 56.00    1.7
CTI     81.74 333 Pc    33 53.50   -0.8
SKO     81.78 325 iPc   33 54.50    0.0
        1.0s    193.00nm          6.0mb
      Z  19s      0.78um          5.1Msz
      N  19s      0.57um
      E  19s      0.71um
                  LO    13 23.00
                  LR    13 25.00
                  i     33 59.80
KNT     81.86 324 iPc   33 55.50    0.6
VAY     81.87 324 iPc   33 55.30    0.4
        0.9s      0.26nm          3.2mb X
LOMF    81.98 337 P     33 55.85    0.3
BCI     81.98 326 iP    33 54.60   -0.9
PRK     82.00 320 eP    33 55.50   -0.1
HRI     82.14 310 iPc   33 58.00    1.4
IZM     82.25 319 iP    33 56.30   -0.7
THE     82.28 323 ePd   33 56.00   -1.1
PLG     82.29 323 iPc   33 56.60   -0.6
RYD     82.31 298 iPc   33 57.40   -0.2
PHP     82.41 325 iPc   33 57.20   -0.5
FLN     82.47 342 iPc   33 58.40    0.5
        1.0s    128.00nm          5.9mb
SAL     82.48 334 Pc    33 57.90   -0.1
SDA     82.50 326 iPd   33 59.60    1.4
LDF     82.55 342 iPc   33 58.60    0.2
        1.0s     84.00nm          5.7mb
HVAR    82.65 329 iP    33 57.70   -1.2
LACI    82.75 326 iPd   33 59.50    0.0
OHR     82.76 325 iP    33 58.50   -1.2
        1.0s      0.23nm          3.1mb X
VAI     82.78 335 Pc    33 59.50   -0.1
LOR     82.85 339 iPc   34 00.30    0.3
        0.8s    104.90nm          5.9mb
GRR     82.90 342 iPc   34 00.90    0.7
TIR     82.93 326 eP    34 00.50    0.0
KSL     83.00 316 eP    34 00.50   -0.4
KZN     83.05 324 iPc   34 00.60   -0.6
LBF     83.08 338 iPc   34 01.60    0.4
SSF     83.13 339 iPc   34 02.00    0.6
KBN     83.17 325 iPc   34 01.60    0.0
ORX     83.22 335 P     34 01.65   -0.4
ORO     83.23 335 Pc    34 02.00   -0.1
NEO     83.28 322 eP    34 01.50   -0.8
LPF     83.28 342 iPc   34 02.80    0.7
        1.0s    120.00nm          5.9mb
AOI     83.32 331 eP    34 02.61    0.2
RSM     83.37 332 Pc    34 03.70    1.1
AVF     83.42 339 iPc   34 03.50    0.6
SMF     83.43 338 iPc   34 03.50    0.5
MKRJ    83.52 309 P     34 05.10    1.4
BOB     83.57 334 Pc    34 04.30    0.5
SFI     83.57 332 Pc    34 04.80    1.2
SSO     83.61 331 eP    34 04.42    0.5
LSD     83.62 336 P     34 05.04    0.8
DSI     83.64 310 iPc   34 05.00    0.8
LSK     83.66 324 iPc   34 04.40    0.1
PGD     83.66 332 Pc    34 05.60    1.2
MME     83.70 333 Pc    34 05.70    1.0
LPG     83.70 336 iPc   34 05.70    1.0
BGF     83.76 339 iPc   34 05.20    0.6
TPE     83.77 325 eP    34 06.50    1.7
CIO     83.79 331 eP    34 04.46   -0.5
BDI     83.85 333 Pc    34 05.10   -0.1
RSP     83.87 336 P     34 04.83   -0.5
FIR     83.89 332 iPc   34 06.50    1.2
ALP     84.01 330 eP    34 06.06    0.0
PCP     84.05 334 P     34 05.86   -0.3
ASS     84.06 331 Pc    34 06.70    0.4
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10d 23h

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PLDF    84.11 338 P      34 07.40   0.9
APE     84.12 320 eP     34 05.00  -1.7
SRN     84.13 325 iP     34 06.60   0.1
BNI     84.13 336 Pc     34 07.50   0.8
MAF     84.15 339 iPc    34 07.40   0.8
AGO     84.16 339 P      34 07.79   1.1
TCF     84.17 339 iPc    34 07.60   0.9
ATH     84.18 321 eP     34 06.00  -0.8
PII     84.18 333 P      34 06.10  -0.6
RRL     84.22 336 P      34 08.11   0.8
CKI     84.24 335 Pc     34 06.80  -0.2
KEK     84.35 325 eP     34 06.70  -1.0
LSF     84.37 340 iPc    34 08.10   0.4
MFF     84.43 341 iPc    34 08.80   0.8
        0.8s    34.90nm          5.5mb
FIN     84.45 335 P      34 07.40  -0.8
DOI     84.47 335 Pc     34 07.00  -1.3
PYM     84.47 339 P      34 09.41   1.1
ROB     84.48 335 P      34 08.01  -0.3
PZZ     84.51 335 P      34 07.91  -0.7
SSB     84.51 337 P      34 09.39   0.9
KAP     84.61 318 eP     34 08.50  -0.6
MNS     84.66 331 Pc     34 08.80  -0.5
ENR     84.67 335 P      34 07.70  -1.6
STV     84.68 335 P      34 07.81  -1.6
DUI     84.69 329 Pc     34 09.60   0.2
IMI     84.82 335 P      34 09.86  -0.2
SDI     84.87 330 Pc     34 10.00  -0.3
LBL     84.89 338 P      34 11.25   1.0
SBF     85.00 335 iPc    34 11.20   0.2
RMP     85.17 331 Pc     34 11.50  -0.2
RFI     85.17 329 P      34 12.31   0.6
        1.5s   299.10nm          6.2mb
RDP     85.21 330 Pc     34 12.00   0.0
CBN     85.24  37 eP     34 13.00   0.9
RJF     85.26 339 eP     34 12.90   0.7
        1.0s    56.00nm          5.6mb
MBH     85.31 309 iPc    34 13.50   0.9
VLS     85.33 323 iPc    34 12.50  -0.2
AYN     85.40 308 iPc    34 13.70   0.6
CAF     85.48 339 eP     34 14.20   0.9
FRF     85.51 335 iPc    34 13.70   0.3
        1.2s    71.40nm          5.7mb
VLI     85.56 321 iPc    34 11.80  -2.0
NPS     85.57 318 eP     34 13.00  -0.9
CSI     85.66 327 P      34 14.00  -0.3
LRG     85.69 335 iPc    34 15.00   0.7
        1.0s   116.00nm          6.0mb
ROI     85.74 327 P      34 15.20   0.5
CVF     85.74 333 iPc    34 14.80   0.2
        1.0s    52.00nm          5.6mb
TDS     85.75 327 Pc     34 14.90   0.2
LMR     85.75 335 iPc    34 15.30   0.7
        1.0s   132.00nm          6.1mb
LFF     85.79 340 eP     34 15.30   0.5
        1.0s    56.00nm          5.7mb
LPO     85.93 339 eP     34 15.90   0.4
        0.9s    39.30nm          5.6mb
VAM     86.10 319 eP     34 15.50  -1.0
CZI     86.21 327 P      34 16.50  -0.4
BADA    86.22 308 iPc    34 17.70   0.5
ATN     87.39 327 P      34 20.90  -1.8
PZI     88.59 327 P      34 28.44  -0.1
        1.0s    69.10nm          5.9mb
TOL     91.70 342 eP     34 42.50  -0.5
BCAO   114.81 307 iPKPc  40 16.00  -0.8
        1.0s    14.00nm
TIC    123.54 332 PKPc   40 32.86  -0.6
KIC    123.72 331 PKPc   40 33.18  -0.6
        0.9s    16.50nm
LIC    123.94 332 PKPc   40 33.36  -0.8
        0.8s    14.50nm
MAW    131.13 211 ePKP   40 46.00  -0.3
                  e      44 07.00
BLF    134.53 272 iPKPc  40 54.20   0.0
        0.9s    30.77nm
ZOBO   135.51  61 PKP    40 54.00  -2.9X
                  e      44 21.00
                  LR     58 30.00
LPB    135.72  62 PKP    40 58.00   0.9
                  e      44 21.00
HVD    135.90 271 ePKP   40 57.00   0.2
CNCB   136.01  62 PKPc   40 59.00   1.1
                  i      44 21.00
WIN    136.53 287 ePKP   40 43.00 -15.3X
CCH    137.56  60 ePKP   40 55.00  -5.5X
LCCH   144.86  85 iPKPd  41 11.50  -1.0
JACH   145.09  83 ePKPd  41 10.60  -2.5X
LNV    145.24  85 ePKP   41 12.20  -0.9
PEL    145.29  83 iPKPc  41 12.90  -0.5
        0.4s    25.42nm
PDCR   145.32  19 ePKP   41 12.10  -1.7
                  e      41 16.60
                  e      41 20.70
                         41 30.30
BAO    145.45  35   KP   41 14.80   0.6
SAN    145.48  84  PKP   41 13.50  -0.2
PCH    145.68  84  PKPd  41 14.50   0.4
PPD    149.56  46 ePKP   41 21.40   0.9
                  e      41 25.30
                  i      41 42.10
ITB1   150.06  53 PKPd   41 26.10   5.0X
ITB    150.28  53 e(PKP)41 26.00   4.6X
ITB7   150.56  54 e(PKP)41 26.60   4.7X
SNA    152.57 199 iPKPd  41 23.90   0.5
        1.0s    54.00nm
                  i      41 30.70
BMA    153.35  34 ePKP   41 33.90   7.9X
      S.D. = 0.8  on 332 of 348 obs.
-----------------------------------------
?  NOV  11, 1989  00h 12m 01.24± 4.42s
   29.453 S ±29.3km   71.680 W ±31.7km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF CENTRAL CHILE        (135)

ZON     3.33 130 eP     12 54.00   1.8
JACH    3.35 164 iP     12 53.50   0.8
                 iS     13 32.50
ROCH    3.55 171 iP     12 55.50  -0.2
                 iS     13 34.40
PEL     3.78 167 iPc    12 58.50  -0.1
                 i      13 40.10
                 iS     13 45.10
LCCH    4.01 179 eP     13 03.00   1.1
                 iS     13 43.00
FCH     4.04 163 eP     13 03.90   1.2
                 eS     13 49.00
TACH    4.24 172 iPd    13 04.70  -0.4
                 iS     13 50.50
PCH     4.27 167 eP     13 05.50  -0.2
                 iS     13 52.40
LNV     4.50 177 eP     13 07 40  -1.4
CHCH    4.55 169 iPc    13 09 60  -0.1
                 iS     13 58.50
CYA     5.25  80 ePd    13 20.20   0.6
RFA     5.96 154 ePd    13 28.20  -1.4
TCA     6.41 109 ePd    13 34.00  -1.8
                 S      14 44.50
      S.D  = 1.2  on  13 of  13 obs.
-----------------------------------------
   NOV  11, 1989  00h 20m 00.42± 0.64s
   46.811 N ± 9.1km    9.758 E ± 5.5km
   DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                        (544)
      ML 2.5 (LDG), 2.2 (KBA).

OGA     0.87  86 iPgc   20 15.50  -1.8
                 iSg    20 25.30
VAI     1.17 216 Pd     20 22.10  -0.1
CTI     1.52 120 P      20 26.60  -1.1
                 eSn    20 41.50
ORO     1.71 227 P      20 30.80   0.3
                 eSn    20 50.00
FVI     2.09  95 P      20 36.50   0.6
                 eSn    21 03.30
BSF     2.26 298 Pn     20 38.50   0.0
                 Pg     20 45.00
                 Sg     21 15.00
CDF     2.32 315 Pn     20 38.90  -0.4
                 Pg     20 46.00
                 Sg     21 16.40
LPL     2.47 239 Pg     20 46.00   4.4X
KBA     2.47  82 e(Pn)  20 44.00   2.5
                 eSg    21 17.50
HAU     2.61 299 Pn     20 43.20  -0.1
                 Pg     20 50.80
                 Sg     21 25.20
BNI     2.78 232 P      20 46.20   0.3
                 eSn    21 15.20
KHC     3.46  46 Pg     21 05.20   9.8X
                 Sg     21 46.00
      S.D. = 1.3  on  10 of  12 obs.
-----------------------------------------
%  NOV  11, 1989  00h 33m 52.30± 2.83s
   44.828 N ± 5.5km    6.703 E ±28.3km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                             (538)
      ML 2.2 (GEN).

RRL     0.11  32 P      33 55.53   0.2
                 S      33 58.20
PZZ     0.43 139 P      34 01.58   0.5
                 S      34 08.04
RSP     0.51  50 P      34 02.51  -0.1
                 S      34 10.10
LSD     0.71  27 P      34 06.40   0.0
                 S      34 16.76
STV     0.73 142 P      34 06.40  -0.4
                 S      34 16.76
ENR     0.79 139 P      34 07.63  -0.1
                 S      34 18.50
      S.D. = 0.4  on   6 of   6 obs.
-----------------------------------------
?  NOV  11, 1989  02h 18m 24.76± 4.82s
   31.132 S ±14.4km   68.506 W ±23.1km
   DEPTH = 101.0 ± 46.6 km
 SAN JUAN PROVINCE, ARGENTINA       (137)

RTLL    0.20 171 iPc    18 39.60   0.0
RTCB    0.43 215 iPd    18 40.50   0.0
                 S      18 52.20
ZON     0.44 200 iPd    18 40.50   0.0
                 eS     18 51.00
CFA     0.53 154 iPd    18 41.20   0.1
                 S      18 53.00
RTCV    0.73 182 iPc    18 42.70  -0.1
RTBS    0.97 237 ePd    18 45.20   0.1
RTRS    1.26 319 e(P)   18 48.50   0.0
      S.D. = 0.1  on   7 of   7 obs.
-----------------------------------------
?  NOV  11, 1989  03h 51m 52.86± 6.83s
   31.625 S ±38.2km   71.899 W ±49.0km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF CENTRAL CHILE        (135)

JACH    1.53 134 iP     52 19.50  -0.8
                 iS     52 38.00
ROCH    1.54 151 eP     52 20.20  -0.4
PEL     1.83 146 iPc    52 25.00   0.4
                 iS     52 47.10
LCCH    1.87 172 eP     52 24.50  -0.6
                 iS     52 46.00
PCH     2.31 150 ePc    52 34.50   2.9X
                 iS     52 59.50
LNV     2.36 170 eP     52 26.50  -5.7X
CHCH    2.53 156 eP     52 36.00   1.3
                 iS     53 07.00
ZON     2.75  89 eP     52 38.00   0.1
      S.D. = 1.0  on   6 of   8 obs.
-----------------------------------------
*  NOV  11, 1989  04h 13m 17.55± 1.99s
   39.578 N ± 9.4km  143.639 E ±12.8km
   DEPTH =  35.4 ± 14.9 km
   4.5mb (  5 obs.)
 OFF EAST COAST OF HONSHU, JAPAN    (229)

OFUJ    1.61 253 iP+    13 44.00   0.0
                 S      14 03.60
MAT     5.25 236 iPc    14 36.10   0.4
        0.5s    64.79nm          5.3mb
                 eS     15 32.00
MDJ    11.58 300 eP     16 03.50   0.0
                 epP    16 12.00
BJI    21.08 280 eP     17 57.50  -3.5X
TIA    21.17 269 eP     18 00.00  -1.9
WHN    25.52 258 Pd     18 45.00   0.6
XAN    28.23 270 P      19 09.80   0.6
GYA    33.41 258 P      19 55.00  -0.2
GTA    33.57 284 eP     19 56.60   0.2
WMQ    41.31 295 eP     21 01.60   0.3
CHTO   43.63 255 eP     21 20.00  -0.4
INK    51.33  28 eP     22 19.00  -0.9
WB5    59.78 190 eP     23 21.70   0.3
WRA    59.84 190 Pc     23 21.80  -0.1
        0.7s     1.80nm          4.3mb
GBA    63.16 266 P      23 44.00  -0.4
SOD    63.30 337 iP     23 54.20   9.5X
SUF    66.50 334 eP     24 14.50   9.2X
        0.6s     3.80nm          4.7mb
NUR    68.52 332 eP     24 23.00   4.9X
HFS    72.48 336 eP     24 42.90   0.8
```

```
        0.5s      1.00nm          4.1mb
NB2     72.51 338 P       24 43.00   0.7
        0.7s      3.90nm          4.5mb
PRU     80.21 329 eP      25 36.50  10.9X
KHC     81.27 329 P       25 43.10  11.8X
LOR     86.40 334 eP      26 08.10  10.7X
        0.8s      5.90nm
LBF     86.61 334 eP      26 09.20  10.8X
        0.8s      2.60nm
SSF     86.70 334 eP      26 09.70  10.9X
        0.8s      2.60nm
SMF     86.95 334 eP      26 11.60  11.5X
        0.6s      3.00nm
AVF     86.99 334 eP      26 11.30  11.1X
        0.8s      8.00nm
      S.D. = 0.8  on  16 of  27 obs.
-------------------------------------
?  NOV  11, 1989  05h 04m 27.57± 2.73s
   21.203 N ±27.8km   94.396 E ±37.5km
   DEPTH =  90.1 ± 21.6 km
   4.2mb (  4 obs.)
 BURMA                              (296)

CHG      4.89 118 iPc    05 40.00  -0.2
        0.9s     27.31nm
CHTO     4.89 118 iPc    05 40.00  -0.2
                 eS      06 32.00
BDT      5.87 131 iPc    05 54.10   0.4
        0.5s     37.00nm         4.9mb
WB5     56.53 134 eP     14 02.80  -0.3
WRA     56.56 134 Pc     14 03.40   0.1
        0.3s      0.60nm         4.1mb
HFS     67.25 328 eP     15 14.20   0.0
        0.7s      3.00nm         4.3mb
NB2     68.41 329 P      15 21.20  -0.2
        0.5s      0.70nm         3.8mb
INK     84.19  16 eP      16 50.00   0.3
PPD    148.15 262 ePKP   24 07 60   5.9X
      S.D. = 0.3  on   8 of   9 obs.
-------------------------------------
?  NOV  11, 1989  06h 41m 02.87± 2.59s
   19.458 N ± 9.8km   98.506 E ±31.8km
   DEPTH =  10.0km  (geophysicist)
 SOUTHEAST ASIA                     (299)

CHG      0.76 147 iPn    41 18.20   0.4
                 iSg     41 37.80
CHTO     0.76 147 iPnc   41 18.10   0.3
                 iPg     41 19.10
BDT      2.25 168 ePn    41 39.30  -1.4
                 ePg     41 49.00
                 eSg     42 24 90
LOE      3.68 123 ePn    42 00.00  -1.0
                 ePg     42 06.50
                 eSg     45 55.00
NST      4.07 157 ePn    42 08.00   1.5
                 ePg     42 19.00
                 eSg     43 20.00
KMI      6.87  34 Pd     42 46.50   0.2
                 pP      42 53.00
                 S       44 03.50
NNT      6.93 170 eP     43 31.80  44.8X
      S.D. = 1.4  on   6 of   7 obs.
-------------------------------------
?  NOV  11, 1989  07h 14m 21.80± 5.23s
   8.502 S ±47.5km  124.078 E ±14.1km
   DEPTH = 160.6 ± 24.3 km
   4.5mb (  1 obs.)
 TIMOR                              (289)

MTN      8.16 123 iPd    16 18.90   0.5
                 eS      17 48.00
KNA      8.54 148 eP     16 23.50   0.1
                 eS      17 57.50
MBL     13.23 198 eP     17 25.00   0.3
                 eS      19 49.00
WB5     15.07 140 eP     17 47.10  -0.8
                 eS      20 31.00
WRA     15.10 140 Pd     17 47.50  -0.7
        0.6s     13.00nm         4.5mb
NANU    16.21 209 iPc    18 01.70  -0.2
                 eS      20 57.00
WARB    17.75 172 eP     18 21.00   0.6
ASPA    17.77 149 iPc    18 21.20   0.5
                 eS      21 37.70
OIS     19.20 130 iPc    18 35.90   0.1
        0.4s     36.00nm         5.1mb X
MRWA    21.96 199 eP     19 03.00  -0.3
AIA    106.19 176 ePdiff2B 11.50  -5.4X
      S.D. = 0.6  on  10 of  11 obs.
-------------------------------------
   NOV  11, 1989  07h 45m 30.71± 0.58s
   40.618 N ± 6.0km   15.540 E ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                     (390)

SGO      0.19 251 Pc     45 34.60  -0.2
                 eSg     45 38.20
MGR      0.48 179 P      45 39.20  -1.3
                 eSg     45 48.30
CSI      1.02 145 P      45 49.50  -0.5
                 eSg     46 10.20
TDS      1.14 147 P      45 53.30   1.3
                 eSg     46 06.70
BRT      1.29  78 P      45 53.10  -1.5
                 eSg     46 11.10
ROI      1.31 143 P      45 57.20   2.2
                 eSg     46 22.20
DUI      1.32 322 Pd     45 56.50   1.3
                 eSg     46 13.80
CZI      1.47 162 P      45 56.10  -1.1
SDI      1.70 310 P      46 01.10   0.5
LCI      1.86  98 P      46 04.60   1.7
                 eSn     46 27.00
ALP      2.61 326 ePn    46 14.31   0.5
                 eSn     46 46.26
HVAR     2.65  15 i(Pn)  46 14.00  -0.2
MNS      2.78 310 P      46 14.70  -1.4
OHR      4.02  81 ePn    46 32.30  -1.4
TRI      5.25 346 eP     47 45.90  54.8X
                 i       47 49.30
PTJ      5.29   3 eP     46 48.60  -3.1X
      S.D. = 1.4  on  14 of  16 obs.
-------------------------------------
*  NOV  11, 1989  08h 13m 41.27± 0.91s
   43.025 N ±14.2km    0.216 W ± 5.5km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                           (378)
      ML 2.5 (LDG). Felt (II) ot
      Asson, Fronce.

OGE      0.24 307 Pg     13 46.55   0.2
ESCF     0.27 282 Pg     13 46.60  -0.4
                 Sg      13 50.96
LHE      0.32 249 Pg     13 48.06   0.1
EPF      0.41  89 Pg     13 49.60   0.0
                 Sg      13 55.50
ISSF     0.43 271 Pg     13 50.02   0.0
LPO      1.94  31 Pg     14 18.00   3.4X
                 Sg      14 43.60
LFF      2.03  19 Pg     14 19.80   3.9X
                 Sg      14 46.00
CAF      2.51  40 Pg     14 28.00   5.2X
                 Sg      15 00.50
RJF      2.60  28 Pg     14 29.80   5.8X
                 Sg      15 03.20
      S.D. = 0.3  on   5 of   9 obs.
-------------------------------------
*  NOV  11, 1989  08h 18m 43.22± 0.68s
   14.701 N ±13.1km   52.363 E ± 8.9km
   DEPTH =  10.0km  (geophysicist)
   4.8mb (  7 obs.)
 EASTERN GULF OF ADEN               (415)

BHD     19.86 340 ePc    23 13.00  -4.4X
                 iS      29 32.00
                 iPS     29 51.00
                 e       30 43.00
BOM     20.02  75 eP     23 15.50  -3.6X
                 eS      27 10.00
OUE     20.44  39 eP     23 22.00  -1.8
POO     20.94  77 eP     23 28.50  -0.3
SLY     21.70 345 ePc    23 37.00   0.7
                 e       24 14.00
                 e       27 32.00
MBH     22.02 316 e(P)   23 30.00  -9.5X
MAIO    22.44  15 iPc+   23 44.00   0.2
                 eS      27 40.00
TAB     23.88 348 eP     24 02.00   4.1X
GBA     24.33  89 P      24 03.00   0.7
HYB     25.31  80 eP     24 12.20   0.5
                 eS      28 44.20
BBTK    30.37 329 eP     24 58.00   0.3
                 e       25 04.00
BCAO    34.83 256 iPd    25 35.40  -1 3
        0.9s     14.00nm         4.8mb
                 id      25 46.30
VRI     37.82 330 ePc    26 01.50  -0.1
SPC     43.28 329 eP     26 48.60   1 8
SRO     43.39 327 eP     26 53.50   6 0X
KRA     44.00 330 eP     26 53.80   1 4
ZST     44.27 326 e(P)   26 52.90  -1 7
KSP     46.30 329 eP     27 09.50  -1 3
PRU     46.68 327 eP     27 14.50   0 7
KHC     46.72 326 P      27 15.00   0 8
OGA     47.00 322 eP     27 18.50   1 8
BRG     47.51 328 eP     27 25.50   5 2X
        1.4s     15.00nm         4.9mb
                 e       27 35.00
CLL     48.25 328 eP     27 26.00  -0 1
        2.2s     48.00nm         5.2mb
                 e       27 48.00
MOX     48.61 326 e(P)   27 29.00   0.1
HFS     53.38 337 eP     28 02.40  -2.6
        1.0s     10.00nm         4.7mb
BJI     60.70  52 eP     28 57.00  -0.2
WRA     87.62 111 P      31 34.00   0 5
        1.2s      4.60nm         4.6mb
WB5     87.63 111 eP     31 34.10   0 6
ASPA    88.29 115 eP     31 36.40  -0 3
        1.7s     16.00nm         5.1mb
MBC     89.10 358 eP     31 39.00  -0 6
        1.0s      4.00nm         4.6mb
      S.D. = 1.2  on  24 of  30 obs.
-------------------------------------
&  NOV  11, 1989  08h 35m 15.50s
   33.390 N          118 670 W
   DEPTH =   7.0km
 SOUTHERN CALIFORNIA                ( 43)
      <PAS-P>. ML 3.0 (PAS).

CIS      0.22  86 iPc    35 20 00  -0 2
SCI      0.42 166 iPd    35 23.60  -0 4
PAS      0.86  29 eP     35 31 40  -1 0
RVR      1.24  61 iPc    35 36.80  -2 0
PEC      1.36  68 iPc    35 38.50  -2.3
PLM      1.51  91 eP     35 40.60  -2 6
ABL      1.53 343 eP     35 41.00  -2 4
BLP      1.85 310 eP     35 45.00  -2 9
BCH      2.14 327 eP     35 50.00  -2 2
KVN      5.67   4 eP     36 45 00   2.6
        10 obs. associated
-------------------------------------
*  NOV  11, 1989  08h 53m 28.87± 2 60s
   42.314 N ±22.5km    7.367 E ±10 3km
   DEPTH =  10.0km  (geophysicist)
 WESTERN MEDITERRANEAN SEA          (387)
      ML 2.5 (LDG).

CVF      1.14  77 Pg     53 50.23   0 0
                 Sg      54 03.95
LMR      1.20 329 Pn     53 51.10  -0.1
                 Sn      54 05.40
FRF      1.35 337 Pn     53 53.70   0.0
                 Sn      54 09.60
LRG      1.36 327 Pn     53 53.80   0.0
                 Sn      54 10.00
CALN     1.48 346 Pg     53 55.75   0 1
SBF      1.55   2 Pn     53 56.60   0 0
                 Sn      54 14.60
AURF     1.57 359 Pg     53 56.90  -0 1
MVIF     1.59 354 Pg     53 57.48   0.2
SAOF     1.68   5 Pg     53 58.18  -0.2
AUTN     1.68   1 Pg     53 58.52  -0.1
TOUF     1.70 357 Pg     53 59.15   0 2
      S.D. = 0.2  on  11 of  11 obs.
-------------------------------------
*  NOV  11, 1989  10h 38m 25.37± 0.92s
   37.663 S ±10.0km  176.931 E ±16 6km
   DEPTH = 240.5 ±  9.1 km
   3.4mb (  1 obs.)
 NORTH ISLAND, NEW ZEALAND          (159)

HBZ      1.09  87 P      38 58.80  -1 3
WHH      1.27 196 P      39 01.20  -0.2
TUTZ     1.28 215 P      39 01.60   0 1
HITZ     1.39 221 P      39 02.10  -0 2
HATZ     1.39 208 P      39 02.20  -0 1
MOH      1.48 173 P      39 04.20   1.3
RATZ     1.51 217 eP     39 03.10  -0.1
KETZ     1.75 215 P      39 06.00   0 7
```

11d 10h

```
TTH      1.88 182 eP     39 07.80   1.6
PGZ      3.00 190 Pc     39 18.40   0.8
MNG      3.16 200 iPc    39 19.70   0.3
                  S      39 59.60
KIW      3.56 205 P      39 23.70  -0.3
CAW      3.73 202 Pd     39 25.80  -0.2
BLW      3.87 196 P      39 27.40  -0.2
WDW      3.90 202 Pc     39 27.40  -0.6
MRW      3.96 205 P      39 28.00  -0.7
                  eS     40 17.00
MOW      3.97 199 P      39 28.40  -0.5
WEL      3.99 204 eP     39 28.60  -0.4
TCW      4.10 209 P      39 29.60  -0.7
                  eS     40 18.90
CCW      4.59 206 eP     39 36.40   0.1
DZM     17.98 327 iPc    42 08.60 -12.2X
                  iS     42 56.00
WRA     40.89 283 P      45 47.00   1.3
        0.5s     0.70nm          3.4mb
WB5     40.91 284 eP     45 45.00  -0.8
     S.D. = 0.8  on  22 of  23 obs.
-----------------------------------
   NOV  11, 1989  12h 07m 30.30± 0.75s
   37.096 N ± 8.4km   28.030 E ± 6.7km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

YER      0.21  79 iPg    07 33.50  -1.3
                  iSg    07 36.50
SMG      1.13 303 ePb    07 51.50   0.1
                  eSb    08 08.00
IZM      1.43 335 iPn    07 56.50   0.1
ELL      1.55 102 ePn    08 11.00  13.0X
KSL      1.59 127 ePb    07 59.00   0.5
KAP      1.69 204 ePb    07 59.50  -0.5
                  eSb    08 20.00
KHL      1.70  44 ePn    08 00.00  -0.3
BCK      2 07  79 ePn    08 07.00   1.4
     S.D. = 1.0  on   7 of   8 obs.
-----------------------------------
&  NOV  11, 1989  12h 19m 23.50s
   36.852 N          121.622 W
   DEPTH =   3.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.6 (BRK)

SAO      0.17 121 iPd    19 26.80  -0.1
GCC      0.35 301 iPc    19 30.30  -0.2
MHC      0.49 358 iPd    19 33.50   0.2
                  iS     19 39.70
ARN      0.50   8 iPd    19 33.50   0.0
PRS      0.56 159 iPd    19 34 40  -0.2
LLA      0.59 113 iPd    19 35.20  -0.2
PCC      0.89 317 ePc    19 40.20  -0.9
PRI      1.05 132 ePc    19 43.40  -0.6
BKS      1.13 335 eP     19 44.10  -1.3
                  i      19 45 40
                  eS     20 02.00
BRK      1.14 334 ePc    19 45.15  -0.3
ZSP      1.20 335 ePc    19 46.80   0.3
PHAM     1.42 135 eP     19 49.00  -1.2
CMB      1.54  39 ePc    19 50.20  -1.7
FRI      1.54  84 ePc    19 50.80  -1.1
BCH      2.08 143 eP     19 57.60  -2.2
KVN      3.55  51 eP     20 27.50   6.7
        16 obs. associoted
-----------------------------------
%  NOV  11, 1989  13h 02m 04.61± 0.67s
   43.066 N ± 6.9km    0.701 W ± 6.7km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      MD 1.0 (STR).

ATE      0.02 356 Pg     02 06.18  -0.4
                  Sg     02 06.92
ISSF     0.08 241 Pg     02 06.80  -0.4
                  Sg     02 08.17
ESCF     0.09  82 Pg     02 07.35   0.1
                  Sg     02 09.14
MADF     0.12 313 Pg     02 07.79   0.2
                  Sg     02 09.76
LHE      0.16 159 Pg     02 08.59   0.2
                  Sg     02 11.20
ELYF     0.24 296 Pg     02 10.02   0.3
                  Sg     02 13.32
     S.D. = 0.4  on   6 of   6 obs.
-----------------------------------
%  NOV  11, 1989  13h 45m 32.76± 0.99s
   39.972 N ±12.8km   27.308 E ± 8.1km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

EDC      0.57  48 ePg    45 43.50  -0.8
                  eSg    45 50.50
BNT      0.61  51 iPg    45 44.10  -0.9
EZN      0.77 259 ePg    45 47.60  -0.2
                  eSg    46 02.60
DST      1.08 109 iPn    45 52.80  -0.3
CTT      1.45  36 ePn    46 00.00   1.0
YLV      1.69  69 ePn    46 03.60   1.1
     S.D. = 1.1  on   6 of   6 obs.
-----------------------------------
   NOV  11, 1989  14h 14m 31.23± 0.61s
   30.265 S ± 5.6km   66.961 W ± 6.5km
   DEPTH = 151.8 ± 13.4 km
 LA RIOJA PROVINCE, ARGENTINA      (138)

RTLL     1.68 230 iPd    15 02.50  -0.7
CFA      1.73 219 iPc    15 03.50  -0.3
                  S      15 25.00
ZON      1.95 229 iPc    15 06.10  -0.3
                  eS     15 31.00
RTCB     2.00 232 iPc    15 07.00   0.1
CYA      2.08  30 iPc    15 06.80  -1.0
RTCV     2.09 220 iPd    15 07.80  -0.1
RTRS     2.17 272 iPd    15 09.80   1.0
TCA      2.30 118 iPc    15 11.00   0.4
MRA      2.39 154 ePc    15 12.00   0.5
RTBS     2.55 236 ePd    15 14.20   0.7
JACH     3.93 231 iPd    15 32.10   0.7
                  iS     16 19.60
FCH      4.17 222 eP     15 36.00   1.3
                  iS     16 26.00
PEL      4.28 227 iPd    15 36.30   0.3
                  iS     16 25.10
ROCH     4.38 231 eP     15 37.00  -0.5
                  iS     16 28.00
SAN      4.47 224 eP     15 39.30   0.8
                  iS     16 39.00
PCH      4.51 221 iPd    15 39.40   0.4
                  iS     16 33.50
RFA      4.67 195 iPc    15 40.80  -0.4
TACH     4.78 224 iPd    15 42.00  -0.6
                  iS     16 36.50
CHCH     4.82 220 iPd    15 43.40   0.3
                  iS     16 39.50
LCCH     5.06 230 iPd    15 45.10  -1.2
                  iS     16 42.50
LNV      5.27 225 iPc    15 47.20  -1.9
                  iS     16 45.20
SLA      5.67  14 ePc    15 54.60   0.0
YJA      8.17  10 ePc    16 28.80   0.4
     S.D  = 0.8  on  23 of  23 obs.
-----------------------------------
   NOV  11, 1989  15h 04m 51.04± 0.79s
   14.303 S ± 4.5km   72.209 W ± 5.8km
   DEPTH =  63.0 ±  7.6 km
   5.2mb ( 13 obs.)
 PERU                              (116)

ARE      2.26 162 iPd    05 32.70   5.7X
                  iS     06 00.50
ZOBO     4.40 117 iPc    06 04.30   6.8X
LPB      4.54 120 iPc    06 07.00   7.7X
CNCB     4.78 122 iPc    06 10.00   7.2X
PT08     4.83 298 iPc    06 03.90   0.6
                  iS     06 53.50
NNA      5.07 296 iPc    06 06.00  -0.4
        0.8s   391.79nm          5.7mb
                  iS     06 59.50
PT10     5.14 295 eP     06 07.00  -0.3
                  eS     07 05.00
CCH      6.59 118 iPc    06 37.00   9.1X
YJA     10.09 142 ePd    07 16.70   0.5
PSO     16.21 341 eP     08 39.00   2.3
PEL     18.81 176 iPc    09 08.00  -0.4
        0.3s    54.55nm          5.3mb
BOG     18.89 354 eP     09 10.00   0.2
                  eS     13 22.00
LCCH    19.10 178 iPc    09 12.00   0.4
SAN     19.12 176 eP     09 11 00  -0.9
LNV     19.58 178 ePc    09 16.00  -0.7
ITB1    19.68 124 Pd     09 18.40   0.5
FUQ     19.70 355 eP     09 38.00  19.4X
ITB     19.89 124 e(P)   09 18.60  -1.5
ITB7    20.08 125 eP     09 21.50  -0.6
RFA     20.66 171 ePd    09 28.50   0.5
BMG     21.25 358 eP     09 49.00  14.8X
PPD     21.27 114 eP     09 33.90  -0.4
                  e      09 48.70
                  e      09 56.30
SDV     23.09   4 iPc    09 52.50   0.1
        0.4s    30.80nm          5.1mb
BAO     23.43  96 eP     09 57.00   1.3
TOV     24.05   6 eP     10 02.10   0.5
UPA     24.25 342 ePc    10 06.80   3.4X
                  i      10 10.60
OLLA    24.75  13 eP     10 08.50   0.1
CAR     25.20  12 eP     10 01.00 -11.6X
MORO    25.31   9 eP     10 13.00  -0.6
FISA    25.56   7 eP     10 12.00  -3.9X
PDCR    32.22  91 eP     11 12.80  -2.8X
PORP    32.62  10 P      11 18.20  -0.8
LRS     32.82   9 iP     11 19.70  -1.1
PWLA    51.27 343 P      13 48.80  -1.9
BLA     51.82 352 P      13 56.40   1.6
        1.0s    25.00nm          5.2mb
CVL     52.34 354 P      13 59.30   0.7
OLY     52.79 340 P      14 00.60  -1.5
POW     53.29 341 P      14 04.60  -1.1
LNO     54.70 337 eP     14 14.00  -2.0
                  e      14 27.00
TUL     54.70 337 eP     14 14.60  -1.5
        1.0s    36.30nm          5.4mb
FVM     54.75 342 P      14 15.00  -1.4
SIO     54.75 336 eP     14 15.90  -0.6
ALQ     58.78 327 P      14 44.90  -0.5
        0.7s    14.29nm          5.2mb
GLA     62.23 320 eP     15 08.00  -0.7
BAR     63.16 319 eP     15 16.00   1.2
TPC     63.69 320 eP     15 18.00  -0.4
PLM     63.71 319 eP     15 18.00  -0.7
RVR     64.45 319 eP     15 23.00  -0.2
MSU     64.49 326 P      15 24.10   0.4
GSC     64.95 321 eP     15 27.00   0.5
MWC     65.03 319 eP     15 27.00  -0.2
SBB     65.19 320 eP     15 27.00  -1.0
DAU     65.40 328 P      15 29.70   0.1
CLC     65.78 321 eP     15 31.00  -0.8
DUG     66.05 327 P      15 33.90   0.3
        0.9s    16.92nm          5.0mb
ISA     66.22 320 eP     15 35.00   0.4
TNP     67.04 323 P      15 40.30   0.3
        0.8s    19.12nm          5.1mb
FRI     67.83 320 ePc    15 43.70  -1.0
PRI     67.90 319 ePc    15 45.60   0.3
KVN     68.20 323 P      15 46.20  -1.1
LLA     68.37 319 iPc    15 48.40   0.3
PRS     68.46 319 ePc    15 49.20   0.5
CMB     68.91 321 ePc    15 51.40  -0.1
ARN     69.19 320 P      15 54.00   0.8
MHC     69.26 320 ePc    15 54.60   0.9
GCC     69.29 319 ePc    15 54.80   1.1
BRK     69.97 320 ePc    15 58.50   0.7
LRM     70.00 331 eP     15 58.40   0.2
ORV     70.54 322 ePc    16 02.00   0.7
MIN     71.10 322 e(P)   16 04.40  -0.5
WDC     71.80 322 ePc    16 07.60  -1.3
LBFM    71.90 323 P      16 09.90   0.2
FHC     72.81 321 ePc    16 15.90   1.0
SES     72.86 335 iPc    16 14.80  -0.2
DPW     74.22 330 P      16 23.70   0.7
SPA     75.79 180 eP     16 33.10   1.2
        0.6s     4.47nm          4.6mb
BMW     75.88 326 P      16 33.70   1.2
PNT     75.89 330 eP     16 33.00   0.5
        0.5s     3.00nm          4.5mb
EDM     75.95 336 iPc    16 32.10  -0.6
        0.6s    28.00nm          5.4mb
GMW     76.32 327 P      16 35.20   0.3
MCW     77.07 328 P      16 40.00   0.9
INK     93.15 341 eP     17 59.00   0.1
MBC     94.62 350 eP     18 07.00   1.4
        0.5s     2.00nm          4.8mb
FBA     96.84 335 P      18 16.10   0.2
        0.7s     7.41nm          5.3mb
WRA    137.10 218 PKPd   24 09.50  -0.1
        0.7s     1.80nm
MAT    144.96 315 iPKPc  24 21.40  -1.7
        1.2s    31.25nm
WMQ    145.93  26 ePKP   24 26.20   1.6
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CN2    146.95 336 ePKP  24 28.00   1.9X
GBA    150.54  88 PKP   24 39.00   6.6X
HYB    151.72  80 ePKP  24 45.00  10.8X
BJI    153.33 346 ePKP  24 44.00   8.2X
GTA    154.02  14 ePKP  24 38.60   1.6
      S.D. = 0.9  on  77 of  92 obs.
-----------------------------------------
    NOV  11, 1989  17h 33m 21.94± 0.39s
     4.388 S ± 5.6km  136.616 E ± 6.9km
    DEPTH =  33.0km  (normal)
    4.6mb (  6 obs.)
 WEST IRIAN REGION                (196)

JAY      4.49  66 ePc   34 30.60   1.2
MNDI     7.23 104 eP    35 09.50   1.3
AAI      8.43 274 eP    35 25.00   0.2
MTN     10.00 212 eP    35 45.00  -1.5
PMG     11.59 116 eP    36 08.00  -0.1
MNI     13.12 296 eP    36 31.50   2.9X
KNA     13.68 214 eP    36 33.50  -2.5
WB5     15.55 188 eP    36 56.00  -4.6X
                  eS    39 43.80
WRA     15.62 188 P     36 58.00  -3.4X
        0.3s      2.10nm          3.8mb
OIS     16.33 170 iPd   37 06.30  -4.2X
                  e     37 13.00
                  e     40 02.00
                  e     42 01.00
CTA     18.21 150 eP    37 34.00   0.0
        1.0s     27.00nm          4.4mb
                  iS    41 02.00
ASPA    19.34 188 iPc   37 46.70  -1.1
        1.0s    152.00nm          5.2mb
      Z  18s      3.62um          4.4Msz
                  eS    41 14.50
                  LR    45 26.90
PJG     19.65  25 eP    37 49.30  -1.8
MBL     23.32 223 eP    38 29.40   1.3
WARB    23.68 203 iPc   38 33.50   1.8
        0.3s     11.00nm          4.9mb
RMO     24.86 153 eP    38 46.00   3.0X
                  e     45 08.00
BRS     27.58 148 eP    39 10.20   1.9
                  e     39 53.00
                  e(S)  44 28.00
STK     27.75 171 eP    39 08.00  -1.6
                  e     44 15.00
CMS     28.31 163 eP    39 22.00   7.2X
                  e     45 34.00
BWA     31.83 161 eP    39 51.20   5.1X
IIDJ    39.67   2 P     40 52.00  -0.7
CHJJ    40.28   3 P     40 57.40  -0.3
KAKJ    40.52   4 P     40 58.60  -1.0
WHN     40.74 330 eP    41 03.00   1.5
                  pP    41 12.50  32kmX
MAT     40.74   2 (P)   41 00.00  -1.5
MTMJ    40.77   1 P     41 00.20  -1.6
NIIJ    41.47   3 P     41 06.50  -0.9
GYA     42.20 318 P     41 15.00   1.3
CHG     43.68 303 eP    41 27.50   1.7
CHTO    43.68 303 eP    41 26.30   0.6
        0.8s      0.92nm          3.6mb
KMI     44.08 313 Pc    41 35.00   5.8X
                  pP    41 39.00  13kmX
                  eS    48 00.00
                  sS    48 06.00
                  ScS   51 30.00
TIY     47.54 334 eP    41 57.70   1.4
BJI     48.04 339 eP    41 59.00  -1.1
CN2     49.01 349 P     42 06.80  -0.7
MDJ     49.19 353 eP    42 08.50  -0.3
HHC     50.53 335 eP    42 19.00  -0.3
LZH     50.61 325 P     42 20.50   0.4
        0.5s     15.00nm          5.2mb
                  pP    42 25.50  17kmX
GTA     55.22 326 P     42 54.40   0.1
WMQ     65.05 323 P     44 01.50   0.1
KSH     70.70 314 eP    44 39.00   2.0
MAIO    82.26 307 eP    45 45.00   3.2X
BCAO   118.28 273 ePKPd 52 12.50   3.8X
        0.7s      5.00nm
KIC    141.48 275 (PKP) 52 49.00  -3.6X
CNCB   147.84 132 PKP   53 07.00   3.2X
LPB    147.92 131 (PKP) 53 11.00   7.2X
ZOBO   148.06 131 PKP   53 07.20   3.0X
        1.1s     35.38nm
CCH    148.81 134 PKP   53 12.30   7.2X
      S.D. = 1.3  on  32 of  47 obs.
-----------------------------------------
&  NOV  11, 1989  19h 23m 22.80s
    40.358 N          124.442 W
    DEPTH =  18.0km
    4.4mb (  9 obs.)  3.6Msz (  1 obs.)
 NEAR COAST OF NORTHERN CALIF.   ( 35)
        <BRK>. ML 4.0 (BRK). Felt (IV)
        at Bayside, Fortuno, Honeydew,
        Kneeland and Phillipsville;
        (III) at Eureka, Garberville,
        Piercy, Mirondo, Myers Flat, Rio
        Dell, Redcrest and Weott.

FHC      0.56  38 iPd   23 33.70  -0.2
WDC      1.47  81 iPc   23 46.30  -2.1
                  i     23 57.40
                  i     24 12.30
                  i     24 17.50
LTCM     1.78  94 eP    23 51.00  -1.9
MIN      2.17  89 iPc   23 56.00  -2.7
LBFM     2.17  62 eP    23 57.60  -1.3
ORV      2.40 109 iPc   23 59.30  -2.5
ZSP      2.95 144 ePc   24 07.50  -2.1
                  iS    24 42.10
BRK      3.01 145 e(P)c 24 06.90  -3.5
                  e(S)  24 48.00
BKS      3.01 145 iPc   24 08.20  -2.4
                  iS    24 46.15
PCC      3.27 150 e(P)c 24 10.80  -3.5
MHC      3.72 143 ePd   24 18.00  -2.8
ARN      3.77 142 ePc   24 19.00  -2.3
GCC      3.83 149 e(P)  24 18.20  -4.0
CMB      3.91 125 ePc   24 21.70  -1.7
                  eS    25 25.00
SAO      4.29 146 eP    24 24.60  -4.1
LLA      4.64 143 ePc   24 31.40  -2.3
PRS      4.69 148 ePd   24 31.40  -3.0
FRI      5.00 131 iPd   24 38.00  -0.7
KVN      5.06 103 iPc   24 37.10  -2.7
SHW      6.05  15 eP    24 51.50  -2.1
TNP      6.05 110 eP    24 51.50  -2.3
BMW      6.18   8 eP    24 52.40  -3.0
BCH      6.21 145 eP    24 53.00  -2.9
ISA      6.64 133 eP    25 01.00  -1.1
LON      6.67  16 eP    25 00.00  -2.3
SYP      6.82 147 eP    25 01.00  -3.5
ABL      6.88 141 eP    25 03.50  -2.0
CLC      7.05 128 eP    25 06.00  -1.7
GMW      7.29   9 eP    25 08.20  -2.7
SBB      7.72 135 eP    25 15.00  -2.1
GSC      7.87 127 eP    25 18.00  -1.3
MWC      7.96 138 eP    25 18.00  -2.6
PAS      7.96 139 eP    25 19.00  -1.4
RVR      8.49 136 eP    25 25.00  -2.8
PEC      8.68 136 eP    25 27.50  -3.0
DUG      8.89  87 eP    25 31.00  -2.5
TPC      9.15 130 eP    25 34.00  -2.9
PLM      9.26 137 eP    25 36.00  -2.6
PNT      9.59  19 eP    25 40.00  -2.9
        0.5s      8.00nm          5.3mb
MCMT     9.64  59 eP    25 46.40   2.4
MSU      9.67  97 eP    25 42.00  -2.3
BAR      9.89 138 eP    25 45.00  -2.1
GLA     10.61 130 eP    25 55.00  -2.0
SES     13.74  39 eP    26 38.00  -1.0
EDM     14.92  27 iPc   26 56.90   2.6
        0.8s     25.00nm          4.7mb
ALQ     15.23 105 eP    26 56.80  -1.9
FFC     20.76  39 eP    28 01.00  -4.0
        0.6s      9.00nm          4.3mb
TUL     22.92  92 e(P)  28 22.30  -4.4
        0.7s      4.50nm          4.1mb
      Z  20s      0.22um          3.6Msz
                  LR    36 28.00
PMR     26.04 333 eP    28 56.40   0.1
        1.0s     13.00nm          4.5mb
FBA     28.04 339 eP    29 12.70  -1.9
        0.8s      2.59nm          4.0mb
INK     28.44 353 eP    29 17.00  -1.1
TTA     29.37 331 eP    29 27.00   0.3
        1.0s      8.75nm          4.5mb
IMA     30.58 337 eP    29 35.80  -1.7
        0.7s      1.82nm          4.0mb
MBC     36.05   2 ePd   30 24.00  -0.5
        0.7s      6.00nm          4.6mb
        54 obs. associated
-----------------------------------------
    NOV  11, 1989  20h 52m 27.93± 0.59s
    19.444 S ± 8.9km   67.835 W ± 7.7km
    DEPTH = 216.2 ±  9.6 km
    4.2mb (  1 obs.)
 SOUTHERN BOLIVIA                 (125)

CCH      2.61  38 iPc   53 13.80  -0.9
                  S     53 46.30
CNCB     2.62 357 iPc   53 15.20   0.0
LPB      2.91 355 iPc   53 19.00   0.8
                  eS    53 59.00
ZOBO     3.17 355 iPc   53 21.00  -0.5
                  S     54 04.00
ARE      4.57 310 iPc   53 38.00  -0.3
                  iS    54 29.10
ANT      4.87 209 iPc   53 40.70  -1.0
PT08    11.21 310 eP    55 04.30   0.5
                  eS    56 50.40
NNA     11.40 309 eP    55 06.50   0.5
        0.5s      5.63nm          4.2mb
                  eS    57 05.50
ITB1    13.50 115 eP    55 34.10   1.9
ITB     13.70 115 eP    55 36.30   1.5
ITB7    13.85 117 eP    55 36.90   0.3
PPD     15.67 102 eP    55 59.00   0.0
BAO     19.30  82 eP    56 39.00   0.3
VAO     19.77 104 eP    56 41.60  -1.8
                  e     56 56.40
BMA     22.33 102 e(P)  57 08.00  -0.5
PDCR    28.42  80 e(P)  58 03.00  -1.7
SCH     73.96   1 ePc   03 41.70   0.8
WRA    135.23 210 PKPd  11 27.00   3.0X
        0.7s      1.20nm
WB5    135.27 210 ePKP  11 28.20   4.1X
      S.D. = 1.1  on  17 of  19 obs.
-----------------------------------------
    NOV  11, 1989  21h 00m 52.47± 0.91s
    30.970 S ± 7.2km   68.525 W ± 9.0km
    DEPTH =  10.0km  (geophysicist)
 SAN JUAN PROVINCE, ARGENTINA     (137)

RTCB     0.57 205 iPd   01 04.00   0.0
ZON      0.59 193 eP    01 05.00   0.6
                  eS    01 15.00
CFA      0.68 159 iPd   01 05.00  -1.0
                  S     01 14.80
RTCV     0.89 181 ePd   01 09.80   0.3
RTRS     1.13 314 ePd   01 13.50  -0.2
JACH     2.45 225 iPd   01 39.50   6.3X
PEL      2.84 220 iPc   01 43.00   4.3X
                  i     01 46.40
                  iS    02 21.70
PCH      3.13 212 eP    01 48.00   5.1X
TACH     3.37 217 eP    01 50.50   4.3X
TCA      3.39  97 ePc   01 47.00   0.4
                  S     02 26.50
      S.D. = 0.7  on   6 of  10 obs.
-----------------------------------------
    NOV  11, 1989  22h 56m 29.27± 0.86s
    39.825 N ± 7.1km   30.253 E ± 8.6km
    DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

GPA      0.47   5 iPg   56 38.40  -0.3
HRT      1.09 336 ePn   56 50.00   0.2
GBZT     1.14 328 ePn   56 55.00   4.3X
DST      1.27 261 iPn   56 52.90   0.0
ISK      1.54 324 iPn   56 58.00   1.3
ITU      1.59 324 iPnd  57 00.00   2.5
                  iSg   57 23.00
KHL      1.60 201 iPn   56 58.60   0.8
BNT      1.87 287 iPn   57 01.00  -0.5
EDC      1.91 287 ePn   57 00.50  -1.6
CTT      1.92 314 ePn   57 03.50   1.2
BBTK     1.93  89 ePg   57 01.00  -1.6
                  eSg   57 34.00
BCK      2.38 174 ePn   57 10.30   1.3
IZM      2.73 239 iPn   57 24.60  10.6X
DMK      2.75 317 iPn   57 13.00  -1.2
EZN      3.02 271 ePn   57 16.00  -2.0
KAS      3.09  59 ePn   57 31.50  12.5X
                  iSg   58 16.00
      S.D. = 1.5  on  13 of  16 obs.
-----------------------------------------
*  NOV  11, 1989  23h 00m 39.64± 1.00s
     6.612 S ± 9.2km  128.936 E ±17.3km
```

11d 23h

DEPTH = 210.4 ± 13.2 km
4.4mb (3 obs.)
BANDA SEA (280)

AAI	3.00	346	ePc	01 31.10	0.9
MTN	6.56	161	iPc	02 15.40	0.4
KNA	9.08	181	eP	02 47.00	-0.8
			eS	04 23.00	
WB5	14.20	159	eP	03 51.00	-1.9
			eS	06 22.00	
WRA	14.25	159	Pc	03 51.00	-2.6X
	0.3s	10.10nm			4.7mb
MBL	16.93	210	eP	04 25.50	-0.5
	0.3s	4.00nm			4.4mb
QIS	17.30	144	iPc	04 29.20	-0.7
ASPA	17.62	165	iPc	04 33.10	-0.2
	0.5s	102.00nm			5.5mb X
			i	04 35.90	
			eS	07 41.30	
PMG	18.25	100	eP	04 44.00	4.0X
WARB	19.59	186	eP	04 55.00	1.3
			eS	08 36.00	
CTA	21.49	130	eP	05 14.00	1.4
STK	27.78	156	eP	06 10.50	-0.6
			e	11 55.00	
BRS	30.65	135	iPd	06 45.60	9.1X
			i	07 30.00	
BWA	33.01	150	iPc	06 58.70	1.7
CAN	34.01	150	iPc	07 06.30	0.8
CHTO	38.89	311	eP	07 47.00	0.5
	0.7s	2.22nm			3.9mb
MAT	43.80	11	iPc	08 24.10	-2.2

S.D. = 1.4 on 14 of 17 obs.

NOV 12, 1989 00h 00m 21.78± 0.20s
51.246 N ± 4.6km 178.917 W ± 2.5km
DEPTH = 33.0km (normal)
5.1mb (49 obs.) 4.7Msz (3 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
ML 5.2 (PMR).

ADK	1.53	65	iP	00 48.50	1.4
SMY	4.56	292	eP	01 34.20	4.0X
SDN	11.75	62	eP	03 08.40	-1.5
SVW	16.21	43	eP	04 12.60	4.3X
KDC	16.60	57	eP	04 11.30	-1.9
TTA	16.96	38	e(P)	04 20.50	2.6
PMS	18.97	47	ePc	04 41.60	-1.0
PMR	19.27	46	eP	04 45.30	-0.8
IMA	19.60	31	iPc	04 50.00	0.1
	0.9s	74.50nm			5.0mb
TOA	20.77	46	eP	05 01.00	-1.1
FBA	21.10	38	eP	05 04.50	-0.8
BRW	22.49	19	ePc	05 19.80	0.7
INK	27 61	35	eP	06 07.00	-0.6
MAT	33.69	261	eP	07 02.00	0.3
MBC	33.76	22	eP	07 02.00	0.2
	0.5s	7.00nm			4.8mb
PGC	35.07	72	eP	07 14.00	0.7
GMW	35.96	73	eP	07 22.00	1.0
BMW	36.20	75	eP	07 24.00	1.0
BMW	36.20	75	eP	07 22.00	-1.0
LON	36.92	74	ePc	07 30.00	0.9
PNT	37.05	69	iPc	07 30.90	0.8
	0.5s	33.00nm			5.5mb
CN2	37.50	281	Pc	07 33.30	-0.6
	Z 20s	0.40um			4.2Msz
			pP	07 38.50	18kmX
EDM	38.94	61	eP	07 44.50	-1.5
	0.5s	68.00nm			5.7mb
LBFM	39.70	B1	eP	07 53.50	0.9
SNY	39.73	279	Pc	07 52.60	0.1
WDC	39.73	83	ePc	07 53.60	1.0
MIN	40.45	83	ePc	07 58.80	0.1
SES	41.49	64	eP	08 06.00	-0.9
MHC	42.22	86	ePc	08 13.70	0.5
ARN	42.28	86	eP	08 13.00	-0.6
CMB	42.58	84	eP	08 16.60	0.5
LRM	42.99	70	iPc	08 19.50	-0.1
PRS	43.02	87	ePc	08 19.90	0.3
LLA	43.11	87	ePc	08 20.80	0.4
KVN	43.39	82	eP	08 23.10	0.2
PRI	43.58	87	ePc	08 24.90	0.6
FRI	43.65	85	ePc	08 24.90	0.2
FFC	44.28	54	eP	08 29.00	-0.6
	0.6s	5.00nm			4.5mb
TNP	44.53	82	eP	08 32.20	0.1
	1.2s	17.47nm			4.8mb
PTI	44.67	74	eP	08 34.00	0.9
BJI	45.33	282	eP	08 37.00	-1.1
BW06	46.42	72	eP	08 47.00	0.0
DAU	46.79	76	eP	08 50.70	0.6
MSU	47.39	78	eP	08 55.00	0.2
PLM	47.77	87	eP	08 57.20	-0.6
TIY	49.06	282	eP	09 08.10	0.6
GLA	49.24	86	eP	09 08.50	-0.5
ALQ	53.20	78	eP	09 38.40	-0.6
	1.2s	10.42nm			4.7mb
LZH	55.35	286	Pc	09 55.50	0.7
	1.0s	33.00nm			5.3mb
GTA	55.55	292	iPc	09 56.00	-0.1
KEV	57.83	350	eP	10 26.00	14.2X
SIO	58.79	71	iP	10 17.60	-1.4
LNO	58.99	70	iP	10 19.30	-0.9
TUL	58.99	70	iPc	10 19.00	-1.3
	0.7s	28.60nm			5.5mb
	Z 18s	3.19um			5.5Msz
		LR		22 38.00	
WMO	59.35	303	iPd	10 23.00	0.1
SOD	60.15	349	iP	10 27.00	-0.9
GYA	60.26	276	P	10 28.40	-0.9
KMI	63.67	278	Pd	10 52.00	-0.3
SUF	64.66	348	eP	10 57.50	-0.4
	0.4s	8.80nm			5.2mb
NUR	66.99	348	iP	11 12.20	-0.6
	0.6s	17.00nm			5.3mb
NB2	67 77	355	P	11 16.60	-1.2
	0.7s	3.80nm			4.6mb
HFS	68.51	353	eP	11 20.70	-1.6
	0.5s	8.10nm			5.1mb
	Z 16s	0.06um			3.9MszX
		LR		36 11.00	
KSH	68.56	307	eP	11 24.40	1.2
LOE	69.99	273	eP	11 31.30	-0.8
EKA	73.73	3	P	11 53.00	-0.7
	1.6s	49.50nm			5.3mb
DMU	75.01	5	eP	12 01.00	-0.2
WTS	77.02	356	eP	12 12.50	0.0
	1.1s	13.00nm			4.9mb
CLL	77.32	352	iP	12 13.60	-0.6
BRG	77.67	352	iP	12 16.00	-0.1
	1.2s	15.00nm			4.9mb
KRA	77.81	348	eP	12 16.30	-0.5
MOX	78.09	353	eP	12 17.00	-1.4
ENN	78.28	357	eP	12 19.50	0.1
	0.8s	20.00nm			5.2mb
MEM	78.44	357	Pc	12 21.00	0.7
PRU	78.49	351	eP	12 20.00	-0.6
SNF	78.58	358	P	12 21.60	0.5
SPC	78.61	347	eP	12 21.90	0.3
DOU	78.99	358	Pd	12 23.70	0.4
	0.6s	15.40nm			5.2mb
WLF	79.38	357	P	12 23.50	-1.9
KHC	79.43	352	Pc	12 26.50	0.7
ZST	79.99	349	eP	12 29.40	0 6
SRO	80.22	348	eP	12 30.40	0.4
FLN	80.36	1	eP	12 30.70	0.0
	0.6s	18.00nm			5.2mb
LDF	80.54	1	eP	12 31.50	-0.2
	0.6s	18.00nm			5.2mb
CDF	80.58	356	eP	12 32.10	0.1
	0.6s	3.60nm			4.5mb
GRR	80.73	1	eP	12 33.00	0 3
	0.5s	17 40nm			5.3mb
VRI	80.76	342	ePd	12 33.00	0.1
HAU	81.03	356	eP	12 34.40	0.1
	0.6s	7.20nm			4.8mb
LPF	81.09	1	eP	12 34.80	0.3
	0.6s	15 10nm			5.2mb
BSF	81.18	356	eP	12 35.20	0.0
	0.8s	5 30nm			4.6mb
KBA	81.49	352	iPc	12 37.50	0.6
	0.6s	31.30nm			5.5mb
CMP	81.66	343	ePc	12 42.00	4 3X
WB5	81.80	224	iPc	12 38.00	-0.6
LOR	81.84	358	eP	12 38.80	0.3
	0.6s	8.10nm			4.9mb
WRA	81.87	224	Pc	12 37.90	-1.0
	0.6s	3.80nm			4.6mb
FVI	82.02	352	Pd	12 40.10	0.7
SSF	82.05	358	iPc	12 39.90	0.3
	0.6s	6.30nm			4.8mb
LBF	82.12	358	iPc	12 39.90	-0.1
	0.8s	8 00nm			4.8mb
AVF	82.33	358	iPc	12 41.20	0.2
	0.8s	9.40nm			4.9mb
PTJ	82.39	350	eP	12 41.50	0.0
SMF	82.46	358	iPc	12 41.90	0.1
	0.6s	13.50nm			5.2mb
MFF	82.53	1	eP	12 42.60	0.5
	0.6s	9.00nm			5.0mb
BGF	82.57	359	eP	12 42.60	0 3
	0.8s	9.90nm			4.9mb
CTI	82.66	353	Pd	12 42.70	-0.3
TCF	82.84	359	iPc	12 44.00	0.2
	0.8s	10.70nm			5.0mb
BEO	82.85	346	eP	12 44.50	0.7
VBY	82.85	350	eP	12 43.70	-0.1
LSF	82.88	360	iPc	12 44.20	0.2
	0.8s	41.60nm			5.6mb
MAF	82.91	359	iPc	12 44.60	0.5
	0.8s	12.00nm			5.0mb
VAI	83.04	355	Pd	12 44.90	0.2
AGO	83.07	359	P	12 45.46	0.5
PLDF	83.14	358	P	12 45.85	0.5
ORX	83.32	355	P	12 46.35	0.0
PYM	83.37	359	P	12 46.24	-0.3
LPG	83.51	356	iPc	12 48.70	1.1
	0.6s	6.30nm			4.9mb
LSD	83.53	356	P	12 48.61	0.9
RJF	83.83	360	eP	12 49.50	0.7
	0.6s	7.90nm			5.0mb
RSP	83.84	356	P	12 49.43	0.4
LBL	83.88	358	P	12 49.55	0.5
BNI	83.96	356	Pd	12 51.20	1.5
RRL	84.09	356	P	12 51.58	1.1
BOB	84.09	354	Pd	12 51.00	0.7
HYB	84.19	290	ePc	12 51.30	0.2
LFF	84.20	0	iPc	12 51.30	0.7
	0.6s	21.60nm			5.5mb
CAF	84.21	359	iPc	12 51.30	0.5
	0.8s	14 70nm			5.2mb
PCP	84.37	355	P	12 50.87	-0.8
LPO	84.45	360	iPc	12 52.40	0.5
	0.7s	33.00nm			5.6mb
DOI	84.48	356	P	12 51.40	-0.8
PZZ	84.49	356	P	12 51.89	-0.4
CKI	84.51	355	P	12 52.40	0.2
MME	84.58	353	P	12 53.80	0.9
ROB	84.66	355	P	12 52.61	-0.5
BDI	84.71	353	P	12 53.20	-0.2
FIN	84.73	355	P	12 51.79	-1.6
STV	84.74	355	P	12 52.30	-1.2
ENR	84.75	355	P	12 52.51	-1.1
PGD	84.81	352	P	12 55.50	1.5
FIR	84.95	353	eP	12 55.50	1.1
HVAR	85.01	349	iPc	12 53.70	-1.1
CRE	85.04	352	P	12 55.50	0.5
IMI	85.04	355	P	12 54.97	0.0
PII	85.06	353	P	12 54.60	-0.4
S8F	85.11	355	iPc	12 55.70	0.3
	0.7s	30.80nm			5.6mb
BBTK	85.15	336	eP	12 56.00	0.3
ASPA	85.34	222	iPc	12 56.70	0.1
	0.6s	9.00nm			5.2mb
FRF	85.45	356	iPc	12 57.30	0.3
	0.6s	16.90nm			5.4mb
ASS	85.53	352	P	12 57.80	0.3
LRG	85.57	356	iPc	12 58.20	0.7
	0.6s	12.60nm			5.3mb
LMR	85.68	356	iPc	12 58 60	0.5
	0.5s	10.20nm			5.3mb
ALP	85.73	351	iPc	12 58.95	0.4
POO	86.04	295	iPc	13 00.80	0.5
EPF	86.10	1	eP	13 00.10	-0.2
	0.5s	4.30nm			4.9mb
MNS	86.20	351	P	13 00.60	-0.2
CVF	86.32	354	iPc	13 01.40	0.0
	0.8s	37.60nm			5.7mb
SDI	86.76	350	P	13 03.00	-0.6
RDP	86.82	351	P	13 03.50	-0.4
GBA	87.85	289	P	13 09.00	0.0
MGR	88.12	349	P	13 09.60	-0.5
BWA	90.02	206	eP	13 19.40	0.5
TIC	122.10	7	PKP	19 14.10	-0.5
KIC	122.41	7	PKP	19 14.50	-0.7
LIC	122.52	7	PKP	19 14.60	-0.7
	Z 20s	0.14um			4.6Msz
MAW	146.33	218	ePKP	19 58.00	0.1
SLR	147.15	311	ePKP	20 02.30	1.6X
	0.9s	21.01nm			

```
SEK    149.63 309 iPKPc 20 09.50   4.9X
        0.4s    16.95nm
SWZ    149.76 313 iPKPc 20 10.00   5.2X
        0.8s    14.93nm
BLF    150.98 310 ePKP  20 13.00   6.5X
FRS    151.93 311 ePKP  20 17.00   9.3X
      S.D. = 0.7  on 158 of 167 obs.
-----------------------------------
*  NOV  12, 1989  00h 14m 39.69± 1.79s
   30.871 N ±19.1km  114.015 W ± 8.2km
   DEPTH =  10.0km  (geophysicist)
   4.5mb (  5 obs.)
 GULF OF CALIFORNIA                ( 49)

GLA      2.28 343 eP     15 15.60  -2.4
PLM      3.46 316 eP     15 30.50  -4.3X
PEC      4.02 319 eP     15 40.50  -2.1
BCH      6.67 312 eP     16 21.00   0.8
ALQ      7.54  55 eP     16 28.00  -4.5X
PRI      7.64 315 e(P)   16 41.00   7.1X
TNP      7.66 341 eP     16 35.00   0.8
FRI      7.72 324 ePc    16 43.20   8.4X
MSU      7.77  11 eP     16 35.00  -0.8
LLA      8.13 317 e(P)   16 42.40   1.8
PRS      8.20 314 ePc    16 42.00   0.4
KVN      8.82 339 eP     16 51.50   1.1
CMB      8.87 325 eP     16 51.20   0.3
                  e      17 21.50
                  e      19 26.20
DUG      9.35   6 eP     16 59.00   1.3
DAU      9.78  12 eP     17 03.00  -0.7
ORV     10.60 327 eP     17 21.60   6.9X
MIN     11.29 329 eP     17 32.30   8.1X
WDC     11.90 327 ePc    17 39.50   7.1X
BW06    12.41  15 eP     17 40.00   0.6
MEO     13.55  69 e(P)   18 06.50  12.1X
FKO     14.61  68 ePd    18 12.50   4.2X
LRM     14.98   4 eP     18 20.50   7.2X
SIO     15.58  67 eP     18 22.60   1.7
TUL     16.02  67 eP     18 26.50  -0.2
        1.5s    15.30nm          3.9mb
LNO     16.03  67 eP     18 26.10  -0.5
LON     16.96 341 eP     18 40.50   1.9
PNT     18.91 349 eP     19 08.00   5.4X
SES     19.63   6 eP     19 10.00  -1.3
        1.2s   102.00nm         5.0mb
EDM     22.34   1 eP     19 38.50  -0.5
PMR     38.30 334 eP     22 00.50  -1.2
        1.0s    15.00nm          4.7mb
FBA     39.95 338 eP     22 15.50   0.0
        1.0s    10.50nm          4.5mb
IMA     42.59 337 eP     22 36.00  -1.3
        1.0s     5.63nm          4.3mb
      S.D. = 1.3  on  21 of  32 obs.
-----------------------------------
*  NOV  12, 1989  00h 26m 57.86± 3.07s
   36.452 N ±19.8km   71.164 E ±19.1km
   DEPTH =  77.9 ± 30.0 km
   3.9mb (  4 obs.)
 AFGHANISTAN-USSR BORDER REGION  (717)

QUE      7.17 211 eP     28 42.30   0.0
                  eS     29 58.50
NDI      9.28 145 iP     29 11.20   0.2
                  eS     30 47.50
MAIO     9.41 273 eP     29 12.00  -1.0
                  eS     30 52.00
HYB     20.06 159 eP     31 27.80   0.5
        1.0s    25.00nm          4.5mb
                  eS     34 58.80
GBA     23.44 165 P      32 02.00   1.2
                  S      36 28.00
HFS     43.19 322 eP     34 53.00   0.8
        0.4s     0.80nm          3.9mb
NB2     44.50 323 P      35 03.80   0.9
        0.6s     1.10nm          3.9mb
WB5     81.83 122 eP     39 08.00  -1.9
WRA     81.86 122 Pd     39 09.30  -0.7
        0.5s     0.60nm          3.8mb
      S.D. = 1.3  on   9 of   9 obs.
-----------------------------------
?  NOV  12, 1989  00h 49m 04.13± 1.83s
   2.608 N ±24.3km  127.136 E ±16.8km
   DEPTH =  33.0km  (normol)
   4.9mb (  3 obs.)
 MOLUCCA PASSAGE                   (266)

MNI      2.57 243 ePc    49 44.50   0.1
                  eS     50 18.00
WB5     23.45 163 eP     54 12.00   0.4
WRA     23.50 163 Pc     54 12.40   0.3
        0.6s     3.90nm          4.1mb
ASPA    26.93 166 eP     54 48.30   3.7X
FORR    33.28 178 eP     55 40.00  -0.8
        0.3s     6.00nm          5.0mb
GBA     50.30 285 P      58 00.00   0.0
        0.6s    24.40nm          5.4mb
      S.D. = 0.7  on   5 of   6 obs.
-----------------------------------
   NOV  12, 1989  00h 50m 58.57± 0.38s
   44.124 N ± 5.0km   10.814 E ± 3.3km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      MD 3.0 (FIR). ML 2.8 (LDG).

MME      0.11 310 Pd     51 02.10   0.5
                  eSg    51 05.70
BDI      0.17 249 Pc     51 03.30   0.8
                  eSg    51 06.40
PII      0.45 208 Pc     51 08.00   0.2
                  (Sg)   51 13.60
FIR      0.47 137 ePg    51 10.00   1.9
                  iSg    51 17.00
PGD      0.70 110 Pc     51 11.80  -0.7
                  eSg    51 20.80
SFI      0.78 105 P      51 13.10  -0.6
                  eSg    51 22.70
CRE      0.96 121 Pd     51 16.30  -0.6
                  eSg    51 29.00
BOB      1.17 304 P      51 22.20   1.7
                  eSg    51 39.40
RSM      1.20  99 P      51 22.70   1.8
PCP      1.68 285 P      51 29.66   1.5
                  S      51 49.98
ASS      1.71 127 P      51 27.50  -1.1
CKI      1.85 280 P      51 31.20   0.7
FIN      1.88 274 P      51 32.16   1.1
                  S      51 54.15
CTI      2.01  17 P      51 32.40  -0.7
                  eSn    51 59.50
CVF      2.11 223 Pn     51 33.60  -0.7
IMI      2.12 265 P      51 37.32   2.7X
                  S      52 00.81
ROB      2.12 276 P      51 34.99   0.4
                  S      51 57.31
ENR      2.44 274 P      51 38.32  -0.9
S8F      2.45 265 Pn     51 38.40  -0.9
                  Sn     52 06.80
STV      2.51 274 P      51 38.82  -1.4
ORX      2.52 308 P      51 45.65   5.4X
PZZ      2.69 279 P      51 41.15  -1.7
                  S      52 12.81
RSP      2.74 293 P      51 43.99   0.5
FVI      2.83  29 P      51 44.30  -0.3
VOY      2.90  48 ePn    51 42.90  -2.8X
                  eSn    52 17.50
LSD      2.93 298 P      51 45.65  -0.6
FRF      3.07 261 Pn     51 46.60  -1.3
LMR      3.22 257 Pn     51 50.60   0.5
LPL      3.22 297 Pn     51 51.20   0.8
LRG      3.29 260 Pn     51 51.00  -0.2
HAU      4.97 323 Pn     52 14.40  -0.6
      S.D  = 1.1  on  28 of  31 obs.
-----------------------------------
   NOV  12, 1989  02h 12m 18.59± 0.67s
   39.239 N ± 5.8km   23.418 E ± 7.2km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                        (365)
      MD 3.1 (ATH).

AGG      0.87 256 ePgd   12 36.40   1.0
                  eSg    12 51.50
PLG      1.13   1 iPnc   12 39.30  -0.5
ATH      1.29 169 ePn    12 41.10  -1.3
THE      1.43 346 ePbd   12 44.60   0.0
                  eSb    13 03.30
KZN      1.66 311 ePn    12 48.50   0.6
SRS      1.88   4 ePb    12 50.00  -1.1
KNT      1.96 348 ePnc   12 52.20   0.0
VAY      2.18 343 ePn    12 55.60   0.2
PRK      2.22  89 ePn    12 57.50   1.6X
EZN      2.32  74 ePn    12 58.90   1.5
MMB      2.36   6 iPc    12 56.00  -2.0X
RDO      2.50  40 ePn    13 00.80   0.9

KKB      2.64 355 iPc    13 01.00  -0.9
RZN      2.64  22 iPc    13 00.00  -2.1X
OHR      2.74 314 ePn    13 06.70   3.2X
KDZ      2.85  32 iP     13 02.00  -3.0X
VTS      3.35 357 eP     13 12.00  -0.2
PGB      3.36   9 eP     13 10.00  -2.2X
      S.D. = 1.0  on  12 of  18 obs.
-----------------------------------
   NOV  12, 1989  03h 31m 08.06± 0.69s
   39.857 N ± 8.5km  143.561 E ± 9.6km
   DEPTH =  33.0km  (normol)
   4.3mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ     1.66 243 iP+    31 35.30   0.1
                  eS     31 58.20
HOOJ     2.53 355 P      31 47.40  -0.3
                  eS     32 16.30
AOMJ     2.54 287 eP     31 48.70   0.9
MRRJ     3.18 325 P      31 57.50   0.6
                  eS     32 33.60
YAMJ     3.22 240 P      31 57.50   0.0
KUSJ     3.35  15 P      31 57.50  -1.8
                  eS     32 34.50
MAT      5.36 234 iPc    32 27.80   0.0
BJI     20.97 279 eP     35 46.50  -4.1X
IMA     43.40  32 eP     39 10.50   1.6
WRA     60.11 190 Pd     41 12.90  -1.6
        0.6s     1.60nm          4.3mb
SOD     63.02 337 eP     41 33.00  -0.6
KVN     71.72  54 eP     42 30.20   1.2
HFS     72.20 336 ePKP   42 30.20  -1.0
        0.6s     2.30nm          4.4mb
NB2     72.23 338 P      42 31.20  -0.2
        0.9s     3.00nm          4.3mb
TNP     72.86  55 eP     42 37.00   1.2
      S.D. = 1.1  on  14 of  15 obs.
-----------------------------------
*  NOV  12, 1989  03h 56m 53.95± 0.82s
   43.072 N ±15.4km    0.361 W ± 5.0km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      ML 3.1 (LDG). Felt (IV) at Asson
      and Costet, France.

OGE      0.13 320 Pg     56 57.09   0.0
ESCF     0.16 273 Pg     56 57.57   0.0
                  Sg     56 59.85
ATE      0.25 273 Pg     56 59.25   0.0
                  Sg     57 02.73
ISSF     0.32 262 Pg     57 00.75   0.1
                  Sg     57 05.49
MADF     0.34 283 Pg     57 01.05   0.0
                  Sg     57 06.32
EPF      0.52  94 Pg     57 04.40   0.0
                  Sg     57 12.00
LPO      1.96  34 Pg     57 30.80   3.2X
                  Sg     57 56.50
LFF      2.03  23 Pg     57 32.10   3.6X
                  Sg     57 58.40
CAF      2.55  43 Pn     57 34.00  -2.0X
                  Pg     57 42.00
                  Sg     58 14.40
RJF      2.61  31 Pg     57 43.00   6.1X
                  Sg     58 15.00
LSF      3.45  22 Pn     57 46.40  -2.4X
                  Pg     57 58.60
                  Sg     58 41.40
MFF      3.53   2 Pg     57 59.20   9.3X
                  Sg     58 44.40
TCF      3.70  29 Pg     58 03.00  10.6X
                  Sg     58 50.00
MAF      3.78  33 Pg     58 05.00  11.5X
                  Sg     58 52.60
BGF      4.17  32 Pg     58 12.40  13.5X
                  Sg     59 04.60
      S.D. = 0.1  on   6 of  15 obs.
-----------------------------------
?  NOV  12, 1989  04h 17m 00.26± 3.00s
   31.130 N ±30.3km  113.878 W ±11.8km
   DEPTH =  10.0km  (geophysicist)
   3.5mb (  1 obs.)
 GULF OF CALIFORNIA                ( 49)

GLA      2.08 337 e(P)   17 35.50  -0.1
PEC      3.91 316 e(P)   18 01.50  -0.2
BCH      6.59 310 eP     18 38.00  -1.7
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12d 04h

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ALQ      7.30  57 eP     18 45.50  -4.2X
TNP      7.46 339 eP     18 51.00  -1.0
MSU      7.50  10 e(P)   18 52.00  -0.5
FRI      7.59 322 e(P)   19 02.30   8.8X
                  e      21 10.60
KVN      8.63 338 eP     19 09.00   0.8
CMB      8.73 324 e(P)   19 11.80   2.3
                  e      21 47.60
MIN     11.13 328 e(P)   19 47.50   4.9X
WDC     11.75 326 e(P)   20 02.70  11.8X
MEO     13.35  70 e(P)   20 24.50  12.2X
LRM     14.71   4 eP     20 38.90   8.5X
SIO     15.37  68 e(P)   20 39.10   0.3
TUL     15.82  68 eP     20 37.80  -6.8X
      0.9s      2.80nm          3.5mb
    Z  20s      2.25um          4.8Msz
                LR       25 00.00
LNO     15.82  68 e(P)   20 37.80  -6.7X
LON     16.76 341 eP     20 57.50   0.9
PNT     18.68 348 eP     21 35.00  14.6X
SES     19.36   5 eP     21 28.00  -0.8
     S.D. = 1.3  on  10 of  19 obs.
-----------------------------------------
   NOV  12, 1989  04h 50m 04.38± 0.22s
   38.616 N ± 2.5km   26.162 E ± 2.4km
   DEPTH =  10.0km  (geophysicist)
   4.1mb ( 12 obs.)  3.8Msz (  1 obs.)
 AEGEAN SEA                          (365)
      ML 4.1 (ATH).

PRK      0.63   8 iPbc   50 17.30   0.2
IZM      0.89 104 iPn    50 22.60   1.1
SMG      1.05 149 iPbd   50 25.00   0.8
EZN      1.21   6 iPn    50 27.00   0.0
APE      1.62 198 iPnd   50 33.00  -0.2
CIN      1.83 123 ePn    50 37.00   1.0
ATH      2.03 252 ePn    50 39.30   0.3
DST      2.16  62 iPn    50 40.00  -0.9
EDC      2.17  37 iPn    50 41.50   0.4
YER      2.24 131 iPn    50 42.70   0.6
NEO      2.39 288 ePn    50 43.50  -0.8
RDO      2.57 349 iPnc   50 46.60  -0.1
KHL      2.65  95 iPn    50 49.10   1.0
PLG      2.74 311 iPnc   50 48.80  -0.4
AGG      3.02 279 ePn    50 53.40   0.3
CTT      3.07  34 ePn    50 54.00   0.2
KDZ      3.08 350 iPc    50 54.00   0.0
KAP      3.16 165 ePn    50 54.50  -0.7
VLI      3.18 234 iPnc   50 54.50  -0.9
SRS      3.19 322 ePnc   50 55.40  -0.1
THE      3.19 310 ePnd   50 56.20   0.8
LIT      3.21 299 ePn    50 56.20   0.4
RZN      3.26 341 iPc    50 57.00   0.3
ISK      3.31  41 iPn    50 56.90  -0.3
ITU      3.32  41 ePn    51 07.00   9.7X
                  iSg    51 51.00
GBZT     3.33  48 ePn    51 04.00   6.4X
                  ePg    51 11.00
                  iSg    51 57.60
NPS      3.38 188 ePn    50 57.00  -1.2
DMK      3.43  20 iPn    50 58.00  -0.9
DIM      3.46 352 iP     50 59.00  -0.4
HRT      3.49  50 iPn    51 00.90   1.1
MMB      3.51 329 iPd    51 00.00  -0.1
VAM      3.57 207 ePn    50 59.50  -1.4
KNT      3.57 316 ePnd   51 01.30   0.3
GPA      3.62  61 ePn    51 02.90   1.2
PLD      3.66 343 iPc    51 03.00   0.8
BCK      3.68 107 iPn    51 04.20   1.6
KSL      3.69 131 iPnc   51 05.50   2.8X
GRG      3.72 310 ePnc   51 03.70   0.5
KZN      3.79 298 ePn    51 04.00  -0.2
JMB      3.86   5 iPc    51 05.00   0.0
VAY      3.86 316 iPn    51 05.00  -0.1
KKB      4.01 325 iPc    51 07.00  -0.2
PGB      4.21 340 iP     51 10.00  -0.1
VLS      4.40 266 ePn    51 13.50   0.8
VTS      4.56 331 iP     51 16.00   0.8
LSK      4.57 291 ePn    51 16.70   1.4
KBN      4.59 298 iPnd   51 16.10   0.7
PVL      4.64 352 iPc    51 15.00  -1.1
OHR      4.82 303 iPn    51 19.50   0.7
SKO      4.93 314 iPnd   51 20.20   0.0
                  iPg    51 37.50
                  iSn    52 13.80
                  iSg    52 37.00
BBTK     5.27  74 ePg    51 25.50   0.3
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                  e      51 48.50
                  eSg    53 02.00
PSN      5.29  16 iPd    51 24.00  -1.3
TIR      5.55 301 ePn    51 31.50   2.5
BUC      5.79 360 iPc    51 04.00 -28.3X
BCI      5.97 311 ePn    51 41.20   6.4X
SDA      6.12 306 ePn    51 39.70   2.7X
DRA      6.22 347 ePd    51 38.00  -0.4
KAS      6.45  62 ePn    51 51.00   9.1X
LCI      6.58 288 Pc     51 41.70  -1.8
CMP      6.70 353 iPd    51 45.00  -0.2
MLR      6.87 359 iPd    51 47.00  -0.7
VRI      7.26   3 ePc    51 52.00  -1.0
BRT      7.26 291 P      51 55.00   1.9
ROI      7.52 280 P      52 06.60   9.8X
BEO      7.53 327 ePn    52 03.50   6.8X
DEV      7.65 343 iPd    51 57.00  -1.5
TDS      7.71 281 P      52 01.60   2.3
CSI      7.75 282 P      52 03.40   3.4X
CZI      7.84 278 P      52 00.80  -0.4
PTT      8.32   1 eP     52 07.50  -0.3
MGR      8.36 284 P      52 08.50   0.1
SGO      8.60 286 P      52 11.40  -0.4
HVAR     8.65 305 iP     52 09.50  -3.0
SHMJ     9.77 124 P      52 36.60   8.6X
SDI      9.94 292 P      52 31.70   1.3
BURJ    10.11 126 P      52 31.50  -1.3
DSI     10.31 130 e(P)   52 35.00  -0.4
                  e(S)   54 26.00
PTJ     10.49 317 eP     52 38.50   0.6
SRO     10.82 331 e(P)   52 46.20   3.9X
                  e      55 58.80
PRNI    11.00 136 e(P)   52 46.00   1.1
MBH     11.39 138 e(P)   52 50.00  -0.1
SPC     11.39 340 eP     52 58.10   7.8X
ZST     11.61 328 e(P)   52 55.40   2.3
VOY     11.71 313 e(P)   52 52.90  -1.6
KRA     12.27 341 eP     53 09.00   7.1X
KBA     12.63 316 eP     53 08.00   1.0
                  e      53 25.00
KHC     13.87 323 iPc    53 33.00   9.8X
PRU     14.07 328 eP     53 34.00   8.3X
                  e      53 38.50
KSP     14.08 333 eP     53 29.00   3.1X
BRG     14.99 329 eP     53 44.00   6.2X
      1.0s     10.00nm          4.2mb
CLL     15.71 328 eP     53 52.50   5.4X
      1.5s     15.00nm          4.0mb
LPG     15.95 302 eP     53 54.30   3.6X
      0.8s     10.70nm          4.0mb
WLF     18.06 314 P      54 33.20  16.4X
SMF     18.24 303 eP     54 19.70   0.6
      0.9s      9.80nm          4.0mb
LBF     18.26 304 eP     54 10.90  -8.5X
      0.8s      5.30nm          3.7mb
LOR     18.43 305 eP     54 12.00  -9.4X
      0.8s      4.50nm          3.7mb
SSF     18.59 304 eP     54 13.60  -9.8X
      0.8s      6.70nm          3.9mb
DOU     19.15 314 P      54 34.20   4.0X
      0.6s      3.60nm          3.8mb
                  e      54 59.20
SNF     19.52 315 P      54 39.80   5.1X
HFS     22.94 344 eP     55 07.80  -1.6
      0.7s      6.80nm          4.3mb
NB2     24.31 342 P      55 22.80   0.0
      0.8s      9.90nm          4.5mb
EKA     25.80 320 P      55 36.00  -0.9
      1.8s     24.10nm          4.6mb
BCAO    34.73 193 iPd    56 56.10  -0.6
      0.7s     12.00nm          4.9mb
                  id     57 02.30
KIC     42.57 229 P      58 01.50  -0.6
LIC     42.84 229 P      58 03.70  -0 7
    Z  20s      0.13um          3.8Msz
SHL     56.10  83 iP     59 45.50  -1.0
CHG     65.24  85 eP     00 47.30  -1.2
WRA    116.15  95 PKPd   08 53.70   3.9X
      0.6s      0.70nm
     S.D. = 1 0  on  81 of 108 obs.
-----------------------------------------
?  NOV  12, 1989  05h 32m 44.35± 4.05s
   23.924 N ±14.9km  122.343 E ±32.6km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN REGION                       (243)

TWD      0.70 283 iPc    32 58.30   0.1
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                  eS     33 07.60
TWC      0.82 327 iPc    32 59.90  -0.3
                  eS     33 11.50
TWF1     1.12 240 ePc    33 05.20  -0.1
TWZ      1.36 329 ePc    33 09.20  -0.1
ANP      1.46 329 eP     33 11.20   0.4
     S.D. = 0.3  on   5 of   5 obs.
-----------------------------------------
%  NOV  12, 1989  06h 33m 04.94± 1.11s
   38.072 N ±12.1km   13.749 E ± 5.1km
   DEPTH =  10.0km  (geophysicist)
 SICILY                              (398)

GIB      0.23 110 P      33 09.80  -0.2
                  eSg    33 13.00
MCT      0.45 192 Pd     33 14.50   0.4
                  eSg    33 22.40
MNO      0.76 100 P      33 20.10   0.2
CVT      0.85 243 P      33 20.60  -0.8
ERC      0.92 268 P      33 23.00   0.5
MEU      1.35 136 P      33 29.80   0.0
     S.D. = 0.6  on   6 of   6 obs.
-----------------------------------------
*  NOV  12, 1989  07h 28m 24.61± 1.18s
     7.364 S ±10.0km  129.212 E ±17.8km
   DEPTH =  92.6 ± 20.6 km
   4.2mb (  2 obs.)
 BANDA SEA                           (280)

AAI      3.79 344 eP     29 22.00   0.1
MTN      5.77 161 iPd    29 49.80   0.5
                  eS     30 52.00
KNA      8.35 183 eP     30 24.20  -0.6
                  iS     31 54.00
WB5     13.41 159 eP     31 28.80  -3.6X
                  eS     33 50.00
WRA     13.46 159 Pd     31 30.00  -3.1X
      0.4s      3.30nm          4.2mb
MBL     16.44 213 eP     32 10.50  -0.6
QIS     16.53 144 eP     32 09.00  -3.3X
                  eS     35 02.00
ASPA    16.82 165 eP     32 13.00  -2.9X
      0.6s     13.00nm          4.3mb
                  eS     35 05.10
WARB    18.88 187 eP     32 42.00   1.5
                  eS     36 03.00
CTA     20.81 129 eP     33 00.00  -0.6
FORR    23.39 182 eP     33 25.50  -0.3
     S.D. = 1.1  on   7 of  11 obs.
-----------------------------------------
*  NOV  12, 1989  07h 39m 28.83± 2.30s
   24.113 S ±20.4km   67.012 W ±24.5km
   DEPTH = 197.1 ± 11.0 km
 CHILE-ARGENTINA BORDER REGION       (127)

SLA      1.51 114 iPd    40 03.00   0.1
                  S      40 28.90
YJA      2.38  36 ePd    40 11.80  -0.3
CCH      6.75   7 P      41 07.00   0.2
CNCB     7.32 353 P      41 15.20   0.5
LPB      7.61 352 P      41 19.00   0.6
ZOBO     7.87 352 P      41 21.00  -1.1
PPD     14.60  85 eP     42 47.70   0.2
                  e      42 50.80
VAO     18.41  91 eP     43 31.40  -0.4
                  e      43 32.90
BAO     19.76  68 eP     43 46.00   0.2
     S.D. = 0.7  on   9 of   9 obs.
-----------------------------------------
   NOV  12, 1989  08h 39m 20.63± 1.11s
   36.363 N ± 6.5km   71.095 E ± 8.6km
   DEPTH = 214.5 ± 11.9 km
   4.3mb ( 11 obs.)
 AFGHANISTAN-USSR BORDER REGION      (717)

KSH      4.94  50 P      40 35.40   0.0
                  S      41 32.00
NDI      9.24 144 iPd    41 29.90  -0.8
      0.5s     80.28nm          5.2mb
                  iS     43 06.50
MAIO     9.36 273 eP     41 26.00  -6.4X
                  eS     43 15.00
WMQ     14.71  55 iPc    42 39.00  -0.9
BOM     17.47 175 eP     42 36.50 -35.8X
                  eS     45 32.50
POO     17.93 171 eP     43 18.00   0.8
HYB     19.99 159 eP     43 42.00   3.6X
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GTA     22.83  74 eP     44 08.00    1.9
GBA     23.37 164 P      44 13.00    1.8
                 S      49 15.00
NUR     37.98 324 iP     46 19.80    0.9
        0.5s      8.40nm          4.6mb
SUF     38.08 328 eP     46 20.30    0.6
SOD     39.89 335 iP     46 35.20    0.6
KEV     40.96 338 eP     46 44.00    0.7
HFS     43.22 322 eP     47 01.20   -0.6
        0.7s      7.40nm          4.3mb
NB2     44.54 323 P      47 12.00   -0.3
        0.5s      3.30nm          4.0mb
SMF     49.99 304 eP     47 54.40   -0.4
        0.6s      2.70nm          3.9mb
AVF     50.29 304 eP     47 56.70   -0.3
        0.6s      3.60nm          4.0mb
EKA     52.44 316 Pd     48 12.20   -0.7
        2.1s     47.90nm          4.7mb
BCAO    57.68 250 ePc    48 50.60   -0.5
        0.5s      3.00nm          4.2mb
MBC     67.47   3 ePc    49 54.70    0.1
        0.5s      9.00nm          4.8mb
INK     74.03   9 eP     50 34.00    0.1
FBA     74.58  16 eP     50 37.00   -0.1
WB5     81.83 122 eP     51 16.20   -0.9
WRA     81.86 122 Pd     51 16.00   -1.2
        0.3s      0.70nm          3.9mb
ASPA    84.11 125 iPc    51 28.20   -0.4
        0.6s      5.00nm          4.4mb
FORR    85.59 134 eP     51 35.40   -0.3
      S.D. = 0.9  on  23 of  26 obs.
-----------------------------------------
*  NOV  12, 1989  10h 20m 45.70± 1.06s
   21.866 S ± 8.8km   68.576 W ±10.2km
   DEPTH = 148.0 ± 10.6 km
   4.7mb (  2 obs.)
 CHILE-BOLIVIA BORDER REGION        (124)

CCH      5.02  28 P      21 58.50   -2.0
CNCB     5.06   6 P      22 01.30    0.0
LPB      5.32   5 eP     22 06.00    1.3
        1.1s    177.22nm          5.2mb X
                 i      22 42.00
ZOBO     5.58   4 Pd     22 08.50    0.2
ARE      6.04 332 eP     22 13.00   -1.2
                 eS     23 18.00
PEL     11.39 189 eP     23 25.00   -0.1
ITB1    13.33 105 eP     23 51.90    1.6
ITB     13.52 105 eP     23 53.30    0.6
ITB7    13.60 107 e(P)   23 54.60    0.8
PPD     16.02  94 eP     24 20.10   -4.0X
                 i      24 22.90
VAO     20.01  97 eP     25 04.50   -4.4X
                 e      25 09.10
BMA     22.61  97 eP     25 18.20  -16.4X
LIC     68.19  73 P      31 31.24   -1.2
SPA     68.27 180 eP     31 29.90   -2.4
        0.6s      8.13nm          4.7mb
TIC     68.39  73 P      31 32.58   -1.1
KIC     68.51  73 P      31 33.40   -1.0
        0.5s      5.50nm          4.6mb
TNP     75.11 322 eP     32 14.50    1.2
KVN     76.28 322 eP     32 20.50    0.6
LLA     76.32 319 ePc    32 21.60    1.7
ORV     78.57 321 eP     32 33.50    1.2
WDC     79.85 321 eP     32 38.70   -0.4
WRA    132.79 210 PKPd   39 45.70    0.3
        0.6s      1.10nm
WB5    132.84 210 ePKP   39 45.20   -0.2
      S.D. = 1.3  on  20 of  23 obs.
-----------------------------------------
   NOV  12, 1989  10h 31m 59.35± 0.30s
   33.133 N ± 4.5km   31.460 E ± 3.7km
   DEPTH =  33.0km  (normal)
   4.3mb (  4 obs.)
 EASTERN MEDITERRANEAN SEA          (371)
      MD 4.0 (HLW).

PPCY     1.90  23 eP     32 31.70    1.8
CSS      2.40  40 eP     32 39.10    2.0
                 eSn    33 09.00
FAM      2.81  48 eP     32 40.00   -2.9
ZNT      3.14 106 iPc    32 47.70    0.0
                 eS     33 21.80
KOT      3.21 174 ePnc   32 49.50    0.9
                 eSn    33 21.50
ATZ      3.22  95 iPc    32 48.90    0.1
                 eS     33 23.40
HLW      3.27 182 ePn    32 51.00    1.6
                 eSn    33 25.00
KSL      3.36 333 eP     32 52.20    1.5
JVI      3.50 109 eP     32 53.00    0.3
BHL      3.59  76 Pn     32 54.00   -0.1
                 Sn     33 34.00
SHMJ     3.64  95 P      32 53.90   -0.9
DSI      3.67 114 eP     32 55.20    0.1
SALJ     3.74 106 P      32 56.00   -0.2
BURJ     3.77 102 P      32 57.10    0.5
KFNJ     3.78 108 P      32 57.20    0.5
ELL      3.83 341 ePn    33 09.30   11.8X
MASJ     3.86 110 P      32 57.70   -0.3
MKRJ     3.87 113 P      32 57.90   -0.2
JARJ     3.89 102 P      32 58.20   -0.1
HLBJ     4.22 103 P      33 04.50    1.5
KAP      4.29 305 eP     33 05.10    1.2
BCK      4.38 351 iPn    33 08.70    3.4X
MBH      4.45 138 eP     33 06.00   -0.2
HOL      4.93 140 ePd    33 12.50   -0.5
CIN      5.24 329 eP     33 19.00    1.6
SRFA     5.27 142 iPd    33 16.90   -0.9
NPS      5.29 295 eP     33 18.90    0.7
KHL      5.41 344 iPn    33 20.80    0.9
AYN      5.77 136 ePd    33 24.30   -0.5
                 iS     34 23.30
SMG      5.92 322 eP     33 27.50    0.5
APE      6.25 311 eP     33 31.00   -0.7
IZM      6.26 328 iPn    33 31.20   -0.7
VAM      6.42 293 eP     33 35.20    1.1
VLI      7.86 299 eP     33 51.50   -2.7X
ROI     13.61 302 P      35 10.80   -1.5
CZI     13.78 300 P      35 09.20   -5.4X
TDS     13.80 302 P      35 13.50   -1.4
                 eSn    37 29.50
CSI     13.89 303 P      35 11.30   -4.7X
MEU     14.10 291 P      35 16.30   -2.6X
MGR     14.55 303 P      35 21.70   -2.9X
                 eSg    37 46.00
KHC     20.82 325 eP     36 44.80    4.5X
PRU     20.99 328 eP     36 40.00   -2.0
WLF     24.99 319 P      37 21.40    0.2
DOU     26.07 319 P      37 31.00   -0.4
        0.6s      4.50nm          4.2mb
SLL     29.83 342 eP     38 04.10   -1.3
        0.6s      3.40nm          4.3mb
NB2     30.86 341 P      38 13.20   -1.3
        0.6s      1.00nm          3.8mb
KIC     42.87 240 Pd     39 56.30   -0.1
        0.6s     12.50nm          4.8mb
TIC     42.88 240 P      39 56.16   -0.4
LIC     43.17 240 Pd     39 58.60   -0.3
      S.D. = 1.1  on  41 of  49 obs.
-----------------------------------------
*  NOV  12, 1989  11h 17m 56.02± 0.88s
   31.114 S ±23.2km   13.455 W ±10.6km
   DEPTH =  10.0km  (geophysicist)
   4.9mb (  2 obs.)  4.1Msz (  1 obs.)
 SOUTH ATLANTIC RIDGE               (410)

SWZ     33.98  93 e(P)   24 42.50    0.4
        0.5s      7.04nm          4.8mb
BAO     35.07 288 eP     24 51.00   -0.5
SLR     36.94  92 eP     25 06.70   -0.6
KIC     38.18  14 (P)    25 17.60    0.0
BCAO    46.70  47 iPd    26 27.20    0.2
        0.6s      8.00nm          5.0mb
                 i      26 33.30
ZOBO    51.72 273 eP     27 07.00    0.5
      Z  18s      0.16um          4.1Msz
                 LR     42 16.00
      S.D. = 0.6  on   6 of   6 obs.
-----------------------------------------
&  NOV  12, 1989  11h 36m 49.54s
   61.956 N          148.642 W
   DEPTH =  37.7km
 SOUTHERN ALASKA                    (  2)
      <AGS-P>. ML 3.2 (PMR). Felt (IV)
      ot Tropper Creek ond Willow.

GHO      0.23 216 iP     36 56.58   -0.4
PME      0.38 210 iP     36 58.07   -0.5
PLRM     0.43 213 iP     36 58.47   -0.8
PMR      0.43 213 iPd    36 58.50   -0.8
PWA      0.66 243 iPd    37 01.90   -0.5
PMS      0.84 212 iPc    37 04.50   -0.5
NCA      0.86  87 eP     37 04.13   -1.2
CUT      0.89 301 iP     37 04.80   -0.8
SUA      1.12 245 eP     37 08.75   -0.3
HUR      1.12 336 iP     37 08.08   -1.0
                 Sn     37 23.00
TOA      1.17  82 iPc    37 09.40   -0.4
GLI      1.31 145 iP     37 10.75   -0.9
                 Sn     37 29.38
VZW      1.35 131 iP     37 10.99   -1.2
SKT      1.36 272 iP     37 11.69   -0.8
KLU      1.38 109 iP     37 11.41   -1.3
VLZ      1.38 126 iP     37 11.06   -1.6
RND      1.46 356 eP     37 12.71   -1.2
FID      1.60 138 iP     37 14.75   -1.0
                 Sn     37 35.40
SLKM     1.64 208 eP     37 16.21   -0.2
MCK      1.79 356 iP     37 17.80   -0.8
PAX      1.79  54 eP     37 18.01   -0.7
                 Sn     37 41.20
SPU      1.81 246 eP     37 18.89    0.0
SEW      1.90 192 eP     37 19.17   -0.9
KTH      1.92 328 iP     37 19.53   -0.9
DDM      2.24  34 eP     37 25.70    0.7
DOT      2.70  49 eP     37 30.14   -1.5
CNPM     2.75 209 eP     37 31.87   -0.4
MID      2.78 155 e(P)   37 33.30    0.7
FBA      2.98   7 iPc    37 33.60   -1.9
BALM     3.16 104 eP     37 36.09   -2.0
SVW      3.45 259 eP     37 40.60   -1.6
TTA      3.56 289 eP     37 41.80   -2.0
KDC      4.65 206 e(P)   37 56.30   -2.8
IMA      4.68 334 eP     37 57.40   -2.4
      34 obs. associated
-----------------------------------------
*  NOV  12, 1989  12h 51m 10.39± 0.53s
     9.648 N ± 9.4km  126.546 E ±21.7km
   DEPTH =  33.0km  (normal)
   4.9mb (  1 obs.)
 MINDANAO, PHILIPPINE ISLANDS       (259)

MTN     22.81 168 eP     56 11.50   -0.1
WB5     30.34 165 eP     57 21.00   -0.4
BJI     31.64 345 eP     57 33.00    0.3
WARB    35.62 180 eP     58 07.30    0.1
NWAO    43.26 191 eP     59 11.00    0.5
GBA     48.20 280 P      59 50.00   -0.1
BWA     48.49 156 eP     59 52.30    0.2
SOD     84.96 338 eP     03 44.00    0.7
SUF     86.23 333 eP     03 50.20    0.6
NUR     87.47 331 eP     03 55.00   -0.7
SLL     92.75 333 eP     04 19.50   -1.0
        0.6s      2.70nm          4.9mb
      S.D. = 0.6  on  11 of  11 obs.
-----------------------------------------
*  NOV  12, 1989  13h 36m 58.55± 0.53s
     9.588 N ± 8.0km  126.551 E ±17.4km
   DEPTH =  33.0km  (normal)
   5.4mb (  3 obs.)  4.2Msz (  1 obs.)
 MINDANAO, PHILIPPINE ISLANDS       (259)

DAV      2.67 201 eP     37 43.50    3.4X
BAG      8.93 320 eP     39 09.00    0.4
                 e(S)   41 32.00
GUA     18.41  76 eP     41 18.00    4.9X
        0.5s    101.41nm          5.2mb
MTN     22.75 168 eP     42 01.00    1.8
NJ2     23.46 343 Pc     42 07.50    1.5
WB5     30.28 165 eP     43 09.00   -0.1
WRA     30.33 165 P      43 17.00    7.4X
        0.8s      3 00nm          4.1mb X
TIY     30.76 338 eP     43 12.80   -0.4
      Z  18s      0.50um          4.2Msz
BJI     31.70 345 eP     43 21.00   -0.4
SNY     32.22 356 eP     43 27.00    1.1
OIS     32.59 157 eP     43 28.00   -1.4
ASPA    33.82 168 eP     43 38.50   -1.6
HHC     33.85 339 Pd     43 40.00   -0.2
GTA     38.10 326 eP     44 15.50   -0.8
BAL     41.07 193 eP     44 41.00    0.2
MUN     42.50 193 eP     44 52.40   -0.1
NWAO    43.20 191 eP     44 59.00    0.8
HYB     47.21 285 eP     45 31.00    0.4
GBA     48.22 280 Pc     45 37.90   -0.5
        0.3s     13.70nm          5.5mb
BWA     48.44 156 eP     45 40.80    0.9
SLL     92.80 333 eP     50 07.00   -1.9
        1.1s     19.70nm          5.5mb
```

12d 13h

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ZOBO   164.24 116 ePKP   56 55.00   -6.2X
     S.D. = 1.1   on   18 of   22 obs.
-----------------------------------------
   NOV  12, 1989  13h 58m 07.09± 0.80s
   38.628 N ± 5.3km    26.032 E ±10.4km
   DEPTH =   10.0km   (geophysicist)
 AEGEAN SEA                          (365)
      MD 3.2 (ATH).

PRK      0.65  17 ePn    58 20.20    0.2
                  eSn    58 31.80
IZM      0.99 103 iPg    58 25.80   -0.1
                  iSg    58 40.80
SMG      1.12 145 ePn    58 28.10    0.1
                  eSn    58 44.10
EZN      1.22  11 iPn    58 29.70    0.0
APE      1.61 194 ePb    58 35.60    0.0
EDC      2.23  39 ePn    58 42.50   -2.1X
DST      2.24  63 ePn    58 51.00    6.1X
BNT      2.26  40 ePn    58 41.00   -4.1X
RDO      2.54 352 ePn    58 48.90   -0.1
     S.D. = 0.2   on    6 of    9 obs.
-----------------------------------------
*  NOV  12, 1989  14h 30m 16.23± 0.72s
     2.594 S ± 8.3km   125.045 E ±25.2km
   DEPTH =   33.0km   (normal)
   4.2mb (   1 obs.)
 CERAM SEA                           (270)

MNI      4.02 357 ePd    31 17.00    0.0
WB5     19.44 153 eP     34 43.90    0.7
                  e      34 48.00
ASPA    22.63 158 iPc    35 15.10   -0.7
        0.7s      6.00nm          4.2mb
FORR    28.25 174 eP     36 08.00   -0.4
KLB     29.65 193 eP     36 21.00   -0.1
MUN     30.39 195 eP     36 27.80    0.2
NWAO    31.05 193 eP     36 33.70    0.3
     S.D. = 0.6   on    7 of    7 obs.
-----------------------------------------
   NOV  12, 1989  14h 35m 18.17± 1.04s
   43.279 N ± 7.4km    18.904 E ± 9.1km
   DEPTH =   10.0km   (geophysicist)
 YUGOSLAVIA                          (383)
      ML 2.5 (TTG).

PLE      0.36  82 ePg    35 25.20   -0.4
                  eSg    35 30.50
BRY      0.46 215 iPgd   35 27.40   -0.2
                  eSg    35 35.30
NKY      0.47 172 ePg    35 28.00    0.2
                  eSg    35 34.50
HCY      0.88 200 ePg    35 34.50   -0.6
                  eSg    35 49.30
TTG      0.89 163 ePg    35 34.90   -0.3
                  eSg    35 47.80
BDV      1.00 183 ePg    35 37.70    0.6
                  eSg    35 53.80
ULC      1.34 169 ePg    35 43.20    0.3
                  eSg    36 05.00
HVAR     1.80 268 iPn    35 52.70    3.3X
                  iSn    36 19.50
BEO      1.90  35 ePn    35 56.50    5.5X
OHR      2.58 146 ePn    36 03.70    2.9X
BZS      3.04  39 ePc    36 07.50    0.4
     S.D. = 0.5   on    8 of   11 obs.
-----------------------------------------
?  NOV  12, 1989  16h 44m 26.33± 5.21s
   30.000 S ±32.8km    72.231 W ±30.8km
   DEPTH =   33.0km   (normal)
 OFF COAST OF CENTRAL CHILE          (134)

RTRS     2.41  95 iPd    45 04.80    0.6
RTBS     2.91 125 eP     45 11.80    0.5
JACH     3.02 153 iPd    45 12.90   -0.1
                  iS     45 45.00
ROCH     3.14 161 iPd    45 15.20    0.3
                  iS     45 47.40
RTCB     3.31 117 ePd    45 16.80   -0.3
PEL      3.40 158 iPc    45 18.10   -0.3
                  iS     45 53.50
ZON      3.42 118 eP     45 20.00    1.2
RTLL     3.50 113 eP     45 18.70   -1.2
LCCH     3.51 171 iPc    45 20.00    0.1
                  iS     45 56.00
RTCV     3.68 121 iPd    45 22.00   -0.3
SAN      3.69 159 eP     45 23.00    0.5
                  iS     46 09.00
FCH      3.71 154 eP     45 23.50    0.5
                  iS     46 04.00
CFA      3.79 116 ePd    45 23.00   -0.9
TACH     3.81 164 iPd    45 24.00   -0.1
                  iS     46 07.00
PCH      3.89 158 iP     45 25.20   -0.2
                  iS     46 06.50
LNV      4.01 170 ePc    45 26.10   -0.8
                  iS     46 21.00
CHCH     4.14 162 iPd    45 29.20    0.3
                  iS     46 12.00
     S.D. = 0.6   on   17 of   17 obs.
-----------------------------------------
&  NOV  12, 1989  17h 13m 31.40s
   34.000 N          116.740 W
   DEPTH =   14.0km
 SOUTHERN CALIFORNIA                  ( 43)
      <PAS-P>. ML 3.0 (PAS)

PEC      0.37 253 iPc    13 38.40   -0.8
RVR      0.53 269 iPc    13 41.10   -0.8
TPC      0.58  79 iPc    13 42.50   -0.4
PLM      0.65 189 iPd    13 43.80   -0.4
MWC      1.12 282 ePc    13 51.40   -0.7
SBB      1.13 308 ePd    13 51.80   -0.5
CPE      1.16 195 ePd    13 51.60   -1.1
GLA      1.86 120 eP     14 02.00   -1.1
KVN      5.16 348 eP     15 00.00    9.8
         9 obs. associated
-----------------------------------------
*  NOV  12, 1989  17h 35m 10.83± 0.81s
   19.784 S ±14.6km   179.804 W ± 9.1km
   DEPTH = 472.7 ±   7.2 km
   4.4mb (   5 obs )
 FIJI ISLANDS REGION                 (181)

VUN      2.41 317 eP     36 16.00   -0.3
MBU      3.13 333 iPd    36 21.20   -0.1
                  eS     37 19.60
DZM     13.05 258 iPc    38 03.90    1.6
                  iS     40 28.90
HNR     22.11 295 Pc     39 32.00    0.7
CAN     31.53 234 eP     40 55.50    1.0
BWA     31.67 236 eP     40 54.70   -1.0
PMG     33.53 283 eP     41 11.00   -0.4
WB5     43.01 262 eP     42 28.20   -0.7
ASPA    43.04 256 iPd    42 29.10   -0.1
        0.6s     40.00nm         5.1mb
                  iS     48 18.30
FORR    47.99 246 eP     43 06.50   -0.8
WARB    49.43 252 eP     43 18.10   -0.3
MBL     56.26 257 iPd    44 06.80   -0.7
        0.3s      2.00nm         3.9mb
MAT     68.64 325 iPc    45 26.20   -1.2
        0.7s      8.22nm         4.5mb
PRS     78.49  45 ePc    46 23.50    0.2
BCH     78.70  46 P      46 25.00    0.4
BRK     78.80  43 e(P)   46 26.00    1.2
PRI     78.85  45 eP     46 25.60    0.3
MHC     78.89  44 eP     46 25.80    0.3
LLA     78.93  45 eP     46 25.60    0.0
ARN     78.96  44 P      46 25.80    0.0
FHC     79.48  40 P      46 32.00    3.6X
PLM     79.95  49 P      46 30.60   -0.7
FRI     79.96  45 eP     46 30.90    0.0
PEC     80.02  49 P      46 31.50    0.1
CMB     80.10  44 ePc    46 31.60   -0.1
WDC     80.22  41 ePc    46 32.00   -0.2
ORV     80.26  42 ePc    46 32.30   -0.2
MIN     80.66  41 ePc    46 34.40   -0.3
LBFM    81.07  40 P      46 37.00    0.1
GLA     81.26  50 P      46 38.80    0.9
KVN     82.16  44 P      46 42.30   -0.2
TNP     82.21  45 P      46 42.00   -0.8
        0.9s      6.35nm         4.2mb
PNT     87.02  35 eP     47 05.50   -0.3
        0.9s     10.00nm         4.5mb
CHG     88.41 291 eP     47 14.70    1.7
SLL    138.29 350 ePKP   53 31.60  -10.9X
        1.4s     17.40nm
BHL    145.57 301 PKP    53 58.00    1.9X
CLL    146.96 345 iPKPd  54 00.00    2.3X
        0.7s      9.00nm
PRU    147.77 343 ePKP   54 02.00    3.0X
                  e      54 06.00
KHC    148.81 343 ePKP   54 05.70    4.9X
DOU    149.55 354 PKPc   54 06.90    5.1X
WLF    149.81 352 PKP    54 08.20    6.1X
     S.D. = 0.7   on   33 of   41 obs.
-----------------------------------------
?  NOV  12, 1989  17h 46m 27.62± 0.92s
   42.892 N ± 6.8km    12.852 E ± 8.0km
   DEPTH =   10.0km   (geophysicist)
 CENTRAL ITALY                       (381)
      MD 2.3 (SSO).

ASS      0.23 322 Pc     46 32.70    0.2
                  eSg    46 36.30
CIO      0.37  35 iPg    46 35.03   -0.2
                  iSg    46 40.70
MNS      0.52 194 P      46 38.10   -0.1
                  eSg    46 45.30
ALP      0.54 102 ePg    46 38.88    0.2
                  iSg    46 47.42
     S.D. = 0.4   on    4 of    4 obs.
-----------------------------------------
&  NOV  12, 1989  18h 10m 53.80s
   36.920 N          121.683 W
   DEPTH =   10.0km
 CENTRAL CALIFORNIA                   ( 39)
      <BRK>. ML 3.0 (BRK).

SAO      0.25 129 iPc    10 58.70   -0.3
GCC      0.27 294 iPc    10 59.10   -0.5
                  iS     11 03.30
MHC      0.42   4 iPd    11 02.50    0.0
                  iS     11 08.70
ARN      0.45  16 iP     11 02.80   -0.1
PRS      0.64 157 iPc    11 06.00   -0.6
LLA      0.67 117 iPc    11 06.40   -0.7
PCC      0.80 316 iPc    11 08.40   -1.0
                  iS     11 20.70
BKS      1.05 335 iPd    11 13.20   -0.4
                  iS     11 28.20
BRK      1.06 334 ePd    11 12.70   -1.0
ZSP      1.12 336 e(P)   11 13.20   -1.6
                  i      11 16.50
                  eS     11 31.30
PRI      1.13 133 ePd    11 14.40   -0.6
CMB      1.52  42 eP     11 19.70   -1.4
                  eS     11 36.10
FRI      1.58  87 ePd    11 21.50   -0.4
                  iS     11 42.20
BCH      2.16 143 eP     11 28.60   -1.9
KVN      3.54  52 eP     11 48.00   -2.1
         15 obs. associated
-----------------------------------------
*  NOV  12, 1989  19h 17m 47.44± 0.81s
   55.723 S ±19.5km    29.204 W ±13.0km
   DEPTH =   33.0km   (normal)
   4.9mb (   6 obs.)
 SOUTH SANDWICH ISLANDS REGION       (153)

SNA     18.78 152 iPc    22 09.80    4.0X
        0.8s     62.69nm         4.9mb
SPA     34.46 180 eP     24 33.80   -0.1
        0.8s      5.00nm         4.5mb
PEL     36.46 291 iPc    24 52.50    1.6
        0.4s     29.66nm         5.5mb
PPD     37.45 325 eP     24 56.90   -2.4
MAW     41.08 144 eP     25 32.00    3.1X
FRS     46.16  79 eP     26 12.00    1.6
CCH     47.42 309 (P)    26 22.00    1.2
SEK     48.54  80 eP     26 28.50   -0 8
LPB     49.04 307 eP     26 35.00    1 5
ZOBO    49.28 307 P      26 34.00   -1.6
        0.9s     11.25nm         4.9mb
                  i      26 40.00
                  LR     43 32.00
KSR     50.05  77 eP     26 20.50  -20.5X
SLR     50.92  78 iPc    26 46.80   -0.7
        0.8s     11.19nm         4.9mb
LIC     64.89  27 (P)    28 27.00    1.5
KIC     65.09  27 (P)    28 26.40   -0.4
BCAO    71.57  51 iPd    29 07.60    0.4
        0.8s     11.00nm         4.9mb
                  i      29 24.20
                  i      30 41.20
INK    144.83 321 ePKP   37 19.00   -1.8
FBA    149.46 313 ePKP   37 31.90    3.4X
IMA    152.06 314 ePKP   37 39.00    6.5X
BJI    152.35 110 ePKP   37 40.50    7.0X
     S.D. = 1.6   on   13 of   19 obs.
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   NOV  12, 1989  19h 18m 29.40± 0.41s
    3.947 S ± 5.6km   99.302 E ± 7.9km
   DEPTH =  33.0km  (normol)
   5.0mb (  8 obs.)  4.4Msz (  2 obs.)
 SOUTHWEST OF SUMATERA              (273)

KGM      7.15  34 ePc   20 13.60  -0.9
       0.9s   593.40nm          6.5mb X
KLM      7.38  19 eP    20 17.30  -0.3
                e       22 11.00
IPM      8.64  12 ePd   20 31.80  -3.4
       0.8s    46.40nm          5.7mb
                e       22 08.00
SNG     11.13   7 eP    21 04.00  -5.3X
NNT     16.43   1 eP    22 21.00   1.7
NST     19.51   2 eP    22 58.20   1.2
KKM     19.59  60 ePd   22 58.20   0.2
       1.2s   181.80nm          5.2mb
MKS     20.14  94 ePc   23 04.00   0.3
TSM     20.43  67 ePc   23 06.00  -0.8
BDT     21.06 359 eP    23 12.00  -1.1
       0.8s    54.50nm          5.0mb
LOE     21.35   6 iPc   23 15.00  -1.2
CHG     22.62 359 eP    23 29.20   0.4
       1.0s    35.75nm          4.8mb
                e       31 10.00
QIZ     25.08  24 P     23 53.80   1.2
     E  13s     0.80um
                sS      28 23.00
MNI     26.08  79 ePc   24 04.50   2.5
KMI     29.09   6 Pc   24 29.50   0.0
     Z  25s     0.80um          4.2MszX
                pP      24 40.00  38kmX
                sP      24 46.50
HYB     29.50 317 eP    24 33.50   0.4
SHL     30.21 347 iP    24 40.80   1.3
                iS      29 53.30
GYA     31.05  13 P     24 46.00  -0.8
WARB    34.28 133 eP    25 14.00  -0.9
LSA     34.36 347 P     25 17.90   1.9
CD2     34.92   7 eP    25 19.00  -1.3
WHN     37.19  22 P     25 40.30   0.9
     Z  20s     0.75um          4.5Msz
                pP      25 44.00  12kmX
WB5     37.66 118 eP    25 43.90   0.3
FORR    38.11 138 eP    25 46.80  -0.4
ASPA    38.72 124 iPd   25 52.50   0.1
       1.3s    15.00nm          4.6mb
                eS      32 11.70
XAN     38.86  13 P     25 54.20   0.8
LZH     40.05   6 P     26 03.50   0.1
       1.5s    42.00nm          5.0mb
     Z  20s     0.50um          4.4Msz
SSE     40.62  29 e(P)  26 08.40   0.4
     Z  16s     0.50um          4.5MszX
QIS     42.54 116 eP    26 23.00  -0.9
GTA     43.14   1 Pc   26 28.00  -0.7
     Z  14s     0.40um          4.5MszX
TIY     43.21  15 eP    26 28.80  -0.4
     N  12s     0.40um
                sS      33 05.50
BTO     45.40  11 eP    26 47.50   0.6
     N  14s     0.40um
     E  14s     0.70um
QUE     45.93 320 eP    26 51.60   0.3
HHC     45.97  13 Pd   26 52.40   1.0
     N  12s     0.50um
BJI     46.44  18 eP    26 55.50   0.6
     Z  16s     0.58um          4.6MszX
PMG     47.80  99 eP    27 05.50  -0.6
STK     48.41 130 iPd   27 10.90   0.3
CTA     48.44 113 iPc   27 11.80   0.8
       1.0s    12.50nm          4.9mb
WMQ     48.69 349 P     27 11.50  -1.1
CMS     51.54 128 iPd   27 34.90   0.4
RMQ     52.30 121 eP    27 41.00   0.7
CN2     53.04  24 Pc   27 44.00  -1.5
     E  24s     0.40um
                pP      27 53.00  30kmX
MAT     54.22  39 (P)   27 53.00  -1.3
       1.3s    19.23nm          5.0mb
MAIO    54.63 321 eP    27 57.00  -0.5
BWA     54.67 130 eP    27 58.90   1.1
MDJ     55.43  26 eP    28 02.50  -0.5
CAN     55.45 131 eP    28 03.80   0.3
MAW     68.24 194 eP    29 26.00  -2.6
VRI     80.80 318 ePc   30 40.50  -0.9
SRO     86.86 318 eP    31 12.40   0.4
ZST     87.72 318 eP    31 17.90   1.7
PRU     89.62 320 eP    31 30.00   4.8X
                e       31 34.20
KHC     90.15 319 P     31 36.60   8.9X
CLL     90.73 321 eP    31 32.00   1.7
SIO    145.23  23 ePKP  38 06.20   0.4
LNO    145.27  22 ePKP  38 06.90   1.1
TUL    145.27  22 e(PKP)38 05.20  -0.7
       1.1s    36.20nm
                i       38 09.00
                e       38 28.30
ZOBO   156.38 211 ePKP  38 21.00  -2.7
     S.D. = 1.2  on  55 of  58 obs.
-------------------------------------
   NOV  12, 1989  20h 24m 22.37± 0.53s
   39.300 N ± 4.1km   26.281 E ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)
     MD 3.4 (ATH).

PRK      0.05 188 iPgc   24 24.60   0.0
EZN      0.53   4 iPg   24 33.50   0.5
                iSg     24 41.50
IZM      1.18 139 iPn   24 43.90  -0.6
EDC      1.61  49 ePn   24 50.50  -0.3
BNT      1.65  50 iPn   24 51.90   0.5
SMG      1.65 164 ePn   24 52.50   1.1
DST      1.84  80 iPn   24 54.10  -0.2
RDO      1.93 343 ePn   24 55.30  -0.2
CIN      2.21 140 eP    25 00.00   0.4
PLG      2.43 297 ePb   25 08.00   5.2X
KHL      2.71 110 iPn   25 06.00  -0.9
DMK      2.76  24 iPn   25 08.00   0.6
KNT      3.19 307 eP    25 12.80  -0.7
VAY      3.48 307 ePn   25 31.00  13.3X
     S.D. = 0.7  on  12 of  14 obs.
-------------------------------------
   NOV  12, 1989  20h 38m 18.67± 1.16s
    9.583 N ± 4.1km  126.511 E ± 6.7km
   DEPTH =  73.1 ± 11.0 km
   5.1mb ( 15 obs.)
 MINDANAO, PHILIPPINE ISLANDS       (259)

DAV      2.65 201 eP    39 00.00   0.1
QCP      7.31 314 eP    40 20.00  15.0X
MNI      8.26 192 eP    40 20.00   2.0
BAG      8.91 320 eP    40 23.00  -4.2X
                eS      42 42.00
KKM     10.79 252 ePd   40 57.00   4.3X
MKS     16.29 206 e(P)  42 24.50  20.1X
QZH     17.03 335 eP    42 14.00   0.4
     Z  18s     1.80um
     N  16s     1.30um
GUMO    18.41  76 e(P)  42 47.00  16.3X
PJG     18.41  76 e(P)  42 46.50  15.8X
GZH     18.42 318 eP    42 29.00  -1.6
     Z  16s     2.00um
     N  14s     0.80um
     E  14s     0.80um
GUA     18.45  76 e(P)  42 35.60   4.5X
JAY     18.56 130 ePd   42 31.50  -0.9
QIZ     18.67 302 eP    42 32.40  -1.3
     N  14s     1.20um
SSE     21.97 348 P     43 02.70  -5.1X
       1.0s    24.00nm          4.6mb
     Z  20s     0.70um          4.1Msz
                sP      43 09.50
                eS      47 12.00
                sS      47 20.00
MTN     22.75 168 iPc   43 15.60   0.0
NJ2     23.46 343 Pc    43 23.00   0.7
     Z  20s     1.20um          4.4Msz
WHN     23.74 333 P     43 26.00   0.9
     Z  18s     0.97um          4.3Msz
KGM     24.25 253 ePd   43 32.50   2.3
GYA     25.19 314 P     43 39.40   0.2
     Z  18s     0.90um          4.3Msz
     N  14s     0.90um
     E  14s     1.20um
KNA     25.27 175 eP    43 41.50   1.7
LOE     25.30 291 eP    43 40.00  -0.2
SNG     25.73 267 eP    43 42.20  -1.9
                e       48 10.70
IPM     25.77 261 ePd   43 45.90   1.4
       0.8s    57.80nm          5.1mb
NST     26.43 286 eP    43 53.00   2.5
KMI     27.38 307 eP    44 02.50   3.0X
     Z  20s     1.20um          4.5Msz
TIA     27.85 344 eP    44 02.60  -0.7
     Z  20s     0.90um          4.4Msz
     N  11s     0.40um
     E  11s     0.50um
                S       48 43.00
CHG     28.22 292 eP    44 06.00  -0.9
XAN     29.21 329 P     44 14.20  -1.5
     N  14s     0.70um
WB5     30.28 165 eP    44 26.00   0.8
TIY     30.75 338 eP    44 29.00  -0.3
     E  12s     0.60um
                S       49 29.00
MBL     31.25 192 eP    44 32.50  -1.2
BJI     31.70 345 eP    44 37.00  -0.4
     Z  18s     0.59um          4.3Msz
                eS      49 40.00
                eScP    51 10.00
SNY     32.22 356 eP    44 43.20   1.3
     Z  18s     1.10um          4.6Msz
     N  18s     0.80um
     E  16s     0.70um
QIS     32.60 157 iPc   44 43.50  -2.0
                e       44 55.00
LZH     33.47 326 eP    44 53.00  -0.2
     Z  15s     1.00um          4.7MszX
ASPA    33.83 168 eP    44 54.90  -1.2
       0.9s     7.00nm          4.6mb
     Z  21s     0.33um          4.0Msz
                LR      59 42.00
HHC     33.84 339 Pc    44 56.40   0.2
     Z  18s     1.00um          4.6Msz
     N  14s     0.80um
CN2     34.10 359 eP    45 03.50   5.2X
     Z  16s     0.70um          4.5MszX
     N  11s     0.20um
     E  11s     0.40um
                eS      50 23.00
BTO     34.18 337 eP    44 59.50   0.4
     N  13s     0.30um
     E  13s     0.30um
MDJ     35.01   4 eP    45 06.50   0.5
CTA     35.31 147 iPc   45 08.50  -0.4
       0.7s    13.36nm          5.0mb
                iS      50 40.00
WARB    35.55 180 eP    45 10.50  -0.3
       0.3s     6.00nm          5.0mb
SHL     36.49 300 iP    45 17.70  -1.3
                eS      51 09.90
MEKA    36.80 192 eP    45 21.00  -0.4
GTA     38.08 326 Pc    45 31.00  -1.1
     Z  16s     1.10um          4.8MszX
     E  13s     0.40um
MRWA    39.89 194 eP    45 47.20   0.2
FORR    40.23 178 eP    45 49.10  -0.7
       0.4s    32.00nm          5.6mb
                e       46 01.00
BAL     41.05 193 eP    45 56.40  -0.2
KLB     41.79 191 eP    46 02.70   0.1
MUN     42.48 193 eP    46 08.70   0.4
NWAO    43.19 191 eP    46 14.40   0.4
       0.9s    46.00nm          5.3mb
BRS     44.71 146 iP    46 25.30  -1.2
ADE     45.79 166 eP    46 35.00   0.1
       0.8s    34.33nm          5.3mb
HYB     47.18 285 ePc   46 46.40   0.3
       0.8s    19.20nm          5.1mb
WMQ     47.91 322 eP    46 51.20  -0.4
GBA     48.18 280 P     46 54.00   0.1
BWA     48.45 156 eP    46 56.50   0.7
CAN     49.46 156 eP    47 04.20   0.7
DZM     50.23 129 iPd   47 07.80  -1.9
POO     51.70 286 eP    47 20.50  -0.4
MAIO    65.89 305 iPc   48 59.00  -0.1
                eS      57 32.00
IMA     77.16  24 eP    50 07.00   1.0
PMR     78.95  29 eP    50 15.90   0.3
FBA     79.56  26 eP    50 20.00   1.1
KEV     84.36 340 eP    50 44.00   0.3
       0.7s    12.00nm          5.0mb
INK     84.83  22 eP    50 47.00   0.9
SOD     85.01 337 iP    50 47.50   0.5
SUF     86.27 333 eP    50 54.00   0.7
       0.4s    10.20nm          5.2mb
MBC     86.33  13 eP    50 55.00   1.6
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12d 20h

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        0.9s     6.00nm          4.7mb
PRNI   86.53 300 eP     50 54.00  -1.3
MBH    86.72 299 eP     50 54.00  -2.2
NUR    87.51 331 iP     50 59.80   0.5
        0.6s    15.60nm          5.3mb
HFS    92.76 332 eP     51 23.20  -0.7
        1.0s    14.20nm          5.4mb
     Z  16s     0.12um          4.5MszX
                LR      32 30.00
NB2    93.48 334 P      51 26.90  -0.4
        0.8s     4.40nm          4.9mb
KIC   128.91 286 (PKP) 57 21.90   1.3
LIC   129.23 286 (PKP) 57 22.00   0.8
ZOBO  164.27 116 PKP   58 19.00   2.8X
PPD   167.45 189 e(PKP)58 30.00  12.1X
     S.D. = 1.1  on  66 of  78 obs.
-----------------------------------
*  NOV  12, 1989  22h 20m 06.66± 0.90s
   48.960 N ±16.2km  156.462 E ±18.7km
   DEPTH =  33.0km  (normal)
   4.6mb (  7 obs.)
 KURIL ISLANDS REGION              (222)

MAT    18.21 234 eP     24 19.00   0.6
        1.1s    12.66nm          4.0mb
FBA    33.02  40 eP     26 40.00  -0.5
INK    38.57  34 eP     27 28.50   1.0
KMI    47.85 260 eP     28 43.00  -0.4
CHG    54.81 258 eP     29 36.00   0.3
SOD    57.99 339 eP     29 45.00 -12.8X
NB2    66.83 342 P      30 55.30  -1.6
        0.8s     1.60nm          4.2mb
HFS    67.14 341 eP     30 56.90  -1.8
        0.5s     2.00nm          4.5mb
WB5    71.30 202 eP     31 24.00  -0.8
EKA    74.68 348 P      31 44.00  -0.2
        1.7s    32.60nm          5.1mb
CLL    75.34 337 iPd    31 47.30  -0.7
        1.1s    14.00nm          4.9mb
PRU    76.14 336 eP     31 53.00   0.4
WTS    76.15 341 eP     31 53.50   1.0
        0.8s     5.00nm          4.6mb
KHC    77.18 336 eP     31 59.30   0.8
ENN    77.50 341 eP     32 01.00   1.0
        1.0s    12.00nm          4.9mb
MEM    77.63 341 P      32 01.60   0.9
     S.D. = 1.0  on  15 of  16 obs.
-----------------------------------
%  NOV  13, 1989  01h 10m 28.32± 0.85s
   43.878 N ± 9.6km   12.002 E ± 6.0km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                     (381)

SFI     0.12 291 Pc      10 30.90  -0.3
                eSg     10 33.80
PGD     0.20 269 Pc      10 32.80  -0.1
                eSg     10 36.80
CRE     0.25 188 Pd      10 33 60  -0.1
                iSg     10 39.00
RSM     0.33  81 P       10 35.20   0.1
PII     1.08 262 P       10 49.10   0.5
     S.D. = 0.4  on   5 of   5 obs.
-----------------------------------
&  NOV  13, 1989  02h 23m 23.90s
   36.807 N          121.595 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.6 (BRK).

SAO     0.13 109 iPd     23 25.30  -1.3
GCC     0.39 305 iPc     23 31.30  -0.5
PRS     0.51 159 ePc     23 33.70  -0.4
MHC     0.53 356 iPd     23 34.60  -0.1
                iS      23 42.30
ARN     0.54   5 iPd     23 34.60  -0.2
LLA     0.56 110 iPd     23 34.70  -0.4
                iS      23 42.60
PCC     0.93 318 ePd     23 40.90  -1.2
PRI     1.00 131 ePc     23 42.80  -0.5
BKS     1.18 335 iPc     23 46.60   0.3
                iS      24 04.00
BRK     1.19 334 e(P)    23 44.50  -1.9
ZSP     1.25 335 ePc     23 48.10   0.6
                eS      24 07.60
PHAM    1.37 135 eP      23 48.10  -1.4
FRI     1.52  82 eP      23 49.80  -1.9
CMB     1.56  38 eP      23 50.60  -1.6
BCH     2.03 142 eP      23 57.10  -2.0
KVN     3.56  50 eP      24 20.00  -1.0
        16 obs. associoted
-----------------------------------
?  NOV  13, 1989  02h 47m 41.83± 1.33s
   54.506 N ±22.9km  160.583 E ±25.9km
   DEPTH =  33.0km  (normal)
   4.4mb (  2 abs.)
 NEAR EAST COAST OF KAMCHATKA      (218)

MAT    23.67 230 (P)    52 51.00   0.0
IMA    24.81  44 eP     53 02.00   0.1
SUF    57.81 337 eP     57 32.50   0.8
NB2    62.27 344 P      58 02.10  -0.2
        0.7s     2.20nm          4.4mb
HFS    62.69 342 eP     58 04.40  -0.7
        0.6s     1.90nm          4.4mb
     S.D. = 0.8  on   5 of   5 obs.
-----------------------------------
*  NOV  13, 1989  03h 37m 58.84± 0.61s
    3.747 S ± 5.6km   77.051 W ±19.2km
   DEPTH =  33.0km  (normal)
 PERU-ECUADOR BORDER REGION        (110)

GGP     3.87 336 eP      38 57.80  -0.3
                eS      39 41.90
CAYA    3.91 346 P       38 58.30  -0.3
                S       39 30.70
COTA    4.25 342 iPd     38 50.90 -12.6X
                S       39 30.70
PSO     4.91 357 eP      39 13.00   0.3
PT08    8.17 177 iP      40 00.20   1.7
                eS      41 20.00
NNA     8.19 179 iPc     39 58.00  -0.4
        0.5s    21.83nm          5.5mb X
                iS      41 22.20
PT10    8.27 179 eP      39 59.00  -0.6
                eS      41 30.00
BOG     8.83  20 eP      40 08.00   0.4
ZOBO   15.23 145 eP      41 33.00  -0.7
LPB    15.45 146 eP      41 41.00   4.5X
     S.D. = 0.9  on   8 of  10 obs.
-----------------------------------
*  NOV  13, 1989  04h 07m 04.76± 1.56s
   36.415 N ±15.2km   70.400 E ±13.0km
   DEPTH = 211.7 ± 18.6 km
   4.1mb (  3 obs.)
 HINDU KUSH REGION                 (718)

QUE     6.85 206 eP      08 44.50   0.5
                eS      10 03.70
MAIO    8.80 272 eP      09 09.00  -0.3
NDI     9.62 141 iPc     09 19.50  -0.3
        0.6s    26.67nm          4.7mb
                eS      10 58.50
SOD    39.61 335 iP      14 17.30   0.7
HFS    42.84 322 eP      14 42.80  -0.3
        0.4s     2.40nm          4.0mb
NB2    44.16 323 P       14 53.70   0.0
        0.4s     1.30nm          3.8mb
KIC    74.30 266 P       18 20.20  -0.5
LIC    74.61 266 P       18 22.80   0.3
     S.D. = 0.6  on   8 of   8 obs.
-----------------------------------
   NOV  13, 1989  04h 56m 38.09± 0.71s
   37.751 N ± 8.1km   30.203 E ± 6.6km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

BCK     0.42 133 iPg     56 46.00  -0.7
KHL     0.78 317 iPg     56 52.30  -1.1
                eSg     57 04.00
YER     1.65 249 iPn     57 08.20   1.0
CIN     1.69 266 eP      57 08.00   0.3
DST     2.22 327 ePn     57 16.00   0.4
IZM     2.41 286 ePn     57 18.00  -0.2
GPA     2.54   2 ePn     57 25.00   5.0X
BBTK    2.89  43 eP      57 26.00   0.9
EZN     3.67 306 ePn     57 35.60  -0.5
     S.D. = 0.9  on   8 of   9 obs.
-----------------------------------
?  NOV  13, 1989  06h 59m 20.21± 2.40s
   21.879 S ±21.2km   68.904 W ±20.7km
   DEPTH = 167.5 ± 17.4 km
   4.6mb (  1 obs.)
 CHILE-BOLIVIA BORDER REGION       (124)

CCH     5.18  31 P       00 37.00  -0.3
LPB     5.37   8 eP      00 41.00   1.0
ZOBO    5.63   8 P       00 43.00  -0.6
ARE     5.92 335 eP      00 47.00  -0.1
                eS      01 52.00
ITB1   13.62 104 eP      02 28.00   0.3
ITB    13.81 105 eP      02 29.90  -0.2
PPD    16.32  94 eP      02 56.80  -4.6X
LIC    68.49  74 P       10 06.60   0.0
KIC    68.80  74 Pc      10 08.60   0.0
        0.4s     4.00nm          4.6mb
     S.D. = 0.6  on   8 of   9 obs.
-----------------------------------
?  NOV  13, 1989  07h 39m 35.97±11.78s
   29.496 S ±76.9km   72.212 W ±64.4km
   DEPTH =  33.0km  (normal)
 OFF COAST OF CENTRAL CHILE        (134)

RTRS    2.48 106 iPc     40 15.80   0.9
RTBS    3.21 133 e(P)    40 23.20  -2.0X
JACH    3.47 157 iPc     40 30.00   1.0
                iS      41 04.00
RTC8    3.55 125 ePd     40 29.20  -1.0
ZON     3.67 125 eP      40 35.00   3.2X
RTLL    3.71 120 e(P)    40 32.20  -0.2
PEL     3.86 161 iPd     40 35.00   0.4
                iS      41 17.20
RTCV    3.95 128 e(P)    40 35.20  -0.6
LCCH    4.00 172 iPc     40 30.00  -6.6X
                iS      41 04.00
                iS      42 12.00
CFA     4.02 123 e(P)    40 40.50   3.7X
                S       41 14.00
FCH     4.16 157 eP      40 40.50   1.5
                iS      41 21.50
SAN     4.16 162 eP      40 40.00   1.2
                iS      41 25.50
TACH    4.28 166 eP      40 39.00  -1.5
PCH     4.36 161 eP      40 40.50  -1.2
                iS      41 25.50
LNV     4.50 171 eP      40 43.00  -0.5
CHCH    4.62 164 iP      40 45.50   0.2
     S.D. = 1.1  on  12 of  16 obs.
-----------------------------------
&  NOV  13, 1989  07h 40m 42.83s
   57.954 N          153.385 W
   DEPTH =  60.0km
   4.7mb (  8 obs.)
 KODIAK ISLAND REGION              ( 13)
      <AGS-P>.

KDC     0.52 113 iPc     40 54.40  -0.7
CDD     0.99 352 iP      40 59.99  -0.9
AUE     1.41   0 eP      41 06.52   0.0
OPT     1.71   3 eP      41 10.32  -0.4
XLV     1.74  29 eP      41 10.82  -0.3
CNPM    1.93  34 eP      41 12.95  -1.0
                eS      41 37.58
ILIM    2.14   6 eP      41 15.90  -1.0
BRLK    2.23  35 eP      41 16.74  -1.3
NNL     2.36  26 iP      41 19.35  -0.5
RED     2.49   7 eP      41 20.96  -0.8
SEW     2.96  42 eP      41 25.66  -2.7
NKA     3.01  21 eP      41 28.96   0.0
SLKM    3.03  31 eP      41 27.08  -2.4
SPU     3.31  11 iP      41 31.76  -1.6
SVW     3.36 341 iPc     41 32.90  -1.2
SUA     3.77  20 eP      41 38.03  -1.8
PMS     3.83  29 eP      41 38.30  -2.3
PWA     4.11  24 iPc     41 38.20  -6.3
PWA     4.11  24 iPd     41 42.40  -2.1
SKT     4.15  12 eP      41 42.60  -2.4
PMR     4.24  29 iPc     41 43.80  -2.5
GLI     4.35  45 eP      41 44.17  -3.7
GHO     4.44  29 eP      41 46.15  -3.1
FID     4.51  49 eP      41 46.44  -3.7
VZW     4.67  45 eP      41 48.93  -3.5
SDN     4.72 239 eP      41 53.50   0.5
CUT     4.73  18 eP      41 48.27  -4.9
TTA     5.16 347 ePc     41 57.30  -2.1
KLU     5.18  44 eP      41 56.56  -3.1
NCA     5.22  36 eP      41 57.12  -3.1
HUR     5.37  19 eP      41 59.85  -2.4
TOA     5.51  38 eP      42 01.60  -2.7
KTH     5.75  11 eP      42 05.20  -2.4
RND     5.90  20 eP      42 06.33  -3.5
MCK     6.19  19 eP      42 11.37  -2.4
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PAX      6.37  35 eP     42 12.60  -3.7
FBA      7.46  19 eP     42 26.80  -4.6
IMA      8.15 359 ePd    42 37.80  -3.1
HYT      8.60  64 P      42 38.50  -8.6
DWY      9.11  42 P      42 50.30  -3.8
INK     13.64  32 eP     43 50.00  -4.6
PNT     21.60  99 eP     45 49.00  19.9
MBC     22.00  21 ePd    45 34.30   1.6
        0.5s     20.00nm          4.8mb
KVN     29.57 114 eP     46 45.50   1.4
SOD     54.99 360 iP     50 07.70  -1.7
NB2     60.73   9 P      50 47.80  -2.1
        0.7s      4.50nm          4.7mb
HFS     61.81   7 eP     50 54.80  -2.3
        0.4s      8.10nm          5.2mb
NUR     61.87   1 iP     50 56.00  -1.4
        0.6s      7.80nm          5.0mb
LOR     73.46  16 eP     52 09.60  -0.5
        0.8s      3.20nm          4.3mb
SSF     73.61  16 eP     52 10.90   0.0
        0.7s      3.70nm          4.4mb
AVF     73.85  16 eP     52 11.90  -0.4
        0.8s      5.30nm          4.5mb
SBF     77.30  14 eP     52 36.50   4.5
        0.8s     10.70nm          4.9mb
        52 obs. associated
-----------------------------------------
?  NOV  13, 1989  07h 44m 00.71± 1.11s
   43.058 N ±12.5km    0.706 W ± 9.1km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      MD 1.0 (STR).

ATE      0.03   5 Pg     44 02.42  -0.3
                Sg     44 03.16
ISSF     0.07 245 Pg     44 03.08  -0.1
                Sg     44 04.45
ESCF     0.10  78 Pg     44 03.58   0.1
                Sg     44 05.44
MADF     0.12 316 Pg     44 04.04   0.3
                Sg     44 06.41
      S.D. = 0.5  on   4 of   4 obs.
-----------------------------------------
   NOV  13, 1989  08h 41m 23.09± 0.21s
   51.541 N ± 5.4km  177.301 E ± 2.7km
   DEPTH =  33.0km  (normal)
   5.0mb ( 44 obs.)  4.7Msz ( 10 obs.)
 RAT ISLANDS, ALEUTIAN ISLANDS    (  6)
      ML 5.4 (PMR). Ms 4.7 (BRK).
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 27C
      Centroid Location:
      Origin Time        08:41:28.3 0.6
      Lat 52.21N 0.07 Lon 177.10E 0.11
      Dep  15.0 FIX Half-duration  1.7
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.61 0.04  Mtt= 0.46 0.05
        Mff= 0.14 0.04  Mrt=-1.38 0.14
        Mrf= 0.05 0.13  Mtf= 0.25 0.05
       Principal Axes:
        T  Val=  1.43  Plg=34  Azm=170
        N        0.14      10      267
        P       -1.57      55       11
      Best Double Couple:Mo=1.5*10**17
       NP1:Strike=226 Dip=14 Slip=-132
       NP2:        89      79      -80

SMY      2.30 302 iPc    42 01.20   1.7
ADK      3.76  82 eP     42 21.00   0.9
SDN     13.75  65 ePc    44 37.90   0.1
SVW     17.68  47 ePd    45 30.70   2.6
TTA     18.24  41 eP     45 36.70   1.7
KDC     18.44  59 eP     45 34.10  -3.3X
IMA     20.64  34 eP     46 01.00  -1.0
PMR     20.81  48 eP     46 02.70  -1.0
TOA     22.29  48 ePc    46 20.10   1.4
FBA     22.35  40 eP     46 19.70   0.5
INK     28.74  36 ePd    47 18.80  -0.2
MBC     34.37  22 eP     48 08.00  -0.4
        0.5s      7.00nm          4.8mb
CN2     35.12 278 Pd     48 13.00  -2.1
        5.0s      0.30nm          2.5mb X
      Z  20s      1.10um          4.6Msz
      N  14s      0.40um
      E  14s      0.40um
                  epP    48 21.00  27kmX
                  esS    54 00.00
SNY     37.34 277 eP     48 33.60  -0.2
      Z  20s      1.00um          4.6Msz
      N  20s      0.60um
      E  22s      0.60um
PNT     39.14  68 eP     48 48.00  -1.0
        0.6s      7.00nm          4.6mb
EDM     40.85  59 eP     49 02.00  -1.0
        0.5s     19.00nm          5.1mb
LBFM    41.98  79 eP     49 13.50   0.8
WDC     42.03  81 ePd    49 13.50   0.7
                  epP    49 20.50  24kmX
MIN     42.75  80 ePd    49 19.00   0.2
                  epP    49 25.80  23kmX
BJI     42.95 279 eP     49 20.00  -0.2
        1.0s     24.00nm          4.9mb
      Z  20s      0.60um          4.5Msz
                  eS     55 40.00
ORV     43.28  81 eP     49 21.90  -1.1
SES     43.46  62 eP     49 23.00  -1.4
BRK     43.84  84 eP     49 28.00   0.5
      Z  20s      1.30um          4.8Msz
                  eLR    02 04.00
BKS     43.85  84 iPc    49 28.80   1.2
        1.0s     43.00nm          5.2mb
      Z  20s      1.20um          4.8Msz
      N  20s      0.40um
      E  20s      0.90um
                  eLR    02 18.00
PCC     44.00  84 e(P)   49 31.00   2.2
GCC     44.53  84 ePd    49 33.30   0.2
MHC     44.55  84 eP     49 33.90   0.4
ARN     44.62  84 eP     49 34.50   0.6
TIA     44.72 274 eP     49 34.10  -0.6
      Z  20s      0.40um          4.3Msz
CMB     44.90  82 eP     49 36.50   0.3
        1.4s     48.92nm          5.2mb
SAO     45.04  84 e(P)   49 37.50   0.3
LRM     45.10  68 eP     49 36.00  -1.9
HHC     45.29 283 eP     49 39.60   0.3
                  S      56 16.00
PRS     45.36  85 eP     49 40.50   0.7
LLA     45.44  84 eP     49 40.90   0.4
KVN     45.68  79 eP     49 42.20  -0.3
PRI     45.92  84 ePd    49 45.40   1.1
FRI     45.97  83 eP     49 44.90   0.3
                  epP    49 51.80  23kmX
FFC     46.01  53 iPd    49 54.30   9.7X
        0.6s      8.00nm          4.8mb
BTO     46.38 284 eP     49 49.00   1.1
      N  19s      0.80um
      E  15s      0.40um
                  pP     49 58.00  30kmX
                  PP     51 35.00
                  eS     56 34.50
TIY     46.68 279 Pd     49 51.00   0.7
      Z  18s      0.97um          4.8Msz
                  PP     51 44.00
                  S      56 37 00
TNP     46.83  80 eP     49 51.50  -0.1
        1.0s     15.00nm          4.9mb
SYP     47.39  86 eP     49 57.00   1.0
ISA     47.59  83 eP     49 57.00  -0.5
CLC     48.03  83 eP     50 01.00   0.1
BW06    48.56  70 eP     50 03.60  -1.5
        1 2s      6.16nm          4.5mb
SBB     48.63  84 eP     50 05.00  -0.5
MWC     48.79  84 eP     50 07.00   0.1
GSC     48.86  82 eP     50 08.00   0.7
DAU     49.00  74 eP     50 08.50  -0.1
RVR     49.36  84 eP     50 11.00  -0.1
PEC     49.56  84 eP     50 12.50  -0.2
MSU     49.63  76 eP     50 13.00  -0.5
PLM     50.11  84 eP     50 16.00  -1.1
TPC     50.11  83 eP     50 16.00  -0.9
WHN     50.21 271 Pd     50 17.60   0.0
BAR     50.68  85 eP     50 21.00  -0.2
XAN     51.23 278 P      50 25.50   0.1
GLA     51.57  83 eP     50 27.00  -1.0
RSON    52.34  53 eP     50 31.50  -2.0
        1.4s     58.94nm          5.4mb
LZH     52.98 283 Pd     50 38.50  -0.2
        1.8s     67.00nm          5.3mb
      Z  19s      1.00um          4.9Msz
                  pP     50 49.50  38kmX
GTA     53.23 289 iPd    50 40.00  -0.4
      Z  16s      0.90um          4.9MszX
      E  14s      0.40um
                  S      58 08.00
FRB     54.14  30 eP     50 45.00  -1.5
CD2     56.55 279 P      51 03.80  -0.8
WMO     57.18 301 iPd    51 08.50  -0.5
      Z  20s      1.80um          5.2Msz
                  sS     59 15.00
SOD     59.37 347 eP     51 22.00  -1.9
SIO     60.91  68 eP     51 34.00  -0.8
LNO     61.09  68 eP     51 34.00  -1.9
TUL     61.09  68 eP     51 32.30  -3.7X
        0.9s      9.20nm          4.9mb
      Z  19s      0.67um          4.8Msz
                  LR     12 00.00
KMI     61.28 275 Pd     51 37.00  -0.7
NUR     66.16 346 eP     52 07.00  -1.8
KSH     66.46 304 eP     52 11.50   0.2
NB2     67.22 353 P      52 14.60  -1.1
        0.5s      5.20nm          4.9mb
HFS     67.90 351 eP     52 17.80  -2.0
        0.4s      6.70nm          5.1mb
      Z  17s      0.19um          4.4MszX
                  LR     15 07.00
CHG     68.30 273 ePd    52 22.90  -0.1
        0.8s     56.16nm          5.7mb
EKA     73.49   0 P      52 53.00  -0.6
        0.8s      9.80nm          4.9mb
DZM     73.91 190 iP     52 58.00   1.5
DMU     74.87   3 eP     53 01.00  -0.7
DLE     75.50   2 eP     53 04.00  -1.2
MTN     75.57 227 iPc    53 06.40   0.3
CTA     76.33 210 eP     53 11.00   0.7
        1.0s     19.00nm          5.1mb
CLL     76.67 350 eP     53 10.00  -1.9
        1.9s     22.00nm          4.9mb
KRA     76.96 345 eP     53 13.10  -0.4
                  e      53 17.60
MAIO    77.00 313 iPd    53 14.90   0.8
SPC     77.76 345 eP     53 18.40   0.2
ENN     77.81 354 e(P)   53 18.00  -0.1
        0.9s     15.00nm          5.0mb
MEM     77.96 354 P      53 19.30   0.4
SNF     78.15 355 P      53 21.70   1.7
OUE     78.31 304 eP     53 22.50   1.0
DOU     78.55 355 P      53 25.60   3.4X
KHC     78.75 349 iPc    53 24.00   0.6
ZST     79.21 347 eP     53 26.20   0.3
SRO     79.40 346 eP     53 28.30   1.4
VRI     79.71 340 ePd    53 31.00   2.4
FLN     80.06 359 iPd    53 30.10  -0.3
        0.6s     10.80nm          5.0mb
CDF     80.06 353 eP     53 30.40  -0.2
        0.6s      4.30nm          4.6mb
LDF     80.22 358 iPd    53 31.00  -0.3
        0.6s     11.50nm          5.1mb
WB5     80.43 221 iPd    53 32.70   0.0
                  e      55 14.30
GRR     80.44 359 iPd    53 32.50   0.1
        0.4s     11.40nm          5.2mb
WRA     80.49 221 Pd     53 32.70  -0.4
        0.8s      8.30nm          4.8mb
HAU     80.53 354 eP     53 33.00   0.0
        0.6s      3.60nm          4.5mb
KBA     80.80 349 iPd    53 35.20   0.6
        0.5s     11.60nm          5.1mb
                  i      53 42.80
LPF     80.80 359 iPd    53 34.50   0.2
        0.4s      2.70nm          4.6mb
FVI     81.34 349 P      53 39.00   1.8
LOR     81.41 355 iPd    53 37.60   0.0
        0.8s      7.20nm          4.7mb
SSF     81.63 356 iPd    53 39.00   0.2
        0.8s     12.00nm          5.0mb
LBF     81.69 355 eP     53 38.90  -0.2
        0.6s      3.60nm          4.6mb
HYB     81.86 288 eP     53 40.00  -0.4
AVF     81.91 356 iPd    53 40.20   0.0
        0.8s      9.90nm          4.9mb
CTI     82.01 350 P      53 40.00  -0.9
SMF     82.03 355 iPd    53 40.80  -0.1
        0.9s     13.10nm          5.0mb
BGF     82.17 356 eP     53 41.70   0.2
        1.0s     10.00nm          4.8mb
MFF     82.21 358 iPd    53 41.90   0.1
        0.8s     10.70nm          4.9mb
TCF     82.46 357 eP     53 43.20   0.1
        0.6s      3.60nm          4.6mb
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13d 08h

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VAI     82.47 352 Pd     53 43.20   0.1
MAF     82.51 356 eP     53 43.70   0.3
         1.0s    12.00nm          4.9mb
LSF     82.52 357 iPd    53 43.60   0.2
         0.7s     8.80nm          4.9mb
LPG     83.00 353 eP     53 47.40   1.1
         1.0s    12.00nm          4.9mb
BNI     83.45 353 Pd     53 49.20   0.8
RJF     83.47 357 eP     53 49.00   0.7
         0.6s     7.20nm          5.0mb
BOB     83.50 351 P      53 49.40   0.8
POO     83.75 292 iPc    53 50.80   0.6
CAF     83.83 357 eP     53 51.00   0.8
         0.6s     6.60nm          5.0mb
LFF     83.86 358 eP     53 50.70   0.5
         0.4s    11.40nm          5.4mb
CKI     83.94 352 P      53 50.50  -0.2
ASPA    84.01 219 iPd    53 51.80   0.6
LPO     84.10 357 eP     53 51.70   0.2
         0.6s     7.90nm          5.1mb
PGD     84.15 350 P      53 53.20   1.2
FRF     84.93 353 eP     53 56.30   0.6
         0.8s    11.80nm          5.1mb
GBA     85.50 286 P      53 58.00  -0.9
CVF     85.73 351 eP     54 00.10   0.3
         0.8s    16.10nm          5.3mb
SLR    145.10 306 iPKPd 00 57.80  -0.8
         1.0s    33.00nm
MAW    145.12 218 ePKP   00 56.00  -1.1
KSR    145.91 307 ePKP   00 59.00  -1.0
BFS    146.82 307 iPKPd 01 02.00   0.6
         0.7s    20.55nm
WIN    147.26 325 iPKPd 01 04.50   2.2X
         1.5s    63.89nm
SEK    147.55 304 iPKPc 01 05.50   2.9X
         1.0s    25.00nm
FRS    149.89 305 ePKP   01 08.00   2.1X
HVD    150.48 304 ePKP   01 11.00   3.9X
      S.D. = 0.9  on 131 of 139 obs.
-----------------------------------------
?  NOV  13, 1989  09h 32m 02.59± 1.14s
   15.411 S ±51.7km  173.332 W ±33.3km
   DEPTH =  33.0km  (normol)
   4.6mb (  5 obs.)
 TONGA ISLANDS                        (173)

AFI      2.12  45 iPc    32 36.90   0.4
                  e(S)   33 26.00
SVA      8.31 250 eP     34 13.80  10.0X
DZM     20.25 248 iPc    36 44.20   6.0X
WB5     49.88 257 eP     40 55.00  -0.2
ASPA    50.17 252 eP     40 57.20  -0.2
         0.8s     5.00nm          4.6mb
PLM     72.46  47 P      43 28.00  -0.2
FRI     72.56  43 e(P)   43 28.40   0.0
CMB     72.73  41 ePd    43 29.30  -0.2
ORV     72.94  39 ePd    43 28.20  -2 5
WDC     72.95  38 e(P)   43 30.90   0.2
MIN     73.36  39 ePd    43 33.00  -0.3
LBFM    73.81  38 P      43 36.60   0.6
KVN     74.78  42 P      43 41.00  -0.6
TNP     74.80  43 P      43 41.70  -0.1
         1.0s    10.83nm          4.8mb
MSU     78.39  45 P      44 03.10   1.2
PNT     79.99  32 eP     44 10.00  -0.1
ALQ     80.76  50 P      44 14.80   0.1
         0.7s     2.70nm          4.4mb
BW06    82.24  42 P      44 22.30   0.0
         0.6s     3.14nm          4.5mb
FBA     82.39  11 P      44 22.60   0.3
         0.7s    13.44nm          5.1mb
KHC    145.90 352 iPKPc 51 41.40   1.7
         1.0s     7.00nm
      S.D. = 0.9  on  18 of  20 obs.
-----------------------------------------
&  NOV  13, 1989  10h 27m 18.01s
   59.835 N          152.611 W
   DEPTH =  74.4km
 SOUTHERN ALASKA                      (  2)
      <AGS-P>.

ILIM     0.30 325 iP      27 29.53  -0.4
OPT      0.36 240 iP      27 29.82  -0.5
RED      0.59 352 eP      27 31.87  -0.5
XLV      0.59 130 eP      27 31.59  -0.7
AUL      0.62 223 eP      27 31.59  -1.0
NNL      0.69  72 eP      27 34.11   0.7
RDT      0.75   8 eP      27 33.32  -0.7
CNPM     0.76 113 iP      27 33.61  -0.6
BRLK     0.88  94 eP      27 34.96  -0.5
CDD      1.05 211 eP      27 35.68  -2.0
NKA      1.14  36 eP      27 39.81   1.1
SLKM     1.37  60 eP      27 40.70  -1.2
SPU      1.38  11 iP      27 41.02  -0.9
                eS       27 59.97
SEW      1.61  79 eP      27 43.56  -1.4
SUA      1.88  29 eP      27 48.02  -0.7
SKT      2.22  13 eP      27 43.36 -10.0
PLRM     2.46  43 eP      27 54.79  -1.8
GHO      2.65  41 eP      27 57.35  -2.1
CUT      2.82  23 eP      28 00.76  -0.9
GLI      2.93  67 eP      28 00.21  -3.1
FID      3.19  71 eP      28 02.84  -4.0
VZW      3.24  65 eP      28 04.51  -3.1
KLU      3.69  60 eP      28 10.60  -3.3
GLB      4.62  66 eP      28 23.18  -3.8
        24 obs. associated
-----------------------------------------
   NOV  13, 1989  11h 25m 40.67± 0.62s
   39.205 N ± 4.6km   29.507 E ± 7.6km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                               (366)
      MD 3.9 (ATH).

DST      0.79 301 ePg     25 56.20   0.1
                eSg      26 07.20
KHL      0.88 179 iPg     25 55.60  -2.0
GPA      1.25  29 iPn     26 05.20   1.3
YLV      1 36 356 iPn     26 05.20  -0.6
GBZT     1.58 358 ePn     26 09.30   0.5
HRT      1.62   4 ePn     26 08.70  -0.7
BNT      1.68 314 iPn     26 09.20  -1.0
EDC      1.70 313 iPn     26 09.50  -1.1
ISK      1.89 350 ePn     26 14.00   0.8
IZM      1.93 246 iPn     26 15.10   1.2
ITU      1.94 349 ePn     26 18.00   4.1X
                iSg      26 45.00
BCK      1.94 154 ePn     26 13.90  -0.1
CIN      1.95 215 ePn     26 16.00   1.8
CTT      2.11 337 ePn     26 18.00   1.6
YER      2.28 205 iPn     26 20.90   1.9
PRK      2.51 272 ePn     26 22.10  -0.1
EZN      2.54 285 iPn     26 19.90  -2.6
BBTK     2.60  75 ePg     26 30.00   6.5X
                eSg      27 08.00
DMK      2.93 334 ePn     26 28.00  -0.2
KSL      3.08 179 ePn     26 29.10  -1.1
RDO      3.61 304 ePn     26 37.50  -0.2
KAS      3.91  55 ePn     26 54.00  11.9X
PLG      4.81 286 ePn     26 56.50   1.5
KVT      5.35  67 eP      27 14.00  11.5X
TLB      5.49 349 ePc     27 03.50  -0.9
AGG      5.59 270 ePc     27 43.40  37.5X
                eS       27 49.30
MLR      6.81 338 eP      27 29.00   5.8X
                e        45 15.00
      S.D  = 1.3  on  21 of  27 obs.
-----------------------------------------
   NOV  13, 1989  12h 08m 30.97± 1.03s
   21.581 S ± 8.3km  170.462 E ± 9.1km
   DEPTH = 186.4 ± 10.8 km
   5.1mb ( 10 obs.)
 LOYALTY ISLANDS REGION               (189)

DZM      3.76 262 iPc     09 28.00  -2.0
                iS       10 13.90
PVC      4.32 332 iP      09 37.80   0.8
HNR     15.75 318 eP      12 03.00  -1.3
                eS       13 54.00
SVO     16.05 319 eP      12 10.00   2.0
BRS     17.10 247 iPc     12 21.50   0.9
                i        12 25.30
COO     18.91 238 iPd     12 41.30   1.3
MNG     19.45 168 P       12 45.30   0.0
         0.3s    43.00nm          5.4mb
KIW     19.59 170 P       12 47.00   0.3
PGZ     19.61 167 P       12 46.20  -0.7
         0.9s   141.00nm          5.5mb
TCW     19.84 171 P       12 49.90   0.7
CAW     19.86 170 P       12 49.20  -0.2
MRW     19.92 171 (P)     12 50.00   0.0
MTW     19.98 169 P       12 50.10  -0.6
WDW     20 00 170 P       12 50.60  -0.2
RMO     20.41 252 iPd     12 56.90   1.8
                e        12 58.00
CTA     22.67 269 eP      13 19.00   1.8
CNB     22.99 229 iPc     13 21.90   1.6
         1.0s   150.00nm          5.5mb
BWA     23.23 232 iPd     13 22.10  -0.6
CAN     23.25 229 iPd     13 23.90   1.1
CMS     24.10 241 iPd     13 31.70   0.8
TOO     26.82 228 eP      13 56.00   0.2
STK     27.67 242 eP      14 04.00   0.5
ASPA    33.75 259 iPd     14 55.80  -1.1
         0.9s    27.00nm          4.9mb
                epP       15 29.40 156kmX
                eS        20 04 60
WB5     33.75 266 eP      14 55.30  -1.6
                eScP      20 10.50
WRA     33.77 266 Pc      14 55.40  -1.7
         0.6s     8.10nm          4.6mb
FORR    38.92 247 iPc     15 40.00  -0.1
         0.4s    33.00nm          5.3mb
WARB    40.19 255 eP      15 50.50  -0.2
         0.5s    11.00nm          4.7mb
MBL     46.98 261 iPd     16 44.90  -0.3
KLB     47.78 246 iPd     16 50.30  -1.1
         0.3s    12.00nm          4.9mb
NWAO    48.21 245 iPd     16 53.80  -0.8
         0.5s    29.00nm          5.0mb
BAL     48.72 248 iPd     16 57.30  -1.3
MUN     49.09 246 eP      17 00.60  -0.8
SBA     56.35 181 Pd      17 55.30   1.0
SPA     68.55 180 iPd     19 14.70  -0.5
         1.0s    25.50nm          4.9mb
MAW     76.70 202 eP      20 03.00   0.5
CLL    145.51 335 ePKP    27 48.00   0.0
         1.0s    10.00nm
KHC    146.93 332 ePKP    27 53.40   2.9X
                e        28 37.50
BCAO   147.87 242 iPKPd 27 56.20   3.2X
         0 5s    11.00nm
DOU    149.43 342 PKP     27 59.00   4.7X
      S.D. = 1.1  on  36 of  39 obs.
-----------------------------------------
   NOV  13, 1989  12h 28m 17.28± 0.80s
   39.119 N ± 6.0km   29.522 E ± 9.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                               (366)

KHL      0.79 180 iPg     28 32.30  -0.5
DST      0.85 305 iPg     28 33.20  -0.4
                eSg      28 44.20
GPA      1.32  27 iPn     28 42.20   0.6
                iSg      28 43.10
YLV      1.45 356 iPn     28 43.20  -0.4
HRT      1.70   4 ePn     28 47.20   0.0
BNT      1.75 316 iPn     28 47.70  -0.1
EDC      1.77 314 ePn     28 53.50   5.3X
IZM      1.91 249 ePn     28 51.10   0.9
ISK      1.98 350 ePn     28 54.30   3.2X
CTT      2.19 338 ePn     28 58.90   4.6X
      S D. = 0.7  on   7 of  10 obs.
-----------------------------------------
?  NOV  13, 1989  12h 57m 02.71± 1.22s
   39.179 N ± 8.9km   27.421 E ±18.6km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                               (366)

IZM      0.79 189 ePg     57 18.10   0.0
                iSg      57 30.10
DST      1.03  65 iPg     57 22.20   0.0
                eSg      57 35.20
EZN      1.07 308 ePn     57 28.00   5.2X
EDC      1.22  16 ePn     57 26.00   0.7
BNT      1.24  18 ePn     57 25.00  -0.7
      S.D. = 1.0  on   4 of   5 obs.
-----------------------------------------
&  NOV  13, 1989  14h 06m 45.40s
   59.167 N          136.880 W
   DEPTH =   0.0km
 SOUTHEASTERN ALASKA                  ( 19)
      <AGS-P>. ML 4.2 (PMR). Felt (IV)
      at Skagway and (III) at Haines
      and Juneau.

YKU      1.51 286 eP      07 12.20  -1.5
HYT      1.69 350 P       07 16.10  -0.4
PCA      1.95 300 eP      07 17 73  -2.5
                eS       07 43.73
SIT      2.27 158 eP      07 22.30  -2.4
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BALM     3.32 307 eP     07 37.62  -2.1
                 Sn     08 22.24
GLB      4.13 306 eP     07 48.04  -3.2
MID      4.86 277 eP     08 02.90   1.4
DWY      5.05 347 P      08 03.10  -1.1
KLU      5.06 301 eP     08 01.79  -2.7
FID      5.08 292 eP     08 02.00  -2.6
VLZ      5.12 297 eP     08 02.08  -3.0
VZW      5.20 296 eP     08 02.82  -3.5
GLI      5.40 293 eP     08 05.32  -3.9
TOA      5.44 307 eP     08 08.70  -1.1
DOT      5.66 326 eP     08 09.95  -3.0
PMR      6.54 297 eP     08 22.40  -2.8
CNPM     7.35 279 eP     08 31.88  -4.7
FBA      7.70 323 eP     08 37.00  -4.4
KDC      8.31 267 eP     08 44.40  -5.6
INK      9.29   8 eP     09 03.00  -0.6
TTA     10.00 300 eP     09 07.00  -6.4
IMA     10.35 319 eP     09 15.00  -3.3
EDM     14.34 104 ePc    10 11.00  -0.7
KVN     23.43 141 eP     11 58.50   1.5
        24 obs. associated
-----------------------------------------
?  NOV  13, 1989  14h 08m 44.24± 5.60s
   40.270 N ±25.5km  124.083 W ±40.1km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF NORTHERN CALIF.    ( 35)
      ML 3.0 (BRK).

FHC      0.54   8 iPd    08 54.80  -0.3
                 i      09 01.60
                 iS     09 03.50
WDC      1.22  75 e(P)   09 06.30  -0.6
                 e      09 29.60
LTCM     1.50  92 e(P)   09 14.00   2.8X
LBFM     1.98  56 eP     09 19.50   1.1
KVN      4.78 103 e(P)   09 58.00  -0.2
      S.D. = 1.3  on   4 of   5 obs
-----------------------------------------
%  NOV  13, 1989  14h 39m 51.16± 0.74s
   59.917 N ± 6.1km    6.182 E ± 7.7km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY.                 (535)
      MD 1.4 (BER).

ODD1     0.22  91 iPc    39 56.02   0.0
                 iSg    39 59.35
BLS1     0.62 148 eP     40 03.66  -0.1
                 eS     40 11.68
KMY      0.85 214 eP     40 07.64   0.1
                 eS     40 18.28
HYA      1.25   0 eP     40 14.58   0.2
                 eS     40 31.16
SUE      1.34 329 eP     40 15.68  -0.2
                 eS     40 32.34
      S.D. = 0.2  on   5 of   5 obs.
-----------------------------------------
&  NOV  13, 1989  15h 12m 53.39s
   59.892 N          153.532 W
   DEPTH = 134.7km
 SOUTHERN ALASKA                  (  2)
      <AGS-P>.

OPT      0.28 147 eP     13 11.73   1.0
                 eS     13 26.67
ILIM     0.34  56 eP     13 11.71   0.7
                 Sn     13 27.14
AUL      0.51 174 eP     13 12.60  -0.7
AUW      0.52 177 iP     13 12.63  -0.7
RED      0.65  35 eP     13 13.40  -0.9
                 Sn     13 30.22
CDD      0.97 183 eP     13 15.59  -1.2
XLV      1.02 115 eP     13 15.92  -1.3
                 eS     13 34.68
NNL      1.13  81 eP     13 18.35   0.1
CNPM     1.22 107 eP     13 18.13  -1.1
                 Sn     13 37.14
NKA      1.43  52 eP     13 22.51   1.2
CRP      1.54  26 iP     13 22.21  -0.6
SVW      1.60 321 iP     13 21.75  -1.6
                 Sn     13 45.46
SLKM     1.77  68 eP     13 24.16  -1.1
SEW      2.06  82 eP     13 27.54  -1.2
SUA      2.09  40 eP     13 28.29  -1.0
                 eS     13 55.68
SKT      2.31  24 eP     13 30.74  -1.2
PMS      2.38  54 eP     13 31.28  -1.6
PLRM     2.75  50 eP     13 35.09  -2.4
GHO      2.94  48 eP     13 37.60  -2.5
                 eS     14 12.54
GLI      3.35  70 eP     13 43.57  -1.7
FID      3.61  73 eP     13 46.50  -2.4
VLZ      3.77  68 eP     13 48.78  -2.1
KTH      3.88  18 eP     13 50.73  -1.7
NCA      3.89  54 eP     13 50.00  -2.6
KLU      4.07  63 eP     13 52.42  -2.6
RND      4.17  30 eP     13 54.35  -2.1
TOA      4.21  55 eP     13 54.98  -2.0
MCK      4.43  28 eP     13 58.34  -1.4
PAX      4.95  48 eP     14 05.06  -1.8
GLB      5.03  68 eP     14 08.16   0.3
NEA      5.14  22 eP     14 06.41  -3.0
WRH      5.25  27 eP     14 07.93  -2.9
DDM      5.33  40 eP     14 10.95  -1.1
CCB      5.47  27 eP     14 10.68  -3.1
HDA      5.48  31 eP     14 11.14  -2.8
BALM     5.65  73 eP     14 14.70  -1.7
FBA      5.69  25 eP     14 14.23  -2.5
GLM      5.85  26 eP     14 16.22  -2.9
PCA      6.66  83 eP     14 29.05  -1.1
        39 obs. associated
-----------------------------------------
    NOV  13, 1989  15h 54m 40.79± 0.77s
     4.697 N ± 3.5km   94.500 E ± 3.9km
    DEPTH =  56.2 ±  6.8 km
    5.2mb ( 45 obs.)  4.4Msz (  8 obs.)
  OFF W COAST OF NORTHERN SUMATERA(705)

BSI      1.12  45 eP     55 01.00   0.5
TSI      4.22 106 eP     55 46.00   1.8
IPM      6.51  91 ePc    56 15.10  -1.1
         0.4s    86.00nm          5.7mb
                  e      57 30.20
                  e      57 42.90
SNG      6.56  68 ePn    56 17.10   0 1
                 ePg     56 32.60
                 eSn     57 07.40
                 eSg     57 29.90
KLM      7.30 102 eP     56 25.20  -2.1
KGM      9.20 107 ePc    56 52.80  -0.7
NNT      9.39  33 iPc    56 55.60  -0.6
NST     12.23  27 eP     57 35.50   0.9
                  e      00 52.00
BDT     13.23  19 eP     57 50.00   2 3
         0.6s    21.40nm          5.1mb X
LOE     14.48  29 eP     58 04.00  -0.2
CHTO    14.69  17 eP     58 06.30  -0.6
GBA     19.02 299 P      59 01.00   0.0
                  S      02 17.00
HYB     20.09 310 eP     59 11.50  -1.1
QIZ     20.67  45 eP     59 18.90   0.4
      N  16s     1.60um
KMI     21.80  20 P-     59 31.00   0.9
      Z  20s     1.60um          4.4Msz
      E  15s     2.90um
                  e      59 31.50
                 pP      59 37.50  23kmX
TRT     21.89 124 ePc    59 32.50   1.7
POO     24.41 306 iPc    59 56.70   1.2
GYA     24.57  27 P      59 57.80   0.8
      Z  16s     1.60um          4.6MszX
      N  13s     1.10um
      E  13s     1.20um
                  S      04 07.00
                 sS      04 34.00
LSA     25.07 353 P      00 03.00   0.9
                  S      04 25.00
CD2     27.49  17 P      00 22.40  -1.5
      E  13s     1.90um
                 sS      05 23.00
OCP     27.96  67 eP     00 30.10   1.8
BAG     28.11  64 eP     00 30.00   0.2
NDI     28.95 327 eP     00 31.00  -6.1X
WHN     31.80  34 eP     01 02.00  -0.2
      Z  16s     4.16um          5.2MszX
      N  13s     3.13um
      E  13s     2.51um
XAN     32.13  23 iPc    01 03.90  -1.2
      N  14s     1.40um
      E  14s     1.40um
                  S      06 11.00
LZH     32.40  14 eP     01 05.50  -2.1
        2.0s     1.40nm          3.4mb X
      Z  18s     1.20um          4.6Msz
      E  13s     0.90um
GTA     34.89   7 iPc    01 28.00  -1.1
      Z  20s     0.60um          4.3Msz
NJ2     35.51  37 Pc     01 34.00  -0.2
      Z  14s     3.60um          5.3MszX
MBL     35.74 137 eP     01 35.30  -1.0
QUE     36.31 317 iPc    01 42.00   0.7
SSE     36.32  41 eP     01 41.00  -0.1
      Z  16s     2.20um          5.0MszX
      E  12s     1.60um
                 e(S)     07 52.00
TIY     36.72  24 eP     01 45.00   0.6
      Z  16s     4.04um          5.3MszX
      N  15s     2.52um
      E  15s     2.06um
                 eS       07 22.00
TIA     37.64  31 eP     01 52.00  -0.1
      Z  15s     1.70um          5.0MszX
      N  14s     1.00um
      E  14s     0.70um
BTO     38.37  19 eP     01 57.00  -1.4
      N  15s     1.20um
      E  15s     0.50um
KSH     38.45 337 eP     02 00.70   1.7
HHC     39.12  21 Pd     02 04.90   0.3
      Z  22s     1.60um          4.8Msz
      N  14s     0.30um
      E  12s     0.50um
WMQ     39.42 352 iPc    02 07.50   0.5
      Z  20s     0.40um          4.2Msz
                  S       08 07.40
BJI     40.25  26 eP     02 14.50   0.7
        1.5s    66.00nm          5.2mb
      Z  16s     1.17um          4.8MszX
      E  13s     0.43um
MUN     41.92 152 eP     02 27.80   0.2
NWAO    43.19 152 eP     02 37.00  -0.9
      Z  20s     0.40um          4.3Msz
MAIO    44.97 319 eP     02 52.00  -0.4
SNY     45.17  31 eP     02 51.40  -2.3
      Z  20s     1.70um          5.0Msz
      N  18s     1.20um
WB5     46.18 123 iPc    03 02.00  -0.1
WRA     46.18 123 Pc     03 01.80  -0.3
        0.9s    92 90nm          5.7mb
CN2     47.54  30 Pc     03 11.90  -0.6
      Z  16s     1.00um          4.9MszX
      N  14s     0.70um
      E  14s     0.80um
                 pP       03 24.00  44kmX
ASPA    47.65 128 iPc    03 13.30  -0.4
        1.0s    42.00nm          5.4mb
      Z  20s     0.40um          4.4Msz
                 LR       25 48.80
FORR    47.74 140 iPd    03 14.00  -0.2
        0.3s    11.00nm          5.3mb
QIS     50.89 121 iPc    03 37.90  -0.7
        0.9s    47.00nm          5.5mb
CTA     56.49 118 iPc    04 19.00  -0.8
        1.1s    62.66nm          5.6mb
ADE     57.29 137 eP     04 26.40   1.0
        0.8s    19.40nm          5.2mb
STK     57.69 132 eP     04 27.60  -0.5
CMS     60.67 130 eP     04 48.70   0.0
RMQ     60.94 124 iPc    04 51.20   0.5
MBH     61.42 301 eP     04 54.00   0.2
PRNI    61.44 302 eP     04 54.00   0.0
TOO     63.31 136 eP     05 07.00   0.6
BRS     64.61 123 iPd    05 14.50  -0.5
CAN     64.75 133 iPc    05 16.00   0.2
COO     65.04 127 eP     05 19.00   1.3
HNR     66.71 102 eP     05 29.00   0.4
BUL     69.22 247 iPd    05 45.60   1.2
        1.0s    23.50nm          5.1mb
SLR     70.89 241 iPd    05 54.00  -0.5
        1.1s    31.65nm          5.2mb
VRI     71.24 317 ePc    05 56.00  -0.1
MLR     71.69 316 ePc    05 59.00   0.0
KSR     72.13 241 eP     06 00.90  -1.1
SEK     72.14 238 eP     06 02.00   0.0
        0.9s    16.81nm          5.0mb
BFS     72.49 240 iPd    06 03.00  -1.0
        1.0s    30.00nm          5.2mb
VAY     73.36 312 eP     06 07.00  -1.7
FRS     74.46 238 eP     06 15.00  -0.2
HVD     74.53 237 iPd    06 16.00   0.1
OHR     74.65 311 eP     06 14.20  -2.1
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13d 16h

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DZM     75.16 114 iPc    06 20.70   1.2
BCAO    75.69 273 iPc    06 22.60  -0.1
        0.5s     20.00nm          5.3mb
                   ic     06 30.00
SUF     76.02 334 iP     06 23.00  -0.5
        0.9s     32.30nm          5.3mb
NUR     76.08 331 eP     06 23.40  -0.5
SPC     76.18 319 eP     06 35.30  10.3X
KRA     76.51 320 ePc    06 26.50   0.0
        0.7s     25.00nm          5.3mb
SRO     77.26 318 eP     06 31.20   0.5
SOD     77.27 338 iP     06 30.50   0.1
KEV     77.93 341 eP     06 35.00   1.0
ZST     78.11 318 iP     06 35.30  -0.1
VKA     78.64 318 iPc    06 38.70   0.3
        2.0s    149.00nm          5.6mb
PTJ     78.67 316 eP     06 36.20  -2.5
KSP     78.93 321 iPc    06 40.00   0.1
VBY     79.13 315 eP     06 40.00  -1.0
LJU     79.67 316 ePc    06 44.00   0.0
PRU     79.96 320 eP     06 45.80   0.4
                   e     07 48.00
VOY     80.11 316 eP     06 45.00  -1.5
WIN     80.22 246 iPc    06 48.50   0.9
        1.0s     25.00nm          5.1mb
KHC     80.52 319 iPc    06 48.50   0.0
        1.0s      5.50nm          4.4mb
FVI     80.92 316 Pd     06 50.50   0.0
WET     80.98 319 iPc    06 51.40   0.5
        1.3s     42.00nm          5.2mb
CLL     81.04 321 iPc    06 50.60  -0.5
        1.3s     19.00nm          4.9mb
                  eSg    08 23.00
HFS     81.37 330 eP     06 52.20  -0.4
        1.2s     44.60nm          5.3mb
      Z  17s      0.10um          4.3MszX
                   LR    44 53.00
CTI     81.68 316 Pd     06 54.60  -0.1
MOX     81.87 320 ePc    06 55.00  -0.5
        1.5s     25.00nm          5.0mb
OGA     82.13 317 iPc    06 57.30   0.1
        0.8s     19.00nm          5.2mb
NB2     82.66 331 P      06 58.90  -0.5
        1.0s     14.90nm          4.9mb
VAI     83.68 315 P      07 04.50  -0.3
CDF     84.67 318 eP     07 09.80  -0.1
        0.8s      5.30nm          4.7mb
BSF     85.01 317 eP     07 11.40  -0.3
LPG     85.10 315 iPc    07 12.60   0.2
        1.0s     20.80nm          5.2mb
BNI     85.17 315 P      07 15.50   2.9X
FRF     85.24 313 eP     07 13.20   0.5
        1.0s     29.60nm          5.4mb
HAU     85.30 318 iPc    07 13.00   0.0
        1.0s     20.00nm          5.2mb
LMR     85.35 313 eP     07 13.60   0.3
        1.0s      8.00nm          4.8mb
LRG     85.45 313 eP     07 14.50   0.7
        0.8s     13.40nm          5.1mb
LBF     86.96 317 iPc    07 21.30   0.1
        1.0s     14.80nm          5.1mb
LOR     87.02 317 iPc    07 21.50   0.0
        1.0s     16.00nm          5.2mb
SMF     87.07 316 iPc    07 21.60  -0.1
        1.0s     14.80nm          5.1mb
SSF     87.28 317 iPc    07 22.90   0.2
        1.0s     10.00nm          5.0mb
AVF     87.40 317 iPc    07 23.40   0.2
        0.8s      5.30nm          4.8mb
BGF     87.76 316 iPc    07 25.60   0.6
        1.0s     14.00nm          5.1mb
MAF     87.98 316 iPc    07 26.50   0.4
        1.0s     10.00nm          5.0mb
TCF     88.22 316 eP     07 27.80   0.5
        1.0s      6.80nm          4.8mb
LPO     89.09 315 eP     07 32.20   0.8
        1.0s      8.00nm          5.0mb
LDF     89.57 319 eP     07 34.20   0.6
        1.0s     17.60nm          5.3mb
FLN     89.79 319 eP     07 35.00   0.4
        1.1s     29.30nm          5.5mb
GRR     90.08 318 eP     07 36.90   1.0
        0.8s     10.70nm          5.2mb
LPF     90.25 318 eP     07 37.70   1.0
        1.0s     20.00nm          5.4mb
EKA     90.52 326 Pc     07 38.30   0.5
        0.9s      8.70nm          5.1mb
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IMA     94.41  22 eP     07 56.00   0.3
TTA     94.58  26 eP     07 56.80   0.3
MBC     96.84   8 eP     08 07.00   0.5
        0.8s      3.00nm          4.9mb
INK     99.92  16 eP     08 20.00  -0.6
KVN    127.07  32 ePKP   13 41.50   0.5
ZOBO   159.43 235 PKP    14 37.00   1.4
      Z  24s      0.33um          5.1MszX
                   i     15 15.00
                   LR    33 20.00
      S.D. = 0.9  on 124 of 127 obs.
-----------------------------------
*  NOV  13, 1989  19h 51m 57.85± 0.77s
    2.837 S ±13.2km  119.189 E ±20.5km
    DEPTH =  33.0km  (normal)
    4.3mb (  3 obs.)
 SULAWESI                          (268)

MKS      2.38 173 iPc    52 35.00  -0.4
TSM      7.10 351 iPc    53 42.00  -0.1
WB5     22.51 140 eP     56 55.50  -0.7
WRA     22.54 140 Pc     56 55.60  -0.8
        1.1s      8.70nm          4.1mb
ASPA    25.13 147 eP     57 21.90   0.4
        1.2s     10.00nm          4.3mb
      Z  22s      0.10um          3.3MszX
                   LR    06 54.40
BWA     41.57 143 eP     59 47.90   3.6X
CAN     42.52 143 eP     59 53.80   1.7
GBA     44.52 293 Pd     00 10.10   1.6
        0.2s      1.50nm          4.5mb
HYB     44.85 298 eP     00 09.50  -1.7
      S.D. = 1.4  on   8 of   9 obs.
-----------------------------------
%  NOV  13, 1989  19h 59m 34.09± 1.27s
    37.762 N ±13.6km   21.711 E ±11.2km
    DEPTH =  10.0km  (geophysicist)
 SOUTHERN GREECE                   (368)
      ML 3.1 (ATH).

VLS      0.98 295 ePg    59 52.00  -0.7
VLI      1.43 136 ePb    00 00.50   0.4
ATH      1.60  82 ePb    00 02.30  -0.2
NEO      1.95  37 ePn    00 06.00  -1.5
KZN      2.54   1 ePb    00 18.00   1.9
      S.D. = 1.8  on   5 of   5 obs.
-----------------------------------
&  NOV  13, 1989  20h 16m 44.84s
    61.864 N          152.028 W
    DEPTH = 118.3km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>.

SKT      0.26  63 iP     17 00.77   0.8
                  eS     17 14.40
CGLM     0.56 179 iP     17 02.63  -0.7
SPU      0.68 181 eP     17 03.37  -0.9
SUA      0.73 123 iP     17 04.72   0.0
                  eS     17 19.03
CUT      0.99  56 iP     17 05.97  -0.9
PWA      1.04 101 eP     17 06.96  -0.5
NKA      1.19 161 eP     17 09.82   0.9
RDT      1.31 188 iP     17 09.50  -0.9
PMS      1.33 117 eP     17 09.69  -1.0
PLRM     1.41 100 iP     17 09.78  -1.6
PME      1.45  98 eP     17 10.49  -1.4
GHO      1.48  92 eP     17 11.00  -1.3
HUR      1.58  44 eP     17 11.74  -1.7
SLKM     1.62 146 eP     17 13.16  -0.8
KNK      1.76 103 iP     17 14.20  -1.6
KTH      1.77  16 eP     17 13.56  -2.3
ILIM     1.85 195 eP     17 15.57  -1.2
NNL      1.86 169 eP     17 16.64  -0.3
RND      2.13  42 eP     17 17.94  -2.5
SEW      2.17 143 eP     17 19.55  -1.2
OPT      2.30 195 eP     17 21.19  -1.3
CNPM     2.38 170 eP     17 22.10  -1.5
NCA      2.46  85 eP     17 22.66  -2.1
GLI      2.57 110 eP     17 23.44  -2.7
VZW      2.75 105 eP     17 26.41  -2.1
TOA      2.77  82 eP     17 27.42  -1.4
FID      2.90 110 eP     17 27.21  -3.2
KLU      2.94  95 eP     17 28.80  -2.2
        28 obs. associated
-----------------------------------
%  NOV  13, 1989  21h 26m 52.38± 0.64s
    39.431 N ± 5.7km   27.866 E ± 6.3km
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    DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

DST      0.61  73 iPg    27 04.30  -0.5
EDC      0.91 360 iPg    27 09.50  -0.4
                  eSg    27 22.50
BNT      0.93   3 iPg    27 10.60   0.6
                  iSg    27 23.60
IZM      1.13 205 iPg    27 13.30  -0.3
                  iSg    27 27.30
EZN      1.25 289 iPn    27 15.70   0.0
YLV      1.62  45 iPn    27 21.10   0.0
KHL      1.70 130 ePn    27 23.00   0.7
      S.D. = 0.6  on   7 of   7 obs.
-----------------------------------
*  NOV  13, 1989  21h 40m 19.33± 1.07s
    38.650 N ± 6.4km   26.053 E ±13.2km
    DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                        (365)

PRK      0.62  16 eP     40 32.70   0.9
IZM      0.98 104 iPg    40 37.80  -0.2
SMG      1.12 146 eP     40 40.50   0.1
                  eS     40 56.30
EZN      1.19  10 iPn    40 40.70  -0.8
APE      1.63 195 eP     40 48.20   0.0
      S.D. = 0.9  on   5 of   5 obs.
-----------------------------------
    NOV  13, 1989  22h 10m 53.28± 0.91s
    38.238 N ± 6.7km   26.799 E ± 8.9km
    DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                        (365)
      MD 3.0 (ATH).

IZM      0.40  66 iPg    11 00.80  -0.6
                  iSg    11 07.30
SMG      0.53 177 eP     11 03.70  -0.3
                  eS     11 15.00
PRK      1.09 338 iPc    11 12.80  -0.9
                  eS     11 28.00
CIN      1.20 122 ePg    11 16.00   0.4
                  iSg    11 34.00
EZN      1.63 347 ePn    11 23.20   1.2
KHL      2.15  87 ePn    11 30.00   0.3
      S.D. = 1.0  on   6 of   6 obs.
-----------------------------------
?  NOV  13, 1989  22h 30m 23.69± 8.96s
    30.382 S ±45.1km   68.424 W ±52.7km
    DEPTH = 137.3 ± 57.9 km
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTRS     0.92 283 iPd    30 47.00   0.2
RTLL     0.95 182 iPc    30 46.80  -0.3
RTCB     1.15 196 iPd    30 48.90  -0.1
ZON      1.18 191 iPd    30 49.00  -0.3
                  eS     31 06.00
CFA      1.23 173 iPd    30 50.00   0.2
JACH     2.95 218 iPd    31 11.10   0.5
                  iS     31 46.50
FCH      3.34 208 iPd    31 17.70   1.8
                  iS     31 58.00
ROCH     3.40 220 iPc    31 16.20  -0.4
                  iS     31 55.00
PCH      3.68 208 iPd    31 21.00   0.7
                  iS     32 05.50
TACH     3.90 213 iPd    31 22.50  -0.5
                  iS     32 08.00
CHCH     4.01 208 iPd    31 24.80   0.2
                  iS     32 11.00
LNV      4.37 215 iPc    31 27.50  -1.8
                  iS     32 04.00
      S.D. = 1.0  on  12 of  12 obs.
-----------------------------------
*  NOV  13, 1989  22h 57m 09.98± 1.02s
    3.605 S ±11.6km  144.924 E ±15.3km
    DEPTH =  33.0km  (normal)
    3.7mb (  1 obs.)  4.0Msz (  1 obs.)
 NEAR N COAST OF PAPUA NEW GUINEA(200)

MNDI     2.83 206 eP     57 55.00   0.9
LAT      3.67 146 eP     58 06.00   0.2
JAY      4.35 284 ePd    58 04.50 -11.0X
PMG      6.18 159 eP     58 40.00  -1.3
WB5     19.18 212 eP     01 31.00  -2.8X
WRA     19.24 212 P      01 33.00  -1.6
        0.8s      4.10nm          3.7mb
ASPA    22.61 207 eP     02 10.00   0.7
```

```
     Z  18s      0.55um          4.0Msz
                  eS     06 15.00
                  LR     11 35.70
RMO     23.05 171 eP     02 15.00    1.5
CHG     50.44 298 eP     06 06.10   -0.8
LZH     55.06 320 eP     06 42.00    0.7
        1.5s     35.00nm          5.2mb X
KIC    149.66 276 PKP    17 01.20    7.1X
TIC    149.92 277 PKP    17 01.90    7.4X
LIC    149.95 276 PKP    17 02.00    7.5X
PPD    149.98 149 e(PKP)16 54.00   -0.4
     S.D. = 1.2  on   9 of  14 obs.
-----------------------------------------
&  NOV  13, 1989  23h 00m 52.48s
   59.829 N          153.371 W
   DEPTH = 132.1km
 SOUTHERN ALASKA                    (  2)
     <AGS-P>.

OPT      0.19 158 iP     01 10.03    0.8
                  eS     01 23.90
ILIM     0.33  39 eP     01 10.15    0.5
AUW      0.46 186 eP     01 11.25   -0.6
RDT      0.89  32 iP     01 13.89   -1.1
CDD      0.91 189 eP     01 14.07   -1.0
XLV      0.92 113 eP     01 14.95   -0.2
                  Sn     01 31.17
NNL      1.07  78 eP     01 16.53    0.0
CNPM     1.13 105 eP     01 16.35   -0.7
                  eS     01 34.58
NKA      1.40  48 eP     01 20.84    0.9
CKL      1.46  20 iP     01 19.93   -0.9
BGL      1.52  18 eP     01 20.69   -0.7
SVW      1.70 320 eP     01 21.50   -1.9
SLKM     1.72  65 eP     01 22.78   -0.8
SEW      1.99  80 eP     01 25.90   -0.9
SUA      2.09  37 eP     01 27.31   -0.9
                  Sn     01 54.24
SKT      2.34  22 eP     01 29.99   -1.3
PMS      2.36  51 eP     01 30.27   -1.3
KNK      2.90  55 eP     01 36.61   -1.8
GHO      2.92  46 eP     01 37.07   -1.8
FID      3.55  72 eP     01 45.27   -1.8
VZW      3.60  67 eP     01 46.41   -1.3
KLU      4.03  62 eP     01 51.13   -2.4
       22 obs. associated
-----------------------------------------
?  NOV  14, 1989  00h 08m 43.82± 1.03s
   38.783 N ± 8.1km   23.480 E ±13.7km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
     ML 2.9 (ATH).

NEO      0.56 339 iPbc   08 55.40    0.2
                  eSb    09 04.50
ATH      0.83 167 ePb    08 59.90    0.0
AGG      0.93 285 eP     09 01.50   -0.1
                  eS     09 16.10
PLG      1.59 359 ePb    09 11.90   -0.2
     S.D. = 0.3  on   4 of   4 obs.
-----------------------------------------
   NOV  14, 1989  00h 34m 18.83± 0.30s
   38.261 N ± 3.3km   22.144 E ± 2.5km
   DEPTH =  68.5 ±  7.1 km
   4.0mb (  3 obs.)
 GREECE                             (364)
     MD 3.5 (ATH).

AGG      0.77  11 iPgc   34 35.00    0.3
VLS      1.23 267 ePn    34 41.40    0.9
                  eSn    34 59.00
ATH      1.27 103 iPbc   34 41.30    0.2
                  eSn    34 56.70
NEO      1.34  39 iPbc   34 42.10    0.1
VLI      1.66 157 iPnd   34 45.90   -0.5
KZN      2.06 352 ePn    34 52.00    0.0
KEK      2.33 309 ePn    34 56.50    0.8
PLG      2.34  25 ePn    34 55.20   -0.6
THE      2.45  15 ePnc   34 56.60   -0.7
                  eSn    35 25.30
APE      2.94 113 ePn    35 01.20   -3.0X
KNT      2.96  11 ePnc   35 04.70    0.3
OHR      3.03 340 iPn    35 06.30    0.8
SRS      3.06  21 ePn    35 05.80   -0.1
VAY      3.07   6 iPn    35 06.30    0.3
VAM      3.29 149 ePn    35 09.00   -0.1
PRK      3.37  72 ePn    35 10.50    0.3
MMB      3.54  20 ePc    35 12.00   -0.6
KKB      3.67  11 eP     35 15.00    0.6
SKO      3.75 352 iPn    35 16.00    0.6
                  i      35 21.20
                  iSn    35 58.80
LCI      3.85 304 P      35 15.50   -1.4
                  eSn    35 57.40
RDO      3.89  41 ePn    35 17.00   -0.4
NPS      4.09 136 ePb    35 25.60    5.3X
KDZ      4.22  36 iP     35 21.00   -1.1
ROI      4.54 288 P      35 27.50    0.8
                  eSn    36 11.60
BRT      4.63 306 Pc     35 27.80    0.0
                  eSn    36 17.70
TDS      4.74 289 P      35 29.20   -0.2
CIN      4.74  96 eP     35 30.00    0.5
CZI      4.80 283 P      35 30.90    0.7
                  eSn    36 17.00
CSI      4.80 290 P      35 30.00   -0.4
                  eSn    36 19.80
KAP      4.85 122 ePb    35 34.20    3.2X
ATN      5.26 271 Pc     35 36.10   -0.7
MGR      5.45 292 Pc     35 39.10   -0.3
SGO      5.77 296 Pc     35 43.60   -0.2
MEU      5.84 261 P      35 42.10   -2.8X
                  eSn    36 43.90
HVAR     6.54 320 i(Pn)  35 53.70   -0.8
                  iSn    37 02.20
SDI      7.26 301 Pc     36 04.10   -0.5
MLR      7.76  20 ePc    36 11.00   -0.5
VRI      8.33  23 ePd    36 20.00    0.8
PTJ      8.91 331 eP     36 32.00    4.8X
HFS     22.54 349 eP     39 13.80    0.1
        0.9s     6.10nm          4.0mb
NB2     23.81 347 P      39 26.60    0 6
        0.7s     1.70nm          3.6mb
EKA     24.11 323 P      39 34.00    5.1X
        1.9s    28.00nm          4.4mb
     S.D. = 0.6  on  36 of  42 obs.
-----------------------------------------
?  NOV  14, 1989  00h 44m 07.34± 1.77s
   24.451 N ±29.3km  124.842 E ±16.9km
   DEPTH =  33.0km  (normal)
   4.4mb (  3 obs.)
 SOUTHWESTERN RYUKYU ISLANDS        (246)

MAT     16.65  41 eP     48 01.00    1.2
BJI     17.17 337 eP     48 06.00   -0.2
     Z  20s      0.30um
MAIO    56.65 298 eP     53 52.00    2.0
IMA     64.48  27 eP     54 41.30   -1.5
SOD     70.78 336 eP     55 22.00   -0.1
INK     71.72  23 eP     55 28.00    0.3
SUF     72.43 331 iP     55 31.40   -0.6
        0.6s     4.50nm          4.6mb
NUR     73.86 330 eP     55 40.00   -0.3
HFS     78.94 332 eP     56 08.50   -0.4
        0.6s     2.20nm          4.3mb
NB2     79.53 333 P      56 11.60   -0.5
        0.7s     2.70nm          4.4mb
     S.D. = 1.1  on  10 of  10 obs.
-----------------------------------------
   NOV  14, 1989  01h 13m 19.91± 0.48s
   18.256 N ± 5.1km   68.082 W ± 9.8km
   DEPTH = 168.5 ±  9.0 km
   4.5mb (  4 obs.)
 MONA PASSAGE                        ( 89)
     Felt at Guaynabo, Coyey,
     Moyoquez and Rio Piedros, Puerto
     Rico.

LRS      1.18  88 iP     13 48.50    0.3
PORP     1.39  98 P      13 50.20    0.1
SJG      1.84  94 iP     13 54.70   -0.2
CPD      2.07  96 iP     13 57.00   -0.4
LPR      2.10  88 iP     13 57.50   -0.3
SKI      5.17  99 eP     14 45.99    9.3X
                  eS     15 52.89
BPA      6.06 101 eP     14 46.04   -2.4X
                  eS     15 54.07
ANG      6.06  99 eP     14 46.04   -2.4X
                  eS     15 54.27
FISA     7.05 190 eP     15 02.60    0.8
                  eS     16 14.50
DPMT     7.07 114 eP     15 00.49   -1.5X
MORO     7.34 182 eP     15 05.00   -0.7
                  eS     16 19.50
FDF      7.51 117 eP     15 05.52   -2.4X
BIM      7.69 118 eP     15 08.05   -2.1X
CAR      7.78 172 eP     15 11.20   -0.3
MVM      7.82 117 eP     15 07.93   -3.9X
LLAV     7.83 171 eP     15 11.50   -0.7
GUAC     8.05 174 iP     15 15.00   -0.2
SVB      8.23 126 eP     15 14.77   -2.6X
OLLA     8.28 171 eP     15 18.00   -0.1
BDH      9.60 120 eP     15 38.45    3.1X
TRN      9.95 139 eP     15 42.00    2.0
                  eS     17 27.00
JSC     19.82 326 eP     17 54.40   14.9X
RSCP    23.22 322 eP     18 14.00    1.1
        1.0s    16.27nm          4.5mb
                  e      18 45.00
LNO     30.14 311 iP     19 15.50   -0.4
TUL     30.14 311 iPc    19 15.90   -0.1
        0.7s    10.70nm          4.7mb
                  e      19 52.20
ZOBO    34.31 180 P      19 49.30   -3.6X
ALQ     37.86 304 eP     20 22.20   -0.1
        1.0s     3.00nm          3.9mb
MSU     43.24 307 eP     21 06.50    0.1
KVN     47.87 306 eP     21 42.70   -0.2
BCAO    85.42  87 ePd    25 39.40   -0.8
        0.4s     4.00nm          4.6mb
     S.D. = 0.7  on  19 of  30 obs.
-----------------------------------------
   NOV  14, 1989  04h 16m 33.56± 0.35s
   35.109 N ± 7.4km   91.272 E ± 6.6km
   DEPTH =  33.0km  (normal)
   4.8mb ( 16 obs.)
 QINGHAI PROVINCE, CHINA            (325)

LZH     10.29  81 (P)    19 00.00   -2.1
     E  10s      0.60um
                  (Lg)   22 13.00
CHTO    17.60 155 eP     20 37.80   -0.1
BJI     20.32  69 eP     21 10.00    0.6
     Z  10s      0.32um          4.0MszX
                  eS     25 06.00
HYB     20.95 216 eP     21 20.00    3.8X
POO     22.62 228 iPc    21 33.50    0.7
GBA     24.79 214 P      21 52.00   -1.8
MAIO    25.78 282 iPc    22 05.00    1.9
SUF     48.16 326 iP     25 12.90    0.8
        0.7s     7.50nm          4.8mb
SOD     48.41 332 eP     24 57.00  -17.0X
NUR     48.81 323 iP     25 21.00    3.8X
VRI     49.02 303 ePc    25 20.00    1.0
MLR     49.63 303 ePc    25 25.50    1.6
HFS     54.27 323 eP     25 57.70   -0.6
        0.7s     9.40nm          4.9mb
     Z  16s      0.04um          3.6MszX
                  LR     47 43.00
NB2     55.32 324 P      26 05.10   -0.9
        0.7s     7.50nm          4.8mb
CDF     61.05 311 eP     26 45.70   -0.6
BSF     61.56 310 eP     26 49.20   -0.7
        0.6s     3.60nm          4.7mb
LPG     62.48 308 eP     26 56.20   -0.1
        1.0s    12.00nm          5.0mb
LOR     63.61 311 eP     27 02.80   -0.6
LBF     63.65 310 eP     27 02.70   -1.0
        1.0s     8.00nm          4.8mb
SMF     63.88 310 eP     27 04.20   -0.9
        1.0s     6.80nm          4.7mb
SSF     63.92 310 eP     27 04.70   -0.6
AVF     64.12 310 eP     27 06.20   -0.5
        0.8s     4.50nm          4.6mb
EKA     64.30 321 Pc     27 11.00    3.3X
        2.8s   136.80nm          5.6mb
MAF     64.86 310 eP     27 11.10   -0.4
        1.0s     4.80nm          4.5mb
TCF     65.05 310 eP     27 12.40   -0.4
        1.0s     8.80nm          4.8mb
MBC     67.23   8 eP     27 27.00    0.8
        0.5s     2.00nm          4.5mb
IMA     67.60  24 eP     27 29.50    0.7
WB5     68.29 136 eP     27 34.10    0.6
WRA     68.33 136 Pc     27 34.60    0.8
        1.2s    14.40nm          4.9mb
FBA     70.24  23 eP     27 45.50    0.6
ASPA    71.06 139 iPc    27 51.60    1.1
        1.0s    10.00nm          4.8mb
INK     71.63  16 eP     27 54.00    0.8
BCAO    73.35 264 ePc    28 02.90   -1.4
```

14d 04h

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        0.9s     10.00nm            4.8mb
BUL     80.92 238 iPc    28 47.00    0.6
        0.9s      4.62nm            4.5mb
      S.D. = 1.0  on  30 of  34 obs.
-----------------------------------------
    NOV  14, 1989  05h 38m 56.06± 0.31s
     5.127 S ± 5.5km  102.720 E ± 6.8km
    DEPTH =  46.2km  (  8 depth phases)
    4.9mb ( 11 obs.)  4.8Msz (  7 obs.)
  SOUTHERN SUMATERA                (274)
       CENTROID, MOMENT TENSOR     (HRV)
       Data Used: GDSN
       L.P.B.: 13S, 23C
       Centroid Location:
       Origin Time        05:38:57.5 1.0
       Lat  5.32S 0.10 Lon 102.27E 0.11
       Dep  15.0 FIX Half-duration  1.9
       Moment Tensor;    Scale 10**17 Nm
         Mrr= 0.55 0.05   Mtt=-0.19 0.05
         Mff=-0.36 0.08   Mrt= 0.43 0.16
         Mrf=-1.25 0.15   Mtf= 0.21 0.06
        Principal Axes:
         T  Val=  1.46   Plg=55   Azm= 76
         N       -0.07       4       339
         P       -1.39      34       246
       Best Double Couple:Mo=1.4*10**17
        NP1:Strike=317 Dip=11 Slip=  68
        NP2:        160     79       94

KGM      7.12   5 ePd    40 43.60    3.3
TSI      9.52 334 eP     41 33.00   19.4X
IPM      9.79 350 ePc    41 19.90    2.7
                  e      42 45.50
TRT     10.18 105 ePc    41 23.00    0.4
        0.6s     93.20nm          6.1mb X
SNG     12.40 350 eP     41 55.00    2.4
                  eS     44 46.20
BSI     12.90 325 eP     41 55.00   -4.2X
KHKI    13.20 105 e(P)   42 01.50   -1.6
                  eS     44 27.60
                  e      49 42.00
KKM     17.45  51 ePd    43 00.20    2.2
TSM     17.93  59 eP     43 04.70    0.9
NST     20.82 353 eP     43 35.00   -1.2
LOE     22.41 358 eP     43 51.00   -1.2
BDT     22.53 351 eP     43 52.50   -0.8
        0.5s     20.90nm          4.8mb
CHG     24.08 351 ePc    44 07.70   -0.7
        1.0s     25.00nm          4.7mb
QIZ     25.01  16 eP     44 18.00    0.7
AAI     25.44  88 eP     44 25.30    3.9X
DAV     25.83  62 eP     44 26.00    0.9
MUN     29.55 156 iPd    44 58.10   -0.6
KMI     30.07   0 Pc     45 03.50   -0.1
                  pP     45 16.00   48km
NWAO    30.80 156 eP     45 09.10   -0.6
      Z  20s      0.70um          4.3Msz
      N  20s      0.70um
      E  20s      0.10um
WARB    31.01 135 eP     45 11.30   -0.4
GBA     31.25 307 Pc     45 13.80    0.0
        1.2s     14.40nm          4.6mb
GYA     31.63   7 P      45 16.60   -0.6
HYB     32.73 314 ePc    45 26.50   -0.3
                  e      45 39.50   50km
WRA     34.10 118 Pc     45 37.70   -1.0
        0.5s     10.30nm          5.0mb
WB5     34.10 118 iPc    45 38.20   -0.5
FORR    34.99 140 iPd    45 45.70   -0.4
        0.4s     19.00nm          5.4mb
                  e      46 05.00   82kmX
ASPA    35.24 125 iPc    45 48.20   -0.2
                  ipP    45 57.00   30kmX
                  eS     51 29.50
CD2     35.85   2 eP     45 51.70   -1.7
      Z  20s      1.80um          4.8Msz
                  S      51 26.00
LSA     36.36 343 P      45 58.20   -0.1
                  S      51 35.00
POO     36.91 310 iPc    46 03.30    0.7
WHN     37.17  17 eP     46 05.00    0.5
      Z  20s      1.38um          4.7Msz
OIS     38.96 117 eP     46 19.00   -0.8
XAN     39.39   8 P      46 21.00   -2.2
LZH     41.01   1 Pc     46 35.50   -1.1
        1.5s     39.00nm          4.9mb
      Z  16s      1.60um          5.0MszX
                  pP     46 44.50   30kmX
                  sP     46 48.00
NDI     41.62 325 ePc    46 42.00    0.5
        0.5s     35.21nm          5.3mb
                  eS     52 52.00
TIY     43.57  11 eP     46 57.00   -0.4
                  eS     53 23.00
PMG     44.26  98 eP     47 03.00   -0.2
GTA     44.39 357 eP     47 03.60   -0.5
      Z  16s      1.80um          5.1MszX
      N  15s      0.80um
CTA     44.85 113 iPc    47 08.00    0.1
        1.2s    121.88nm          5.6mb
                  i      47 22.10   54km
                  iS     53 48.00
STK     45.06 131 iPc    47 10.00    0.6
                  e      47 17.00   23kmX
BTO     45.99   8 P      47 15.50   -1.2
      N  15s      1.60um
      E  13s      0.30um
                  esP    47 30.00
HHC     46.46   9 eP     47 20.20   -0.3
      Z  20s      0.80um          4.7Msz
      N  18s      2.10um
                  sP     47 35.00
                  sS     54 28.00
BJI     46.62  14 eP     47 20.50   -1.1
        1.5s     21.00nm          4.9mb
      Z  18s      2.35um          5.2Msz
      N  14s      0.77um
                  eScP   53 46.50
                  eS     54 06.00
CMS     48.13 128 iPd    47 34.70    1.0
BFD     48.36 137 eP     47 36.00    0.7
RMQ     48.77 121 eP     47 40.00    1.3
QUE     49.05 318 eP     47 37.10   -3.9X
WMQ     50.57 346 eP     47 51.70   -0.6
      Z  22s      0.50um          4.5Msz
                  pP     48 04.70   48km
                  S      55 02.50
                  sS     55 27.00
KSH     50.76 333 eP     47 53.90    0.1
                  eS     55 07.00
BWA     51.32 131 iPc    48 00.00    1.9
CAN     52.12 132 iPc    48 04.70    0.6
BRS     52.46 121 iPd    48 07.30    0.5
                  e      48 19.30   43km
COO     52.66 125 iPd    48 10.00    1.7
CN2     52.84  21 eP     48 06.50   -2.8
        4.0s      0.10nm          2.2mb X
      Z  16s      1.00um          5.0MszX
      N  11s      0.30um
      E  11s      0.30um
                  pP     48 19.00   45km
                  eS     55 30.00
MDJ     55.08  23 eP     48 24.00   -1.7
MAIO    57.72 319 eP     48 44.00   -0.8
                  eS     56 40.00
DZM     63.76 112 iPc    49 28.10    2.1
BUL     73.34 251 iPc    50 27.00    1.4
        1.0s      5.00nm          4.4mb
BBTK    78.10 312 eP     51 00.00    7.8X
VRI     83.98 317 ePd    51 23.50    0.7
MLR     84.42 317 ePd    51 25.50    0.3
BCAO    84.62 275 iPc    51 26.70    0.0
        0.7s      9.00nm          5.0mb
                  id     51 39.10   41km
SUF     88.41 333 eP     51 56.90   12.7X
NUR     88.58 331 eP     51 47.70    2.7
SPC     88.93 319 eP     51 48.20    0.9
KRA     89.27 320 eP     51 49.70    1.2
SOD     89.38 338 iP     51 48.80    0.0
SRO     90.01 318 eP     52 10.00   18.0X
ZST     90.86 318 eP     52 10.00   14.0X
PTJ     91.39 316 eP     52 12.10   13.5X
KSP     91.68 321 eP     52 01.20    1.5
                  e      52 14.00   42km
CLL     93.78 321 eP     52 16.00    6.6X
IMA    100.17  24 ePdiff52 38.30    0.0X
PLM    133.72  48 PKP    58 08.50   -1.8
RSSD   134.60  27 PKP    58 10.00   -1.7
ALO    139.91  38 ePKP   58 18.50   -3.4X
PPD    142.92 222 e(PKP)58 27.00   -0.3
MEO    144.51  31 iPKPd 58 27.50   -2.1
SIO    144.85  27 ePKPc 58 28.70   -1.5
LNO    144.94  27 ePKPc 58 28.70   -1.5
TUL    144.94  27 ePKPc 58 29.00   -1.3
        1.3s     76.50nm
      Z  22s      0.40um          5.1Msz
                  e      58 42.90
                  LR     42 00.00
FVM    145.17  18 PKP    58 28.90   -1.7
UYO    147.00  27 iPKPd 58 34.70    0.9
OLY    147.06  22 PKP    58 34.40    0.6
BLA    147.94   5 PKP    58 36.00    0.8
RSCP   148.72  13 PKP    58 32.60   -3.9X
PRM    150.80   9 PKP    58 45.00    5.3X
CCH    155.08 206 ePKP   58 47.50    1.0
ZOBO   156.89 203 ePKP   58 49.00   -0.3
      S.D. = 1.3  on  75 of  89 obs.
-----------------------------------------
*   NOV  14, 1989  05h 49m 04.70± 0.87s
    39.338 N ±15.8km  143.690 E ±12.5km
    DEPTH =  33.0km  (normal)
    4.3mb (  3 obs.)
  OFF EAST COAST OF HONSHU, JAPAN (229)

MAT      5.15 239 iPc    50 22.50    0.9
        0.8s    216.42nm          5.7mb X
                  eS     52 31.00
MDJ     11.74 301 eP     51 50.00   -2.8
      Z  16s      1.20um
TIY     24.45 276 eP     54 23.50    1.8
HHC     24.55 284 eP     54 22.40   -0.3
WHN     25.51 259 eP     54 32.50    0.8
        1.2s      0.10nm          2.3mb X
                  pP     54 43.00   39kmX
LZH     31.51 277 Pc     55 25.00   -1.0
GYA     33.41 259 P      55 42.40   -0.1
WMO     41.45 295 P      56 51.60    1.8
CHG     43.61 255 eP     57 08.70    1.1
IMA     43.79  32 eP     57 19.50   10.8X
FBA     46.20  33 P      57 30.00    2.2
WRA     59.62 190 Pc     59 05.00   -2.7
        0.7s      1.50nm          4.2mb
GBA     63.18 266 P      59 32.10    0.2
SUF     66.73 334 eP     59 53.50   -0.8
NUR     68.75 332 eP     59 55.70  -11.2X
LRM     71.25  46 eP     00 23.00    0.2
KVN     71.95  54 eP     00 26.30   -0.7
HFS     72 72 336 eP     00 30.20   -0.7
        0.6s      1.90nm          4.3mb
NB2     72.74 338 P      00 30.30   -0.8
        0.9s      3.70nm          4.4mb
KHC     81.50 329 Pd     01 20.90    1.0
      S.D. = 1.5  on  18 of  20 obs.
-----------------------------------------
    NOV  14, 1989  06h 07m 53.38± 0.20s
    27.428 S ± 4.1km   71.052 W ± 5.1km
    DEPTH =  33.0km  (normal)
    5.5mb ( 20 obs.)  4.8Msz (  2 obs.)
  NEAR COAST OF NORTHERN CHILE     (122)
       CENTROID, MOMENT TENSOR     (HRV)
       Data Used: GDSN
       L.P.B.: 11S, 17C
       Centroid Location:
       Origin Time        06:08: 1.6 0.7
       Lat 27.72S 0.13 Lon  71.51W 0.08
       Dep  55.2 7.9 Half-duration  1.7
       Moment Tensor;    Scale 10**17 Nm
         Mrr= 0.91 0.10   Mtt= 0.33 0.22
         Mff=-1.24 0.20   Mrt=-1.02 0.16
         Mrf=-0.01 0.17   Mtf= 0.23 0.18
        Principal Axes:
         T  Val=  1.69   Plg=53   Azm=175
         N       -0.40      37       345
         P       -1.29       5        79
       Best Double Couple:Mo=1.5*10**17
        NP1:Strike=202 Dip=51 Slip= 140
        NP2:        319     60       46

RTRS     3.07 153 iPc    08 43.10    2.5
RTBS     4.44 162 iPc    09 01.50    1.3
RTCB     4.50 155 iP     09 02.00    0.9
ZON      4.60 154 eP     09 03.00    0.6
CFA      4.83 150 iPc    09 06.00    0.3
RTCV     4.93 154 ePc    09 07.80    0.7
JACH     5.25 176 iPd    09 09.00   -2.7X
                  iS     10 04.50
ROCH     5.53 180 eP     09 12.40   -3.3X
                  iS     10 11.00
SLA      5 67  63 ePd    09 21.90    4.1X
PEL      5.71 177 iP     09 14.60   -3.5X
FCH      5.92 174 iPd    09 19.10   -2.3X
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                iS    10 25.50
SAN     6.01 177 ePc  09 18.50  -4.0X
                iS    10 24.50
LCCH    6.04 184 iPc  09 17.50  -5.3X
                iS    10 42.00
PCH     6.19 176 iPd  09 21.50  -3.5X
                iS    10 28.00
TACH    6.21 179 iP   09 21.00  -4.1X
                iS    10 27.50
CHCH    6.49 177 iP   09 25.70  -3.5X
                iS    10 48.00
LNV     6.51 183 iPc  09 23.40  -6.0X
                iS    10 34.50
TCA     6.85 126 ePc  09 33.20  -1.1
YJA     7.27  45 iPc  09 42.00   1.6
ARE    10.92 358 iPd  10 27.70  -3.0X
                iS    12 26.90
CCH    10.98  25 P    10 29.50  -2.0X
LPB    11.18  15 P    10 34.00  -0.4
     Z  18s     8.25um
                LR    13 52.00
ZOBO   11.43  14 P    10 36.00  -2.0X
     Z  20s     5.70um
                LR    13 00.00
ITB1   15.23  83 e(P) 11 28.50   0.8
ITB    15.36  84 e(P) 11 31.50   2.2
PT08   16.23 340 iPd  11 43.20   2.2
PT10   16.25 339 e(P) 11 42.00   1.1
NNA    16.29 339 eP   11 42.00   0.6
       0.8s    17.16nm          4.2mb X
PPD    18.71  78 eP   12 12.90   1.4
                i    12 23.30
                i    12 46.40
VAO    22.22  84 eP   12 48.30  -0.5
                i    12 49.00
                i    13 02.90
                e    13 21.60
BAO    24.40  66 eP   13 10.00  -0.2
BMA    24.80  85 eP   13 14.40   0.6
                e    13 19.80
                e    13 23.10
                e    13 28.30
PSO    29.09 347 eP   13 56.00   2.4
BOG    31.99 354 eP   14 22.00   2.7
                eS   19 30.00
PDCR   33.34  70 eP   14 29.10  -1.6
                e    17 11.50
SDV    36.10   1 eP   14 53.10  -1.3
UPA    37.11 346 e(P) 15 04.20   1.5
OLLA   37.45   7 eP   15 05.50  -0.2
GUAC   37.57   6 eP   15 06.50  -0.3
CAR    37.92   7 eP   15 08.80  -0.8
AIA    38.08 175 eP   15 09.00  -1.3
MORO   38.16   4 eP   15 11.00  -0.7
CUM    38.25  11 iP   15 11.60  -0.7
FISA   38.50   3 eP   15 13.70  -0.7
PRM    62.11 349 P    18 12.00  -1.3
RSCP   64.17 347 P    18 25.50  -1.5
                pP   18 36.10  34kmX
BLA    64.90 352 P    18 29.90  -1.7
UYO    65.15 339 iPd  18 32.60  -0.7
OLY    65.49 342 P    18 33.90  -1.5
MEO    67.13 336 iPc  18 44.70  -1.3
TUL    67.18 338 ePc  18 45.60  -0.6
       1.1s    106.80nm         5.9mb
     Z  21s     0.36um          4.6Msz
                LR    06 00.00
LNO    67.18 338 ePc  18 45.10  -1.0
SIO    67.20 338 ePc  18 44.90  -1.5
FVM    67.56 344 P    18 47.00  -1.6
                pP   18 57.50  34kmX
ACO    69.05 336 eP   18 57.00  -0.9
SBA    69.67 191 P+   19 00.90  -0.3
ALQ    70.49 330 eP   19 07.00   0.0
       1.3s    28.85nm          5.2mb
RSNY   71.70 357 P    19 13.10  -0.6
       0.6s    13.89nm          5.2mb
LIC    71.96  73 P    19 15.80  -0.2
     Z  22s     0.90um          5.0Msz
TIC    72.18  72 Pc   19 16.86  -0.5
KIC    72.27  73 Pc   19 17.50  -0.3
       0.9s    54.50nm          5.6mb
GLA    73.12 323 eP   19 23.00   0.5
BAR    73.85 321 eP   19 27.00   0.3
GLD    74.03 333 P    19 29.00   1.2
       1.3s   114.94nm          5.7mb
GOL    74.05 333 P    19 27.70  -0.3
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       1.2s    36.89nm          5.3mb
PLM    74.46 321 eP   19 31.00   0.5
TPC    74.58 323 eP   19 32.00   1.0
RVR    75.23 322 eP   19 35.00   0.4
CER    75.74 120 iPd  19 36.60  -1.2
MWC    75.77 321 eP   19 39.00   1.0
GSC    75.89 323 eP   19 40.00   1.5
SBB    75.99 322 eP   19 39.00   0.0
CLC    76.71 323 eP   19 43.00   0.0
ISA    77.07 322 eP   19 46.00   1.0
SYP    77.08 320 eP   19 46.00   0.8
RSSD   77.34 336 P    19 46.00  -0.6
                pP   19 57.00  36kmX
BCH    77.61 321 P    19 49.50   1.4
TNP    78.21 324 P    19 51.50   0.1
       1.0s    23.75nm          5.2mb
BW06   78.34 332 P    19 51.10  -1.0
       1.4s    71.50nm          5.5mb
WIN    78.39 109 iPc  19 52.00  -0.8
       1.2s    50.00nm          5.4mb
                i    20 08.50
PRI    78.63 321 eP   19 54.70   1.0
                esP  20 25.20
FRI    78.72 322 ePc  19 53.60  -0 4
                epP  20 13.80  75kmX
LLA    79.13 321 ePc  19 57.20   0.9
PRS    79.16 321 iPc  19 57.50   1.1
MAW    79.23 164 iPc  19 55.80  -0.5
KVN    79.39 325 P    19 57.90   0 0
CMB    79.85 323 ePc  20 00.50   0.3
GCC    80.01 321 eP   20 02.00   1.0
MHC    80.04 321 eP   20 02.50   1.2
RSON   80.47 346 P    20 02.40  -0.7
       1.4s   157.17nm          5.8mb
                pP   20 14.00  38kmX
BKS    80.75 321 iPc  20 05.60   0.7
       1.5s   100.00nm          5.6mb
BRK    80.76 321 eP   20 04.30  -0.6
ORV    81.55 323 ePc  20 09.70   0.7
FRS    81.93 119 iPc  20 10.50  -0.8
       0.5s    17.61nm          5.3mb
LRM    82.03 332 ePc  20 12.60   0.9
MIN    82.17 323 ePc  20 11.90  -0.5
LTCM   82.35 323 P    20 13.00  -0.2
WDC    82.84 323 iPc  20 14.80  -0.9
                epP  20 33.30  67kmX
                esP  20 42.10
SEK    84.37 119 iPc  20 22.40  -1.7
       1.0s    25.00nm          5.3mb
BFS    84.38 117 iPc  20 22.00  -2.2
       1.1s   126.58nm          6.0mb
PRY    84.91 118 iPc  20 26.30  -0.5
SES    85.19 336 eP   20 27.00  -0.4
NEW    85.92 331 P    20 30.60  -0.5
       1.0s    14.00nm          5.1mb
FFC    86.04 343 eP   20 30.00  -1.5
       1.4s    41.00nm          5.5mb
SLR    86.11 117 iPc  20 31.00  -1.8
       1.0s    15.00nm          5.2mb
EDM    88.32 336 iPc  20 41.50  -1 1
       1.2s   103.00nm          6.0mb
BUL    89.05 112 iPd  20 47.80   0.8
       1.0s    24.50nm          5.5mb
BCAO   91.65  86 iPc  20 59.50   0.5
       0.7s    33.00nm          5.8mb
                ic   21 09.50
                id   21 37.90
INK   105.82 340 ePKP 26 21.00   6.7X
ASPA  123.78 208 iPKPc 26 47.90  -2.1
       1.1s    19.00nm
WRA   126.87 210 PKPd 26 54.60  -1 4
       1.4s    26.30nm
WB5   126.92 210 ePKP 26 46.20  -9.9X
                i    27 34.80
MAIO  137.46  65 iPKPc 27 15.40  -0.4
TRT   144.89 186 iPKPc 27 28.30  -1.1
       1.0s   225.80nm
POO   146.59  98 iPKPd 27 33.20   1.0
GBA   147.55 109 PKPc 27 33.60  -0.1
       1.0s    67.40nm
HYB   150.26 103 ePKP 27 38.00   0.1
       1.0s   120.00nm
                i    27 43.00
NDI   152.01  80 iPKP 27 47.00   6.8X
WMQ   156.31  41 PKP  27 46.00   0.2
GTA   165.84  30 PKPc 27 56.60   0.8
BJI   166.07 336 ePKP 27 56.00   0.2
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       1.5s    26.00nm
CHG   167.43 131 ePKP  27 57.20  -0.3
TIA   168.82 324 PKP   27 58.70   0.8
TIY   169.33 345 ePKP  27 58.60   0.4
LZH   170.34  25 PKPd  27 59.80   0.8
XAN   173.41   0 PKP   28 02.00   1.8
CD2   174.29  51 ePKP  28 01.60   1.0
      S.D. = 1.1  on 110 of 127 obs.
-----------------------------------
?  NOV  14, 1989  08h 42m 40.93± 3.95s
   18.958 N ±59.0km   64.543 W ± 9.0km
   DEPTH =  33.0km  (normal)
 VIRGIN ISLANDS                    ( 91)

LPR     1.41 243 iP    43 04.40  -0.2
CPD     1.59 235 iP    43 07.10  -0.1
SJG     1.74 241 iP    43 09.50   0.1
PORP    2.18 246 P     43 15.80   0.2
LRS     2.28 254 iP    43 17.00  -0.1
SKI     2.36 133 eP    43 29.52  11.4X
                eS    44 09.34
ANG     3.14 124 eP    43 29.26   0.0
                eS    44 06.77
      S.D. = 0.2  on   6 of   7 obs.
-----------------------------------
*  NOV  14, 1989  08h 54m 55.26± 1.27s
   24.450 N ± 7.5km  122.037 E ±16.2km
   DEPTH =  33.0km  (normal)
 TAIWAN REGION                     (243)

TWC     0.23 313 iPd   55 02.50   0.3
                eS    55 07.20
TWD     0.55 228 iPc   55 04.80  -1.7
TWZ     0.77 327 iPc   55 10.50   0.9
ANP     0.87 327 ePd   55 12.00   0.8
      0.6s  1066.67nm
                eS    55 23.70
TWQ     1.11 261 ePc   55 15.10   0.5
                eS    55 29.30
TWF1    1.29 212 ePc   55 16.90  -0.1
TWK     1.84 231 ePc   55 25.30   0.1
SSE     6.66 354 eP    56 31.30  -2.1
                eLg   58 40.00
WB5    45.67 164 eP    03 16.00   1.2
      S.D. = 1.3  on   9 of   9 obs.
-----------------------------------
*  NOV  14, 1989  09h 26m 01.87± 2.44s
   43.293 N ±16.8km   18.903 E ±13.4km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.5 (TTG).

PLE     0.36  84 iPgd  26 09.30   0.0
                iSg   26 14.90
BRY     0.47 214 iPgd  26 11.50   0.0
                iSg   26 19.10
NKY     0.49 172 ePg   26 11.60  -0.2
                eSg   26 18.70
TTG     0.90 163 ePg   26 19.30   0.2
                eSg   26 31.50
BDV     1.01 183 ePg   26 21.00   0.0
                eSg   26 37.00
HVAR    1.80 267 i(Pn) 26 39.00   5.9X
                iSn   27 03.50
      S.D. = 0.2  on   5 of   6 obs.
-----------------------------------
*  NOV  14, 1989  10h 39m 01.41± 0.73s
    3.920 S ±10.6km  150.043 E ±11.0km
   DEPTH =  33.0km  (normal)
   4.2mb (  3 obs.)  3.8Msz (  1 obs.)
 NEW IRELAND REGION                (190)

RAB     2.14  97 eP    39 35.00  -0.5
LAT     4.07 228 eP    40 04.00   1.1
PMG     6.16 208 eP    40 36.00   3.5X
CTA    16.49 193 eP    42 52.10   0.1
       1.2s    19.53nm          4.1mb
WB5    22.03 223 eP    43 50.80  -4.2X
                e     48 50.00
WRA    22.09 223 Pc    43 50.40  -5.2X
       1.0s     9.70nm          4.2mb
RMQ    22.47 183 eP    43 59.00  -0.3
BRS    23.49 174 iPc   44 09.30   0.1
                ipP   44 14.30  18kmX
                esP   44 23.30
DZM    24.05 140 iPd   44 15.90   1.1
ASPA   25.07 217 eP    44 22.60  -1.9
```

14d 10h

```
        1.1s     10.00nm          4.3mb
      Z  20s      0.29um          3.8Msz
                   LR     54 41.30
IMA     80.56  20 eP     51 12.70    0.8
FBA     82.11  22 eP     51 19.00   -0.8
INK     88.63  21 ePc    51 52.50    0.4
      S.D. = 1.1  on  10 of  13 obs.
-----------------------------------------
%  NOV  14, 1989  11h 29m 14.11± 0.81s
   38.495 N ± 6.5km   12.399 E ± 6.8km
   DEPTH =  10.0km  (geophysicist)
 SICILY                              (398)
      MD 3.1 (ROM). Felt at Traponi.

ERC      0.48 162 Pd     29 23.30   -0.6
                  eSg    29 31.60
USI      0.65  71 Pd     29 28.00    1.0
CVT      0.87 159 Pd     29 32.20    1.3
                  eSg    29 43.80
MCT      1.30 131 P      29 39.80    1.5
GIB      1.38 111 Pd     29 38.50   -0.9
FAI      1.58 140 P      29 42.30    0.1
PTS      1.72 191 P      29 43.90   -0.3
MNO      1.89 107 P      29 46.20   -0.8
ATN      2.43  97 P      29 53.60   -0.9
MEU      2.44 124 P      29 53.80   -0.9
                  eSn    30 21.80
CGL      2.57 291 P      29 56.60    0.0
CZI      3.00  75 P      29 56.20   -6.4X
TDS      3.28  68 P      30 05.90   -0.7
CSI      3.28  66 P      30 00.60   -6.1X
ROI      3.42  70 P      30 09.70    1.1
      S.D. = 1.0  on  13 of  15 obs.
-----------------------------------------
?  NOV  14, 1989  12h 25m 49.67± 2.11s
   31.097 S ±16.5km  179.627 E ±25.5km
   DEPTH = 482.5 ± 20.4 km
   4.1mb (  1 obs.)
 KERMADEC ISLANDS REGION             (177)

HBZ      6.58 189 P      27 33.50    1.5
MNG     10.08 198 P      28 08.10   -0.9
                  S      30 05.20
KIW     10.47 200 eP     28 12.90   -0.2
MTW     10.58 197 eP     28 14.70    0.4
CAW     10.65 199 eP     28 14.70   -0.4
BLW     10.78 197 eP     28 17.40    0.9
WDW     10.82 199 eP     28 16.40   -0.5
MRW     10.87 200 P      28 16.90   -0.5
MOW     10.89 198 P      28 17.50   -0.2
TCW     10.98 202 P      28 17.90   -0.7
DZM     14.82 304 iPd    28 58.00   -1.0
ASPA    41.04 269 iPd    32 52.20    0.8
WRA     42.09 274 Pd     33 00.10    0.4
        0.4s      3.00nm          4.1mb
WB5     42.10 274 iPd    33 00.30    0.6
SUF    144.08 339 ePKP   42 16.30 *****X
SUF    144.08 339 ePKP   44 29.90   -0.2
        0.4s      1.00nm
      S.D. = 0.8  on  15 of  16 obs.
-----------------------------------------
   NOV  14, 1989  12h 50m 03.44± 0.53s
   38.551 N ± 4.8km   26.934 E ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                          (365)
      MD 3.5 (ATH).

IZM      0.30 121 iPg    50 09.00   -0.7
SMG      0.84 185 ePn    50 19.50   -0.2
PRK      0.87 324 ePn    50 20.50    0.4
CIN      1.31 136 ePg    50 28.00    0.3
                  iSg    50 46.00
EZN      1.36 340 iPn    50 28.20   -0.1
YER      1.77 143 iPn    50 33.40   -1.0
                  iSg    51 04.40
APE      1.85 217 ePb    50 37.50    2.0
EDC      1.93  22 iPn    50 35.50   -1.1
BNT      1.96  23 iPn    50 38.00    1.0
KHL      2.05  96 iPn    50 39.30    0.9
YLV      2.76  42 ePn    50 50.00    1.4
RDO      2.81 338 ePn    50 49.30    0.2
                  eSn    51 21.00
GBZT     2.96  40 ePn    51 05.20   13.9X
BCK      3.09 110 ePn    50 40.00  -13.2X
GPA      3.14  55 ePn    50 59.00    5.1X
DMK      3.33  11 ePn    50 55.00   -1.6
VLI      3.66 241 ePn    51 00.00   -1.3
VAY      4.35 311 eP     51 26.40   15.4X
BBTK     4.71  72 eP     51 32.00   15.7X
                  eS     52 41.00
VRI      7.32 359 ePc    52 00.00    7.1X
      S.D. = 1.2  on  14 of  20 obs.
-----------------------------------------
   NOV  14, 1989  14h 32m 04.10± 0.21s
    9.124 S ± 4.0km  124.743 E ± 5.1km
   DEPTH =  33.0km  (normal)
   5.6mb ( 39 obs.)  5.4Msz ( 22 obs.)
 TIMOR                               (289)
      CENTROID, MOMENT TENSOR        (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 32C
      Centroid Location:
      Origin Time        14:32: 2.6 0.5
      Lat  9.44S 0.05 Lon 124.65E 0.05
      Dep  34.3 4.2 Half-duration  3.1
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.42 0.16  Mtt=-5.25 0.16
        Mff= 4.82 0.24  Mrt=-2.10 0.49
        Mrf=-0.16 0.32  Mtf=-3.78 0.20
       Principal Axes:
        T  Val=  6.13  Plg= 5  Azm=251
        N        0.93       74       142
        P       -7.07       15       342
      Best Double Couple:Mo=6.6*10**17
       NP1:Strike= 25 Dip=75 Slip=  -7
       NP2:        117      83      -165

AAI      6.40  33 ePd    33 40.90    2.4
                  eS     34 02.00
MTN      7.28 121 iPc    33 46.20   -4.7X
KNA      7.67 150 eP     33 50.30   -6.0X
        0.3s    335.00nm          6.9mb X
                  eS     35 07.00
KHKI     9.06 274 ePd    34 13.10   -2.6X
                  e      39 19.40
TRT     12.06 276 ePd    34 56.10   -0.6
        0.6s     33.00nm          5.7mb
                  eS     37 27.60
MBL     12.87 201 iPd    35 03.40   -4.1X
        0.3s     30.00nm          5.8mb
WB5     14.17 140 eP     35 15.80   -8.9X
                  eS     37 46.00
WRA     14.21 140 Pc     35 18.90   -6.2X
        0.9s    270.40nm          5.9mb
TSM     14.83 333 ePc    35 40.80    7.5X
        1.4s   1142.40nm          6.1mb
DAV     16.13   3 ePc-   35 52.00    2.0
        1.7s   1076.92nm          5.7mb
JAY     17.18  68 ePc    36 04.00    0.7
        1.0s    120.50nm          5.0mb
                  eS     39 09.00
KKM     17.30 330 ePc    36 09.10    4.1X
        1.5s   1269.70nm          5.8mb
OIS     18.30 130 eP     36 11.00   -6.3X
MEKA    18.36 198 eP     36 17.70   -0.3
                  eS     39 33.00
MNDI    18.98  82 eP     36 25.00   -0.8
MRWA    21.61 201 iPc    36 52.10   -1.3
        0.7s    163.00nm          5.6mb
                  eS     40 45.00
FORR    21.84 172 eP     36 52.40   -3.2X
        0.4s    101.00nm          5.6mb
                  eS     40 48.00
COOL    21.91 188 eP     36 53.50   -2.9
        0.4s     29.00nm          5.1mb
                  eS     40 48.00
LAT     22.18  85 eP     37 02.00    2.8X
BAL     22.65 198 eP     37 03.30   -0.4
        0.5s     71.00nm          5.4mb
                  eS     41 05.00
KLB     23.28 195 eP     37 09.00   -0.8
        0.3s     23.00nm          5.2mb
                  eS     41 15.00
CTA     23.46 120 iPd    37 11.90    0.1
        1.3s    403.85nm          5.8mb
                  iS     41 22.00
OCP     23.88 351 eP     36 55.50  -20.3X
KGM     24.05 296 ePd    37 21.30    3.9X
MUN     24.08 198 eP     37 16.50   -1.1
        1.0s    192.00nm          5.6mb
                  eS     41 09.00
NWAO    24.68 195 eP     37 23.00   -0.4
        0.5s     36.00nm          5.2mb
BAG     25.70 351 eP     37 33.00   -0.4
                  eS     42 11.00
KLM     26.03 297 eP     37 39.30    3.1X
IPM     27.28 299 ePc    37 49.40    1.6
        0.9s     36.50nm          5.0mb
STK     27.52 148 eP     37 48.00   -1.7
                  i      37 52.00
                  e      42 52.00
RAB     27.67  82 e(P)   37 50.50   -0.8
PSI     28.28 293 ePd    37 57.40    0.6
RMO     28.56 130 iPc    37 58.70   -0.5
                  e      38 46.00
ADE     28.73 156 eP     38 00.00   -0.7
        0.8s     44.78nm          5.2mb
TSI     28.95 295 eP     38 04.00    1.2
SNG     28.99 303 eP     38 04.40    1.3
                  eS     42 56.80
CMS     29.65 142 ePc    38 08.00   -1.0
                  e      38 34.00
                  e      38 52.00
                  e      43 12.00
GUA     30.13  42 eP     38 14.30    0.9
      Z  18s      4.54um          5.2Msz
GUMO    30.14  42 eP     38 14.30    0.9
PJG     30.14  42 eP     38 14.60    1.2
OIZ     31.60 332 eP     38 27.00    0.8
      E  16s      3.10um
BRS     32.10 128 iPc    38 29.30   -1.4
                  e      39 12.70
                  i      39 27.30
                  eS     44 06.80
BFD     32.24 153 eP     38 30.00   -1.7
                  e      43 25.00
BSI     32.75 295 eP     38 37.00    0.6
HKC     32.91 342 eP     38 43.00    5.4X
                  S      44 02.00
COO     33.12 134 eP     38 40.00    0.5
BWA     33.25 143 eP     38 42.00    1.4
                  e      39 34.20
GZH     33.90 341 eP     38 46.60    0.4
      Z  11s      3.50um          5.3MszX
                  S      44 02.00
TOO     33.96 150 eP     38 46.00   -0.7
                  e      38 54.00
                  e      45 36.00
CAN     34.22 143 eP     38 49.00    0.1
                  iPcP   39 45.20
OZH     34.39 350 eP     38 54.00    3.6X
      Z  20s      3.10um          5.0Msz
                  S      44 15.00
                  sS     44 34.00
CNB     34.43 143 iPc    38 51.60    0.8
SVO     34.62  93 P      38 50.00   -2.6
NST     34.66 315 eP     38 55.00    2.2
HNR     34.74  93 eP     38 53.00   -0 6
                  eS     44 20.00
LOE     34.82 319 eP     38 53.50   -0.7
BDT     36.52 316 eP     39 09.80    1.2
        0.8s     83.10nm          5.7mb
CHG     37.66 318 eP     39 19.50    1.3
        1.0s     42.75nm          5.3mb
                  eS     45 16.00
GYA     39.49 334 iPc    39 33.60    0.0
      Z  22s      2.90um          5.1Msz
      N  17s      2.70um
      E  17s      3.50um
                  PcP    41 44.60
                  S      45 36.50
                  ScS    49 41.00
SSE     40.13 355 eP     39 38.00   -0.6
        1.1s     47.00nm          5.2mb
      Z  20s      2.30um          5.0Msz
      N  16s      1.40um
                  sP     39 54.00
                  PP     41 15.00
                  S      45 22.00
                  sS     45 41.00
KMI     40.23 328 eP     39 41.50    1.7
      Z  18s     10.00um          5.7Msz
      N  14s      2.60um
      E  13s      1.70um
                  sP     39 51.50
                  PP     41 13.00
                  PPP    41 32.00
                  S      45 34.00
WHN     40 68 346 P      39 44.20    1.1
      Z  30s      3.17um          5.0MszX
      N  16s      2.48um
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14d 14h

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        E  16s      1.90um                  |  MDJ     53.67    4 eP     41 22.80  -1.9   |  KSP    108.66 321 ePKP  50 24.50  -6.8X
NJ2     41.33 352 Pc      39 48.50   0.1    |        Z  25s      3.30um          5.3MszX  |                    e     50 36.00
DZM     42.03 113 iPc     39 54.20  -0.3    |  SNZO    54.40 135 P      41 30.00  -0.2   |  NB2    109.24 332 PKP   50 36.80   4.7X
PVC     43.15 106 iPc     40 09.00   5.4X   |                S      49 08.00            |     1.1s      8.30nm
SHNJ    43.43   8 P       40 08.90   3.3X   |  KUSJ    55.07   18 eP     41 34.20  -0.9   |  CLL    110.62 321 iPKPd 50 40.00   5.0X
TKSJ    43.77  11 eP      40 08.00  -0.3    |  ASAJ    55.42   16 P      41 37.60   0.0   |     0.9s      9.00nm
SHK     44.06   9 eP      40 10.00  -0.7    |  POO     57.23 299 eP     41 50.50  -0.6   |                    e     51 21.00
WKYJ    44.32  13 P       40 13.50   0.6    |                iS      49 49.00            |  SGO    110.63 310 PKP   50 40.20   4.9X
CD2     44.61 334 eP      40 14.20  -1.1    |  DRV     58.40 173 eP     42 01.00   2.6   |  KHC    110.67 319 ePKP  50 21.50 -13.7X
        Z  18s      2.30um          5.1Msz  |  NDI     59.29 311 ePc    42 02.00  -3.2   |        Z  18s      1.00um          5.4Msz
        N  15s      3.40um                  |          0.7s     54.79nm         5.8mb   |        N  20s      0.80um
                     S      46 45.00        |                eS      50 04.00            |        E  20s      0.80um
YONJ    44.83  10 eP      40 15.50  -1.5    |  AFI     62.24 101 eP     42 31.00   5.4X  |                    e     50 41.00
XAN     45.48 341 P       40 20.90  -1.2    |  WMQ     62.50 331 iPd    42 25.40  -1.4   |  SDI    111.63 311 PKP   50 41.50   4.2X
        N  14s      1.40um                  |          3.0s      1.00nm         3.4mb X  |  CTI    112.51 316 PKP   50 44.80   5.9X
        E  14s      1.40um                  |        Z  23s      3.10um          5.4MszX  |  CRE    112.71 313 PKP   50 45.50   6.2X
TIA     45.66 351 Pc      40 21.50  -2.0    |                PcP     43 02.00            |  PGD    112.84 314 PKP   50 46.50   6.8X
        Z  34s      3.40um          5.1MszX |                S       50 50.60            |  BOB    114.28 315 PKP   50 47.50   5.1X
TSRJ    45.67  13 eP      40 19.70  -3.8X   |  KSH     66.15 320 P      42 51.20   0.4   |  VAI    114.51 316 PKPd  50 47.40   4.8X
IIDJ    46.07  15 eP      40 28.10   1.3    |        Z  28s      5.90um          5.6MszX  |  CMB    115.13  52 PKP   50 50.00   5.8X
CHJJ    46.89  16 eP      40 30.60  -2.6    |        N  16s      3.10um                  |  CMB    115.13  52 ePKPc 50 45.40   1.2
MTMJ    47.09  14 eP      40 33.50  -1.4    |                eS      51 40.00            |  PRI    115.16  54 ePKPc 50 48.50   4.1X
MAT     47.15  15 eP      40 34.00  -1.3    |  MAW     71.10 201 eP     43 21.00   0.2   |  BSF    115.36 319 ePKP  50 43.70  -0.7
        1.3s    105.77nm          5.7mb   |  SBA     71.98 171 ePd    43 27.60   1.6   |     0.8s     10.70nm
        Z  20s      1.77um          5.0Msz  |  MAIO    76.05 311 eP     43 50.00  -0.4   |  HAU    115.60 319 ePKP  50 44.00  -0.7
                     eS     47 18.00        |                eS      53 32.00            |     0.8s      8.00nm
KAKJ    47.37  17 eP      40 34.80  -2.2    |  SPA     80.94 180 iPc    44 17.30   0.7   |  FRI    115.81  53 e(PKP)50 46.70   1.3
DL2     47.87 357 eP      40 39.30  -1.5    |          0.6s     28.05nm         5.4mb   |  SYP    115.91  56 ePKP  50 52.00   6.1X
        Z  20s      1.51um          5.0Msz  |        Z  20s      3.78um          5.7Msz  |  LPG    115.97 316 ePKP  50 45.50  -0.3
                     eS     47 28.00        |                e       45 09.10            |     0.8s     10.70nm
TIY     47.99 347 eP      40 40.00  -2.0    |  HON     81.59   67 P      44 40.00  19.5X  |  EDM    116.09  35 ePKP  50 47.50   2.0
        Z  12s      1.93um          5.3MszX |        Z  20s      2.66um          5.6Msz  |  DOU    116.10 322 PKP   50 51.00   5.5X
        N  17s      1.13um                  |  AFR     83.02 107 iP     44 35.90   7.8X  |     1.0s     27.80nm
                     sS     47 47.00        |          1.3s    110.00nm         5.8mb   |  SNF    116.16 322 PKP   50 51.20   5.6X
NIIJ    48.02  15 eP      40 42.90   0.8    |  PAE     83.20 107 iP     44 36.20   7.2X  |  KVN    116.73  51 PKP   50 48.00   0.6
LZH     49.09 338 Pd      40 49.50  -1.1    |          1.3s     75.00nm         5.6mb   |  LOR    117.42 319 ePKP  50 47.90  -0.3
        1.0s     33.00nm          5.3mb   |  PPT     83.21 107 iP     44 36.60   7.5X  |     1.2s     11.90nm
        Z  18s      3.90um          5.4Msz  |          1.3s    195.00nm         6.1mb   |  LBF    117.43 318 ePKP  50 47.90  -0.3
        N  15s      1.70um                  |  PPN     83.35 107 iP     44 38.80   9.0X  |     0.8s      6.70nm
        E  16s      1.60um                  |          1.3s    180.00nm         6.0mb   |  MWC    117.53  56 ePKP  50 52.00   3.0X
                     pP     40 55.50  20kmX  |  TVO     83.49 107 iP     44 40.30   9.7X  |  TNP    117.59  52 PKP   50 52.00   3.0X
                     PP     42 41.50        |          1.3s    180.00nm         6.0mb   |  SBB    117.65  56 ePKP  50 52.00   2.9X
                     ePPP   43 31.00        |  KER     85.04 306 eP     44 39.00   0.8   |  CLC    117.67  54 ePKP  50 52.00   2.9X
                     eS     47 47.00        |  TAB     86.57 309 eP     44 47.00   1.3   |  SSF    117.72 319 ePKP  50 48.60  -0.1
                     sS     47 58.00        |                e       44 51.00            |     0.8s     21.40nm
                     SS     51 22.00        |  SLY     86.62 307 ePc    44 51.50   5.7X  |  AVF    117.90 318 ePKP  50 48.50  -0.5
YAMJ    49.17  16 eP      40 51.00   0.0    |                eS      55 28.50,           |     0.8s      8.00nm
BJI     49.55 351 eP      40 52.00  -1.8    |  BHD     86.99 304 ePc    44 46.00  -1.6   |  RVR    118.12  56 ePKP  50 51.00   1.1
        1.5s    260.00nm          6.0mb   |                i       44 53.00            |  BGF    118.30 318 ePKP  50 50.10   0.3
        Z  18s      3.45um          5.4Msz  |                eS      55 23.00            |     0.8s     34.90nm
        N  15s      1.02um                  |  AAE     87.49 279 eP     44 54.50   3.7X  |  PEC    118.31  56 PKP   50 51.30   1.0
                     ePP    42 48.00        |  NAI     87.77 269 iP     45 01.30   9.2X  |  GSC    118.39  55 ePKP  50 56.00   5.5X
                     eScP   46 11.00        |          1.0s     30.00nm         5.5mb   |  EKA    118.42 329 PKP   50 55.00   5.2X
                     eS     47 52.00        |  MSL     88.66 307 eP     44 55.80   0.2   |     1.2s     14.70nm
                     eSS    51 36.00        |                eS      55 37.00            |  PLM    118.64  57 PKP   50 53.50   2.4X
LSA     50.35 321 iPc     41 01.50   0.8    |  SEK     91.92 241 iPc    45 14.00   2 8X  |  TCF    118.80 318 ePKP  50 50.80   0.0
                     pP     41 07.50  20kmX  |          0.7s     27.40nm         5.8mb   |     0.8s     10.70nm
                     S      48 11.00        |                i       45 18.00            |  BAR    118.89  58 ePKP  50 58.00   6.6X
OFUJ    50.47  17 eP      41 02.80   1.9    |  BFS     92.94 242 iPd    45 17.50   1.6   |  LRM    119.13  42 ePKP  50 53.00   1.2
SNY     50.71 359 Pd      41 00.00  -2.6    |          1.0s    140.00nm         6.3mb   |  TPC    119.19  56 ePKP  50 54.00   2.0
        1.2s      0.20nm          3.0mb X  |  SNA     93.07 196 e(P)   45 19.50   4.1X  |  CAF    119.32 317 ePKP  50 52.20   0.3
        Z  24s      2.80um          5.2MszX |          1.0s     22.00nm         5.5mb   |     0.7s     13.20nm
        N  21s      2.40um                  |                i       45 24.00            |  FLN    119.67 322 ePKP  50 48.20  -4.1X
        E  23s      2.10um                  |  TTA     93.20   27 P      45 20.00   3.9X  |     1.0s      8.00nm
                     S      48 12.00        |          1.0s     18.00nm         5.5mb   |  MFF    120.24 319 ePKP  50 52.30  -1.2
HHC     51.19 347 eP      41 04.80  -1.7    |  HVD     93.27 238 iPd    45 24.00   6.6X  |     0.8s     21.40nm
HHC     51.19 347 eP      41 06.00  -0.5    |  FRS     93.60 239 eP     45 07.50 -11.2X  |  LPF    120.29 321 ePKP  50 51.00  -2.5
        N  20s      3.60um                  |          0.7s     13.70nm                 |     0.8s     24.10nm
                     pP     41 13.50  25kmX  |                i       45 25.00            |  GLA    120.37  57 ePKP  50 56.00   1.7
                     PP     43 01.00        |  IMA     94.87   24 eP     45 26.00   2.1   |  MSU    121.37  50 PKP   50 58.80   2.5X
BTO     51.31 346 iPd     41 11.00   3.6X   |          1.0s      8.80nm         5.1mb   |  EBR    121.63 313 ePKP  50 40.00 -16.3X
        N  16s      1.10um                  |  BRW     94.91   18 eP     45 27.80   4.0X  |  GOL    126.07  47 PKP   51 10.00   4.6X
        E  16s      1.10um                  |  PMR     96.11   29 eP     45 31.50   2.1   |     1.0s     40.00nm
GBA     52.10 295 P       41 13.00  -0.6    |        Z  20s      1.30um          5.4Msz  |        Z  20s      2.00um          5.8Msz
CN2     52.68   1 Pc      41 15.00  -2.4    |  WIN    102.51 244 e(Pdif46 06.00   6.6X  |  ALQ    126.74  53 ePKP  51 08.00   1.3
        1.2s      0.20nm          3.0mb X  |  INK    102.76   22 ePdiff46 02.50   3.3X  |  RSON   127.74  30 PKP   51 08.60   0.8
        Z  20s      2.80um          5.3Msz  |  MBC    104.84   13 ePdiff46 13.00   4.7X  |        Z  20s      2.26um          5.8Msz
        N  14s      1.00um                  |          1.5s     13.00nm         5.6mb   |  KIC    129.90 271 PKP   51 14.78   1.7
        E  14s      0.50um                  |  SKO    105.93 311 ePKP  50 37.50  11.1X  |  LIC    130.17 270 PKP   51 14.40   0.9
HYB     52.71 300 eP      41 16.00  -2.2    |        Z  21s      0.73um          5.2Msz  |  TIC    130.21 271 PKP   51 14.66   1.0
        1.2s     92.90nm          5 6mb   |        N  22s      0.73um                  |  MEO    132.90  50 e(PKP)51 20.00   1.8
MRRJ    53.43  15 eP      41 22.20  -0.8    |        E  20s      0.90um                  |  SIO    134.22  48 e(PKP)51 07.70 -12.9X
GTA     53.55 336 eP      41 23.00  -1.1    |                LR      38 06.00            |  TUL    134.53  48 ePKP  51 17.90  -3.3X
        1.2s      0.10nm          2.7mb X  |  BNG    106.66 272 iPdiff46 23.10   5.2X  |     1.2s     18.20nm
        Z  18s      2.10um          5.2Msz  |          0.7s     18.00nm         6.2mb   |        Z  19s      2.61um          6.0Msz
        E  18s      3.50um                  |                ic      50 32.00            |                    LR      35 00.00
                     S      48 54.00        |                id      50 34.50            |  LNO    134.53  48 e(PKP)51 10.00 -11.1X
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14d 14h

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RSCP   141.81  42 PKP    51 38.00    3.3X
TKL    142.94  40 PKP    51 38.00    1.4
ITB7   145.95 182 ePKP   51 43.60    1.6
ITB1   146.43 181 e(PKP)51 47.00    4.2X
VAO    147.06 194 ePKP   51 50.60    6.6X
                  e      51 54.70
                  e      52 15.80
PPD    148.80 187 ePKP   51 51.70    5.0X
PT10   149.85 134 ePKP   51 53.00    4.6X
ARE    149.93 148 iPKPd 51 56.00    7.1X
NNA    150.00 134 ePKP   51 54.30    5.6X
        1.2s     70.31nm
      Z  20s      0.53um          5.3Msz
                  iS     20 15.00
PT0B   150.22 134 iPKPc 51 56.30    6.8X
LPB    151.52 153 PKP    52 00.00    8.6X
        1.2s    281.25nm
      Z  22s      2.22um          5.9Msz
                  i      52 06.00
                  LR     44 30.00
CCH    151.55 158 PKP    52 00.00    8.7X
SJS    151.59  86 ePKP   52 00.00    8.7X
ZOBO   151.74 153 PKP    51 54.00    2.1
        1.2s    121.62nm
                  i      52 01.00
                  SS     15 16.00
                  LR     44 40.00
BAO    154.37 196 ePKP   51 57.00    1.9
UPA    156.03  88 ePKP   52 03.80    6.6X
      S.D. = 1.4  on 127 of 211 obs.
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*  NOV  14, 1989  15h 26m 14.44± 1.69s
   30.676 S ±10.2km   71.289 W ±17.6km
   DEPTH =  85.9 ± 12.6 km
 NEAR COAST OF CENTRAL CHILE        (135)

RTRS     1.66  73 iPd    26 42.50    0.1
RTBS     1.85 122 ePc    26 45.50    0.4
RTCB     2.28 111 iPd    26 51.00    0.0
ZON      2.40 112 iPd    26 52.80    0.2
PEL      2.51 168 iPd    26 53.40   -0.7
                  i      27 08.50
                  iS     27 27.50
RTCV     2.64 117 iPd    26 56.20    0.4
CFA      2.77 110 iPd    26 57.50   -0.2
ZOBO    14.63  12 P      29 39.00    0.1
PPD     19.84  69 eP     30 39.00   -2.0
                  e      30 59.00
TIC     73.38  72 (P)    37 40.40    1.2
KIC     73.44  72 (P)    37 39.80    0.3
GBA    146.58 114 PKPd   45 49.10    2.7X
        0.3s     1.30nm
      S.D. = 1.0  on  11 of  12 obs.
-----------------------------------------
   NOV  14, 1989  15h 29m 58.32± 0.88s
    7.525 N ± 3.7km  126.628 E ± 5.2km
   DEPTH = 120.7 ±  8.4 km
   5.2mb ( 19 obs.)
 MINDANAO, PHILIPPINE ISLANDS       (259)

DAV      1.13 247 ePd-   30 22.00    0.0
TSM      9.12 249 ePd    32 11.90    3.5X
AAI     11.25 172 eP     32 40.50    3.8X
                  eS     34 40.00
JAY     17.23 125 ePd    33 54.30    1.3
OIZ     19.92 307 P      34 23.00    0.1
TRT     20.58 223 ePd    34 29.20   -0.4
        0.7s     54.40nm          5.0mb
MTN     20.73 168 eP     34 31.00   -0.1
                  e      34 36.00
KNA     23.22 175 iPd    34 56.00    0.5
        0.6s    100.00nm          5.4mb
                  e      35 17.00
KGM     23.86 258 ePd    35 03.50    1.7
IPM     25.62 265 ePc    35 20.80    2.4
                  e      35 46.80
WHN     25.63 335 eP     35 18.00   -0.2
LOE     26.19 294 eP     35 23.00   -0.5
PMG     26.48 129 eP     35 26.00   -0.2
GYA     26.74 317 P      35 29.40    0.8
NNT     26.94 283 eP     35 31.50    1.1
NST     27.16 290 eP     35 33.50    1.1
WB5     28.28 164 eP     35 40.90   -1.5
                  i      35 50.00
                  eS     40 15.50
WRA     28.33 165 Pc     35 41.40   -1.5
        0.5s      4.30nm          4.4mb
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BDT     28.62 292 eP     35 45.50    0.0
KMI     28.75 310 Pc     35 47.50    0.6
                  pP     35 52.50   17kmX
CHG     29.15 295 ePc    35 49.90   -0.4
MBL     29.28 193 eP     35 50.00   -1.3
QIS     30.68 156 iPd    36 02.60   -1.2
        0.7s     51.00nm          5.4mb
MAT     30.76  18 eP     36 02.00   -2.3
        1.0s     39.00nm          5.1mb
XAN     31.04 331 P      36 05.50   -1.3
CD2     31.60 320 eP     36 11.00   -0.8
NANU    31.82 200 iPc    36 13.00   -0.6
TIY     32.69 339 eP     36 20.40   -0.8
CTA     33.55 145 iPd    36 29.00    0.2
        1.0s     48.00nm          5.2mb
BJI     33.70 345 eP     36 28.50   -1.3
        1.0s     36.00nm          5.1mb
OFUJ    34.21  21 eP     36 35.20    1.0
SNY     34.27 356 Pc     36 34.30   -0.3
        1.2s      0.10nm          2.5mb X
LZH     35.24 327 Pc     36 43.00   -0.2
        2.0s     70.00nm          5.2mb
                  pP     36 44.50    5kmX
HHC     35.80 340 Pd     36 47.40   -0.4
BTO     36.12 338 eP     36 48.80   -1.7
CN2     36.15 359 eP     36 50.00   -0.5
MRRJ    37.03  18 eP     36 58.70    0.8
HOOJ    37.71  20 eP     37 06.40    2.8X
MRWA    37.94 195 iPd    37 06.00    0.3
FORR    38.18 178 eP     37 07.30   -0.4
        0.4s     32.00nm          5.5mb
COOL    38.55 188 eP     37 09.00   -1.9
KUSJ    38.84  21 eP     37 14.80    1.7
ASAJ    39.04  18 eP     37 16.50    1.7
BAL     39.09 194 eP     37 15.30    0.0
KLB     39.81 192 eP     37 21.70    0.5
        0.4s     10.00nm          5.0mb
GTA     39.84 327 iPc    37 22.00    0.4
LSA     39.95 308 P      37 25.00    2.0
RMO     40.05 148 eP     37 23.00   -0.3
MUN     40.52 194 eP     37 27.30    0.2
        0.9s     66.00nm          5.4mb
NWAO    41.21 192 eP     37 32.50   -0.2
STK     41.71 161 eP     37 37.00    0.2
                  e      37 59.00
BRS     42.96 145 iPc    37 46.30   -0.8
                  ipP    37 55.30   30kmX
                  isP    38 06.30
                  i(ScP)43 16.30
ADE     43.78 166 eP     37 54.50    0.9
        1.1s     43.04nm          5.1mb
BWA     46.54 155 iPd    38 17.10    1.5
                  e      38 37.60
BFD     46.90 163 eP     38 18.00   -0.3
                  e      38 40.00
CAN     47.55 155 eP     38 24.90    1.4
                  e      38 45.20
HYB     47.84 287 iPc    38 25.50   -0.5
TOO     48.20 160 eP     38 29.00    0.5
GBA     48.67 281 P      38 32.10   -0.2
DZM     48.87 128 iPc    38 34.40    0.5
WMO     49.61 323 Pc     38 39.20   -0.1
NDI     51.03 301 iP     38 48.50   -1.8
        1.0s     40.00nm          5.3mb
POO     52.40 288 iPc    38 59.50   -1.2
        1.1s     40.51nm          5.3mb
KSH     55.31 313 eP     39 22.80    0.9
QUE     60.10 300 iPc    39 54.90   -0.7
MAIO    67.17 306 iPc    40 41.50   -0.2
        1.1s     32.39nm          5.1mb
TAB     77.78 307 eP     41 45.00    0.9
PMR     80.69  29 eP     41 59.00    0.0
FBA     81.36  25 eP     42 02.50    0.0
KVT     85.55 311 eP     42 25.70    1.3
INK     86.69  22 eP     42 29.50    0.2
                  pP     42 55.50   98kmX
SOD     86.94 338 eP     42 29.00   -1.6
PRNI    87.65 300 iPc    42 35.00    0.2
MBH     87.82 300 iPc    42 36.50    1.0
SUF     88.14 333 iP     42 35.30   -1.1
        0.8s     15.30nm          5.1mb
MBC     88.30  13 eP     42 38.00    1.1
        1.1s      9.00nm          4.7mb
NUR     89.36 331 eP     42 42.50    0.4
MLR     92.11 316 ePd    42 46.50   -8.9X
SLL     94.66 333 eP     43 05.40   -1.3
        0.8s     16.50nm          5.5mb
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KRA     94.82 322 eP     43 07.30   -0.3
NB2     95.36 334 P      43 09.60   -0.4
        1.1s      3.90nm          4.7mb
VAY     95.50 313 eP     43 10.30   -0.6
KSP     96.77 323 eP     43 17.00    0.6
CLL     98.52 324 eP     43 24.00   -0.3
BUL    100.04 251 ePdiff43 31.10   -1.0
KIC    129.57 285 PKP    48 56.76    1.2
TIC    129.76 285 PKP    48 56.92    0.9
LIC    129.88 285 PKP    48 57.32    1.1
UPA    149.20  58 ePKPd 49 35.90    5.3X
        0.5s     46.48nm
PEL    149.88 150 iPKPd 49 38.00    6.8X
        0.9s     18.49nm
ZOBO   163.16 122 PKP    49 51.00    2.2X
        1.2s      7.43nm
      S.D. = 1.0  on  84 of  91 obs.
-----------------------------------------
   NOV  14, 1989  15h 50m 23.07± 0.47s
   44.385 N ± 3.6km    7.268 E ± 4.4km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                     (545)
      ML 2.3 (GEN).

STV      0.15 164 P      50 26.97    0.4
                  S      50 29.33
PZZ      0.17 315 P      50 27.49    0.5
                  S      50 30.36
ENR      0.19 145 P      50 27.49    0.1
                  S      50 30.36
TOUF     0.37 182 Pg     50 30.79    0.0
                  Sg     50 36.36
AUTN     0.41 164 Pg     50 31.46    0.0
ROB      0.44 102 P      50 32.72    0.6
                  S      50 38.25
SAOF     0.45 153 Pg     50 32.08   -0.1
                  Sg     50 37.92
MVIF     0.50 190 Pg     50 33.22    0.1
                  Sg     50 40.21
AURF     0.50 175 Pg     50 33.04   -0.2
RRL      0.64 327 P      50 35.48   -0.5
                  S      50 44.00
IMI      0.65 136 P      50 35.59   -0.5
                  S      50 43.76
CALN     0.69 204 Pg     50 36.83    0.0
FIN      0.70 104 P      50 36.51   -0.4
                  S      50 45.53
      S.D. = 0.4  on  13 of  13 obs.
-----------------------------------------
?  NOV  14, 1989  17h 33m 09.81± 0.89s
   42.866 N ± 6.6km   12.897 E ± 7.7km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)
      MD 2.2 (SSO).

ASS      0.27 320 P      33 15.50    0.0
                  eSg    33 19.90
CIO      0.38  29 ePg    33 17.53    0.0
                  iSg    33 19.78
ALP      0.51 100 ePg    33 20.13    0.0
                  eSg    33 28.18
MNS      0.51 198 P      33 20.10    0.0
                  eSg    33 29.10
      S.D. = 0.0  on   4 of   4 obs.
-----------------------------------------
&  NOV  14, 1989  17h 33m 50.20s
   36.817 N          121.543 W
   DEPTH =   5.0km
 CENTRAL CALIFORNIA                  ( 39)
      <BRK>. ML 3.2 (BRK).

SAO      0.09 123 iPd    33 52.10   -0.2
GCC      0.42 300 iPc    33 58.10   -0.6
PRS      0.50 164 iPd    33 59.90   -0.4
MHC      0.53 351 iPd    34 01.40    0.6
                  iS     34 09.00
ARN      0.53   1 iPd    34 01.20    0.4
PCC      0.96 316 eP     34 07.50   -1.3
PRI      0.98 133 eP     34 07.90   -1.4
BKS      1.19 333 iPbc   34 11.30   -1.6
                  iPgc   34 13.20
                  iS     34 30.10
BRK      1.20 332 eP     34 13.00    0.0
PHAM     1.35 136 eP     34 13.30   -2.2
FRI      1.48  83 eP     34 15.60   -1.9
                  eS     34 36.20
KVN      3.52  50 e(P)   34 47.00    0.2
```

12 obs. associated

NOV 14, 1989 17h 39m 33.75± 0.21s
10.116 N ± 3.8km 126.521 E ± 5.1km
DEPTH = 33.0km (normal)
5.3mb (25 obs.) 4.7Msz (7 obs.)
PHILIPPINE ISLANDS REGION (248)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 10S, 19C
Centroid Location:
Origin Time 17:39:33.9 0.7
Lat 9.99N 0.15 Lon 126.39E 0.21
Dep 15.0 FIX Half-duration 1.7
Moment Tensor; Scale 10**16 Nm
Mrr= 2.12 1.04 Mtt=-1.87 0.75
Mff=-0.25 1.53 Mrt= 6.46 2.46
Mrf= 9.99 1.66 Mtf=-2.03 0.88
Principal Axes:
T Val= 11.99 Plg=50 Azm=295
N 0.48 7 34
P -12.47 39 130
Best Double Couple:Mo=1.2*10**17
NP1:Strike=266 Dip= 9 Slip= 142
NP2: 33 84 83

```
DAV      3.15 197 eP     40 25.00   2.8
OCP      6.96 311 eP     41 04.00 -12.1X
BAG      8.52 318 eP     41 37.10  -0.9
                  eS     43 32.00
TSM     10.22 236 eP     42 07.00   5.7X
QZH     16.56 334 eP     43 30.00   4.9X
     5.0s      1.50nm          2.4mb X
   Z  18s      2.50um          3.3MszX
                  sS     46 34.00
HKC     16.94 317 P      43 35.00   5.1X
                  eS     46 42.00
GZH     18.03 317 P      43 45.00   1 5
   Z  18s      3.00um
   N  13s      1.80um
   E  11s      1.10um
GUMO    18.28  77 e(P)   43 44.20  -2.5
PJG     18.28  77 e(P)   43 45.50  -1.2
GUA     18.32  78 e(P)   43 45.80  -1.3
QIZ     18.40 301 P      43 46.50  -1.7
   N  16s      2.40um
JAY     18.89 131 ePc    43 54.00  -0.2
     0.8s    262.60nm          5.5mb
KHKI    21.33 211 ePd    44 22.00   1.7
                  e      48 52 60
SSE     21.46 347 Pc     44 22.70   1.3
     1.0s    106.00nm          5.2mb
   Z  20s      1.40um          4.4Msz
   N  10s      1.00um
   E  11s      1.20um
                  PPP    44 56.50
                  S      48 20.00
                  sS     48 27.00
NJ2     22.95 343 Pd     44 37.80   1.5
   Z  12s      1.20um          4.6MszX
MTN     23.27 169 eP     44 42.00   2.6
                  e      48 28.00
WHN     23.27 333 eP     44 41.00   1.6
   Z  13s      0.56um          4.2MszX
   N  11s      0.92um
   E  14s      2.61um
                  pP     44 47.80  24kmX
                  S      48 52.00
KGM     24.42 252 ePc    44 52.50   1.8
GYA     24.83 314 P      44 55.40   0.7
   Z  17s      2.30um          4.7MszX
   N  16s      2.50um
   E  16s      2.80um
SHK     24.95  12 eP     44 55.20  -0.4
LOE     25.13 289 eP     44 54.50  -3.0
KNA     25.79 175 eP     45 04.00   0.4
IPM     25.87 260 ePd    45 04.80   0.4
     0.9s     33.40nm          4.9mb
                  e      45 35.90
NST     26.30 285 eP     45 08.10  -0.2
NNT     26.37 278 eP     45 08.00  -1.1
KMI     27.07 307 eP     45 16.50   0.9
   Z  15s      1.50um          4.7MszX
   E  13s      1.40um
TIA     27.34 343 eP     45 17.90   0.2
   E  11s      1.70um
                  eS     49 55.50
CHG     28.03 291 eP     45 23.00  -1.2
PMG     28.25 133 eP     45 25.00  -1.1
MAT     28.36  20 eP     45 31.00   4.0X
     0.9s     13.45nm          4.6mb
   Z  20s      2.48um          4.8Msz
                  eS     50 52.00
XAN     28.76 329 Pc     45 29.60  -1.1
   N  10s      0.90um
   E  10s      0.90um
                  S      50 23.50
DL2     29.00 352 eP     45 38.00   5.4X
   Z  16s      1.10um          4.6MszX
                  eS     50 22.00
CD2     29.59 318 eP     45 36.20  -2.0
   Z  16s      2.20um          4.9MszX
   E  12s      1.60um
                  eS     50 31.00
TIY     30.26 337 eP     45 43.50  -0.6
   Z  18s      1.46um          4.7Msz
   E  15s      1.83um
                  S      50 41.50
WB5     30.79 165 eP     45 46.80  -2.0
WRA     30.85 166 Pd     45 46.60  -2.7
     0.6s      6.50nm          4.6mb
BJI     31.19 345 (P)    45 52.00  -0.1
   Z  18s      0.88um          4.5Msz
   E  10s      0.63um
                  eS     50 56.00
                  e      52 29.00
SNY     31.69 356 Pd     45 56.60   0.1
     1.0s      0.10nm          2.6mb X
   Z  22s      1.60um          4.7Msz
   N  20s      1.70um
   E  15s      1.20um
                  S      51 04.00
MBL     31.77 192 eP     45 56.10  -1.2
     0.7s     21.00nm          5.1mb
LZH     33.04 325 Pc     46 07.50  -1 1
     1.0s     38.00nm          5.2mb
   Z  16s      3.20um          5.1MszX
   N  13s      1.10um
   E  13s      1.70um
                  PPP    46 34.00
                  eS     51 23.00
QIS     33.09 157 eP     46 07.50  -1.4
                  e      46 23.00
HHC     33.35 339 eP     46 11.00  -0.1
   Z  18s      1.50um          4.7Msz
   N  16s      1.50um
   E  13s      1.00um
                  S      51 35.00
CN2     33.57 359 eP     46 15.50   2.7
   Z  15s      1.00um          4.7MszX
   N  12s      0.40um
   E  12s      1.10um
                  pP     46 24.00  29kmX
                  eS     51 33.00
                  eSS    53 34.00
BTO     33.70 337 eP     46 13.00  -1.1
   N  16s      1.10um
   E  14s      0.70um
NANU    34.22 198 iPc    46 17.80  -0.8
MDJ     34.48   4 eP     46 21.50   0.9
   Z  16s      1.50um          4.8MszX
                  S      51 49.50
CTA     35.75 147 iPd    46 31.30  -0.5
     0.9s     53.78nm          5.5mb
                  iPcP   49 02.60
                  iS     52 06.00
WARB    36.08 180 iPc    46 34.60   0.1
MEKA    37.32 192 eP     46 45.00   0.1
GTA     37.65 325 iPc    46 47.40  -0.3
   Z  16s      2.80um          5.2MszX
   E  15s      1.70um
                  S      52 36.00
                  ScP    52 51.40
LSA     38.32 306 P      46 52.80  -1 1
HNR     38.52 119 eP     46 54.00  -1.1
MRWA    40.40 194 iPd    47 10.40  -0.1
     0.4s     17.00nm          5.1mb
FORR    40.76 178 eP     47 12.60  -0.8
     0.4s     46.00nm          5.6mb
COOL    41.09 187 iPd    47 16.10  -0.1
     0.4s     24.00nm          5.3mb
BAL     41.57 193 eP     47 19.80  -0.3
KLB     42.31 191 eP     47 27.20   1.0
     0.3s      9.00nm          5.0mb
RMQ     42.32 150 eP     47 25.00  -1.3
MUN     43.00 193 iPd    47 32.00   0.2
     0.7s     71.00nm          5.5mb
NWAO    43.71 191 eP     47 37.60   0.1
     0.7s     50.00nm          5.4mb
STK     44.18 161 eP     47 41.00  -0.4
                  e      47 42.00
BRS     45.14 146 iPc    47 48.30  -0.9
                  i      47 51.30
                  i      48 01.30
CMS     45.31 157 eP     47 50.00  -0.5
ADE     46.30 166 iPd    48 00.20   1.9
     0.8s     52.24nm          5.5mb
HYB     47.05 284 iPc    48 03.90  -0 6
     1.2s     57.10nm          5.4mb
COO     47.24 150 eP     48 07.00   1.3
WMQ     47.50 322 eP     48 07.60  -0.1
   Z  20s      1.00um          4.8Msz
                  eS     55 01.50
                  ScS    58 00.00
GBA     48.10 279 P      48 12.20  -0 5
BWA     48.93 156 iPd    48 20.10   1 3
BFD     49.39 163 eP     48 22.00  -0.3
CAN     49.94 156 eP     48 27.60   1.0
CNB     50.08 156 eP     48 28.00   0 3
DZM     50.56 130 iP     48 30.90  -0.7
TOO     50.66 160 ePd    48 33.80   1.8
POO     51.56 286 iPd    48 38.40  -0.9
KSH     53.49 312 eP     48 50.90  -2.6
QUE     58.73 299 eP     49 29.00  -2.3
MAIO    65.59 305 eP     50 16.00  -0.9
SVW     75.34  29 eP     51 17.30   1.8
KER     75.66 303 eP     51 17.00  -1.0
TAB     76.14 307 eP     51 21.00   0 3
BRW     76.23  19 eP     51 22.10   1.8
IMA     76.68  24 eP     51 24.00   0.9
     1.0s     12.50nm          4.9mb
PMR     78.49  29 eP     51 33.50   0.6
     0.9s     22.90nm          5.2mb
FBA     79 08  26 eP     51 36.70   0.6
KEV     83.86 340 iP     52 02.00   0.9
     0.8s     29.30nm          5.5mb
                  i      52 14.60
INK     84.34  22 ePd    52 05.00   1.5
SOD     84.52 337 iP     52 04.80   0.4
KAS     85.45 311 eP     52 11.00   1.3
SUF     85.80 333 iP     52 11.60   0.7
     0.9s     37.00nm          5.6mb
MBC     85.81  13 eP     52 12.00   1.3
     1.0s     15.00nm          5.2mb
PRNI    86.27 300 iPd    52 14.00   0.0
MBH     86.46 299 iPd    52 15.00   0.2
NUR     87.05 331 iP     52 17.30   0 3
     0.8s     32.30nm          5.6mb
                  i      52 30.00
HFS     92.30 333 eP     52 40.90  -0.8
     0.7s      9.20nm          5.3mb
   Z  17s      0.28um          4.8MszX
                  LR     34 02.00
KRA     92.74 322 eP     52 43.80  -0 1
                  e      52 48.90
                  e      53 15.20
NB2     93.01 334 P      52 44.40  -0.6
     0.9s      8.40nm          5.2mb
KSP     94.64 323 eP     52 52.50  -0.2
PRU     96.00 323 eP     53 00.00   1.0
CLL     96.36 325 eP     53 01.00   0.5
                  e      53 31.00
KHC     96.92 322 P      53 04.10   0 9
                  e      53 36.00
MOX     97.44 324 eP     53 06.00   0.6
KBA     97.90 321 eP     53 07.50  -0.3
     1.0s      4.50nm          5.0mb
                  e      53 11.00
                  i      53 41.50
WLF    101.00 325 Pdiff  53 23.20   1.8
DOU    101.65 326 Pdiff  53 18.40  -5.9X
                  e      53 37.80
KIC    128.77 287 (PKP)  58 41.50   1.0
UPA    147.87  55 ePKP   59 18.50   3.5X
     0.9s     62.18nm
NNA    157.00  97 ePKP   59 42.50  14.4X
     1.0s      5.00nm
ZOBO   164.49 115 PKP    59 40.00   3 4X
     1.1s     10 44nm
   Z  22s      0.16um
                  LR     56 44.00
```

14d 17h

```
      S.D. = 1.2  on  99 of 109 obs.
-----------------------------------------
*  NOV  14, 1989  17h 52m 23.31± 0.80s
   10.125 N ±13.5km  126.372 E ±19.7km
   DEPTH =  33.0km  (normal)
   4.9mb (  2 obs.)
 PHILIPPINE ISLANDS REGION          (248)

WARB    36.09 180 eP     59 24.00   -0.1
MUN     42.98 193 eP     00 21.30    0.1
NWAO    43.69 191 eP     00 27.00    0.1
HYB     46.91 284 eP     00 52.90    0.0
GBA     47.96 279 P      01 01.10    0.0
BWA     48.99 156 eP     01 09.80    0.9
CAN     50.01 156 eP     01 15.80   -0.9
SUF     85.73 333 eP     05 00.80    0.7
        0.5s      2.40nm          4.7mb
NUR     86.97 331 eP     04 55.00 -11.2X
SLL     92.25 333 eP     05 30.40   -0.7
        0.5s      5.20nm          5.2mb
      S.D. = 0.7  on   9 of  10 obs.
-----------------------------------------
&  NOV  14, 1989  17h 59m 59.92s
   59.933 N          149.749 W
   DEPTH =   0.9km
 KENAI PENINSULA, ALASKA            ( 14)
      <AGS-P>.

SEW      0.23  41 iP     00 04.77    0.3
SLKM     0.62 338 eP     00 12.82    0.5
NNL      0.79 279 eP     00 16.71    1.1
CNPM     0.86 242 eP     00 16.64   -0.4
NKA      1.10 318 eP     00 23.37    2.0
XLV      1.11 245 eP     00 21.73    0.1
PMS      1.32   4 eP     00 24.32   -0.9
                  eS     00 43.83
RDT      1.47 297 eP     00 26.98   -0.7
                  eS     00 47.30
RED      1.59 289 eP     00 28.81   -0.5
                  eS     00 49.50
SUA      1.61 343 eP     00 29.16   -0.6
ILIM     1.62 277 eP     00 29.21   -0.6
                  Sn     00 51.12
GLI      1.62  53 eP     00 27.41   -2.4
                  eS     00 47.61
PLRM     1.69  10 eP     00 30.40   -0.3
SPU      1.69 319 iP     00 30.50   -0.3
                  eS     00 52.30
PWA      1.73 358 eP     00 31.40    0.2
PME      1.74  11 eP     00 32.01    0.6
CGLM     1.77 322 eP     00 31.75   -0.3
                  Sn     00 56.00
OPT      1.78 262 eP     00 32.39    0.3
CRP      1.79 319 eP     00 32.23   -0 1
                  Sn     00 56.85
CKL      1.80 316 eP     00 32.10   -0.4
FID      1.82  62 eP     00 29.64   -3.0
                  Sn     00 51.96
BGL      1.87 317 eP     00 33.25   -0.1
GHO      1.89  12 eP     00 33.52   -0.2
NCG      1.89 322 eP     00 33.77    0.0
                  Sn     00 59.91
VZW      1.94  53 eP     00 32.22   -2.2
VLZ      2.07  53 eP     00 34.25   -2.0
CDD      2.23 245 eP     00 41.04    2.4
SKT      2.23 338 eP     00 38.64    0.0
KLU      2.45  49 eP     00 39.99   -1.8
TOA      2.79  37 eP     00 46.42   -0 2
GLB      3.29  60 eP     00 50.95   -2.7
BALM     3.83  70 eP     00 57.87   -3.6
        32 obs. associated
-----------------------------------------
   NOV  14, 1989  18h 03m 35.30± 0.58s
   43.411 N ± 4.3km     5.464 E ± 4.3km
   DEPTH =   5.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE         (379)
      MD 2.8 (STR).

GELF     0.04 224 Pg     03 36.40   -0.3
BERF     0.19 121 Pg     03 39.44    0.2
PUYF     0.21  55 Pg     03 39.10   -0.5
TREF     0.22 345 Pg     03 39.32   -0.5
PRAF     0.45 332 Pg     03 44.43    0.1
VILF     0.48  22 Pg     03 44.26   -0.6
TAVF     0.48  64 Pg     03 44.63   -0.3
GANF     0.67  29 Pg     03 48.24   -0.4
CALN     1.09  71 Pn     03 56.77    0 4
MVIF     1.32  68 Pn     04 00.09   -0.2
                  Sg     04 19.20
TOUF     1.43  64 Pn     04 01.78   -0.3
                  Sg     04 23.31
AURF     1.43  70 Pn     04 01.54   -0.6
AUTN     1.54  67 Pn     04 03.88    0.2
                  Sg     04 25.68
SAOF     1.62  69 Pn     04 03.96   -0.7
DOI      1.69  49 P      04 06.90    1.2
                  eSn    04 30.80
BNI      1.86  28 Pc     04 10.20    2.0
                  eSn    04 35.00
CKI      2.27  63 P      04 14.30    0.2
                  eSn    04 46.90
CVF      2.64 107 Pn     04 19.20   -0.1
      S.D. = 0.7  on  18 of  18 obs.
-----------------------------------------
*  NOV  14, 1989  19h 21m 08.21± 1.23s
   10.320 S ±16.7km  124.986 E ±10.8km
   DEPTH =  33.0km  (normal)
   4.8mb (  2 obs.)
 TIMOR                              (289)

KUG      1.38 276 eP     21 32.00    0.6
                  eS     22 26.50
MTN      6.52 113 eP     22 39.00   -5.4X
                  eS     23 55.00
KNA      6.53 146 eP     22 44.70    0.1
        0.3s     29.00nm          5.5mb X
                  eS     24 05.00
MBL     11.86 204 eP     23 57.30   -0.8
TRT     12.47 281 ePc    23 55.50 -10.8X
WB5     13.12 137 eP     24 10.50   -4.5X
                  eS     26 39.00
WRA     13.15 138 Pd     24 10.30   -5.0X
        0.4s     4.20nm          4.8mb
WARB    15.86 175 iPc    24 51.60    0.9
OIS     17.37 128 eP     25 09.00   -0.8
                  eS     28 22.00
CTA     22.68 118 iPd    26 09.50    1.3
        1.1s     37.97nm          4.8mb
ZOBO   150.57 154 PKP    40 53.00   -1.3
      S.D. = 1.2  on   7 of  11 obs.
-----------------------------------------
?  NOV  14, 1989  19h 26m 47.87± 5.09s
   30.300 S ±17.6km  178.251 W ±21.1km
   DEPTH = 174.7 ± 42.0 km
   5.2mb (  5 obs.)
 KERMADEC ISLANDS                   (178)

DZM     15.98 297 iPd    30 23.90   -0.6
BRS     25.51 269 iPc    32 03.50    1.6
COO     25.71 262 eP     32 06.00    2.3
CAN     27.90 251 eP     32 24.00    0.6
BWA     28.38 253 eP     32 25.80   -2.0
RMO     29.21 269 iPd    32 36.30    1.1
        0.7s     38.00nm          5.2mb
CMS     30.76 258 eP     32 49.00    0.2
TOO     30.80 247 eP     32 49.00   -0.1
CTA     33.57 279 iPc    33 13.90    0.7
        0.9s     63.87nm          5.3mb
STK     34.29 257 iPc    33 19.80    0 5
        0.9s     71.00nm          5.3mb
QIS     39.09 274 eP     33 59.00   -0.6
WRA     43.87 272 Pd     34 50.00   11.3X
        0.2s     42.40nm
WB5     43.88 272 iPc    34 37.30   -1.4
FORR    45.81 255 eP     34 52.80   -1.0
        0.3s     13.00nm          4.9mb
SBA     48.12 184 (P)    35 12.10    0.9
MBL     55.93 264 eP     36 08.00   -2.1
SPA     59.87 180 iPc    36 35.90   -1.2
        1.0s     15.00nm          4.8mb
                  i      36 41.50
SNA     79.63 179 eP     38 36.40    0.0
BUL    123.58 211 iPKPd  45 27.50    0.9
        1.0s     15.00nm
KRI    126.00 214 iPKP   45 35.00    3.6X
SOD    140.04 345 ePKP   45 50.00   -6.2X
SUF    143.94 341 ePKP   45 59.80   -3.3X
        0.6s     14.40nm
MSL    145.08 291 ePKPd  46 05.50   -0.4
NUR    146.14 340 iPKP   46 07.40    0.6
        0.7s     44.00nm
NB2    148.62 351 PKP    46 14.40    3.5X
        0.9s     20.80nm
HFS    149.10 348 ePKP   46 14.70    3.1X
        0.7s     19.20nm
BNG    149.78 215 iPKPd  46 14.30    0.2
        0.2s     78.00nm
                  ic     46 19.30
                  id     46 34.90
                  ic     47 08.90
BBTK   153.01 299 ePKP   46 20.00    1.8X
KIC    155.42 164 (PKP)  46 31.50    9.5X
KSP    156.78 336 ePKP   46 33.70   11 0X
                  e      46 53.00
KHC    159.15 338 ePKP   46 25.50   -0 1
                  e      47 03.70
      S.D. = 1.2  on  22 of  31 obs.
-----------------------------------------
&  NOV  14, 1989  19h 39m 27.62s
   60.854 N          151.268 W
   DEPTH =  61.0km
 KENAI PENINSULA, ALASKA            ( 14)
      <AGS-P>.

NKA      0.11 172 eP     39 38.59    3.3
SPU      0.50 311 iP     39 39.53   -0.3
                  eS     39 49.22
CGLM     0.58 322 iP     39 40.19   -0.5
                  eS     39 49.97
CRP      0.60 314 iP     39 40.69   -0.3
                  eS     39 50.87
SLKM     0.62 124 eP     39 40.74   -0.4
CKL      0.62 304 iP     39 40.64   -0.6
RDT      0.63 244 iP     39 40.68   -0.6
SUA      0.66  22 eP     39 41.21   -0.5
                  eS     39 52.17
BGL      0.68 307 iP     39 41.44   -0.5
                  eS     39 52.32
NCG      0.70 322 iP     39 41.64   -0 5
                  eS     39 52.63
NNL      0.81 181 eP     39 44.15    0.7
RED      0.86 240 iP     39 43.54   -0 6
                  eS     39 56.41
PMS      0.92  64 eP     39 44.47   -0.3
PWA      1.04  39 eP     39 43.62   -2.8
SKT      1.14 354 eP     39 47.00   -0.7
ILIM     1.14 228 eP     39 47.22   -0.6
                  eS     40 03.02
SEW      1.17 129 eP     39 47.03   -1.1
PLRM     1.27  53 eP     39 48.14   -1.3
PME      1.33  53 iP     39 49.23   -1.1
CNPM     1.33 179 eP     39 49.90   -0.5
GHO      1.46  50 eP     39 51.00   -1.2
OPT      1.55 220 eP     39 53.44    0.0
CUT      1.63  17 eP     39 53.68   -0 7
MTU      1.99 114 eP     39 57.69   -1.8
GLI      2.04  87 eP     39 57.25   -2.9
VZW      2.31  83 eP     40 01.53   -2.5
FID      2.35  90 eP     40 01.20   -3.3
KLU      2.67  74 eP     40 06.62   -2.5
KTH      2.71   3 eP     40 08.99   -0.7
TOA      2.75  61 eP     40 09.40   -0.8
        30 obs. associated
-----------------------------------------
   NOV  14, 1989  19h 42m 11.50± 0.42s
   52.817 N ± 8.0km  168.195 W ± 5.2km
   DEPTH =  33.0km  (normal)
   4.6mb ( 20 obs.)
 FOX ISLANDS, ALEUTIAN ISLANDS      (  9)
      ML 5.3 (PMR).

SDN      5.19  58 eP     43 31.10    2.3
ADK      5.29 263 eP     43 30.30    0.1
KDC     10.22  55 eP     44 38.30   -0.5
SVW     10.76  34 eP     44 50.10    3.8X
TTA     12.01  28 eP     45 03.50    0.3
PMR     13.51  42 e(P)   45 23.00    0.0
TOA     14.99  43 ePc    45 42.30   -0.1
IMA     15.14  23 eP     45 46.80    2.4
FBA     15.96  33 eP     45 54.40   -0.4
INK     22.58  33 ePc    47 08.10   -1.6
        0.8s     29.00nm          4.8mb
MBC     29.86  21 eP     48 17.00   -0.4
        0.5s     3.00nm          4.3mb
LON     30.13  83 eP     48 21.00    0.8
EDM     32.31  67 eP     48 39.50    0.2
SES     34.78  70 eP     49 00.00   -0.7
KVN     36.69  92 eP     49 17.00   -0.2
TNP     37.84  92 eP     49 27.50    0.7
        0.8s     3.43nm          4.3mb
BW06    39.61  80 eP     49 41.60    0.0
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        0.9s      4.24nm          4.2mb
MAT     40.43 268 (P)    49 50.00   1.9
PLM     41.21  97 eP     49 55.50   0.8
GOL     43.99  81 eP     50 18.00   0.6
ALO     46.43  87 eP     50 36.00  -0.9
        1.0s      2.50nm          4.1mb
TUL     52.19  78 eP     51 20.20  -0.8
        0.7s     12.10nm          5.0mb
LNO     52.19  78 eP     51 19.50  -1.4
SCH     54.65  44 ePd    51 38.30  -0.6
NB2     66.49   0 P      52 58.30  -1.1
        0.8s      2.40nm          4.3mb
NUR     66.56 353 eP     52 54.00  -5.8X
HFS     67.39 359 eP     53 02.70  -2.4
        0.7s      3.70nm          4.6mb
SPC     78.12 354 eP     54 04.80  -3.7X
KHC     78.42 359 P      54 11.00   1.0
CDF     79.08   3 eP     54 13.60  -0.1
ZST     79.26 356 eP     54 14.80   0.3
HAU     79.45   4 eP     54 15.50  -0.1
SRO     79.59 356 eP     54 15.60  -0.7
LOR     80.06   5 eP     54 18.70  -0.2
        0.8s      4.50nm          4.5mb
LBF     80.35   5 eP     54 20.30  -0.2
        0.8s      2.60nm          4.3mb
MFF     80.43   8 eP     54 21.00   0.1
        0.8s      8.00nm          4.8mb
KBA     80.47 359 iPc    54 21.80   0.5
        0.8s     14.10nm          5.0mb
AVF     80.51   6 eP     54 21.20   0.0
        0.8s      2.60nm          4.3mb
SMF     80.68   6 eP     54 22.30   0.1
        0.8s      8.50nm          4.8mb
LSF     80.92   7 eP     54 23.60   0.1
        1.0s     10.00nm          4.8mb
TCF     80.93   7 eP     54 23.30  -0.2
        0.6s      3.00nm          4.5mb
MAF     81.02   6 eP     54 24 00   0.0
        0.8s      5.90nm          4.6mb
LFF     82.16   8 eP     54 30.40   0.5
        0.8s     10.70nm          4.9mb
CAF     82.28   7 eP     54 31.00   0.4
        1.0s     10.00nm          4.8mb
LPO     82.45   8 eP     54 31.70   0.3
        1.0s     13.60nm          5.0mb
HYB     89.56 299 eP     55 06.20  -0.8
BUL    144.88 332 iPKPd  01 46.90   0.2
        0.9s     12.18nm
WIN    149.53 350 ePKP   01 59 00   4.7X
HVD    155 65 330 ePKP   02 12.40   9.7X
      S.D. = 0.9  on  44 of  49 obs.
-----------------------------------
?  NOV  14, 1989  20h 29m 29.31± 6.04s
   36.212 N ±25.5km  137.704 E ±16.9km
   DEPTH = 259.6 ± 56.9 km
 HONSHU, JAPAN                    (227)

MTMJ    0.38  12 P       30 03.40   0.1
                 eS      30 28.30
MAT     0.52  51 iPc     30 03.50  -0.1
                 eS      30 27.00
IIDJ    0.75 167 P       30 04.10  -0.4
                 eS      30 30.10
CHJJ    1.06  99 P       30 06.50   0.6
                 S       30 32.10
NIIJ    1.46  45 P       30 08.40  -0.1
TSRJ    1.55 245 P       30 09.30   0.1
KAKJ    2.00  89 P       30 12.70  -0.1
                 S       30 43.30
      S.D. = 0.4  on   7 of   7 obs.
-----------------------------------
&  NOV  14, 1989  20h 41m 55.30s
   37.073 N          121.832 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 2.8 (BRK).

GCC     0.14 252 iPd     41 58.00  -0.5
MHC     0.31  29 iPd     42 01.70   0.0
ARN     0.36  41 iPd     42 02.60  -0.2
SAO     0.44 135 eP      42 03.70  -0.5
PCC     0.61 314 eP      42 06.90  -0.7
PRS     0.83 153 eP      42 10.70  -0.7
LLA     0.85 122 ePc     42 11.10  -0.6
BKS     0.86 338 iPc     42 11.80  -0.2
                 eS      42 24.30
BRK     0.87 337 eP      42 11.40  -0.7
                 eS      42 24.00
PRI     1.32 134 e(P)    42 20.60   0.7
FRI     1.70  92 eP      42 24.10  -1.2
KVN     3.55  55 e(P)    42 50.00  -1.8
        12 obs. associated
-----------------------------------
&  NOV  14, 1989  21h 16m 42.90s
   37.077 N          121.847 W
   DEPTH =  10.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.5 (BRK). Felt at
      Santa Cruz.

GCC     0.13 249 iPd     16 45.60  -0.4
MHC     0.31  32 iPd     16 49.40   0.0
ARN     0.37  43 iPd     16 50.30  -0.2
SAO     0.45 134 iPd     16 51.20  -0.8
PCC     0.60 315 ePc     16 54.00  -1.0
PRS     0.84 153 iPc     16 58.40  -0.7
BKS     0.86 339 iPd     16 59.00  -0.4
                 eS      17 12.00
LLA     0.86 122 iPc     16 58.70  -0.7
BRK     0.86 338 ePd     16 58.80  -0.6
                 iS      17 11.40
PRI     1.33 134 ePd     17 07.00  -0.6
CMB     1.50  50 iPc     17 09.30  -0.7
NWRM    1.61 329 eP      17 10.80  -0.5
PHAM    1.70 136 eP      17 11.80  -1.0
FRI     1.71  92 ePc     17 11.60  -1.3
PKEM    1.73 125 eP      17 12.60  -0.6
BCH     2.37 142 eP      17 20.80  -1.7
ORV     2.49   6 eP      17 23.00  -1.1
ABL     3.08 135 eP      17 30.50  -2.2
KVN     3.55  55 iPd     17 38.40  -1.0
TNP     3.81  73 eP      17 42.30  -0.8
        20 obs. associated
-----------------------------------
   NOV  14, 1989  22h 40m 21.94± 0.71s
   38.320 N ± 6.4km   21.984 E ± 7.4km
   DEPTH =   5.0km  (geophysicist)
 GREECE                           (364)
      ML 3.1 (ATH).

AGG     0.75  21 eP      40 35.90  -1.1
                 e       40 47.90
VLS     1.11 263 ePb     40 42.90  -0.3
                 eSb     41 01.60
NEO     1.38  44 ePb     40 47.30  -0.6
ATH     1.41 104 ePn     40 49.00   0.7
VLI     1.77 154 ePb     40 53.10  -0.3
KZN     1.99 355 ePn     40 58.00   1.3
KEK     2.20 310 ePg     41 04.40   4.8X
PLG     2.34  28 ePn     41 01.50  -0.3
KNT     2.92  14 eP      41 10.00   0.0
OHR     2.93 342 ePn     41 13.70   3.5X
VAY     3.03   8 ePn     41 06.40  -5.0X
SRS     3.06  23 eP      41 12.30   0.5
SKO     3.67 354 ePn     41 22.80   2.2X
      S.D. = 0.9  on   9 of  13 obs.
-----------------------------------
?  NOV  14, 1989  23h 10m 05.36± 4.77s
   43.834 N ±24.0km    8.701 E ±24.6km
   DEPTH =  10.0km  (geophysicist)
 CORSICA                          (380)
      ML 2.3 (GEN).

FIN     0.52 317 P       10 15.25  -0.6
                 S       10 22.22
IMI     0.59 278 P       10 16.79  -0.6
                 S       10 24.89
PCP     0.72 351 P       10 18.74  -0.8
                 S       10 27.86
ROB     0.76 308 P       10 19.25  -0.9
                 S       10 28.78
ENR     1.00 293 P       10 23.76  -0.7
                 S       10 36.48
STV     1.07 293 P       10 24.68  -1.0
                 S       10 38.22
PZZ     1.33 301 P       10 29.61  -0.4
                 S       10 45.76
      S.D. = 0.2  on   7 of   7 obs.
-----------------------------------
   NOV  14, 1989  23h 31m 25.11± 0.54s
   43.823 N ± 4.4km    8.690 E ± 4.1km
   DEPTH =  10.0km  (geophysicist)
 CORSICA                          (380)
      ML 2.6 (GEN), 2.5 (LDG).

FIN     0.52 318 P       31 35.64   0.0
                 S       31 42.64
IMI     0.59 279 P       31 37.08   0.1
                 S       31 45.31
CKI     0.67 334 Pd      31 37.70  -0.7
                 eSg     31 45.90
PCP     0.73 352 P       31 38.86  -0.6
                 S       31 48.39
ROB     0.76 309 P       31 39.63  -0.3
                 S       31 49.21
SAOF    0.84 282 Pg      31 42.23   0.9
AUTN    0.93 281 Pg      31 43.79   0.8
                 Sg      31 56.90
AURF    0.99 274 Pg      31 45.00   1.1
                 Sg      31 59.26
ENR     1.00 294 P       31 44.10   0.0
                 S       31 57.10
TOUF    1.06 281 Pg      31 46.17   1.0
                 Sg      32 00.58
STV     1.07 294 P       31 45.51   0.2
                 S       31 58.85
BOB     1.09  30 Pd      31 46.00   0.4
                 eSg     31 58.70
DOI     1.24 304 Pc      31 48.10  -0.2
                 eSg     32 03.70
CVF     1.26 174 Pg      31 48.41  -0.2
PZZ     1.33 301 P       31 48.93  -0.8
                 S       32 04.97
BDI     1.40  79 P       31 51.30   0.6
                 eSg     32 09.10
FRF     1.50 261 Pn      31 50.20  -1.9
                 Sn      32 08.40
LMR     1.66 254 Pn      31 53.50  -0.8
                 Sn      32 12.80
RSP     1.68 323 P       31 54.50  -0.2
LRG     1.73 259 Pn      31 55.40   0.0
                 Sn      32 14.80
RRL     1.75 309 P       31 57.04   1.1
                 S       32 18.30
LPG     2.17 321 Pn      32 01.60  -0.5
LPL     2.19 321 Pn      32 02.50   0.1
      S.D. = 0.8  on  23 of  23 obs.
-----------------------------------
*  NOV  15, 1989  00h 54m 26.14± 1.11s
   40.133 N ± 7.5km   29.277 E ±11.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

YLV     0.44  10 iPg     54 34.10  -1.0
GBZT    0.67  11 ePg     54 39.60   0.2
                 iSg     54 52.80
DST     0.73 224 iPg     54 38.50  -1.9
                 eSg     54 49.50
BNT     1.06 283 iPn     54 47.60   1.4
EDC     1.10 282 ePn     54 46.50  -0.3
KHL     1.82 174 ePn     54 59.00   1.2
DMK     2.04 326 iPn     55 01.40   0.5
EZN     2.29 263 ePn     55 07.00   2.5X
IZM     2.33 223 ePn     55 08.00   2.8X
BBTK    2.69  95 eP      55 16.00   5.6X
                 eS      55 53.50
      S.D. = 1.5  on   7 of  10 obs.
-----------------------------------
   NOV  15, 1989  01h 02m 54.25± 0.28s
   46.334 N ± 2.2km    7.345 E ± 3.8km
   DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                      (544)
      ML 2.9 (LDG). MD 2.7 (STR).

ORX     0.83 147 P       03 09.46  -0.9
                 S       03 19.77
ORO     0.84 148 Pd      03 09.00  -1.5
                 eSg     03 20.30
LSD     0.89 189 P       03 10.03  -1.4
                 S       03 20.69
LPL     0.92 208 Pg      03 11.20  -0.8
                 Sg      03 24.00
LPG     0.93 207 Pg      03 11.70  -0.6
                 Sg      03 25.00
LOMF    1.08 341 Pg      03 15.84   1.3
VAI     1.10 115 P       03 15.00   0.2
                 eSg     03 29.50
BBS     1.14   6 Pn      03 16.30   0.7
                 Pg      03 17.28
RSP     1.18 183 P       03 16.38   0.0
                 S       03 30.53
BNI     1.36 200 P       03 19.20  -0.2
```

15d 01h

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                    eSg   03 34.70
RRL      1.47 196   P     03 22.74    1.8
                    S     03 41.15
MOF      1.53 355   Pn    03 21.60   -0.1
                    Pg    03 23.70
BSF      1.55 346   Pg    03 23.66    1.7
                    Sg    03 44.84
FEL      1.61  16   Pn    03 22.13   -0.8
                    Sg    03 46.26
HAU      1.81 338   Pn    03 25.90    0.2
                    Pg    03 28.30
                    Sg    03 52.60
PZZ      1.84 185   P     03 27.36    1.1
                    S     03 49.14
ECH      1.89 356   Pn    03 26.13   -0.7
PCP      1.98 154   P     03 28.99    0.8
ROB      2.07 169   P     03 31.76    2.2X
CDF      2.08 359   Pn    03 28.97   -0.7
WLS      2.08   0   Pn    03 28.92   -0.7
STV      2.09 180   P     03 30.53    0.7
VITF     2.10 334   Pn    03 30.05    0.2
FIN      2.21 164   P     03 33.30    1.8
LBF      2.41 287   Pn    03 34.60    0.2
                    Sn    04 02.70
                    Sg    04 11.80
IMI      2.45 171   P     03 35.76    0.7
LOR      2.57 293   Pn    03 37.00    0.4
GWF      2.65   4   Pn    03 36.46   -1.4
SSF      2.74 287   Pn    03 40.00    0.9
AVF      2.79 281   Pn    03 39.70   -0.1
FRF      2.82 190   Pn    03 39.70   -0.4
BGF      3.12 276   Pn    03 44.10   -0.3
                    Sn    04 19.50
                    Sg    04 34.60
MAF      3.32 270   Pn    03 46.70   -0.5
TCF      3.56 271   Pn    03 50.30   -0.4
                    Sn    04 30.60
LSF      4.03 271   Pn    03 56.80   -0.5
                    Sn    04 41.70
DOU      4.19 335   P     03 59.60    0.0
      0.3s      5.60nm
                    iS    05 14.30
MEM      4.37 349   iP    04 02.10    0.0
SNF      4.65 335   iP    04 06.10    0.0
MFF      5.18 276   Pn    04 12.90   -0.8
FLN      5.83 297   Pn    04 19.70   -3.1X
GRR      5.94 293   Pn    04 22.90   -1.4X
LPF      5.96 290   Pn    04 23.40   -1.2X
     S.D. = 0.9   on   38 of   42 obs.
-----------------------------------------
*  NOV  15, 1989  01h 42m 14.55± 2 07s
   33.111 S ±10.9km   69.851 W ±12.1km
   DEPTH = 109.4 ± 27.1 km
 CHILE-ARGENTINA BORDER REGION    (127)

FCH      0.43 239   iPc   42 31.90    0.4
PCH      0.75 227   iP    42 34.20    0.5
                    iS    42 50.00
JACH     0.76 304   iP    42 33.20   -0.5
                    iS    42 48.50
SAN      0.76 243   iPc   42 33.60   -0.1
                    iS    42 48.90
ROCH     0.98 278   iP    42 35.90   -0.2
TACH     1.06 239   iP    42 36.10   -0.5
                    iS    42 54.00
CHCH     1.06 219   iPc   42 36.80    0.1
RTBS     1.48  13   iPd   42 42.20    0.7
                    S     43 03.80
LNV      1.55 237   iPc   43 41.00   58.7X
                    iS    44 02.50
RTCV     1.67  42   iPc   42 43.20   -0.6
                    S     43 05.00
RTCB     1.85  29   iPd   42 46.00   -0.2
                    S     43 10.50
ZON      1.85  33   eP    42 46.00   -0.1
                    eS    43 10.00
RTRS     2.95   7   iPd   43 01.00    0.4
                    S     43 36.60
     S.D. = 0.5   on   12 of   13 obs.
-----------------------------------------
   NOV  15, 1989  02h 54m 32.89± 0.45s
   48.746 N ± 4.3km   19.279 E ± 4.4km
   DEPTH =  10.0km  (geophysicist)
 CZECHOSLOVAKIA                   (547)
      ML 3.1 (VKA). Felt (V) at Bansko
      Bystrico, Lubietava, Detva,
      Hrinova and Slovensko Lupca.

SPC      0.78  55   iPg   54 47.70   -0.4
                    iSg   54 57.70
PSZ      0.92 153   iPnc  54 50.90    0.3
BUD      1.28 188   eP    54 56.30   -0.2
KRA      1.38  18   iPd   54 59.40    1.3
                    iS    55 17.00
                    e     26 40.00
                    i     26 43.20
                    i     26 51.30
                    i     26 56.00
ZST      1.55 250   ePn   55 00.70    0.2
      0.5s      0.08nm
                    iSn   55 23.10
                    i     55 27.10
VKA      2.03 257   ePnc  55 07.20   -0.3
                    iPg   55 09.90
                    i     55 33.00
                    i     55 33.80
                    iSg   55 35.00
SOP      2.11 241   ePn   55 09.90    1.3
CEI      2.38 115   eP    55 51.00   38.5X
KSP      2.85 318   ePn   55 19.00   -0.3
      0.6s     54.00nm
                    iPg   55 26.30
                    iSn   55 53.80
                    i     56 09.50
PRU      3.34 294   Pn    55 25.10   -1.0
                    ePg   55 35.50
                    eSn   56 04.50
                    Sg    56 18.60
BZS      3.51 152   ePc   55 28.00   -0.6
                    e     27 28.50
PTJ      3.63 220   eP    55 30.20   -0.2
KHC      3.78 278   Pn    55 33.00    0.5
                    ePg   55 41.80
                    eSn   56 10.50
                    eSg   56 27.00
WET      4.24 278   ePn   55 38.70   -0.2
KBA      4.33 250   iPnc  55 40.60    0.3
      0.3s      4.00nm
                    i     56 39.00
CLL      4.79 305   iPn   55 46.30   -0.5
                    ePg   56 04.00
                    eSg   57 05.00
     S.D. = 0.7   on   15 of   16 obs.
-----------------------------------------
*  NOV  15, 1989  03h 08m 00.20± 0.58s
   3.149 N ±20.2km   31.253 W ±10.9km
   DEPTH =  10.0km  (geophysicist)
   4.8mb (  1 obs.)  4.3Msz (  1 obs.)
 CENTRAL MID-ATLANTIC RIDGE       (406)

KIC     26.61  82   P     13 40.40   -0.4
CCH     40.01 238   eP    15 38.00    0.4
ZOBO    41.23 241   P     15 47.00   -1.0
     Z  20s      0.38um          4.3Msz
                    eLR   31 12.00
LPB     41.32 241   P     15 49.00    0.5
                    LR    31 26.00
BNG     49.70  87   iPc   16 55.40    0.5
      0.7s      8.00nm          4.8mb
EDM     82.75 323   eP    20 26.00    0.3
TNP     84.90 308   eP    20 37.50    0.3
KVN     85.58 309   eP    20 40.00   -0.6
     S.D. = 0.7   on    8 of    8 obs.
-----------------------------------------
?  NOV  15, 1989  03h 15m 55.51± 6.71s
   43.815 N ±34.5km    8.846 E ±36.0km
   DEPTH =  10.0km  (geophysicist)
 CORSICA                          (380)
      ML 2.3 (GEN).

FIN      0.61 311   P     16 07.72   -0.1
                    S     16 14.69
IMI      0.70 278   P     16 09.26   -0.1
                    S     16 17.36
PCP      0.76 343   P     16 10.79    0.4
                    S     16 20.13
ROB      0.85 305   P     16 11.61   -0.4
                    S     16 21.36
ENR      1.11 292   P     16 16.96    0.6
                    S     16 29.07
STV      1.18 292   P     16 17.54    0.0
                    S     16 30.28
PZZ      1.43 299   P     16 21.87    0.2
RSP      1.76 320   P     16 25.50   -0.8
     S.D. = 0.5   on    8 of    8 obs.
-----------------------------------------
   NOV  15, 1989  03h 26m 26.15± 0.89s
   49.317 N ±10.0km   19.788 E ± 7.3km
   DEPTH =  10.0km  (geophysicist)
 POLAND                           (548)
      ML 2.6 (VKA).

SPC      0.33 113   iPgc  26 33.10    0.1
                    iSg   26 38.00
PSZ      1.40 177   iPn   26 52.00    0.2
SRO      1.80 214   ePn   27 03.50    6.1X
                    i(Sg) 27 28.60
                    i     27 31.00
BUD      1.90 196   eP    26 58.20   -0.7
ZST      2.10 239   ePn   26 47.40  -14.4X
      0.5s      0.03nm
                    e     26 52.40
                    i(Sn) 27 10.10
VKA      2.52 247   iPnc  27 10.40    2.6X
                    e(Pg) 27 13.00
                    i     27 25.10
                    eSg   27 40.50
KSP      2.72 305   ePn   27 10.50   -0.2
                    iPg   27 18.60
                    iSn   27 44.10
                    iSg   27 52.00
PRU      3.47 283   ePn   27 21.40    0.1
                    Pg    27 29.60
                    eSg   28 13.00
KHC      4.07 270   ePn   27 29.50   -0.4
                    eSg   28 17.20
CLL      4.78 297   ePg   27 56.00   16.1X
                    eSg   28 57.00
KBA      4.86 245   e(Pn) 27 42.00    0.9
                    e(Sn) 28 36.50
     S.D. = 0.6   on    7 of   11 obs.
-----------------------------------------
*  NOV  15, 1989  03h 57m 09.66± 1.68s
   32.918 S ± 9.8km   69.821 W ±11.6km
   DEPTH = 117.4 ± 21.7 km
 MENDOZA PROVINCE, ARGENTINA      (139)

FCH      0.57 224   iPd   57 28.50    0.1
                    iS    57 42.80
JACH     0.69 290   iPd   57 28.70   -0.4
                    iS    57 43.00
SAN      0.88 233   iPd   57 30.90    0.2
                    iS    57 46.60
PCH      0.91 219   iPd   57 31.60    0.6
                    iS    57 48.50
ROCH     1.00 267   iP    57 31.80   -0.2
                    iS    57 48.00
TACH     1.19 232   iPd   57 33.60   -0.2
                    iS    57 52.00
CHCH     1.23 214   iPc   57 34.90    0.7
                    iS    57 54.40
RTBS     1.29  14   iPd   57 35.20    0.4
                    S     57 53.50
RTCV     1.51  46   iPc   57 36.70   -0.8
LCCH     1.57 249   iPc   57 38.00   -0.1
                    iS    57 57.50
RTCB     1.67  32   iPd   57 39.30   -0.1
                    S     58 01.00
ZON      1.68  36   iPd   58 01.00   21.5X
LNV      1.68 232   iPd   57 38.60   -0.9
                    iS    58 01.00
RTRS     2.76   7   iPd   57 54.00    0.7
                    S     58 27.00
     S.D. = 0.6   on   13 of   14 obs.
-----------------------------------------
   NOV  15, 1989  04h 00m 40.67± 0.17s
   0.584 S ± 3.6km   19.985 W ± 2.9km
   DEPTH =  10.0km  (geophysicist)
   5.5mb ( 64 obs.)  5.0Msz (  7 obs.)
 CENTRAL MID-ATLANTIC RIDGE       (406)
      CENTROID, MOMENT TENSOR     (HRV)
      Dotо Used: GDSN
      L.P.B.: 14S, 24C
      Centroid Locotion:
      Origin Time        04:00:47.2 0.4
      Lot  0.53S 0.03 Lon  19.02W 0.06
      Dep  15.0 FIX Half-duration  2.3
      Moment Tensor;    Scale 10**17 Nm
        Mrr= 0.08 0.10  Mtt= 1.57 0.10
        Mff=-1.65 0.17  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf=-1.56 0.08
      Principal Axes:
```

```
        T  Val=  2.21  Plg= 0  Azm=202
        N        0.08      90      180
        P       -2.28       0      112
    Best Double Couple:Mo=2.2*10**17
     NP1:Strike=247 Dip=90 Slip=-180
     NP2:        337      90        0

LIC     16.39  65 P     04 31.40  -1.1
                S     07 20.38
TIC     16.57  64 P     04 33.24  -1.6
KIC     16.71  65 P     04 35.32  -1.2
                S     07 28.52
PDCR    22.38 237 eP    05 40.30  -0.5
                e     05 45.30
                e     05 54.60
BAO     31.43 240 eP    07 04.20  -0.5
AVE     35.72  18 iP    07 43.00   1.5
                i     08 44.00
                i     09 35.50
PPD     37.22 233 eP    07 56.10   1.8
                e     07 58.80
                e     08 06.80
BNG     38.82  82 iPc   08 08.90   1.0
        0.5s     80.00nm        5.7mb
                ic    08 26.60
                ic    09 37.00
TAF     38.87  23 iPc   08 09.50   1.5
EJIF    39.24  19 eP    08 13.00   1.9
EPRU    39.79  19 eP    08 17.50   1.8
ATEJ    40.14  20 iPc   08 19.50   0.8
ALOJ    40.29  20 iP    08 21.00   1.1
APHE    40.29  20 iPc   08 21.00   1.1
ACHM    40.38  20 eP    08 22.10   1.5
EHOR    40.57  18 eP    08 23.00   1.0
AFC     40.61  20 eP    08 23.50   0.9
ASMO    40.64  20 eP    08 20.00  -2.7
ENIJ    40.84  22 e(P)  08 24.50   0.3
ITB1    40.98 232 eP    08 26.90   1.4
EBAN    41.35  19 eP    08 29.00   0.6
WIN     42.16 124 iPc   08 36.50   0.9
        1.3s     61.54nm        5.2mb
      Z  20s      4.26um        5.3Msz
EPLA    42.40  16 eP    08 38.00   0.9
TOL     42.83  18 iPc   08 42.00   1.5
        1.1s    354.43nm        6.0mb
                ipP   08 55.50  51kmX
                iPP   10 19.00
                eS    15 12.00
                eSS   17 51.00
GUD     43.49  18 eP    08 47.20   1.1
ECHE    43.61  21 eP    08 48.00   1.1
EBR     45.22  22 eP    09 01.00   1.2
                ePP   10 44.00
                eS    15 44.00
                eScS  18 56.00
ECRI    45.79  18 eP    09 06.00   1.6
LHE     46.67  20 P     09 12.54   1.1
BOH     46.71  19 P     09 12.96   1.2
ISSF    46.71  19 P     09 12.83   1.1
ELYF    46.78  19 P     09 13.37   1.2
ATE     46.80  19 P     09 13.50   1.2
MADF    46.81  19 P     09 13.43   1.0
ESCF    46.83  20 P     09 13.65   1.0
EPF     47.10  20 iPc   09 15.80   1.0
        1.6s    167.90nm        5.9mb
OLLA    47.76 284 iPc   09 21.00   0.5
CCH     48.36 247 P     09 26.20   0.8
LPO     48.85  20 iPc   09 29.00   0.7
        1.6s    186.50nm        5.9mb
LFF     48.92  19 iPc   09 29.80   1.0
        1.6s    236.30nm        6.0mb
CER     49.21 136 eP    09 40.00   8.7X
CAF     49.36  21 iPc   09 32.90   0.6
        1.4s    100.10nm        5.6mb
RJF     49.50  20 iPc   09 33.90   0.6
        1.4s     78.40nm        5.5mb
MZZ     49.64 104 iPd   09 34.00  -1.0
                i     09 47.00
LSZ     49.74 110 iPc   09 37.00   1.2
        1.0s      1.60nm        4.0mb X
                i     09 42.30
LMR     49.75  25 iPc   09 35.80   0.5
        1.6s    124.30nm        5.6mb
LRG     49.79  25 iPc   09 36.50   1.0
        1.6s    124.30nm        5.6mb
ZOBO    49.93 249 iPd   09 37.80   0.1
      Z  18s      3.03um        5.3Msz

                LR    23 30.00
LPB     49.97 249 P     09 38.80   1.0
        1.2s    218.75nm        6.0mb
      Z  16s      4.04um        5.5MszX
                LR    22 50.00
FRF     50.00  25 iPc   09 37.50   0.4
        1.6s     62.10nm        5.3mb
LBL     50.05  21 P     09 37.86   0.4
MFF     50.12  18 eP    09 38.30   0.3
        1.2s     83.30nm        5.6mb
LSF     50.34  19 iPc   09 40.30   0.6
        1.6s    164.10nm        5.7mb
PYM     50.41  21 P     09 41.52   1.2
TCF     50.60  20 iPc   09 42.30   0.6
        1.6s     87.00nm        5.5mb
MAF     50.66  20 iPc   09 43.20   1.0
        1.6s    133.00nm        5.6mb
AGO     50.71  21 P     09 43.37   0.8
IMI     50.81  26 P     09 42.99  -0.4
PLDF    50.82  21 P     09 44.08   0.6
STV     50.84  25 P     09 44.53   0.9
ENR     50.86  25 P     09 44.43   0.6
PZZ     50.95  25 P     09 45.55   1.0
DOI     51.01  25 P     09 46.00   1.0
BGF     51.05  20 iPc   09 45.90   0.8
        1.6s    118.10nm        5.6mb
ROB     51.11  26 P     09 46.27   0.6
LPF     51.15  16 eP    09 46.40   0.6
        1.0s     32.00nm        5.2mb
RRL     51.16  24 P     09 47.09   0.8
FIN     51.19  26 P     09 46.58   0.3
BNI     51.22  24 Pc    09 46.60   0.0
SDV     51.32 282 iPd   09 48.40   0.5
        0.6s     55.50nm        5.7mb
BUL     51.33 115 iPd   09 48.50   0.6
        0.9s      8.40nm        4.7mb
CKI     51.39  26 P     09 48.00   0.3
AVF     51.43  20 iPc   09 48.70   0.7
        1.6s     93.20nm        5.5mb
SMF     51.47  21 iPc   09 49.10   0.7
        1.3s     41.10nm        5.2mb
RDP     51.48  31 P     09 48.80   0.3
RMP     51.51  31 Pc    09 49.00   0.3
GRR     51.52  16 eP    09 49.10   0.4
        1.2s    107.10nm        5.7mb
RSP     51.54  24 P     09 49.24   0.2
PCP     51.60  26 P     09 48.94  -0.5
CZI     51.60  36 P     09 48.60  -0.8
LPG     51.62  24 iPc   09 50.80   1.0
        1.6s    120.60nm        5.6mb
SSF     51.71  20 iPc   09 50.80   0.6
LSD     51.75  24 P     09 51.30   0.5
LBF     51.81  21 iPc   09 51.40   0.4
        1.6s    149.20nm        5.7mb
PII     51.86  28 Pc    09 51.20   0.0
MNS     51.91  31 Pc    09 51.50  -0.3
LDF     51.92  17 eP    09 51.90   0.2
        1.2s     47.60nm        5.3mb
FRS     51.93 128 iPd   09 52.50   0.4
        0.7s     41.10nm        5.5mb
FLN     51.97  16 eP    09 52.20   0.2
        1.2s     59.50nm        5.4mb
TDS     52.01  35 Pc    09 51.60  -0.9
SDI     52.01  32 Pc    09 52.40  -0.2
LOR     52.01  20 iPc   09 52.80   0.3
        1.6s    143.00nm        5.7mb
SGO     52.03  34 P     09 52.80   0.2
CSI     52.06  35 P     09 53.50   0.6
ROI     52.09  36 P     09 53.80   0.6
BDI     52.15  28 Pc    09 53.30  -0.3
BOB     52.17  26 Pc    09 54.70   0.9
ORO     52.22  25 P     09 53.20  -1.0
ORX     52.23  25 P     09 53.04  -1.2
FIR     52.24  28 eP    09 54.50   0.3
                ePP   11 53.00
DUI     52.32  32 Pc    09 55.50   0.6
ASS     52.40  30 Pc    09 54.70  -0.8
CRE     52.47  29 Pc    09 55.00  -1.0
PTZ     52.53 107 iPd   09 57.00   0.1
                i     10 10.00
ALP     52.65  31 eP    09 57.07  -0.4
CIO     52.73  30 eP    09 56.96  -1.0
VAI     52.75  25 Pc    09 56.90  -1.0
SLR     52.79 122 iPd   09 57.50  -1.3
        1.1s     63.29nm        5.5mb
SSO     52.94  30 e(P)  09 57.30  -2.1
ARE     53.13 250 eP    10 00.00  -1.6

LOMF    53.17  23 P     10 00.87  -0.3
SEK     53.19 126 iPd   10 01.50  -0.3
        1.0s     50.00nm        5.4mb
SAL     53.31  26 P     09 58.00  -4.0X
BBS     53.53  23 P     10 03.39  -0.3
HAU     53.54  22 iPc   10 03.80   0.0
        1.5s    171.30nm        5.8mb
BSF     53.56  22 P     10 03.43  -0.6
VITF    53.58  21 P     10 03.99   0.0
VLS     53.68  40 eP    10 04.50  -0.4
MOF     53.70  22 P     10 04.51  -0.6
ECH     54.01  22 P     10 06.71  -0.5
FEL     54.06  23 P     10 07.22  -0.5
CTI     54.15  27 Pc    10 07.80  -0.6
CDF     54.22  22 P     10 08.37  -0.5
WLS     54.25  22 P     10 08.53  -0.5
BOG     54.27 276 e(P)  10 10.00  -0.1
                e(S)  17 46.00
SRN     54.33  37 eP    10 16.60   7.0X
VLI     54.38  42 eP    10 10.70   0.6
OGA     54.50  26 iPc   10 10.30  -0.8
        1.5s    119.00nm        5.7mb
STR     54.55  22 P     10 10.98  -0.1
TPE     54.59  37 eP    10 14.40   2.8
DOU     54.70  19 P     10 11.80  -0.4
        1.0s    100.00nm        5.8mb
                e     10 25.30
                S     17 53.00
BERA    54.81  37 eP    10 11.80  -1.3
GWF     54.82  22 P     10 12.89  -0.3
WLF     54.86  20 P     10 11.00  -2.4
                e     10 26.00
LSK     54.86  38 eP    10 13.00  -0.7
TRI     54.87  28 eP    10 13.20  -0.4
RIY     54.91  29 iPc   10 13.40  -0.4
SNF     54.96  19 Pc    10 13.40  -0.7
FVI     55.07  27 Pc    10 14.70  -0.3
TIR     55.16  36 eP    10 16.50   0.8
VOY     55.17  28 iPc   10 15.70  -0.2
RUP     55.21  21 iPc   10 15.74  -0.3
CEY     55.21  29 ePc   10 15.80  -0.3
UCC     55.23  19 P     10 16.10   0.0
LACI    55.25  36 iPd   10 17.50   1.2
STU     55.25  23 ePc   10 15.20  -1.1
        1.0s     30.00nm        5.3mb
      Z  20s      1.42um        5.0Msz
KBN     55.28  37 iPd   10 17.30   0.7
VBY     55.45  30 iPc   10 18.20   0.4
LJU     55.49  29 eP    10 18.00   0.0
ABH     55.54  21 iPc   10 17.89  -0.5
OHR     55.56  37 eP    10 18.20  -0.6
        1.0s      0.06nm        2.6mb X
MEM     55.61  20 Pc    10 18.80   0.0
                e     10 32.60
KZN     55.67  38 eP    10 18.60  -1.0
KBA     55.69  27 iPc   10 18.70  -1.0
        0.7s     12.00nm        5.0mb
                i     11 23.90
PHP     55.71  36 iPc   10 19.80   0.2
ENN     55.71  20 iPc   10 19.70   0.1
        1.0s     71.00nm        5.7mb
                i     10 33.00
TOD     55.77  22 iPc   10 19.90  -0.2
BCI     55.91  35 iP    10 22.20   1.1
NEO     56.01  40 eP    10 21.50  -0.4
PTJ     56.08  30 iPc   10 22.10  -0.3
TNS     56.15  22 ePc   10 22.40  -0.4
                e     12 25.50
AGMR    56.33  61 iPd   10 26.00   1.5
SKO     56.47  36 iPc   10 24.80  -0.4
        1.5s    177.00nm        5.9mb
      Z  16s      1.77um        5.2MszX
      N  16s      0.96um
      E  16s      1.70um
                i     10 37.50
                iPP   12 30.00
                iPPP  13 57.00
                iS    18 16.00
                eSS   22 57.00
                LR    37 02.00
AKRL    56.52  61 iPd   10 26.00   0.2
AGRW    56.60  61 iPd   10 26.00  -0.4
PLG     56.75  39 eP    10 26.60  -0.7
NAI     56.78  91 eP    10 40.00  11.8X
AMAN    56.80  61 iPd   10 28.00   0.2
ASW     56.80  61 eP    10 24.00  -3.9X
                eS    18 28.00
```

15d 04h

WTS	57.05	19	iPc	10 29.40	0.3
	0.8s	57.00nm			5.7mb
			i	10 42.80	
WET	57.05	25	iPc	10 28.50	-0.8
	1.1s	127.00nm			5.9mb
FCH	57.30	230	eP	10 33.00	1.3
KHC	57.34	26	iPc	10 30.40	-0.9
	1.3s	36.00nm			5.2mb
	Z 16s	0.80um			4.9MszX
	N 16s	0.70um			
	E 16s	0.70um			
			e	10 36.50	
EKA	57.41	11	Pd	10 31.30	-0.3
	1.7s	66.30nm			5.4mb
HLW	57.47	54	eP	10 33.00	0.5
			eS	18 30.00	
NNA	57.52	256	iP	10 31.30	-1.8
	1.1s	24.05nm			5.1mb
	Z 20s	1.06um			4.9Msz
PCH	57.59	230	eP	10 34.00	0.6
SOP	57.63	28	iPc	10 33.20	-0.1
SAN	57.63	230	ePd	10 34.20	0.6
PT10	57.65	256	e(P)	10 38.00	4.0X
PT10	57.65	256	e(P)	10 33.00	-1.0
BEO	57.69	33	iP	10 33.00	-0.7
MOX	57.70	23	iPc	10 33.00	-0.7
	1.2s	65.00nm			5.5mb
	Z 20s	1.10um			5.0Msz
			eS	18 32.00	
WIT	57.70	19	e(P)	10 35.00	1.4
			e	10 47.50	
KOT	57.89	54	eP	10 33.50	-1.9
VTS	57.89	37	iPc	10 36.00	0.6
VKA	57.93	28	iPc	10 34.50	-0.9
	1.0s	47.70nm			5.5mb
PRK	57.96	41	eP	10 35.50	-0.2
IZM	58.19	43	iP	10 36.50	-0.9
ZST	58.25	28	iPc	10 36.90	-0.7
			e	12 38 20	
RZN	58.29	38	iPc	10 38.00	-0.3
EZN	58.30	41	eP	10 35.00	-3.1X
PRU	58.40	25	P	10 37.50	-1.1
	1.8s	56.30nm			5.3mb
	Z 15s	1.10um			5.1MszX
	E 14s	0.70um			
			e	10 51.50	
LNV	58.41	230	iPc	10 39.00	0.0
RDO	58.50	39	iPc	10 38.90	-0.6
SRO	58.57	29	iP	10 39.60	-0.2
BUD	58.70	30	eP	10 38.90	-1.8
KDZ	58.70	39	eP	10 40.00	-0.9
KSL	58.73	46	iPc	10 40.00	-1.2
CLL	58.76	24	iPc	10 40.00	-1.2
	1.7s	57.00nm			5.4mb
			e	12 46.00	
BZS	58.83	33	ePc	10 41.50	-0.2
			e	25 55.00	
DIM	59.00	38	eP	10 43.00	0.1
ELL	59.24	46	eP	10 45.00	0.1
AAE	59.28	79	eP	10 47.50	1.7
PSZ	59.42	30	iPc	10 44.60	-1.3
KHL	59.70	44	iP	10 52.50	4.5X
KSP	59.79	26	eP	10 47.00	-1.3
			e	12 42.00	
JMB	59.88	38	iPc	10 48.00	-1.0
BCK	60.05	45	eP	10 50.00	-0.4
MBH	60.31	55	iP	10 53.00	0.8
SPC	60.45	29	eP	10 52.80	-0.2
CMP	60.53	35	ePc	10 53.00	-0.5
PRNI	60.60	54	iPc	10 54.00	-0.2
KRA	60.89	28	eP	10 54.80	-0.9
	1.0s	50.00nm			5.6mb
MLR	61.18	35	ePc	10 57.00	-1.0
EMM	61.69	323	P	11 00.70	-0.6
PTT	62.26	34	eP	11 01.00	-4.1X
CFR	62.31	37	eP	11 03.00	-2.4
BBTK	62.64	44	iPc	11 07.50	-0.4
			e	11 16.00	
CBM	63.26	325	P	11 11.00	-0.7
BNH	63.90	322	P	11 16.00	0.0
KAS	64.00	42	iPc	11 15.60	-1.2
TBR	64.23	317	P	11 18.00	-0.2
HBVT	64.93	321	P	11 22.40	-0.3
KVT	65.43	44	eP	11 25.00	-1.1
NA2	65.52	313	P	11 26.20	-0.4
HBF	65.80	307	P	11 28.50	0.0
HFS	65.94	18	eP	11 27.60	-1.3
	0.9s	26.10nm			5.4mb
	Z 16s	0.66um			4.9MszX
			LR	33 26.00	
RSNY	65.94	320	P	11 29.10	-0.1
NB2	65.96	16	P	11 28.60	-0.5
	1.3s	40.90nm			5.5mb
CVL	65.99	312	P	11 29.30	-0.3
PTN	66.24	320	P	11 31.00	-0.1
LHS	66.61	308	P	11 33.40	-0.3
JSC	66.90	308	P	11 35.50	0.0
SCH	67.17	333	ePc	11 37.30	0.4
BLA	67.18	311	P	11 37.50	0.1
	0.8s	48.99nm			5.7mb
NAV	67.50	311	P	11 39.50	0.2
PRM	67.72	307	P	11 41.20	0.5
MSL	68.98	50	ePd	11 48.00	-0.5
RYD	69.08	63	iPc	11 50.30	0.9
BHD	69.10	54	ePd	11 48.50	-0.8
TKL	69.28	309	P	11 50.00	-0.4
CLE	69.44	315	iP	11 51.90	0.7
GBTN	69.62	309	P	11 52.50	0.0
NUR	69.92	22	eP	11 53.20	-0.6
SNA	70.58	174	eP	12 00.50	2.9
	1.1s	37.97nm			5.4mb
SLY	70.59	52	iPc	11 58.00	-0.4
RSCP	70.69	308	P	11 58.50	-0.5
TAB	71.89	50	eP	12 05.00	-1.4
SUF	71.92	20	eP	12 05.60	-0.3
	1.0s	41.80nm			5.5mb
PWLA	72.50	307	P	12 09.10	-0.7
ELC	73.95	309	P	12 16.50	-1.7
LST	74.17	308	P	12 18.30	-1.2
FVM	75.03	310	P	12 23.30	-1.2
SOD	75.14	17	iP	12 25.10	0.5
			i	12 34.00	
OLY	75.33	307	P	12 25.20	-1.1
KEV	76.83	15	eP	12 29.00	-5.0X
UYO	77.51	305	iPc	12 38.00	-0.5
LNO	78.86	307	iP	12 45.00	-0.8
TUL	78.87	307	ePd	12 45.50	-0.5
	1.2s	70.40nm			5.6mb
	Z 20s	0.53um			4.9Msz
			LR	37 00.00	
RSON	80.22	322	P	12 51.70	-1.3
KHI	80.92	55	iP+	12 58.50	1.3
MEO	80.97	305	iPd	12 56.80	-0.5
MAIO	81.86	53	iPc	13 02.30	0.3
	0.8s	31.11nm			5.4mb
			eS	23 20.00	
GLD	86.70	310	P	13 27.90	1.4
	1.2s	75.76nm			5.8mb
GOL	86 81	310	P	13 27.90	0.7
	1.2s	75.82nm			5.8mb
ALQ	87.43	305	eP	13 30.00	-0.2
	1.0s	21.50nm			5.4mb
	Z 20s	0.53um			4.9Msz
BW06	90.08	313	P	13 41.90	-0.7
SES	91.12	320	eP	13 47.00	0.0
MSU	92.08	308	P	13 52.80	0.9
EDM	92.49	323	iPd	13 53.00	-0.2
	1.0s	49.00nm			5.9mb
DUG	92.54	310	P	13 54.40	0.5
	0.8s	4.86nm			5.0mb
MBC	92.80	346	eP	13 56.00	1.8
	1.1s	16.00nm			5.4mb
POO	93.82	72	eP	14 04.70	4.7X
GLA	94.38	303	P	14 03.30	0.9
TNP	96.06	308	P	14 10.30	0.1
	0.8s	3.43nm			4.9mb
KVN	96.68	309	P	14 11.90	-1.1
PNT	96.73	319	eP	14 13.00	0.3
	0.6s	3.00nm			5.0mb
GBA	97.35	76	Pd	14 16.70	0.6
	0.8s	1.90nm			4.8mb
CMB	98.56	308	P	14 19.00	-2.2
INK	99.08	340	ePc	14 23.20	0.3
LBFM	99.32	312	P	14 25.00	0.1
CAN	142.83	165	e(PKP)	20 21.10	4.3X
			e	20 28.10	
BWA	143.52	164	ePKP	20 16.80	-1.2
			e	20 29.70	
ASPA	145.01	135	iPKPc	20 20.60	-0.2
	1.0s	76.00nm			
			e	20 25.30	
			i	20 33.70	
WRA	147.61	130	PKPd	20 28.30	3.2X
	0.7s	4.60nm			
WB5	147.67	130	ePKP	20 28.70	3.5X
			i	20 41.10	
RMQ	150.98	159	ePKP	20 35.00	4.9X
			i	20 51.00	
OIS	151.01	138	ePKP	20 36.00	5.7X
			e	20 50.00	
GUMO	160.20	49	e(PKP)	20 49.80	7.5X
PJG	160.20	49	e(PKP)	20 45.00	2.7X

S.D. = 0.9 on 273 of 291 obs.

NOV 15, 1989 04h 15m 57.07± 0.29s
0.495 S ± 5.8km 19.808 W ± 4.6km
DEPTH = 10.0km (geophysicist)
5.2mb (43 obs.) 4.8Msz (1 obs.)
CENTRAL MID-ATLANTIC RIDGE (406)

KIC	16.51	65	P	19 50.90	0.5
			S	22 38.00	
PDCR	22.58	237	eP	20 59.20	0.1
			e	21 05.10	
BAO	31.62	240	eP	22 04.30	-18.6X
PPD	37.41	233	eP	23 10.60	-1.8
BNG	38.63	82	iPd	23 24.00	1.3
	1.0s	33.00nm			5.0mb
TAF	38.71	23	eP	23 21.00	-2.2
			i	23 25.00	
ALOJ	40.14	20	eP	23 36.40	1.3
ASMO	40.49	20	eP	23 38.00	0.1
TOL	42.69	18	iPc	23 58.00	2.2
	1.2s	156.25nm			5.6mb
LHE	46.53	19	P	24 27.92	1.2
BOH	46.57	19	P	24 28.10	1.1
ISSF	46.57	19	P	24 26.51	-0.5
ELYF	46.63	19	P	24 28.58	1.1
ATE	46.65	19	P	24 28.67	1.1
EPF	46.96	20	iPc	24 31.40	1.4
	1.6s	74.60nm			5.5mb
OLLA	47.91	284	iPc	24 38.00	0.0
CCH	48.56	247	P	24 48.90	5.6X
LPO	48.70	20	iPc	24 44.40	0.8
	1.6s	62.10nm			5.4mb
LFF	48.78	19	iPc	24 45.30	1.2
	1.2s	29.70nm			5.2mb
CER	49.15	136	eP	25 02.00	14.8X
CAF	49.22	20	iPc	24 48.20	0.6
	1.6s	43.50nm			5.2mb
RJF	49.36	20	iPc	24 49.50	0.9
	1.2s	29.70nm			5.2mb
LMR	49.60	25	eP	24 51.00	0.5
	1.6s	42.20nm			5.2mb
LSZ	49.61	110	eP	24 52.00	0.9
LRG	49.63	25	eP	24 51.80	1.1
	1.6s	37.30nm			5.1mb
FRF	49.84	25	eP	24 52.70	0.3
	1.6s	29.80nm			5.0mb
MFF	49.98	18	eP	24 53.80	0.4
	1.2s	32.10nm			5.2mb
LPB	50.16	249	P	24 56.00	0.3
	Z 16s	4.04um			5.5MszX
			LR	43 54.00	
LSF	50.20	19	eP	24 55.60	0.6
	1.6s	49.70nm			5.2mb
MAF	50.52	20	iPc	24 58.50	1.0
	1.6s	87.00nm			5.5mb
BGF	50.91	20	iPc	25 01.40	1.0
	1.6s	68.40nm			5.3mb
LPF	51.01	16	eP	25 01.80	0.6
	0.8s	5.30nm			4.5mb
BNI	51.07	24	P	24 59.50	-2.4
BUL	51.21	116	eP	25 03.60	0.3
CKI	51.24	26	Pc	25 03.50	0.5
AVF	51.28	20	eP	25 04.10	0.8
	1.6s	43.50nm			5.1mb
RDP	51.31	31	P	25 04.80	1.2
SMF	51.33	21	eP	25 04.30	0.6
	1.6s	27.30nm			4.9mb
RMP	51.34	31	Pc	25 05.50	1.7
LPG	51.47	24	iPc	25 06.10	1.0
	1.6s	62.10nm			5.3mb
SDV	51.47	282	eP	25 06.00	0.5
SSF	51.57	20	iPc	25 06.20	0.7
	1.4s	45.30nm			5.2mb
LBF	51.67	21	eP	25 06.80	0.5
	1.6s	37.30nm			5.1mb
PII	51.69	28	P	25 07.00	0.6
TDS	51.84	35	Pc	25 08.20	0.6
FRS	51.85	128	iPd	25 07.50	-0.3

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        0.4s     8.47nm          5.0mb
SGO     51.86  34 P      25 06.50  -1.2
LOR     51.87  20 iPc    25 08.00   0.2
        1.6s    55.90nm          5.2mb
BDI     51.99  28 Pc     25 08.70  -0.1
BOB     52.02  26 P      25 10.00   1.0
ORO     52.07  25 P      25 08.50  -0.9
DUI     52.15  32 P      25 10.80   0.7
CRE     52.30  29 P      25 11.20   0.0
PGD     52.38  29 Pc     25 10.90  -0.9
CIO     52.57  30 eP     25 12.47  -0.7
VAI     52.60  25 Pc     25 11.90  -1.3
SLR     52.69 122 iPd    25 13.50  -1.0
        1.0s    20.00nm          5.0mb
LOMF    53.02  22 P      25 15.51  -1.0
ARE     53.32 250 eP     25 16.00  -3.4X
BBS     53.38  23 P      25 18.43  -0.6
HAU     53.39  22 iPc    25 19.00  -0.1
        1.4s    47.00nm          5.3mb
BSF     53.41  22 P      25 18.54  -0.8
VITF    53.43  21 P      25 19.15  -0.1
MOF     53.55  22 P      25 19.50  -0.9
ECH     53.86  22 P      25 22.10  -0 4
FEL     53.91  23 P      25 22.45  -0.6
CTI     53.99  27 Pc     25 23.00  -0.6
CDF     54.07  22 P      25 23.41  -0.7
WLS     54.10  22 P      25 23.78  -0.5
OGA     54.35  26 eP     25 25.80  -0.6
DOU     54.55  19 P      25 27.00  -0.6
GWF     54.67  22 P      25 27.75  -0.7
WLF     54.71  20 P      25 28.00  -0.7
TRI     54.71  28 P      25 28.60  -0.2
RIY     54.74  29 ePd    25 29.10   0.1
FVI     54.91  27 Pc     25 30.00  -0.2
CEY     55.05  29 eP     25 31.00  -0.3
RUP     55.06  21 ePc    25 31.12  -0.3
VBY     55.29  29 iPc    25 33.50   0.5
LJU     55.32  29 eP     25 33.50   0.2
OHR     55.39  37 eP     25 29.50  -4.4X
ABH     55.39  21 ePc    25 33.41  -0.3
MEM     55.46  20 P      25 34.30   0.2
KBA     55.53  27 iPd    25 34.30  -0.7
        0.5s    2.50nm          4.5mb
ENN     55.57  20 ePc    25 35.00   0.1
        1.2s    52.00nm          5.4mb
                e        25 40.00
ZAG     55.87  30 ePc    25 38.00   0.9
PTJ     55.91  30 eP     25 37.10  -0.5
SKO     56.29  36 iP     25 40.20  -0.1
        1.5s    76.00nm          5.5mb
      Z 17s     1.54um          5.2MszX
      E 17s     1.54um
                i        25 47.70
                i        26 01.00
                LR       52 07.00
WET     56.90  25 iPc    25 43.90  -0.7
        1.5s    83.00nm          5.5mb
WTS     56.91  19 eP     25 44.50   0.0
                e        25 50.00
KHC     57.18  25 iPc    25 46.00  -0.6
        1.2s    14.00nm          4.9mb
                e        26 21.20
EKA     57.29  11 P      25 55.00   7.8X
        1.5s    36.80nm          5.2mb
SOP     57.47  28 eP     25 49.50   0.9
BEO     57.52  33 eP     25 48.00  -1.0
MOX     57.54  23 ePc    25 49.00  -0.1
        1.4s    36.00nm          5.2mb
      Z 16s     1.20um          5.1MszX
                e        26 10.00
VKA     57.77  28 eP     25 50.00  -0.7
        3.0s   201.00nm          5.6mb
SAN     57.83 230 eP     25 54.00   2.6
ZST     58.09  28 eP     25 52.00  -0.9
PRU     58.24  25 P      25 52.70  -1.2
        1.7s    33.50nm          5.1mb
SRO     58.41  29 iP     25 54.80  -0.3
BUD     58.53  30 eP     25 54.10  -1.9
CLL     58.61  23 eP     25 55.00  -1.5
        1.7s    30.00nm          5.1mb
PSZ     59.26  30 eP     26 02.20   1.0
KSP     59.63  26 eP     26 01.50  -2.1
UPA     60.22 281 eP     26 08.70   0.5
SPC     60.28  29 eP     26 08.60   0.3
KRA     60.72  28 eP     26 10.80  -0.3
MLR     61.01  35 ePc    26 12.50  -0.8
BNH     63.94 322 P      26 33.30   0.6
TBR     64.29 317 P      26 34.50  -0.5
HBVT    64.97 321 P      26 39.60   0.2
HFS     65.80  18 eP     26 42.50  -1.9
        0.8s    5.00nm          4.8mb
NB2     65.82  16 P      26 44.60   0.0
        1.4s   21.40nm          5.1mb
LHS     66.69 308 P      26 51.00   0.4
TKL     69.36 309 P      27 07.40   0.1
GBTN    69.71 308 P      27 09.70   0.3
SNA     70.65 174 e(P)   27 18.50   4.0X
        0.9s   13.45nm          5.1mb
PWLA    72.58 307 P      27 26.20  -0.5
ELC     74.03 309 P      27 33.80  -1.3
FVM     75.11 310 P      27 39.80  -1.6
UYO     77.60 305 iPd    27 55.30  -0.2
LNO     78.95 307 eP     28 03.40   0.7
                e        28 13.70
TUL     78.95 307 eP     28 02.70  -0.2
        1.3s   22.30nm          5.0mb
SIO     79.34 306 e(P)   28 03.30  -1.7
RSON    80.26 322 P      28 08.50  -1.1
        0.9s   13.36nm          4.9mb
MEO     81.06 305 iPc    28 14.30   0.1
MAIO    81.67  53 eP     28 18.00   0.6
GLD     86.78 310 P      28 44.60   1.3
        1.1s   44.36nm          5.6mb
GOL     86.89 310 P      28 44.50   0.5
        1.0s   15.50nm          5.2mb
ALQ     87.53 305 eP     28 47.00   0.0
        1.0s    6.75nm          4.9mb
      Z 18s     0.34um          4.8Msz
DAU     91.42 310 P      29 06.40   1.0
MSU     92.16 308 P      29 10.00   1.3
EDM     92.52 323 ePc    29 10.30   0.5
MBC     92.75 346 eP     29 15.50   5.1X
        1.5s   19.00nm          5.3mb
KVN     96.76 309 eP     29 29.00  -0.7
ASPA   144.94 135 iPKPc  35 36.20  -0 9
        0.8s   36.00nm
WRA    147.53 130 PKPc   35 43.30   1.9X
        0.8s    2.70nm
WB5    147.59 130 ePKP   35 44.80   3.3X
QIS    150.95 137 ePKP   35 52.70   6.1X
RMQ    151.00 159 ePKP   35 57.00  10.5X
      S.D. = 0.9  on 128 of 140 obs.
-----------------------------------
   NOV  15, 1989  06h 15m 12.36± 0.20s
   44.556 N ± 2.4km    9.186 E ± 1.8km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.9 (GEN), 3.1 (LDG).

PCP     0.46 268 P       15 21.58  -0.1
                S        15 28.66
CKI     0.66 259 Pc      15 25.30  -0.2
                eSg      15 35.10
FIN     0.78 244 P       15 27.74   0.1
                S        15 39.02
ROB     0.98 255 P       15 31.02   0.0
                S        15 44.82
BDI     1.13 116 Pc      15 33.70   0.2
                eSg      15 49.00
IMI     1.13 236 P       15 33.58  -0.1
                S        15 48.65
MME     1.14 108 Pc      15 35.20   1.3
PII     1.27 130 P       15 36.40   0.4
                eSg      15 53.50
SAOF    1.30 245 Pg      15 36.36  -0.1
                Sg       15 54.11
ENR     1.31 256 P       15 36.45  -0.2
                S        15 54.48
VAI     1.34 348 P       15 37.30   0.2
                eSg      15 56.00
ORO     1.37 322 P       15 37.70   0.1
                eSg      15 56.40
STV     1.37 257 P       15 37.37  -0.2
                S        15 56.31
ORX     1.37 322 P       15 37.58  -0.1
                S        15 56.64
AUTN    1.38 247 Pg      15 38.03   0.2
DOI     1.39 269 P       15 39.00   1.2
SAL     1.42  42 P       15 38.50   0.4
PZZ     1.49 269 P       15 40.14   0.8
                S        16 00.64
TOUF    1.49 249 Pg      15 39.89   0.5
AURF    1.49 244 Pg      15 39.58   0.3
RSP     1.50 294 P       15 39.12  -0.3
                S        15 59.14
MVIF    1.60 246 Pg      15 41.30   0.3
                Sg       16 03.62
LSD     1.70 303 P       15 41.68  -0.8
                S        16 03.64
RRL     1.75 283 P       15 43.01  -0.2
                S        16 06.14
BNI     1.86 286 Pd      15 45.40   0.8
                eSn      16 07.00
PGD     1.95 110 P       15 45.20  -0.7
LPG     1.97 299 Pn      15 47.00   0.6
                Sn       16 13.40
LPL     1.99 300 Pn      15 47.10   0.5
CVF     2.00 187 Pn      15 45.40  -1.2
FRF     2.08 242 Pn      15 47.40  -0.4
                Sn       16 12.00
CRE     2.20 114 P       15 50.30   0.8
LMR     2.29 239 Pn      15 49.70  -1.0
                Sn       16 16.70
CTI     2.29  49 P       15 50.00  -0.9
LRG     2.32 243 Pn      15 50.60  -0.5
                Sn       16 19.00
FVI     3.24  50 P       16 04.20   0.0
                eSn      16 42.40
VOY     3.63  64 e(Pn)   16 09.20  -0.7
                eSn      17 11.90
BSF     3.67 334 Pn      16 10.60   0.1
                Sn       16 54.00
HAU     3.97 331 Pn      16 14.60   0.0
                Sn       17 02.00
CDF     4.08 342 Pn      16 15.30  -0.8
SMF     4.29 301 Pn      16 19.90   0.7
LBF     4.38 306 Pn      16 20.30  -0.2
                Sn       17 10.60
LOR     4.60 308 Pn      16 23.80   0.2
                Sn       17 15.10
AVF     4.66 301 Pn      16 24.10  -0.3
BGF     4 88 296 Pn      16 26.70  -0.9
CAF     5.09 277 Pn      16 30.90   0.4
KHC     5.48  32 eP      17 24.80  48.8X
                e        17 58.40
      S.D. = 0.6  on  45 of  46 obs.
-----------------------------------
?  NOV  15, 1989  06h 59m 15.80± 1.63s
    7 024 S ±20.8km  125.440 E ±20.1km
   DEPTH = 528.1 ± 20.9 km
   3.7mb (  1 obs.)
 BANDA SEA                         (280)

KUG     3.62 210 eP      00 34.50   0.6
                e(S)     01 27.50
AAI     4.30  40 ePc     00 39.00  -0.2
MTN     8.05 136 iPc     01 14.60   0.2
                eS       02 46.00
KNA     9.26 160 eP      01 26.00  -0.9
MBL    15.06 201 eP      02 25.30  -0.9
WB5    15.44 147 eP      02 31.10   1.2
                eS       05 17.60
WRA    15.48 147 Pd      02 29.40  -0.9
        0.4s    1.00nm          3.7mb
FORR   23.83 174 iPc     03 49.70   0.9
      S.D. = 1.1  on   8 of   8 obs.
-----------------------------------
   NOV  15, 1989  07h 46m 52.34± 0.29s
    3.067 S ± 4.6km  139.542 E ± 6.0km
   DEPTH =  33.0km  (normal)
   5.1mb ( 11 obs.)  4.3Msz (  2 obs.)
 WEST IRIAN                        (201)

JAY     1.28  65 iPc     47 12.20  -1.9
MNDI    5.12 127 eP      48 13.50   4.5X
LAT     8.24 116 eP      48 54.00   1.4
PMG     9.84 130 eP      49 16.00   1.3
        1.0s   70.00nm          5.9mb
MTN    12.79 220 eP      49 54.00  -0.7
                eS       52 14.00
KNA    16.47 219 eP      50 42.70   0.0
        0.4s  102.00nm          5.3mb
                eS       53 39.00
QIS    17.38 180 eP      50 52.00  -2.2
                eS       54 02.50
WB5    17.46 196 iPd     50 53.80  -1.3
                eS       54 02.20
WRA    17.53 196 Pc      50 53.30  -2.6
        0.5s   13.30nm          4.3mb
CTA    18.14 159 eP      51 04.00   0.4
        1.0s   20.00nm          4.2mb
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15d 07h

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                    eS    54 35.00
PCI     19.81 276 iPc     51 26.00   2.8
ASPA    21.19 194 ePc     51 36.30  -1.2
        0.6s    109.00nm          5.4mb
      Z  20s      0.99um          4.2Msz
                    eS    55 31.10
                    LR    00 02.30
TSM     22.64 289 ePc     51 57.10   5.1X
RMQ     24.91 160 eP      52 15.00   1.1
WARB    26.11 207 iPd     52 25.20   0.1
MBL     26.29 225 eP      52 27.40   0.5
        0.5s     12.00nm          4.8mb
BRS     27.30 154 iPc     52 35.50  -0.6
                  i       52 50.70
STK     28.73 176 eP      52 50.00   1.1
FORR    29.67 200 eP      52 55.50  -1.9
NANU    30.29 228 eP      53 03.00   0.0
ADE     31.75 181 e(P)    53 14.50  -1.2
BWA     32.28 166 eP      53 21.80   1.5
COOL    32.67 210 eP      53 22.00  -1.8
        0.5s     15.00nm          5.1mb
CAN     33.27 166 eP      53 30.80   1.8
BFD     34.06 176 eP      53 37.00   1.3
MRWA    34.30 218 eP      53 38.00   0.0
BAL     34.87 216 eP      53 43.50   0.7
KLB     35.01 213 eP      53 44.00   0.0
MUN     36.17 215 eP      53 54.60   0.8
NWAO    36.32 213 eP      53 56.30   1.3
      Z  20s      0.70um          4.4Msz
RKG     37.32 212 eP      54 09.00   5.6X
SSE     38.21 334 eP      54 10.50  -0.4
                  sS      55 56.00
IPM     39.23 281 ePc     54 20.00   0.3
PSI     41.00 278 iPd     54 35.60   1.3
NST     43.20 297 eP      54 52.50   0.2
GYA     43.26 315 P       54 54.60   1.8
CHG     45.48 300 ePc     55 10.40  -0.2
        1.0s     12.00nm          4 8mb
XAN     46.84 325 P       55 22.00   0.8
BJI     47.96 336 eP      55 33.00   3.2X
MDJ     48.30 350 eP      55 31.80  -0.6
CN2     48.35 346 Pc      55 32.60  -0.2
GTA     55.85 323 P       56 29.40   0.2
KOD     63.20 283 eP      57 19.80  -0.7
GBA     63.78 287 P       57 22.60  -1.3
WMQ     65.80 321 Pd      57 36.80   0.1
SVW     80.81  26 ePd     59 04.50   0.4
TTA     81.38  25 ePd     59 07.20   0.1
MAW     82.11 202 eP      59 11.00   0.3
IMA     83.56  22 ePd     59 18.50   0.1
PMR     83.90  27 ePd     59 18.60  -1.4
        0.9s     27.50nm          5.4mb
BRW     84.70  17 ePc     59 24.50   0.7
TOA     85.39  27 ePc     59 27.90   0.3
FBA     85.48  24 ePc     59 26.60  -1.2
SPA     86.95 180 iPd     59 36.30   1 0
        0.5s     10.19nm          5.3mb
INK     91.69  22 eP      59 56.00  -1.3
MBC     95.60  14 ePc     00 14.00  -1.2
        0.6s      3.00nm          4.9mb
KIC    144.26 277 PKPd    06 26.02  -1.7
        0.7s     27.00nm
TIC    144.52 277 PKPd    06 26.90  -1.3
        0.6s     24.50nm
LIC    144.55 276 PKPd    06 26.88  -1.3
        0.8s     26.50nm
LPB    146.46 126 ePKP    06 34.00   2.1
ZOBO   146.58 126 PKP     06 34.00   1.7
CCH    147.52 130 PKP     06 33.50   0.1
PPD    152.89 157 e(PKP)06 49.00   8.0X
      S.D. = 1.2  on  58 of  63 obs.
-----------------------------------
%  NOV  15, 1989  09h 01m 06.20± 0.63s
   60.712 N ± 5.2km     5.640 E ± 6.6km
   DEPTH =   5.0km  (geophysicist)
 SOUTHERN NORWAY                (535)
      ML 1.5 (BER).
ASK      0.32 224 iP      01 12.52  -0.1
                  iS      01 16.71
HYA      0.53  30 iP      01 17.31   0.5
                  eS      01 25.20
SUE      0.55 309 iP      01 16.72  -0.5
                  eS      01 24.30
ODD1     0.94 148 iP      01 24.72   0.1
                  iS      01 37.78
BLS1     1.45 155 iP      01 33.91   0.7
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                  iS      01 53.66
KMY      1.52 188 eP      01 34.17   0.2
                  eS      01 53.38
MOL      2.08  25 eP      01 42.86   0.8
                  eS      02 09.86
NRA0     2.90  87 iPc     01 52.20  -1.7
                  iPg     01 58.70
                  iSg     02 36.90
      S.D. = 0.9  on   8 of   8 obs.
-----------------------------------
&  NOV  15, 1989  10h 05m 04.10s
   37.063 N          121.903 W
   DEPTH =  12.0km
 CENTRAL CALIFORNIA              ( 39)
      <BRK>. ML 2.5 (BRK).

GCC      0.08 246 iPc     05 06.90   0.1
MHC      0.35  37 iPc     05 11.30  -0.1
ARN      0.41  46 iPc     05 12.30  -0.3
SAO      0.47 129 eP      05 12.50  -1.3
PCC      0.58 319 eP      05 14.80  -0.9
PRS      0.85 149 eP      05 19.50  -0.7
                  iS      05 32.40
BKS      0.85 342 eP      05 19.90  -0.5
                  eS      05 32.50
BRK      0.86 341 eP      05 20.30  -0.1
LLA      0.89 120 eP      05 20.10  -0.9
PRI      1.36 132 eP      05 28.60  -0.3
KVN      3.60  55 e(P)    06 05.00   4.0
       11 obs. associated
-----------------------------------
   NOV  15, 1989  10h 51m 34.45± 0.27s
   42.351 N ± 2.8km    19.234 E ± 3.3km
   DEPTH =  14.7 ±  2.7 km
 YUGOSLAVIA                      (383)
      ML 3.5 (TTG). Felt (V) at
      Titograd and (IV) at Budvo.

TTG      0.08  14 iPgc     51 38.00   0.4
                  iSg     51 40.90
BDV      0.31 257 iPgd     51 41.50   0.4
                  iSg     51 47.50
ULC      0.39 178 iPgd     51 42.20  -0.3
                  iSg     51 49.20
SDA      0.39 149 iPgc     51 42.60   0.1
NKY      0.49 339 iPgc     51 43.90  -0.5
                  iSg     51 52.00
HCY      0.55 280 iPgc     51 45.40   0.1
                  iSg     51 55.00
PUK      0.58 122 iPgd     51 44.00  -1.7
PVY      0.60  66 iPgd     51 45.40  -0.8
                  iSg     51 54.10
BCI      0.62  88 iPgd     51 45.50  -0.9
IVA      0.71  43 iPgd     51 47.70  -0.4
                  iSg     51 59.00
BRY      0.75 317 iPgd     51 48.70  -0.1
                  eSg     52 01.70
KKS      0 92 107 ePg      51 51.50   0.0
PLE      0.99   7 ePg      51 52.50  -0.3
                  eSg     52 07.50
TIR      1.11 155 iPgd     51 55.20   0.4
PHP      1.12 126 ePg      51 54.90   0.0
SKO      1.68 102 iPnd     52 04.80   1.3
                  iSn     52 26.70
                  iSg     52 27.70
                  LQ      52 31.50
                  LR      52 32.40
OHR      1.71 136 iPn      52 04.60   0.8
BERA     1 73 162 ePn      52 03.30  -0.9
VLO      1.89 174 ePn      52 12.30   5.8X
KBN      2.10 145 iPnd     52 11.30   1.9
BRT      2.12 227 Pc       52 09.50  -0.3
                  eSn     52 35.20
HVAR     2.21 293 iPn      52 12.40   1.3
                  iSn     52 40.00
                  iSg     52 44.30
LCI      2.23 206 P       52 09.20  -2.2
                  eSn     52 34.80
LSK      2.43 154 ePn      52 14.90   0.6
SRN      2.54 167 ePn      52 16.60   0.9
BEO      2.62  19 ePn      52 23.50   6.5X
                  iSg     53 04.00
VAY      2.70 111 ePn      52 08.60  -9.4X
BLY      2.82 329 eP       52 56.00  36.2X
CSI      3.40 222 P       52 26.90  -1.1
ROI      3.43 217 P       52 27.70  -0.8
SGO      3.45 240 P       52 28.00  -0.7
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MGR      3.55 233 P       52 29.40  -0.7
                  eSn     53 08.00
BZS      3.69  27 ePc     52 31.00  -1.1
CZI      3.92 218 P       52 34.60  -0.7
                  eSn     53 12.50
SDI      4.09 263 P       52 38.20   0.4
PTJ      4 26 328 e(Pn)   52 41.70   1.4
                  eSn     53 34.50
VBY      4.26 319 ePn     52 43.20   2.9X
                  eSn     53 31.40
RIY      4.61 312 iPn     52 45.30   0.2
CEY      4.84 316 e(Pn)   52 49.50   1.0
                  e(Sn)   53 46.50
TRI      5.18 312 eP      52 52.10  -1.1
                  e       53 50.20
VOY      5.32 316 ePnc    52 55.10  -0.2
                  eSn     53 57.30
FVI      6.27 315 P       53 08.50   0.0
FAI      6.63 222 P       53 10.30  -3.4X
      S.D. = 0.9  on  37 of  43 obs.
-----------------------------------
?  NOV  15, 1989  12h 12m 35.99± 5.96s
   31.384 S ±24.2km   68.337 W ±40.2km
   DEPTH =  95.9 ± 51.2 km
 SAN JUAN PROVINCE, ARGENTINA    (137)

RTLL     0.13 295 iPc     12 49.80  -0.2
CFA      0.24 159 iPd     12 50.50   0.2
                  S       13 02.00
RTCB     0.41 255 iPd     12 51.20   0.2
                  S       13 03.50
RTCV     0.51 200 iPc     12 51.50  -0.2
                  S       13 04.80
RTRS     1.55 321 iPc     13 03.00   0.0
                  S       13 23.80
      S.D. = 0.3  on   5 of   5 obs.
-----------------------------------
   NOV  15, 1989  13h 17m 56.33± 0.35s
   29.247 N ± 7.9km  141.200 E ± 5.6km
   DEPTH =  33.0km  (normol)
   4.7mb ( 10 obs.)
 SOUTH OF HONSHU, JAPAN          (211)

MAT      7.70 342 (P)     19 49.00   0.1
        0 7s     23.29nm          5.3mb
                  eS      21 11.00
SSE     17.41 281 P       22 00.40   2.2
                  eS      28 12.00
NJ2     19.42 284 Pd      22 24.00   1.2
QZH     20.57 263 Pc      22 36.80   1.9
BJI     23.16 304 eP      22 58.00  -2.7
WHN     23.30 280 Pd      23 03.50   1.4
        1.0s      0.70nm          3.1mb X
TIY     25.36 297 eP      23 22.20   0.2
XAN     27.83 288 P       23 43.60  -1.1
GYA     30.60 273 P       24 09.20  -0.5
CD2     32.35 282 P       24 23.40  -1.5
KMI     34.35 272 Pd      24 42.00  -0.6
GTA     35.38 298 eP      24 48.80  -2.3
CHG     39.78 265 iPd     25 28.80   0.7
        0.9s     36.13nm          5.1mb
NST     40.08 259 eP      25 31.00   0.5
BDT     40.37 262 eP      25 33.10   0.3
NNT     41.88 256 eP      25 45.30   0.1
WMQ     44.64 304 eP      26 07.00  -0.6
WB5     49.28 188 eP      26 43.20  -0.9
                  e       26 47.10
WRA     49.35 189 Pd      26 43.00  -1.6
        0.3s      1.50nm          4.5mb
SVW     51.95  33 eP      27 04.00   0.0
TTA     52.05  31 eP      27 04.70  -0.1
BRW     53.69  21 eP      27 16.80   0.1
PMR     55.10  33 eP      27 26.30  -0.9
        0.8s     17.80nm          5.1mb
FBA     55.88  29 eP      27 32.80   0.0
TOA     56.52  33 eP      27 37.60   0.1
GBA     60.71 270 Pd      28 05.30  -1.9
        0.8s      4.80nm          4.7mb
INK     61.45  25 ePc     28 10.60  -0.9
KOD     62.19 266 eP      28 16.00  -1.7
BWA     63.69 173 eP      28 27.30   0.5
MBC     64.05  15 eP      28 28.50  -0.1
        1.0s      6.00nm          4.6mb
CAN     64.64 173 eP      28 34.20   1.3
SOD     72.09 338 eP      29 34.00  15.2X
PNT     73.96  42 eP      29 30.00  -0.1
SUF     74.88 334 eP      29 37.60   2.5
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EDR No. 11-89
Part 2 of 2
P. 139-277

U. S. DEPARTMENT OF THE INTERIOR

Geological Survey

EARTHQUAKE DATA REPORT

The Earthquake Data Report (EDR) is a bulletin of all seismic phase and amplitude data which were associated with events published in the Preliminary Determination of Epicenters (PDE) Monthly Listing. It also contains information about the hypocentral computations (such as standard errors) that are not included in the PDE Monthly Listing. A machine-readable version of this EDR is available from the Books and Open-File Reports Section of the U.S. Geological Survey.

All data in the EDR are grouped by event, with events listed by origin time in date/time order through the month. All times are in Coordinated Universal Time (UTC). Locations are in decimal degrees of geographic latitude and longitude. Depths are in kilometers below the free surface. Hypocentral coordinates are determined by a modified Geiger's method and may be constrained by reported first arriving P-waves, Pdiff, and the DF branch of PKP. Data are corrected for station elevation and for the ellipticity of the Earth. Outliers may be truncated (ie., removed from the calculation) either automatically or manually. The solution is allowed to converge between rounds of automatic truncation to insure a unique result. Convergence is aided by step length damping.

The error bars of the computed hypocentral coordinates are 90% marginal confidence intervals incorporating Baysian information to stabilize estimates derived from small samples (Jordan and Sverdrup, 1981). It is assumed that the travel-time errors *of the data used* are independent, unbiased, and have an expected standard deviation of 1 s. Monte Carlo experiments suggest that the error bars are accurate for events constrained by more than about 30 data. However, care should be exercised in interpreting these numbers in terms of absolute location accuracy because of unmodeled biases. Analysis of events with independently known coordinates indicates that most PDE determinations are accurate to a few tenths of a degree in epicentral position and 25 km in depth. For special studies, we urge that inquiry be made to this office for possible recomputation of hypocenters of interest, using more complete instrumental data.

Restricted focal depths occur in four instances. If at any point in the computation the depth becomes negative, the solution is automatically restricted at 33 km and indicated by "NORMAL DEPTH". If the unrestricted depth computation is unsatisfactory, and in the judgment of the reviewing geophysicist the earthquake probably has a shallow focus, a solution may be held at 33 km. These are also indicated by "NORMAL DEPTH". The geophysicist may restrain the depth at any value indicated by evidence from available seismograms. These are indicated by, for example, "DEPTH = 100 KM (GEOPHYSICIST)". If two or more pP phases are identified, and in general, yield depths within 10 km of the mean, then the depth is automatically restricted to this value and denoted by, for example, "DEPTH = 51 KM (5 DEPTH PHASES)". pP phases may also appear as unidentified second arrivals with associated travel-time residuals. Hypocentral coordinates derived from other sources, such as the California Institute of Technology, the University of California at Berkeley, and the U. S. Department of Energy are noted on the EDR.

Two types of magnitude are computed: body-wave magnitude (m_b) and surface-wave magnitude (M_{SZ}). Each is a 25% trimmed mean of individual station values. Station magnitudes not used in the trimmed mean are marked with an X. This includes station magnitudes of either type which deviate significantly from the mean and surface-wave magnitudes determined from horizontal amplitudes. Body-wave magnitudes are computed according to the formula $\log(A/T) + Q$, derived by Gutenberg and Richter (1956), where A is the P-wave amplitude in micrometers, T is the period in seconds, and Q is the depth-distance factor. Surface-wave magnitudes are computed from the formula $\log(A/T) + 1.66\log(\Delta) + 3.3$, where A is the maximum vertical surface-wave amplitude in micrometers, T is the period in seconds, and Δ is the epicentral distance in degrees. Surface-wave magnitudes are determined only for earthquakes whose focal depths (taking into account the computed standard deviations) are potentially less than 50 km, for stations having

$20° \leq \Delta \leq 160°$, and for reported periods of $18 \leq T \leq 22$ s. No correction for focal depth is used in the M_S calculation. Body-wave magnitudes are not determined from PKP arrivals or for stations having $\Delta \leq 5°$. Amplitude values stated in this report are in nanometers (nm) for body-waves and micrometers (μm) for surface-waves.

The travel-time residual (observed – computed) is based on the 1940 Jeffreys-Bullen P and 1968 Bolt PKP travel-time tables. Phases not used in the computation are marked by an X. The azimuth from the epicenter to the station is measured clockwise from north. The epicentral distance is the central angle in degrees.

Hypocenter Symbols

& Indicates that parameters of the hypocenter were supplied or determined by a computational procedure not normally used by the National Earthquake Information Service (NEIS). The source or nature of the determination is indicated by a 2 to 5 letter code enclosed by angle brackets and appearing in the first line of comments. A "-P" appended to the code indicates that the computation is preliminary. These codes are included with the list of abbreviations in the PDE Monthly Listing.

% Indicates a single network solution. A non-furnished hypocenter has been computed using data reported by a single network of stations for which the date and/or origin time cannot be confirmed from seismograms available to a NEIS analyst. Also, if we define η to be the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse, then $\eta \leq 16.0$ km.

* Indicates a less reliable solution. In general, $8.5 < \eta \leq 16.0$ km.

? Indicates a poor solution, published for completeness of the catalog. In general, $\eta > 16.0$ km. This includes poor solutions computed using data reported by a single network.

The lack of any symbol indicates that $\eta \leq 8.5$ km.

Note: On printers available to the NEIS for this publication, the symbol for degrees (°) appears as "`".

References

Bolt, Bruce A. (1968), Estimation of PKP Travel Times, *Bull. Seis. Soc. Am.*, **58**, pp. 1305–1324.

Gutenberg, B. and C. F. Richter (1956), Magnitude and Energy of Earthquakes, *Ann. di Geofisica*, **9**, no. 1, pp. 1–15.

Jeffreys, Harold and K. E. Bullen (1940), *Seismological Tables*, British Assoc. for the Advancement of Science, Gray Milne Trust.

Jordan, Thomas H. and Keith A. Sverdrup (1981), Teleseismic Location Techniques and their Application to Earthquake Clusters in the South-Central Pacific, *Bull. Seis. Soc. Am.*, **71**, pp. 1105–1130.

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        0.5s      2.70nm          4.5mb
LBFM   76.07  50 P      29 42.70   0.0
NUR    76.75 333 eP     29 48.40   2.6
ARN    78.14  54 P      29 53.80  -0.2
SES    78.30  38 eP     29 54.00  -0.6
CMB    78.62  53 eP     29 56.70   0.1
FRI    79.59  53 eP     30 01.80   0.0
KVN    79.71  51 P      30 02.80   0.1
LRM    79.90  43 ePc    30 04.10   0.5
                e       30 22.50
TNP    80.79  52 P      30 08.70   0.2
        1.0s      5.00nm          4.5mb
HFS    81.11 336 ePKP   30 08.40  -1.0
        0.3s      2.40nm          4.7mb
NB2    81.30 338 P      30 10.20  -0.3
        0.8s      4.20nm          4.5mb
DUG    82.64  48 P      30 18.00   0.0
DAU    83.53  47 P      30 23.00   0.2
MSU    83.96  49 P      30 25.50   0.6
VRI    84.56 320 ePd    30 29.00   1.5
                ec      42 47.00
KHC    89.08 329 eP     30 30.20 -19.3X
ZOBO  150.13  71 ePKP   37 42.00   0.6
                i       37 46.00
      S.D. = 1.1  on  49 of  51 obs.
-----------------------------------
*  NOV  15, 1989  13h 41m 48.44± 0.99s
   42.462 N ±10.9km   23.975 E ±15.9km
   DEPTH =  10.0km  (geophysicist)
 BULGARIA                          (359)

SRS     1.37 192 eP     42 13.10  -0.5
                eS      42 33.70
KNT     1.53 212 eP     42 16.30   0.5
                eS      42 39.40
VAY     1.55 223 ePn    42 16.40   0.3
SKO     1.95 256 ePn    42 21.50  -0.4
MLR     3.35  24 eP     42 42.00   0.1
BZS     3.58 332 ePc    42 51.00   5.9X
      S.D. = 0.6  on   5 of   6 obs.
-----------------------------------
*  NOV  15, 1989  14h 02m 16.38± 1.84s
   49.472 N ± 7.8km    8.545 E ±21.1km
   DEPTH =  10.0km  (geophysicist)
 GERMANY                           (543)
      MD 2.8 (STR). ML 3.3 (LDG).

TNS     0.76 355 iPgd   02 32.00   0.8
                iSg     02 41.20
WLS     1.32 217 Pg     02 41.79   1.0
                Sg      02 58.34
CDF     1.35 219 Pg     02 42.23   0.9
                Sg      02 59.09
ECH     1.56 217 Pg     02 46.13   2.0
                Sg      03 05.55
WLF     1.57 278 iP     02 46.00   1.7
FEL     1.64 193 Pn     02 44.97  -0.5
                Pg      02 49.11
                Sg      03 10.75
MOF     1.87 211 Pn     02 47.17  -1.6
                Pg      02 52.47
                Sg      03 16.00
MEM     1.99 306 iP     02 49.20  -1.2
BSF     2.01 216 Pn     02 49.10  -1.7
                Pg      02 54.70
                Sg      03 20.00
HAU     2.07 226 Pn     02 49.20  -2.4X
                Pg      02 55.40
                Sg      03 20.60
VITF    2.11 234 Pn     02 49.95  -2.1X
                Pg      02 54.87
                Sg      03 21.79
BBS     2.12 199 Pn     02 48.85  -3.6X
                Pg      02 54.62
                Sg      03 20.22
LOMF    2.41 209 Pg     03 02.75   6.2X
                Sg      03 33.79
DOU     2.64 285 iP     02 58.30  -1.4
KHC     3.31  94 ePg    03 42.70  33.4X
                eSg     04 05.60
CLL     3.39  55 e(P)   04 09.00  58.6X
LOR     3.82 237 Pn     03 12.60  -4.0X
                Pg      03 26.40
                Sg      04 13.00
PRU     3.92  80 eP     03 35.00  17.1X
                Sg      04 26.20
LBF     3.94 233 Pn     03 14.20  -4.0X
                Pg      03 28.50
                Sg      04 18.40
SSF     4.14 236 Pn     03 16.80  -4.2X
                Sn      04 03.40
SMF     4.24 230 Pn     03 18.20  -4.2X
                Pg      03 34.40
                Sg      04 28.00
      S.D. = 1.6  on  10 of  21 obs.
-----------------------------------
*  NOV  15, 1989  14h 33m 23.98± 0.83s
   5.571 S ±16.1km  150.523 E ± 9.2km
   DEPTH =  33.0km  (normal)
   3.4mb (  1 obs.)
 NEW BRITAIN REGION                (192)

RAB     2.14  50 iPc+   33 58.00  -0.1
LAT     3.66 253 iPc    34 20.00   0.3
                eS      34 34.00
PMG     5.07 221 eP     34 50.00  10.3X
HNR    10.10 113 P      35 50.00   0.1
GUA    19.79 344 eP     38 06.20  11.6X
        0.7s    169.86nm
                eS      39 13.20
GUMO   19.85 344 eP     38 05.80  10.6X
        0.8s    169.84nm
PJG    19.85 344 eP     38 06.00  10.8X
WB5    21.20 226 eP     38 08.80  -0.4
WRA    21.26 226 Pd     38 09.80   0.0
        0.5s      0.80nm          3.4mb
MAT    43.45 346 (P)    41 30.00   4.3X
      S.D. = 0.3  on   5 of  10 obs.
-----------------------------------
?  NOV  15, 1989  14h 33m 33.15± 1.22s
   5.202 S ±30.3km  151.487 E ±29.1km
   DEPTH =  33.0km  (normal)
   4.9mb (  3 obs.)  3.7Msz (  1 obs.)
 NEW BRITAIN REGION                (192)

PMG     5.99 226 eP     35 03.00   1.1
        0.7s     56.16nm          5.3mb
                eS      36 16.00
RMQ    21.33 187 eP     38 20.00   0.4
                e       38 27.00
WB5    22.15 227 eP     38 27.50  -0.4
                eS      42 28.60
DZM    22.15 141 iPc    38 37.80   9.8X
WRA    22.21 227 Pc     38 38.00   9.5X
        0.8s     29.90nm          4.8mb
ASPA   24.98 221 iPc    38 56.10   0.6
        1.0s     27.00nm          4.8mb
      Z  21s      0.24um          3.7Msz
                LR      48 09.50
FORR   33.68 218 eP     40 11.50  -1.8
KVN    93.56  51 eP     46 48.50   0.9
BCAO  133.12 271 ePKPd  52 57.50   9.2X
        0.5s      4.00nm
PPD   144.91 141 ePKP   53 08.70  -0.7
                e       53 17.00
      S.D. = 1.3  on   7 of  10 obs.
-----------------------------------
%  NOV  15, 1989  16h 48m 22.28± 0.63s
   59.910 N ± 5.3km    6.190 E ± 6.5km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                   (535)
      ML 1.8 (BER).

ODD1    0.22  89 iP     48 27.07   0.0
                iSg     48 30.24
BLS1    0.61 148 eP     48 34.33  -0.4
                eS      48 42.28
KMY     0.85 215 eP     48 38.95   0.3
                eS      48 50.34
HYA     1.26 360 eP     48 45.77   0.1
                eS      49 02.08
SUE     1.35 329 eP     48 46.76  -0.3
                eS      49 05.16
MOL     2.75  13 iP     49 07.10  -0.1
                eS      49 38.14
NRA0    2.79  70 iPc    49 08.10   0.4
                iSg     49 48.50
      S.D. = 0.4  on   7 of   7 obs.
-----------------------------------
*  NOV  15, 1989  17h 14m 57.65± 0.65s
   13.946 S ±14.8km   74.589 W ± 8.2km
   DEPTH =  33 0km  (normal)
 PERU                              (116)

PT03    1.17 268 iP     15 18.30   0.5
PT06    1.70 274 iP     15 25.00  -0.4
PT02    2.06 299 P      15 30.50  -0.1
                iS      15 55.00
PT08    2.75 316 iP     15 41.00   0.3
                iS      16 11.00
NNA     2.94 311 iP     15 44.00   0.9
        0.5s    154.93nm
                eS      16 21.00
PT10    2.97 308 iP     15 42.50  -1.1
                iS      16 16.00
ZOBO    6.66 111 P      16 36.00  -0.3
LPB     6.77 113 eP     16 38.00   0.3
      S.D. = 0.7  on   8 of   8 obs.
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?  NOV  15, 1989  18h 01m 09.04± 8.60s
   44.218 N ±54.1km    7.163 E ±16.1km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      MD 1.0 (STR).

TOUF    0.21 163 Pg     01 13.80   0.0
                Sg      01 19.18
AUTN    0.29 139 Pg     01 15.38   0.1
                Sg      01 21.34
AURF    0.35 160 Pg     01 16.27   0.0
                Sg      01 23.18
SAOF    0.37 129 Pg     01 16.50  -0.1
                Sg      01 23.12
CALN    0.51 203 Pg     01 19.34   0.0
                Sg      01 26.26
      S.D. = 0.1  on   5 of   5 obs.
-----------------------------------
%  NOV  15, 1989  18h 25m 25.73± 0.61s
   38.717 N ± 6.4km   16.097 E ±11.1km
   DEPTH =  33.0km  (normal)
 SOUTHERN ITALY                    (390)

CZI     0.50   3 P      25 35.50  -0.8
ACI     0.64   7 P      25 37.80  -0.5
MSI     0.67 220 P      25 38.20  -0.5
                eSg     25 47.40
ATN     0.75 222 P      25 39.00  -0.8
                eSg     25 52.20
ROI     0.93  23 P      25 42.10  -0.4
                eSg     26 00.50
TDS     0.96  11 P      25 42.80  -0.1
                eSg     25 56.50
CSI     1.07   8 P      25 45.20   0.8
MNO     1.35 235 P      25 49.70   1.0
MGR     1.48 344 P      25 50.40   0.1
                eSg     26 10.80
MEU     1.86 210 P      25 56.10   0.2
                eSn     26 18.40
SGO     1.94 342 P      25 57.20   0.3
                eSn     26 23.00
LCI     2.16  41 P      26 00.70   0.6
BRT     2.32  21 Pc     26 02.40   0.0
                eSn     26 29.40
      S.D. = 0.6  on  13 of  13 obs.
-----------------------------------
&  NOV  15, 1989  18h 26m 43.99s
   61.784 N          150.821 W
   DEPTH =  63.9km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>.

SUA     0.32 173 iP     26 55.23   0.2
                eS      27 03.98
SKT     0.39 301 iP     26 54.78  -0.6
PWA     0.47 106 iPc    26 55.90  -0.2
CUT     0.67  22 iP     26 57.72  -0.6
CGLM    0.74 230 iP     26 58.69  -0.6
NCG     0.74 240 iP     26 58.49  -0.8
PMS     0.81 131 iPc    26 59.40  -0.7
PLRM    0.83 103 iP     26 59.26  -1.0
                eS      27 12.28
PMR     0.83 103 iPc    26 59.30  -0.9
PME     0.87 100 iP     27 00.00  -0.7
                eS      27 13.84
GHO     0.90  90 eP     27 00.57  -0.7
NKA     1.06 191 eP     27 05.16   1.9
SLKM    1.31 167 eP     27 05.57  -1.1
HUR     1.32  24 eP     27 05.75  -1.0
                eS      27 23.96
RDT     1.44 213 eP     27 07.56  -0.8
KTH     1.78 359 eP     27 11.63  -1.4
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15d 18h

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SEW      1.81 158 eP     27 12.77  -0.7
RND      1.87  28 eP     27 12.92  -1.4
NCA      1.90  82 eP     27 13.59  -1.2
ILIM     2.00 212 eP     27 14.81  -1.4
GLI      2.01 115 iP     27 13.75  -2.5
MCK      2.14  23 eP     27 17.12  -1.0
VZW      2.18 108 eP     27 16.25  -2.4
TOA      2.22  80 eP     27 18.40  -0.9
FID      2.34 114 eP     27 17.54  -3.3
KLU      2.36  95 eP     27 18.79  -2.4
SVW      2.40 256 eP     27 19.70  -2.1
OPT      2.44 210 eP     27 21.19  -1.2
TTA      2.68 298 eP     27 23.60  -2.1
FBA      3.41  22 eP     27 33.60  -2.3
IMA      4.48 345 eP     27 48.40  -2.7
       31 obs. associated
-----------------------------------------
%  NOV  15, 1989  18h 30m 57.90± 0.80s
   30.664 S ± 9.1km  117.277 E ± 7.2km
   DEPTH =  10.0km  (geophysicist)
 WESTERN AUSTRALIA                (590)

BAL      0.49 277 iPd    31 07.30  -0.6
KLB      1.01 156 iPd    31 18.10   1.0
                  iS     31 29.70
MUN      1.60 215 iPd    31 26.00  -0.3
                  iS     31 45.00
MRWA     1.82 322 iPd    31 30.90   1.4
                  iS     31 53.50
NWAO     2.26 181 eP     31 35.20  -0.6
                  eS     32 06.00
COOL     3.34  95 iPd    31 53.00   1.8
                  iS     32 30.40
RKG      3.40 184 eP     31 59.00   6.9X
                  eS     32 41.00
FORR     9.32  94 eP     33 14.00  -1.2
                  eS     34 53.00
WARB     9.37  64 eP     33 14.50  -1.5
                  eS     34 53.00
      S.D. = 1.5  on   8 of   9 abs.
-----------------------------------------
   NOV  15, 1989  18h 31m 45.15± 0.51s
   39.818 N ± 7.8km  143.040 E ± 8.3km
   DEPTH =  33.0km  (normal)
   4.8mb ( 18 obs.)  4 2Msz (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

MAT      5.02 231 iPc    33 02.70   2.6
       0.5s     70.42nm          5.4mb
                  eS     34 19.00
MDJ     11.06 300 eP     34 24.50   0.4
SNY     14.87 284 eP     35 08.20  -6.5X
     Z  17s      1.10um          4.3Msz
     N  16s      0.50um
     E  18s      0.90um
BJI     20.58 279 eP     36 21.00  -2.7
     Z  20s      0.60um          4.0Msz
TIA     20.71 268 Pc     36 23.30  -1.8
NJ2     21.02 256 Pc     36 27.00  -1.2
TIY     23.90 275 eP     36 55.00  -1.8
WHN     25.12 257 Pd     37 09.50   1.0
BTO     25.15 283 eP     37 09.70   0.8
XAN     27.77 269 P      37 32.40  -0.5
LZH     30.96 276 P      38 02.00   0.5
       1.6s     27.00nm          4.8mb
GYA     33.01 257 iPc    38 19.60   0.1
CD2     33.03 267 eP     38 18.60  -0.9
GTA     33.06 283 P      38 20.00   0.2
     Z  18s      0.80um          4.5Msz
     E  15s      0.50um
KMI     36.70 259 Pc     38 51.50   0.3
                  pP     39 01.50  34kmX
                  sP     39 04.30
WMQ     40.79 294 eP     39 25.00   0.1
CHG     43.25 254 eP     39 46.30   1.1
IMA     43.65  32 eP     39 54.60   6.6X
FBA     46.08  34 eP     40 16.50   9.2X
NNT     46.74 247 eP     40 13.70   0.6
KSH     50.50 292 eP     40 43.60   1.5
INK     51.33  28 eP     40 47.00  -0.9
MBC     53.50  17 eP     41 04.00   0.0
       0.9s      3.00nm          4.3mb
HYB     59.57 268 eP     41 48.00  -0.1
WB5     59.93 189 eP     41 49.30  -1.1
WRA     60.00 189 Pc     41 49.50  -1.3
       0.8s      5.40nm          4.7mb
POO     62.54 272 iPd    42 08.40   0.2
GBA     62.72 265 P      42 09.00  -0.3
SOD     62.90 337 iP     42 09.00  -0.9
ASPA    63.73 189 iPd    42 15.60  -0.2
       0.7s      6.00nm          4.8mb
SUF     66.08 333 eP     42 29.80  -0.7
       0.8s      6.30nm          4.8mb
NUR     68.10 332 eP     42 42.70  -0.6
HFS     72.07 336 eP     43 06.40  -1.2
       0.5s      3.60nm          4.6mb
NB2     72.11 338 P      43 07.10  -0.7
       0.8s      5.20nm          4.6mb
KSP     78.40 329 eP     43 44.00   0.3
CLL     79.31 331 eP     43 49.00   0.4
PRU     79.77 329 eP     43 51.50   0.4
                  e      44 00.00
KHC     80.83 329 Pc     43 57.50   0.6
KBA     82.57 328 e(P)   44 09.00   2.8X
       1.1s      5.60nm          4.5mb
LOR     85.98 333 eP     44 23.80   0.6
       0.8s      5.30nm          4.8mb
LBF     86.19 333 eP     44 24.60   0.3
       1.0s      8.80nm          4.9mb
SSF     86.28 334 eP     44 25.10   0.4
       0.8s      4.50nm          4.8mb
LPG     86.46 331 eP     44 26.50   0.6
       0.8s      5.90nm          4.9mb
SMF     86.53 333 eP     44 26.30   0.4
       1.0s      4 00nm          4.6mb
AVF     86.57 334 eP     44 26.70   0.6
       0.8s     13.40nm          5.2mb
MAF     87.33 334 eP     44 30.90   1.1
       1.0s      8.00nm          4.9mb
TCF     87.40 334 eP     44 31.10   1 0
       1.0s      6.80nm          4.9mb
LSF     87.66 334 eP     44 32.30   0.9
       1.0s     16.00nm          5.2mb
      S.D. = 1.0  on  44 of  48 abs.
-----------------------------------------
   NOV  15, 1989  19h 19m 57.62± 0.35s
   52.204 S ± 6.8km  160.031 E ± 6.4km
   DEPTH =  10.0km  (geophysicist)
   5.7mb ( 12 obs.)  5.3Msz (  6 obs.)
 MACQUARIE ISLANDS REGION         (167)
      MOMENT TENSOR SOLUTION
      Dep  25            No. of sta·  3
      Moment Tensor;   Scole 10**17 Nm
        Mrr=-0.66        Mtt= 1.81
        Mff=-1.15        Mrt= 2.77
        Mrf=-2.91        Mtf=-0.44
       Principal axes:
        T  Vol=  4.40  Plg=37  Azm= 28
        N       -0.11      20       134
        P       -4.28      46       246
      Best Double Couple:Mo=4.3*10**17
       NP1:Strike= 59 Dip=21 Slip=-166
       NP2:        315      85       -70
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used· GDSN
      L.P.B.: 16S, 33C
      Centroid Location:
      Origin Time        19:20: 5.6 0.6
      Lat 52.74S 0.09 Lon 159.14E 0.09
      Dep  15.0 FIX Half-duration  2.4
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.05 0.12  Mtt= 2.54 0.15
        Mff=-2.59 0.14  Mrt= 1.53 0.31
        Mrf=-2.70 0.37  Mtf=-1.14 0.14
       Principal Axes:
        T  Vol=  4.08  Plg=32  Azm= 24
        N        0.19      42       148
        P       -4.27      31       272
      Best Double Couple:Mo=4.2*10**17
       NP1:Strike= 58 Dip=42 Slip= 180
       NP2:        148      90        48

MCO      2.39 195 iPc    20 31.10  -6.2X
                  eS     20 56.00
CBZ      5.60  97 iPd    21 17.50  -5.4X
                  S      22 15.50
MSZ      9.18  38 P      22 13.50   0.6
WEL     14.84  48 eP     23 30.40   1.3
MRW     14.86  48 eP     23 30.30   1.0
MOW     14.96  50 eP     23 30.40  -0.3
WDW     14 96  49 eP     23 30.60  -0.1
BLW     15.11  50 eP     23 31.00  -1.6
CAW     15 12  49 eP     23 32.40  -0.4
KIW     15.24  48 eP     23 33.90  -0.5
MTW     15.28  50 P      23 34.10  -0.8
DRV     17.58 207 eP     24 06.00   2.1
TOO     17.84 319 eP     24 09.00   1.6
                  eTT    38 22.00
CNB     18.52 332 iPc    24 19.80   4.0X
       1.1s    186.00nm          5.2mb
                  eTT    40 37.00
CAN     18.63 331 eP     24 18.20   1.1
                  eTT    40 30.00
RIV     19.45 337 eP     24 30.00   3.0X
                  eS     28 16.00
BWA     19.63 330 eP     24 27.70  -1.5
                  eTT    40 49.00
COO     22.42 341 eP     25 00.00   2.2
                  eTT    43 46.00
ADE     23.00 310 iPd    25 06.70   3.3X
       1.4s    386.05nm          5.7mb
CMS     23.17 328 eP     25 08.00   3.0X
STK     24.36 319 eP     25 18.00   1.4
                  e      25 20.00
BRS     25.37 345 iPc    25 26.30  -0.1
                  eS     29 26.00
SBA     25.87 177 iPc+   25 32.10   1.6
RMO     27.05 337 eP     25 42.00   0.1
DZM     30.49  12 iPd    26 14.20   1.3
CTA     33.81 336 iPd+   26 42.00   0.2
       1.3s    176.92nm          5.8mb
                  iS     32 08.00
CTAO    33.81 336 ePc    26 40.21  -1.6
ASPA    34.79 315 iPd    26 48.90  -1.4
       1.6s    182.00nm          5.7mb
     Z  20s     13.04um          5.7Msz
                  e      28 00.60
                  LR     39 26.00
OIS     35.35 326 eP     26 53.00  -2.1
COOL    35.47 292 eP     26 57.10   1.1
RKG     35.61 283 eP     26 55.00  -2.2
WARB    36.13 303 eP     27 01.00  -0.7
NWAO    36.27 285 ePd    27 03.88   1.1
     Z  20s      3.50um          5.1Msz
     N  20s      1.80um
     E  20s      2.70um
KLB     36.92 287 eP     27 09.00   0.8
VUN     37.08  30 eP     27 12.00   2.4
MUN     37.56 285 eP     27 14 40   0.9
WRA     37.91 318 Pc     27 14.90  -1.7
       1.6s    163.70nm          5.5mb
WB5     37.95 318 eP     27 14.90  -2.1
SPA     37.98 180 ePc    27 16.50  -0.6
       1.4s    197.06nm          5.7mb
     Z  19s      4.09um          5.3Msz
                  e      28 45.00
BAL     38.25 287 eP     27 19.40   0.0
HNR     42.65 360 eP     27 56.00   0.2
                  eS     34 22.00
MBL     43.81 300 eP     28 03.00  -2.2
PMG     43.95 342 eP     28 07.00   0.7
       1.1s    111.39nm          5.6mb
KNA     44.01 314 eP     28 05.50  -1.3
MTN     45.60 319 eP     28 18.00  -1.6
MAW     45.68 212 eP     28 18.00  -1.7
LAT     46.66 342 eP     28 30.00   2.0
JAY     52.08 335 ePd    29 09.30  -0.5
TVO     52.37  69 eP     29 16.00   4.0X
       1.4s    235.00nm          5.9mb
PPN     52.47  68 eP     29 16.00   3.3X
       1.4s    135.00nm          5.7mb
AAI     55.10 320 eP     29 39.00   6.9X
VAH     55.33  68 eP     29 45.00  11.3X
       1.4s     85.00nm
PMO     55.37  68 eP     29 45.00  11.0X
       1.4s    120.00nm
RUV     55.51  68 eP     29 47.00  12.0X
       1.3s     95.00nm
TPT     55.54  68 eP     29 47.00  11.8X
       1.4s     85.00nm
MKS     57.53 310 ePc    29 51.00   1.6
                  e      31 51.00
TRT     58.81 301 ePd    29 58.20  -0.2
DAV     65.98 322 eP     30 47.00   0.9
PSI     74.92 295 ePc    31 40.00  -0.4
IPM     75.32 298 ePd    31 43.80   1.0
SNG     77.71 299 eP     31 54.10  -2.0
                  eS     41 49.80
NST     85.08 303 eP     32 31.00  -3.7X
LOE     85.73 305 eP     32 40.00   2.1
BDT     86.98 303 iPd    32 44.70   0.7
```

0.8s 44.60nm 5.7mb
CHG 88.33 304 ePd 32 51.90 1.4
1.1s 69.62nm 5.9mb
SSE 89.65 327 P 32 57.20 0.7
1.5s 0.09nm 2.8mb X
Z 20s 0.50um 4.9Msz
MAT 90.41 343 (P) 33 00.00 0.1
1.5s 111.11nm 5.9mb
GYA 91.15 314 P 33 07.00 3.3X
NJ2 91.31 326 Pc 33 05.00 0.9
KMI 91.79 310 ePd 33 10.30 3.4X
Z 35s 2.50um 5.4MszX
epP 33 18.41 25kmX
SKS 43 45.00
S 44 18.00
XAN 96.79 319 P 33 28.70 -0.6
HYB 98.48 287 eP 33 39.00 1.8
TIY 98.68 324 eP 33 38.40 0.7
Z 25s 1.52um 5.4MszX
N 14s 0.58um
WMQ 114.12 311 PKP 38 35.30 -2.8
QUE 115.02 287 ePKP 38 40.50 0.1
KVN 115.26 58 ePKP 38 40.00 -0.6
PNT 121.90 49 ePKP 38 55.00 2.4
BCAO 122.73 228 iPKPc 38 54.40 -0.9
0.6s 11.00nm
id 39 06.10
IMA 123.10 21 ePKP 38 54.00 -0.6
FBA 123.50 24 ePKP 38 53.00 -2.2
MAIO 123.74 287 iPKPd 38 56.30 -0.4
eS 50 41.00
SES 126.74 53 ePKP 39 01.00 -1.0
EDM 127.44 49 ePKP 39 02.50 -0.8
INK 129.81 26 ePKPd 39 06.00 -1.2
KIC 132.61 201 PKP 39 12.20 -2.0
FFC 133.76 53 ePKP 39 15.00 -0.1
1.3s 29.00nm
MBC 137.84 21 ePKP 39 20.50 -1.8
1.0s 9.00nm
DST 144.58 269 ePKP 39 32.80 -2.6
IZM 144.68 266 iPKP 39 31.40 -4.1X
ISK 145.18 271 ePKP 39 34.00 -2.2
BNT 145.46 269 iPKP 39 35.40 -1.4
EDC 145.49 269 ePKP 39 34.00 -2.8
CTT 145.61 271 ePKP 39 35.00 -2.0
PRK 145.81 266 ePKP 39 36.00 -1.4
EZN 146.13 267 ePKP 39 37.70 -0.2
VLI 146.24 260 ePKP 39 40.80 2.6
ITM 147.16 260 ePKP 39 38.50 -1.2
RDO 147.39 269 ePKP 39 41.30 1.5
NEO 147.71 264 ePKP 39 41.60 1.1
KDZ 147.75 269 ePKP 39 43.00 2.5
DIM 147.91 270 ePKP 39 41.00 0.3
CFR 147.97 277 ePKPc 39 43.00 2.4
RZN 148.21 269 ePKP 39 43.00 1.6
PLG 148.22 266 ePKP 39 43.00 1.7
PVL 148.68 272 ePKP 39 47.00 5.2X
BUC1 148.85 274 ePKPc 39 46.00 3.9X
KNT 149.02 266 ePKP 39 44.90 2.4
VRI 149.18 277 ePKPc 39 46.50 3.9X
KZN 149.21 264 ePKP 39 47.50 4.6X
IAS 149.30 280 ePKP 39 49.00 6.3X
KKB 149.31 268 ePKP 39 45.00 2.1
VAY 149.32 266 iPKP 39 45.50 2.6
MLR 149.48 276 ePKPc 39 46.50 3.3X
VTS 149.64 269 iPKP 39 47.00 3.4X
LSK 149.83 263 ePKP 39 48.00 4.2X
OHR 150.28 264 iPKP 39 48.50 4.0X
1.4s 0.17nm
SKO 150.38 266 ePKP 39 42.00 -2.5
1.5s 88.00nm
Z 19s 0.42um 5.3Msz
N 18s 0.35um
E 19s 0.64um
i 39 48.90
i 39 56.90
i 44 25.00
i 49 56.00
BERA 150.56 263 ePKP 39 48.30 3.5X
PHP 150.83 265 iPKPc 39 49.70 4.6X
TIR 150.99 264 ePKP 39 50.50 5.1X
DEV 151.53 274 ePKP 39 51.00 4.9X
SDA 151.60 265 ePKP 39 52.40 6.1X
ROI 151.92 258 PKP 39 53.40 6.5X
CZI 151.96 257 PKP 39 52.60 5.7X
MNO 151.98 253 PKP 39 54.30 7.0X
TDS 152.11 258 PKP 39 51.30 4.1X
CSI 152.22 258 PKP 39 53.90 6.6X
SCH 152.44 66 ePKPd 39 58.00 10.8X
BEO 152.52 271 ePKP 39 43.00 -4.5X
i 40 04.00
KRA 155.08 281 ePKP 39 45.50 -5.3X
e 40 11.00
PTJ 155.81 269 ePKP 39 57.10 4.9X
ZST 156.11 275 ePKP 40 10.80 18.4X
e 43 57.60
i 04 14.50
KBA 157.95 270 ePKP 40 16.00 21.0X
1.3s 10.30nm
KHC 158.63 275 PKPc 40 08.50 13.1X
Z 20s 0.80um 5.6Msz
N 20s 0.60um
E 20s 0.30um
i 40 32.00
S.D. = 1.5 on 91 of 134 obs.

• NOV 15, 1989 19h 40m 44.78± 2.19s
37.837 N ±14.2km 30.422 E ±18.2km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

BCK 0.40 161 iPg 40 52.70 -0.3
KHL 0.86 305 iPg 41 01.70 0.3
ELL 1.16 201 iPn 41 07.30 0.7
iSg 41 15.20
YER 1.84 248 iPn 41 16.00 -0.7
CIN 1.87 263 eP 41 17.00 0.0
DST 2.26 322 ePn 41 26.80 4.1X
YLV 2.85 344 ePn 41 39.50 8.4X
S.D. = 0.8 on 5 of 7 obs.

& NOV 15, 1989 20h 20m 00.12s
37.107 N 116.013 W
DEPTH = 0.0km
SOUTHERN NEVADA (41)
<DOE>. ML 3.4 (NEIS). 37' 06' 23.46" N., 116' 00' 48.16" W., Surfoce Elev. 1338 m., Depth of Buriol 200 m., Shot Time 202000.119, "MULESHOE," Nevodo Test Site (Dept of Energy).

GLR 0.09 358 iPc 20 02.20 0.2
BGB 0.19 248 iPc 20 04.20 0.4
SSP 0.25 222 iPc 20 05.10 0.1
GMR 0.30 40 iPc 20 06.50 0.4
CDH1 0.35 225 iPc 20 06.90 -0.1
LSM 0.42 210 eP 20 08.00 -0.5
KRNA 0.70 335 iPc 20 13.70 -0.3
OSM 1.33 211 iPc 20 25.40 -0.3
TNP 1.37 316 eP 20 25.60 -0.8
CLC 1.81 225 ePc 20 32.00 -0.9
GSC 1.91 200 eP 20 33.50 -0.9
KVN 2.55 320 ePc 20 42.60 -1.0
PEC 3.34 197 eP 20 55.10 0.3
MSU 3.35 64 eP 20 54.30 -0.7
CMB 3.59 286 e(P) 20 59.50 1.2
PLM 3.81 191 eP 21 00.80 -0.8
BCH 3.81 241 eP 21 00.70 -0.8
17 obs. ossocioted

? NOV 15, 1989 20h 20m 22.47± 1.40s
20.378 S ±46.8km 174.997 W ±23.2km
DEPTH = 33.0km (normol)
4.8mb (5 obs.)
TONGA ISLANDS (173)

DZM 17.39 261 iPc 24 33.10 8.8X
ASPA 47.29 256 iPc 28 55.20 0.2
1.2s 18.00nm 5.0mb
WB5 47.39 261 eP 28 57.00 1.2
WRA 47.40 261 Pc 28 55.70 -0.2
0.9s 8.80nm 4.8mb
MAT 71.82 322 (P) 31 43.00 -0.9
BCH 75.93 44 P 32 07.40 -0.6
ARN 76.35 41 P 32 10.00 -0.2
FRI 77.27 42 eP 32 15.60 0.4
CMB 77.49 41 P 32 16.00 -0.5
1.0s 8.33nm 4.7mb
WDC 77.81 38 eP 32 18.20 0.0
KVN 79.53 42 P 32 27 00 -0.9
SSE 79.79 309 eP 32 26.30 -2.9
LON 82.23 34 P 32 41.50 -0.2
RMW 82.69 33 P 32 44.60 0.5
TTA 84.37 9 P 32 55.20 2.9
1.0s 15.00nm 5.1mb
PNT 85.01 33 eP 32 56.00 0.3
ALQ 85.15 50 P 32 55.70 -1.3
0.9s 4.48nm 4.7mb
FBA 87.55 11 eP 33 10.00 2.2
CHG 92.86 289 eP 33 39.20 5.6X
KSP 148.32 346 ePKP 40 08.20 5.0X
CLL 148.50 350 ePKP 40 08.00 4.5X
1.3s 17.00nm
BRG 148.76 349 ePKP 40 09.50 5.6X
1.2s 15.00nm
PRU 149.50 348 PKP 40 11.30 6.2X
KHC 150.50 349 iPKPc 40 14.00 7.3X
e 40 23.00
S.D. = 1.4 on 17 of 24 obs.

NOV 15, 1989 21h 11m 27.77± 0.70s
41.790 N ± 6.1km 12.750 E ± 5.5km
DEPTH = 5.0km (geophysicist)
SOUTHERN ITALY (390)

RDP 0.04 219 Pc 11 28.50 -0 7
eSg 11 30.20
RMP 0.04 300 Pc 11 29.00 -0 2
eSg 11 30.20
AQU 0.74 41 Pc 11 42.00 -0.6
eSg 11 55.50
ALP 1.16 31 ePn 11 49.47 -0.6
iSn 12 10.66
ASS 1.28 357 Pd 11 51.00 -1.0
eSg 12 11.30
DUI 1.28 95 P 11 52.00 -0.1
eSg 12 10.00
ARV 1.71 5 P 11 57.90 -0 5
AOI 1.87 19 ePn 12 01.80 1.1
iSn 12 30.84
RSM 2.15 354 P 12 05.50 0.8
PGD 2.22 340 P 12 05.60 -0 3
SFI 2.23 343 P 12 06.70 0.8
FIR 2.27 332 eP 12 13.00 6.5X
HVAR 3.07 62 i(Pn) 12 19.00 1.2
TRI 3.99 10 eP 13 14.70 43.9X
VOY 4.32 11 e(Pn) 12 31.30 -4 4X
eSn 13 26.70
LJU 4.44 16 eP 12 18.00 -19.3X
e(Sn) 13 28.00
PTJ 4.72 28 e(P) 12 57.30 16.0X
FVI 4.80 0 P 12 40.40 -2.0X
S.D. = 0.9 on 12 of 18 obs.

? NOV 15, 1989 21h 30m 30.28± 1.63s
31.212 S ±34.4km 177.507 W ±20.4km
DEPTH = 33.0km (normol)
5.0mb (3 obs.)
KERMADEC ISLANDS REGION (177)

DZM 16.98 299 iPc 34 27.30 0.4
BRS 26.16 271 eP 36 05.30 1.9
CAN 28.23 253 eP 36 27.30 5.1X
BWA 28.74 254 eP 36 27.90 1.1
CTA 34.35 280 iPd 37 16.00 -0.3
0.9s 21.01nm 5.1mb
ASPA 43.50 268 iPc 38 32.00 -0.4
0.7s 8.00nm 4.6mb
WRA 44.55 273 Pd 38 39.40 -1.6
0.6s 14.80nm 5.0mb
WB5 44.56 273 eP 38 39.60 -1.4
KVN 89.08 42 eP 43 24.00 0.4
SUF 145.01 341 ePKP 50 01.20 -3.8X
NUR 147.22 340 ePKP 50 10.10 1.5X
NUR 147.22 340 iPKP 50 13.20 4.6X
0.7s 16.00nm
BCAO 149.38 213 iPKPc 50 20.70 7.1X
0.8s 11.00nm
id 50 29.50
NB2 149.61 352 PKP 50 07.20 -5.3X
0.7s 4.60nm
HFS 150.12 349 ePKP 50 17.00 3.8X
0.8s 5.50nm
S.D. = 1.4 on 8 of 15 obs.

NOV 15, 1989 22h 00m 12.57± 0.51s
43.413 N ± 3.8km 5.466 E ± 3.7km
DEPTH = 5.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 2.5 (STR).

15d 22h

```
GELF     0.04 223 Pg     00 13.90  -0.1
BERF     0.19 121 Pg     00 17.20   0.6
PUYF     0.21  55 Pg     00 16.65  -0.2
TREF     0.22 344 Pg     00 16.73  -0.3
PRAF     0.45 331 Pg     00 21.96   0 4
VILF     0.47  22 Pg     00 21.85  -0.2
TAVF     0.48  64 Pg     00 22 20   0.1
GANF     0.67  29 Pg     00 26.26   0.4
CALN     1.09  71 Pg     00 34.11   0.5
MVIF     1.32  68 Pn     00 37.64   0.2
                 Sg     00 56.68
TOUF     1.43  64 Pn     00 39.65   0.3
                 Sg     00 58.81
AURF     1.43  70 Pn     00 39.16  -0.2
                 Sg     01 00.85
AUTN     1.54  67 Pn     00 40.48  -0.4
                 Sg     01 03.38
SAOF     1.62  69 Pn     00 41.56  -0.3
                 Sg     01 05.50
CVF      2.64 108 Pn     00 55.73  -0.8
      S.D. = 0.4  on  15 of  15 obs.
-----------------------------------------
&  NOV  16, 1989  00h 40m 42.63s
   62.138 N            148.227 W
   DEPTH =   0.0km
 CENTRAL ALASKA                      (  1)
      <AGS-P>.

KLU      1.27 120 iP     41 06.00  -1.2
                 eS     41 24.00
SLKM     1.90 211 eP     41 15.60  -1.0
                 eS     41 41.00
HIN      1.94 154 eP     41 15.09  -2 1
                 eS     41 40.74
CVA      1.99 142 eP     41 15.97  -2.0
                 eS     41 41.73
SPU      2.06 244 eP     41 17.60  -1.4
SGAM     2.20 137 eP     41 18.11  -2 8
                 eS     41 47.22
RAGM     2.46 134 eP     41 22.07  -2 6
                 eS     41 54.82
RDT      2.55 234 eP     41 23.60  -2.4
                 eS     41 55.20
WAX      3.10 121 eP     41 31.09  -2.7
SNH      3.27 125 eP     41 35.54  -0.6
        10 obs. associated
-----------------------------------------
*  NOV  16, 1989  01h 40m 43.83± 0.85s
   26.153 N ± 9.3km  130.750 E ±17.4km
   DEPTH =  33.0km  (normal)
   4.6mb (  3 obs.)
 RYUKYU ISLANDS REGION               (239)

KAGJ     5.02   1 eP     41 58.80   0.0
                 eS     42 52.60
KUMJ     6.36   1 P      42 17.00  -0.7
                 eS     43 25.10
BJI     18.43 322 eP     44 58.50   0.2
TIY     19.31 311 eP     45 14.00   4.9X
     Z  20s      0.75um
     E  15s      0.50um
XAN     20.43 298 eP     45 20.00  -1.0
BTO     22.45 315 eP     45 44.00   2.6
GTA     29.02 305 Pc     46 42.00  -1.0
WB5     45.89 175 eP     49 05.20   0.1
WRA     45.95 175 Pd     49 05.60   0.0
        0.5s      2.20nm          4.3mb
GBA     51.35 267 P      49 47.00  -0.5
SLL     79.88 333 eP     52 49.50  -0.9
        0.6s      5.20nm          4.7mb
NB2     80.37 335 P      52 52.90  -0.2
        0.7s      4.60nm          4.6mb
KSP     84.08 325 eP     53 14.00   1.5
      S.D. = 1.2  on  12 of  13 obs.
-----------------------------------------
   NOV  16, 1989  03h 31m 11.36± 0.50s
   44.645 N ± 6.0km    9.188 E ± 3.8km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN ITALY                      (545)
      ML 2.6 (GEN).

BOB      0.22  56 Pc     31 16.20   0.3
                 eSg    31 19.60
PCP      0.47 258 P      31 20.60  -0.2
                 S      31 27.50
CKI      0.69 252 P      31 24.90  -0 2
                 eSg    31 34 50
FIN      0.83 239 P      31 28.05   0.2
                 S      31 39.50
ROB      1.01 250 P      31 31.50   0.6
                 S      31 45.04
BDI      1.17 119 P      31 33.40  -0.3
                 eSg    31 49.00
IMI      1.19 232 P      31 33.66  -0.4
                 S      31 48.01
ORO      1.30 319 P      31 36.00   0.0
ENR      1.33 252 P      31 36.83   0.3
                 S      31 53.04
STV      1 39 254 P      31 37.55   0.0
                 S      31 53.65
RSP      1.46 291 P      31 37.76  -0.8
                 S      31 55.50
PZZ      1.50 265 P      31 39.48   0.4
                 S      31 57.34
      S.D. = 0.4  on  12 of  12 obs.
-----------------------------------------
   NOV  16, 1989  03h 56m 52.29± 0.61s
   40.169 N ± 7.2km   24.997 E ± 5.1km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                          (365)
      MD 2.9 (ATH).

RDO      1.06  23 iPbc   57 11.70  -0.5
EZN      1.08 108 iPn    57 11.50  -1.0
                 eSg    57 26.00
PLG      1.20 280 iPbd   57 14.50  -0.3
PRK      1.35 133 ePb    57 17.00  -0.1
SRS      1.43 312 eP     57 18.10  -0.2
                 eS     57 40.20
KDZ      1.51  12 iPd    57 19.00  -0.4
RZN      1.53 352 eP     57 20.00   0.1
KNT      1.88 303 ePd    57 25.20   0.4
                 eS     57 54.10
DIM      1 92  12 eP     57 29.00   3.7X
EDC      2.20  84 ePn    57 31.10   1.7
KKB      2.23 320 eP     57 30.00   0.2
BNT      2.24  84 ePn    57 30.00  -0.1
JMB      2.59  27 eP     57 42.00   7.1X
VTS      2.77 332 eP     57 42.00   4.4X
DST      2.85 100 ePn    57 42.90   4.2X
PVL      3.06   5 eP     57 38.00  -3.5X
      S.D. = 0.8  on  11 of  16 obs.
-----------------------------------------
   NOV  16, 1989  04h 02m 58.65± 0.61s
   33.403 N ± 9.0km  131.416 E ± 8.2km
   DEPTH =  33.0km  (normal)
   4.3mb (  5 obs.)
 KYUSHU, JAPAN                       (235)

SHNJ     0.76 341 iP+    03 12.40  -0.5
                 S      03 24.00
KUMJ     1.00 210 iP+    03 15.10  -1.2
                 eS     03 28.80
SHK      1.54  43 iPd    03 23.80  -0.3
        1 0s    920 00nm
MAT      6.39  59 iPd    04 32.50  -0.5
        0.6s     10.67nm          4.8mb
                 iS     06 18.00
SNY     10.45 326 iPc    05 32.70   3.5X
     N  12s      0 90um
     E  10s      1 10um
NJ2     10.67 266 eP     05 40.50   8.3X
     Z  12s      0.60um
CN2     11.38 338 eP     05 45.50   3.6X
     Z  10s      0.50um
     N  10s      0 30um
     E  10s      0.70um
                 pP     05 49.00
                 eS     07 52.00
BJI     13.89 303 eP     06 15.00  -0.4
     Z  15s      0.29um
WHN     14.76 263 eP     06 28.00   1.2
GTA     26.05 292 eP     08 31.20   0.4
GBA     52.67 261 Pd     12 12.80   0.6
        0.9s      5.20nm          4.5mb
WRA     53.12 177 P      12 15.00  -0.4
        0.7s      1 40nm          4.0mb
HFS     73.76 333 eP     14 29.60  -1.4
        0 9s      2 70nm          4.2mb
NB2     74.11 334 P      14 32.30  -0.8
        0 7s      1 20nm          4.0mb
KVN     83.35  47 eP     15 25.00   1.0
TNP     84.49  48 eP     15 32.00   2.2
      S.D. = 1 1  on  13 of  16 obs.
-----------------------------------------
*  NOV  16, 1989  04h 11m 09.39± 0.50s
   55.702 N ±12.2km  162.192 E ±11.7km
   DEPTH =  33.0km  (normal)
   4.4mb (  5 obs.)
 NEAR EAST COAST OF KAMCHATKA        (218)

TTA     22.17  54 eP     16 04.40   0.7
IMA     23.31  46 eP     16 15.80   0.9
MAT     25.15 230 (P)    16 34.00   1.2
SOD     52.86 340 eP     20 51.00  27.6X
KVN     53.42  73 eP     20 27.80  -0.3
TNP     54.59  73 eP     20 36.20  -0.6
SUF     57.05 338 iP     20 55.10   1.1
        0.6s      6.30nm          4.8mb
NUR     59.36 337 eP     20 59.00 -11.0X
NB2     61.37 344 P      21 23.60  -0.3
        0.8s      1.90nm          4.3mb
HFS     61 83 343 eP     21 25.40  -1.5
        1.0s      3.20nm          4.4mb
GBA     75.94 273 P      22 54.10  -0.4
WB5     78.90 207 eP     23 10.50  -0.2
WRA     78.97 207 Pd     23 11.00  -0.1
        0.9s      3.10nm          4.3mb
ASPA    82.65 206 eP     23 29.90  -0.5
        1.0s      5.00nm          4.5mb
      S.D. = 0.9  on  12 of  14 obs.
-----------------------------------------
&  NOV  16, 1989  04h 59m 29.20s
   37.177 N            122.057 W
   DEPTH =  11.0km
 CENTRAL CALIFORNIA                  ( 39)
      <BRK>. ML 3.3 (BRK).

GCC      0.15 162 iPd    59 32.70  -0.2
MHC      0.37  63 iPd    59 36.90   0.0
PCC      0.41 321 eP     59 37.10  -0.6
ARN      0.45  67 iPd    59 38.20  -0.3
SAO      0.64 130 eP     59 40.70  -1.2
BKS      0.71 349 iPd    59 42.80  -0.3
                 iS     59 53.00
BRK      0.71 347 eP     59 42.40  -0.7
                 iS     59 52.70
PRS      1.01 147 eP     59 47.50  -0.7
LLA      1 05 122 eP     59 47.70  -1.3
NWRM     1.44 333 eP     59 55.70   0.6
PRI      1.52 132 eP     59 55.90  -0.6
CMB      1.58  57 eP     59 55.80  -1.4
FRI      1.89  95 eP     59 59.80  -1.8
BCH      2.55 141 eP     00 09.10  -2.1
KVN      3 64  58 eP     00 34.00   7.2
        15 obs. associated
-----------------------------------------
?  NOV  16, 1989  05h 40m 58.94±10 62s
     8.106 S ±90.3km  127.934 E ±21.5km
   DEPTH = 127.2 ± 40.6 km
   4.2mb (  2 obs.)
 TIMOR                               (289)

MTN      5.66 147 iPc    42 21.50  -0.5
                 eS     43 26.00
KNA      7.64 174 eP     42 49.00   0.0
        0.3s     26.00nm          5.3mb X
                 eS     44 15.00
WB5     13.26 153 eP     44 00.00  -3.4X
                 eS     46 24.50
WRA     13.30 153 Pd     44 00.90  -3.1X
        0 4s      3.10nm          4 1mb
MBL     15.15 210 eP     44 27.70   0.2
OIS     16.75 139 eP     44 48.00   0.6
                 eS     47 42.00
WARB    18.02 184 iPd    45 03.10   0.2
        0.2s      4.00nm          4.4mb
FORR    22.63 180 iPd    45 49.00  -0.7
      S.D. = 0.8  on   6 of   8 obs.
-----------------------------------------
?  NOV  16, 1989  06h 51m 43.59± 5.17s
   51.178 N ±40.2km   19.576 E ±30.5km
   DEPTH =  10.0km  (geophysicist)
 POLAND                              (548)

KRA      1.15 168 ePgc   52 04.50  -0.5
                 iSg    52 14.90
SPC      2.04 168 ePn    52 17.80  -0.7
                 i(Sg)  52 38 00
KSP      2.10 262 ePn    52 19.20   0.0
        0.5s     53.00nm
```

```
                    iPg    52 21.70
                    iSn    52 43.60
                    iSg    52 44.70
PSZ     3.27 176 eP     52 37.50   1.5
ZST     3.39 209 e(P)   52 37.20  -0.4
                    e      52 54.50
                    i      53 02.60
PRU     3.42 252 Pn     52 34.50  -3.5X
                    Pg     52 42.50
                    eSg    53 19.50
SRO     3.47 194 e(Pn)  52 38.80   0.1
                    e      53 06.60
                    e      53 19.90
                    e      53 29.60
CLL     4.13 274 ePg    53 03.00  14.9X
                    iSg    53 56.20
KHC     4.37 244 ePn    52 46.60  -4.9X
                    ePg    52 53.50
                    eSn    53 34.00
                    Sg     53 46.00
MOX     5.06 267 e(P)   53 20.00  18.7X
     S.D. = 1.0  on   6 of  10 obs.
-----------------------------------
   NOV  16, 1989  06h 52m 25.13± 0.52s
    5.988 S ± 8.5km   122.723 E ± 8.9km
   DEPTH =  33.0km  (normol)
   4.4mb (  3 obs.)
 SULAWESI                          (268)

MKS     3.33 283 iPd    53 14.50  -1.6
                    iS     54 05.50
KUG     4.24 168 eP     53 38.50   9.5X
TRT    10.16 260 ePd    54 52.50   0.7
MTN    10.73 130 eP     55 00.00   0.3
                    e      56 55.00
KNA    11.37 149 eP     55 05.50  -2.9X
WB5    17.86 142 eP     56 30.50  -2.3X
                    i      56 38.80
                    eS     59 43.00
NANU   17.88 202 eP     56 32.70  -0.4
WRA    17.89 142 Pd     56 32.20  -1.0
       1.0s    20.40nm          4.2mb
WARB   20.43 170 iPd    57 02.10  -0.3
QIS    21.87 133 eP     57 17.00   0.0
IPM    24.07 295 ePd    57 39.60   0.9
XAN    41.90 343 P      00 14.70   0.5
LZH    45.45 338 e(P)   00 40.60  -2.5
       2.5s    47.00nm          5.0mb
     Z  25s     0.30um          4.1MszX
BJI    46.20 353 (P)    00 49.00   0.3
GBA    48.99 294 P      01 18.00   7 1X
       1.1s    4.10nm          4 4mb
GTA    49.89 337 P      01 18.20   0.5
WMQ    58.80 331 P      02 22.90   0.2
BUL    91.81 250 eP     05 33.20   1.4
PPD   151.55 192 e(PKP)12 13.00   1.1
     S.D. = 1.1  on  15 of  19 obs.
-----------------------------------
?  NOV  16, 1989  07h 27m 53.79± 3.78s
   15.063 N ± 9.7km   60.383 W ±35.4km
   DEPTH =  33.0km  (normol)
 LEEWARD ISLANDS                   ( 92)
     ML 2.8 (FDF).

CRM     0.60 239 iPd    28 06.12   0.3
                    S      28 13.70
MVM     0.71 224 iPd    28 07.65   0.3
                    S      28 16.70
FDF     0.81 246 iPd    28 08.50  -0.3
                    S      28 18.00
BIM     0.86 231 iPd    28 09.48   0.0
                    S      28 19.50
BBL     1.15 294 eP     28 13.50  -0.2
                    S      28 26.80
SLB     1.39 207 eP     28 16.86  -0 2
                    eS     28 32.88
PAG     1.58 308 eP     28 20.00   0.2
                    S      28 37.30
     S.D. = 0.3  on   7 of   7 obs
-----------------------------------
*  NOV  16, 1989  08h 15m 39.55± 1.91s
   31.749 S ± 9.7km   71.842 W ±16.6km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF CENTRAL CHILE       (135)

ROCH    1.41 150 iP     16 05.50   0.1
                    iS     16 26.50
JACH    1.41 132 iPd    16 04.60  -0.7
                    iS     16 23.60
PEL     1.70 145 iPd    16 09.50   0.1
                    iS     16 32.00
LCCH    1.74 172 iPc    16 10.20   0.3
                    iS     16 33.00
RTBS    2.04  88 iPc    16 14.60   0.3
TACH    2.05 158 iPd    16 15.00   0.6
                    iS     16 42.50
PCH     2.18 149 iP     16 16.60   0.2
                    iS     16 44.30
LNV     2.23 171 eP     16 16.40  -0.7
CHCH    2.40 156 eP     16 19.50   0.0
                    iS     16 50.00
RTRS    2.58  53 iPd    16 22.00   0.0
RTCB    2.61  85 iPc    16 22.30  -0.3
RTCV    2.82  93 iP     16 26.00   0.5
CFA     3.07  88 e(P)   16 28.80  -0.3
     S.D. = 0.4  on  13 of  13 obs.
-----------------------------------
   NOV  16, 1989  08h 32m 37.72± 0.43s
   39.865 N ± 8.8km   77.274 E ± 6.9km
   DEPTH =  33 0km  (normol)
   4.9mb ( 10 obs.)
 SOUTHERN XINJIANG, CHINA          (321)
     ML 4.9 (BJI).

KSH     1.08 248 iPgd   32 58.00   1.3
                    Sg     33 16.00
WMQ     8.72  60 iPc    34 42.80  -1.9
                    S      36 12.00
NDI    11.15 180 iPc    35 14.50  -3.4X
                    eS     37 09.50
QUE    12.83 224 eP     35 30.00 -10.6X
                    eS     37 59.40
MAIO   14.45 261 eP     35 56.00  -5 8X
                    eS     38 56.00
GTA    17.37  84 eP     36 35.80  -3.4X
     Z  10s     0.70um
SHL    18.79 135 iP     36 58.00   1.1
LZH    21.25  92 eP     37 22.50  -0.9
       1.5s    50.00nm          4.7mb
     Z  12s     0.40um          4.0MszX
     E  10s     0.30um
                    e(S)   44 26.00
POO    21.46 189 iPc    37 25.30  -0.2
HYB    22.40 177 eP     37 35.50   0.7
CD2    23.30 104 eP     37 45.50   2.0
BTO    24.93  78 eP     38 01.00   1.6
XAN    25.87  93 P      38 08.20   0.1
HHC    26.05  77 P      38 11.60   1.8
GBA    26.16 180 P      38 09.00  -1.8
                    S      43 03.00
TIY    27.39  83 eP     38 22.40   0.4
GYA    27.86 110 eP     38 27.80   1.4
WHN    31.50  96 eP     38 58.50  -0.2
SSE    36.51  90 P      39 44.50   2.7X
       1.2s    34.00nm          5.1mb
NUR    38.19 321 eP     39 42.00 -13.5X
SOD    38.96 332 eP     40 04.00   2.1
HFS    43.60 319 (P)    40 41.70   1.6
       0.7s     3.40nm          4.2mb
NB2    44.79 321 P      40 49.00  -0.8
       0.7s     3.00nm          4.3mb
KHC    45.14 304 P      41 04.50  11.8X
MAT    47.19  74 (P)    41 07.00  -2.0
BCAO   63.43 252 iPd    43 05.20  -1.5
       0.6s     8.00nm          5.0mb
                    i      43 12.00
MBC    63.68   4 ePc    43 06.90  -0.6
       0.6s    23.00nm          5.5mb
INK    69.70  12 ePc    43 44.50  -1.2
WB5    79.76 127 eP     44 44.20   0.1
WRA    79.79 127 Pd     44 41.50  -2.8
       0.5s     1.00nm          4.1mb
KIC    79.83 270 Pc     44 44.40  -0.3
       0 9s    18.00nm          5.1mb
TIC    79.87 270 P      44 44.46  -0 4
LIC    80.14 270 Pc     44 45.98  -0.3
       1.0s    13.50nm          4.9mb
FFC    85.78 360 eP     45 15.00   0.4
       0.9s    13.00nm          5.2mb
PNT    89.95  11 eP     45 35.00   0 2
     S.D  = 1 4  on  28 of  35 obs.
-----------------------------------
   NOV  16, 1989  08h 39m 42.77± 0.09s
   17.760 S ± 3.5km  178.990 W ± 2.8km
   DEPTH = 537.6km  (geophysicist)
   5.7mb ( 48 obs.)
 FIJI ISLANDS REGION               (181)
     mb 6.0 (BRK). Depth from
     broodband displocement
     seismogroms.
     FAULT PLANE SOLUTION: P-Waves
      NP1:Strike=345 Dip=87 Slip= 128
      NP2:        79     38        5
      Principol Axes:
       T                Plg=36  Azm=288
       P                  31       44
     Comment: The focol mechonism is
       poorly controlled and
       corresponds to reverse
       foulting with o large strike-
       slip component. The preferred
       foult plone is not determined.
     RADIATED ENERGY
      No. of sto:   6  Focol mech   M
      Energy        2.1±0.8*10**13 Nm
     CENTROID, MOMENT TENSOR     (HRV)
     Dota Used: GDSN
     L.P.B.: 14S, 37C
     Centroid Location:
     Origin Time        08:39:53.7 0.2
     Lat 17.36S 0.03 Lon 179.43W 0.03
     Dep 555.1 1.5 Half-duration  4.6
     Moment Tensor;   Scale 10**18 Nm
       Mrr= 0.97 0.03  Mtt=-1.05 0.06
       Mff= 0.08 0.05  Mrt= 0.56 0.05
       Mrf= 1.78 0.05  Mtf= 1.17 0.05
      Principal Axes:
       T  Vol=  2.73  Plg=46  Azm=296
       N       -0.81     39      146
       P       -1.92     15       43
     Best Double Couple:Mo=2.3*10**18
      NP1:Strike= 92 Dip=46 Slip=  27
      NP2:       342     71      132

MBU     2.32 289 iP     40 56.30   2.8
VUN     2.44 264 iPd    40 56.90   2.8
                    eS     41 27.00
SVA     2.46 261 iPd    40 56.80   2.7
                    eS     41 56.80
AFI     7.93  62 ePc    41 36.58  -3.8X
                    S      43 00.00
PVC    12.10 268 iPc    42 25.00   2.0
                    iS     44 39.00
DZM    14.35 250 iPc    42 46.80   0.9
                    iS     45 19.00
                    ScP    50 06.00
                    ScS    53 49.30
HBZ    19.91 186 P      43 38.50  -1.0
       0.3s    75.00nm          5.8mb
HITZ   21.37 191 P      43 53.60   0.6
RATZ   21.52 191 P      43 55.80   1.4
HNR    22.06 289 ePc    43 58.00  -1.4
                    eS     47 30.00
SVO    22.30 290 eP     44 03.00   1.4
                    eS     47 42.00
PGZ    23.14 189 P      44 07.40  -1.6
       0.5s    67.00nm          5.5mb
MNG    23.27 191 eP     44 08.00  -2.2
       0.3s    34.00nm          5.4mb
                    S      47 41.10
MTW    23.80 190 P      44 13.10  -1.8
MRW    24.01 192 P      44 15.50  -1.3
WEL    24.05 192 P      44 16.00  -1.2
                    S      47 53.00
                    ScS    54 17.00
TCW    24.08 193 P      44 16.60  -0.9
BRS    27.72 245 iPc    44 49.70   0.0
                    ipP    45 04.30  60kmX
                    isP    45 18.30
                    iPcP   47 52.20
                    eS     48 25.00
                    iScP   50 40.20
                    iScS   54 38.20
AFR    27.83  94 iP     44 50.00  -0.6
                    epP    46 15.00
                    iScP   50 42.40
PAE    28.01  94 iP     44 51.70  -0.5
                    epP    46 16.00
                    iScP   50 44.00
PPT    28.02  94 iP     44 52.00  -0.3
       0.9s   300.00nm          5.9mb
```

16d 08h

		epP	46	16.00		
		iScP	50	44.20		
PPN	28.16	94	iP	44	53.00	-0.5
		epP	46	17.00		
		iScP	50	44.70		
TBI	28.17	106	iP	44	55.00	1.4
	0.8s	125.00nm				5.6mb
		epP	46	15.00		
TVO	28.31	95	iP	44	54.60	-0.3
		epP	46	19.00		
		iScP	50	45.30		
COO	29.37	239	eP	45	03.00	-1.1
		e	49	22.00		
RMO	31.05	248	iPc	45	19.00	0.6
		e	46	52.00		
		e	49	52.00		
RIV	31.13	233	eP	45	21.00	2.1
		e	45	46.00	113kmX	
		e	46	48.00		
		e	49	49.50		
RAB	31.29	292	iPc	45	19.00	-1.5
	0.7s	1972.60nm				6.8mb X
CTA	32.92	260	iP	45	34.00	-0.2
	0.9s	415.97nm				6.0mb
		iPcP	48	02.80		
		iS	50	04.00		
		iScP	50	59.00		
		iScS	55	01.00		
CTAO	32.92	260	iPc	45	33.70	-0.5
		e	45	54.89		
		epPc	47	05.08	530kmX	
CNB	33.08	232	ePd	45	37.00	1.6
	0.8s	475.00nm				6.1mb
		e	47	10.00		
		e	50	19.00		
		e	51	01.00		
BWA	33 46	234	iPc	45	37.90	-0.7
		e	50	20 90		
PMG	33.89	280	iPc+	45	42.20	-0.1
CMS	34.62	240	iPd	45	49.60	1.3
		i	50	47.50		
LAT	34.96	284	eP	45	53.00	1.7
TOO	36.84	230	eP	46	07.00	0.5
	0.6s	210.00nm				5.9mb
		e	46	40.00	148kmX	
		e	47	41.00		
		e	51	15.00		
STK	38.22	241	iPc	46	19.50	1.6
	0.2s	162.00nm				6.3mb
		e	46	36.00	66kmX	
		e	49	27.00		
MNDI	38.23	283	eP	46	20.00	1 5
QIS	39.14	259	iPc	46	25.20	-0.3
		e	48	22.00		
		e	51	22 00		
ADE	41.25	237	iPc	46	43.20	0.8
	1.0s	700.00nm				6.1mb
RKT	41.47	105	iP	46	44 60	0.4
	0.8s	75.00nm				5.3mb
HON	43.95	29	P	47	03 20	-0.4
WB5	44.09	260	eP	47	03.70	-1.3
		iScP	51	41.80		
		iS	52	58.10		
		i	56	25.00		
WRA	44.11	259	Pc	47	01.90	-3.2X
	1.0s	393.90nm				5.9mb
ASPA	44.30	254	iPc	47	05.00	-1.6
	1.0s	3226.00nm				6 8mb X
		iS	52	58.50		
		iScS	56	06.70		
		i	56	18.70		
GUA	47.29	309	ePc	47	29.40	0.0
	0.9s	4342.86nm				7.0mb X
GUMO	47.35	309	ePc+	47	30.00	0.1
	1.0s	3960.00nm				6.9mb X
PJG	47.35	309	ePc	47	30.00	0.1
MTN	48.25	268	iPd	47	35.70	-1.1
		e	53	56.00		
FORR	49.54	244	iPd	47	45.60	-0.6
KNA	49.94	264	eP	47	48.00	-1.3
	0.6s	485.00nm				6.2mb
WARB	50.81	250	iPc	47	53.80	-1.9
AAI	53.55	279	ePc	48	14.50	-1.1
	0.5s	102.00nm				5.4mb
COOL	55.52	244	eP	48	27.50	-1.7
DRV	55.63	198	eP	48	30.20	0.8
KUG	56.06	270	eP	48	40.00	6.9X

MBL	57.48	256	eP	48	41.20	-1.5
	0.5s	109.00nm				5.4mb
MEKA	58.04	249	eP	48	45.00	-1.5
	0.5s	89.00nm				5.4mb
KLB	58.39	243	eP	48	48.50	-0.4
NWAO	58.79	242	iPc	48	51.05	-0.5
	Z 20s	3.20um				5.4Msz
		epPc	50	36.66	528kmX	
		esPd	51	33.27		
		eS	56	20.00		
RKG	58.95	241	eP	48	52.30	-0.3
	0.5s	327.00nm				5.9mb
BAL	59.35	245	iPc	48	54.80	-0.5
	0.8s	333.00nm				5.7mb
MUN	59.70	243	iPc	48	56.70	-0.8
	0.9s	355.00nm				5.7mb
DAV	60.04	289	eP	48	59.00	-0.9
MRWA	60.06	246	eP	49	00.80	0.8
	0.4s	32.00nm				5.0mb
SBA	60.53	183	iPc	49	04.80	2.5
NANU	61.24	254	iPd	49	07.30	-0.4
	0.4s	63.00nm				5.4mb
MKS	61.34	274	ePc	49	08.50	0.0
TSM	65.78	283	ePd	49	38.90	2.1
	1.0s	59.50nm				5.1mb
KAKJ	66.12	325	P	49	37.10	-1.3
CHJJ	66.66	324	P	49	41.10	-0.7
IIDJ	66.88	323	P	49	41.90	-1.3
TRT	67.14	269	ePd	49	45.30	0.1
	1.5s	2049.20nm				6.5mb
OCP	67.29	295	eP	49	40.50	-5.5X
WKYJ	67.38	320	P	49	46.40	0.1
MAJO	67.46	324	iPc	49	45.05	-1.6
MAT	67.46	324	iPc	49	45.90	-0.8
	Z 20s	0.71um				4.9Msz
		eS	57	55.00		
OFUJ	67.46	328	P	49	45.30	-1.3
NIIJ	67.52	325	P	49	46.10	-0.8
YAMJ	67.64	326	P	49	47.30	-0.4
MTMJ	67 72	323	P	49	47.00	-1.3
KKM	68.17	284	ePc	49	51.50	0.0
	0 9s	471.50nm				6.0mb
BAG	68.52	296	ePc+	49	52.10	-1.6
	1 1s	815.19nm				6.2mb
		e	52	24.20		
		eS	58	16.00		
ADK	69.37	2	ePc	49	56.10	-1.7
SHK	69.39	319	iPc	49	58.20	-0.2
	1.1s	1012.66nm				6.3mb
ANP	71.94	305	iP+	50	13.00	-0.6
SPA	72.35	180	iPc	50	16.50	1.1
	1.2s	98.59nm				5.2mb
		i	52	10.40	540kmX	
QZH	74.13	303	iPc	50	26.00	0.1
	4.0s	3.50nm				3.2mb X
		pP	52	19.00	531kmX	
		S	59	17.00		
		ScS	59	47.00		
SSE	75.22	310	iP+	50	31.00	-0.8
	1.2s	286.00nm				5.6mb
	Z 22s	1.90um				5.4Msz
	E 14s	0.70um				
		PcP	50	45.00		
		(pP)	52	09.00	445kmX	
		sP	53	09.00		
		PP	53	24.00		
		S	59	28.00		
		SKS	59	51.00		
BLP	76.19	46	P	50	37.80	0.7
SYP	76.46	47	eP	50	39.00	0.2
		e	52	32.00	526kmX	
		e	53	25.00		
GCC	76.49	44	eP	50	38.70	0.0
PCC	76.51	43	eP	50	38.90	0.2
PRS	76.51	45	ePd	50	39.40	0.6
		epP	52	33.30	531kmX	
SAO	76.70	44	eP	50	40.00	0.1
BCH	76.75	46	P	50	41.20	0.9
		pP	52	34 80	529kmX	
BRK	76.80	43	eP	50	40.30	0.0
		epP	52	34.50	532kmX	
BKS	76.82	43	iPd	50	40 70	0.2
	1.6s	225.00nm				5.4mb
		ipP	52	34.90	532kmX	
		isP	53	24 50		
		ePP	53	41.50		
		iS	59	48.00		

		iScS	00	10.00		
		iSP	00	34.00		
		isS	03	12.00		
		isPS	03	42.00		
		eLQ	11	24.00		
PRI	76.88	45	eP	50	41.70	0.7
		epP	52	35.60	530kmX	
MHC	76.90	44	iPd	50	41.50	0.4
		epP	52	35.60	531kmX	
LLA	76.95	44	ePd	50	41.60	0.3
ARN	76.98	44	P	50	42 00	0.6
MCO	76.98	298	iP	50	42.70	1.1
ABL	77.16	47	P	50	43.20	0.5
NJ2	77.42	310	iPc	50	45.00	1.2
	4.0s	3.60nm				3.2mb X
		sP	53	27.00		
		S	59	53.00		
FHC	77.43	40	eP	50	44.10	0.3
PAS	77.53	48	iPd	50	44.10	-0.3
		e	52	40.00	540kmX	
GZH	77.57	299	iPc	50	46.00	1.2
	1.6s	1.00nm				3.0mb X
		sP	53	33.50		
		S	59	57.00		
MWC	77.65	48	eP	50	45.00	-0.3
		e	52	39.00	529kmX	
		e	53	42.00		
MDJ	77.75	325	iPc	50	46.00	0.7
		esP	53	32.00		
		S	59	58.00		
BAR	77.85	50	eP	50	46.00	-0.2
		e	52	42.00	540kmX	
		e	53	49.00		
FRI	77.99	45	eP	50	46.30	-0.4
		epP	52	41.30	534kmX	
RVR	78.01	48	eP	50	47.00	0.0
		e	52	40.00	523kmX	
		e	53	48.00		
PLM	78.05	49	eP	50	47.00	-0.5
		e	52	42.00	534kmX	
		e	53	48.00		
SBB	78.05	48	eP	50	47.00	-0.3
		e	52	41.00	529kmX	
CMB	78.11	44	iPd	50	46.72	-0.8
		epPd	52	40.61	528kmX	
ISA	78.11	46	eP	50	48.00	0.4
		e	52	42.00	529kmX	
PEC	78.11	49	P	50	47.60	0.0
WDC	78.19	40	iPd	50	47.80	0.0
		epP	52	42.40	532kmX	
		eP'P'	17	43.80		
ORV	78.25	42	eP	50	47.50	-0.6
		epP	52	42.30	533kmX	
		eP'P'	17	44.00		
KDC	78.38	14	eP	50	48.00	-0.3
MIN	78.63	41	eP	50	49.70	-0.6
		epP	52	44.50	532kmX	
		eP'P'	17	45.40		
CLC	78.80	47	iPd	50	51.50	0.3
		e	52	45.00	524kmX	
		e	53	56.00		
QIZ	78.89	294	Pc	50	52.50	0.7
		sP	53	45.00		
		ScS	00	19.00		
KGM	78.90	276	ePc	50	53.40	1.3
	1.0s	565.40nm				6.0mb
TPC	79.02	49	eP	50	53.00	0.7
		e	52	46.00	521kmX	
LBFM	79.03	40	P	50	53.00	0.5
GSC	79.09	47	eP	50	52.00	-0.7
		e	52	48.00	538kmX	
		e	53	57.00		
DL2	79.10	317	iPc	50	53.00	0.4
	4.0s	2.40nm				3.0mb X
		S	00	10.00		
GLA	79.38	50	iPd	50	55.50	1.2
		e	52	50.00	529kmX	
SNY	79.52	320	iPc	50	54.00	-0.6
	1.8s	0.90nm				2.9mb X
		pP	52	50.00	537kmX	
		iS	00	16.00		
CN2	79.57	323	Pc	50	55.40	0.5
	1.4s	1.10nm				3.1mb X
		pP	52	51.00	535kmX	
		sP	53	44.00		
		eS	00	16.00		
WHN	80.07	306	iPc	50	59.00	1.2

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        1.6s      1.40nm          3.1mb X
                   pP     52 49.00 502kmX
                   S      00 22.00
KVN     80.17  44 P      50 58.00  -0.4
                   pP     52 53.20 531kmX
TNP     80.24  45 iP     50 58.70  -0.1
        1.0s     76.25nm          5.1mb
                   ipP    52 53.50 529kmX
                   esP    53 39.50
                   ePP    54 10.00
TIA     80.74 313 Pc     51 01.50   0.3
        5.0s      2.60nm          3.0mb X
                   sP     53 55.00
                   S      00 29.00
SVW     80.80  11 eP     51 00.30  -0.7
BMW     81.29  35 P      51 04.10   0.3
SHW     81.67  36 P      51 06.40   0.5
IPM     81.88 277 ePc    51 08.30   0.8
        1.1s    851.90nm          6.2mb
                   e      51 41.70 132kmX
                   e      54 24.50
VGB     82.10  37 P      51 08.00   0.1
GMW     82.18  35 P      51 08.50   0.3
LON     82.24  36 P      51 08.60   0.0
TTA     82.43  10 ePc    51 09.70   0.5
PGC     82.49  33 eP     51 10.00   0.3
PMR     82.59  14 eP     51 09.30  -0.6
        0.6s     85.40nm          5.5mb
RMW     82.66  35 P      51 10.30  -0.4
MCW     82.84  34 P      51 12.60   1.1
SNG     83.10 280 iPc    51 15.00   1.5
        1.4s   1860.46nm          6.4mb
                   eS     00 47.00
                   e      06 13.70
BJI     83.29 316 iPc    51 14.69   0.8
        1.5s    812.00nm          6.1mb
      Z  24s      0.96um          5.1MszX
                   esPd   54 06.52
                   eSKS   00 45.50
TOA     83.74  15 eP     51 15.80   0.0
MAW     83.81 200 iPc    51 17.10   1.0
        1.1s    180.00nm          5.6mb
AIA     83.85 157 eP     51 18.30   2.0
TSI     83.88 276 ePd    51 20.00   2.6
MSU     83.90  46 P      51 17.70   0.4
DUG     84.26  45 P      51 19.60   0.6
GYA     84.48 300 iPc    51 21.00   0.7
        1.2s      0.30nm          2.8mb X
                   PP     54 45.00
                   S      00 55.00
TIY     84.76 312 iPc    51 22.50   1.2
        1.3s      0.60nm          3.1mb X
                   sP     54 15.50
                   PP     54 43.00
                   iSKS   00 55.50
DPW     84.89  36 P      51 21.70   0.0
PNT     84.93  34 ePd    51 22.00   0.2
        1.2s    140.00nm          5.5mb
DAU     85.42  45 P      51 25.40   0.6
LOE     85.46 290 eP     51 26.00   1.0
NNT     85.67 285 iPc    51 26.50   0.5
IMA     85.72  10 ePc    51 24.90  -0.5
XAN     85.73 308 P      51 26.50   0.4
        4.0s      3.60nm          3.4mb X
                   sP     54 19.50
                   SKS    01 00.60
COL     85.79  13 eP     51 23.72  -1.9
                   epPd   53 21.91 538kmX
                   ePP    54 52.78
                   iS     01 09.84
FBA     85.79  13 ePc    51 24.60  -1.0
PTI     85.84  43 P      51 27.40   0.8
HIA     85.93 325 iPc    51 26.95   0.3
                   esPd   54 20.43
                   eS     01 01.86
ALQ     86.44  52 iPd    51 30.00   0.4
        1.0s     53.00nm          5.2mb
      Z  18s      3.35um          5.8Msz
                   pP     53 27.80 535kmX
                   sP     54 56.50
ANMO    86.44  52 eP     51 30.42   0.8
                   epPd   53 26.96 528kmX
                   esP    54 21.58
                   eSKS   01 06.93
                   eS     01 27.07
                   e      01 50.52
                   esS    04 53.58
HHC     86.77 315 iPc    51 32.00   1.0
        4.0s      2.40nm          3.3mb X
                   SKS    01 10.00
LRM     87.21  40 ePd    51 33.00  -0.2
                   e      53 31.00 535kmX
                   e      55 04.40
KMI     87.27 297 iPc    51 35.17   1.3
        3.0s      2.40nm          3.4mb X
      Z  22s      1.20um          5.3Msz
                   esPd   54 27.32
                   eSKS   01 11.10
                   eS     01 34.27
BSI     87.59 277 eP     51 37.00   1.8
        1.0s     55.50nm          5.3mb
BW06    87.63  44 iP     51 35.80   0.6
        1.0s    102.50nm          5.6mb
                   ipP    53 33.00 529kmX
                   esP    54 23.00
                   iPP    55 07.50
                   eS     01 18.00
BTO     87.72 314 iPc    51 37.00   1.6
        5.0s      2.20nm          3.2mb X
                   sP     54 28.00
                   SKS    01 11.00
BDT     87.86 289 iPc    51 37.50   1.1
CHG     88.43 290 ePd    51 40.00   1.0
        1.0s    185.00nm          5.9mb
                   eS     01 20.00
CD2     88.52 303 iPc    51 40.40   1.1
        5.0s      2.30nm          3.3mb X
                   pP     53 38.00 530kmX
                   sP     54 30.00
                   SKS    01 17.00
GOL     89.17  48 iP     51 42.50   0.1
        1.1s     84.62nm          5.6mb
                   epP    53 40.00 529kmX
                   ePP    55 20.00
GLD     89.30  48 P      51 42.80  -0.1
        1.2s    121.21nm          5.7mb
SES     90.23  36 iPd    51 46.30  -0.4
        0.6s     69.00nm          5.8mb
EDM     90.34  33 eP     51 46.50  -0.6
                   pP     53 45.00 533kmX
LZH     90.36 308 iPc    51 48.96   1.2
        1.5s      0.64nm          3.4mb X
      Z  38s      2.40um          5.3MszX
      E  20s      1.00um
                   epP    53 46.16 526kmX
                   esP    54 42.12
                   ePP    55 29.69
                   S      01 27.00
                   sS     02 00.00
RSSD    91.84  44 eP     51 54.00  -0.5
                   ipP    53 52.00 530kmX
                   isP    54 50.20
                   iPP    55 49.50
INK     91.89  15 ePc    51 54.00   0.1
        1.1s    139.00nm          5.9mb
                   pP     53 52.00 530kmX
SNA     92.13 179 iPc    51 56.40   1.3
        1.1s    235.44nm          6.1mb
MEO     92.37  54 iPc    51 57.20   0.3
ACO     92.60  52 ePc    52 00.00   2.1
SIO     94.45  54 e(P)   52 07.80   1.4
GTA     94.51 310 iPc    52 07.20   0.4
        1.2s      0.10nm          2.9mb X
                   SKS    01 50.00
TUL     94.90  54 e(P)   52 08.60   0.2
        1.2s     19.50nm          5.2mb
                   i      52 13.20  14kmX
LNO     94.90  54 eP     52 08.30   0.0
CCM     99.00  53 ePc    52 28.89   2.0
                   eSKS   02 13.02
                   eSKKS  02 47.23
                   eS     03 14.55
                   e      05 43.12
MBC    100.31  12 ePdiff52 31.00  -0.9
        0.6s      9.00nm          5.4mb
WMQ    104.42 312 ePdiff52 51.30   0.3X
                   esP    55 46.11
                   ePP    57 05.71
                   eSKS   02 38.12
HYB    106.64 283 ePKP   57 08.50  -0.4
                   e      57 25.00
POO    111.26 283 iPKPd  57 16.70  -0.9
MAIO   125.53 302 iPKPc  57 44.70   0.0
        2.0s    244.19nm
                   i      59 40.00
KEV    125.62 349 iPKP   57 43.20  -0.4
        0.8s     44.00nm
HVD    126.45 206 iPKPd  57 47.00   0.3
        1.5s     72.22nm
SOD    127.74 348 iPKP   57 47.00  -0.7
PRY    128.69 211 iPKPc  57 50.90  -0.1
        1.2s     70.00nm
                   i      00 07.70
SLR    129.27 212 iPKPc  57 51.50  -0.6
        1.0s     15.00nm
                   i      00 07.50
SWZ    129.48 208 iPKPd  57 53.00   0.5
        1.0s    300.00nm
                   i      00 27.00
KSR    129.86 211 iPKPd  57 52.00  -1.3
        0.9s    100.00nm
                   i      00 25.50
PDCR   130.25 124 ePKP   57 50.00  -4.1X
                   e      57 53.70
                   e      00 27.00
AKU    130.45  10 iPKPd  57 54.20   1.3
        1.4s     93.02nm
                   i      00 30.90
SUF    131.80 345 ePKP   57 48.00  -7.6X
CLK    132.83 227 ePKP   57 58.50  -0.5
                   iSKP   00 40.80
BUL    133.60 217 ePKP   57 53.10  -7.4X
                   TT     58 01.10
                   i      00 42.80
BUL    133.60 217 ePKP   58 01.00   0.5
                   TT     58 01.10
                   iSKP   00 42.80
NUR    134.06 344 ePKP   57 47.00 -12.9X
        1.1s    139.20nm
                   i      57 59.70
KRI    135.56 221 ePKP   58 06.50   2.2
                   iSKP   00 51.00
TAB    135.65 307 ePKP+  58 04.00   0.1
                   i      00 46.00
KER    135.81 301 ePKPc  58 04.50   0.2
NB2    136.16 353 PKP    57 52.50 -11.5X
        1.2s     24.30nm
UPP    136.27 348 ePKP   57 50.00 -14.1X
PTZ    136.34 225 iPKPd  58 06.00   0.3
                   i      00 49.90
HFS    136.70 351 ePKP   57 50.40 -14.6X
        0.4s      6.70nm
SLY    136.86 303 ePKPc  57 53.50 -12.5X
                   i      58 04.50
                   i      00 48.00
                   iPKS   01 38.50
                   e      04 04.00
LSZ    137.63 221 iPKPc  57 59.80  -8.4X
                   i      58 09.00
                   i      00 55.00
BHD    138.23 300 ePKPd  57 58.00 -10.6X
                   i      58 07.00
                   i      00 52.50
                   iPKS   01 43.00
                   e      03 50.00
                   eSKKS  07 03.50
NAI    140.00 245 iPKP   58 08.00  -4.7X
        1.0s     28.00nm
KVT    142.03 315 ePKP   58 11.70  -3.5X
AAE    142.32 262 ePKP   58 15.50  -1.3
EKA    142.36   4 PKP    58 11.00  -4.3X
        0.5s     11.20nm
TAIF   142.82 282 iPKPc  58 16.00  -1.3
KAS    143.40 317 iPKPc  58 16.20  -1.4
DMU    143.41   8 ePKP   58 14.60  -2.5
CLI    144.01 329 iPKPc  58 16.00  -2.4
BIR    144.04 328 ePKP   58 19.00   0.6
DLE    144.06   8 iPKPc  58 16.80  -1.4
        0.6s    125.00nm
PPE    144.07 328 ePKPd  58 17.50  -1.0
PTT    144.18 330 ePKP   58 18.00  -0.6
KRA    144.37 339 iPKPc  58 18.10  -0.7
        1.6s   1074.00nm
                   e      58 29.10
                   i      58 33.50
                   i      58 43.70
CFR    144.49 326 ePKPd  58 19.00  -0.2
ETA    144.68   8 iPKPc  58 19.20  -0.1
        1.1s    856.00nm
WIT    144.74 354 ePKPc  58 19.00  -0.4
VAL    144.75  12 iPKP   58 19.60   0.2
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16d 08h

VRI	144.76	328	ePKPc	58	19.50	-0.2
KSP	144.81	343	ePKPc	58	19.50	-0.1
BBTK	144.82	315	ePKP	58	19.00	-1.1
BMR	144.94	333	ePKPd	58	23.00	3.1X
TLB	144.95	326	ePKPd	58	20.50	0.5
SPC	145.00	338	ePKP	58	20.10	-0.1
BHL	145.12	304	PKPc	58	20.00	-0.8
			PPP	01	44.00	
			SKS	05	10.00	
ECP	145.16	8	iPKPc	58	20.50	0.4
	1.3s	1316.00nm				
CLL	145.19	347	iPKPc	58	19.40	-0.8
HRI	145.25	303	iPKPd	58	22.00	1.0
ISR	145.36	328	ePKPc	58	22.00	1.2
CEI	145.36	334	ePKP	58	21.00	0.4
BRG	145.39	346	iPKPc	58	20.30	-0.2
	1.6s	800.00nm				
			i	01	13.00	
MLR	145.42	329	iPKPc	58	20.00	-1.0
WTS	145.53	354	ePKPc	58	20.50	-0.2
			i	58	40.00	
			e	00	29.00	
DBN	145.58	355	iPKP+	58	22.00	1.2
SALJ	145.66	301	PKP	58	23.00	1.3
MASJ	145.71	301	PKP	58	22.90	1.1
CMP	146.02	329	iPKPc	58	24.00	2.2
FAM	146.03	307	ePKP	58	23.80	1.7
DSI	146.03	300	e(PKP)	58	22.00	-0.2
PRU	146.06	344	PKPc	58	21.30	-0.4
			e	58	23.50	
WAJH	146.07	291	iPKPd	58	22.70	0.3
MOX	146.11	348	ePKPc+	58	21.50	-0.2
	1.7s	644.00nm				
AYN	146.14	295	iPKPc	58	22.50	0.1
BUC1	146.17	327	ePKPd	58	24 00	2 0
PSZ	146.18	337	iPKP	58	21.20	-0.8
HRT	146.31	319	ePKP	58	21.70	-0.7
HOF	146.37	347	iPKPc	58	21.80	-0.4
GBZT	146.47	319	ePKP	58	22.00	-0.6
ISK	146.54	320	ePKP	58	20.00	-2.7
CSS	146.55	307	ePKP	58	22.50	-0.5
DEV	146.57	332	iPKPc	58	23.00	0.4
YLV	146.64	319	iPKP	58	21.70	-1.3
SRFA	146.82	296	iPKPd	58	24.00	0.5
DRA	146.83	329	ePKPd	58	23.00	0.0
ENN	146.84	354	ePKPc	58	22.50	-0.3
	1.1s	323.00nm				
			e	00	30.00	
SRO	146.84	338	ePKP	58	23.10	0.1
			i	58	26.10	
HQL	146.87	297	iPKPc	58	23.50	-0.1
BUD	146.87	337	iPKPc	58	22.30	-0.7
DMK	146.87	322	iPKP	58	22.10	-1.1
CTT	146.88	320	iPKP	58	16.20	-7.1X
MBH	146.90	297	e(PKP)	58	23.00	-0.6
ZST	146 92	340	iPKP	58	23 20	0.1
			i	58	26.70	
			e	58	46.40	
UCC	146.93	356	PKPd	58	22.50	-0.5
			i	58	25.90	
MEM	146.98	354	iPKPc	58	23.18	0.1
TNS	147.07	351	ePKPc	58	23.10	-0.2
KHC	147.09	345	iPKPc	58	23.50	0.1
	1.3s	471.00nm				
			e	00	31.00	
GRF	147.10	348	iPKPc	58	23.50	0 1
			ic	58	26 90	
			epPKP	00	32.00	
			esPKP	01	29 00	
VKA	147.11	341	iPKPc	58	23.60	0.2
	1.5s	1086.00nm				
			i	58	27.00	
			epPKP	00	33.00	
			iPP	00	58.50	
			iPKS	02	02.00	
JMB	147.14	324	PKP	58	23.00	-0.6
SNF	147.22	356	iPKP	58	24.05	0.6
			i	58	26.80	
WET	147.25	346	ePKP	58	23.50	-0.1
PVL	147.32	326	iPKPd	58	25.00	1.1
PPCY	147.33	308	ePKP	58	22.50	-1.6
BZS	147.35	333	ePKP	58	23.50	-0.3
TIM	147.43	333	iPKPc	58	23.60	-0.3
BCK	147.47	313	ePKP	58	23.30	-1.1
SOP	147.55	340	ePKP	58	24.80	0.7
DOU	147.61	356	PKP	58	24.30	0.2
			i	58	27.80	

			SS	20	18.00	
DST	147 65	318	iPKP	58	24.00	-0.6
BNT	147.66	320	iPKP	58	23.00	-1.6
EDC	147.70	320	ePKP	58	22.00	-2.6
KHL	147.76	315	iPKP	58	23.90	-1.0
ELL	148.29	312	ePKP	58	25.80	0.0
KDZ	148.33	324	iPKPc	58	30.00	4.4X
GWF	148.40	352	PKP	58	25.49	0.0
BEO	148.48	333	ePKP	58	25.00	-0.7
			i	58	29.80	
FUR	148.53	347	iPKPc	58	25.70	0.0
			i	58	30.50	
RDO	148.59	323	ePKP	58	25.40	-0.5
RZN	148.69	325	iPKPc	58	26.00	-0.4
KSL	148.82	312	ePKP	58	30.40	4.0X
VTS	148.87	327	iPKP	58	25.00	-1.6
EZN	148.96	320	iPKP	58	25.70	-0.8
WLS	148.99	352	PKP	58	25.86	-0.6
CDF	149.00	352	PKP	58	26.20	-0 3
KBA	149.04	344	iPKPc	58	26.00	-0.7
	0.9s	161.00nm				
			i	58	30.90	
			epPKP	00	35.00	
FLN	149.05	2	ePKP	58	26.60	0.2
	1.6s	211.45nm				
ECH	149.21	352	PKP	58	26.25	-0.5
IZM	149.21	317	iPKP	58	25.70	-1.4
LDF	149.23	1	iPKPc	58	26.70	0.0
	1.6s	211.45nm				
MMB	149.30	325	ePKPc	58	26.00	-1.1
PTJ	149.31	339	ePKP	58	26.60	-0.4
PRK	149.34	319	ePKP	58	31.50	4.4X
VITF	149.35	353	PKP	58	26.85	0.0
ZAG	149.37	339	iPKPc	58	27.00	0.0
			i	58	32.00	
GRR	149.41	2	iPKPc	58	27.20	0.2
	1.4s	130.70nm				
KOT	149 42	299	ePKP	58	27.50	0.0
FEL	149.42	351	PKP	58	26.72	-0.5
KKB	149.45	326	iPKPc	58	26.00	-1.3
HAU	149.52	353	iPKPc	58	27.40	0.2
	1.4s	82.75nm				
MOF	149.57	352	PKP	58	27.09	-0.3
AMAN	149.58	287	iPKPd	58	33.50	5.6X
BSF	149.64	352	PKP	58	27.18	-0.3
LJU	149.64	341	ePKPc	58	27.00	-0.4
			i	58	32.50	
FVI	149.64	344	PKP	58	26.90	-0.4
AGRW	149.72	287	ePKP	58	33.50	5.4X
LPF	149.76	3	iPKPc	58	27.80	0.3
	1.6s	211.45nm				
AKRL	149 81	287	iPKPd	58	34.50	6.2X
OGA	149.82	346	iPKPc	58	27.80	-0.1
VOY	149.84	342	iPKPc	58	27.00	-0.8
			i	58	32.70	
BLY	149.87	337	ePKP	58	34.30	6.5X
SMG	149.88	316	ePKP	58	32.70	4.7X
VBY	149.89	340	iPKPc	58	28.20	0.4
			i	58	34.00	
BBS	149.90	351	PKP	58	27.93	0.1
CEY	149.95	341	ePKPc	58	28.00	0.1
			i	58	33.50	
			e	00	38.00	
LOMF	150.10	352	PKP	58	28.21	0.0
VAY	150.11	326	iPKP	58	27.40	-0.8
	1.6s	0.09nm				
			iP'P'	58	32.70	
			i	59	42.40	
			iPP	02	15.00	
TRI	150.18	342	PKP	58	28.30	0.1
SKO	150.22	328	iPKP	58	27.70	-0.7
	1.6s	127.00nm				
			iP'P'	58	33.80	
			i	58	43.10	
			iPP	02	14.00	
			iPPP	05	36.00	
			i	08	11.00	
			i	11	40.00	
			i(SKSP	12	34.00	
			iSS	20	48.00	
			iSSS	26	31.00	
PLG	150.29	324	ePKP	58	33.60	5.0X
RIY	150.31	341	ePKPc	58	28.50	0 1
			i	58	33.80	
CTI	150 44	345	PKP	58	28.20	-0.6
LOR	150 48	356	iPKPc	58	29.00	0.3
	1.6s	136.80nm				

BCI	150.58	330	ePKP	58	28.80	-0.1
SSF	150.71	357	iPKPc	58	29.40	0.4
	1.6s	155.30nm				
LBF	150.75	356	iPKPc	58	29.70	0.6
	1.6s	124.40nm				
KAP	150.80	313	ePKP	58	35.40	5.9X
PUK	150.91	330	iPKP	58	33.70	4.3X
PHP	150.92	329	ePKP	58	28.40	-1.0
AVF	150.99	357	iPKPc	58	29.50	0.1
	1.6s	77.75nm				
APE	151.10	317	ePKP	58	35.00	5.1X
SMF	151.10	356	iPKPc	58	29.60	0.0
	1.4s	61.00nm				
SDA	151.12	331	iPKPc	58	36.00	6.3X
SAL	151.12	346	PKP	58	29.00	-0.6
NEO	151.13	323	ePKP	58	35.10	5.2X
OHR	151.18	328	iPKPc	58	29.40	-0.5
	1.2s	0.81nm				
			iP'P'	58	36.10	
			i	58	45.00	
MFF	151.22	2	iPKPc	58	29.90	0.2
	1.6s	174.50nm				
VAI	151.24	349	PKP	58	29.40	-0.3
BGF	151.24	357	iPKPc	58	30.10	0.3
	1.4s	104.55nm				
KZN	151.26	326	ePKP	58	35.60	5.5X
TIR	151.46	329	iPKPc	58	36.50	6.2X
HVAR	151.48	336	iPKPc	58	36.20	6.0X
TCF	151.54	358	iPKPc	58	30.50	0.2
	1.6s	174.15nm				
MAF	151.59	358	ePKP	58	30.80	0.5
	1.6s	124.40nm				
ORX	151.61	350	PKP	58	29.58	-0.9
ORO	151.61	350	PKP	58	29.80	-0.7
ATH	151.70	320	ePKP	58	37.10	6.4X
PLDF	151.79	356	PKP	58	31.14	0.4
AGG	151.84	323	ePKP	58	29.40	-1.5
BERA	151.91	328	ePKP	58	29.20	-1.7
LSD	151.91	351	PKP	58	31.22	0.1
LPG	151.93	351	ePKP	58	31.80	0.6
	1.4s	63.15nm				
LSK	151.99	327	ePKP	58	30.00	-1.2
NPS	152.04	313	ePKP	58	37.10	5.8X
PYM	152.04	357	PKP	58	31.52	0.5
BOB	152.16	347	PKP	58	29.80	-1.5
TPE	152.18	328	ePKP	58	32.80	1.5
RSP	152.19	350	PKP	58	35.73	4.4X
SFI	152.36	343	PKP	58	32.20	0.8
BNI	152.38	351	PKP	58	32.10	0.5
SSB	152.40	355	PKP	58	32.19	0.6
MME	152.41	345	PKP	58	32.10	0.2
ARV	152.43	341	PKP	58	31.90	0.3
PGD	152.44	343	PKP	58	31.90	0.1
RRL	152.49	351	PKP	58	32.35	0.4
SRN	152.50	327	ePKP	58	30.90	-0.8
RJF	152.53	359	iPKPc	58	31.20	-0.5
	1.2s	98.20nm				
PCP	152.56	348	PKP	58	31.22	-0.6
BDI	152.56	345	PKP	58	30.50	-1.3
CRE	152.60	343	PKP	58	31.00	-1.0
FIR	152.66	344	ePKP	58	32.00	0.2
			i	58	43.00	
CKI	152.72	349	PKP	58	31.30	-0.7
KEK	152.73	327	ePKP	58	39.60	7.5X
DOI	152.83	350	PKP	58	32.50	0.3
PZZ	152.85	350	PKP	58	32.96	0.6
ALP	152.87	339	ePKP	58	39.79	7.4X
PII	152.90	345	PKP	58	31 10	-1.1
ASS	152.90	341	PKP	58	31.50	-0.8
LFF	152.90	0	iPKPc	58	31.70	-0.5
	1.4s	113.25nm				
ROB	152.92	349	PKP	58	31.63	-0.7
VAM	152.93	315	ePKP	58	41.00	8.5X
FIN	152.94	349	PKP	58	31.01	-1.3
VLI	152.97	319	ePKP	58	39.50	7.0X
STV	153.07	350	PKP	58	29.58	-3.0
ENR	153.07	350	PKP	58	31.12	-1.4
BRT	153.07	332	PKP	58	33.20	0.6
FG2	153.14	336	PKP	58	34.56	2.0
LPO	153.16	360	iPKPc	58	32.20	-0.3
	1.3s	86.65nm				
LCI	153.16	330	PKP	58	32.50	-0.1
SAOF	153.28	349	PKP	58	33.50	0.7
AUTN	153.29	350	PKP	58	33.28	0.2
IMI	153.29	349	PKP	58	32.96	0.1
TOUF	153.30	350	PKP	58	32.89	-0.1
AQU	153.30	339	PKP	58	33.40	0.5

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VLS     153.41 324 ePKP   58 41.00    7.9X
AURF    153.41 350 PKP    58 32.89   -0.2
SBF     153.42 350 iPKPc  58 33.00    0.0
         0.6s    37.90nm
MVIF    153.43 350 PKP    58 33.04   -0.1
MNS     153.51 340 PKP    58 32.20   -0.9
DUI     153.54 337 PKP    58 33.80    0.5
CALN    153.62 350 PKP    58 33.65    0.3
STS     153.67  16 ePKP   58 34.30    1.0
SOI     153.73 338 PKP    58 32.90   -0.6
FRF     153.84 351 iPKPc  58 33.90    0.4
         1.4s   122.00nm
LRG     153.99 351 ePKP   58 34.20    0.5
         1.4s   122.00nm
RMP     154.02 340 PKP    58 34.50    0.7
RFI     154.03 337 PKP    58 35.20    1.4
RDP     154.06 340 PKP    58 34.00    0.1
LMR     154.08 351 iPKPc  58 34.20    0.4
         1.4s    95.85nm
SGO     154.15 334 PKP    58 31.50   -2.4
CSI     154.37 332 PKP    58 33.60   -0.8
CVF     154.38 346 PKP    58 34.25    0.0
MGR     154.40 334 PKP    58 32.50   -1.8
ROI     154.41 331 PKP    58 33.50   -0.9
TOS     154.45 332 PKP    58 34.60    0.2
ERUA    154.48  14 ePKP   58 35.60    1.2
EPF     154.80   1 iPKPc  58 34.30   -0.6
         1.4s    82.75nm
CZI     154.90 331 PKP    58 33.80   -1.2
ECRI    155.05   6 ePKP   58 37.20    2.0
ATN     156.06 331 PKP    58 35.50   -1.2
USI     156.58 335 PKP    58 38.30    1.0
MNO     156.60 332 PKP    58 39.50    1.9
GUD     156.76  10 ePKP   58 39.00    1.3
ETOR    156.87   6 e(PKP)58 39.00    1.3
EPLA    156.94  14 ePKP   58 39.00    1.2
EBR     157.01   1 ePKP   58 38.00    0.3
TOL     157.52  10 ePKP   58 39.50    1.1
BCAO    158.33 234 ePKP   58 39.56   -0.5
         0.8s   161.00nm
EVIA    158.97   8 ePKP   58 41.40    1.2
EVAL    159.11  17 ePKP   58 41.80    1.6
EBAN    159.24  11 ePKP   58 41.80    1.4
EHOR    159.28  14 ePKP   58 41.80    1.4
ASMO    160.03  11 ePKP   58 42.00    0.6
EPRU    160.09  15 ePKP   58 43.30    2.0
AFC     160.17  11 ePKP   58 41.90    0.3
ALOJ    160.20  12 ePKP   58 41.70    0.1
ATEJ    160.41  12 ePKP   58 42.00    0.2
APHE    160.44  11 ePKP   58 42.50    0.7
EJIF    160.52  16 e(PKP)58 44.00    2.3
AVE     162.77  24 iPKP   58 44.00   -0.1
                i         59 38.00
LIC     167.11 152 PKPc   58 48.24   -0.1
         1.4s    95.00nm
KIC     167.36 153 PKPc   58 48.24   -0.2
         1.4s   103.50nm
TIC     167.48 151 PKPc   58 48.52   -0.1
         1.4s   100.00nm
WEGH    167.84 174 ePKP   58 49.00    0.2
LEGH    167.91 174 ePKP   58 49.00    0.2
KOGH    168.33 174 ePKP   58 50.00    0.8
KUK     168.42 173 ePKP   58 48.00   -1.2
      S.D. = 1.0  on 434 of 479 obs.
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   NOV  16, 1989  08h 54m 41.63± 0.57s
   17.701 S ± 6.3km  179.024 W ± 3.7km
   DEPTH = 543.8 ±  7.8 km
   5.0mb ( 22 obs.)
 FIJI ISLANDS REGION                (181)

SVA      2 43 260 iPd    55 54.30    0.9
                  eS     56 55.40
DZM     14.34 250 iPc    57 45.00    0.5
HBZ     19.96 186 eP     58 37.10   -1.5
MNG     23.33 191 eP     59 08.30   -1.0
BRS     27.72 245 iPc    59 48.80    0.6
AFR     27.86  94 iP     59 49.50    0.0
         0.7s    30.00nm          5.0mb
PAE     28.04  94 iP     59 51.10    0.1
         0.7s    25.00nm          4.9mb
PPT     28.05  94 iP     59 51.30    0.1
         0.7s    40.00nm          5.1mb
PPN     28.19  94 iP     59 52.20   -0.2
         0.7s    15.00nm          4.7mb
TBI     28.22 106 eP     59 53.00    0.4
         0.8s    30.00nm          5.0mb
TVO     28.34  95 iP     59 53.90    0.1
         0.7s    30.00nm          5.0mb
PMO     29.97  89 iP     00 07.60   -0.1
         0.8s    30.00nm          5.0mb
VAH     30.19  90 iP     00 08.10   -1.5
         0.8s    25.00nm          4.9mb
TPT     30.24  90 iP     00 09.60   -0.4
         0.8s    25.00nm          4.9mb
RUV     30.43  90 iP     00 11.10   -0.6
         0.8s    30.00nm          5.0mb
RMO     31.04 248 iPc    00 17.70    0.9
         0.4s    32.00nm          5.3mb
CTA     32.90 260 iPd    00 33.00    0.5
         0.7s    21.92nm          4.9mb
CAN     33.37 232 eP     00 37.20    0.9
BWA     33.47 234 eP     00 36.90   -0.3
CMS     34.62 240 iPc    00 48.20    1.4
STK     38.22 241 iPc    01 17.80    1.4
         0.3s    18.00nm          5.2mb
WB5     44.07 259 iPc    02 02.00   -1.3
WRA     44.09 259 Pc     02 01.90   -1.5
         0.3s     3.00nm          4.3mb
ASPA    44.29 254 iPc    02 04.70   -0.2
         0.5s   153.00nm          5.8mb
                  i      03 37.70
                  eScP   06 41.70
                  iS     07 57.30
                  eScS   11 05.20
GUA     47.22 309 eP     02 27.50    0.1
         1.0s   248.00nm          5.7mb
GUMO    47.29 309 eP     02 27.50   -0.4
         1.0s   192.00nm          5.6mb
MTN     48.22 268 iPd    02 34.30   -0.7
FORR    49.53 244 iPc    02 44.10   -0.5
KNA     49.91 264 eP     02 46.70   -0.8
COOL    55.51 244 eP     03 26.50   -1.1
MBL     57.46 256 iPc    03 40.30   -0.7
         0.3s     5.00nm          4.3mb
NWAO    58.79 242 eP     03 49.40   -0.5
RKG     58.95 241 eP     03 50.70   -0.3
NANU    61.22 254 iPc    04 06.20    0.2
         0.4s    14.00nm          4.7mb
KAKJ    66.05 325 P      04 35.30   -1.1
CHJJ    66.60 324 P      04 39.10   -0.6
IIDJ    66.81 323 P      04 40.50   -0.6
MAT     67.39 324 iPc    04 43.70   -0.9
NIIJ    67.45 325 eP     04 46.30    1.4
MTMJ    67.65 323 P      04 45.50   -0.8
TSRJ    67.98 322 P      04 49.00    0.8
SPA     72.41 180 iPc    05 15.90    1.8
         0.9s    32.27nm          4.9mb
PRI     76.86  45 eP     05 40.20    1.0
FRI     77.97  45 eP     05 45.40    0.4
CMB     78.09  44 eP     05 46.00    0.3
WDC     78.17  40 eP     05 46.30    0.3
ORV     78.23  42 eP     05 46.70    0.4
MIN     78.61  41 eP     05 48.00   -0.5
KVN     80.15  44 eP     05 57.00    0.4
TNP     80.22  45 eP     05 57.50    0.4
TTA     82.37  10 eP     06 07.40    0.1
PMR     82.54  14 eP     06 07.20   -0.8
BJI     83.23 316 eP     06 13.00    1.1
         1.5s    66.00nm          5.0mb
PNT     84.90  34 eP     06 20.00    0.0
         0.9s    14.00nm          4.6mb
FBA     85.74  13 eP     06 22.50   -1.2
INK     91.84  15 eP     06 52.00    0.0
NB2    136.10 353 PKP    12 51.80  -10.3X
         1.0s     4.00nm
KRA     144.31 339 ePKP  13 16.40   -0.6
         1.1s    50.00nm
WIT     144.68 354 ePKP  13 19.00    1.5X
KSP     144.74 343 iPKPc 13 18.70    1.0
         1.2s    68.00nm
CLL     145.13 347 iPKPc 13 19.30    1.0
         1.5s   105.00nm
BRG     145.32 346 iPKPc 13 19.90    1.2X
         1.6s    56.00nm
MLR     145.35 329 ePKPd 13 21.00    1.9X
WTS     145.47 354 ePKP  13 20.00    1.2
         1.2s    48.00nm
PRNI    146.61 299 iPKPc 13 24.50    3.1X
ENN     146.78 354 ePKP  13 23.50    2.5X
         1.0s    17.00nm
MEM     146.92 354 PKPd  13 25.00    3.8X
GRF     147.03 348 iPKPc 13 25.30    3.8X
                  e      13 28.00
DOU     147.55 356 iPKP  13 26.30    4.0X
CDF     148.94 352 iPKPc 13 29.80    5.2X
         0.4s    10.30nm
KBA     148.98 343 iPKPc 13 29.00    4.1X
         0.5s     9.40nm
FLN     149.00   2 iPKPc 13 29.80    5.2X
         0.8s    21.50nm
LDF     149.17   1 iPKPc 13 30.00    5.1X
         0.6s    16.25nm
GRR     149.36   2 iPKPc 13 30.80    5.7X
         0.6s    19.85nm
HAU     149.46 353 iPKPc 13 31.00    5.6X
         0.5s    10.20nm
BSF     149.57 352 iPKPc 13 31.10    5.5X
         0.8s    10.75nm
LPF     149.71   3 iPKPc 13 31.60    6.0X
         0.6s    39.70nm
OGA     149.75 346 iPKPd 13 32.40    6.3X
         0.8s    27.00nm
VOY     149.78 342 ePKP  13 31.00    5.0X
VBY     149.83 340 i(PKP)13 32.30    6.4X
SKO     150.15 328 iPKP  13 32.30    5.8X
                  i      13 42.00
LOR     150.42 356 iPKPc 13 33.40    6.6X
         0.6s    17.60nm
SSF     150.65 356 iPKPc 13 34.00    6.9X
         0.8s    26.85nm
LBF     150.69 356 iPKPc 13 33.90    6.6X
         0.6s     9.90nm
AVF     150.93 357 iPKPc 13 34.10    6.6X
         0.5s     4.00nm
SMF     151.04 356 iPKPc 13 34.60    6.8X
         0.6s     5.85nm
OHR     151.11 328 ePKP  13 34.50    6.4X
MFF     151.17   2 iPKPc 13 35.10    7.2X
         0.6s    18.05nm
BGF     151.18 357 ePKP  13 35.10    7.1X
         0.8s    24.20nm
TCF     151.48 358 iPKPc 13 35.60    7.2X
         0.7s     9.90nm
MAF     151.53 358 ePKP  13 36.20    7.7X
         0.8s     9.40nm
BCAO    158.33 235 iPKPd 13 39.00    0.7
         0.8s     6.00nm
      S.D. = 0.8  on  61 of  92 obs.
-----------------------------------------
?  NOV  16, 1989  08h 58m 39.07± 7.76s
   41.836 N ±51.0km   19.135 E ±12.8km
   DEPTH =   5.0km  (geophysicist)
 ALBANIA                            (391)
      ML 2.7 (TTG).

ULC      0.15  34 iPgc  58 42.00   -0.3
                  eSg   58 44.00
BDV      0.50 333 ePg   58 48.50   -0.6
                  eSg   58 55.50
TTG      0.60   9 ePg   58 50.70   -0.4
                  eSg   58 58.50
HCY      0.77 322 ePg   58 53.50   -1.1
                  eSg   59 05.00
BRY      1.15 338 ePg   59 02.50    1.4
                  eSg   59 18.00
      S.D. = 1.3  on   5 of   5 obs.
-----------------------------------------
?  NOV  16, 1989  09h 18m 25.29± 1.73s
    5.938 S ±33.0km  122.724 E ±18.8km
   DEPTH =  33.0km  (normol)
   4.3mb (  3 obs.)
 SULAWESI                           (268)

MKS      3.32 282 ePc   19 16.00   -0.1
                  iS    20 05.00
MTN     10.76 130 eP    21 00.00   -0.3
WB5     17.89 142 eP    22 32.80   -0.6
WRA     17.93 142 P     22 34.00    0.2
         0.8s     8.70nm          3.9mb
WARB    20.48 170 iPd   23 03.20    0.1
ASPA    20.65 150 eP    23 05.20    0.3
         0.9s    17.00nm          4.4mb
QIS     21.90 133 eP    23 18.00    0.5
GBA     48.97 294 Pc    27 17.70    6.8X
         0.8s     3.70nm          4.5mb
      S.D. = 0.5  on   7 of   8 obs.
-----------------------------------------
&  NOV  16, 1989  09h 24m 52.00s
   46.570 N            76.590 W
   DEPTH =  18.0km  (geophysicist)
```

16d 09h

SOUTHERN QUEBEC (447)
<OTT-P>. mbLg 4.0 (OTT). Felt in western Quebec and the Ottawa Valley.

PTN	2.29	150	eP	25 29.10	-0.5
RSNY	2.49	144	eP	25 32.50	0.2
HBVT	3.32	130	eP	25 42.80	-1.3
DHN	3.91	198	eP	25 50.80	-1.8
BNH	4.24	116	eP	25 54.60	-2.5
LDN	4.81	224	P	26 04.40	-0.9
DLA	5.14	226	P	26 01.50	-8.3
MIM	5.43	101	eP	26 11.20	-2.9
TBR	5.69	162	eP	26 16.00	-1.7
CBM	5.83	83	eP	26 17.20	-2.4
PNJ	5.93	162	Pn	26 12.80	-8.2
			P*	26 30.30	
			Sn	27 23.90	
			Lg	27 54.90	
SCH	10.33	33	eP	27 16.30	-5.9
RSON	12.09	297	e(P)	27 48.00	1.9

13 abs. associated

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* NOV 16, 1989 09h 44m 44.94± 0.99s
38.758 N ± 7.7km 27.421 E ±19.7km
DEPTH = 33.0km (normal)
TURKEY (366)

IZM	0.38	199	iPg	44 54.20	0.4
			iSg	45 01.70	
DST	1.26	48	iPg	45 07.00	0.6
			eSg	45 21.00	
CIN	1.27	155	ePg	45 06.00	-0.4
			iSg	45 18.00	
EDC	1.62	12	ePn	45 12.00	0.4
BNT	1.64	13	ePn	45 11.00	-0.9
YLV	2.35	39	ePn	45 24.00	1.9X

S.D. = 0.9 on 5 of 6 abs.

% NOV 16, 1989 10h 05m 27.85± 1.50s
40.315 N ± 8.4km 29.451 E ±11.8km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

YLV	0.26	347	iPg	05 33.20	-0.2
			iSg	05 37.20	
HRT	0.53	18	ePg	05 38.60	0.0
DST	0.95	222	iPn	05 46.10	0.1
CTT	1.14	317	ePn	05 49.60	0.5
BNT	1.17	273	iPn	05 49.70	0.0
EDC	1.21	272	ePn	05 50.10	-0.3

S.D. = 0.4 on 6 of 6 obs.

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* NOV 16, 1989 10h 09m 50.83± 3.40s
31.432 S ±15.0km 68.600 W ±16.4km
DEPTH = 81.3 ± 32.0 km
SAN JUAN PROVINCE, ARGENTINA (137)

ZON	0.13	211	iPd	10 03.00	0.0
			eS	10 15.00	
RTLL	0.15	48	iPc	10 03.00	-0.1
RTCB	0.18	252	e(P)	10 03.30	0.1
CFA	0.35	120	iPd	10 04.00	0.2
			S	10 14.00	
RTCV	0.43	173	iPc	10 04.20	-0.2
			S	10 15.80	
RTBS	0.76	252	iPd	10 07.50	0.1
			S	10 21.00	
RTRS	1.46	329	iPc	10 16.00	0.0
			S	10 36.90	

S.D. = 0.2 on 7 of 7 abs.

? NOV 16, 1989 10h 33m 40.13± 2.74s
10.326 S ±43.5km 124.748 E ±15.1km
DEPTH = 107.4 ± 52.4 km
TIMOR (289)

KUG	1.15	278	eP	34 03.00	0.0
			eS	34 18.50	
KNA	6.66	144	eP	35 17.00	0.0
	0.3s		7.00nm		4.6mb X
			eS	36 27 60	
MTN	6.74	112	iPc	35 18.30	0.3
			e	35 26.00	
			eS	36 32.00	
MBL	11.76	203	eP	36 22.10	-3.6X
			eS	38 26.00	
WB5	13.28	137	eP	36 45.20	-0.4
			eSn	39 03.00	
WARB	15.87	174	eP	37 19.00	0.2
			eS	40 06.00	

S.D. = 0.5 on 5 of 6 obs.

% NOV 16, 1989 10h 56m 09.59± 0.64s
44.578 N ± 4.8km 10.588 E ± 8.2km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)

MME	0.39	168	P	56 18.10	0.4
BDI	0.52	179	P	56 19.60	-0.5
			eSg	56 27.80	
BOB	0.84	284	P	56 26.00	0.2
			eSg	56 39.50	
PII	0.86	183	P	56 25.70	-0.4
			eSg	56 37.50	
SAL	1.03	358	P	56 29.50	0.5
			eSg	56 46.00	
PGD	1.08	130	P	56 30.50	0.6
CTI	1.65	27	P	56 38.00	-0.8
			eSg	56 59.00	

S.D. = 0.7 on 7 of 7 abs.

? NOV 16, 1989 12h 35m 40.63± 0.87s
44.250 N ± 9.6km 7.415 E ± 7.4km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.7 (GEN).

ENR	0.02	170	P	35 42.55	-0.1
			S	35 44.34	
STV	0.07	265	P	35 43.12	0.1
			S	35 44.92	
ROB	0.33	82	P	35 47.54	0.0
			S	35 51.64	
PZZ	0.34	319	P	35 47.64	-0.1
			S	35 51.38	

S.D. = 0.2 on 4 of 4 abs

% NOV 16, 1989 12h 37m 36.08± 1.68s
39.571 N ±10.4km 26.397 E ±16.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EZN	0.26	348	iPg	37 41.30	-0.3
			eSg	37 46.00	
IZM	1.35	150	iPn	38 01.30	0.3
EDC	1.37	55	ePn	38 02.10	0.9
BNT	1.41	56	iPn	38 02.10	0.3
DST	1.72	88	ePn	38 05.00	-1.3
CTT	2.21	44	ePn	38 18.60	5.2X
YLV	2.49	66	iPn	38 23.10	5.7X
HRT	2.80	62	ePg	39 08.00	46.2X

S.D. = 1.2 on 5 of 8 obs.

NOV 16, 1989 13h 38m 09.82± 0.78s
41.968 N ± 6.5km 23.076 E ± 7.3km
DEPTH = 10.0km (geophysicist)
GREECE-BULGARIA BORDER REGION (363)
ML 2.9 (SKO).

KKB	0.10	177	iPgc	38 13.00	0.4
MM8	0.62	128	iPgc	38 22.00	-0.3
VTS	0.63	9	iPg	38 22.00	-0.6
VAY	0.75	211	iPgd	38 24.40	-0.1
			iSg	38 34.20	
SRS	0.93	155	iPc	38 26.90	-0.8
			eS	38 39.10	
SKO	1.22	271	ePn	38 33.00	0.5
			eSn	38 49.00	
THE	1.34	184	eP	38 35.10	0.7
			eS	38 52.30	
PLG	1.62	170	ePb	38 37.00	-1.5
RDO	2.02	113	ePn	38 46.00	1.7
			eSn	39 12.90	

S.D. = 1 1 on 9 of 9 obs.

NOV 16, 1989 14h 27m 59.74± 0.71s
37.856 N ± 8.5km 21.302 E ± 7.9km
DEPTH = 10.0km (geophysicist)
SOUTHERN GREECE (368)
ML 3.3 (ATH)

VLS	0.65	300	ePb	28 12.40	-0.3
ITM	0.84	143	ePb	28 14.60	-1.3
VLI	1.73	131	ePg	28 31.40	1.4
ATH	1.91	86	ePn	28 32.80	0.1
KEK	2.20	328	ePn	28 36.70	-0.1
KZN	2.47	8	ePn	28 41.40	0.6
VAY	3.60	15	ePn	28 55.70	-1.0
SKO	4.11	1	ePn	29 00.10	-3.9X
CZI	4.27	290	P	29 06.80	0.5
CSI	4.36	298	P	29 09.80	2.2X

S.D. = 1.0 on 8 of 10 abs.

? NOV 16, 1989 14h 33m 35.81± 6.20s
39.819 N ±20.6km 25.332 E ±49.0km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

EZN	0.76	89	iPg	33 50.70	0.0
EDC	2.01	74	ePn	34 10.00	-0.2
BNT	2.06	74	ePn	34 11.00	0.2
IZM	2.07	133	ePn	34 11.00	0.0
DST	2.55	94	ePn	34 18.00	0.0
YLV	3.18	75	ePn	34 30.00	3.0X

S.D. = 0.2 on 5 of 6 abs.

NOV 16, 1989 15h 33m 16.33± 0.56s
61.401 N ± 5.6km 150.474 W ± 4.1km
DEPTH = 66.9 ± 11.3 km
SOUTHERN ALASKA (2)

PWA	0.38	48	iPd	33 27.80	-0.1
PMS	0.47	109	iPc	33 29.20	0.4
PMR	0.67	73	iPc	33 30.70	-0.2
SPU	0.79	255	iP	33 32.00	-0.4
			eS	33 44.40	
SLKM	0.90	172	iP	33 34.00	0.2
			eS	33 47.20	
RDT	1.26	229	iP	33 38.40	0.0
			eS	33 56.40	
TOA	2.16	69	iPc	33 51.50	0.6
HIN	2.19	116	eP	33 50.59	-0.5
			eS	34 21.52	
KLU	2.19	86	iP	33 48.80	-2.4X
CVA	2.46	108	eP	33 54.31	-0.5
SVW	2.51	266	eP	33 56.20	0.6
SGAM	2.72	107	eP	33 57.14	-1.5X
			eS	34 32.28	
RAGM	3.01	107	eP	34 01.25	-1.4X
			eS	34 42.15	
TTA	3.02	303	ePc	34 02.80	0.0
FBA	3.72	18	eP	34 13.30	0.8
KDC	3.81	197	eP	34 17.50	3.8X
WAX	3.84	101	eP	34 12.42	-1.9X
SNH	3.94	105	eP	34 15.68	0.0
IMA	4.90	345	eP	34 28.20	-1.0

S.D. = 0.6 on 14 of 19 abs.

? NOV 16, 1989 16h 07m 48.55± 5.20s
11.519 N ± 9.7km 62.069 W ±78 8km
DEPTH = 33.0km (normal)
WINDWARD ISLANDS (95)
MD 2.6 (TRN).

GRW	0.75	32	eP	08 02.77	0.0
			eS	08 13.44	
TCE	0.87	159	eP	08 04.22	-0.2
			eS	08 15.15	
TRN	1.08	143	eP	08 07.29	-0.2
			eS	08 19.66	
TPP	1.34	153	eP	08 11.44	0.4
			eS	08 26.24	

S.D. = 0.5 on 4 of 4 abs.

NOV 16, 1989 16h 21m 18.81± 0.86s
49.156 N ± 5.1km 8.501 E ± 8.9km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
ML 2.8 (LDG).

KTD	0.32	301	eP	21 25.42	0.0
TOD	0.49	24	ePc	21 28.85	0.1
ABH	0.96	320	eP	21 37.02	0.0
CDF	1.10	228	Pn	21 40.00	0.5
			Pg	21 41.40	
			Sg	21 55.60	
FEL	1.32	194	ePc	21 43.20	-0.1
BSF	1.75	221	Pn	21 49.50	0.1
			Pg	21 52.40	
			Sg	22 16.00	

```
HAU      1.84 232 Pn     21 50.20  -0.4
                  Sg     22 18.40
LOR      3.63 240 Pg     22 28.20  11.9X
                  Sg     23 13.00
      S.D. = 0.3  on   7 of   8 obs.
-----------------------------------
?  NOV  16, 1989  16h 48m 01.92± 1.11s
   33.937 S ±36.4km  179.053 W ±21.9km
   DEPTH =  33.0km  (normal)
   4.7mb (  1 obs.)
 SOUTH OF KERMADEC ISLANDS        (179)

DZM     17.40 309 iPc    52 03.90   0.0
WRA     43.47 276 Pc     56 03.60  -0.2
        0.4s      5.90nm          4.7mb
WB5     43.48 277 iPd    56 04.10   0.2
SUF    147.12 339 iPKP   07 35.70  -4.3X
        0.6s      8.00nm
NUR    149.27 337 iPKP   07 42.20  -1.2
        0.8s     13.20nm
NB2    152.08 349 PKP    07 48.40   0.7
        1.0s      6.00nm
HFS    152.49 346 ePKP   07 48.80   0.5
        0.7s      2.40nm
      S.D. = 0.9  on   6 of   7 obs.
-----------------------------------
*  NOV  16, 1989  16h 56m 49.73± 1.25s
   45.822 N ± 8.4km   26.728 E ± 9.1km
   DEPTH =  97.2 ± 15.8 km
 ROMANIA                          (358)

VRI      0.05 358 iPc    57 02.00  -0.8
MLR      0.64 239 iPc    57 06.50  -0.3
ISR      0.70 191 ePc    57 08.00   0.8
PPE      0.73  57 ePc    57 10.00   2.6X
BIR      0.77  54 iP     57 21.00  13.2X
CLI      0.82  28 iPc    57 09.00   0.6
PTT      1.14 348 eP     57 11.50  -0.3
CFR      1.19 122 iPc    57 12.00  -0.3
CMP      1.31 246 ePc    57 17.00   3.1X
TLB      1.54 143 iPd    57 17.50   0.8
BZS      3.59 269 ePc    57 44.50   0.3
CTT      4.83 165 ePn    58 00.60  -0.8
      S.D. = 0.8  on   9 of  12 obs.
-----------------------------------
&  NOV  16, 1989  17h 10m 14.20s
   36.930 N          121.760 W
   DEPTH =  10.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).

GCC      0.21 298 ePc    10 18.30  -0.5
                  iS     10 22.80
MHC      0.42  13 iPd    10 22.70  -0.1
                  iS     10 27.10
LLA      0.73 115 iPd    10 27.60  -0.9
PCC      0.75 319 ePd    10 27.90  -1.0
                  eS     10 37.80
BKS      1.02 338 iPbc   10 32.70  -0.7
                  iS     10 48.10
BRK      1.02 337 ePc    10 32.60  -0.9
ZSP      1.09 339 ePc    10 33.30  -1.3
PRI      1.18 131 eP     10 35.50  -0.8
BCH      2.21 142 eP     10 49.00  -2.5
KVN      3.58  53 e(P)   11 09.00  -2.1
        10 obs. associated
-----------------------------------
&  NOV  16, 1989  20h 08m 05.90s
   59.467 N          151.842 W
   DEPTH =  50.5km
 KENAI PENINSULA, ALASKA           ( 14)
      <AGS-P>. ML 3.2 (PMR).

XLV      0.06 101 iP     08 13.05   0.9
                  eS     08 19.23
CNPM     0.31  79 iP     08 14.82  -0.5
BRLK     0.57  58 eP     08 17.52  -0.6
                  eS     08 27.05
NNL      0.64  25 eP     08 19.45   0.4
OPT      0.73 285 eP     08 19.84  -0.4
                  eS     08 31.02
AUE      0.79 263 eP     08 20.59  -0.4
                  eS     08 32.44
ILIM     0.84 318 iP     08 20.83  -0.8
CDD      1.07 241 eP     08 23.99  -0.9
                  eS     08 38.47
NKA      1.32  13 eP     08 30.26   2.1
SLKM     1.32  37 eP     08 28.16  -0.2
SEW      1.37  61 eP     08 28.23  -0.7
SPU      1.72 357 eP     08 33.69  -0.3
KDC      1.76 191 eP     08 32.70  -1.7
SUA      2.08  15 eP     08 39.50   0.4
PMS      2.11  31 eP     08 39.49   0.0
SVW      2.50 313 eP     08 43.80  -1.2
PMR      2.52  31 eP     08 45.00  -0.2
SKT      2.53   3 eP     08 45.50   0.2
GHO      2.72  31 eP     08 47.59  -0.6
GLI      2.76  57 eP     08 46.22  -2.5
FID      2.98  62 eP     08 48.85  -2.9
VZW      3.08  57 eP     08 50.99  -2.3
TOA      3.84  44 eP     09 04.10   0.1
TTA      4.02 332 eP     09 05.50  -1.0
        24 obs. associated
-----------------------------------
*  NOV  16, 1989  20h 40m 33.59± 0.77s
   45.532 N ± 7.9km   27.072 E ± 8.9km
   DEPTH =  33.0km  (normal)
 ROMANIA                          (358)

VRI      0.42 324 iPc    40 43.00   0.0
ISR      0.54 224 ePd    40 45.00   0.1
PPE      0.78  29 ePd    40 48.00  -0.2
MLR      0.79 267 iPc    40 44.50  -4.0X
CFR      0.84 114 iPc    40 49.50   0.6
TLB      1.16 144 iPd    40 53.00  -0.6
      S.D. = 0.6  on   5 of   6 obs.
-----------------------------------
?  NOV  16, 1989  20h 44m 19.46± 3.68s
   12.069 S ±22.9km  166.645 E ±38.2km
   DEPTH = 115.2 ± 17.9 km
   4.9mb (  4 obs.)
 SANTA CRUZ ISLANDS               (184)

HNR      7.08 291 eP     46 03.00   0.9
                  eS     47 18.00
SVO      7.31 293 eP     46 05.00  -0.2
                  eS     47 25.00
DZM      9.95 181 iPc    46 40.00  -0.9
PMG     19.33 276 eP     48 37.00  -1.4
CTA     21.14 245 iPc    48 57.00   0.2
        1.0s     60.00nm          4.9mb
RMO     22.11 227 iPc    49 08.20   1.8
        0.9s    135.00nm          5.3mb
COO     22.93 214 eP     49 17.00   2.6
CMS     27.24 222 eP     49 54.00  -0.6
BWA     27.76 214 eP     49 58.00  -1.3
CAN     28.13 212 eP     50 02.90   0.2
WB5     31.94 252 eP     50 35.00  -1.5
WRA     31.98 252 Pd     50 35.60  -1.2
        1.1s     16.50nm          4.7mb
WARB    40.14 244 iPc    51 46.00   0.2
MBL     45.62 252 iPc    52 30.40   0.2
        0.5s     12.00nm          4.9mb
CHG     73.44 294 eP     55 42.20   0.8
BCAO   147.57 259 iPKPc  03 52.90   3.0X
        0.3s     43.00nm
                  i      04 20.50
      S.D. = 1.4  on  15 of  16 obs.
-----------------------------------
&  NOV  16, 1989  20h 50m 34.30s
   36.447 N          121.058 W
   DEPTH =   7.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.6 (BRK).

LLA      0.19  29 iPd    50 38.20  -0.2
PRS      0.28 246 iPc    50 39.80  -0.2
PRI      0.44 134 ePd    50 43.30   0.1
SAO      0.44 316 iPc    50 42.40  -0.9
PHAM     0.81 139 eP     50 49.70  -0.6
PKEM     0.86 116 eP     50 51.60   0.5
GCC      0.95 308 eP     50 51.60  -1.1
MHC      1.01 333 ePc    50 54.00   0.2
FRI      1.21  63 eP     50 55.40  -1.7
                  eS     51 09.50
BCH      1.49 148 eP     50 59.60  -2.0
PCC      1.49 315 ePc    51 00.10  -1.4
KVN      3.50  41 eP     51 23.50  -6.9
        12 obs. associated
-----------------------------------
&  NOV  16, 1989  21h 22m 08.27s
   59.883 N          153.068 W
   DEPTH = 111.7km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>.

ILIM     0.21  15 eP     22 23.44   0.8
                  eS     22 35.70
OPT      0.25 200 eP     22 23.75   1.0
                  Sn     22 36.03
AUE      0.55 197 eP     22 25.05  -0.8
AUW      0.55 202 eP     22 24.82  -1.1
                  eS     22 36.51
RED      0.56  15 eP     22 25.22  -0.8
                  Sn     22 39.12
RDT      0.77  25 iP     22 27.07  -0.7
                  eS     22 41.07
XLV      0.81 122 eP     22 27.16  -0.8
                  Sn     22 43.55
NNL      0.91  79 eP     22 29.35   0.4
                  eS     22 43.61
CNPM     1.00 110 eP     22 29.17  -0.7
                  eS     22 45.72
CDD      1.00 197 eP     22 28.76  -1.2
                  Sn     22 45.72
BRLK     1.11  95 eP     22 30.45  -0.6
                  Sn     22 47.81
NKA      1.25  46 eP     22 33.66   1.0
                  eS     22 51.22
SPU      1.40  21 eP     22 33.49  -0.9
                  eS     22 54.22
SLKM     1.55  65 eP     22 35.19  -1.1
SVW      1.76 315 iPd    22 37.00  -1.9
SEW      1.83  81 eP     22 38.57  -1.1
SUA      1.96  35 eP     22 40.62  -0.7
                  Sn     23 05.36
KDC      2.16 172 ePd    22 41.30  -2.6
PMS      2.21  50 eP     22 43.30  -1.2
SKT      2.23  19 eP     22 43.62  -1.3
PWA      2.37  40 eP     22 45.23  -1.3
PLRM     2.58  47 eP     22 47.01  -2.4
PMR      2.58  47 eP     22 47.00  -2.4
MTU      2.73  85 eP     22 50.18  -1.2
GHO      2.78  45 eP     22 49.76  -2.4
CUT      2.87  27 eP     22 51.75  -1.5
GLI      3.13  69 eP     22 54.54  -2.2
TTA      3.37 336 ePd    22 57.70  -2.4
FID      3.39  72 eP     22 56.85  -3.5
HUR      3.52  26 eP     23 00.84  -1.2
VLZ      3.56  66 eP     22 59.90  -2.6
KTH      3.82  15 eP     23 03.93  -2.3
KLU      3.87  62 eP     23 04.16  -2.7
TOA      4.03  53 eP     23 07.10  -2.0
MCK      4.33  25 eP     23 11.22  -1.9
SDG      4.50  51 eP     23 14.46  -1.0
GLB      4.81  67 eP     23 17.04  -2.7
WRH      5.16  25 eP     23 21.48  -3.0
TGL      5.16  76 eP     23 22.75  -1.9
DDM      5.19  38 eP     23 24.05  -0.9
HDA      5.37  30 eP     23 24.45  -2.8
CCB      5.37  25 eP     23 24.29  -3.1
BALM     5.43  73 eP     23 26.21  -2.1
FBA      5.60  24 eP     23 27.50  -3.0
DOT      5.70  45 eP     23 29.52  -2.4
GLM      5.76  25 eP     23 29.63  -3.1
IMA      6.22 358 eP     23 37.20  -1.9
HYT      7.78  76 P      23 58.10  -2.3
INK     11.95  37 eP     24 54.00  -1.9
        49 obs. associated
-----------------------------------
   NOV  16, 1989  22h 30m 39.98± 0.56s
   38.858 N ± 6.3km   24.866 E ± 6.5km
   DEPTH =  33.0km  (normal)
 AEGEAN SEA                       (365)
      ML 3.1 (ATH).

PRK      1.16  70 ePn    31 00.40   0.5
ATH      1.26 226 ePn    31 02.00   0.6
NEO      1.35 290 ePb    31 07.10   4.3X
EZN      1.49  49 ePn    31 03.70  -0.9
APE      1.86 163 ePn    31 09.80  -0.4
PLG      1.87 325 ePn    31 11.00   0.7
IZM      1.93 103 ePn    31 12.00   0.8
RDO      2.34  12 ePn    31 16.20  -0.7
VLI      2.63 216 ePn    31 20.20  -0.8
EDC      2.75  56 ePn    31 24.00   1.3
BNT      2.79  57 ePn    31 23.00  -0.3
DST      3.02  74 ePn    31 29.00   2.4X
CTT      3.57  49 ePn    31 28.00  -6.3X
YLV      3.87  62 ePn    31 38.00  -0.7
      S.D. = 0.9  on  11 of  14 obs.
```

NOV 16, 1989 23h 06m 40.42± 0.67s
32.816 S ± 8.4km 69.910 W ± 9.7km
DEPTH = 131.2 ± 9.1 km
MENDOZA PROVINCE, ARGENTINA (139)

JACH	0.59	283	iP	06 59.50	-1.0
			iS	07 14.00	
FCH	0.60	212	iP	07 01.00	0.1
PEL	0.73	243	iPc	07 01.00	-0.5
SAN	0.90	225	iPc	07 02.90	0.1
			iS	07 19.20	
ROCH	0.94	260	iPc	07 03.00	-0.4
PCH	0.95	212	iPc	07 03.70	0.3
TACH	1.20	226	iP	07 05.90	0.2
			iS	07 23.50	
RTBS	1.21	19	e(P)	07 06.80	1.0
CHCH	1.28	209	iPd	07 07.40	0.9
			iS	07 27.40	
RTCV	1.50	51	iP	07 09.00	0.0
LCCH	1.54	244	iPc	07 09.30	-0.1
			iS	07 28.50	
RTCB	1.63	36	iPd	07 10.50	0.0
ZON	1.64	40	iPd	07 10.20	-0.4
			eS	07 30.00	
LNV	1.69	227	iPd	07 11.00	-0.1
			iS	07 33.00	
CFA	1.86	50	iPc	07 13.00	-0.2
			S	07 33.00	
RTLL	1.92	40	iPc	07 13.50	-0.5
RTRS	2.67	8	iPd	07 24.30	1.0
PPD	19.67	62	e(P)	11 01.00	-0.3

S.D. = 0.6 on 18 of 18 obs.

? NOV 16, 1989 23h 07m 47.54± 0.67s
10.276 N ±19.4km 126.483 E ±27.6km
DEPTH = 33.0km (normal)
4.6mb (3 obs.)
PHILIPPINE ISLANDS REGION (248)

GBA	48.04	279	P	16 26.00	0.0
BWA	49.09	156	eP	16 33.40	-0.5
CAN	50.10	156	eP	16 42.10	0.5
SUF	85.64	333	eP	20 24.30	0.4
	0.6s	3.30nm		4.7mb	
NUR	86.89	331	eP	20 30.70	0.6
HFS	92.14	332	eP	20 54.20	-0.6
	0.5s	1.40nm		4.6mb	
NB2	92.85	334	P	20 57.60	-0.5
	0.6s	0.90nm		4.4mb	

S.D. = 0.6 on 7 of 7 obs.

NOV 17, 1989 00h 18m 49.71± 0.37s
43.362 N ± 4.4km 12.378 E ± 4.0km
DEPTH = 28.9 ± 4.6 km
CENTRAL ITALY (381)
MD 2.7 (SSO).

ASS	0.36	145	P	18 58.30	0.3
			eSg	19 03.30	
CRE	0.41	311	P	19 00.00	1.2
			eSg	19 07.60	
ARV	0.43	71	Pd	18 59.30	0.2
			eSg	19 06.50	
CIO	0.58	106	iPg	19 01.64	0.1
			iSg	19 10.64	
SFI	0.68	326	P	19 03.90	1.0
PGD	0.70	317	P	19 04.10	0.6
			eSg	19 15.00	
AOI	0.91	78	ePg	19 07.33	0.8
			eSg	19 20.49	
MNS	1.00	167	P	19 07.30	-0.5
ALP	1.05	123	ePg	19 09.74	1.1
			iSg	19 26.90	
AQU	1.26	143	P	19 12.10	0.6
PII	1.40	286	P	19 13.80	0.4
BDI	1.47	299	P	19 14.40	-0.1
			eSg	19 32.40	
MME	1.47	305	P	19 14.50	-0.3
SDI	1.97	147	P	19 21.40	-0.4
RIY	2.45	35	i(Pn)	19 34.20	5.7X
			iSn	19 56.80	
BOB	2.54	305	P	19 29.60	-0.3
TRI	2.55	22	iPd	19 29.30	-0.6
			i	20 00.80	
			i	20 16.40	
CTI	2.73	349	P	19 32.80	0.1
			eSn	20 02.70	
HVAR	2.98	92	iPn	19 35.70	-0.4
			iSn	20 09.30	
FVI	3.24	5	P	19 38.80	-1.0

S.D. = 0.7 on 19 of 20 obs.

NOV 17, 1989 00h 26m 41.63± 0.73s
38.998 N ± 6.6km 28.049 E ± 8.5km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.76	36	iPg	26 55.40	-1.0
IZM	0.86	226	iPg	26 57.10	-1.1
			iSg	27 10.60	
KHL	1.34	120	iPn	27 07.40	1.1
EDC	1.36	354	iPn	27 06.30	-0.2
BNT	1.36	356	iPn	27 06.50	-0.1
CIN	1.40	179	eP	27 07.00	-0.1
EZN	1.57	302	ePn	27 11.00	1.4
CTT	2.17	8	ePn	27 21.00	2.8X
ISK	2.21	20	ePn	27 22.00	3.2X
HRT	2.21	34	ePn	27 21.90	3.0X

S.D. = 1.2 on 7 of 10 obs.

NOV 17, 1989 00h 54m 17.03± 0.26s
47.468 N ± 2.5km 11.880 E ± 2.6km
DEPTH = 11.5 ± 1.9 km
AUSTRIA (546)
ML 4.5 (FUR), 4.3 (VKA), 4.1 (GRF), 3.9 (LDG). Felt (V) at Woergl and Rottenberg.

FUR	0.81	330	iPgd	54 33.90	1.3
			iSg	54 46.60	
OGA	0.84	224	iPgd	54 32.00	-1.2
FVI	1.07	145	P	54 35.50	-1.5
KBA	1.07	111	ePgc	54 35.50	-1.7
			i	54 38.00	
			iSg	54 49.70	
OSS	1.42	237	ePd	54 42.60	-0.3
CTI	1.43	186	P	54 42.50	-0.4
			eSn	55 01.50	
GRC1	1.55	351	iPnd	54 45.80	1.3
			iPg	54 47.60	
			iSn	55 06.90	
			iSg	55 09.50	
KMR	1.63	68	iPg-	54 48.00	2.3
			iSg	55 10.70	
SAX	1.74	264	ePc	54 49.80	2.3
WET	1.81	21	iPnd	54 49.00	0.7
VDL	1.92	240	ePd	54 52.00	1.9
KHC	2.01	34	iPn	54 51.90	0.6
			iPg	54 55.50	
			Sn	55 18.60	
			Sg	55 22.50	
LLS	2.06	254	ePd	54 53.90	1.8
SAL	2.08	207	P	54 54.00	1.8
			eSn	55 21.40	
TRI	2.19	143	iPnd	54 54.70	1.0
			iPg	54 57.30	
			iSn	55 23.50	
STU	2.22	307	ePnd	54 55.00	0.7
	0.4s	33.90nm			
			ePg	55 02.90	
			e(Sg)	55 30.10	
SLE	2.31	279	ePd	54 56.30	0.7
LJU	2.31	127	ePn	54 56.90	1.3
			i	55 00.00	
			iSn	55 29.00	
ZLA	2.37	272	ePd	54 57.90	1.5
TMA	2.48	238	ePd	55 00.30	2.3
FEL	2.65	280	Pn	55 01.24	0.8
			Pg	55 09.18	
			Sg	55 43.48	
VAI	2.67	234	P	55 02.10	1.4
			eSn	55 35.50	
RIY	2.74	140	iPn	55 02.30	0.7
			i(Sn)	55 34.40	
HOF	2.85	360	ePn	55 02.90	-0.3
			iPg	55 12.50	
BBS	2.97	272	Pn	55 05.52	0.7
			Sg	55 54.24	
MMK	3.04	244	ePd	55 06.60	0.5
PRU	3.08	34	Pn	55 07.00	0.7
	N 10s		0.20um		
	E 10s		0.30um		
			Pg	55 14.20	
			eSg	55 55.00	
VKA	3.09	73	iPnc	55 07.90	1.3
			iPg	55 16.90	
			i	55 35.10	
			iSn	55 44.80	
			iSg	55 55.90	
SOP	3.17	84	ePn	55 14.90	7.2X
MOX	3.19	357	iPn	55 07.00	-0.9
			eSg	24 47 00	
WLS	3.19	289	Pn	55 08.70	0.7
			Pg	55 19.29	
			Sg	56 01.33	
BOB	3.19	213	P	55 09.70	1.7
			eSn	55 44.80	
PTJ	3.22	118	ePn	55 09.00	0.6
			eSn	55 43.60	
GWF	3.22	300	Pn	55 09.85	1.4
			Pg	55 19.91	
			Sg	56 02.28	
MOF	3.23	279	Pn	55 09.37	0.7
			Sg	56 01.76	
CDF	3.24	289	Pn	55 09.48	0.7
			Pg	55 21 13	
			Sg	56 01.08	
ORX	3.26	237	P	55 07.52	-1 6
			S	55 35.77	
ORO	3.26	237	P	55 08.30	-0.8
ECH	3.27	285	Pn	55 09.95	0.8
			Sg	56 02.06	
ZAG	3.27	119	ePb	55 15.00	5.8X
			i(Sg)	55 59.00	
DIX	3.37	247	ePd	55 12.60	1.8
MME	3.38	195	P	55 12.30	1.4
LOMF	3.43	270	Pn	55 12.01	0.5
			Sg	56 09.08	
BSF	3.46	278	Pn	55 12.61	0.7
			Sg	56 08.29	
BDI	3.52	195	P	55 14.20	1.4
			eSn	55 58.30	
SFI	3.55	180	P	55 11.80	-1.2
			(Sn)	55 54.40	
TNS	3.57	322	iP	55 14.30	0.9
			e	55 53.50	
			e	56 17.00	
ZST	3.59	76	ePn	55 18.00	4.3X
			i	55 23.40	
			i	55 28.80	
			i	55 33.40	
			i	56 08.50	
			i(Sg)	56 11.00	
PGD	3.60	182	P	55 14.60	0.7
			eSn	55 59.00	
BRG	3.67	21	ePn	55 14.00	-0.8
			e	55 20.00	
EMS	3.68	249	ePd	55 16.10	1.0
FIR	3.72	187	ePn	55 18.00	2.5
			iSn	56 04.00	
			iSg	56 20.00	
PCP	3.74	220	P	55 17.29	1.4
			S	55 50.73	
ABH	3.75	312	ePn	55 16.89	0.9
HAU	3.77	280	Pn	55 16.90	0.6
			Sg	56 17.20	
LSD	3.83	240	P	55 18.21	0.8
			S	55 52.57	
CRE	3.84	179	P	55 18.30	0.9
PII	3.87	195	P	55 16.60	-1.0
RUP	3.90	307	ePn	55 19.27	1.1
CLL	3.91	10	iPn	55 17.40	-0.9
	1.2s	210.00nm			
			iPg	55 33.20	
			iSg	56 23.90	
CKI	3.95	221	P	55 20.70	2.0
RSP	3.95	236	P	55 17.39	-1.5
			S	55 51.28	
ARV	4.04	169	P	55 20.10	0.0
VITF	4.04	283	Pn	55 20.60	0.6
LPG	4.05	243	Pn	55 21.80	1.3
			Sn	56 10.00	
LPL	4.06	243	Pn	55 21.70	1.2
			Sn	56 10.40	
AOI	4.10	162	ePn	55 20.98	0.1
			iSn	56 09.09	
FIN	4.15	220	P	55 22.93	1.3
ROB	4.23	223	P	55 23.96	1 1
BNI	4.34	238	P	55 25.90	1.4
			eSn	56 18.90	

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RRL     4.36 236 P      55 24.27  -0.6
SRO     4.36  83 i(Pn)  55 42.30  17.7X
                 e      56 09.60
                 e      56 32.60
                 i      56 40.80
CIO     4.37 168 iPn    55 24.35  -0.4
                 iSg    56 14.65
DOI     4.38 229 P      55 24.30  -0.7
ASS     4.43 173 P      55 25.90   0.2
                 eSn    56 18.90
KSP     4.45  39 ePn    55 25.00  -0.8
                 i      55 27.40
PZZ     4.46 230 P      55 25.39  -0.7
ENR     4.50 225 P      55 26.32  -0.3
IMI     4.53 220 P      55 27.55   0.6
STV     4.53 226 P      55 26.52  -0.6
SAOF    4.61 223 Pn     55 29.62   1.4
                 Sn     56 24.33
AUTN    4.67 224 Pn     55 30.64   1.4
                 Sn     56 29.20
TOUF    4.74 225 Pn     55 30.90   0.7
                 Sn     56 29.10
SBF     4.76 222 Pn     55 32.20   1.8
                 Sn     56 26.80
AURF    4.80 223 Pn     55 31.79   0.9
                 Sn     56 29.84
ALP     4.84 165 ePn    55 30.63  -0.9
                 eSn    56 27.70
BUD     4.84  87 eP     55 42.90  11.4X
MVIF    4.87 225 Pn     55 31.85  -0.2
                 Sn     56 31.35
MEM     4.98 311 iP     55 34.20   0.9
                 S      56 23.30
CALN    5.11 225 Pn     55 36.29   1.0
                 Sn     56 40.97
MNS     5.11 173 P      55 34.20  -1.1
ENN     5.12 312 iPnd   55 36.20   0.9
      0.5s     8.00nm          4.6mb X
                 iPb    55 43.50
                 iSn    56 33.40
AOU     5.23 168 P      55 35.20  -1.7
CVF     5.34 205 Pn     55 38.01  -0.6
HVAR    5.36 141 iPnc   55 38.00  -0.8
                 iSn    56 39.50
FRF     5.37 225 Pn     55 40.20   1.3
                 Sn     56 41.10
LBF     5.41 268 Pn     55 38.90  -0.6
                 Sn     56 38.40
PSZ     5.43  82 ePn    55 39.20  -0.7
LOR     5.45 271 Pn     55 39.60  -0.5
                 Sn     56 38.40
DOU     5.49 301 iPd    55 41.50   0.9
                 i      55 49.30
                 S      56 40.90
                 e      57 15.70
SSB     5.53 249 Pn     55 39.65  -1.6
SMF     5.56 264 Pn     55 40.30  -1.3
                 Sn     56 42.80
LRG     5.58 226 Pn     55 42.60   0.7
                 Sn     56 46.40
WTS     5.60 326 ePn    55 50.50   8.4X
      0.6s    10.00nm          4.7mb X
                 ePb    55 57.00
                 eSn    56 43.00
                 eSb    56 58.50
LMR     5.60 224 Pn     55 42.80   0.6
                 Sn     56 35.60
SSF     5.72 269 Pn     55 43.60  -0.2
                 Sn     56 46.30
RDP     5.74 174 P      55 43.00  -1.2
SPC     5.84  70 eP     56 37.80  52 1X
AVF     5.86 266 Pn     55 44.90  -0.9
                 Sn     56 50.20
PLDF    5.87 258 Pn     55 44.54  -1.5
KRA     5.92  61 eP     56 10.90  24.2X
                 eS     57 21.30
SDI     5.92 166 P      55 45.00  -1.8
AGO     6.18 260 Pn     55 48.74  -1.5
BGF     6.25 265 Pn     55 50.00  -1.2
                 Sn     56 59.00
PYM     6.35 258 Pn     55 50.89  -1.9
LBL     6.38 253 Pn     55 51.14  -2.0
MAF     6.51 262 Pn     55 53.50  -1.5
                 Sn     57 07.00
TCF     6.73 263 Pn     55 56.60  -1.6
                 Sn     57 10.00
LSF     7.20 264 Pn     56 03.50  -1.2
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CAF     7.27 253 Pn     56 04.20  -1.5
                 Sn     57 23.00
RJF     7.49 257 Pn     56 07.10  -1.6
LPO     7.94 253 Pn     56 13.30  -1.7
LDF     8.13 282 Pn     56 16.90  -0.7
LFF     8.13 256 Pn     56 15.80  -1.9
MFF     8.26 268 Pn     56 18.00  -1.5
                 Sn     57 46.60
FLN     8.38 283 Pn     56 20.20  -0.9
GRR     8.61 281 Pn     56 23.20  -1.1
LPF     8.73 278 Pn     56 24.80  -1.1
EPF     9.27 246 Pn     56 32.00  -1.5
      S.D. = 1.2  on 121 of 129 obs.
-------------------------------------
&  NOV  17, 1989  00h 57m 00.09s
    61.700 N            149.612 W
    DEPTH =  31.9km
  SOUTHERN ALASKA                    (  2)
        <AGS-P>.

PWA     0.14 249 iP     57 06.49   0.5
PLRM    0.25 115 iP     57 06.70  -0.5
                 eS     57 12.73
PME     0.29 104 iP     57 07.07  -0.5
GHO     0.34  77 iP     57 07.58  -0.7
                 eS     57 14.57
PMS     0.46 177 iP     57 09.40  -0.6
SUA     0.59 247 iP     57 11.24  -1.0
CUT     0.77 337 iP     57 13.47  -1.1
SKT     0.95 288 iP     57 16.12  -1.1
                 eS     57 29.82
CGLM    1.21 252 iP     57 20.62  -0.4
                 eS     57 36.76
SLKM    1.23 194 eP     57 19.85  -1.4
HUR     1.28 360 iP     57 21.32  -0.6
                 eS     57 37.97
NCA     1.35  76 iP     57 21.65  -1.3
GLI     1.47 123 iP     57 22.94  -1.7
SEW     1.60 177 eP     57 25.57  -1.0
VZW     1.61 112 eP     57 25.34  -1.3
VLZ     1.68 108 iP     57 25.85  -1.7
                 eS     57 47.11
TOA     1.68  74 iP     57 27.10  -0.6
RND     1.75  11 iP     57 27.70  -1.0
KLU     1.78  95 iP     57 27.40  -1.7
                 eS     57 50.21
FID     1.79 121 eP     57 26.98  -2.3
NNL     1.86 207 eP     57 30.00  -0.2
KTH     1.96 343 eP     57 30.79  -1.0
HIN     2.00 129 eP     57 30.40  -1.9
                 eS     57 54.93
CVA     2.20 120 iP     57 35.43   0.3
                 eS     58 03.64
ILIM    2.31 227 eP     57 36.47  -0.2
PAX     2.32  55 eP     57 36.24  -0.6
CNPM    2.32 201 eP     57 35.95  -1.0
SGAM    2.45 117 eP     57 38.86   0.1
                 eS     58 11.39
RAGM    2.74 117 eP     57 43.99   1.2
                 eS     58 17.59
WAX     3.52 108 eP     57 53.70  -0.2
      30 obs. associated
-------------------------------------
*  NOV  17, 1989  00h 57m 45.91± 0.85s
    1.186 S ±13.6km  148.500 E ±14.5km
    DEPTH =  33.0km  (normol)
    4.2mb (  2 obs.)  4.0Msz (  1 obs.)
  ADMIRALTY ISLANDS REGION           (199)

CTA    18.91 187 iPc    02 07.10   0.5
       1.0s     14.00nm          4.1mb
MTN    20 75 235 eP     02 26.00  -0.5
WB5    23.16 216 eP     02 50.90   0.3
WRA    23.23 216 Pc     02 51.50   0.3
       1.0s      9.40nm          4.2mb
ASPA   26.45 211 eP     03 21.40  -0.5
     Z  20s      0.42um          4.0Msz
                 LR     14 09.00
DZM    27.13 141 iPc    03 27.60  -0.6
INK    86.66  21 eP     10 27.00  -0.2
PPD   149.89 141 e(PKP)17 31.00   0.8
      S.D. = 0.6  on   8 of   8 obs.
-------------------------------------
    NOV  17, 1989  01h 11m 10.65± 1.03s
    43.322 N ± 7.0km   12.294 E ± 8.4km
    DEPTH =  10.0km  (geophysicist)
  CENTRAL ITALY                      (381)
```

```
ASS     0.37 133 P      11 19.30   1.1
ARV     0.50  69 P      11 20.50  -0.4
                 eSg    11 27.50
CIO     0.63 101 iPg    11 22.76  -0.7
                 iSg    11 31.74
SFI     0.68 332 P      11 24.30   0.2
MNS     0.98 163 P      11 28.50  -0.8
AOI     0.98  76 e(Pg)  11 29.58   0.3
ALP     1.08 120 e(Pg)  11 31.41   0.3
                 e(Sg)  11 47.54
      S.D. = 0.8  on   7 of   7 obs.
-------------------------------------
    NOV  17, 1989  01h 22m 05.89± 0.79s
    43.388 N ± 6.6km   12.232 E ± 7.8km
    DEPTH =  10.0km  (geophysicist)
  CENTRAL ITALY                      (381)

CRE     0.32 320 P      22 18.10   5.6X
                 eSg    22 25.80
ASS     0.45 135 P      22 16.50   1.5
                 eSg    22 21.90
ARV     0.53  78 Pd     22 17.40   0.8
                 eSg    22 24.30
PGD     0.61 323 P      22 22.40   4.0X
CIO     0.69 106 iPgd   22 19.96   0.3
AOI     1.01  80 ePg    22 25.26   0.2
MNS     1.06 162 P      22 25.60  -0.2
                 eSg    22 38.20
ALP     1.16 121 ePg    22 27.72   0.1
AOU     1.34 140 P      22 29.40  -1.3
BDI     1.36 300 P      22 32.50   1.5
                 eSg    22 50.40
SDI     2.05 145 P      22 39.70  -1.1
CTI     2.69 351 P      22 50.00  -0.1
FVI     3.23   7 P      22 55.90  -1.7
      S.D. = 1.2  on  11 of  13 obs.
-------------------------------------
?  NOV  17, 1989  03h 15m 43.85± 1.86s
    11.019 N ±10.4km   61.850 W ±34.6km
    DEPTH =  33.0km  (normal)
  WINDWARD ISLANDS                   ( 95)

TCE     0.33 163 eP     15 51.96  -0.1
                 eS     16 01.68
TRN     0.57 130 eP     15 55.41  -0.1
                 eS     16 08.06
TPP     0.80 151 eP     15 58.83   0.2
                 eS     16 11.82
GRW     1.15   9 eP     16 03.75   0.0
                 eS     16 24.45
      S.D. = 0.2  on   4 of   4 obs.
-------------------------------------
*  NOV  17, 1989  04h 01m 04.87± 0.40s
    59.197 S ± 9.8km   25.683 W ± 9.7km
    DEPTH =  33.0km  (normal)
    5.1mb (  6 obs.)
  SOUTH SANDWICH ISLANDS REGION      (153)

SNA    14.81 148 iPc    04 32.70  -0.6
       0.8s     50.00nm          4.9mb
FCH    39.14 291 iPc    08 32.20   1.1
LNV    39.17 290 eP     08 31.10   0.2
TACH   39.18 290 iP     08 30.50  -0.6
VAO    39.20 328 eP     08 31.60   0.2
                 e      08 34.90
                 e      08 44.10
PEL    39.48 291 iPd    08 34.60   1.0
       0.4s     38.14nm          5.5mb
PPD    41.38 323 eP     08 48.50  -0.8
                 e      08 50.60
                 e      09 04.20
CNCB   52.34 305 P      10 16.30   0.1
ZOBO   52.88 306 P      10 19.20  -1.0
LIC    67.27  22 Pc     11 58.56   0.5
       0.6s     14.00nm          5.3mb
KIC    67.46  23 Pc     11 59.60   0.3
       0.7s     11.00nm          5.1mb
TIC    67.68  22 Pc     12 01.00   0.3
       0.7s     14.00nm          5.2mb
BCAO   72.43  47 iPc    12 30.30   0.7
       0.6s      9.00nm          4.9mb
                 i      12 46.20
CAN    85.73 176 eP     13 42.00   0.5
BWA    86 60 175 eP     13 47.10   1.3
HFS   122.90  22 ePKP   19 56.10  -1.4
       0.4s      2.00nm
FRB   126.88 338 ePKP   20 05.00  -0.1
```

17d 04h

```
SUF    127.91  27 ePKP   20 02.30  -4.9X
SOD    131.98  24 iPKP   20 14.80   0.0
MBC    147.18 334 ePKP   20 44.50   2.6X
        0.8s     13.00nm
INK    148.71 317 ePKP   20 43.00  -1.5
BJI    149.33 112 ePKP   20 51.00   4.7X
     S.D. = 0.9  on  19 of  22 obs.
-----------------------------------------
   NOV  17, 1989  04h 05m 18.53± 0.14s
   80.588 N ± 3.1km  122.132 E ± 2.3km
   DEPTH =  10.0km  (geophysicist)
   5.1mb ( 60 obs.)  5.3Msz ( 21 obs.)
 EAST OF SEVERNAYA ZEMLYA          (654)
      Ms 5.5 (BRK).
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 33C
      Centroid Location:
      Origin Time        04:05:26.2 0.4
      Lat 80.57N  FIX;Lon 122.17E  FIX
      Dep  15.0 FIX Half-duration  2.5
      Moment Tensor;    Scale 10**17 Nm
        Mrr=-2.55 0.15  Mtt= 0.07 0.13
        Mff= 2.47 0.22  Mrt=-3.20 0.34
        Mrf= 2.38 0.38  Mtf=-1.25 0.15
       Principal Axes:
        T  Val=  4.81  Plg=27  Azm=236
        N        0.13       16       137
        P       -4.94       58        21
      Best Double Couple:Mo=4.9*10**17
       NP1:Strike=359 Dip=23 Slip= -46
       NP2:        133      74      -106

KBS     16.92 321 eP     09 25.00   8.7X
MBC     20.13  38 ePd    09 54.40  -0.4
        1.0s   101.00nm          5.1mb
DAG     21.50 337 iP-    10 10.00   1.2
KEV     23.14 298 iP     10 24.80  -0.3
                  e      14 38.00
TRO     24.39 304 eP     10 39.50   2.3
IMA     24.86  75 P      10 42.60   0.6
SOD     25.39 296 iP     10 46.90   0.1
INK     25.78  56 ePc    10 50.70   0.3
        1.2s   163.00nm          5.6mb
FBA     26.87  71 eP     11 02.20   1.7
TTA     27.41  80 P      11 07.60   2.0
        1.3s    84.91nm          5.3mb
TOA     29.75  71 eP     11 27.00   0.3
PMR     29.77  74 eP     11 25.00  -1.8
        0.9s    12.00nm          4.7mb
      Z  20s    11.00um          5.5Msz
SUF     29.83 293 eP     11 26.40  -0.9
        0.8s    50.50nm          5.4mb
GDH     30.33 357 iPc    11 33.90   2.2
        1.1s    50.63nm          5.3mb
                    i    16 40.00
                    i    19 40.00
NUR     32.16 293 iP     11 47.50  -0.3
        1.0s     6.00nm          4.5mb
      Z  18s     7.20um          5.4Msz
                   LR    28 02.00
AKU     32.28 330 iPc    11 52.30   3.6X
        1.9s   210.53nm          5.7mb
NB2     33.59 305 P      11 59.40  -0.9
        0.9s    49.20nm          5.4mb
UPP     33.83 299 iP     12 00.50  -1.7
HFS     34.12 302 eP     12 03.50  -1.3
        0.9s    33.80nm          5.3mb
      Z  16s     2.50um          5.0MszX
                   LR    23 04.00
FRB     35.76   8 eP     12 24.00   5.3X
MDJ     36.20 171 iPd    12 24.00   1.4
      Z  16s     5.20um          5.4MszX
      E  16s     5.10um
                  ePP    13 50.00
                   S     18 05.00
CN2     36.94 176 Pd     12 28.60  -0.2
        1.4s     0.06nm          2.2mb X
      Z  16s     4.40um          5.3MszX
      N  10s     2.40um
      E  10s     4.00um
                  pP     12 32.00  11kmX
                  PP     13 55.00
                  eS     18 14.00
                  SS     20 43.00
COP     38.60 301 iPd    12 42.90   0.2
        0.9s    97.48nm          5.5mb
WMQ     38.85 221 iPd    12 45.60   0.6
      N  13s     7.40um
      E  12s     5.40um
                  PP     14 16.00
SNY     38.89 178 Pd     12 44.00  -1.2
        1.0s     0.04nm          2.1mb X
      Z  19s     5.80um          5.4Msz
      E  13s     3.90um
                  sP     12 58.00
                  SS     21 22.00
HHC     40.06 192 eP     12 55.20   0.1
      N  10s     3.50um
BTO     40.37 194 eP     12 59.00   1.4
      N  10s    11.60um
      E  11s     6.30um
                  PP     14 32.50
WAR     40.68 292 eP     13 00.00   0.0
                   e     19 15.00
BJI     40.74 187 Pd-    13 01.50   1.0
        1.5s    26.00nm          4.7mb
      Z  18s     9.98um          5.7Msz
      N  10s     5.98um
      E  10s     3.44um
                  ePP    14 40.00
                  eS     19 16.00
EKA     40.96 315 P      13 03.00   0.8
        0.8s    12.70nm          4.7mb
DL2     41.81 181 eP     13 08.00  -1.3
      Z  14s     3.10um          5.3MszX
      N  12s     4.10um
      E  12s     2.70um
                   S     19 31.00
GTA     42.13 206 Pd     13 12.60   0.5
        6.0s     0.80nm          2.6mb X
      Z  10s     5.80um          5.8MszX
      E  11s     3.80um
                  PP     14 54.00
                   S     19 35.00
                  SS     22 36.00
WIT     42.19 305 e(P)   13 19.00   6.7X
                   e     13 22.50
FFC     42.70  37 eP     13 15.00  -1.5
        1.5s    47.00nm          5.0mb
KSP     42.75 296 iPd    13 17.50   0.5
        0.9s    69.00nm          5.4mb
                   e     15 06.00
CLL     42.78 299 iPd    13 17.10  -0.1
        1.4s   105.00nm          5.4mb
                   i     13 20.60
                  eS     19 49.00
EDM     42.94  47 eP     13 18.00  -0.6
KRA     42.97 292 iPd    13 19.50   0.8
        0.6s    53.00nm          5.4mb
      Z  20s     3.20um          5.2Msz
                   i     13 27.00
WTS     42.97 305 eP     13 20.00   1.3
        1.0s    20.00nm          4.8mb
                   e     13 30.00
                   e     13 41.00
BRG     43.07 298 iPd    13 19.70   0.2
        1.3s    44.00nm          5.0mb
      Z  19s     5.00um          5.4Msz
                  eS     19 48.00
DBN     43.09 306 e(P)   13 34.00  14.4X
      Z  18s     2.00um          5.1Msz
                  ePP    15 18.00
                  eS     20 01.00
TIY     43.16 191 P      13 21.60   1.1
      N  10s     5.00um
                   S     19 51.00
MOX     43.62 300 iPd    13 25.00   0.9
        1.5s   129.00nm          5.5mb
      Z  16s     3.90um          5.4MszX
      N  16s     2.60um
      E  14s     4.10um
SPC     43.77 292 eP     13 26.60   1.1
                   e     15 16.50
PRU     43.84 297 Pd     13 26.40   0.6
      Z  20s     6.00um          5.5Msz
      N  16s     3.50um
      E  15s     8.30um
                   e     13 30.50
                   S     20 00.00
HOF     43.91 300 iPd    13 27.00   0.6
ENN     44.29 305 eP     13 30.00   0.6
        0.9s    14.00nm          4.8mb
                   e     13 40.00
MEM     44.44 305 P      13 34.40   3.8X
TIA     44.54 186 P      13 31.90   0.3
      Z  18s     5.10um          5.5Msz
      N  10s     3.80um
      E  11s     4.00um
                   S     20 12.00
KSH     44.56 233 P      13 34.00   2.1
      N  11s     5.60um
IAS     44.57 284 eP     13 30.00  -1.7
MAT     44.59 161 eP     13 33.00   1.0
        1.2s    28.13nm          5.0mb
      Z  20s     1.06um          4.8Msz
                  eS     20 22.00
GRF     44.61 300 iPd    13 33.10   1.0
        1.1s    36.00nm          5.2mb
      Z  22s     2.70um          5.1Msz
                   i     13 36.80
                   i     13 42.40
BMR     44.74 288 ePd    13 38.00   4.9X
SCH     44.75   7 ePc    13 33.50   0.4
KHC     44.82 298 iP     13 34.80   1.0
        1.0s    21.00nm          5.0mb
      Z  20s     5.40um          5.5Msz
      N  18s     3.10um
      E  16s     5.50um
                   e     15 21.00
                   S     20 20.00
WET     44.91 299 eP     13 35.40   0.9
PTT     45.00 285 eP     13 33.50  -1.8
PSZ     45.06 292 iPd    13 36.40   0.6
VAL     45.09 320 eP     13 37.00   1.1
DOU     45.13 306 Pc     13 36.50   0.3
                   e     15 15.80
                   S     20 22.00
LZH     45.17 201 eP     13 37.50   0.6
        2.0s    65.00nm          5.2mb
      Z  14s     6.70um          5.7MszX
      N  11s     3.90um
      E  10s     2.90um
                  pP     13 41.00  12kmX
                  sP     13 46.00
                  PP     15 37.00
                   S     20 19.00
                  sS     20 31.00
                  PS     20 48.00
                  SS     23 34.00
ZST     45.21 294 eP     13 37.50   0.6
                   e     15 22.70
VKA     45.26 295 e(P)   13 37.00  -0.3
        2.0s   254.00nm          5.8mb
      Z  16s     3.00um          5.3MszX
                   e     13 42.00
                   i     13 47.00
                  e(PP)  15 22.50
                  LR     33 35.00
SRO     45.40 293 eP     13 38.80   0.4
BUD     45.62 292 iPd    13 40.30   0.2
KMR     45.79 297 iP+    13 43.30   1.9
SOP     45.79 295 eP     13 44.00   2.5
PNT     45.99  53 eP     13 44.00   1.0
        1.0s    22.00nm          5.1mb
VRI     45.99 285 ePd    13 43.50   0.5
SES     46.00  45 eP     13 44.00   0.9
FUR     46.09 300 eP     13 44.80   0.9
MCW     46.18  56 P      13 44.50   0.0
CDF     46.41 303 eP     13 46.80   0.3
        0.8s    16.10nm          5.1mb
CFR     46.43 283 ePd    13 46.50   0.0
MLR     46.48 285 iPd    13 48.00   0.9
CMP     46.84 286 iPd    13 54.00   4.2X
KBA     46.86 298 iPc    13 51.10   1.0
        1.3s    92.30nm          5.7mb
                   i     13 54.90
HAU     46.94 304 eP     13 50.60   0.0
        1.0s     8.00nm          4.8mb
XAN     46.95 195 P      13 50.50  -0.3
      N  10s     6.00um
      E  14s     2.40um
                   S     20 44.00
TIM     46.98 290 iPc    13 54.00   3.2X
TLB     47.03 283 ePd    13 51.50   0.3
BZS     47.04 289 eP     13 51.50   0.2
BSF     47.05 304 eP     13 51.30  -0.2
        0.8s     5.30nm          4.7mb
RSON    47.28  30 P      13 52.00  -1.2
        1.0s    86 77nm          5.8mb
      Z  20s     1.41um          4.9Msz
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GMW	47.29	57	P	13	55.20	1.9
NEW	47.34	51	eP	13	54.10	0.3
			pP	14	02.00	26kmX
OGA	47.40	300	eP	13	55.50	1.1
BUC	47.51	285	eP	13	44.00	-11.0X
RMW	47.51	56	P	13	55.00	-0.2
BUC1	47.58	285	ePc	13	56.00	0.4
PTJ	47.62	295	eP	13	55.80	-0.3
ZAG	47.70	295	eP	13	57.70	1.2
PSN	47.89	283	iPd	14	00.00	2.0
BEO	47.99	290	eP	13	59.30	0.5
			e(PP)	15	49.00	
			e(S)	21	04.50	
LOR	48.00	306	eP	13	58.20	-0.7
	0.8s	12.00nm			5.0mb	
TRI	48.14	297	eP	14	00.00	0.1
			e	21	08.00	
			e	28	44.00	
LON	48.21	56	eP	14	01.00	0.4
			pP	14	09.00	27kmX
SSF	48.25	306	eP	14	00.30	-0.5
	0.8s	14.70nm			5.1mb	
LBF	48.26	306	eP	14	00.40	-0.6
	0.8s	20.10nm			5.2mb	
BMW	48.28	57	P	14	01.00	-0.2
AVF	48.53	307	eP	14	02.60	-0.4
	0.8s	5.90nm			4.7mb	
SMF	48.61	306	eP	14	03.20	-0.4
	0.8s	8.00nm			4.8mb	
NJ2	48.66	184	Pc	14	02.00	-2.1
	N 11s	3.80um				
	E 10s	1.70um				
			S	21	07.00	
VAI	48.70	301	P	14	04.50	0.2
SAL	48.70	300	P	14	17.00	12.7X
PVL	48.80	285	iPd	14	05.00	0.0
BGF	48.83	307	eP	14	04.90	-0.4
	0.8s	25.50nm			5.3mb	
ORO	49.05	302	P	14	08.50	1.4
KVT	49.14	274	eP	14	08.50	0.7
TCF	49.18	307	eP	14	07.70	-0.3
	0.8s	9.40nm			4.9mb	
MAF	49.20	307	eP	14	07.80	-0.3
	0.8s	5.30nm			4.6mb	
KAS	49.23	277	iPc	14	10.10	1.6
LSF	49.30	308	eP	14	08.40	-0.6
	1.0s	20.00nm			5.1mb	
LPG	49.34	303	eP	14	10.00	0.4
	1.0s	14.00nm			4.9mb	
SSE	49.60	181	P	14	10.40	-0.9
	1.0s	24.00nm			5.1mb	
	Z 20s	1.50um			5.0Msz	
	N 16s	1.90um				
	E 14s	3.20um				
			ePP	16	10.00	
			S	21	24.00	
			sS	21	52.00	
			(SS)	24	50.00	
BOB	49.68	300	P	14	12.50	0.5
VTS	49.74	287	iPd	14	12.00	-0.5
BNI	49.79	303	P	14	23.50	10.6X
CKI	50.18	301	P	14	15.60	-0.1
PGD	50.23	298	P	14	16.40	0.1
RJF	50.23	308	eP	14	14.60	-1.5
	0.8s	10.70nm			4.9mb	
WHN	50.25	189	Pc	14	16.00	-0.3
	Z 20s	3.10um			5.3Msz	
	N 10s	2.80um				
	E 12s	2.40um				
			pP	14	19.50	12kmX
			S	21	34.00	
ISK	50.30	281	eP	14	14.00	-2.6
CTT	50.32	282	iP	14	15.90	-0.9
CD2	50.32	201	P	14	17.40	0.4
	Z 14s	4.40um			5.6MszX	
	N 12s	5.10um				
	E 11s	4.60um				
			S	21	30.00	
LRM	50.33	48	eP	14	17.30	0.2
RZN	50.39	285	iPd	14	13.00	-4.5X
FIR	50.39	299	eP	14	19.00	1.7
TAB	50.39	263	eP	14	20.00	2.4
HRT	50.44	280	eP	14	15.90	-1.8
BCI	50.45	290	eP	14	26.40	8.7X
KKB	50.47	287	iPd	14	18.00	0.1
CAF	50.53	307	eP	14	17.60	-0.8
	0.8s	9.40nm			4.8mb	

SKO	50.62	289	iP	14	18.30	-0.8
	1.0s	34.00nm			5.2mb	
	Z 18s	2.46um			5.3Msz	
	N 18s	3.16um				
	E 18s	4.35um				
			i	14	22.20	
			i	14	28.60	
			iPP	16	10.00	
			iPPP	17	17.00	
			iS	21	37.00	
			iSS	25	16.00	
			iSSS	26	40.00	
			LR	07	08.50	
LFF	50.69	308	eP	14	18.40	-1.2
	0.8s	16.10nm			5.0mb	
RDO	50.78	284	eP	14	20.60	0.3
PUK	50.80	290	eP	14	20.90	0.6
SDA	50.88	290	eP	14	20.70	-0.3
LPO	50.89	308	eP	14	19.80	-1.3
	0.8s	22.50nm			5.2mb	
BBTK	50.89	277	iPd	14	22.00	0.7
PHP	51.06	289	iPc	14	19.80	-2.5
VAY	51.08	287	eP	14	21.60	-1.0
EDC	51.19	282	eP	14	23.00	-0.4
LACI	51.22	290	eP	14	20.00	-3.6X
AQU	51.47	296	P	14	24.60	-1.0
TIR	51.48	290	eP	14	30.00	4.4X
MNS	51.55	297	P	14	31.00	4.8X
OHR	51.57	289	eP	14	25.50	-0.8
	1.5s	0.12nm			2.6mb	X
DST	51.79	281	iP	14	28.50	0.4
PLG	51.87	286	eP	14	28.50	-0.1
EZN	51.95	283	eP	14	27.00	-2.1
DUI	51.99	295	P	14	21.50	-8.1X
KBN	52.04	289	eP	14	26.20	-3.6X
SDI	52.05	296	P	14	29.70	-0.3
BERA	52.10	290	eP	14	28.20	-2.0
RMP	52.11	297	P	14	29.40	-1.0
RDP	52.16	297	P	14	28.70	-2.1
BRT	52.35	292	P	14	33.50	1.3
LSA	52.48	214	eP	14	34.80	0.9
	N 10s	1.20um				
TPE	52.49	289	eP	14	29.00	-4.2X
PRK	52.52	283	eP	14	33.50	0.0
LSK	52.54	289	eP	14	33.00	-0.7
MSL	52.56	266	eP	14	29.50	-4.3X
			eS	22	25.00	
EPF	52.62	308	eP	14	32.40	-1.9
	0.8s	9.40nm			4.8mb	
LCI	52.77	291	P	14	36.50	1.2
KHL	52.90	280	iP	14	36.40	0.0
SLY	52.94	263	ePc	14	37.00	0.4
			i	14	45.50	
			e	17	18.50	
			eS	22	27.00	
			e	26	31.00	
SGO	52.95	294	P	14	36.50	-0.1
IZM	53.19	282	iP	14	37.20	-1.3
MGR	53.32	294	P	14	37.50	-1.9
ECRI	53.40	311	e(P)	14	40.60	0.6
BCK	53.57	279	iP	14	41.90	0.6
TDS	53.67	293	P	14	43.80	1.8
BW06	53.68	46	eP	14	41.00	-1.3
	1.0s	18.00nm			5.0mb	
WDC	54.16	58	ePc	14	45.00	-0.5
			e	14	54.30	
YER	54.26	281	iP	14	47.00	0.6
ELL	54.38	279	eP	14	48.00	0.7
VLS	54.47	288	eP	14	47.00	-0.9
MIN	54.52	57	ePc	14	47.80	-0.6
			e	14	56.90	
GYA	54.60	197	P	14	48.80	-0.2
	Z 20s	2.20um			5.2Msz	
	N 17s	1.80um				
	E 17s	7.00um				
			S	22	33.00	
APE	54.77	283	eP	14	49.30	-0.9
EBR	54.78	308	eP	14	53.00	2.9X
			eS	22	42.00	
OUE	54.91	240	eP	14	51.20	-0.2
NDI	55.01	229	eP	14	54.00	2.0
			eS	22	40.00	
ETOR	55.11	310	eP	14	53.00	0.4
ATN	55.27	293	P	14	54.00	0.2
ORV	55.31	57	e(P)	14	53.10	-0.9
BHD	55.40	264	ePc	14	53.50	-1.1
			e	18	04.50	

			eS	22	46.00
ANP	55.49	181	eP	15	03.00	7.5X
GUD	55.54	312	eP	14	55.80	0.0
MNO	55.61	294	P	14	56.50	0.0
DAU	55.81	48	P	14	58.00	0.0
DUG	55.83	49	P	14	58.00	0.1
KMI	56.14	201	Pd	14	59.00	-1.3
	Z 16s	7.90um			5.9MszX	
	N 12s	3.80um				
	E 12s	3.20um				
			pP	15	03.50	15kmX
			sP	15	09.00	
			S	22	52.00	
KVN	56.27	54	eP	15	01.50	0.3
			pP	15	10.00	28kmX
TOL	56.28	312	eP	15	01.00	0.0
			ePcP	15	46.00	
			ePPP	18	05.00	
			eS	22	59.00	
			eSS	26	54.00	
EPLA	56.34	314	eP	15	01.60	0.1
SHL	56.51	213	iP	15	02.40	-0.6
			iS	22	58.00	
BKS	56.86	58	eP	15	06.20	1.0
	1.0s	52.00nm			5.5mb	
	Z 20s	2.10um			5.2Msz	
	N 20s	2.90um				
	E 20s	1.80um				
			i	15	18.00	
			i(PPP)	19	12.00	
			iS	23	18.00	
			iSS	27	08.00	
			eLR	33	00.00	
BRK	56.86	58	eP	15	05.40	0.3
CMB	56.96	57	ePc	15	06.40	0.4
			e	15	14.70	
GLD	57.16	42	eP	15	08.70	1.1
			pP	15	17.00	27kmX
GOL	57.20	43	P	15	07.80	-0.1
	1.0s	55.00nm			5.5mb	
PCC	57.21	59	e(P)	15	07.50	-0.1
			e	15	16.30	
EVIA	57.31	310	e(P)	15	09.00	0.5
TNP	57.34	54	eP	15	09.80	0.9
			pP	15	17.80	26kmX
ARN	57.48	58	P	15	10.00	0.4
MSU	57.57	49	P	15	10.20	-0.3
GZH	57.70	190	eP	15	12.00	0.9
	Z 18s	3.10um			5.5Msz	
	N 10s	2.40um				
	E 10s	2.60um				
EBAN	57.94	311	eP	15	13.50	0.7
FRI	58.08	56	eP	15	13.80	0.1
			e	15	22.60	
LLA	58.28	57	ePc	15	15.70	0.5
			e	15	24.70	
MASJ	58.33	272	P	15	15.80	0.1
PRS	58.50	58	e(P)	15	15.70	-1.0
			e	15	24.50	
ASMO	58.73	311	eP	15	18.70	0.3
PRI	58.78	57	eP	15	19.80	1.0
			e	15	28.40	
ACHM	58.99	311	eP	15	20.20	0.0
APHE	59.12	311	eP	15	21.40	0.2
ATEJ	59.20	311	eP	15	22.00	0.2
ISA	59.55	55	eP	15	25.00	0.9
PRNI	59.81	273	eP	15	26.00	0.1
EJIF	59.83	312	eP	15	26.80	0.8
GSC	60.13	54	eP	15	27.00	-1.1
FVM	60.34	29	P	15	26.50	-2.9
MBH	60.39	273	iP	15	29.00	-0.7
SYP	60.47	57	eP	15	30.00	-0.5
SBB	60.60	55	eP	15	32.00	0.7
KOT	60.73	276	eP	15	32.00	-0.1
HOL	60.85	272	iPd	15	32.70	-0.2
HLW	60.88	276	eP	15	32.00	-1.1
			ePP	19	06.00	
			eS	23	42.00	
CBN	60.97	18	e(P)	15	33.00	-0.6
MWC	61.03	55	eP	15	35.00	0.7
AYN	61.08	271	iPd	15	34.70	0.2
ELC	61.13	28	P	15	33.00	-1.7
CVL	61.14	19	P	15	36.00	1.2
SRFA	61.16	272	iPd	15	35.00	0.0
RVR	61.35	55	eP	15	36.00	-0.3
TPC	61.41	53	eP	15	38.00	1.2
BADA	61.59	272	iPd	15	37.50	-0.4

17d 04h

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ALQ     61.78  44 eP     15 40.10   0.7
                pP      15 48.00  26kmX
BLA     61.80  20 P      15 38.00  -1.4
        1.0s    40.00nm          5.5mb
QIZ     61.85 193 eP     15 43.00   3.2X
      E  14s     2.50um
                eS      24 09.00
LNO     61.93  34 eP     15 39.00  -1.1
TUL     61.93  34 ePc+   15 38.80  -1.4
        1.3s    84.90nm          5.8mb
      Z  21s     4.21um          5.6Msz
                e       15 40.00
                e       15 46.80
                e       19 34.00
                e       24 06.00
                LR      34 00.00
PLM     62.05  54 eP     15 42.00   0.8
GLA     62.61  52 eP     15 46.00   1.2
CHG     62.64 205 ePd    15 44.00  -1.1
        1.0s    10.75nm          5.0mb
OLY     62.72  31 P      15 43.00  -2.4
BAR     62.73  54 eP     15 47.00   1.4
MEO     62.78  37 iPc    15 44.80  -1.0
RSCP    63.07  25 eP     15 46.50  -1.3
        1.0s    43.38nm          5.6mb
GBTN    63.10  24 P      15 46.20  -1.7
WAJH    63.63 270 iPd    15 51.30  -0.2
UYO     63.78  33 eP     15 52.30  -0.1
LOE     63.86 202 eP     15 51.50  -1.6
BAG     64.22 182 eP     15 50.00  -5.6X
JSC     64.67  21 P      15 56.00  -2.2
POO     65.45 231 eP     16 02.00  -1.4
                iS      29 50.00
HYB     65.97 226 eP     16 04.00  -2.7
KMSA    68.01 261 eP     16 19.20  -0.5
GBA     69.86 227 P      16 30.00  -1.0
DAV     73.50 176 eP     16 51.00  -1.7
SNG     74.08 202 eP     16 55.70  -0.3
                eS      26 34.80
BCAO    87.87 284 iPd    18 11.10   2.1
        1.1s    10.00nm          5.0mb
                i       20 57.50
TIC     89.16 308 P      18 14.92  -0.3
KIC     89.41 307 P      18 16.50   0.1
        1.0s    25.50nm          5.4mb
LIC     89.58 308 P      18 17.18   0.0
        0.9s    26.00nm          5.5mb
                S       29 34.00
WB5    100.49 168 ePdiff 19 08.00   1.2
WRA    100.55 168 Pdiff  19 08.00   0.9
        0.7s     1.00nm          4.5mb
LPB    115.74  11 (PKP)  24 21.00  18.4X
      Z  20s     0.71um          5.3Msz
                e       24 55.00
                LR      00 30.00
CNCB   116.02  11 PKP    24 04.00   0.7
MAW    151.50 224 ePKP   25 12.00   6.4X
      S.D. = 1.0  on 246 of 273 obs.
-----------------------------------------
&  NOV  17, 1989  04h 59m 10.13s
   61.440 N          141.703 W
   DEPTH =   0.0km
 SOUTHERN ALASKA                    (  2)
      <AGS-P>.

BALM     0.51 218 iP     59 20.77   0.5
                eS      59 29.41
TGL      0.88 219 iP     59 27.41  -0.3
GLB      1.01 271 eP     59 29.22  -1.1
PCA      1.52 152 iP     59 36.83  -1.9
KLU      2.03 273 eP     59 46.40   0.4
                eS      00 15 09
HYT      2.13 105 P      59 43.50  -4.1
VLZ      2.26 264 eP     59 50.30   1.1
VZW      2.38 263 eP     59 52.26   1.2
FID      2.42 255 eP     59 53.71   2.1
GLI      2.67 260 eP     59 55.06  -0.1
       10 obs. associoted
-----------------------------------------
?  NOV  17, 1989  05h 00m 18.98± 4.82s
   31.166 S ±10.0km   67.928 W ±41.7km
   DEPTH =  10.0km  (geophysicist)
 SAN JUAN PROVINCE, ARGENTINA     (137)

CFA      0.51 211 i(P)   00 29.00  -0.4
                S       00 37.00
RTCB     0.81 247 ePd    00 34.50  -0.3
RTCV     0.87 217 iP     00 36.00   0.3
RTBS     1.39 249 ePc    00 45.00   0.6
                S       01 05.20
RTRS     1.65 307 ePd    00 47.90  -0.2
      S.D. = 0.6  on   5 of   5 obs.
-----------------------------------------
   NOV  17, 1989  05h 21m 18.31± 0.59s
   18.793 S ± 7.1km  169.141 E ± 4.9km
   DEPTH = 221.0 ±  5.6 km
   4.9mb ( 16 obs.)
 VANUATU ISLANDS                    (186)

PVC      1.31 323 iPc    21 52.50  -0.2
                iS      22 19.90
DZM      4.13 217 iPc    22 22.60  -0.4
                iS      23 14.10
MBU      9.30  80 ePd    23 29.20  -0.1
BRS     17.31 237 iPc    25 08.60   0.7
                i       25 29.70
COO     19.55 230 eP     25 32.00   0.8
RMQ     20.30 244 iPd    25 40.00   1.3
        0.6s    67.00nm          5.3mb
CTA     21.62 263 iPd    25 53.50   1.9
        0.8s    70.15nm          5.2mb
CNB     24.03 223 iPc    26 15.40   0.7
        0.8s    65.00nm          5.3mb
BWA     24.13 226 iPd    26 14.10  -1.5
CAN     24.27 223 iPd    26 17.00   0.1
CMS     24.54 235 iPd    26 19.50   0.1
QIS     27.85 261 eP     26 49.00  -0.6
STK     28.01 237 iPd    26 51.00   0.1
        0.6s    28.00nm          5.1mb
WRA     32.82 262 Pd     27 31.40  -1.7
        0.6s    14.40nm          4.8mb
ASPA    33.15 255 iPd    27 35.20  -0.8
        0.5s   514.00nm          6.4mb X
                iS      32 36.70
MTN     36.99 274 iPc    28 08.30  -0.1
        0.6s    54.00nm          5.3mb
KNA     38.62 268 eP     28 21.50  -0.4
WARB    39.81 251 iPd    28 31.80   0.1
MBL     46.26 258 iPd    29 23.30  -0.3
        0.3s    14.00nm          4.8mb
NANU    50.08 256 iPc    29 53.10   0.1
        0.5s    12.00nm          4.6mb
SBA     59.11 181 P      30 56.70  -0.5
MAT     62.32 332 (P)    31 17.00  -2.3
        1.0s    21.00nm          4.9mb
WHN     71.98 312 eP     32 19.50  -0.3
CN2     74.03 329 iPc    32 31.80   0.4
GYA     75.49 305 P      32 40.60   0.3
BJI     76.53 321 eP     32 46.00   0.4
KMI     77.96 302 Pc     32 55.50   1.4
CHG     78.38 295 eP     32 57.90   1.7
CHTO    78.38 295 eP     32 56.80   0.6
                e       33 47.10
PCC     85.28  48 ePc    33 31.50   0.1
GCC     85.33  48 ePc    33 32.00   0.3
PRS     85.46  49 ePc    33 32.90   0.5
BRK     85.54  48 ePc    33 33.00   0.3
BKS     85.56  48 iPc    33 33.10   0.3
        0.9s    33.00nm          5.1mb
SAO     85.60  49 ePc    33 33.00   0.0
SYP     85.67  51 eP     33 34.00   0.4
MHC     85.73  48 ePc    33 34.20   0.4
FHC     85.75  44 ePc    33 34.60   0.9
ARN     85.81  48 P      33 34.50   0.4
BCH     85.88  51 P      33 35.30   0.7
PRI     85.88  50 ePc    33 35.30   0.7
LLA     85.89  49 ePc    33 34.90   0.4
TTA     85.93  15 P      33 32.80  -1.4
        0.7s     9.67nm          4.7mb
PHAM    85.94  50 P      33 35.00   0.3
ABL     86.37  51 P      33 37.20   0.1
WDC     86.61  45 ePc    33 38.20   0.3
PMR     86.74  19 P      33 36.50  -1.5
        0.7s     7.99nm          4.7mb
GTA     86.75 313 iPc    33 39.40   0.7
ORV     86.84  46 ePc    33 39.20   0.2
CMB     86.93  48 ePc    33 39.60   0.1
FRI     86.95  49 ePc    33 39.40  -0.1
MWC     86.97  52 eP     33 40.00   0.0
MIN     87.13  46 ePc    33 40.20  -0.4
ISA     87.27  51 eP     33 42.00   0.8
SBB     87.34  52 eP     33 41.00  -0 6
BAR     87.38  54 eP     33 42.00   0.2
RVR     87.39  53 eP     33 42.00   0.3
LBFM    87.41  45 P      33 41.70  -0.2
LBFM    87.41  45 eP     34 01.20  19.3X
PEC     87.51  53 P      33 42.00  -0.4
PLM     87.51  54 eP     33 42.00  -0.6
CLC     87.98  51 eP     33 44.00  -0.6
GSC     88.36  52 eP     33 48.00   1.5
TPC     88.44  53 eP     33 47.00   0.2
GLA     88.96  55 eP     33 50.00   0.7
BMW     88.98  40 P      33 49.10   0.0
KVN     88.98  48 P      33 49.30  -0.2
IMA     89.11  14 P      33 48.90  -0.5
TNP     89.20  49 P      33 50.70   0.2
        0.6s     4.48nm          4.6mb
SHW     89.45  40 P      33 52.10   0.7
FBA     89.68  17 P      33 49.80  -2.1
        0.9s    18.23nm          5.0mb
GMW     89.76  39 P      33 52.60   0.0
PGC     89.90  38 eP     33 54.00   0.8
LON     89.97  40 P      33 53.40  -0.3
VGB     90.04  41 P      33 53.40  -0.6
MCW     90.28  38 P      33 55.40   0.4
RMW     90.31  39 P      33 55.40   0.2
PNT     92.45  38 eP     34 05.00   0.0
DPW     92.67  40 P      34 06.10   0.0
MSU     93.02  50 P      34 08.80   0.7
DAU     94.37  49 P      34 14.60   0.2
GBA     95.87 282 P      34 23.00   1.7
        0.9s     2.80nm          4.5mb
ALQ     96.12  55 eP     34 22.20  -0.2
INK     96.15  18 eP     34 20.00  -1.5
BW06    96.39  47 P      34 24.20   0.8
GOL     98.41  51 P      34 32.20  -0.4
        0.8s     5.95nm          5.0mb
PPD    123.33 134 ePKP   39 49.40  -1.7
SUF    129.26 339 ePKP   40 00.10  -1.1
        0.4s     2.60nm
NUR    131.29 338 ePKP   40 04.90  -0.2
NB2    134.99 345 PKP    40 11.70  -0.5
        0.6s     1.50nm
HFS    135.11 343 ePKP   40 10.60  -1.8
        0.4s     1.70nm
BRG    142.43 334 ePKP   40 22.00  -4.1X
        1.0s    10.00nm
MOX    143.54 336 ePKP   40 24.50  -3.5X
HOF    143.70 335 ePKP   40 25.60  -2.7X
VAY    143.72 315 iPKP   40 25.40  -3.2X
KHC    143.90 333 iPKPc  40 26.50  -2.2X
        1.0s    14.00nm
SKO    144.14 317 iPKPc  40 27.80  -1.5
        1.0s   136.00nm
WET    144.19 333 ePKP   40 27.30  -1.9
        1.0s    20.00nm
GRF    144.45 335 iPKPc  40 28.30  -1.3
PHP    144.93 317 ePKP   40 29.40  -1.2
OHR    144.99 316 ePKP   40 28.00  -2.8X
        0.8s     0.10nm
PTJ    145.05 327 ePKP   40 30.30  -0.5
PUK    145.09 318 ePKP   40 24.30  -6.5X
SDA    145.36 319 ePKP   40 25.00  -6.3X
TIR    145.48 317 ePKP   40 31.50   0.0
KBA    145.52 330 iPKPc  40 30.90  -0.8
        0.7s    14.60nm
                i       40 33.40
LSK    145.59 315 ePKP   40 30.10  -1.8
FUR    145.62 333 ePKP   40 32.40   0.8
FVI    146.14 330 PKPc   40 32.40   0.0
DOU    146.41 342 PKPc   40 33.90   1.1
        0.6s    34.50nm
OGA    146.73 332 iPKPc  40 35.50   1.8
CDF    146.99 338 iPKPc  40 35.70   1.8
        0.6s    16.25nm
SLE    147.07 336 ePKPc  40 35.60   1.6
SAX    147.15 334 ePKPc  40 36.20   1.7
OSS    147.26 333 ePKPc  40 36.90   2.4X
LLS    147.60 334 ePKPc  40 37.40   2.3X
BSF    147.66 338 iPKPc  40 37.40   2.4X
        0.8s     8.05nm
HAU    147.67 338 iPKPc  40 37.60   2.7X
        0.8s    18.80nm
VDL    147.70 333 ePKPc  40 38.20   2.9X
BCAO   147.95 247 iPKPc  40 38.80   2.4X
        0.7s    39.00nm
                i       41 34.20
ARV    148.25 326 PKP    40 39.50   3.5X
TMA    148.26 333 ePKPc  40 39.00   2.9X
CIO    148.35 325 ePKP   40 39.28   3.0X
VAI    148.49 333 PKPc   40 39.10   2.9X
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SFI   148.52 328 PKP    40 40.50   4.2X
ROI   148.55 317 PKP    40 40.60   4.0X
CSI   148.62 318 PKP    40 39.90   3.2X
DUI   148.62 322 PKP    40 40.00   3.3X
PGD   148.62 328 PKP    40 40.50   3.7X
TDS   148.65 317 PKPd   40 40.80   4.1X
MMK   148.68 334 ePKPc  40 40.70   3.8X
CRE   148.68 327 PKP    40 39.50   2.7X
SGO   148.78 320 PKP    40 40.50   3.7X
DIX   148.88 335 ePKPc  40 40.90   3.7X
MME   148.89 329 PKPc   40 40.90   3.6X
FLN   148.95 347 iPKPc  40 40.50   3.6X
       0.6s     21.65nm
SDI   148.96 323 PKPc   40 40.50   3.3X
ORX   149.01 334 PKP    40 40.22   3.0X
ORO   149.02 334 PKP    40 40.00   2.8X
CZI   149.03 317 PKP    40 40.60   3.3X
LDF   149.02 346 iPKPc  40 40.60   3.6X
       0.6s      9.90nm
BDI   149.04 329 PKPc   40 39.80   2.5X
BOB   149.05 331 PKP    40 41.50   4.2X
EMS   149.08 336 ePKPc  40 41.30   3.9X
LOR   149.15 340 iPKPc  40 41.30   4.0X
       0.6s     19.85nm
MNS   149.15 325 PKP    40 40.50   3.0X
LBF   149.36 340 iPKPc  40 41.70   4.1X
       0.8s     12.10nm
GRR   149.38 347 iPKPc  40 41.70   4.2X
       0.6s     19.85nm
SSF   149.44 341 iPKPc  40 42.10   4.4X
       0.8s     28.20nm
LSD   149.49 335 PKP    40 42.48   4.3X
RDP   149.55 324 PKP    40 42.50   4.4X
LPG   149.62 335 iPKPc  40 43.20   4.8X
       0.8s     22.85nm
RSP   149.70 334 PKP    40 41.45   3.1X
SMF   149.70 340 ePKP   40 42.40   4.3X
       0.8s      6.70nm
AVF   149.73 340 ePKP   40 42.50   4.4X
       0.8s      8.05nm
LPF   149.76 347 iPKPc  40 42.70   4.6X
       0.6s     26.15nm
FIN   150.04 332 PKP    40 42.48   3.7X
RRL   150.08 334 PKP    40 43.81   4.8X
BGF   150.10 341 iPKPc  40 43.50   4.8X
       0.6s     15.35nm
ROB   150.13 332 PKP    40 42.58   3.7X
PZZ   150.29 334 PKP    40 44.73   5.5X
STV   150.40 333 PKP    40 42.68   3.3X
MAF   150.48 341 iPKPc  40 44.40   5.1X
       0.6s      4.95nm
TCF   150.53 341 iPKPc  40 44.40   5.0X
       0.8s     18.80nm
SBF   150.66 332 ePKP   40 44.80   5.1X
       0.5s      7.30nm
LSF   150.77 342 iPKPc  40 44.80   5.1X
       0.6s     16.25nm
MFF   150.90 345 iPKPc  40 45.30   5.4X
       0.6s     10.80nm
FRF   151.24 333 ePKP   40 46.10   5.6X
       0.5s      8.00nm
LMR   151.49 333 ePKP   40 46.10   5.3X
       0.5s      7.30nm
RJF   151.63 341 ePKP   40 47.30   6.3X
       0.6s      4.50nm
CAF   151.80 340 iPKPc  40 47.70   6.4X
       0.6s      4.05nm
LFF   152.19 342 ePKP   40 48.50   6.7X
       0.8s     13.45nm
LPO   152.29 341 ePKP   40 48.70   6.7X
       0.6s      9.00nm
LIC   166.28 205 PKP    40 58.00  -0.5
KIC   166.28 207 PKP    40 58.00  -0.5
TIC   166.65 206 PKP    40 58.40  -0.4
     S.D. = 0.9  on 108 of 176 obs.
-----------------------------------------
&  NOV  17, 1989  05h 48m 30.19s
   61.349 N          152.015 W
   DEPTH =  13.4km
 SOUTHERN ALASKA                    (  2)
      <AGS-P>. ML 3.4 (PMR).

CGLM    0.04 174 eP     48 33.14   0.2
NCG     0.09 309 iP     48 33.39   0.0
CRP     0.11 220 iP     48 33.80   0.2
SPU     0.17 186 iP     48 34.41   0.0
BGL     0.20 245 iP     48 34.83  -0.1
CKL     0.22 226 iP     48 35.15  -0.1
SUA     0.62  79 eP     48 42.00  -0.5
SKT     0.67  20 iP     48 42.54  -0.7
NKA     0.72 148 iP     48 45.45   1.5
RDT     0.80 194 iP     48 44.56  -0.9
                eS      48 55.10
RED     1.00 202 iP     48 47.93  -1.0
PWA     1.07  73 iPc    48 49.90  -0.1
PMS     1.19  94 ePd    48 51.50  -0.6
SLKM    1.22 133 eP     48 51.84  -0.7
                eS      49 07.90
CUT     1.34  37 eP     48 54.12  -0.4
ILIM    1.36 200 iP     48 54.01  -0.7
NNL     1.36 165 iP     48 55.54   0.8
PLRM    1.41  79 eP     48 54.71  -0.6
PMR     1.41  79 iPc    48 54.80  -0.6
                iS      49 13.00
PME     1.46  78 eP     48 55.75  -0.4
GHO     1.54  73 iP     48 57.48   0.1
SVW     1.76 264 iPc    49 00.30  -0.3
SEW     1.78 134 eP     49 00.65   0.0
OPT     1.81 200 iP     49 02.17   1.0
CNPM    1.87 168 iP     49 02.21   0.1
XLV     1.91 175 eP     49 02.59   0.0
HUR     1.98  33 eP     49 04.09   0.4
KTH     2.27  12 eP     49 08.09   0.1
GLI     2.43  99 eP     49 09.70  -0.5
TTA     2.46 312 eP     49 10.20  -0.4
RND     2.54  34 eP     49 12.31   0.6
NCA     2.56  73 eP     49 12.96   1.0
CDD     2.56 199 eP     49 13.24   1.2
VZW     2.66  94 eP     49 13.33  -0.1
FID     2.76 100 eP     49 14.17  -0.7
TOA     2.88  72 iPc    49 18.30   1.7
KLU     2.93  85 eP     49 17.40   0.1
WRH     3.61  28 eP     49 25.59  -1.3
KDC     3.62 184 eP     49 27.70   0.7
DDM     3.75  47 eP     49 32.36   3.3
CCB     3.83  28 eP     49 28.55  -1.4
HDA     3.84  35 eP     49 30.81   0.6
RDS     3.91  25 eP     49 30.86  -0.3
GLB     3.95  85 eP     49 30.86  -0.8
FBA     4.05  26 eP     49 32.00  -1.0
GLM     4.21  28 eP     49 34.51  -0.9
DOT     4.35  55 eP     49 39.10   1.7
TGL     4.50  94 eP     49 39.61   0.0
BALM    4.69  90 eP     49 41.66  -0.7
IMA     4.80 352 eP     49 42.50  -1.3
DWY     6.39  59 P      50 05.00  -1.2
PNT    21.75 109 eP     53 23.00   0.2
        52 obs. ossociated
-----------------------------------------
?  NOV  17, 1989  06h 53m 50.63± 6.11s
    41.593 N ±39.5km    12.699 E ±34.8km
    DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                     (390)

RDP     0.17   5 P      53 54.30  -0.2
                eSg     53 56.20
RMP     0.22   1 P      53 55.00  -0.3
                eSg     53 57.50
MNS     0.79 359 P      54 05.80  -0.2
                eSg     54 18.00
SDI     0.84  82 P      54 06.70  -0.3
                eSg     54 20.20
ALP     1.35  28 e(Pn)  54 16.12   0.5
ASS     1.48 359 P      54 17.30   0.0
                eSg     54 35.80
CIO     1.63  11 ePn    54 20.02   0.4
                iSn     54 44.08
      S.D. = 0.4  on   7 of   7 obs.
-----------------------------------------
    NOV  17, 1989  08h 00m 51.60± 0.33s
    39.507 N ± 7.3km   143.210 E ± 4.9km
    DEPTH =  17.3km  (  3 depth phases)
    4.9mb ( 23 obs.)  4.5Msz (  4 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

MAT     4.93 235 iPc    02 09.50   2.8
       0.6s   326.67nm
                eS      03 10.00
SHK     9.77 243 eP     03 15.50   1.1
MDJ    11.33 301 eP     03 37.50   1.8
      Z  16s      3.50um          4.3Msz
      E  14s      2.40um
                 S      05 45.00
CN2    13.95 294 eP     04 09.50  -1.1
      Z  16s      1.80um
      N  13s      1.20um
      E  13s      0.60um
                 epP     04 17.00
                 eS      06 38.00
SNY    15.08 285 Pc     04 23.00  -2.3
       1.2s      0.02nm          1.4mb X
      Z  17s      2.80um          3.3MszX
      N  16s      1.20um
      E  16s      1.60um
SSE    19.80 252 Pd     05 24.40   0.4
       1.0s     35.00nm          4.6mb
      Z  20s      0.60um          3.7Msz
      N  14s      1.00um
      E  14s      1.10um
                 sP      05 36.00
                 eS      09 12.00
                 esS     09 28.00
BJI    20.76 280 eP     05 32.00  -2.0
       1.5s     58.00nm          4.7mb
      Z  16s      1.75um          4.5MszX
      E  14s      0.99um
                 eS      09 34.00
TIA    20.83 269 P      05 32.70  -2.1
      Z  16s      2.10um          4.6MszX
      N  13s      0.60um
      E  13s      2.10um
NJ2    21.07 257 Pd     05 35.60  -1.6
TIY    24.06 276 P      06 07.60   0.8
      N  14s      1.00um
                 sS      10 32.00
HHC    24.15 283 eP     06 07.00  -0.7
      Z  18s      2.70um          4.8Msz
      N  11s      0.30um
      E  16s      1.40um
WHN    25.18 258 Pc     06 18.50   1.0
       1.0s      0.07nm          2.3mb X
      Z  18s      1.09um          4.4Msz
      N  16s      1.49um
      E  16s      1.40um
                 pP      06 23.00  16km
BTO    25.35 283 eP     06 19.00  -0.2
      N  13s      0.40um
      E  16s      2.60um
                 pP      06 25.00  21km
                 ePP     06 57.00
                 eS      10 37.00
XAN    27.89 270 P      06 41.30  -1.2
LZH    31.12 276 eP     07 11.50   0.0
       1.5s     66.00nm          5.3mb
      Z  15s      1.60um          4.8MszX
      E  13s      1.10um
                 pP      07 15.70  15km
GYA    33.08 258 P      07 28.80   0.2
CD2    33.14 267 iPd    07 29.00  -0.1
GTA    33.26 284 P      07 31.00   0.9
      Z  16s      2.10um          4.9MszX
      E  15s      1.30um
KMI    36.77 259 Pc     08 00.00  -0.3
      Z  18s      0.90um          4.6Msz
                 esS     13 54.00
WMQ    41.04 295 P      08 36.10   0.6
CHG    43.29 255 ePd    08 55.40   1.3
       0.8s      9.70nm          4.6mb
CHTO   43.29 255 eP     08 54.80   0.7
LSA    43.43 274 eP     08 57.80   2.1
IMA    43.84  32 P      08 57.80  -0.4
       1.0s      5.31nm          4.3mb
SHL    44.88 268 iP     09 07.90   0.8
FBA    46.26  33 P      09 18.50   1.2
       0.9s      8.54nm          4.7mb
INK    51.54  28 eP     09 57.00  -1.1
MBC    53.75  17 eP     10 13.50  -1.0
       1.0s      4.00nm          4.4mb
WB5    59.65 190 eP     10 56.10  -1.0
WRA    59.72 190 Pc     10 55.60  -1.9
       1.0s      4.30nm          4.5mb
QUE    61.57 287 eP     11 10.60   0.1
POO    62.68 272 eP     11 17.00  -0.9
GBA    62.82 265 P      11 18.40  -0.3
SOD    63.24 337 eP     11 20.00  -0.8
ASPA   63.44 190 eP     11 20.20  -2.4
MAIO   63.78 296 eP     11 25.00   0.1
SUF    66.41 333 iP     11 40.70  -0.7
       0.7s      8.90nm          5.0mb
EDM    66.54  40 eP     11 42.00  -0.4
NUR    68.43 332 eP     12 03.50   9.4X
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17d 08h

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WDC     68.48  55 eP     11 55.60   0.8
MIN     69.20  55 e(P)   12 00.40   1.0
ORV     69.71  55 eP     12 02.30  -0.1
CMB     71.30  56 eP     12 11.60  -0.5
LRM     71.40  46 eP     12 12.10  -0.8
KVN     72.15  54 P      12 17.80   0.4
FRI     72.35  56 e(P)   12 14.20  -4.1X
HFS     72.41 336 eP     12 17.50  -0.8
        0.6s     10.50nm          5.1mb
      Z  18s      0.17um          4.3Msz
                  LR     44 18.00
NB2     72.45 338 P      12 17.60  -0.9
        1.0s     18.00nm          5 1mb
TNP     73.28  54 P      12 23.70  -0.4
        1.2s      8.74nm          4.7mb
MSU     76.13  51 P      12 41.80   1.4
KRA     77.83 327 eP     12 49.40   0.1
        0.7s     38.00nm          5.6mb
BBTK    78.68 313 eP     12 54.00  -0.4
KSP     78.73 329 iPd    12 54.90   0.6
BRG     79.63 330 e(P)   12 58.90  -0.3
CLL     79.64 331 iPd    12 59.10  -0.1
        0.9s     12.00nm          4.9mb
PRU     80.10 329 P      13 02.20   0.5
MOX     80.70 331 eP     13 04.00  -0.9
KHC     81.16 329 Pc     13 07.80   0.4
        1.0s      7.00nm          4.7mb
                  e      13 21.00  45kmX
GRF     81.62 331 iP     13 11.00   1.3
        1.6s     58.00nm          5.4mb
ALQ     81.93  51 P      13 12.30   0.5
        1.2s      6.08nm          4.5mb
ALQ     81.93  51 eP     13 23.70  11.9X
KBA     82.90 328 e(P)   13 17.00   0.4
        1.0s      9.80nm          4.9mb
LOR     86.32 334 eP     13 33.80   0.2
        1.0s     18.00nm          5.2mb
SSF     86.62 334 eP     13 35.60   0.5
        1.0s     10.80nm          5.0mb
LPG     86.79 331 iPd    13 37.00   0.7
        0.8s      8.00nm          5.0mb
SMF     86.86 333 iPd    13 36.90   0.6
        1.2s     20.80nm          5.2mb
AVF     86.91 334 iPd    13 37.00   0.5
        0.8s      9.40nm          5.1mb
ZOBO   144.20  59 ePKP   20 29.00  -0.2
LPB    144.41  59 ePKP   20 38.00   8.7X
CNCB   144.69  59 PKP    20 30.00   0.0
CCH    146.31  58 ePKP   20 34.00   1.6
      S.D. = 1.1  on  67 of  71 obs.
-----------------------------------
%  NOV  17, 1989  11h 29m 37.14± 0.87s
   60.633 N ± 6.4km    6.296 E ±10.9km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                (535)
      ML 1.3 (BER).

HYA      0.54 354 eP     29 46.78  -1.2
                  eS     29 56.17
ASK      0.56 255 eP     29 49.50   0.9
                  eS     29 55.07
ODD1     0.74 167 eP     29 50.87  -0.9
                  eS     30 00.21
SUE      0.86 300 eP     29 52.76  -1.0
                  eS     30 04.43
BLS2     1.38 166 eP     30 02.03  -0.5
                  eS     30 20.04
KMY      1.52 201 eP     30 05.09   0.7
                  eS     30 22.88
MOL      2.03  17 iP     30 13.64   1.9
                  eS     30 35.19
NRA0     2.58  85 iPc    30 22.90   3.2X
                  iSg    30 57.30
      S.D. = 1.4  on   7 of   8 obs.
-----------------------------------
   NOV  17, 1989  11h 57m 52.63± 1.24s
   39.557 N ± 6.5km  143.588 E ±10.7km
   DEPTH =  26.3 ±  7.2 km
   4.3mb (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ     1.56 253 iP+    58 18.70  -0.3
                  S      58 40.20
AOMJ     2.66 293 eP     58 34.70   0.0
HOOJ     2.83 355 P      58 37.20   0.2
                  S      59 08.60
YAMJ     3.10 245 P      58 40.80  -0.1
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MRRJ     3.44 327 eP     58 46.70   1.0
                  S      59 24.30
KUSJ     3.64  13 P      58 47.40  -1.1
                  S      59 26.60
NIIJ     4.28 239 P      58 58.20   0.5
KAKJ     4.30 220 P      58 56.70  -1.2
                  S      59 47.40
ASAJ     4.61 351 eP     59 01.70  -0.7
CHJJ     5.05 228 P      59 07.90  -0.7
MAT      5.20 236 eP     59 11.00   0.2
        0.7s     25.34nm          4.9mb X
                  (S)    00 12.00
MTMJ     5.44 239 P      59 14.90   0.7
IIDJ     6.08 230 P      59 23.50   0.4
TSRJ     7.25 239 eP     59 41.30   1.7
WHN     25.48 258 Pd     03 20.00  -0.2
                  pP     03 24.00  14kmX
LZH     31.41 276 e(P)   04 12.00  -1.9
      Z  15s      0.20um          3.9MszX
GTA     33.54 284 eP     04 31.80  -0.5
WMO     41.29 295 P      05 37.60   0.3
INK     51.36  28 eP     06 58.00   1.5
WRA     59.82 190 Pd     07 57.40  -0.6
        0.6s      1.10nm          4.2mb
KVN     71.88  54 eP     09 16.00   0.5
NB2     72.51 338 P      09 19.00   0.3
        0.9s      4.10nm          4.5mb
      S.D. = 0.9  on  22 of  22 obs.
-----------------------------------
?  NOV  17, 1989  13h 21m 21.66± 2.69s
   39.690 N ±21.5km   28.208 E ±17.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                         (366)

DST      0.33 104 iPg    21 28.60   0.0
                  iSg    21 35.60
BNT      0.70 342 iPg    21 35.20  -0.3
                  iSg    21 46.70
EDC      0.71 338 ePg    21 35.90   0.3
                  eSg    21 46.70
YLV      1.25  45 ePn    21 45.00   0.0
      S.D. = 0.4  on   4 of   4 obs.
-----------------------------------
?  NOV  17, 1989  13h 36m 27.83±10.46s
   71.494 N ±40.7km    5.378 W ±83.2km
   DEPTH =  10.0km  (geophysicist)
   4.4mb (  1 obs.)
 JAN MAYEN ISLAND REGION        (639)

LOF      7.34 108 iPc    38 17.25  -0.3
TRO      8.29  91 iPc    38 30.20  -0.6
NSS      9.50 129 iP     38 47.91   0.3
MOL     10.25 144 iP     38 57.07  -0.8
KEV     10.81  84 eP     39 06.00   0.5
SOD     11.87  95 iP     39 19.20  -0.7
                  i      39 28.40
NRA0    12.72 139 iPc    39 31.60   0.4
                  eS     41 37.00
SUF     14.88 110 eP     40 00.70   1.1
        0.7s      8.60nm          4.4mb
NUR     16.20 117 eP     40 19.50   2.8X
      S.D. = 0.8  on   8 of   9 obs.
-----------------------------------
   NOV  17, 1989  13h 39m 14.65± 0.54s
   46.236 N ± 5.1km    7.435 E ± 5.7km
   DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                    (544)
      ML 2.7 (LDG).

DIX      0.16 186 ePd    39 19.00   0.6
EMS      0.39 245 ePc    39 21.70  -1.0
MMK      0.41 116 ePd    39 23.00  -0.1
LPL      0.87 215 Pg     39 31.40  -0.2
LPG      0.88 213 Pg     39 31.70   0.0
                  Sg     39 43.60
TMA      1.01  97 ePc    39 33.30  -0.6
LLS      1.25  59 ePc    39 37.30  -0.7
ZLA      1.41  27 ePd    39 41.40   1.0
VDL      1.43  79 ePc    39 42.00   1.2
BSF      1.66 345 Pg     39 43.60  -0.4
                  Sg     40 04.00
FEL      1.69  13 ePn    39 41.60  -2.8
SLE      1.69  25 ePc    39 44.50   0.1
HAU      1 92 338 Pg     39 48.40   0.7
                  Sg     40 11.20
CDF      2.18 357 Pg     39 53.40   1.8
                  Sg     40 19.60
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LBF      2.50 289 Pg     40 00.40   4.4X
                  Sg     40 29.80
SMF      2.52 281 Pg     40 01.00   4.7X
                  Sg     40 32.20
      S.D. = 1.2  on  14 of  16 obs.
-----------------------------------
   NOV  17, 1989  15h 35m 57.89± 0.18s
   17.385 S ± 4.5km  167.931 E ± 4.9km
   DEPTH =  27.9km  ( 12 depth phases)
   5.4mb ( 24 obs.)  5.3Msz ( 20 obs.)
 VANUATU ISLANDS                (186)
      Ms 5.7 (BRK).
      CENTROID, MOMENT TENSOR    (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 33C
      Centroid Location:
      Origin Time        15:36: 7.2 0.3
      Lat 17.25S 0.04 Lon 167.37E 0.04
      Dep  18.6 2.0 Half-duration  3.1
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 4.57 0.13  Mtt= 0.04 0.20
        Mff=-4.62 0.19  Mrt= 1.37 0.38
        Mrf=-2.20 0.55  Mtf= 0.08 0.15
       Principal Axes:
        T  Vol=  5.40  Plg=72  Azm= 41
        N       -0.25      12      173
        P       -5.14      13      266
      Best Double Couple:Mo=5.3*10**17
       NP1:Strike= 12 Dip=34 Slip= 113
       NP2:        165     59       76

PVC      0.51 134 iPd    36 08.10  -0.2
                  iS     36 15.50
DZM      4.87 196 iP     37 09.00  -2.2
                  iS     38 00.90
SVA     10.06  96 ePc    38 27.30   3.7X
VUN     10.06  95 ePd    38 27.00   3.3X
MBU     10.32  89 eP     38 31.60   4.2X
HNR     11.08 315 ePc    38 37.00  -0.6
                  eS     40 40.00
SVO     11.37 315 eP     38 42.00   0 4
                  eS     40 46.00
BRS     17.18 232 iPc+   39 55.20  -2.4
                  epP    40 12.00
                  esP    40 36.00
                  eS     43 14.00
COO     19.65 225 iPc    40 28.50   0.9
AFI     19.84  83 P      40 30.00   0.3
                  eS     44 48.00
RMO     19.94 240 iPc    40 32.00   1.3
        1.3s  1071.00nm          6.0mb
RAB     20.26 309 e(P)   40 36.00   1.9
                  e(S)   44 12.00
CTA     20.70 259 iPd    40 37.90  -0.7
        1.0s   325.00nm          5.7mb
                  i      40 54.00  75kmX
                  iS     44 30.50
KDB     21.66 289 eP     40 46.00  -2.4
HBZ     22.11 158 eP     40 52.70   0.1
RIV     22.24 219 eP     41 02.00   8.0X
                  eS     45 08.00
HITZ    22.32 164 eP     40 54.40  -0.4
RATZ    22.47 164 eP     40 57.20   0.9
LAT     23.05 295 eP     40 55.00  -7.2X
MNG     24.05 166 P      41 11.70   0.0
        0.4s    24.00nm          5.1mb
PGZ     24.25 164 P      41 13.30  -0.2
        0.7s   160.00nm          5.7mb
CNB     24.33 219 iPd    41 16.90   2.4
                  e      41 28.00  43kmX
                  e      41 41.00
BWA     24.34 222 eP     41 13.80  -0.8
                  i      41 14.90   4kmX
TCW     24.37 168 P      41 15.10   0.4
CAW     24.43 167 P      41 14.70  -0.6
CMS     24.47 231 iPc    41 17.10   1.3
                  e      41 25.00  28km
MRW     24.47 168 P      41 15.40  -0.3
WEL     24.54 168 P      41 16.00  -0.3
                  S      45 34 00
CAN     24.56 220 eP     41 18.00   1.3
MTW     24.57 166 P      41 16.10  -0.6
BLW     24.77 166 P      41 18.00  -0.6
MOW     24.77 167 P      41 18.00  -0.6
QIS     26.96 259 eP     41 38.00  -1.2
                  e      41 45.00  25km
MSZ     27.20 180 P      41 39.50  -1.6
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STK     27.86 234 eP     41 47.00  -0.3
                e        42 09.00  99kmX
TOO     28.17 220 eP     41 51.00   1.0
BFD     29.80 224 eP     42 05.00   0.3
ADE     31.37 230 e(P)   42 25.00   6.4X
        1.0s    32.00nm          5.1mb
WB5     31.87 260 eP     42 20.90  -2.2
                i        42 30.60  34km
WRA     31.90 260 P      42 22.00  -1.3
        1.1s    48.60nm          5.3mb
ASPA    32.42 253 iPd    42 25.60  -2.3
        0.9s   182.00nm          6.0mb
      Z  21s    17.18um          5.7Msz
                LR       54 21.10
MTN     35.78 272 eP     42 56.00  -0.8
KNA     37.53 267 eP     43 11.00  -0.6
GUA     38.22 322 e(P)   43 07.70  -9.6X
        0.3s   238.96nm          6.5mb X
GUMO    38.28 322 e(P)   43 22.50   4.6X
PJG     38.28 322 e(P)   43 07.90 -10.0X
WARB    39.19 250 eP     43 25.00  -0.5
AAI     41.26 285 eP     43 50.50   7.9X
PMO     42.42  93 iP     44 02.00   9.9X
        0.8s    25.00nm          5.0mb
VAH     42.63  94 iP     44 03.40   9.6X
        0.8s    15.00nm          4.8mb
TPT     42.69  93 iP     44 04.20   9.9X
        0.8s     2.00nm          3.9mb X
RUV     42.88  94 iP     44 05.40   9.6X
        0.8s    20.00nm          4.9mb
KUG     43.58 273 ePc    44 10.00   8.4X
        0.8s   292.10nm          6.1mb
COOL    44.46 243 eP     44 07.50  -1.0
MBL     45.43 257 eP     44 16.00  -0.4
MEKA    46.47 250 eP     44 24.00  -0.6
        0.5s    35.00nm          5.6mb
KLB     47.41 243 eP     44 31.00  -0.9
NWAO    47.98 241 eP     44 36.00  -0.4
      Z  22s     4.00um          5.4Msz
      N  22s     2.00um
      E  22s     3.30um
                eS       51 42.00
RKG     48.30 240 eP     44 40.00   1.2
DAV     48.40 297 eP     44 38.00  -1.8
MUN     48.76 243 eP     44 42.40   0.0
NANU    49.32 255 eP     44 48.00   1.2
PCI     50.03 284 iPc    44 57.00   4.6X
        1.0s    11.50nm          4.9mb
HON     50.93  42 P      45 09.00  10.0X
      Z  20s     3.19um          5.3Msz
KHKI    51.65 273 eP     45 04.30  -0.4
                e        48 56.00
DRV     52.52 194 eP     45 02.00  -8.5X
TSM     53.69 289 ePc    45 28.50   8.7X
TRT     54.66 273 ePd    45 19.00  -8.1X
KKM     56.13 290 ePd    45 37.90   0.1
BAG     57.48 303 eP     45 46.00  -1.4
                eS       53 43.00
CHJJ    59.78 333 P      45 57.90  -5.0X
IIDJ    59.79 332 P      46 02.00  -1.0
SBA     60.50 180 Pc     46 07.00  -0.3
MAT     60.54 333 eP     46 06.00  -2.1
      Z  20s     0.71um          4.8Msz
                eS       54 24.00
TSRJ    60.72 330 P      46 05.20  -4.1X
MTMJ    60.76 332 P      46 08.10  -1.5
SHK     61.56 327 eP     46 13.00  -2.0
ANP     61.91 312 eP     46 09.00  -8.7X
ASAJ    65.43 340 P      46 39.40  -0.9
SSE     65.88 317 P      46 42.50  -0.9
        1.2s    17.00nm          5.0mb
      Z  20s     0.90um          5.0Msz
      N  14s     0.60um
                S        55 28.00
                sS       56 01.00
KGM     66.50 280 ePc    46 48.90   1.2
GZH     66.81 305 eP     46 48.00  -1.5
      Z  22s     1.50um          5.2Msz
QIZ     67.59 300 eP     46 54.80   0.3
                eS       55 45.00
IPM     69.52 282 ePd    47 06.80   0.2
        1.0s    60.30nm          5.7mb
WHN     70.19 312 Pd     47 10.50   0.2
        1.4s     0.09nm          2.7mb X
      Z  20s     1.25um          5.2Msz
                pP       47 18.00  24km
SNG     70.82 284 eP     47 15.00   0.5
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                eS       56 32.10
MDJ     70.91 332 Pc     47 13.50  -1.0
      Z  20s     1.30um          5.2Msz
TIA     71.74 319 P      47 19.10  -0.5
      N  16s     0.90um
      E  16s     1.20um
SNY     71.76 327 iPc    47 19.00  -0.6
        9.0s     0.90nm          2.8mb X
      Z  20s     1.80um          5.3Msz
      N  18s     1.10um
      E  18s     0.90um
                sP       47 32.00
                S        56 32.00
CN2     72.24 329 Pc     47 21.00  -1.4
        6.0s     0.50nm          2.7mb X
      Z  20s     0.90um          5.0Msz
      N  13s     0.30um
      E  13s     0.30um
                pP       47 29.00  26km
                eS       56 41.00
SPA     72.72 180 eP     47 25.10  -0.2
        1.2s   162.68nm          5.9mb
NNT     73.62 289 eP     47 31.90   0.8
GYA     73.75 305 iPd    47 32.00   0.2
      N  18s     1.30um
      E  18s     1.10um
                pP       47 40.00  26km
LOE     73.76 295 eP     47 32.50   0.6
NST     74.46 292 iPd    47 37.50   1.6
BJI     74.72 321 Pd-    47 37.50   0.5
        1.5s   105.00nm          5.6mb
      Z  24s     1.27um          5.1MszX
                eS       57 10.00
                eSKS     57 40.00
                eSS      01 56.00
TIY     75.64 318 Pc     47 43.00   0.6
      E  16s     1.00um
XAN     75.95 313 P      47 44.00  -0.2
BDT     76.08 293 eP     47 46.00   0.9
KMI     76.24 302 Pc     47 46.50   0.2
      Z  24s     1.50um          5.2MszX
                PcP      47 54.00
                sP       48 08.00
                S        57 32.00
                sS       58 04.00
CHG     76.75 295 ePd    47 50.10   1.1
        1.1s    47.47nm          5.4mb
CHTO    76.75 295 ePc    47 48.80  -0.2
HHC     78.01 320 Pc     47 56.00   0.4
      Z  22s     1.30um          5.2Msz
                pP       48 05.00  29km
CD2     78.13 308 eP     47 57.20   0.8
      Z  22s     1.00um          5.1Msz
BTO     78.83 319 eP     47 59.00  -1.1
      N  16s     0.70um
      E  16s     0.50um
                pP       48 07.00  25km
MAW     79.68 202 eP     48 13.00   8.9X
LZH     80.57 312 Pc     48 10.00   0.4
        2.0s   140.00nm          5.6mb
      Z  22s     1.00um          5.1Msz
      E  20s     1.00um
                pP       48 18.00  25km
                sP       48 22.00
                PP       51 21.00
                S        58 18.00
                sS       58 29.00
                PS       58 55.00
                SS       03 38.00
TTA     84.89  16 P      48 29.00  -2.2
        0.9s    12.50nm          5.1mb
GTA     84.95 314 eP     48 32.60   0.5
      Z  26s     1.00um          5.1MszX
                S        58 56.00
SHL     85.38 298 iP     48 35.80   1.2
                iS       58 59.00
PRS     85.43  50 e(P)c  48 32.60  -1.7
SYP     85.71  52 eP     48 36.00   0.1
PMR     85.78  19 P      48 36.00   0.5
        0.8s     8.62nm          5.0mb
WDC     86.45  46 ePc    48 38.20  -1.1
ORV     86.72  47 ePc    48 39.70  -0.9
CMB     86.86  49 ePc    48 40.30  -1.1
FRI     86.92  50 ePc    48 40.60  -1.0
MIN     86.99  46 ePc    48 40 40  -1.7
MWC     87.04  53 eP     48 40.00  -2.5
ISA     87.29  51 eP     48 42.00  -1.6
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SBB     87.40  53 eP     48 44.00  -0.1
RVR     87.47  53 eP     48 46.00   1.6
LSA     87.50 302 iPc    48 46.00   0.8
                pP       48 53.00  22km
BAR     87.51  55 eP     48 56.00  11.4X
PLM     87.62  54 P      48 44.00  -1.3
CLC     88.01  52 eP     48 47.00   0.0
IMA     88.04  15 P      48 48.00   1.4
TPC     88.53  54 eP     48 49.00  -0.5
FBA     88.68  17 P      48 43.60  -5.9X
        0.8s     9.14nm          5.2mb
KVN     88.91  48 eP     48 50.00  -1.4
                pP       49 01.40  36km
GLA     89.09  55 eP     48 49.00  -3.2X
TNP     89.17  50 P      48 51.00  -1.7
        1.5s    15.15nm          5.1mb
LON     89.65  40 eP     48 53.00  -1.5
                pP       49 04.20  36km
RMW     89.96  40 P      48 56.00   0.0
PNT     92.07  39 eP     49 06.00   0.4
KOD     93.44 280 eP     49 14.00   1.0
GBA     94.44 283 P      49 25.00   7.9X
        1.0s    15.60nm          5.4mb
WMQ     95.03 314 iPd    49 20.00   0.6
      Z  22s     1.30um          5.4Msz
                SKS      59 54.50
INK     95.19  19 eP     49 19.00  -0.5
                pP       49 48.00 109kmX
GOL     98.42  51 P      49 43.00   7.9X
      Z  20s     2.70um          5.7Msz
TUL    104.96  57 Pdiff  50 08.00   3.8X
      Z  19s     3.86um          6.0Msz
                e        54 29.00
                e        04 00.00
                e        09 51.00
                LR       24 45.00
MAIO   114.77 302 ePKP   54 39.00   1.0
ZOBO   115.43 118 ePKP   54 52.00  11.6X
      Z  22s     0.98um          5.4Msz
                LR       30 36.00
RSNY   121.55  48 PKP    54 45.00  -5.5X
      Z  20s     3.39um          6.0Msz
KEV    122.44 345 ePKP   54 51.00  -0.4
SOD    124.21 343 ePKP   54 53.00  -1.9
PPD    125.13 134 e(PKP)54 56.00  -2.1
BUL    125.36 229 iPKPc 54 55.20  -3.6X
        0.8s    10.82nm
PTZ    126.87 236 iPKP   55 02.00   0.2
                i        57 10.00
SUF    127.54 339 iPKP   55 00.70  -0.8
        0.6s     5.60nm
NAI    128.41 254 ePKP   55 06.00   1.1
LSZ    128.72 233 ePKP   55 06.00   0.7
                e        57 29.00
NUR    129.55 337 ePKP   55 05.40   0.0
NB2    133.34 345 PKP    55 10.80  -1.9
        0.7s     3.60nm
BBTK   135.31 309 ePKP   55 16.00  -1.2
MLR    137.76 320 ePKP   55 19.00  -2.7
KRA    138.50 329 ePKP   55 22.80   0.1
SPC    138.90 328 ePKP   55 23.50  -0.2
KSP    139.67 332 ePKP   55 21.00  -3.8X
                ec       55 27.20
                e        59 01.80
BZS    140.28 322 ePKP   55 25.00  -1.0
BRG    140.67 334 ePKP   55 26.90   0.3
        1.5s    23.00nm
                e        55 39.00
                e        58 45.00
CLL    140.72 335 ePKP   55 27.00   0.4
        2.7s   120.00nm
                i        55 44.90
SRO    140.77 327 ePKP   55 24.70  -2.1
PRU    141.07 333 ePKP   55 22.00  -5.3X
      Z  20s     1.00um          5.6Msz
      N  20s     1.60um
      E  18s     0.50um
                e        58 28.00
ZST    141.13 329 ePKP   55 27.10  -0.4
MOX    141.79 336 ePKP   55 20.00  -8.6X
KHC    142.12 332 iPKPc 55 25.00  -4.3X
      Z  22s     0.80um          5.4Msz
      N  21s     0.60um
      E  21s     0.60um
                e        55 32.90
SKO    142.33 318 ePKP   55 24.00  -5.8X
OHR    143.18 317 ePKP   55 27.30  -4.1X
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17d 15h

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PTJ    143.24 327 e(PKP)55 27.30  -4.1X
TNS    143.33 338 ePKPd 55 28.00  -3.3X
BHG    143.48 331 ePKP  55 29.50  -2.1
        0.9s     20.00nm
TOD    143.71 337 ePKP  55 28.21  -3.7X
KBA    143.73 330 iPKPd 55 28.50  -3.8X
        0.6s     19.00nm
                    id     55 29.20
                    i      55 33.30
                    i      55 36.90
MEM    143.83 340 PKP   55 33.50   1.5
FUR    143.86 333 ePKP  55 30.30  -1.9
VBY    143.87 327 iPKPd 55 30.40  -1.9
LJU    143.88 328 ePKP  55 28.50  -3.8X
ABH    143.93 338 ePKP  55 29.19  -3.1X
CEY    144.14 328 ePKP  55 30.00  -2.8
VOY    144.21 329 ePKPd 55 30.10  -2.9
STU    144.23 336 iPKPd 55 30.50  -2.3
        1.0s     36.00nm
RUP    144.26 339 ePKP  55 30.42  -2.5
FVI    144.35 330 PKP   55 30.80  -2.2
RIY    144.43 327 iPKP  55 31.80  -1.4
ETA    144.47 354 ePKP  55 35.50   2.4
        1.1s    145.00nm
TRI    144.50 328 iPKPd 55 31.30  -2.0
                    i      55 45.00
GWF    144.66 337 PKP   55 31.61  -2.0
DOU    144.72 341 PKPc+ 55 33.00  -0.6
OGA    144.96 332 iPKPc 55 33.20  -1.2
ECP    144.99 354 ePKP  55 33.50  -0.4
        0.6s    265.00nm
CDF    145.26 337 PKP   55 33.33  -1.4
CTI    145.28 331 PKP   55 31.40  -3.5X
SLE    145.32 335 ePKPd 55 34.00  -0.8
SAX    145.39 334 ePKPd 55 34.80  -0.4
FEL    145.42 336 PKP   55 33.65  -1.4
LCI    145.43 318 PKP   55 34.50  -0.6
ECH    145.47 337 PKP   55 33.87  -1 1
OSS    145.49 333 ePKPc 55 35.00  -0.3
VAL    145.49 358 ePKP  55 35.00   0.2
BRT    145.61 319 PKP   55 35.00  -0.4
MOF    145.78 337 PKP   55 34.76  -0.9
LLS    145.83 334 ePKPd 55 36.50   0.6
VITF   145.89 338 PKP   55 35.61   0.0
BSF    145.92 337 PKP   55 35.33  -0.6
VDL    145.93 333 ePKPd 55 37.00   0.9
HAU    145.94 338 ePKP  55 36.00   0.2
        0.6s     36.05nm
BBS    145.95 336 PKP   55 35.47  -0.4
SAL    146.14 331 PKP   55 36.50   0.4
LOMF   146.31 337 PKP   55 36.37  -0.1
ARV    146.45 326 PKP   55 36.60  -0.2
TMA    146.49 333 ePKPd 55 37.60   0.6
ALP    146.59 325 ePKP  55 39.81   2.7
VAI    146.72 333 PKP   55 37.20   0.2
SFI    146.72 328 PKP   55 39.00   1.9
ROI    146.74 318 PKP   55 39.40   2.0
CSI    146.81 318 PKP   55 39.60   2.2
DUI    146.81 322 PKP   55 38.50   1.0
PGD    146.82 328 PKP   55 39.10   1 6
TDS    146.84 318 PKP   55 39.50   2.0
CRE    146.88 327 PKP   55 40.00   2.5
ASS    146.89 326 PKP   55 34.50  -3.0X
MMK    146.92 334 ePKPd 55 40.10   2.4
SGO    146.97 320 PKP   55 37.50  -0.1
MGR    147.06 319 PKP   55 39.00   1.2
MME    147.10 329 PKP   55 40.40   2.3
DIX    147.12 335 ePKPd 55 40.80   2.7
FIR    147.13 328 ePKP  55 41.00   3.3X
SDI    147.15 323 PKP   55 36.80  -1.2
CZI    147.22 317 PKP   55 38.90   0.9
ORX    147.24 334 PKP   55 39.41   1.3
BDI    147.25 329 PKP   55 39.20   1.1
ORO    147.25 334 PKP   55 38.50   0.4
BOB    147.27 331 PKP   55 40.20   2.1
FLN    147.31 346 ePKP  55 39.50   1.6
        1.2s     59.50nm
EMS    147.33 335 ePKPd 55 40.90   2.6
MNS    147.35 325 PKP   55 37.20  -1.0
BCAO   147.38 250 iPKPc 55 37.20  -1.9
        0.9s    185.00nm
                    i      55 41.60
                    i      55 48.40
                    i      55 53.90
LDF    147.38 345 ePKP  55 39.40   1.4
        1.3s     68.60nm
LOR    147.44 340 ePKP  55 40.10   1.9
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        1.2s     53.55nm
PII    147.54 329 PKP   55 39.50   1.1
LBF    147.64 339 ePKP  55 40.70   2.1
        1.2s     62.50nm
RMP    147.72 324 PKP   55 40.50   1.7
LSD    147.73 334 PKP   55 42.19   3.1X
SSF    147.73 340 ePKP  55 41.00   2.3
        1.4s    100.20nm
RDP    147.74 324 PKP   55 41.50   2.6
GRR    147.75 346 ePKP  55 40.80   2.2
        1.2s     65.45nm
PCP    147.86 332 PKP   55 41.27   2.3
LPG    147.87 335 ePKP  55 41.90   2.6
        1.2s     65.45nm
RSP    147.94 334 PKP   55 41.78   2.6
SMF    147.99 339 ePKP  55 41.40   2.3
        1.0s     34.00nm
AVF    148.02 340 ePKP  55 41.80   2.7
        1.0s     30.00nm
CKI    148.07 332 PKP   55 41.50   2.2
LPF    148.13 346 ePKP  55 42.00   2.8
        1.2s     62.50nm
ATN    148.23 316 PKP   55 40.50   0.7
BNI    148.26 334 PKP   55 43.10   3.4X
FIN    148.27 332 PKP   55 42.19   2.5
RRL    148.32 334 PKP   55 43.63   3.6X
ROB    148.35 332 PKP   55 42.40   2.6
BGF    148.39 340 ePKP  55 42.60   2.9X
        1.1s     36.65nm
PZZ    148.52 333 PKP   55 42.40   2.2
IMI    148.64 332 PKP   55 43.01   2.7
MAF    148.78 340 ePKP  55 43.90   3.5X
        1.3s     54.15nm
TCF    148.84 341 ePKP  55 43.90   3.4X
        1.4s     87.15nm
MNO    148.87 316 PKP   55 46.50   5.5X
SBF    148.88 332 ePKP  55 43.70   3.0X
        1.3s     90.25nm
LSF    149.08 341 ePKP  55 44.20   3.4X
        1.4s     82.75nm
CVF    149.20 329 ePKP  55 44.60   3.4X
        1.2s    160.65nm
MFF    149.24 344 ePKP  55 44.70   3.7X
        1.2s     59.50nm
FRF    149.47 333 ePKP  55 45.10   3.6X
        1.2s     89.25nm
LRG    149.68 333 ePKP  55 45.80   4.0X
        1.2s    104.15nm
LMR    149.71 333 ePKP  55 45.70   3.9X
        1.2s     83.30nm
RJF    149.93 341 ePKP  55 46.70   4.6X
        1.2s     41.65nm
CAF    150.09 340 ePKP  55 47.40   5.0X
        1.2s     23 80nm
LFF    150.50 341 ePKP  55 47.90   4.9X
        0.9s     45.85nm
LPO    150.59 341 ePKP  55 48.40   5.3X
        1.2s     71 40nm
KIC    166.91 214 PKP   56 04.60   1.8
      S.D. = 1.4  on 211 of 277 obs.
-----------------------------------------
*  NOV  17, 1989  16h 09m 20.65± 0.69s
     2.927 N ± 9.5km  127.510 E ± 9.7km
    DEPTH =  33.0km  (normol)
    4.4mb (  3 obs.)
 MOLUCCA PASSAGE                    (266)

PCI      8.56 244 iPd   11 26.50   1.2
        0.8s      9.50nm          5.0mb X
TSM      9.51 278 ePd   11 40.30   1.9
KKM     11.68 286 ePc   12 10.00   1.8
MTN     16.08 167 eP    13 06.00   0.0
                  e     16 09.00
KHKI    16.33 227 eP    13 09.20   0.0
                  e     16 42.00
TRT     18.21 234 ePd   13 30.50  -2.2
WB5     23.64 164 iPc   14 30.10   0.1
WRA     23.70 164 Pc    14 30.30  -0.2
        0.6s      9.60nm          4.5mb
MBL     25.09 197 eP    14 43.00  -1.0
QIS     26.18 154 eP    14 54.00  -0.2
ASPA    27.16 167 iPd   15 02.10  -1.0
LOE     29.11 301 eP    15 18.50  -2.3
CHTO    32.10 302 eP    15 44.90  -2.4
                  pP    15 54.90  36kmX
MAT     34.88  15 eP    16 11.00  -0.1
STK     37.11 160 eP    16 30.00   0.0
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BJI     38.35 346 eP    16 41.00   0.8
        1.0s     18.00nm          4.9mb
BRS     38.75 143 iPc   16 44.20   0.3
BWA     42.04 154 eP    17 13.10   2.2
CAN     43.05 154 eP    17 19.90   0.7
HYB     50.12 290 eP    18 13.50  -1.7
GBA     50.57 285 Pd    18 20.70   2.1
        0.3s      0.30nm          3.8mb
      S.D. = 1.5  on  21 of  21 obs.
-----------------------------------------
?  NOV  17, 1989  16h 13m 17.01± 3.33s
   16.823 N ±30.1km   99.870 W ±18.0km
   DEPTH =  33.0km  (normol)
 NEAR COAST OF GUERRERO, MEXICO  ( 58)

ACX      0.05  13 iP    13 22.00  -0.6
                  iS    13 31.00
III      1.59  14 iP    13 42.50  -0.9
                  iS    14 14.50
PPM      2.53  28 iP    13 56.00  -1.1
                  (S)   14 41.50
CRX      2.58   4 eP    13 58.00   0.4
IIT      2.64  34 (P)   14 06.50   8.0X
OXX      3.02  85 (P)   14 08.50   4.6X
MRX      3.13 337 iP    14 06.00   0.9
                  iS    14 45.00
IISM     3.20  47 (P)   14 07.50   1.3
      S.D. = 1.3  on   6 of   8 obs.
-----------------------------------------
   NOV  17, 1989  16h 45m 04.36± 0.70s
   24.898 S ± 5.3km  179.994 E ± 5.9km
   DEPTH = 482.7 ±  8.6 km
   4.9mb ( 15 obs.)
 SOUTH OF FIJI ISLANDS              (171)

SVA      6.90 348 ePd   46 49.80  -0.2
VUN      7.00 348 ePc   46 50.70  -0.4
MBU      7.97 351 eP    46 02.50 -58.9X
DZM     12.75 280 iPd   47 54.20   1.9
                  iS    50 15.10
PGZ     15.98 190 eP    48 25.00  -0.2
        0.5s     67.00nm          5.5mb
MNG     16.13 192 eP    48 24.20  -2.5
        0.3s     26.00nm          5.3mb
                  S     51 11.40
KIW     16.48 194 eP    48 29.60  -0.6
CAW     16.68 193 eP    48 32.00  -0.2
MRW     16.88 194 eP    48 33.30  -0.8
                  S     51 23.60
WEL     16.91 194 P     48 35.00   0.5
                  S     51 26.00
TCW     16.95 195 eP    48 34.20  -0.7
CCW     17.48 195 P     48 41.90   1.9
MSZ     22.03 203 P     49 23.10  -0.2
COO     25.47 251 eP    49 55.00   0.4
RMQ     28.16 260 iPd   50 19.60   1.3
        0.9s    105.00nm          5.3mb
CNB     28.36 241 iPd   50 21.60   1.6
CAN     28.65 241 iPd   50 23.00   0.5
BWA     28.94 243 iPd   50 23.90  -1.1
CMS     30.73 250 ePd   50 41.00   0.5
CTA     31.49 272 iPd   50 47.00   0.0
        0.8s    171.64nm          5.6mb
                  iS    55 19.00
                  iScP  56 23.70
TOO     31.91 238 iPc   50 52.00   1.5
BFD     34.13 240 eP    51 10.00   0.9
STK     34.36 249 iPd   51 11.90   0.8
ADE     36.94 244 iPd   51 32.70   0.2
        0.7s     47.95nm          5.1mb
QIS     37.41 268 iPd   51 35.60  -0.8
ASPA    41.88 262 iPd   52 12.40  -0 4
        1.2s     48.00nm          4.9mb
                  iPcP  54 06.90
                  eS    57 52.50
WB5     42.33 267 iPd   52 15.50  -0.9
                  iScP  57 04.40
                  eS    57 57.30
WRA     42.34 267 Pd    52 15.10  -1.3
        0.5s     30.80nm          5.1mb
FORR    45.92 250 iPd   52 46.80   2.5
MTN     47.53 275 eP    52 55.00  -1.8
COOL    51.85 249 iPc   53 37.10   8.3X
        0.5s     13.00nm          4.5mb
KLB     54.60 248 eP    53 57.00   8.5X
MBL     55.11 261 eP    53 50.10  -2.0
BAL     55.66 249 iPd   53 54.20  -1.7
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PRS     82.26  44 ePc   56 35.90   0.6
GCC     82.30  43 ePc   56 35.80   0.4
PCC     82.36  43 eP    56 36.00   0.3
BCH     82.38  46 P     56 36.30   0.3
PRI     82 59  45 eP    56 38.00   0.9
BRK     82.67  42 eP    56 37.70   0.4
BKS     82.69  42 iPd   56 38.40   1.0
         0.8s    44.00nm          5.1mb
LLA     82.70  44 ePc   56 38.10   0.6
MHC     82.72  43 ePc   56 38.40   0.7
ARN     82.79  43 P     56 38.00   0.0
MWC     83.14  47 eP    56 40.00   0.0
BAR     83.18  49 eP    56 40.00   0.0
RVR     83.46  48 eP    56 41.00  -0.3
PEC     83.55  48 P     56 41.80   0.0
SBB     83.57  47 eP    56 42.00   0.1
ISA     83.71  46 eP    56 43.00   0.3
FRI     83.72  44 ePc   56 42.70   0.2
CMB     83.93  43 ePc   56 43.30  -0.4
ORV     84.19  42 ePc   56 44.70  -0.2
WDC     84.22  40 ePc   56 45.30   0.3
CLC     84.38  46 eP    56 46.00   0.0
TPC     84.42  49 eP    56 47.00   0.8
GSC     84.60  47 eP    56 48.00   0.9
MIN     84.62  41 eP    56 47.10  -0.1
GLA     84.67  50 eP    56 48.00   0.6
TNP     85.95  45 P     56 53.20  -0.5
         0.8s    12.25nm          4.7mb
KVN     85.97  44 P     56 53.00  -0.8
BMW     87.63  35 P     57 01.50   0.1
LON     88.56  36 P     57 05.00  -0.7
RMW     89.01  35 P     57 07.80   0.1
MSU     89.47  47 P     57 10.60   0.3
TTA     89.58  11 P     57 08.70  -1.3
         1.0s     7.50nm          4.5mb
PMR     89.71  14 P     57 09.00  -1.5
         0.9s     9.38nm          4.7mb
DAU     91.09  45 P     57 17.90   0.1
PNT     91.31  35 eP    57 18.00  -0.2
ALQ     91.57  52 iPd   57 20.50   0.5
         1.0s     5.00nm          4.5mb
FBA     92.92  13 P     57 23.00  -2.2
         0.9s     5.83nm          4.6mb
GOL     94.63  48 P     57 33.50  -0.5
         0.8s     9.67nm          5.0mb
SUF    138.35 342 ePKP  03 26.70  -8.2X
         0.4s     0.80nm
NUR    140.55 341 ePKP  03 39.00   0.1
UPP    142.96 345 iPKP  03 38.60  -4.5X
NB2    143.06 351 PKP   03 36.00  -7.4X
         1.0s    17.30nm
HFS    143.52 348 ePKP  03 39.60  -4.5X
         0.5s    24.90nm
MLR    150.69 321 ePKPd 04 01.50   5.3X
KSP    151.21 338 iPKPc 04 02.60   6.0X
         0.8s    28.00nm
                   e    05 59.50
CLL    151.80 343 iPKPc 04 03.50   6.1X
         0.9s    26.00nm
                   i    04 14.40
                   e    06 04.00
BRG    151.92 341 iPKPc 04 04.10   6.5X
         1.0s    20.00nm
                   e    06 08.00
WTS    152.45 351 ePKP  04 05.00   6.7X
         0.7s    17.00nm
PRU    152.52 339 PKP   04 05.30   6.8X
BCAO   152.95 224 iPKPd 04 07.50   7.3X
         0.5s     7.00nm
KHC    153.57 340 ePKP  04 02.50   2.5X
                   e    04 23.50
LIC    160.82 165 PKP   04 09.70   0.0
KIC    161.02 165 PKP   04 10.00   0.1
      S.D. = 1.0  on  72 of  87 obs.
-----------------------------------
*  NOV  17, 1989  17h 55m 52.35± 1.58s
   39.022 N ± 9.1km   19.967 E ±20.6km
   DEPTH =  10.0km  (geophysicist)
 GREECE-ALBANIA BORDER REGION    (392)
      MD 3.1 (ATH).

KEK      0.70 349 ePn   56 05.60  -0.6
VLS      0.97 150 ePn   56 10.70  -0.2
LSK      1.23  23 ePn   56 13.60  -1.6
TPE      1.27   2 iPnd  56 17.00   1.0
BERA     1.68 360 iPnc  56 22.20   0.4
KBN      1.73  22 ePn   56 23.80   1.2
KZN      1.89  47 ePn   56 25.80   0.7
                  eSn   56 49.50
OHR      2.18  17 ePn   56 28.30  -0.9
TIR      2.32 358 ePn   56 46.20  15.0X
SKO      3.15  20 ePn   56 49.50   6.5X
      S.D. = 1.2  on   8 of  10 obs.
-----------------------------------
    NOV  17, 1989  19h 12m 57.40± 0.56s
     8.703 S ± 9.3km  106.356 E ± 8.1km
    DEPTH =  23.8km  (  3 depth phoses)
    5.1mb ( 10 obs.)  4.1Msz (  1 obs.)
 SOUTH OF JAVA                     (282)

TRT      6.29  81 ePd   14 31.50   0.3
KHKI     9.16  89 eP    15 08.50  -2.6
                  eS    16 47.60
                  e     19 39.00
IPM     14.22 338 ePd   16 17.90  -1.7
PCI     15.50  61 iPd   16 37.30   1.1
         1.0s     3.50nm          3.5mb X
KUG     17.06  96 eP    16 57.50   1.4
         1.0s   194.10nm          5.2mb
                  eS    19 56.70
TSM     17.36  43 ePd   17 02.00   2.2
MBL     17.95 135 eP    17 02.00  -5.2X
                  e     17 17.00
                  eS    20 05.00
NNT     22.15 343 eP    17 51.00  -2.3
AAI     22.27  78 eP    17 58.50   4.0X
MTN     24.68 102 eP    18 22.00   4.0X
                  e     18 35.00  53kmX
NST     24.99 346 eP    18 20.60  -0.3
LOE     26.34 350 eP    18 32.50  -1.1
CHG     28.30 345 eP    18 50.00  -1.4
         1.0s    32.50nm          5.0mb
                  e     22 05.20
CHTO    28.30 345 eP    18 50.00  -1.4
ASPA    30.26 123 eP    19 07.30  -1.8
         0.9s     7.00nm          4.5mb
      Z  19s      0.40um          4.1Msz
                  LR    32 37.20
KMI     33.81 354 Pd    19 41.50   1.3
OIS     34.18 114 eP    19 42.00  -1.3
GYA     34.95   0 P     19 50.60   0.7
G8A     36.27 307 P     20 02.00   1.0
HYB     37.80 313 iPd   20 15.00   1.1
         1.0s    30.00nm          5.1mb
CD2     39.46 356 eP    20 27.80   0.1
WHN     39.77  11 Pd    20 32.00   1.8
                  pP    20 38.50  22km
STK     40.01 130 eP    20 31.00  -1.2
CTA     40.16 111 iPd   20 36.80   3.1X
         1.1s    25.95nm          4.9mb
LSA     40.89 340 iPd   20 41.20   1.2
SSE     42.05  19 P     20 50.00   1.1
         1.0s    24.00nm          4.9mb
XAN     42.58   3 P     20 53.50   0.3
LZH     44.61 357 eP    21 10.00   0.1
         1.5s   104.00nm          5.5mb
      Z  15s      0.80um          4.8MszX
      N  12s      0.50um
                  pP    21 17.00  23km
TIA     45.81  12 P     21 18.40  -0.8
TIY     46.52   7 eP    21 24.70  -0.2
      Z  14s      0.60um          4.7MszX
NDI     46.61 324 eP    21 25.50  -0.2
CAN     47.06 131 eP    21 31.00   1.7
BRS     47.56 119 eP    21 29.20  -4.1X
GTA     48.25 353 P     21 39.20   0.6
      Z  10s      0.45um          4.7MszX
BJI     49.34  10 eP    21 46.00  -0.8
         1.0s    49.00nm          5.5mb
HHC     49.54   5 eP    21 48.40   0.0
SNY     52.71  16 eP    22 10.80  -1.5
MAT     54.04  32 eP    22 19.00  -3.2X
         1.0s    18.00nm          5.1mb
QUE     54.11 317 eP    22 23.50   0.4
WMQ     54.95 344 P     22 29.10   0.2
CN2     55.06  17 Pc    22 27.00  -2.6
         1.0s     0.05nm          2.5mb X
      Z  15s      0.30um          4.5MszX
                  pP    22 35.00  26km
KSH     55.58 332 eP    22 34.50   0.9
MAIO    62.78 318 iPc   23 23.00  -0.4
BCAO    88.51 275 iPc   25 50.70   0.6
         0.5s     8.00nm          5.3mb
EDM    125.27  28 ePKP  31 58.00   0.2
BAO    144.92 227 ePKP  32 32.50  -2.9
MEO    145.41  38 iPKPd 32 36.30   0.7
SIO    146.05  34 ePKP  32 38.00   1.4
LNO    146.22  33 ePKP  32 38.40   1.7
TUL    146.22  33 ePKP  32 37.80   0.9
         0.8s    14.50nm
FVM    147.15  25 ePKP  32 39.80   1.5
CNCB   154.04 192 PKP   33 03.00  13.1X
      S.D. = 1.4  on  45 of  52 obs.
-----------------------------------
&  NOV  17, 1989  19h 32m 19.00s
   37.048 N          121.778 W
   DEPTH =  11.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK).

GCC      0.18 264 iPc    32 22.60  -0.4
MHC      0.31  20 iPc    32 25.50  -0.1
ARN      0.36  33 iPc    32 26.20  -0.3
SAO      0.39 137 eP     32 26.40  -0.6
PCC      0.66 313 eP     32 30.90  -1.1
PRS      0.79 155 eP     32 33.50  -0.7
LLA      0.80 122 eP     32 33.90  -0.5
BKS      0.90 336 iPd    32 35.60  -0.6
                  i      32 42.10
                  iS     32 48.30
BRK      0.91 335 iPc    32 35.60  -0.7
                  eS     32 48.40
CMB      1.48  48 eP     32 44.60  -1 0
KVN      3.53  54 eP     33 14.00  -1.0
       11 obs. ossociated
-----------------------------------
*  NOV  17, 1989  20h 05m 59.17± 1.00s
   38.956 N ± 7.9km   29.213 E ±16.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

KHL      0.68 159 ePg    06 11.70  -1.0
                  eSg    06 20.70
DST      0.79 325 iPg    06 13.80  -0.8
                  eSg    06 27.80
YLV      1.61   4 iPn    06 29.10   1.3
CIN      1.62 214 ePn    06 29.00   1.2
                  iSg    06 49.00
BNT      1.72 325 ePn    06 29.10  -0.2
EDC      1.74 324 ePn    06 29.00  -0.5
CTT      2.27 345 ePn    06 42.00   4 7X
EZN      2.40 292 ePn    06 42.00   2.9X
      S.D. = 1.3  on   6 of   8 obs.
-----------------------------------
*  NOV  17, 1989  20h 15m 03.66± 1.33s
   37.051 N ±17.3km   71.337 E ±11.4km
   DEPTH = 101.3 ± 22.0 km
   4.1mb (  2 obs.)
 AFGHANISTAN-USSR BORDER REGION  (717)

KSH      4.37  55 Pn     16 10.50   1.4
                  Sn     16 59.40
QUE      7.76 209 eP     16 56.20   0.4
                  eS     18 21.40
MAIO     9.54 269 iPc    17 19.00  -0.9
                  eS     19 02.00
WMQ     14.16  56 eP     18 19.00  -1.8
GTA     22.46  75 eP     19 55.00  -0.1
HFS     42.80 322 eP     22 53.10   0 6
         0.4s     2.10nm          4.3mb
NB2     44.11 323 P      23 03.60   0.5
         0.6s     1.10nm          3.9mb
      S.D. = 1.5  on   7 of   7 obs.
-----------------------------------
?  NOV  17, 1989  20h 18m 42.38± 3.65s
   41.642 N ±22.7km   12.631 E ±20.0km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

RDP      0.13  29 Pc     18 45.60   0.0
                  iSg    18 46.90
RMP      0.18  17 Pc     18 46.20  -0.2
                  eSg    18 47.60
MNS      0.74   3 P      18 56.20  -0.8
                  eSg    19 06.30
SDI      0.89  86 P      18 59.20  -0.3
                  eSg    19 11.00
AQU      0.91  39 P      19 00.10   0.2
                  eSg    19 11.00
ASS      1.43   1 P      19 08.50   0.1
                  eSg    19 26.30
```

17d 20h

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ARV      1.87   7 P      19 15.00   0.3
     S.D. = 0.4  on   7 of   7 obs.
-----------------------------------------
*  NOV  17, 1989  20h 48m 40.53± 2.28s
   15.661 N ± 9.6km   60.655 W ±26.7km
   DEPTH =  33.0km  (normal)
 LEEWARD ISLANDS                    ( 92)
      ML 2.7 (FDF).

MGG      0.69 292 eP     48 54.80   1.0
                  S      49 05.00
DEG      0.76 329 eP     48 56.30   1.5
SFG      0.79 319 eP     48 56.20   1.1
BBL      0.80 260 eP     48 55.50   0.1
                  S      49 07.00
FDF      1.04 207 iPc    48 59.42   0.6
                  S      49 13.80
PAG      1.05 291 eP     48 58.00  -1.1
                  S      49 11.00
MVM      1.12 192 iPc    48 58.89  -1.1
                  S      49 12.90
MVM      1.12 192 iPd    49 01.26   1.2X
                  S      49 18.40
BIM      1.21 200 eP     49 01.83   0.7
                  S      49 19.30
BPA      1.80 320 eP     49 07.00  -2.7
                  S      49 26.60
     S.D. = 1.6  on   9 of  10 obs.
-----------------------------------------
?  NOV  17, 1989  21h 09m 26.05± 3.06s
   33.426 S ±16.4km   72.684 W ±25.3km
   DEPTH =  33.0km  (normol)
 OFF COAST OF CENTRAL CHILE         (134)

LCCH     0.93  93 iPc    09 42.20  -0.6
                  iS     09 53.50
LNV      1.19 117 iPc    09 47.00   0.6
                  iS     10 01 60
ROCH     1.47  73 iP     09 50.00  -0.8
                  iS     10 08.50
SAN      1.69  91 iP     09 53.90   0.2
                  iS     10 14.20
PEL      1.70  81 iP     09 53.60  -0.3
                  iS     10 13.00
CHCH     1.77 107 iPc    09 55.20   0.3
                  iS     10 16.00
JACH     1.91  68 iPc    09 56.20  -0.7
                  iS     10 16.50
FCH      2.01  88 iPc    09 58.60   0.0
                  iS     10 23.00
ZON      3.87  62 e(P)   10 27.00   2.3
ZOBO    17.57  15 P      13 31.00   0.3
     Z  20s      0.35um
                  LR     19 16.00
PPD     22.02  64 eP     14 17.90  -1.4
GBA    146.43 119 PKP    29 11.00   6.6X
      0.5s      1.00nm
     S.D. = 1.1  on  11 of  12 obs.
-----------------------------------------
&  NOV  17, 1989  21h 55m 31.55s
   60.418 N          147.734 W
   DEPTH =   9.2km
 SOUTHERN ALASKA                     (  2)
      <AGS-P>.

GLI      0.56  34 iP     55 42.32  -0.6
                  eS     55 50.33
HIN      0.61  91 iP     55 43.46  -0.4
FID      0.70  61 iP     55 44.09  -1.4
                  eS     55 53.61
VZW      0.87  42 eP     55 47.03  -1.3
SEW      0.91 251 iP     55 47.74  -1.3
                  eS     55 59.32
CVA      0.99  82 iP     55 49.15  -1.2
                  eS     56 03.12
VLZ      0.99  43 eP     55 49.27  -1.1
                  eS     56 02.39
MID      1.22 144 eP     55 52.75  -1.5
PMS      1.22 314 eP     55 53.15  -1.2
SLKM     1.24 275 eP     55 53.06  -1.6
                  Sn     56 08.99
SGAM     1.25  85 iP     55 53.17  -1.8
                  eS     56 11.40
PLRM     1.36 331 eP     55 54.89  -1.7
PME      1.37 333 eP     55 55.22  -1 5
KLU      1.40  39 iP     55 55.84  -1.4
                  eS     56 14.33
```

```
GHO      1.48 337 eP     55 57.15  -1.2
RAGM     1.52  90 eP     55 57.40  -1.5
                  eS     56 16.58
PWA      1.62 321 eP     55 58.86  -1.4
NCA      1.64  15 iP     55 59.91  -0.8
                  eS     56 23.30
NKA      1.76 282 iP     56 02.24  -0.1
SUA      1.81 307 eP     56 01.34  -1.8
NNL      1.82 260 eP     56 01.78  -1.4
TOA      1.85  23 eP     56 03.66  -0.1
RDT      2.32 276 eP     56 08.02  -2.5
WAX      2.42  87 iP     56 08.83  -3.1
ILIM     2.63 265 eP     56 11.84  -3.0
        25 obs. associated
-----------------------------------------
*  NOV  17, 1989  22h 09m 31.50± 1.53s
   17.344 N ±10.3km  100.234 W ±14.9km
   DEPTH =  33.0km  (normal)
 GUERRERO, MEXICO                    ( 59)

ACX      0.59 143 iP     09 43.87   0.4
                  iS     09 53.48
III      1.26  35 iP     09 53.66   0.6
                  iS     10 12.00
CRX      2.12  14 eP     10 07.00   1.4
UNM      2.21  27 (P)    10 15.00   8.1X
PPM      2.30  41 iP     10 08.24   0.0
                  (S)    10 45.00
IIT      2.48  47 (P)    10 14.00   3.3X
                  (S)    10 52.00
MRX      2.52 339 eP     10 10.00  -1.0
                  iS     10 38.00
IIC      2.58  21 (P)    10 19.35   7.2X
IISM     3.17  59 eP     10 19.00  -1.2
OXX      3.37  94 eP     10 23.00  -0.2
     S.D. = 1.1  on   7 of  10 obs.
-----------------------------------------
?  NOV  17, 1989  22h 12m 06.30± 0.98s
   38.157 N ±11.4km   14.749 E ± 8.9km
   DEPTH =  10.0km  (geophysicist)
 SICILY                              (398)

MNO      0.23 191 P      12 11.10  -0.2
                  eSg    12 15.00
ATN      0.56  89 Pd     12 18.10   0.4
                  eSg    12 26.10
GIB      0.59 254 P      12 18.60   0.2
                  eSg    12 27.50
CZI      1.52  45 P      12 33.10  -0.3
     S.D. = 0.6  on   4 of   4 obs.
-----------------------------------------
?  NOV  17, 1989  22h 16m 05.14± 1.24s
   41.754 N ±14.1km   12.766 E ± 8.5km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                      (390)

RDP      0.04 277 P      16 07.20  -0.1
                  eSg    16 10.50
RMP      0.07 320 Pc     16 07.70   0.1
                  eSg    16 11.20
MNS      0.63 354 P      16 17.80  -0.1
                  eSg    16 28.30
SDI      0.79  93 P      16 20.50   0.0
                  eSg    16 31.50
     S.D. = 0.2  on   4 of   4 obs.
-----------------------------------------
   NOV  17, 1989  22h 46m 33.89± 0.25s
   58.909 S ± 6.5km   16.056 W ± 5.7km
   DEPTH =  23.6km  (  3 depth phases)
   5.7mb ( 12 obs.)  4.8Msz (  2 obs.)
 SOUTHWESTERN ATLANTIC OCEAN         (156)
      CENTROID, MOMENT TENSOR        (HRV)
      Data Used: GDSN
      L.P.B.: 12S, 21C
      Centroid Location:
      Origin Time        22:46:31.4 0.7
      Lat 58.87S  FIX;Lon  15.99W  FIX
      Dep  15.0 FIX Half-duration  1.7
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.95 0.06  Mtt= 0.31 0.08
        Mff= 0.64 0.06  Mrt=-0.49 0.16
        Mrf= 1.13 0.20  Mtf=-0.04 0.06
       Principal Axes:
        T  Val=  1.30  Plg=29  Azm=252
        N        0.32      3      160
        P       -1.62     61       64
      Best Double Couple:Mo=1.5*10**17
```

```
      NP1:Strike=352 Dip=17 Slip= -78
      NP2:        159     74       -94

SNA     12.82 159 iPd    49 34.80  -2.4
         0.8s   129.10nm          6.1mb
SPA     31.26 180 iPc    52 53.20  -0.5
         1.6s   219.44nm          5.8mb
MAW     34.13 138 eP     53 19.00   0.6
HVD     39.84  63 iPc    54 07.50   0.5
         1.5s   111.11nm          5.4mb
BMA     41.35 319 eP     54 18.40  -0.9
BLF     41.42  63 iPc    54 20.00   0.0
VAO     42.07 315 e(P)   54 26.00   0.7
SBA     43.48 181 Pd     54 38.20   2.1
CHCH    43.54 280 eP     54 27.50  -9.6X
FCH     43.83 281 eP     54 40.50   0.6
PRY     43.87  63 iPc    54 39.90  -0.1
LNV     43.91 280 iPd    54 39.50  -0.5
SAN     43.92 281 eP     54 40.00  -0.2
PEL     44.18 281 iPd    54 42.00  -0.3
         1.0s   100.00nm          5.6mb
PPD     44.60 310 eP     54 45.70  -0.1
                  e      54 48.60  10kmX
                  e      54 54.80
SLR     45.26  63 iPc    54 50.50  -0.7
         1.3s   125.00nm          5.7mb
BAO     49.21 318 eP     55 22.10  -0.1
BUL     50.25  59 iPd    55 27.30  -2.9X
         1.8s   159.09nm          5.7mb
LSZ     54.37  56 iPc    56 00.80  -0.2
CNCB    56.48 295 iPd    56 17.00   0.2
PTZ     56.65  59 iPd    56 17.50   0.0
                  i      56 24.60  23km
                  i      57 15.00
LPB     56.78 295 P      56 19.00   0.2
         1.1s   126.58nm          5.9mb
     Z  20s      1.42um           5.1Msz
                  LR     13 44.00
ZOBO    57.02 295 Pd     56 20.00  -0.7
         1.2s    66.89nm          5.5mb
     Z  23s      0.85um           4.8MszX
                  LR     13 56.00
ARE     58.45 292 iPd    56 29.80  -0.6
NNA     64.90 289 iPc    57 13.30  -0.1
LIC     65.52  12 Pc     57 17.48   0.2
         1.3s    94.50nm          5.8mb
     Z  20s      0.28um           4.5Msz
KIC     65.69  12 Pc     57 18.42   0.1
         1.1s    72.00nm          5.7mb
TIC     65.94  12 Pc     57 20.02   0.1
         1.0s    51.50nm          5.6mb
BCAO    68.88  37 iPd    57 38.20  -0.3
         0.9s    50.00nm          5.7mb
                  i      57 45.30  23km
                  i      58 05.50
NAI     70.60  58 eP     57 55.00   5.7X
CUM     79.25 312 iP     58 38.60   0.1
CAN     85.30 168 eP     59 18.90   9.1X
STK     87.65 161 eP     59 22.00   0.7
                  e      59 30.00  25km
ASPA    94.05 153 iPKPc  59 51.60   0.3
NB2    121.48  15 PKP    05 25.90   0.6
         1.1s     5.90nm
NUR    123.24  23 ePKP   05 27.80  -0.8
SUF    125.56  22 ePKP   05 33.00  -0.1
         0.8s     5.30nm
FRI    127.60 281 ePKP   05 38.40   0.6
KVN    128.36 284 ePKP   05 40.20   0.7
                  epP    05 47.50
CMB    128.75 281 ePKP   05 40.70   0.6
ORV    130.47 282 e(PKP)05 43.90   0.7
LRM    130.65 294 ePKP   05 44.40   0.7
LZH    135.30  93 PKP    05 54.00   1.2
     Z  23s      0.50um           5.2MszX
                  e(PP)  09 44.00
EDM    136.27 300 ePKP   05 52.50  -1.4
PNT    136.55 292 ePKP   05 56.00   1.5
MBC    149.15 333 ePKP   06 19.50   4.0X
         1.5s   114.00nm
INK    151.95 315 ePKP   06 17.00  -2.8
         1.0s    75.00nm
MAT    152.03 132 ePKP   06 29.00   8.0X
     S.D. = 0.9  on  42 of  48 obs.
-----------------------------------------
*  NOV  17, 1989  22h 46m 51.67± 2.67s
   65.087 N ±22.7km  164.713 W ±17.8km
   DEPTH =   5.0km  (geophysicist)
```

```
 ALASKA                                   (676)
      ML 3.5 (PMR).

ANM      0.59 209 iP     47 03.50  -0.1
TTA      4.40 116 eP     48 00.20  -0.5
IMA      4.69  73 eP     48 05.20   0.4
SVW      5.74 130 eP     48 20.00   0.4
PMS      7.86 112 eP     48 50.40   1.1
TOA      8.77 101 eP     49 00.80  -1.3
     S.D. = 1.1  on   6 of   6 obs.
-----------------------------------------
?  NOV  17, 1989  23h 24m 17.10± 4.50s
   15.897 N ±41.0km  144.054 E ±60.0km
   DEPTH =  33.0km  (normol)
   4.4mb (  1 obs.)
 MARIANA ISLANDS REGION                   (215)

CHJJ    20.57 348 P      28 54.30  -1.4
TSRJ    20.85 341 P      29 01.10   2.5
MAT     21.21 347 eP     29 02.00  -0.3
        0.7s     10.96nm          4.4mb
MTMJ    21.34 346 P      29 03.70   0.0
NIIJ    21.73 349 P      29 06.50  -0.9
CHG     43.07 281 eP     32 15.50  -0.5
CHTO    43.07 281 eP     32 15.90   0.0
                  pP     32 29.20  50kmX
SOD     85.44 340 eP     36 53.00   0.6
SUF     88.05 336 eP     37 24.10  19.0X
        0.4s      3.50nm
     S.D. = 1.4  on   8 of   9 obs.
-----------------------------------------
?  NOV  18, 1989  00h 28m 36.34±12.49s
   33.282 S ±18.7km   72.676 W ±100.km
   DEPTH =  33.0km  (normal)
 OFF COAST OF CENTRAL CHILE               (134)

LCCH     0.95 102 iPd    28 52.30  -1.0
                  iS     29 02.50
LNV      1.25 123 iPc    28 57.80   0.2
                  iS     29 12.00
ROCH     1.43  78 iP     29 00.30  -0.1
                  iS     29 16.50
PEL      1.67  86 iPc    29 04.30   0.5
                  iS     29 24.00
SAN      1.69  96 eP     29 04.00  -0.1
                  iS     29 24.70
CHCH     1.81 112 iPc    29 05.60  -0.2
                  iS     29 27.50
PCH      1.84 101 iPc    29 06.60   0.4
                  iS     29 28.00
JACH     1.85  72 iPd    29 06.20  -0.2
                  iS     29 30.50
FCH      2.00  92 iPc    29 09.20   0.4
                  iS     29 33.00
     S.D. = 0.5  on   9 of   9 obs.
-----------------------------------------
?  NOV  18, 1989  00h 34m 06.22± 5.97s
   33.397 S ±11.7km   72.205 W ±48.6km
   DEPTH =  33.0km  (normal)
 OFF COAST OF CENTRAL CHILE               (134)

LCCH     0.54  99 iPc    34 16.50  -0.9
                  iS     34 26.10
LNV      0.87 130 iPc    34 21.80  -0.2
                  iS     34 35.60
ROCH     1.09  67 iPd    34 24.40  -1.0
TACH     1.09 104 iPd    34 25.00  -0.2
                  iS     34 42.00
SAN      1.29  93 iP     34 28.50   0.4
                  iS     34 47.00
PEL      1.30  79 iPc    34 28.40   0.2
                  iS     34 48.00
CHCH     1.40 113 iPd    34 30.00   0.3
                  iS     34 51.70
PCH      1.43  99 ePc    34 30.50   0.3
                  iS     34 52.00
JACH     1.53  63 iPc    34 32.00   0.4
                  iS     34 54.00
FCH      1.60  88 iP     34 33.50   0.6
                  iS     34 56.40
     S.D. = 0.6  on  10 of  10 obs.
-----------------------------------------
   NOV  18, 1989  01h 50m 09.24± 0.38s
   45.863 N ± 3.4km    7.206 E ± 3.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                           (545)
      ML 2.7 (GEN), 2.6 (LDG).

DIX      0.26  33 ePd    50 14.50  -0.4
EMS      0.28 317 ePc    50 14.50  -0.7
LSD      0.41 185 P      50 17.69   0.0
                  S      50 23.50
LPL      0.48 224 Pg     50 18.80  -0.3
LPG      0.49 221 Pg     50 19.00  -0.2
                  Sg     50 25.40
MMK      0.56  70 ePc    50 19.70  -1.1
ORX      0.59 113 P      50 20.82  -0.4
                  S      50 29.04
ORO      0.59 113 P      50 21.10  -0.2
                  eSg    50 29.00
RSP      0.71 177 P      50 23.24  -0.1
                  S      50 33.25
BNI      0.89 205 P      50 26.70   0.2
                  eSg    50 37.10
RRL      0.99 198 P      50 27.88  -0.3
                  S      50 41.57
TMA      1.19  78 ePc    50 32.00   0.5
PZZ      1.36 183 P      50 34.61   0.3
                  S      50 51.13
VDL      1.69  68 ePc    50 40.90   1.7
BSF      1.99 352 Pg     50 46.60   3.2X
                  Sg     51 12.70
SBF      2.01 175 Pg     50 50.00   6.4X
                  Sg     51 16.00
HAU      2.22 345 Pn     50 46.60  -0.1
                  Pg     50 50.80
                  Sg     51 19.00
LBF      2.50 298 Pg     50 55.60   5.0X
                  Sg     51 28.00
BGF      3.11 284 Pn     51 00.20   1.0
                  Sg     51 46.60
     S.D. = 0.7  on  16 of  19 obs.
-----------------------------------------
?  NOV  18, 1989  02h 52m 44.94± 6 96s
   33.039 S ±17.9km   70.285 W ±33.2km
   DEPTH = 103.3 ± 52.9 km
 CHILE-ARGENTINA BORDER REGION            (127)

PEL      0.35 253 iPd    53 00.30  -0.1
                  iS     53 12.00
JACH     0.44 324 iPd    53 01.00   0.0
                  iS     53 12.50
SAN      0.52 217 iPd    53 01.40  -0.1
                  iS     53 13.90
PCH      0.61 198 iP     53 02.40   0.1
                  iS     53 15.00
ROCH     0.61 276 iP     53 02.50   0.1
                  iS     53 15.00
TACH     0.82 222 iPd    53 04.10   0.0
                  iS     53 18.50
CHCH     0.94 199 iPd    53 05.50   0.2
                  iS     53 21.50
LCCH     1.16 248 iPd    53 08.00   0.3
                  iS     53 25.00
LNV      1.31 226 iPd    53 09.00  -0.4
                  iS     53 27.50
     S.D. = 0.3  on   9 of   9 obs.
-----------------------------------------
*  NOV  18, 1989  03h 27m 49.88± 1.52s
   24.021 N ±10.5km  121.891 E ±14.3km
   DEPTH =  28.8 ±  7.0 km
   4.3mb (  1 obs.)
 TAIWAN                                   (244)
      ML 4.2 (BJI).

TWD      0.28 282 iPc    27 56.60  -0.3
                  eS     28 00.40
TWC      0.59 356 iPd    28 02.90   1.3
                  eS     28 11.80
TWF1     0.86 219 ePd    28 05.00  -0.9
                  eS     28 16.70
TWZ      1.11 345 ePc    28 10.20   0.7
ANP      1.21 344 ePd    28 12.20   1.3
        0.7s  1479.45nm
                  eS     28 26.50
OZH      3.14 288 ePn    28 36.50  -2.1
                  iSn    29 09.00
SSE      7.08 355 eP     29 33.00  -1.1
     Z  20s      0.60um
                  eS     30 52.00
                  Lg     31 42.00
GZH      7.90 265 eP     29 54.00   8.3X
NJ2      8.44 342 Pc     29 49.00  -4.1
     Z  16s      0.60um
                  sS     31 23.00

WHN      9.34 316 P      30 06.80   1.2
     Z  20s      0.75um
     E  10s      0.80um
                  S      31 38.00
GYA     13.99 283 P      31 09.00   0.4
                  sS     33 46.80
XAN     15.10 314 P      31 21.90  -1.0
CD2     17.48 297 eP     31 54.00   0.7
HHC     18.88 335 eP     32 12.00   1.5
BTO     19.30 332 eP     32 15.00  -0.6
     N  14s      0.60um
     E  14s      0.30um
                  eS     35 35.00
LZH     19.68 312 Pd     32 20.00   0.1
        1.5s     27.00nm          4.3mb
     Z  18s      0.70um          4.6MszX
     E  12s      0.30um
                  pP     32 24.00  16kmX
CHG     21.97 261 eP     32 44.90   1.6
CHTO    21.97 261 eP     32 43.80   0.5
GTA     24.16 315 eP     33 05.60   0.9
FBA     68.66  27 eP     38 53.10   0.8
INK     73.13  22 eP     39 18.00  -1.2
     S.D. = 1.6  on  20 of  21 obs.
-----------------------------------------
   NOV  18, 1989  04h 50m 16.02± 0.49s
   40.196 N ± 6.3km  143.823 E ± 6.8km
   DEPTH =  29.3km  (  8 depth phoses)
   4.6mb (  5 obs.)  4.6Msz (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN          (229)

OFUJ     2.00 237 iP+    50 48.50   0.0
                  eS     51 12.50
HOOJ     2.22 350 P      50 51.10  -0.4
                  S      51 17.70
AOMJ     2.66 279 eP     50 57.80   0.0
KUSJ     2.98  13 P      51 00.50  -1.7
                  S      51 33.80
MRRJ     3.04 318 eP     51 04.70   1.5
                  eS     51 39.40
YAMJ     3.57 237 P      51 10.60  -0.1
MAT      5.72 232 iPc    51 41.10  -0.2
        1.0s     45.00nm          5.0mb X
                  (S)    52 47.00
MDJ     11.41 297 eP     53 00.00   0.0
     E  14s      2.40um
                  S      55 12.00
CN2     14.13 291 Pc     53 35.00  -1.2
     Z  14s      1.80um
     N  13s      0.50um
     E  13s      1.40um
                  pP     53 40.00
                  esS    56 24.00
BJI     21.12 279 (P)    54 44.00 -16.5X
NJ2     21.69 256 Pc     55 04.50  -1.9
     Z  18s      1.10um          4.3Msz
BTO     25.66 282 eP     55 44.00  -1.0
     N  14s      0.60um
     E  14s      1.00um
                  eS     00 08.00
WHN     25.79 257 iPd    55 46.80   0.7
     Z  16s      1.19um          4.5MszX
     N  16s      2.50um
     E  16s      1.90um
                  pP     55 55.20  30km
LZH     31.52 276 Pd     56 38.00   0.1
        2.0s     47.00nm          5.0mb
     Z  15s      0.70um          4.5MszX
     N  13s      0.60um
     E  13s      0.60um
                  pP     56 47.50  33km
GTA     33.56 283 iPc    56 55.20  -0.3
     Z  15s      1.20um          4.7MszX
     E  12s      0.60um
                  S      02 14.00
CD2     33.65 267 eP     56 55.40  -0.9
GYA     33.68 258 P      56 58.20   1.5
KMI     37.36 259 Pc     57 28.00  -0.1
     Z  16s      1.30um          4.8MszX
     N  12s      0.90um
                  pP     57 37.00  30km
                  sP     02 28.00
                  S      03 13.00
                  sS     03 28.00
WMO     41.19 294 P      57 59.60   0.1
     Z  16s      0.70um          4.6MszX
                  S      04 17.50
```

18d 04h

```
CHG     43.93 254 eP     58 23.10    1.1
CHTO    43.93 254 eP     58 22.70    0.7
FBA     45.43  34 eP     58 43.50   10.0X
                  epP    58 53.00   32km
INK     50.72  28 eP     59 15.00    0.5
WB5     60.41 190 eP     00 24.50   -0.5
WRA     60.48 190 Pd     00 32.40    7.0X
GBA     63.35 265 Pc     00 44.30   -0.6
         0.8s      2.90nm          4.5mb
KVN     71.36  54 eP     01 36.20    0.8
HFS     71.97 336 eP     01 37.40   -1.0
         0.7s      1.60nm          4.1mb
      Z  15s      0.11um          4.3MszX
                  LR     33 52.00
NB2     71.99 338 P      01 38.20   -0.3
         1.3s      8.60nm          4.6mb
KRA     77.51 327 eP     02 10.20    0.0
KSP     78.39 329 eP     02 16.00    0.9
CLL     79.27 331 eP     02 20.00    0.1
PRU     79.75 329 eP     02 23.50    1.0
                  e      02 33.00   30km
KHC     80.81 329 iP     02 29.90    1.7
                  e      02 39.60   31km
KBA     82.56 328 eP     02 44.00    6.5X
         1.2s     11.80nm          4.8mb
                  i      02 50.90   22km
SKO     82.97 321 e(P)   02 40.50    1.0
                  i      02 49.00   27km
ZOBO   143.44  59 ePKP   09 49.00   -1.4
      Z  20s      0.23um          4.9Msz
                  LR     29 56.00
LPB    143.65  59 ePKP   09 54.00    3.4X
CNCB   143.93  59 ePKP   09 51.00   -0.2
      S.D. = 0.9  on  34 of  39 obs.
-----------------------------------------
   NOV  18, 1989  04h 52m 25.51± 0.80s
   43.426 N ± 8.4km    0.807 W ± 8.8km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                            (378)
      ML 2.8 (LDG).

EPF      0.93 115 Pg     52 43.00   -0.3
                  Sg     52 55.20
ECRI     1.49 237 eP     52 52.50    0.1
                  eS     53 10.00
LFF      1.88  36 Pg     53 05.90    8.0X
                  Sg     53 34.00
LPO      1.91  48 Pn     52 59.60    1.2
                  Pg     53 06.40
                  Sg     53 32.40
RJF      2.51  41 Pn     53 07.10    0.1
                  Sn     53 38.20
CAF      2.55  53 Pn     53 08.20    0.5
                  Sn     53 37.60
LSF      3.28  30 Pn     53 18.20    0.3
                  Sn     53 57.20
TCF      3.58  36 Pn     53 21.40   -0.8
                  Sn     54 03.20
MAF      3.68  39 Pn     53 23.00   -0.7
                  Sn     54 06.60
BGF      4.06  38 Pn     53 28.60   -0.4
                  Sn     54 15.60
      S.D. = 0.7  on   9 of  10 obs.
-----------------------------------------
   NOV  18, 1989  05h 03m 16.71± 0.62s
   40.670 N ± 5.6km   29.203 E ± 5.0km
   DEPTH =  10 0km  (geophysicist)
 TURKEY                              (366)

YLV      0.17 129 iPg    03 20.00   -0.5
GBZT     0.22  57 iPgc   03 26.60    5.2X
                  iSg    03 33.50
HRT      0.38  67 ePg    03 24.80    0.2
ISK      0.41 345 ePg    03 25.50    0.4
                  eSg    03 31.00
CTT      0.76 309 iPg    03 31.00   -0.5
BNT      1.03 253 iPn    03 36.00   -0.1
EDC      1.07 253 ePn    03 36.70   -0.2
DST      1.15 203 iPn    03 39.00    0.7
KHL      2.36 174 ePn    04 01.80    5.7X
      S.D. = 0.6  on   7 of   9 obs.
-----------------------------------------
?  NOV  18, 1989  05h 19m 31.74± 2.84s
   33.389 S ±14.0km   72.513 W ±24.0km
   DEPTH =  33.0km  (normol)
 OFF COAST OF CENTRAL CHILE          (134)

LCCH     0.79  96 iPd    19 45.50   -1.0
LNV      1.08 122 iPc    19 51.20    0.7
                  iS     20 05.00
ROCH     1.33  72 iPd    19 54.00   -0.3
TACH     1.34 102 iPc    19 54.50    0.2
                  iS     20 11.50
SAN      1.55  93 iP     19 56.50   -0.9
                  iS     20 17.50
PEL      1.55  81 iPc    19 57.80    0.4
                  iS     20 18.00
CHCH     1.64 110 iPc    19 59.20    0.4
                  iS     20 20.30
PCH      1.69  98 iPc    20 00.00    0.6
                  iS     20 24.50
JACH     1.76  67 iPc    20 00.00   -0.5
                  iS     20 22.50
FCH      1.86  89 iPc    20 02.50    0.3
                  iS     20 27.10
ZON      3.73  61 e(P)   20 30.00    1.6
CNCB    17.01  15 eP     23 30.00    0.7
LPB     17.25  14 P      23 38.00    5.8X
ZOBO    17.50  14 P      23 31.00   -4.5X
      Z  20s      0.73um
                  eLR    59 12.00
PPD     21.87  64 eP     24 21.30   -2.2
      S.D. = 1.1  on  13 of  15 obs.
-----------------------------------------
   NOV  18, 1989  07h 19m 16.28± 0.82s
   40.033 N ± 8.4km   21.875 E ± 6.9km
   DEPTH =  10.0km  (geophysicist)
 GREECE                              (364)
      MD 3.1 (ATH).

KZN      0.28 344 ePg    19 21.50   -0.8
LSK      0.98 277 ePg    19 32.60   -2.4
KBN      1.00 306 ePg    19 35.80    0.6
PLG      1.25  74 ePg    19 40.00    0.4
NEO      1.27 124 ePb    19 38.00   -1.9
OHR      1.35 323 iPn    19 41.10   -0.1
KNT      1.37  34 ePd    19 42.10    0.7
VAY      1.39  22 ePn    19 42.00    0.3
TPE      1.45 281 ePn    19 46.00    3.4X
BERA     1.62 295 ePn    19 46.00    1.1
SKO      1.96 350 ePn    19 53.50    3.5X
                  iSg    20 22.50
VLS      2.11 209 ePb    19 54.00    2.0
      S.D. = 1.5  on  10 of  12 obs.
-----------------------------------------
   NOV  18, 1989  07h 22m 46.44± 0.87s
   39.818 N ± 7.5km   20.060 E ± 8.0km
   DEPTH =  10.0km  (geophysicist)
 GREECE-ALBANIA BORDER REGION        (392)
      MD 3.1 (ATH).

SRN      0.08 323 iPg    22 48.30   -0.6
KEK      0.23 243 iPgc   22 50.70   -0.6
TPE      0.48 355 iPgc   22 55.90   -0.3
LSK      0.53  51 iPgc   22 56.00   -1.2
BERA     0.89 355 ePg    23 02.40   -1.0
KBN      0.99  35 ePg    23 03.90   -1.3
KZN      1.40  69 ePb    23 11.00   -1.1
OHR      1.41  23 iPn    23 13.80    1.6
TIR      1.53 355 ePn    23 16.50    2.6
VLS      1.69 166 ePb    23 16.30    0.2
PHP      1.89   9 ePn    23 22.00    3.0X
SDA      2.24 349 ePn    23 27.40    3.4X
SKO      2.39  25 ePn    23 31.50    5.2X
                  iSg    24 03.50
PLG      2.66  77 ePb    23 31.70    1.6
      S.D. = 1.5  on  11 of  14 obs.
-----------------------------------------
   NOV  18, 1989  07h 32m 20.87± 0.27s
   42.538 N ± 4.5km   144.174 E ± 4.7km
   DEPTH =  54.2km  (  3 depth phases)
   4.9mb ( 30 obs.)
 HOKKAIDO, JAPAN  REGION             (224)

HOOJ     0.67 257 iPd    32 35.90    1.3
                  S      32 46.30
KUSJ     0.68  35 iP+    32 35.40    0.7
                  S      32 45.00
ASAJ     1.94 325 iPd    32 52.30    0.4
SAP      2.16 285 eP     32 55.00    0.0
                  eS     33 19.00
MRRJ     2.30 268 eP     32 57.80    0.8
                  eS     33 26.40
AOMJ     3.47 237 P      33 14.90    1.3

                  S      33 54.90
OFUJ     3.94 210 P      33 20.10   -0.2
                  S      34 04.30
YAMJ     5.38 217 eP     33 40.10   -0.5
NIIJ     6.62 219 P      33 57.10   -0.7
KAKJ     7.04 207 P      34 01.30   -2.4
                  S      35 16.50
MAT      7.56 220 (P)    34 10.00   -0.9
         0.9s     26.89nm          5.0mb X
                  eS     35 34.00
CHJJ     7.62 213 eP     34 10.50   -1.4
                  eS     35 33.70
MTMJ     7.71 222 P      34 13.50    0.3
IIDJ     8.57 217 eP     34 24.70   -0.2
TSRJ     9.46 225 P      34 38.60    1.5
MDJ     10.78 286 eP     34 57.00    1.8
CN2     13.73 282 P      35 35.00    0.7
      Z  17s      1.00um
      N  13s      0.40um
      E  13s      0.30um
                  pP     35 40.00
                  eS     38 07.00
BJI     21.15 273 eP     37 01.00   -2.3
TIA     21.79 262 eP     37 09.10   -0.7
HHC     24.33 277 Pd     37 35.00    0.3
TIY     24.66 269 eP     37 39.50    1.7
BTO     25.53 277 eP     37 46.00    0.0
WHN     26.65 253 iPd    37 58.00    1.8
         1.1s      0.06nm          2.1mb X
                  pP     38 06.50   30kmX
LZH     31.64 272 Pc     38 40.70   -0.3
         1.8s    105.00nm          5.3mb
      Z  25s      0.50um          4.1MszX
                  pP     38 51.20   38kmX
                  sP     39 08.70
GTA     33.35 280 eP     38 54.80   -1.1
CD2     34.11 264 eP     39 02.20   -0.2
GYA     34.51 254 P      39 06.60    0.7
KMI     38.12 256 Pc     39 37.50    0.9
                  pP     39 42.50   17kmX
                  sP     39 51.50
WMQ     40.52 292 eP     39 55.30   -0.8
PMR     42.99  40 P      40 16.00    0.0
FBA     43.35  35 P      40 20.00    1.1
         1.0s     25.00nm          4.9mb
                  pP     40 33.00   48km
CHG     44.85 252 iPc    40 32.00    0.5
         1.0s     14.25nm          4.7mb
CHTO    44.85 252 eP     40 32.00    0.5
                  pP     40 47.50   60km
INK     48.54  29 eP     40 59.00   -0.9
MBC     50.65  18 eP     41 15.00   -0.9
         0.5s      4.00nm          4.7mb
KEV     59.07 339 eP     42 16.00   -1.2
SOD     60.73 337 iP     42 27.00   -1.6
WB5     62.76 190 eP     42 42.70    0.0
PNT     62.80  47 eP     42 43.00    0.2
         0.7s      5.00nm          4.7mb
LON     63.03  50 P      42 45.00    0.6
EDM     63.75  41 iPd    42 48.50   -0.5
GBA     63.82 265 Pc     42 48.50   -1.3
         0.6s      4.20nm          4.6mb
SUF     64.04 333 iP     42 48.70   -1.9
         0.5s      8.70nm          5.0mb
NUR     66.10 332 iP     43 02.00   -1.9
         0.6s     22.20nm          5.4mb
ASPA    66.55 190 eP     43 08.10    0.9
         1.3s      7.00nm          4.5mb
SES     66.62  42 eP     43 08.00    0.5
FFC     67.95  35 eP     43 15.00   -0.8
         1.1s     22.00nm          5.1mb
LRM     68.78  47 eP     43 21.50    0.1
UPP     68.94 334 iP     43 20.50   -1.2
CMB     69.02  57 P      42 58.00  -24.BX
CMB     69.02  57 eP     43 31.80    9.0X
KVN     69.80  55 P      43 28.50    0.8
NB2     69.92 338 P      43 26.00   -1.8
         0.9s     17.00nm          5.0mb
HFS     69.94 336 eP     43 25.60   -2.2
         0.7s     19.30nm          5.1mb
      Z  15s      0.04um          3.8MszX
                  LR     14 18.00
BW06    72.34  48 P      43 42.50   -0.4
         1.0s      7.50nm          4.6mb
RSSD    74.35  44 P      43 54.00   -0.6
KRA     75.70 327 eP     44 01.60   -0.3
         0.8s     38.00nm          5.4mb
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SPC     76.25 326 eP     44 05.40   0.1
KSP     76.51 329 eP     44 06.10  -0.4
                e        44 37.50 124kmX
GOL     76.74  48 P      44 11.00   2.7
CLL     77.35 331 iPd    44 10.60  -0.4
        1.2s    30.00nm          5.2mb
                e        44 37.00 102kmX
PRU     77.87 329 P      44 14.20   0.3
        1.0s    14.50nm          4.9mb
                e        44 29.50  54km
SRO     78.13 326 eP     44 14.60  -0.8
ZST     78.32 327 eP     44 16.60   0.2
KHC     78.93 329 iPc    44 19.50  -0.3
        1.0s    10.50nm          4.7mb
                e        44 52.00 129kmX
GRF     79.33 331 iP     44 22.60   0.6
        1.1s    25.00nm          5.1mb
ALQ     79.47  52 eP     44 24.00   0.7
KBA     80.71 328 eP     44 29.00  -0.6
        1.1s    18.60nm          4.9mb
VAY     81.30 320 eP     44 32.50   0.0
SKO     81.33 321 iP     44 33.00   0.3
CDF     81.79 333 eP     44 34.70  -0.4
        1.0s     8.00nm          4.7mb
OHR     82.30 320 eP     44 37.20  -0.6
HAU     82.46 333 eP     44 38.10  -0.4
LOR     83.92 334 eP     44 46.10   0.1
        1.0s    14.00nm          4.9mb
LBF     84.13 334 eP     44 47.10   0.0
        1.0s    10.00nm          4.8mb
SSF     84.22 334 eP     44 47.70   0.2
        0.8s     4.00nm          4.5mb
SMF     84.48 334 eP     44 49.00   0.2
        0.8s     9.40nm          4.9mb
AVF     84.51 334 eP     44 49.40   0.5
        0.8s    10.70nm          5.0mb
MAF     85.26 334 eP     44 53.50   0.8
        0.8s    10.70nm          5.0mb
RJF     86.41 335 eP     44 59.40   1.0
        1.0s     9.60nm          5.0mb
CAF     86.58 334 eP     45 00.80   1.5
        0.9s    13.10nm          5.1mb
LFF     86.99 335 eP     45 02.40   1.2
        0.9s    13.10nm          5.1mb
LPO     87.07 335 eP     45 02.80   1.1
        0.9s    13.10nm          5.1mb
ZOBO   141.96  56 ePKP   51 50.00   0.6
LPB    142.18  57 PKP    51 52.00   2.4
CNCB   142.46  57 ePKP   51 49.00  -1.2
      S.D. = 1.1  on  84 of  86 obs.
-----------------------------------
   NOV  18, 1989  08h 00m 10.18± 1.03s
   32.694 S ± 7.1km   70.125 W ± 8.7km
   DEPTH =  91.0 ± 16.4 km
 CHILE-ARGENTINA BORDER REGION    (127)

JACH    0.40 272 iPd     00 24.00  -0.6
                iS       00 35.60
FCH     0.65 192 iPc     00 27.50   0.6
                iS       00 42.00
PEL     0.65 226 iPd     00 26.50  -0.1
                iS       00 39.40
ROCH    0.80 249 iPd     00 27.90  -0.3
                iS       00 42.00
SAN     0.88 211 eP      00 29.00   0.1
                iS       00 44.00
PCH     0.98 199 iPd     00 30.40   0.3
                iS       00 47.00
TACH    1.17 215 iPd     00 32.50   0.2
                iS       00 50.50
RTBS    1.18  29 iPd     00 33.00   0.7
                S        00 50.50
CHCH    1.31 200 iPd     00 34.10   0.0
                iS       00 53.90
LCCH    1.44 237 eP      00 36.20   0.6
                iS       00 54.50
RTCV    1.58  59 iPc     00 37.20  -0.3
RTCB    1.65  43 iPd     00 38.30  -0.1
LNV     1.66 220 iPd     00 37.50  -0.9
CFA     1.93  56 e(P)    00 41.50  -0.6
                S        01 06.00
RTRS    2.58  13 iPc     00 51.10   0.3
      S.D. = 0.5  on  15 of  15 obs.
-----------------------------------
   NOV  18, 1989  09h 02m 19.42± 0.44s
   41.772 N ± 4.8km   20.190 E ± 3.9km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                          (391)
      ML 2.9 (SKO), 2.7 (TTG).

PHP     0.21 114 iPgc    02 23.00  -0.9
PUK     0.35 321 iPgc    02 26.20  -0.4
LACI    0.38 249 iPgc    02 28.00   0.7
TIR     0.49 210 iPnc    02 29.50   0.1
SDA     0.57 295 iPgc    02 31.20   0.2
ULC     0.73 286 iPgc    02 32.90  -0.8
                eSg      02 44.50
OHR     0.80 145 iPg     02 34.10  -1.0
                iSg      02 46.00
PVY     0.84 349 ePg     02 35.00  -0.7
                eSg      02 47.50
SKO     0.95  78 ePg     02 38.20   0.6
                eSg      02 49.50
                i        02 53.50
TTG     0.95 314 ePg     02 37.00  -0.6
                eSg      02 52.00
BDV     1.14 297 iPgd    02 40.20  -0.5
                eSg      02 58.20
NKY     1.36 320 ePg     02 45.00   0.4
                eSg      03 06.50
HCY     1.43 299 ePg     02 45.50   0.1
                eSg      03 08.00
TPE     1.48 185 ePn     02 50.00   3.9X
BRY     1.66 313 ePn     02 50.20   1.4
                eSn      03 16.00
VAY     1.84 103 ePn     02 52.50   1.2
      S.D. = 0.8  on  15 of  16 obs.
-----------------------------------
*  NOV  18, 1989  09h 18m 10.48± 0.82s
   38.273 N ±10.1km  118.640 W ± 7.8km
   DEPTH =   5.0km  (geophysicist)
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      ML 2.6 (BRK).

KVN     0.88  28 iPd     18 27.90  -0.2
TNP     1.14  99 iPc     18 32.50   0.1
CMB     1.40 261 iPc     18 35.40  -1.3
                eS       18 53.10
FRI     1.53 214 eP      18 37.90  -0.6
                eS       18 57.30
ORV     2.57 301 eP      18 54.00   0.5
SAO     2.69 237 e(P)    18 56.70   1.5
      S.D. = 1.2  on   6 of   6 obs.
-----------------------------------
&  NOV  18, 1989  09h 35m 09.51s
   60.104 N          152.043 W
   DEPTH =  67.3km
 SOUTHERN ALASKA                  (  2)
      <AGS-P>.

NNL     0.38  99 iP      35 21.81   0.6
ILIM    0.46 267 eP      35 21.48  -0.5
                eS       35 31.34
RED     0.48 311 eP      35 21.71  -0.5
                eS       35 32.20
XLV     0.67 166 eP      35 23.31  -0.8
                eS       35 34.94
BRLK    0.68 120 eP      35 23.61  -0.6
CNPM    0.71 145 iP      35 24.03  -0.5
OPT     0.75 233 eP      35 24.35  -0.7
NKA     0.76  32 eP      35 26.50   1.5
SLKM    0.99  65 eP      35 26.98  -1.1
AUE     1.01 223 eP      35 27.33  -0.9
SPU     1.08 360 iP      35 28.63  -0.6
SEW     1.30  89 eP      35 30.71  -1.3
CDD     1.43 215 eP      35 32.53  -1.4
SUA     1.51  24 eP      35 34.57  -0.4
PMS     1.67  46 eP      35 36.73  -0.5
SKT     1.90   7 eP      35 39.23  -1.1
GHO     2.26  41 eP      35 43.87  -1.5
KDC     2.37 186 eP      35 44.31  -2.5
CUT     2.46  20 eP      35 47.04  -1.1
GLI     2.57  70 eP      35 46.51  -3.1
FID     2.83  74 eP      35 49.63  -3.7
VZW     2.87  68 eP      35 50.90  -3.0
VLZ     3.00  67 eP      35 52.68  -2.9
HUR     3.11  21 eP      35 57.01  -0.1
NCA     3.17  51 eP      35 56.12  -1.9
TOA     3.49  52 eP      36 00.72  -1.8
KTH     3.50   8 eP      36 01.41  -1.4
RND     3.64  23 eP      36 02.90  -1.9
PAX     4 26  45 eP      36 11.24  -2.2
DDM     4.71  36 eP      36 18.57  -1.1
WRH     4.76  21 eP      36 18.03  -2.3
HDA     4.93  27 eP      36 20.32  -2.4
CCB     4.97  22 eP      36 20.67  -2.6
      33 obs. ossocioted
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   NOV  18, 1989  09h 38m 20.20± 0.70s
   37.255 N ± 7.2km   20.471 E ± 3.8km
   DEPTH =  10.0km  (geophysicist)
 IONIAN SEA                       (399)
      ML 3.5 (ATH), MD 3.7 (ATH).

VLS     0.93   6 ePg     38 38.60   0.7
ITM     1.16  93 ePb     38 41.00  -1.0
VLI     2.05 104 ePn     38 55.60   0.5
AGG     2.29  39 ePc     39 00.30   1.6
KEK     2.51 348 ePb     39 05.00   3.3X
ATH     2.67  73 ePg     39 09.00   4.9X
NEO     2.98  46 ePn     39 08.50   0.1
KZN     3.21  18 ePn     39 12.50   0.8
LCI     3.65 328 P       39 16.80  -1.1
                eSn      39 55.70
ROI     3.84 308 P       39 21.20   0.5
OHR     3.86   4 iPn     39 21.70   0.8
PLG     3.89  36 ePn     39 20.00  -1.3
CZI     3.94 301 P       39 23.70   1.8
                eSn      40 04.80
ATN     4.07 284 P       39 24.00   0.1
                eSn      40 08.20
CSI     4.13 309 P       39 28.40   3.6X
KNT     4.33  25 ePd     39 27.60   0.0
VAY     4.37  21 ePn     39 28.60   0.4
BRT     4.42 326 P       39 28.40  -0.4
                eSn      40 16.10
MEU     4.43 270 P       39 28.40  -0.6
                eSn      40 17.20
SRS     4.56  31 eP      39 30.40  -0.3
SKO     4.77   9 ePn     39 32.80  -1.0
                iSg      40 25.20
MGR     4.80 308 P       39 34.00  -0.3
MMB     5.01  29 eP      39 36.00  -1.2
SGO     5.20 311 P       39 39.50  -0.4
EZN     5.26  59 ePn     39 42.00   1.3
RZN     5.51  35 iPd     39 44.00  -0.5
VTS     5.73  21 eP      39 47.00  -0.5
      S.D. = 0.9  on  24 of  27 obs.
-----------------------------------
?  NOV  18, 1989  09h 42m 06.52±12.74s
   33.314 S ±18.4km   72.548 W ±103.km
   DEPTH =  33.0km  (normol)
 OFF COAST OF CENTRAL CHILE       (134)

LCCH    0.83 101 iPd     42 20.60  -1.2
                iS       42 30.50
LNV     1.14 124 iPc     42 26.50   0.3
                iS       42 40.60
ROCH    1.33  76 iPd     42 29.00  -0.2
TACH    1.39 105 iPc     42 30.00   0.2
                iS       42 47.00
PEL     1.57  84 iPc     42 33.10   0.6
                iS       42 52.50
SAN     1.58  96 iPc     42 20.60 -12.1X
                iS       42 30.50
CHCH    1.70 112 iPc     42 34.20  -0.1
                iS       42 56.50
JACH    1.76  70 iPd     42 35.00  -0.3
                iS       42 56.50
FCH     1.89  91 iPc     42 38.10   0.7
                iS       43 03.50
      S.D. = 0.7  on   8 of   9 obs.
-----------------------------------
*  NOV  18, 1989  11h 04m 40.01± 2.10s
   37.106 N ±15.5km   28.052 E ±14.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

YER     0.19  81 iPg     04 44.00  -0.2
                iSg      04 49.00
CIN     0.49   3 ePg     04 50.00   0.0
                iSg      04 58.00
IZM     1.43 334 iPn     05 06.00  -0.1
ELL     1.53 103 ePn     05 07.60   0.1
KHL     1.68  43 ePn     05 09.90   0.2
YLV     3.61  16 iPn     05 54.00  16.9X
      S.D. = 0.2  on   5 of   6 obs.
-----------------------------------
*  NOV  18, 1989  11h 08m 56.09± 2.32s
   37.750 N ±17.2km   27.258 E ±20.6km
   DEPTH =  10.0km  (geophysicist)
```

18d 11h

```
 TURKEY                                   (366)
IZM      0.65   0 iPg    09 03.50  -5.6X
                  iSg    09 12.00
CIN      0.67 103 eP     09 08.00  -1.5
YER      1.02 127 ePn    09 16.00   0.6
KHL      1.88  72 ePn    09 30.00   1.4
DST      2.14  30 ePn    09 32.00  -0.4
EZN      2.20 341 ePn    09 33.00  -0.1
     S.D. = 1.5  on   5 of   6 obs.
-----------------------------------------
*  NOV  18, 1989  12h 31m 55.73± 0.92s
   40.775 N ±10.0km   25.233 E ± 7.6km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                               (365)

KDZ      0.89   9 ePg    32 10.00  -2.7
RZN      0.99 337 ePg    32 15.00   0.3
EZN      1.26 138 ePn    32 18.00  -1.2
SRS      1.29 286 eP     32 19.30  -0.3
                  eS     32 39.80
PLD      1.39 343 eP     32 22.00   0.9
MMB      1.40 306 iP     32 22.00   0.7
KNT      1.81 283 ePc    32 27.20   0.0
DMK      2.17  60 ePn    32 33.00   0.6
CTT      2.45  80 ePn    32 38.00   1.6
     S.D. = 1.5  on   9 of   9 obs.
-----------------------------------------
*  NOV  18, 1989  13h 45m 36.66± 0.82s
   43.379 N ± 9.5km   12.442 E ± 7.2km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                            (381)

ASS      0.35 152 P      45 44.20   0.3
                  eSg    45 49.10
ARV      0.38  72 P      45 45.00   0.5
                  eSg    45 50.80
CRE      0.44 305 P      45 45.70   0.1
                  eSg    45 53.10
CIO      0.54 110 iPg    45 47.01  -0.7
                  iSg    45 55.66
PGD      0.72 314 P      45 50.70  -0.3
                  eSg    46 01.00
     S.D. = 0.7  on   5 of   5 obs.
-----------------------------------------
%  NOV  18, 1989  13h 57m 15.99± 1.05s
   31.114 S ±11.1km   68.959 W ±12.2km
   DEPTH =  33.0km  (normal)
 SAN JUAN PROVINCE, ARGENTINA             (137)

RTCB     0.40 160 iPd    57 26.70  -1.5
RTLL     0.47 117 iPc    57 27.20   1.0
RTBS     0.69 218 ePc    57 29.20  -0.1
                  S      57 43.00
CFA      0.79 129 iPd    57 29.50  -1.2
                  S      57 44.00
RTCV     0.83 154 iPd    57 30.00  -1.3
                  S      57 44.50
RTRS     1.04 335 iPc    57 34.20   0.0
                  S      57 51.30
     S.D. = 1.4  on   6 of   6 obs.
-----------------------------------------
*  NOV  18, 1989  14h 51m 46.49± 1.37s
   5.847 S ±14.1km  153.334 E ±16.4km
   DEPTH =  33.0km  (normal)
   4.2mb (  2 obs.)
 NEW IRELAND REGION                       (190)

RAB      2.01 325 iPc    52 18.50  -0.3
       0.6s   373.33nm
                  iS     52 44.00
PMG      7.07 240 eP     53 30.00  -0.4
                  eS     54 52.00
SVO      7.21 117 eP     53 50.00  17.6X
CTA     15.74 205 iPc    55 32.00   4.5X
       1.1s    18.99nm          4.2mb
DZM     20.51 143 iPc    56 24.90   0.1
MTN     22.97 251 eP     56 51.00   1.7
ASPA    25.76 225 iPd    57 15.10  -1.0
       1.0s     7.00nm          4.2mb
     S.D. = 1.4  on   5 of   7 obs.
-----------------------------------------
?  NOV  18, 1989  15h 42m 54.05± 2.77s
   16.858 N ±29.6km   99.525 W ±19.6km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF GUERRERO, MEXICO           ( 58)
ACX      0.32 272 iP     43 02.00  -0.1
                  iS     43 11.50
III      1.51   2 iP     43 19.50   0.2
                  iS     43 44.00
PPM      2.36  21 iP     43 29.50  -2.2
                  iS     44 05.00
IIT      2.44  28 eP     43 33.00   0.3
UNM      2.48   7 (P)    43 34.50   1.2
CRX      2.54 357 (P)    43 41.00   6.9X
                  (S)    44 21.00
IISM     2.94  44 eP     43 34.00  -5.6X
MRX      3.24 331 eP     43 49.00   5.2X
LVVM     4.09  45 (P)    43 56.50   0.6
     S.D. = 1.5  on   6 of   9 obs.
-----------------------------------------
   NOV  18, 1989  15h 56m 50.77± 0.13s
   42.867 N ± 3.0km  145.062 E ± 2.5km
   DEPTH =  43.7km  ( 32 depth phases)
   5.6mb ( 72 obs.)  4.9Msz ( 11 obs.)
 HOKKAIDO, JAPAN REGION                   (224)
      CENTROID, MOMENT TENSOR             (HRV)
      Data Used: GDSN
      L.P.B.: 12S, 22C
      Centroid Location:
      Origin Time        15:56:55.9 0.5
      Lat 42.82N 0.05 Lon 145.07E 0.07
      Dep  45.2 4.4 Half-duration  1.9
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 9.80 0.46  Mtt=-2.92 0.62
        Mff=-6.88 0.74  Mrt= 1.38 0.84
        Mrf= 5.86 1.00  Mtf=-6.22 0.69
      Principal Axes:
        T  Val= 11.67  Plg=72  Azm=262
        N        1.13     12      31
        P      -12.81     14     124
      Best Double Couple:Mo=1.2*10**17
       NP1:Strike=230 Dip=33 Slip= 112
       NP2:        24     60      76
KUSJ     0.35 312 iPd    57 01.40   1.6
                  S      57 07.50
SAP      2.74 275 iP     57 35.40   2.1
                  eS     58 06.00
MAT      8.23 222 iPc    58 48.90  -1.6
       0.7s   213 70nm          6.2mb
                  eS     00 20.00
MDJ     11.33 284 eP     59 33.80   0.9
     Z  20s     3.50um
                  S      01 40.00
SHK     12.75 233 eP     59 48.00  -3.9X
CN2     14.31 280 Pc     00 11.00  -1.3
       1.0s     0.10nm          2.4mb X
     Z  18s     4.20um          3.7Msz
     N  14s     1.00um
     E  14s     1.70um
                  epP    00 18.40
                  eS     02 45.00
SNY     15.92 274 Pc     00 32.40  -0.8
       1.2s     0.12nm          1.9mb X
     Z  32s     3.50um          4.5MszX
     N  10s     0.75um
     E  11s     0.74um
                  sP     00 50.00
DL2     18.14 265 eP     01 00.00  -0.9
     Z  18s     1.60um
     E  17s     1.50um
                  S      04 18.00
SMY     21.72  53 (P)    01 39.10  -0.7
BJI     21.79 272 eP     01 39.00  -1.5
       1.0s   276.00nm          5.6mb
     Z  28s     2.42um          4.5MszX
                  eS     05 28.00
SSE     22.32 246 Pc     01 45.50  -0.4
       1.0s    64.00nm          5.0mb
     Z  22s     2.20um          4.5Msz
     N  14s     1.30um
                  pP     01 49.50  14kmX
                  S      05 52.00
                  sS     05 59.00
TIA     22.48 262 Pd     01 47.00  -0.5
     Z  35s     1.90um          4.3MszX
                  esP    02 04.00
                  S      05 49.00
NJ2     23.35 251 Pc     01 55.00  -0.9
     Z  20s     2.80um          4.7Msz
                  sP     02 14.00
HHC     24.94 277 Pc     02 11.50   0.1
     Z  31s     1.90um          4.4MszX
     N  13s     0.70um
TIY     25.32 269 eP     02 15.40   0.5
       1.0s     0.10nm          2.3mb X
BTO     26.14 277 iPc    02 23.00   0.4
     N  13s     0.60um
     E  15s     1.30um
                  pP     02 33.00  37km
ADK     27.16  57 P      02 32.00   0.4
       0.9s    91.67nm          5.4mb
WHN     27.37 253 iPc    02 34.50   0.8
       1.0s     0.30nm          2.9mb X
     Z  22s     1.57um          4.5Msz
                  pP     02 45.80  43km
                  sP     02 49.80
QZH     28.15 239 eP     02 41.00   0.2
     Z  24s     1.10um          4.4MszX
LZH     32.28 272 iP+    03 18.00   0.4
       1.2s    34.00nm          5.1mb
     N  15s     0.70um
     E  11s     0.40um
                  pP     03 29.00  41km
                  ePP    04 09.00
                  ePPP   04 22.00
                  eS     08 00.00
                  sS     08 26.00
BAG     33.64 226 eP     03 29.00  -0.6
       0.9s   205.04nm          6.0mb
GTA     33.94 280 iPc    03 31.00  -1.0
       1.0s     0.10nm          2.7mb X
     Z  18s     1.30um          4.7Msz
CD2     34.80 264 iPd    03 39.40   0.1
QCP     34.87 223 eP     03 18.00 -21.9X
GYA     35.22 255 iPc    03 42.80  -0.2
       1.0s     0.10nm          2.7mb X
                  pP     03 54.80  44km
QIZ     38.01 242 P      04 08.60   2.2
KMI     38.83 257 Pc     04 14.00   0.4
     Z  16s     1.30um          4.8MszX
                  pP     04 25.00  39km
                  S      10 12.00
                  sS     10 23.00
TTA     39.07  38 ePc    04 15.40   0.4
DAV     39.56 211 eP     04 10.00  -9.3X
BRW     39.95  25 e(P)   04 21.00  -1.0
BRW     39.95  25 e(P)   04 21.40  -0.6
IMA     40.26  34 iPc    04 25.20   0.4
       1.0s   110.00nm          5.6mb
WMQ     41.00 292 iPc    04 31.00  -0.1
     Z  18s     2.50um          5.1Msz
                  S      10 40.00
KDC     41.02  46 eP     04 30.60  -0.3
                  i      04 42.50  43km
PMR     42.32  40 eP     04 41.40  -0.1
       0.9s    26.00nm          5.0mb
                  e      04 54.00  47km
FBA     42.70  35 iPc    04 45.30   0.7
TOA     43.66  39 iPc    04 53.60   1.1
LOE     44.59 249 eP     05 01.00   0.5
LSA     44.69 271 iPc    05 02.20   0.5
JAY     45.34 186 ePd    05 07.00   0.6
CHG     45.57 253 iPc    05 09.20   0.9
       0.9s   121.85nm          5.8mb
CHTO    45.57 253 iP     05 09.00   0.8
                  pP     05 21.10  44km
SHL     46.46 266 iP     05 14.70  -0.7
                  iS     12 06.60
BDT     46.59 251 iPc    05 16.40   0.2
       1.0s    48.30nm          5.4mb
INK     47.93  30 iPc    05 26.10  -0.1
       0.5s    30.00nm          5.6mb
NNT     49.35 246 iPc    05 38.80   1.0
MBC     50.13  18 eP     05 42.50  -0.6
       1.0s    11.00nm          4.8mb
SIT     50.20  44 eP     05 45.30   1.5
                  e      05 57.20  42km
KSH     50.78 291 iP     05 49.30   0.6
SVO     53.49 162 P      06 24.00  15.1X
IPM     54.50 238 ePc    06 16.90   0.4
       1.0s    51.90nm          5.5mb
KGM     55.12 234 eP     06 22.50   1.6
NDI     55.44 279 iPc    06 22.00  -1.2
       1.0s   218.00nm          6.1mb
                  iS     14 22.00
MTN     56.89 196 iPc    06 32.60  -1.0
       0.9s   191.00nm          6.1mb
                  e      06 47.00  53km
```

18d 16h

KHKI	57.62	215	ePc	06	36.50	-2.2	KRA	75.78	327	iPc	08	33.50	0.0	EZN	80.78	317	eP	09	01.00	0.0
			e	08	17.00	499kmX		0.8s	151.00nm			6.0mb		KKB	80.80	320	iPc	09	02.00	0.9
KEV	59.00	339	iP	06	46.80	-1.0		Z 20s	1.60um			5.3Msz		SNF	80.91	336	iPc	09	01.11	-0.3
	0.9s	64.20nm			5.8mb			N 20s	1.80um					DLE	81.16	343	iPc	09	03.00	0.3
SOD	60.69	337	iP	06	58.20	-1.2			i	08	45.30	39km			0.8s	145.00nm			6.0mb	
TRO	61.11	341	iP	07	01.00	-1.2	GOL	76.04	49	P	08	35.00	-0.5	YRH	81.16	342	eP	09	02.90	0.1
HYB	61.22	267	iPc	07	02.50	-1.2	VRI	76.05	321	ePc	08	35.50	0.4		1.0s	139.00nm			5.9mb	
	1.0s	60.00nm			5.7mb		GLD	76.09	48	P	08	36.00	0.3	LJU	81.17	328	eP	09	02.50	-0.4
BMW	61.66	52	P	07	06.20	-0.2	SPC	76.34	326	eP	08	38.20	1.3	DOU	81.18	335	P	09	02.50	-0.4
QUE	61.95	286	iPc	07	07.70	-1.0	KSP	76.57	329	iPc	08	37.90	0.0	GWF	81.19	333	P	09	02.90	-0.1
			eS	15	49.30			1.0s	83.00nm			5.7mb		ELL	81.21	313	eP	09	03.60	0.1
PNT	62.10	47	iPc	07	09.10	-0.2			e	08	47.20	30kmX		VBY	81.32	327	iPc	09	03.70	0.0
	0.8s	21.00nm			5.3mb		MLR	76.70	321	ePd	08	40.00	1.1	FVI	81.39	329	P	09	03.30	-0.7
LON	62.32	51	P	07	10.00	-0.8	EDR	76.92	342	eP	08	39.50	-0.3	VOY	81.43	328	eP	09	03.30	-1.1
CTA	62.65	179	iPc	07	11.90	-1.1	BWA	76.98	177	eP	08	40.60	0.3	KNT	81.44	320	ePc	09	04.60	0.2
	1.3s	38.46nm			5.4mb				i	08	55.00	50km		KNT	81.44	320	eP	09	13.40	9.0X
			i	07	26.00	51km	EDU	77.36	343	eP	08	41.90	-0.3	CEY	81.46	327	eP	09	04.10	-0.4
			iS	15	37.00			1.0s	125.00nm			5.9mb		VAY	81.47	320	iPc	09	05.00	0.5
EDM	63.08	41	iPc	07	15.00	-0.7	CLL	77.38	331	iPc	08	41.90	-0.4		1.2s	0.17nm			2.9mb	X
WB5	63.21	191	iPc	07	15.10	-1.6		1.1s	135.00nm			5.9mb		SKO	81.49	321	iPc	09	05.40	0.7
MAIO	63.55	296	iPc	07	18.40	-0.7			i	08	53.90	40km			1.0s	156.00nm			6.0mb	
	1.0s	15.00nm			5.0mb		BBTK	77.42	313	iPc	08	43.00	0.0	ETA	81.64	343	eP	09	07.00	1.8
			eS	16	32.00		PSZ	77.48	326	iP	08	42.80	-0.3		1.0s	116.00nm			5.8mb	
POO	63.97	272	iPc	07	21.20	-0.8	ELO	77.59	343	eP	08	43.10	-0.4	TRI	81.74	328	iPc	09	05.20	-0.7
SUF	64.04	333	iP	07	20.40	-1.4		0.9s	107.00nm			5.9mb		CDF	81.80	333	P	09	06.16	-0.1
	0.6s	31.20nm			5.5mb		EBH	77.75	343	iP	08	44.30	0.0	RIY	81.80	327	iPc	09	05.20	-1.0
GBA	64.50	265	P	07	25.00	-0.4		0.9s	111.00nm			5.9mb		OGA	81.81	330	iPc	09	06.80	0.3
BOM	64.50	273	eP	07	23.40	-2.0	ESY	77.85	342	iP	08	44.80	-0.1		1.0s	87.00nm			5.7mb	
WDC	65.43	57	eP	07	31.60	0.5	CAN	77.90	177	eP	08	46.70	1.4	SLE	81.94	332	ePd	09	07.20	0.2
			epP	07	44.00	42km	PRU	77.91	330	iPc	08	45.60	0.3	ECH	82.01	333	P	09	07.13	-0.2
SES	65.93	43	eP	07	33.00	-1.3		0.9s	62.90nm			5.6mb		FEL	82.01	332	P	09	07.10	-0.4
NUR	66.12	332	iP	07	33.70	-1.4		Z 20s	1.40um			5.3Msz		SAX	82.09	331	ePd	09	08.50	0.4
	0.7s	38.70nm			5.6mb			N 20s	0.90um					ECP	82.16	343	eP	09	08.40	0.5
MIN	66.15	57	eP	07	35.30	-0.6			e	08	57.70	40km			0.8s	152.00nm			6.1mb	
			epP	07	47.90	43km	EAU	78.11	342	iP	08	46.30	0.0	PHP	82.17	322	iPc	09	07.70	-0.5
ORV	66.68	57	eP	07	38.70	-0.5	WIT	78.17	336	eP	08	47.50	0.8	ZLA	82.22	332	ePd	09	08.80	0.3
			epP	07	51.20	43km	BUD	78.19	326	iPc	08	46.80	-0.1	CTI	82.27	329	P	09	08.00	-0.8
ASPA	67.00	191	iPc	07	40.80	-0.4	SRO	78.22	327	iP	08	48.40	1.4	OSS	82.29	331	ePc	09	09.20	0.2
	1.1s	42.00nm			5.4mb		ZST	78.39	327	eP	08	48.40	0.4	MOF	82.33	333	P	09	08.73	-0.4
			ipP	07	54.50	48km	MOX	78.42	332	iP	08	48.00	-0.1	VITF	82.39	334	P	09	09.01	-0.2
FFC	67.31	35	iPc	07	42.70	-0.2	EKA	78.51	342	Pc	08	48.40	-0.1	HAU	82.46	333	iPc	09	09.60	-0.1
	0.9s	66.00nm			5.7mb			0.9s	44.90nm			5.5mb			0.8s	24.10nm			5.3mb	
FFC	67.31	35	eP	07	55 00	12.1X	BZS	78.56	323	eP	08	49.00	0.1	OHR	82.46	321	iP	09	09.00	-0.8
	0.7s	24.00nm					HOF	78.60	332	iPc	08	49.00	-0.2		1.0s	0.11nm			2.8mb	X
DZM	67.55	159	iPd	07	47.10	2.3		0.8s	51.00nm			5.6mb		BSF	82.46	333	P	09	09.01	-0.8
MBL	67.82	205	eP	07	45.60	-0.7	CTT	78.73	316	iP	08	50.40	0.4	LLS	82.54	331	ePd	09	10.70	0.4
LRM	68.08	47	ePc	07	48.10	-0.1	ALQ	78.75	53	P	08	50.80	0.3	BBS	82.54	332	P	09	10.02	-0.1
			e	08	00.70	43km		1.2s	17.36nm			4.9mb		VDL	82.70	331	ePd	09	11.70	0.5
CMB	68.30	58	ePc	07	49.40	0.0	WTS	78.84	335	iPc	08	50.30	0.0	TIR	82.70	322	eP	09	11.00	0.0
			epP	08	02.20	44km		0.9s	66.00nm			5.6mb		HVAR	82.73	325	iPc	09	10.20	-0.9
UPP	68.92	335	iPc	07	51.30	-1.4			i	09	03.30	44km		LOMF	82.87	333	P	09	11.29	-0.6
KVN	69.08	56	P	07	54.60	0.2	SCH	78.97	18	ePc	08	50.70	-0.4	SAL	83.06	330	P	09	12.50	-0.2
			pP	08	07.00	42km	KHC	78.98	330	iP	08	51.90	0.7	TMA	83.24	331	ePc	09	13.50	-0.4
FRI	69.36	58	eP	07	55.80	-0.1		1.0s	57.00nm			5.5mb		LSK	83.31	320	iPc	09	14.90	0.6
			epP	08	08.50	44km		Z 19s	1.80um			5.4Msz		MEO	83.32	48	iPd	09	15.30	1.0
NB2	69.86	338	P	07	57.50	-1.1		N 19s	0.80um					AYN	83.40	303	iPc	09	15.70	1.0
	0.8s	66.90nm			5.7mb			E 18s	0.70um					TPE	83.47	321	eP	09	16.90	1.9
HFS	69.90	336	eP	07	56.80	-1.9			i	09	05.00	45km		VAI	83.48	331	Pc	09	14.70	-0.2
	0.8s	82.30nm			5.8mb		WET	79.22	330	iPc	08	53.00	0.4	MMK	83.61	332	ePd	09	16.60	0.7
	Z 17s	0.27um			4.6MszX			1.0s	112.00nm			5.8mb		HOL	83.69	304	iPc	09	17.00	0.8
			LR	38	25.00		GRF	79.36	332	iPc	08	53.90	0.6	DIX	83.77	332	ePd	09	17.40	0.6
TNP	70.22	56	P	08	01.30	-0.1		0.9s	84.00nm			5.7mb		KMSA	83.80	292	iPc	09	17.30	0.3
	0.8s	29.90nm			5.3mb			Z 20s	0.70um			5.0Msz		SIO	83.82	46	eP	09	17.70	0.9
			pP	08	14.40	45km			id	09	06.40	42km					i	09	31.40	47km
NANU	70.56	209	eP	08	03.50	0.3			ic	09	09.60			SRFA	83.85	304	iPc	09	26.50	9.5X
SYP	70.73	61	eP	08	17.00	12.5X	RYD	79.42	294	iPc	08	53.50	-0.6	FLN	83.85	338	eP	09	16.80	0.1
WARB	70.77	197	eP	08	05 00	0.6	EDC	79.61	316	eP	08	54.70	-0.1		0.8s	18.80nm			5.2mb	
TAB	70.85	304	eP	08	05.00	-0.1	NWAO	79.62	204	eP	08	55.30	0.6	LDF	83.91	338	eP	09	16.90	-0.1
ISA	70.97	59	eP	08	17.00	11.2X	BEO	79.69	323	eP	08	55.50	0.4		0.6s	10.80nm			5.1mb	
AKU	71.00	353	iP	08	06.20	0.9	TNS	79.85	333	eP	08	55.90	0.0	LOR	83.91	335	iPc	09	17.00	-0.1
	0.9s	53.78nm			5.5mb		KDZ	79.85	319	iPc	08	56.00	-0.1		0.8s	41.90nm			5.6mb	
BW06	71.63	48	P	08	09 70	-0.2	RZN	80.16	319	iPc	08	59.00	1.1	ARV	83.91	327	P	09	17.50	0.3
MWC	72.15	60	eP	08	13.00	0.0	ENN	80.18	335	ePc	08	57.00	-0.6	EMS	83.95	332	ePd	09	17.90	0.4
GSC	72.25	58	eP	08	26.00	12.5X		0.9s	65.00nm			5.6mb		ORX	83.96	331	P	09	17.07	-0.4
RVR	72.73	60	eP	08	15.00	-1.2	VTS	80.18	320	iPc	08	59.00	1.0	TUL	83.97	45	eP	09	17.80	0.2
KER	72.75	301	ePc	08	16.00	-0.5	KHL	80.26	314	iP	08	57.90	-0.5		1.1s	27.50nm			5.2mb	
SLY	72.94	303	iPd	08	17.50	0.1	MEM	80.29	335	iPc	08	57.87	-0.3		Z 21s	0.46um			4.8Msz	
MSU	72.97	53	P	08	18.50	0.7	BHG	80.41	330	iPc	08	59.50	0.6			e	09	31.00	45km	
			pP	08	31.00	43km		0.8s	88.00nm			5.8mb				e	09	36.60		
TPC	73.50	59	eP	08	20.00	-0.7	ABH	80.44	334	ePc	08	58.95	-0.1			e	09	41.20		
RSON	73.58	34	P	08	19.00	-1.8	FUR	80.62	331	iPc	09	00.50	0.4			LR	38	38.00		
MSL	73.87	305	ePd	08	22.50	-0.3		1.0s	90.00nm			5.7mb		LNO	83.97	45	iPc	09	17.70	0.3
			e	08	35.00	43km	MMB	80.71	320	iPc	09	02.00	1.3			e	09	31.30	46km	
BAR	74.03	60	eP	08	24.00	0.2	RUP	80.75	334	ePc	09	00.61	-0.1	ORO	83.97	331	P	09	17.50	0.0
STK	74.45	183	eP	08	26.00	0.1	RKG	80.76	203	eP	09	04.00	3.3X	SFI	83.99	328	P	09	18.50	1.1
GLA	74.96	59	eP	08	30.00	0.8	KBA	80.77	329	iPd	09	01.80	0.8	PGD	84.07	328	P	09	19.20	1.0
BHD	75.16	302	ePd	08	29.00	-1.3		0.7s	58.80nm			5.6mb		CIO	84.08	327	eP	09	17.77	-0.3

18d 16h

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LBF     84.12 334 iPc    09 18.30   0.1
        0.9s    47.50nm          5.6mb
BOB     84.18 330 P      09 18.70   0.1
CRE     84.19 328 P      09 19.00   0.3
MME     84.20 329 P      09 20.10   1.2
SSF     84.20 335 iPc    09 18.80   0.2
        0.8s    28.20nm          5.4mb
ALP     84.25 326 eP     09 19.08   0.0
BADA    84.26 304 iPc    09 20.00   0.9
BRT     84.28 323 P      09 19.00   0.0
GRR     84.30 338 eP     09 19.60   0.6
        0.8s    34.90nm          5.5mb
FIR     84.34 328 eP     09 21.00   1.8
BDI     84.35 329 P      09 19.60   0.2
ASS     84.38 327 P      09 19.70   0.1
LCI     84.38 322 P      09 19.00  -0.5
LSD     84.40 332 P      09 20.25   0.3
SMF     84.47 334 iPc    09 20.10   0.2
AVF     84.49 335 iPc    09 20.40   0.4
LPG     84.51 332 iPc    09 21.00   0.5
        0.8s    34.90nm          5.5mb
RSP     84.63 331 P      09 21.99   1.1
LPF     84.67 338 iPc    09 21.50   0.6
        1.1s    58.60nm          5.6mb
AQU     84.68 326 P      09 21.90   0.8
PCP     84.70 330 P      09 20.97  -0.2
DUI     84.82 325 P      09 22.00   0.2
BGF     84.86 335 iPc    09 22.00   0.2
        0.8s    18.80nm          5.3mb
CKI     84.90 330 P      09 21.70  -0.4
BNI     84.92 332 P      09 22.50   0.1
MNS     84.95 327 P      09 21.90  -0.5
WAJH    84.97 301 iPc    09 23.30   0.6
RRL     85.00 332 P      09 22.71  -0.2
SDI     85.05 326 P      09 22.50  -0.4
FVM     85.05  41 P      09 22.40  -0.6
FIN     85.11 330 P      09 22.09  -1.1
PLDF    85.14 334 P      09 23.65   0.3
KOT     85.14 307 ePc    09 24.00   0.5
ROB     85.16 331 P      09 22.71  -0.7
DOI     85.20 331 P      09 21.50  -2.2
AGO     85.22 334 P      09 24.12   0.4
MAF     85.25 335 iPc    09 23.70  -0.1
PZZ     85.25 331 P      09 22.50  -1.5
TCF     85.30 335 iPc    09 24.70   0.6
        1.0s    34.00nm          5.5mb
FOUF    85.34 331 eP     09 24.90   0.7
SGO     85.37 324 P      09 24.00  -0.4
ENR     85.38 331 P      09 22.61  -2.0
STV     85.40 331 P      09 21.89  -2.8
RDP     85.46 326 P      09 25.00   0.0
IMI     85.48 330 P      09 24.66  -0.4
LSF     85.54 336 iPc    09 25.80   0.5
CSI     85.58 323 P      09 25.90   0.3
ROI     85.62 323 P      09 26.30   0.5
TDS     85.65 323 P      09 26.50   0.6
SBF     85.69 331 iPc    09 25.90  -0.2
        0.8s    67.10nm          5.9mb
MFF     85.72 337 iPc    09 26.80   0.7
        0.8s    64.40nm          5.9mb
CBM     85.88  22 P      09 26.20  -0.7
LBL     85.91 334 P      09 27.68   0.6
UYO     86.00  46 iPc    09 28.30   0.5
RSNY    86.06  27 P      09 26.00  -1.9
FRF     86.23 331 eP     09 28.80   0.1
        1.0s    37.60nm          5.6mb
RJF     86.39 335 iPc    09 30.40   0.9
        0.8s    42.90nm          5.7mb
LRG     86.43 331 eP     09 30.10   0.4
        0.9s    91.70nm          6.0mb
LMR     86.48 331 iPc    09 30.20   0.3
        0.9s    81.80nm          6.0mb
CAF     86.56 335 iPc    09 31.70   1.3
HBVT    86.71  26 P      09 31.00  -0.1
LFF     86.96 335 iPc    09 33.30   1.0
        1.0s   112.00nm          6.0mb
LPO     87.06 335 iPc    09 33.70   1.0
        0.8s    51.00nm          5.8mb
TBR     89.17  29 P      09 42.50  -0.4
RSCP    89.26  39 P      09 43.20  -0.3
TOL     93.02 337 eP     10 02.00   1.2
MZZ    116.65 280 iPKPc  15 33.20   0.9
                  i      15 47.90
                  i      16 24.00
PTZ    116.91 275 iPKPc  15 33.00   0.3
                  i      15 47.00
LSZ    119.88 277 iPKPc  15 38.80   0.5
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                  i      15 52.10
BUL    122.66 272 iPKPd  15 41.10  -2.4
        1.0s    14.00nm
TIC    123.72 323 PKP    15 45.00  -0.6
KIC    123.85 323 PKP    15 45.10  -0.8
LIC    124.10 323 PKP    15 45.60  -0.8
     Z  22s      0.34um          5.0Msz
MAW    126.00 208 ePKP   15 49.00   0.6
SLR    126.26 267 iPKPc  15 49.50  -1.0
        0.9s    33.61nm
PRY    127.54 266 ePKP   15 53.50   0.6
BFS    128.03 267 iPKPd  15 51.50  -2.3
        0.8s    14.93nm
NNA    132.48  62 iPKP   16 03.50   1.1
        0.8s     3.73nm
ZOBO   141.23  57 PKP    16 13.00  -6.3X
                  LR     04 56.00
LPB    141.45  57 ePKP   16 19.00  -0.5
CNCB   141.73  57 PKP    16 16.00  -4.2X
YJA    147.26  61 ePKPc  16 30.40   1.2
SNA    147.95 200 iPKPd  16 29.40   1.1
        0.9s    63.03nm
LCCH   149.91  84 iPKPc  16 38.00   5.5X
JACH   150.23  82 ePKP   16 39.40   6.3X
LNV    150.26  85 ePKPc  16 38.50   5.5X
PEL    150.40  83 iPKPc  16 39.00   5.7X
        0.5s    49.30nm
TACH   150.46  84 iPKPd  16 39.20   5.9X
SAN    150.57  83 ePKPc  16 39.30   5.8X
BAO    150.64  26 ePKP   16 39.50   5.3X
PCH    150.76  84 iPKPc  16 40.00   6.1X
FCH    150.78  83 iPKPd  16 41.00   6.8X
CHCH   150.80  84 iPKPd  16 40.20   6.3X
PPD    155.14  38 ePKP   16 41.70   1.5
                  e      17 03.40
     S.D. = 0.8  on 299 of 322 obs.
-----------------------------------
&  NOV  18, 1989  16h 50m 29.83s
   63.810 N          148.994 W
   DEPTH = 116.0km
 CENTRAL ALASKA                  (  1)
      <AGS-P>.

MCK      0.08 161 eP     50 46.12   1.9
RND      0.41 171 eP     50 46.81  -0.4
NEA      0.77 357 eP     50 49.13  -0.5
WRH      0.77  30 eP     50 49.27  -0.4
HUR      0.88 199 eP     50 50.25  -0.5
                  eS     51 06.27
KTH      0.90 254 iP     50 50.55  -0.3
                  eS     51 06.56
CCB      0.99  31 iP     50 51.21  -0.5
HDA      1.08  55 eP     50 52.23  -0.4
RDS      1.09  20 iP     50 52.37  -0.4
FBA      1.21  25 eP     50 53.60  -0.5
GLM      1.37  30 eP     50 55.36  -0.6
DDM      1.39  90 eP     50 55.96  -0.2
                  Sn     51 15.23
CUT      1.53 203 eP     50 56.95  -0.7
PAX      1.80 116 eP     51 00.67  -0.4
GHO      2.05 179 eP     51 03.24  -1.0
NCA      2.08 150 eP     51 03.70  -0.9
TOA      2.14 142 eP     51 04.96  -0.5
SKT      2.17 213 eP     51 04.42  -1.4
PME      2.19 180 eP     51 05.06  -0.9
DOT      2.20  92 eP     51 05.11  -1.1
SUA      2.49 200 eP     51 09.95  -0.1
KLU      2.72 147 eP     51 11.32  -1.8
NCG      2.82 213 eP     51 12.94  -1.5
VZW      2.99 157 eP     51 14.17  -2.4
GLI      3.07 162 eP     51 15.35  -2.3
FID      3.29 158 eP     51 18.51  -2.1
SLKM     3.36 190 eP     51 20.39  -1.2
GLB      3.37 132 eP     51 20.30  -1.5
RDT      3.62 208 eP     51 24.63  -0.5
ILIM     4.19 208 eP     51 31.26  -1.5
CNPM     4.43 195 eP     51 33.99  -2.1
     31 obs. associated
-----------------------------------
*  NOV  18, 1989  17h 19m 59.01± 0.44s
   18.244 N ± 8.3km   82.057 W ±11.5km
   DEPTH =  10.0km  (geophysicist)
   5.1mb (  7 obs.)
 CARIBBEAN SEA                   ( 94)

JSC      15.99   2 P     23 47.00   1.4
GBTN     17.46 354 P     24 05.70   1.5
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RSCP    17.57 350 P      24 07.00   1.4
OLY     19.11 336 P      24 24.00  -0.6
UYO     19.34 327 eP     24 27.50   0.0
FVM     20.99 341 P      24 44.00  -0.9
LNO     21.39 328 eP     24 48.30  -0.5
TUL     21.39 328 eP     24 48.20  -0.8
        1.3s    40.20nm          4.7mb
SIO     21.52 327 eP     24 48.90  -1.4
MEO     22.08 321 iPd    24 57.40   1.4
ALQ     27.32 312 P      25 48.00   1.8
GLD     29.33 322 P      26 06.00   1.7
GOL     29.39 322 P      26 05.00   0.1
BW06    33.78 322 P      26 42.80  -0.6
RSON    33.84 347 P      26 41.00  -2.5
        1.0s    32.54nm          5.2mb
TNP     36.46 310 P      27 06.00  -0.3
ZOBO    36.94 157 P      27 12.00   1.1
LPB     37.19 157 eP     27 13.00   0.2
LRM     37.28 324 ePc    27 14.20   1.0
KVN     37.48 311 P      27 15.70   0.9
CNCB    37.49 157 P      27 15.00  -0.5
SES     39.54 331 eP     27 31.00  -0.8
EDM     42.53 332 eP     27 55.50  -0.8
LON     43.25 320 P      28 02.40   0.1
BAO     47.53 133 e(P)   28 36.00  -0.9
INK     59.40 340 eP     30 02.00  -1.7
MBC     61.12 350 eP     30 13.50  -1.8
        1.1s    23.00nm          5.2mb
TOA     61.98 331 eP     30 22.10   0.6
PMR     63.24 330 eP     30 29.70   0.1
        1.1s    24.00nm          5.3mb
FBA     63.38 334 eP     30 29.60  -1.0
IMA     66.03 335 eP     30 46.80  -1.1
        1.4s    28.60nm          5.3mb
TTA     66.62 331 eP     30 50.70  -0.9
NB2     75.79  30 P      31 46.00  -0.7
        1.1s     8.50nm          4.7mb
CLL     79.07  40 eP     32 04.00  -1.0
        1.3s    12.00nm          4.8mb
KEV     79.42  20 eP     31 49.00 -17.6X
KHC     80.02  42 P      32 11.20   0.9
PRU     80.38  41 eP     32 12.00  -0.1
SUF     81.99  26 eP     32 22.00   1.7
ZST     82.53  42 eP     32 23.60   0.2
CN2    113.31 339 ePKP   38 52.50  13.7X
WMQ    117.53   8 PKP    38 32.40 -14.6X
WHN    128.99 342 iPdiff35 57.50   2.3
     Z  10s      0.70um          5.6MszX
                  pP     36 05.50
WB5    145.57 261 ePKP   39 39.30  -0.7
WRA    145.60 261 PKP    39 41.00   1.0
        1.0s     7.70nm
     S.D. = 1.2  on  41 of  44 obs.
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   NOV  18, 1989  17h 33m 52.52± 0.63s
   28.438 N ± 6.5km  104.795 E ±10.2km
   DEPTH =  33.0km  (normal)
   4.2mb (  1 obs.)
 SICHUAN PROVINCE, CHINA         (307)
     ML 4.5 (BJI).

GYA      2.58 139 iPnc    34 34.40   1.4
                  Pg     34 40.00
                  Sn     35 07.20
                  Sg     35 16.20
CD2      2.62 340 Pn      34 35.40   1.9
                  Pg     34 41.60
KMI      3.78 210 ePn     34 51.50   1.4
                  Pg     35 05.00
XAN      6.61  31 Pn      35 30.00   0.1
                  Pg     35 55.00
                  Sg     37 20.80
LZH      7.67 354 ePn     35 45.50   0.6
                  Pg     36 18.50
                  eSn    37 20.00
                  Sg     37 59.50
TIY     11.25  33 eP      36 40.60   6.5X
GTA     11.70 341 eP      36 40.00  -0.2
SHL     11.86 259 eP      36 41.00  -1.5
BTO     12.87  18 eP      36 54.60  -1.3
HHC     13.57  22 eP      37 05.00  -0.1
BJI     14.90  36 eP      37 27.50   5.1X
WB5     55.89 146 eP      43 28.30  -1.3
WRA     55.93 146 Pd      43 28.70  -1.2
        0.5s     1.40nm          4.2mb
INK     74.47  19 eP      45 29.00   0.1
     S.D. = 1.3  on  12 of  14 obs.
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?  NOV  18, 1989  18h 24m 32.44± 3.16s
   44.454 N ±16.4km     6.812 E ±24.9km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                              (538)
      ML 1.8 (GEN).

PZZ      0.21  76 P      24 37.16   0.0
                  S      24 39.82
STV      0.42 120 P      24 41.16   0.1
                  S      24 46.90
RRL      0.47 358 P      24 41.98   0.0
                  S      24 48.23
ENR      0.49 117 P      24 42.39  -0.1
                  S      24 48.85
     S.D. = 0.1  on   4 of   4 obs.
---------------------------------------
   NOV  18, 1989  19h 15m 43.80± 0.87s
   39.202 N ± 8.9km   21.704 E ± 8.1km
   DEPTH =  33.0km  (normal)
 GREECE                              (364)
      MD 3.1 (ATH).

AGG      0.52 110 eP     15 55.10   0.4
LIT      1.08  34 eP     16 02.80   0.1
                  eS     16 20.60
KZN      1.10   3 ePn    16 01.00  -2.1
NEO      1.18  84 ePb    16 05.50   1.4
VLS      1.34 221 ePn    16 05.00  -1.4
KEK      1.56 290 ePb    16 11.00   1.4
PLG      1.78  48 ePn    16 12.10  -0.7
OHR      2.03 340 ePn    16 18.00   1.6
KNT      2.16  25 eP     16 18.20   0.0
VAY      2.22  17 ePn    16 18.30  -0.7
     S.D. = 1.4  on  10 of  10 obs.
---------------------------------------
?  NOV  18, 1989  19h 20m 19.10± 0.94s
   40.818 N ± 7.9km   28 169 E ±10.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

CTT      0.38  31 iPg    20 27.30   0.3
EDC      0.52 206 ePg    20 29.80   0.1
                  iSg    20 37.00
ISK      0.72  70 ePg    20 33.00  -0.2
DMK      1.05 343 iPg    20 38.70  -0.2
                  iSg    20 53.20
     S.D. = 0.4  on   4 of   4 obs.
---------------------------------------
   NOV  18, 1989  20h 09m 39.31± 0.29s
    0.138 S ± 5.5km  125.238 E ± 8.9km
   DEPTH =  67.4km  (  3 depth phases)
   5.1mb ( 13 obs.)
 MOLUCCA SEA                         (269)
      CENTROID, MOMENT TENSOR        (HRV)
      Doto Used: GDSN
      L.P.B.: 11S, 18C
      Centroid Location:
      Origin Time        20:09:38.9 0.8
      Lot  0.01N 0.07 Lon 125.97E 0.11
      Dep  68.2 6.2 Half-duration  1.7
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 7.46 1.31  Mtt=-6.21 1.38
        Mff=-1.25 2.45  Mrt= 2.64 1.22
        Mrf= 5.70 1.04  Mtf=-6.79 1.26
       Principal Axes:
        T  Val= 10.32  Plg=62  Azm=264
        N        2.17      22       45
        P      -12.49      16      142
      Best Double Couple:Mo=1.1*10**17
       NP1:Strike=261 Dip=35 Slip= 131
       NP2:        34      64       65

AAI      4.60 140 ePc    10 45.70  -2.3
                  eS     12 26.00
DAV      7.19   3 eP     11 26.50   2.5
     1.5s  1355.56nm          6.4mb X
KKM     10.90 304 ePc    12 15.60   0.6
KHKI    12.60 229 eP     12 45.10   7.5X
                  e      14 58.90
MTN     13.91 155 iPc    12 52.60  -2.2
TRT     14.64 239 ePd    13 10.50   6.2X
OCP     15.25 345 eP     13 30.30  18.2X
KNA     15.90 168 iPc    13 19.00  -1.4
     1.0s   267.00nm          5.3mb
BAG     17.07 345 eP     13 37.00   1.7
MBL     21.55 194 eP     14 25.00   0.1
WB5     21.56 156 iPd    14 23.20  -1.9
WRA     21.61 156 Pd     14 23.30  -2.3
     1.0s    76.30nm          5.0mb
PMG     23.68 114 eP     14 46.00   0.2
QIZ     24.31 322 eP     14 54.20   2.2
IPM     24.64 281 ePc    14 53.50  -1.6
     1.0s    48.50nm          4.9mb
QIS     24.68 146 iPd    14 55.60   0.1
     0.9s   206.00nm          5.6mb
                  e      15 12.00  71km
ASPA    24.85 161 iPd    14 56.80  -0.3
     1.3s   100.00nm          5.1mb
                  iS     19 15.90
                  i      19 35.40
QZH     25.75 346 eP     15 05.20  -0.2
        Z  28s     1.00um          4.2MszX
WARB    25.93 177 iPc    15 07.70   0.6
CTA     28.57 135 iPc    15 31.70   0.5
     1.2s    34.38nm          4.9mb
                  i      15 53.60  98kmX
                  iS     20 24.00
BDT     31.08 305 ePd    15 52.50  -1.0
     1.0s    41.40nm          5.1mb
GYA     31.93 327 P      16 00.80  -0.2
CHG     31.96 308 iPc    16 00.10  -1.1
     1.1s    63.29nm          5.4mb
CHTO    31.96 308 eP     16 00.00  -1.2
WHN     32.22 342 Pc     16 05.20   1.9
        Z  22s     0.90um          4.4Msz
NJ2     32.58 350 Pc     16 05.80  -0.6
KMI     33.23 321 Pd     16 12.50   0.1
STK     35.16 155 iPd    16 29.10   0.4
                  e      16 45.00  63km
CMS     36.77 150 eP     16 43.00   0.7
ADE     36.86 161 ePd    16 44.70   1.6
TSRJ    36.88  15 eP     16 50.90   7.8X
CD2     37.01 328 eP     16 43.50  -0.8
XAN     37.29 337 P      16 45.00  -1.6
IIDJ    37.35  17 eP     16 46.60  -0.6
CHJJ    38.21  18 P      16 53.00  -1.3
MTMJ    38.35  16 P      16 54.30  -1.3
MAT     38.43  17 iP     16 54.60  -1.6
KAKJ    38.73  19 eP     16 59.20   0.6
DL2     39.00 356 eP     17 00.00  -0.8
        Z  24s     1.00um          4.6MszX
TIY     39.48 344 Pc     17 04.60  -0.3
BFD     40.18 158 eP     17 10.00  -0.6
BWA     40.43 150 eP     17 15.30   2.6
BJI     40.83 349 eP     17 15.00  -0.9
     1.5s    39.00nm          5.0mb
SHL     41.11 311 iP     17 17.30  -1.4
LZH     41.17 333 P      17 19.00   0.1
     1.8s    89.00nm          5.3mb
        E  15s     0.40um
                  sP     17 31.20
                  eS     23 45.00
CAN     41.42 150 iPd    17 22.60   1.7
CNB     41.60 150 eP     17 25.00   2.6
TOO     41.68 156 eP     17 24.00   1.0
                  e      17 41.00  68km
SNY     41.80 358 iPd    17 24.40   0.6
BTO     42.85 343 eP     17 32.60   0.0
CN2     43.75   0 Pc     17 39.00  -0.6
        Z  20s     0.40um          4.3Msz
                  pP     17 47.40  28kmX
                  ePP    19 23.00
                  eS     24 09.00
LSA     44.00 315 P      17 42.20  -0.3
MDJ     44.73   4 eP     17 47.50  -0.1
GTA     45.72 332 P      17 54.60  -1.1
        Z  18s     0.80um          4.7Msz
HYB     49.14 293 eP     18 15.00  -7.6X
GBA     49.27 288 P      18 20.00  -3.6X
WMQ     55.09 327 P      19 04.70  -2.1
KSH     59.75 317 P      19 42.00   2.2
QUE     63.00 304 eP     20 00.00  -1.9
MAIO    70.70 309 eP     20 49.00  -1.4
TAB     81.35 308 eP     21 52.00   1.6
BHD     82.42 303 ePc    21 55.50  -0.4
MSL     83.71 306 ePd    22 02.50   0.1
NAI     88.43 269 iPd    22 28.50   2.1
     1.0s    15.00nm          5.1mb
KEV     92.99 340 eP     22 53.00   6.9X
SOD     93.45 337 eP     22 51.00   2.8
PTZ     93.75 256 iPd    22 51.20   0.5
SUF     94.30 333 eP     22 51.50  -0.7
     0.5s     1.80nm          4.8mb
MZZ     96.22 259 iP     23 03.50   1.3
LSZ     96.77 255 iPc    23 05.10   0.5
KRA     99.90 321 eP     23 18.30   0.3
NB2    101.55 333 Pdiff  23 21.20  -3.9X
     0.9s     3.20nm          5.0mb
KIC    129.71 278 PKP    28 45.00   1.5
CNCB   158.71 143 ePKP   29 27.00  -4.9X
LPB    158.85 142 ePKP   29 30.00  -1.9
ZOBO   159.03 142 ePKP   29 35.00   2.7
        Z  24s     0.09um          4.5MszX
                  LR     01 48.00
     S.D. = 1.4  on  67 of  76 obs.
---------------------------------------
   NOV  18, 1989  20h 14m 28.65± 0.26s
    9.288 N ± 4.4km  126.388 E ± 7.1km
   DEPTH =  33.0km  (normal)
   5.1mb ( 11 obs.)
 MINDANAO, PHILIPPINE ISLANDS        (259)

KKM     10.58 253 ePc    17 03.60   2.3
QIZ     18.72 303 eP     18 47.80   0.8
                  eS     22 06.50
SSE     22.23 348 P      19 24.70   0.6
     1.0s     0.06nm          2.0mb X
NJ2     23.70 344 Pd     19 39.60   1.1
KNA     24.99 175 eP     19 51.00   0.0
IPM     25.60 261 ePd    19 58.40   1.6
     0.8s    53.70nm          5.2mb
CHTO    28.22 293 eP     20 20.00  -0.8
XAN     29.40 329 eP     20 31.60   0.3
WB5     30.03 165 eP     20 36.00  -1.0
WRA     30.08 165 Pd     20 35.80  -1.7
     0.6s     5.30nm          4.5mb
MBL     30.93 192 eP     20 44.00  -0.9
QIS     32.38 156 iPc    20 56.40  -1.2
     0.2s    12.00nm          5.4mb
SNY     32.50 356 eP     20 58.80   0.4
ASPA    33.57 167 iPd    21 06.90  -1.0
     0.5s    18.00nm          5.2mb
                  iPcP   24 00.10
                  iS     25 53.90
                  e      26 23.00
                  e      27 30.90
HHC     34 07 340 eP     21 11.50  -0.8
CN2     34.39 359 eP     21 15.00   0.2
CTA     35.14 146 iPd    21 22.00   0.5
     0.9s    21.01nm          5.1mb
WARB    35.26 180 iPc    21 22.80   0.4
MDJ     35.31   4 eP     21 22.50  -0.1
MEKA    36.49 192 eP     21 32.00  -0.9
     0.3s     7.00nm          5.0mb
SHL     36.53 301 iP     21 32.30  -1.2
                  eS     27 14.50
LSA     38.70 307 iPc    21 52.00   0.1
BAL     40.74 193 eP     22 08.50   0.3
KLB     41.48 191 eP     22 14.00  -0.2
MUN     42.17 193 eP     22 20.00   0.1
NWAO    42.88 191 eP     22 26.50   0.8
STK     43.44 161 eP     22 30.00  -0.3
RKG     44.03 191 eP     22 40.00   5.0X
ADE     45.53 166 iPd    22 48.00   0.9
     0.8s    41.79nm          5.4mb
HYB     47.13 285 iPd    23 00.00  -0.1
WMQ     48.07 323 iPc    23 06.80  -0.3
GBA     48.11 280 P      23 08.00   0.3
BWA     48.23 155 iPc    23 09.80   1.4
BFD     48.64 163 iPd    23 11.90   0.5
CAN     49.24 155 eP     23 17.00   0.8
TOO     49.93 160 eP     23 22.00   0.6
DZM     50.14 129 iPc    23 24.10   0.8
MAIO    65.96 306 eP     25 13.00  -1.2
KMSA    79.28 289 iPd    26 31.30  -1.7
FBA     79.88  26 eP     26 36.20   0.9
INK     85.15  22 eP     27 04.00   1.6
SOD     85.23 337 iP     27 02.70  -0.2
SUF     86.48 333 eP     27 08.80  -0.3
     0.5s     6.80nm          5.1mb
MBC     86.64  13 eP     27 11.00   1.3
     1.0s    20.00nm          5.3mb
NUR     87.71 331 eP     27 14.60  -0.5
MAW     88.82 200 eP     27 20.00  -0.2
HFS     92.97 332 (P)    27 37.70  -2.0
     0.5s     1.50nm          4.7mb
NB2     93.69 334 P      27 41.30  -1.8
     1.0s     4.90nm          4.9mb
KIC    128.88 286 PKP    33 35.10  -0.5
     0.5s     8.00nm
```

18d 20h

TIC	129.06	286	PKP	33 35.30	-0.7
LIC	129.19	286	PKP	33 35.56	-0.7
	0.4s		6.00nm		
CNCB	164.14	120	ePKP	34 19.00	-12.2X
LPB	164.16	118	(PKP)	34 20.00	-11.0X
ZOBO	164.24	118	PKP	34 32.80	1.5

S.D. = 1.0 on 51 of 54 obs.

NOV 18, 1989 20h 20m 57.92± 0.36s
43.619 N ± 3.7km 18.858 E ± 3.8km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
MD 4.3 (TRI), ML 3.6 (VKA), 3.5 (KBA). Felt (V) at Gorazde and Foco.

PLE	0.49	126	ePg	21 07.40	-0.4
			eSg	21 14.00	
BRY	0.75	198	iPgd	21 10.80	-2.0
			iSg	21 22.30	
NKY	0.81	173	iPgd	21 12.50	-1.2
			iSg	21 23.40	
IVA	1.07	134	iPgc	21 17.50	-0.5
			eSg	21 33.50	
HCY	1.20	193	ePg	21 19.00	-1.3
			eSg	21 36.50	
TTG	1.22	166	ePg	21 19.60	-1.1
			eSg	21 36.10	
PVY	1.31	141	iPgc	21 21.50	-0.7
			eSg	21 40.00	
BDV	1.33	181	ePg	21 22.00	-0.5
			eSg	21 41.00	
BLY	1.65	314	Pn	21 27.50	0 4
			Sn	21 49.00	
BEO	1.66	43	iPn	21 29.00	1.8
			iPg	21 30.50	
			iSg	21 52.50	
ULC	1 68	170	ePn	21 29 00	1.5
			eSn	21 53.00	
HVAR	1.81	257	iPnc	21 29.10	-0.3
			iSn	21 54.90	
SKO	2.51	130	iPn	21 39.50	0.0
			i	21 46.50	
BZS	2.81	44	iPc	21 43.50	-0.1
OHR	2.89	149	iPn	21 47.10	2.2
BRT	3.00	205	P	21 46.20	-0.2
			eSn	22 22.10	
ZAG	3.01	318	eP	21 53.50	7.1X
PTJ	3.08	319	ePn	21 47.20	-0.3
			eSn	22 21.90	
VTS	3.35	106	ePc	21 52.00	0.5
LCI	3.35	192	P	21 50.40	-1.0
			eSn	22 28.90	
VAY	3.58	129	ePn	21 54.60	0.0
			i	22 02.60	
RIY	3.64	300	iP	21 57.60	2.2
DEV	3.66	50	ePd	22 03.00	7.2X
DUI	3.79	240	P	21 59.90	2.2
AOI	3.82	271	ePn	22 06.02	7.9X
BUD	3.87	2	eP	21 57.60	-1.1
KNT	3.87	128	eP	21 58.70	-0.1
ALP	3.95	260	ePn	22 02.34	2.3
SGO	4.04	222	P	22 01.30	0.2
MMB	4.13	118	eP	22 03.00	0.6
SDI	4.18	245	P	22 04.10	0.9
			eSn	22 54.80	
CIO	4.19	266	ePn	22 02.94	-0.3
TRI	4.19	302	e(Pn)	22 03.70	0.4
			i(Pg)	22 14.80	
			i(Sn)	22 52.10	
			i(Sg)	23 13.50	
SRO	4.21	355	eP	22 05.60	2.0
			i	22 54.90	
			e	23 22.00	
			i	35 58.10	
MGR	4.26	216	P	22 05.20	0.9
CSI	4.29	207	P	22 05.50	0.7
ARV	4.30	270	P	22 05.30	0.4
PSZ	4.36	9	eP	22 04.30	-1.5
SOP	4.37	339	eP	22 09.90	4.0X
TDS	4.38	206	P	22 05.80	-0.2
ROI	4.39	204	P	22 05.90	-0.3
ASS	4.55	265	P	22 10.00	1.5
MNS	4.70	257	P	22 12.50	2.0
ZST	4.74	346	eP	22 19.60	8.5X
VKA	4.97	340	e(Pg)	22 16.00	1.6
			eSg	23 10.00	

CRE	5.01	272	P	22 16.50	1.4
SFI	5.08	276	P	22 17.80	1.9
PGD	5.18	275	P	22 18.20	0.8
BMR	5.20	37	ePd	22 55.00	37.5X
KBA	5.20	314	iPnd	22 17.80	0.0
			iPg	22 36.10	
			iSn	23 14.00	
			i	23 53.00	
FVI	5.23	307	P	22 18.50	0.5
MLR	5.40	67	eP	22 28.50	7.9X
CTI	5.67	298	P	22 23.70	-0.7
OGA	6.41	303	iPc	22 35.30	0.4
KSP	7.44	347	eP	22 56.50	7.5X
			e	23 26.00	
LPG	8.85	286	eP	23 07.70	-1.3
	0.5s		3.90nm		5.0mb X
CDF	9.37	305	eP	23 13.90	-2.2
BSF	9.43	301	eP	23 14.60	-2.3
HAU	9.77	301	eP	23 19.40	-2.1
	0.6s		3.60nm		5.0mb X
LBF	11.01	293	eP	23 36.00	-2.5
	0.6s		3.60nm		4.9mb X
SMF	11.03	291	eP	23 36.00	-2.8
	0.6s		3.60nm		4.9mb X
LOR	11.15	294	eP	23 37.90	-2.5
	0.4s		2.20nm		4.9mb X

S.D. = 1.4 on 54 of 62 obs.

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* NOV 18, 1989 20h 22m 10.88± 1.61s
43.494 N ±11.3km 18.899 E ±13.9km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
MD 3.0 (TTG).

PLE	0.40	114	ePg	22 18.00	-1.0
			eSg	22 25.00	
BRY	0.65	204	ePg	22 22.00	-1.9
			eSg	22 32.00	
NKY	0.68	174	ePg	22 23.50	-1.0
			eSg	22 35.20	
HCY	1.09	196	ePg	22 31.30	0.0
			eSg	22 46.50	
TTG	1.10	166	ePg	22 32.00	0.6
			eSg	22 47.00	
BDV	1.21	183	ePg	22 35.20	1.8
			eSg	22 54.00	
ULC	1.55	170	ePg	22 40.00	1.4
			eSg	23 05.00	
BEO	1.74	40	iPn	22 41.50	0.3
			iSg	23 05.00	

S.D = 1.5 on 8 of 8 obs.

% NOV 18, 1989 21h 10m 03.68± 0.69s
59.459 N ± 6.0km 6.724 E ± 6.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 2.0 (BER).

BLS1	0.09	142	iPg	10 06.30	0.0
			iSg	10 08.00	
ODD1	0.46	354	iP	10 12.20	-0.8
			eS	10 19.00	
KMY	0.80	253	iP	10 18.90	-0.2
			iS	10 29.40	
ASK	1.28	324	iP	10 28.10	0.7
			iS	10 43.40	
HYA	1.73	351	iP	10 34.70	0.7
			eS	10 57.50	
SUE	1.88	329	eP	10 35.70	-0.4
			eS	10 59.20	
NRA0	2.73	60	iPd	10 48.40	0.0
			eS	11 19.20	
			iSg	11 27.10	
MOL	3.15	7	eP	10 54.10	-0.1
			eS	11 30.40	

S.D. = 0.6 on 8 of 8 obs.

NOV 18, 1989 21h 32m 54.94± 0.34s
34.313 N ± 4.3km 25.041 E ± 3.6km
DEPTH = 24.0km (2 depth phases)
4.1mb (22 obs.)
CRETE (370)
ML 4.5 (CSS), 4.2 (ATH).

NPS	1.06	26	iPbd	33 13.50	-0.8
VAM	1.29	328	ePb	33 17.30	-0.2
KAP	2.14	54	ePb	33 33.00	3.1X

APE	2.78	8	ePn	33 39.20	0.3
VLI	2.95	325	ePn	33 42.00	0.7
SMG	3.69	23	ePn	33 52.00	0.2
ATH	3.81	344	ePn	33 54.50	1.1
ITM	3.82	319	ePn	33 53.80	0.1
YER	3.86	42	iPn	33 56.00	1.8
CIN	4.11	36	ePg	34 00.00	2.3
			iSg	34 05.00	
KSL	4.13	63	ePn	33 58.50	0.4
IZM	4.45	23	iPn	34 02.80	0.1
ELL	4.65	57	ePn	34 06.80	1.2
PRK	5.02	11	ePn	34 10.00	-0.7
AGG	5.18	336	eP	34 15.40	2.4
NEO	5.19	344	ePn	34 12.50	-0.6
VLS	5.27	318	ePn	34 15.50	1.2
KHL	5.40	41	eP	34 16.10	0.0
BCK	5.49	54	eP	34 18.80	1.4
EZN	5.60	10	eP	34 18.00	-0.8
DST	6.01	27	eP	34 25.30	0.6
LIT	6.13	341	eP	34 29.80	3.5X
PLG	6.18	349	ePn	34 28.00	0.9
EDC	6.43	20	eP	34 30.00	-0.5
KZN	6.53	337	ePn	34 34.50	2.5
KEK	6.83	324	ePn	34 34.00	-2.1
RDO	6.83	3	ePn	34 36.00	-0.2
CSS	6.86	82	eP	34 34.50	-2.2
			eSn	35 47.70	
KNT	7.04	347	eP	34 38.80	-0.4
KOT	7.23	125	ePn	34 40.50	-1.2
VAY	7.26	345	eP	34 46.30	4.1X
OHR	7.57	335	eP	34 44.20	-2.4
SKO	8.16	341	eP	34 53.50	-1.2
			e	35 04.50	
			i	35 17.00	
LCI	8.24	319	P	34 53.40	-2.5
			eSn	36 18.30	
BBTK	8.28	46	eP	34 57.00	0.5
ROI	8.57	310	P	35 03.60	3.0X
ATN	8.64	299	P	35 01.20	-0.2
			eSn	36 30 40	
CZI	8.66	307	P	34 59.50	-2.2
MEU	8.68	292	P	35 01.60	-0.5
			eSn	36 31.90	
TDS	8.77	310	P	35 03.50	0.3
CSI	8.87	310	P	35 08.70	4.1X
BRT	9.03	319	P	35 04.80	-2.0
			eSn	36 40.60	
MKRJ	9.32	104	P	35 09.50	-1.5
MASJ	9.33	103	P	35 10.50	-0.5
MGR	9.54	310	P	35 12.50	-1.3
HOL	9.89	118	iPc	35 16.70	-1.9
SGO	9.93	312	P	35 17.50	-1.7
SRFA	10.18	119	eP	35 38.70	16.1X
BADA	10.28	121	eP	35 23.30	-0.7
AYN	10.80	117	iPd	35 29.30	-1.9
MLR	11.19	3	eP	35 41.00	4.5X
BZS	11.59	348	eP	35 42.00	0.2
VRI	11.62	6	eP	35 49.00	6.8X
FVI	15.39	327	P	36 32.50	0.5
KBA	15.51	329	eP	36 36.50	2.7
	0.6s		7.50nm		4.1mb
			i	36 39.20	
			i	36 50.00	
CTI	15.53	323	P	36 33.50	-0.5
KHC	17.07	334	P	36 54.90	1.4
	1.0s		7.00nm		3.7mb
WET	17.34	332	eP	36 57.80	0.9
PRU	17.46	337	eP	36 58.50	0.2
			e	37 17.00	
KSP	17.71	342	eP	37 04.00	2.6
LPG	17.89	314	eP	37 04.40	0.4
	0.6s		1.80nm		3.4mb
GRF	18.44	331	iP	37 07.50	-2.9
	0.8s		10.00nm		4.0mb
MOX	19.04	333	e(P)	37 19.00	1.3
CLL	19.10	336	e(P)	37 23.00	4.5X
BSF	19.21	320	eP	37 17.90	-2.1
	0.8s		6.40nm		3.9mb
CDF	19.33	322	eP	37 19.70	-1.7
	1.0s		8.00nm		3.9mb
HAU	19.56	320	eP	37 22.30	-1.6
	0.6s		7.20nm		4.1mb
TNS	20.02	328	eP	37 31.20	2.5
SMF	20.22	314	eP	37 30.60	-0.2
	0.8s		4.00nm		3.8mb
LBF	20.31	315	eP	37 30.10	-1 7
	0.8s		5.90nm		4.0mb

```
LOR     20.53 315 eP     37 33.40  -0.6
        0.8s     8.00nm          4.2mb
SSF     20.63 315 eP     37 33.80  -1.2
        0.6s     3.60nm          3.9mb
LPO     21.05 307 eP     37 39.10  -0.3
        1.0s    24.00nm          4.6mb
RJF     21.07 308 eP     37 39.50  -0.1
        0.8s    10.70nm          4.3mb
MEM     21.40 325 P      37 43.30   0.4
                  e      37 50.10  25km
LFF     21.44 307 eP     37 43.00  -0.3
        0.9s    16.30nm          4.5mb
ENN     21.55 326 eP     37 45.00   0.6
        0.9s    27.00nm          4.7mb
DOU     21.76 323 P      37 46.30  -0.2
        0.8s    11.70nm          4.4mb
                  e      37 52.80  23km
WTS     22.01 329 eP     37 49.50   0.5
        0.8s    10.00nm          4.3mb
SNF     22.17 323 eP     37 57.80   7.2X
APHE    23.46 285 eP     38 06.00   2.4
ASMO    23.49 286 eP     38 05.50   1.7
ATEJ    23.72 285 eP     38 08.50   2.4
HFS     26.88 347 eP     38 34.30  -1.2
        0.4s     1.80nm          4.1mb
MAIO    28.10  76 eP     38 56.00   9.0X
NB2     28.19 346 P      38 45.50  -2.0
        0.5s     1.90nm          4.1mb
BCAO    30.34 193 iPc    39 08.20   1.2
        0.6s     8.00nm          4.7mb
                  i      39 27.00  81kmX
TIC     39.09 232 P      40 22.68   0.6
KIC     39.12 231 P      40 23.04   0.7
LIC     39.41 232 P      40 25.48   0.7
NDI     44.45  82 eP     41 06.50   0.7
MZZ     45.35 175 eP     41 16.00   2.8X
WMO     48.52  59 eP     41 38.40   0.5
PTZ     48.66 172 iPd    41 41.20   2.0
LSZ     49.40 176 eP     41 47.00   2.1
GBA     51.52 100 Pc     42 01.20   0.2
        0.7s     6.20nm          4.6mb
BUL     54.26 176 iPc    42 20.80  -0.6
        0.8s     2.61nm          4.3mb
LSA     55.37  75 eP     42 30.00   0.0
SHL     57.67  79 iP     42 45.20  -0.9
GTA     58.45  61 eP     42 51.00  -0.3
HHC     66.19  56 Pd     43 43.40   0.5
TIY     68.18  59 eP     43 56.20   0.7
GYA     69.10  72 P      44 01.80   0.4
LOE     69.59  82 eP     44 17.00  12.7X
     S.D. = 1.4  on  91 of 104 obs.
-------------------------------------
   NOV  18, 1989  22h 11m 22.86± 0.57s
   40.836 N ± 4.7km   28.148 E ± 6.0km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

CTT      0.38  34 iPg    11 30.70   0.1
                eSg     11 35.20
BNT      0.51 200 iPg    11 32.70  -0.5
                iSg     11 39.20
EDC      0.53 204 iPg    11 33.30  -0.4
                iSg     11 40.80
ISK      0.73  71 iPg    11 37.00  -0.1
                eSg     11 48.20
YLV      0.97 106 iPg    11 41.20  -0.1
                iSg     11 54.70
GBZT     0.99  92 iPgd   11 46.10   4.6X
                iSg     12 00.20
DMK      1.03 343 iPg    11 42.10  -0.2
                iSg     11 56.40
DST      1.28 163 iPn    11 47.30   0.6
EZN      1.72 235 ePn    11 53.60   0.6
     S.D. = 0.5  on   8 of   9 obs.
-------------------------------------
%  NOV  18, 1989  22h 43m 47.54± 3.08s
   10.641 N ±17.7km   60.718 W ±28.1km
   DEPTH =  33.0km  (normal)
 TRINIDAD                          ( 98)
     MD 3.1 (TRN).

TBH      0.38 246 eP     43 56.47   0.1
                eS      44 09.06
BOT      0.52   0 eP     43 58.23  -0.2
TRN      0.67 271 eP     43 59.95  -0.6
                eS      44 14.28
TPP      0.79 246 eP     44 02.26   0.1
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TCE      1.02 273 eP     44 05.57   0.0
                eS      44 21.95
GRW      1.77 329 eP     44 16.75   0.3
     S.D. = 0.4  on   6 of   6 obs.
-------------------------------------
   NOV  18, 1989  23h 07m 31.42± 0.73s
   45.849 N ± 7.5km   14.147 E ± 5.9km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
     ML 3.0 (ZAG), 2.9 (KBA). MD 2.8
     (TRI). Felt ot Crni Vrh ond
     Idrija.

TRI      0.30 243 iPg    07 37.50  -0.2
                iSg     07 42.10
LJU      0.33  54 iPgd   07 37.00  -1.3
                iSg     07 41.50
RIY      0.53 162 iPgd   07 41.70  -0.5
                iSg     07 51.00
FVI      1.21 309 P      07 53.00  -0.9
                eSg     08 11.10
PTJ      1.27  87 ePg    07 54.70  -0.3
                eSg     08 21.60
ZAG      1.28  91 i(Pg)  07 56.70   1.5
                iSg     08 14.50
KBA      1.35 336 iPgc   07 54.70  -1.7
                id      07 55.00
                i       07 56.40
                iSg     08 13.20
CTI      1.75 277 P      08 01.70  -0.5
                eSg     08 24.50
OGA      2.39 296 iPd    08 13.50   2.1
HVAR     3.14 148 e(Pn)  08 26.30   4.5X
                iSn     09 02.80
KHC      3.31 354 ePg    08 26.00   1.7
                Sg      09 13.50
PRU      4.15   4 eP     09 23.00  46.8X
                Sg      09 42.50
     S.D. = 1.5  on  10 of  12 obs.
-------------------------------------
*  NOV  18, 1989  23h 59m 01.51± 2.49s
   31.319 S ±11.2km   68.873 W ±17.7km
   DEPTH = 115.7 ± 24.6 km
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTCB     0.18 159 iPd    59 17.50  -0.6
RTBS     0.60 235 iPd    59 20.00   0.1
RTCV     0.61 152 iPd    59 20.00  -0.1
CFA      0.61 118 iP     59 20.00  -0.1
                S       59 31.50
RTRS     1.25 336 iPd    59 26.50   0.4
                S       59 44.50
JACH     2.00 227 iPc    59 35.60   0.3
                iS      00 02.50
FCH      2.33 211 iP     59 41.60   1.7
PEL      2.38 220 iPc    59 40.30   0.1
                iS      00 09.60
ROCH     2.45 227 iPd    59 41.20  -0.1
PCH      2.68 211 eP     59 45.20   1.0
TACH     2.91 216 iP     59 46.70  -0.5
CHCH     3.01 209 iPd    59 48.90   0.4
LCCH     3.13 226 iPc    59 49.50  -0.7
LNV      3.39 218 iPd    59 51.60  -2.0
     S.D. = 1.0  on  14 of  14 obs.
-------------------------------------
?  NOV  19, 1989  00h 08m 03.93± 4.26s
     8.845 S ±40.7km  115.337 E ±70.7km
   DEPTH = 152.5 ± 37.6 km
   3.5mb (  1 obs.)
 BALI ISLAND REGION                (283)

KHKI     0.55  29 iPd    08 26.00   0.0
                iS      08 45.80
                e       10 52.50
MBL     12.99 161 eP     11 04.00   0.0
                eS      13 26.00
NANU    13.64 179 eP     11 12.30   0.0
                eS      13 40.00
WB5     21.43 123 eP     12 40.80  -0.2
WRA     21.43 123 Pd     12 41.30   0.2
        0.3s     0.60nm          3.5mb
     S.D. = 0.3  on   5 of   5 obs.
-------------------------------------
*  NOV  19, 1989  00h 47m 12.07± 0.73s
   43.680 N ± 5.8km   19.381 E ± 9.5km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
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```
     MD 2.8 (TTG).

PLE      0.35 178 ePg    47 18.60  -0.7
                iSg     47 25.00
IVA      0.89 155 ePg    47 28.50  -0.7
                eSg     47 44.00
NKY      0.91 198 ePg    47 28.50  -1.1
                eSg     47 43.50
BRY      0.99 218 ePg    47 29.30  -1.7
                eSg     47 45.00
PVY      1.17 158 ePg    47 34.00   0.0
                eSg     47 52.00
TTG      1.25 184 ePg    47 35.60   0.3
                eSg     47 54.20
BEO      1.38  34 ePg    47 37.00  -0.3
                i(Sg)   47 55.00
HCY      1.39 208 ePg    47 38.00   0.5
                eSg     48 00.80
BDV      1.45 196 ePg    47 39.10   0.7
                eSg     48 03.00
SDA      1.67 177 ePn    47 44.50   3.1X
PUK      1.68 167 ePn    47 44.20   2.6
ULC      1.72 183 ePn    47 45.70   3.5X
                eSn     48 11.30
LACI     2.06 173 ePn    47 50.50   3.4X
PHP      2.14 158 ePnd   47 53.40   5.2X
HVAR     2.20 258 iPn    47 50.70   1.6
                iSn     48 19.20
SKO      2.28 138 ePn    47 55.70   5.3X
TIR      2.36 171 ePn    47 57.50   6.0X
BZS      2.51  39 iPc    47 52.00  -1.5
OHR      2.77 157 ePn    48 01.00   3.6X
KBN      3.24 160 ePn    48 10.30   6.5X
PTJ      3.30 314 eP     48 11.20   6.4X
VAY      3.33 134 ePn    48 11.50   6.2X
TPE      3.42 172 ePn    48 13.80   7.4X
VBY      3.47 303 eP     48 18.10  11.0X
                e(Sn)   49 08.20
SRO      4.20 350 eP     48 19.80   2.3
VOY      4.56 303 ePn    48 20.70  -2.0
                eSn     49 14.80
ZST      4.79 341 eP     49 18.90  53.0X
MLR      5.02  67 eP     48 50.00  20.6X
     S.D. = 1.6  on  14 of  28 obs.
-------------------------------------
?  NOV  19, 1989  01h 09m 53.87± 4.62s
   41.708 N ±29.4km   12.698 E ±26.8km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

RDP      0.05  15 Pc     09 56.20   0.1
                eSg     09 58.20
RMP      0.10   2 Pc     09 56.80   0.2
                eSg     09 58.70
MNS      0.68 359 Pc     10 07.10  -0.2
                eSg     10 16.60
AQU      0.83  39 P      10 10.10   0.1
                eSg     10 22.00
SDI      0.84  90 P      10 10.00  -0.1
                eSg     10 22.50
     S.D. = 0.2  on   5 of   5 obs.
-------------------------------------
   NOV  19, 1989  01h 52m 40.23± 0.72s
   11.546 N ± 5.3km   61.814 W ±10.8km
   DEPTH =  33.0km  (normal)
 WINDWARD ISLANDS                  ( 95)
     MD 3.9 (TRN).

TCE      0.85 176 eP     52 55.13  -0.6
                eS      53 09.24
TRN      0.98 156 eP     52 57.38  -0.3
                eS      53 12.74
PIG      1.03 112 eP     53 00.25   1.9
BOT      1.14 109 eP     53 01.11   1.2
TPP      1.27 164 eP     52 59.96  -1.8
                eS      53 19.19
TBH      1.29 145 eP     53 01.10  -0.9
                eS      53 22.37
FCV      1.69  19 eP     53 33.25  25.3X
                eS      53 46.52
SVB      1.80  18 eP     53 10.32   0.8
SVV      1.86  18 eP     53 11.00   0.7
SSV      1.87  19 eP     53 11.58   1.0
SLB      2.39  18 eP     53 17.77  -0.2
CUM      2.55 245 iPc    53 22.00   1.8
                iS      53 39.60
BIM      3.04  14 eP     53 26.44  -0.7
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19d 01h

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MVM      3.12  17 eP     53 27.43  -0.9
                 S      54 09.30
FDF      3.23  11 eP     53 27.70  -2.2
                 S      54 09.80
     S.D. = 1.4   on  14 of  15 obs.
-----------------------------------------
?  NOV  19, 1989  02h 29m 20.66± 0.95s
   16.734 S ±33.5km   69.601 W ±11.5km
   DEPTH = 196.2 ± 11.8 km
 PERU-BOLIVIA BORDER REGION        (118)

LPB      1.45  82 Pd     29 54.50   0.1
                 S      30 20.00
ZOBO     1.49  72 iPd    29 54.50  -0.4
                 S      30 20.00
CNCB     1.55  93 iPd    29 55.90   0.4
                 S      30 20.00
ARE      1.83 278 iPc    29 57.70  -0.2
NNA      8.45 303 eP     31 21.00   0.2
       0.4s     4.24nm            4.1mb X
                 eS     32 52.50
PPD     18.04 110 eP     33 19.70  -0.1
     S.D. = 0.5   on   6 of   6 obs.
-----------------------------------------
*  NOV  19, 1989  03h 06m 54.16± 0.89s
   10.532 N ±16.2km   62.256 W ± 7.0km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF VENEZUELA            ( 97)
      MD 3.5 (TRN).

TCE      0.52  72 eP     07 04.47  -0.2
                 eS     07 12.05
TPP      0.82 105 eP     07 09.50  -0.5
                 eS     07 27.59
TRN      0.85  82 eP     07 09.41  -1.1
                 eS     07 23.77
TBH      1.17  92 eP     07 16.62   0.6
                 eS     07 36.20
BOT      1.64  67 eP     07 24.22   1.1
CUM      1.88 268 iPd    07 26.20  -0.5
                 iS     07 47.40
ZOBO    27.25 192 P      12 41.80   0.5
     S.D. = 0.9   on   7 of   7 obs.
-----------------------------------------
   NOV  19, 1989  03h 13m 22.28± 0.87s
   3.750 N ± 7.5km   83.214 W ±20.9km
   DEPTH =  33.0km  (normal)
   4.6mb (  1 obs.)
 OFF COAST OF CENTRAL AMERICA       ( 76)

LCR2     6.00 353 iPd    14 51.10  -0.3
SJS      6.21 352 eP     14 54.00  -0.2
UPA      6.35  35 ePc    14 56.20   0.1
       1.0s   110.00nm            5.6mb X
SRA      6.41 349 eP     14 57.50   0.5
NNA     16.87 158 iPd    17 17.80   0.1
ZOBO    24.87 144 P      18 43.00  -1.1
       1.7s    29.07nm            4.6mb
     Z  24s     0.20um          3 5MszX
                 LR     27 50.00
LPB     25.09 144 P      18 47.00   0.9
                 LR     28 50.00
CNCB    25.37 144 P      18 49.00   0.1
     S.D. = 0.7   on   8 of   8 obs.
-----------------------------------------
   NOV  19, 1989  03h 21m 13.61± 0.76s
   38.055 N ± 6.3km  107.767 W ± 4.5km
   DEPTH =   5.0km  (geophysicist)
 COLORADO                           (479)
      ML 3.0 (NEIS). Felt at
      Silverton.

RW5      0.06 296 iPc    21 15.96   0.6
RW4      0.16  49 iPc    21 16.11  -0.9
                 eS     21 19.10
RW6      0.20 318 iPc    21 18.51   0.7
RW1      0.20 355 iPd    21 18.09   0.2
RW3      0.20  18 iPd    21 17.74  -0.2
RW2      0.25   7 iPd    21 18.80   0.0
PV06     0.61 297 eP     21 25.72  -0.2
PV01     0.64 277 iPc    21 26.29  -0.1
PV02     0.78 282 iPc    21 28.96  -0.5
PV07     0.79 299 P      21 28.88  -0.7
PV08     0.87 307 P      21 30.40  -0.6
PV03     0.88 283 iPc    21 30.60  -0.5
PV05     1.05 272 iPc    21 31.86  -2.2
GOL      2.49  48 eP     21 55.60  -0.1
                 e(S)   22 30.00
ALQ      3.28 161 eP     22 07.50   0.6
MSU      3.50 279 eP     22 11.70   1.7
DAU      3.59 312 eP     22 13.50   2.1
     S.D. = 1.1   on  17 of  17 obs.
-----------------------------------------
*  NOV  19, 1989  03h 30m 15.72± 0.61s
   37.581 N ±11.6km   71.819 E ± 9.4km
   DEPTH =  33.0km  (normal)
   4.6mb (  4 obs.)
 AFGHANISTAN-USSR BORDER REGION     (717)

MAIO     9.95 266 eP     32 40.00   0.4
       0.7s    11.44nm            5.2mb X
                 eS     34 25.00
NDI      9.96 151 iPd    32 40.00   0.4
       0.7s    20.55nm            5.5mb X
                 iS     34 23.50
KHI     11.23 256 e(P)   32 58.00   0.9
WMQ     13.55  58 P      33 31.80   3.7X
                 S      36 16.00
LSA     17.89 110 Pc     34 25.60   1.5
GTA     21.96  77 P      35 11.20   2.8
GBA     24.40 167 P      35 30.00  -2.2
GYA     31.39 100 P      36 34.20  -1.8
NUR     37.34 323 eP     37 27.10   0.6
SUF     37.36 327 eP     37 27.30   0.7
       0.4s     3.10nm            4.5mb
SOD     39.04 334 eP     37 48.00   7.3X
HFS     42.63 321 eP     38 09.50  -0.7
       0.4s     6.10nm            4.7mb
NB2     43.92 322 P      38 20.40  -0.4
       0.7s     3.10nm            4.2mb
MBC     66.23   3 ePc    41 01.00  -0.9
       1.0s    15.00nm            5.0mb
INK     72.73  10 eP     41 40.50  -1.4
FBA     73.25  16 eP     41 43.50  -1.5
CAYA   133.30 316 Pdiff  46 29.70   1.5
     S.D. = 1.5   on  15 of  17 obs.
-----------------------------------------
   NOV  19, 1989  03h 40m 24.45± 0.30s
   42.870 N ± 2 8km   12.910 E ± 2.6km
   DEPTH =  12.2 ±  2.3 km
 CENTRAL ITALY                      (381)
      ML 4.3 (KBA), 3.8 (LDG), 3.6
      (ROM). MD 4.0 (TRI), 3.8 (FIR),
      3.7 (SSO).

ASS      0.27 318 Pc     40 29.80  -0.5
                 eSg    40 35.00
CIO      0.37  28 iPgc   40 30.86  -1.3
                 iSg    40 36.03
ALP      0.50 100 iPg    40 32.80  -1.9
                 iSg    40 40.27
MNS      0.51 199 Pd     40 33.90  -1.0
                 eSg    40 42.10
SSO      0.56  41 eP     40 35.21  -0.5
                 iSg    40 43.30
ARV      0.63   2 P      40 35.70  -1.2
                 (Sg)   40 46.40
AQU      0.63 145 P      40 35.10  -1.8
                 eSg    40 46.80
AOI      0.85  36 iPg    40 39.68  -0.9
                 iSg    40 52.20
CRE      1.03 318 P      40 44.50   0.7
                 eSg    41 00.50
RMP      1.07 188 P      40 44.50   0.1
                 eSn    40 59.50
RSM      1.11 343 P      40 46.30   1.3
RDP      1.12 187 P      40 45.50   0.2
                 eSn    41 02.50
SFI      1.30 324 P      40 49.00   0.7
                 eSn    41 08.00
PGD      1.33 320 P      40 49.00   0.2
                 eSn    41 07.50
SDI      1.34 150 P      40 48.40  -0.6
                 eSn    41 07.60
FIR      1.51 307 iPnc   40 52.50   1.3
                 iSn    41 11.50
DUI      1.67 136 P      40 54.50   0.9
RFI      1.76 153 P      40 56.74   1.9
PII      1.94 297 P      40 57.50   0.0
BDI      2.06 306 P      40 59.60   0.2
MME      2.08 310 P      41 00.10   0.3
HVAR     2.61  82 iPn    41 06.80  -0.4
                 iSn    41 34.60
                 iSg    41 39.40
RIY      2.69  23 iPnd   41 08.20  -0.1
                 iSn    41 42.60
TRI      2.90  12 P      41 10.70  -0.5
SGO      2.93 141 P      41 10.50  -1.0
BOB      3.14 308 P      41 14.50  -0.2
SAL      3.23 329 P      41 16.20   0.4
CTI      3.30 345 P      41 16.50  -0.5
MGR      3.38 143 P      41 17.50  -0.5
ZAG      3.68  36 eP     41 35.00  12.7X
CKI      3.70 296 P      41 22.50  -0.2
FVI      3.72 359 P      41 23.10   0.2
PTJ      3.73  35 ePn    41 23.10  -0.1
                 eSn    42 08.50
BRT      3.77 120 P      41 23.40  -0.3
CSI      4.00 139 P      41 29.70   2.8
SBF      4.11 286 Pn     41 28.60   0.1
                 Sn     42 19.60
BRY      4.14  88 ePn    41 29.00   0.1
                 eSn    42 13.00
HCY      4.14  94 ePn    41 29.00   0.2
                 eSn    42 14.00
OGA      4.22 342 iPnc   41 31.80   1.7
VAI      4.22 317 P      41 29.00  -0.9
KBA      4.22   4 iPnc   41 29.90  -0.2
                 ic     41 30.00
                 iSn    42 20.70
                 iSg    42 44.30
OSS      4.29 334 eP     41 33.70   2.5
ROI      4.30 139 P      41 30.80  -0.3
TMA      4.34 320 eP     41 31.70  -0.1
VDL      4.37 327 eP     41 33.70   1.4
CZI      4.39 145 P      41 31.20  -1.1
BDV      4.41  96 ePn    41 34.00   1.3
                 eSn    42 21.00
DOI      4.42 294 P      41 30.50  -2.4
NKY      4.48  89 ePn    41 34.00   0.3
                 eSn    42 21.00
ORO      4.49 310 P      41 32.00  -1.8
LCI      4.55 122 P      41 35.50   0.9
FRF      4.63 281 Pn     41 36.20   0.4
                 Sn     42 30.80
TTG      4.71  93 ePn    41 38.00   1.1
                 eSn    42 30.50
LMR      4.71 278 Pn     41 36.60  -0.4
MMK      4.76 314 eP     41 39.90   2.0
ULC      4.78  99 ePn    41 38.00   0.0
                 eSn    42 30.20
LRG      4.83 279 Pn     41 38.40  -0.2
BHG      4.85 360 eP     41 39.60   0.7
LLS      4.87 327 eP     41 40.60   1.2
SDA      4.95  98 eP     41 40.50   0.2
SAX      5.06 331 eP     41 43.30   1.3
DIX      5.08 311 eP     41 43.60   1.2
IVA      5.14  88 ePn    41 45.50   2.5
                 eSn    42 37.50
LPG      5.15 303 Pn     41 43.60   0.2
LPL      5.17 303 Pn     41 43.60   0.0
LACI     5.19 101 eP     41 44.50   0.8
PVY      5.21  91 ePn    41 46.50   2.4
                 eSn    42 40.00
PUK      5.23  97 eP     41 45.60   1.3
EMS      5.34 309 eP     41 47.30   1.2
TIR      5.39 104 eP     41 45.50  -1.1
FUR      5.42 348 eP     41 49.10   2.1
SOP      5.46  27 eP     41 50.00   2.5
PHP      5.71  99 iPd    41 50.90  -0.1
BEO      5.79  68 eP     42 19.00  26.8X
SLE      5.80 329 eP     41 52.10  -0.2
VKA      5.90  23 iPnc   41 53.00  -0.7
                 iSn    43 02.00
TPE      5.91 113 eP     41 43.50 -10.4X
ZST      6.08  27 e(P)   41 54.00  -2.3
                 e      43 51.40
OHR      6.14 104 eP     41 54.50  -2.6
GRC1     6.20 352 i(P)   41 58.30   0.3
       0.9s    13.00nm            4.7mb
SRO      6.24  36 eP     42 03.00   4.6X
                 i      42 27.70
                 i      43 29.70
KHC      6.28   4 Pn     41 58.00  -1.1
                 e      42 06.40
SKO      6.38  95 eP     41 59.50  -1.0
BSF      6.57 321 Pn     42 02.00  -1.3
                 Sn     43 17.00
CDF      6.80 326 Pn     42 05.20  -1.3
BZS      6.83  63 eP     42 07.50   0.7
HAU      6.90 320 Pn     42 06.40  -1.5
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                    Sn     43 24.00
PSZ      7.05  42 eP      42 14.80    4.9X
PRU      7.21   8 Pn      42 09.50   -2.6
                  e       42 48.50
                  eSn     43 33.50
                  eSn     46 20.50
VAY      7.35  99 eP      42 12.60   -1.5
SMF      7.48 303 Pn      42 14.40   -1.5
                  Sn      43 38.40
HOF      7.48 355 iPc     42 15.30   -0.6
LBF      7.56 306 Pn      42 15.40   -1.6
                  Sn      43 40.60
MOX      7.83 354 eP      42 19.00   -1.8
     Z  20s      1.00um
KSP      8.31  15 eP      42 18.00   -9.4X
                  e       44 16.30
                  ec      44 55.50
                  e       47 30.50
CLL      8.44   0 ePn     42 30.00    0.7
                  e       44 37.00
                  (Sg)    45 03.00
                  e       47 13.00
                  eSg     48 03.00
DOU      9.22 324 P       42 45.20    5.1X
     S.D. = 1.2  on  90 of  97 obs.
-----------------------------------------
   NOV  19, 1989  03h 43m 15.10± 0.29s
   42.879 N ± 2.7km   12.953 E ± 2.8km
   DEPTH =  12.0 ±  2.2 km
 CENTRAL ITALY                      (381)
     ML 4.1 (KBA), 3.7 (LDG). MD 3.8
     (TRI), 3.7 (ROM).

ASS      0.29 312 P       43 21.10   -0.2
                  eSg     43 28.30
CIO      0.35  24 iPgc    43 21.55   -0.8
                  iSg     43 26.87
ALP      0.47 102 iPg     43 24.47   -0.3
                  iSg     43 32.09
MNS      0.53 202 P       43 25.40   -0.5
                  eSg     43 35.20
SSO      0.54  39 iPgd    43 25.83   -0.1
                  iS      43 34.22
ARV      0.62 359 Pc      43 27.10   -0.3
                  eSg     43 37.30
AQU      0.62 148 P       43 26.80   -0.6
                  eSg     43 37.00
AOI      0.82  35 iPg     43 30.67   -0.2
                  iSg     43 42.96
CRE      1.05 316 P       43 35.30    0.6
                  eSg     43 51.90
RMP      1.08 190 P       43 35.70    0.4
                  eSn     43 52.50
RSM      1.11 341 P       43 38.00    2.3
RDP      1.13 189 P       43 36.70    0 5
                  eSn     43 54.40
SFI      1.31 323 P       43 39.70    0.5
                  eSn     43 58.60
SDI      1.34 151 P       43 39.70    0.1
PGD      1.34 318 P       43 40.00    0.3
                  eSn     43 58.40
FIR      1.53 307 iPnc    43 44.00    1.8
                  iSn     44 05.00
DUI      1.65 137 P       43 45.50    1.4
PII      1.96 296 P       43 50.00    1.5
BDI      2.08 305 P       43 50.90    0.6
MME      2.10 309 P       43 52.50    1.8
HVAR     2.58  82 i(Pn)   43 57.80    0.4
                  iSn     44 23.70
RIY      2.67  22 iPnd    43 58.90    0.3
                  iSn     44 32.70
TRI      2.89  11 Pnc     44 01.40   -0.3
                  i       44 10.40
                  iSn     44 37.50
                  iSg     44 55.00
SGO      2.91 142 P       44 02.00    0.0
BOB      3.16 308 P       44 06.00    0.3
SAL      3.24 328 P       44 07.50    0.9
CTI      3.30 344 P       44 08.50    0.8
PTJ      3.71  34 ePn     44 17.70    4.2X
                  eSn     45 03.10
FVI      3.72 358 P       44 14.00    0.5
CKI      3.73 296 P       44 13.50   -0.2
BRT      3.75 121 P       44 13.50   -0.5
CSI      3.99 140 P       44 20.80    3.4X
SBF      4.14 286 Pn      44 19.60    0.0
                  Sn      45 10.00
KBA      4.21   4 iPnc    44 20.70    0.1
                  iSn     45 11.30
                  iSg     45 35.20
VAI      4.23 316 P       44 20.50   -0.3
ROI      4.28 139 P       44 25.40    3.8X
DOI      4.45 293 P       44 22.00   -1.9
ORO      4.50 309 P       44 24.50   -0.3
FRF      4.66 281 Pn      44 27.00    0.1
LMR      4.74 278 Pn      44 27.20   -0.8
LRG      4.86 279 Pn      44 29.40   -0.3
BNI      5.03 298 P       44 31.50   -0.7
LPG      5.17 303 Pn      44 34.50    0.1
LPL      5.19 303 Pn      44 34.80    0.2
VKA      5.88  23 iPn     44 43.70   -0.4
                  iSn     45 52.40
KHC      6.27   4 ePg     44 49.00   -0.6
                  Sg      45 59.50
BSF      6.58 321 Pn      44 52.60   -1.5
                  Sn      46 06.00
CDF      6.81 326 Pn      44 56.00   -1.3
                  Sn      46 12.00
HAU      6.92 320 Pn      44 57.00   -1.7
                  Sn      46 15.00
LBF      7.58 306 Pn      45 06.00   -2.0
     S.D. = 0.9  on  47 of  50 obs.
-----------------------------------------
   NOV  19, 1989  03h 57m 13.03± 0.28s
   11.343 S ± 5.1km  118.021 E ± 6.9km
   DEPTH =  24.9km  (  5 depth phases)
   5.3mb ( 22 obs.)  4.3Msz (  2 obs.)
 SOUTH OF SUMBAWA ISLAND            (291)
      Felt (II) at Kohong-Kohong,
      Bali.
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 16C
      Centroid Location:
      Origin Time        03:57:24.6 1.2
      Lat 10.82S 0.12 Lon 119.53E 0.23
      Dep  99.3 7.8 Half-duration  1.6
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 0.29 0.91  Mtt= 9.45 1.28
        Mff=-9.74 1.64  Mrt= 0.99 1.04
        Mrf=-1.74 1.01  Mtf= 5.60 1.66
       Principal Axes:
        T  Val= 10.99  Plg= 3  Azm=345
        N        0.58      80       91
        P      -11.57       9      255
      Best Double Couple:Mo=1.1*10**17
       NP1:Strike= 30 Dip=82 Slip=-175
       NP2:        300      85       -8
KHKI     3.80 321 iPc     58 13.00    1.7
                  iS      58 53.90
                  e       05 38.90
MBL      9.91 170 iPc     59 34.60   -2.5
                  eS      01 12.00
KNA     11.33 114 iPd     59 54.90   -1.6
        0.3s    59.00nm          6.4mb X
                  eS      01 54.00
NANU    11.41 192 iPc     59 54.80   -2.7
MTN     12.91  98 iPc     00 17.90    0.2
                  eS      02 33.00
MEKA    15.20 178 eP      00 46.00   -1.8
                  eS      03 17.00
KKM     17.37 354 ePd     01 14.50   -1.1
WB5     17.87 120 eP      01 20.00   -1.8
                  eS      04 27.80
WRA     17.88 121 Pc      01 20.50   -1.4
        0.9s    70.90nm          4.8mb
MRWA    17.88 186 iPd     01 20.20   -1.7
BAL     19.21 183 iPd     01 37.40   -0.6
        0.6s   245.00nm          5.6mb
                  eS      04 51.00
ASPA    19.46 131 iPc     01 41.70    0.6
        1.2s   506.00nm          5.7mb
     Z  22s      1.27um          4.4Msz
                  eS      05 06.20
                  LR      08 41.50
COOL    19.66 172 iPd     01 42.70   -0.5
        0.4s    92.00nm          5.4mb
                  eS      05 01.00
KGM     19.74 311 ePc     01 45.40    1.2
KLB     20.15 181 eP      01 50.00    1.6
        0.3s    56.00nm          5.4mb
                  eS      05 05.00
MUN     20.60 184 iPd     01 53.10    0.0
        0.6s   141.00nm          5.5mb
                  eS      05 23.00
NWAO    21.49 182 iPd     02 02.60    0.5
        0.4s   139.00nm          5.7mb
     Z  20s      0.90um          4.2Msz
     N  20s      0.50um
     E  20s      0.40um
                  eS      05 43.00
KLM     21.71 310 eP      02 09.00    4.6X
RKG     22.64 182 eP      02 30.00   16.5X
        0.3s   112.00nm
                  eS      06 23.00
QIS     22.66 117 eP      02 15.00    1.1
                  e       02 21.00   22km
                  eS      06 24.00
IPM     23.16 312 ePc     02 20.10    1.4
        0.6s    35.50nm          5.1mb
JAY     24.14  70 ePc     02 32.20    3.9X
CTA     28.50 111 iPd     03 10.50    1.8
        0.9s    15.13nm          4.7mb
                  iS      08 06.00
STK     29.84 137 iPc     03 22.00    1.4
                  e       03 53.00 146kmX
ADE     30.12 145 iPd     03 25.50    2.4
        0.7s    47.95nm          5.4mb
CMS     32.58 132 eP      03 46.00    1.3
                  e       04 25.00 187kmX
LOE     32.79 330 eP      03 46.00   -0.6
BFD     33.88 144 eP      03 57.00    1.1
                  e       04 45.00 235kmX
BDT     34.06 326 eP      03 57.40   -0.2
CHG     35.38 328 eP      04 09.00    0.0
CHTO    35.38 328 eP      04 08.90   -0.1
                  pP      04 16.00   24km
TOO     35.90 141 eP      04 16.50    3.2X
                  e       04 31.40   58kmX
BWA     35.98 135 iPc     04 17.90    3.9X
BRS     36.31 121 iPd     04 19.20    2.4
                  e       04 55.20 164kmX
GYA     39.16 344 iPc     04 41.60    0.7
KMI     39.19 338 Pd      04 42.00    0.8
                  pP      04 49.50   25km
WHN     41.79 355 P       05 03.00    0.8
                  sP      05 18.50
NJ2     43.15   1 Pc      05 14.00    0.6
CD2     44.19 342 P       05 21.40   -0.5
XAN     45.95 349 iPd     05 34.70   -1.2
GBA     47.27 301 P       05 45.50   -1.1
DZM     47.41 110 iPc     05 55.30    7.5X
LSA     48.33 328 iPc     05 55.60    0.4
HYB     48.34 306 iPd     05 53.50   -1.4
        1.0s    40.00nm          5.4mb
LZH     49.03 345 P       06 00.00   -0.2
        2.0s    84.00nm          5.4mb
     Z  20s      0.50um          4.5Msz
                  pP      06 08.70   29km
TIY     49.08 354 eP      05 59.00   -1.3
BJI     51.15 358 eP      06 14.00   -2.0
MAT     51.29  21 eP      06 15.00   -2.2
BTO     52.21 352 eP      06 23.00   -1.2
HHC     52.27 354 eP      06 22.00   -2.7
POO     52.72 304 iPd     06 27.40   -0.9
        1.1s    35.44nm          5.2mb
GTA     53.26 342 iPd     06 31.80   -0.3
NDI     56.02 316 iPd     06 49.50   -2.7
        0.5s    49.30nm          5.8mb
MDJ     56.67  10 eP      06 55.00   -1.7
MAIO    72.63 314 iPd     08 41.20    0.5
        0.7s    20.33nm          5.3mb
NAI     81.14 270 iPd     09 31.00    2.1
TAB     82.93 311 eP      09 39.00    1.5
PTZ     84.10 257 iPc     09 45.50    1.6
        1.0s     1.20nm          4.1mb X
SLR     84.93 245 iPc     09 49.00    1.1
PRY     85.43 244 eP      09 48.00   -2.5
BUL     85.62 250 iPc     09 50.80   -0.6
        1.0s    15.00nm          5.2mb
BFS     86.04 244 iPd     09 52.00   -1.5
        0.9s    90.76nm          6.0mb
KSR     86.13 245 iPc     09 53.70   -0.3
        0.9s    11.54nm          5.1mb
LSZ     86.91 255 iPd     09 59.90    2.1
        1.0s     4.30nm          4.6mb
                  i       10 07.80   25km
MZZ     87.03 259 iPc     10 00.20    1.7
        0.9s     4.00nm          4.7mb
AYN     88.54 300 iPd     10 07.30    2.1
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19d 04h

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IMA     99.59  24 eP     10 56.50    1.1
BCAO   100 15 273 ePdiff10 59.30    0.3
        1.0s     15.00nm          5.5mb
                   i     14 13.40
                   i     14 32.90
SUF    100.85 332 ePdiff11 00.40   -0.5
        0.6s      4.80nm          5.2mb
CMB    121.71  52 ePKP   16 08.20    1.4
KVN    123.25  51 ePKP   16 11.20    1.3
                   e     16 29.00
KVN    123.25  51 ePKP   16 11.70    1.8X
KIC    123.30 270 PKPd   16 10.98    0.5
        0.7s     12.50nm
LIC    123.56 270 PKPd   16 11.52    0.5
TIC    123.62 270 PKPd   16 11.62    0.5
PPD    145.22 198 ePKP   16 52.10    1.1
                   e     17 08.90
YJA    146.52 174 ePKP   16 42.00  -11.7X
BAO    149.83 208 ePKP   17 05.50    6.8X
CBN    149.91  25 ePKP   17 04.20    6.2X
ARE    150.82 161 ePKP   17 09.00    8.6X
CNCB   151.41 168 ePKP   17 05.00    3.4X
                   i     17 10.90
LPB    151.65 168 PKP    17 11.30    9.5X
ZOBO   151.90 167 PKP    17 05.00    2.7X
        1.0s     25.00nm
                   i     17 11.20
NNA    152.52 147 iPKPc  17 11.80    9.2X
     S.D. = 1.4  on  69 of  84 obs.
-----------------------------------
*  NOV  19, 1989  03h 57m 31.31± 1.19s
   34.116 N ±11.0km    8.653 E ± 8.3km
   DEPTH =  10.0km  (geophysicist)
   4.4mb (  9 obs.)
 TUNISIA                          (397)

PTS      3.83  44 P      58 30.30   -1.2
ERC      5.05  38 eP     58 48.10   -0.8
                   S     59 43.80
CGL      5.26   5 eP     58 52.00    0.0
MCT      5.35  48 eP     58 55.00    1.7
MEU      5.92  58 P      58 58.80   -2.4
ATN      6.83  52 P      59 15.50    1.5
MGR      8.15  41 P      59 32.00   -0.5
CSI      8.32  45 P      59 36.00    1.1
SGO      8.33  38 P      59 36.00    1.1
ROI      8.36  47 P      59 40.70    5.3X
SDI      8.60  27 P      59 39.20    0.4
MNS      8.84  20 P      59 42 50    0.4
AQU      9.03  23 P      59 46.50    1.8
TAF      9.17 277 eP     59 24.00  -22.6X
                   e     59 32.00
                   i     00 08.00
                   i     01 30.00
                   i     02 50.00
LMR      9.36 350 eP     59 48.30   -0.8
        0.6s      7.20nm          5.2mb X
LRG      9.49 350 eP     59 50.80   -0.2
SBF      9.78 355 eP     59 54.70   -0.3
        0.6s     10.80nm          5.5mb X
EPF     11.02 326 eP     00 04.60   -7.4X
        0.4s      7.40nm          5.4mb X
LPG     11.46 353 eP     00 19.80    1.5
        0.8s     12.60nm          5.3mb X
LPO     12.02 334 eP     00 24.70   -0.9
LFF     12.41 333 eP     00 30.20   -0.5
SKO     12.76  48 eP     00 35.00   -0.5
FVI     12.85  13 P      00 40.00    3.4X
VAY     13.15  53 eP     00 39.40   -1.2
KBA     13.43  14 eP     00 48.50    4.0X
        1.0s      7.10nm          4.6mb
                   e     01 08.50
FUR     14.17   7 eP     01 01.70    7.6X
        1.0s     24.00nm          4.9mb
KHC     15.44  12 Pd     01 11.40    0.7
        1.3s     18.00nm          4.2mb
GRF     15.68   6 i(P)   01 18.40    4.6X
TNS     16.10 360 eP     01 23.00    3.8X
DOU     16.25 351 Pc     01 26.20    5.2X
        1.0s     77.80nm          4.8mb
PRU     16.44  14 eP     01 31.00    7.5X
MOX     16.66   7 e(P)   01 32.00    5.7X
SNF     16.70 350 P      01 31.00    4.3X
MLR     17.44  44 ePc    01 40.00    3.7X
CLL     17.47   9 eP     01 41.00    4.5X
                   e     01 47.00
                   e     02 16.00
KSP     17.62  16 ePc    01 42.00    3.6X
BBTK    20.06  66 eP     02 12.00    4.4X
EKA     22.75 342 P      02 37.00    2.4
        0.9s      8.10nm          4.2mb
HFS     26.24   6 eP     03 06.20   -1.7
        0.4s      2.10nm          4.2mb
      Z  15s      0.10um          3.5MszX
                   LR    12 24.00
NB2     26.99   3 P      03 13.60   -1.3
        1.1s      5.40nm          4.2mb
NUR     28.39  17 eP     03 34.00    6.5X
SUF     30.67  16 eP     03 46.80   -1.1
        0.5s      3.40nm          4.5mb
BCAO    30.93 161 ePc    03 51.40    0.8
        0.9s      9.00nm          4.7mb
                   i     03 53.30
     S.D. = 1.3  on  26 of  43 obs.
-----------------------------------
?  NOV  19, 1989  04h 15m 39.40± 8.92s
   41.730 N ±69.5km   12.720 E ±60.0km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                   (390)

RDP      0.03 355 Pc     15 41.40   -0.1
                   eSg   15 42.20
RMP      0.08 351 Pc     15 41.90    0.0
                   eSg   15 43.20
MNS      0.65 357 P      15 52.40   -0.1
                   eSg   16 02.30
SDI      0.82  91 P      15 55.30    0.0
     S.D. = 0.1  on   4 of   4 obs.
-----------------------------------
   NOV  19, 1989  04h 29m 23.46± 0.64s
   36.425 N ± 3.8km   70.777 E ± 2.6km
   DEPTH = 197.9 ±  6.7 km
   4.8mb ( 54 obs.)
 HINDU KUSH REGION                (718)

KSH      5.10  52 Pc     30 40.00    0.1
                   S     31 38.00
MAIO     9.10 273 iPc    31 30.40   -1.6
        0.9s     31.97nm          4.7mb X
                   eS    33 06.00
NDI      9.44 143 iPd    31 34.50   -1.8
        0.5s    422.54nm          6.0mb X
                   iS    33 13.00
KHI     10.18 261 eP     31 46.80    0.7
WMQ     14.89  55 iPc    32 43.90   -1.7
                   S     35 26.30
BOM     17.56 174 iPd    33 18.00    0.8
                   eS    36 32.00
POO     18.03 171 iPd    33 27.40    5.1X
                   iS    36 40.50
LSA     18.33 106 iPd    33 26.80    0.9
                   S     36 42.00
TAB     19.52 282 eP     33 41.00    3.2X
HYB     20.15 158 iPd    33 44.80    0.8
        1.0s    280.00nm          5.7mb
                   eS    37 24.00
SLY     20.45 275 ePc    33 50.00    3.1X
BHD     21.86 270 ePc    34 01.50    0.8
                   eS    37 50.00
MSL     22.21 278 ePd    34 04.00   -0.1
GTA     23.06  74 iPc    34 14.00    1.5
GBA     23.50 164 P      34 18.10    1.5
                   S     38 48.00
RYD     23.79 247 iPc    34 20.50    1.1
CD2     27.91  92 eP     34 57.50    0.4
BBTK    29.95 288 eP     35 16.00    0.9
CHG     30.34 118 iPc    35 19.10    0.5
        0.9s     18.91nm          4.8mb
CHTO    30.34 118 eP     35 19.00    0.4
                   e     35 59.50
BTO     30.81  70 eP     35 23.70    1.1
XAN     31.12  83 P      35 25.10   -0.2
BDT     31.43 120 eP     35 28.10    0.0
        0.8s     74.20nm          5.4mb
GYA     32.03  98 P      35 33.60    0.2
ELL     32.64 283 eP     35 39.50    0.9
KHL     32.65 286 iP     35 38.30   -0.3
TIY     33.07  75 eP     35 41.20   -1.1
LOE     33.26 116 eP     35 43.00   -1.0
VRI     34.11 300 ePd    35 53.00    2.0
MLR     34.66 299 iPc    35 58.00    2.2
NNT     35.22 125 iPd    36 01.00    0.4
BJI     35.55  70 eP     36 03.50    0.4
TIA     37.06  76 eP     36 16.60    0.7
BZS     37.69 300 eP     36 22.50    1.4
NUR     37.78 324 iPc    36 22.10    0.5
        0.9s    163.90nm          5.7mb
SUF     37.89 328 iP     36 23.10    0.6
        0.7s    125.80nm          5.7mb
SKO     38.21 294 e(P)   36 26.00    0.6
SPC     38.51 306 iP     36 30.10    2.0
                   e     37 32.60
KRA     38.71 307 eP     36 30.20    0.7
        0.5s     45.00nm          5.4mb
                   e     36 32.90
SOD     39.73 335 iP     36 38.30    0.7
SRO     39.83 303 iP     36 41.80    3.1X
                   e     38 08.80
                   e     42 09.90
ZST     40.62 304 eP     36 45.80    0.6
KEV     40.80 338 iP     36 46.80    0.4
        0.8s     73.30nm          5.3mb
UPP     41.02 322 iPc    36 48.30    0.1
KSP     41.04 308 iP     36 49.20    0.6
                   e     38 18.00
PTJ     41.61 301 eP     36 54.00    0.6
IPM     42.15 132 ePd    36 59.10    1.1
        0.8s    108.90nm          5.4mb
PRU     42.19 307 Pc     36 59.00    1.0
                   e     38 40.50
TDS     42.45 291 P      37 00.50    0.3
KHC     42.88 306 iP     37 05.00    1.3
                   e     38 44.70
SGO     43.01 293 P      37 05.50    0.8
HFS     43.01 322 eP     37 03.80   -0.7
        0.8s    143.10nm          5.6mb
CLL     43.10 309 iPc    37 05.40    0.1
        1.7s     41.00nm          4.7mb
                   e     38 50.00
TRI     43.16 301 P      37 06.50    0.6
TRO     43.26 336 eP     37 06.30   -0.1
BHG     43.49 304 eP     37 09.00    0.4
        0.7s     28.00nm          4.9mb
FVI     43.71 302 P      37 10.30    0.1
HOF     43.88 308 eP     37 12.20    0.5
MOX     44.02 308 eP     37 13.00    0.2
NB2     44.33 323 P      37 14.60   -0.5
GRF     44.36 307 iPc    37 17.00    1.5
        1.7s    105.00nm          5.1mb
ASS     44.40 297 P      37 17.00    1.1
MNS     44.53 296 P      37 16.50   -0.5
CTI     44.56 302 Pd     37 17.40    0.2
RDP     44.64 295 P      37 18.00    0.1
CRE     44.79 298 P      37 19.00   -0.1
SFI     44.81 299 P      37 20.00    1.0
OGA     44.86 303 iPc    37 19.20   -0.5
        0.7s     27.00nm          4.8mb
PGD     44.91 299 Pd     37 21.60    1.5
OSS     45.49 303 ePc    37 24.50   -0.1
BDI     45.67 299 P      37 26.00    0.1
SAX     45.93 304 ePc    37 28.20    0.0
VDL     45.98 303 ePc    37 28.30   -0.2
LLS     46.23 303 eP     37 30.00   -0.5
BOB     46.33 300 P      37 31.50    0.4
TMA     46.46 302 ePc    37 31.60   -0.7
VAI     46.57 302 P      37 32.10   -0.8
WTS     46.88 310 eP     37 36.00    0.7
        0.7s     13.00nm          4.5mb
MMK     47.09 302 eP     37 37.00   -0.3
CDF     47.11 306 iPc    37 37.40    0.2
        0.6s      5.40nm          4.2mb
ORX     47.16 302 P      37 35.85   -1.9
ORO     47.16 302 P      37 35.30   -2.4
FIN     47.31 300 P      37 37.70   -1.1
DIX     47.46 302 eP     37 40.10   -0.1
ROB     47.53 300 P      37 40.67    0.2
BSF     47.53 305 iPc    37 40.20   -0.3
        0.6s     21.60nm          4.8mb
MEM     47.57 309 P      37 40.90    0.3
ENN     47.60 309 eP     37 41.00    0.2
        0.7s     12.00nm          4.4mb
IMI     47.61 299 P      37 40.57   -0.5
LSD     47.76 302 P      37 42.83    0.3
EMS     47.79 302 ePc    37 42.40   -0.2
HAU     47.79 305 iPc    37 42.30   -0.1
        0.6s     12.60nm          4.5mb
ENR     47.86 300 P      37 43.65    0.6
STV     47.92 300 P      37 42.93   -0.6
SBF     47.94 299 iPc    37 43.70    0.1
        0.7s     30.80nm          4.9mb
PZZ     48.02 300 P      37 42.21   -2.1
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LPG     48.03 302 iPc    37 44.60    0.0
        0.6s     28.10nm            4.9mb
RRL     48.14 301 P      37 45.08   -0.3
BNI     48.19 301 Pd     37 45.40   -0.2
DOU     48.55 308 P      37 49.10    1.0
                  e      39 10.10
FRF     48.56 299 iPc    37 47.10   -1.3
        0.8s     18.80nm            4.6mb
KBS     48.64 347 iP     37 49.00    0.5
SNF     48.67 309 P      37 49.80    0.7
LBF     49.58 304 eP     37 55.40   -0.7
        0.8s      9.40nm            4.3mb
LOR     49.59 305 eP     37 56.10   -0.1
        0.6s      7.20nm            4.3mb
SMF     49.75 304 iPc    37 56.90   -0.5
        0.7s     23.10nm            4.8mb
SSF     49.87 304 eP     37 57.70   -0.6
        1.0s     14.00nm            4.4mb
AVF     50.04 304 iPc    37 59.20   -0.3
        0.6s     19.80nm            4.8mb
BGF     50.43 304 eP     38 02.00   -0.6
        0.8s     15.30nm            4.6mb
MAF     50.70 304 iPc    38 04.50   -0.2
        0.8s     12.00nm            4.5mb
TCF     50.93 304 iPc    38 06.20   -0.2
        0.7s      8.80nm            4.4mb
LSF     51.39 304 iPc    38 09.00   -0.8
        0.7s     13.60nm            4.6mb
RJF     51.65 303 eP     38 11.20   -0.6
        0.8s     10.70nm            4.5mb
LDF     51.88 307 eP     38 13.40    0.0
        0.6s      9.70nm            4.6mb
LPO     52.05 302 eP     38 13.60   -1.1
        0.5s      2.90nm            4.2mb
FLN     52.07 307 eP     38 14.00   -0.8
        0.8s     21.40nm            4.8mb
EKA     52.22 316 Pd     38 15.10   -0.7
        0.8s     17.20nm            4.7mb
LFF     52.28 302 eP     38 15.60   -0.8
        0.6s     12.60nm            4.7mb
GRR     52.40 307 eP     38 16.40   -0.8
        0.8s     26.80nm            4.9mb
MFF     52.41 305 eP     38 16.70   -0.7
        0.8s     10.70nm            4.5mb
EPF     53.13 300 eP     38 21.00   -1.7
        0.7s      5.50nm            4.3mb
DLE     54.62 314 eP     38 32.70   -0.6
BCAO    57.47 249 iPc    38 52.70   -1.4
        0.6s     53.00nm            5.5mb
                  i      39 29.00
                  i      40 28.60
MZZ     61.60 228 iPd    39 23.80    1.4
PTZ     62.65 224 iPd    39 30.00    0.8
        0.5s      2.00nm            4.2mb
                  i      40 20.50
LSZ     65.27 226 iPc    39 46.90    0.7
        0.7s      1.10nm            3.8mb
MBC     67.42   3 iPc    39 58.90    0.0
        0.9s     82.00nm            5.5mb
BRW     67.42  15 eP     39 58.70   -0.3
BUL     68.94 223 iPd    40 07.00   -2.1
        1.0s     15.00nm            4.7mb
IMA     72.25  17 iPc    40 27.80   -0.6
        0.8s     25.30nm            5.0mb
NANU    72.31 137 eP     40 28.80   -0.3
MBL     73.67 133 eP     40 36.70   -0.3
        0.3s      5.00nm            4.7mb
INK     74.01   9 iPc    40 38.40    0.0
        0.5s     33.00nm            5.3mb
TTA     74.16  20 eP     40 39.50    0.0
FBA     74.59  16 iPc    40 41.70   -0.1
KIC     74.60 267 Pc     40 41.52   -1.2
        0.6s      8.50nm            4.7mb
TIC     74.66 267 Pc     40 41.76   -1.3
LIC     74.91 267 Pc     40 43.20   -1.2
        0.6s      9.00nm            4.7mb
KNA     75.39 122 eP     40 46.50   -0.5
PMR     77.10  18 eP     40 56.20    0.4
        0.7s     15.10nm            4.8mb
TOA     77.38  17 iPc    40 58.10    0.6
KDC     79.39  22 iPc    41 08.50    0.2
WB5     82.08 122 iPd    41 22.10   -0.9
SCH     82.09 337 ePd    41 22.90    0.3
WRA     82.11 122 Pc     41 22.40   -0.8
        0.6s     10.40nm            4.7mb
ASPA    84.36 125 iPd    41 33.80   -0.7
        0.7s     22.00nm            5.0mb
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QIS     86.18 119 iPc    41 42.40   -1.2
FFC     89.00 356 eP     41 57.00    0.4
        0.8s     23.00nm            5.2mb
EDM     90.65   2 ePc    42 04.80    0.5
CTA     90.67 115 iPd    42 04.70   -0.1
        0.9s     22.69nm            5.2mb
SES     93.54   1 eP     42 18.00    0.3
PNT     94.14   7 eP     42 20.00   -0.4
RSSD    99.69 356 e(P)   42 44.90   -1.2
PPD    128.17 269 ePKP   48 08.20    0.4
ZOBO   138.45 288 ePKP   48 20.00   -8.1X
         1.1s      6.38nm
       Z  22s      0.13um            4.6Msz
                  i      48 27.00
                  eLR    17 52.00
LPB    138.58 288 PKP    48 29.00    0.8
                  e      51 42.00
CNCB   138.66 287 PKP    48 28.80    0.3
                  e      51 41.00
      S.D. = 0.9  on 152 of 157 abs.
-----------------------------------
    NOV  19, 1989  05h 18m 16.36± 0.64s
    42.878 N ± 4.8km   12.990 E ± 6.3km
    DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)
      MD 2.5 (SSO).

ASS      0.31 309 P       18 23.00    0.2
                  eSg    18 27.80
CIO      0.34  20 iPg     18 23.32    0.0
                  iSg    18 29.24
ALP      0.44 103 iPgd    18 25.41    0.0
                  iSg    18 33.17
MNS      0.54 205 P       18 27.20   -0.2
                  eSg    18 35.50
AQU      0.61 150 P       18 28.80    0.2
ARV      0.62 357 Pc      18 28.70   -0.2
                  eSg    18 38.90
      S.D. = 0.2  on   6 of   6 obs.
-----------------------------------
*   NOV  19, 1989  05h 42m 52.75± 0.78s
    42.883 N ± 5.9km   12.979 E ± 6.9km
    DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)

ASS      0.30 309 P       42 59.30    0.3
                  eSg    43 04.00
CIO      0.33  21 iPg     42 59.45   -0.3
                  iSg    43 05.29
ALP      0.45 103 eP      43 02.21    0.2
                  iSg    43 09.86
MNS      0.54 204 P       43 03.60   -0.2
                  eSg    43 12.10
ARV      0.62 358 P       43 05.10   -0.1
                  eSg    43 15.10
      S.D. = 0.3  on   5 of   5 obs.
-----------------------------------
    NOV  19, 1989  06h 46m 22.43± 0.74s
    38.384 N ± 5.9km   22.048 E ±10.8km
    DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      MD 3.2 (ATH).

AGG      0.67  19 eP      46 34.40   -1.4
VLS      1.17 260 ePn     46 38.50   -5.7X
ITM      1.21 185 ePn     46 43.60   -1.3
NEO      1.30  45 ePn     46 46.60    0.1
VLI      1.81 157 ePn     46 55.10    1.3
KZN      1.93 354 ePb     46 55.00   -0.7
LSK      2.09 328 iPnd    46 58.20    0.2
SRN      2.18 314 ePn     47 04.30    5.0X
PLG      2.26  28 ePn     47 00.80    0.3
TPE      2.48 321 ePn     47 04.00    0.6
KNT      2.85  13 eP      47 08.10   -0.7
VAY      2.96   8 ePn     47 12.00    1.7
TIR      3.40 331 ePn     47 25.20    8.6X
PHP      3.52 340 ePn     47 23.00    4.7X
      S.D. = 1.2  on  10 of  14 obs.
-----------------------------------
    NOV  19, 1989  07h 30m 33.41± 1.03s
    38.663 N ± 5.7km   26.080 E ±11.8km
    DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                         (365)
      MD 3.2 (ATH).

PRK      0.60  14 ePb     30 46.50    1.0
IZM      0.96 106 iPg     30 52.50    0.7
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                  iSg    31 07.50
SMG      1.12 148 iPbc    30 54.90    0.5
EZN      1.18   9 ePn     30 56.20    0.9
APE      1.65 195 ePb     31 02.10   -0.5
CIN      1.91 123 ePn     31 11.00    4.8X
                  iSg    31 34.00
EDC      2.18  39 ePn     31 10.00   -0.1
DST      2.19  64 ePn     31 11.00    0.5
BNT      2.21  40 ePn     31 09.00   -1.7
CTT      3.07  35 ePn     31 23.00    0.2
YLV      3.18  52 ePn     31 23.00   -1.4
      S.D. = 1.1  on  10 of  11 obs.
-----------------------------------
*   NOV  19, 1989  07h 34m 07.60± 0.78s
    42.879 N ± 5.8km   12.950 E ± 7.0km
    DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)
      MD 2.4 (SSO).

ASS      0.29 312 P       34 13.50   -0.1
                  eSg    34 19.10
CIO      0.35  24 iPg     34 14.99    0.2
                  iSg    34 20.28
ALP      0.47 102 ePg     34 17.07   -0.1
                  iSg    34 24.70
MNS      0.53 202 P       34 18.50    0.1
                  eSg    34 26.80
ARV      0.62 359 P       34 20.00   -0.1
                  eSg    34 30.30
      S.D. = 0.2  on   5 of   5 abs.
-----------------------------------
%   NOV  19, 1989  08h 51m 40.50± 0.49s
    37.859 N ± 5.6km   14.189 E ± 3.9km
    DEPTH =  10.0km  (geophysicist)
 SICILY                             (398)

GIB      0.18 315 Pd      51 44.50   -0.1
                  eSg    51 48.40
MNO      0.41  80 Pd      51 48.90    0.0
                  eSg    51 55.50
MCT      0.50 243 P       51 50.50   -0.1
                  eSg    51 58.50
FAI      0.71 215 P       51 55.00    0.5
                  eSg    52 04.40
MEU      0.96 142 P       51 57.10   -1.7
                  eSg    52 12.30
ATN      1.05  73 P       52 00.40    0.1
CVT      1.12 261 Pc      52 02.70    1.2
MSI      1.13  72 P       52 02.60    0.9
USI      1.16 317 P       52 01.20   -1.0
                  eSn    52 19.20
ERC      1.28 278 P       52 04.30    0.1
CZI      2.04  48 P       52 15.00   -0.3
TDS      2.46  42 P       52 21.40    0.1
MGR      2.51  25 P       52 21.60   -0.4
CSI      2.52  40 P       52 22.20    0.0
                  eSn    52 53.20
ROI      2.53  47 P       52 24.50    2.2
                  eSn    52 58.40
SGO      2.83  18 P       52 25.00   -1.6
      S.D. = 1.0  on  16 of  16 obs.
-----------------------------------
%   NOV  19, 1989  08h 56m 04.44± 0.97s
    40.540 N ±10.2km   28.789 E ± 6.0km
    DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

YLV      0.45  86 iPg     56 13.60    0.1
                  iSg    56 19.60
ISK      0.56  21 ePg     56 16.00    0.1
CTT      0.67 336 iPg     56 17.60   -0.1
                  iSg    56 26.10
BNT      0.69 255 ePg     56 18.10    0.0
HRT      0.73  67 ePg     56 18.60   -0.1
      S.D. = 0.2  on   5 of   5 abs.
-----------------------------------
%   NOV  19, 1989  09h 10m 39.20± 0.86s
    39.228 N ± 7.1km   27.722 E ± 8.5km
    DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

DST      0.80  61 iPg     10 54.60   -0.1
                  eSg    11 05.60
IZM      0.90 204 ePg     10 56.60    0.1
EDC      1.12   6 ePn     11 00.30    0.1
BNT      1.14   8 iPn     11 00.60    0.1
EZN      1.23 299 ePn     11 02.00   -0.1
```

19d 09h

```
     S.D. = 0.2  on   5 of   5 obs.
-----------------------------------
*  NOV  19, 1989  11h 11m 15.18± 0.45s
   12.071 N ± 8.3km  143.669 E ±12.4km
   DEPTH =  33.0km  (normal)
   4.5mb (  3 obs.)
 SOUTH OF MARIANA ISLANDS          (210)

GUMO     1.91  38 eP     11 45.30  -0.7
PJG      1.91  38 eP     11 45.40  -0.6
WB5     33.04 196 eP     17 49.50  -0.4
WRA     33.11 196 Pc     17 50.60   0.1
         0.5s     1.40nm          4.1mb
ASPA    36.78 195 eP     18 22.00   0.2
      Z  23s      0.14um          3.7MszX
                 LR     33 04.40
BJI     36.94 324 eP     18 24.00   1.1
DZM     40.63 147 iPc    18 54.70   0.7
LZH     43.08 311 eP     19 14.50   0.4
         1.5s    29.00nm          4.8mb
      Z  15s      0.50um          4.5MszX
INK     76.21  22 eP     23 02.00   0.4
MBC     80.02  14 eP     23 22.50   0.1
         0.6s     3.00nm          4.5mb
EDM     88.06  36 eP     24 05.00   1.5
KVN     88.78  50 eP     24 08.60   1.1
KIC    143.64 299 PKP    30 48.20  -1.2
TIC    143.74 299 PKP    30 48.70  -0.9
LIC    143.95 299 PKP    30 48.40  -1.6
ZOBO   148.91 101 PKP    31 04.00   5.3X
LPB    148.92 102 PKP    31 05.00   6.4X
CNCB   149.01 103 PKP    31 05.60   6.7X
     S.D. = 1.0  on  15 of  18 obs.
-----------------------------------
   NOV  19, 1989  12h 42m 55.31± 0.23s
    6.575 S ± 5.2km  154.107 E ± 5.4km
   DEPTH =  48.0km  (  4 depth phases)
   5.3mb ( 18 obs.)  5.6Msz ( 29 obs.)
 SOLOMON ISLANDS                   (193)
      Ms 6.0 (BRK).
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 31C
      Centroid Location:
      Origin Time        12:43: 5.1 0.2
      Lat  6.65S 0.03 Lon 153.81E 0.03
      Dep  28.1 2.0 Half-duration  4.4
      Moment Tensor;   Scale 10**18 Nm
        Mrr= 1.26 0.03  Mtt=-0.58 0.04
        Mff=-0.68 0.04  Mrt= 0.86 0.10
        Mrf=-0.79 0.10  Mtf= 0.61 0.03
       Principal Axes:
        T  Val=  1.72  Plg=68  Azm= 39
        N       -0.02       2      135
        P       -1.70      21      226
      Best Double Couple:Mo=1.7*10**18
       NP1:Strike=321 Dip=24 Slip=  96
       NP2:        134     66       87

RAB      3.05 321 eP     43 40.00  -2.3
         0.7s   328.77nm
                 iS     44 26.00
SVO      6.21 115 eP     44 30.00   3.3X
                 eS     45 47.00
HNR      6.44 117 eP     44 34.00   4.0X
                 eS     45 44.00
LAT      7.06 269 eP     44 36.50  -2.2
PMG      7.44 247 eP     44 41.00  -3.0X
                 eS     46 11.00
MNDI    10.39 272 eP     45 25.00   0.1
JAY     13.95 286 ePc    46 13.50   1.2
CTA     15.44 209 iPd-   46 29.90  -1.8
         1.2s   151.56nm          5.1mb
                 iS     49 37.00
PVC     17.76 130 iPc    47 03.00   2.2
DZM     19.48 144 iPc    47 20.90  -0.5
                 iS     50 07.10
                 ScP    55 17.40
QIS     19.77 224 eP     47 22.00  -2.4
BRS     20.74 183 iPd    47 33.20  -1.3
                 ipP    47 43.80  43km
                 isP    47 58.80
                 e(S)   50 10.00
                 e(ScP)51 46.00
                 e(ScS)55 21.00
GUMO    22.03 335 e(P)   47 46.50  -1.0
         1.2s   377.78nm          5.7mb
WB5     23.29 234 eP     47 58.70  -1.1
WRA     23.34 233 Pd     48 00.40   0.1
         0.8s    67.00nm          5.2mb
MTN     23.48 253 eP     48 03.00   1.4
                 e      48 11.00  29kmX
COO     23.97 185 eP     48 10.00   3.6X
ASPA    25.81 227 iPd    48 22.30  -1.6
      Z  18s     24.22um          5.8Msz
                 LR     01 37.00
AAI     25.96 275 eP     48 27.50   2.1
CMS     25.97 196 ePd    48 24.10  -1.2
                 e      48 27.00  10kmX
KNA     26.45 248 eP     48 29.10  -0.7
         0.8s   108.00nm          5.5mb
STK     27.76 203 eP     48 40.00  -1.6
                 e      48 42.00   7kmX
BWA     28.21 190 eP     48 46.40   0.7
CNB     28.93 188 eP     48 55.00   2.7X
                 e      49 15.00  88kmX
CAN     28.99 189 eP     48 53.20   0.4
DAV     31.53 295 eP     49 28.80  13.4X
ADE     31.62 205 eP     49 14.70  -1.3
TOO     31.83 193 eP     49 19.00   1.1
BFD     32.23 197 eP     49 16.00  -5.3X
                 e      49 30.00  56km
SNZO    39.16 155 eP     50 24.00   3.9X
                 S      56 24.00
COOL    39.22 228 eP     50 18.00  -2.8
MEKA    39.27 235 eP     50 19.70  -1.7
MSZ     39.82 165 eP     50 27.00   1.5
KKM     39.84 288 ePd    50 28.70   2.5
BAG     40.27 305 eP     50 32.00   2.1
                 eS     56 41.00
NANU    40.42 243 eP     50 29.00  -1.8
KLB     42.08 229 eP     50 42.00  -2.4
BAL     42.43 231 eP     50 46.00  -1.2
NWAO    43.12 228 eP     50 54.00   1.2
                 eS     57 28.00
MUN     43.43 229 eP     50 53.50  -1.8
      Z  20s      8.80um          5.7Msz
                 eS     57 28.00
RKG     43.84 226 eP     51 00.00   1.3
         0.6s    30.00nm          5.2mb
ANP     44.74 316 eP     51 16.00   9.9X
MAT     45.41 342 (P)    51 09.00  -2.1
         1.2s    23.44nm          4.9mb
      Z  20s      3.90um          5.3Msz
                 eS     57 43.00
SSE     48.93 322 P      51 36.00  -2.8
      Z  20s      4.70um          5.5Msz
      N  11s      0.70um
      E  14s      3.20um
                 pP     51 48.00  43km
                 sP     51 53.00
                 S      58 40.00
                 sS     59 04.00
                 ScS    01 29.00
                 eSS    02 10.00
QIZ     50.49 301 eP     51 53.00   2.1
      E  21s      5.10um
                 S      59 07.00
NJ2     51.03 321 Pc     51 54.00  -0.8
      Z  18s      6.00um          5.7Msz
      N  12s      1.80um
      E  10s      1.60um
                 S      59 13.00
WHN     53.03 316 P      52 10.00   0.1
         1.4s     0.10nm          2.6mb X
      Z  20s      5.60um          5.6Msz
      N  20s      8.40um
      E  19s      7.10um
                 sP     52 25.50
                 iS     59 42.00
IPM     54.13 280 eP     52 21.00   2.7X
DL2     54.35 329 P      52 16.00  -3.4X
      Z  20s      3.00um          5.4Msz
                 S      59 50.00
TIA     54.90 324 eP     52 21.20  -2.4
      Z  20s      3.30um          5.4Msz
                 S      59 59.00
SNG     55.08 283 eP     52 30.00   4.8X
                 eS     00 08.00
MDJ     55.53 339 eP     52 25.60  -2.4
      Z  20s      3.10um          5.4Msz
                 eS     00 10.00
SNY     55.67 333 Pc     52 29.90   1.0
      Z  20s      2.70um          5.3Msz
                 S      00 05.50
CN2     56.44 335 Pc     52 35.30   0.8
         1.0s     0.02nm          2.1mb X
      Z  18s      3.00um          5.4Msz
      N  13s      1.00um
      E  13s      0.80um
                 sP     52 45.50
                 eS     00 12.00
GYA     56.50 308 P      52 37.20   1.8
      Z  20s      3.70um          5.5Msz
      N  18s      3.20um
      E  18s      3.90um
                 S      00 30.00
LOE     56.96 296 eP     52 39.00   0.4
NNT     57.29 289 eP     52 43.00   2.0
NST     57.84 293 eP     52 56.00  11.2X
BJI     58.08 326 eP     52 44.00  -2.1
      Z  20s      3.29um          5.4Msz
      N  14s      1.03um
      E  14s      0.99um
                 pP     53 04.00  78kmX
                 eS     00 44.00
                 esS    01 16.00
TIY     58.72 322 eP     52 49.00  -1.7
      N  20s      6.70um
                 S      00 55.50
XAN     58.79 316 P      52 52.00   0.7
      N  17s      2.60um
      E  20s      5.60um
                 S      00 57.60
KMI     59.05 304 Pc     52 55.00   1.5
      Z  20s      7.00um          5.8Msz
                 sP     53 07.50
                 eS     00 55.00
                 iS     01 04.00
                 sS     01 20.00
BDT     59.36 294 eP     52 57.00   1.6
CHG     59.93 296 iPc    53 01.30   2.0
         1.2s    33.20nm          5.3mb
                 eS     01 16.00
CHTO    59.93 296 eP     53 00.10   0.8
                 pP     53 14.10  51km
DRV     60.78 186 ePKP   53 04.00  -0.3
CD2     60.87 311 eP     53 05.60   0.0
      Z  20s      4.63um          5.6Msz
      E  19s      4.75um
                 S      01 23.00
HHC     61.24 324 Pc     53 07.40  -0.6
      Z  22s      8.00um          5.8Msz
      N  19s      5.30um
      E  20s      4.10um
                 sP     53 20.00
                 PP     55 30.00
                 S      01 25.50
                 SS     05 18.00
SMY     61.48  14 P      53 17.00   7.7X
         1.0s   133.33nm          6.0mb
BTO     61.99 323 eP     53 11.50  -1.6
      N  20s      3.80um
      E  17s      2.30um
                 ePP    55 36.00
ADK     63.37  20 P      53 26.40   4.6X
         1.0s    80.00nm          5.8mb
LZH     63.40 316 eP     53 22.00  -0.6
         1.5s   104.00nm          5.7mb
      Z  20s      5.90um          5.8Msz
      N  20s      3.90um
      E  20s      5.20um
                 pP     53 28.50  21kmX
                 sP     53 38.00
                 ePP    55 42.50
                 S      01 55.00
GTA     67.83 317 P      53 50.80  -0.2
         1.2s     0.10nm          2.7mb X
      Z  20s      3.80um          5.6Msz
      E  18s      2.80um
                 S      02 50.00
                 sS     03 02.50
LSA     70.31 305 iPd    54 09.00   2.2
                 S      03 18.00
SBA     71.55 177 P      54 15.50   2.7X
KDC     77.20  26 eP     54 43.10  -2.5
WMQ     77.92 317 P      54 49.70  -0.3
         3.0s     1.10nm          3.4mb X
      Z  22s      1.50um          5.3Msz
                 sP     55 03.00
                 PP     57 50.50
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                S      04 45.00
SVW    77.94  22 eP    54 48.20  -1.5
KOD    78.12 282 eP    54 53.00   1.1
                eS     04 48.00
HYB    78.30 289 eP    54 54.50   2.0
       1.0s    30.00nm          5.2mb
                eS     04 50.00
GBA    78.69 285 P     54 55.00   0.4
TTA    78.94  21 P     54 53.40  -1.9
       1.0s    27.50nm          5.2mb
PMR    80.76  24 eP    55 01.50  -3.4X
       1.4s    22.40nm          4.9mb
     Z  20s     6.50um          6.0Msz
IMA    81.69  19 eP    55 07.30  -2.6
       1.4s    19.10nm          4.9mb
NDI    81.74 300 iPc   55 12.50   1.8
                eS     05 20.00
TOA    82.23  24 eP    55 09.80  -2.8
POO    82.90 290 eP    55 19.50   2.6
                iS     05 33.50
FBA    83.05  21 eP    55 12.00  -4.7X
SPA    83.47 180 eP    55 21.20   2.1
       1.0s    45.50nm          5.5mb
     Z  18s     4.12um          5.8Msz
BOM    83.93 290 eP    55 10.60 -11.4X
                iS     05 45.80
MAW    84.44 203 eP    55 24.00   0.2
KSH    85.05 310 Pd    55 28.00   0.5
BKS    89.01  52 ePc   55 42.00  -4.6X
       1.2s    38.00nm          5.6mb
     Z  20s     8.00um          6.1Msz
     N  20s     1.40um
     E  20s     6.00um
                e      56 08.00  97kmX
                eS     06 18.00
                ePS    07 30.00
                eSP    07 31.00
                eSS    12 10.00
                eSSS   16 00.00
                eLQ    19 22.00
                e      21 28.00
                eLR    22 52.00
MHC    89.39  52 eP    55 47.80  -0.8
PRS    89.46  53 eP    55 47.70  -1.1
ARN    89.48  52 P     55 48.50  -0.4
INK    89.64  21 eP    55 46.00  -3.0X
ORV    89.83  50 eP    55 49.70  -0.8
GMW    90.17  42 P     55 52.50   0.6
SYP    90.33  55 eP    55 54.00   0.9
BCH    90.33  55 P     55 53.00   0.0
CMB    90.48  52 eP    55 52.00  -1.6
LON    90.70  43 P     56 00.00   5.6X
QUE    90.82 300 eP    55 57.50   2.0
FRI    90.87  53 eP    55 55.30   0.0
ISA    91.70  54 eP    56 01.00   1.8
PAS    91.76  56 eP    56 00.00   0.5
                ePP    56 23.00  84kmX
                eSKS   06 37.00
                eS     07 08.00
                ePS    08 12.00
                eSS    13 20.00
                eSSS   16 44.00
                eLg    20 51.00
                eLR    24 26.00
MWC    91.87  56 eP    56 01.00   0.8
SBB    92.11  56 eP    56 01.00  -0.2
KVN    92.38  51 P     56 02.00  -0.5
RVR    92.40  56 eP    56 03.00   0.6
PNT    92.51  41 eP    56 16.00  13.4X
       0.9s    12.00nm
PEC    92.57  56 P     56 03.00  -0.3
BAR    92.85  58 eP    56 05.00   0.4
                e      58 40.00 750kmX
TNP    92.97  52 P     56 04.80  -0.4
       1.0s    21.25nm          5.5mb
GSC    93.01  55 eP    56 06.00   0.7
TPC    93.51  56 eP    56 08.00   0.4
GLA    94.43  57 P     56 03.50  -8.4X
GLA    94.43  57 eP    56 13.00   1.1
MBC    95.51  14 eP    56 14.00  -1.9
       0.9s     6.00nm          5.1mb
EDM    96.74  37 ePd   56 20.70  -1.2
DAU    97.75  50 P     56 32.00   4.9X
SES    98.12  40 eP    56 27.00  -1.2
BW06   99.07  48 P     56 30.50  -2.5
ALQ   101.46  56 Pdiff 56 44.00   0.1
     Z  20s     2.66um          5.8Msz
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RSSD  103.06  46 Pdiff 56 53.00   2.2
BBTK  118.07 312 ePKP  01 39.00  -0.1
N82   119.01 340 PKP   01 40.20   0.1
        0.7s      2.60nm
PTZ   119.58 250 iPKP  01 54.00  11.4X
                 i     02 07.20
                 i     03 14.00
MLR   120.84 320 ePKP  01 46.00   1.8
KHL   120.92 311 ePKP  01 46.00   1.5
LSZ   122.19 247 ePKP  01 50.00   2.4
                 i     02 02.80
                 i     02 12.00
KRA   122.22 327 ePKP  01 46.50   0.0
                 e     03 28.10
DIM   122.50 316 ePKP  01 48.00   0.8
SPC   122.51 326 ePKP  01 47.90   0.6
MZZ   122.73 252 iPKPc 01 51.20   2.5
                 i     02 12.20
EZN   122.77 314 ePKP  01 47.00  -0.8
RZN   123.20 316 ePKP  01 49.00   0.1
KSP   123.69 329 ePKP  01 54.50   5.2X
                 e     03 37.50
VTS   123.85 318 ePKP  01 50.00  -0.1
KKB   124.24 317 ePKP  01 50.00  -0.7
SRO   124.34 325 ePKP  01 39.50 -11.1X
ZST   124.80 326 ePKP  01 51.60   0.1
BRG   124.84 330 ePKP  01 51.20  -0.3
                 e     04 06.00
CLL   125.02 331 ePKP  01 53.00   1.2
     Z  18s      1.50um          5.7Msz
PRU   125.10 329 ePKP  01 52.00  -0.1
     Z  20s      2.30um          5.8Msz
     N  19s      1.00um
     E  19s      1.10um
                 e     02 07.00
SKO   125.30 318 iPKP  01 52.50  -0.2
        1.2s     40.00nm
     Z  21s      1.28um          5.6Msz
     N  20s      1.35um
                 i     04 54.00
                 i     06 07.00
OHR   126.12 317 ePKP  01 53.70  -0.8
        1.3s      0.07nm
MOX   126.12 331 e(PKP)01 55.00   0.9
     Z  20s      3.30um          6.0Msz
     N  22s      1.30um
     E  20s      1.00um
KHC   126.12 329 iPKP  01 55.50   1.3
        1.1s      8.00nm
     Z  19s      1.80um          5.8Msz
     N  19s      1.20um
     E  19s      1.00um
                 e     02 20.00
KBA   127.51 327 ePKP  02 06.00   8.9X
        1.2s     18.60nm
                 e(PP) 04 20.00
CNCB  132.34 120 PKP   02 10.00   2.4
LPB   132.36 119 PKP   02 09.00   1.6
     Z  16s      2.36um          6.0MszX
                 LR    46 07.00
ZOBO  132.45 119 PKP   02 07.00  -0.8
        1.2s     17.57nm
     Z  18s      1.74um          5.8Msz
                 LR    46 24.00
BCAO  135.74 270 ePKPc 02 07.20  -6.3X
        0.9s     17.00nm
                 i     02 18.10
                 i     02 29.30
                 i     05 07.80
PPD   142.20 139 ePKP  02 25.40   0.3
ASMO  143.32 330 ePKP  02 27.10   0.4
APHE  143.60 329 ePKP  02 29.00   1.8
ATEJ  143.80 330 ePKP  02 34.50   7.0X
VAO   144.10 146 ePKP  02 26.10  -2.2
SVB   144.57  76 ePKP  02 24.38  -4.9X
BMA   145.86 149 ePKP  02 30.00  -1.3
                 e     02 31.80
                 e     02 41.20
AVE   148.36 330 ePKP  02 23.00 -11.9X
                 i     02 46.00
BAO   148.92 135 ePKP  02 37.00   0.5
KIC   158.98 271 PKP   02 51.60   1.5
     S.D. = 1.5  on 132 of 165 obs.
-----------------------------------
*  NOV  19, 1989  13h 09m 27.92± 0.78s
   42.876 N ± 5.9km   12.975 E ± 7.0km
   DEPTH =  10.0km  (geophysicist)
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 CENTRAL ITALY                          (381)
       MD 2.4 (SSO).
ASS     0.30 310 P      09 34.50   0.3
                 eSg    09 38.70
CIO     0.34  21 iPg    09 35.10   0.1
                 iSg    09 40.72
ALP     0.45 102 ePg    09 37.27   0.1
                 iSg    09 44.89
MNS     0.54 204 P      09 38.70  -0.1
                 eSg    09 46.90
ARV     0.62 358 Pc     09 40.10  -0.4
                 eSg    09 50.20
     S.D. = 0.3  on   5 of   5 obs.
-----------------------------------
?  NOV  19, 1989  13h 19m 27.46± 1.76s
   43.418 N ±16.7km    6.864 E ±10.2km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE          (379)
       ML 2.2 (LDG).
FRF     0.21 312 Pg     19 32.00  -0.1
                 Sg     19 35.00
LMR     0.27 252 Pg     19 33.10  -0.1
                 Sn     19 37.00
LRG     0.37 276 Pg     19 35.20   0.2
                 Sg     19 40.40
SBF     0.61  43 Pg     19 39.80   0.0
                 Sg     19 49.20
     S.D. = 0.2  on   4 of   4 obs.
-----------------------------------
*  NOV  19, 1989  14h 14m 08.31± 1.65s
   17.986 N ±14.6km  101.363 W ±14.6km
   DEPTH =  33.0km  (normal)
   4.0mb (  1 obs.)
 NEAR COAST OF GUERRERO, MEXICO  ( 58)
ACX     1.82 127 iP     14 37.00  -0.8
                 iS     14 56.00
III     1.84  78 iP     14 39.00   0.6
                 iS     15 04.00
CRX     2.13  48 eP     14 46.50   3.9X
UNM     2.46  57 eP     14 52.50   5.2X
                 (S)    15 24.50
PPM     2.81  67 iP     14 53.00   0.6
IIT     3.08  70 (P)    14 57.00   1.0
IISM    3.91  75 (P)    14 52.00 -15.6X
OXX     4.52 101 iP     15 16.00  -0.4
ALQ    17.49 346 eP     18 15.80   4.3X
TUL    18.52  14 eP     18 23.00  -1.1
       0.9s     9.60nm          4.0mb
LNO    18.53  14 eP     18 22.50  -1.5
KVN    25.54 329 ePd    19 37.50   1.5
     S.D. = 1.3  on   8 of  12 obs.
-----------------------------------
*  NOV  19, 1989  14h 45m 12.66± 1.16s
   6.254 S ±11.3km  130.386 E ±10.2km
   DEPTH = 131.4 ± 14.8 km
   4.5mb (  5 obs.)
 BANDA SEA                           (280)
AAI     3.36 319 ePc    46 04.50  -0.2
MTN     6.59 174 eP     46 50.00   1.5
                 eS     47 50.00
KNA     9.57 189 eP     47 28.90   0.4
       0.3s    43.00nm          5.7mb X
                 eS     49 10.00
WB5    14.09 164 eP     48 24.90  -2.7
                 i      48 28.30
                 eS     50 54.10
WRA    14.14 165 Pc     48 26.60  -1.7
       0.6s     9.10nm          4.2mb X
OIS    16.80 149 eP     49 02.00   0.5
                 eS     51 57.00
PMG    16.90 102 eP     49 02.50  -0.3
ASPA   17.64 169 iPd    49 12.50   0.7
       0.6s    90.00nm          5.2mb
                 eS     52 16.20
MBL    18.00 214 eP     49 16.10   0.0
       0.3s     5.00nm          4.4mb
WARB   20.14 190 iPc    49 40.20   1.6
CTA    20.65 133 iPc    49 45.80   2.0
NANU   21.64 220 iPc    49 54.60   1.0
       0.4s     7.00nm          4.4mb
MEKA   23.19 208 eP     50 10.00   1.4
COOL   25.99 198 eP     50 34.30  -0.7
MRWA   26.58 209 iPc    50 40.00  -0.3
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19d 14h

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BAL     27.42 206 eP     50 47.50  -0.5
STK     27.56 159 iPd    50 48.70  -0.5
                  e      51 26.00
KLB     27.84 204 eP     50 51.20  -0.5
        0.3s      9.00nm          4.9mb
MUN     28.82 206 eP     50 59.50  -1.0
NWAO    29.23 203 eP     51 03.40  -0.8
GBA     56.14 291 Pc     54 37.80  -3.4X
        0.5s      1.30nm          4.2mb
ZOBO   151.08 141 PKP    04 52.00   4.8X
      S.D. = 1.3  on  20 of  22 obs.
-----------------------------------------
   NOV  19, 1989  14h 48m 15.15± 0.68s
   41.949 N ± 5.6km   19.134 E ± 5.2km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                            (391)
      ML 2.4 (TTG).

ULC      0.09  81 iPgc   48 17.00  -0.7
                  iSg    48 19.40
SDA      0.28  76 iPgc   48 21.50   0.5
BDV      0.40 326 ePg    48 23.30  -0.1
                  eSg    48 31.10
TTG      0.49  11 ePg    48 25.50   0.4
                  eSg    48 33.10
LACI     0.53 126 ePg    48 30.10   4.2X
PUK      0.57  80 ePg    48 26.10  -0.6
HCY      0.69 317 ePg    48 28.50  -0.2
                  eSg    48 40.60
TIR      0.81 137 ePg    48 30.50  -0.4
NKY      0.87 353 ePg    48 32.00   0.1
                  eSg    48 45.20
PVY      0.90  44 ePg    48 32.00  -0.4
                  eSg    48 46.00
PHP      1.01 105 ePg    48 34.60   0.3
BRY      1.05 336 ePg    48 35.20   0.2
                  eSg    48 52.80
OHR      1.50 123 ePn    48 43.00   0.8
SKO      1.72  88 ePn    48 45.50   0.2
                  iPg    48 47.70
                  eSn    49 10.00
                  iSg    49 13.20
      S.D. = 0.5  on  13 of  14 obs.
-----------------------------------------
*  NOV  19, 1989  16h 06m 14.86± 0.45s
   18.500 N ±11.1km   81.689 W ±18.2km
   DEPTH =  33.0km  (normol)
   4.4mb (  5 obs.)
 CARIBBEAN SEA                       ( 94)

LNO     21.36 327 eP     11 03.70   2.3
TUL     21.36 327 eP     11 02.20   0.7
        1.1s     13.00nm          4.3mb
SIO     21.50 326 eP     11 03.00   0.0
RSSD    31.69 329 eP     12 37.90   0.1
ZOBO    37.04 158 P      13 24.20  -0.2
                  LR     23 04.00
LRM     37.28 324 eP     13 26.60   0.8
LPB     37.29 158 eP     13 28.00   1.7
                  e      15 04.00
LPB     37.29 158 P      13 28.00   1.7
                  eLR    23 20.00
KVN     37.57 311 eP     13 29.00   0.7
CNCB    37.59 158 P      13 27.00  -2.0
EDM     42.46 332 eP     14 07.00  -1.3
INK     59.28 340 eP     16 14.00  -1.3
MBC     60.92 350 eP     16 26.00  -0.4
        1.0s     13.00nm          5.0mb X
PMR     63.19 330 P      16 41.40  -0.3
FBA     63.31 334 eP     16 42.00  -0.5
IMA     65.94 335 eP     16 59.70  -0.1
        0.7s      3.90nm          4.6mb
TTA     66.56 331 eP     17 03.10  -0.6
EKA     68.49  37 P      17 16.00   0.2
        1.8s     55.00nm          5.3mb
NB2     75.40  30 P      17 47.60  -9.3X
        0.8s      2.90nm          4.3mb
HFS     76.79  31 eP     18 04.00  -0.7
        0.5s      0.80nm          4.0mb
KEV     79.06  20 eP     18 35.00  18.0X
NUR     81.84  29 eP     18 22.00  -9.8X
ZST     82.11  42 eP     18 35.10   1.6
WB5    145.96 262 ePKP   25 51.80  -1.0
WRA    145.99 262 PKPd   25 52.20  -0.6
        0.8s      4.20nm
ASPA   146.45 255 iPKPd  25 52.80  -0.8
        1.1s      6.00nm
      Z  19s      1.35um          5.7MszX
                  LR     44 58.00
      S.D. = 1.1  on  23 of  26 obs.
-----------------------------------------
*  NOV  19, 1989  16h 29m 39.06± 1.08s
   31.131 S ±11.0km   68.834 W ±12.5km
   DEPTH =  33.0km  (normol)
 SAN JUAN PROVINCE, ARGENTINA        (137)

RTCB     0.36 175 iPd    29 49.00   1.3
RTLL     0.37 122 iPc    29 49.00   1.2
ZON      0.43 162 iPd    29 49.50   0.8
                  eS     30 01.00
CFA      0.70 133 iPd    29 51.00  -1.5
                  S      30 03.00
RTBS     0.75 225 iPd    29 52.80  -0.3
                  S      30 07.10
RTCV     0.77 161 iPc    29 52.00  -1.5
RTRS     1.10 330 iPc    29 58.20   0.0
                  S      30 16.40
      S.D. = 1.4  on   7 of   7 obs.
-----------------------------------------
*  NOV  19, 1989  17h 04m 19.74± 1.38s
    0.018 S ±11.5km  123.205 E ±13.8km
   DEPTH = 144.7 ± 15.6 km
   4.8mb (  3 obs.)
 MINAHASSA PENINSULA                 (265)

AAI      6.18 126 eP     05 49.00  -0.8
KKM      9.22 311 ePc    06 32.00   1.3
                  e      08 08.00
ASPA    25.70 157 iPd    09 37.00  -1.3
        0.6s      7.00nm          4.4mb
                  e      10 08.70
LOE     27.33 310 eP     09 51.00  -2.1
CHG     30.29 309 iPc    10 18.90  -0.7
        1.1s     26.90nm          4.9mb
CHTO    30.29 309 eP     10 19.00  -0.5
GYA     30.77 330 P      10 24.00   0.2
CD2     35.87 331 iPd    11 07.50   0.0
XAN     36.43 340 P      11 12.50   0.3
TIY     38.84 346 eP     11 33.00   0.7
MAT     38.95  19 eP     11 32.00  -1.2
        0.8s     18.66nm          4.9mb
LZH     40.18 335 e(P)   11 44.20   0.7
BJI     40.38 352 eP     11 46.00   1.2
BWA     41.58 148 eP     11 56.50   1.7
LSA     42.50 317 P      12 03.00   0.0
CAN     42.57 148 eP     12 04.10   1.2
GTA     44.70 334 P      12 20.20   0.1
MDJ     44.80   6 eP     12 20.50  -0.2
WMO     53.91 329 eP     13 30.00  -0.4
      S.D. = 1.1  on  19 of  19 obs.
-----------------------------------------
?  NOV  19, 1989  17h 20m 06.66± 1.84s
   44.845 N ±22.1km  137.263 E ±21.8km
   DEPTH = 310.1 ± 22.5 km
   4.2mb (  3 obs.)
 EASTERN SEA OF JAPAN                (223)

ASAJ     3.92  99 eP     21 14.30   1.4
MAT      8.33 175 (P)    22 03.00  -2.0
CHTO    41.07 243 eP     27 24.20   2.1
HFS     65.70 333 eP     30 18.80  -1.1
        0.4s      1.30nm          4.0mb
NB2     65.78 334 P      30 19.60  -0.9
        0.9s      3.40nm          4.1mb
FFC     68.81  32 iPc    30 38.20  -1.0
        1.0s     18.00nm          4.8mb
KVN     72.48  52 eP     31 01.90   0.3
CLL     72.80 327 eP     31 03.00   0.1
BW06    74.37  45 eP     31 11.90  -0.5
ZOBO   144.39  45 PKP    39 08.00  -0.3
LPB    144.62  45 ePKP   39 14.00   5.5X
CNCB   144.91  45 PKP    39 11.00   1.8
      S.D. = 1.6  on  11 of  12 obs.
-----------------------------------------
   NOV  19, 1989  17h 35m 57.57± 0.91s
    6.448 S ± 9.1km  154 003 E ± 7.6km
   DEPTH =  63.4 ± 10.2 km
   4.3mb (  3 obs.)
 SOLOMON ISLANDS                     (193)

RAB      2.89 321 iPd    36 41.90  -0.3
        0.6s    293.33nm
                  iS     37 34.00
SVO      6.35 115 eP     37 30.00  -0.8
                  eS     38 55.00
HNR      6.59 117 eP     37 35.00   0.9
                  eS     38 50.00
LAT      6.96 268 eP     37 35.00  -4.2X
PMG      7.39 246 eP     37 46.00   0.8
        0.9s     57.14nm          5.3mb X
                  eS     39 15.00
CTA     15.51 208 iPc    39 37.30   3.4X
        1.0s     16.50nm          4.2mb
DZM     19.64 144 iPd    40 19.00  -5.1X
QIS     19.79 223 iPd    40 24.40  -1.2
ASPA    25.82 226 iPd    41 24.80   0.0
        1.0s      6.00nm          4.1mb
      Z  19s      0.27um          3.8Msz
                  LR     51 45.60
WHN     52.87 316 eP     45 09.60   0.4
XAN     58.63 316 P      45 49.60  -1.1
CD2     60.71 311 Pd     46 05.00  -0.1
LZH     63.24 316 eP     46 22.00   0.0
        1.2s     21.00nm          5.1mb
GTA     67.67 317 Pc     46 50.00  -0.4
LSA     70.15 305 eP     47 07.80   1.5
WMO     77.76 317 eP     47 49.70   0.1
BCAO   135.63 270 ePKPc  55 13.90   0.3
        0.6s      3.00nm
      S.D. = 0.9  on  14 of  17 obs.
-----------------------------------------
&  NOV  19, 1989  19h 05m 02.77s
   59.021 N          145.757 W
   DEPTH =  10.0km  (geophysicist)
 GULF OF ALASKA                      ( 15)
      <AGS-P>.

MTU      1.37 316 eP     05 24.77  -3.1
HIN      1.43 345 iP     05 24.22  -4.6
                  eS     05 40.61
RAGM     1.48  21 eP     05 24.72  -4.7
                  eS     05 42.41
SGAM     1.51  10 iP     05 25.34  -4.5
                  eS     05 42.42
HMT      1.52  29 eP     05 25.32  -4.8
CVA      1.53   0 iP     05 25.40  -4.7
                  iS     05 43.44
FID      1.77 348 eP     05 28.87  -4.8
CYK      1.98  56 eP     05 32.25  -4.3
                  eS     05 55.54
GLI      1.98 341 eP     05 31.87  -4.8
WAX      2.05  45 iP     05 33.14  -4.7
                  eS     05 55.00
VLZ      2.14 352 eP     05 33.99  -4.9
SEW      2.17 302 eP     05 35.94  -3.5
TGL      2.28  39 eP     05 36.52  -4.6
KLU      2.48 358 eP     05 38.89  -5.0
BALM     2.65  39 eP     05 41.43  -5.0
SLKM     2.71 305 eP     05 43.01  -4.1
PMS      2.93 321 eP     05 45.57  -4.7
PCA      3.00  67 eP     05 46.52  -4.8
NCA      3.03 350 eP     05 46.96  -4.7
TOA      3.10 356 eP     05 48.43  -4.3
GHO      3.18 332 eP     05 49.27  -4.5
SUA      3.49 317 eP     05 53.10  -5.2
RDT      3.70 298 eP     05 57.42  -3.9
ILIM     3.82 289 eP     06 00.75  -2.2
SPU      3.83 307 eP     05 58.99  -4.0
SKT      4.12 319 eP     06 02.43  -4.6
      26 obs. associated
-----------------------------------------
*  NOV  19, 1989  19h 30m 15.60± 0.87s
   36.056 N ± 8.9km   27.127 E ±10.5km
   DEPTH =  33.0km  (normol)
 DODECANESE ISLANDS                  (369)
      MD 3.5 (ATH).

KAP      0.51 176 ePn    30 25.00  -1.3
                  eSn    30 34.40
YER      1.42  40 iPn    30 39.00  -0.4
NPS      1.47 238 ePn    30 40.80   0.8
                  eSn    30 59.50
SMG      1.67 352 ePb    30 43.40   0.6
CIN      1.72  26 eP     30 42.00  -1.7
KSL      1.99  87 ePn    30 48.20   0.6
ELL      2.35  72 ePn    30 54.10   1.3
VAM      2.47 256 ePb    30 59.90   5.5X
BCK      3.11  62 ePn    30 55.00  -8.6X
      S.D. = 1.4  on   7 of   9 obs.
-----------------------------------------
   NOV  19, 1989  20h 46m 21.60± 0.30s
```

42.882 N ± 2.8km 12.901 E ± 3.3km
DEPTH = 15.5 ± 4.0 km
CENTRAL ITALY (381)
MD 3.9 (TRI), 3.7 (ROM). ML 3.7 (KBA), 3.6 (LDG).

ASS	0.26	317	Pc	46	27.30	-0.2
			iSg	46	31.80	
CIO	0.36	30	iPgc	46	27.88	-1.3
			iSg	46	32.72	
ALP	0.51	101	iPg	46	30.17	-1.6
			iSg	46	37.72	
MNS	0.52	198	Pd	46	31.70	-0.3
			iSg	46	40.40	
ARV	0.62	3	Pc	46	33.20	-0.3
			iSg	46	43.00	
AQU	0.65	145	P	46	34.20	0.1
			eSg	46	44.90	
AOI	0.84	37	iPg	46	37.11	-0.3
			iSg	46	49.11	
CRE	1.02	317	P	46	41.30	0.8
			eSn	46	58.00	
RMP	1.08	188	P	46	41.90	0.4
			eSg	46	58.20	
RSM	1.10	343	P	46	43.70	2.0
RDP	1.13	187	P	46	42.80	0.4
			eSn	47	00.40	
SFI	1.29	324	P	46	45.90	1.0
PGD	1.31	320	P	46	46.20	0.8
SDI	1.36	150	P	46	46.50	0.6
FIR	1.50	307	iPnc	46	52.50	4.7X
			iSn	47	10.50	
DUI	1.68	136	P	46	51.30	0.7
RFI	1.77	153	P	46	54.22	2.4
PII	1.93	297	P	46	55.50	1.4
BDI	2.05	306	P	46	56.60	0.7
MME	2.07	310	P	46	57.20	0.8
HVAR	2.62	82	iPn	47	04.70	0.7
RIY	2.68	23	iPn	47	04.80	-0.1
TRI	2.89	12	iPnc	47	07.50	-0.3
			iSn	47	43.50	
			i	48	03.40	
SGO	2.94	141	P	47	08.00	-0.5
SAL	3.21	329	P	47	15.88	3.5X
SAL	3.21	329	P	47	12.50	0.1
CTI	3.29	345	P	47	14.60	1.0
MGR	3.39	143	P	47	14.50	-0.4
ZAG	3.67	36	iPg	47	36.50	17.5X
CKI	3.69	296	P	47	18.70	-0.5
FVI	3.71	359	P	47	19.90	0.4
PTJ	3.73	35	ePn	47	21.90	2.1
			eSn	48	08.60	
CSI	4.02	139	P	47	28.70	4.9X
SBF	4.10	286	Pn	47	25.20	0.1
OGA	4.20	342	ePn	47	31.60	5.0X
VAI	4.20	317	P	47	26.00	-0.4
KBA	4.21	4	iPnc	47	27.10	0.4
			iSn	48	17.10	
			i	48	19.30	
			iSg	48	42.00	
ORO	4.47	309	P	47	30.50	0.1
			eSn	48	20.50	
FRF	4.62	281	Pn	47	32.00	-0.4
LRG	4.82	279	Pn	47	34.20	-1.0
BHG	4.84	360	iPnd	47	37.30	1.8
LPG	5.14	303	Pn	47	39.00	-1.0
VKA	5.89	23	e(Pn)	47	49.50	-0.8
			e(Sn)	48	58.00	
OHR	6.14	104	e(P)	47	55.00	1.0
KHC	6.27	4	Pn	47	55.10	-0.6
			Sg	49	06.60	
SKO	6.38	95	e(P)	47	54.00	-3.3X
BSF	6.56	321	Pn	48	00.00	0.2
			Sn	49	12.20	
CDF	6.79	326	Pn	48	02.20	-0.9
			Sn	49	18.00	
HAU	6.89	320	Pn	48	03.80	-0.6
			Sn	49	19.60	
GRF	6.91	351	e(P)	48	03.00	-1.7
PRU	7.20	8	ePn	48	10.00	1.3
			Sn	49	29.50	
MOX	7.82	354	eP	48	16.00	-1.4

S.D. = 1.0 on 46 of 52 obs.

NOV 19, 1989 21h 20m 58.76± 0.40s
46.884 N ± 3.6km 8.453 E ± 4.1km
DEPTH = 10.0km (geophysicist)

SWITZERLAND (544)
ML 2.6 (LDG).

LLS	0.37	92	ePd	21	06.50	0.0
ZLA	0.60	356	eP	21	11.00	0.1
SAX	0.71	59	iPc	21	13.40	0.4
VDL	0.81	119	ePd	21	13.90	-0.6
TMA	0.83	159	ePc	21	14.30	-0.6
SLE	0.88	2	eP	21	15.90	0.2
MMK	0.90	202	ePd	21	15.10	-1.0
FEL	1.04	343	ePn	21	18.90	0.5
DIX	1.08	222	iPc	21	18.30	-0.9
OSS	1.18	99	eP	21	21.20	0.3
ORO	1.30	195	P	21	22.10	-0.8
			eSn	21	38.70	
EMS	1.33	233	ePc	21	23.10	-0.3
BSF	1.47	311	Pn	21	25.00	-0.5
			Pg	21	26.60	
			Sg	21	43.60	
CDF	1.72	333	Pn	21	28.40	-0.6
			Pg	21	31.70	
			Sg	21	53.40	
LPL	1.82	222	Pn	21	31.80	1.3
			Sg	21	59.20	
HAU	1.82	309	Pn	21	29.70	-0.6
			Sg	21	55.00	
LPG	1.82	221	Pn	21	31.90	1.2
BNI	2.21	215	P	21	38.80	2.6
			eSn	22	11.10	
LBF	3.07	274	Pg	21	56.70	8.5X
			Sg	22	33.20	
LOR	3.16	279	Pg	21	57.60	8.1X
			Sg	22	36.40	
SMF	3.18	267	Pn	21	49.20	-0.6
			Pg	21	58.40	
			Sg	22	37.00	

S.D. = 1.0 on 19 of 21 obs.

? NOV 19, 1989 21h 38m 54.79± 7.54s
38.214 N ±41.8km 17.093 E ±48.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

CZI	1.25	323	P	39	18.30	0.3
			eS	39	31.60	
ATN	1.29	268	P	39	18.70	0.1
			eSg	39	33.70	
ROI	1.42	343	P	39	22.40	1.8
TDS	1.56	338	P	39	21.70	-0.9
CSI	1.68	338	P	39	23.10	-1.3
			eS	39	25.90	

S.D. = 1.7 on 5 of 5 obs.

NOV 19, 1989 23h 10m 38.15± 0.67s
45.591 N ± 6.9km 14.226 E ± 5.2km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.9 (KBA), 2.5 (ZAG). MD 3.0 (TRI). Felt at Ilirsko Bistrica.

RIY	0.27	155	iPgd	10	43.40	-0.5
TRI	0.34	290	iPgc	10	44.60	-0.7
			iSg	10	49.80	
LJU	0.50	25	ePg	10	47.10	-1.2
			iSg	10	53.90	
PTJ	1.25	75	ePg	11	01.60	0.1
			eSg	11	18.70	
ZAG	1.25	79	i(Pg)	11	02.20	0.8
			i(Sg)	11	20.30	
FVI	1.42	315	P	11	04.50	0.6
KBA	1.61	338	iPnc	11	07.40	0.6
			i	11	10.00	
CTI	1.86	285	P	11	10.70	0.3

S.D. = 0.8 on 8 of 8 obs.

NOV 19, 1989 23h 10m 45.53± 0.60s
45.559 N ± 6.1km 14.144 E ± 5.9km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 3.2 (VKA), 3.1 (KBA). Felt at Rijeko.

RIY	0.27	142	iPg	10	48.70	-2.6
			iSg	10	56.30	
TRI	0.31	299	Pc	10	49.90	-2.0
			iSg	10	54.50	
ZAG	1.31	78	iPg	11	10.00	0.2
			iSg	11	27.50	
PTJ	1.32	74	ePg	11	09.60	-0.3
			eSg	11	26.90	
FVI	1.40	318	P	11	12.50	1.4
KBA	1.62	340	iPn	11	17.70	3.4X
			iSg	11	37.80	
CTI	1.81	287	P	11	16.50	-0.6
			eSn	11	39.30	
ARV	2.23	203	P	11	24.50	1.4
PGD	2.41	227	P	11	26.30	0.5
CIO	2.47	197	iPn	11	27.24	0.7
CRE	2.49	220	P	11	26.50	-0.3
			eSn	11	56.50	
OGA	2.53	302	iPnc	11	26.20	-1.3
ASS	2.71	204	P	11	30.50	0.6
HVAR	2.90	144	iPn	11	33.30	0.8
VKA	3.09	28	iPgc	11	44.70	9.5X
			i(Sn)	12	13.50	
			iSg	12	27.30	
KHC	3.59	354	ePg	11	44.00	1.5
			Sg	12	33.00	

S.D. = 1.4 on 14 of 16 obs.

NOV 19, 1989 23h 58m 38.32± 1.40s
9.181 S ± 8.4km 119.512 E ± 7.7km
DEPTH = 51.4 ± 13.9 km
4.5mb (3 obs.)
SUMBA ISLAND REGION (287)

KHKI	3.94	282	ePc	59	39.10	1.3
			eS	00	18.50	
			e	06	03.20	
KNA	11.15	127	eP	01	17.10	-0.7
	0.3s	19.00nm				5.8mb X
			eS	03	09.00	
MBL	11.91	179	iPc	01	24.70	-3.4X
	0.3s	16.00nm				5.5mb X
			eS	03	25.00	
MTN	11.97	109	eP	01	28.00	-0.9
			eS	03	32.00	
TSM	13.39	354	eP	01	56.50	8.8X
MEKA	17.36	183	eP	02	39.10	0.4
	0.3s	13.00nm				4.5mb
			eS	05	34.00	
WARB	18.21	159	iPd	02	50.30	1.1
			eS	06	02.00	
ASPA	19.92	138	iPc	03	08.50	-0.2
			eS	06	38.20	
MRWA	20.20	189	eP	03	11.00	-0.6
			eS	06	38.00	
BAL	21.48	187	eP	03	23.30	-1.3
			e	03	33.00	
			eS	07	10.00	
COOL	21.65	176	eP	03	24.50	-1.8
			eS	07	14.00	
KLB	22.36	184	eP	03	34.50	1.2
	0.3s	6.00nm				4.5mb
			eS	07	30.00	
QIS	22.44	123	iPd	03	35.00	0.7
			eS	07	38.00	
MUN	22.89	187	eP	03	37.60	-0.9
			e	03	52.00	
NWAO	23.72	185	eP	03	46.70	0.1
			eS	08	04.00	
RKG	24.88	185	eP	04	03.00	5.3X
			eS	08	41.00	
STK	30.49	141	iPc	04	48.70	-0.1
CHTO	34.43	324	eP	05	22.90	-0.3
BRS	36.23	124	iPd	05	39.80	1.3
			i	05	49.00	
BWA	36.51	138	eP	05	44.20	3.4X
DZM	46.79	112	iPc	07	06.20	1.1
GBA	47.51	298	Pd	07	09.60	-1.0
	0.5s	1.80nm				4.3mb
BJI	49.07	357	eP	07	21.00	-1.3
QUE	63.87	310	eP	09	04.80	-3.6X
MAIO	72.23	313	eP	10	17.00	16.7X
PTZ	86.03	256	iPd	11	15.20	-0.2
SLR	87.17	245	iPd	11	20.00	-0.9
BFS	88.32	243	iPc	11	42.50	16.1X
LSZ	88.88	255	eP	11	30.00	0.8
			e	11	49.00	
PPD	147.70	196	ePKP	18	19.00	2.2
CCH	153.02	168	PKP	18	34.80	9.5X
CNCB	153.13	164	PKP	18	35.00	9.2X
LPB	153.37	164	(PKP)	18	35.00	9.1X
ZOBO	153.61	163	ePKP	18	36.00	9.6X

20d 00h

```
      S.D. = 1.1   on  23 of  34 obs.
-----------------------------------------
*  NOV  20, 1989  00h 29m 31.42± 2.63s
   31.571 S ± 9.1km   68.189 W ±19.2km
   DEPTH =  10.0km  (geophysicist)
 SAN JUAN PROVINCE, ARGENTINA.    (137)

CFA      0.06 230 iPd    29 34.00    0.3
RTCV     0.41 226 iPc    29 39.60   -0.3
ZON      0.42 273 eP     29 40.00    0.0
                  eS     29 52.00
RTCB     0.53 279 iPd    29 42.20    0.1
RTRS     1.77 322 e(P)   30 02.20   -0.1
      S.D. = 0.3   on   5 of   5 obs.
-----------------------------------------
%  NOV  20, 1989  02h 52m 08.12± 1.08s
   26.882 S ± 9.2km   26.681 E ± 9.0km
   DEPTH =   5.0km  (geophysicist)
 REPUBLIC OF SOUTH AFRICA         (584)

BFS      0.09 100 iPd    52 09.00   -1.3
PRY      0.71  94 iPd    52 23.00    0.7
                  S      52 30.00
KSR      1.03  11 iPd    52 28.40    0.2
                  S      52 41.50
SEK      1.66 150 iPd    52 39.00    0.8
                  S      52 57.50
KIM      2.51 222 iPc    52 50.00   -0.4
       0.4s    135.59nm
                  S      53 20.00
      S.D. = 1.2   on   5 of   5 obs.
-----------------------------------------
   NOV  20, 1989  03h 18m 42.50± 0.44s
   29.939 N ± 5.8km  106.832 E ± 5.7km
   DEPTH =  33.0km  (normol)
   4.6mb (  3 obs.)
 SICHUAN PROVINCE, CHINA          (307)
      ML 4.5 (BJI). Felt in Jiangbei
      County.

CD2      2.83 291 Pn     19 27.40    1.0
                  Pg     19 37.40
                  Sg     20 14.00
GYA      3.47 182 iPnc   19 35.40   -0.2
                  Pg     19 46.80
                  Sn     20 16.00
                  Sg     20 30.20
XAN      4.46  23 Pn     19 49.10   -0.5
                  Pg     20 01.50
                  Sn     20 39.50
                  Sg     20 59.50
KMI      6.02 218 Pd-    20 12.00    0.2
                  pP     20 20.00
                  S      21 19.00
                  sS     21 31.00
WHN      6.53  83 Pnd    20 18.50   -0.3
     Z  14s      2.90um
                  Sn     21 33.50
LZH      6.62 339 eP     20 20.50    0.3
     Z  16s      3.30um
                  Lg     22 13.00
                  e      22 17.50
GZH      8.97 138 eP     20 48.00   -4.8X
NJ2     10.53  75 Pc     21 14.00   -0.2
     Z  10s      1.30um
TIA     10.66  51 Pd     21 15.40   -0.5
BTO     10.95  13 eP     21 20.00    0.0
     N  11s      0.80um
GTA     11.07 330 eP     21 20.20   -1.5
     Z  15s      1.90um
     E  10s      1.40um
SSE     12.43  81 eP     21 40.50    0.6
     Z  14s      1.50um
     N  10s      3.00um
                  Lg     25 40.00
CHTO    13.20 215 eP     21 51.20    1.1
       1.0s     4.50nm          4.4mb
LSA     13.62 273 P      21 54.40   -1.7
CN2     20.27  42 eP     23 20.00    2.2
     Z  10s      1.50um          4.6MszX
     N  10s      1.10um
     E  10s      0.80um
                  epP    23 23.50   13kmX
WMO     20.58 318 P      23 21.00   -0.2
NDI     25.83 275 eP     24 14.50    2.0
WB5     56.18 148 eP     28 19.70   -1.9
WRA     56.23 148 P      28 22.00    0.1
       1.1s     8.10nm          4.7mb
SOD     59.00 334 eP     28 41.00    0.1
ASPA    59.30 151 eP     28 42.90   -0.6
NUR     60.66 326 eP     28 56.00    3.6X
NB2     66.90 328 P      29 31.60   -1.7
       1.1s     7.80nm          4.7mb
SNF     74.83 320 iP     30 10.00  -11.2X
DOU     74.85 319 eP     30 06.50  -14.9X
PNT     90.91  28 eP     31 46.00    1.8
      S.D. = 1.2   on  22 of  26 obs.
-----------------------------------------
   NOV  20, 1989  03h 21m 07.85± 0.15s
   29.882 N ± 3.4km  106.804 E ± 2.8km
   DEPTH =  33.0km  (normol)
   5.2mb ( 53 obs.)  4.7Msz (  1 obs.)
 SICHUAN PROVINCE, CHINA          (307)
      Four people killed, 161 injured
      ond ot leost 1,000 homes
      destroyed in Jiongbei County.

CD2      2.82 292 ePn    21 49.50   -2.2
                  Pg     21 56.00
                  Sg     22 32.00
GYA      3.41 182 Pg     22 12.60   12.4X
                  Sn     22 43.00
                  Sg     22 56.00
XAN      4.52  23 Pn     22 20.20    4.4X
                  Pg     22 31.00
                  Sn     23 06.50
                  Sg     23 27.00
KMI      5.96 218 iPnd   22 28.50   -7.8X
                  S      23 51.50
WHN      6.56  82 Pn     22 40.00   -4.6X
     Z  14s     10.00um
                  Sn     23 56.00
LZH      6.67 339 P      22 46.00   -0.2
     Z  15s      9.70um
                  Lg     24 35.70
                  e      24 42.00
MCO      9.83 140 eP     22 49.60  -40.3X
HKC     10.04 137 i(P)   23 34.00    1.2
                  S      25 19.00
NJ2     10.57  75 Pc     23 39.00   -1.0
                  S      25 34.00
TIA     10.71  51 eP     23 42.10    0.1
     Z  20s      2.90um
     E  10s      4.90um
GTA     11.11 331 P      23 45.00   -2.6
     Z  15s      4.70um
QIZ     11.15 165 eP     23 43.50   -4.6X
                  eS     25 50.00
QZH     11.57 112 eP     23 52.00   -1.7
SSE     12.47  81 Pc     24 05.30   -0.4
       1.0s    59.00nm          5.7mb
     Z  14s      5.80um          4.5MszX
     N  10s     11.80um
                  S      26 20.00
                  Lg     27 34.00
                  e      27 53.00
BJI     12.71  35 eP     24 08.00   -0.9
       1.0s     0.03nm          2.4mb X
     Z  12s      1.51um          4.1Msz
                  Lg     27 54.00
CHTO    13.14 215 iP     24 15.00    0.3
       1.2s    47.92nm          5.4mb
LSA     13.60 273 iPc    24 19.00   -2.2
SNY     18.04  44 eP     25 16.60   -1.0
     Z  16s      1.90um
     N  22s      1.70um
     E  20s      1.40um
WMO     20.61 318 iPd    25 46.50   -0.3
     Z  20s      2.96um          4.7Msz
     N  10s      1.30um
     E  10s      0.99um
                  S      29 35.00
KUMJ    20.71  77 eP     25 49.80    2.0
KAGJ    20.78  80 eP     25 49.30    0.7
MDJ     23.25  44 eP     26 13.00    0.0
     Z  16s      1.80um          4.6MszX
TSRJ    25.14  69 eP     26 31.70    0.3
KKM     25.32 158 ePc    26 33.10   -0.2
IPM     25.75 193 ePd    26 37.10   -0.2
       0.9s    36.50nm          5.0mb
NDI     25.81 275 iPc    26 37.20   -0.5
                  eS     30 34.00
IIDJ    26.71  70 P      26 44.40   -1.6
MAT     27.02  67 (P)    26 48.00   -0.8
       1.1s    31.65nm          4.9mb
HYB     28.61 251 eP     27 01.50   -1.9
GBA     31.59 246 Pc     27 29.00   -0.8
       0.6s     7.50nm          4.7mb
POO     32.00 257 iPc    27 32.70   -0.8
KOD     33.62 241 eP     27 48.10    0.2
MAIO    39.84 292 iPc    28 42.00    2.0
SLY     51.16 293 iPd    30 10.80    1.0
MBL     52.27 165 eP     30 16.40   -1.9
BHD     52.59 291 ePd    30 18.50   -2.1
NANU    52.81 170 eP     30 22.00   -0.3
PMG     55.07 129 eP     30 38.50   -0.5
WB5     56.15 148 eP     30 45.20   -1.5
WRA     56.19 148 Pd     30 46.10   -0.9
       1.2s    92.40nm          5.7mb
KEV     58.79 336 iP     31 04.00   -0.8
       0.8s    39.60nm          5.6mb
WARB    58.90 159 iPd    31 05.50   -0.5
SOD     59.04 334 iP     31 05.80   -0.8
QIS     59.27 144 eP     31 07.00   -1.6
ASPA    59.27 151 iPc    31 07.40   -1.2
       1.5s    46.00nm          5.4mb
                  eS     39 13.20
SUF     59.67 328 eP     31 10.00   -1.0
       0.6s    14.60nm          5.3mb
BBTK    59.99 301 iP     31 13.00   -0.5
NUR     60.70 326 iP     31 17.50   -0.5
       0.7s    22.70nm          5.4mb
CLI     62.11 310 ePc    31 27.50   -0.3
TLB     62.12 308 eP     31 27.50   -0.3
BCK     62.30 299 eP     31 28.00   -1.2
CTA     62.54 138 iPd    31 30.20   -0 7
       1.2s    53.13nm          5.5mb
KHL     62.84 300 eP     31 31.30   -1.4
ISR     62.99 308 eP     31 35.00    1.4
ELL     63.04 299 eP     31 33.70   -0.4
MLR     63.30 309 ePc    31 36.00    0.2
EDC     63.45 303 eP     31 34.00   -2.6
BRW     64.04  21 eP     31 39.10   -1.0
UPP     64.26 326 iP     31 40.70   -1.0
KDZ     64.81 305 ePc    31 45.00   -0.5
PGB     65.40 306 eP     31 50.00    0.6
KRA     65.82 315 eP     31 51.50   -0.4
       0.7s    25.00nm          5.4mb
SPC     65.90 314 iP     31 53.30    0.6
MMB     66.03 305 eP     31 38.00  -15.4X
VTS     66.06 307 iPc    31 54.00    0.2
HFS     66.07 327 eP     31 51.70   -1.7
       0.7s    11.00nm          5.1mb
     Z  17s     0.21um          4.4MszX
                  LR     00 53.00
BZS     66.16 310 eP     31 54.50    0.4
KKB     66.39 306 eP     31 47.00   -8.7X
IMA     66.80  26 ePc    31 56.70   -1.4
       1.1s    12.50nm          4.9mb
NB2     66.93 328 P      31 57.60   -1.3
       1.0s    30.90nm          5.4mb
TTA     66.98  30 ePc    31 58.40   -0.8
SRO     67.57 313 eP     32 03.10    0.0
KSP     67.76 317 iP     32 04.50    0.2
SVW     67.81  31 ePc    32 04.00   -0.4
ZST     68.20 314 e(P)   32 06.20   -0.8
SOP     68.72 314 eP     32 13.00    2.7X
RMO     68.96 140 eP     32 14.00    2.0
PRU     69.12 316 Pc     32 12.80    0.1
       1.0s    17.40nm          5.1mb
BRG     69.14 317 iPc    32 12.60   -0.2
       1.3s    26.00nm          5.1mb
FBA     69.52  26 ePc    32 13.80   -1.1
CLL     69.53 318 iPc    32 15.10    0.0
       1.3s    30.00nm          5.2mb
STK     69.74 149 iPd    32 16.00   -0.6
PTJ     69.77 312 eP     32 15.50   -1.3
KHC     70.02 316 iPc    32 19.00    0.7
MBC     70.29  11 eP     32 19.50    0.1
       0.9s    20.00nm          5.2mb
WET     70.44 316 eP     32 21.20    0.4
PMR     70.46  29 ePc    32 19.50   -1.1
       0.8s    30.80nm          5.4mb
HOF     70.57 317 iPc    32 21.70    0.1
       1.0s    26.00nm          5.3mb
MOX     70.59 318 eP     32 22.00    0.3
KDC     70.62  34 eP     32 20.80   -0.8
KBA     70.97 314 iPc    32 24.00   -0.3
       0.5s     7.80nm          5.0mb
                  i      32 25.30
BHG     71.01 315 eP     32 24.40    0.1
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ADE     71.17 153 iPd    32 25.00  -0.3
GRF     71.21 317 iPc    32 26.20   0.7
        1.3s    57.00nm          5.5mb
TRI     71.25 312 eP     32 24.90  -0.8
TOA     71.47  28 ePc    32 27.00   0.2
FVI     71.52 314 P      32 27.00  -0.3
TDS     71.96 306 P      32 31.00   0.9
SGO     72.32 307 P      32 32.50   0.4
DUI     72.45 308 P      32 36.00   3.0X
CTI     72.46 313 P      32 32.50  -0.6
WIT     72.47 321 eP     32 34.50   1.7
OGA     72.51 314 iPc    32 33.50   0.0
        1.0s    44.00nm          5.4mb
INK     72.53  20 eP     32 31.50  -1.4
ARV     72.70 310 P      32 35.00   0.6
WTS     72.76 320 ePc    32 35.00   0.5
        0.8s    16.00nm          5.1mb
SDI     72.86 309 P      32 35.30  -0.2
AQU     72.87 309 P      32 36.40   0.9
ASS     73.06 310 P      32 38.30   1.7
OSS     73.13 314 ePc    32 37.30   0.2
SFI     73.23 311 P      32 38.50   1.0
PGD     73.34 311 P      32 40.00   1.7
MNS     73.34 310 P      32 38.50   0.3
SAL     73.36 313 P      32 38.50   0.3
SAX     73.38 315 ePc    32 38.60   0.0
VDL     73.64 314 ePd    32 40.50   0.4
SLE     73.67 316 ePc    32 40.20   0.2
FIR     73.68 311 eP     32 41.50   1.4
LLS     73.76 315 ePc    32 40.90   0.1
ENN     73.81 320 eP     32 40.50  -0.2
        0.9s    17.00nm          5.0mb
ZLA     73.86 316 eP     32 41.40   0.3
MME     73.86 312 P      32 43.10   1.6
BDI     73.99 312 P      32 42.50   0.5
CDF     74.11 317 iPc    32 42.70   0.1
        0.8s    13.40nm          5.0mb
TMA     74.18 314 ePc    32 42.90  -0.3
VAI     74.35 314 P      32 43.60  -0.3
BOB     74.41 313 P      32 45.50   1.1
BSF     74.66 317 iPc    32 45.70  -0.1
        0.8s     9.10nm          4.8mb
MMK     74.77 315 ePc    32 47.30   0.6
DOU     74.88 319 P      32 47.00   0.1
BWA     75.06 145 eP     32 49.30   1.2
DIX     75.09 315 ePc    32 49.30   0.7
EMS     75.40 315 ePc    32 50.50   0.3
FIN     75.46 313 P      32 49.18  -1.2
LSD     75.54 314 P      32 51.85   0.7
RSP     75.62 314 P      32 50.72  -0.7
ROB     75.63 313 P      32 50.82  -0.6
LPG     75.77 314 iPc    32 53.20   0.7
        0.8s    34.90nm          5.4mb
IMI     75.80 313 P      32 52.46   0.1
RRL     76.03 314 P      32 53.59  -0.3
BNI     76.03 314 P      32 54.00   0.2
CAN     76.06 146 eP     32 55.30   1.5
SBF     76.11 313 iPc    32 54.50   0.3
        1.2s    55.90nm          5.4mb
CNB     76.24 145 eP     32 55.00   0.2
TOO     76.25 149 eP     32 55.00   0.2
EKA     76.27 326 Pd     32 54.90   0.2
        1.1s    19.70nm          5.0mb
LOR     76.68 317 eP     32 57.00  -0.2
        1.0s     8.00nm          4.7mb
LBF     76.75 317 eP     32 57.50  -0.1
        0.7s     4.40nm          4.6mb
LMR     76.96 313 iPc    32 59.10   0.3
        1.2s    47.60nm          5.4mb
SSF     76.99 317 eP     32 58.80  -0.1
        1.0s    10.00nm          4.8mb
LRG     76.99 313 eP     32 59.60   0.7
        1.0s    32.00nm          5.3mb
SMF     76.99 316 iPc    32 59.00   0.1
        1.0s    26.00nm          5.2mb
DZM     77.17 125 iPc    33 01.90   1.6
AVF     77.21 317 iPc    33 00.40   0.3
        0.8s    13.90nm          5.0mb
PLDF    77.46 316 P      33 01.90   0.3
AGO     77.72 316 P      33 03.42   0.5
PYM     77.94 316 P      33 04.85   0.6
MAF     77.97 317 iPc    33 04.90   0.6
        1.0s    22.00nm          5.1mb
LBL     78.06 315 P      33 04.96   0.2
TCF     78.15 317 eP     33 05.80   0.5
        1.0s    34.00nm          5.3mb
LDF     78.30 320 eP     33 06.30   0.3
        1.0s    28.00nm          5.2mb
LSF     78.57 317 eP     33 07.70   0.1
        0.8s     5.30nm          4.6mb
GRR     78.82 320 eP     33 09.50   0.6
        0.8s    21.40nm          5.2mb
CAF     78.94 316 eP     33 10.70   1.0
        0.8s    11.20nm          4.9mb
DLE     79.06 326 eP     33 10.60   0.5
        1.0s    32.00nm          5.3mb
RJF     79.07 316 eP     33 11.40   1.0
        0.8s    17.10nm          5.1mb
LPF     79.12 319 eP     33 10.30  -0.2
        0.8s    11.80nm          4.9mb
MFF     79.37 318 eP     33 12.50   0.6
        0.8s    24.10nm          5.2mb
LPO     79.60 316 eP     33 14.00   0.8
        1.0s    20.00nm          5.1mb
LFF     79.73 316 eP     33 15.00   1.1
        0.8s    19.80nm          5.2mb
PTZ     84.83 250 iP     33 41.50   0.7
MZZ     85.23 254 iPd    33 49.30   6.4X
BCAO    86.32 273 iPc    33 48.30   0.0
        0.8s    15.00nm          5.3mb
                i        34 13.10
BUL     90.15 247 iPc    34 04.90  -1.6
        1.0s     5.50nm          4.8mb
EDM     90.18  23 ePc    34 06.50   0.4
GMW     90.96  31 P      34 11.00   1.2
PNT     90.97  28 ePc    34 10.00   0.2
RMW     91.47  31 P      34 13.30   1.1
BMW     91.56  32 P      34 12.10  -0.5
LON     92.00  31 P      34 15.10   0.5
FFC     92.17  16 iPd    34 15.50   0.3
        1.0s    28.00nm          5.6mb
DPW     92.69  28 P      34 18.90   1.1
NEW     92.82  28 P      34 19.90   1.5
RSSD   101.14  22 Pdiff  35 00.00   3.7X
BAO    152.86 296 ePKP   41 04.00   7.7X
PPD    158.85 287 e(PKP) 41 05.00   1.2
ZOBO   165.67 340 PKP    41 12.00   0.7
        1.2s     8.45nm
LPB    165.91 340 ePKP   41 13.00   1.7
CCH    165.99 331 PKP    41 13.20   2.0
CNCB   166.14 339 ePKP   41 13.00   1.4
      S.D. = 0.9  on 177 of 190 obs.
-----------------------------------
%  NOV  20, 1989  03h 25m 26.64± 4.49s
   39.177 N ±27.3km   16.396 E ±18.3km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                   (390)

CZI     0.21 282 P       25 31.20   0.0
ACI     0.23 319 P       25 30.90  -0.7
ROI     0.42  19 P       25 35.00  -0.2
TDS     0.48 355 P       25 36.60   0.1
                eSg      25 45.90
CSI     0.60 352 P       25 38.90   0.0
MGR     1.16 326 P       25 48.90   0.6
                eSg      26 06.30
      S.D. = 0.5  on   6 of   6 obs.
-----------------------------------
   NOV  20, 1989  03h 30m 09.38± 1.13s
   35.740 N ±11.3km   22.465 E ± 7.3km
   DEPTH =  10.0km  (geophysicist)
 MEDITERRANEAN SEA                (400)
      ML 3.6 (ATH).

VLI     1.05  21 iPgc    30 28.80  -0.3
VAM     1.45 103 ePb     30 35.60  -0.1
                eSb      30 55.00
ITM     1.50 343 ePb     30 37.60   1.2
ATH     2.44  24 ePg     30 54.50   4.6X
NPS     2.61 100 ePb     30 55.90   3.5X
APE     2.81  61 ePn     30 56.00   0.8
VLS     2.86 329 ePn     30 56.00   0.1
NEO     3.61   9 ePn     31 08.30   1.7
KAP     3.84  91 ePn     31 11.50   1.7
KZN     4.59 353 ePn     31 20.90   0.4
KNT     5.42   3 eP      31 32.40   0.1
OHR     5.52 347 eP      31 33.20  -0.5
VAY     5.57   1 eP      31 33.00  -1.3
KSL     5.79  84 ePn     31 35.00  -2.3
ATN     6.11 295 P       31 41.50  -0.3
SKO     6.27 353 iP      31 42.60  -1.6
      Z  10s     0.74um
      N  10s     0.82um
                i        32 02.50
MGR     7.01 311 P       31 55.50   1.0
                eSn      33 05.50
SGO     7.41 313 P       31 59.50  -0.6
                eSn      33 13.50
      S.D. = 1.2  on  16 of  18 obs.
-----------------------------------
&  NOV  20, 1989  03h 51m 38.00s
   40.437 N          125.368 W
   DEPTH =   6.0km
 OFF COAST OF NORTHERN CALIFORNIA( 34)
      <BRK>. ML 3.5 (BRK).

FHC     1.11  70 iPc     51 58.10  -1.2
                iS       52 12.10
WDC     2.16  85 iPc     52 12.90  -2.1
                eS       52 38.50
LTCM    2.49  94 eP      52 18.20  -1.5
LBFM    2.79  70 eP      52 22.60  -1.6
MIN     2.88  91 ePc     52 22.70  -2.7
                eS       52 57.90
ORV     3.10 105 ePc     52 26.60  -1.8
                eS       53 02.40
BKS     3.53 135 iPc     52 31.40  -3.1
PCC     3.74 141 eP      52 34.60  -3.0
MHC     4.24 136 e(P)    52 41.10  -3.6
ARN     4.30 135 eP      52 42.40  -3.0
GCC     4.30 141 ePc     52 41.90  -3.6
CMB     4.55 120 ePc     52 47.30  -1.8
SAO     4.78 139 eP      52 47.60  -4.7
FRI     5.61 126 ePc     53 02.30  -1.6
KVN     5.77 102 eP      53 04.50  -1.9
       15 obs. associated
-----------------------------------
   NOV  20, 1989  03h 53m 19.86± 0.63s
   32.024 S ± 8.1km   69.016 W ±10.8km
   DEPTH = 106.4 ±  8.0 km
 MENDOZA PROVINCE, ARGENTINA      (139)

RTCV    0.44  68 iPc     53 37.10   0.9
RTBS    0.52 314 iPd     53 36.40  -0.2
ZON     0.56  31 iPd     53 36.50  -0.5
                eS       53 48.00
RTCB    0.57  19 ePd     53 36.80  -0.3
CFA     0.78  58 iPd     53 39.00   0.1
JACH    1.49 243 iPc     53 46.60  -0.2
                iS       54 08.50
FCH     1.69 219 iPc     53 51.00   1.5
                iS       54 15.00
RTRS    1.89 348 iPc     53 50.50  -1.2
ROCH    1.93 240 eP      53 51.60  -0.9
                iS       54 16.50
SAN     1.99 224 iPc     53 53.70   0.6
                iS       54 19.30
PCH     2.03 218 iPc     53 54.50   0.8
                iS       54 22.50
TACH    2.29 224 iPc     53 56.90  -0.1
                iS       54 26.00
CHCH    2.35 215 iP      53 58.80   1.0
                iS       54 29.50
LCCH    2.59 235 iP      54 00.00  -1.0
                iS       54 28.80
LNV     2.79 226 iPd     54 02.10  -1.5
                iS       54 34.80
CCH    14.81  11 P       56 47.20   1.9
CNCB   15.18   4 eP      56 49.00  -1.3
LPB    15.45   3 P       56 55.00   1.5
ARE    15.66 351 eP      56 57.00   1.0
ZOBO   15.71   3 eP      56 53.00  -3.9X
PPD    18.63  62 eP      57 30.00  -1.9
                e        57 33.70
      S.D. = 1.2  on  20 of  21 obs.
-----------------------------------
?  NOV  20, 1989  04h 18m 21.16± 3.35s
   16 497 N ±31.2km   99.595 W ±15.3km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF GUERRERO, MEXICO   ( 58)

ACX     0.45 326 iP      18 31.00   0.0
                iS       18 37.50
PPM     2.72  20 iP      19 04.00   0.1
                (S)      19 44.00
IIT     2.79  26 eP      19 08.00   3.2X
OXX     2.81  78 iP      19 05.00   0.0
                iS       19 41.50
UNM     2.85   8 (P)     19 11.50   6.0X
CRX     2.89 358 (P)     19 14.50   8.2X
IISM    3.26  40 eP      19 11.00  -0.1
```

20d 04h

```
                iS     19 52.50
MRX     3.53 335 (P)   19 25.50   10.5X
     S.D. = 0.1  on   4 of   8 obs.
-----------------------------------------
   NOV  20, 1989  04h 19m 04.66± 0.18s
   29.892 N ± 3.7km    57.718 E ± 2.4km
   DEPTH =  18.4km  ( 16 depth phases)
   5.6mb ( 60 obs.)  5.7Msz ( 17 obs.)
 SOUTHERN IRAN                     (353)
      Ms 5.5 (BRK). At leost three
      people were killed, 45 injured
      and domoge in the Shahdod oreo.
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 16S, 35C
      Centroid Locotion:
      Origin Time        04:19:11.4 0.4
      Lot 29.89N 0.04 Lon  57.80E 0.04
      Dep  15.0 FIX Holf-duration  3.5
      Moment Tensor;    Scale 10**17 Nm
        Mrr=-0.35 0.18  Mtt=-6.72 0.26
        Mff= 7.06 0.24  Mrt=-0.20 0.67
        Mrf=-2.77 0.68  Mtf= 3.54 0.19
       Principol Axes:
        T  Vol=  8.75  Plg=17  Azm=103
        N        -1.14      73       297
        P        -7.60       4       194
      Best Double Couple:Mo=8.2*10**17
       NP1:Strike=240 Dip=75 Slip=   9
       NP2:        148      81       165

KHI      4.31  10 iPd   20 12.00    1.0
MAIO     6.56  13 iPnd  20 43.60    0.9
       0.6s    84.18nm          5.8mb X
                eSn     21 58.00
DHR      7.59 244 iPc   20 59.50    2.5X
TEH      7.90 319 eP    21 02.00    0.5
QUE      8.01  86 eP    21 03.50    0.4
KER     10.04 299 eP    21 32.00    0.9
RYD     11.14 245 ePc   21 44.00   -2.1
                iS      23 32.00
SLY     11.75 302 ePnd  21 55.00    0.7
                i       22 07.50
BHD     11.86 290 ePnd  21 52.00   -3.7X
                eP*     22 09.00
                iSn     23 29.50
                iS*     24 01.50
                iSg     24 26.00
TAB     12.48 314 iP+   22 07.00    2.8X
QASM    13.09 257 iPc   22 09.70   -2.7X
MSL     13.81 302 ePd   22 20.00   -1.7
                eS      24 39.00
                e       24 45.00
                eLQ     26 12.00
                eLR     26 42.50
KMSA    15.26 235 eP    22 37.30   -3.6X
NDI     17.06  89 iPc   23 03.00   -0.7
       1.1s   443.04nm          5.5mb
                iS      28 40.00
BOM     17.56 125 eP    23 08.00   -2.0
                iS      26 38.00
KSH     17.77  53 P     23 13.00    0.3
     Z  12s    38.30um
     E  10s    43.60um
                S       26 32.00
HLBJ    18.49 282 P     23 23.00    1.4
POO     18.53 124 iPc   23 22.20    0.1
                iS      27 00.00
GAZ     18.55 298 iP    23 24.00    1.8
AYN     18.96 272 iPc   23 26.70   -0.5
SHMJ    18.97 284 P     23 30.40    3.0X
SALJ    19.01 282 P     23 30.60    2.6X
HRI     19.02 286 eP    23 29.30    1.2
WAJH    19.04 264 eP    23 28.70    0.5
MKRJ    19.05 281 P     23 30.00    1.5
BHL     19.15 288 Pc    23 32.00    2.4
                S       27 16.00
DSI     19.27 281 eP    23 31.60    0.5
SRFA    19.65 273 iPd   23 36.70    1.3
PRNI    19.66 277 eP    23 35.80    0.2
NOH     19.67 278 eP    23 36.20    0.5
HOL     19.72 274 iPc   23 37.30    1.1
BADA    19.87 272 iPc   23 38.70    1.0
FAM     20.63 290 eP    23 47.70    2.1
KVT     20.82 308 eP    23 47.00   -0.6
CSS     21.18 290 eP    23 53.00    1.8
PPCY    21.97 290 eP    24 01.00    1.8

KOT     22.43 277 eP    24 05.50    1.7
BBTK    22.69 303 eP    24 08.00    1.6
HYB     22.72 118 iPc   24 07.50    0.7
       1.0s   250.00nm          5.7mb
                eS      28 12.00
HLW     22.86 277 eP    24 12.00    4.0X
                ePP     24 44.00
                eS      28 22.00
AMAN    22.86 261 iPd   24 13.00    4.9X
ARO     22.92 220 ePd   24 09.00    0.2
                S       28 30.00
AGRW    23.07 260 iPd   24 14.00    3.9X
AKRL    23.15 260 iPd   24 15.00    4.1X
AGMR    23.34 260 iPd   24 21.00    8.3X
BCK     23.75 296 eP    24 18.00    1.3
ELL     24.17 294 iP    24 22.50    1.6
KSL     24.35 292 eP    24 22.80    0.4
GBA     24.39 127 P     24 24.50    1.5
KHL     24.74 297 iP    24 27.30    0.9
YLV     25.38 302 iP    24 32.40    0.0
GBZT    25.39 303 eP    24 36.10    3.7X
YER     25.52 294 iP    24 37.50    3.8X
DST     25.70 300 iP    24 36.00    0.7
ISK     25.75 303 eP    24 35.80    0.1
CTT     26.23 303 iP    24 40.30    0.1
KAP     26.25 290 eP    24 41.10    0.7
BNT     26.40 301 iP    24 42.40    0.6
EDC     26.44 301 eP    24 42.30    0.1
IZM     26.50 297 iP    24 43.00    0.2
SMG     26.73 295 eP    24 49.50    4.7X
KOD     26.87 133 eP    24 48.00    1.4
                eS      29 29.00
DMK     26.91 304 iP    24 43.10   -3.3X
PSN     27.20 309 eP    24 52.00    3.0X
AAE     27.30 224 eP    24 54.00    3.4X
PRK     27.41 298 eP    24 52.00    1.0
EZN     27.48 300 eP    24 51.30   -0.3
NPS     27.51 290 eP    24 54.00    2.0
WMQ     27.55  51 P     24 52.70    0.4
     Z  18s    22.50um          5.8Msz
     N  10s    12.60um
     E  10s     8.60um
                PP      25 40.00
TLB     27.63 310 eP    24 53.00    0.1
APE     27.69 294 eP    24 58.00    4.3X
CFR     27.78 312 eP    24 54.00   -0.3
JMB     27.93 305 eP    24 57.00    1.3
RDO     28.35 302 eP    24 59.20   -0.2
PPE     28.54 313 eP    25 00.00   -1.2
KDZ     28.55 303 eP    25 03.00    1.7
VAM     28.67 290 eP    25 02.50    0.1
ISR     28.82 311 eP    25 05.00    1.3
BUC     28.86 309 eP    25 03.00   -1.1
BUC1    28.89 309 ePc   25 10.00    5.7X
CLI     28.89 314 eP    25 03.00   -1.3
IAS     28.99 315 eP    25 01.00   -4.2X
PVL     29.02 306 iPc   25 07.00    1.5
RZN     29.07 303 iPc   25 06.00   -0.2
ATH     29.22 295 eP    25 15.50    8.2X
MLR     29.34 311 ePc   25 11.00    2.5
PTT     29.61 314 eP    25 17.00    6.2X
PGB     29.67 304 iPc   25 12.00    0.5
VLI     29.74 292 eP    25 17.40    5.3X
PLG     29.75 300 eP    25 12.20    0.0
NEO     29.76 298 eP    25 12.90    0.7
SRS     29.78 301 eP    25 12.40    0.0
CMP     29.86 310 ePc   25 11.00   -2.1
DRA     30.20 309 eP    25 18.00    2.0
KNT     30.30 301 eP    25 16.60   -0.4
KKB     30.30 303 iP    25 17.00    0.0
VAY     30.57 302 iPc   25 19.00   -0.4
       1.2s     0.15nm          2.7mb X
KZN     31.00 299 eP    25 22.60   -0.7
SKO     31.52 302 iPc   25 27.40   -0 4
       1.3s   164.00nm          5.8mb
     Z  18s     7.02um          5.4Msz
     N  16s    14.43um
     E  20s     7.62um
                iPP     26 31.00
                i       27 35.00
                i       28 00.00
                iPcP    28 28.00
                iS      30 30.00
                iPcS    32 03.00
                iSS     32 33.00
                iSSS    32 48.00
VLS     31.69 295 eP    25 27.90   -1.4

BMR     31.71 314 ePd   25 30.00    0.7
KBN     31.77 300 iPd   25 29.50   -0.4
OHR     31.85 301 iP    25 29.40   -1.3
       1.3s     0.25nm          3.0mb X
                i       25 39.40   36kmX
                i       25 45.10
LSK     31.87 299 eP    25 30.50   -0.4
PHP     32.21 302 iPc   25 33.30   -0.4
BZS     32.26 309 eP    25 34.50    0.4
SRN     32.30 298 iP    25 24.10  -10.4X
TIM     32.56 309 iPc   25 43.50    6.8X
TIR     32.58 301 eP    25 36.90   -0.1
LACI    32.74 301 eP    25 31.50   -6.9X
BEO     32.84 307 eP    25 38.50   -0.7
                i(S)    31 56.00
SDA     32.96 302 eP    25 43.00    2.8X
ULC     33.13 302 eP    25 40.50   -1.3
NKY     33.45 303 eP    25 43.50   -1.2
BDV     33.49 302 eP    25 43.90   -1.0
HCY     33.76 303 eP    25 44.50   -2.7
BRY     33.80 303 eP    25 46.40   -1.3
PSZ     34.07 313 eP    25 49.10   -0.9
SPC     34.27 315 eP    25 52.30    0.5
BUD     34.51 312 iPd   25 52.80   -0.8
KRA     34.76 316 iPd   25 55.90    0.1
       0.9s   172.00nm          6.0mb
     Z  20s     6.50um          5.4Msz
     N  22s     7.70um
                e       26 00.60   16km
                i       26 12.60
                e       31 20.00
ROI     34.91 297 P     26 04.10    6.8X
SRO     35.06 312 eP    25 58.80    0.5
                e       27 23.80 451kmX
TDS     35.09 297 P     26 01.70    2.9X
CSI     35.14 298 P     26 03.80    4.6X
CZI     35.23 297 P     26 00.50    0.6
GTA     35.64  63 Pc    26 04.40    0.9
     Z  18s    12.70um          5.7Msz
     N  16s    21.20um
                S       31 42.00
                sS      31 54.00
MGR     35.72 298 P     26 04.00   -0.1
ATN     35.73 295 P     26 05.50    1.3
SGO     35.94 299 P     26 06.30    0.4
ZST     35.95 312 eP    26 05.50   -0.4
                e       27 22.80 398kmX
                e       27 34.70
                e       45 49.40
ZAG     36.14 308 iPc   26 08.00    0.5
SOP     36.17 311 eP    26 09.80    2.1
PTJ     36.17 308 eP    26 06.80   -1.1
MNO     36.34 294 P     26 11.60    2.0
VKA     36.47 312 iPc   26 10.60    0.3
       3.0s   493.00nm          5.8mb
     Z  14s     3.10um          5.2MszX
                ePcP    27 18.00 388kmX
                e       27 26.50
                ePP     28 13.00
                LR      45 12.00
VBY     36.58 307 ePd   26 11.00   -0.2
DUI     36.66 301 P     26 12.90    0.9
GIB     36.86 295 P     26 13.90    0.1
NAI     36.87 217 eP    26 25.00   10.9X
RFI     36.98 300 P     26 15.11    0.4
       1.3s   243.40nm          5.8mb
SDI     37.14 301 P     26 15.60   -0.5
RIY     37.15 307 ePc   26 14.90   -1.1
FAI     37.16 293 P     26 18.00    1.8
LJU     37.17 308 eP    26 16.50    0.3
                i       26 23.50   24km
                e       27 24.00
                eS      32 04.00
                e       34 40.00
MCT     37.18 294 P     26 19.60    3.0X
CEY     37.19 307 ePc   26 16.90    0.5
KSP     37.22 316 iPc   26 17.50    0.9
                e       27 42.50 446kmX
ALP     37.41 302 eP    26 19.67    1.3
AQU     37.50 302 P     26 19.60    0.5
USI     37.53 296 P     26 20.00    0.8
VOY     37.61 308 eP    26 19.20   -0.B
                i       26 26.00   23km
TRI     37.64 307 i(P)c 26 19.90   -0.3
                e(PP)   27 52.00
                e(S)    32 40.00
                e(SS)   36 08.00
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                eLR   39 00.00
NUR   37.72 334 iPc   26 21.40   0.8
      0.9s   108.10nm          5.7mb
                i     26 26.40  17km
                i     27 58.00
                e     32 12.00
CIO   37.76 303 eP    26 20.75  -0.6
KMR   37.84 311 iP-   26 22.00   0.2
                i     27 27.20 329kmX
ARV   37.94 304 P     26 23.00   0.3
RDP   37.96 301 P     26 23.10   0.1
RMP   37.98 301 P     26 23.70   0.6
MNS   38.03 302 P     26 23.40  -0.1
PRU   38.05 314 eP    26 23.00  -0.5
      1.5s    33.50nm          4.9mb
    Z  15s     5.00um          5.4MszX
    N  19s     6.30um
    E  17s     3.60um
                e     26 28.00  17km
                S     32 20.00
                SS    35 24.00
ASS   38.10 303 P     26 25.40   1.3
KBA   38.17 309 iPd   26 24.30  -0.5
      1.1s   155.00nm          5.7mb
                i     26 29.20  17km
                i     26 36.10
                e     28 00.00
                e     30 26.00
                e     45 50.00
RSM   38.33 304 P     26 28.10   2.1
KHC   38.44 313 iPd   26 27.40   0.5
      1.2s   150.00nm          5.6mb
    Z  16s     5.00um          5.4MszX
    N  16s     3.60um
    E  16s     3.80um
                e     32 27.50
FVI   38.46 308 P     26 26.80  -0.2
BHG   38.60 310 iPd   26 28.60   0.4
      1.5s   675.00nm          6.2mb
SUF   38.65 337 eP    26 28.90   0.5
      1.1s   113.70nm          5.5mb
BRG   38.65 315 iP    26 28.80   0.2
      1.4s    50.00nm          5.1mb
    N  18s     5.50um
    E  18s     2.00um
                e     27 42.00 376kmX
CRE   38.67 304 P     26 29.10   0.2
SFI   38.76 304 P     26 30.80   1.2
PGD   38.85 304 P     26 31.50   0.9
WET   38.89 312 eP    26 30.80   0.1
      1.5s   200.00nm          5.6mb
LZH   38.90  68 Pc    26 31.60   0.6
      1.8s   156.00nm          5.4mb
    Z  25s    12.10um          5.6MszX
    N  17s    14.00um
    E  17s    10.30um
                pP    26 36.20  16km
                ePP   28 06.00
                PPP   28 42.00
                S     32 25.00
                SS    35 20.00
CHTO  38.96  97 iP    26 30.50  -1.0
      1.0s   112.50nm          5.5mb
CTI   39.16 307 P     26 32.30  -0.7
FIR   39.18 304 iPc   26 34.00   0.9
                iPP   28 16.00
                iS    32 30.00
CLL   39.34 316 iPd   26 35.20   0.9
      1.4s   190.00nm          5.6mb
    Z  18s     4.00um          5.3Msz
                i     26 39.40  14km
                eS    32 37.00
CD2   39.51  77 eP    26 35.00  -1.0
    Z  22s     8.40um          5.5Msz
    N  14s    11.80um
MME   39.62 304 P     26 37.50   0.5
BDI   39.68 304 P     26 36.50  -0.8
OGA   39.70 309 eP    26 37.30  -0.3
      1.2s   160.00nm          5.6mb
PII   39.71 304 P     26 34.50  -2.9X
FUR   39.74 311 iPc   26 37.60  -0.1
      1.3s   121.00nm          5.4mb
HOF   39.79 314 iPd   26 39.20   1.1
SAL   39.88 307 P     26 38.70  -0.1
KMI   40.02  86 Pc+   26 40.00  -0.6
    Z  16s    24.00um          6.1MszX
    N  17s    10.50um
    E  14s     7.20um
                pP    26 46.00  20km
                sP    26 50.00
                S     32 48.00
MOX   40.03 314 ePc+  26 41.00   1.0
      1.6s    43.00nm          4.9mb
    Z  16s     5.60um          5.5MszX
    N  24s     6.50um
    E  19s     4.40um
                e     33 00.00
GRF   40.07 313 iPd   26 41.00   0.6
      1.3s   161.00nm          5.6mb
    Z  17s     2.80um          5.2MszX
UPP   40.24 330 iP    26 42.60   1.0
                iS    32 50.00
OSS   40.27 308 eP    26 42.00  -0.3
CGL   40.54 297 P     26 45.59   1.1
      1.1s   239.00nm          5.8mb
BOB   40.56 305 P     26 44.90   0.3
VDL   40.71 308 eP    26 45.60  -0.3
SAX   40.89 309 eP    26 46.70  -0.8
LLS   41.08 308 eP    26 48.00  -1.0
TMA   41.08 307 eP    26 48.10  -0.9
VAI   41.13 307 P     26 47.90  -1.2
PCP   41.18 305 P     26 48.52  -1.1
CKI   41.37 305 P     26 49.00  -2.1
FIN   41.41 304 P     26 50.05  -1.4
SLE   41.53 310 eP    26 51.50  -0.9
ZLA   41.56 309 eP    26 52.00  -0.7
TOD   41.60 312 eP    26 53.20   0.3
IMI   41.62 304 P     26 52.00  -1.3
ROB   41.65 304 P     26 52.93  -0.6
ORO   41.66 306 P     26 52.90  -0.7
ORX   41.66 306 P     26 52.51  -1.1
MMK   41.71 307 eP    26 53.80  -0.4
SOD   41.84 343 iP    26 55.30   0.7
                i     28 31.80 530kmX
FEL   41.86 310 P     26 54.11  -1.2
SAOF  41.87 304 P     26 54.86  -0.4
TNS   41.93 313 eP    26 56.40   0.7
SBF   41.95 304 eP    26 54.90  -1.0
      1.1s   146.50nm          5.6mb
AUTN  41.96 304 P     26 55.83  -0.4
ENR   41.97 304 P     26 55.08  -1.1
AURF  42.03 304 P     26 55.83  -0.8
STV   42.04 304 P     26 55.59  -1.2
TOUF  42.09 304 P     26 56.12  -1.1
DIX   42.09 307 eP    26 56.40  -1.0
DOI   42.11 305 P     26 55.20  -2.1
HFS   42.11 329 eP    26 58.70   1.7
      0.8s    45.70nm          5.3mb
    Z  16s     2.45um          5.2MszX
                LR    43 59.00
RSP   42.14 306 P     26 54.87  -2.7X
MVIF  42.15 304 P     26 57.18  -0.6
BBS   42.15 309 P     26 56.26  -1.3
PZZ   42.21 305 P     26 57.03  -1.2
LSD   42.23 306 P     26 57.74  -0.7
GWF   42.26 311 P     26 57.67  -0.8
CALN  42.34 303 P     26 58.52  -0.7
WLS   42.37 310 P     26 57.78  -1.5
CDF   42.42 310 P     26 58.51  -1.3
EMS   42.43 307 eP    26 59.50  -0.5
FOUF  42.44 305 iP    26 59.73  -0.1
                i     27 01.14   5kmX
                i     27 05.62
ABH   42.44 313 eP    27 00.38   0.5
MOF   42.45 310 P     26 58.89  -1.2
RRL   42.46 305 P     26 59.39  -1.0
ECH   42.47 310 P     26 59.35  -0.8
LPG   42.51 306 eP    26 59.30  -1.6
      1.0s   125.00nm          5.6mb
BNI   42.54 305 P     27 00.00  -0.9
LOMF  42.60 309 P     27 00.63  -0.7
BSF   42.68 309 P     27 00.82  -1.1
RUP   42.73 312 eP    27 02.21  -0.1
HAU   42.99 310 eP    27 02.90  -1.5
      1.2s    55.90nm          5.2mb
GYA   43.03  82 P     27 04.60  -0.5
    N  19s    21.30um
    E  19s     8.60um
                S     33 28.00
VITF  43.25 310 P     27 05.67  -0.8
WTS   43.26 316 ePd   27 07.50   1.1
      1.0s   115.00nm          5.6mb
XAN   43.27  71 Pc    27 06.50  -0.4
    N  16s    17.30um
    E  15s     9.80um
BTO   43.47  61 P     27 10.00   1.6
    N  16s    20.20um
    E  13s     4.00um
                pP    27 17.00  23km
                PP    28 51.50
                S     33 38.00
                SS    36 43.00
WIT   43.50 317 eP    27 10.50   2.2
MEM   43.53 313 Pc    27 09.70   1.1
KEV   43.55 345 eP    27 09.00   0.4
      1.0s   128.00nm          5.7mb
                i     27 14.70  19km
                e     33 42.00
ENN   43.61 314 ePd   27 10.00   0.7
      1.0s   111.00nm          5.6mb
NB2   43.61 329 P     27 08.80  -0.4
      1.0s    59.40nm          5.3mb
SSB   44.06 306 P     27 12.05  -1.1
DOU   44.36 313 Pc    27 16.00   0.6
      1.0s   216.70nm          6.0mb
                e     33 54.00
LBF   44.52 308 eP    27 15.40  -1.4
SMF   44.59 308 eP    27 15.80  -1.6
UCC   44.59 314 P     27 24.00   6.7X
SNF   44.61 313 Pc    27 18.50   1.1
LOR   44.61 308 eP    27 16.00  -1.5
      1.0s    62.50nm          5.5mb
HHC   44.62  61 eP    27 18.00   0.2
    N  18s    16.60um
    E  18s     5.15um
                eS    33 53.00
PLDF  44.72 307 P     27 17.83  -0.7
BCAO  44.83 243 iPd   27 20.10   0.5
      0.9s   108.00nm          5.8mb
                i     27 24.30  14km
                i     28 54.30
                i     30 40.60
NSS   44.84 334 eP    27 17.76  -1.3
SSF   44.84 308 eP    27 18.00  -1.4
AVF   44.94 308 eP    27 18.80  -1.3
LBL   44.97 306 P     27 19.88  -0.5
AGO   45.07 307 P     27 20.68  -0.5
PYM   45.15 306 P     27 21.26  -0.7
BGF   45.28 307 eP    27 21.20  -1.6
TRO   45.46 342 eP    27 23.96   0.1
MAF   45.46 307 eP    27 23.20  -1.1
TIY   45.58  65 Pd    27 26.50   1.0
    N  14s    11.50um
                S     34 07.50
TCF   45.71 307 eP    27 25.20  -1.1
MOL   45.81 330 eP    27 27.15   0.4
CAF   45.81 305 eP    27 26.20  -0.9
LSF   46.18 307 eP    27 28.30  -1.7
      1.2s    56.50nm          5.4mb
RJF   46.19 306 eP    27 29.40  -0.7
LPO   46.44 305 eP    27 30.80  -1.2
LFF   46.75 305 eP    27 33.30  -1.2
EPF   47.12 303 eP    27 36.10  -1.4
      1.2s    20.80nm          5.1mb
LDF   47.34 310 eP    27 38.10  -1.0
      0.8s    24.10nm          5.3mb
MFF   47.34 307 eP    27 37.80  -1.3
      1.2s    97.50nm          5.7mb
FLN   47.58 310 eP    27 39.40  -1.6
      1.0s    72.00nm          5.7mb
GRR   47.82 310 eP    27 41.00  -1.9
      1.0s    49.60nm          5.5mb
LPF   47.94 309 eP    27 43.10  -0.7
      0.9s    55.60nm          5.6mb
IPM   47.99 113 ePd   27 43.80  -0.8
      0.9s    37.70nm          5.4mb
ACU   48.15 297 eP    27 47.00   1.3
BJI   48.20  61 eP    27 46.50   0.6
    Z  21s     7.86um          5.7Msz
    N  15s     7.62um
                ePcP  29 20.00
                eScP  33 09.00
                sS    34 41.00
QIZ   48.31  91 P     27 53.20   6.1X
    E  16s     4.90um
ECHE  48.44 298 eP    27 48.40   0.6
WHN   48.49  74 eP    27 47.50  -0.7
    Z  10s     6.20um          [illegible].9MszX
    N  18s    71.30um
    E  18s     3.80um
ETOR  49.11 300 eP    27 54.00   1.0
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20d 04h

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ECRI    49.25 302 e(P)  27 55.00   0.9
ESY     49.32 320 eP    27 54.50   0.1
        1.1s   218.00nm          6.1mb
MZZ     49.36 219 iPd   27 57.00   1.8
        1.0s     5.70nm          4.5mb X
                  i     28 21.50 103kmX
                  i     29 07.20
EDR     49.39 321 eP    27 55:10   0.2
        1.1s   112.00nm          5.8mb
TIA     49.53  66 eP    27 55.30  -0.9
      Z  20s     8.30um          5.7Msz
      N  17s    15.20um
      E  17s     6.60um
                  eS    35 04.10
EBL     49.55 320 eP    27 56.20   0.1
EKA     49.58 319 P     27 56.00  -0.3
        1.4s    76.60nm          5.5mb
EDU     49.61 321 eP    27 56.60   0.0
        0.7s    76.00nm          5.8mb
EVIA    49.75 297 e(P)  27 58.50   0.4
EBH     49.85 320 eP    27 58.50   0.0
ELO     49.99 320 eP    27 59.40  -0.1
CLK     50.33 209 iPc   27 47.30 -15.3X
TAF     50.38 292 iPd   28 04.00   1.1
                  i     28 10.00  20km
GUD     50.71 300 eP    28 05.20  -0.2
PTZ     50.72 214 iPd   28 06.00   0.4
        1.0s     4.70nm          4.4mb X
                  i     28 21.00  57kmX
TOL     50.74 299 iP    28 05.00  -0.5
                  eS    35 32.00
EBAN    50.82 297 eP    28 06.00  -0.1
CRT     50.85 295 eP    28 08.00   1.6
APHE    50.97 295 iP    28 05.50  -1.9
ACHM    51.05 295 iP    28 08.90   1.0
ATEJ    51.23 295 iP    28 08.70  -0.7
ETA     51.26 316 eP    28 15.00   5.8X
ALOJ    51.27 295 iP    28 06.50  -3.1X
ECP     51.36 315 eP    28 12.20   2.3
        0.8s   145.00nm          6.0mb
DLE     51.47 316 eP    28 17.20   6.5X
        1.1s   102.00nm          5.7mb
NJZ     51.84  71 Pc    28 11.00  -2.8X
      Z  21s     6.90um          5.7Msz
      N  14s     5.50um
      E  13s     5.20um
EHOR    52.02 297 eP    28 14.40  -0.8
EPRU    52.18 295 eP    28 15.20  -1.2
EPLA    52.25 299 eP    28 17.00   0.1
EJIF    52.47 295 e(P)  28 19.00   0.4
ERUA    52.67 303 e(P)  28 19.20  -0.8
KBS     52.87 350 eP    28 21.00   0.0
LSZ     53.17 216 iPc   28 24.20   0.1
        1.0s     2.50nm          4.1mb X
                  i     28 36.00  41kmX
                  i     29 35.00
SNY     53.50  58 Pc    28 29.40   3.4X
      Z  22s     8.30um          5.7Msz
      N  19s    17.60um
      E  17s     6.10um
                  S     36 00.00
                  sS    36 13.00
VAL     53.76 315 eP    28 34.00   6.2X
KRI     53.78 214 eP    28 31.40   2.9
SSE     54.01  72 eP    28 31.00   1.1
      Z  20s     8.10um          5.8Msz
      N  14s     6.70um
      E  13s     3.70um
                  pP    28 36.50  18km
                  S     36 06.00
                  esS   36 14.00
                  e(SS) 40 06.00
CN2     54.53  55 eP    28 37.00   3.4X
      Z  18s    12.30um          6.0Msz
      N  13s     4.50um
      E  13s     4.80um
                  epP   28 42.00  16km
                  eS    36 14.00
AVE     54.77 292 eP    28 30.00  -5.6X
                  i     28 36.50  21km
                  i     28 54.50
BUL     57.10 213 eP    28 53.60   1.1
MDJ     57.31  54 eP    28 59.00   5.4X
      Z  18s    15.40um          6.2Msz
      E  12s     6.00um
AKU     57.36 332 iP    28 59.50   5.9X
        1.1s    96.20nm          5.7mb
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BAG     58.71  88 eP    29 10.00   6.0X
REY     59.06 330 iPc   29 12.40   6.9X
SHGH    59.22 258 eP    29 12.00   4.6X
KOGH    59.31 259 eP    29 12.00   3.9X
KUK     59.37 259 eP    29 13.00   4.6X
LEGH    59.49 258 eP    29 14.00   4.8X
SHK     62.23  64 eP    29 32.00   4.4X
KSR     62.82 211 eP    29 29.00  -2.7X
        0.7s     7.50nm          5.0mb
KIC     63.02 261 P     29 32.62  -0.5
TIC     63.12 262 P     29 34.40   0.6
LIC     63.34 261 P     29 34.40  -0.8
                  S     38 10.00
PRY     63.49 210 eP    29 36.00  -0.1
BFS     63.76 211 iPd   29 34.50  -3.4
        1.0s   120.00nm          6.0mb
SEK     64.63 209 iPc   29 42.50  -1.1
        0.5s    35.21nm          5.8mb
MAT     65.83  61 (P)   29 49.00  -2.1
      Z  20s     2.84um          5.5Msz
                  eS    38 38.00
KIM     66.25 211 iPd   29 52.50  -1.4
        0.9s    16.81nm          5.2mb
HVD     67.53 210 iPc   30 01.00  -1.0
        0.8s    37.31nm          5.6mb
MBC     74.11 359 eP    30 42.00   1.1
        1.0s    73.00nm          5.7mb
BRW     76.20  11 eP    30 59.50   6.5X
IMA     81.35  12 eP    31 21.30   0.1
        0.8s     6.80nm          4.7mb
INK     81.74   4 eP    31 23.00   0.0
SCH     83.13 331 ePc   31 36.50   6.0X
        1.2s    84.00nm          5.8mb
FBA     83.44  11 eP    31 32.50   0.6
TTA     83.66  15 eP    31 33.60   0.4
NWAO    84.13 133 eP    31 34.00  -1.8
      Z  20s     1.20um          5.3Msz
SVW     85.35  16 eP    31 43.80   2.1
COOL    85.37 130 eP    31 43.00   0.9
PMR     86.28  13 eP    31 46.70   0.6
        1.0s    25.00nm          5.4mb
      Z  22s     3.80um          5.8Msz
TOA     86.32  11 eP    31 48.30   1.8
WB5     88.79 114 eP    31 58.80  -0.1
WRA     88.80 114 P     32 00.00   1.0
        0.8s     3.80nm          4.8mb
ASPA    90.44 117 iPd   32 11.30   4.7X
        1.6s    16.00nm          5.0mb
HBVT    93.52 327 P     32 30.00   9.4X
FFC     93.93 348 iPc   32 29.80   7.5X
        1.1s    25.00nm          5.5mb
RSNY    94.06 328 P     32 30.00   6.9X
PTN     94.25 328 P     32 30.00   6.1X
RSON    95.73 342 P     32 37.00   6.4X
TBR     96.51 326 P     32 40.00   5.7X
EDM     96.87 355 eP    32 38.00   2.2
SES     99.45 353 eP    32 55.00   7.5X
PNT    101.11 358 ePdiff32 59.00   4.2X
BW06   106.75 350 PKP   37 20.00 -10.7X
GOL    109.00 346 PKP   37 27.80  -7.2X
LBFM   109.12 360 PKP   37 47.80  12.7X
MSU    111.30 352 PKP   37 39.00  -0.4
KVN    111.30 357 PKP   37 50.00  10.7X
TNP    112.21 356 PKP   37 54.20  13.1X
        0.7s     4.07nm
BKS    112.59 360 e(PKP)38 02.00  20.5X
      Z  20s     1.60um          5.6Msz
      N  20s     0.80um
      E  20s     1.10um
                  ePPP  41 12.00
                  iPS   48 16.00
                  iPPS  49 31.00
                  eSS   54 30.00
                  ePSPS 55 08.00
                  e     56 08.00
                  e     00 00.00
                  e     05 17.00
                  e     08 04.00
                  e     10 00.00
                  eLR   13 55.00
ALQ    113.81 346 PKP   37 46.00   1.7
CCH    127.54 270 (PKP) 38 19.00   7.8X
ZOBO   128.79 273 PKP   38 15.00   1.1
LPB    128.88 272 PKP   38 17.00   3.1X
      Z  16s     4.04um          6.2MszX
                  LR    19 12.00
CNCB   128.89 272 ePKP  38 17.00   2.9X
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ARE    131.79 274 ePKP  38 26.00   6.7X
      S.D. = 1.1  on 312 of 389 obs.
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*  NOV  20, 1989  04h 26m 58.05± 0.81s
   14.554 S ±23.6km  178.041 W ±15.8km
   DEPTH = 375.9 ± 10.5 km
   4.8mb (  9 obs.)
 FIJI ISLANDS REGION                (181)

MBU      3.94 232 eP    28 08.60   0.1
SVA      4.88 223 iPd   28 18.00  -0.1
DZM     16.51 241 iPc   30 30.90   1.1
ASPA    46.12 251 iPd   34 46.30  -2.0
        0.5s    73.00nm          5.2mb
                  iS    41 01.90
FORR    51.79 242 iPc   35 28.10  -2.8X
GCC     73.56  44 ePc   37 52.80   0.2
PCC     73.56  43 ePc   37 52.80   0.2
PRS     73.60  45 ePc   37 53.40   0.5
SAO     73.78  44 ePc   37 54.10   0.1
BRK     73.84  43 ePc   37 54.50   0.3
BKS     73.86  43 iPc   37 54.50   0.1
        0.8s    28.00nm          5.0mb
MHC     73.96  44 ePc   37 55.50   0.4
PRI     73.98  45 ePc   37 55.70   0.4
LLA     74.04  45 ePc   37 55.90   0.4
FRI     75.08  45 ePc   38 01.10  -0.2
CMB     75.18  44 ePc   38 01.80  -0.1
KVN     77.23  44 iP    38 13.20  -0.2
TNP     77.34  45 iP    38 14.00   0.0
        1.1s     9.74nm          4.5mb
LON     79.12  36 eP    38 22.00  -1.2
TTA     79.13  10 P     38 23.70   0.8
        1.0s    31.25nm          5.0mb
PMR     79.28  14 P     38 23.10  -0.5
BJI     81.67 315 eP    38 38.00   1.5
PNT     81.78  34 eP    38 37.00   0.1
IMA     82.42  10 P     38 40.00   0.0
        0.9s     8.33nm          4.5mb
FBA     82.48  13 iP    38 39 90  -0.2
        1.0s    56.00nm          5.3mb
ALQ     83.75  52 iP    38 47.30  -0.1
        1.0s    13.75nm          4.7mb
BW06    84.69  43 iP    38 51.00  -1.0
        1.0s     9.50nm          4.6mb
GOL     86.35  48 eP    39 00.50   0.4
        1.0s     5.00nm          4.3mb
SES     87.12  36 eP    39 03.00  -0.3
INK     88.57  15 eP    39 08.00  -1.7
RSSD    88.92  44 iP    39 11.50  -0.6
NB2    133.10 354 PKP   45 29.10  -1.5
        0.8s     2.10nm
GRF    144.15 350 ePKP  45 49.30  -1.7
SRO    144.17 341 e(PKP)45 50.50  -0.5
KHC    144.22 347 iPKPc 45 50.80  -0.4
        1.2s    15.00nm
ABH    144.47 354 ePKP  45 50.90  -0.7
DOU    144.49 357 PKPc  45 50.60  -0.9
RUP    144.70 354 ePKP  45 51.74  -0.2
FLN    145.83   3 ePKP  45 54.20   0.4
        0.8s    16.10nm
CDF    145.95 354 ePKP  45 55.00   0.8
        0.8s    13.45nm
LDF    146.02   2 ePKP  45 54.60   0.5
        0.8s    10.75nm
GRR    146.18   3 ePKP  45 55.40   1.0
        0.8s    16.10nm
HAU    146.45 355 ePKP  45 56.50   1.6
        0.6s     5.40nm
LPF    146.53   4 ePKP  45 56.40   1.5
        0.8s    26.85nm
BSF    146.58 354 ePKP  45 56.80   1.6
        0.4s     2.30nm
OGA    146.90 349 iPKPc 45 58.30   2.4X
LOR    147.35 358 ePKP  45 58.70   2.4X
        0.8s     6.70nm
SSF    147.57 358 ePKP  45 59.70   3.0X
        0.8s    10.05nm
LBF    147.62 357 ePKP  45 59.50   2.7X
        0.8s     8.05nm
AVF    147.84 358 ePKP  45 59.70   2.6X
        0.8s     4.05nm
SMF    147.97 358 ePKP  46 00.50   3.2X
        0.6s     3.60nm
BGF    148.09 359 ePKP  46 00.70   3.2X
        0.8s    10.75nm
TCF    148.36 360 ePKP  46 01.10   3.1X
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        0.9s      7.35nm
MAF   148.43 359 ePKP  46 02.10    4.0X
        0.6s      4.50nm
LPG   148.89 353 ePKP  46 04.20    5.0X
        0.6s      7.20nm
LFF   149.70   2 ePKP  46 05.00    5.0X
        0.6s      9.00nm
FIR   149.81 347 ePKP  46 05.00    4.8X
LPO   149.96   1 ePKP  46 05.20    4.8X
        0.6s      6.30nm
      S.D. = 0.9  on  44 of  58 obs.
-----------------------------------
*  NOV  20, 1989  05h 48m 15.90± 1.26s
   15.265 S ±12.6km  166.906 E ±19.5km
   DEPTH =  33.0km  (normal)
 VANUATU ISLANDS                  (186)

DZM     6.78 184 iPc   49 56.00    0.2
                 iS    51 18.00
SVO     9.22 310 eP    50 30.00    0.4
                 eS    52 15.00
WB5    31.33 257 eP    54 35.00   -0.7
WRA    31.36 257 Pc    54 34.90   -1.1
        0.6s      2.30nm          4.2mb
ASPA   32.16 250 eP    54 43.30    0.3
        1.2s      7.00nm          4.4mb
NANU   48.95 253 eP    57 02.40    1.1
MFF   146.94 344 ePKP  07 54.00   -0.7
        0.8s     10.70nm
BCAO  147.08 254 iPKPd 07 56.40    0.5
        0.7s     12.00nm
                 i     08 14.80
      S.D. = 0.9  on   8 of   8 obs.
-----------------------------------
*  NOV  20, 1989  06h 05m 30.91± 2.49s
   51.160 N ±22.6km   15.891 E ±13.4km
   DEPTH =  10.0km  (geophysicist)
   4.9mb (  1 obs.)
 POLAND                           (548)

KSP     0.41 141 iPc   05 39.00   -0.2
                 i     05 40.30
                 iS    05 48.50
BRG     1.26 258 iPg   05 53.40   -0.9
                 iSg   06 52.40
PRU     1.45 217 ePg   05 57.50    0.3
                 e     05 59.00
                 Sn    06 15.30
                 Sg    06 20.00
CLL     1.82 276 ePg   06 03.00    0.5
                 iSg   06 26.00
KHC     2.52 217 ePn   06 12.90    0.4
                 Pg    06 19.40
                 Sn    06 47.00
                 Sg    06 56.20
MOX     2.75 261 ePg   06 22.00    6.1X
                 iSg   07 00.00
KRA     2.81 112 eP    06 21.10    4.5X
                 eS    06 59.90
VKA     2.91 174 iP    07 09.20   51.1X
        0.4s     50.00nm
                 i(Sg) 07 12.20
ZST     3.07 165 eP    07 13.40   53.1X
SPC     3.42 123 eP    07 28.70   63.1X
KBA     4.41 203 eP    07 48.00   68.4X
        0.5s     10.00nm
                 i     08 01.00
                 i(Sg) 08 03.30
LPG     8.31 231 eP    07 50.80   16.2X
        0.6s      6.30nm
LOR     8.78 248 eP    07 48.80    8.0X
        0.8s      5.30nm          4.9mb
SSF     9.10 248 eP    07 59.30   14.2X
        0.8s      6.70nm
      S.D. = 0.8  on   5 of  14 obs.
-----------------------------------
%  NOV  20, 1989  07h 42m 33.56± 1.96s
   18.218 N ±14.6km   66.831 W ±16.8km
   DEPTH =  10.0km  (geophysicist)
 PUERTO RICO REGION               ( 90)
      Felt in the Lojas area.

LRS     0.08 350 P     42 36.00    0.0
                 eS    42 39.80
PORP    0.25 132 P     42 38.80    0.0
SJG     0.66  99 iP    42 47.00    0.3
CPD     0.89 101 P     42 50.30   -0.3
LPR     0.92  84 P     42 51.10    0.0
      S.D. = 0.3  on   5 of   5 obs.
-----------------------------------
%  NOV  20, 1989  07h 54m 20.88± 1.00s
   37.777 N ±10.8km   15.003 E ±10.8km
   DEPTH =  33.0km  (normal)
 SICILY                           (398)

MNO     0.29 302 P     54 27.30   -1.4
                 eSg   54 33.00
ATN     0.53  43 P     54 31.50   -0.4
                 eSg   54 39.80
MEU     0.68 185 P     54 34.00   -0.1
                 eSg   54 44.20
GIB     0.80 286 P     54 37.00    1.2
                 eSg   54 49.00
CZI     1.69  31 P     54 49.20    0.7
      S.D. = 1.4  on   5 of   5 obs.
-----------------------------------
%  NOV  20, 1989  09h 54m 30.09± 0.57s
   40.384 N ± 5.8km   28.318 E ± 4.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

BNT     0.31 265 iPg   54 36.80    0.3
                 iSg   54 39.80
EDC     0.35 264 iPg   54 36.60   -0.7
CTT     0.77   6 iPg   54 45.70    0.6
DST     0.81 163 iPg   54 46.10    0.2
                 eSg   54 57.10
YLV     0.83  77 iPg   54 45.80   -0.3
ISK     0.88  39 ePg   54 46.90   -0.1
                 eSg   54 59.50
DMK     1.50 344 iPn   54 56.70   -0.3
EZN     1.63 251 ePn   54 59.10    0.3
      S.D. = 0.5  on   8 of   8 obs.
-----------------------------------
   NOV  20, 1989  10h 07m 11.72± 0.51s
   23.678 N ± 4.7km  120.922 E ± 5.0km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN                           (244)

TWF1    0.47 133 iPd   07 20.90   -0.4
TWK     0.57 224 iPd   07 24.10    0.8
                 eS    07 33.60
TWO     0.60 352 iPd   07 24.80    1.0
                 eS    07 33.70
TWD     0.74  57 ePc   07 25.70   -0.4
                 eS    07 36.20
TWG     0.86 171 iPc   07 28.70    0.4
TWC     1.26  42 iPc   07 35.30    0.3
                 eS    07 53.30
ANP     1.59  20 eP    07 43.00    2.9X
QZH     2.47 301 ePg   07 52.00   -0.6
GZH     6.99 267 eP    08 56.80    0.2
                 eS    10 08.00
SSE     7.39   2 eP    09 07.40    5.2X
NJ2     8.54 348 Pc    09 18.50    0.2
GYA    13.22 285 P     10 21.00   -1.2
      S.D. = 0.8  on  10 of  12 obs.
-----------------------------------
?  NOV  20, 1989  11h 12m 03.67± 0.96s
   39.244 N ± 8.5km   27.742 E ± 9.2km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

DST     0.78  62 ePg   12 19.10    0.3
                 eSg   12 29.10
IZM     0.92 204 iPn   12 21.20   -0.2
EDC     1.11   5 ePn   12 24.00   -0.4
EZN     1.24 298 ePn   12 27.00    0.3
      S.D. = 0.6  on   4 of   4 obs.
-----------------------------------
*  NOV  20, 1989  11h 18m 42.30± 0.85s
   6.523 S ±11.0km  146.040 E ± 7.9km
   DEPTH =  12.4 ±  4.8 km
   4.5mb (  3 obs.)
 EAST PAPUA NEW GUINEA REGION     (207)

LAT     0.96  98 iPc   18 59.80   -0.6
MNDI    2.40 279 eP    19 21.50   -0.6
                 eS    20 02.00
PMG     3.07 159 iPd   19 32.00    0.5
                 eS    20 33.00
QIS    15.28 203 eP    22 19.00   -0.5
WB5    17.46 219 eP    22 48.00    0.7
                 e     28 08.50
WRA    17.52 219 Pc    22 51.80    3.7X
        0.6s      7.40nm          4.0mb
RMO    20.02 173 eP    23 18.00    0.1
ASPA   20.66 213 iPc   23 23.90   -0.7
        0.9s     23.00nm          4.5mb
                 i     27 39.40
WARB   26.92 221 eP    24 25.00   -0.3
BWA    27.85 176 eP    24 36.70    2.9X
CHTO   52.80 299 eP    28 00.80    0.8
        1.2s      9.72nm          4.6mb
KIC   150.97 271 PKP   38 38.60    7.0X
LIC   151.25 271 PKP   38 38.80    6.8X
TIC   151.25 272 PKP   38 38.80    6.8X
      S.D. = 0.8  on   9 of  14 obs.
-----------------------------------
?  NOV  20, 1989  11h 36m 03.70± 4.63s
   6.751 S ±33.3km  147.494 E ±46.7km
   DEPTH =  80.9 ± 14.9 km
   4.1mb (  2 obs.)
 EAST PAPUA NEW GUINEA REGION     (207)

LAT     0.50 281 iPc   36 17.00   -0.7
PMG     2.66 187 iPc   36 46.00    0.7
                 eS    37 20.00
MNDI    3.86 279 eP    37 03.00    0.9
WB5    18.24 223 eP    40 12.00   -1.1
WRA    18.30 223 P     40 14.00    0.1
        0.4s      1.70nm          3.6mb
ASPA   21.30 216 iPd   40 45.30   -0.3
        0.5s     14.00nm          4.6mb
                 eS    44 36.70
WARB   27.72 223 eP    41 47.00    0.4
      S.D. = 1.0  on   7 of   7 obs.
-----------------------------------
   NOV  20, 1989  11h 54m 08.08± 0.58s
   23.716 S ± 6.6km  179.994 E ± 4.4km
   DEPTH = 521.2 ±  6.7 km
   5.0mb ( 23 obs.)
 SOUTH OF FIJI ISLANDS            (171)

SVA     5.75 345 iPd   55 44.10    0.3
                 eS    57 02.00
VUN     5.86 346 iPd   55 44.80    0.0
MBU     6.81 350 iPd   55 55.00    0.9
                 eS    57 22.40
DZM    12.60 275 iPc   56 54.30    0.6
                 iS    59 21.10
                 ScP   04 33.10
MRW    18.02 193 eP    57 48.00    0.6
                 eS    00 45.00
HNR    23.85 303 ePc   58 40.00   -1.6
SVO    24.12 304 eP    58 56.00   11.8X
BRS    24.81 256 iPc   58 51.20    0.9
                 e     58 55.20
RMO    28.39 258 iPd   59 23.50    1.8
        0.6s     83.00nm          5.5mb
AFR    28.91  83 iP    59 25.20   -1.1
        1.0s     55.00nm          5.1mb
PPT    29.09  84 iP    59 26.90   -0.9
        1.0s     75.00nm          5.2mb
CAN    29.23 240 eP    59 30.00    1.0
PPN    29.23  84 iP    59 27.80   -1.2
        1.0s     35.00nm          4.9mb
BWA    29.48 242 iPd   59 29.90   -1.2
CTA    31.47 270 iPd   59 48.80    0.6
        1.0s    462.00nm          6.0mb X
                 iS    04 19.00
                 iScP  05 21.50
TPT    31.71  80 iP    59 49.30   -0.9
        1.0s     40.00nm          4.9mb
RUV    31.85  81 iP    59 50.40   -1.0
        1.0s     45.00nm          5.0mb
TOO    32.54 237 iPd   59 58.30    1.2
PMG    34.43 289 iPd   00 13.50    0.4
        1.0s    360.00nm          5.9mb
BFD    34.73 238 eP    00 16.00    0.6
STK    34.79 248 iPd   00 17.20    1.2
        0.3s     10.00nm          4.9mb
OIS    37.46 267 iPd   00 37.90   -0.2
ASPA   42.06 260 iPd   01 15.30    0.0
        0.9s    134.00nm          5.5mb
                 ePP   02 50.30
                 iScP  06 00.90
                 eS    06 54.00
                 eScS  10 19.10
WB5    42.40 266 iPd   01 17 30   -0.7
                 iScP  06 02.20
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20d 12h

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                 eS    06 58.60
WRA    42.41 266 Pd    01 17.30  -0.8
       0.6s    68.80nm          5.4mb
FORR   46.33 249 iPd   01 48.00  -0.4
MTN    47.44 274 iPd   01 55.80  -1.2
WARB   48.16 255 iPd   02 01.60  -0.8
KNA    48.66 270 eP    02 05.60  -0.6
       0.3s    44.00nm          5.5mb
COOL   52.27 248 eP    02 31.30  -1.4
       0.5s    10.00nm          4.4mb
KLB    55.05 247 eP    02 51.30  -1.1
MBL    55.31 260 iPd   02 53.10  -1.2
       0.4s    11.00nm          4.5mb
NWAO   55.31 245 eP    02 53.20  -0.9
BAL    56.09 248 iPd   02 58.60  -1.0
NANU   58.82 257 iPd   03 18.10  -0.2
       0.4s    60.00nm          5.3mb
TRT    66.24 272 iPd   04 05.90  -0.3
SPA    66.43 180 iPc   04 07.90   1.1
       0.9s    26.36nm          4.8mb
MAT    71.74 326 eP    04 36.00  -2.7
       0.9s    15.13nm          4.5mb
NJ2    80.53 311 Pc    05 27.50   0.7
SYP    81.23  46 eP    05 31.00   0.4
BCH    81.56  46 P     05 32.50   0.3
SAO    81.63  44 ePc   05 32.60   0.2
PRI    81.75  45 ePc   05 34.10   1.0
BKS    81.82  43 iPc   05 34.10   0.8
       0.9s    44.00nm          5.0mb
ZSP    81.85  42 eP    05 34.00   0.6
MHC    81.86  43 ePc   05 34.60   0.9
MDJ    82.11 326 eP    05 35.20   0.6
MWC    82.34  48 eP    05 37.00   0.8
BAR    82.42  49 eP    05 37.00   0.6
FHC    82.61  39 eP    05 38.40   1.1
RVR    82.67  48 eP    05 38.00   0.3
SBB    82.77  47 eP    05 38.00  -0.2
WHN    82.88 308 P     05 40.00   1.3
ISA    82.90  46 eP    05 39.00   0.2
CMB    83.07  43 ePc   05 40.10   0.5
WDC    83.32  40 ePc   05 41.50   0.8
LTCM   83.34  41 P     05 40.80   0.0
SNY    83.50 321 eP    05 42.00   0.4
TPC    83.65  49 eP    05 43.00   0.4
CN2    83.74 324 iPc   05 43.30   0.6
GSC    83.80  47 eP    05 44.00   0 6
GLA    83.91  50 eP    05 45.00   1.1
TIA    84.10 314 Pd    05 44.10  -0.6
KVN    85.12  44 P     05 49.80  -0.1
TNP    85.12  45 P     05 49.80  -0.1
LON    87.61  36 P     06 01.40   0.0
TIY    88.06 313 eP    06 04 80   1.1
PMR    88.57  14 P     06 03.70  -1.7
       0.7s    13.37nm          4.9mb
CHTO   89.61 291 iP    06 12.10   1.0
       1.0s    13.75nm          4.8mb
PNT    90.35  35 eP    06 14.00   0.1
       1.0s    22.00nm          5.1mb
ALQ    90.85  52 P     06 16.50  -0.3
       1.2s    19.10nm          4.9mb
FBA    91.77  13 P     06 18.70  -1 4
       0.6s     4.93nm          4.7mb
LRM    92.36  40 eP    06 22.10  -1.5
BW06   92.57  44 P     06 23.80  -0.8
       0.8s     8.93nm          4.9mb
NB2   141.90 351 PKP   12 36.20  -5.0X
       0.6s     5.00nm
HFS   142.37 349 ePKP  12 36.90  -5.1X
       0.4s    24.40nm
EKA   148.34   3 PKPd  12 55.60   3.7X
       1.0s    21.40nm
KRA   149.44 334 ePKP  12 58.50   4.7X
MLR   149.77 322 ePKPc 12 59.50   4.9X
SPC   150.00 333 ePKP  13 01.00   6.1X
                 e     15 05.50
CLL   150.68 343 iPKPc 13 01.30   5.7X
       1.1s    54.00nm
BRG   150.81 342 iPKPc 13 02.50   6.7X
       1.0s    33.00nm
                 i     13 10.00
KHL   150.95 307 ePKP  13 02.40   5.8X
MOX   151.64 344 ePKP  13 03.50   6.4X
       1.2s    21.00nm
ZST   152.05 335 ePKP  13 17.30  19.6X
KHC   152.47 341 ePKP  12 57.60  -0.7
                 e     13 06.00
BCAO  153.78 226 iPKPd 13 01.00  -0.1
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       0.5s    15.00nm
                 i     13 25.30
                 i     15 18.80
LIC   161.95 164 PKP   13 11.20   0.6
KIC   162.15 164 PKP   13 11.20   0.4
TIC   162.36 163 PKP   13 11.60   0.6
      S.D. = 0.9  on  78 of  90 obs.
-----------------------------------------
*  NOV  20, 1989  12h 01m 48.82± 1.12s
   32.676 S ±17.1km   68.584 W ± 7.5km
   DEPTH =  33.0km  (normol)
 MENDOZA PROVINCE, ARGENTINA        (139)

FCH     1.57 245 iPd   02 15.00  -0.1
                 iS    02 35.30
JACH    1.69 269 iPc   02 21.60   5.0X
                 iS    02 46.60
PCH     1.87 239 iP    02 18.60  -0.6
                 iS    02 42.00
RFA     2.09 177 ePc   02 22.40   0.1
CHCH    2.14 234 iPd   02 22.50  -0.4
                 iS    02 48.10
TACH    2.20 243 iPd   02 24.10   0.3
MRA     2.44  85 ePd   02 27.20   0.0
LNV     2.69 241 ePd   02 31.40   0.7
                 iS    03 04.00
      S.D. = 0.6  on   7 of   8 obs.
-----------------------------------------
*  NOV  20, 1989  12h 19m 30.89± 0.71s
   30.581 N ±11.7km   60.110 E ±10.9km
   DEPTH =  33.0km  (normol)
   4.5mb (  4 obs.)
 IRAN                               (348)

KHI     3.76 341 iP+   20 29.00   0.8
MAIO    5.73 355 iPnd  20 57.00   1.1
                 eSn   22 12.00
QUE     5.92  92 eP    21 00.00   1.2
NDI    15.00  93 eP    22 59.00  -3.1X
KSH    15.71  51 eP    23 09.30  -2.2
POO    17.30 131 iPd   23 33.20   1.6
HYB    21.30 124 eP    24 15.00  -2.0
GBA    23.25 133 P     24 38.00   1.7
WMQ    25.50  51 iPc   25 01.60   3.7X
MLR    30.49 309 ePc   25 44.00   0.9
GTA    33.48  64 eP    26 09.60   0.3
KRA    35.73 315 eP    26 27.10  -1.2
NUR    38.05 332 eP    26 49.00   1.4
CLL    40.31 315 iPd   27 06.50  -0.1
       1.4s    27.00nm          4.8mb
XAN    41.09  72 P     27 13.60   0.3
SOD    41.83 341 eP    27 20.00   1.2
HFS    42.62 328 eP    27 24.10  -1.3
       0.6s     4.00nm          4.3mb
KEV    43.45 344 eP    27 38.00   6.0X
NB2    44.10 328 P     27 36.00  -1.4
       1.1s     7.60nm          4.4mb
MBC    73.44 360 eP    31 01.00  -0.1
       1.0s     6.00nm          4.5mb
INK    80.89   5 eP    31 47.00   4.4X
SCH    83.50 332 eP    32 22.70  26.2X
WB5    87.19 115 eP    32 14.00  -1.3
ASPA   88.93 118 iPd   32 22.60  -1.0
      S.D  = 1.4  on  19 of  24 obs.
-----------------------------------------
   NOV  20, 1989  14h 36m 59.07± 0.20s
    6.923 S ± 3.7km  129.833 E ± 5.0km
   DEPTH = 182.6km  (  3 depth phoses)
   5.0mb ( 12 obs.)
 BANDA SEA                          (280)

AAI     3.61 333 iPd   37 55.50  -0.3
                 eS    38 39.00
MTN     6.02 168 iPd   38 23.50  -3.9X
KNA     8.83 187 eP    38 59.80  -4.5X
       0.2s    84.00nm          5.8mb X
                 eS    40 31.00
JAY    11.68  69 ePc   39 43.00   1.5
WB5    13.61 162 iPd   39 59.20  -6.8X
                 eS    42 28.00
                 iScS  51 06.50
WRA    13.66 162 Pd    40 00.20  -6.4X
       1.0s   130.60nm          5.3mb
MNDI   13.76  88 eP    40 07.50  -0 5
QIS    16.53 146 iPd   40 37.50  -4.6X
                 eS    43 30.00
TRT    17.08 266 iPd   40 48.10  -0.5
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       0.7s    63.90nm          5.1mb
ASPA   17.10 167 iPc   40 45.30  -3.6X
       0.7s   326.00nm          5.8mb X
     Z  19s     0.28um          4.5MszX
                 eS    43 44.10
                 LR    47 43.00
MBL    17.14 213 eP    40 48.00  -1.4
       0.3s     5.00nm          4.5mb
                 eS    43 50.00
PMG    17.32  99 eP    40 51.00  -0.5
WARB   19.39 189 iPd   41 13.00  -0.3
                 eS    44 45.00
CTA    20.62 131 iPd   41 25.10  -0.5
       1.1s   122.78nm          5.3mb
                 iS    45 08.00
NANU   20.78 220 eP    41 27.00  -0.2
       0.5s    23.00nm          4.9mb
                 eS    45 13.00
MEKA   22.34 207 eP    41 43.00   0.5
FORR   23.86 184 iPc   41 56.30  -0.7
QLP    23.88 147 eP    41 56.70  -0.6
                 eS    46 30.00
COOL   25.19 198 eP    42 10.00   0.5
                 eS    46 56.00
MRWA   25.73 209 eP    42 14.00  -0.4
                 eS    47 08.00
RMQ    26.52 139 eP    42 20.50  -1.1
                 e     47 30.00
BAL    26.58 206 eP    42 21.40  -0.8
                 eS    47 28.00
KLB    27.01 203 eP    42 26.00   0.0
STK    27.15 158 iPd   42 26.50  -0.7
                 e     42 30.00  12kmX
                 e     47 35.00
NWAO   28.40 203 eP    42 38.00  -0.5
CMS    28.65 151 eP    42 40.00  -0.7
                 e     43 11.00 147kmX
                 e     48 14.00
ADE    29.08 165 iPd   42 44.60   0.0
       0.9s    36.97nm          5.1mb
BRS    29.81 136 iPc   42 49.30  -1.7
                 i     43 28.30 190km
BFD    32.26 161 iPc   43 12.60   0.2
                 e     49 47.00
BWA    32.30 150 iPd   43 13.90   1.1
CAN    33.30 151 iPd   43 21.80   0.4
CNB    33 47 150 eP    43 23.00   0.1
QZH    33.51 341 Pd    43 22.00  -1.2
TOO    33.67 157 eP    43 25.70   1.2
DZM    38.38 117 iPd   44 04.00  -0.4
CHTO   39.77 311 iP    44 16.20   0.4
       1.0s    86.25nm          5.3mb
                 i     44 21.10  17kmX
GYA    40.08 327 iPc   44 18.20  -0.2
WHN    40.10 339 iPc   44 19.00   0.7
       1.0s     0.08nm          2.3mb X
                 pP    44 58.00 180km
NJ2    40.15 345 Pc    44 19.00   0.3
KMI    41.35 321 Pc    44 29.50   0.5
MAT    43.94  10 iPd   44 48.20  -1.4
       0.6s    22.67nm          4.9mb
TIA    44.54 345 eP    44 52.50  -1.8
CD2    45.15 328 iPc   44 58.60  -0.6
XAN    45.30 335 P     44 59.50  -0.9
TIY    47.28 341 iPc   45 15.40  -0.6
       0.6s     0.04nm          2.1mb X
BJI    48.40 346 Pc    45 24.00  -0.4
       1.0s    42.00nm          4.9mb
SNY    48.85 354 Pc    45 27.20  -0.6
LZH    49.26 332 iPc   45 31.00  -0.3
       1.5s     0.14nm          2.3mb X
                 e     45 35.40
                 pP    46 10.70 177km
HHC    50.42 342 eP    45 40.20   0.2
CN2    50.64 356 eP    45 40.60  -0.8
MDJ    51.30 360 eP    45 46.00  -0.4
LSA    52.03 316 iPd   45 52.70   0.0
GTA    53.82 331 iPc   46 05.30   0.0
       0.6s     0.07nm          2.5mb X
GBA    55.87 291 Pc    46 22.60   2.3
       0.7s     3.10nm          4.2mb
HYB    56.13 296 eP    46 20.50  -1.7
POO    60.72 296 iPc   46 53.20  -0.7
NDI    61.81 308 iPc   46 59.00  -2.0
       0 7s    34.25nm          5.3mb
WMQ    63.24 327 iPc   47 10.40   0.2
MAIO   78.51 309 iPd   48 43.60   1.8
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        0.7s      6.67nm          4.5mb
BCAO  111.64 272 ePKPd 55 15.00    0.5
        0.5s      4.00nm
BSF   116.95 321 ePKP  55 23.90    0.1
        0.8s      5.30nm
LPG   117.79 318 ePKP  55 26.30    0.6
        0.6s      5.40nm
LOR   119.00 321 ePKP  55 28.10    0.5
        1.0s      6.80nm
LBF   119.04 321 ePKP  55 28.20    0.5
        0.8s      4.00nm
SSF   119.31 321 ePKP  55 28.90    0.8
        0.8s      5.90nm
AVF   119.51 321 ePKP  55 28.80    0.3
        0.8s      7.20nm
BGF   119.92 321 ePKP  55 30.10    0.8
        0.6s      9.30nm
LPF   121.66 323 ePKP  55 33.30    0.8
        0.8s      5.30nm
MFF   121.77 322 ePKP  55 33.60    0.8
        0.8s      9.10nm
KIC   134.89 272 PKP   56 01.00    2.1
LIC   135.16 272 PKP   56 01.00    1.6
TIC   135.18 272 PKP   56 01.40    1.9
CNCB  150.56 143 ePKP  56 30.00    3.5X
                 i     56 34.90
LPB   150.71 143 PKP   56 35.00    8.5X
ZOBO  150.90 142 PKP   56 29.00    2.0
PPD   151.20 178 ePKP  56 33.70    7.1X
      S.D. = 1.0  on  67 of  76 obs.
-----------------------------------
*  NOV  20, 1989  15h 16m 33.65± 0.83s
   42.849 N ± 6.1km   12.950 E ± 7.4km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                     (381)
      MD 2.4 (SSO).

ASS     0.31 316 P      16 40.70    0.6
                 eSg    16 45.20
CIO     0.37  22 iPgc   16 41.05   -0.3
                 iSg    16 47.01
ALP     0.47  98 iPc    16 43.59    0.4
                 iSg    16 51.11
MNS     0.51 203 P      16 43.60   -0.3
                 eSg    16 52.00
ARV     0.65 360 P      16 46.20   -0.5
                 eSg    16 56.10
      S.D. = 0.7  on   5 of   5 obs.
-----------------------------------
   NOV  20, 1989  17h 28m 58.38± 0.25s
   21.851 S ± 7.5km  138.964 W ± 8.7km
   DEPTH =   0.0km  (geophysicist)
   5.3mb ( 13 obs.)
 TUAMOTU ARCHIPELAGO REGION        (631)

DZM     50.39 259 iPd   38 01.40    1.5
GLA     59.26  24 P     39 04.20    0.0
BCH     59.48  18 P     39 06.80    1.0
PRS     60.21  16 iPc   39 11.50    0.9
PRI     60.22  17 ePc   39 11.90    1.1
LLA     60.59  17 eP    39 14.00    0.8
SAO     60.60  16 eP    39 13.60    0.3
GCC     60.71  16 iPc   39 14.70    0.7
PCC     61.06  15 ePc   39 16.90    0.6
MHC     61.10  16 ePc   39 17.60    0.8
ARN     61.13  16 P     39 17.70    0.8
FRI     61.28  18 ePc   39 18.10    0.3
BKS     61.46  15 iPc   39 19.70    0.6
        0.9s     29.00nm          5.5mb
CMB     62.07  17 ePc   39 23.70    0.4
TNP     63.02  19 P     39 30.00    0.2
ORV     63.23  15 ePc   39 30.20   -0.6
KVN     63.66  18 P     39 34.20    0.3
WDC     63.96  14 ePc   39 35.90    0.2
ALQ     64.36  29 P     39 38.50   -0.1
        1.0s     12.50nm          5.1mb
MSU     65.09  23 P     39 44.40    1.0
LPB     66.63  99 P     39 55.00    1.1
CNCB    66.65  99 Pc    39 55.70    1.5
ZOBO    66.68  99 Pc    39 55.00    0.6
        0.9s     16.22nm          5.3mb
DAU     67.10  23 P     39 57.00    0.7
GOL     68.80  27 P     40 06.50   -0.4
        0.8s     13.39nm          5.2mb
CTA     69.17 256 iPc   40 09.60    0.3
        1.1s     43.04nm          5.6mb
BMW     69.48  12 P     40 10.30   -0.3
BW06    69.79  23 P     40 12.00   -0.8
LON     70.02  12 P     40 13.30   -0.6
SIO     70.09  36 eP    40 14.10   -0.4
TUL     70.49  36 iPc   40 16.10   -0.8
        0.8s     16.00nm          5.2mb
LNO     70.49  36 eP    40 15.30   -1.5
LRM     71.53  19 ePc   40 24.20    0.8
OLY     72.65  39 P     40 29.50   -0.4
FVM     74.97  38 P     40 42.70   -0.7
SES     76.05  18 eP    40 49.00   -0.3
EDM     77.99  15 iPc   40 59.80   -0.2
        0.9s     63.00nm          5.7mb
ASPA    79.03 249 iPc   41 06.00   -0.5
        1.1s      8.00nm          4.7mb
WB5     79.87 253 eP    41 11.00    0.0
WRA     79.87 253 Pc    41 10.90   -0.1
        0.7s      2.80nm          4.3mb
PPD     80.02 110 eP    41 12.30    0.5
KDC     80.10 353 P     41 11.00   -0.2
RSON    82.63  27 P     41 23.60   -1.2
PMR     83.55 355 P     41 28.70   -0.5
        0.8s     31.03nm          5.6mb
BAO     85.19 105 eP    41 39.00    0.4
TTA     85.57 352 P     41 39.00   -0.4
        0.9s     27.08nm          5.4mb
FBA     86.74 356 P     41 44.00   -1.1
        0.9s     13.13nm          5.1mb
TBR     86.74  43 P     41 45.00   -0.6
RSNY    88.40  40 P     41 53.00   -0.5
        0.7s     11.53nm          5.3mb
HBVT    89.18  41 P     41 56.40   -0.9
INK     89.98   2 eP    42 00.00   -0.4
CHTO   125.88 278 iPKP  48 04.90    0.2
        1.0s      7.50nm
GTA    127.38 304 PKPd  48 07.60    0.4
NB2    135.69  20 PKP   48 22.80    0.6
        1.2s      3.30nm
WMQ    135.79 311 ePKP  48 23.00    0.0
SUF    137.91  10 ePKP  48 17.30   -9.0X
        0.6s      4.60nm
NUR    139.69  12 iPKP  48 20.30   -9.2X
        0.8s     13.20nm
                 i      48 29.80
WTS    139.98  33 ePKP  48 22.50   -7.8X
        0.8s      4.00nm
                 e      48 31.00
ENN    140.21  35 ePKP  48 24.00   -6.8X
        0.8s      9.00nm
                 e      48 31.50
MOX    143.18  31 ePKP  48 33.00   -3.1X
CLL    143.40  30 iPKP  48 33.50   -2.9X
        1.4s     18.00nm
HOF    143.53  32 iPKPc 48 33.80   -2.9X
BNI    143.57  42 PKP   48 35.50   -1.6
GRF    143.60  33 ePKPd 48 34.40   -2.4X
LSD    143.68  41 PKP   48 35.39   -2.0
RRL    143.71  42 PKP   48 35.60   -1.8
RSP    143.89  42 PKP   48 35.08   -2.5X
PZZ    144.10  43 PKP   48 36.42   -1.6
ORO    144.10  41 PKP   48 35.50   -2.4X
BRG    144.13  29 iPKPc 48 36.40   -1.2
STV    144.36  43 PKP   48 35.90   -2.5X
ENR    144.43  43 PKP   48 35.70   -2.8X
GBA    144.44 263 PKP   48 37.70   -1.5
HYB    144.45 270 iPKPc 48 38.50   -0.7
VAI    144.45  40 PKP   48 36.90   -1.4
ROB    144.68  43 PKP   48 37.13   -1.8
CKI    144.88  42 PKP   48 37.00   -2.1
FIN    144.94  43 PKP   48 37.85   -1.4
PCP    144.99  42 PKP   48 37.75   -1.6
PRU    145.02  30 PKPc  48 38.70   -0.5
        0.8s     55.20nm
                 e      48 43.00
KHC    145.14  32 iPKP  48 39.00   -0.5
        1.0s     28.50nm
OGA    145.20  37 iPKPc 48 40.00    0.1
BOB    145.43  41 PKP   48 40.00   -0.2
KSH    145.47 309 PKP   48 42.00    1.5
SAL    145.63  39 PKP   48 40.70    0.4
BHG    145.69  34 ePKP  48 40.50    0.1
CTI    146.03  38 PKP   48 42.00    0.8
FVI    146.34  36 PKP   48 41.90    0.5
NDI    146.67 289 iPKPc 48 44.00    1.4
        0.6s     43.33nm
PGD    147.29  41 PKP   48 44.90    1.6
KRA    147.31  25 ePKP  48 43.80    0.9
        0.9s     64.00nm
                 i      48 45.60
                 e      48 55.30
SFI    147.34  41 PKP   48 45.50    2.4
TRI    147.42  37 iPKPc 48 46.00    2.8
ZST    147.47  30 ePKP  48 43.10   -0.1
CRE    147.56  41 PKP   48 44.00    0.3
RIY    147.99  37 iPKP  48 47.40    3.3
SPC    148.11  26 iPKP  48 48.70    4.2
ARV    148.23  41 PKP   48 48.50    3.8
ASS    148.30  42 PKP   48 47.00    2.2
SRO    148.31  30 iPKP  48 49.30    4.7
PTJ    148.48  34 e(PKP)48 45.70    0.6
CIO    148.53  41 ePKPc 48 48.34    3.1
MNS    148.68  43 PKP   48 49.00    3.6
RMP    148.99  44 PKP   48 40.50   -5.4
ALP    149.02  41 e(PKP)48 50.16    4.1
RDP    149.03  44 PKP   48 50.50    4.5
POO    149.06 270 iPKPd 48 51.30    4.6
        0.9s     21.85nm
DUI    150.18  42 PKP   48 51.00    3.2
HVAR   150.49  38 iPKP  48 53.90    5.8
SGO    151.32  44 PKP   48 55.00    5.6
BCAO   152.15 125 ePKPd 48 52.00    0.5
        0.6s     26.00nm
                 i      48 57.80
BRT    152.33  41 PKP   48 58.00    7.1
VRI    153.34  23 ePKP  48 53.00    0.8
MLR    153.38  24 ePKPd 48 53.00    0.6
      S.D. = 1.0  on  87 of 114 obs.
-----------------------------------
&  NOV  20, 1989  17h 39m 57.70s
   36.893 N          121.667 W
   DEPTH =   8.0km
 CENTRAL CALIFORNIA                ( 39
      <BRK>. ML 2.8 (BRK).

SAO     0.22 126 iPd    40 02.00   -0.3
GCC     0.30 297 iPc    40 03.50   -0 3
                 iS     40 07.90
MHC     0.45   3 iPd    40 06.80    0.0
                 i      40 12.50
ARN     0.47  13 iPd    40 07.00   -0.2
PRS     0.61 157 iPd    40 09.40   -0.5
LLA     0.64 115 iPd    40 10.00   -0.6
PCC     0.83 317 iPc    40 12.90   -1.1
BKS     1.08 335 ePc    40 17.40   -0.8
                 iS     40 35.40
BRK     1.09 334 eP     40 17.90   -0.4
PRI     1.10 133 ePc    40 18.00   -0.7
ZSP     1.15 336 e(P)   40 18.60   -0.8
                 i      40 19.80
PHAM    1.47 135 eP     40 23.00   -1.5
CMB     1.53  41 ePd    40 25.10   -0.3
FRI     1.57  86 iPd    40 25.40   -0.5
                 iS     40 46.00
BCH     2.13 143 eP     40 32.00   -2.2
KVN     3.55  52 e(P)   41 00.60    6.2
        16 obs. associated
-----------------------------------
?  NOV  20, 1989  17h 49m 45.77± 8.45s
   32.144 S ±59.3km   71.944 W ±33.0km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF CENTRAL CHILE       (135)

ROCH    1.14 137 iPd    50 06.70   -0.6
                 iS     50 17.70
JACH    1.26 116 iPc    50 09.40    0.1
                 iS     50 21.70
LCCH    1.36 167 iPd    50 11.10    0.3
                 iS     50 25.10
PEL     1.46 134 iPc    50 11.70   -0.5
                 iS     50 26.80
TACH    1.73 151 iPd    50 16.20    0.2
                 iS     50 34.00
FCH     1.83 131 iPd    50 17.50   -0.3
                 iS     50 37.00
LNV     1.86 166 eP     50 17.00   -0.9
PCH     1.90 141 iPd    50 19.30    0.7
                 iS     50 40.00
CHCH    2.09 149 iP     50 22.30    1.0
                 iS     50 44.80
      S.D. = 0.7  on   9 of   9 obs.
-----------------------------------
*  NOV  20, 1989  18h 34m 34.63± 0.79s
   42.868 N ± 5.9km   12.976 E ± 7.0km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                     (381)
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20d 18h

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      MD 2.2 (SSO).

ASS      0.31 311 P      34 41.30   0.3
                  eSg    34 45.80
CIO      0.35  21 iPgc   34 42.01   0.1
                  iSg    34 47.91
ALP      0.45 101 iPgd   34 43.93   0.1
                  iSg    34 51.47
MNS      0.53 204 P      34 45.30  -0.1
                  eSg    34 53.60
ARV      0.63 358 P      34 46.90  -0.4
                  eSg    34 57.00
     S.D. = 0.4  on   5 of   5 obs.
-------------------------------------
*  NOV  20, 1989  18h 35m 43.29± 0.78s
   9.794 S ± 8.8km  118.593 E ± 9.8km
   DEPTH =  33.0km  (normal)
   3.9mb (  2 obs.)
 SUMBAWA ISLAND REGION            (285)

MKS      4.63  11 iPd    36 52.30  -0.4
                  e      39 54.50
TRT      6.24 289 ePc    37 16.00   0.4
MBL     11.36 174 eP     38 25.40  -1.1
       0.3s      3.00nm          5.0mb X
                  eS     40 21.00
MTN     12.66 105 eP     38 43.00  -0.9
                  e      38 47.00
                  eS     40 59.00
NANU    13.03 193 eP     38 48.50  -0.3
                  eS     41 02.00
WARB    18.00 156 iPc    40 06.00  13.3X
                  eS     43 08.50
WB5     18.23 125 eP     39 56.50   0.8
                  eS     43 09.80
WRA     18.24 125 Pc     39 58.80   3.0X
       0.7s     2.70nm          3.5mb
MRWA    19.48 187 eP     40 14.00   3.5X
                  eS     43 30.00
ASPA    20.10 135 iPd    40 18.70   1.5
       1.1s    14.00nm          4.2mb
     Z  21s     0.12um          3.2MszX
                  eS     44 00.40
                  LR     47 59.10
BAL     20.78 185 eP     40 31.50   7.3X
                  eS     44 01.00
KLB     21.70 182 eP     40 45.00  11.5X
                  eS     44 24.00
NWAO    23.06 183 eP     41 03.00  16.2X
                  eS     44 56.00
     S.D. = 1.2  on   7 of  13 obs.
-------------------------------------
*  NOV  20, 1989  18h 42m 14.27± 1.02s
   24.220 S ± 8.8km   67.099 W ±14.4km
   DEPTH = 190.1 ±  8.6 km
   4.6mb (  3 obs.)
 CHILE-ARGENTINA BORDER REGION    (127)

SLA      1.55 109 iPd    42 49.00   1.0
                  S      43 15.00
YJA      2.51  36 iPd    42 58.80   0.2
                  S      43 32.20
CCH      6.86   8 P      43 53.50  -0.2
CNCB     7.42 353 P      44 01.70   0.2
                  S      45 20.00
TCA      7.43 163 iPd    43 59.90  -1.2
                  S      45 21.00
LPB      7.71 353 P      44 06.00   0.9
                  S      45 31.00
ZOBO     7.97 353 P      44 07.50  -1.3
       0.8s    24.83nm          4.6mb
     Z  16s     0.16um          4.5MszX
                  S      45 28.00
                  LR     46 18.00
PPD     14.69  85 eP     45 34.40   0.1
                  e      45 37.10
                  e      45 41.50
VAO     18.49  90 eP     46 18.10  -0.5
BAO     19.87  68 eP     46 32.00  -0.9
BMA     21.10  91 eP     46 44.80  -0.2
BLF     81.28 118 eP     54 13.00   2.1
PRY     83.18 116 iPc    54 09.50 -11.3X
SLR     84.32 116 iPc    54 27.50   1.0
       0.9s    12.60nm          4.7mb
BUL     86.89 111 iPd    54 38.10  -1.1
       1.0s    10.00nm          4.6mb
     S.D. = 1.1  on  14 of  15 obs.
-------------------------------------
   NOV  20, 1989  18h 55m 03.38± 0.17s
   27.966 N ± 3.8km  129.398 E ± 3.5km
   DEPTH =  34.8km  ( 18 depth phases)
   5.3mb ( 46 obs.)
 RYUKYU ISLANDS                   (238)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 18C
      Centroid Location:
      Origin Time        18:55: 6.2 0.8
      Lat 27.84N 0.13 Lon 129.35E 0.20
      Dep  43.710.5 Half-duration  1.6
      Moment Tensor;    Scale 10**16 Nm
        Mrr= 3.98 0.89  Mtt=-3.83 0.87
        Mff=-0.15 1.44  Mrt= 4.90 1.67
        Mrf= 3.94 1.46  Mtf=-5.66 0.97
       Principal Axes:
        T  Val=  6.70   Plg=66   Azm=310
        N        3.94        5        51
        P      -10.64       23       144
      Best Double Couple:Mo=8.7*10**16
       NP1:Strike=244 Dip=22 Slip= 104
       NP2:         49     68        84

SHK      7.12  22 eP     56 47.80  -0.1
ANP      7.58 250 e(P)   57 09.00  14.6X
SSE      7.80 296 P      56 58.50   1.1
       0.8s    23.00nm          5.3mb
     Z  20s     6.60um          3.9MszX
     N  11s     2.10um
     E  11s     5.40um
                  sP     57 08.00
                  S      58 49.00
                  Lg     59 46.00
NJ2     10.00 297 Pd     57 28.20   0.4
     Z  18s     7.80um
     N  11s     4.60um
     E  12s     3.90um
OZH     10.14 255 eP     57 31.20   1.5
     Z  12s     6.60um
     E  13s     4.90um
MAT     11.34  39 (P)    57 44.00  -2.1
       0.8s    11.19nm          5.1mb
TIA     13.25 311 eP     58 12.00   0.4
     Z  24s     9.70um
     N  13s     4.30um
     E  13s     6.80um
WHN     13.39 285 P      58 15.70   2.3
     Z  14s     7.10um
     N  12s     4.70um
     E  12s     7.90um
                  PP     58 28.00
SNY     14.62 343 Pc     58 31.00   1.5
       1.4s     0.10nm          2.1mb X
     Z  13s    13.20um          3.8Msz
     N  12s     7.30um
     E  11s     3.50um
                  pP     58 35.20
                  sP     58 40.00
CN2     16.12 350 eP     58 50.50   1.6
       1.2s     0.80nm          2.7mb X
     Z  13s    10.00um          3.2MszX
     N  11s     6.00um
     E  11s     2.30um
                  pP     58 55.00
                  S      01 54.00
BJI     16.26 321 eP     58 52.50   1.8
       1.2s   192.00nm          5.1mb
     Z  16s     4.37um          4.5Msz
     N  11s     2.10um
                  epP    58 55.50
                  eS     01 56.00
MDJ     16.62   0 eP     58 57.00   1.8
     Z  16s     4.40um
TIY     17.23 309 eP     59 04.60   1.6
     N  13s     8.70um
     E  13s     9.90um
                  pP     59 12.50
XAN     18.56 294 P      59 19.60   0.2
     N  13s     2.90um
     E  13s     4.20um
HHC     19.49 316 P      59 31.00   0.5
     Z  16s     6.90um
     N  14s     3.80um
     E  14s     3.70um
                  PP     59 50.00

QIZ     20.00 248 eP     59 35.60  -0.3
     N  17s     2.30um
     E  16s     2.00um
GYA     20.27 271 P      59 39.40   0.5
     N  14s     2.70um
     E  14s     4.10um
GUMO    20.31 132 eP     59 41.70   2.5
       1.2s   377.78nm          5.6mb
     Z  23s     1.81um          4.4MszX
PJG     20.31 132 eP     59 41.40   2.2
BTO     20.32 313 eP     59 39.00  -0.3
     N  14s     3.70um
     E  14s     3.00um
                  pP     59 48.00  34km
GUA     20.37 132 eP     59 42.00   2.1
       0.8s   119.40nm          5.3mb
CD2     22.51 284 P      00 01.90   0.5
     Z  13s     6.40um          5.2MszX
     E  13s     7.50um
LZH     23.08 297 Pc     00 06.50  -0.6
       1.5s     0.13nm          2.2mb X
     Z  13s     5.80um          5.2MszX
     N  13s     2.50um
     E  13s     4.60um
                  sP     00 16.70
                  ePP    00 41.00
KMI     24.00 269 Pc     00 17.00   0.8
     E  12s     2.80um
                  sP     00 26.00
                  eS     04 32.00
GTA     27.02 303 eP     00 41.60  -2.7
     Z  16s     7.10um          5.3MszX
     E  13s     3.50um
CHTO    29.33 259 iP     01 05.00  -0.2
       1.0s    58.75nm          5.3mb
LSA     33.45 282 iPd    01 42.00   0.1
     N  13s     0.80um
IPM     35.63 234 ePd    02 01.30   1.2
       1.1s    47.60nm          5.3mb
WMO     36.88 307 P      02 08.50  -2.0
     Z  16s     5.10um          5.4MszX
LAT     38.39 151 eP     02 24.00   0.7
MTN     40.60 177 iPd    02 40.30  -1.3
PMG     40.94 153 eP     02 44.00  -0.3
KNA     43.46 181 eP     03 04.30  -0.6
KSH     45.30 299 P      03 21.00   1.1
NDI     45.63 284 iPc    03 21.50  -0.9
       1.0s    95.00nm          5.7mb
SVO     47.19 137 P      03 39.00   4.2X
HYB     47.78 269 iPc    03 39.00  -0.5
       1.0s    30.00nm          5.3mb
WB5     47.81 174 eP     03 38.50  -1.0
WRA     47.87 174 Pc     03 38.80  -1.2
       1.4s    38.40nm          5.2mb
OIS     49.24 167 eP     03 49.40  -1.2
GBA     50.29 265 Pc     03 58.50  -0.3
       1.1s    64.30nm          5.5mb
CTA     50.48 159 eP     04 00.00  -0.1
       1.0s    32.50nm          5.3mb
ASPA    51.51 175 iPc    04 06.90  -1.0
       1.1s    13.00nm          4.8mb
     Z  23s     0.33um          4.3MszX
                  LR     23 47.20
POO     51.53 272 iPc    04 07.30  -1.0
       0.9s    45.38nm          5.4mb
KOD     51.74 261 eP     04 10.00  -0.2
WARB    53.90 183 iPc    04 25.30  -0.3
QUE     54.01 288 eP     04 25.50  -1.2
MAIO    58.64 297 eP     05 00.00   0.4
                  eS     13 28.00
IMA     59.50  27 eP     05 05.00  -0.3
       1.2s    13.70nm          5.0mb
KDC     60.56  37 ePc    05 10.30  -2.1
PMR     61.81  32 eP     05 19.50  -1.3
       5.0s    34.70nm          4.7mb X
FBA     62.02  29 eP     05 21.60  -0.7
ADE     63.21 171 eP     05 30.00  -0.4
BWA     64.61 163 eP     05 40.30   0.7
CAN     65.61 162 eP     05 46.20   0.1
INK     66.89  24 ePc    05 52.50  -1.3
                  pP     06 06.00  47kmX
MBC     67.90  14 ePc    05 59.00  -1.1
       0.9s    15.00nm          5.1mb
KEV     68.21 339 eP     06 01.00  -1.1
SOD     69.24 336 iP     06 07.00  -1.5
MSL     71.21 302 ePd    06 20.50  -0.5
                  e      06 30.50  32km
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SUF     71.30 332 eP     06 19.50  -1.5
        0.8s     20.80nm          5.2mb
BHD     71.39 298 ePd    06 20.00  -2.1
NUR     72.90 330 eP     06 29.30  -1.3
        0.6s     29.30nm          5.4mb
KVT     74.56 308 eP     06 40.00  -0.6
UPP     76.28 331 iP     06 48.40  -1.6
BBTK    77.35 308 eP     06 56.00  -0.5
                  e      07 04.00  26km
HFS     77.77 333 eP     06 57.20  -1.0
        1.2s     48.60nm          5.4mb
      Z  16s      0.81um          5.1MszX
                  LR     43 17.00
CLI     77.91 316 ePd    06 59.50   0.2
NB2     78.22 334 P      06 59.20  -1.6
        0.7s     15.50nm          5.1mb
VRI     78.57 316 ePc    07 03.00   0.0
PSN     78.68 313 iPd    07 04.00   0.4
DSI     79.04 300 eP     07 06.00   0.2
MLR     79.23 316 ePc    07 07.00   0.2
BMR     79.63 319 ePc    07 10.00   1.4
PRNI    79.87 299 ePc    07 10.00  -0.4
CMP     79.90 316 ePc    07 06.00  -4.2X
MBH     80.22 298 e(P)   07 12.00  -0.2
KRA     80.40 322 eP     07 12.60  -0.1
      Z  16s      2.10um          5.6MszX
      N  16s      2.30um
                  i      07 16.60  13kmX
                  i      07 24.00
EDC     80.47 311 eP     07 12.00  -1.3
SPC     80.70 321 eP     07 14.50  -0.1
PVL     80.73 314 iPd    07 16.00   1.4
ELL     80.75 307 eP     07 14.70  -0.3
GMW     80.80  41 P      07 15.50   0.5
BMW     81.11  42 P      07 16.50  -0.1
RMW     81.42  41 P      07 18.00  -0.2
KDZ     81.45 313 iPd    07 20.00   1.6
EZN     81.75 311 eP     07 19.00  -1.0
LON     81.79  41 P      07 19.60  -0.6
PGB     81.80 314 eP     07 21.00   0.7
RZN     81.89 313 eP     07 21.00   0.1
KSP     81.91 324 ePc    07 21.10   0.5
                  ic     07 31.60  33km
VTS     82.39 314 iPc    07 24.00   0.5
SRO     82.52 321 eP     07 23.40  -0.4
                  e      07 32.90  30km
EDM     82.58  33 iPc    07 24.20   0.1
KKB     82.84 314 iP     07 27.00   1.3
ZST     82.98 321 eP     07 26.70   0.5
                  e      07 36.90  32km
VGB     83.06  42 P      07 27.50   0.7
BRG     83.10 325 iP     07 27.00   0.2
        1.0s     52.00nm          5.6mb
                  i      07 38.10  36km
                  e      08 12.00
                  e      08 52.00
DPW     83.22  39 P      07 27.60   0.0
CLL     83.32 326 iPc    07 28.00   0.1
        1.1s     50.00nm          5.5mb
                  ipP    07 38.90  35km
PRU     83.32 324 Pc     07 28.40   0.5
        2.0s     70.30nm          5.4mb
      Z  17s      1.60um          5.5MszX
      N  17s      0.90um
      E  17s      1.50um
                  e      07 38.90  33km
VAY     83.46 313 eP     07 28.70  -0.1
SKO     83.83 314 iP     07 31.20   0.5
        1.1s     89.00nm          5.8mb
                  i      07 42.00  34km
                  i      07 45.00
KHC     84.34 324 iPc    07 33.00  -0.2
      Z  16s      0.80um          5.2MszX
      N  16s      1.90um
      E  16s      1.80um
                  i      07 44.50  37km
MOX     84.42 326 eP     07 33.00  -0.5
        2.2s    107.00nm          5.6mb
      Z  16s      3.50um          5.8MszX
      N  14s      2.70um
      E  16s      1.80um
                  e      07 45.00  39km
KKS     84.42 315 eP     07 35.50   1.9
BCI     84.48 315 eP     07 33.40  -0.5
HOF     84.49 325 iPc    07 34.30   0.4
        0.8s     15.00nm          5.2mb
PHP     84.61 315 eP     07 33.70  -0.9
WDC     84.64  47 ePc    07 34.90   0.1
OHR     84.70 314 eP     07 33.20  -2.0
        0.8s      0.06nm          2.8mb X
PUK     84.77 315 eP     07 35.80   0.5
PTJ     84.94 320 eP     07 35.90  -0.4
KBN     84.95 314 eP     07 35.30  -1.0
SDA     85.03 315 eP     07 37.00   0.4
TIR     85.16 315 eP     07 37.70   0.3
GRF     85.21 325 iP     07 39.00   1.5
        1.9s    182.00nm          6.0mb
                  i      07 49.60  33km
LSK     85.35 313 eP     07 37.70  -0.8
MIN     85.37  46 ePc    07 38.30  -0.4
WIT     85.39 329 eP     07 39.50   1.3
SES     85.46  34 ePc    07 39.00   0.2
BERA    85.46 314 eP     07 37.50  -1.4
BHG     85.56 323 eP     07 39.50   0.2
        0.8s     26.00nm          5.5mb
KBA     85.70 322 iPc    07 40.10  -0.1
        0.8s     17.20nm          5.3mb
ORV     85.87  47 ePc    07 40.70  -0.3
WTS     85.87 329 eP     07 42.00   1.4
        0.7s     10.00nm          5.1mb
RIY     86.16 320 eP     07 41.90  -0.3
TRI     86.29 321 eP     07 42.60  -0.3
                  e      07 52.00  30km
BKS     86.29  49 ePc    07 53.50  10.4X
        0.8s     16.00nm
FVI     86.30 322 P      07 41.80  -1.1
FFC     86.58  27 iPc    07 44.00  -0.2
        0.9s     35.00nm          5.6mb
MHC     86.98  49 eP     07 46.70   0.1
OGA     87.08 323 eP     07 47.00   0.0
ENN     87.10 328 eP     07 48.50   1.8
        0.9s     15.00nm          5.2mb
MEM     87.17 328 Pc     07 49.00   2.0
CTI     87.25 322 P      07 45.70  -2.1
CMB     87.43  48 ePc    07 49.00   0.3
                  e      08 01.30  40km
LRM     87.61  38 eP     07 50.10   0.4
EKA     87.65 335 P      07 48.00  -1.3
        1.4s     30.30nm          5.4mb
LLA     87.84  49 ePc    07 50.90   0.2
CDF     88.02 326 eP     07 50.80  -0.6
        0.8s      8.00nm          5.1mb
ARV     88.10 319 P      07 52.50   0.8
SAL     88.14 322 P      07 52.50   0.7
DOU     88.18 328 P      07 51.60  -0.4
        0.7s      5.50nm          5.0mb
DUI     88.31 317 P      07 55.00   2.1
KVN     88.33  46 iP     07 54.10   0.9
                  e      08 06.50  41km
TDS     88.33 315 P      07 53.00   0.1
FRI     88.46  48 ePc    07 53.50   0.0
SFI     88.46 320 P      07 56.00   2.6
ASS     88.52 319 P      07 54.00   0.2
PGD     88.56 320 P      07 55.10   0.9
BSF     88.65 325 eP     07 53.40  -1.0
        0.8s      5.30nm          4.9mb
HAU     88.76 326 eP     07 54.00  -0.8
FIR     88.89 320 eP     07 56.00   0.5
MNS     88.93 319 P      07 56.50   0.7
RMP     89.27 318 P      07 53.00  -4.4X
TNP     89.46  46 iP     07 59.00   0.4
        1.0s     10.00nm          5.1mb
                  e      08 12.00  43km
ORO     89.50 323 P      07 55.50  -3.0
LPG     90.23 324 eP     08 00.50  -1.6
        0.8s      5.90nm          4.9mb
LOR     90.49 326 eP     08 02.50  -0.5
        0.8s      2.60nm          4.6mb
LBF     90.63 326 eP     08 03.20  -0.4
        1.0s      6.00nm          4.9mb
DUG     90.92  43 P      08 16.40  11.2X
        0.7s      3.69nm
SBF     90.95 322 eP     08 04.70  -0.5
        0.9s     17.60nm          5.4mb
SBB     91.03  49 eP     08 06.00   0.3
BW06    91.16  39 P      08 06.30  -0.1
GSC     91.35  48 eP     08 08.00   0.8
LDF     91.42 329 eP     08 06.40  -0.8
        0.8s     10.70nm          5.3mb
FLN     91.46 329 eP     08 06.60  -0.7
        0.8s     13.40nm          5.4mb
DAU     91.71  42 P      08 09.90   0 8
GRR     91.91 329 eP     08 09.00  -0.4
        0.8s     11.80nm          5.4mb
LPF     92.25 329 eP     08 10.70  -0.3
        1.0s     12.00nm          5.3mb
MSU     92.35  44 P      08 13.00   1.0
BAR     92.98  51 eP     08 15.00   0.3
RSSD    93.20  35 iP     08 16.10   0.3
                  e      08 28.00  38km
GLA     94.00  49 eP     08 20.00   0.6
ALQ     98.16  43 P      08 41.10   2.6
        0.9s      3.46nm          4.9mb
BCAO   106.16 284 iPKPc  13 34.20   7.8X
        0.5s      5.00nm
KIC    124.12 301 PKP    14 00.00  -0.6
TIC    124.15 301 PKP    14 00.30  -0.4
LIC    124.42 301 PKP    14 00.70  -0.5
NNA    150.76  62 iPKPc  14 53.80   5.3X
        0.7s      8.22nm
ZOBO   160.05  58 PKP    15 03.00   1.7
                  LR     12 14.00
LPB    160.24  59 (PKP)  15 10.00   8.8X
CNCB   160.49  59 (PKP)  15 11.00   9.3X
                  i      15 43.90
CCH    162.23  57 (PKP)  15 21.00  17.9X
                  e      15 51.00
      S.D. = 1.1  on 174 of 185 obs.
-----------------------------------
*  NOV  20, 1989  20h 27m 58.68± 0.46s
    2.932 N ± 8.4km  128.510 E ±16.1km
    DEPTH =  33.0km  (normol)
    4.3mb (  4 obs.)
 HALMAHERA                          (267)

WB5     23.39 166 eP     33 05.00  -0.6
WRA     23.44 166 Pd     33 06.70   0.6
        0.5s      3.10nm          4.1mb
QIS     25.76 155 eP     33 28.00  -0.2
ASPA    26.95 169 eP     33 39.60   0.3
WHN     30.56 335 eP     34 11.00  -0.5
                  sP     34 23.00
CHTO    32.95 301 eP     34 33.20   0.5
        1.0s      2.50nm          4.1mb
XAN     35.94 332 P      34 57.80  -0.4
TIY     37.62 339 eP     35 12.00  -0.4
BJI     38.59 345 eP     35 20.50   0.1
        1.0s     12.00nm          4.7mb
LZH     40.10 328 eP     35 33.50   0.4
                  pP     35 44.80  40kmX
HHC     40.73 340 eP     35 38.40   0.2
LSA     44.30 311 eP     36 09.00   1.1
GTA     44.70 328 P      36 10.80   0.2
HYB     51.06 290 eP     37 00.00  -0.3
GBA     51.54 285 Pc     37 03.10  -0.9
        0.6s      3.60nm          4.5mb
      S.D. = 0.6  on  15 of  15 obs.
-----------------------------------
%  NOV  20, 1989  20h 30m 36.50± 0.94s
    31.125 S ± 9.4km   69.117 W ±11.0km
    DEPTH =  33.0km  (normal)
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTCB     0.45 143 e(P)   30 47.70   1.2
RTLL     0.59 110 ePc    30 48.80   0.3
                  S      31 02.70
RTBS     0.61 208 iPc    30 48.60   0.0
                  S      31 02.00
RTCV     0.88 146 iP     30 51.70  -0.9
                  S      31 08.50
CFA      0.89 123 e(P)   30 52.00  -0.7
RTRS     1.00 343 iP     30 54.20   0.0
                  S      31 11.00
      S.D. = 1.0  on   6 of   6 obs.
-----------------------------------
    NOV  20, 1989  20h 44m 09.63± 0.77s
    38.657 N ± 5.3km   26.144 E ±10.7km
    DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                         (365)
      MD 3.1 (ATH).

PRK      0.60  10 ePb    44 22.10   0.4
                  eSn    44 33.40
IZM      0.91 106 iPn    44 27.00  -0.2
SMG      1.09 150 ePn    44 30.20   0.1
EZN      1.18   7 iPn    44 31.60   0.0
APE      1.66 197 ePn    44 39.00   0.1
DST      2.15  63 ePn    44 52.30   6.2X
RDO      2.53 350 ePn    44 50.90  -0.5
      S.D. = 0.4  on   6 of   7 obs.
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```

20d 21h

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   NOV  20, 1989  21h 26m 38.66± 0.49s
    6.221 S ± 3.7km  131.481 E ± 4.7km
   DEPTH =  72.2 ±  4.7 km
   5.2mb ( 16 obs.)
 TANIMBAR ISLANDS REGION          (281)
      CENTROID, MOMENT TENSOR     (HRV)
      Dolo Used: GDSN
      L.P.B.: 15S, 24C
      Centroid Locotion:
      Origin Time        21:26:43.0 0.7
      Lot  6.39S 0.10 Lon 131.04E 0.10
      Dep  82.0 3.8 Holf-duration  1.9
      Moment Tensor;   Scole 10**16 Nm
        Mrr=-5.47 0.76  Mtt=-2.26 0.87
        Mff= 7.72 1.36  Mrt=-3.29 0.67
        Mrf= 3.69 0.61  Mtf= 9.38 0.92
      Principal Axes:
        T  Vol= 13.47  Plg= 5  Azm=300
        N        -1.90       52       204
        P       -11.58       38        34
      Best Double Couple:Mo=1.3*10**17
       NP1:Strike= 70 Dip=61 Slip= -25
       NP2:        173      68      -148

AAI      4.13 307 ePc   27 41.20    0.5
                  eS    28 27.00
MTN      6.59 183 eP    28 13.00   -2.1
KNA      9.84 195 eP    28 56.00   -3.7X
                  eS    30 38.00
JAY      9.91  69 ePd   29 09.20    8.6X
                  eS    30 47.00
MKS     11.99 274 iPd   29 30.50    1.8
                  e     32 45.50
MNDI    12.11  90 eP    29 29.00   -1.4
                  eS    31 36.00
PCI     12.76 294 iPd   29 41.00    2.2
WB5     13.86 169 eP    29 47.90   -5.4X
                  i     29 50.70
                  eS    32 15.00
WRA     13.92 169 Pc    29 47.60   -6.5X
      0.5s    45.20nm          5.1mb
LAT     15 43  92 eP    30 17.00    3.5X
PMG     15.85 103 eP    30 18.00   -0.8
      0.9s   252.10nm          5.4mb
OIS     16.29 152 iPd   30 19.50   -4.9X
                  eS    33 07.00
TSM     16.94 307 ePc   30 34.80    2.3
ASPA    17.50 173 iPd   30 35.30   -4.2X
                  eS    33 37.60
MBL     18.65 216 eP    30 50.10   -3.4X
      0.4s    18.00nm          4.6mb
                  eS    34 04.00
TRT     18.76 264 ePc   30 53.20   -1.7
      0.8s   102.10nm          5.1mb
KKM     19.51 308 ePc   31 01.80   -1.3
      0.8s   203.20nm          5.5mb
CTA     19.90 135 iPc+  31 07.10    0.0
      0.9s   157.98nm          5.3mb
                  iS    34 48.00
WARB    20.38 193 eP    31 12.50    0.4
                  eS    34 48.00
QLP     23.62 150 eP    31 45.00    0.9
                  e     31 54.00
                  eS    35 01.00
GUA     23.73  34 eP    31 46.60    1.4
      0.9s   423.53nm          5.9mb
MEKA    23.74 210 eP    31 45.50    0.2
GUMO    23.75  34 eP    31 47.10    1.7
      1.2s   622.22nm          5.9mb
PJG     23.75  34 eP    31 47.10    1.7
RMO     26.03 143 eP    32 07.00    0.1
                  e     32 23.00
                  e     38 25.00
COOL    26.38 200 eP    32 09.30   -0.8
      0.4s    10.00nm          4.7mb
                  eS    37 11.00
MRWA    27.15 211 eP    32 16.00   -1.1
                  eS    37 21.00
STK     27.22 161 eP    32 17.70   -0.1
                  e     32 42.00
                  e     37 23.00
BAL     27.95 208 eP    32 24.30    0.0
                  eS    37 37.00
BRS     29.20 139 iPc   32 34.20   -1.5
                  i     32 43.20
                  e(S)  42 10.00
ADE     29.37 168 iPc   32 38.20    1.0
NWAO    29.70 205 eP    32 40.00    0.0
                  eS    38 15.00
BWA     32.14 153 iPc   33 03.00    1.5
                  e     33 54.20
IPM     32.24 289 ePc   33 02.20   -0.4
BFD     32.42 163 eP    33 04.00    0.1
                  e     39 18.00
CAN     33.15 153 iPc   33 10.80    0.5
CNB     33.31 153 eP    33 12.00    0.3
                  e     40 27.00
TOO     33.71 160 eP    33 16.40    1.2
                  e     40 01.00
DZM     37.25 119 iPc   33 45.90    0.5
SSE     38.39 346 P     33 54.50   -0.2
      1.0s    19.00nm          5.0mb
NJ2     39.92 343 Pc    34 08.50    1.2
TKSJ    40.06   3 P     34 08.50    0.0
WHN     40.07 337 Pd    34 09.50    0.9
      1.2s     0.07nm          2.4mb X
WKYJ    40.41   5 P     34 11.40    0.0
GYA     40.43 325 P     34 11.80    0.0
CHTO    40.59 308 iP    34 12.80   -0.3
      1.0s    30.00nm          5.1mb
YONJ    41.23   2 P     34 18.20    0.1
KMI     41.86 319 eP    34 22.50   -1.2
CHJJ    42.63   9 P     34 28.50   -1.1
KAKJ    42.98  10 eP    34 30.60   -1.8
MTMJ    42.99   7 P     34 32.20   -0.4
MAT     43.00   8 iPd   34 31.70   -0.9
      0.9s    96.64nm          5.6mb
TIA     44.31 343 eP    34 41.30   -1.9
XAN     45.38 333 P     34 50.60   -1.2
CD2     45.46 326 eP    34 51.80   -0.7
TIY     47.18 339 Pd    35 05.50   -0.5
BJI     48.15 344 eP    35 12.50   -0.9
      1.5s    52.00nm          5.3mb
SNY     48.36 352 iPd   35 14.60   -0.4
LZH     49.44 330 eP    35 23.60    0.0
      2 0s     0.03nm          2.0mb X
                  pP    35 37.00   50kmX
CN2     50.09 354 Pd    35 27.40   -0.8
HHC     50.29 340 Pd    35 30.00    0.0
BTO     50.60 339 eP    35 32.20   -0.1
MDJ     50.63 358 iPd   35 32.50    0.2
LSA     52.67 315 P     35 49 00    0.4
                  S     43 05.00
GTA     54.02 330 eP    35 57.80   -0.1
GBA     57.15 290 P     36 20.00   -0.7
HYB     57.31 295 eP    36 21.00   -0.8
                  e     36 39.00
                  eS    44 08.00
POO     61.90 295 eP    36 52.00   -1.4
NDI     62.69 307 iPd   36 58.00   -0.4
      0.6s    17.33nm          5.3mb
                  iS    45 17.00
WMQ     63.56 326 iPd   37 03.90   -0.1
KSH     68.42 317 P     37 37.20    2.0
QUE     71 56 305 eP    37 55.00    0.4
MAIO    79 34 309 iPd   38 39.40    0.9
FBA     91.66  25 eP    39 39.50    0.7
      1.1s     6.88nm          5.0mb
MBC    100.52  13 ePdiff40 19.00    0.1
      0.8s     2.00nm          4.8mb
SPC    108.51 320 ePKP  45 01.20    0.3
NB2    109.75 333 Pdiff 40 59.20   -1.2
      0.8s     1.40nm
ZST    110.77 319 ePKP  45 06.70    1.7
                  e(Sn) 45 43.80
BHG    113.63 320 iPKPc 45 19.50    9.0X
LOR    119.48 322 ePKP  45 20.80   -0.9
      0.8s     5.30nm
LBF    119.53 321 ePKP  45 21.50   -0.3
      0.8s     4.00nm
ALQ    119.67  53 ePKP  45 24.20    1.5
SSF    119.79 322 ePKP  45 22.90    0.6
      0 8s     4.00nm
TCF    120 93 321 ePKP  45 24.40   -0.1
      0.8s     4.50nm
MFF    122.23 322 ePKP  45 26 70   -0.2
      0.7s     4.40nm
NNA    146.52 123 iPKPc 46 16.00    3.1X
      1 0s    15.00nm
YJA    147.25 150 ePKPc 46 16.90    2.6
CNCB   150.10 140 PKP   46 22.20    3.1X
LPB    150.23 140 PKP   46 23.00    3.9X
                  i     46 27 00
ZOBO   150.41 139 iPKPc 46 22.00    2.5X
      1.5s    64.52nm
CCH    150.79 144 PKP   46 28.00    8.2X
VAO    150.92 183 ePKP  46 27.10    7.6X
BMA    150.95 1B8 e(PKP)46 27.00    7.5X
PPD    151.79 175 ePKP  46 28.60    7.8X
                  e     46 53.90
BAO    158.28 181 e(PKP)46 29.00   -0.7
      S.D. = 1.1  on  78 of  95 obs.
-----------------------------------
?  NOV  20, 1989  21h 43m 53.91± 7.89s
   51.528 N ±42.8km   16.412 E ±51.5km
   DEPTH =  10.0km  (geophysicist)
 POLAND                            (548)
      ML 3.9 (VKA), 3.7 (KBA).

KSP      0.69 186 iPd   44 07.50   -0.1
      0.3s   116.00nm
                  iS    44 15.20
BRG      1.68 248 ePn   44 23.30   -0.2
                  iPg   44 24.70
                  iSg   44 45.40
PRU      1.95 218 Pn    44 27.20   -0.1
                  Pg    44 29.20
                  Sn    44 45.50
                  Sg    44 50.00
CLL      2.15 265 iPn   44 30.00   -0.2
                  iPg   44 33.80
                  eSg   45 01.00
KRA      2.68 122 eP    44 49.60   11.8X
                  iS    45 24.50
KHC      3.01 218 iPn   44 42.60    0.1
                  iPg   44 48.40
                  iSn   45 17.50
                  Sg    45 26.80
HOF      3.12 249 ePn   44 43.70   -0.3
MOX      3.15 256 ePn   44 45.00    0.5
                  iPg   44 53.50
                  iSg   45 31.00
VKA      3.27 181 iPgc  44 55.30    9.1X
                  iSg   45 38.00
GRF      3.78 243 iPn   44 53.70    0.2
                  iPg   45 07.20
                  i(Sn) 45 35.00
                  iSg   45 52.00
KBA      4.88 205 iPnd  45 09.30    0.0
                  iPgPg 45 26.20
                  iSg   46 27.30
      S.D. = 0.3  on   9 of  11 obs.
-----------------------------------
*  NOV  20, 1989  21h 49m 29.74± 0.78s
   42.878 N ± 5.8km   12.963 E ± 6.9km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                     (381)
      MD 2.1 (SSO).

ASS      0.29 311 P     49 36.10    0.2
                  eSg   49 40.80
CIO      0.34  23 iPgc  49 36.89    0 0
                  iSg   49 42.75
ALP      0.46 102 iPg   49 39.27    0.1
                  iSg   49 46.81
MNS      0.54 203 P     49 40.50   -0.1
                  eSg   49 49.00
ARV      0.62 359 P     49 42.00   -0.2
                  eSg   49 52.30
      S.D. = 0.2  on   5 of   5 obs.
-----------------------------------
?  NOV  20, 1989  22h 34m 42.34± 9.00s
   34.286 S ±60.2km   70.908 W ±13.8km
   DEPTH =  68.6 ± 55.9 km
 CHILE-ARGENTINA BORDER REGION     (127)

CHCH     0.41  31 iPc   34 54.50    0.1
                  iS    35 05.60
LNV      0.53 308 iPc   34 55.60    0.1
                  iS    35 06.10
TACH     0.63 358 iPd   34 56.70    0.1
                  iS    35 09.00
PCH      0.74  26 iPd   34 57.70   -0.2
                  iS    35 11.20
SAN      0.86  14 eP    34 59.00   -0.2
                  iS    35 13.80
LCCH     0.98 326 iP    35 00.50   -0.2
                  iS    35 14.90
FCH      1.09  28 iPc   35 02.50    0 0
                  iS    35 19.50
PEL      1 15   9 iP    35 03.50    0.4
```

```
                    iS     35 20.70
ROCH     1.31 356 iPd     34 57.70   -7.7X
                    iS     35 11.20
      S.D. = 0.3  on   8 of   9 obs.
-----------------------------------------
    NOV  20, 1989  23h 07m 39.21± 1.14s
    11.224 N ± 6.0km   60.635 W ±15.4km
    DEPTH =  38.8 ± 10.2 km
 WINDWARD ISLANDS                    ( 95)
      MD 3.4 (TRN).

BOT      0.10 235 eP      07 45.66    0.0
                    eS     07 52.73
PIG      0.21 253 eP      07 46.43    0.0
                    eS     07 53.16
TBH      0.85 210 eP      07 54.97    0.2
                    eS     08 09.02
TRN      0.95 233 eP      07 55.44   -0.7
                    eS     08 10.06
TPP      1.21 222 eP      08 00.25    0.4
                    eS     08 15.20
TCE      1.22 245 eP      08 00.14    0.1
                    eS     08 14.76
GRW      1.37 313 eP      08 02.11   -0.2
                    eS     08 20.03
FCV      2.01 343 eP      08 11.54    0.1
                    eS     08 39.44
SVB      2.12 344 eP      08 12.92   -0.1
                    eS     08 40.84
SVV      2.16 345 eP      08 13.48    0.0
                    eS     08 41.35
SSV      2.16 345 eP      08 13.55    0.0
                    eS     08 41.19
SOA      2.19 347 eP      08 15.56    1.6
                    eS     08 44.56
SLB      2.62 351 eP      08 20.43    0.3
                    eS     08 49.89
BIM      3.30 353 eP      08 29.54   -0.2
                    S      09 07.40
MVM      3.32 356 eP      08 29.56   -0.5
CRM      3.52 356 iPd     08 32.33   -0.5
FDF      3.52 352 eP      08 32.60   -0.4
                    S      09 14.30
      S.D. = 0.6  on  17 of  17 obs.
-----------------------------------------
?   NOV  20, 1989  23h 48m 29.17± 2.65s
    14.714 N ±38.6km   93.003 W ±13.4km
    DEPTH =  57.5 ± 11.3 km
    4.3mb (  2 obs.)
 NEAR COAST OF CHIAPAS, MEXICO       ( 69)

TPX      0.74  75 iP      48 44.00    0.1
                    iS     48 56.50
SCX      2.04  10 iP      49 04.31    2.6X
                    iS     49 31.00
OXX      4.28 304 iP      49 34.00    0.4
                    iS     50 19.00
EVV      4.35 329 eP      49 35.00    0.8
IISM     5.97 316 (P)     49 55.00   -2.0
LVVM     5.98 327 iP      49 56.81   -0.4
                    iS     51 06.52
IIT      6.64 311 (P)     50 10.00    3.3X
PPM      6.91 310 iP      50 11.00    0.3
                    iS     51 29.50
ACX      6.94 289 (P)     50 29.00   18.4X
III      7.19 301 (P)     50 22.50    8.2X
MRX      9.26 304 eP      50 43.00    0.3
ALQ     23.50 331 eP      53 36.50    1.6
        1.0s      5.00nm          3.9mb
LRM     35.07 336 eP      55 19.60    0.7
INK     59.48 344 eP      58 27.00   -1.3
MBC     63.09 353 eP      58 52.00   -0.4
        0.5s      3.00nm          4.6mb
      S.D. = 1.2  on  11 of  15 obs.
-----------------------------------------
    NOV  21, 1989  00h 48m 49.81± 0.98s
     6.450 S ± 7.9km  154.191 E ± 6.2km
    DEPTH =  81.2 ±  9.7 km
    4.7mb (  5 obs.)
 SOLOMON ISLANDS                     (193)

RAB      3.01 318 e(P)    49 36.00   -0.3
                    iS     50 34.00
SVO      6.18 116 eP      50 20.00   -0.4
                    eS     51 28.00
HNR      6.42 118 eP      50 26.00    2.2
                    eS     51 42.00
LAT      7.15 268 eP      50 34.00    0.3
PMG      7.56 247 eP      50 39.00   -0.5
DZM     19.53 144 iPc     53 10.90   -2.7
OIS     19.92 224 eP      53 17.00   -0.7
RMO     20.59 194 ePc     53 24.20   -0.3
WB5     23.43 233 eP      53 53.00    0.4
WRA     23.48 233 Pd      53 51.90   -1.3
        4.6s    428.30nm          5.2mb X
ASPA    25.95 227 eP      54 17.30    0.7
      Z  18s      0.59um          4.2Msz
                    LR     04 48.20
WARB    32.79 230 eP      55 18.00    0.5
CN2     56.36 335 P       58 23.00   -1.8
CHG     59.95 296 eP      58 52.30    2.0
LZH     63.37 316 eP      59 14.00    0.9
        1.5s     56.00nm          5.3mb
LSA     70.31 305 P       59 58.80    1.3
SVW     77.79  22 eP      00 39.30   -0.2
GBA     78.74 285 P       00 49.00    3.5X
        0.2s      0.90nm          4.3mb
TTA     78.80  21 eP      00 44.00   -1.1
PMR     80.62  24 eP      00 53.10   -1.6
        1.0s     10.00nm          4.7mb
IMA     81.55  19 eP      00 58.90   -0.8
        0.9s      5.20nm          4.4mb
FBA     82.90  21 eP      01 04.50   -2.0
MWC     91.73  56 eP      01 50.00   -0.1
SBB     91.97  55 eP      01 51.00    0.0
RVR     92.27  56 eP      01 53.00    0.7
PLM     92.62  57 eP      01 54.00   -0.2
BAR     92.71  58 eP      01 55.00    0.6
TNP     92.82  52 iP      01 55.30    0.2
        1.0s      7.50nm          5.1mb
GSC     92.87  55 eP      01 56.00    0.8
TPC     93.37  56 eP      01 58.00    0.5
GLA     94.29  57 eP      02 03.00    1.3
BCAO   135.82 270 iPKPc   08 04.30    0.4
        0.7s      8.00nm
BAO    148.95 135 e(PKP)  08 28.00    1.2
      S.D. = 1.2  on  32 of  33 obs.
-----------------------------------------
?   NOV  21, 1989  00h 52m 07.32± 4.51s
    32.792 N ±31.1km   35.855 E ±14.6km
    DEPTH =  10.0km  (geophysicist)
 DEAD SEA REGION                     (373)

SHMJ     0.10 230 Pd      52 10.10    0.0
BURJ     0.55 184 Pc      52 18.70    0.1
JARJ     0.56 172 Pc      52 19.30    0.6
HLBJ     0.81 152 P       52 22.80   -0.2
KFNJ     0.94 189 P       52 25.50    0.3
MASJ     1.07 186 P       52 27.20   -0.3
MKRJ     1.25 188 Pc      52 30.00   -0.6
      S.D. = 0.5  on   7 of   7 obs.
-----------------------------------------
?   NOV  21, 1989  01h 41m 15.29± 3.39s
    23.965 N ±17.1km  122.652 E ±26.3km
    DEPTH =  10.0km  (geophysicist)
 TAIWAN REGION                       (243)

TWD      0.97 277 ePc     41 32.90   -0.9
                    eS     41 42.20
TWC      0.97 311 iPd     41 33.60   -0.2
                    eS     41 45.30
TWF1     1.38 244 ePc     41 40.90    0.3
TWZ      1.49 319 ePc     41 43.80    1.7
SSE      7.22 350 eP      43 02.50   -0.9
                    e(Lg) 45 10.50
      S.D. = 1.5  on   5 of   5 obs.
-----------------------------------------
*   NDV  21, 1989  02h 05m 08.06± 0.68s
    20.750 S ±16.3km  173.671 W ±12.4km
    DEPTH =  33.0km  (normol)
    4.9mb (  5 obs.)
 TONGA ISLANDS                       (173)

MBU      8.12 296 eP      07 06.90    0.2
DZM     18.56 262 iPd     09 25.00    0.5
CAN     35.78 238 eP      12 07.00    0.8
BWA     36.04 240 eP      12 06.80   -1.7
TOO     39.06 236 eP      12 35.00    1.2
ASPA    48.41 256 eP      13 48.90   -0.4
        1.0s     11.00nm          4.8mb
WB5     48.56 261 eP      13 48.40   -2.1
FORR    52.88 246 eP      14 22.00   -1.1
NANU    65.24 254 eP      15 48.00   -0.9
OZH     79.97 301 eP      17 15.50   -0.3
MSU     82.42  44 P       17 29.80    1.1
MDJ     83.10 323 eP      17 31.00   -0.8
ALQ     84.43  50 eP      17 40.50    1.5
        1.0s      3.25nm          4.5mb
TTA     84.56   8 P       17 37.90   -0.9
        1.0s     12.50nm          5.1mb
CN2     85.02 321 P       17 41.00   -0.4
BW06    86.42  42 P       17 55.00    6.2X
TIA     86.47 311 eP      17 48.30   -0.6
IPM     87.22 276 ePc     17 53.90    0.9
        0.9s     38.30nm          5.6mb
FBA     87.67  11 ePc     17 52.90   -1.1
IMA     87.87   8 P       17 54.30   -0.8
BJI     88.95 314 eP      18 01.00    0.3
XAN     91.54 306 Pc      18 13.10    0.2
NST     91.99 286 eP      18 18.00    2.8
HHC     92.46 313 P       18 18.00    0.9
BRW     92.56   5 P       17 56.80  -19.9X
INK     93.50  14 eP      18 20.00   -1.1
CHG     94.16 288 eP      18 26.90    1.7
CHTO    94.16 288 eP      18 26.50    1.3
        1.0s      5.00nm          4.9mb
EKA    144.74   9 PKP     24 41.00   -1.8
        2.9s    230.10nm
KRA    148.83 343 PKP     24 53.40    3.8X
KSP    148.96 348 ePKPc   24 54.30    4.5X
CLL    149.05 352 iPKPd   24 54.20    4.3X
        1.1s     19.00nm
BRG    149.34 351 iPKP    24 55.20    4.8X
        0.8s     16.00nm
SPC    149.52 342 ePKP    24 55.60    4.6X
VRI    149.87 331 ePKPd   24 58.00    6.6X
MOX    149.88 353 e(PKP)  24 57.00    5.8X
PRU    150.10 349 PKP     24 57.50    5.9X
                    e      25 11.00
BBTK   150.46 316 ePKP    24 58.00    5.4X
GRF    150.86 353 ePKP    25 00.00    7.3X
KHC    151.09 350 ePKP    24 59.90    6.8X
                    e      25 06.50
ZST    151.27 345 ePKP    24 54.00    0.6
                    e      25 03.00
FLN    151.52   9 ePKP    25 00.30    6.6X
        0.8s     10.70nm
LDF    151.74   9 ePKP    25 00.90    6.8X
        1.0s     12.00nm
GRR    151.83  10 ePKP    25 01.20    7.0X
        1.0s     20.00nm
LPF    152.14  11 ePKP    25 02.00    7.4X
        0.8s     14.50nm
CDF    152.39 359 ePKP    25 02.40    7.3X
MBH    152.72 295 ePKPc   25 04.00    8.0X
KBA    153.12 349 e(PKP)  25 02.50    6.2X
        0.7s      2.60nm
                    i      25 04.80
SSF    153.65   4 ePKP    25 04.30    7.5X
MAF    154.41   6 ePKP    25 08.00   10.1X
        1.0s     10.00nm
      S.D. = 1.2  on  28 of  50 obs.
-----------------------------------------
    NOV  21, 1989  02h 13m 10.64± 0.23s
    15.867 S ± 9.1km  172.765 W ± 6.6km
    DEPTH =  33.0km  (normol)
    5.4mb ( 16 obs.)  4.9Msz (  1 obs.)
 SAMOA ISLANDS REGION                (169)

AFI      2.17  26 P       13 05.80  -39.4X
                    S      13 37.00
MBU      8.24 261 eP      15 16.90    5.9X
VUN      8.66 255 ePc     15 23.30    6.6X
PVC     18.21 261 iPc     17 28.50    5.8X
DZM     20.60 249 iPc     17 48.30   -1.5
PAE     22.27  98 eP      18 06.00   -0.5
        1.3s     55.00nm          4.8mb
PMO     23.98  91 eP      18 24.00    0.7
        1.3s     60.00nm          5.0mb
SVO     27.57 281 P       18 56.00   -0.8
CNB     38.95 233 eP      20 35.00   -0.5
CAN     39.24 233 eP      20 37.80   -0.1
BWA     39.40 235 eP      20 37.00   -2.2
CMS     40.72 240 iPc     20 49.30   -0.8
        0.9s     39.00nm          5.1mb
TOO     42.65 231 eP      21 06.00    0.1
STK     44.34 240 eP      21 19.00   -0.6
BFD     44.77 233 eP      21 24.00    1.0
ADE     47.28 237 eP      21 43.00    0 0
WB5     50.31 257 eP      22 05.00   -1.6
ASPA    50.55 252 iPc     22 07.20   -1.2
```

21d 02h

	1.0s	66.00nm		5.6mb		
	Z 21s	1.29um		4.9Msz		
		LR	41	35.30		
WARB	57.05	249	iPc	22	55.20	-1.1
SBA	62.84	185	P	23	38.80	3.8X
MBL	63.72	254	eP	23	41.00	-0.8
NANU	67.49	252	eP	24	05.30	-0.6
SYP	70.90	44	eP	24	27.00	0.2
PRS	71.06	42	ePc	24	27.60	0.0
GCC	71.08	41	eP	24	27.40	-0.3
SAO	71.27	41	ePc	24	28.10	-0.8
PRI	71.40	42	ePc	24	29.70	-0.1
BKS	71.46	40	ePc	24	28.70	-1.3
	0.9s	44.00nm		5.5mb		
MHC	71.50	41	ePc	24	30.20	-0.2
LLA	71.50	42	ePc	24	30.00	-0.3
MWC	72.02	45	eP	24	33.00	-0.7
BAR	72.14	47	eP	24	33.00	-1.2
RVR	72.36	46	eP	24	34.00	-1.4
PLM	72.37	47	eP	24	35.00	-0.7
SBB	72.44	45	eP	24	35.00	-1.0
FRI	72.52	42	ePc	24	35.70	-0.6
ISA	72.56	44	eP	24	36.00	-0.7
CMB	72.71	41	ePc	24	36.80	-0.7
			e	24	47.30	
ORV	72.95	39	ePc	24	38.20	-0 6
WDC	72.97	38	iPc	24	38.50	-0.4
			e	24	49.00	
			e	24	55.50	
TPC	73.35	46	eP	24	41.00	-0.3
MIN	73.38	38	ePc	24	40.20	-1.2
GSC	73.48	45	eP	24	41.00	-1.1
GLA	73.65	48	eP	24	43.00	0.0
KDC	75.24	11	eP	24	51.50	-0.1
SHW	76.73	33	P	25	00.00	-0.5
LON	77.31	33	P	25	02.30	-1.3
GMW	77.33	32	P	25	03.70	0.1
RMW	77.77	33	P	25	16.00	9 9X
SVW	77.93	8	eP	25	06.40	-0.3
MCW	78.05	31	P	25	08.40	0.8
MSU	78.33	44	P	25	10.00	0.4
DUG	78.79	43	P	25	11.00	-1.0
PMR	79.45	11	ePc	25	14.20	-0.7
	1.3s	47.20nm		5.3mb		
TTA	79.63	8	ePc	25	16.20	0.2
MDJ	79.77	322	eP	25	17.00	0.0
DAU	79.92	43	P	25	18.50	0.2
DPW	79.93	34	P	25	17.40	-0.5
PTI	80.48	40	P	25	21.00	-0.1
TOA	80.50	12	eP	25	21.40	0.8
ALQ	80.63	50	iP	25	22.30	0.2
	2.1s	83.33nm		5.4mb		
CN2	81.83	320	P	25	29.20	1.3
LRM	82.01	38	eP	25	29.00	-0.1
BW06	82.21	42	P	25	29.80	-0.4
FBA	82.74	10	ePc	25	31.70	-0.4
IMA	82.94	8	ePc	25	33.70	0.4
	1.2s	15.60nm		5.0mb		
GOL	83.54	46	P	25	37.10	0.0
	1.0s	40.00nm		5.5mb		
GLD	83.66	46	P	25	38.30	0.6
	1.2s	68.18nm		5.7mb		
SES	85.24	34	ePc	25	45.20	0.1
	1.3s	151.00nm		6.0mb		
EDM	85.56	31	iPc	25	46.00	-0.7
	1.3s	92.00nm		5.8mb		
BJI	86.23	313	eP	25	52.50	2.3X
	1.3s	31.00nm		5.4mb		
MEO	86.47	53	iPd	25	51.60	0.1
MAW	87.55	198	eP	25	59.00	2.8X
INK	88.57	14	ePc	26	00.40	-0 5
HHC	89.79	313	eP	26	10.00	2.6
BTO	90.80	312	eP	26	15.00	2.9
PEL	91.21	125	ePd	26	17.00	2.8
	0.8s	14.93nm		5.4mb		
FFC	92.15	33	eP	26	17.50	-0.3
	1.8s	82.00nm		5.9mb		
MBC	97.27	11	eP	26	41.00	0.2
	1.0s	5.00nm		5.0mb		
GTA	97.95	309	eP	26	46.40	1.6
NUR	133.67	348	ePKP	32	25.00	-0.2
NB2	134.80	357	PKP	32	27.30	-0.1
	1.0s	3.40nm				
WTS	143.96	0	ePKP	32	38.00	-6.2X
CLL	144.34	354	ePKP	32	44.00	-0.9
			e	33	16.00	
KSP	144.36	350	ePKP	32	43.50	-1.5
KRA	144.38	346	ePKP	32	43.40	-1.6
KVT	144.62	321	ePKP	32	54.00	8.2X
SPC	145.11	345	ePKP	32	46.70	0.1
			e	48	31.90	
MOX	145.13	355	ePKPd	32	46.50	0.2
	1.2s	25.00nm				
CLI	145.14	336	ePKP	32	47.00	0.5
ENN	145.17	1	ePKP	32	45.50	-0.8
	1.1s	27.00nm				
MEM	145.33	1	PKP	32	46.80	0.2
SNF	145.36	3	PKP	32	47.00	0.4
HOF	145.44	355	iPKPd	32	47.20	0.3
	1.2s	30.00nm				
PRU	145.45	352	PKPd	32	47.50	0.6
	1.0s	28.90nm				
DOU	145.79	3	PKP	32	48.30	0.9
CFR	145.88	333	ePKP	32	49.00	1.3
VRI	145.92	335	ePKPd	32	49.00	1.2
GRF	146.11	355	iPKPc	32	49.50	1.5
NAI	146.19	242	iPKPd	32	54.00	4.5X
PSZ	146.37	345	ePKP	32	48.80	0.2
TLB	146.40	333	ePKP	32	51.00	2.4X
KHC	146.42	352	iPKP	32	51.00	2.4X
	1.2s	35.00nm				
			e	33	00.00	
MLR	146.54	336	ePKPd	32	51.50	2.5X
FLN	146.59	9	ePKP	32	50.20	1.4
	1.2s	68.45nm				
ISR	146.59	335	ePKP	32	52.00	3.0X
ZST	146.75	348	iPKP	32	51.70	2.7X
LDF	146.81	9	ePKP	32	50.50	1.4
	0.8s	18.80nm				
SRO	146.86	346	ePKP	32	52.00	2.8X
GRR	146.89	10	ePKP	32	51.40	2.2
	1.0s	32.00nm				
CMP	147.08	337	ePKPc	32	54.00	4.3X
LPF	147.21	10	ePKP	32	52.40	2.7X
	1.2s	56.55nm				
SOP	147.35	348	ePKP	32	55.40	5.4X
BBTK	147.35	322	iPKPd	32	54.50	4.1X
CDF	147.55	360	ePKP	32	53.50	3.1X
	0.8s	18.80nm				
FUR	147.62	355	ePKP	32	53.80	3.3X
BHG	147.90	353	ePKP	32	54.90	4.0X
HAU	147.94	1	ePKP	32	54.70	3.7X
	0.8s	16.10nm				
BZS	147.98	341	ePKP	32	52.50	1.4
			e	48	44.50	
			e	00	12.00	
BSF	148.12	1	ePKP	32	55.10	3.7X
	0.8s	10.75nm				
KBA	148.47	352	ePKPd	32	55.50	3.4X
	0.8s	3.80nm				
LOR	148.56	4	ePKP	32	56.30	4.3X
	0.8s	12.10nm				
BHL	148.74	310	PKP	32	58.50	5.7X
SSF	148.74	5	ePKP	32	56.90	4.6X
	1.0s	29.00nm				
MFF	148.74	10	ePKP	32	56.30	4.0X
	1.2s	41.65nm				
LBF	148.86	4	ePKP	32	57.20	4.7X
	1.0s	20.00nm				
OGA	148.93	355	iPKPd	32	58.00	5.1X
HRI	148.97	309	ePKP	32	59.00	5.8X
AVF	149.00	5	ePKP	32	57.40	4.7X
	1.0s	10.00nm				
FVI	149.02	353	PKP	32	54.00	1.3
PTJ	149.18	348	ePKP	32	57.70	4.6X
BGF	149.18	6	ePKP	32	57.70	4.7X
	0.9s	18.00nm				
SMF	149.18	5	ePKP	32	57.80	4.8X
	1.0s	10 00nm				
ZAG	149.25	348	ePKP	32	56.00	2.9X
LSF	149.33	8	ePKP	32	57.90	4.7X
	0.8s	14.80nm				
TCF	149.38	7	ePKP	32	58.10	4.8X
	1.0s	14.00nm				
MAF	149.49	6	ePKP	32	58.80	5.3X
	1.0s	20.00nm				
CTI	149.68	354	PKP	32	58.90	5.0X
AGO	149.71	6	PKP	32	53.34	-0.5
EDC	149.72	328	ePKP	32	58.00	4.0X
TRI	149.75	351	iPKPd	32	59.10	5.3X
PLDF	149.84	5	PKP	32	54.04	0.0
DSI	149.98	306	ePKP	33	01.00	6.4X
PYM	150.00	6	PKP	32	54.26	-0.1
RIY	150.00	350	ePKPd	32	59.50	5.3X
VAI	150.06	358	PKP	32	59.80	5.5X
BCK	150.18	321	ePKP	33	00.60	5.7X
KHL	150.25	323	iPKP	33	05.70	10.7X
RJF	150.26	8	ePKP	33	00.60	6.0X
	1.0s	24.00nm				
ORO	150.33	359	PKP	32	58.50	3.6X
LPG	150.46	1	ePKP	33	02.10	6.8X
	1.0s	24.00nm				
LFF	150.50	9	ePKP	33	01.20	6.2X
	1.0s	32.00nm				
LBL	150.53	6	PKP	32	55.88	0.9
CAF	150.71	8	ePKP	33	01.80	6.4X
	1.2s	23.80nm				
LPO	150.82	9	ePKP	33	01.90	6.4X
	1.0s	28.00nm				
EZN	150.89	329	ePKP	33	01.00	5.3X
BNI	150.90	1	PKP	32	57.50	1.7
MBH	151.10	303	e(PKP)	33	03.00	6.7X
SKO	151.25	338	iPKP	33	02.50	6.3X
	1.2s	36.00nm				
VAY	151.38	335	ePKP	33	02.00	5.6X
SFI	151.76	353	PKP	33	05.00	8.1X
FIR	151.97	354	ePKP	33	05.00	7.8X
ARV	152.03	351	PKP	33	04.50	7.1X
CRE	152.04	353	PKP	33	04.00	6.5X
OHR	152.24	338	ePKP	33	02.30	4.5X
	1.0s	0.05nm				
MNS	153.16	351	PKP	33	06.50	7.5X
RMP	153.72	351	PKP	33	02.00	2.2
SGO	154.42	346	PKP	33	09.50	8.8X
BCAO	164.11	226	iPKPc	33	13.20	0.7
	0.6s	14.00nm				
			i	34	08.00	

S.D. = 1.0 on 102 of 169 obs.

NOV 21, 1989 02h 36m 47.82± 0.14s
44.635 N ± 3.4km 148.202 E ± 2.5km
DEPTH = 52.6km (9 depth phases)
5.5mb (62 obs.)

KURIL ISLANDS (221)

Felt (IV) at Burevestnik, Gornyy and Goryachiy; (III) at Kitovyy, Kurilsk and Reydavo; (II) at Yuzhno-Kurilsk and Malokurilsk.

KUSJ	2.96	240	iPd	37	32.60	-0.7
			S	38	04.50	
ASAJ	4.02	265	iPd	37	51.70	3.4X
HOOJ	4.22	240	P	37	51.80	0.6
			eS	38	39.00	
SAP	5.21	255	eP	38	09.00	3.9X
MRRJ	5.63	249	P	38	12.30	1.3X
			eS	39	15.70	
MDJ	13.26	276	eP	39	55.50	0.3
	Z 25s	1.50um				
CN2	16.33	275	P	40	35.00	0.1
	0.6s	0.10nm				2.1mb X
	Z 16s	1.00um				4.5MszX
	N 14s	0.70um				
			pP	40	39.40	
SNY	18.14	270	iPc	40	56.70	-0.7
	Z 26s	1.50um				
	E 26s	1.10um				
DL2	20.58	263	eP	41	24.00	-0.6
	Z 24s	0.60um				3.9MszX
			eS	45	07.00	
TIA	24.99	261	Pc	42	07.00	-1.0
SSE	25.11	247	P	42	09.80	0.7
	1.0s	83.00nm				5.2mb
			e(S)	46	50.00	
NJ2	26.07	251	Pc	42	18.00	0.0
HHC	27.03	275	P	42	27.00	0.2
TIY	27.63	268	Pc	42	32.40	0.1
	Z 24s	1.00um				4.3MszX
BTO	28.21	275	eP	42	37.00	-0.6
WHN	30.05	254	iPc	42	53.80	-0.2
	0.5s	0.11nm				2.8mb X
			pP	42	58.50	16kmX
XAN	31.89	264	iPc	43	09.50	-0.7
LZH	34.50	271	iPc	43	33.00	0.0
	1.0s	262.00nm				6.1mb
	Z 26s	0.80um				4.3MszX
			pP	43	57.50	109kmX
GTA	35.90	279	iPc	43	45.00	0.2
	0.8s	0.10nm				2.8mb X
			PcP	46	11.20	
TTA	36.27	40	ePc	43	48.00	0.5

SVW	36.38	43	ePc	43 49.70	1.2
CD2	37.25	264	P	43 56.00	-0.1
BRW	37.38	26	iPc	43 56.30	-0.3
IMA	37.52	35	iPc	43 58.60	0.5
	0.7s	26.40nm			5.3mb
			e	02 46.80	
GYA	37.87	256	iPc	44 00.80	-0.7
			PcP	46 17.00	
			S	49 49.60	
KDC	38.15	48	eP	44 03.10	-0.1
PMR	39.49	42	eP	44 14.20	-0.2
			e	46 21.00	
FBA	39.94	37	iPc	44 18.90	0.9
TOA	40.84	41	ePc	44 26.90	1.3
KMI	41.45	257	Pc+	44 31.00	-0.2
			pP	44 45.00	53km
WMO	42.48	291	iPc	44 40.00	0.7
Z	20s	0.80um			4.6Msz
INK	45.26	31	eP	45 01.50	0.3
	0.5s	16.00nm			5.1mb
LSA	46.92	272	Pc	45 16.80	1.3
MBC	47.74	19	eP	45 11.50	-9.2X
	0.5s	2.00nm			4.4mb X
CHTO	48.25	254	iP	45 26.50	1.1
	0.9s	63.94nm			5.6mb
			i	45 41.50	57km
BDT	49.30	253	eP	45 33.00	-0.4
NST	49.64	250	iPc	45 37.00	0.9
KSH	52.27	291	P	45 57.00	1.0
SNG	55.62	243	eP	46 20.90	0.3
NDI	57.40	280	iP	46 33.00	-0.2
	0.8s	70.90nm			5.8mb
GMW	58.44	53	P	46 40.50	0.2
BMW	58.78	54	P	46 42.80	0.1
MTN	59.27	199	iPc	46 44.80	-1.4
LON	59.44	53	P	46 53.80	6.5X
SHW	59.51	54	P	46 48.40	0.5
SOD	59.94	338	iP	46 47.80	-2.5
EDM	60.24	43	iPc	46 52.10	-0.6
	1.0s	69.00nm			5.7mb
VGB	60.73	54	P	46 56.20	0.1
DPW	60.82	50	P	46 56.00	-0.7
TRT	61.16	221	ePd	46 58.70	-0.5
	0.7s	70.80nm			5.9mb
NEW	61.18	49	eP	46 58.00	-1.2
	1.0s	3.00nm			4.4mb X
FHC	61.55	60	ePc	47 02.40	0.7
WDC	62.57	59	iPc	47 08.40	0.0
SES	63.08	45	iPc	47 11.40	-0.4
MIN	63.28	59	ePc	47 12.60	-0.7
SUF	63.46	334	eP	47 11.70	-2.3
	0.4s	4.20nm			4.9mb
QUE	63.62	287	eP	47 15.00	-0.8
ORV	63.82	59	ePc	47 15.80	-0.9
BRK	64.37	61	ePc	47 20.60	0.3
FFC	64.54	37	iPc	47 21.10	-0.1
	0.9s	90.00nm			5.8mb
MAIO	64.80	297	iPc	47 23.00	-0.3
MHC	65.08	61	eP	47 24.50	-0.6
LRM	65.20	49	ePc	47 25.80	-0.1
WB5	65.43	194	iPc	47 25.00	-2.2
CMB	65.44	60	ePc	47 26.90	-0.4
NUR	65.59	333	eP	47 25.60	-2.2
LLA	65.97	62	ePc	47 30.30	-0.3
POO	66.18	273	iPc	47 31.30	-0.9
	0.7s	93.15nm			5.9mb
FRI	66.51	61	ePc	47 33.60	-0.4
BOM	66.68	274	iPc	47 33.80	-1.5
			eS	50 23.00	
KHI	66.69	295	iP+	47 35.80	0.3
GBA	66.90	266	P	47 35.90	-0.9
PTI	67.13	52	P	47 38.80	0.7
TNP	67.35	58	iP	47 39.50	-0.2
	1.0s	17.50nm			5.0mb
			ipP	47 54.00	52km
ISA	68.12	61	eP	47 43.00	-1.3
UPP	68.28	336	iP	47 44.00	-0.8
DUG	68.61	54	P	47 47.30	-0.1
	0.5s	2.26nm			4.4mb X
BW06	68.76	51	iP	47 48.20	-0.2
	1.0s	21.25nm			5.0mb
			e	48 03.00	53km
NB2	69.05	339	P	47 46.80	-2.8
	0.6s	21.30nm			5.3mb
SBB	69.15	62	eP	47 50.00	-0.7
HFS	69.16	338	eP	47 49.00	-1.2
	0.5s	20.20nm			5.3mb

ASPA	69.21	194	iPc	47 50.30	-0.7
	0.7s	27.00nm			5.3mb
DAU	69.37	53	P	47 52.20	0.0
GSC	69.39	61	eP	47 52.00	-0.2
RVR	69.89	62	eP	47 54.00	-1.1
MSU	70.09	55	P	47 56.10	-0.5
MBL	70.42	208	eP	47 57.00	-1.3
TPC	70.64	61	eP	47 59.00	-0.8
RSSD	70.80	47	iP	48 00.20	-0.6
			epP	48 15.00	53km
RSON	70.82	36	iP	48 00.00	-0.5
	1.0s	56.94nm			5.5mb
			epP	48 13.00	45km
BAR	71.19	63	eP	48 02.00	-1.1
GLA	72.10	61	eP	48 08.00	-0.5
GOL	73.16	51	eP	48 15.10	0.2
	1.0s	6.00nm			4.5mb
			e	48 31.00	57km
GLD	73.21	51	P	48 15.00	-0.1
NANU	73.24	211	eP	48 15.00	0.0
SLY	73.87	304	iPd	48 11.00	-7.7X
CLI	75.32	322	ePc	48 27.00	0.1
KRA	75.50	328	eP	48 27.60	-0.3
	0.5s	32.00nm			5.5mb
			e	48 36.80	30kmX
			e	16 12.00	
ALO	75.88	55	iP	48 31.00	0.5
	1.0s	6.25nm			4.5mb
			pP	48 46.00	53km
VRI	76.09	322	ePc	48 31.50	0.2
KSP	76.17	331	iPc	48 31.60	0.0
STK	76.39	186	iPc	48 33.40	0.5
TLB	76.50	321	eP	48 34.00	0.5
SCH	76.56	20	ePd	48 33.60	-0.2
MLR	76.73	322	ePc	48 34.50	-0.5
ISR	76.74	322	ePd	48 36.00	1.0
CLL	76.87	333	iPc	48 34.90	-0.6
	0.8s	63.00nm			5.7mb
BRG	76.94	332	iP	48 35.40	-0.5
	1.2s	23.00nm			5.1mb
			e	48 44.00	28kmX
FORR	77.33	198	iPd	48 38.00	-0.1
WIT	77.46	337	eP	48 40.00	1.3
PRU	77.49	331	Pc	48 39.50	0.5
	1.0s	28.90nm			5.3mb
EKA	77.49	344	Pc	48 38.90	0.0
	0.6s	28.60nm			5.5mb
BBTK	77.84	315	iPc	48 42.00	0.8
MOX	77.89	333	ePc	48 41.00	-0.2
	1.0s	32.00nm			5.3mb
SRO	77.96	328	iP	48 42.30	0.8
ZST	78.09	329	iP	48 42.70	0.4
HOF	78.10	333	iPc	48 42.20	-0.1
	0.8s	29.00nm			5.3mb
WTS	78.15	337	iPc	48 42.80	0.3
	0.8s	39.00nm			5.5mb
			e	48 53.00	33kmX
KHC	78.55	332	iPc	48 45.00	0.1
	0.7s	24.50nm			5.3mb
BWA	78.69	180	eP	48 46.90	1.3
GRF	78.85	333	iPc	48 46.90	0.5
	1.1s	86.00nm			5.6mb
COOL	79.10	203	eP	48 47.00	-1.0
ENN	79.50	337	iPc	48 49.90	0.0
	1.0s	91.00nm			5.7mb
CAN	79.58	179	eP	48 52.00	1.6
MEM	79.62	337	iPc	48 50.40	-0.1
TOD	79.68	335	ePc	48 51.04	0.1
ABH	79.82	335	ePc	48 51.66	-0.1
BHG	80.00	331	iPc	48 53.30	0.6
	0.9s	41.00nm			5.4mb
DLE	80.08	345	iPc	48 53.20	0.2
	0.5s	52.00nm			5.7mb
RUP	80.12	336	ePc	48 53.32	-0.1
FUR	80.16	332	iPc	48 53.80	0.3
	1.0s	61.00nm			5.5mb
SNF	80.18	338	P	48 53.60	0.0
BAL	80.20	207	eP	48 53.00	-0.8
KBA	80.39	331	iPd	48 55.70	0.7
	0.9s	55.20nm			5.5mb
PTJ	80.45	328	eP	48 54.20	-1.0
DOU	80.48	337	Pd	48 54.90	-0.2
ETA	80.58	345	eP	48 55.80	0.2
BHL	80.73	309	P	48 57.50	0.6
BCK	80.75	314	iP	48 57.10	0.2
RYD	80.75	295	iPc	48 57.00	-0.1
SIO	80.95	48	eP	48 57.60	-0.3

FVI	81.00	331	P	48 57.00	-0.9
EZN	81.01	319	eP	48 57.00	-1.1
LNO	81.10	48	eP	48 58.30	-0.3
TUL	81.10	48	iPd	48 59.30	0.6
	0.8s	12.30nm			4.9mb
Z	22s	0.32um			4.6Msz
			LR	54 42.00	
ECP	81.10	344	eP	48 58.70	0.3
	1.0s	302.00nm			6.2mb
HRI	81.15	308	iP	48 59.50	0.3
CDF	B1.21	335	iPc	48 59.20	0.0
	0.Bs	32.20nm			5.3mb
OGA	81.37	332	iPc	49 00.60	0.4
	0.9s	58.00nm			5.5mb
SLE	81.41	334	ePc	48 59.90	-0.2
TRI	81.42	330	iPc	48 59.10	-1.0
FEL	81.46	334	ePc	49 00.24	-0.3
SKO	81.50	323	iP	49 00.80	0.1
	0.9s	64.00nm			5.6mb
RIY	81.50	329	iPc	48 59.60	-1.0
VAY	81.53	322	iPc	49 01.30	0.5
	0.9s	0.07nm			2.7mb X
SHMJ	81.54	308	P	49 04.20	3.1X
SAX	81.59	333	ePc	49 01.30	-0.1
ELL	81.65	314	eP	49 02.60	0.9
ZLA	81.69	334	ePc	49 01.50	-0.1
BCI	81.76	324	eP	49 02.80	0.9
OSS	81.82	332	ePc	49 02.80	0.3
HAU	81.85	335	iPc	49 02.40	0.0
	0.8s	21.40nm			5.2mb
TOO	81.86	182	eP	49 04.00	1.6
CTI	81.87	331	P	49 01.60	-1.1
BSF	81.87	335	iPc	49 02.30	-0.4
	0.6s	10.80nm			5.0mb
LLS	82.04	333	ePc	49 03.80	0.2
PHP	82.16	323	iPc	49 03.90	-0.1
NWAO	82.18	206	eP	49 04.00	-0.1
	0.7s	30.00nm			5.4mb
FVM	82.22	43	eP	49 05.10	0.6
	1.0s	22.00nm			5.1mb
VDL	82.22	333	ePc	49 05.00	0.4
KFNJ	82.24	308	P	49 07.00	2.4
OHR	82.48	323	eP	49 05.70	-0.1
	1.0s	0.12nm			2.9mb X
MKRJ	82.49	307	P	49 08.00	1.9
HVAR	82.55	327	iP	49 05.10	-1.0
DSI	82.62	308	iPc	49 07.00	0.4
SAL	82.64	332	P	49 06.50	0.0
TIR	82.68	323	eP	49 06.50	-0.3
TMA	82.75	333	ePc	49 07.10	-0.2
VAI	83.00	333	P	49 08.10	-0.2
FLN	83.03	340	eP	49 08.70	0.2
	0.6s	32.40nm			5.5mb
MMK	83.09	333	ePc	49 09.60	0.4
LDF	83.10	339	eP	49 08.90	0.1
	0.8s	22.50nm			5.2mb
DIX	83.24	334	ePc	49 10.50	0.5
LOR	83.24	336	iPc	49 09.70	0.0
	0.8s	36.20nm			5.4mb
AOI	83.33	329	eP	49 09.88	-0.3
LSK	83.35	322	eP	49 10.50	0.1
CBM	83.36	24	P	49 10.00	-0.2
EMS	83.40	334	ePc	49 10.90	0.2
ORX	83.46	333	P	49 10.46	-0.5
LBF	83.47	336	iPc	49 10.90	0.1
	0.8s	36.20nm			5.5mb
ORO	83.47	333	P	49 10.50	-0.4
GRR	83.47	340	eP	49 11.30	0.6
	0.8s	83.20nm			5.8mb
TPE	83.49	323	eP	49 13.00	2.0
SSF	83.53	337	iPc	49 11.40	0.3
	0.8s	35.40nm			5.4mb
DHN	83.57	32	P	49 11.20	-0.2
ARV	83.62	329	P	49 11.50	-0.1
SFI	83.65	330	P	49 13.00	1.3
PGD	83.73	330	P	49 13.00	0.6
BOB	83.74	332	P	49 12.50	0.2
CIO	83.80	329	eP	49 12.39	-0,2
MME	83.82	331	P	49 14.00	1.1
SMF	83.82	336	iPc	49 12.90	0.3
AVF	83.82	337	iPc	49 13.00	0.4
SRN	83.84	323	eP	49 13.20	0.5
LPF	83.85	340	eP	49 13.10	0.5
	0.9s	76.60nm			5.7mb
CRE	83.86	330	P	49 07.00	-6.0X
LSD	83.88	334	P	49 13.69	0.5
BDI	83.97	331	P	49 12.50	-0.9

21d 02h

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LPG     83.97 334 iPc    49 14.60    0.9
        0.7s     34.40nm          5.5mb
FIR     83.98 330 eP     49 14.50    1.1
ALP     84.00 328 eP     49 13.61   -0.1
ASS     84.09 329 P      49 13.50   -0.6
HBVT    84.09  28 P      49 14.00    0.0
RSP     84.12 333 P      49 13.28   -1.0
BGF     84.18 337 eP     49 14.90    0.5
        0.8s     33.50nm          5.4mb
BRT     84.19 325 P      49 10.00   -4.5X
PCP     84.24 332 P      49 14.00   -0.8
MBH     84.25 307 iPc    49 16.00    1.0
AYN     84.28 305 iPc    49 16.00    0.9
PII     84.29 331 P      49 14.00   -0.9
BNI     84.40 334 Pc     49 16.00    0.3
AQU     84.43 328 P      49 15.B0    0.0
CKI     84.43 332 Pc     49 15.10   -0.6
RRL     84.48 334 P      49 16.56    0.3
BNH     84.49  27 P      49 16.50    0.5
HOL     84.53 306 iPc    49 17.50    1.1
MAF     84.56 337 iPc    49 17.40    1.1
TCF     84.60 337 iPc    49 17.10    0.5
        0.8s     24.10nm          5.3mb
MIM     84.61  25 P      49 16.70    0.2
DUI     84.62 327 P      49 17.00    0.2
FIN     84.65 332 P      49 15.84   -1.0
MNS     84.67 329 P      49 16.40   -0.6
ROB     84.69 333 P      49 16.35   -0.7
DOI     84.70 333 P      49 15.50   -1.6
SRFA    84.71 306 iPc    49 18.50    1.2
PZZ     84.75 333 P      49 16.15   -1.3
LSF     84.83 337 iPc    49 18.30    0.7
ENR     84.89 333 P      49 16.35   -1.8
STV     84.91 333 P      49 16.25   -1.9
MFF     84.95 339 eP     49 18.70    0.5
        0.8s     80.50nm          5.9mb
IMI     85.02 332 P      49 18.10   -0.6
BADA    85.12 306 iPc    49 20.00    0.7
RMP     85.16 328 P      49 06.80  -12.6X
RDP     85.20 328 P      49 19.60    0.0
KMSA    85.21 294 iPc    49 20.40    0.4
SBF     85.21 333 iPc    49 19.60   -0.1
        0.8s     42.90nm          5.6mb
SGO     85.22 326 P      49 18.50   -1.2
CSI     85.49 325 P      49 21.00   -0.1
EMM     85.53  25 P      49 21.60    0.5
ROI     85.55 325 P      49 21.70    0.3
TDS     85 57 325 P      49 21.50    0.1
RJF     85.70 337 iPc    49 22.90    0.9
        1.0s     48.00nm          5.6mb
CAF     85.89 337 iPc    49 24.40    1.4
LRG     85.93 333 iPc    49 23.80    0.7
        0.8s     42.90nm          5.7mb
LMR     85.99 333 iPc    49 23.80    0.4
        0.8s     51.00nm          5.8mb
CZI     86.03 325 P      49 22.70   -1.0
LFF     86.25 337 iPc    49 25.40    0.7
        0.8s     83.20nm          6.0mb
LPO     86.36 337 iPc    49 26.40    1.1
        0.9s     65.50nm          5.8mb
RSCP    86.44  41 iP     49 26.20    0.3
        1.0s     48.81nm          5.7mb
                  epP     49 41.00   51km
PRIN    87.01  31 P      49 25.50   -3.0X
EPF     88.12 337 eP     49 34.50    0.6
        0.8s     10.70nm          5.1mb
BCAO   113.62 303 ePKPc   55 21.80   -0.4
        0.4s      3.00nm
TIC    123.55 328 PKPc   55 39.90   -1.3
        0.7s      7.50nm
KIC    123.70 327 PKPc   55 40.18   -1.3
        0.8s     10.50nm
LIC    123.94 327 PKPc   55 40.64   -1.3
        0.7s      9.50nm
BUL    124.81 276 iPKPd  55 40.80   -2.8X
        1.0s     10.00nm
BLF    132.07 268 ePKP   55 57.50    0.2
ZOBO   138.37  59 ePKP   56 06.00   -4.0X
LPB    138.58  59 PKP    56 11.00    0.8
CNCB   138.87  59 PKP    56 03.00   -7.9X
                i        56 11.60
LCCH   147.46  84 iPKPd  56 26.70    2.2
LNV    147.83  84 ePKP   56 27.10    2.1
PEL    147.92  83 ePKP   56 27.50    2.2
        1.0s     20.00nm
BAO    148.01  30 ePKP   56 26.20    0.2
SAN    148.10  83 ePKP   56 27.50    1.9
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PCH    148.29  83 ePKPd 56 29.20    3.2X
FCH    148.29  83 ePKP  56 29.70    3.4X
SNA    150.39 200 iPKPc 56 33.30    5.4X
        0.9s     37.82nm
PPD    152.32  42 ePKP  56 32.70    0.4
                   i    56 39.40
                   e    56 49.90
      S.D. = 0.8  on 262 of 279 obs.
-----------------------------------------
   NOV  21, 1989  03h 10m 23.62± 0.14s
   28.975 S ± 5.3km  177.529 W ± 3.9km
   DEPTH =  56.2km  ( 24 depth phases)
   5.5mb ( 35 obs.)
 KERMADEC ISLANDS REGION          (177)
      Ms 5.5 (BRK).
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 36C
      Centroid Location:
      Origin Time        03:10:32.1 0.5
      Lat 28.73S 0.03 Lon 177.55W 0.04
      Dep  51.8 2.1 Half-duration  8.8
      Moment Tensor;    Scale 10**17 Nm
        Mrr= 4.89 0.12   Mtt= 2.18 0.22
        Mff=-7.07 0.20   Mrt= 0.25 0.20
        Mrf= 2.15 0.23   Mtf=-2.52 0.16
       Principal Axes:
        T  Vol=  5.28   Plg=78   Azm=249
        N        2.79        7        13
        P       -8.07        9       104
      Best Double Couple:Mo=6.7*10**17
       NP1:Strike=202 Dip=36 Slip= 101
       NP2:          8     55       82
SVA     11.42 340 eP     13 06.80    0.4
VUN     11.52 341 eP     13 06.80   -1.0
MBU     12.43 343 eP     13 21.70    1.6
PGZ     12 68 202 eP     13 17.00   -6 2X
MNG     12.95 204 eP     13 17.00   -9.8X
                  eS     15 38.10
WEL     13.80 205 eP     13 30.00   -7.9X
                   S     15 59.00
TCW     13.92 207 eP     13 34.70   -4.8X
                  eS     16 01.70
DZM     16.01 292 iPc    14 11.10    4.4X
PVC     17.13 308 iPc    14 26.50    5.9X
RAR     17.83  68 P      14 23.00   -6.3X
                   S     17 20.00
MSZ     19.47 213 eP     14 45.60   -2.9X
                  (S)    18 47.00
BRS     26.19 266 iPc    15 58.00    3.2X
                   i     16 00.00    7kmX
                  eS     20 58.00
COO     26.55 259 iPc    16 01.90    3.8X
AFR     27.85  72 iP     16 18.30    8.4X
        1.2s     45.00nm          5.0mb
PAE     27.96  72 iP     16 19.30    8.4X
        1.2s     70.00nm          5.2mb
PPT     28.00  72 iP     16 19.90    8.6X
        1.2s     55.00nm          5.1mb
PPN     28.14  72 iP     16 21.00    8.5X
        1.2s     15.00nm          4.5mb
TVO     28.17  73 iP     16 21.40    8.5X
        1.2s     70.00nm          5.2mb
CNB     28.65 249 ePc    16 19.30    2.2
        1.0s    110.00nm          5.4mb
                   e     16 32.50   52km
CAN     28.95 249 eP     16 21.30    1.6
SVO     29 01 308 P      16 29.00    8.7X
BWA     29.39 251 eP     16 23.10   -0.7
RMO     29.89 267 eP     16 30.00    1.8
                   e     16 45.00   61km
PMO     30.69  69 iP     16 42.80    7.5X
        1.2s     35.00nm          5.0mb
VAH     30.78  70 iP     16 43.20    7.1X
        1.2s     75.00nm          5.3mb
TPT     30.92  70 iP     16 44.80    7.5X
        1.2s     50.00nm          5.1mb
RUV     31.01  70 iP     16 45.30    7.2X
        1.2s     35.00nm          5.0mb
CMS     31.67 256 eP     16 45.00    1.2
        1.0s     96.00nm          5.5mb
TOO     31.92 245 ePd    16 47.20    1.2
                   e     19 35.00
QLP     33.82 265 eP     17 03.60    1.0
CTA     34.01 277 iPd+   17 05.90    1.6
        1.0s    180.00nm          6.0mb
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      Z  19s     12.50um          5.7Msz
                   i     18 28.00 448kmX
                   iS    22 09.00
BFD     34.24 246 eP     17 08.00    1.9
                   e     19 44.00
STK     35.22 255 iPc    17 15.70    1.1
ADE     37.38 249 iPc    17 33.70    1.0
        1.0s    126.00nm          5.8mb
RKT     38.52  91 iP     17 56.90   14.5X
        1.1s    160.00nm
QIS     39.64 272 iPd    17 52.00    0.2
LAT     40.15 297 eP     18 12.00   16.0X
ASPA    43.62 265 iPc    18 23.00   -1.3
        0.9s    118.00nm          5.6mb
      Z  22s      8.44um          5.6MszX
                   e     28 38.60
                   LR    34 40.20
WB5     44.47 271 eP     18 30.00   -1.3
FORR    46.77 254 iPc    18 38.50  -10.8X
WARB    49.18 259 iPd    19 07.00   -1.1
SBA     49.48 184 iPc+   19 13.10    3.4X
MTN     50.19 277 iPd    19 15.10   -0.8
        0.5s     50.00nm          5.8mb
KNA     50.99 273 eP     19 21.90   -0.1
COOL    52.58 252 eP     19 32.10   -1.8
        0.4s      9.00nm          5.2mb
KLB     55.20 250 eP     19 51.70   -1.4
NWAO    55.29 248 eP     19 51.60   -2.1
      Z  20s      2.60um          5.3Msz
      N  20s      1.10um
      E  20s      2.30um
GUA     55.71 314 e(P)   19 51.50   -5.3X
        0.8s    143.28nm          6.1mb
GUMO    55.77 314 e(P)   19 49.30   -7.9X
MEKA    55.99 256 eP     19 57.20   -1.6
BAL     56.34 251 eP     19 59.00   -2.3
MUN     56.38 249 eP     19 59.00   -2.5
        1.0s    108.00nm          5.8mb
      Z  20s      2.90um          5.4Msz
MBL     56.71 263 eP     20 01.00   -3.1X
        0.8s    115.00nm          6.0mb
MRWA    57.33 252 eP     20 06.00   -2.3
NANU    59.93 259 iPc    20 25.20   -1.2
        0.5s     60.00nm          6.0mb
SPA     61.19 180 iPc    20 35.70    1.0
        1.3s    248.33nm          6.2mb
      Z  20s      1.08um          5.0Msz
TRT     68.68 273 ePc    21 23.20   -0.4
        1.1s    192.80nm          6.0mb
KKM     72.52 287 ePc    21 45.50   -1.4
AIA     73.06 156 eP     21 49.70    0.6
MAW     73.78 200 eP     21 53.00   -0.3
KAKJ    76.07 326 P      22 06.30   -0.4
CHJJ    76.53 325 P      22 08.30   -1.1
IIDJ    76.64 324 P      22 10.10    0.0
KAGJ    77.39 317 eP     22 13.90   -0.3
NIIJ    77.46 326 eP     22 16.80    2.3
MTMJ    77.55 325 P      22 14.70   -0.4
TSRJ    77.69 323 eP     22 16.20    0.4
KUMJ    78.38 317 eP     22 19.50   -0.2
SHNJ    79.35 319 eP     22 24.60   -0.3
SNA     80.94 178 iPc    22 34.30    1.5
        1.0s    125.00nm          5.8mb
QZH     81.48 304 eP     22 36.80    0.4
KGM     81.49 277 ePc    22 37.40    0.7
BLP     83.09  44 P      22 45.10    0.6
SYP     83.32  45 eP     22 46.00    0.1
                   e     23 03.00   61km
SSE     83.48 311 Pc     22 47.20    0.6
        1.0s     28.00nm          5.2mb
      Z  20s      1.40um          5.3Msz
                  pP     23 02.50   53km
                  sP     23 06.00
                  e(S)   34 18.00
BCH     83.70  44 P      22 48.20    0.4
PRS     83.70  42 ePc    22 48.40    0.8
                  esP    23 04.40
GCC     83.81  42 ePc    22 48.40    0.3
                  epP    22 59.50   36kmX
                  esP    23 04.70
PCC     83.91  41 ePc    22 48.60    0.0
                  epP    23 05.20   59km
SAO     83.95  42 ePc    22 48.50   -0.4
PRI     83.99  43 ePc    22 49.60    0.4
                  esP    23 06.10
ABL     84.00  45 P      22 50.00    0.5
LLA     84.14  42 ePc    22 49.90    0.0
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BAR	84.21	48	eP	22	50.00	-0.3
			e	23	07.00	60km
MHC	84.23	42	iPc	22	50.70	0.3
			esP	23	07.20	
BRK	84.24	41	ePc	22	50.50	0.3
			esP	23	06.60	
BKS	84.25	41	ePc	22	50.60	0.3
	0.9s	47.00nm			5.5mb	
	Z 20s	2.30um			5.6Msz	
	N 20s	1.60um				
	E 20s	1.40um				
			e	23	16.00	96kmX
			eS	33	19.00	
			eSS	39	08.00	
			eLQ	44	50.00	
			eLR	48	44.00	
ARN	84.30	42	P	22	52.80	2.2
			pP	23	08.00	53km
MWC	84.32	46	eP	22	50.00	-1.0
			e	23	07.00	60km
PLM	84.52	47	eP	22	52.00	0.0
			e	23	08.00	56km
RVR	84.60	46	eP	22	52.00	-0.2
			e	23	08.00	56km
PEC	84.67	47	P	22	52.50	-0.1
			pP	23	09.10	59km
IPM	84.74	278	ePd	22	53.60	0.3
	1.0s	45.00nm			5.5mb	
QIZ	84.76	295	eP	22	54.20	0.9
SBB	84.77	46	eP	22	53.00	-0.1
			e	23	09.00	56km
ISA	85.00	45	eP	22	55.00	0.8
			e	23	11.00	56km
FRI	85.13	43	iPc	22	54.70	0.0
			epP	23	06.00	36kmX
			esP	23	11.00	
			ePP	26	26.00	
FHC	85.32	38	ePc	22	56.20	0.5
			esP	23	12.60	
CMB	85.43	42	iPc	22	56.10	-0.2
			epP	23	07.50	37kmX
			isP	23	12.60	
			ePP	26	27.00	
TPC	85.52	47	eP	22	57.00	0.2
			e	23	13.00	56km
NJ2	85.63	310	Pc	22	58.50	1.2
	Z 20s	8.50um			6.1Msz	
GLA	85.65	48	eP	22	58.00	0.5
			e	23	14.00	56km
GSC	85.80	46	eP	22	58.00	-0.3
			e	23	14.00	56km
ORV	85.82	40	iPc	22	57.80	-0.4
			esP	23	14.10	
			ePP	26	27.00	
LTCM	85.92	39	P	22	58.50	-0.1
WDC	85.95	39	iPc	22	58.70	0.0
			epP	23	10.20	37kmX
			isP	23	15.10	
LNV	86.23	127	eP	23	01.50	1.1
MIN	86.30	39	ePc	23	00.00	-0.7
			esP	23	16.10	
SNG	86.37	280	eP	22	37.50	-23.8X
LBFM	86.84	38	P	23	03.10	-0.3
			pP	23	20.00	60km
SAN	87.03	127	eP	23	04.50	0.1
TNP	87.34	43	P	23	05.10	-0.7
	1.0s	45.83nm			5.6mb	
KVN	87.44	42	P	23	06.20	-0.1
MDJ	87.69	325	Pc	23	07.00	-0.1
WHN	87.82	307	P	23	09.50	1.5
	1.4s	0.13nm			2.9mb	X
	Z 24s	1.37um			5.3MszX	
			pP	23	25.00	54km
DL2	88.19	317	P	23	07.00	-2.6
	5.0s	0.90nm			3.2mb	X
	Z 24s	0.60um			4.9MszX	
			pP	23	26.00	68kmX
III	88.79	68	(P)	23	14.00	0.8
SNY	88.96	320	iPc	23	13.00	-0.2
	Z 26s	0.90um			5.1MszX	
	N 28s	1.00um				
			pP	23	27.00	47km
			eS	34	00.00	
CRX	89.15	67	(P)	23	12.00	-3.0X
CN2	89.26	323	iPc	23	14.00	-0.6
	1.0s	0.10nm			3.1mb	X
	Z 26s	1.20um			5.2MszX	

			epP	23	27.50	45kmX
			eS	33	52.00	
TIA	89.30	313	eP	23	14.90	-0.1
	Z 29s	1.20um			5.2MszX	
NNT	89.78	284	eP	23	19.00	1.4
PPM	89.83	68	(P)	23	19.00	0.6
VGB	90.28	36	P	23	19.00	-0.4
OXX	90.39	71	(P)	23	22.50	1.8
LON	90.60	35	P	23	20.40	-0.5
MSU	90.70	45	P	23	22.20	0.5
			pP	23	39.00	59km
NST	90.97	287	eP	23	25.00	2.0
MRA	91.06	128	ePc	23	24.10	0.7
RMW	91.10	34	P	23	22.80	-0.3
PGC	91.13	32	eP	23	25.00	1.9
GYA	91.20	300	iPc	23	25.00	0.8
			pP	23	41.60	58km
BJI	92.20	315	eP	23	28.00	-0.2
	1.0s	42.00nm			5.8mb	
	Z 28s	1.38um			5.3MszX	
			eS	34	00.00	
			ePS	35	40.00	
			eSS	40	20.00	
ALQ	92.36	51	iP	23	29.70	0.3
	0.9s	20.38nm			5.6mb	
	Z 20s	1.24um			5.4Msz	
			pP	23	46.40	58km
DAU	92.41	44	P	23	30.00	0.4
BDT	92.68	288	eP	23	32.50	1.6
PMR	93.13	13	P	23	31.10	-0.9
	Z 20s	1.50um			5.4Msz	
TTA	93.19	10	P	23	33.00	0.6
	1.0s	17.50nm			5.4mb	
TIY	93.23	312	eP	23	33.00	-0.2
	Z 26s	2.30um			5.5MszX	
CHG	93.49	289	ePd	23	37.00	2.3
	1.0s	21.25nm			5.5mb	
KMI	93.55	297	Pd	23	37.00	1.9
			pP	23	47.00	31kmX
XAN	93.58	307	Pd	23	35.50	0.7
BW06	94.83	43	P	23	40.00	-0.6
LRM	94.95	40	eP	23	26.30	-14.8X
			e	23	40.60	48km
			e	23	57.50	
ARE	95.54	112	eP	24	02.00	17.4X
HHC	95.54	314	eP	23	45.00	1.2
CD2	95.68	302	P	23	46.40	1.8
GOL	95.71	48	P	23	43.50	-1.3
	1.0s	15.00nm			5.4mb	
	Z 20s	1.50um			5.5Msz	
FBA	96.39	12	P	23	45.50	-1.5
	1.1s	18.75nm			5.5mb	
MEO	97.78	55	iPc	23	52.30	-1.6
CNCB	98.18	114	P	24	01.00	4.1X
LZH	98.20	307	eP	23	57.50	1.5
			pP	24	09.00	37kmX
LPB	98.24	114	P	23	58.00	1.1
			e	24	14.00	55km
			LR	56	24.00	
ZOBO	98.36	114	P	23	58.00	0.3
	1.2s	16.89nm			5.4mb	
			S	34	38.00	
			LR	56	30.00	
SES	98.43	36	eP	23	56.00	-0.5
EDM	98.95	33	eP	23	59.00	0.3
TUL	100.32	55	e(Pdif	24	04.00	-1.5
	1.3s	9.50nm			5.2mb	
	Z 21s	1.99um			5.6Msz	
			LR	56	24.00	
INK	102.30	15	ePdiff	24	12.00	-1.5
GTA	102.59	308	ePdiff	24	16.20	0.5
GBA	109.49	275	PKP	28	50.00	0.0
MBC	110.93	13	ePKP	28	50.00	-1.0
	1.0s	7.00nm				
POO	114.69	278	iPKPc	28	59.20	-0.8
NDI	115.64	290	ePKP	29	00.50	-1.0
BLF	117.95	203	iPKPd	29	06.50	0.4
BFS	119.75	205	iPKPd	29	04.50	-5.0X
SLR	120.22	207	iPKPc	29	09.50	-1.0
QUE	124.61	288	ePKP	29	19.50	0.7
BUL	125.04	210	iPKPd	29	12.30	-7.5X
	1.0s	47.00nm				
MAIO	132.02	294	iPKPd	29	33.60	0.9
			e	33	22.00	
NAI	135.46	234	ePKP	29	34.00	-6.0X
KEV	136.82	348	ePKP	29	45.00	4.4X
SOD	138.92	346	iPKP	29	45.10	0.5

TAB	142.62	296	ePKP	29	48.00	-4.3X
SUF	142.89	342	ePKP	29	46.20	-5.6X
	0.5s	10.00nm				
SLY	143.25	292	ePKPd	29	48.50	-4.7X
BHD	144.04	288	iPKPd	29	51.50	-3.1X
			e	30	07.00	
NUR	145.11	341	iPKP	29	53.80	-1.8
	0.7s	201.90nm				
MSL	145.17	293	ePKPd	29	55.00	-1.5
NB2	147.40	352	PKP	29	57.80	-1.6
	1.2s	166.30nm				
UPP	147.44	346	iPKPc	30	00.00	0.6
HFS	147.93	349	ePKP	30	01.20	1.0
	1.0s	118.00nm				
ASK	148.44	357	ePKP	30	04.00	3.0X
BER	148.53	357	ePKP	30	04.00	2.8X
ODD1	148.94	356	ePKP	30	06.00	4.1X
BLS2	149.53	355	ePKP	30	07.70	4.8X
KVT	150.15	303	ePKP	30	08.00	3.6X
AYN	150.71	278	ePKPc	30	05.60	0.1
BCAO	151.23	215	iPKPc	30	06.40	-0.3
	0.6s	137.00nm				
			i	30	12.90	
			i	31	34.40	
SHMJ	151.24	286	PKP	30	15.00	8.8X
HRI	151.27	287	e(PKP)	30	04.00	-2.4
KFNJ	151.28	284	PKP	30	14.00	7.8X
MKRJ	151.30	283	PKP	30	08.50	2.1
BHL	151.34	288	PKP	30	13.00	6.6X
SRFA	151.42	278	ePKPc	30	06.40	-0.1
MBH	151.79	280	ePKP	30	07.00	-0.1
EDR	151.85	6	iPKP	30	11.70	5.4X
EDU	152.17	7	iPKP	30	12.50	5.7X
ELO	152.17	7	iPKP	30	12.60	5.8X
COP	152.37	348	iPKPd	30	14.10	7.0X
	0.9s	134.45nm				
EAB	152.37	8	iPKP	30	13.00	5.9X
EBH	152.41	7	iPKP	30	13.20	6.0X
FAM	152.66	291	ePKP	30	15.70	7.6X
ESY	152.83	6	iPKP	30	15.90	8.2X
BBTK	152.88	302	ePKP	30	07.00	-1.5
CSS	153.21	291	ePKP	30	16.30	7.3X
EKA	153.35	7	PKP	30	15.00	6.5X
	1.2s	20.10nm				
CLI	153.85	319	ePKPc	30	17.00	7.5X
CFR	154.05	316	ePKP	30	17.00	7.3X
TLB	154.42	314	ePKP	30	10.00	-0.2
ISR	155.05	317	ePKP	30	11.00	-0.2
BCK	155.07	297	ePKP	30	10.10	-1.4
KRA	155.12	333	ePKP	30	09.80	-1.2
			e	30	19.60	
MLR	155.21	318	ePKP	30	11.00	-0.5
SPC	155.66	331	ePKP	30	11.90	-0.2
KHL	155.70	300	ePKP	30	20.00	7.6X
ELL	155.74	296	ePKP	30	13.00	0.5
KSP	155.80	338	ePKPc	30	11.50	-0.5
	0.8s	47.00nm				
			id	30	22.00	
			ic	30	38.40	
CMP	155.87	318	ePKPc	30	23.00	10.7X
WIT	155.98	354	e(PKP)	30	13.00	0.9
			e	30	39.50	
LIC	156.29	161	PKPc	30	14.04	0.3
	1.3s	50.50nm				
CLL	156.33	343	ePKP	30	12.00	-0.6
			e	30	21.00	
			i	30	39.90	
BRG	156.48	342	iPKPc	30	12.40	-0.5
			i	30	22.60	
			i	30	41.00	
			i	30	52.00	
KIC	156.50	162	PKPc	30	14.24	0.2
	1.3s	53.00nm				
TIC	156.69	161	PKPc	30	14.62	0.4
	1.2s	30.50nm				
PSZ	156.77	329	ePKP	30	13.90	0.4
WTS	156.78	353	ePKP	30	13.00	-0.2
	1.0s	20.00nm				
			e	30	42.50	
PRU	157.10	340	ePKP	30	13.00	-0.7
	Z 22s	0.80um			5.5Msz	
	N 22s	0.60um				
	E 22s	0.30um				
			e	30	27.00	
MOX	157.28	345	ePKP	30	13.00	-0.9
	2.0s	59.00nm				
			e	30	44.00	

21d 03h

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SRO    157.54 331 ePKP  30 14.40   0.1
EZN    157.60 305 ePKP  30 09.00  -5.6X
ZST    157.73 334 ePKP  30 13.90  -0.6
                  e     30 47.00
                  e     35 54.90
ENN    158.08 354 ePKP  30 14.50  -0.3
        1.0s     45.00nm
                  e     30 47.50
                  i     31 04.10
KHC    158.15 340 iPKP  30 14.50  -0.5
     Z  22s      1.20um          5.7Msz
     N  22s      0.80um
     E  22s      0.60um
                  i     30 49.50
SOP    158.36 334 ePKP  30 17.20   2.0
DOU    158.84 356 PKP   30 14.80  -0.9
VAY    159.52 312 ePKP  30 15.30  -1.4
                  i     30 55.30
SKO    159.89 315 iPKP  30 15.20  -1.9
        1.1s     92.00nm
     Z  21s      0.73um          5.5Msz
     N  21s      1.12um
     E  21s      0.55um
                  i     30 30.00
                  i     30 57.50
                  i     31 11.80
                  i     31 57.00
KBA    160.04 338 ePKP  30 15.00  -2.3
        1.1s     11.10nm
                  e     30 57.00
                  e     34 34.00
PTJ    160.05 331 ePKP  30 16.50  -0.7
ZAG    160.10 331 ePKP  30 16.50  -0.7
FLN    160.11   6 ePKP  30 17.00  -0.1
        1.0s     16.00nm
LDF    160.31   5 ePKP  30 17.00  -0.3
        1.2s     23.80nm
GRR    160.45   7 ePKP  30 17.40   0.0
        1.4s     26.15nm
LJU    160.50 334 ePKPc 30 17.00  -0.6
VBY    160.65 332 ePKPd 30 18.30   0.6
VOY    160.75 335 ePKP  30 16.80  -1.2
                  e     30 58.50
HAU    160.76 352 ePKP  30 17.60  -0.2
        1.8s     51.80nm
OHR    160.76 314 ePKP  30 16.50  -1.6
        0.9s      0.05nm
                  i     30 59.00
LPF    160.78   7 ePKP  30 17.80   0.0
        1.4s     34.85nm
CEY    160.79 334 ePKP  30 17.30  -0.6
BSF    160.88 351 ePKP  30 17.80  -0.3
        1.6s     62.20nm
TRI    161.07 335 ePKP  30 17.00  -1.1
                  i     31 00.00
RIY    161.14 333 ePKP  30 16.90  -1.3
CTI    161.49 340 PKP   30 18.00  -0.7
LOR    161.70 357 ePKP  30 18.60  -0.2
        1.4s     39.20nm
SSF    161.92 358 ePKP  30 19.00   0.0
        1.3s     34.30nm
LBF    161.98 357 ePKP  30 19.20   0.1
        1.4s     26.15nm
AVF    162.20 358 ePKP  30 19.00  -0.2
        1.4s     23.95nm
MFF    162.28   6 ePKP  30 19.40   0.1
        1.4s     61.00nm
SMF    162.33 357 ePKP  30 19.20  -0.2
        1.4s     30.50nm
VAI    162.42 345 PKP   30 19.00  -0.4
BGF    162.44 359 ePKP  30 19.80   0.3
        1.4s     30.50nm
TCF    162.71   1 ePKP  30 19.90   0.1
        1.4s     34.85nm
MAF    162.78 360 ePKP  30 20.40   0.5
        1.8s     69.05nm
LPG    163.16 350 ePKP  30 20.80   0.1
        1.4s     34.85nm
ARV    163.25 333 PKP   30 20.00  -0.4
SFI    163.30 336 PKP   30 20.00  -0.4
BNI    163.61 349 PKP   30 20.50  -0.4
FIR    163.64 337 ePKP  30 20.00  -0.8
RJF    163.68   2 ePKP  30 21.00   0.2
        1.4s     30.50nm
LFF    164.01   4 ePKP  30 21.50   0.4
        1.6s     87.05nm
CAF    164.08   1 ePKP  30 21.70   0.5
        1.4s     17.45nm
MNS    164.28 331 PKP   30 21.00  -0.5
LPO    164.29   3 ePKP  30 21.90   0.5
        1.6s     80.85nm
SGO    164.37 321 PKP   30 20.50  -1.1
EPF    165.87   6 ePKP  30 23.40   0.6
        1.6s     37.30nm
GUD    167.16  23 ePKP  30 26.20   2.1
TOL    167.87  25 ePKP  30 26.00   1.6
ECHE   169.04  14 ePKP  30 27.20   2.0
EVIA   169.51  22 ePKP  30 27.00   1.4
ENIJ   171.11  25 ePKP  30 28.00   1.7
     S.D. = 1.0  on 218 of 281 obs.
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   NOV  21, 1989  04h 47m 07.11± 0.31s
   40.055 N ± 6.3km  142.324 E ± 5.3km
   DEPTH =  48.5km  (  4 depth phases)
   4.9mb ( 36 obs.)  3.6Msz (  1 obs.)
 NEAR EAST COAST OF HONSHU, JAPAN(228)

MDJ     10.47 300 eP    49 38.50   1.1
     Z  20s      1.30um
CN2     13.11 292 eP    50 16.00   3.2X
     Z  16s      1.00um
                  pP    50 20.50
SNY     14.28 283 iPc   50 30.60   2.5
SSE     19.34 249 P     51 32.00   0.7
        1.0s     35.00nm        4.6mb
BJI     20.00 278 eP    51 35.00  -3.3X
        1.0s     12.00nm        4.2mb
     Z  20s      0.30um         3.6Msz
TIA     20.17 267 eP    51 37.30  -2.8
NJ2     20.55 254 Pc    51 42.50  -1.5
TIY     23.34 274 eP    52 14.20   2.4
HHC     23.37 282 P     52 10.00  -2.1
BTO     24.57 282 eP    52 23.00  -0.7
WHN     24.64 256 eP    52 24.50   0.1
LZH     30.39 275 (P)   53 15.50  -1.4
GTA     32.47 283 P     53 34.00  -1.1
     Z  16s      0.60um         4.4MszX
CD2     32.49 266 P     53 33.50  -1.8
GYA     32.53 256 iPd   53 35.00  -0.7
                  S     58 46.60
KMI     36.21 258 Pd    54 07.50   0.1
WMQ     40.19 294 iPc   54 40.50   0.2
LSA     42.72 272 P     55 03.00   1.3
CHG     42.79 253 ePc   55 02.50   0.8
        1 0s     14.00nm        4.6mb
BRW     43.36  24 eP    55 10.90   5.2X
IMA     43.74  32 eP    55 09.20   0.1
        0.8s      9.00nm        4.6mb
NST     43.95 249 eP    55 12.00   0.8
PMR     45.80  38 eP    55 24.90  -0.5
        1.0s     10.00nm        4.7mb
FBA     46.18  34 eP    55 28.40   0.0
NNT     46.33 246 eP    55 30.50   0.4
INK     51.38  28 eP    56 08.00  -0.5
        0.7s     17.00nm        5.2mb
MBC     53.43  17 eP    56 23.00  -0.7
        1.0s      9.00nm        4.8mb
MTN     53.65 194 iPd   56 26.40   0.5
NDI     53.85 279 iPc   56 21.50  -5.9X
WB5     60.08 189 eP    57 10.80  -0.8
KEV     60.88 339 eP    57 15.00  -1.5
POO     61.98 271 iPc   57 24.20  -0.6
GBA     62.19 264 P     57 25.40  -0.7
SOD     62.47 337 iP    57 26.10  -1.1
ASPA    63.88 189 eP    57 36.80  -0.1
        1.0s      8.00nm        4.7mb
MBL     64.41 203 eP    57 40.00  -0.4
SUF     65.62 333 iP    57 46.60  -1.2
        0.4s      7.90nm        5.1mb
EDM     66.55  39 eP    57 53.50  -0.5
NUR     67.63 332 iP    57 59.30  -1.3
        0.5s      5.60nm        4.9mb
WDC     68.72  55 e(P)  58 07.30  -0.4
                  e     58 22.00  52km
SES     69.40  41 eP    58 12.00   0.2
FFC     70.79  34 iPc   58 19.40  -0.7
        0.7s     13.00nm        5.0mb
LRM     71.50  45 eP    58 24.80  -0.1
                  i     58 39.20  51km
HFS     71.63 336 eP    58 23.60  -1.5
        1.0s     20.00nm        5.0mb
NB2     71.68 337 P     58 21.90  -3.5X
        0.8s     14.20nm        5.0mb
BWA     74.32 175 eP    58 42.90   1.9
VRI     76.89 320 ePc   58 56.50   0.9
KRA     76.99 326 eP    58 56.00  -0.1
        0.8s     28.00nm        5.3mb
SPC     77.51 325 eP    59 01.30   2.1
BBTK    77.81 312 eP    59 00.00  -1.0
CLL     78.83 330 iP    59 06.20   0.0
        1.3s     19.00nm        4.9mb
PRU     79.28 329 Pc    59 09.00   0.4
        1.0s     14.50nm        4.9mb
                  e     59 22.30  45km
SRO     79.39 325 iP    59 10.30   1.0
ZST     79.62 326 e(P)  59 11.40   0.9
MOX     79.89 331 e(P)  59 12.00   0.1
KHC     80.34 329 iPc   59 15.00   0.6
        1.0s     10.50nm        4.7mb
                  e     59 28.30  45km
EKA     80.52 341 P     59 15.00  -0.2
        0.7s      4.70nm        4.5mb
GRF     80.81 330 iPc   59 17.60   0.8
        1.0s     20.00nm        5.0mb
RZN     80.89 318 ePc   59 19.00   1.3
VTS     81.00 319 iPc   59 19.00   0.8
MMB     81.47 318 iPc   59 21.00   0.5
BHG     81.75 328 iPc   59 22.40   0.6
KBA     82.07 328 iPd   59 23.90   0.2
        0.8s     10.50nm        4.9mb
ALQ     82.11  51 eP    59 25.80   1.7
        1.0s      5.25nm        4.5mb
VAY     82.26 319 eP    59 28.40   3.9X
SKO     82.34 320 iP    59 25.60   0.6
FVI     82.69 328 P     59 22.00  -4.6X
PRNI    82.84 304 iPc   59 28.00   0.2
TRI     82.99 326 eP    59 27.10  -1.1
DLE     83.22 342 eP    59 29.50   0.3
MBH     83.31 303 iPc   59 30.50   0.4
OHR     83.30 320 eP    59 29.50  -0.5
        0.9s      0.05nm        2.6mb X
CDF     83.33 332 eP    59 30.20   0.1
        0.8s      5.30nm        4.6mb
CTI     83.60 328 P     59 30.00  -1.5
HAU     84.01 332 eP    59 33.40   0.0
        0.8s      5.30nm        4.6mb
VAI     84.89 329 Pc    59 37.80   0.0
PGD     85.33 327 P     59 41.50   1.2
ORO     85.40 330 P     59 39.00  -1.5
CRE     85.43 326 P     59 41.00   0.3
LOR     85.52 333 iPc   59 40.90  -0.1
        0.8s     13.40nm        5.2mb
ASS     85.58 326 P     59 40.50  -0.9
LBF     85.73 333 iPc   59 42.00  -0.1
        0.8s      7.20nm        4.9mb
SSF     85.82 333 iPc   59 42.60   0.1
        0.8s      8.00nm        5.0mb
LPG     85.98 330 iPc   59 44.00   0.3
        0.8s     14.70nm        5.3mb
SMF     86.06 333 eP    59 43.90   0.2
        0.8s      9.40nm        5.1mb
GRR     86.09 336 eP    59 44.10   0.3
        0.8s     13.40nm        5.2mb
AVF     86.11 333 iPc   59 44.30   0.4
        0.8s     21.40nm        5.4mb
LPF     86.46 336 eP    59 46.20   0.6
        1.0s     28.00nm        5.4mb
RMP     86.57 325 P     59 35.50 -10.8X
MAF     86.87 333 iPc   59 48.40   0.7
        0.6s      7.20nm        5.1mb
TCF     86.94 334 iPc   59 48.30   0.3
        0.8s      6.70nm        4.9mb
LSF     87.20 334 iPc   59 49.60   0.3
        0.8s     20.10nm        5.4mb
MFF     87.45 335 eP    59 50.90   0.5
        0.8s      8.00nm        5.0mb
CAF     88.18 333 eP    59 54.90   0.9
        0.8s      6.70nm        4.9mb
ZOBO   144.49  57 PKP   06 39.00  -1.8
LPB    144.70  57 ePKP  06 46.00   5.1X
CNCB   144.98  57 PKP   06 42.00   0.4
CCH    146.58  56 PKP   06 47.00   3.1X
     S.D. = 1.0  on  88 of  98 obs.
-------------------------------------
?  NOV  21, 1989  04h 52m 15.26± 4.35s
   45.121 N ±20.2km    3.159 E ±36.3km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 2 1 (LDG).

CAF      0.80 256 Pg    52 30.20  -0.6
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                    Sg     52 42.00
MAF      1.18 340 Pg     52 37.40    0.2
                    Sg     52 53.20
TCF      1.34 331 Pg     52 40.20    0.2
                    Sg     52 59.00
BGF      1.45 351 Pg     52 41.20   -0.4
                    Sg     53 01.50
LPO      1.47 253 Pg     52 42.40    0.6
                    Sg     53 02.80
     S.D. = 0.7  on   5 of   5 obs.
-------------------------------------
?  NOV  21, 1989  05h 58m 39.73±10.17s
   38.014 N ±78.5km   20.046 E ±35.8km
   DEPTH =  10.0km  (geophysicist)
 GREECE                            (364)
      MD 3.3 (ATH).

VLS      0.46  69 ePg    58 48.00   -1.1
KEK      1.71 354 ePb    59 08.90   -0.8
AGG      2.06  60 eP     59 15.20    0.4
VLI      2.64 118 ePb    59 32.00    8.9X
KZN      2.65  30 ePg    59 24.00    0.6
LIT      2.82  42 eP     59 26.50    0.8
OHR      3.15  10 ePn    59 30.20   -0.1
     S.D. = 1.0  on   6 of   7 obs.
-------------------------------------
?  NOV  21, 1989  08h 29m 27.97± 2.30s
   44.155 N ±26.7km    7.720 E ±26.4km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)

ENR      0.23 288 P      29 33.45    0.5
                  S      29 39.40
IMI      0.27 153 P      29 33.76    0.0
                  S      29 40.01
STV      0.30 287 P      29 33.76   -0.5
                  S      29 40.22
PZZ      0.57 308 P      29 39.50    0.0
                  S      29 48.32
     S.D. = 0.7  on   4 of   4 obs.
-------------------------------------
%  NOV  21, 1989  08h 38m 11.06± 1.65s
   44.210 N ±18.2km    7.419 E ± 7.9km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 1.8 (GEN).

ENR      0.02   3 P      38 12.98   -0.1
                  S      38 13.91
STV      0.08 297 P      38 13.77    0.2
                  S      38 15.22
ROB      0.34  75 P      38 18.37    0.3
PZZ      0.37 322 P      38 19.02    0.3
FIN      0.57  90 P      38 22.55    0.0
                  S      38 30.83
     S.D. = 0.3  on   5 of   5 obs.
-------------------------------------
   NOV  21, 1989  09h 00m 48.56± 0.31s
    3.279 S ± 5.3km  139.574 E ± 6.2km
   DEPTH =  44.0km  (  2 depth phases)
   4.8mb ( 10 obs.)  4.5Msz (  2 obs.)
 WEST IRIAN                        (201)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 12S, 22C
      Centroid Location:
      Origin Time        09:00:53.7 0.9
      Lat  3.29S 0.09 Lon 138.93E 0.08
      Dep  33.0 FIX Half-duration  1.6
      Moment Tensor;    Scale 10**16 Nm
        Mrr=-0.29 0.37   Mtt=-6.59 0.47
        Mff= 6.88 0.54   Mrt=-5.97 1.03
        Mrf= 1.77 0.94   Mtf=-0.29 0.46
       Principal Axes:
        T  Val=  7.56   Plg=19   Azm=260
        N        2.65      52       144
        P      -10.21      31         3
      Best Double Couple:Mo=8.9*10**16
       NP1:Strike= 38 Dip=53 Slip= -10
       NP2:        134     82      -143

MNDI     4.97 125 eP     02 05.00    2.1
                  eS     03 14.00
LAT      8.12 115 eP     02 45.00   -1.8
PMG      9.68 129 eP     03 08.00   -0.4
MTN     12.65 221 iPd    03 47.60   -1.0
KNA     16.33 220 eP     04 36.50    0.1
        0.3s    53.00nm          5.1mb
                  eS     07 30.00
QIS     17.17 180 eP     04 44.00   -3.1X
                  e      04 48.00
WB5     17.26 197 eP     04 46.00   -2.2
                  i      04 51.00
                  eS     07 54.00
                  iScP   13 03.10
GUA     17.53  17 e(P)   04 38.70  -12.8X
GUMO    17.56  17 e(P)   04 43.70   -8.2X
CTA     17.93 159 iPc    04 56.50    0.0
        1.4s    95.35nm          4.7mb
                  iS     08 15.00
MKS     20.14 264 iPd    05 24.00    2.1
                  e      07 27.50
SVO     20.94 107 eP     05 32.00    1.8
ASPA    21.00 195 iPc    05 29.10   -1.6
        1.0s   349.00nm          5.7mb
      Z  20s     3.31um          4.7Msz
                  eS     09 21.50
                  LR     13 51.30
HNR     21.14 108 eP     05 34.00    1.8
RMO     24.70 160 eP     06 07.00   -0.1
                  e      11 42.00
KKM     25.10 292 eP     06 12.50    1.4
WARB    25.94 207 iPd    06 18.00   -0.7
MBL     26.17 226 eP     06 20.50   -0.4
BRS     27.09 154 iPc    06 28.20   -1.1
                  i      06 32.00   13kmX
                  i      06 38.20
STK     28.51 176 e(P)   06 44.00    1.9
                  e      06 52.00   28kmX
                  e      11 22.00
CMS     28.67 169 e(P)   06 34.00   -9.5X
FORR    29.49 200 eP     06 50.00   -0.8
NANU    30.18 229 eP     06 56.00   -1.1
ADE     31.54 181 e(P)   07 15.70    6.7X
BWA     32 06 166 eP     07 15.10    1.5
DZM     32.08 128 iPc    07 11.80   -2.1
CAN     33.06 166 eP     07 23.80    1.6
BFD     33.84 176 eP     07 31.00    2.1
SSE     38.42 334 eP     08 07.80    0.1
        1.0s    12.00nm          4.7mb
                  pP     08 20.00   45km
                  sP     08 31.00
                  e(S)   16 50.00
IPM     39.30 281 ePc    08 17.20    1.8
SNG     40.24 285 eP     08 27.70    4.6X
NST     43.33 297 eP     08 48.00   -0.3
GYA     43.43 315 P      08 50.00    0.8
TIA     44.54 334 eP     08 56.80   -1.1
KMI     45.54 310 eP     09 07.00    0.6
CHG     45.61 300 eP     09 07.00    0.3
CHTO    45.61 300 eP     09 05.00   -1.7
        1.0s     7.75nm          4.6mb
SNY     47.19 344 iPc    09 18.30   -0.5
                  S      16 06.00
TIY     47.93 331 eP     09 28.80    4.0X
BJI     48.16 336 eP     09 26.50    0.1
        1.5s    31.00nm          5.1mb
      Z  20s     0.36um          4.3Msz
CD2     48.18 318 P      09 27.00    0.2
MSZ     48.18 153 P      09 31.00    4.5X
MDJ     48.51 350 eP     09 28.30   -0.8
CN2     48.56 346 iPc    09 28.60   -0.8
                  pP     09 40.60   43km
BTO     51.36 331 eP     09 52.20    1.2
LZH     51.45 323 eP     09 53.50    1.6
        1.3s    18.00nm          4.9mb
                  pP     10 15.00   87kmX
GTA     56.04 323 eP     10 25.00   -0.6
GBA     63.87 287 Pc     11 18.40   -1.1
        0.8s     3.00nm          4.4mb
WMO     65.99 321 P      11 33.80    1.0
QUE     76.72 302 eP     12 38.00    0.4
TTA     81.56  25 eP     13 01.80   -1.1
IMA     83.75  22 eP     13 13.30   -0.9
        1.1s     6.30nm          4.6mb
MAIO    83.95 307 eP     13 17.00    1.2
PMR     84.08  27 eP     13 13.90   -1.8
        1.1s    15.60nm          5.0mb
BRW     84.89  17 eP     13 19.70    0.0
TOA     85.57  27 eP     13 22.30   -1.0
KIC    144.32 276 PKP    20 20.02   -2.6X
TIC    144.58 277 PKP    20 20.72   -2.4X
LIC    144.61 276 PKP    20 20.98   -2.2
CNCB   146.25 127 PKP    20 27.00    0.5
LPB    146.31 127 ePKP   20 28.00    1.6
ZOBO   146.43 126 PKP    20 26.00   -0.8
        1.5s    48.39nm
      Z  24s     0.08um          4.4Msz)
                  LR     12 20.00
CCH    147.36 130 ePKP   20 32.00    4.1)
PPD    152.68 158 ePKP   20 54.50   19.0)
     S.D. = 1.3  on  52 of  64 obs.
-------------------------------------
?  NOV  21, 1989  09h 00m 55.14± 4.32s
   33.149 S ±11.5km   72.366 W ±33.8km
   DEPTH =   5.0km  (geophysicist)
 OFF COAST OF CENTRAL CHILE        (134)

LCCH     0.74 116 iPd    01 10.10    0.1
                  iS     01 17.50
LNV      1.13 136 iPc    01 17.00    0.2
                  iS     01 29.50
PEL      1.41  90 iPd    01 21.30   -0.2
                  iS     01 38.00
SAN      1.46 102 iP     01 22.00   -0.2
                  iS     01 38.70
JACH     1.56  73 iPd    01 24.10    0.4
                  iS     01 42.00
PCH      1.62 107 iPc    01 24.50    0.0
                  iS     01 43.00
CHCH     1.63 119 iPc    01 24.50   -0.1
                  iS     01 42.30
FCH      1.75  96 iPd    01 26.50   -0.1
                  iS     01 47.00
     S.D. = 0.3  on   8 of   8 obs.
-------------------------------------
   NOV  21, 1989  10h 13m 18.90± 0.45s
   39.621 N ± 9.6km  143.141 E ± 6.2km
   DEPTH =  25.0km  (  6 depth phases)
   4.9mb ( 22 obs.)  4.4Msz (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

MRRJ     3.21 331 eP     14 09.80    1.0
                  eS     14 46.80
MDJ     11.23 301 eP     16 02.50    1.6
      Z  25s     1.90um
CN2     13.86 293 Pc     16 37.20    1.3
      Z  16s     1.80um
      N  12s     0.80um
      E  12s     0.70um
                  pP     16 43.60
                  eS     19 12.00
SNY     15.00 285 eP     16 51.00    0.2
      Z  16s     2.30um
      N  16s     1.50um
      E  16s     2.10um
SSE     19.79 251 P      17 51.20    1.0
        1.2s    34.00nm          4.5mb
      Z  12s     0.90um          3.6Msz
      N  11s     0.70um
      E  12s     0.90um
                  pP     17 57.20   23km
                  e(S)   22 36.00
BJI     20.69 280 eP     17 57.00   -2.6
        1.1s    24.00nm          4.5mb
      Z  16s     1.46um          4.4MszX
                  eS     22 06.00
TIA     20.78 269 Pd     17 59.10   -1.5
      Z  15s     2.10um          4.6MszX
      E  12s     2.10um
TIY     24.00 275 eP     18 32.40   -0.1
      N  14s     1.00um
HHC     24.08 283 eP     18 32.00   -1.3
      E  14s     0.80um
WHN     25.16 258 Pc     18 45.00    1.4
        1.2s     0.16nm          2.5mb X
      Z  20s     1.25um          4.4Msz
                  pP     18 54.50   34km
BTO     25.27 283 eP     18 44.00   -0.8
      N  13s     0.90um
      E  17s     2.20um
XAN     27.84 269 Pc     19 07.80   -0.6
LZH     31.06 276 eP     19 38.00    0.8
        1.5s     0.06nm          2.2mb X
      Z  14s     1.50um          4.8MszX
      E  14s     1.30um
                  pP     19 47.50   33km
GYA     33.05 258 iPc    19 54.60    0.0
CD2     33.10 267 P      19 55.00    0.1
      N  10s     1.50um
                  eS     25 09.00
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21d 10h

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GTA     33.19 284 P      19 56.20   0.5
      Z  16s      1.80um          4.9MszX
      E  15s      1.40um
KMI     36.74 259 Pc     20 27.00   0.7
CHG     43.27 254 eP     21 21.70   1.5
CHTO    43.27 254 eP     21 21.50   1.3
        1.0s      7.00nm          4.4mb
LSA     43.37 273 eP     21 25.40   3.9X
IMA     43.77  32 eP     21 22.90  -1.0
FBA     46.20  34 P      21 45.50   2.4
INK     51.47  28 eP     22 22.00  -1.8
MBC     53.66  17 eP     22 44.00   4.0X
        0.9s      3.00nm          4 3mb
WB5     59.75 190 eP     23 22.20  -1.8
KEV     61.51 339 eP     23 34.00  -1.5
POO     62.63 272 eP     23 43.50  -0.2
GBA     62.78 265 P      23 45.00   0.4
SOD     63.11 337 iP     23 44.20  -2.0
ASPA    63.55 189 eP     23 48.40  -1.1
        1.0s      8.00nm          4.8mb
SUF     66.29 333 eP     24 05.40  -1.4
        0.5s      4.50nm          4.9mb
EDM     66.48  40 eP     24 10.00   1.7
NUR     68.31 332 eP     24 12.00  -7.5X
WDC     68.45  55 e(P)   24 20.40  -0.4
MIN     69.17  55 e(P)   24 27.40   1.9
FFC     70.80  34 eP     24 33.00  -1.9
        0.9s     12.00nm          5.0mb
CMB     71.28  56 eP     24 36.70  -1.5
KVN     72.12  54 eP     24 42.20  -1.2
HFS     72.29 336 eP     24 41.70  -2.0
        0.7s      8.40nm          4.9mb
NAO     72.61 338 P      24 44.20  -1.4
        0.9s      9.10nm          4.8mb
TNP     73.26  54 eP     24 51.00   0.9
        1.0s      6.25nm          4.6mb
BWA     73.84 175 eP     24 56.40   3.4X
                  e      25 02.80  21km
BW06    74.89  47 P      25 02.00   2.5
DAU     75.43  49 P      25 06.00   3.2X
MSU     76.10  51 P      25 09.90   3.4X
KRA     77.70 326 eP     25 15.10   0.3
CLL     79.52 331 eP     25 24.00  -0.7
        1.2s     13.00nm          4.8mb
GRF     81.50 331 iP     25 35.90   0.6
        1.1s     20.00nm          5.1mb
ALQ     81.90  51 eP     25 40.50   2.6
        1.0s      5.00nm          4.5mb
KBA     82.77 328 ePd    25 42.00  -0.2
        1.1s     12.20nm          4.9mb
                  e      25 48.50  21km
SKO     83.08 320 iP     25 44.30   0.7
      Z  16s      0.61um          5.1MszX
      N  16s      0.62um
                  i      25 50.20  19km
                  i      26 00.30
PRNI    83.61 304 eP     25 47.00   0.5
MBH     84.07 304 ePc    25 49.00   0.2
LOR     86.19 334 eP     25 58.80  -0.4
        0.8s      8.00nm          5.0mb
LBF     86.40 333 eP     25 59.90  -0.3
        0.8s      6.70nm          4.9mb
SSF     86.49 334 eP     26 00.60   0.0
        1.0s      8.80nm          4.9mb
LPG     86.67 331 eP     26 02.00   0.1
        0.8s      5.30nm          4.8mb
SMF     86.74 333 eP     26 01.70  -0.2
        0.8s      8.00nm          5.0mb
AVF     86.78 334 eP     26 01.90  -0.1
        0.8s     12.00nm          5.2mb
MAF     87.54 334 eP     26 06.30   0.5
        1.2s     20.80nm          5.3mb
TCF     87.61 334 eP     26 06.10   0.0
        1.0s     12.00nm          5.1mb
ZOBO   144.19  58 PKP    33 03.00   7.7X
LPB    144.40  59 (PKP)  32 52.00  -3.4X
CNCB   144.67  59 ePKP   32 57.00   0.9
      S.D. = 1.3  on  56 of  64 obs.
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   NOV  21, 1989  10h 42m 39.37± 0.49s
   19.172 S ± 7.0km  177.944 W ± 4.8km
   DEPTH = 521.2 ±  6.2 km
   4.9mb ( 28 obs.)
 FIJI ISLANDS REGION                (181)
      CENTROID, MOMENT TENSOR       (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 15C
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```
      Centroid Location:
      Origin Time        10:42:42.0 1.2
      Lat 18.93S 0.13 Lon 177.93W 0.12
      Dep 545.0 7.8 Half-duration  1.6
      Moment Tensor;    Scale 10**16 Nm
        Mrr= 1.02 0.60  Mtt= 6.37 1.02
        Mff=-7.40 0.89  Mrt= 3.63 1.03
        Mrf=-1.88 0.86  Mtf= 3.72 0.90
       Principal Axes:
        T  Val=  8.62   Plg=23  Azm=350
        N        0.49      61       131
        P       -9.11      16       253
      Best Double Couple:Mo=8.9*10**16
       NP1:Strike= 30 Dip=62 Slip= 175
       NP2:        122     85        28

SVA     3.57 287 eP     43 56.40  -0.2
                eS      45 04.50
VUN     3.60 288 ePd    43 56.40  -0.4
MBU     3.85 304 iPc    43 59.60   0.8
                eS      45 03.00
PVC    13.12 274 iPc    45 33.00   2.7
DZM    14.90 256 iPc    45 48.00  -0.4
PGZ    21.94 192 P      46 54.80  -0.7
MNG    22.11 193 eP     46 54.60  -2.5
       0.3s     14.00nm          5.1mb
SVO    23.73 292 eP     47 24.00  12.1X
AFR    26.77  91 iP     47 38.90   0.0
       0.8s     25.00nm          4.8mb
PPN    27.10  91 iP     47 42.10   0.3
       0.8s     30.00nm          4.9mb
BRS    28.06 248 iPc    47 50.20   0.0
PMO    29.00  86 iP     47 58.20  -0.1
       0.8s     25.00nm          4.8mb
VAH    29.20  87 iP     47 59.70  -0.4
       0.8s     20.00nm          4.7mb
TPT    29.26  87 iP     48 00.40  -0.2
       0.8s     30.00nm          4.9mb
RUV    29.44  87 iP     48 02.00  -0.2
       0.8s     35.00nm          5.0mb
COO    29.54 242 eP     48 04.00   1.0
RMO    31.48 250 iPd    48 20.00   0.4
       0.6s    161.00nm          5.8mb
                e       48 34.00
CNB    33.03 234 iPc    48 33.70   1.1
       1.0s    106.00nm          5.4mb
CAN    33.31 234 iPd    48 35.80   0.9
BWA    33.47 236 iPd    48 34.90  -1.3
CTA    33.69 262 iPd    48 37.90  -0.3
       0.9s    243.70nm          5.8mb
CMS    34.81 242 iPd    48 48.10   0.6
       0.8s    124.00nm          5.5mb
PMG    35.12 281 eP     48 50.00  -0.2
       1.3s    461.54nm          5.9mb
OLP    35.52 251 iPd    48 53.30  -0.1
LAT    36.28 285 eP     49 00.00   0.3
TOO    36.73 232 iPd    49 04.90   1.6
       0.4s     41.00nm          5.4mb
STK    38.43 243 iPd    49 18.40   1.1
       0.8s     81.00nm          5.3mb
BFD    38.84 234 iPd    49 21.20   0.6
QIS    39.87 261 iPd    49 27.90  -1.2
ADE    41.34 239 iPd    49 41.20   0.4
       1.0s     72.00nm          5.2mb
WB5    44.83 261 iPd    50 07.00  -1.4
                eS      56 04.00
ASPA   44.89 255 iPd    50 08.10  -0.7
       0.8s    641.00nm          6.2mb X
                iS      56 07.00
MTN    49.22 269 iPc    50 50.30   8.5X
FORR   49.84 245 iPd    50 35.20 -11.0X
KNA    50.79 265 iPd    50 52.00  -1.3
       0.6s    117.00nm          5.5mb
WARB   51.29 251 iPd    50 56.20  -0.8
COOL   55.82 245 iPc    51 28.00  -1.1
       0.4s     11.00nm          4.5mb
KLB    58.67 244 iPc    51 47.70  -0.9
       0.3s      6.00nm          4.4mb
NWAO   59.02 243 eP     51 50.10  -0.8
BAL    59.65 245 eP     51 54.00  -1.1
       0.5s     18.00nm          4.7mb
MUN    59.95 244 eP     51 56.20  -0.9
NANU   61.80 254 iPd    52 09.10  -0.2
       0.4s     54.00nm          5.4mb
PCI    63.54 279 iPd    52 22.50   1.9
       1.0s      7.00nm          4.2mb
SPA    70.95 180 iPd    53 07.30   2.1
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       0.9s     17.27nm          4.6mb
SYP    76.72  46 eP     53 39.00   0.8
PRS    76.83  44 ePc    53 38.80   0.2
GCC    76.83  43 eP     53 38.50   0.0
PCC    76.86  42 eP     53 38.70   0.0
SAO    77.03  43 eP     53 39.50  -0.2
BRK    77.17  42 eP     53 40.40   0.1
PRI    77.18  44 eP     53 41.20   0.6
BKS    77.18  42 iPd    53 41.00   0.6
       1.0s     35.00nm          4.7mb
MHC    77.24  43 eP     53 41.30   0.3
MWC    77.87  47 eP     53 44.00  -0.4
BAR    78.01  49 eP     53 45.00   0.0
PLM    78.23  48 eP     53 47.00   0.6
SBB    78.28  47 eP     53 46.00  -0.5
FRI    78.30  44 ePc    53 46.30  -0.1
ISA    78.37  46 eP     53 47.00   0.0
CMB    78.46  43 ePc    53 47.30   0.0
WDC    78.62  40 ePc    53 48.10   0.0
ORV    78.65  41 eP     53 48.00  -0.2
MIN    79.05  40 eP     53 50.20  -0.3
TPC    79.21  48 eP     53 52.00   0.7
GSC    79.32  47 eP     53 52.00   0.1
KDC    79.51  14 P      53 51.00  -1.2
       1.0s     30.00nm          4.7mb
GLA    79.53  50 eP     53 54.00   1.0
KVN    80.51  43 iP     53 58.20   0.0
TNP    80.55  44 iP     53 59.00   0.6
       1.0s     15.25nm          4.4mb
BMW    81.87  35 P      54 04.70  -0.1
SHW    82.23  35 P      54 07.40   0.7
GMW    82.78  34 P      54 09.30   0.0
LON    82.81  35 P      54 08.90  -0.6
RMW    83.25  35 P      54 11.50  -0.2
TTA    83.63  10 P      54 12.50  -0.8
PMR    83.72  13 P      54 11.90  -1.7
MSU    84.15  46 P      54 17.30   0.7
DPW    85.45  36 P      54 22.10  -0.4
DAU    85.71  45 P      54 24.70   0.5
ALQ    86.53  51 iP     54 29.50   1.3
       1.0s      7.50nm          4.4mb
IMA    86.93  10 P      54 27.30  -2.0
FBA    86.94  12 P      54 27.30  -1.9
       0.5s     11.88nm          4.9mb
LRM    87.66  40 eP     54 33.60   0.3
BW06   87.97  43 P      54 34.40  -0.4
GOL    89.39  47 P      54 41.50   0.1
       1.0s     12.50nm          4.8mb
SES    90.77  36 ePc    54 47.30   0.0
EDM    90.97  33 eP     54 47.20  -0.9
INK    92.98  15 eP     54 55.50  -1.5
EKA   143.68   5 PKPd   01 13.00  -2.7X
       0.7s      5.90nm
CLL   146.78 347 iPKP   01 22.80   1.8
       0.7s     11.00nm
BRG   146.99 346 iPKP   01 23.50   2.2
       1.4s     19.00nm
                i       01 26.80
MLR   147.13 328 ePKP   01 24.00   2.1
PRU   147.67 345 ePKP   01 26.00   3.5X
KHC   148.70 345 PKP    01 28.70   4.5X
FLN   150.41   3 ePKP   01 32.10   5.4X
       0.6s      7.20nm
CDF   150.53 353 ePKP   01 32.60   5.6X
       0.5s      3.40nm
LDF   150.60   3 ePKP   01 32.40   5.4X
       0.6s      7.90nm
HAU   151.03 354 ePKP   01 33.70   6.0X
       0.4s      2.70nm
LPF   151.10   4 ePKP   01 33.80   6.1X
       0.6s     16.20nm
BSF   151.15 353 ePKP   01 33.90   5.9X
       0.6s      3.60nm
LOR   151.94 357 ePKP   01 35.90   6.9X
       0.4s      3.00nm
SSF   152.16 358 ePKP   01 36.10   6.8X
       0.5s      3.60nm
MFF   152.58   3 ePKP   01 37.10   7.2X
       0.5s      4.30nm
      S.D. = 1.0  on  88 of 103 obs.
-----------------------------------
%  NOV  21, 1989  12h 01m 02.42± 0.89s
   39.031 N ± 8.1km   27.787 E ± 9.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

IZM     0.75 213 iPn    01 17.00  -0.2
```

```
DST      0.87  48 iPn    01 19.60   0.4
EDC      1.32   3 ePn    01 26.00  -0.7
BNT      1.33   4 iPn    01 27.00   0.1
EZN      1.38 305 ePn    01 28.20   0.5
YLV      1.96  38 ePn    01 36.00  -0.1
     S.D. = 0.6  on   6 of   6 obs.
-----------------------------------------
%  NOV  21, 1989  12h 15m 45.45± 0.92s
   39.463 N ± 7.6km   28.993 E ± 9.4km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

DST      0.32 297 iPg    15 52.60   0.6
                  eSg    15 57.60
YLV      1.14  15 iPn    16 06.50  -0.3
KHL      1.21 160 ePn    16 08.00  -0.1
BNT      1.22 318 ePn    16 07.00  -1.1
HRT      1.45  21 ePn    16 11.50  -0.3
ISK      1.60   2 ePn    16 15.00   1.2
     S.D. = 1.0  on   6 of   6 obs.
-----------------------------------------
*  NOV  21, 1989  12h 25m 37.83± 0.79s
   42.904 N ± 6.2km   12.986 E ± 7.0km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                       (381)
     MD 1.9 (SSO).

ASS      0.29 305 P      25 44.00   0.1
                  eSg    25 48.40
CIO      0.31  22 iPg    25 44.71   0.3
                  iSg    25 50.45
ALP      0.45 106 ePgc   25 46.97  -0.1
                  iSg    25 54.46
MNS      0.57 204 P      25 49.40   0.0
                  eSg    25 56.70
ARV      0.59 357 P      25 49.50  -0.4
                  eSg    26 00.00
     S.D. = 0.4  on   5 of   5 obs.
-----------------------------------------
%  NOV  21, 1989  12h 33m 27.23± 0.69s
   44.269 N ± 7.7km    7.428 E ± 5.4km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                      (545)
     ML 2.3 (GEN).

ENR      0.04 187 P      33 29.55   0.1
                  S      33 31.39
STV      0.08 251 P      33 30.10   0.3
                  S      33 32.18
ROB      0.32  85 P      33 34.29   0.4
                  S      33 39.71
PZZ      0.33 315 P      33 33.87  -0.3
                  S      33 38.55
IMI      0.49 137 P      33 36.81  -0.4
FIN      0.56  96 P      33 38.61  -0.1
     S.D. = 0.4  on   6 of   6 obs.
-----------------------------------------
%  NOV  21, 1989  14h 31m 55.79± 2.60s
   59.022 N ±23.1km    5.950 E ± 6.5km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                     (535)
     MD 1.6 (BER).

KMY      0.41 298 iPg    32 03.92  -0.2
                  iSg    32 08.73
BLS1     0.58  50 iPg    32 07.50  -0.2
                  iSg    32 15.09
ODD1     0.96  21 iP     32 13.83  -0.2
                  iS     32 25.97
ASK      1.51 346 eP     32 22.87   0.0
                  iS     32 41.54
SUE      2.13 344 eP     32 32.39   0.6
                  iS     32 56.28
HYA      2.15   3 eP     32 32.03  -0.2
                  eS     32 55.56
NRA0     3.30  56 eP     32 48.70   0.2
                  eSg    33 37.90
     S.D. = 0.4  on   7 of   7 obs.
-----------------------------------------
   NOV  21, 1989  14h 37m 42.61± 0.35s
   50.053 S ± 6.4km  162.592 E ± 5.8km
   DEPTH =  26.7km  ( 13 depth phases)
   5.6mb ( 15 obs.)  5.8Msz (  7 obs.)
 AUCKLAND ISLANDS REGION             (166)
     CENTROID, MOMENT TENSOR         (HRV)
     Data Used: GDSN
     L.P.B.: 17S, 44C
```

```
Centroid Location:
Origin Time        14:37:52.9 0.3
Lot 50.05S 0.03 Lon 161.52E 0.04
Dep  15.0 FIX Half-duration  4.9
Moment Tensor;   Scale 10**18 Nm
  Mrr=-0.25 0.04  Mtt= 2.53 0.05
  Mff=-2.28 0.05  Mrt= 1.03 0.15
  Mrf=-0.43 0.11  Mtf= 0.34 0.04
 Principal Axes:
  T  Val=  2.88  Plg=18  Azm=358
  N       -0.45     67      137
  P       -2.43     14      263
Best Double Couple:Mo=2.7*10**18
 NP1:Strike= 40 Dip=67 Slip= 177
 NP2:        131    87       23

MSZ      6.48  36 eP     39 18.20  -0.5
TCW     12.03  47 eP     40 35.30   0.2
WEL     12.21  49 eP     40 38.10   0.6
WDW     12.33  49 eP     40 39.80   0.6
                S      42 50.70
MOW     12.34  50 eP     40 38.20  -1.2
                S      42 54.50
CAW     12.49  49 eP     40 40.50  -0.8
                S      42 59.10
KIW     12.60  48 eP     40 43.50   0.7
MTW     12.66  50 eP     40 43.00  -0.6
MNG     13.07  49 eP     40 47.30  -1.7
                eS     43 09.70
TOO     17.50 309 eP     41 45.00  -1.2
                e      41 49.00
                e      41 53.50
                eTT    54 27.00
CNB     17.61 322 iPc    41 49.60   2.0
                e      41 54.00
                eTT    57 23.00
CAN     17.75 321 eP     41 50.50   1.1
                i      41 53.50
                eS     45 05.40
                eTT    55 40.00
RIV     18.27 328 eP     42 04.00   8.3X
     Z  22s    34.52um
                eS     45 40.00
                eTT    59 02.00
BWA     18.76 321 eP     42 01.10  -0.7
                i      42 06.70
                eS     45 26.80
                eTT    56 15.00
BFD     19.32 304 eP     42 06.00  -2.5
                e      42 13.00  26km
DRV     20.23 206 eP     42 17.00  -0.9
COO     21.05 334 eP     42 31.00   4.2X
                eTT    57 52.00
CMS     22.38 320 eP     42 39.00  -1.1
                e      42 47.00  29km
ADE     23.04 302 iPc    42 47.00   0.4
     1.2s   228.13nm          5.6mb
BRS     23.85 338 iPd-   42 58.20   3.8X
                i      43 02.00  14kmX
                i      43 10.20
                i      43 23.20
                eS     47 16.00
STK     23.96 311 eP     42 55.00  -0.5
                e      43 03.00  28km
RMQ     25.83 331 eP     43 12.00  -1.3
                e      43 18.00  21km
SBA     27.95 178 Pc     43 30.10  -2.1
DZM     28.09   8 iPd    43 34.40   0.3
CTA     32.60 331 iPc+   44 17.70   3.7X
     1.8s   277.27nm          5.9mb
                i      45 14.00 285kmX
                iS     49 34.00
ASPA    34.55 309 iPc    44 25.40  -5.5X
     1.3s   211.00nm          5.9mb
     Z  21s    21.23um          5.9Msz
                ePP    47 15.60
                eS     50 03.70
                LR     56 23.10
QIS     34.62 320 eP     44 29.00  -2.4
                e      44 34.00  17km
COOL    36.30 286 eP     44 38.50  -7.2X
     0.5s    10.00nm          5.0mb
                e      44 48.00  32km
NWAO    37.39 280 eP     44 47.00  -7.8X
     0.7s    32.00nm          5.3mb
                e      44 56.00  30km
WB5     37.54 313 eP     44 51.00  -5.1X
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```
                i      44 59.90  30km
                eS     49 06.00
MUN     38.66 280 eP     44 58.00  -7.5X
                e      45 07.00  30km
BAL     39.27 282 eP     45 03.00  -7.6X
                e      45 12.00  30km
SPA     40.14 180 eP     45 16.20  -1.4
     1.2s   150.00nm          5.6mb
     Z  19s     7.64um          5.6Msz
                e      45 33.10  68kmX
HNR     40.55 356 eP     45 22.00   0.8
                eS     51 40.00
MRWA    40.67 283 iPc    45 24.80   2.7X
SVO     40.84 356 eP     45 29.00   5.4X
RAR     41.30  60 P      45 34.00   6.7X
                S      51 52.00
PMG     42.50 337 eP     45 42.00   4.8X
KNA     43.79 309 eP     45 44.00  -3.7X
MBL     44.27 295 eP     45 46.00  -5.5X
                e      45 54.00  27km
MTN     45.16 314 eP     45 55.00  -3.7X
                e      46 02.00  23km
LAT     45.19 338 eP     46 05.00   6.0X
TBI     45.72  72 iP     46 12.80   9.7X
     1.2s   250.00nm          6.0mb
NANU    45.77 289 eP     45 59.00  -4.5X
                e      46 06.00  23km
RAB     46.54 346 eP     46 08.00  -1.6
                iS     53 08.00
MAW     48.36 210 eP     46 20.00  -3.3X
TVO     50.07  68 eP     46 48.00  10.8X
     1.1s   100.00nm
VAH     53.02  67 iP     47 05.40   6.1X
     1.1s    30.00nm          5.1mb
PMO     53.05  67 iP     47 06.00   6.5X
     1.1s    80.00nm          5.6mb
RUV     53.21  68 iP     47 06.90   6.2X
     1.1s    80.00nm          5.6mb
TPT     53.23  67 iP     47 07.50   6.6X
     1.1s    50.00nm          5.4mb
TRT     59.15 298 ePd    47 47.10   3.8X
SNA     59.45 186 iPc    47 41.70  -3.0X
     1.0s    36.00nm          5.5mb
MNI     60.63 315 eP     47 57.30   3.9X
GUA     65.20 341 eP     48 24.50   0.9
GUMO    65.25 341 eP     48 24.00   0.1
PJG     65.25 341 eP     48 24.30   0.4
KKM     68.76 309 eP     48 33.50 -12.8X
IPM     75.80 295 ePd    49 30.20   2.2
SNG     78.13 296 eP     49 34.00  -6.9X
                eS     59 35.00
HON     79.16  37 P      50 00.00  13.7X
     Z  20s     3.19um          5.7Msz
LNV     83.68 137 eP     50 10.00   0.0
QZH     84.24 321 eP     50 16.80   4.1X
     N  36s     8.00um
     E  36s    10.60um
PEL     84.69 138 eP     50 14.00  -1.2
NST     85.30 301 eP     50 25.00   6.8X
LOE     85.85 303 eP     50 21.00   0.0
BDT     87.21 301 eP     50 25.60  -2.0
     0.9s    83.60nm          6.0mb
CHG     88.51 302 eP     50 33.00  -0.9
CHTO    88.51 302 eP     50 33.00  -0.9
     1.0s    35.00nm          5.6mb
SSE     88.75 325 P      50 37.50   2.9X
     1.5s    98.00nm          5.9mb
     Z  20s     2.20um          5.6Msz
     N  18s     2.60um
     E  18s     2.10um
                epP    51 04.00  99kmX
                esP    51 23.00
                PP     54 06.00
                S      01 06.00
                PS     02 24.00
                SS     06 56.00
NJ2     90.47 324 Pc     50 44.50   1.8
     Z  23s     2.90um          5.6MszX
GYA     90.86 312 P      50 49.00   4.2X
                SKS    01 20.00
                S      01 44.00
WHN     90.93 320 eP     50 48.00   3.2X
     Z  24s     2.05um          5.5MszX
     E  18s     2.78um
                sS     14 58.00
KMI     91.68 308 Pc     50 53.00   4.2X
     Z  28s     5.70um          5.9MszX
```

21d 14h

			SKS	01 26.00		
			S	01 50.00		
			PS	03 14.00		
			SS	08 00.00		
TIA	94.82	325	eP	51 06.80	4.2X	
Z	26s	3.40um			5.7MszX	
E	20s	3.40um				
			S	02 17.50		
DL2	95.65	329	eP	51 12.00	5.7X	
Z	30s	1.80um			5.4MszX	
			SKS	01 43.00		
			S	02 24.00		
			eSS	08 54.00		
XAN	96.25	318	Pd	51 13.50	4.2X	
SNY	97.68	332	eP	51 24.00	8.6X	
Z	26s	3.90um			5.8MszX	
N	28s	2.90um				
E	26s	2.70um				
			PP	55 15.00		
BJI	98.55	326	eP	51 28.00	8.6X	
Z	24s	5.09um			5.9MszX	
N	24s	3.99um				
			ePP	55 22.00		
			eSKS	01 56.00		
			eS	02 40.00		
			ePS	04 12.00		
			eSS	09 32.00		
CN2	98.93	334	eP	51 22.50	1.5	
LZH	100.22	315	e(Pdif	51 30.00	2.5X	
Z	38s	3.50um			5.6MszX	
			PP	55 30.00		
			SKKS	03 00.00		
GTA	104.77	315	ePdiff	51 48.60	1.0	
Z	26s	1.70um			5.5MszX	
E	14s	0.70um				
			SKS	02 28.00		
			S	03 39.00		
PLM	109.25	61	PKP	56 05.00	-6.6X	
KVN	112.74	56	PKP	56 10.00	-8.1X	
MSU	115.60	60	PKP	56 19.30	-4.4X	
PMR	117.79	24	PKP	56 27.00	0.3	
0.9s	14.58nm					
Z	20s	4.50um			6.1Msz	
LRM	120.45	54	ePKP	56 42.00	9.3X	
IMA	120.53	19	PKP	56 28.70	-3.3X	
0.8s	5.17nm					
FBA	120.88	22	PKP	56 28.00	-4.6X	
0.8s	6.03nm					
SES	124.14	51	ePKP	56 41.00	1.6	
EDM	124.80	47	ePKP	56 45.50	5.0X	
BCAO	125.38	226	ePKPc	56 44.60	1.8	
0.9s	14.00nm					
			i	57 13.10		
			i	58 31.20		
INK	127.17	25	ePKP	56 45.00	0.4	
FVM	128.12	74	PKP	56 50.00	2.6X	
GBTN	130.58	80	PKP	56 55.00	2.9X	
FFC	131.16	50	ePKP	57 00.00	7.4X	
JSC	131.59	84	PKP	57 00.00	6.0X	
RSON	133.48	58	PKP	56 56.00	-1.1	
MBC	135.26	19	ePKP	56 57.00	-2.8X	
1.0s	7.00nm					
BHL	138.30	268	PKP	57 16.50	9.6X	
RSNY	141.69	76	PKP	57 13.50	0.9	
HBVT	142.52	77	PKP	57 19.00	5.0X	
BBTK	143.68	273	ePKP	57 15.00	-1.3	
ELL	143.75	267	ePKP	57 25.00	8 5X	
KAS	143.86	276	ePKP	57 21.00	4.5X	
KAP	144.78	263	ePKP	57 18.00	-0 1	
MIM	145.46	78	PKP	57 20.00	1.1	
NPS	145.59	261	ePKP	57 21.00	1.5	
HRT	146.20	273	ePKP	57 26 00	5.6X	
SMG	146.29	266	ePKP	57 23.50	2.9X	
IZM	146.42	267	ePKP	57 22.00	1.2	
VAM	146.58	260	ePKP	57 25.00	3.9X	
ISK	146.72	272	ePKP	57 24.00	2.9X	
APE	146.75	264	ePKP	57 27.00	5.6X	
CBM	146.77	75	PKP	57 26.00	5.0X	
ITU	146.77	273	ePKP	57 40.00	18.8X	
BNT	147.08	271	ePKP	57 25.00	3.2X	
EDC	147.11	270	ePKP	57 22.00	0.2	
CTT	147.17	272	ePKP	57 21.00	-0.9	
PRK	147.54	268	ePKP	57 24.50	2.0	
EZN	147.82	268	ePKP	57 23.00	0.1	
ATH	148.45	263	ePKP	57 28.00	4.0X	
RDO	149.03	270	ePKP	57 25.50	0.7	
TLB	149.10	278	ePKP	57 39.00	14.2X	

ITM	149.12	261	ePKP	57 31.00	5.8X	
KBS	149.18	349	ePKP	57 34.00	10.0X	
CFR	149.28	279	ePKP	57 32.00	6.9X	
NEO	149.53	265	ePKP	57 30.00	4.3X	
AGG	149.94	264	ePKP	57 29.00	2.7X	
PLG	149 97	267	ePKP	57 32.50	6.1X	
SCH	150.04	62	ePKPc	57 36.80	10.8X	
1.4s	132.00nm					
BRD	150.13	279	ePKP	57 40.00	13.6X	
BUC	150.26	276	ePKP	57 40.00	13.4X	
BUC1	150.27	276	ePKP	57 30.00	3.4X	
SRS	150.27	268	ePKP	57 33.00	6.3X	
ISR	150.29	278	ePKPc	57 42.50	15.8X	
LIT	150.44	266	ePKP	57 34.10	7.1X	
IAS	150.48	282	ePKP	57 43.00	16.2X	
VRI	150.48	279	ePKP	57 33.00	6.1X	
VLS	150.57	261	ePKP	57 35.00	7.7X	
KNT	150.74	268	ePKP	57 32.10	4.7X	
MLR	150.82	278	ePKPc	57 32.50	4.9X	
KZN	151.01	266	ePKP	57 42.00	14.0X	
VAY	151.04	268	ePKP	57 33.00	5.2X	
1.3s	0.15nm					
			i	57 42.30		
KEV	151.28	330	ePKP	57 36.00	8.7X	
0.9s	38.90nm					
			i	57 41.00		
			e	01 16.00		
CMP	151.31	277	ePKPc	57 38.00	9.8X	
LSK	151.68	264	ePKP	57 35.10	6 1X	
KEK	151.95	263	ePKP	57 42.30	13.0X	
OHR	152.07	266	ePKP	57 33.00	3.5X	
1.5s	0.16nm					
			i	57 45.30		
			i	58 24.10		
SKO	152.10	268	ePKP	57 33.00	3.6X	
SOD	152.16	325	iPKP	57 42.30	13.6X	
			i	57 48.90		
BERA	152.40	265	ePKP	57 40.20	10 4X	
PHP	152.60	267	ePKP	57 39.50	9.4X	
TIR	152.79	266	ePKP	57 40.00	9.6X	
LACI	153.04	266	ePKP	57 42.60	11.9X	
PUK	153.13	267	ePKP	57 40.20	9.4X	
BMR	153.22	281	ePKPc	57 49.00	18.2X	
SUF	153.35	315	ePKP	57 44.60	14.1X	
0.7s	7.90nm					
SDA	153.37	267	ePKP	57 41.00	9.9X	
ROI	153.93	259	PKP	57 48.10	16.0X	
CZI	154.00	258	PKP	57 38.80	6.7X	
BEO	154.06	273	e(PKP)	57 49.00	17.0X	
CSI	154.22	259	PKP	57 52.20	19.7X	
PSZ	155.59	279	ePKP	57 41.40	7.3X	
SPC	155.76	283	ePKP	57 51.00	16.5X	
KRA	156.18	284	ePKP	57 44.90	10.2X	
			e	57 54.90		
PTJ	157.39	272	ePKP	57 46.50	9.9X	
VBY	157.69	271	e(PKP)	57 48.00	11.2X	
LJU	158.37	272	e(PKP)	57 40.00	2.4	
KSP	158.63	285	ePKP	57 49.50	11.8X	
			e	58 16.70		
TRI	158.73	270	ePKP	57 50.00	12.1X	
			ePKKP	58 38.00		
			ePP	02 06.00		
			ePPP	05 52.00		
			eSKSP	12 14.00		
			eSSP	15 56.00		
			eSS	21 28.00		
			eSSS	27 20.00		
			eLR	50 24.00		
VOY	158.78	271	(PKP)	57 49.00	10 9X	
PRU	159.55	282	ePKP	57 49.00	10.3X	
Z	22s	3.10um			6.1Msz	
N	22s	2.50um				
E	20s	1.10um				
			e	58 20.00		
KHC	159.96	279	ePKP	57 50.50	11.2X	
Z	22s	1.90um			5.9Msz	
N	22s	1.30um				
E	22s	1.30um				
			e	58 20.90		
BRG	160.09	284	ePKP	57 42.50	3.2X	
N	18s	2.00um				
			e	58 27.00		
			e	58 39.00		
			e	02 08.00		
MOX	161 51	283	e(PKP)	57 54.00	13.3X	
			e	58 26.00		
TOL	166.13	228	ePKP	57 55.00	9.6X	

			ePKKP	58 50.00		
			ePP	02 31.00		
			eSKKP	09 25.00		
			iSS	23 15.00		
			eSSS	29 35.00		
S.D. = 1.3	on 55 of 177 obs.					

NOV 21, 1989 14h 44m 02.09± 0.27s
39.339 N ± 2.9km 25.527 E ± 2.6km
DEPTH = 12.9 ± 1.9 km
AEGEAN SEA (365)
ML 3.4 (ATH).

PRK	0.59	99	iPnd	44 14.20	0.5	
EZN	0.79	52	iPg	44 17.10	0.0	
IZM	1.65	124	iPn	44 30.50	-0.4	
NEO	1.79	270	iPnc	44 33.00	0.1	
RDO	1.81	0	ePn	44 33.00	-0.1	
PLG	1.91	303	ePb	44 39.00	4.4X	
SMG	1.93	147	ePn	44 34.80	0.0	
ATH	1.97	227	ePn	44 34.00	-1.4	
EDC	2.06	60	ePn	44 36.40	-0.4	
BNT	2.10	60	iPn	44 37.50	0.0	
APE	2.27	180	ePn	44 40.00	0.2	
KDZ	2.31	358	iP	44 40.00	-0.4	
			iS	45 09.00		
SRS	2.31	321	eP	44 40.50	0.0	
DST	2.42	83	iPn	44 41.70	-0.2	
RZN	2.43	346	ePc	44 42.00	-0.2	
AGG	2.50	264	eP	44 43.00	-0.2	
MMB	2.63	329	ePc	44 45.00	0.0	
DIM	2.71	0	eP	44 46.00	-0.1	
			Sg	45 24.00		
KNT	2.71	313	eP	44 46.80	0.6	
			eS	45 29.90		
PLD	2.83	348	eP	44 49.00	1.2	
CTT	2.86	50	ePn	44 48.00	-0.3	
GRG	2.89	305	eP	44 49.60	0.9	
			eS	45 38.30		
VAY	3.00	312	ePn	45 00.50	10.3X	
DMK	3.01	34	iPn	44 50.00	-0.2	
KZN	3.05	290	ePn	44 51.50	0.6	
YER	3.09	135	ePn	44 53.00	1.5	
KKB	3.14	324	eP	44 52.00	-0.1	
YLV	3.20	66	iPn	44 52.50	-0.6	
ITU	3.20	55	ePn	45 02.00	9.0X	
			iSg	45 43.00		
ISK	3.21	56	ePn	44 55.00	1.9	
KHL	3.28	107	ePn	44 54.00	-0.3	
VLI	3.32	219	ePn	44 54.00	-0.8	
GBZT	3.34	63	ePn	45 04.00	9.0X	
PGB	3.37	343	ePc	44 56.00	0.5	
HRT	3.51	64	ePn	44 57.50	0.1	
ITM	3.56	234	ePn	44 59.50	1.3	
VTS	3.69	332	eP	45 01.00	0.8	
			iSg	45 56.00		
PVL	3.88	358	iPd	45 02.00	-0.6	
OHR	4.03	298	ePn	45 18.00	13.2X	
SKO	4.07	312	ePn	45 13.50	8.1X	
BBTK	5.61	83	eP	45 47.00	19.7X	
			eS	47 02.00		
MLR	6.16	3	ePd	45 35.00	0.0	
BZS	6.91	337	ePc	45 43.50	-1.9	
			e	57 43.00		
S.D. = 0.8	on 36 of 43 obs.					

NOV 21, 1989 14h 48m 41.08± 0.46s
39.374 N ± 4.8km 26.017 E ± 4.4km
DEPTH = 7.1 ± 3.5 km
TURKEY (366)
MD 3.3 (ATH).

PRK	0.24	123	iPgd	48 45.70	-0.2	
EZN	0.51	28	iPg	48 51.30	0.0	
IZM	1.38	135	iPn	49 05.00	-1.7	
EDC	1.72	55	iPn	49 11.40	-0.2	
BNT	1.76	56	iPn	49 11.00	-1.2	
SMG	1.78	159	ePn	49 13.30	0.9	
RDO	1.81	348	ePb	49 12.90	0.1	
DST	2.03	83	iPn	49 15.70	-0.5	
NEO	2.17	269	ePn	49 17.00	-1.1	
PLG	2.22	298	ePg	49 22.50	3.7X	
KDZ	2.32	349	eP	49 20.00	-0.3	
			iSg	49 56.00		
APE	2.33	190	ePn	49 20.00	-0.5	
RZN	2.52	337	eP	49 23.00	-0.2	
SRS	2.54	314	eP	49 22.10	-1.3	

```
                    e(S)   50 02.50
CTT      2.56  45  ePn    49 23.00   -0.6
DIM      2.70 352  eP     49 25.00   -0.6
                   Sg     50 08.00
DMK      2.78  28  iPn    49 26.00   -0.8
MMB      2.82 322  eP     49 26.00   -1.4
YLV      2.84  64  iPn    49 26.50   -1.3
ISK      2.88  53  ePn    49 30.00    1.8
AGG      2.89 264  eP     49 27.50   -0.8
KNT      2.98 308  ePc    49 30.00    0.4
                   eS     50 16.80
HRT      3.15  62  ePn    49 34.00    1.9
GRG      3.19 301  ePc    49 32.90    0.3
VAY      3.27 308  ePn    49 44.70   10.9X
KKB      3.34 319  eP     49 37.00    2.2
KZN      3.40 287  ePn    49 34.00   -1.7
VTS      3.85 327  eP     49 43.00    0.8
ITM      3.89 237  ePb    49 45.00    2.4
     S.D. = 1.2  on  27 of  29 obs.
-----------------------------------------
?  NOV  21, 1989  15h 09m 05.63± 5.10s
   58.783 N ±39.6km    5.784 E ±12.9km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                    (535)
      MD 2.0 (BER).

KMY      0.51 327  iPgc   09 16.32    0.3
                   eSg    09 22.61
BLS1     0.81  41  iP     09 21.69    0.2
                   iS     09 33.45
ODD1     1.21  21  iP     09 28.73    0.5
                   iS     09 44.07
ASK      1.73 350  eP     09 35.60   -0.3
                   eS     09 57.80
SUE      2.34 348  eP     09 45.10    0.4
                   eS     10 12.30
HYA      2.40   5  eP     09 45.84    0.3
                   eS     10 11.20
NRA0     3.51  54  iPc    10 01.60    0.3
                   iSg    10 52.30
MOL      3.90  12  eP     10 05.00   -1.8
                   eS     10 47.60
     S.D. = 0.9  on   8 of   8 obs.
-----------------------------------------
?  NOV  21, 1989  17h 22m 22.97±13.89s
   46.222 N ±69.3km    2.595 E ±64.7km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                             (538)
      MD 2.3 (STR).

AGO      0.41 114  Pg     22 31.36    0.0
PYM      0.55 148  Pg     22 34.16   -0.1
                   Sg     22 45.73
PLDF     0.76 109  Pg     22 37.83    0.0
                   Sg     22 51.88
LBL      1.09 155  Pg     22 43.43    0.0
                   Sg     23 02.30
     S.D. = 0.1  on   4 of   4 obs.
-----------------------------------------
?  NOV  21, 1989  17h 27m 01.51± 7.76s
   16.425 N ±16.3km   60.725 W ±70.6km
   DEPTH =  33.0km  (normal)
 LEEWARD ISLANDS                    ( 92)
      ML 2.5 (FDF).

DEG      0.34 251  iPd    27 09.53   -0.3
                   S      27 14.70
MGG      0.76 229  eP     27 15.96    0.2
PAG      1.00 247  eP     27 19.40    0.1
                   S      27 32.00
BBL      1.15 219  eP     27 21.30   -0.1
BPA      1.25 300  eP     27 22.80    0.0
     S.D. = 0.3  on   5 of   5 obs.
-----------------------------------------
?  NOV  21, 1989  17h 57m 31.48± 5.49s
   51.570 N ±34.9km   16.161 E ±32.9km
   DEPTH =  10.0km  (geophysicist)
 POLAND                             (548)
      ML 3.7 (VKA), 3.5 (KBA).

KSP      0.73 173  iPd    57 46.00    0.1
       0.2s    50.00nm
                   i      57 50.40
                   iS     57 55.70
BRG      1.56 244  ePg    57 59.00   -0.2
                   iSg    58 19.50
PRU      1.89 214  Pn     58 04.30    0.3
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                   Pg     58 06.00
                   Sn     58 23.00
                   Sg     58 29.50
CLL      1.99 264  iPnd   58 05.10   -0.5
                   iPg    58 08.00
                   iSg    58 34.10
KRA      2.84 121  eP     58 28.60   11.0X
                   eS     59 06.80
KHC      2.95 215  Pn     58 19.00   -0.2
                   Pg     58 25.40
                   Sn     58 55.00
                   Sg     59 04.50
HOF      2.99 247  iPnc   58 19.40   -0.4
MOX      3.01 254  ePn    58 21.00    0.9
                   iPg    58 28.00
                   iSg    59 07.50
VKA      3.31 178  ePg    58 34.00    9.6X
                   iSg    59 17.00
ZST      3.43 169  eP     59 22.30   56.2X
GRF      3.66 241  iPnd   58 29.70    0.3
                   iPg    58 42.80
                   iSg    59 28.10
KBA      4.86 203  iPnc   58 46.20   -0.3
                   iSg    00 04.00
     S.D. = 0.5  on   9 of  12 obs.
-----------------------------------------
   NOV  21, 1989  18h 36m 05.02± 0.50s
   38.128 N ± 4.8km   15.914 E ± 4.1km
   DEPTH =  10.0km  (geophysicist)
   4.1mb (  5 obs.)
 SICILY                             (398)
      Felt strongly in the Reggio di
      Calabria and Messina areas.

MSI      0.29 285  P      36 11.70    0.6
                   eSg    36 16.90
ATN      0.36 275  Pc     36 12.40    0.0
                   eSg    36 19.70
GRI      0.79  30  P      36 22.46    2.0
LPI      0.85 295  P      36 21.31   -0.2
MNO      0.98 259  Pd     36 23.90    0.1
                   eSg    36 40.80
CZI      1.10   9  P      36 27.40    1.7
ACI      1.24  10  P      36 30.10    2.0
MEU      1.29 218  P      36 28.90   -0.1
                   eSg    36 49.10
PZI      1.35 216  P      36 28.79   -1.1
GIB      1.50 265  P      36 32.70    0.7
                   eSg    36 53.10
ROI      1.53  19  P      36 35.20    2.8X
TDS      1.56  12  P      36 32.80   -0.1
                   eSn    36 56.70
CSI      1.67  10  P      36 36.10    1.6
MCT      1.87 255  P      36 35.52   -2.0
FAI      1.97 245  P      36 41.00    2.3
MGR      2.03 352  P      36 38.90   -0.7
SGO      2.47 349  P      36 46.50    0.6
                   eSn    37 17.20
CVT      2.51 261  P      36 48.20    1.7
ERC      2.63 269  P      36 49.20    1.0
LCI      2.71  35  P      36 51.00    1.6
BRT      2.92  20  P      36 52.00   -0.4
FG4      3.02 354  P      37 04.88   11.2X
PTS      3.39 248  P      36 30.94  -28.0X
RFI      3.50 335  P      37 01.50    1.0
DUI      3.70 343  P      37 04.00    0.4
FG2      3.72 351  P      37 04.68    1.0
SDI      3.92 336  P      37 06.50   -0.1
BDV      4.71  27  ePn    37 19.00    1.2
HCY      4.75  24  ePn    37 16.00   -2.3
                   eSn    38 12.00
OHR      4 81  50  ePn    37 18.70   -0.5
MNS      4.92 331  P      37 20.70    0.0
TTG      5.00  30  ePn    37 21.30   -0.5
                   eSn    38 19.00
HVAR     5.06   4  iPn    37 22.50   -0.2
AGG      5.11  78  ePc    37 24.50    1.1
BRY      5.17  22  ePn    37 23.50   -0.9
                   eSn    38 22.00
NKY      5.24  26  ePn    37 24.30   -1.0
                   eSn    38 22.30
ASS      5.52 334  P      37 28.00   -1.3
SKO      5.72  46  ePn    37 31.50   -0.5
GRG      5.76  59  eP     37 32.60    0.0
ARV      5.82 338  P      37 32.50   -0.9
PLE      5.83  26  ePn    37 34.00    0.4
                   eSn    38 38.00
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VAY      6.04  56  ePn    37 35.70   -0.8
KNT      6.18  58  eP     37 38.00   -0.6
CRE      6.26 333  P      37 39.50   -0.2
SFI      6.55 333  P      37 42.50   -1.2
BDI      7.16 328  P      37 50.50   -1.8
TRI      7.74 349  P      37 58.00   -2.4
PTJ      7.77   0  eP     37 54.70   -6.1
CTI      8.52 340  P      38 09.90   -1.5
FVI      8.77 346  P      38 13.90   -0.8
LPG     10.04 320  eP     38 35.80    3.2
       0.6s     5.40nm            5.2mb
KHC     11.13 352  P      38 49.70    2.5
LBF     12.47 319  eP     39 21.50   16.2
       0.7s     4.40nm
SSF     12.76 318  eP     39 21.40   12.2
MAF     12.77 314  eP     39 20.90   11.6
TCF     13.01 313  eP     39 30.60   18.0
BBTK    13.22  77  ePg    39 11.00   -4.5
                   eSg    39 20.50
CLL     13.34 352  e(P)   39 18.00    1.2
LSF     13.39 312  eP     39 35.40   17.9
MFF     14.56 311  eP     39 46.50   13.6
LPF     15.82 314  eP     39 54.90    5.6
FLN     15.93 317  eP     39 56.70    6.1
       0.7s     6.60nm            3.9mb
EKA     21.49 329  P      40 59.00    3.3
       1.0s    10.80nm            4.2mb
HFS     22.07 357  eP     40 59.50   -2.0
       1.0s    10.80nm            4.2mb
NAO     22.94 354  P      41 06.80   -3.3
       0.5s     1.30nm            3.7mb
BCAO    33.62 175  iPd    42 47.50   -0.3
       0.6s     6.00nm            4.7mb
                   i      42 50.30
     S.D. = 1.3  on  50 of  66 obs.
-----------------------------------------
*  NOV  21, 1989  18h 56m 44.35± 1.70s
   51.050 N ±19.5km   15.749 E ± 6.9km
   DEPTH =   5.0km  (geophysicist)
 POLAND                             (548)
      ML 3.6 (VKA), 3.3 (KBA).

KSP      0.40 121  iPd    56 51.00   -1.4
       0.6s   106.00nm
                   iS     57 00.50
BRG      1.15 262  iPg    57 06.70    0.3
                   iSg    57 26.60
PRU      1.31 216  Pn     57 10.00    0.9
                   Pg     57 11.70
                   Sn     57 28.50
                   Sg     57 35.30
CLL      1.75 280  iPn    57 11.10   -4.4X
                   ePg    57 15.00
                   iSg    57 40.10
KHC      2.38 217  Pn     57 25.00    0.4
                   Pg     57 30.70
                   Sn     57 58.00
                   Sg     58 09.00
HOF      2.57 255  iPnc   57 26.00   -1.4
MOX      2.65 263  ePg    57 34.50    6.0X
                   iSg    58 14.00
VKA      2.81 172  iPgc   57 39.30    8.5X
                   eSg    58 23.50
                   i      58 25.00
KRA      2.85 109  eP     57 32.90    1.6
                   eS     58 09.40
ZST      2.99 162  iP     58 30.90   57.6X
KBA      4.28 203  iPnc   57 51.40   -0.4
                   i      59 14.30
     S.D. = 1.4  on   7 of  11 obs.
-----------------------------------------
?  NOV  21, 1989  20h 01m 02.10± 1.46s
   42.887 N ± 8.2km   13.064 E ±15.0km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)

CIO      0.31  11  iPg    01 09.06    0.4
                   iSg    01 14.53
ASS      0.35 302  P      01 09.50    0.2
                   eSg    01 12.90
MNS      0.58 210  P      01 13.80    0.0
                   eSg    01 20.80
ARV      0.62 352  P      01 14.00   -0.6
                   eSg    01 24.10
     S.D. = 0.7  on   4 of   4 obs.
-----------------------------------------
   NOV  21, 1989  20h 36m 19.12± 0.18s
```

21d 20h

```
     0.640 S ± 3.9km   19.790 W ± 3.2km
   DEPTH =  10.0km  (geophysicist)
   5.5mb ( 63 obs.)  5.3Msz (  5 obs.)
 CENTRAL MID-ATLANTIC RIDGE        (406)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 31C
      Centroid Location:
      Origin Time        20:36:28.6 0.3
      Lat  0.19S 0.03 Lon  19.65W 0.03
      Dep  15.0 FIX Half-duration  2.8
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-1.16 0.13  Mtt= 1.88 0.16
        Mff=-0.72 0.19  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf=-4.54 0.13
       Principal Axes:
        T  Val=  5.30  Plg= 0  Azm=217
        N        -1.16      90      180
        P        -4.14       0      127
      Best Double Couple:Mo=4.7*10**17
       NP1:Strike=262 Dip=90 Slip=-180
       NP2:        352     90        0
```

```
LIC    16.24  65 P      40 08.74  -0.3
TIC    16.42  64 P      40 10.74  -0.6
KIC    16.55  65 P      40 13.02   0.0
                eTT     52 00.00
BAO    31.57 240 eP     42 44.20  -0.2
VAO    34.52 228 e(P)   43 12.00   2.1
                e       44 17.80
AVE    35.71  18 iP     43 21.00   1.1
                i       43 55.00
PPD    37.34 233 eP     43 35.50   1.7
                e       43 40.90
                e       43 49.40
NKM    38.33  19 iP     43 44.00   2.1
BCAO   38.62  82 iPc    43 46.30   1.6
       1.5s   150.00nm          5.5mb
                i       43 54.10
                i       45 10.90
TAF    38.84  23 iP     43 46.00  -0.3
EJIF   39.23  18 e(P)   43 51.50   2.1
EPRU   39.78  18 eP     43 56.00   2.0
ATEJ   40.13  20 eP     43 58.50   1.4
APHE   40.27  20 eP     43 57.20  -1.0
ACHM   40.36  20 eP     44 00.20   1.3
EHOR   40.56  18 e(P)   44 01.80   1.4
AFC    40.60  20 eP     44 02.00   1.1
ASMO   40.62  20 eP     44 02.00   1.0
ENIJ   40.82  22 eP     44 03.70   1.2
ITB    41.03 231 eP     44 10.50   6.0X
ITB1   41.10 232 eP     44 06.50   1.5
EBAN   41.34  19 eP     44 07.90   1.1
EPLA   42.40  16 eP     44 17.00   1.4
TOL    42.82  18 iPc    44 21.00   2.1
       1.1s   253.16nm          5.9mb
                iPP     45 57.00
                iS      50 47.00
GUD    43.49  17 eP     44 26.00   1.5
ECHE   43.59  21 eP     44 26.80   1.6
EBR    45.20  22 eP     44 40.00   1.9
                ePP     46 25.00
                eS      51 18.00
                eSS     54 35.00
CUM    45.50 285 iP     44 41.40   0.5
ECRI   45.78  18 eP     44 44.50   1.7
EPF    47.09  20 iPc    44 54.30   1.2
       1.7s   154.30nm          5.8mb
FAI    48.80  36 P      45 08.50   2.1
LPO    48.83  20 iPc    45 07.30   0.7
       1.8s   155.30nm          5.7mb
LFF    48.91  19 eP     45 08.20   1.0
       1.8s   241.60nm          5.9mb
CPD    49.01 295 P      45 08.00  -0.4
CAF    49.35  20 iPc    45 11.10   0.5
       1.8s   141.50nm          5.7mb
GIB    49.49  35 P      45 12.50   0.6
RJF    49.49  20 eP     45 12.20   0.5
       1.8s   110.40nm          5.6mb
PORP   49.67 294 P      45 12.50  -1.0
LMR    49.72  25 eP     45 14.10   0.6
       1.3s    67.80nm          5.5mb
LRG    49.76  25 eP     45 14.40   0.7
       1.8s   258.90nm          5.9mb
MNO    49.84  36 P      45 16.50   1.8
FRF    49.96  25 eP     45 15.80   0.5
       1.7s   102.90nm          5.5mb
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LBL    50.03  21 P      45 16.31   0.5
CNCB   50.08 249 P      45 18.20   0.9
ZOBO   50.09 249 Pd     45 17.80   0.4
       1.8s   203.70nm          5.8mb
     Z  18s     3.72um          5.4Msz
                eLR     59 52.00
MFF    50.11  18 iPc    45 16.90   0.5
       1.0s    36.00nm          5.3mb
LPB    50.13 249 P      45 15.00  -2.5X
       1.2s   187.50nm          5.9mb
     Z  16s     2.69um          5.3MszX
                Lg      56 18.00
                eLR     00 40.00
LSF    50.33  19 iPc    45 18.60   0.5
       1.6s    74.60nm          5.4mb
PYM    50.39  21 P      45 19.52   0.8
ATN    50.44  36 P      45 19.50   0.4
SBF    50.54  25 eP     45 20.20   0.4
       1.2s    71.40nm          5.5mb
TCF    50.58  20 iPc    45 20.40   0.3
       2.0s   174.90nm          5.7mb
MAF    50.65  20 iPc    45 21.30   0.8
       1.9s   211.30nm          5.8mb
AGO    50.70  21 P      45 21.68   0.8
IMI    50.78  26 P      45 21.82   0.2
PLDF   50.80  21 P      45 22.39   0.6
STV    50.80  25 P      45 22.43   0.6
ENR    50.83  25 P      45 22.84   0.8
PZZ    50.92  25 P      45 23.87   1.1
BGF    51.04  20 eP     45 24.00   0.5
       1.6s    99.50nm          5.5mb
ROB    51.08  25 P      45 24.79   0.9
RRL    51.13  24 P      45 24.28  -0.2
BUL    51.13 116 iPc    45 23.00  -1.8
       1.0s    24.00nm          5.1mb
LPF    51.15  16 eP     45 24.60   0.4
FIN    51.15  26 P      45 24.89   0.5
BNI    51.19  24 P      45 26.20   1.3
CKI    51.36  26 P      45 26.50   0.6
AVF    51.41  20 iPc    45 27.00   0.7
       1.6s    68.40nm          5.3mb
RDP    51.42  31 P      45 27.30   0.8
RMP    51.45  31 P      45 27.00   0.3
SMF    51.46  21 iPc    45 27.10   0.4
       1.6s    68.40nm          5.3mb
KSR    51.48 123 eP     45 27.00  -0.4
       0.7s    10.00nm          4.9mb
RSP    51.51  24 P      45 27.56   0.3
GRR    51.52  16 eP     45 27.40   0.3
       1.6s   149.20nm          5.7mb
CZI    51.53  36 P      45 27.60   0.3
LPG    51.59  24 iPc    45 29.00   0.9
       1.2s    53.50nm          5.3mb
SSF    51.70  20 iPc    45 29.00   0.5
       1.7s   191.10nm          5.8mb
LSD    51.72  24 P      45 29.61   0.6
FRS    51.74 128 iPc    45 29.50   0.4
       0.4s    25.42nm          5.5mb
BFS    51.77 124 eP     45 35.50   5.9X
LBF    51.80  21 iPc    45 29.70   0.4
       1.1s    34.10nm          5.2mb
MGR    51.82  34 P      45 28.00  -1.5
MNS    51.86  30 P      45 29.70  -0.1
LDF    51.91  16 eP     45 30.30   0.2
       1.4s    69.70nm          5.4mb
TDS    51.94  35 P      45 29.00  -1.5
SDI    51.96  32 P      45 30.70   0.1
SGO    51.97  34 P      45 31.00   0.4
FLN    51.97  16 eP     45 30.30  -0.2
       1.4s    78.40nm          5.4mb
CSI    51.99  35 P      45 32.40   1.5
LOR    52.00  20 iPc    45 31.00   0.2
       1.7s   117.60nm          5.5mb
ROI    52.02  36 P      45 31.30   0.2
BDI    52.11  28 P      45 31.40  -0.3
EMS    52.13  23 ePc    45 32.10   0.1
BOB    52.14  26 P      45 33.10   1.2
BLF    52.16 127 iPc    45 32.00  -0.5
       0.9s    46.15nm          5.4mb
ORO    52.19  24 P      45 32.00  -0.4
FIR    52.20  28 eP     45 33.00   0.7
ORX    52.20  24 P      45 31.45  -1.0
AQU    52.21  31 P      45 33.30   0.8
HVD    52.25 129 iPd    45 34.00   0.8
DUI    52.27  32 P      45 33.50   0.5
DIX    52.33  24 ePc    45 34.10   0.5
PRY    52.35 124 eP     45 39.00   5.0X
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ASS    52.35  30 P      45 33.00  -0.6
CRE    52.42  29 P      45 32.00  -2.1
MMK    52.53  24 ePc    45 35.10   0.0
SLR    52.60 122 iPc+   45 35.00  -0.8
       1.0s    43.00nm          5.3mb
     Z  20s     7.45um          5.7Msz
ALP    52.60  31 eP     45 35.24  -0.3
CIO    52.69  30 eP     45 35.37  -0.7
VAI    52.72  25 P      45 35.10  -1.0
ARV    52.81  30 P      45 35.90  -1.0
TMA    52.95  25 ePc    45 37.20  -1.0
SEK    53.00 126 iPc    45 39.00   0.2
       0.6s    26.67nm          5.3mb
LOMF   53.15  22 P      45 39.03  -0.4
BRT    53.25  35 P      45 38.50  -1.7
SAL    53.27  26 P      45 39.00  -1.2
ARE    53.29 250 e(P)   45 40.00  -1.2
BBS    53.50  23 P      45 41.44  -0.6
VDL    53.51  25 ePc    45 41.50  -0.7
HAU    53.51  22 iPc    45 42.00  -0.1
       1.3s    79.40nm          5.5mb
BSF    53.54  22 P      45 41.88  -0.4
VITF   53.56  21 P      45 42.09  -0.2
VLS    53.59  39 eP     45 42.50  -0.3
LLS    53.61  24 ePc    45 42.10  -0.9
MOF    53.68  22 P      45 42.31  -1.0
ZLA    53.86  23 ePc    45 44.20  -0.4
ITM    53.88  41 eP     45 45.30   0.4
OSS    53.95  25 ePc    45 44.50  -0.9
ECH    53.99  22 P      45 44.81  -0.7
FEL    54.04  23 P      45 45.47  -0.5
SAX    54.06  24 ePc    45 45.70  -0.7
CTI    54.11  27 P      45 45.90  -0.6
SLE    54.14  23 ePc    45 46.20  -0.4
CDF    54.20  22 P      45 46.52  -0.6
WLS    54.23  22 P      45 46.72  -0.6
OGA    54.47  26 iPc    45 48.60  -0.7
       1.3s    70.00nm          5.5mb
BOG    54.47 276 eP     45 50.00   0.0
                eS      53 30.00
STR    54.52  22 P      45 49.32  -0.1
DOU    54.68  19 Pc     45 49.80  -0.8
       1.0s    77.80nm          5.7mb
                i       46 02.20
LSK    54.79  37 eP     45 50.50  -1.1
GWF    54.79  22 P      45 50.95  -0.5
TRI    54.83  28 iPc    45 51.40  -0.3
                i       46 10.20
                ePP     48 52.00
                eSP     53 40.00
                eSS     57 12.00
                eSSS    58 52.00
                eLR     02 24.00
RIY    54.86  29 iPc    45 51.10  -0.8
FVI    55.03  27 P      45 53.00  -0.2
TIR    55.09  36 eP     45 52.00  -1.7
RUP    55.19  21 iPc    45 53.90  -0.5
AGG    55.19  40 ePc    45 54.40  -0.2
SDA    55.30  35 eP     45 44.80 -10.3X
NPS    55.38  45 eP     45 56.00   0.1
OHR    55.49  37 eP     45 56.80   0.1
       1.1s     0.05nm          2.4mb X
ATH    55.50  41 eP     45 56.70   0.0
ABH    55.52  21 ePc    45 56.32  -0.4
PUK    55.54  35 eP     45 57.90   1.0
FUR    55.59  25 iPc    45 56.70  -0.5
       1.7s   168.00nm          5.8mb
KZN    55.60  38 eP     45 57.20  -0.3
KBA    55.65  27 iPc    45 57.00  -0.9
       0.7s     9.10nm          4.9mb
                i       46 09.60
ENN    55.70  19 iPc    45 58.20   0.3
       1.0s    89.00nm          5.7mb
                e       46 12.00
TOD    55.75  22 iPc    45 57.97  -0.4
NEO    55.93  40 eP     45 59.50  -0.3
BHG    55.93  26 iPc    45 58.60  -1.1
       1.3s   131.00nm          5.8mb
ZAG    55.98  30 eP     46 01.00   1.0
PTJ    56.03  29 eP     46 00.40  -0.1
GRG    56.37  38 eP     46 02.60  -0.4
SKO    56.40  36 iPc    46 03.20   0.1
       1.6s   132.00nm          5.7mb
     Z  19s     2.62um          5.3Msz
     N  19s     1.07um
     E  19s     2.62um
                i       46 15.80
```

21d 20h

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                i(PcP)47 14.30
                i     52 42.00
                iS    53 51.00
                iSS   57 26.00
KAP   56.63  46 eP    46 04.50  -0.4
PLG   56.67  39 eP    46 05.00  -0.2
VAY   56.68  37 eP    46 05.20   0.0
GRF   56.76  24 iPc   46 04.80  -0.8
      1.2s    61.00nm          5.5mb
    Z  21s     0.60um          4.7Msz
                ic    46 19.50
                i     46 23.40
                eS    54 05.00
KNT   56.79  38 eP    46 05.50  -0.5
WTS   57.04  19 iPc   46 07.60   0.1
      1.0s    90.00nm          5.8mb
                e     46 21.50
SRS   57.19  38 eP    46 08.70  -0.1
KHC   57.30  25 iPc   46 08.90  -0.6
      1.3s    36.00nm          5.2mb
    Z  17s     1.20um          5.1MszX
    N  17s     0.80um
    E  17s     1.00um
                e     46 24.00
                S     54 00.00
KKB   57.32  37 eP    46 10.00   0.3
HLW   57.34  53 eP    46 10.00   0.0
                eS    54 20.00
FCH   57.41 230 ePd   46 12.10   1.2
SMG   57.46  43 eP    46 10.70   0.0
MMB   57.55  38 ePc   46 11.00  -0.3
PSO   57.56 272 eP    46 12.50   0.1
SOP   57.59  28 iPc   46 13.90   2.5
BEO   57.63  33 iP    46 11.50  -0.3
                i(S)  54 09.00
PEL   57.64 230 ePc   46 12.60   0.4
      1.0s    56.00nm          5.5mb
MOX   57.67  23 iPc   46 11.50  -0.5
      1.6s    96.00nm          5.6mb
    Z  17s    11.00um          6.0MszX
    N  16s     1.30um
    E  16s     1.00um
                eS    54 10.00
WIT   57.69  19 eP    46 13.00   1.0
PCH   57.70 230 eP    46 13.50   0.9
SAN   57.75 230 eP    46 13.50   0.6
KOT   57.76  54 eP    46 12.50  -0.5
VTS   57.82  37 iPc   46 14.00   0.6
PRK   57.87  41 eP    46 14.00   0.4
VKA   57.89  28 iPc   46 13.00  -0.6
      3.0s   448.00nm          6.0mb
                e     48 20.00
CHCH  57.93 230 eP    46 19.50   5.3X
ZST   58.21  28 iP    46 15.10  -0.7
                i     46 32.60
RZN   58.21  38 iPc   46 17.00   0.8
EZN   58.21  41 eP    46 14.00  -1.9
PRU   58.36  25 P     46 15.80  -1.1
      1.8s    78.10nm          5.5mb
    Z  11s     1.40um          5.3MszX
    N  14s     0.80um
    E  14s     1.00um
                e     46 31.00
                S     54 20.00
RDO   58.42  39 eP    46 17.00  -0.4
PLD   58.44  38 iPc   46 17.00  -0.5
LCCH  58.45 230 ePd   46 24.00   6.2X
LNV   58.52 230 eP    46 18.00  -0.2
SRO   58.52  29 iP    46 18.10   0.1
KDZ   58.62  39 ePc   46 18.00  -0.8
BUD   58.65  30 iPc   46 18.60  -0.2
CLL   58.74  23 iPc   46 18.40  -1.0
      1.7s    48.00nm          5.3mb
                eS    54 24.00
BZS   58.77  33 eP    46 20.00   0.3
BRG   58.78  24 iPc   46 19.00  -0.8
      1.4s    64.00nm          5.5mb
DIM   58.92  38 eP    46 21.00   0.1
ELL   59.14  46 eP    46 23.80   1.1
PVL   59.45  37 iPc   46 23.00  -1.5
EDC   59.49  41 eP    46 24.00  -0.9
KHL   59.61  44 iP    46 25.50  -0.3
KSP   59.75  26 ePc   46 25.30  -1.2
                e     48 29.50
JMB   59.80  38 ePc   46 26.00  -0.9
BADA  59.86  56 iPc   46 27.70   0.1
BCK   59.95  45 eP    46 27.80  -0.4
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MBH   60.18  55 eP    46 30.00   0.3
UPA   60.26 281 e(P)  46 31.20   0.6
SPC   60.40  29 iP    46 30.80  -0.4
CMP   60.47  35 iPc   46 29.00  -2.5
AYN   60.81  56 iPc   46 34.70   0.7
KRA   60.84  28 eP    46 33.00  -0.9
    Z  16s     1.60um          5.3MszX
                e     46 43.90
HRT   60.92  41 eP    46 34.00  -0.7
MLR   61.11  35 ePc   46 35.50  -0.5
DSI   61.20  53 eP    46 37.00   0.3
ISR   61.26  36 eP    46 36.50  -0.4
PSN   61.44  38 eP    46 37.00  -1.1
VRI   61.78  35 ePc   46 39.00  -1.4
TL8   61.84  37 eP    46 40.00  -0.8
HRI   62.09  51 e(P)  46 42.00  -0.9
BHL   62.25  51 P     46 44.00   0.1
                S     55 10.00
CLI   62.48  35 ePd   46 44.50  -0.6
BBTK  62.54  44 iPc   46 46.00   0.2
KAS   63.91  42 iPc   46 54.20  -0.5
NAO   65.67  16 P     47 04.80  -0.8
      1.2s    32.90nm          5.4mb
NA2   65.70 313 P     47 06.00  -0.2
HFS   65.93  18 eP    47 05.90  -1.4
      1.5s    60.30nm          5.6mb
    Z  16s     0.79um          5.0MszX
                LR    08 53.00
HBF   65.99 307 P     47 08.00  -0.1
CVL   66.17 312 P     47 08.70  -0.5
SGS   66.17 307 P     47 09.00  -0.3
LHS   66.80 308 P     47 13.00  -0.3
UPP   66.97  19 iP    47 13.30  -0.6
JSC   67.09 308 P     47 15.00  -0.2
BLA   67.37 311 P     47 17.00   0.0
PRM   67.91 307 P     47 20.00  -0.4
RYD   68.93  63 iPc   47 28.50   1.5
BHD   68.97  54 ePd   47 26.00  -0.9
                ePP   49 53.00
                eS    56 30.00
NUR   69.90  22 iP    47 31.50  -0.6
      0.8s    24.90nm          5.4mb
                e     47 41.00
SLY   70.47  52 iP    47 36.00  -0.1
SNA   70.51 174 e(P)  47 45.60  10.0X
      1.2s    90.63nm          5.8mb
RSCP  70.87 308 P     47 38.00  -0.6
TAB   71.78  49 eP    47 43.00  -1.1
SUF   71.91  20 eP    47 44.10  -0.1
      1.0s    43.20nm          5.5mb
PWLA  72.69 307 P     47 48.00  -1.4
ELC   74.13 309 P     47 56.00  -1.8
SOD   75.14  17 iP    48 03.30   0.3
FVM   75.22 310 P     48 02.80  -1.2
POW   75.42 308 P     48 04.00  -1.2
OLY   75.52 307 P     48 04.60  -1.2
KEV   76.83  15 iP    48 12.80   0.3
      1.1s    45.60nm          5.5mb
OXX   77.70 288 (P)   48 20.00   1.4
LNO   79.05 307 eP    48 24.80  -0.5
TUL   79.05 307 iP    48 24.90  -0.6
      1.2s    52.30nm          5.4mb
    Z  21s     0.91um          5.1Msz
                e     48 32.50
                LR    14 19.00
SIO   79.44 306 eP    48 24.90  -2.7
PPM   79.66 289 (P)   48 31.00   1.4
RSON  80.38 322 P     48 30.80  -1.5
      1.0s    78.63nm          5.7mb
KHI   80.79  55 eP    48 36.70   1.7
MEO   81.16 305 iPd   48 36.40  -0.4
MAIO  81.74  53 iPc   48 40.80   1.0
                eS    59 04.00
ACO   81.85 307 e(P)  48 41.00   0.7
GLD   86.88 310 P     49 07.00   1.1
      1.2s    50.51nm          5.6mb
GOL   87.00 310 P     49 06.80   0.3
      1.2s    45.08nm          5.6mb
QUE   87.50  60 eP    49 10.00   1.0
ALQ   87.63 305 iPd   49 10.00   0.4
      1.0s    12.50nm          5.2mb
SPA   89.36 180 eP    49 29.80  12.7X
      1.1s    62.50nm
BW06  90.26 313 P     49 20.00  -1.9
SES   91.29 320 eP    49 26.00  -0.2
MSU   92.26 308 P     49 30.00  -1.2
LRM   92.31 316 eP    49 31.90   0.6
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EDM   92.65 323 eP    49 32.00  -0.4
      1.1s    52.00nm          5.9mb
MBC   92.90 346 eP    49 33.00  -0.1
      1.4s    34.00nm          5.6mb
KVN   96.86 309 P     49 50.00  -2.3
LON   98.70 317 P     50 00.00  -0.2
INK   99.20 340 eP    50 04.00   2.1
FBA  105.82 340 Pdiff 50 47.00  15.5X
SSE  132.23  47 ePdiff52 43.00  13.1X
                Lg    54 17.30
CAN  142.72 165 ePKP  55 57.80   2.8X
BWA  143.41 164 ePKP  56 01.00   4.8X
ASPA 144.83 135 iPKPc 55 58.90   0.0
      0.8s    89.00nm
WB5  147.48 130 ePKP  56 09.70   6.4X
RMO  150.85 159 ePKP  56 20.00  11.6X
     S.D. = 0.9  on 273 of 288 obs.
-----------------------------------
?  NOV  21, 1989  20h 38m 37.17± 1.11s
   41.864 N ±11.5km   14.061 E ± 9.6km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)
SDI    0.24 229 P     38 42.10  -0.3
                eSg   38 47.00
DUI    0.36 124 P     38 44.70   0.1
                eSg   38 50.50
AQU    0.69 315 P     38 50.10  -0.8
                eSg   39 01.40
MNS    1.15 297 P     38 59.70   1.0
     S.D. = 1.3  on   4 of   4 obs.
-----------------------------------
   NOV  21, 1989  21h 35m 46.02± 1.20s
   35.442 N ±10.6km   22.272 E ± 7.6km
   DEPTH =  33.0km  (normal)
   3.8mb (  1 obs.)
 MEDITERRANEAN SEA                 (400)
     ML 3.8 (ATH).
VLI    1.38  23 iPc   36 07.20  -2.0
VAM    1.58  91 ePb   36 13.50   1.5
                eSb   36 34.70
ITM    1.76 351 ePn   36 16.70   2.1
NPS    2.74  93 ePb   36 33.40   4.8X
ATH    2.78  24 ePb   36 30.20   1.1
VLS    3.05 334 ePn   36 35.00   2.0
APE    3.09  57 ePn   36 33.00  -0.7
AGG    3.57   1 eP    36 41.80   1.3
NEO    3.93  11 ePn   36 46.50   0.9
KAP    4.00  87 ePn   36 48.00   1.4
SMG    4.31  57 ePn   36 50.00  -1.0
KEK    4.69 336 ePb   37 03.00   6.7X
SRN    4.78 339 ePn   36 57.90   0.4
KZN    4.87 355 ePn   36 59.40   0.4
LSK    4.88 345 ePn   36 59.90   0.8
PRK    4.96  39 ePn   36 59.50  -0.6
IZM    4.97  52 eP    37 00.10  -0.3
PLG    5.01  10 ePn   36 59.50  -1.4
TPE    5.16 340 ePn   37 03.00   0.0
EZN    5.43  35 eP    37 04.00  -2.7
GRG    5.51   1 eP    37 08.00   0.1
BERA   5.56 341 ePn   37 08.70   0.1
KNT    5.73   5 ePc   37 10.70  -0.3
SRS    5.76  10 eP    37 10.40  -1.1
OHR    5.78 349 ePn   37 11.70   0.0
VAY    5.88   2 ePn   37 13.30   0.3
KSL    5.98  81 ePn   37 17.00   2.4
CZI    6.17 309 P     37 15.70  -1.6
TIR    6.19 343 ePn   37 17.00  -0.5
RDO    6.25  23 ePn   37 19.00   0.7
ELL    6.32  76 eP    37 19.00  -0.4
CSI    6.42 314 P     37 10.50 -10.3X
KHL    6.48  62 eP    37 21.50  -0.2
LACI   6.50 343 iPnd  37 20.50  -1.3
SKO    6.55 355 iPn   37 40.20  17.6X
     1.0s    34.00nm
   Z  11s     1.04um
   N  11s     1.08um
PUK    6.85 345 ePn   37 24.90  -1.8
SDA    6.91 343 ePn   37 23.00  -4.6X
BCK    7.00  71 eP    37 38.30   9.4X
BBTK   9.41  59 eP    38 02.00  -0.4
MLR   10.42  14 ePd   38 18.50   2.2
VRI   10.95  17 eP    38 28.00   4.6X
DSI   11.60 106 eP    38 27.50  -4.8X
                eS    40 30.00
MBH   12.04 114 eP    38 36.00  -2.1
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21d 21h

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                    eS     40 44.00
CLL    17.21 340 e(P)     39 57.00   11.7X
DOU    19.49 324 P        40 23.70   10.6X
HFS    25.33 350 eP       41 11.20    0.1
       0.8s      2.40nm              3.8mb
CHG    68.69  82 eP       46 49.20    0.5
     S.D. = 1.3  on  37 of  47 obs.
-----------------------------------------
   NOV  21, 1989  21h 52m 53.66± 0.33s
   47.289 N ± 3.6km   14.503 E ± 3.1km
   DEPTH =   9.7 ±  2.2 km
 AUSTRIA                              (546)
      ML 4.1 (VKA), 3.4 (KBA), 3.6
      (ZAG), 3.5 (LDG). Felt (V) at
      Judenberg.

KMR     0.81 342 iPg-      53 08.90   -0.5
                 iSg       53 25.70
KBA     0.82 256 iPgc      53 07.70   -2.0
                 iSg       53 18.00
BHG     1.18 292 iPd       53 16.30    0.5
FVI     1.37 240 P         53 17.60   -1.2
                 eSg       53 33.90
SOP     1.45  73 iP        53 22.30    2.4
VKA     1.57  51 iPnd      53 22.00    0.4
                 iPgd      53 23.10
                 iSn       53 43.50
                 iSg       53 45.00
TRI     1.66 198 iPg       53 24.00    1.0
                 iSn       53 45.00
PTJ     1.71 144 iPnc      53 22.20   -1.6
                 iPg       53 24.50
                 iSn       53 46.10
                 iSg       53 48.00
ZAG     1.79 145 e(Pn)     53 23.00   -1.9
                 iSn       53 46.30
                 iSg       53 49.00
VVI     1.94 228 P         53 27.50    0.5
                 eSn       53 56.90
KHC     1.94 342 iPn       53 28.00    0.9
                 Sg        53 54.50
RIY     1.95 182 iPn       53 27.40    0.3
ZST     1.98  62 ePn       53 27.80    0.3
                 i         53 30.20
CTI     2.32 239 P         53 34.50    1.8
                 eSn       54 06.70
OGA     2.41 261 iPd       53 37.60    3.6X
SRO     2.63  77 e(Pn)     53 32.00   -5.0X
                 i         53 43.30
                 e         53 45.20
                 i         54 18.20
PRU     2.70   1 Pn        53 37.50   -0.5
                 Pg        53 43.30
                 Sn        54 01.00
                 Sg        54 12.00
OSS     3.04 260 ePc       53 45.60    2.7X
BUD     3.08  85 eP        53 44.70    1.5
SAL     3.22 240 P         53 45.50    0.2
                 eSn       54 27.50
GRF     3.25 319 iPn       53 46.20    0.5
                 iPg       53 56.70
                 iSg       54 38.50
HOF     3.49 331 iPnc      53 48.90   -0.2
SAX     3.51 271 ePc       53 50.50    0.8
VDL     3.54 259 ePd       53 51.50    1.4
BRG     3.61 354 e(P)      53 53.50    2.7X
                 ePg       54 00.00
                 iSg       54 50.00
PSZ     3.70  78 eP        53 50.70   -1.5
KSP     3.75  18 ePn       53 51.50   -1.3
                 iPg       54 01.80
                 iSg       54 52.30
LLS     3.79 266 ePc       53 53.70    0.2
STU     3.86 295 ePc       53 55.00    0.6
      0.5s    16.90nm
MOX     3.86 332 ePn       53 54.00   -0.4
                 iSg       54 55.00
ARV     3.95 197 P         53 55.10   -0.5
TMA     4.05 255 ePc       53 59.00    1.8
SLE     4.10 279 ePd       53 57.50   -0.3
CLL     4.14 347 (Pn)      53 58.00   -0.3
      1.3s   195.00nm
                 iPg       54 11.10
                 iSg       55 03.90
ZLA     4.16 275 ePc       53 59.30    0.7
SPC     4.28  62 eP        53 51.40   -9.2X
FEL     4.43 280 ePn       54 01.90   -0.7
TOD     4.45 304 ePn       54 02.00   -0.7
MMK     4.67 257 ePc       54 07.20    1.1
CDF     4.99 286 Pn        54 10.00   -0.5
                 Sg        55 32.80
DIX     5.03 259 ePc       54 11.40    0.2
BSF     5.25 279 Pn        54 13.60   -0.6
                 Sn        55 12.00
                 Sg        55 41.20
ABH     5.29 302 ePn       54 13.98   -0.8
EMS     5.35 260 ePc       54 14.80   -0.9
RUP     5.51 299 eP        54 18.22    0.5
HAU     5.56 280 Pn        54 18.20   -0.3
                 Sg        55 50.40
LPG     5.65 254 Pn        54 20.00   -0.1
LPL     5.66 255 Pn        54 19.90   -0.2
DOU     7.13 297 P         54 41.70    1.1
                 S         55 59.80
LBF     7.19 271 Pn        54 41.60    0.2
LOR     7.24 274 Pn        54 42.00   -0.1
AVF     7.64 270 Pn        54 46.40   -1.2
BGF     8.02 269 Pn        54 53.00    0.1
TCF     8.50 268 Pn        54 58.00   -1.7
      S.D. = 1.0  on  49 of  54 obs.
-----------------------------------------
*  NOV  21, 1989  22h 01m 45.11± 1.34s
     7.015 N ±16.0km   82.362 W ±13.9km
    DEPTH =  18.4 ±  7.4 km
    4.5mb (  1 obs.)
 SOUTH OF PANAMA                      ( 83)

ACR     1.81 334 iPd       02 15.50   -0.2
                 S         02 34.60
OCR     3.00 324 ePd       02 31.90   -0.7
LCR2    3.16 329 eP        02 36.50    1.4
SJS     3.35 330 iPd       02 38.70    0.9
                 S         03 14.20
UPA     3.41  55 iPd       02 38.40   -0.1
       0.9s   336.13nm
                 i         03 29.00
VPS2    3.66 330 eP        02 41.65   -0.7
SRA     3.68 326 eP        02 41.50   -1.0
OXX    17.23 307 (P)       05 53.00    6.3X
PPM    19.84 309 (P)       06 22.50    3.9X
ZOBO   27.09 149 P         07 29.50    0.0
      Z  24s      1.03um          4.3MszX
                 LR        15 20.00
ALQ    35.55 325 eP        08 44.00    0.5
INK    69.87 342 eP        12 56.00   -0.5
MBC    72.09 351 eP        13 10.00    0.3
       0.9s      4.00nm            4.5mb
     S.D. = 0.9  on  11 of  13 obs.
-----------------------------------------
&  NOV  21, 1989  22h 31m 20.22s
    61.840 N          146.322 W
    DEPTH =  47.5km
 SOUTHERN ALASKA                      (  2)
      <AGS-P>. ML 3.2 (PMR).

TOA     0.27  15 iPd       31 29.60    0.6
KLU     0.40 151 iP        31 28.40   -1.9
CVA     1.33 168 eP        31 41.71   -0.9
                 eS        31 59.60
PMR     1.36 261 iPc       31 42.30   -0.8
SGAM    1.45 158 eP        31 42.93   -1.5
                 eS        32 02.71
HIN     1.45 184 eP        31 43.17   -1.3
                 eS        32 01.06
PMS     1.66 250 eP        31 46.90   -0.5
RAGM    1.66 151 eP        31 45.41   -2.0
BALM    2.07 111 iP        31 52.00   -1.3
WAX     2.19 128 eP        31 53.48   -1.4
SLKM    2.31 236 eP        31 54.80   -1.9
CYK     2.57 132 eP        32 01.02    0.8
SPU     2.83 259 eP        32 02.00   -2.0
FBA     3.14 348 eP        32 10.00    1.6
HYT     4.37 100 P         32 23.00   -2.9
      15 obs. associated
-----------------------------------------
?  NOV  21, 1989  23h 25m 12.75± 1.11s
    43.003 N ± 9.0km   18.842 E ± 8.4km
    DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                           (383)
      ML 2.0 (TTG).

NKY     0.22 149 iPgc      25 18.00    0.4
                 eSg       25 22.20
BRY     0.24 245 iPgd      25 18.00    0.0
                 eSg       25 22.10
PLE     0.52  51 ePg       25 23.30    0.0
                 eSg       25 31.00
TTG     0.65 152 ePg       25 25.30   -0.4
                 eSg       25 35.30
     S.D. = 0.6  on   4 of   4 obs.
-----------------------------------------
*  NOV  21, 1989  23h 56m 49.71± 1.19s
    39.074 N ± 7.9km   29.853 E ±16.0km
    DEPTH =  10.0km  (geophysicist)
 TURKEY                               (366)

KHL     0.79 199 iPg       57 03.60   -1.6
                 eSg       57 14.10
DST     1.09 300 iPn       57 08.70   -1.5
YLV     1.54 346 ePn       57 16.30   -0.9
BCK     1.71 160 ePn       57 20.00    0.2
HRT     1.75 355 ePn       57 20.80    0.5
BNT     1.97 311 ePn       57 25.00    1.6
CIN     2.02 224 eP        57 26.00    1.8
ISK     2.08 343 ePn       57 18.00   -7.0X
     S.D. = 1.7  on   7 of   8 obs.
-----------------------------------------
?  NOV  22, 1989  00h 24m 53.69± 5.46s
    14.233 S ±87.4km   75.589 W ±74.6km
    DEPTH =  33.0km  (normal)
 NEAR COAST OF PERU                   (115)

PT08    2.44 337 iPc       25 32.80    0.3
                 eS        26 08.10
PT10    2.53 328 eP        25 34.00    0.6
                 eS        26 11.50
NNA     2.54 331 eP        25 32.70   -0.9
       0.5s    24.65nm
                 i         25 36.90
                 eS        26 07.00
ZOBO    7.48 107 P         26 44.00    0.1
CNCB    7.77 110 P         26 47.80   -0.1
     S.D. = 0.8  on   5 of   5 obs.
-----------------------------------------
&  NOV  22, 1989  01h 19m 22.14s
    59.902 N          153.082 W
    DEPTH = 104.5km
 SOUTHERN ALASKA                      (  2)
      <AGS-P>.

ILIM    0.19  19 eP        19 36.60    1.1
OPT     0.26 197 iP        19 36.89    1.1
RED     0.54  17 eP        19 38.59   -0.4
PDB     0.57 259 iP        19 38.19   -1.0
                 eS        19 51.50
XLV     0.82 122 eP        19 40.58   -0.8
NNL     0.91  80 eP        19 42.52    0.3
CNPM    1.01 111 eP        19 42.30   -1.0
CDD     1.02 197 eP        19 42.09   -1.3
NKA     1.25  47 eP        19 46.99    1.1
CGLM    1.51  20 eP        19 48.32   -0.9
SLKM    1.55  66 eP        19 48.26   -1.4
SVW     1.74 315 eP        19 50.14   -2.0
SEW     1.84  82 eP        19 51.83   -1.4
SUA     1.94  35 eP        19 53.78   -1.0
PMS     2.20  51 eP        19 56.58   -1.5
SKT     2.22  19 eP        19 56.83   -1.5
GHO     2.77  46 eP        20 03.01   -2.7
GLI     3.13  69 eP        20 09.09   -1.4
FID     3.39  73 eP        20 11.70   -2.4
VLZ     3.56  67 eP        20 14.57   -1.7
NCA     3.70  53 eP        20 15.30   -3.1
KTH     3.81  15 eP        20 17.26   -2.5
KLU     3.87  63 eP        20 17.40   -3.2
TOA     4.02  54 eP        20 20.20   -2.6
RND     4.05  28 eP        20 20.20   -3.0
      25 obs. associated
-----------------------------------------
*  NOV  22, 1989  01h 40m 55.08± 1.68s
    38.141 N ±11.8km  143.423 E ±17.2km
    DEPTH =  33.0km  (normal)
    4.2mb (  1 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ    1.66 305 P         41 21.90   -0.4
                 S         41 46.90
YAMJ    2.67 272 P         41 36.10   -0.6
KAKJ    3.24 234 P         41 43.60   -1.1
                 eS        42 25.50
NIIJ    3.62 257 P         41 50.40    0.2
CHJJ    4.11 241 P         41 56.80   -0.4
```

```
MAT      4.45 251 iPd    42 02.60    0.5
        1.3s     44.23nm
                  (S)    43 08.00
MTMJ     4.74 253 P      42 07.60    1.5
KUSJ     5.05  11 P      42 10.60    0.2
                  S      43 05.50
IIDJ     5.16 241 P      42 12.20    0.1
SSE     19.58 256 eP     45 22.50   -0.7
        1.2s     17.00nm          4.2mb
BJI     21.21 284 eP     45 39.50   -0.5
      Z  14s      0.41um          4.0MszX
ZOBO   144.75  61 PKP    00 40.00    8.8X
      Z  24s      0.13um          4.6MszX
                  LR     20 08.00
LPB    144.95  61 (PKP) 00 50.00   18.6X
CNCB   145.22  61 ePKP  00 42.00   10.0X
     S.D. = 0.8  on  11 of  14 obs.
-----------------------------------
%  NOV  22, 1989  01h 42m 44.84± 0.68s
   39.712 N ± 5.8km   16.538 E ± 6.1km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

ROI      0.14 170 P      42 49.30    1.1
TDS      0.16 251 Pd     42 48.50   -0.1
                  eSg    42 51.80
CSI      0.20 289 P      42 50.00    0.7
ACI      0.44 216 P      42 50.20   -3.7X
CZI      0.58 213 P      42 56.70    0.1
MGR      0.87 300 P      43 01.40   -0.1
                  eSg    43 17.20
LCI      1.25  60 P      43 08.70    0.6
                  eSg    43 27.20
SGO      1.27 312 P      43 08.80    0.5
                  eSn    43 28.60
BRT      1.27  23 P      43 07.30   -1.1
                  eSg    43 25.10
ATN      1.76 209 P      43 14.00   -1.6
                  eSn    43 36.50
     S.D. = 1.0  on   9 of  10 obs.
-----------------------------------
   NOV  22, 1989  01h 52m 38.51± 0.90s
   39.304 N ± 7.2km   29.282 E ± 9.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

DST      0.59 301 iPg    52 49.10   -1.4
                  iSg    52 58.10
KHL      1.00 169 iPn    52 57.60    0.1
GPA      1.26  38 ePn    53 01.00   -1.0
YLV      1.26   3 iPn    53 01.70   -0.3
BNT      1.48 315 iPn    53 06.20    1.0
GBZT     1.49   5 ePn    53 04.80   -0.5
HRT      1.54  11 ePn    53 06.70    0.6
ISK      1.77 355 ePn    53 10.70    1.4
     S.D. = 1.1  on   8 of   8 obs.
-----------------------------------
   NOV  22, 1989  04h 25m 19.99± 0.40s
   1.153 S ± 8.3km   15.950 W ± 7.0km
   DEPTH =  10.0km  (geophysicist)
   4.8mb ( 18 obs.)  4.7Msz (  3 obs.)
 NORTH OF ASCENSION ISLAND         (407)

LIC     13.14  56 P      28 29.80    0.4
TIC     13.38  54 P      28 32.70    0.1
KIC     13.45  56 P      28 33.30   -0.2
        1.3s    101.00nm          5.7mb
                  TT     39 00.00
BAO     34.73 244 e(P)   32 08.00   -4.7X
BCAO    34.90  81 iPc    32 14.20    0.0
        1.1s     25.00nm          5.0mb
                  i      32 16.50
VAO     37.13 232 e(P)   32 32.00   -0.9
PPD     40.18 236 e(P)   32 59.00    0.6
LSZ     45.76 110 iP     33 44.00    0.1
                  i      33 50.00
MFF     49.55  14 eP     34 13.10    0.1
        0.6s      4.30nm          4.6mb
MAF     49.92  17 eP     34 16.60    0.7
        0.8s      8.00nm          4.7mb
LPG     50.62  21 eP     34 22.30    0.8
        0.8s      5.30nm          4.5mb
LPF     50.68  13 eP     34 21.20   -0.4
        0.8s     10.70nm          4.8mb
SSF     50.96  17 eP     34 23.90    0.2
        0.6s      2.70nm          4.4mb
LBF     51.03  17 eP     34 24.30    0.0
        0.8s      8.00nm          4.7mb
GRR     51.06  13 eP     34 24.40    0.0
        0.8s     18.80nm          5.1mb
LOR     51.25  17 eP     34 25.90    0.0
        0.6s      4.50nm          4.6mb
FLN     51.49  13 eP     34 27.40   -0.4
        0.6s      3.60nm          4.5mb
HAU     52.67  19 eP     34 36.40   -0.3
        0.8s      5.30nm          4.5mb
CNCB    53.49 250 eP     34 47.00    3.1X
ZOBO    53.53 251 P      34 47.50    3.4X
      Z  22s      0.71um          4.7Msz
                  LR     51 28.00
LPB     53.55 250 P      34 49.00    4.9X
      Z  22s      1.48um          5.0Msz
                  LR     51 28.00
DOU     54.01  16 Pc     34 45.90   -0.5
ENN     54.99  17 eP     34 54.00    0.4
        1.0s     14.00nm          4.9mb
WTS     56.34  17 eP     35 03.50    0.2
        0.9s     11.00nm          4.9mb
ZST     56.92  26 eP     35 13.30    5.7X
VRI     60.05  33 eP     35 28.00   -1.5
NAO     65.17  14 P      36 02.10   -1.2
        1.0s      5.50nm          4.7mb
LNO     82.44 306 e(P)   37 43.20   -0.9
                  e      37 50.90
TUL     82.45 306 eP     37 43.50   -0.8
        0.8s      7.70nm          4.9mb
      Z  20s      0.27um          4.6Msz
                  e      37 50.60
                  e      37 56.90
                  LR     04 00.00
SIO     82.84 306 e(P)   37 42.20   -4.1X
                  e      37 50.90
ACO     85.22 307 eP     37 58.80    0.4
SPA     88.85 180 iPd    38 15.70    0.1
        0.8s     12.92nm          5.3mb
ALQ     91.07 305 eP     38 28.70    2.1
MBC     94.30 346 eP     38 42.00    1.6
        1.0s      7.00nm          5.0mb
EDM     95.36 323 eP     38 45.00   -0.8
     S.D. = 0.8  on  29 of  35 obs.
-----------------------------------
   NOV  22, 1989  05h 46m 32.46± 0.35s
    0.560 S ± 6.0km   19.714 W ± 5.9km
   DEPTH =  10.0km  (geophysicist)
   5.2mb ( 42 obs.)  4.6Msz (  4 obs.)
 CENTRAL MID-ATLANTIC RIDGE        (406)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 28C
      Centroid Location:
      Origin Time        05:46:41.4 0.5
      Lat  0.34S 0.04 Lon  19.53W 0.04
      Dep  15.0 FIX Half-duration  2.1
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.42 0.05  Mtt= 0.57 0.07
        Mff=-0.15 0.08  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf=-1.45 0.05
       Principal Axes:
        T  Vol=  1.71  Plg= 0  Azm=218
        N        -0.42      90      180
        P        -1.29       0      128
      Best Double Couple:Mo=1.5*10**17
       NP1:Strike=263 Dip=90 Slip=-180
       NP2:        353      90        0

LIC     16.13  65 P      50 21.00   -0.1
                  S      53 07.54
TIC     16.32  64 P      50 22.62   -0.8
KIC     16.45  65 P      50 24.96   -0.1
                  S      53 16.84
                  TT     01 00.00
BAO     31.67 240 e(P)   52 58.00   -0.7
AVE     35.62  18 eP     53 33.00    0.6
                  i      54 47.00
PPD     37.45 233 eP     53 53.20    5.1X
BCAO    38.54  82 iPc    53 58.40    1.1
        1.0s     55.00nm          5.2mb
                  i      54 04.80
                  i      55 08.70
                  i      55 28.00
EPRU    39.68  18 eP     54 08.60    2.1
EHOR    40.46  18 eP     54 13.80    0.9
AFC     40.50  20 eP     54 14.70    1.3
ENIJ    40.71  22 eP     54 15.80    0.8
EBAN    41.24  19 eP     54 20.00    0.7
EPLA    42.31  16 eP     54 29.60    1.5
TOL     42.72  18 iPc    54 33.00    1.5
        1.0s    150.00nm          5.7mb
                  eS     01 00.00
GUD     43.39  17 eP     54 39.00    2.0
ECHE    43.49  21 eP     54 39.00    1.3
ECRI    45.68  18 eP     54 57.00    1.6
BOH     46.60  19 P      55 03.57    0.9
ISSF    46.60  19 P      55 03.68    1.0
ELYF    46.67  19 P      55 04.14    1.0
ATE     46.68  19 P      55 04.42    1.2
MADF    46.70  19 P      55 04.31    1.0
ESCF    46.72  19 P      55 04.28    0.8
EPF     46.99  20 eP     55 06.50    0.9
        1.2s     59.50nm          5.6mb
LPO     48.73  20 eP     55 19.80    0.6
        1.0s     28.00nm          5.3mb
LFF     48.81  19 eP     55 20.70    0.9
        1.2s     41.60nm          5.4mb
CAF     49.25  20 eP     55 23.60    0.4
        1.2s     41.60nm          5.3mb
MZZ     49.39 104 iP     55 27.00    2.1
                  i      55 32.00
                  i      55 42.00
RJF     49.39  20 eP     55 24.70    0.4
        1.2s     23.80nm          5.1mb
LSZ     49.49 110 iPd    55 27.50    1.8
                  i      55 33.50
LBL     49.93  21 P      55 29.05    0.7
MFF     50.01  18 eP     55 29.30    0.3
        1.0s     40.00nm          5.3mb
CNCB    50.18 249 eP     55 29.00   -2.4X
ZOBO    50.19 249 P      55 31.20   -0.3
        1.5s     20.43nm          4.9mb
      Z  18s      0.97um          4.9Msz
                  LR     06 14.00
LSF     50.23  19 eP     55 31.10    0.4
        1.0s     24.00nm          5.1mb
LPB     50.23 249 P      55 32.00    0.4
      Z  16s      1.35um          5.0MszX
                  LR     14 40.00
PYM     50.29  21 P      55 32.10    0.8
TCF     50.48  20 eP     55 33.30    0.6
        1.0s     14.00nm          4.9mb
MAF     50.55  20 eP     55 33.90    0.8
        1.2s     50.50nm          5.3mb
AGO     50.60  20 P      55 34.31    0.8
IMI     50.67  26 P      55 34.12    0.0
PLDF    50.70  21 P      55 34.82    0.5
STV     50.70  25 P      55 35.15    0.8
ENR     50.73  25 P      55 35.25    0.7
PZZ     50.82  25 P      55 36.38    1.0
BGF     50.94  20 eP     55 36.90    0.9
ROB     50.97  25 P      55 37.20    0.8
RRL     51.03  24 P      55 37.92    0.9
FIN     51.05  26 P      55 37.20    0.2
LPF     51.05  16 eP     55 37.20    0.4
        1.0s     20.00nm          5.0mb
BNI     51.09  24 P      55 38.50    1.1
CKI     51.25  26 P      55 39.00    0.5
AVF     51.31  20 eP     55 39.50    0.6
        1.2s     35.70nm          5.2mb
RDP     51.32  31 P      55 39.00   -0.1
RMP     51.35  31 P      55 40.00    0.8
SMF     51.36  21 eP     55 39.80    0.5
        1.2s     17.80nm          4.9mb
RSP     51.41  24 P      55 40.07    0.3
GRR     51.43  16 eP     55 39.90    0.2
        1.0s     32.00nm          5.2mb
KSR     51.46 123 iPc    55 40.20   -0.4
        0.9s     11.54nm          4.8mb
LPG     51.49  24 eP     55 41.40    0.8
        1.0s     36.00nm          5.3mb
SSF     51.60  20 eP     55 41.50    0.4
        1.3s     68.50nm          5.4mb
LSD     51.62  24 P      55 42.02    0.5
LBF     51.70  21 eP     55 42.00    0.1
        1.0s     30.00nm          5.2mb
MGR     51.71  34 P      55 41.50   -0.5
MNS     51.75  30 P      55 42.20   -0.2
LDF     51.82  16 eP     55 42.60   -0.1
        1.0s     20.00nm          5.0mb
TDS     51.84  35 P      55 42.50   -0.5
SDI     51.85  32 P      55 43.40    0.3
SGO     51.86  34 P      55 43.00   -0.1
FLN     51.87  16 eP     55 43.10    0.0
```

22d 05h

```
        1.0s    25.60nm          5.1mb
LOR     51.90   20 eP    55 43.70   0.3
        1.2s    35.70nm          5.2mb
BDI     52.00   27 P     55 44.30   0.0
EMS     52.03   23 ePc   55 44.60   0.0
BOB     52.03   26 P     55 45.50   1.0
ORO     52.09   24 P     55 44.50  -0.5
ORX     52.10   24 P     55 43.56  -1.5
AQU     52.10   31 P     55 45.80   0.8
DUI     52.16   32 P     55 45.50   0.0
DIX     52.23   24 ePc   55 46.30   0.1
ASS     52.25   30 P     55 45.00  -1.1
CRE     52.31   29 P     55 44.50  -2.2
PGD     52.39   28 P     55 46.00  -1.3
MMK     52.43   24 ePc   55 47.70   0.0
SFI     52.49   28 P     55 47.00  -0.8
VAI     52.61   25 P     55 47.50  -1.2
ARV     52.70   30 P     55 48.00  -1.4
TMA     52.85   25 ePc   55 49.50  -1.2
LOMF    53.05   22 P     55 51.59  -0.5
SAL     53.17   26 P     55 51.50  -1.3
BBS     53.40   23 P     55 54.09  -0.5
VDL     53.40   25 ePc   55 53.90  -0.9
HAU     53.41   22 eP    55 54.40  -0.3
        1.0s    41.60nm          5.4mb
BSF     53.43   22 P     55 54.01  -0.9
VITF    53.46   21 P     55 54.69  -0.2
LLS     53.51   24 ePc   55 54.70  -0.9
MOF     53.58   22 P     55 55.24  -0.7
ZLA     53.76   23 ePc   55 56.70  -0.5
OSS     53.84   25 ePc   55 57.00  -1.0
ECH     53.89   22 P     55 57.39  -0.7
FEL     53.93   23 P     55 57.97  -0.6
SAX     53.96   24 ePc   55 58.20  -0.8
CTI     54.01   27 Pc    55 58.50  -0.6
SLE     54.03   23 ePc   55 58.70  -0.5
CDF     54.10   22 P     55 58.88  -0.8
WLS     54.13   22 P     55 59.33  -0.6
OGA     54.36   26 iPc   56 01.10  -0.8
        1.3s    57.00nm          5.4mb
DOU     54.59   19 P     56 02.20  -1.0
        0.9s    55.00nm          5.6mb
GWF     54.69   22 P     56 03.60  -0.5
TRI     54.72   28 i(P)c 56 04.00  -0.3
                   e(SP) 03 38.00
                   e(SS) 07 48.00
                   e(SSS)09 16.00
FVI     54.93   27 P     56 05.80   0.1
RUP     55.09   21 ePc   56 06.48  -0.5
OHR     55.38   37 eP    56 05.50  -3.7X
ABH     55.42   21 eP    56 08.75  -0.6
FUR     55.48   25 iPc   56 09.30  -0.5
        1.3s    94.00nm          5.7mb
KBA     55.55   27 iPc   56 09.20  -1.3
        1.0s    13.40nm          4.9mb
ENN     55.60   19 ePc   56 10.50   0.0
                   e     56 17.00
TOD     55.65   22 ePc   56 10.53  -0.5
BHG     55.83   26 iPc   56 11.10  -1.2
        1.0s    59.00nm          5.6mb
PTJ     55.92   29 e(P)  56 12.90  -0.2
SKO     56.29   36 iPc   56 15.70   0.0
        1.5s    91.00nm          5.6mb
      Z 17s      0.86um          4.9MszX
      N 17s      0.49um
      E 17s      0.07um
VAY     56.58   37 eP    56 16.80  -0.9
GRF     56.66   24 iPc   56 17.50  -0.7
        1.3s    36.00nm          5.2mb
      Z 18s      0.20um          4.3Msz
                   eS    04 17.00
WTS     56.94   19 iPc   56 20.20   0.1
        1.0s    74.00nm          5.7mb
                   e     56 28.00
SRS     57.08   38 eP    56 21.10  -0.3
KHC     57.20   25 iPc   56 21.30  -0.8
        1.2s    20.00nm          5.0mb
BEO     57.52   33 iP    56 24.50   0.1
MOX     57.57   23 iPc   56 24.00  -0.6
        1.2s    39.00nm          5.3mb
      Z 18s      0.60um          4.7Msz
                   eS    04 20.00
ZST     58.10   28 iP    56 27.70  -0.7
PRU     58.26   25 eP    56 28.50  -1.0
        1.5s    33.50nm          5.2mb
                   e     58 34.50
SRO     58.42   29 iP    56 30.60   0.0
CLL     58.63   23 eP    56 30.00  -2.1
        1.9s    42.00nm          5.2mb
BRG     58.68   24 iPc   56 31.40  -1.0
        1.4s    46.00nm          5.4mb
                   i     58 39.00
KSP     59.65   26 ePd   56 38.50  -0.6
MBH     60.07   55 eP    56 42.00  -0.4
PRNI    60.36   54 ePc   56 45.00   0.6
KRA     60.74   28 eP    56 46.00  -0.5
        1.0s    37.00nm          5.5mb
VRI     61.67   35 ePc   56 51.50  -1.5
HRI     61.98   51 eP    56 56.00   0.5
BBTK    62.43   44 iPc   56 58.00  -0.4
HFS     65.84   18 eP    57 19.20  -0.8
        0.6s     4.20nm          4.8mb
      Z 16s      0.23um          4.5MszX
                   LR    27 48.00
NUR     69.80   22 eP    57 42.00  -2.8
SUF     71.81   20 ePc   57 56.00  -1.0
        0.9s    22.10nm          5.3mb
SOD     75.04   17 eP    58 15.00  -0.8
KEV     76.73   15 eP    58 22.00  -3.3X
                   e     58 36.00
LNO     79.07  307 eP    58 52.40  13.7X
                   e     59 04.70
                   e     59 39.50
TUL     79.07  307 eP    58 51.80  12.9X
        1.2s     6.40nm
      Z 20s      0.24um          4.5Msz
                   e     59 04.90
                   e     59 11.30
                   LR    24 29.00
SIO     79.46  306 e(P)  58 52.00  11.0X
MAIO    81.63   53 iPc   58 52.60   0.0
GOL     87.01  310 eP    59 20.00   0.1
        1.0s     5.00nm          4.7mb
ALQ     87.64  305 eP    59 23.90   0.9
EDM     92.63  323 eP    59 45.00  -0.7
MBC     92.84  346 eP    59 47.50   1.3
        1.0s     4.00nm          4.8mb
ASPA   144.83  135 ePKP  06 12.00  -0.3
        1.1s    20.00nm
WB5    147.47  130 ePKP  06 17.40   0.7
      S.D. = 0.9  on 147 of 154 obs.
-----------------------------------
?  NOV  22, 1989  07h 11m 45.31± 2.69s
   14.740 S ±33.6km   70.739 W ±18.9km
   DEPTH = 191.9 ± 14.0 km
 PERU                              (116)

ARE      1.86  203 iPc   12 21.70  -0.7
                   iS    12 47.60
ZOBO     2.94  121 iPd   12 35.60   0.7
                   S     13 09.00
LPB      3.11  125 iPd   12 37.00   0.3
        1.0s    220.00nm
                   iS    13 11.00
CNCB     3.36  128 iPd   12 40.10   0.1
                   iS    13 17.00
PEL     18.32  180 eP    16 08.50  20.8X
LNV     19.14  182 eP    15 57.00   0.9
PPD     19.80  114 e(P)  16 01.00  -2.0
KIC     68.69   77 P     22 31.20   0.7
GBA    149.14   88 PKP   31 18.00   9.3X
        0.6s     1.80nm
      S.D. = 1.4  on   7 of   9 obs.
-----------------------------------
?  NOV  22, 1989  09h 57m 20.82± 5.47s
   15.811 N ±46.9km   99.261 W ±19.5km
   DEPTH =  33.0km  (normal)
 OFF COAST OF GUERRERO, MEXICO    ( 65)

ACX      1.20  331 iPd   57 41.00  -0.3
                   iS    57 52.00
III      2.56  356 iP    58 01.50   0.4
                   (S)   58 30.50
OXX      2.74   62 iPc   58 04.00   0.3
                   (S)   58 39.50
PPM      3.29   10 eP    58 12.50   0.7
IIT      3.32   16 (P)   58 16.00   4.1X
UNM      3.50    1 (P)   58 21.50   6.9X
                   (S)   58 57.50
CRX      3.60  354 (P)   58 24.50   8.6X
IISM     3.64   29 eP    58 15.00  -1.1
                   (S)   59 05.00
MRX      4.29  335 (P)   58 33.50   8.1X
LVVM     4.74   34 (P)   58 58.50  26.8X
      S.D. = 1.1  on   5 of  10 obs.
-----------------------------------
?  NOV  22, 1989  10h 43m 39.39± 5.03s
   15.979 N ±43.9km   99.286 W ±18.9km
   DEPTH =  33.0km  (normal)
 OFF COAST OF GUERRERO, MEXICO    ( 65)

ACX      1.04  328 iPd   43 58.00   0.3
                   iS    44 09.50
III      2.39  356 eP    44 16.00  -1.3
                   (S)   44 46.50
OXX      2.69   66 iPc   44 21.50   0.0
                   (S)   44 57.00
PPM      3.13   11 eP    44 29.50   1.4
                   (S)   45 13.00
IIT      3.17   17 (P)   44 34.00   5.7X
UNM      3.34    2 (P)   44 38.00   7.3X
                   (S)   45 14.50
CRX      3.43  354 (P)   44 41.00   8.9X
IISM     3.50   31 eP    44 32.50  -0.4
                   (S)   45 22.50
MRX      4.13  334 (P)   44 51.50   9.8X
LVVM     4.61   35 (P)   45 04.50  15.9X
      S.D. = 1.4  on   5 of  10 obs.
-----------------------------------
   NOV  22, 1989  11h 41m 22.09± 0.40s
   43.168 N ± 5.2km    0.347 W ± 4.2km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      ML 3.5 (LDG). Felt (IV) at
      Costet and (III) in the Bearn
      district, France.

ESCF     0.19  242 Pg    41 25.87  -0.4
                   Sg    41 28.74
ATE      0.27  253 Pg    41 27.72  -0.1
                   Sg    41 31.62
LHE      0.32  218 Pg    41 27.65  -1.2
                   Sg    41 31.32
MADF     0.35  266 Pg    41 29.53   0.3
                   Sg    41 35.33
ISSF     0.36  247 Pg    41 29.18  -0.3
                   Sg    41 34.14
ELYF     0.47  270 Pg    41 31.86   0.2
                   Sg    41 39.11
BOH      0.49  263 Pg    41 31.83  -0.3
                   Sg    41 39.08
EPF      0.52  105 Pg    41 32.40  -0.3
                   Sg    41 39.90
ECRI     1.69  251 ePn   41 55.40   3.6X
                   eSn   42 16.00
LPO      1.88   36 Pn    41 55.50   1.0
                   Pg    41 59.60
                   Sg    42 26.60
LFF      1.94   24 Pn    41 56.50   1.2
                   Pg    42 01.10
                   Sg    42 27.60
EBR      2.43  165 ePn   42 08.00   5.6X
                   eSn   42 38.00
                   eS    42 45.00
CAF      2.47   44 Pn    42 03.30   0.2
                   Pg    42 10.00
                   Sg    42 43.50
ETER     2.51  109 ePn   42 11.00   7.4X
                   eSn   42 42.80
RJF      2.52   31 Pn    42 04.20   0.5
                   Pg    42 11.80
                   Sg    42 46.60
ETOR     2.67  209 ePn   42 06.30   0.3
                   eSn   42 34.00
LSF      3.36   23 Pn    42 14.80  -0.9
                   Pg    42 27.00
                   Sg    43 11.40
MFF      3.44    2 Pn    42 16.00  -0.7
                   Pg    42 28.40
                   Sg    43 13.20
TCF      3.61   29 Pn    42 19.00  -0.3
                   Pg    42 32.40
                   Sg    43 19.80
MAF      3.69   33 Pn    42 20.80   0.4
                   Pg    42 33.00
                   Sg    43 22.50
GUD      3.80  230 ePn   42 24.20   2.1
                   eS    43 05.80
BGF      4.08   33 Pn    42 24.40  -1.4
                   Pg    42 40.00
                   Sg    43 35.00
```

```
AVF      4.47  35 Pg     42 47.50   16.1X
                  Sg     43 46.00
SMF      4.58  39 Pn     42 32.80   -0.1
                  Pg     42 49.10
                  Sg     43 51.00
      S.D. = 0.9  on  20 of  24 obs.
-----------------------------------------
%  NOV  22, 1989  13h 18m 12.35± 0.68s
   33.658 S ± 7.1km   71.233 W ± 6.7km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF CENTRAL CHILE        (135)

TACH     0.25  89 iP     18 20.50    1.0
                  iS     18 27.60
LNV      0.33 207 iPc    18 20.50    0.0
LCCH     0.34 303 iPc    18 20.60    0.0
                  iS     18 28.50
SAN      0.52  67 eP     18 24.50    1.2
                  iS     18 33.10
CHCH     0.56 120 iPd    18 23.30   -0.5
                  iS     18 32.00
PCH      0.60  87 iP     18 24.00   -0.5
                  iS     18 33.50
PEL      0.69  42 iPc    18 25.70    0.0
                  iS     18 37.40
ROCH     0.71  15 iP     18 26.20    0.1
                  iS     18 37.70
FCH      0.85  68 iP     18 27.50   -0.8
                  iS     18 40.90
JACH     1.11  29 iPc    18 31.10   -0.7
                  iS     18 47.00
      S.D. = 0.8  on  10 of  10 obs.
-----------------------------------------
?  NOV  22, 1989  14h 01m 44.41± 0.98s
   39.080 N ± 8.4km   27.657 E ± 9.9km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                             (366)

IZM      0.75 205 ePg    01 59.00   -0.1
                  iSg    02 11.50
DST      0.92  55 ePn    02 02.20    0.2
EZN      1.27 306 ePn    02 08.20    0.2
BNT      1.29   9 ePn    02 08.00   -0.3
      S.D. = 0.4  on   4 of   4 obs.
-----------------------------------------
   NOV  22, 1989  15h 35m 24.11± 1.66s
   31.910 S ± 9.0km   69.613 W ±10.1km
   DEPTH = 121.9 ± 22.0 km
 SAN JUAN PROVINCE, ARGENTINA       (137)

RTBS     0.28  29 iPc    35 41.20   -0.4
                  S      35 54.00
RTCB     0.81  59 ePc    35 44.80   -0.2
                  S      36 00.00
ZON      0.88  66 iPd    35 45.50    0.0
                  eS     36 01.00
RTCV     0.92  87 iPc    35 45.80    0.0
                  S      36 02.50
JACH     1.13 227 iP     35 48.40    0.4
                  iS     36 07.00
RTLL     1.13  60 iPc    35 47.50   -0.5
                  S      36 07.00
CFA      1.21  76 iPd    35 49.00    0.2
                  S      36 07.00
FCH      1.52 202 iPc    35 53.60    0.9
                  iS     36 16.30
PEL      1.53 216 iPd    35 52.50    0.1
                  iS     36 13.70
ROCH     1.59 228 iPc    35 53.00   -0.3
                  iS     36 15.10
RTRS     1.74   4 iPc    35 55.50    0.6
                  S      36 19.50
SAN      1.77 210 eP     36 58.50   63.2X
                  iS     37 19.00
PCH      1.87 204 iPd    35 57.40    0.8
                  iS     36 22.00
TACH     2.07 212 iPc    35 58.50   -0.5
                  iS     36 24.50
CHCH     2.20 203 iPc    36 01.00    0.3
                  iS     36 29.50
LCCH     2.27 226 iPc    36 28.50   26.9X
LNV      2.54 216 iPd    36 03.50   -1.5
                  iS     36 33.50
      S.D. = 0.7  on  15 of  17 obs.
-----------------------------------------
?  NOV  22, 1989  16h 35m 18.93± 2.22s
   37.175 N ±21.5km   28.189 E ±18.0km
   DEPTH =  33.0km  (normal)
 TURKEY                             (366)

CIN      0.43 349 ePg    35 28.00   -0.5
                  iSg    35 35.00
IZM      1.42 329 ePn    35 43.10    0.4
ELL      1.44 107 ePn    35 43.00   -0.1
KHL      1.56  42 ePn    35 45.00    0.2
      S.D. = 0.7  on   4 of   4 obs.
-----------------------------------------
   NOV  22, 1989  16h 39m 42.35± 0.65s
   36.068 N ± 6.8km   28.327 E ± 5.2km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                 (369)

KSL      1.02  87 ePn    40 01.20   -0.4
YER      1.07 358 iPn    40 02.50    0.0
KAP      1.07 242 ePn    40 03.00    0.5
ELL      1.45  61 ePn    40 09.10    0.4
CIN      1.54 353 ePn    40 11.00    1.1
                  iSg    40 33.00
SMG      2.03 324 ePn    40 16.40   -0.5
BCK      2.29  52 ePn    40 21.00    0.2
NPS      2.35 251 ePn    40 21.20   -0.4
KHL      2.45  23 ePn    40 22.40   -0.6
IZM      2.48 340 ePn    40 23.00   -0.4
      S.D. = 0.6  on  10 of  10 obs.
-----------------------------------------
?  NOV  22, 1989  17h 05m 55.61± 1.27s
   25.560 N ±23.5km  129.977 E ±13.8km
   DEPTH =  33.0km  (normal)
 RYUKYU ISLANDS REGION              (239)

SSE      9.51 307 e(P)   08 13.50    0.2
      Z  12s      1.40um
      N  12s      0.80um
      E  12s      0.90um
BJI     18.49 325 eP     10 12.00    1.2
      Z  12s      0.60um
      N  12s      0.39um
                  eS     14 04.00
CN2     18.57 350 eP     10 20.30    8.5X
                  pP     10 27.30
TIY     19.19 313 eP     10 18.60   -0.9
      E  18s      1.10um
XAN     20.11 300 eP     10 25.30   -4.1X
HHC     21.61 319 eP     10 40.80   -4.0X
      N  12s      1.20um
      E  12s      1.00um
BTO     22.39 317 eP     10 52.00   -0.6
      N  13s      0.60um
      E  13s      0.30um
KMI     24.61 275 Pd     11 15.00    0.5
GTA     28.80 306 P      11 52.00   -0.8
      Z  14s      0.60um          4.4MszX
WMQ     38.76 309 P      13 19.00    0.3
LNO    105.13  37 ePdiff20 01.80    0 1
TUL    105.12  37 ePdiff20 01.70   -0.1
        0.9s     15.10nm          5.9mb X
      S.D. = 0.8  on   9 of  12 obs.
-----------------------------------------
*  NOV  22, 1989  18h 26m 54.94± 1.87s
   33.856 S ±14.8km   70.335 W ±10.7km
   DEPTH = 104.7 ± 16.2 km
 CHILE-ARGENTINA BORDER REGION      (127)
      Felt (II) in the Sontiogo, Chile
      oreo.

CHCH     0.28 254 iPd    27 10.60    0.3
PCH      0.28 328 iPd    27 10.50    0.1
SAN      0.49 326 iPd    27 11.30   -0.1
                  iS     27 23.10
FCH      0.53   4 iPd    27 12.00   -0.1
                  iS     27 24.50
TACH     0.54 292 iPc    27 11.70   -0.1
PEL      0.77 338 iPc    27 13.60   -0.1
                  iS     27 26.60
LNV      0.90 263 iPc    27 15.00    0.1
                  iS     27 29.00
ROCH     1.05 327 iPd    27 16.40   -0.4
                  iS     27 32.00
LCCH     1.10 290 iPc    27 17.00   -0.1
                  iS     27 33.50
JACH     1.19 349 iPc    27 18.10   -0.1
                  iS     27 35.00
RTBS     2.31  19 e(P)   27 33.80    1 5
RTCB     2.69  29 iPc    27 37.50    0.0
                  S      28 11.20
CFA      2.85  39 iPc    27 39.00   -0.6
                  S      28 12.00
RTLL     2.97  33 iPd    27 40.80   -0.4
                  S      28 15.40
      S.D. = 0.6  on  14 of  14 obs.
-----------------------------------------
%  NOV  22, 1989  19h 16m 26.27± 1.57s
   32.700 N ±11.4km   35.822 E ±15.5km
   DEPTH =  10.0km  (geophysicist)
 DEAD SEA REGION                    (373)

SHMJ     0.06 299 P      16 28.60    0.1
BURJ     0.46 182 P      16 35.80    0.2
JARJ     0.47 167 P      16 36.30    0.4
HLBJ     0.74 147 P      16 40.70   -0.2
KFNJ     0.84 188 P      16 42.60    0.1
MASJ     0.97 185 P      16 44.20   -0.6
      S.D. = 0.4  on   6 of   6 obs.
-----------------------------------------
*  NOV  22, 1989  20h 02m 59.64± 1.95s
   37.297 N ±15.2km  138.105 E ±15.9km
   DEPTH =  10.0km  (geophysicist)
 NEAR WEST COAST OF HONSHU, JAPAN(226)

NIIJ     0.72  94 iPd    03 13.70   -0.1
                  S      03 22.30
MTMJ     0.75 199 iPd    03 15.50    1.1
                  S      03 25.50
MAT      0.76 174 iPc    03 14.60    0.1
                  iS     03 23.40
CHJJ     1.44 150 iP+    03 25.30   -0.4
                  S      03 45.10
YAMJ     1.76  60 P      03 31.50    1.1
                  S      03 54.90
IIDJ     1.82 185 P      03 32.20    0.9
                  S      03 56.70
KAKJ     1.99 123 P      03 33.30   -0.3
                  eS     03 58.40
BJI     17.34 286 eP     07 13.00    9.8X
WB5     56.98 184 eP     12 45.20   -2.5
      S.D. = 1.4  on   8 of   9 obs.
-----------------------------------------
   NOV  22, 1989  20h 37m 47.23± 1 38s
   36.567 N ±13.2km    2.561 E ± 5.6km
   DEPTH =  10.0km  (geophysicist)
   4.4mb (  1 obs.)
 ALGERIA                            (396)
      mbLg 3.9 (MDD).

ACU      3.06 310 ePn    38 35.80   -0.7
                  eSn    39 06.00
ESEL     3.21   5 ePn    38 39.00    0.4
                  eSn    39 12.20
ENIJ     3.86 277 ePn    38 47.00   -0.9
                  eSn    39 27.80
ECHE     4.11 318 ePn    38 51.20   -0.2
                  eSn    39 34.50
TAF      4.41 248 ePn    39 50.00   54.2X
                  e      39 52.00
                  eSn    40 28.00
                  i      40 33.00
EVIA     4.52 299 ePn    38 57.60    0.2
                  eSn    39 44.00
EBR      4.54 340 ePn    39 03.00    5.4X
                  e      39 13.00
                  e      39 47.00
                  eSg    39 57.00
                  e      40 03.00
EBAN     5.30 289 ePn    39 08.80    0.4
                  eSn    40 04.00
ETOR     5.57 321 ePn    39 14.00    1.7
                  eSn    40 12.20
ETER     5.73   2 ePn    39 14.50    0.1
                  eSn    40 14.00
TOL      6.17 304 ePg    39 19.50   -1.0
                  eSg    40 45.50
EHOR     6.36 284 ePn    39 24.00    0.8
                  eSn    40 30.00
GUD      6.65 310 ePn    39 27.00   -0.5
                  eSn    40 35.60
EPF      6.68 346 Pn     39 28.50    0.7
                  Sn     40 36.70
ECRI     7.19 329 ePn    39 35.00    0.0
LMR      7.41  23 Pn     39 36.80   -1.1
LRG      7.47  22 Pn     39 38.00   -0.8
FRF      7.65  23 Pn     39 40.40   -1.0
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22d 20h

			Sn	41 02.00	
CVF	7.72	37	Pn	39 42.20	-0.2
LPO	8.17	353	Pn	39 48.70	0.0
SBF	8.18	26	Pn	39 48.60	-0.3
CAF	8.36	358	Pn	39 51.20	-0.1
IMI	8.39	27	P	39 50.99	-0.8
LFF	8.48	351	Pn	39 52.00	-0.9
STV	8.48	24	P	39 53.45	0.4
ENR	8.50	24	P	39 52.11	-1.2
PZZ	8.65	22	P	39 56.42	1.0
ROB	8.71	26	P	39 57.24	1.0
FIN	8.76	28	P	39 55.19	-1.7
RRL	8.94	20	P	40 00.42	0.9
PCP	9.17	28	P	40 00.73	-1.8
RSP	9.28	21	P	40 05.24	1.1
LPG	9.47	18	Pn	40 08.10	1.3
LPL	9.48	18	Pn	40 08.30	1.4
LSD	9.53	20	P	40 09.45	1.7
MAF	9.65	0	Pn	40 08.40	-0.7
BGF	9.99	1	Pn	40 12.70	-1.0
MLR	19.71	56	eP	42 20.00	0.2
NAO	24.84	10	P	43 12.70	1.9
	0.6s		5.50nm		4.4mb

S.D. = 1.0 on 37 of 39 obs.

& NOV 22, 1989 21h 04m 32.35s
59.429 N 152.724 W
DEPTH = 75.5km
SOUTHERN ALASKA (2)
<AGS-P>.

AUE	0.34	258	eP	04 44.05	-0.5
OPT	0.34	311	iP	04 44.15	-0.5
			eS	04 52.66	
XLV	0.51	87	iP	04 45.27	-0.7
			eS	04 55.38	
ILIM	0.66	350	iP	04 46.83	-0.7
			eS	04 57.85	
CDD	0.69	224	iP	04 46.97	-0.8
			Sn	04 58.03	
CNPM	0.77	82	iP	04 47.99	-0.6
			eS	05 00.43	
PDB	0.83	296	iP	04 48.48	-0.8
			eS	05 01.00	
NNL	0.95	49	iP	04 51.33	0.6
BRLK	0.99	69	eP	04 50.92	-0.4
			Sn	05 04.63	
RED	0.99	359	eP	04 50.72	-0.7
BGM	1.28	269	eP	04 53.80	-1.2
			eS	05 10.58	
NKA	1.51	29	eP	04 59.58	1.5
SLKM	1.66	48	eP	04 59.61	-0.5
KDC	1.69	176	iPd	04 59.10	-1.3
SEW	1.79	66	eP	05 01.65	-0.1
SPU	1.79	10	iP	05 01.58	-0.3
SVW	2.22	321	ePd	05 06.90	-0.8
SUA	2.27	25	eP	05 08.20	-0.3
PMS	2.41	39	eP	05 09.70	-0.6
SKT	2.63	12	eP	05 12.65	-0.7
PWA	2.64	31	eP	05 13.08	-0.4
PLRM	2.80	38	eP	05 14.61	-1.2
PMR	2.81	38	eP	05 15.50	-0.3
GHO	3.01	37	eP	05 17.80	-0.9
GLI	3.17	60	eP	05 18.30	-2.6
CUT	3.22	21	eP	05 20.68	-0.9
FID	3.40	64	eP	05 21.95	-2.1
TTA	3.86	337	eP	05 29.40	-1.1
KLU	3.95	56	iP	05 29.68	-2.2
TOA	4.19	47	eP	05 34.30	-0.9
RND	4.40	23	eP	05 36.92	-1.3
GLB	4.85	62	eP	05 42.76	-1.8
BALM	5.42	68	eP	05 49.83	-2.6
DDM	5.46	34	eP	05 50.69	-2.3
FBA	5.96	21	eP	05 57.40	-2.4

35 obs. associated

? NOV 22, 1989 21h 21m 24.50± 3.65s
38.837 S ±11.2km 179.100 W ±33.4km
DEPTH = 8.1 ± 5.0 km
4.7mb (1 obs.) 4.1Msz (1 obs.)
EAST OF NORTH ISLAND, N.Z. (688)

HBZ	2.39	300	iPc	22 03.00	-1.5
PGZ	3.99	242	Pc	22 28.10	0.9
RATZ	4.00	268	eP	22 27.60	0.1
KETZ	4.10	265	eP	22 29.30	0.4
MNG	4.54	245	P	22 35.80	0.7
			S	23 21.50	
MTW	4.75	239	P	22 38.10	0.0
BLW	4.87	237	P	22 40.00	0.2
CAW	5.02	241	P	22 41.90	0.0
KIW	5.03	244	P	22 42.40	0.3
MOW	5.04	237	P	22 41.90	-0.3
WDW	5.14	240	P	22 43.20	-0.4
WEL	5.30	241	eP	22 45.70	-0.2
MRW	5.32	241	P	22 45.90	-0.3
			S	23 40.10	
MHZ	10.65	231	eP	23 59.20	-1.3
DZM	20.80	319	iPc	26 09.60	0.8
CAN	25.62	268	eP	27 02.90	6.9X
BWA	26.36	269	eP	27 05.70	2.9X
PMG	42.08	305	eP	29 22.00	3.5X
ASPA	42.47	277	iPd	29 24.50	2.8X
	0.8s		13.00nm		4.7mb
	Z 20s		0.26um		4.1Msz
			LR	45 56.80	
KEV	146.06	344	ePKP	41 20.00	15.5X
SOD	148.01	342	ePKP	41 21.00	13.3X
			e	41 28.00	
SUF	151.62	336	ePKP	41 30.00	16.7X
	0.7s		11.90nm		

S.D. = 0.8 on 15 of 22 obs.

? NOV 22, 1989 21h 57m 18.52± 3.19s
6.278 N ±19.4km 125.792 E ±30.7km
DEPTH = 62.9 ± 27.8 km
4.5mb (2 obs)
MINDANAO, PHILIPPINE ISLANDS (259)

MNI	4.90	191	eP	58 31.50	0.1
WB5	27.33	162	eP	03 00.00	0.4
			e	03 03.00	
ASPA	30.80	165	iPc	03 30.00	-0.6
	0.4s		5.00nm		4.6mb
BJI	34.71	347	eP	04 04.00	-0.4
GBA	48.11	283	Pc	05 53.60	-0.8
	0.7s		3.20nm		4.4mb
MAIO	67.24	307	eP	08 10.00	1.2
			e	08 42.00	

S.D. = 1.2 on 6 of 6 obs.

NOV 22, 1989 22h 47m 12.58± 1.14s
37.982 N ± 8.0km 107.734 W ± 5.1km
DEPTH = 5.0km (geophysicist)
COLORADO (479)
ML 2.7 (NEIS). Felt at
Silverton.

RW5	0.12	322	iPc	47 16.03	0.6
RW4	0.20	28	iPc	47 16.17	-0.6
			eS	47 19.10	
RW3	0.27	8	iP	47 17.76	-0.4
RW6	0.27	324	iPc	47 18.59	0.5
RW1	0.28	351	iPd	47 18.17	-0.1
RW2	0.33	1	iPd	47 18.89	-0.3
PV06	0.67	302	P	47 26.18	0.2
PV01	0.68	283	iPc	47 26.38	0.2
PV02	0.82	286	ePc	47 29.06	-0.1
PV07	0.85	303	P	47 29.41	-0.2
PV03	0.92	288	eP	47 30.73	0.0
PV08	0.93	310	P	47 30.44	-0.6
PV04	1.01	294	eP	47 32.59	0.3
PV05	1.08	275	iPc	47 31.98	-1.6
PV10	1.10	291	P	47 33.69	-0.2
PV09	1.22	296	eP	47 36.70	0.8
GOL	2.52	46	eP	47 55.90	0.8
ALO	3.20	161	e(P)	48 10.50	5.8X
MSU	3.54	280	e(P)	48 10.00	0.5
DAU	3.66	313	eP	48 11.60	0.3

S.D. = 0.6 on 19 of 20 obs.

% NOV 22, 1989 22h 53m 09.46± 1.26s
39.433 N ± 6.2km 26.285 E ±14.5km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

PRK	0.19	183	iPgc	53 13.20	-0.4
			eSg	53 17.20	
EZN	0.39	5	iPg	53 18.00	0.5
IZM	1.28	143	ePn	53 34.00	0.7
EDC	1.52	53	ePn	53 37.00	0.3
BNT	1.56	53	ePn	53 36.00	-1.3
DST	1.82	84	ePn	53 41.30	0.2

S.D. = 0.9 on 6 of 6 obs.

• NOV 22, 1989 22h 55m 28.48± 3.03s
30.968 S ±13.8km 69.223 W ±16.0km
DEPTH = 194.3 ± 57.9 km
CHILE-ARGENTINA BORDER REGION (127)

JACH	2.07	214	iPc	56 07.40	-0.4
			iS	56 33.90	
PEL	2.50	209	iPd	56 12.10	-0.4
			iS	56 42.50	
ROCH	2.51	217	iPd	56 12.40	-0.4
			iS	56 44.40	
FCH	2.52	201	iPd	56 13.80	0.8
			iS	56 44.80	
PCH	2.86	202	iPd	56 17.40	0.7
			iS	56 51.00	
TACH	3.05	208	iPd	56 18.70	-0.1
			iS	56 53.00	
CHCH	3.19	202	ePd	56 21.20	0.5
			iS	56 59.00	
LCCH	3.20	218	iP	56 20.40	-0.2
RFA	3.85	171	iPc	56 28.20	-0.5
CYA	3.90	51	iPd	56 29.50	0.1
TCA	3.99	97	iPc	56 30.50	0.0
			S	57 11.00	

S.D. = 0.5 on 11 of 11 obs.

NOV 22, 1989 23h 27m 09.20± 0.19s
7.294 S ± 3.6km 128.726 E ± 5.1km
DEPTH = 127.9km (4 depth phases)
5.3mb (23 obs.)
BANDA SEA (280)

AAI	3.62	352	ePd	28 10.20	5.5X
TLE	4.32	68	ePc	28 08.70	-5.4X
KUG	5.82	240	eP	28 42.00	7.5X
			e(S)	29 59.00	
MTN	6.00	157	iPc	28 35.60	-1.4
KNA	8.40	180	iPd	29 06.40	-3.1X
			eS	30 32.00	
MNI	9.51	336	ePd	29 30.50	6.2X
JAY	12.84	69	ePc	30 07.00	-1.3
KHKI	13.04	264	eP	30 17.20	6.4X
			e	35 31.00	
WB5	13.66	157	iPd	30 13.20	-5.6X
			eS	32 35.00	
DAV	14.63	348	eP	30 30.00	-1.2
MNDI	14.87	87	eP	30 37.00	2.5
TSM	15.62	317	ePd	30 52.20	8.6X
TRT	15.96	267	ePc	30 50.00	2.1
MBL	16.25	211	eP	30 49.00	-2.4
	0.4s		37.00nm		5.0mb
			eS	33 36.00	
QIS	16.88	142	iPc	30 56.20	-3.0X
			eS	33 51.00	
ASPA	17.02	164	eP	30 54.00	-7.0X
	0.9s		265.00nm		5.5mb
	Z 17s		1.12um		4.6MszX
			eS	33 50.70	
			LR	38 07.20	
KKM	18.20	316	ePd	31 17.50	2.3
	1.0s		127.40nm		5.2mb
WARB	18.89	186	iPd	31 22.00	-0.5
	0.4s		51.00nm		5.2mb
			eS	33 45.00	
NANU	19.80	219	eP	31 31.80	-0.1
	0.4s		63.00nm		5.3mb
			eS	35 05.00	
CTA	21.22	129	eP	31 48.00	1.7
			i	32 21.80	
			iS	35 34.00	
MEKA	21.52	206	eP	31 51.00	1.8
	0.4s		32.00nm		5.1mb
			e	32 05.00	61kmX
			eS	35 45.00	
FORR	23.44	181	iPc	32 08.00	0.2
	0.3s		34.00nm		5.3mb
OLP	24.20	144	eP	32 15.00	-0.2
			e	32 17.00	7kmX
			e	36 44.00	
COOL	24.52	196	eP	32 17.50	-0.7
	0.6s		31.00nm		5.0mb
MRWA	24.89	207	eP	32 22.00	0.3
			eS	37 00.00	
BAG	24.89	341	eP	32 23.00	1.0
BAL	25.78	204	eP	32 30.00	0.1
			e	32 58.00	134km

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                 eS     37 22.00
KLB    26.25 202 eP     32 34.00  -0.2
       0.3s    12.00nm          5.0mb
                 e      33 05.00 149kmX
                 eS     37 32.00
RMO    26.97 137 eP     32 40.00  -0.8
                 e      33 08.00 132km
                 e      38 00.00
KGM    26.99 289 ePd    32 43.00   2.0
MUN    27.19 204 eP     32 42.00  -0.7
       0.8s   111.00nm          5.5mb
                 e      33 09.00 126km
                 eS     37 49.00
STK    27.25 156 iPd    32 42.20  -1.0
                 e      33 08.00 120km
                 e      38 00.00
NWAO   27.65 201 eP     32 46.00  -0.8
       0.5s    39.00nm          5.3mb
                 e      33 22.00 176kmX
IPM    30.05 292 ePd    33 08.20  -0.3
       0.9s    59.50nm          5.3mb
SNG    31.51 297 eP     33 21.00  -0.2
                 e      39 39.50
COO    31.74 140 iPc    33 24.20   1.0
OIZ    32.10 325 eP     33 26.90   0.5
BFD    32.29 159 iPd    33 27.90   0.0
                 e      39 38.00
BWA    32.54 149 iPc    33 31.30   1.2
                 ePP    34 00.00
CAN    33.53 149 iPc    33 39.20   0.5
                 iPP    34 07.20
                 i      39 47.10
TOO    33.77 156 iPc    33 41.70   1.0
                 e      37 43.00
NNT    34.94 304 eP     33 48.80  -2.0
LOE    36.25 313 eP     34 02.00   0.1
BDT    38.18 310 iPc    34 19.00   1.0
       1.1s   216.40nm          5.9mb
SSE    38.85 350 P      34 24.00   0.6
       1.0s    28.00nm          5.0mb
CHG    39.18 312 iPc    34 28.00   1.6
       1.0s   108.50nm          5.6mb
CHTO   39.18 312 iPc    34 27.30   0.9
       1.0s   110.00nm          5.6mb
DZM    39.19 116 iPc    34 29.00   2.4X
GYA    39.80 328 iPc    34 32.20   0.7
                 PcP    36 36.00
WHN    40.07 341 P      34 35.20   1.7
       1.0s     0.10nm          2.5mb X
NJ2    40.24 347 Pc     34 35.80   0.9
KMI    40.97 323 iPc+   34 43.50   2.2
MAT    44.50  11 iPc    35 08.10  -1.5
       1.0s    53.00nm          5.2mb
TIA    44.63 347 Pc     35 09.70  -0.8
CD2    44.89 329 P      35 12.80   0.1
       1.1s     0.10nm          2.4mb X
XAN    45.19 337 iPc    35 12.00  -3.1X
DL2    46.43 352 eP     35 25.00   0.3
TIY    47.29 342 Pc     35 31.20  -0.4
BJI    48.50 347 eP     35 40.50  -0.3
       1.0s    51.00nm          5.3mb
LZH    49.08 333 iPc    35 46.00   0.4
       1.2s   224.00nm          5.9mb
SNY    49.11 355 Pd     35 44.60  -0.8
HHC    50.44 343 Pc     35 55.00  -0.8
BTO    50.68 342 eP     35 56.00  -1.6
CN2    50.94 357 Pc     35 58.40  -1.0
                 PcP    37 13.00
LSA    51.55 317 P      36 05.60   0.8
MDJ    51.67   1 eP     36 03.00  -1.9
GTA    53.63 332 iPc    36 20.00   0.4
       0.8s     0.10nm          2.8mb X
KOD    53.93 288 eP     36 21.40  -1.0
GBA    54.99 292 Pd     36 28.10  -1.6
       0.8s    12.50nm          4.9mb
HYB    55.31 297 eP     36 30.00  -2.1
       1.0s    50.00nm          5.4mb
                 i      36 32.00   7kmX
POO    59.89 296 iPd    37 03.20  -1.0
NDI    61.17 308 iPc    37 10.00  -2.7
       0.5s    38.73nm          5.6mb
WMQ    62.96 328 iPc    37 24.20  -0.2
KSH    67.35 318 P      37 54.00   1.2
OUE    69.93 306 eP     38 08.50  -0.5
MAW    74.22 201 eP     38 33.00  -0.3
MAIO   77.89 309 iPc    38 55.00   0.3
SPA    82.75 180 iPc    39 20.00   0.0
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       1.0s    13.50nm          4.8mb
TAB    88.50 308 e(P)   39 50.00   1.2
NAI    91.75 269 iPd    40 07.00   2.5X
PTZ    95.33 255 iPd    40 21.00   0.3
LSZ    98.17 253 iPd    40 34.00   0.5
MZZ    98.18 258 iP     40 34.50   0.9
INK    99.60  22 eP     40 38.00  -0.9
BCAO  110.55 272 iPKPc  45 29.20   0.0
       0.8s     7.00nm
SGO   112.46 311 PKP    45 24.00  -8.0X
KVN   112.53  51 ePKP   45 33.00   0.5
CTI   113.89 317 PKP    45 34.50  -0.3
MNS   114.04 313 PKP    45 34.00  -1.1
BOB   115.73 316 PKP    45 38.00  -0.3
VAI   115.87 318 PKP    45 37.50  -0.9
BSF   116.53 320 ePKP   45 39.00  -0.8
       0.8s    10.70nm
HAU   116.76 321 ePKP   45 39.80  -0.3
       0.8s     6.40nm
LPG   117.33 318 ePKP   45 41.20  -0.4
       0.8s    10.70nm
BNI   117.52 317 PKP    45 41.50  -0.3
LOR   118.59 320 ePKP   45 43.30  -0.3
       1.2s    17.80nm
LBF   118.62 320 ePKP   45 43.40  -0.3
       0.8s     5.30nm
SSF   118.89 320 ePKP   45 43.90  -0.2
       0.8s     9.40nm
AVF   119.09 320 ePKP   45 44.00  -0.5
       0.8s     5.30nm
BGF   119.50 320 ePKP   45 45.00  -0.3
       0.8s    22.80nm
MAF   119.81 320 ePKP   45 46.00   0.1
       0.8s     9.40nm
TCF   120.01 320 ePKP   45 46.30   0.0
       0.8s     7.20nm
CAF   120.63 319 ePKP   45 48.00   0.4
       1.0s    28.00nm
RJF   120.85 319 ePKP   45 47.30  -0.6
       0.8s     8.00nm
LPO   121.30 319 ePKP   45 49.10   0.3
       0.6s     3.60nm
MFF   121.37 321 ePKP   45 48.80  -0.1
       0.8s    10.70nm
LFF   121.49 319 ePKP   45 49.40   0.3
       0.8s    10.70nm
GOL   121.94  47 ePKP   45 51.00   0.5
ALQ   122.49  53 PKP    45 50.50  -1.2
       2.0s    58.82nm
EPF   122.51 317 ePKP   45 51.10  -0.1
       0.8s    13.40nm
KIC   133.80 272 PKP    46 14.00   0.4
ITB7  147.66 175 ePKP   46 40.20   2.2
ITB   147.98 175 ePKP   46 41.00   2.5X
ITB1  148.11 175 ePKP   46 41.60   3.0X
NNA   148.17 127 iPKPc  46 42.80   3.7X
       1.0s    35.00nm
ARE   149.06 140 ePKP   46 46.00   5.3X
8MA   149.39 193 ePKP   46 45.90   5.1X
                 e      46 50.70
PPD   150.86 180 ePKP   46 43.60   0.6
                 e      46 49.10
                 e      46 56.80
                 e      47 28.90
LPB   151.06 145 PKP    46 45.00   1.1
       1.0s    80.00nm
                 i      46 51.40
ZOBO  151.26 145 PKPc   46 45.50   1.1
       1.0s    45.00nm
CCH   151.42 149 PKP    46 54.50  10.2X
      S.D. = 1.1  on 101 of 121 obs.
-----------------------------------
?  NOV  22, 1989  23h 52m 43.15± 1.08s
   41.260 N ±12.7km   22.750 E ± 7.2km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 1.2 (SKO).

KNT     0.15 131 iPgc   52 46.20  -0.4
                 eSg    52 47.90
VAY     0.15 294 iPg    52 46.40  -0.2
                 iSg    52 49.20
GRG     0.40 221 ePgc   52 51.50   0.1
                 eSg    52 58.10
SRS     0.65 102 eP     52 56.50   0.3
      S.D. = 0.6  on   4 of   4 obs.
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?  NOV  23, 1989  00h 41m 54.76± 2.18s
    7.003 N ±15.7km   72.890 W ±22.0km
   DEPTH = 136.9 ± 23.5 km
   4.4mb (  1 obs.)
 NORTHERN COLOMBIA                 ( 99)

FUO     1.74 209 eP     42 28.00   1.2
UPA     6.87 287 eP     43 32.40  -1.9
PSO     7.27 218 eP     43 40.00  -0.1
ZOBO   23.60 169 P      46 54.00  -0.9
LPB    23.86 169 P      46 58.90   1.6
PPD    35.78 144 e(P)   48 41.00  -1.5
LRM    51.56 325 eP     50 49.80   0.7
LIC    67.36  86 P      52 37.20  -0.5
KIC    67.63  86 P      52 39.00  -0.4
INK    72.94 340 eP     53 11.00   0.6
MBC    73.67 350 ePc    53 15.90   1.3
       0.7s     5.00nm          4.4mb
      S.D. = 1.4  on  11 of  11 obs.
-----------------------------------
%  NOV  23, 1989  00h 54m 27.92± 1.39s
   16.806 N ±15.3km   97.861 W ± 8.6km
   DEPTH =  33.0km  (normal)
 OAXACA, MEXICO                    ( 60)

OXX     1.12  76 iP     54 47.50  -0.1
                 iS     55 05.00
ACX     1.91 272 (P)    54 59.00   0.2
                 iS     55 09.50
III     2.19 316 iP     55 02.50  -0.4
                 iS     55 32.50
IISM    2.22  12 eP     55 06.00   2.9X
IIT     2.24 349 eP     55 04.20   0.5
PPM     2.36 342 eP     55 05.50  -0.2
      S.D. = 0.5  on   5 of   6 obs.
-----------------------------------
?  NOV  23, 1989  01h 01m 26.10± 6.76s
   32.321 S ±40.8km   71.901 W ±34.7km
   DEPTH =  22.4 ± 10.5 km
 NEAR COAST OF CENTRAL CHILE      (135)

ROCH    0.99 131 iPd    01 44.50  -0.2
                 iS     01 56.50
JACH    1.16 108 iPc    01 47.30   0.2
                 iS     02 00.50
LCCH    1.18 166 iPc    01 47.80   0.5
                 iS     02 00.50
PEL     1.31 129 iPc    01 49.00  -0.2
                 iS     02 40.20
TACH    1.56 149 iPc    01 53.10   0.4
                 iS     02 10.20
LNV     1.68 166 ePc    01 53.50  -0.9
                 iS     02 10.00
FCH     1.69 127 iPd    01 54.50  -0.4
                 iS     02 13.50
PCH     1.74 138 iPc    01 55.40  -0.1
                 iS     02 14.20
CHCH    1.92 147 iPd    01 58.60   0.6
                 iS     02 20.00
      S.D. = 0.6  on   9 of   9 obs.
-----------------------------------
?  NOV  23, 1989  01h 03m 44.75± 1.00s
    4.691 S ±26.4km  128.787 E ±44.2km
   DEPTH =   5.0km  (geophysicist)
   4.6mb (  3 obs.)
 BANDA SEA                         (280)

AAI     1.16 329 ePc    04 06.60  -0.3
                 eSg    04 25.00
WB5    16.05 161 eP     07 28.10  -4.8X
ASPA   19.50 166 iPc    08 15.60  -0.3
       1.0s    25.00nm          4.4mb
BWA    34.74 151 eP     10 38.90   0.8
CAN    35.74 151 eP     10 46.10  -0.6
CHG    37.55 309 eP     11 02.30   0.3
       0.9s    12.60nm          4.7mb
CHTO   37.55 309 iP     11 02.00   0.0
       0.9s    10.23nm          4.6mb
      S.D. = 0.6  on   6 of   7 obs.
-----------------------------------
?  NOV  23, 1989  01h 21m 13.43± 1.13s
   41.934 N ±10.6km   20.365 E ± 8.1km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                           (391)
      ML 2.5 (SKO)

PHP     0.25 167 iPgc   21 18.90   0.1
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23d 01h

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SDA      0.65 278 ePg    21 26.40    0.0
TIR      0.70 213 ePg    21 33.00    5.8X
SKO      0.80  87 iPg    21 29.00    0.0
                  iSg    21 42.50
OHR      0.88 158 ePg    21 30.10   -0.3
                  iSg    21 44.40
VAY      1.76 110 ePn    21 47.70    3.5X
     S.D. = 0.3  on   4 of   6 obs.
-------------------------------------
   NOV  23, 1989  01h 23m 27.62± 0.31s
   22.314 S ±10.3km  174.826 W ± 6.7km
   DEPTH =  33.0km  (normal)
   5 4mb ( 19 obs.)  5.3Msz ( 18 obs.)
 TONGA ISLANDS REGION              (174)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 13S, 26C
      Centroid Location:
      Origin Time        01:23:31.7 1.0
      Lat 22.79S 0.06 Lon 174.35W 0.08
      Dep  15.0 FIX Half-duration  2.0
      Moment Tensor;    Scale 10**17 Nm
        Mrr= 1.41 0.06   Mtt= 0.06 0.10
        Mff=-1.47 0.09   Mrt= 0.35 0.21
        Mrf= 1.30 0.24   Mtf=-0.65 0.06
      Principal Axes:
        T  Vol=  1.92   Plg=69   Azm=278
        N        0.29       4        18
        P       -2.21      20       109
      Best Double Couple:Mo=2.1*10**17
       NP1:Strike=206 Dip=25 Slip=  98
       NP2:         16      65       86

SVA      7.56 302 ePd    25 24.20    5.8X
AFI      8.85  20 eP     26 00.00   23.7X
                  eS     28 00.00
RAR     14.03  88 P      26 34.00  -12.2X
                  S      28 56.00
PVC     16.48 283 iPc    27 23.00    5.0X
DZM     17.35 267 iPc    27 33.40    4.4X
HNR     27.38 294 eP     29 06.00   -6.1X
                  eS     33 50.00
RMQ     33.35 255 eP     30 05.00    0.0
CAN     34.05 240 iPd    30 11.80    0.8
BWA     34.34 241 eP     30 11.10   -2.4
CTA     36.29 266 iPd    30 30.10   -0.1
        0.8s     41.79nm          5.4mb
                  iS     36 05.00
ASPA    47.01 258 iPc    31 56.30   -1.6
        1.1s     47.00nm          5.4mb
      Z  18s      4.33um          5.4Msz
                  eS     38 44.30
                  LR     51 59.00
WB5     47.29 263 eP     31 58.00   -2.1
FORR    51.28 248 eP     32 29.20   -1.5
        0.3s     10.00nm          5.3mb
WARB    53.13 253 iPd    32 43.30   -1.4
GUA     53.17 308 eP     32 43.70   -1.3
        0.8s     83.58nm          5.8mb
GUMO    53.24 308 eP     32 43.80   -1.6
      Z  18s      1.42um          5.1Msz
KNA     53.47 267 eP     32 44.00   -3.2X
SBA     56.29 185 (P)    33 13.90    7.0X
MBL     60.26 258 eP     33 34.00   -1.5
        0.5s      9.00nm          5.2mb
NANU    63.78 255 eP     33 58.00   -1.0
DAV     65.24 289 eP     34 07.00   -1.6
SPA     67.82 180 eP     34 24.60    0.1
        1.5s     35.23nm          5.2mb
      Z  20s      2.25um          5.4Msz
BAG     74.02 296 eP     35 01.00   -1.5
PRS     77.14  42 eP     35 19.10   -0.6
BKS     77.62  40 iPc    35 23.80    1.5
        0.8s     22.00nm          5.2mb
      Z  20s      1.70um          5.4Msz
      N  20s      1.10um
      E  20s      1.30um
                  e      35 36.00
                  ePPP   40 05.00
                  eS     45 08.00
                  eLQ    55 16.00
                  eLR    59 00.00
MHC     77.63  41 eP     35 22.20   -0.3
ARN     77.70  41 P      35 22.50   -0.3
BAR     77.92  47 eP     35 20.00   -4.1X
PLM     78.20  46 eP     35 25.00   -0.8
RVR     78.24  46 eP     35 25.00   -0.8
SBB     78.36  45 eP     35 26.00   -0.5
ISA     78.54  44 eP     35 28.00    0.5
FRI     78.59  42 eP     35 27.20   -0.4
CMB     78.84  41 eP     35 28.60   -0.4
ORV     79.16  39 eP     35 30.00   -0.7
TPC     79.19  46 eP     35 32.00    0.9
CLC     79.20  44 eP     35 31.00   -0.1
WDC     79.23  38 eP     35 30.80   -0.3
GSC     79.40  45 eP     35 32.00   -0.2
GLA     79.40  48 eP     35 33.00    0.8
MIN     79.61  38 eP     35 32.50   -0.8
TNP     80.82  42 P      35 39.00   -0.9
        0.8s      5.15nm          4.6mb
MAW     80.85 199 eP     35 40.00    0.7
KVN     80.87  41 P      35 39.00   -1.1
SSE     81.12 309 P      35 40.00   -1.3
      Z  12s      0.50um          5.1MszX
      E  10s      0.70um
                   e(S)  42 22.00
                   SS    45 58.00
BMW     82.84  33 P      35 49.80   -0.2
NJ2     83.31 308 Pc     35 54.00    1.4
MDJ     83.71 324 ePc    35 55.20    0.8
      Z  20s      1.30um          5.3Msz
LON     83.74  34 P      35 53.40   -1.2
MSU     84.28  44 P      35 57.00   -0.8
DL2     85.08 315 P      36 02.00    0.6
      Z  18s      0.40um          4.9Msz
                   SKS   46 16.00
SNY     85.50 319 iPc    36 03.80    0.4
        4.0s      0.80nm          3.3mb X
      N  16s      0.60um
CN2     85.55 321 iPc    36 04.00    0.4
        6.0s      0.90nm          3.2mb X
      Z  18s      0.80um          5.2Msz
                   pP    36 34.00 115kmX
                   eS    46 32.00
WHN     85.90 305 Pd     36 07.50    1.9
      Z  20s      1.25um          5.3Msz
PMR     86.13  12 P      36 06.00   -0.1
        1.0s     12.50nm          5.1mb
TTA     86.25   9 P      36 06.00   -0.8
        1.2s     35.23nm          5.5mb
ALQ     86.26  50 eP     36 08.50    0.8
        2.0s     88.24nm          5.6mb
IPM     86.32 276 ePd    36 10.00    1.9
        1.3s    153.60nm          6.1mb
PNT     86.54  33 eP     36 10.00    1.6
TIA     86.68 311 eP     36 10.00    0.6
SNG     87.69 279 eP     36 16.50    1.8
        1.0s     96.00nm          6.0mb
                   eS    46 52.20
BJI     89.26 314 eP     36 22.50    0.9
        2.0s    139.00nm          5.9mb
      Z  18s      0.88um          5.2Msz
                   eSKS  46 50.00
                   eS    47 18.00
FBA     89.40  11 P      36 20.00   -1.8
        1.1s     29.69nm          5.5mb
IMA     89.56   8 P      36 21.40   -1.3
        1.4s     14.77nm          5.1mb
GYA     90.11 299 P      36 28.00    1.9
TIY     90.69 311 Pc     36 29.00    0.5
      Z  20s      1.00um          5.2Msz
XAN     91.58 306 Pc     36 34.20    1.6
SES     91.62  35 eP     36 32.00   -0.4
EDM     92.05  32 eP     36 33.50   -0.8
HHC     92.74 313 Pc     36 39.00    1.1
      Z  1Bs      1.20um          5.4Msz
KMI     92.80 296 Pc     36 40.50    1.9
BDT     92.99 287 eP     36 41.10    1.8
        0.9s     49.60nm          5.9mb
CHTO    93.63 289 eP     36 43.50    1.2
        1.0s     25.00nm          5.6mb
INK     95.27  14 eP     36 48.00   -0.7
LZH     96.22 306 eP     36 55.00    1.0
        2.3s     29.00nm          5.3mb
      Z  16s      0.70um          5.2MszX
                   SKS   47 32.00
                   eS    48 22.00
                   PS    49 40.00
CNCB    98.54 112 (P)    37 07.00    1.6
LPB     98.56 112 P      37 04.00   -1.4
      Z  18s      0.69um          5.2Msz
                   LR    09 34.00
ZOBO    98.66 111 P      37 06.00    0.0
      Z  18s      1.37um          5.5Msz
                   LR    09 36.00
GTA    100.41 308 ePdiff37 13.80    0.8
      Z  20s      0.70um          5.2Msz
KEV    130.78 350 ePKP   42 39.00    2.7X
MAIO   131.21 299 ePKP   42 39.00    0.7
SOD    132.97 349 ePKP   42 43.00    2.5X
SUF    137.18 346 ePKP   42 50.00    1.3
        1.4s     49.00nm
NUR    139.47 345 ePKP   42 53.00    0.1
NAO    141.32 356 PKP    42 51.80   -4.5X
        0.9s      3.90nm
TAB    141.46 304 ePKP   42 40.00  -17.4X
HFS    141.74 353 (PKP)  42 49.40   -7.6X
        0.4s      1.40nm
SLY    142.57 300 ePKPd  42 53.00   -6.2X
BHD    143.82 296 ePKPd  42 58.00   -3.4X
                  e      43 34.00
                  ePKS   46 35.00
AAE    145.16 253 ePKP   43 06.00    1.3
WAR    147.72 342 e(PKP)43 06.00   -1.3
KAS    149.37 315 iPKPc  43 15.20    4.8X
WIT    149.53 358 ePKP   43 18.50    8.4X
KRA    149.97 341 ePKP   43 16.10    5.2X
                  e      43 19.00
KSP    150.23 346 ePKP   43 08.20   -3.1X
        1.2s     65.00nm
                  ed     43 16.40
                  i      43 19.30
WTS    150.34 358 ePKP   43 17.00    5.7X
        1.0s     67.00nm
                  i      43 20.00
CLL    150.42 350 iPKP   43 16.60    5.1X
        1.7s    145.00nm
                  i      43 19.40
VRI    150.67 328 ePKP   43 19.00    6.9X
BRG    150.68 349 ePKP   43 11.60   -0.3
                  i      43 17.40
                  i      43 24.20
                  i      43 35.10
BBTK   150.79 313 ePKP   43 18.00    5.4X
BHL    150.85 300 PKP    43 19.00    6.2X
HRI    150.94 299 ePKP   43 20.00    7.0X
MOX    151.28 351 ePKP   43 17.00    4.2X
        1.5s     67.00nm
      Z  20s      0.90um          5.6Msz
      N  18s      0.60um
                  i      43 22.00
                  e      43 38.00
MLR    151.32 329 ePKPc  43 19.00    5.7X
PRU    151.41 347 ePKP   43 19.00    6.0X
        1.2s     16.50nm
      Z  20s      0.50um          5.3Msz
      E  19s      0.60um
                  e      43 22.70
ENN    151.59 359 ePKP   43 19.50    6.2X
        1.0s     35.00nm
DSI    151.61 295 ePKP   43 21.00    7.1X
MEM    151.75 359 PKP    43 20.40    6.9X
SNF    151.85   1 PKP    43 20.20    6.6X
PSZ    151.86 339 ePKP   43 16.50    2.6X
CMP    151.92 329 ePKPc  43 22.00    8.0X
GRF    152.26 352 ePKP   43 24.00    9.7X
DOU    152.27   1 PKP    43 21.30    7.0X
MBH    152.35 292 ePKPc  43 22.50    7.5X
KHC    152.42 348 PKPc   43 21.00    6.4X
      Z  18s      1.00um          5.7Msz
      N  18s      0.60um
      E  18s      0.70um
                  i      43 25.50
ABH    152.42 357 ePKP   43 21.88    7.3X
SRO    152.46 341 ePKP   43 16.30    1.7
ZST    152.47 343 ePKP   43 13.80   -0.8
VKA    152.61 344 ePKPd  43 22.50    7.6X
        3.5s    418.00nm
RUP    152.63 357 ePKP   43 22.60    7.7X
SOP    153.09 343 ePKP   43 18.90    3.4X
FLN    153.23   8 ePKP   43 22.60    6.9X
        0.8s     16.10nm
LDF    153.44   8 ePKP   43 22.90    6.9X
        0.8s     18.80nm
GRR    153.54   9 ePKP   43 23.00    6.9X
        0.8s     33.30nm
LPF    153.86   9 ePKP   43 23.80    7.2X
        1.0s     36.00nm
CDF    153.90 357 ePKP   43 24.50    7.7X
        0.8s     10.70nm
HAU    154.35 358 ePKP   43 25.20    7.9X
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        0.8s     10.70nm
KBA   154.43 347 ePKPd 43 28.00   10.4X
        0.8s      6.40nm
LOR   155.08   2 ePKP  43 27.10    8.8X
        1.0s     10.00nm
SSF   155.27   3 ePKP  43 27.50    9.0X
        1.0s     14.00nm
SKO   156.12 329 ePKP  43 19.50   -0.4
      Z  19s      0.71um          5.5Msz
                   e     43 44.00
                   i     43 49.50
BCAO  158.01 218 iPKPc 43 24.90    1.8
        1.4s     30.00nm
                   i     43 56.40
                   i     44 25.40
      S.D. = 1.2  on  80 of 132 obs.
-----------------------------------------
   NOV  23, 1989  01h 27m 13.29± 0.69s
   47.514 N ± 5.5km     7.327 E ± 4.8km
   DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                          (544)
      ML 1.8 (LDG).

BBS     0.13 112 Pg    27 17.00    0.5
                 Sg    27 19.31
MOF     0.36 339 Pg    27 21.18    0.4
                 Sg    27 26.75
LOMF    0.38 244 Pg    27 20.73   -0.3
                 Sg    27 26.41
BSF     0.48 312 Pg    27 23.40    0.3
                 Sg    27 29.90
FEL     0.59  52 Pg    27 24.82   -0.5
                 Sg    27 33.12
ECH     0.71 351 Pg    27 27.14   -0.2
                 Sg    27 37.30
HAU     0.82 307 Pg    27 29.20    0.0
                 Sg    27 40.10
CDF     0.90 358 Pg    27 30.49   -0.1
                 Sg    27 43.06
WLS     0.90   1 Pg    27 30.47   -0.1
      S.D. = 0.4  on   9 of   9 obs.
-----------------------------------------
?  NOV  23, 1989  01h 36m 04.13± 1.25s
   22.002 N ±12.4km   121.358 E ±27.6km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN REGION                        (243)

TWG     0.86 342 iPd   36 19.20   -1.4
                 eS    36 27.60
TWF1    1.35 358 iPc   36 29.10    0.2
TWK     1.49 328 iPd   36 32.00    1.0
                 eS    36 50.00
TWD     2.08   6 eP    36 40.60    1.1
WB5    43.52 162 eP    44 10.00    0.3
INK    75.18  22 eP    47 47.00   -1.2
      S.D. = 1.4  on   6 of   6 obs.
-----------------------------------------
   NOV  23, 1989  04h 10m 32.83± 0.34s
   45.470 N ± 3.8km    26.317 E ± 5.1km
   DEPTH = 145.4 ±  5.3 km
   3.9mb (  2 obs.)
 ROMANIA                              (358)

MLR     0.26 275 iPc   10 52.50    0.0
VRI     0.49  35 iPc   10 53.50   -0.4
CMP     0.92 258 ePc   10 56.00   -0.8
BUC1    1.14 190 eP    11 00.00    1.3
BIR     1.21  48 iP    11 00.00    0.6
CLI     1.27  32 iPc   11 05.00    5.0X
CFR     1.33 102 iPc   11 00.00   -0.5
PTT     1.47   2 eP    11 02.00    0.0
TLB     1.50 125 iPc   11 02.50    0.1
DRA     1.66 242 ePc   11 04.00   -0.1
CVD     1.67 132 eP    11 05.00    0.8
IAS     1.93  26 iPd   11 07.50    0.3
BMR     2.94 320 ePc   11 23.00    3.2X
CEI     3.46 311 eP    12 08.00   41.5X
DMK     3.79 164 iPn   11 30.70   -0.2
SRS     4.78 206 ePc   11 44.40    0.3
VAY     4.97 215 ePn   11 46.20   -0.3
KNT     4.98 211 eP    11 47.30    0.6
                 eS    12 29.30
PSZ     5.05 301 eP    11 46.30   -1.5
GBZT    5.21 153 eP    11 50.00    0.2
BNT     5.25 166 iP    11 51.20    0.9
EDC     5.25 167 iP    11 49.00   -1.3
EZN     5.64 180 iP    11 56.20    0.6
DST     6.10 163 eP    12 00.40   -1.5
KRA     6.29 319 ePd   12 03.20   -1.1
KAS     6.80 124 iPc   12 10.60   -0.7
BBTK    7.36 138 eP    12 27.00    8.1X
PRU     9.13 304 eP    12 42.50    0.1
        1.0s      8.70nm          4.4mb X
KHC     9.40 297 P     12 47.40    1.4
HFS    16.50 337 eP    14 18.60    1.7
        0.6s      3.40nm          3.8mb
NAO    17.89 335 P     14 32.50   -1.0
        0.8s      5.80nm          4.0mb
SOD    21.96   0 eP    15 21.00    6.0X
KIC    47.36 224 P     18 54.20    0.3
LIC    47.62 224 P     18 55.90    0.0
      S.D. = 0.9  on  29 of  34 obs.
-----------------------------------------
*  NOV  23, 1989  05h 05m 31.98± 1.13s
   17.404 N ±15.2km    95.285 W ± 9.1km
   DEPTH = 117.5 ± 13.4 km
   4.1mb (  1 obs.)
 OAXACA, MEXICO                       ( 60)

EVV     1.05 357 eP    05 54.50    0.0
                 (S)   06 13.50
OXX     1.41 257 iP    05 56.42   -2.4
                 iS    06 15.65
IISM    2.54 309 iP    06 13.20    0.5
                 iS    06 44.50
LVVM    2.57 335 iP    06 12.06   -1.1
                 iS    06 42.63
SCX     2.62 104 eP    06 14.83    1.0
                 iS    06 45.00
IIT     3.29 300 eP    06 24.00    0.9
                 (S)   06 53.50
PPM     3.58 298 iP    06 28.91    1.7
                 iS    07 06.50
TPX     3.82 130 (P)   06 41.50   11.5X
III     4.10 284 iP    06 33.77   -0.2
                 (S)   07 11.50
ACX     4.41 264 (P)   06 33.50   -4.4X
                 (S)   07 35.00
CRX     4.62 296 (P)   07 07.50   26.3X
MRX     6.05 293 eP    07 01.50    1.0
SIO    18.29 357 eP    09 39.60    0.1
TUL    18.44 359 eP    09 40.70   -0.4
        0.7s      6.90nm          4.1mb
                 e     09 43.30
LNO    18.44 359 eP    09 39.90   -1.1
      S.D. = 1.3  on  12 of  15 obs.
-----------------------------------------
   NOV  23, 1989  07h 46m 42.54± 0.84s
   35.361 N ±12.8km    25.834 E ± 6.0km
   DEPTH =  10.0km  (geophysicist)
 CRETE                                (370)
      MD 4.0 (ATH)

NPS     0.21 242 ePg   46 47.00    0.0
KAP     1.11  80 ePg   47 01.80   -1.6
VAM     1.34 272 ePb   47 07.50    0.3
APE     1.72 352 ePb   47 12.50   -0.2
YER     2.66  47 ePn   47 26.00   -0.2
VLI     2.71 301 ePn   47 26.50   -0.4
KSL     3.14  75 ePn   47 33.00    0.0
ELL     3.58  66 ePn   47 41.40    2.0
      S.D. = 1.2  on   8 of   8 obs.
-----------------------------------------
*  NOV  23, 1989  08h 07m 43.45± 1.52s
   18.787 N ±12.8km   100.905 W ±15.5km
   DEPTH =  33.0km  (normal)
 GUERRERO, MEXICO                     ( 59)

MRX     0.95 344 eP    08 00.50    0.0
                 iS    08 27.00
III     1.42 106 eP    08 06.00   -1.4
                 iS    08 35.00
ACX     2.15 152 (P)   08 17.50   -0.2
                 iS    08 36.50
PPM     2.17  82 eP    08 18.50    0.0
                 (S)   08 58.50
IIT     2.47  84 eP    08 22.50    0.0
IISM    3.35  86 (P)   08 49.50   14.8X
OXX     4.33 112 (P)   08 50.50    1.7
      S.D. = 1.3  on   6 of   7 obs.
-----------------------------------------
*  NOV  23, 1989  11h 37m 32.19± 1.18s
     7.722 S ±10.1km   128.236 E ±11.8km
   DEPTH = 115.8 ± 15.9 km
   4.7mb (  6 obs.)
 BANDA SEA                            (280)

AAI     4.01 359 ePd   38 32.60   -0.1
KUPT    5.17 242 ePc   38 57.00    8.4X
MTN     5.83 151 iPd   38 59.40    1.7
KNA     8.00 176 iPd   39 28.00    0.8
        0.3s    111.00nm          6.0mb X
                 eS    40 53.00
WB5    13.47 154 iPc   40 37.80   -2.0
                 eS    43 00.00
MBL    15.63 210 eP    41 06.00   -1.4
        0.3s      6.00nm          4.3mb
                 eS    43 52.00
ASPA   16.76 162 iPc   41 20.40   -1.0
        0.6s    135.00nm          5.4mb
                 eS    44 13.50
QIS    16.85 140 eP    41 22.00   -0.5
                 eS    44 19.00
WARB   18.42 185 iPd   41 42.10    0.7
        0.4s     17.00nm          4.7mb
                 eS    44 57.00
NANU   19.16 218 eP    41 48.50   -0.7
                 eS    45 18.00
MEKA   20.93 205 eP    42 08.50    1.2
                 eS    45 56.00
CTA    21.35 127 eP    42 12.00    0.4
FORR   23.01 180 eP    42 28.00    0.3
        0.5s     53.00nm          5.2mb
                 eS    46 42.00
COOL   23.98 195 eP    42 37.00   -0.2
        0.5s      8.00nm          4.4mb
MRWA   24.29 207 eP    42 41.00    0.9
        0.3s      8.00nm          4.7mb
BAL    25.20 204 eP    42 47.00   -1.6
                 e     47 36.00
MUN    26.61 203 eP    43 04.00    2.5
STK    27.07 154 eP    43 05.00   -0.7
                 e     48 18.00
NWAO   27.08 201 eP    43 05.00   -0.8
                 e     48 18.00
CAN    33.42 148 eP    44 02.40    0.5
PPD   150.43 181 e(PKP)57 10.00    3.2X
LPB   150.98 146 (PKP) 57 11.00    2.7X
ZOBO  151.18 146 PKP   57 13.00    4.2X
      S.D. = 1.3  on  19 of  23 obs.
-----------------------------------------
   NOV  23, 1989  12h 42m 32.81± 0.79s
   42.692 N ± 5.7km    12.950 E ± 6.5km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                        (381)
      MD 2.6 (SSO).

MNS     0.37 213 P     42 40.30   -0.1
                 eSg   42 45.80
ASS     0.43 331 P     42 41.90    0.2
                 eSg   42 48.70
ALP     0.47  79 iPg   42 42.52    0.1
                 iSg   42 44.79
CIO     0.52  16 iPgc  42 43.17   -0.2
                 iSg   42 51.52
ARV     0.81 360 P     42 48.40   -0.1
                 eSg   43 00.00
CRE     1.19 322 P     42 55.00    0.0
                 eSg   43 12.50
      S.D. = 0.2  on   6 of   6 obs.
-----------------------------------------
?  NOV  23, 1989  13h 31m 00.97± 1.17s
   18.136 N ± 9.2km    65.916 W ±10.6km
   DEPTH =  10.0km  (geophysicist)
 PUERTO RICO REGION                   ( 90)

CPD     0.10 180 P     31 03.70    0.0
LPR     0.18  14 P     31 05.00    0.0
                 S     31 12.20
SJG     0.22 264 iP    31 06.50    0.7
                 S     31 15.50
PORP    0.69 263 P     31 13.90   -0.7
      S.D. = 1.0  on   4 of   4 obs.
-----------------------------------------
%  NOV  23, 1989  14h 33m 22.04± 0.76s
   38.132 N ± 7.4km    5.118 W ± 8.0km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                                (377)
      mbLg 2.8 (MDD).

EHOR    0.33 198 iP    33 28.80    0.0
```

23d 14h

```
                    eS    33 34.60
EBAN     1.05  88 eP    33 40.60  -1.3
                    eS    33 55.40
EVAL     1.40 247 eP    33 47.30  -0.3
                    eS    34 06.70
AFC      1.53 125 eP    33 50.60   1.1
EPLA     2.07 339 eP    33 57.00  -0.3
                    eS    34 21.00
EVIA     2.11  75 eP    34 01.40   3.4X
                    eS    34 27.40
GUD      2.62  16 eP    34 06.00   0.8
                    eS    34 37.40
     S.D. = 1.1  on   6 of   7 obs.
-----------------------------------
*  NOV  23, 1989  15h 12m 35.81± 1.47s
   33.302 S ± 6.7km   71.998 W ±12.8km
   DEPTH =  23.5 ±  6.4 km
 NEAR COAST OF CENTRAL CHILE      (135)

LCCH     0.40 116 iPd   12 44.60   0.3
                    iS    12 50.50
IHA      0.41  48 iPc   12 44.70   0.3
                    iS    12 50.00
LNV      0.82 143 iPd   12 51.00  -0.2
                    iS    13 02.00
ROCH     0.89  69 iPc   12 52.00  -0.7
                    iS    13 05.50
TACH     0.95 112 iPd   12 53.50  -0.1
PEL      1.11  82 iPd   12 56.00   0.0
SAN      1.13  98 iPd   12 56.00  -0.2
                    iS    13 11.20
PCH      1.28 105 iPd   12 58.50   0.1
                    iS    13 15.30
JACH     1.33  63 iPd   12 59.30   0.2
                    iS    13 16.50
FCH      1.43  92 iPd   13 01.00   0.3
                    iS    13 19.50
CNCB    16.82  13 eP    16 32.00   0.1
LPB     17.06  13 eP    16 36.00   1.1
ZOBO    17.32  13 P     16 37.00  -1.2
     S.D. = 0.6  on  13 of  13 obs.
-----------------------------------
*  NOV  23, 1989  15h 34m 22.04± 1.25s
   13.901 S ±14.2km   70.598 W ±13.8km
   DEPTH =  33.0km  (normal)
   4.5mb (  2 obs.)
 PERU                             (116)

ARE      2.69 199 iPd   35 03.60  -0.6
       0.5s   136.62nm
ZOBO     3.35 135 iPd   35 15.00   1.0
LPB      3.56 138 Pd    35 17.90   1.2
                    S     36 09.00
CNCB     3.84 139 P     35 21.40   0.6
CCH      5.51 129 P     35 43.50  -0.8
NNA      6.38 287 eP    36 00.50   4.2X
       0.6s     5.33nm          4.5mb
PPD     20.03 117 eP    38 52.90  -2.3
BAO     21.93  97 eP    39 15.00   0.3
ALQ     59.31 326 eP    44 24.00   0.6
       1.0s     4.00nm          4.5mb
     S.D. = 1.4  on   8 of   9 obs.
-----------------------------------
   NOV  23, 1989  15h 49m 42.86± 0.25s
   39.856 N ± 4.4km  143.110 E ± 4.5km
   DEPTH =  33.7km  (  8 depth phases)
   5.3mb ( 49 obs.)  4.9Msz (  8 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 19C
      Centroid Location:
      Origin Time          15:49:43.8 1.2
      Lat 39.38N 0.11 Lon 143.28E 0.13
      Dep  33.0 FIX Half-duration  1.5
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 4.12 0.38  Mtt=-0.15 0.49
        Mff=-3.97 0.50  Mrt= 2.42 0.93
        Mrf= 2.93 1.05  Mtf=-2.77 0.50
       Principal Axes:
        T  Val=  5.53  Plg=69  Azm=327
        N        1.18       9       213
        P       -6.71      19       120
      Best Double Couple:Mo=6.1*10**16
       NP1:Strike=195 Dip=27 Slip=  70
       NP2:         37     65      100
```

```
OFUJ     1.36 236 iPd   50 06.40   0.7
                    eS    50 26.70
AOMJ     2.21 289 iP+   50 19.60   1.7
HOOJ     2.53   3 P     50 21.90  -0.5
                    S     50 53.30
YAMJ     2.92 236 iP+   50 29.00   0.9
MRRJ     2.99 330 eP    50 30.00   1.0
                    S     51 08.20
KUSJ     3.46  20 P     50 33.40  -2.2
                    S     51 09.40
SAP      3.47 338 eP    50 40.00   4.2X
                    eS    51 20.00
SHK      9.87 241 eP    52 05.40  -0.1
MDJ     11.09 300 eP    52 21.70  -0.5
      Z  16s     10.00um
      N  13s      4.00um
                    epP   52 26.00
                    S     54 20.00
CN2     13.75 292 Pc    52 56.00  -1.6
       8.0s      1.30nm          2.8mb X
      Z  16s      5.30um          4.4Msz
      N  13s      2.00um
      E  13s      1.00um
                    pP    53 03.80
                    eS    55 28.00
SNY     14.92 284 Pc    53 11.50  -1.4
       1.0s      0.03nm          1.6mb X
      Z  16s      6.30um          5.4Msz
      N  13s      1.00um
      E  15s      3.20um
DL2     16.64 274 P     53 35.00   0.0
      Z  22s      1.90um
      E  14s      1.80um
SSE     19.84 251 eP    54 10.20  -3.5X
      N  15s      2.00um
      E  20s      0.90um
                    pP    54 22.00  54kmX
                    eS    58 04.00
                    sS    58 24.00
BJI     20.63 279 eP    54 18.00  -3.8X
       1.5s      1.18nm          3.0mb X
      Z  16s      3.20um          4.8MszX
      N  15s      2.03um
                    eS    58 20.00
TIA     20.76 268 Pd    54 20.00  -3.3X
      Z  16s      5.00um          5.0MszX
      N  12s      1.50um
      E  13s      3.50um
                    S     58 05.00
TIY     23.95 275 eP    54 53.00  -1.9
      N  16s      2.00um
HHC     24.00 283 Pc    54 53.00  -2.4
      Z  18s      6.30um          5.1Msz
      N  13s      0.80um
      E  17s      3.60um
                    S     59 11.00
WHN     25.18 257 Pc    55 06.50  -0.2
       1.4s      0.39nm          2.8mb X
      Z  18s      1.94um          4.7Msz
      N  15s      3.33um
      E  15s      1.65um
                    sP    55 16.50
                    eS    59 32.00
BTO     25.20 282 eP    55 05.00  -1.9
      N  14s      1.10um
      E  17s      4.90um
                    eS    59 31.00
QZH     25.38 242 eP    55 09.00   0.4
      Z  17s      1.00um          4.4MszX
GUMO    26.21 176 eP    55 14.00  -2.4
      Z  23s      0.69um          4.1MszX
XAN     27.82 269 Pc    55 28.50  -2.5
      E  15s      2.90um
                    pP    55 39.50  41km
LZH     31.01 276 eP    55 58.50  -1.1
       1.5s    113.00nm          5.4mb
      Z  14s      3.10um          5.1MszX
      N  13s      0.60um
      E  13s      1.70um
                    pP    56 17.00  79kmX
                    (S)   00 53.00
GYA     33.07 257 iPc   56 16.60  -1.1
       1.2s      0.20nm          2.9mb X
      Z  16s      1.20um          4.7MszX
      N  15s      1.30um
      E  15s      2.10um
                    pP    56 26.00  32km
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                    S     01 31.60
CD2     33.08 267 eP    56 16.10  -1.5
      Z  14s      2.20um          5.0MszX
      N  13s      2.72um
GTA     33.11 283 Pc    56 16.80  -1.1
       1.0s      0.10nm          2.7mb X
      Z  16s      4.70um          5.3MszX
      E  16s      3.50um
                    PcP   59 01.00
                    S     01 30.00
KMI     36.76 259 Pc    56 48.50  -0.8
      Z  15s      4.00um          5.3MszX
                    pP    56 58.00  32km
                    S     02 29.00
WMQ     40.83 294 iPc   57 23.00   0.2
      Z  20s      1.00um          4.7Msz
                    eS    03 35.00
TSM     42.07 219 ePc   57 35.00   1.8
LOE     42.16 250 eP    57 33.00  -0.9
TTA     42.36  36 P     57 33.00  -2.1
CHG     43.31 254 ePc   57 43.20  -0.1
       1.0s     35.00nm          5.1mb
LSA     43.33 273 P     57 44.40   0.4
IMA     43.59  32 P     57 45.00  -0.2
       1.0s     20.00nm          4.8mb
BDT     44.25 252 iPd   57 51.50   0.6
       0.7s     17.20nm          5.0mb
NST     44.45 250 iPc   57 53.00   0.5
SHL     44.82 268 iP    57 55.40  -0.3
                    eS    03 28.40
PMR     45.58  38 P     58 00.00  -1.0
PCI     45.81 213 eP    58 04.00   0.7
FBA     46.01  34 P     58 03.50  -0.9
       0.7s     18.90nm          5.1mb
NNT     46.80 247 eP    58 12.00   0.8
SNG     50.03 241 eP    58 37.30   1.1
INK     51.27  28 eP    58 44.00  -1.0
       0.5s     12.00nm          5.1mb
IPM     51.67 238 ePd   58 48.80   0.0
MBC     53.44  17 eP    59 01.00  -0.2
       0.9s     16.00nm          5.0mb
NDI     54.48 280 iP    59 08.50  -0.9
KBS     58.12 350 eP    59 35.00   0.2
HYB     59.63 268 eP    59 48.20   2.0
       1.0s     40.00nm          5.5mb
WB5     59.98 190 eP    59 46.90  -1.4
                    e     04 03.50
                    i     04 52.50
KEV     61.28 339 eP    59 56.00  -0.7
QUE     61.39 287 eP    59 57.50  -0.8
POO     62.59 272 iPc   00 05.40  -0.8
       1.1s     65.82nm          5.7mb
GBA     62.77 265 P     00 07.00  -0.3
SOD     62.89 337 iP    00 06.60  -0.8
BOM     63.18 273 eP    00 06.50  -3.5X
                    eS    07 31.50
MAIO    63.55 296 iPc+  00 11.70  -0.7
                    e     02 32.00 760kmX
ASPA    63.77 189 eP    00 12.00  -1.7
       1.5s     20.00nm          5.0mb
      Z  20s      0.32um          4.5Msz
                    LR    26 53.70
DZM     65.34 156 iPc   00 17.00  -7.0X
SUF     66.07 333 iP    00 27.10  -1.0
       0.9s     21.60nm          5.2mb
RMQ     66.21 174 eP    00 30.00   0.7
                    e     00 36.00  19kmX
WARB    67.47 196 iPd   00 37.80   0.4
       0.5s      4.00nm          4.8mb
NUR     68.09 332 iP    00 40.00  -0.9
       1.1s     57.60nm          5.6mb
FFC     70.62  34 eP    00 56.00  -0.5
       1.2s     41.00nm          5.4mb
CMB     71.17  56 eP    01 00.60   0.3
KVN     72.01  54 P     01 04.00  -1.4
HFS     72.06 336 eP    01 03.90  -1.2
       0.8s     32.40nm          5.4mb
      Z  18s      0.53um          4.9Msz
                    LR    30 35.00
NB2     72.10 338 P     01 04.50  -0.9
       1.0s     37.20nm          5.3mb
TNP     73.14  54 P     01 08.70  -3.4X
       0.8s      3.43nm          4.4mb
AKU     73.78 352 iPd   01 16.90   1.9
       1.0s     28.00nm          5.2mb
BWA     74.07 175 eP    01 18.70   1.6
CAN     75.00 175 eP    01 18.10  -4.3X
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KVT     75.70 312 iP     01 26.70   0.1
KAS     76.80 313 eP     01 34.00   1.2
KRA     77.49 326 eP     01 36.20  -0.2
        0.9s     43.00nm          5.5mb
      Z  18s      1.70um          5.4Msz
      N  18s      2.20um
                  i      01 51.80  55kmX
KSP     78.40 329 ePd    01 41.40   0.1
        1.0s     25.00nm          5.2mb
                  e      01 52.50  36km
PSZ     79.12 325 iP     01 46.70   1.2
BRG     79.29 330 iP     01 46.50   0.3
        1.8s     34.00nm          5.0mb
                  e      01 54.00  24km
                  e      02 12.00
CLL     79.30 331 iPc    01 45.70  -0.5
        1.3s     39.00nm          5.2mb
                  i      01 56.70  36km
PRU     79.76 329 ePc    01 49.30   0.6
      Z  16s      0.80um          5.2MszX
      N  16s      0.60um
      E  16s      0.50um
                  e      01 59.50  32km
SRO     79.90 326 iP     01 48.80  -0.7
ZST     80.12 327 eP     01 51.20   0.5
MOX     80.36 331 ePc    01 52.00   0.1
        1.2s     28.00nm          5.1mb
      Z  20s      0.90um          5.1Msz
HOF     80.53 331 iPd    01 53.50   0.6
        1.2s     33.00nm          5.2mb
SOP     80.75 327 iPc    01 55.40   1.4
EKA     80.91 341 Pd     01 55.50   0.8
        1.0s     11.60nm          4.8mb
HRI     81.03 306 e(P)   01 57.00   1.1
GRF     81.28 331 iPc    01 57.60   0.8
        1.1s     43.00nm          5.4mb
                  i      02 08.80  36km
ALQ     81.77  51 P      02 00.00   0.1
ELL     82.15 312 eP     02 01.00  -0.7
BHG     82.23 329 eP     02 03.00   1.2
        1.1s     41.00nm          5.4mb
TOD     82.24 332 eP     02 02.49   0.6
ABH     82.46 333 eP     02 03.52   0.5
KBA     82.56 328 eP     02 02.00  -1.8
        1.0s     24.60nm          5.2mb
                  i      02 06.60  15kmX
RUP     82.78 333 eP     02 05.33   0.6
VAY     82.81 319 eP     02 05.40   0.5
SKO     82.88 320 iP     02 06.00   0.7
        1.7s    116.00nm          5.7mb
      Z  16s      2.74um          5.7MszX
      N  16s      1.34um
      E  17s      0.72um
                  i      02 29.70  89kmX
FVI     83.18 328 P      02 01.50  -5.2X
PRNI    83.46 304 iPc    02 09.00   0.5
CDF     83.79 332 eP     02 10.30   0.4
        1.0s     16.00nm          5.1mb
SLE     83.89 331 ePd    02 10.90   0.5
SAX     84.00 330 ePd    02 12.00   0.7
CTI     84.08 328 P      02 11.00  -0.5
OSS     84.16 330 ePd    02 12.50   0.6
LLS     84.45 330 ePd    02 14.00   0.6
BSF     84.46 332 eP     02 13.40   0.1
HAU     84.47 332 eP     02 13.80   0.5
        0.8s      8.00nm          4.9mb
VDL     84.59 330 ePd    02 14.80   0.7
TMA     85.13 330 ePd    02 17.00   0.2
VAI     85.37 330 Pd     02 17.10  -0.6
MMK     85.52 330 ePd    02 19.80   0.9
ARV     85.61 326 P      02 18.50  -0.6
DIX     85.71 331 ePd    02 20.50   0.7
BRT     85.77 322 P      02 15.00  -4.9X
PGD     85.83 327 P      02 21.50   1.2
ORO     85.88 330 P      02 20.50   0.1
EMS     85.90 331 ePd    02 21.30   0.6
CRE     85.93 327 P      02 22.00   1.3
LOR     85.97 334 iPc    02 21.20   0.4
        1.0s     42.00nm          5.6mb
FLN     86.06 337 iPc    02 21.50   0.3
        1.0s     28.00nm          5.4mb
ASS     86.08 326 P      02 19.50  -1.9
LDF     86.10 337 eP     02 21.80   0.4
        1.0s     16.00nm          5.2mb
LBF     86.18 333 iPc    02 22.20   0.4
        1.0s     30.00nm          5.5mb
SSF     86.27 334 iPc    02 22.60   0.4
        0.8s     20.10nm          5.4mb
DUI     86.42 324 P      02 26.50   3.3X
LPG     86.45 331 iPc    02 24.00   0.5
        1.1s     35.10nm          5.5mb
GRR     86.51 337 iPc    02 24.00   0.6
        1.0s     52.00nm          5.7mb
SMF     86.52 333 iPc    02 23.80   0.3
        1.2s     50.50nm          5.6mb
AVF     86.56 334 iPc    02 24.20   0.6
        1.0s     60.00nm          5.8mb
MNS     86.63 326 P      02 24.00  -0.1
LPF     86.88 337 iPc    02 26.00   0.8
        1.0s     40.00nm          5.6mb
BGF     86.93 334 eP     02 26.00   0.5
        0.8s     10.70nm          5.1mb
MAF     87.32 334 iPc    02 28.30   0.9
        1.0s     36.00nm          5.6mb
TCF     87.38 334 iPc    02 28.60   0.9
        1.0s     18.00nm          5.3mb
LSF     87.65 334 iPc    02 29.70   0.8
        1.0s     48.00nm          5.7mb
MFF     87.88 336 iPc    02 30.90   0.9
        1.0s     36.00nm          5.6mb
RJF     88.48 334 eP     02 34.00   1.0
        1.0s     21.60nm          5.4mb
CAF     88.63 333 eP     02 35.10   1.4
        1.0s     16.00nm          5.3mb
LFF     89.06 334 eP     02 36.90   1.2
        1.0s     37.60nm          5.7mb
SLR    124.55 264 iPKPd 08 40.50  -0.1
        1.5s     83.33nm
BLF    127.87 261 iPKPc 08 48.00   1.1
HVD    129.12 260 e(PKP)09 00.00  10.8X
GRM    129.56 256 e(PKP)08 37.00 -12.8X
ZOBO   144.09  58 PKP   09 15.00  -2.7
      Z  20s      0.20um          4.9Msz
                  eLR    59 04.00
LPB    144.29  58 (PKP) 09 22.00   4.1X
CNCB   144.57  59 PKP   09 18.00  -0.5
CCH    146.19  57 ePKP  09 21.00   0.1
      S.D. = 1.0  on 132 of 146 obs.
-----------------------------------
*  NOV  23, 1989  16h 38m 41.03± 0.63s
     7.485 S ±10.9km  121.207 E ±15.4km
    DEPTH = 606.8 ± 15.2 km
    4.4mb (  2 obs.)
 FLORES SEA                        (279)

KUPT     3.55 138 ePd    40 06.50   2.1
                  eS     41 06.00
PCI      6.68 348 eP     40 28.00  -0.9
                  e(S)   40 33.00
MNI      9.58  22 ePd    40 33.20 -23.0X
KNA     11.06 139 eP     41 08.50  -2.0
MTN     11.12 119 iPd    41 09.80  -1.4
                  e      41 30.00
                  e      43 40.00
TSM     12.04 345 ePd    41 21.50   1.3
MBL     13.66 185 iPc    41 35.40  -0.5
        0.4s     22.00nm          4.8mb
KKM     14.33 340 iPc    41 42.00  -0.6
        0.8s     91.70nm          5.1mb X
NANU    15.96 199 eP     41 58.50   0.4
WB5     17.74 135 iPc    42 15.10  -0.1
WARB    19.30 165 iPc    42 30.00   0.4
        0.4s     34.00nm          5.2mb X
ASPA    20.18 144 iPc    42 37.40  -0.3
        0.4s     28.00nm          5.2mb X
QIS     22.04 128 iPc    42 53.70  -0.9
        0.7s     23.00nm          4.9mb X
FORR    24.12 165 iPd    43 12.30  -0.7
        0.3s     17.00nm          5.2mb X
STK     30.82 145 iPc    44 11.50   0.6
        0.3s     16.00nm          5.1mb X
BRS     35.86 127 iPc    44 55.00   2.0
BWA     36.70 141 eP     45 02.90   3.1X
CAN     37.64 141 eP     45 08.90   1.4
G8A     48.24 296 Pd     46 29.90  -0.5
        0.7s      3.70nm          4.0mb
      S.D. = 1.3  on  17 of  19 obs.
-----------------------------------
*  NOV  23, 1989  17h 20m 03.61± 1.85s
    51.340 N ±19.6km   15.580 E ±10.1km
    DEPTH =  10.0km  (geophysicist)
 POLAND                            (548)
      ML 3.3 (VKA), 2.7 (KBA).

BRG      1.13 246 iPg    20 26.70   1.9
                  iSg    20 46.50
PRU      1.51 206 ePn    20 30.50  -0.1
                  Pg     20 33.30
                  i      20 35.80
                  Sn     20 49.30
                  eSg    20 55.00
                  i      21 03.00
CLL      1.62 270 ePn    20 31.00  -1.2
                  eSg    21 01.00
KHC      2.56 211 Pn     20 45.80   0.0
                  Pg     20 53.80
                  eSn    21 11.00
                  Sg     21 24.70
MOX      2.60 256 ePg    20 54.00   7.6X
                  iSg    21 34.00
KRA      3.06 113 eP     20 53.30   0.5
                  eS     21 30.80
VKA      3.12 171 e(Pg)  21 01.00   7.3X
                  iSg    21 44.00
KBA      4.51 200 iPnc   21 12.60  -1.1
                  i      22 35.20
      S.D. = 1.5  on   6 of   8 obs.
-----------------------------------
?  NOV  23, 1989  18h 08m 00.78± 4.08s
    20.697 S ±24.3km   68.686 W ±44.2km
    DEPTH = 146.2 ± 30.0 km
 CHILE-BOLIVIA BORDER REGION       (124)

YJA      3.31 117 iPc    08 53.00   0.0
CNCB     3.92  10 iPd    09 01.80   0.6
CCH      4.08  37 P      09 03.00  -0.1
LPB      4.18   8 eP     09 04.00  -0.5
ZOBO     4.44   7 P      09 08.00   0.0
ITB1    13.77 109 eP     11 16.00   5.0X
ITB     13.96 110 e(P)   11 16.40   2.9X
PPD     16.24  98 e(P)   11 42.00   0.0
                  e      11 44.80
      S.D. = 0.5  on   6 of   8 obs.
-----------------------------------
?  NOV  23, 1989  18h 16m 20.40± 7.06s
    16.898 N ±34.5km   60.846 W ±55.0km
    DEPTH =  31.9 ±  9.6 km
 LEEWARD ISLANDS                    ( 92)
      ML 2.8 (FDF).

DEG      0.62 199 eP     16 32.86   0.0
                  S      16 40.70
SEG      0.80 232 eP     16 35.14  -0.2
                  S      16 43.30
BPA      0.98 279 eP     16 37.76  -0.2
                  S      16 48.00
MGG      1.07 205 eP     16 39.70   0.4
PAG      1.18 223 eP     16 40.80   0.0
                  S      17 28.50
BBL      1.50 204 eP     16 44.20  -1.1
      S.D. = 0.8  on   6 of   6 obs.
-----------------------------------
    NOV  23, 1989  19h 12m 04.02± 0.52s
    43.752 N ± 4.4km   19.364 E ± 5.2km
    DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.8 (TTG).

PLE      0.42 177 iPgc   12 11.40  -1.3
                  iSg    12 17.40
IVA      0.96 156 ePg    12 21.00  -1.4
                  eSg    12 34.00
NKY      0.98 196 ePg    12 21.30  -1.3
                  eSg    12 35.30
BRY      1.04 215 iPgc   12 22.00  -1.8
                  iSg    12 36.50
PVY      1.24 159 ePg    12 27.00  -0.1
                  eSg    12 44.00
TTG      1.32 183 ePg    12 28.10  -0.3
                  eSg    12 46.40
BEO      1.33  36 iPg    12 29.80   1.3
                  iSg    12 47.30
HCY      1.45 206 ePg    12 30.50   0.2
                  eSg    12 52.00
BCI      1.48 159 ePn    12 30.10  -0.5
BDV      1.52 195 ePg    12 32.10   0.8
                  eSg    12 54.00
SDA      1.74 177 ePn    12 36.10   1.7
PUK      1.75 167 ePn    12 36.20   1.6
HVAR     2.20 256 iPn    12 42.20   1.1
                  iSn    13 11.00
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23d 19h

```
PHP      2.21 159 iPnc  12 43.80   2.6X
SKO      2.34 139 ePn   12 43.00  -0.2
                  i     12 53.40
                  i     13 32.50
TIR      2.43 171 ePn   12 48.00   3.6X
OHR      2.84 158 ePn   12 55.00   4.6X
VTS      3.04 111 iP    13 00.00   6.8X
PTJ      3.24 313 ePn   12 55.60  -0.3
                  eSn   13 34.40
BRT      3.29 210 P     12 57.50   0.9
KKB      3.32 123 eP    12 58.00   0.9
VAY      3.39 135 ePn   13 06.50   8.4X
VBY      3.42 302 e(Pg) 13 07.80   9.4X
                  eSn   13 59.00
LSK      3.72 165 e(Pn) 13 06.70   3.9X
MMB      3.88 122 eP    13 12.00   7.0X
RIY      3.90 296 e(Pn) 13 03.80  -1.4
CEY      4.04 301 eP    13 08.50   1.3
                  e(Sn) 14 17.50
LJU      4.13 305 e(Pn) 12 58.50  -9.9X
                  e(Sn) 14 09.00
DUI      4.18 242 P     13 09.00  -0.2
PSZ      4.18   5 eP    13 07.10  -2.2
VOY      4.51 302 ePn   13 13.00  -0.9
                  eSn   14 05.70
SDI      4.57 245 P     13 15.50   0.7
ARV      4.67 269 P     13 18.00   1.8
TDS      4.67 210 P     13 12.50  -3.8X
ASS      4.93 264 P     13 20.00   0.1
MLR      5.01  67 eP    13 29.50   8.4X
CRE      5.38 271 P     13 26.00  -0.3
KBA      5.39 310 e(P)  13 12.20 -14.3X
       2.5s     53.40nm
                  i     13 24.40
                  i     13 28.10
                  i     13 46.10
     S.D. = 1.2  on  26 of  38 obs.
-----------------------------------
   NOV  23, 1989  19h 17m 32.54± 1.40s
   34.435 N ± 8.1km  141.302 E ± 7.6km
   DEPTH =  56.1 ± 11.5 km
   4.8mb ( 11 obs.)  3.8Msz (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     1.99 333 P     18 03.40  -0.9
                  S     18 31.10
CHJJ     2.48 311 iP+   18 11.10  -0.2
                  S     18 42.60
IIDJ     2.97 291 iP+   18 19.50   1.1
NIIJ     3.37 327 P     18 23.00  -0.8
                  S     19 07.50
MTMJ     3.57 308 P     18 27.10   0.3
MDJ     13.59 322 eP    20 43.00  -1.1
CN2     15.43 312 Pc    21 04.00  -4.1X
     Z  16s      1.20um
     N  13s      0.40um
     E  13s      0.50um
                  eS    23 55.00
SNY     15.76 303 eP    21 12.20  -0.1
     Z  20s      0.70um
     N  16s      0.40um
     E  20s      0.50um
                  eS    24 10.00
DL2     16.40 291 eP    21 22.00   1.7
     Z  14s      0.60um
SSE     17.24 264 e(P)  21 32.00   1.1
     Z  14s      1.20um
     E  14s      1.20um
                  e(S)  25 12.00
BJI     20.74 293 (P)   22 09.00  -1.7
GUMO    21.01 170 eP    22 16.50   3.0X
     Z  19s      0.35um          3.8Msz
PJG     21.00 170 eP    22 16.50   3.0X
GUA     21.06 170 eP    22 16.70   2.6
WHN     23.04 268 P     22 34.50   0.9
     Z  18s      0.60um          4.1Msz
TIY     23.52 286 eP    22 39.50   1.2
     N  16s      0.80um
HHC     24.33 294 Pc    22 46.80   0.6
BTO     25.48 293 eP    22 59.00   1.9
     N  14s      0.30um
     E  14s      0.50um
XAN     26.72 278 Pd    23 07.00  -1.5
LZH     30.51 284 e(P)  23 41.00  -1.7
     Z  18s      0.20um          3.8Msz
GYA     30.79 265 P     23 43.60  -1.6
CD2     31.68 274 eP    23 50.90  -2.0
GTA     33.32 291 eP    24 06.60  -0.6
KMI     34.56 265 Pd    24 17.00  -1.1
CHTO    40.63 259 iP    25 08.60  -0.1
        0.8s     6.41nm          4.5mb
BDT     41.41 257 eP    25 15.00   0.0
WMQ     41.98 299 iPc   25 21.10   1.4
NDI     54.12 283 iP    26 54.00   0.0
WB5     54.41 188 eP    26 54.10  -2.1
INK     56.75  26 ePc   27 11.80  -0.7
HYB     58.08 270 iPc   27 25.20   2.6
        1.0s    50.00nm          5.6mb
ASPA    58.21 188 eP    27 21.50  -1.7
        0.6s     8.00nm          5.0mb
MBL     58.94 204 eP    27 27.00  -1.3
MBC     59.04  16 ePd   27 28.40  -0.1
        0.9s     5.00nm          4.6mb
GBA     60.95 267 P     27 43.00   0.7
POO     61.41 274 iPd   27 45.80   0.3
        0.8s    26.87nm          5.4mb
QUE     61.66 289 eP    27 47.00  -0.2
SOD     67.32 338 eP    28 06.00 -17.2X
BWA     68.82 174 eP    28 32.90   0.0
SUF     70.26 334 eP    28 41.00  -0.4
        0.7s     5.90nm          4.6mb
BKS     74.31  55 ePc   29 05.80   0.1
        0.9s    16.00nm          4.9mb
CMB     75.46  54 eP    29 12.60   0.1
FFC     75.94  32 iPd   29 14.80   0.0
        1.0s    17.00nm          4.9mb
LRM     76.08  44 eP    29 16.10   0.1
HFS     76.42 336 eP    29 17.10  -0.2
        0.4s     1.60nm          4.3mb
KVN     76.42  52 eP    29 18.50   0.5
NB2     76.55 337 P     29 18.40   0.3
        0.7s     5.20nm          4.6mb
TNP     77.53  52 eP    29 25.00   0.8
        1.0s     2.50nm          4.2mb
KHC     84.71 329 P     30 03.20   1.7
ZOBO   148.01  63 PKP   37 15.20   4.0X
LPB    148.20  63 ePKP  37 18.00   6.7X
     S.D. = 1.2  on  45 of  51 obs.
-----------------------------------
&  NOV  23, 1989  21h 03m 02.51s
   64.728 N          147.495 W
   DEPTH =  19.9km
 CENTRAL ALASKA                  (  1)
      <AGS-P>.

CCB      0.16 239 iP    03 07.01  -0.1
FBA      0.21 324 eP    03 07.83  -0.1
GLM      0.26  10 iP    03 08.60  -0.1
RDS      0.30 290 iP    03 09.10  -0.1
WRH      0.36 225 iP    03 10.27   0.0
HDA      0.40 144 iP    03 10.79  -0.1
                  Sn    03 16.16
NEA      0.70 258 eP    03 15.96   0.1
                  eS    03 24.82
DMW      1.02 131 eP    03 21.40   0.0
MCK      1.18 213 eP    03 23.81  -0.1
DDM      1.18 142 eP    03 23.51  -0.5
RND      1.46 205 eP    03 27.48  -0.4
KTH      1.91 233 eP    03 34.95   0.5
DWY      3.57  97 P     03 56.00  -2.0
        13 obs. associoted
-----------------------------------
?  NOV  23, 1989  21h 03m 24.06± 2.91s
     6.651 N ±29.1km   73.335 W ±95.8km
   DEPTH = 187.6 ± 27.6 km
   4.2mb (  1 obs.)
 NORTHERN COLOMBIA               ( 99)

FUO      1.24 199 eP    03 55.00  -0.1
BOG      2.14 200 iPc   04 04.00   0.1
                  eS    04 34.00
UPA      6.56 291 eP    05 14.20  14.9X
ZOBO    23.35 167 eP    08 17.00  -0.5
LPB     23.61 167 P     08 26.00   6.2X
CNCB    23.90 167 P     08 23.30   0.5
INK     73.12 340 eP    14 35.00  -0.2
MBC     73.93 350 eP    14 40.00   0.2
        0.6s     3.00nm          4.2mb
     S.D. = 0.6  on   6 of   8 obs.
-----------------------------------
   NOV  23, 1989  21h 28m 11.90± 0.75s
   14.075 N ± 9.4km   91 703 W ± 8.3km
   DEPTH =  61.0 ±  7.8 km
   4.5mb (  5 obs.)
 GUATEMALA                       ( 70)

TPX      0.99 327 iP    28 27.72  -2.2
                  iS    28 55.90
SCX      2.79 341 eP    28 57.22   2.2
                  iS    29 32.00
EVV      5.59 322 (P)   29 37.50   3.1X
OXX      5.69 302 iP    29 34.01  -2.0
                  iS    30 45.21
IISM     7.31 313 eP    29 58.38   0.0
                  iS    31 23.59
IIT      8.02 309 (P)   30 10.00   1.5
SRA      8.13 118 eP    30 10.00   0.1
PPM      8.29 308 iP    30 12.00  -0.4
                  iS    31 51.62
ACX      8.34 291 (P)   30 08.00  -4.6X
SJS      8.54 118 eP    30 17.40   1.9
III      8.60 301 (P)   30 18.00   1.6
QCR      8.70 121 eP    30 15.00  -2.6
MRX     10.67 303 (P)   30 39.00  -5.5X
UPA     12.95 112 e(P)  31 16.90   1.9
UYO     20.16 353 eP    32 42.00  -1.8
OCO     21.98 347 ePd   33 03.00   0.8
RSCP    22.13  13 P     33 04.00   0.3
ACO     23.49 345 iP    33 10.60  -6.4X
FVM     23.84   2 P     33 19.00  -1.3
ALQ     24.68 330 P     33 29.00   0.3
        0.8s    12.81nm          4.5mb
BLA     25.14  22 P     33 34.00   1.1
GLA     28.28 316 P     34 02.00   0.4
TPC     29.72 316 eP    34 15.00   0.4
PLM     29.85 314 eP    34 16.00   0.1
SBB     31.26 316 eP    34 27.00  -1.2
RSSD    31.75 343 P     34 31.00  -1.5
CLC     31.76 318 eP    34 33.00   0.5
TNP     32.91 321 P     34 42.80   0.1
        1.0s     8.75nm          4.5mb
KVN     34.06 322 P     34 53.00   0.3
CMB     34.87 318 eP    34 59.90   0.5
LRM     36.17 335 eP    35 11.40   0.9
ZOBO    38.10 141 Pc    35 27.00  -0.5
     Z  24s      0.04um          3.1MszX
                  LR    47 32.00
LPB     38.32 142 (P)   35 36.00   6.9X
CNCB    38.61 142 P     35 32.00   0.3
PNT     41.94 333 ePc   35 59.00   0.9
        0.8s    24.00nm          5.0mb
EDM     42.66 341 ePd   36 03.80  -0.2
SCH     45.06  20 ePd   36 22.30  -1.0
BAO     52.33 123 eP    37 20.00  -0.2
PPD     53.44 132 e(P)  37 27.00  -1.2
INK     60.45 343 eP    38 17.00  -0.2
NB2     83.94  28 P     40 36.70   0.3
        1.0s     3.60nm          4.4mb
HFS     85.40  29 ePKP  40 42.70  -1.0
        0.7s     2.70nm          4.5mb
CHG    145.68 342 ePKPc 47 46.10   0.2
        1.2s    42.19nm
LOE    146.03 337 iPKPc 47 47.40   0.9
BDT    147.13 341 iPKPd 47 51.60   3.4X
        0.8s    26.00nm
HYB    147.26  17 iPKPd 47 54.20   5.7X
        1.0s    50.00nm
NST    148.21 338 ePKP  47 55.00   5.1X
GBA    150.47  22 PKP   48 00.00   6.6X
     S.D. = 1.2  on  39 of  48 obs.
-----------------------------------
&  NOV  23, 1989  21h 58m 25.00s
   36.870 N          121.623 W
   DEPTH =   5.0km
 CENTRAL CALIFORNIA              ( 39)
      <BRK>. ML 2.7 (BRK).

SAO      0.18 126 iPd   58 28.10  -0.6
GCC      0.34 298 iPc   58 31.60  -0.2
MHC      0.47 358 iPd   58 34.70   0.2
ARN      0.48   9 iPd   58 34.70   0.0
PRS      0.57 159 iPd   58 35.80  -0.7
LLA      0.60 115 eP    58 36.70  -0.3
                  eS    58 46.60
BKS      1.12 334 ePc   58 45.00  -1.4
                  eS    59 03.10
BRK      1.12 333 e(P)  58 44.70  -1.8
PHAM     1.43 136 eP    58 50.50  -1.2
CMB      1.52  40 eP    58 51.40  -1.6
FRI      1.54  85 eP    58 52.30  -0.8
BCH      2.09 143 eP    58 59.00  -2.3
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KVN      3.53  51 eP    59 21.80  -0.1
        13 obs. associated
-----------------------------------------
?  NOV  23, 1989  22h 15m 02.51± 5.13s
   51.060 N ±38.2km   19.794 E ±31.0km
   DEPTH =  10.0km  (geophysicist)
 POLAND                              (548)
      ML 3.1 (KBA), 2.8 (VKA).

KRA      1.01 175 ePg   15 22.30   0.7
                  iSg   15 31.60
SPC      1.90 171 ePn   15 34.80  -0.6
                  e(Sg) 15 55.30
KSP      2.22 266 ePn   15 40.20   0.2
        0.8s     78.00nm
                  iPg   15 40.70
                  iS    16 04.20
                  i     16 05.30
PSZ      3.14 179 eP    15 55.60   2.5X
PRU      3.52 254 ePg   16 03.50   5.2X
VKA      3.59 220 ePg   15 59.00  -0.4
        1.0s     24.70nm
                  iSg   16 34.50
                  e     17 01.00
                  i     17 02.80
KHC      4.44 247 ePg   16 11.50   0.0
                  Sg    16 57.00
KBA      5.82 229 e(Pn) 16 25.50  -5.5X
                  e     17 45.50
                  e     42 52.00
                  i     43 00.60
     S.D. = 0.7  on   5 of   8 obs.
-----------------------------------------
*  NOV  23, 1989  22h 42m 09.98± 1.11s
   46.498 N ± 8.7km   17.057 E ±12.0km
   DEPTH =  10.0km  (geophysicist)
 HUNGARY                             (549)
      ML 3.0 (VKA), 2.8 (KBA).

PTJ      0.97 232 ePg   42 27.80  -0.7
                  eSg   42 42.40
ZAG      1.01 228 iPgc  42 29.50   0.4
                  iSg   42 45.00
SOP      1.23 344 eP    42 33.20   0.3
SRO      1.57  33 i(Pn) 42 40.70   2.8X
                  i     42 48.80
                  i     43 02.00
                  i     43 09.10
BUD      1.67  53 e(P)  42 40.00   0.7
ZST      1.70   1 ePn   42 38.10  -1.7
                  e     42 42.50
ZST      1.70   1 i(Pg) 42 46.60   6.8X
                  e(Sn) 43 07.90
                  e     43 12.50
                  i(Sb) 43 14.60
                  i(Sg) 43 18.70
VKA      1.84 344 iPnd  42 41.80   0.0
                  i     42 50.70
                  iSg   43 19.50
                  i     43 21.20
TRI      2.42 252 eP    43 20.70  30.5X
                  i     43 32.80
KBA      2.62 284 iPgc  43 02.50   9.3X
                  iSg   43 40.10
FVI      2.95 273 P     43 04.00   6.3X
KHC      3.53 320 Pn    43 07.00   1.1
                  Sg    44 04.90
CTI      3.78 265 P     43 05.50  -4.1X
     S.D. = 1.1  on   7 of  13 obs.
-----------------------------------------
?  NOV  23, 1989  23h 01m 21.67± 2.34s
   18.516 N ±22.1km  145.644 E ±30.4km
   DEPTH = 214.8 ± 16.2 km
   4.4mb (  2 obs.)
 MARIANA ISLANDS                     (216)

GUMO     4.96 189 eP    02 36.50   0.0
                  eS    03 33.00
PJG      4.96 189 eP    02 36.50   0.0
WB5     39.73 197 eP    08 34.70  -0.2
ASPA    43.46 196 iPc   09 06.80   1.4
        0.7s     6.00nm          4.2mb
DZM     45.18 152 iPc   09 19.00   0.0
MBL     46.84 214 eP    09 31.40  -0.6
BWA     52.71 177 eP    10 15.70  -0.6
FFC     87.27  32 eP    13 45.00   0.1
        0.8s     8.00nm          4.6mb
```

```
     S.D. = 0.9  on   8 of   8 obs.
-----------------------------------------
   NOV  24, 1989  00h 13m 42.10± 0.36s
   38.598 N ± 3.3km   13.973 E ± 4.0km
   DEPTH =  10.0km  (geophysicist)
 SICILY                              (398)
      ML 3.1 (ROM).

GIB      0.61 176 P     13 54.50   0.0
                  eSg   14 02.70
USI      0.63 280 P     13 54.30  -0.5
                  eSg   14 06.80
LPI      0.76  98 P     13 57.61   0.6
MNO      0.88 139 P     13 59.56   0.5
MCT      1.00 196 P     14 03.27   2.1
ERC      1.22 243 P     14 03.41  -1.5
ATN      1.25 110 P     14 04.23  -1.1
MSI      1.30 107 Pc    14 04.90  -1.3
                  eSn   14 21.40
CVT      1.31 226 P     14 06.23   0.0
FAI      1.34 190 P     14 08.00   1.2
MEU      1.68 153 P     14 11.19  -0.5
PZI      1.73 154 P     14 12.42  -0.1
CZI      1.80  69 P     14 13.30   0.0
ACI      1.89  66 P     14 14.90   0.1
MGR      1.97  38 Pc    14 15.00  -0.8
                  eSn   14 39.00
MMN      2.03  50 P     14 16.20  -0.5
                  eSg   14 44.60
TDS      2.12  59 P     14 17.00  -1.1
CSI      2.15  56 P     14 19.10   0.6
SGO      2.21  27 P     14 20.40   1.1
ROI      2.24  64 P     14 19.80  -0.1
PTS      2.38 222 P     14 20.92  -0.8
RFI      2.70   0 P     14 27.38   1.1
DUI      3.08   7 P     14 33.50   1.8
SDI      3.11 358 P     14 33.00   0.9
MNS      3.91 346 P     14 45.00   1.5
ASS      4.58 348 P     14 53.00   0.0
HVAR     4.94  22 iP    14 57.50  -0.6
ARV      4.96 351 P     14 59.10   0.8
SKO      6.63  57 eP    15 22.80   0.8
CTI      7.64 348 P     15 34.00  -2.2
FVI      8.04 354 P     15 39.50  -2.1
     S.D. = 1.1  on  31 of  31 obs.
-----------------------------------------
   NOV  24, 1989  00h 35m 07.66± 0.29s
    0.989 N ± 2.7km  126.007 E ± 3.7km
   DEPTH =  25.6 ±  2.0 km
   5.7mb ( 43 obs.)  5.1Msz ( 10 obs.)
 MOLUCCA PASSAGE                     (266)
      CENTROID, MOMENT TENSOR        (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 33C
      Centroid Locotion:
      Origin Time        00:35 14.6 0.4
      Lot  1.29N 0.03 Lon 125.67E 0.04
      Dep  52.5 3.2 Half-duration  2 9
      Moment Tensor;    Scole 10**17 Nm
        Mrr= 3.35 0.15  Mtt= 1.66 0.16
        Mff=-5.01 0.27  Mrt= 0.68 0.17
        Mrf=-3.27 0.21  Mtf= 1.86 0.16
       Principal Axes:
        T  Vol=  4.47  Plg=71  Azm= 88
        N        2.13       4      347
        P       -6.60      18      256
      Best Double Couple:Mo=5.5*10**17
       NP1:Strike=340 Dip=27 Slip=  82
       NP2:        169      64       94

MNI      1.25 291 iPd   35 34.00   4.4X
TNE      1.34  98 iPd   35 32.50   1.7
DAV      6.07 356 eP+   36 42.00   3.8X
TSM      8.55 292 ePd   37 18.30   5.4X
        1.0s   317.30nm          6.5mb X
MKS      8.98 227 iPc   37 23.50   4.7X
KKM     10.99 297 ePc   37 50.50   4.0X
                  e     38 14.00
QCP     14.41 340 eP    38 33.00   0.9
MTN     14.66 160 eP    38 34.00  -1.3
BAG     16.23 341 eP    38 58.00   2.1
                  eS    42 04.00
KNA     16.85 171 iPd   39 05.00   1.4
        0.8s   622.00nm          5.8mb
LAT     22.28 110 eP    40 07.00   2.3
WB5     22.30 159 iPc   40 04.10  -0.8
                  iS    44 05.40
```

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GUMO    22.48  55 eP    40 05.50  -1.1
        0.9s   497.87nm          6.0mb
PJG     22.48  55 eP    40 05.40  -1.2
GUA     22.49  55 eP    40 04.70  -2.0
        0.8s   310.45nm          5.8mb
MBL     22.83 195 iPd   40 10.40   0.4
        0.5s    54.00nm          5.3mb
PMG     23.46 117 iPd   40 16.00  -0.2
        1.0s   480.00nm          6.0mb
QIZ     23.93 320 Pc    40 21.50   0.8
     E   14s      3.50um
                  pP    40 31.50  37kmX
                  eS    44 29.00
HKC     24.11 332 iP    40 23.00   0.5
                  S     44 43.00
QZH     24.87 344 P     40 29.50  -0.3
     Z   27s      4.90um          4.9MszX
                  eS    44 44.00
GZH     25.18 332 Pc    40 32.50  -0.2
     Z   20s      3.50um          4.9Msz
     N   17s      2.80um
     E   19s      4.50um
                  S     44 45.00
IPM     25.20 279 ePd   40 33.00  -0.1
        0.8s   265.20nm          5.9mb
                  e     40 51.90
QIS     25.22 149 iPc   40 32.70  -0.4
                  e     44 58.00
NANU    25.54 203 iPd   40 37.00   0.9
        0.6s   167.00nm          5.8mb
PPI     25.65 267 eP    40 36.00  -1.2
ASPA    25.68 163 iPc   40 37.30  -0.2
        0.9s  1032.00nm          6.5mb
     Z   23s      1.65um          4.5MszX
                  eS    45 00.60
                  LR    55 22.30
SNG     26.05 284 ePd   40 41.00   0.0
        1.8s  1472.73nm          6.3mb
                  eS    44 51.20
RAB     26.65 101 e(P)  40 46.00  -0.5
                  eS    45 12.00
WARB    27.02 179 eP    40 51.00   1.2
        0.4s    52.00nm          5.5mb
TSI     27.53 276 ePc   40 57.00   2.4
MEKA    28.37 194 eP    41 00.60  -1.4
        0.3s    33.00nm          5.5mb
CTA     28.85 138 iPc   41 06.10  -0.4
        1.0s   165.00nm          5.7mb
                  iS    45 54.00
LOE     28.92 306 iPc   41 06.50  -0.6
                  e     44 16.50
SSE     30.29 352 P     41 18.80  -0.3
        1.7s   118.00nm          5.4mb
     Z   20s      2.80um          4.9Msz
     N   17s      1.80um
                  PcP   44 19.50
                  eS    46 12.00
                  sS    46 23.00
                  eSS   47 46.00
KAGJ    30.39   8 eP    41 19.70  -0.3
BSI     30.98 279 ePc   41 24.50  -0.9
        1.2s   571.30nm          6.3mb
BDT     31.09 303 eP    41 21.30  -5.1X
WHN     31.41 340 P     41 29.00   0.0
        1.8s     0.22nm          2.7mb X
     Z   20s      3.14um          5.0Msz
     N   18s      4.17um
     E   16s      1.90um
                  S     46 30.00
GYA     31.43 325 iPc   41 29.20  -0.2
     Z   30s      2.70um          4.7MszX
     N   16s      1.50um
     E   16s      2.50um
                  PcP   44 23.00
                  S     46 30.00
                  ScP   48 02.60
                  ScS   52 00.60
MRWA    31.53 197 iPc   41 10.40 -19.7X
        0.4s    16.00nm
NJ2     31.63 348 Pd    41 31.00   0.1
     Z   23s      2.60um          4.8MszX
                  S     46 38.00
KUMJ    31.71   8 eP    41 31.40  -0.2
FORR    31.72 177 eP    41 31.20  -0.5
        0.4s   114.00nm          6.1mb
CHG     31.91 305 iPd   41 32.90  -0.7
        1.2s   133.59nm          5.7mb
```

24d 00h

		eS	48	52.00		
CHTO	31.91	305	iP	41	32.20	-1.4
	1.0s	45.00nm			5.3mb	
		e	41	59.00		
COOL	32.03	188	iPc	41	34.00	-0.5
	0.6s	31.00nm			5.4mb	
QLP	32.56	149	eP	41	38.00	-1.1
		e	42	54.00		
BAL	32.64	195	iPd	41	40.00	0.2
	0.6s	91.00nm			5.9mb	
KMI	32.87	319	Pd-	41	42.00	-0.1
Z	22s	7.60um			5.4Msz	
N	14s	2.60um				
		pP	41	57.00	60kmX	
		sP	42	02.00		
		PP	42	24.00		
		S	45	58.00		
		SS	46	57.00		
SHNJ	33.31	8	eP	41	45.00	-0.5
KLB	33.33	193	iPc	41	46.00	0.2
	0.5s	27.00nm			5.4mb	
TKSJ	33.68	12	eP	41	49.10	0.4
SHK	33.95	10	eP	41	51.20	0.1
MUN	34.08	195	eP	41	52.00	-0.2
	0.6s	73.00nm			5.8mb	
WKYJ	34.25	14	P	41	54.20	0.4
YONJ	34.73	11	P	41	58.60	0.8
NWAO	34.74	193	iPd	41	58.20	0.3
	0.6s	77.00nm			5.8mb	
RMO	35.04	143	iPd	41	59.40	-1.2
		e	43	22.00		
HNR	35.35	108	eP	42	02.00	-1.4
TSRJ	35.60	14	P	42	05.80	0.5
STK	35.87	157	iPc	42	07.20	-0.4
	1.2s	1419.00nm			6.8mb X	
		e	44	35.00		
TIA	36.00	348	P	42	07.10	-1.5
Z	28s	2 40um			4.8MszX	
		S	47	39.00		
		ScS	52	22.50		
IIDJ	36.06	17	P	42	09.60	0.4
CD2	36.47	327	eP	42	11.20	-1.5
Z	20s	2.50um			5.0Msz	
E	11s	1.60um				
		PP	43	33.80		
		S	47	45.00		
XAN	36.56	336	Pd	42	11.60	-1.9
	1.8s	0.40nm			3.0mb X	
N	12s	1.00um				
		PcP	44	37.00		
		S	47	48.00		
CHJJ	36.91	18	P	42	15.00	-1.3
MTMJ	37.07	16	P	42	17.40	-0.3
CMS	37.37	151	eP	42	20.00	-0.2
		e	43	43.00		
KAKJ	37.42	19	P	42	18.80	-1.7
ADE	37.69	163	eP	42	23.50	0.6
	1.0s	240.00nm			6.0mb	
DL2	37.95	354	iPc	42	25.00	0.1
	3.0s	0.40nm			2.7mb X	
E	14s	1.80um				
		S	48	12.00		
		ScS	52	34.00		
NIIJ	38.02	17	P	42	24.80	-0.7
BRS	38.20	140	iPc	42	26.00	-1.2
		i	42	36.00		
		e	42	58.50		
		eS	48	30.00		
TIY	38.62	343	eP	42	30.40	-0.4
N	20s	3.10um				
		S	48	20.00		
		ScS	52	38.00		
YAMJ	39.19	18	eP	42	36.20	0.8
BJI	39.89	348	eP	42	40.50	-0.6
	1.5s	105.00nm			5.3mb	
N	26s	2.30um				
E	14s	0.50um				
		eS	48	36.00		
		eScS	52	47.00		
COO	39.90	144	iPd	42	42.20	0.7
LZH	40.53	332	iPc	42	47.00	0.4
	3.0s	803.00nm			5.9mb	
Z	22s	5.10um			5.3Msz	
N	14s	0.90um				
E	15s	1.20um				
		pP	43	07.00	83kmX	
		PcP	44	50.00		

		ScP	48	36.00		
		S	48	40.00		
		PcS	48	49.00		
		ScS	52	50.00		
OFUJ	40.53	19	eP	42	47.10	0.7
SNY	40.71	357	iPd	42	48.00	0.2
	1.4s	0.60nm			3.1mb X	
Z	24s	3.40um			5.1MszX	
N	26s	1.90um				
E	24s	3.10um				
		pP	43	00.00	44kmX	
		S	48	54.00		
BFD	40.95	160	iPc	42	50.00	0.1
BWA	41.02	151	iPc	42	52.30	1.7
		i	44	25.90		
HHC	41.78	344	P	42	56.60	-0.2
	5.0s	0.30nm			2.3mb X	
Z	16s	3.40um			5.3MszX	
N	15s	1.30um				
		S	49	09.00		
BTO	42.01	342	P	42	58.50	-0.2
N	13s	0.70um				
E	13s	0.70um				
CAN	42.03	152	iPc	42	49.50	-9.3X
		i	44	37.90		
CNB	42.20	151	iPc	43	01.40	1.2
	1.0s	210.00nm			5.8mb	
TOO	42.39	157	iPc	43	03.20	1.4
		i	43	03.70		
CN2	42.63	359	Pc	43	03.50	0.0
	4.0s	0.40nm			2.5mb X	
Z	20s	1.50um			4.9Msz	
N	13s	0.30um				
E	13s	0.50um				
		eS	49	22.00		
		ScS	53	02.00		
MDJ	43.56	4	iPc	43	11.90	0.8
Z	28s	2.00um			4.9MszX	
		epP	43	24.00	44kmX	
		S	49	36.00		
		sS	50	00.00		
LSA	43.76	314	iPd	43	14.00	0.5
	3.0s	0.80nm			3.0mb X	
		sP	43	29.80		
		PP	45	02.00		
		S	49	44.00		
HOOJ	44.04	18	eP	43	15.20	0.2
GTA	45.10	331	Pd	43	22.60	-1.2
Z	20s	3.50um			5.3Msz	
E	15s	1.70um				
KUSJ	45.14	19	eP	43	24.90	1.0
ASAJ	45.42	17	eP	43	27.20	1.1
PVC	45.61	116	iPc	43	28.00	0.0
DZM	45.61	123	iPd	43	28.10	0.0
HYB	49.42	292	iPd	43	59.40	1.6
	1.0s	370.00nm			6.4mb	
		eS	51	01.70		
GBA	49.66	287	P	43	58.00	-1.7
POO	54.03	292	iPc	44	31.30	-1.2
		iS	52	02.00		
NDI	54.06	305	iP	44	30.00	-2.6X
		eS	52	04.00		
WMO	54.57	327	P	44	35.00	-1.2
	4.0s	1.20nm			3.3mb X	
Z	24s	3.20um			5.3MszX	
N	15s	0.80um				
E	15s	1.00um				
		PcP	45	39.00		
		ScP	49	34.50		
		S	52	08.40		
		ScS	54	17.00		
BOM	55.06	292	eP	44	36.50	-3.6X
		eS	51	54.00		
KSH	59.46	316	P	45	10.90	-0.2
		S	53	14.00		
TCW	60.60	140	P	45	16.70	-1.9
MRW	60.89	140	P	45	18.50	-2.1
WEL	60.96	140	Pd	45	19.60	-1.5
	1.0s	******nm			8.4mb X	
MNG	61.09	139	P	45	20.10	-1.9
BLW	61.46	139	P	45	22.20	-2.3
QUE	63.02	304	eP	45	32.60	-2.7X
SMY	65.18	30	e(P)	45	50.00	1.2
DRV	68.24	174	eP	46	08.60	0.7
ADK	69.62	34	e(P)	46	18.10	1.4
MAIO	70.61	308	iPd	46	21.90	-1.3
	1.2s	45.14nm			5.5mb	

		eS	55	32.00		
KHI	70.81	306	e(P)	46	23.00	-1.6
SDN	79.84	34	eP	47	16.10	0.7
KER	80.28	305	ePd	47	16.50	-1.9
MAW	80.95	200	eP	47	22.00	1.0
TAB	81.26	308	eP	47	24.00	0.5
SLY	81.70	306	iPd	47	25.00	-0.6
		eSKS	57	40.00		
SBA	81.74	172	Pc	47	26.90	1.9
BHD	82.45	303	iPc	47	28.00	-1.5
		epP	47	50.00	82kmX	
		eSKS	57	38.00		
		esS	58	41.00		
TTA	83.66	27	eP	47	36.40	1.1
MSL	83.66	306	ePc	47	35.50	-0.2
		epP	47	58.00	84kmX	
		eSKS	57	55.00		
KDC	84.62	32	eP	47	41.50	1.4
BRW	84.98	18	P	47	43.60	1.9
IMA	85.17	24	eP	47	43.70	0.8
	0.7s	20.10nm			5.5mb	
PMR	86.68	28	eP	47	50.20	0.0
	0.8s	22.30nm			5.4mb	
TPT	86.75	105	iP	47	54.00	2.6X
	1.3s	90.00nm			5.8mb	
RUV	86.98	105	iP	47	55.20	2.6X
	1.3s	125.00nm			6.0mb	
AAE	87.12	279	eP	47	55.70	2.0
FBA	87.49	25	eP	47	53.30	-0.8
TOA	88.11	28	eP	47	57.80	0.6
NAI	89.23	269	iPd	48	06.00	2.2
	1.0s	20.00nm			5.4mb	
KVT	89.33	311	iP	48	04.00	0.5
BURJ	89.65	302	P	48	08.20	2.9X
SHMJ	89.68	303	P	48	08.10	2.9X
HRI	89.69	303	eP	48	06.00	0.6
MASJ	89.73	302	P	48	07.20	1.6
BHL	89.75	304	P	48	06.00	0.3
DSI	90.02	301	iPc	48	08.00	1.2
		eS	49	36.00		
MBH	90.49	300	iP	48	10.00	1.0
KAS	91.04	311	eP	48	12.00	0.6
CSS	91.64	305	eP	48	14.00	-0.2
KEV	92.20	340	eP	48	18.00	1.9
SOD	92.71	338	iP	48	17.80	-0.7
INK	92.96	21	eP	48	19.50	-0.1
	1.2s	47.00nm			5.8mb	
KOT	93.14	300	eP	48	21.50	0.3
HLW	93.56	300	eP	48	22.50	-0.7
		eS	58	54.00		
BCK	93.71	307	eP	48	22.20	-1.6
ELL	94.31	307	eP	48	27.00	0.4
KHL	94.49	308	eP	48	26.00	-1.4
NUR	94.73	331	eP	48	30.00	2.1
PTZ	94.77	256	iPd	48	29.60	0.6
		i	48	36.00		
MBC	94.77	13	eP	48	28.00	0.2
	1.0s	15.00nm			5.4mb	
VRI	95.76	316	ePd	48	33.00	0.0
MLR	96.36	316	ePd	48	35.50	-0.4
MZZ	97.19	259	iPc	48	41.00	0.9
		i	48	50.00		
		i	49	10.00		
BUL	97.28	250	iPd	48	38.80	-1.7
	1.0s	15.50nm			5.5mb	
		i	52	33.90		
SLR	97.39	244	iPc	48	40.50	-0.4
LSZ	97.80	255	iPd	48	43.50	0.7
		i	48	46.80		
		i	48	51.00		
GRM	98.43	237	eP	48	44.00	-1.3
KSR	98.63	244	eP	48	47.50	1.0
BFS	98.67	243	e(P)	48	54.00	7.4X
VAY	99.42	312	eP	48	48.00	-1.6
SPC	99.51	320	eP	48	49.20	-0.9
KRA	99.51	321	eP	48	46.20	-3.6X
		e	51	38.70		
FRS	99.77	240	iPd	48	51.00	-0.4
	0.4s	8.47nm			5.6mb	
		i	52	15.00		
PSZ	100.02	319	ePdiff	48	52.40	0.1
HFS	100.09	332	ePdiff	48	51.70	-0.5
	0.4s	2.60nm			5.1mb	
KMZ	100.12	257	ePdiff	48	54.00	0.4
SKO	100.14	313	ePdiff	48	51.20	-1.7
		i	59	28.00		
BUD	100.69	319	ePdiff	48	53.80	-1.4

24d 00h

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NB2    100.90 333 Pdiff 48 53.40  -2.5
        0.7s      3.20nm          5.0mb
SRO    101.08 319 ePdiff48 56.50  -0.4
KSP    101.57 322 ePdiff48 59.00   0.0
                  e      52 22.00
ZST    101.77 320 ePdiff49 00.50   0.5
PRU    102.89 322 ePdiff49 05.00   0.1
     Z  20s      0.90um          5.3Msz
     N  18s      0.30um
     E  18s      0.50um
BRG    102.98 323 ePdiff49 08.10   2.8X
                  e      52 17.00
                  e      53 24.00
CLL    103.41 324 iPdiff49 11.70   4.5X
        1.7s     36.00nm          5.9mb
                  i      49 31.80
KHC    103.75 321 ePdiff49 12.00   3.2X
                  e      52 31.50
MOX    104.46 323 e(Pdif49 17.00   5.1X
        1.6s     37.00nm          6.0mb
KBA    104.52 319 ePdiff49 05.00  -7.5X
        2.5s     61.20nm          6.0mb
                  e      52 35.00
                  e      52 39.00
BNG    107.33 275 iPdiff49 27.40   1.9
        1.6s     26.00nm          6.0mb
BSF    108.43 322 ePKP  53 34.80  -1.1
        0.8s      5.30nm
KVN    109.22  48 PKP   53 38.00   0.2
LPG    109.36 319 ePKP  53 37.80  -0.1
        0.8s      5.90nm
TNP    110.18  49 ePKP  53 43.00   3.4X
LOR    110.47 322 ePKP  53 38.00  -1.6
        1.0s      6.00nm
LBF    110.52 322 ePKP  53 38.70  -1.1
        0.8s      5.30nm
SMF    110.75 321 ePKP  53 39.30  -0.9
        0.8s      4.00nm
SSF    110.78 322 ePKP  53 39.40  -0.8
        0.8s      5.30nm
AVF    110.99 322 ePKP  53 40.20  -0.4
        0.8s      5.30nm
BGF    111.41 322 ePKP  53 40.20  -1.2
        0.8s      7.20nm
TCF    111.92 322 ePKP  53 40.60  -1.8
        1.0s     14.80nm
CAF    112.62 320 ePKP  53 43.40  -0.4
        1.0s      8.80nm
EPF    114.57 319 ePKP  53 47.10  -0.6
        1.0s     12.00nm
ECRI   116.62 320 ePKP  53 52.80   1.2
RSSD   116.78  38 ePKP  53 52.00  -0.1
GOL    118.07  43 ePKP  53 54.00  -0.7
RSON   118.31  27 PKP   53 53.50  -1.0
EVIA   118.48 316 ePKP  53 56.40   1.1
GUD    118.66 318 ePKP  53 56.90   1.3
ENIJ   119.03 314 ePKP  53 56.50   0.2
ALQ    119.38  48 ePKP  53 38.00 -19.3X
AFC    119.85 315 ePKP  53 57.40  -0.6
ASMO   119.94 315 ePKP  53 57.90  -0.2
APHE   120.09 315 ePKP  53 58.50   0.0
ACHM   120.12 315 ePKP  53 58.50   0.1
AAPN   120.23 315 ePKP  53 58.70   0.0
ATEJ   120.34 315 ePKP  54 00.00   1.0
EHOR   120.77 316 ePKP  54 00.20   0.7
SHGH   125.70 278 ePKP  54 10.00   0.2
LEGH   125.86 278 ePKP  54 11.00   0.9
KOGH   125.88 278 ePKP  54 11.00   0.8
KUK    126.00 278 ePKP  54 10.00  -0.4
SIO    126.26  43 ePKP  54 10.70   0.4
TUL    126.52  42 ePKP  54 11.00   0.3
        1.5s    314.00nm
     Z  22s      0.10um          4.4Msz
                  LR     35 00.00
LNO    126.52  42 ePKP  54 11.30   0.7
FVM    128.69  37 PKP   54 15.00   0.2
KIC    130.30 279 PKP   54 19.28   0.7
        0.6s     31.50nm
TIC    130.54 280 PKP   54 19.60   0.6
        0.5s     22.50nm
LIC    130.60 279 PKP   54 19.74   0.7
        0.5s     29.50nm
LNV    143.37 155 ePKP  54 40.50  -1.6
LCCH   143.72 155 ePKPd 54 40.60  -2.1
RFA    143.78 160 ePKPd 54 41.00  -1.9
PCH    144.03 156 ePKP  54 42.00  -1.4
SAN    144.12 156 ePKPd 54 42.00  -1.5
PEL    144.37 156 iPKPd 54 43.10  -0.8
        0.3s    142.86nm
FCH    144.38 156 ePKP  54 43.80  -0.5
JACH   144.81 155 ePKPd 54 44.90   0.1
ZON    146.58 157 ePKP  54 49.00   1.3
CYA    150.46 159 e(PKP)54 55.40   1.6
UPA    152.69  68 e(PKP)54 57.80   0.4
YJA    156.15 153 ePKPd 55 04.20   1.7
BMA    156.40 203 ePKP  55 03.80   1.5
                  e      55 21.30
                  e      55 31.60
ARE    156.90 133 ePKP  55 15.00  11.6X
VAO    157.08 197 ePKP  55 20.10  16.9X
                  e      55 34.50
                  e      55 46.80
PPD    158.92 187 ePKP  55 06.80   1.5
                  e      55 21.90
                  e      55 43.20
                  e      55 56.70
                  e      59 22.70
CNCB   159.10 140 PKP   55 08.20   1.9
LPB    159.22 139 ePKP  55 08.00   1.8
                  LR     50 18.00
ZOBO   159.40 138 PKP   55 08.00   1.4
        1.0s     25.50nm
                  LR     50 32.00
CCH    159.80 144 ePKP  55 05.00  -1.7
                  i      55 45.80
BAO    164.29 202 ePKP  55 12.00   1.0
      S.D. = 1.1  on 217 of 243 obs.
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   NOV  24, 1989  01h 45m 52.46± 0.24s
   36.705 N ± 3.0km   26.639 E ± 2.5km
   DEPTH =  10.0km  (geophysicist)
   4.5mb ( 28 obs.)  4.8Msz (  1 obs.)
 DODECANESE ISLANDS                (369)
      MD 4.8 (ATH).

APE      0.96 293 ePb   46 11.50   0.7
KAP      1.23 159 ePb   46 16.00   0.7
YER      1.39  71 iPn   46 18.00   0.1
NPS      1.66 210 ePb   46 23.00   1.2
IZM      1.76  16 iPn   46 22.00  -1.2
VAM      2.36 237 ePn   46 32.50   0.6
KSL      2.45 103 ePn   46 34.00   1.0
PRK      2.55 354 ePn   46 34.80   0.3
ELL      2.63  88 iPn   46 39.00   3.2X
ATH      2.65 299 ePn   46 36.90   0.9
KHL      2.80  54 iPn   46 38.60   0.3
VLI      2.97 271 ePn   46 41.50   0.9
EZN      3.13 356 iPn   46 41.80  -0.8
BCK      3.25  75 iPn   46 46.40   1.9
DST      3.29  28 iPn   46 46.70   1.6
NEO      3.74 315 ePn   46 51.60   0.0
EDC      3.76  14 iPn   46 52.00   0.3
BNT      3.78  15 ePn   46 51.30  -0.7
YLV      4.41  28 ePn   47 02.00   1.0
PLG      4.44 327 ePn   47 02.00   0.7
RDO      4.52 349 ePn   47 01.60  -0.8
GPA      4.59  38 ePn   47 08.00   4.4X
GBZT     4.63  27 ePn   47 16.10  12.1X
LIT      4.70 317 ePn   47 05.10  -0.1
ISK      4.75  23 ePn   47 13.80   8.1X
PPCY     4.98 110 eP    47 09.20   0.2
SRS      5.01 333 ePnd  47 09.10  -0.3
                  eSn    48 06.40
KDZ      5.03 349 iPc   47 09.00  -0.7
                  iSg    48 01.00
RZN      5.20 344 eP    47 12.00  -0.2
KZN      5.24 315 ePn   47 14.00   1.2
MMB      5.38 336 iPc   47 14.00  -0.7
                  eS     48 15.00
GRG      5.38 323 ePn   47 15.40   0.6
                  eSn    48 18.80
DIM      5.41 351 iPc   47 15.00   0.0
                  S      48 13.00
VAY      5.59 327 iPn   47 17.40  -0.3
PLD      5.60 345 eP    47 17.00  -0.7
CSS      5.71 106 ePn   47 19.20  -0.1
                  eSn    48 19.20
BBTK     5.74  55 ePn   47 21.00   1.0
                  ePg    47 42.00
                  eSg    48 20.00
JMB      5.75 360 eP    47 19.00  -0.9
KKB      5.85 333 eP    47 20.00  -1.2
LSK      5.86 308 ePn   47 23.10   1.6X
KBN      6.01 312 iPnd  47 25.30   1.9
SRN      6.11 303 ePn   47 27.60   2.7
PGB      6.14 343 eP    47 25.00  -0.4
FAM      6.22 104 eP    47 32.00   5.5X
OHR      6.33 316 ePn   47 32.50   4.3X
     E  10s      6.59um
                  i      47 51.00
                  i      48 06.50
                  i      48 57.00
                  i      49 07.00
VTS      6.45 337 iP    47 30.00   0.1
BERA     6.58 309 ePn   47 35.10   3.5X
PVL      6.58 352 eP    47 30.00  -1.6
PHP      6.92 318 ePn   47 36.90   0.5
TIR      7.02 313 ePn   47 39.50   1.8
KAS      7.24  48 eP    47 51.00  10.0X
PUK      7.46 318 ePn   47 44.90   1.0
BCI      7.60 320 iPn   47 49.00   3.2X
LCI      7.71 301 P     47 45.10  -2.3
HLW      7.88 149 ePn   47 49.00  -0.8
                  eSn    49 15.00
TLB      7.95   7 eP    47 50.00  -0.7
KOT      8.03 146 ePn   47 48.50  -3.4
                  eSn    49 19.50
DRA      8.17 348 eP    47 53.00  -0.8
HRI      8.22 112 iP    47 53.00  -1.6
ISR      8.42 360 iP    48 09.00  11.5X
ROI      8.43 293 P     48 00.80   3.2X
BRT      8.46 302 P     47 57.60  -0.4
SHMJ     8.49 115 P     48 00.00   1.6
KVT      8.54  56 ePn   48 00.00   1.0
CFR      8.55   7 eP    48 37.00  37.9X
TDS      8.63 293 P     47 59.20  -1.1
CZI      8.67 290 P     48 02.00   1.2
CSI      8.70 294 P     48 02.40   1.1
MLR      8.79 357 ePc   48 01.50  -1.1
DSI      8.87 123 e(P)  48 03.00  -0.6
MMN      8.95 294 P     48 05.80   1.1
MASJ     9.01 121 P     48 03.20  -2.4
ATN      9.01 283 P     48 04.00  -1.5
VRI      9.16   0 ePc   48 09.00   1.5
MGR      9.35 295 P     48 09.50  -0.7
SGO      9.66 297 P     48 14.00  -0.5
BZS      9.67 339 ePc   48 53.00  38.4X
MBH      9.77 133 eP    48 13.00  -2.9
GIB     10.12 281 P     48 20.00  -1 0
FAI     10.39 277 P     48 22.50  -2.0
DUI     10.67 301 P     48 29.00   0.6
SDI     11.13 301 P     48 33.70  -1.0
ZAG     12.12 322 eP    48 48.00   0.0
MNS     12.17 302 P     48 50.00   1.2
PTJ     12.19 322 eP    48 46.80  -2.3
ASS     12.47 305 P     48 54.00   1.2
SRO     12.69 334 eP    48 54.50  -1.1
MSL     13.28  86 ePd   49 13.00   9.4X
                  e      52 45.00
                  e      54 28.00
SPC     13.32 342 eP    49 15.40  11.2X
ZST     13.46 332 eP    49 17.10  11.3X
FIR     13.70 306 eP    49 22.00  13.0X
VKA     13.82 330 eP    49 30.00  19.4X
                  LR     55 53.00
KRA     14.20 342 eP    49 18.50   3.0X
     Z  12s      2.00um
FVI     14.30 318 P     49 22.00   5.2X
KBA     14.31 321 iPKPc 49 15.50  -1.8
        1.3s     95.30nm          5.3mb
                  i      49 25.90
                  i      49 32.80
CTI     14.60 314 P     49 24.30   3.3X
KMR     14.61 325 iP-   49 24.80   3.8X
BHD     14.94  98 ePc   49 30.00   4.6X
                  eS     52 26.00
                  eScS   54 33.00
SLY     15.28  89 ePd   49 30.50   0.7
                  i      52 36.00
                  e      54 29.00
KHC     15.65 327 iPc   49 37.80   3.3X
        1.2s     15.00nm          4.1mb
     Z  13s      1.50um          5.6Msz
     N  12s      1.50um
     E  13s      1.50um
TAB     15.71  79 eP    49 39.00   3.4X
PRU     15.90 330 eP    49 42.50   4.8X
     N  15s      2.00um
     E  12s      1.50um
                  e      49 53.00
KSP     15.96 336 ePc   49 43.20   4.7X
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24d 01h

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                    e      50 15.60
FUR     16.08 320 eP       49 44.80    4.7X
        1.0s     65.00nm            4.7mb
SBF     16.29 302 eP       49 46.90    4.1X
        0.9s     57.00nm            4.7mb
GRC3    16.40 323 iP       49 48.30    4.1X
        0.9s     31.00nm            4.4mb
KER     16.83  92 eP       49 53.00    3.2X
BRG     16.83 331 eP       49 54.80    5.2X
        1.0s     14.00nm            4.0mb
                    e      51 09.00
LPG     17.34 307 eP       49 59.40    3.1X
        1.2s     47.60nm            4.5mb
CLL     17.54 331 i(P)     50 05.60    7.1X
        2.7s    120.00nm            4.5mb
                    eS     53 24.00
MOX     17.62 327 e(P)     50 02.00    2.5X
        2.0s     59.00nm            4.4mb
      Z  12s      1.40um
      N  12s      1.60um
      E  12s      1.70um
MOF     18.18 314 P        50 03.24   -3.3X
ECH     18.35 315 P        50 08.32   -0.3
BSF     18.37 313 P        50 08.20   -0.6
COF     18.39 316 P        50 09.98    0.9
GWF     18.51 317 P        50 11.90    1.4
VITF    19.03 314 P        50 12.03   -4.7X
SMF     19.65 307 eP       50 23.20   -1.1
        0.8s     16.10nm            4.4mb
LBF     19.70 308 eP       50 24.50   -0.3
        0.8s     30.80nm            4.7mb
LOR     19.88 309 eP       50 26.00   -0.7
        0.8s     10.70nm            4.2mb
AVF     20.02 307 eP       50 27.50   -0.6
        0.6s     11.10nm            4.4mb
SSF     20.02 308 eP       50 27.90   -0.2
BGF     20.26 306 eP       50 30.20   -0.4
        0.8s     24.70nm            4.6mb
MEM     20.30 320 P        50 31.70    0.7
ENN     20.44 320 eP       50 33.00    0.6
        1.0s     36.00nm            4.7mb
                    e      50 38.00
                    e      50 50.00
WTS     20.75 324 eP       50 35.50   -0.1
        0.9s      9.00nm            4.1mb
                    e      50 40.50
DOU     20.77 317 Pc       50 36.30    0.4
        0.9s     32.50nm            4.7mb
                    S      54 35.00
SNF     21.16 318 eP       50 45.30    5.4X
MFF     22.23 305 eP       50 51.20    0.6
        0.8s     11.80nm            4.4mb
FLN     23.15 310 eP       50 59.80    0.1
        1.0s     17.60nm            4.6mb
GRR     23.25 309 eP       50 59.90   -0.7
        0.8s     13.40nm            4.5mb
NUR     23.86 358 eP       51 12.00    5.6X
                    e      51 20.00
                    e      55 34.00
TOL     24.24 287 eP       51 11.50    1.2
HFS     24.88 345 eP       51 15.80   -0.5
        1.1s     41.00nm            5.0mb
      Z  16s      0.43um            4.0MszX
                    LR     00 05.00
KHI     26.14  86 eP       51 29.70    1.0
NB2     26.24 343 P        51 27.90   -1.3
        1.1s     13.30nm            4.5mb
BNG     32.96 195 iPd      52 30.00    0.5
        0.6s     20.00nm            5.2mb
                    i      52 33.00
TIC     41.59 232 P        53 41.80   -0.4
        0.8s      6.50nm            4.4mb
KIC     41.63 231 P        53 42.30   -0.2
        0.9s      8.00nm            4.5mb
LIC     41.92 231 P        53 44.56   -0.3
        0.8s      6.50nm            4.4mb
WMQ     46.20  61 iPc      54 20.50    1.2
GBA     50.73 103 Pd       54 55.00    0.4
        0.7s      3.00nm            4.3mb
GTA     56.19  63 eP       55 35.00    0.1
WIN     59.63 190 eP       56 04.00    4.8X
SLR     62.12 178 eP       56 18.50    2.5
KSR     62.23 180 eP       56 06.70  -10.1X
CD2     62.73  70 eP       56 20.40    0.3
XAN     65.09  65 P        56 37.00    1.5
FRS     66.12 181 eP       56 25.50  -16.3X
HVD     66.96 181 eP       56 32.00  -15.4X
BJI     67.27  56 eP       56 32.50  -16.8X
LNO     90.13 317 e(P)     59 00.00    6.0X
TUL     90.14 317 e(P)     58 56.20    2.0
        1.3s     20.70nm            5.2mb
      Z  21s      0.36um            4.8Msz
                    LR     30 00.00
SIO     90.54 317 eP       58 55.50   -0.6
      S.D. = 1.1  on 108 of 154 obs.
-----------------------------------------
*  NOV  24, 1989  01h 54m 52.66± 0.82s
   36.720 N ± 7.9km   26.706 E ± 8.2km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                (369)
      MD 3.4 (ATH).

APE      1.00 291 ePb    55 11.00   -0.7
KAP      1.23 162 ePb    55 15.50    0.0
YER      1.33  71 ePn    55 16.50   -0.7
NPS      1.70 212 ePn    55 23.00    0.4
IZM      1.73  15 ePn    55 24.00    1.0
      S.D. = 1.1  on   5 of   5 obs.
-----------------------------------------
*  NOV  24, 1989  02h 28m 43.24± 0.78s
   42.034 N ± 7.7km   19.927 E ± 6.8km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)

PUK      0.03 289 iPg    28 45.00   -0.2
SDA      0.32 267 ePg    28 50.10    0.2
BCI      0.35  17 ePg    28 50.40    0.0
PHP      0.52 132 iPgd   28 54.40    0.7
TIR      0.69 184 ePg    28 53.40   -3.5X
SKO      1.13  93 ePn    29 08.50    4.1X
                iSg     29 27.70
OHR      1.13 144 ePn    29 03.70   -0.8
      S.D. = 0.8  on   5 of   7 obs.
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*  NOV  24, 1989  02h 59m 11.96± 1.13s
   31.515 S ±11.5km   68.683 W ±19.0km
   DEPTH = 114.8 ± 10.5 km
 SAN JUAN PROVINCE, ARGENTINA      (137)

ZON      0.03 173 iPd    59 28.00   -0.2
RTCB     0.10 286 e(P)   59 28.00   -0.3
RTLL     0.26  45 iPc    59 28.30   -0.4
RTCV     0.37 160 iPc    59 29.40    0.5
RTBS     0.67 257 iPd    59 31.10    0.3
JACH     2.00 234 iPc    59 46.60    0.9
FCH      2.26 217 iPc    59 15.10  -34.3X
                iS      00 20.80
PEL      2.35 226 iPd    59 51.10    0.9
                iS      00 19.00
ROCH     2.45 233 iPd    59 51.10   -0.6
                iS      00 23.00
SAN      2.56 220 eP     59 52.00   -0.9
                iS      00 24.00
PCH      2.61 216 iPd    59 54.80    1.1
                iS      00 27.00
TACH     2.86 221 iPd    59 57.40    0.5
                iS      00 28.50
LCCH     3.13 231 eP     59 59.90   -0.6
                i       00 29.90
LNV      3.35 223 iP     00 02.00   -1.4
                iS      00 33.90
ZOBO    15.19   2 P      02 42.00   -0.1
ARE     15.20 350 iPd    02 42.30    0.3
      S.D. = 0.8  on  15 of  16 obs.
-----------------------------------------
?  NOV  24, 1989  03h 16m 18.70± 0.91s
   42.325 N ±14.2km   18.887 E ± 6.6km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.2 (TTG).

BDV      0.06 227 iPgc   16 21.00    0.0
                iSg     16 23.30
TTG      0.30  69 ePg    16 25.00    0.1
                iSg     16 30.00
HCY      0.31 293 iPgd   16 25.20    0.0
                iSg     16 30.50
PVY      0.85  71 ePg    16 35.00   -0.1
                eSg     16 48.00
OHR      1.88 130 e(Pn)  16 55.00    3.8X
      S.D. = 0.2  on   4 of   5 obs.
-----------------------------------------
?  NOV  24, 1989  04h 15m 10.88± 9.95s
   46.903 N ±43.3km    1.777 W ±82.1km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 2.5 (LDG).

MFF      1.16 104 Pg     15 33.30    0.7
                Sg      15 47.80
LPF      1 24  24 Pg     15 32.90   -0.9
                Sg      15 46.80
GRR      1.61  22 Pg     15 39.30   -0.1
                Sg      15 57.80
LDF      2.03  33 Pg     15 46.00    0.5
                Sg      16 10.20
FLN      2.06  25 Pg     15 46.60    0.7
                Sg      16 11.00
TCF      2.82 101 Pn     15 55.80   -1.0
                Pg      16 03.20
                Sg      16 37.00
BGF      3.20  95 Pg     16 11.20    9.0X
                Sg      16 48.40
      S.D. = 1.0  on   6 of   7 obs.
-----------------------------------------
   NOV  24, 1989  04h 36m 22.59± 0.55s
   38.446 N ± 5.8km  118.662 W ± 4.3km
   DEPTH =   5.0km  (geophysicist)
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      ML 2.9 (BRK). Felt (II) ot
      Luning, Nevodo.

KVN      0.75  36 iPd    36 38.20    0.7
SVP      1.00 137 eP     36 41.50   -0.7
PPK      1.18 149 iPc    36 45.00   -0.2
TNP      1.19 107 iPc    36 45.80    0.3
MGM      1.36 137 ePc    36 48.30   -0.1
CMB      1.42 254 iPc    36 48.20   -0.9
                iS      37 06.10
LCH      1.45 146 eP     36 49.50   -0.2
FRI      1.67 210 eP     36 52.60    0.0
                eS      37 15.00
ORV      2.47 298 eP     37 03.30   -0.9
ARN      2.52 245 eP     37 04.60   -0.3
LSM      2.55 131 eP     37 05.10   -0.3
LLA      2.57 226 e(P)   37 07.90    2.3
MHC      2.60 246 eP     37 06.40    0.2
ABL      3.62 187 eP     37 20.80    0.2
      S.D. = 0.9  on  14 of  14 obs.
-----------------------------------------
*  NOV  24, 1989  05h 05m 43.98± 0.63s
   63.342 S ±10.9km  170.701 E ±20.7km
   DEPTH =  10.0km  (geophysicist)
   5.4mb (  2 obs.)  5.4Msz (  1 obs.)
 BALLENY ISLANDS REGION            (702)
      CENTROID, MOMENT TENSOR      (HRV)
      Doto Used: GDSN
      L.P.B.: 13S, 25C
      Centroid Locotion:
      Origin Time        05:05:53.7 0.4
      Lot 64.51S 0.08 Lon 169.22E 0.07
      Dep  15.0 FIX Holf-durotion  1.9
      Moment Tensor;    Scole 10**17 Nm
        Mrr= 0.32 0.09  Mtt= 1.47 0.14
        Mff=-1.79 0.08  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf=-0.34 0.07
       Principol Axes:
        T  Val=  1.51  Plg= 0  Azm=186
        N        0.32      90      180
        P       -1.83       0       96
      Best Double Couple:Mo=1.7*10**17
       NP1:Strike=231 Dip=90 Slip=-180
       NP2:        321     90        0

DRV     13.31 242 eP     09 04.80    9.6X
SBA     14.64 183 eP     09 13.10    0.6
WEL     22.22   8 P      10 43.00    1.2
CAN     31.08 324 eP     12 12.00    7.8X
BWA     32.08 324 eP     12 13.10    0.1
BRS     37.81 333 iPc    12 59.40   -2.6
                i       13 04.00
                eS      19 00.00
RMO     39.57 328 eP     13 17.00    0.3
DZM     41.35 354 iPd    13 31.20   -0.2
CTA     46.32 327 iPd    14 20.30    8.9X
                iS      21 04.00
ASPA    46.57 311 iPc    14 13.70    0.2
        2.0s     41.00nm            5.1mb
WB5     49.93 313 eP     14 40.80    1.2
FRS     83.23 210 eP     18 16.50    5.0X
SLR     86.39 213 eP     18 27.00   -0.6
```

```
        1.5s     61.11nm            5.6mb
CNCB    88.17 125 P      18 38.00   1.2
CCH     88.31 127 eP     18 35.00  -2.2
LPB     88.38 125 eP     18 40.00   2.3X
      Z  22s      1.48um            5.4Msz
                  LR     47 32.00
ZOBO    88.61 125 eP     18 21.00 -18.0X
        1.1s     15.66nm
                  i      18 39.50
                  LR     47 40.00
INK    137.24  27 ePKP   25 08.00   0.7
MBC    146.05  24 ePKP   25 23.00   0.3
        1.3s     50.00nm
     S.D. = 1.3  on  13 of  19 obs.
-----------------------------------
   NOV  24, 1989  05h 14m 23 47± 0.67s
   36.535 N ± 7.8km   26.675 E ± 7.0km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                (369)
      ML 4.0 (ATH).

KAP      1.06 157 eP     14 44.50   1.0
YER      1.42  65 iPn    14 45.00  -4.4X
NPS      1.54 215 eP     14 50.00  -0.9
IZM      1.92  14 iPn    14 50.10  -6.4X
VAM      2.30 241 eP     15 02.50   0.5
ELL      2.61  84 ePn    15 07.00   0.5
PRK      2.72 353 eP     15 08.00   0.0
ATH      2.76 302 eP     15 11.00   2.4
KHL      2.89  51 ePn    15 10.00  -0.4
VLI      3.01 275 eP     15 10.00  -2.1
BCK      3.27  72 ePn    15 15.00  -0.8
DST      3.43  26 ePn    15 18.00  -0.1
     S.D. = 1.4  on  10 of  12 obs.
-----------------------------------
?  NOV  24, 1989  05h 20m 15.52± 3.94s
    8.651 S ±30.5km  124.150 E ±13.7km
   DEPTH = 155.0 ± 25.1 km
   4.4mb (  3 obs.)
 TIMOR                             (289)

MTN      8.03 122 eP     22 10.00  -0.4
                  eS     23 40.00
KNA      8.37 148 eP     22 16.10   1.1
        0.3s     16.00nm            5.1mb X
                  eS     23 48.00
MBL     13.12 198 eP     23 18.00   0.9
                  eS     25 39.00
WB5     14.91 140 eP     23 39.00  -0.9
                  i      23 42.90
                  eS     26 22.90
NANU    16.12 210 eP     23 54.00  -0.8
        0.4s      8.00nm            4.4mb
                  eS     26 49.00
WARB    17.60 173 eP     24 12.50  -0.2
        0.4s      7.00nm            4.4mb
ASPA    17.61 149 iPc    24 13.10   0.2
        0.8s     24.00nm            4.6mb
                  eS     27 30.20
OIS     19.05 130 iPd    24 27.80  -0.6
                  e      27 46.00
FORR    22.39 171 eP     25 00 70  -0.9
BWA     33.98 143 eP     26 47.80   1.5
PPD    149.19 188 ePKP   39 43.60   0.2
     S.D. = 1.0  on  11 of  11 obs.
-----------------------------------
   NOV  24, 1989  05h 57m 52.74± 0.64s
   39.609 N ± 5.7km   27.801 E ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

DST      0.64  90 iPg    58 04.70  -0.9
                  iSg    58 13.70
EDC      0.74   4 iPg    58 07 00  -0.2
                  iSg    58 17.00
BNT      0.75   7 iPg    58 06.80  -0.7
                  iSg    58 16.00
EZN      1.16 281 iPn    58 15.00   0.6
IZM      1.28 199 iPn    58 16.00  -0.5
CTT      1.61  17 iPn    58 20.30  -1.0
GBZT     1.72  46 ePn    58 25.00   2.1
ISK      1.74  33 ePn    58 23.20   0.0
KHL      1.86 133 ePn    58 25.30   0.3
HRT      1.87  49 ePn    58 25.00  -0.1
GPA      2.04  70 ePn    58 28.00   0.4
YER      2.50 171 ePn    58 40.50   6.4X
MLR      6.04 347 eP     59 29.50   5.2X
     S.D. = 1.0  on  11 of  13 obs.
-----------------------------------
%  NOV  24, 1989  05h 59m 19.13± 0.74s
   38.000 N ± 7.0km   14.833 E ± 6.8km
   DEPTH =  10.0km  (geophysicist)
 SICILY                            (398)
      ML 1.6 (ROM).

MNO      0.13 238 P      59 22.64   0.2
LPI      0.50   9 P      59 29.00  -0.2
ATN      0.52  72 P      59 29.92   0.2
GIB      0.64 269 P      59 32.00   0.0
                  eSg    59 41.00
MEU      0.90 175 P      59 36.20  -0.2
                  eSg    59 48.90
PTS      2.56 243 P      00 12.02  10.8X
     S.D. = 0.3  on   5 of   6 obs.
-----------------------------------
   NOV  24, 1989  06h 39m 55.66± 0.25s
   63.211 S ± 4.8km  170.551 E ± 8.4km
   DEPTH =  10.0km  (geophysicist)
   5.5mb ( 14 obs.)  5.2Msz (  2 obs.)
 BALLENY ISLANDS REGION            (702)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 16S, 35C
      Centroid Location:
      Origin Time        06:40: 5.0 0.4
      Lat 63.59S 0.06 Lon 169.55E 0.07
      Dep  15.0 FIX Half-duration  2.4
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.10 0.09  Mtt= 2.90 0.13
        Mff=-2.80 0.09  Mrt= 0.00 0.00
        Mrf= 0.00 0.00  Mtf=-0.62 0.10
       Principal Axes:
        T  Val=  2.97  Plg= 0  Azm=186
        N       -0.10      90      180
        P       -2.87       0       96
      Best Double Couple:Mo=2.9*10**17
       NP1:Strike=231 Dip=90 Slip=-180
       NP2:       321     90        0

DRV     13.31 242 eP     43 13.00   6.1X
SBA     14.76 183 P      43 25.30  -0.6
MSZ     18.64 354 P      44 14.00  -1.0
WEL     22.10   8 P      44 53.00   0.7
                  S      49 08.00
WDW     22.13   9 P      44 53.50   0.9
SPA     26.94 180 eP     45 39.30   0.5
        2.3s    129.37nm           5.2mb
CAN     30.94 324 eP     46 17.00   2.4
BWA     31.94 324 eP     46 22.90  -0.5
BRS     37.66 334 eP     47 11.50  -0.9
                  e      47 51.00
                  eS     53 12.00
RMO     39.42 328 eP     47 27.00  -0.1
MAW     39.59 215 eP     47 29.00   1.0
DZM     41.21 354 iPc    47 41.10  -0.9
PVC     45.45 357 iPc    48 18.50   2.2
CTA     46.17 328 iPc    48 21.10  -0.9
        1.0s     69.50nm            5.6mb
                  iS     55 15.00
ASPA    46.44 311 eP     48 23.90  -0.2
        1.2s     39.00nm            5.3mb
      Z  20s      2 18um            5.1Msz
                  ePP    50 01.70
                  LR     05 57.40
SNA     46.66 183 e(P)   48 26.10   0.8
        0.9s     28.57nm            5.3mb
WARB    46.80 301 eP     48 27.00   0.1
        0.8s     22.00nm            5.3mb
WB5     49.79 313 eP     48 49.10  -1.1
                  e      50 14.10
PPN     53.27  50 eP     49 17.00   0.5
        1.4s    160.00nm            5.8mb
HNR     54.23 347 eP     49 24.00   0.5
VAH     56.03  51 eP     49 36.00  -0.6
        1.4s    110.00nm            5.7mb
PMG     56.28 332 eP     49 42.00   3.6X
GRM     79.61 210 iPc    52 04.00  -0.2
        1.5s    111.11nm            5.6mb
CER     81.06 204 eP     52 08.00  -3.9X
        0.9s     23.08nm            5.2mb
HVD     82.45 210 iPd    52 06.00 -13.3X
FRS     83.32 210 iPc    52 22.50  -1.1
        0.9s      8.40nm            4.9mb
BLF     83.73 211 eP     52 19.00  -6.9X
KIM     84.40 210 eP     52 31.00   1.7
BFS     85.71 212 eP     52 35.00  -0.9
SLR     86.46 214 iPc    52 39.00  -0.6
        1.2s     46.88nm            5.6mb
KSR     86.68 212 eP     52 41.20   0.5
ARE     87.29 122 iPd    52 44.80   0.8
        1.0s     36.00nm            5.6mb
CNCB    88.30 125 P      52 49.20   0.1
CCH     88.45 127 P      52 50.00   0.5
LPB     88.51 125 P      52 50.00   0.0
        1.2s     93.75nm            6.0mb
      Z  24s      1.94um            5.4MszX
                  LR     21 26.00
ZOBO    88.74 125 P      52 51.00  -0.3
        1.3s     59.15nm            5.7mb
                  LR     21 52.00
PPD     88.89 142 eP     52 50.20  -1.0
CMB    114.78  54 e(PKP)58 41.20   4.0X
SIO    122.59  75 e(PKP)58 52.10   0.1
TUL    122.96  75 ePKP  58 52.00  -0.7
        0.9s      5.50nm
      Z  18s      0.77um            5.4Msz
                  LR     38 00.00
LNO    122.96  75 ePKP  58 52.00  -0.6
LRM    124.47  56 ePKP  58 56.20   0.4
PNT    124.88  48 ePKP  58 56.00  -0.1
        0.9s     10.00nm
SES    128.80  54 ePKP  59 02.00  -1.7
MAIO   131.07 271 iPKPd 59 09.40   0.9
                  e      02 25.00
INK    137.15  27 ePKP  59 08.00 -10.9X
ELL    144.34 241 ePKP  59 30.00  -2.8X
BCK    144.68 242 ePKP  59 31.00  -2.3X
KHL    145.85 242 ePKP  59 35.00  -0.3
MBC    145.96  24 ePKP  59 34.00  -0.2
        1.3s    158.00nm
SCH    150.29  79 ePKPd 59 46.40   4.7X
        1.4s    127.00nm
TDS    151.84 225 PKP   59 51.50   7.0X
CFR    152.15 247 ePKPd 59 51.50   6.8X
MLR    153.31 245 ePKPc 59 56.00   9.5X
     S.D. = 0.9  on  41 of  54 obs.
-----------------------------------
*  NOV  24, 1989  07h 10m 54.50± 0.94s
   30.133 S ±16.4km  178.329 W ±15.5km
   DEPTH =  33.0km  (normal)
   5.4mb (  3 obs.)
 KERMADEC ISLANDS                  (178)
      Felt on Raoul Island.

RAO      0.95  22 eP     11 11.70   0.2
                  iS     11 25.30
MNG     11.61 204 eP     13 28.00 -12.9X
DZM     15.85 297 iPd    14 54.10  17.2X
BRS     25.45 269 iPd    16 23.10   2.0
CAN     27.89 251 eP     16 43.80   0.4
BWA     28.36 253 eP     16 45.90  -1.8
RMO     29.15 269 iPd    16 56.40   1.6
STK     34.26 257 iPc    17 39.50  -0.1
        0.5s     29.00nm            5.5mb
OIS     39.01 274 iPd    18 19.60  -0.2
ASPA    42.84 267 iPc    18 50.60  -0.8
        0.5s     21.00nm            5.1mb
WB5     43.80 272 iPd    18 57.90  -1.3
SPA     60.03 180 iPd    21 01.10   0.8
        0.9s     28.18nm            5.4mb
NUR    145.97 340 iPKP   30 28.00  -2.9X
        0.7s     21.40nm
                  i      31 28.90
NB2    148.45 351 PKP   30 34.70  -0.2
        0.7s      5.40nm
HFS    148.93 348 ePKP  30 35.10  -0.6
        0.6s      6.90nm
     S.D. = 1.2  on  12 of  15 obs.
-----------------------------------
   NOV  24, 1989  07h 22m 26.08± 0.27s
   12.651 N ± 4.4km   48.311 E ± 4.8km
   DEPTH =  10.0km  (geophysicist)
   5.0mb ( 25 obs.)  4.7Msz (  4 obs.)
 EASTERN GULF OF ADEN              (415)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 25C
      Centroid Location:
      Origin Time        07:22:30.4 1.2
      Lat 12.83N 0.11 Lon  48.55E 0.10
      Dep  15.0 FIX Half-duration  1.8
```

24d 07h

```
        Moment Tensor;   Scole 10**17 Nm
          Mrr=-0.53 0.10  Mtt= 2.01 0.11
          Mff=-1.48 0.13  Mrt= 0.43 0.44
          Mrf=-0.49 0.42  Mtf= 0.33 0.14
         Principal Axes:
          T  Vol=  2.09  Plg= 9  Azm=356
          N        -0.35      64       104
          P        -1.74      24       262
        Best Double Couple:Mo=1.9*10**17
         NP1:Strike= 41 Dip=67 Slip=-168
         NP2:        307     79       -24

AAE     10.04 250 eP     24 54.00    0.2
NAI     17.94 220 iPd    26 37.00   -0.6
ASW     18.51 310 iPd    26 42.00   -2.4
                  eS     30 18.00
BHD     20.84 351 iPd    27 09.00   -1.5
                  eS     31 04.00
                  i      33 42.00
                  iLQ    34 55.00
                  eLR    36 29.00
MBH     21.11 326 eP     27 14.00    0.8
KER     21.63 357 eP     27 18.00   -0.7
DSI     22.28 330 eP     27 17.00   -8.0X
SLY     22.99 354 iPc    27 32.00    0.0
                  iPP    28 03.50
                  eS     31 45.00
                  eSS    32 19.00
                  eLQ    35 07.50
                  iLR    36 37.50
KOT     23.00 321 eP     27 34.50    2.4
HLW     23.25 320 eP     27 36.00    1.4
                  eS     31 52.00
KHI     23.37  22 eP     27 38.00    2.1
HRI     23.52 333 eP     27 40.00    2.7X
MSL     24.08 350 ePd    27 41.50   -1.1
                  eS     32 09.50
                  ePcS   35 19.50
                  eLQ    36 32.00
BHL     24.09 333 P      27 44.00    1.2
                  S      32 12.00
QUE     24.54  42 eP     27 50.00    2.6
                  eS     32 20.00
POO     25.27  73 iPd    27 55.70    1.4
        1.1s    73.42nm          5.3mb
                  eS     32 32.00
TAB     25.37 356 eP     27 57.00    1.8
MAIO    25.61  21 eP     27 59.00    1.6
        1.7s   129.57nm          5.3mb
GBA     28.37  85 P      28 22.80    0.1
ELL     29.13 329 eP     28 30.00    0.5
HYB     29.57  77 eP     28 33.50   -0.1
        1.0s    40.00nm          5.2mb
MZZ     30.51 220 iPd    28 43.00    1.0
BCAO    30.53 257 iPc    28 41.40   -0.7
        0.4s     4.00nm          4.6mb
                  ic     30 39.10
NDI     31.28  55 iPd    28 49.30    0.8
        1.0s    35.00nm          5.2mb
PTZ     31.58 213 iP     28 52.40    1.1
LSZ     34.16 216 iPd    29 14.60    0.8
                  i      29 24.40
KMZ     34.19 221 iPd    29 15.40    1.2
CFR     36.69 336 ePd    29 39.00    4.0X
VRI     37.83 335 ePd    29 47.50    2.9X
MLR     37.85 334 ePc    29 46.50    1.6
BUL     37.92 211 iPc    29 43.40   -2.3
        1.1s    21.52nm          4.8mb
CMP     38.07 333 ePc    29 52.00    5.4X
ASS     43.17 321 P      30 33.50    4.7X
KSR     43.59 208 eP     30 31.50   -1.0
ZST     43.92 330 iP     30 34.60   -0.1
KRA     43.95 334 P      30 35.30    0.4
TRI     44.06 325 P      30 36.50    0.7
SFI     44.14 322 P      30 36.50    0.1
PRY     44.24 207 iPc    30 38.40    0.7
VKA     44.35 330 e(P)   30 39.00    0.8
        3.0s   224.00nm          5.5mb
KBA     45.13 326 ePd    30 45.00    0.3
        1.3s    25.90nm          5.0mb
                  e      31 04.50
FVI     45.14 326 P      30 45.50    1.0
CTI     45.45 324 P      30 47.00   -0.2
WMO     45.88  40 eP     30 51.80    1.3
KSP     46.13 332 eP     30 52.40    0.1
KHC     46.29 329 Pd     30 53.90    0.2
      Z  18s     0.90um          4.8Msz
      N  18s     0.80um
      E  18s     0.60um
PRU     46.38 330 P      30 54.00   -0.2
      Z  19s     0.70um          4.6Msz
      N  18s     0.30um
      E  18s     0.80um
WIN     46.48 221 iPd    30 57.50    1.8
        1.1s    25.32nm          5.2mb
BLF     46.69 207 iPd    30 57.50    0.3
KIM     47.03 209 iPc    30 59.00   -0.8
VAI     47.03 323 P      30 59.00   -0.4
BRG     47.25 331 eP     31 01.00   -0.1
        1.6s    25.00nm          5.1mb
GRC1    47.27 328 iP     31 01.00   -0.4
        0.9s     9.00nm          4.9mb
FRS     47.63 207 iPd    31 04.00   -0.3
        1.0s    30.00nm          5.3mb
CLL     47.98 331 iPc    31 06.00   -0.9
        2.9s   140.00nm          5.5mb
LPG     48.06 321 eP     31 09.30    1.3
        1.2s    14.80nm          4.9mb
MOX     48.24 329 e(P)   31 08.00   -0.9
      Z  28s     1.20um          4.7MszX
                  e      31 14.00
                  e      33 02.00
HVD     48.28 207 iPd    30 56.00  -13.7X
CHG     48.99  76 eP     31 14.00   -1.2
BDT     49.08  78 eP     31 15.00   -0.8
BSF     49.22 324 eP     31 16.00   -0.6
        1.0s    12.00nm          4.9mb
CDF     49.25 325 eP     31 16.00   -0.8
        0.8s     8.00nm          4.8mb
NST     50.24  80 eP     31 24.20   -0.6
LBF     50.46 322 eP     31 25.20   -0.9
        1.0s    20.00nm          5.0mb
LOR     50.67 322 eP     31 26.60   -1.0
        1.0s     8.80nm          4.7mb
AVF     50.75 321 eP     31 27.00   -1.2
        1.0s     4.00nm          4.3mb
SSF     50.78 322 eP     31 27.60   -0.9
        1.0s    16.00nm          4.9mb
BGF     50.96 321 eP     31 29.40   -0.4
        0.8s    13.40nm          4.9mb
GTA     52.54  50 eP     31 41.60   -0.5
      Z  20s     0.70um          4.7Msz
HFS     53.81 339 eP     31 49.30   -1.7
        1.1s    24.60nm          5.1mb
      Z  17s     0.57um          4.7MszX
                  LR     53 30.00
NB2     55.32 339 P      32 00.90   -1.2
        1.1s    14.80nm          4.9mb
GYA     56.25  67 P      32 07.20   -2.2
EKA     58.26 328 P      32 22.00   -1.0
        1.1s    12.20nm          4.9mb
KEV     58.63 351 iP     32 25.60    0.2
XAN     58.74  58 P      32 25.00   -1.8
BTO     60.44  50 eP     32 38.00   -0.5
TIY     61.94  54 eP     32 47.80   -0.9
      Z  20s     1.00um          5.0Msz
BJI     65.05  52 eP     33 08.50   -0.5
TIA     65.59  56 eP     33 11.50   -1.0
CN2     72.10  48 eP     33 52.00   -0.7
MAW     80.73 174 eP     34 42.00    1.4
WB5     90.60 110 eP     35 31.20    0.8
MBC     90.97 357 eP     35 32.50    1.3
        1.1s     9.00nm          5.0mb
      S.D. = 1.1  on  76 of  83 obs.
-----------------------------------------
?  NOV  24, 1989  08h 21m 23.90± 1.90s
     6.243 S ±18.2km  152.066 E ±39.8km
    DEPTH =  33.0km  (normol)
    4.7mb (  1 obs.)
 NEW BRITAIN REGION                (192)

RAB      2.04   3 iPd    21 56.70    0.1
LAT      5.05 265 eP     22 43.00    3.6X
                  eS     23 48.00
PMG      5.79 237 iPd    22 50.00    0.1
        1.0s   200.00nm          5.7mb X
                  eS     23 56.00
QIS     18.67 219 eP     25 42.00    0.4
RMQ     20.38 189 iPc    26 06.20    5.5X
WB5     21.90 230 eP     26 15.30   -0.8
ASPA    24.60 223 eP     26 43.00    0.4
        0.9s    20.00nm          4.7mb
FORR    33.24 220 eP     28 00.00   -0.2
      S.D. = 0.6  on   6 of   8 obs.
-----------------------------------------
?  NOV  24, 1989  08h 29m 30.41± 1.50s
     3.307 S ±18.9km  136.548 E ±20.1km
    DEPTH =  33.0km  (normol)
    4.4mb (  1 obs.)
 WEST IRIAN                        (201)

MTN     10.89 209 eP     32 09.00    1.9
                  eS     34 13.00
KNA     14.54 211 eP     32 56.00    0.2
                  eS     35 36.00
WB5     16.61 187 eP     33 21.20   -1.3
                  i      33 26.90
                  eS     36 25.70
QIS     17.40 170 eP     33 31.00   -1.5
                  eS     36 45.00
CTA     19.18 151 iPd    33 59.00    4.7X
ASPA    20.40 187 iPc    34 08.10    0.6
      Z  17s     1.34um          4.3MszX
                  eS     37 55.50
                  LR     42 34.30
MBL     24.07 221 eP     34 42.70   -1.2
WARB    24.65 202 iPd    34 49.40   -0.1
        0.4s     5.00nm          4.4mb
BRS     28.53 149 iPc    35 27.00    1.7
                  i      35 35.00
CNCB   148.59 130 ePKP   49 09.00   -4.5X
LPB    148.67 130 ePKP   49 13.00   -0.5
ZOBO   148.80 129 ePKP   49 14.00    0.1
      S.D. = 1.3  on  10 of  12 obs.
-----------------------------------------
*  NOV  24, 1989  09h 35m 01.62± 1.30s
     2.686 S ±16.9km  136.250 E ±14.0km
    DEPTH =  33.0km  (normol)
    4.6mb (  1 obs.)
 WEST IRIAN REGION                 (196)

MTN     11.30 206 iPc    37 44.30    0.5
                  eS     39 50.00
PMG     12.73 122 eP     38 10.00    6.8X
KNA     14.93 209 eP     38 33.00    0.9
                  eS     41 14.00
WB5     17.19 186 eP     38 56.80   -4.2X
                  i      39 02.50
                  eS     42 00.80
QIS     18.06 170 eP     39 07.00   -4.9X
                  eS     42 18.00
CTA     19.86 151 iP     39 33.00    0.0
ASPA    20.98 186 eP     39 42.40   -2.2
        0.8s   208.00nm          5.6mb X
                  eS     43 32.50
MBL     24.35 220 eP     40 18.50    0.7
HNR     24.49 107 eP     40 20.00    0.8
WARB    25.12 201 iPd    40 25.00   -0.2
        0.5s     8.00nm          4.6mb
POO     64.89 292 eP     45 40.00   -0.5
RMP    116.33 316 PKP    53 39.60   -4.2X
                  eSg    53 43.60
RDP    116.34 316 PKP    53 39.00   -4.9X
                  eSg    53 42.00
CNCB   149.22 130 ePKP   54 39.00   -6.7X
LPB    149.29 129 ePKP   54 52.00    6.4X
ZOBO   149.42 129 ePKP   54 47.00    0.9X
      S.D. = 1.2  on   8 of  16 obs.
-----------------------------------------
*  NOV  24, 1989  09h 43m 38.68± 1.10s
     2.728 S ± 8.8km  136.290 E ±23.0km
    DEPTH =  33.0km  (normol)
    4.9mb (  5 obs.)  4.7Msz (  1 obs.)
 WEST IRIAN REGION                 (196)

MTN     11.28 207 eP     46 22.00    1.4
                  eS     48 28.00
PMG     12.67 122 eP     46 46.00    6.5X
KNA     14.91 209 eP     47 08.00   -0.9
        0.4s    33.00nm          5.0mb
                  eS     49 54.00
QIS     18.01 170 eP     47 44.00   -4.3X
                  eS     50 42.00
ASPA    20.94 186 iPd    48 20.80   -0.5
        0.9s   352.00nm          5.8mb
      Z  18s     2.74um          4.7Msz
                  eS     52 07.40
                  LR     56 47.80
MBL     24.34 220 eP     48 56.00    1.2
HNR     24.44 107 P      49 02.00    6.2X
WARB    25.09 201 iPd    49 02.50    0.5
```

```
        0.6s     17.00nm          4.8mb
NANU    28.19 224 eP     49 30.00   -0.4
FORR    29.02 195 eP     49 36.30   -1.5
BRS     29.16 149 iPc    49 36.50   -2.7X
                  i      49 40.00
                  i      49 45.00
BWA     33.50 162 eP     50 17.90    0.6
BJI     46.39 339 eP     52 02.50   -1.3
      Z  16s      0.29um          4.3MszX
LZH     49.07 325 eP     52 27.00    1.9
        1.5s     19.00nm          4.9mb
HYB     60.33 292 eP     53 46.50   -0.7
GBA     60.57 287 Pd     53 47.30   -1.5
        0.9s      5.50nm          4.7mb
POO     64.94 292 iPd    54 13.20   -4.7X
POO     64.94 292 iPd    54 18.20    0.3
MAIO    81.00 307 eP     55 53.00    1.0
ZST    111.17 321 ePKP   02 18.00    7.3X
CNCB   149.16 130 PKP    03 27.00    4.3X
LPB    149.23 129 ePKP   03 32.00    9.4X
ZOBO   149.37 129 PKP    03 25.90    2.9X
CCH    150.18 133 PKP    03 30.00    6.1X
      S.D. = 1.2  on  14 of  24 obs.
-----------------------------------------
%  NOV  24, 1989  12h 47m 21.27± 3.50s
   42.986 N ±29.4km     0.855 W ±10.3km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      MD 1.0 (STR).

ISSF     0.06  47 Pg     47 22.57   -1.1
ATE      0.15  48 Pg     47 24.49   -0.3
                  Sg     47 26.87
MADF     0.16   9 Pg     47 24.89   -0.1
                  Sg     47 27.36
BOH      0.16 315 Pg     47 25.05    0.0
                  Sg     47 28.03
ESCF     0.23  66 Pg     47 26.58    0.4
      S.D. = 0.8  on   5 of   5 obs.
-----------------------------------------
   NOV  24, 1989  12h 49m 05.95± 0.80s
   51.291 N ± 5.5km  178.941 W ± 2.6km
   DEPTH =  51.8 ±  6.8 km
   5.1mb ( 47 obs.)  4.6Msz (  9 obs.)
 ANDREANOF ISLANDS, ALEUTIAN IS. (  7)
      Ms 4.8 (BRK). Felt on Adak.
      CENTROID, MOMENT TENSOR     (HRV)
      Dotto Used: GDSN
      L.P.B.: 13S, 23C
      Centroid Location:
      Origin Time        12:49: 6.4 0.8
      Lat 51.46N 0.08 Lon 178.77W 0.13
      Dep  15.0 FIX Half-durotion  1.7
      Moment Tensor;   Scole 10**17 Nm
        Mrr= 0.64 0.05  Mtt=-0.62 0.07
        Mff=-0.01 0.04  Mrt= 1.36 0.14
        Mrf= 0.18 0.11  Mtf=-0.06 0.05
      Principol Axes:
        T  Val=  1.52  Plg=57  Azm=352
        N       -0.01       1       83
        P       -1.51      33      173
      Best Double Couple:Mo=1.5*10**17
       NP1:Strike=266 Dip=12 Slip=  93
       NP2:        82      78       89

ADK      1.53  66 iPc    49 31.30    0.1
SMY      4.53 291 eP     50 14.00    0.4
SDN     11.74  63 eP     51 52.50   -0.7
SVW     16.18  44 eP     52 53.20    2.1
KDC     16.59  57 eP     52 55.20   -0.9
TTA     16.94  38 eP     53 02.50    1.9
PMS     18.95  47 eP     53 24.10   -1.1
PMR     19.25  46 eP     53 27.20   -1.4
IMA     19.57  31 iPc    53 31.80   -0.4
        1.3s    116.70nm          5.0mb
TOA     20.75  46 eP     53 43.50   -0.8
FBA     21.07  38 eP     53 46.60   -0.9
BRW     22.45  19 eP     54 01.70    0.5
KUSJ    25.80 266 eP     54 32.50   -1.1
ASAJ    26.59 270 eP     54 41.50    0.7
HOOJ    27.07 266 eP     54 45.50    0.3
INK     27.58  35 eP     54 48.00   -1.6
MBC     33.72  22 eP     55 44.00    0.3
        1.0s     29.00nm          5.1mb
                  pP     55 59.00   60kmX
MTMJ    33.91 261 eP     55 45.40   -0.5
MDJ     34.50 279 eP     55 49.30   -1.5
IIDJ    34.55 260 P      55 51.70    0.3
GMW     35.96  73 eP     56 03.80    0.6
BMW     36.20  75 eP     56 05.80    0.5
RMW     36.59  73 eP     56 09.80    1.2
LON     36.93  74 eP     56 12.80    1.4
PNT     37.05  69 ePc    56 13.00    0.7
        0.6s     26.00nm          5.3mb
CN2     37.48 281 iPc    56 15.00   -0.9
        1.0s      0.02nm          2.0mb X
      Z  24s      0.80um          4.4MszX
                   epP   56 25.00   34kmX
EDM     38.93  61 iPd    56 27.80   -0.3
        0.5s     30.00nm          5.4mb
SNY     39.70 279 iPc    56 35.00    0.5
      Z  22s      0.80um          4.5Msz
      N  22s      0.80um
LBFM    39.71  81 eP     56 36.50    1.7
WDC     39.74  83 eP     56 36.50    1.6
MIN     40.46  83 e(P)   56 42.00    1.1
ORV     40.98  83 eP     56 45.90    0.8
SES     41.48  64 eP     56 48.00   -1.1
BKS     41.53  86 ePc    56 59.10    9.5X
        0.7s     14.00nm          4.8mb
      Z  20s      1.10um          4.7Msz
      N  20s      0.90um
      E  20s      0.80um
                   eLQ   06 35.00
                   eLR   08 36.00
CMB     42.59  85 e(P)   56 59.90    1.5
DL2     42.61 277 Pd     56 58.50    0.1
        1.0s      0.10nm          2.5mb X
      Z  20s      0.60um          4.5Msz
LRM     42.99  70 eP     57 01.50   -0.2
KVN     43.40  82 eP     57 06.00    0.9
TNP     44.54  82 eP     57 15.00    0.7
        0.7s      7.41nm          4.6mb
BJI     45 31 282 eP     57 20.00   -0.1
        1.0s     24.00nm          5.0mb
      Z  24s      0.50um          4.4MszX
                   eS    03 52.00
BW06    46.42  72 eP     57 29.00   -0.2
DAU     46.79  76 eP     57 33 00    0.7
TIA     47.09 277 P      57 33.60   -0.7
MSU     47.39  78 eP     57 37.00    0.0
HHC     47.63 286 eP     57 39.20    0.6
      Z  22s      0.60um          4.5Msz
PLM     47.78  87 eP     57 40.20    0.2
SSE     47.91 269 Pc     57 41.20    0.5
        1.2s     37.00nm          5.3mb
                   e(S)  04 56.00
BTO     48 71 287 P      57 47.00    0.0
NJ2     48.73 272 Pd     57 46 80   -0.2
TIY     49.04 282 Pc     57 50.00    0.5
      Z  22s      0.80um          4.7Msz
GLA     49.25  86 eP     57 51.00   -0.2
KBS     49.89 357 eP     57 57.20    1.8
RSON    50.58  55 eP     57 59.00   -2.0
GOL     50.79  73 eP     58 03.20    0.1
        0.6s     55.56nm          5.8mb
GLD     50.85  73 eP     58 03.80    0.4
        0.9s     34.21nm          5.4mb
WHN     52.57 274 Pc     58 15.50   -0.8
        1.0s      0.05nm          2.5mb X
ALQ     53.20  78 eP     58 20.00   -1.2
        1.2s     12.15nm          4.8mb
XAN     53.59 281 eP     58 20.20   -3.6X
LZH     55.32 286 iPc    58 37.00    0.4
        1.5s     94.00nm          5.6mb
      Z  20s      0.70um          4.7Msz
GTA     55.52 292 iPc    58 37.60   -0.4
      Z  16s      0.60um          4.8MszX
SIO     58.79  71 e(P)   59 00.20   -0.8
                   e     59 03.50
CD2     58.91 282 P      59 00.70   -1.2
LNO     58.99  70 eP     59 02.00   -0.2
TUL     58.98  70 eP     59 01.80   -0.5
        1.2s     30.90nm          5.3mb
      Z  21s      0.31um          4.4Msz
                   LR    21 00.00
WMQ     59.32 303 eP     59 04.00   -0.6
      Z  22s      0.90um          4.9Msz
SOD     60.10 349 iP     59 09.40   -0.2
GYA     60.24 276 P      59 10.00   -1.2
FVM     60.67  65 eP     59 11.90   -2.0
POW     61.51  67 eP     59 17.30   -2.3
ELC     61.84  65 eP     59 20.00   -1.8
KMI     63 65 278 Pc     59 33 00   -1.2
SUF     64.62 348 iP     59 39 30   -0.3
        0.6s     13.50nm          5.1mb
RSCP    65.10  64 eP     59 42.00   -1.2
HBVT    65.22  49 eP     59 42.00   -1.8
CBM     65.55  45 P      59 44.00   -1.9
BLA     66.77  59 eP     59 53.00   -0.9
NUR     66.95 348 eP     59 53.00   -1.5
        0.6s     17.00nm          5.2mb
CVL     67.25  57 eP     59 56.00   -0.8
LSA     67.39 290 P      59 59.00    0.6
NB2     67.73 355 P      59 58.20   -1.3
        1.0s      6.10nm          4.6mb
HFS     68.46 353 eP     00 02.50   -1.5
        0.5s      7.20nm          4.9mb
      Z  18s      0.17um          4.3Msz
                   LR    24 46.00
JSC     68.48  62 eP     00 04.00   -0.5
KSH     68.52 307 eP     00 05.00    0.1
SGS     69.70  62 eP     00 12.20    0.2
CHG     70.67 276 ePc    00 17.80   -0.3
        1.0s     19.75nm          5.0mb
EKA     73.69   3 P      00 36.00    0.6
        0.7s      5.70nm          4.6mb
NDI     76.14 299 iPc    00 49.80   -0.1
WTS     76.97 356 e(P)   00 55.00    0.9
        1.0s     11.00nm          4.8mb
CLL     77.28 352 iPc    00 55.00   -0 8
        1.3s     11.00nm          4.7mb
BRG     77.63 352 iP     00 57.00   -0.8
        1.1s     14.00nm          4.9mb
KRA     77.76 348 eP     00 59.00    0.5
MOX     78.04 353 eP     01 00.00   -0.1
        1.4s     29.00nm          5.1mb
ENN     78.24 357 eP     01 01.00   -0.1
        1.0s     45.00nm          5.4mb
MEM     78.39 357 P      01 03.20    1.3
PRU     78.45 351 P      01 02.00   -0.3
DOU     78.95 358 iP     01 05.70    0.7
        0.4s     10.00nm          5.1mb
GRF     79.02 353 iPc    01 05.80    0.3
        1.3s     49.00nm          5.3mb
KHC     79.39 352 iP     01 08.80    1.3
        1.0s     10.50nm          4.7mb
ZST     79.94 349 iP     01 10.70    0.3
CLI     79.95 342 ePc    01 10.50   -0.1
FLN     80.32   1 eP     01 12.20   -0.2
        0.8s     24.10nm          5.2mb
LDF     80.49   1 eP     01 13.20   -0.1
        0.9s     36.00nm          5.3mb
CDF     80.53 356 eP     01 13.60   -0.1
        1.0s      8.00nm          4.6mb
GRR     80.69   1 eP     01 14.60    0.2
        1.0s     44.00nm          5.3mb
HAU     80.98 356 eP     01 16.10    0.1
        0.8s     10.70nm          4.8mb
LPF     81.04   1 eP     01 16.70    0.5
        1.0s     32.00nm          5.2mb
BSF     81.14 356 eP     01 16.80   -0.1
        1 0s      8.00nm          4.6mb
KBA     81.44 352 iPc    01 19.20    0.6
        1.1s     70.00nm          5.5mb
CMP     81.61 343 ePd    01 22.00    2.7
LOR     81.79 358 eP     01 20.20    0.0
        1.2s     29.70nm          5.2mb
WB5     81.82 224 eP     01 20.20   -0.4
FVI     81.97 352 P      01 21.50    0.4
SSF     82.01 358 eP     01 21.70    0.4
        1.0s     22.00nm          5.1mb
AVF     82.28 358 eP     01 22.90    0.2
        1.2s     35.70nm          5.3mb
PTJ     82.34 350 eP     01 23.20    0.0
MFF     82.48   1 eP     01 24.40    0.6
        0.8s     13.40nm          5.0mb
RMQ     82.51 209 eP     01 25.00    1.0
CTI     82.61 353 P      01 24.50   -0.1
LSF     82.84 360 eP     01 25.80    0.1
        1.0s     28.00nm          5.2mb
VAI     82.99 355 P      01 26.00   -0.4
SAL     83.14 353 P      01 26.00   -1.1
LPG     83.47 356 eP     01 30.10    0.8
        1.2s     26.70nm          5.1mb
LSD     83.49 356 P      01 30.08    0.8
RJF     83.79 360 eP     01 31.00    0.5
        1 0s     25.60nm          5.2mb
RSP     83.79 356 P      01 33.98    3.3X
BNI     83.91 356 P      01 32.80    1.5
RRL     84.04 356 P      01 33.26    1.1
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24d 13h

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BOB     84.05 354 P      01 32.90    1.0
LFF     84.15   0 eP     01 32.80    0.5
        1.0s    64.00nm          5.6mb
CAF     84.16 359 eP     01 33.00    0.6
        1.0s    30.80nm          5.3mb
HYB     84.16 290 iPc    01 33.20    0.4
        1.0s    70.00nm          5.7mb
PCP     84.33 355 P      01 32.34   -1.0
DOI     84.44 356 P      01 33.50   -0.4
PZZ     84.44 356 P      01 33.77   -0.2
CKI     84.46 355 P      01 33.50   -0.4
MME     84.53 353 P      01 35.70    1.1
ROB     84.61 355 P      01 34.18   -0.6
BDI     84.67 353 P      01 35.00   -0.1
STV     84.69 355 P      01 33.67   -1.5
SFI     84.71 352 P      01 36.80    1.7
PGD     84.76 352 P      01 37.00    1.3
FIR     84.90 353 eP     01 36.00   -0.1
HVAR    84.97 349 iP     01 35.80   -0.6
CRE     84.99 352 P      01 37.50    0.8
IMI     85.00 355 P      01 35.92   -0.8
PII     85.01 353 P      01 36.00   -0.6
ARV     85.03 351 P      01 37.50    0.7
CIO     85.31 351 ePc    01 38.84    0.5
ASPA    85.36 222 iPc    01 38.70    0.1
        1.1s    13.00nm          5.0mb
ASS     85.48 351 P      01 39.60    0.5
ALP     85.68 351 ePc    01 40.76    0.5
POO     86.01 295 iPc    01 42.60    0.5
        0.7s    49.32nm          5.8mb
MNS     86.16 351 P      01 42.50    0.0
DUI     86.69 350 P      01 45.80    0.6
SDI     86.72 350 P      01 45.00   -0.2
GBA     87.82 289 P      01 51.00    0.2
MGR     88.07 349 P      01 51.50   -0.2
TDS     88.45 348 P      01 53.50    0.0
TIC    122.06   7 PKP    07 56.20   -0.1
KIC    122.36   7 PKP    07 56.60   -0.2
LIC    122.48   7 PKP    07 56.80   -0.2
BCAO   122.51 339 ePKPc  07 56.20   -0.9
        0.7s     4.00nm
MAW    146.36 218 ePKP   08 40.00    0.3
SLR    147.11 311 iPKPd  08 43.50    1.1
        1.0s    73.00nm
KSR    147.87 312 iPKPd  08 46.20    2.6X
        1.2s    40.00nm
PRY    148.50 311 iPKPc  08 49.20    4.6X
        1.2s    50.00nm
WIN    148.74 331 iPKPc  08 49.60    4.5X
        1.1s    31.65nm
BFS    148.80 312 iPKPd  08 48.00    2.9X
        1.0s   150.00nm
BLF    150.94 310 iPKPd  08 54.50    6.3X
        1.2s   140.00nm
KIM    151.31 313 ePKP   08 55.00    6.2X
HVD    152.52 309 iPKPd  08 54.00    3.5X
      S.D. = 0.9  on 161 of 171 obs.
-----------------------------------------
?  NOV  24, 1989  13h 18m 20.53± 2.28s
    6.440 S ±18.1km  152.294 E ±41.5km
   DEPTH =  33.0km  (normol)
   4.6mb (  1 obs.)  3.8Msz (  1 obs.)
 NEW BRITAIN REGION                (192)

RAB      2.24 357 iP     18 56.00    0.0
                iS      19 18.00
LAT      5.26 267 eP     19 43.00    4.0X
                eS      20 45.00
PMG      5.88 240 eP     19 48.00    0.2
        1.0s  1080.00nm          6.4mb X
                eS      20 53.00
RMQ     20.22 189 iPc    23 03.70    8.0X
WB5     21.95 231 eP     23 13.00   -0.3
ASPA    24.62 224 eP     23 38.40   -1.0
        0.7s    13.00nm          4.6mb
      Z  21s     0.31um          3.8Msz
                LR      37 00.00
FORR    33.23 220 iPd    24 57.80    1.0
      S.D. = 1.0  on   5 of   7 obs.
-----------------------------------------
&  NOV  24, 1989  14h 45m 14.60s
   37.402 N          118.630 W
   DEPTH =   7.0km
 CALIFORNIA-NEVADA BORDER REGION ( 40)
      <BRK>. ML 3.9 (BRK). Felt (IV)
      at Bishop, California.

PPK      0.58  87 iPc    45 25.20   -1.0
SVP      0.73  64 iPc    45 28.20   -1.0
LCH      0.80 102 eP     45 28.80   -1.7
MGM      0.90  87 iPc    45 31.20   -1.1
FRI      0.95 245 iPc    45 31.90   -1.1
                eS      45 44.30
TNP      1.31  58 iPc    45 38.70   -0.5
MCA      1.32 124 eP     45 38.10   -1.1
CMB      1.53 295 ePd    45 41.80   -0.6
KVN      1.70  14 eP     45 44.20   -0.8
PKEM     1.79 222 iP     45 47.00    0.9
LSM      2.00 109 eP     45 48.50   -0.7
LLA      2.01 248 eP     45 49.30   -0.1
PRI      2.06 233 eP     45 50.20    0.0
PHAM     2.11 223 eP     45 50.30   -0.5
ARN      2.31 270 eP     45 53.70   -0.1
SAO      2.34 255 ePd    45 54.35    0.3
                eS      46 24.75
MHC      2.40 269 eP     45 55.60    0.5
                eS      46 26.35
PRS      2.44 245 eP     45 55.20   -0.4
BCH      2.50 208 eP     45 56.00   -0.5
ABL      2.59 191 eP     45 58.20    0.4
BKS      2.90 280 ePc    46 02.00   -0.1
                eS      46 40.00
ORV      3.11 315 eP     46 03.40   -1.6
PEC      3.70 161 eP     46 12.80   -0.7
PLM      4.29 160 eP     46 20.70   -1.3
        24 obs. associated
-----------------------------------------
*  NOV  24, 1989  15h 00m 18.77± 0.87s
   36.795 N ±10.0km   73.074 E ±16.3km
   DEPTH =  33.0km  (normol)
   4.4mb (  3 obs.)
 NORTHWESTERN KASHMIR              (720)
      Felt (II) at Khorog, USSR.

QUE      8.34 220 eP     02 20.70    0.2
NDI      8.81 156 iPc    02 27.00    0.2
        0.5s    28.17nm          5.7mb X
                iS      04 06.00
MAIO    10.94 271 iPd    02 53.00   -3.1X
                eS      04 40.00
POO     18.21 178 eP     04 14.50  -16.2X
HYB     19.90 164 eP     04 50.00   -0.5
HFS     43.87 322 eP     08 23.00   -0.3
        0.5s     3.10nm          4.4mb
NB2     45.15 323 P      08 42.60    8.9X
        1.0s     4.30nm          4.3mb
MBC     66.96   3 eP     11 10.00    0.4
        0.6s     4.00nm          4.7mb
      S.D. = 0.5  on   5 of   8 obs.
-----------------------------------------
?  NOV  24, 1989  15h 21m 51.10± 7.45s
   50.900 N ±64.0km   19.600 E ±47.5km
   DEPTH =  10.0km  (geophysicist)
 POLAND                            (548)
      ML 3.0 (KBA).

KRA      0.87 165 ePg    22 08.00    0.1
                iSg     22 17.30
SPC      1.76 166 iPn    22 20.70   -1.3
                i(Sg)   22 39.20
KSP      2.10 270 iPg    22 26.60   -0.1
                iS      22 49.40
PSZ      2.99 176 eP     22 40.50    1.0
SRO      3.20 196 eP     23 26.10   43.7X
PRU      3.36 256 ePn    22 46.00    1.3
                e       22 55.50
                Sg      23 20.50
KHC      4.27 248 ePg    22 56.00   -1.6
                Sg      23 44.90
KBA      5.62 230 e(Pn)  23 06.00  -10.9X
                e       24 27.00
      S.D. = 1.5  on   6 of   8 obs.
-----------------------------------------
%  NOV  24, 1989  16h 08m 29.38± 2.38s
   33.140 S ± 7.0km   70.171 W ±18.1km
   DEPTH =  11.2 ±  7.2 km
 CHILE-ARGENTINA BORDER REGION     (127)

FCH      0.21 208 iPc    08 34.20   -0.1
                iS      08 37.00
PEL      0.43 269 iPc    08 38.30    0.0
                iS      08 43.70
SAN      0.52 233 iPc    08 40.10    0.2
                iS      08 47.00

PCH      0.56 211 iPc    08 41.00    0.3
                iS      08 49.00
JACH     0.58 322 iPc    08 41.10    0.0
                iS      08 50.70
TACH     0.82 231 iPc    08 45.10   -0.1
LCCH     1.22 254 iPc    08 52.00    0.1
                iS      09 07.90
LNV      1.32 232 iP     08 53.10   -0.5
                iS      09 10.00
      S.D. = 0.3  on   8 of   8 obs.
-----------------------------------------
%  NOV  24, 1989  16h 12m 58.89± 1.25s
   41.179 N ± 7.3km   20.159 E ±13.0km
   DEPTH =   5.0km  (geophysicist)
 ALBANIA                           (391)
      MG 2.6 (TIR).

TIR      0.28 307 iPgc   13 03.40   -1.1
BERA     0.50 198 ePg    13 09.00    0.1
PHP      0.55  23 ePg    13 09.00   -0.9
SDA      0.97 330 ePg    13 18.80    1.0
LSK      1.08 162 ePn    13 23.00    3.2X
BCI      1.19 357 ePg    13 22.40    0.9
      S.D. = 1.4  on   5 of   6 obs.
-----------------------------------------
?  NOV  24, 1989  16h 31m 46.42± 5.47s
   14.119 S ±93.4km   75.560 W ±78.3km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF PERU                (115)

PT08     2.35 336 eP     32 25.40   -0.7
                e(S)    32 54.80
PT10     2.45 326 e(P)   32 27.00   -0.1
                eS      33 02.00
NNA      2.46 329 iPc    32 28.00    0.7
        0.3s     7.79nm
                eS      32 51.50
ZOBO     7.49 108 P      33 40.00    1.1
LPB      7.59 109 (P)    33 48.00    7.8X
CNCB     7.78 111 P      33 42.00   -1.0
      S.D. = 1.3  on   5 of   6 obs.
-----------------------------------------
   NOV  24, 1989  16h 41m 16.72± 0.50s
   46.864 N ± 6.9km   25.343 E ± 5.3km
   DEPTH =  10.0km  (geophysicist)
   4.2mb (  2 obs.)
 ROMANIA                           (358)

CLI      1.37 103 iPd    41 41.50   -0.4
VRI      1.38 136 ePc    41 41.00   -1.0
BMR      1.50 303 iP     41 44.00    0.4
IAS      1.55  77 ePc    41 46.00    1.6
CMP      1.61 188 iPd    41 46.00    0.7
BIR      1.69 110 eP     41 47.00    0.7
BRD      1.79 138 ePc    41 50.50    2.6X
ISR      1.92 154 eP     41 57.50    7.7X
DEV      1.95 241 iPc    41 50.00   -0.2
CEI      2.13 294 eP     42 02.00    9.2X
DRA      2.31 200 eP     41 56.00    0.6
BUC1     2.56 169 eP     42 00.00    1.1
CFR      2.58 130 eP     41 57.50   -1.7
BZS      2.87 246 ePc    42 02.50   -0.8
TLB      2.95 139 eP     42 04.00   -0.5
PSZ      3.85 288 iP     42 16.00   -1.3
BEO      3.98 241 ePn    42 28.50    9.5X
SPC      4.14 306 eP     42 20.70   -0.8
KRA      4.81 314 eP     42 30.30   -0.6
                e       42 36.10
SRO      4.87 284 eP     42 32.60    0.9
                i       42 37.70
ZST      5.74 286 eP     42 46.60    2.6X
                e       10 10.00
                e       10 24.60
KNT      5.97 198 eP     42 44.00   -3.2X
KSP      7.17 307 eP     43 02.30   -1.9
                e       43 10.30
PRU      7.84 297 eP     43 15.50    2.1
                e       43 27.00
KBA      8.21 276 eP     43 23.00    4.1X
        0.8s     3.20nm          4.6mb
                e       44 02.00
KHC      8.21 290 eP     43 20.00    1.3
                e       43 24.50
SUF     15.90   1 eP     44 55.20   -6.6X
        0.7s     5.70nm          3.8mb
      S.D. = 1.2  on  19 of  27 obs.
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*  NOV  24, 1989  16h 48m 29.18± 0.91s
    0.922 N ±16.6km  126.199 E ±19.0km
    DEPTH =  33.0km  (normal)
 MOLUCCA PASSAGE                    (266)

MNI      1.45 291 iPd    48 53.40    0.0
                  iS     49 10.30
WB5     22.17 159 eP     53 24.80    0.7
                  eS     57 30.00
QIS     25.06 149 eP     53 52.00   -0.2
ASPA    25.56 163 eP     53 56.50   -0.5
        0.3s    16.00nm          5.1mb X
BJI     39.99 348 eP     56 02.50    0.0
     S.D. = 0.6  on   5 of   5 obs.
-----------------------------------------
    NOV  24, 1989  18h 22m 12.73± 0.17s
    25.184 S ± 4.5km  179.893 E ± 3.8km
    DEPTH = 504.6km  (  4 depth phases)
    5.1mb ( 31 obs.)
 SOUTH OF FIJI ISLANDS              (171)

RAO      4.50 155 iP     23 38.00    1.7
                  eS     24 45.50
DZM     12.71 281 iPd    25 01.90    2.1
                  iS     27 21.70
                  ScP    32 41.20
PGZ     15.69 190 eP     25 30.10    0.3
KIW     16.18 194 P      25 35.10    0.3
MTW     16.35 192 P      25 35.60   -0.8
CAW     16.38 193 eP     25 36.20   -0.6
WDW     16.55 193 eP     25 36.60   -1.8
BLW     16.55 192 eP     25 36.90   -1.6
MRW     16.58 194 P      25 39.70    1.1
WEL     16.61 194 eP     25 39.90    0.9
MOW     16.65 192 P      25 40.10    0.7
TCW     16.66 195 eP     25 40.00    0.6
CCW     17.18 195 P      25 45.80    1.2
MHZ     21.61 201 P      26 24.80   -2.0
MSZ     21.73 204 P      26 27.60   -0.1
                  e(S)   29 53.00
BRS     24.40 259 iPd    26 52.00   -0.1
COO     25.29 251 iPd    27 01.40    1.3
RMO     28.02 261 iPd    27 25.30    1.2
        0.6s    75.00nm          5.4mb
                  e      28 50.00
                  e      33 18.00
CNB     28.14 242 iPd    27 26.70    1.6
CAN     28.43 242 iPd    27 28.30    0.7
BWA     28.73 244 iPd    27 28.90   -1.3
AFR     29.20  81 iP     27 34.00   -0.4
        1.0s    85.00nm          5.2mb
PAE     29.34  81 iP     27 35.20   -0.4
        1.0s    75.00nm          5.2mb
PPT     29.37  81 iP     27 35.60   -0.3
        1.0s    90.00nm          5.3mb
PPN     29.52  81 iP     27 36.00   -1.1
        1.0s    40.00nm          4.9mb
TVO     29.59  82 iP     27 36.50   -1.3
        1.0s    85.00nm          5.2mb
CMS     30.55 250 iPd    27 46.40    0.5
        0.6s    43.00nm          5.2mb
CTA     31.41 272 iPd    27 53.80    0.5
        0.9s   163.87nm          5.6mb
TOO     31.69 239 iPd    27 57.60    2.0
        0.7s    47.00nm          5.1mb
PMO     31.82  78 iP     27 55.90   -0.9
        1.0s    45.00nm          5.0mb
VAH     31.97  78 iP     27 56.70   -1.3
        1.0s    40.00nm          4.9mb
QLP     32.05 260 iPd    27 59.00    0.3
TPT     32.08  78 iP     27 58.10   -0.8
        1.0s   100.00nm          5.3mb
RUV     32.21  78 iP     27 59.10   -0.9
        1.0s    70.00nm          5.2mb
STK     34.18 250 iPd    28 17.40    0.9
        0.4s    34.00nm          5.2mb
PMG     34.84 291 eP     28 22.00   -0.2
ADE     36.73 245 iPd    28 38.00    0.3
        0.7s    72.60nm          5.3mb
QIS     37.31 269 iPd    28 42.00   -0.5
        1.0s    67.00nm          5.1mb
                  e      30 58.00
ASPA    41.75 262 eP     29 18.40   -0.2
                  eS     34 51.00
WB5     42.23 268 iPd    29 21.50   -0.9
                  eScP   34 09.40
                  eS     35 01.50
FORR    45.74 251 eP     29 48.50   -1.2
        0.5s   146.00nm          5.8mb
WARB    47.71 257 iPd    30 03.70   -1.1
        0.3s    46.00nm          5.4mb
KNA     48.57 271 iPd    30 10.20   -1.2
GUA     51.42 315 eP     30 30.20   -2.2
GUMO    51.49 315 eP     30 30.60   -2.3
PJG     51.49 315 eP     30 30.70   -2.2
COOL    51.66 250 iPd    30 32.60   -1.6
        0.5s    25.00nm          4.8mb
KLB     54.41 248 iPd    30 52.90   -0.9
NWAO    54.63 246 eP     30 54.00   -1.3
RKG     54.63 245 iPd    30 53.70   -1.6
        0.3s    33.00nm          5.1mb
MBL     54.97 261 iPd    30 56.10   -1.7
        0.3s     8.00nm          4.6mb
MUN     55.64 247 iPd    31 01.60   -0.8
MRWA    56.36 251 iPd    31 06.20   -1.2
        0.3s    10.00nm          4.6mb
NANU    58.41 258 eP     31 20.80   -0.7
SPA     64.96 180 iPc    32 04.70    0.9
        0.8s     7.50nm          4.4mb
MAW     76.52 201 eP     33 12.00    0.9
SSE     79.27 312 iP     33 25.50   -0.8
NJ2     81.43 311 Pc     33 38.00    0.5
IPM     81.90 279 ePd    33 40.00   -0.3
        1.0s    42.20nm          4.9mb
SYP     82.31  46 eP     33 43.00    0.9
PRS     82.53  44 eP     33 44.00    1.0
GCC     82.57  43 eP     33 43.80    0.6
PCC     82.63  43 eP     33 44.00    0.6
BCH     82.64  46 P      33 44.40    0.7
PRI     82.86  45 eP     33 45.80    1.0
BRK     82.94  42 eP     33 45.60    0.6
BKS     82.96  42 ePc    33 45.90    0.8
        0.8s    56.00nm          5.1mb
MHC     82.99  43 eP     33 46.30    0.9
ARN     83.06  43 P      33 46.20    0.5
MWC     83.40  47 eP     33 48.00    0.4
BAR     83.44  49 eP     33 43.00   -4.6X
PLM     83.70  49 eP     33 49.00   -0.1
WHN     83.71 308 eP     33 49.00    0.0
RVR     83.72  48 eP     33 49.00    0.0
PEC     83.81  48 P      33 49.80    0.3
SBB     83.83  47 eP     33 50.00    0.4
ISA     83.98  46 eP     33 51.00    0.7
FRI     83.98  44 eP     33 50.50    0.3
CMB     84.20  43 eP     33 51.60    0.3
ORV     84.46  42 eP     33 52.80    0.2
WDC     84.50  40 eP     33 53.30    0.6
CLC     84 64  46 eP     33 54.00    0.4
TPC     84.68  49 eP     33 54.00    0.2
CN2     84.86 324 Pd     33 54.00   -0.4
GSC     84.86  47 eP     33 55.00    0.3
GLA     84.92  50 eP     33 56.00    1.0
TNP     86.22  45 P      34 01.50    0.2
        0.8s    18.63nm          4.9mb
                  pP     35 53.00 501km
KVN     86.24  44 iP     34 01.40    0.0
                  pP     35 54.00 507km
NNT     86.59 286 iPc    34 04.50    1.3
                  e      53 01.80
GYA     87.32 301 P      34 07.00    0.3
NST     87.62 288 eP     34 10.00    1.9
LON     88.85  36 P      34 13.20   -0.1
TIY     88.99 313 Pd     34 14.70    0.5
RMW     89.30  35 P      34 15.50    0.1
XAN     89.45 308 iPc    34 17.50    1.1
MSU     89.74  47 P      34 18.50    0.7
KMI     89.77 298 Pd     34 19.00    0.8
PMR     90.01  14 P      34 17.00   -1.2
CHG     90.04 291 iPd    34 21.00    1.7
        1.0s    31.00nm          5.2mb
CHTO    90.04 291 iP     34 20.20    0.9
        1.0s    30.25nm          5.2mb
                  epP    36 12.00 498km
HHC     91.26 315 eP     34 25.40    0.8
PNT     91.60  35 eP     34 26.00    0.2
        0.6s     5.00nm          4.7mb
CD2     91.70 303 P      34 28.20    1.4
ALQ     91.82  52 P      34 27.40    0.0
        0.9s     8.53nm          4.8mb
FBA     93.22  13 eP     34 31.00   -1.9
        0.9s     0.90nm          3.8mb X
                  pP     36 26.00 513km
BW06    93.68  44 P      34 35.00   -0.9
GOL     94.89  48 P      34 40.00   -1.5
        0.9s    20.83nm          5.3mb
SOD    134.70 346 ePKP   40 32.00   -2.1X
NUR    140.79 341 ePKP   40 38.00   -7.5X
UPP    143.21 345 iPKP   40 45.80   -3.8X
NB2    143.33 351 PKP    40 46.40   -3.5X
        0.6s     6.60nm
HFS    143.78 348 ePKP   40 47.60   -3.0X
        0.4s    34.30nm
HRI    147.82 293 ePKP   41 02.00    3.7X
BHL    147.83 294 PKP    41 02.00    3.7X
DSI    148.23 290 ePKP   41 03.50    4.7X
MBH    148.70 286 iPKPd  41 04.50    4.9X
EKA    149.80   3 PKP    41 05.00    4.6X
        1.1s    11.20nm
KSP    151.44 338 iPKPc  41 09.80    6.7X
                  e      43 12.70
CLL    152.05 342 iPKPc  41 10.70    6.8X
        0.8s    19.00nm
                  i      43 13.40
BRG    152.16 341 iPKP   41 11.40    7.3X
                  i      41 23.50
BCAO   152.68 224 iPKPd  41 13.40    7.4X
        0.5s    15.00nm
                  ic     41 26.40
                  ic     43 18.90
     S.D. = 1.0  on 106 of 121 obs.
-----------------------------------------
    NOV  24, 1989  18h 45m 03.84± 0.22s
    26.912 N ± 5.1km  142.833 E ± 3.9km
    DEPTH =  33.2km  (  7 depth phases)
    5.0mb ( 17 obs.)  4.5Msz (  3 obs.)
 BONIN ISLANDS REGION               (212)

GUMO    13.39 171 e(P)   48 06.00   -8.1X
SSE     19.38 288 eP     49 29.00   -0.8
        1.0s     0.02nm          1.3mb X
     N  12s      0.80um
     E  20s      0.90um
                  eS     53 00.00
MDJ     20.63 332 eP     49 42.50   -0.4
     Z  20s      2.70um          4.6Msz
NJ2     21.48 290 Pc     49 51.00   -0.6
     Z  13s      0.70um          4.2MszX
                  S      53 48.00
SNY     21.70 318 Pc     49 53.40   -0.3
     Z  16s      1.30um          4.4MszX
     N  16s      2.50um
     E  16s      0.70um
                  eS     53 45.00
CN2     21.95 325 P      49 54.80   -1.4
     Z  17s      3.60um          4.9MszX
     N  17s      2.80um
     E  17s      2.10um
                  pP     49 59.00   15kmX
                  eS     53 51.00
BAG     23.13 248 eP     50 09.00    0.7
                  eS     54 27.00
TIA     23.73 299 P      50 12.60   -1.2
     N  15s      1.70um
                  S      54 28.00
WHN     25.21 285 P      50 29.00    0.9
        1.2s     0.08nm          2.2mb X
     Z  20s      1.25um          4.4Msz
     N  16s      1.98um
BJI     25.69 307 eP     50 32.00   -0.5
     Z  16s      1.46um          4.6MszX
     E  12s      0.60um
                  eS     54 48.00
TIY     27.74 300 eP     50 50.60   -0.9
     N  14s      1.10um
                  S      55 32.00
HHC     29.27 306 eP     51 06.20    0.9
     Z  16s      1.80um          4.8MszX
     N  15s      1.20um
     E  15s      1.20um
XAN     29.98 292 iPd    51 10.50   -1.1
                  S      56 09.00
GYA     32.25 278 P      51 31.40   -0.3
CD2     34.32 286 P      51 48.50   -1.0
     N  10s      0.90um
                  eS     57 12.80
KMI     35.97 276 Pd     52 04.20    0.3
GTA     37.77 300 eP     52 17.40   -1.4
     Z  24s      0.60um          4.3MszX
                  S      58 06.00
LOE     39.08 265 eP     52 30.00    0.2
CHG     41.07 268 eP     52 47.00    0.8
```

24d 18h

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        1.0s    18.00nm          4.8mb
CHTO    41.07 268 eP     52 47.00   0.8
        1.0s    15.00nm          4.7mb
                  e      52 56.50  32km
NST     41.15 263 eP     52 49.00   2.2
BDT     41.57 266 eP     52 51.00   0.8
        0.5s    14.90nm          5.0mb
IPM     45.64 248 ePd    53 24.80   1.6
        1.0s    33.90nm          5.2mb
WMQ     47.15 306 eP     53 35.50   0.5
      Z  20s     0.60um          4.6Msz
WB5     47.23 191 iPc    53 35.00  -0.7
QIS     47.29 184 eP     53 35.00  -1.1
ASPA    51.02 191 eP     54 03.50  -1.3
      Z  23s     0.67um          4.6MszX
                  LR     14 10.70
MBL     52.72 207 eP     54 17.50  -0.2
DZM     53.79 153 iPc    54 25.80   0.2
IMA     55.00  26 P      54 34.00  -0.1
WARB    55.04 198 eP     54 35.00   0.3
        0.6s     7.00nm          4.9mb
PMR     56.28  32 P      54 42.00  -1.2
        1.0s    17.50nm          5.0mb
NDI     57.39 288 iPd    54 51.50  -0.1
        0.8s    28.36nm          5.4mb
FORR    59.14 195 iPc    55 02.10  -1.4
HYB     59.74 275 eP     55 07.50  -0.6
BWA     61.23 175 eP     55 17.80  -0.1
CAN     62.17 174 eP     55 26.90   2.7X
GBA     62.18 272 P      55 25.00   0.3
INK     62.96  25 eP     55 28.00  -1.0
                  pP     55 38.50  34km
POO     63.51 278 iPd    55 33.40  -0.1
        1.2s    43.75nm          5.4mb
KOD     63.53 268 eP     55 34.00   0.0
QUE     65.56 293 eP     55 46.80   0.0
MBC     65.92  15 eP     55 48.50   0.3
        0.7s     8.00nm          4.9mb
                  pP     56 00.50  41km
MAIO    69.57 301 iPd    56 13.70   1.9
                  eS     05 20.00
KEV     73.34 341 eP     56 37.00   3.3X
LON     74.36  45 P      56 40.50   0.4
PNT     74.71  42 eP     56 43.00   1.0
SOD     74.78 339 iP     56 42.70   0.7
                  i      56 56.00  46kmX
WDC     76.30  51 eP     56 51.40   0.2
LBFM    76.44  50 P      56 51.50  -0.8
EDM     76.62  37 eP     56 53.00   0.2
ORV     77.44  52 eP     56 57.00  -0.6
SUF     77.60 335 iP     56 58.50   0.6
        0.9s    13.50nm          5.0mb
BKS     77.61  54 ePc    57 00.80   2.3
        0.8s    22.00nm          5.2mb
MHC     78.26  54 eP     57 02.10  -0.2
ARN     78.34  54 P      57 01.00  -1.6
CMB     78.87  53 eP     57 05.30  -0.2
SES     79.21  39 eP     57 07.00  -0.1
        1.4s   126.00nm          5.7mb
NUR     79.48 334 iP     57 09.40   1.2
        0.8s    14.70nm          5.0mb
                  e      57 19.00  31km
FRI     79.81  54 eP     57 10.20  -0.3
KVN     80.04  51 P      57 11.00  -1.0
LRM     80.61  43 ePd    57 15.80   0.9
                  e      57 27.30  38km
TNP     81.10  52 P      57 17.50  -0.1
        1.0s    10.00nm          4.8mb
FFC     81.59  32 iPd    57 20.10   0.6
        0.7s    12.00nm          5.0mb
CLC     81.86  54 eP     57 22.00   0.6
SBB     82.21  55 eP     57 23.00  -0.3
MWC     82.25  56 eP     57 35.00  11.4X
GSC     82.67  54 eP     57 26.00   0.3
TPC     83.78  55 eP     57 28.00  -3.3X
HFS     83.82 337 eP     57 30.40  -0.6
        1.0s    11.80nm          5.0mb
      Z  17s     0.18um          4.5MszX
                  LR     31 16.00
BAR     83.99  56 eP     57 44.00  11.6X
NB2     83.99 339 P      57 31.60  -0.3
        0.8s     6.10nm          4.8mb
MSU     84.38  50 P      57 35.00   0.5
GLA     85.18  55 eP     57 40.00   1.6
KRA     88.19 327 eP     58 03.90  11.2X
SPC     88.61 326 eP     58 06.80  11.8X
KSP     89.36 329 eP     58 01.00   2.7X
```

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                  e      58 09.30  26km
ALQ     90.16  50 eP     58 06.20   3.6X
                  pP     59 17.50 298kmX
BRG     90.39 330 eP     58 13.80  10.7X
        1.6s    19.00nm
CLL     90.49 331 iPd    58 13.90  10.4X
        1.5s    17.00nm
SRO     90.49 326 eP     58 15.40  11.9X
PRU     90.76 330 eP     58 19.00  14.2X
ZST     90.82 327 e(P)   58 15.30  10.2X
KHC     91.82 329 P      58 10.80   1.1
      Z  16s     1.00um          5.4MszX
      E  16s     0.80um
                  e      58 21.10  32km
ARE    146.55  79 ePKP   04 23.00 -19.9X
ZOBO   149.41  76 PKP    04 48.20   0.4
        1.0s    15.00nm
      Z  16s     0.18um          5.0MszX
                  i      04 53.80
                  LR     59 24.00
LPB    149.54  77 PKP    04 53.00   5.2X
CNCB   149.76  77 PKP    04 52.00   3.7X
      S.D. = 0.9  on  70 of  88 obs.
-----------------------------------
   NOV  24, 1989  19h 24m 39.70± 0.64s
   12.763 N ±10.9km   48.138 E ± 6.0km
   DEPTH =  10.0km  (geophysicist)
   4.8mb ( 19 obs.)
 EASTERN GULF OF ADEN              (415)

AAE      9.92 249 eP     27 06.50   0.7
ASW     18.31 310 eP     28 56.00   0.5
                  eS     32 32.00
BHD     20.70 351 iPd    29 22.00  -0.7
                  eS     36 05.00
                  eSS    38 54.00
MBH     20.92 326 iPc    29 27.00   2.1
DSI     22.10 330 e(P)   29 40.00   3.2X
KHI     23.33  22 e(P)   29 50.00   0.8
HRI     23.34 333 e(P)   29 53.00   3.8X
QUE     24.57  42 eP     30 02.60   1.3
TAB     25.25 357 eP     30 06.00  -1.7
                  e      30 22.00
POO     25.40  74 eP     30 10.50   1.4
MAIO    25.57  22 eP     30 11.00   0.4
MLR     37.68 334 eP     32 00.00   2.9X
BUL     37.93 211 iPd    31 36.40 -23.0X
SPC     43.00 333 eP     32 42.50   1.5
ZST     43.74 330 e(P)   32 47.40   0.6
KBA     44.94 326 iPc    32 57.60   0.8
        0.9s     7.70nm          4.6mb
WMQ     45.90  40 eP     33 04.00  -0.3
KSP     45.96 332 ePc    33 05.40   0.8
KHC     46.11 329 P      33 06.90   1.0
PRU     46.20 330 eP     33 05.00  -1.4
BRG     47.07 331 iP     33 13.40   0.1
        0.9s    12.00nm          5.0mb
CLL     47.80 331 eP     33 19.00  -0.1
        1.8s    20.00nm          4.9mb
BSF     49.03 324 eP     33 28.70  -0.1
        0.6s     3.60nm          4.6mb
CDF     49.06 325 eP     33 29.00   0.0
        0.6s     4.30nm          4.7mb
LBF     50.27 322 eP     33 38.20  -0.1
        0.8s     9.90nm          4.8mb
LOR     50.47 322 eP     33 39.80   0.0
        0.8s     6.70nm          4.6mb
SSF     50.59 322 eP     33 40.70   0.0
        0.8s     6.70nm          4.6mb
NUR     50.69 345 iP     33 41.50   0.3
        0.6s    10.40nm          5.0mb
BGF     50.77 321 eP     33 42.20   0.2
        1.0s    12.00nm          4.8mb
DOU     51.44 325 Pc     33 47.60   0.6
        0.9s    17.50nm          5.0mb
SNF     51.82 326 P      33 47.10  -2.8
SUF     52.29 347 eP     33 53.50   0.2
        0.8s    14.60nm          5.0mb
GTA     52.59  50 eP     33 55.00  -1.1
LDF     53.46 322 eP     34 01.50  -0.7
        0.8s     8.00nm          4.7mb
HFS     53.65 339 eP     34 02.30  -1.1
        0.9s    11.40nm          4.9mb
FLN     53.75 322 eP     34 03.80  -0.5
        0.6s     5.40nm          4.7mb
LPF     53.79 321 eP     34 03.90  -0.7
        0.8s     5.30nm          4.6mb
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```
NB2     55.15 339 P      34 13.70  -0.8
        0.9s     5.70nm          4.6mb
GYA     56.36  67 P      34 24.00   0.1
SOD     56.38 350 iP     34 23.40   0.2
EKA     58.08 328 Pd     34 34.50  -0.9
        0.8s     4.40nm          4.5mb
KEV     58.50 352 iP     34 38.50   0.4
        0.8s    19.10nm          5.2mb
HHC     61.70  50 eP     35 00.20  -0.5
BJI     65.12  52 eP     35 24.00   1.0
CN2     72.15  48 eP     36 05.40  -1.2
WB5     90.79 110 eP     37 44.30  -0.7
      S.D. = 1.0  on  42 of  46 obs.
-----------------------------------
%  NOV  24, 1989  19h 56m 11.61± 1.00s
   40.451 N ± 6.6km   23.007 E ±11.7km
   DEPTH =  10.0km  (geophysicist)
 GREECE                            (364)
      ML 2.2 (THE).

THE      0.18 350 iPgc   56 16.60   0.9
                  iSg    56 18.80
LIT      0.53 229 ePgd   56 22.90   0.6
                  eSg    56 30.80
GRG      0.68 318 ePg    56 24.50  -0.7
                  eSg    56 33.40
KNT      0.72 353 ePgc   56 25.30  -0.4
                  eSg    56 35.20
SRS      0.80  34 ePgc   56 27.20   0.0
                  eSg    56 40.00
AGG      1.52 200 ePb    56 38.40  -0.5
      S.D. = 0.8  on   6 of   6 obs.
-----------------------------------
%  NOV  24, 1989  20h 12m 31.56± 0.78s
   39.180 N ± 6.0km   28.356 E ± 8.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

DST      0.47  26 iPg    12 39.90  -1.3
IZM      1.16 228 ePn    12 52.50  -0.7
BNT      1.22 344 iPn    12 54.90   0.6
EDC      1.23 342 iPn    12 55.00   0.6
KHL      1.25 133 ePn    12 55.50   0.6
YLV      1.59  29 iPn    12 59.90   0.0
CTT      1.97   2 ePn    13 05.40   0.1
      S.D. = 0.9  on   7 of   7 obs.
-----------------------------------
?  NOV  24, 1989  20h 52m 57.58± 3.24s
   37.350 N ±26.7km   72.012 E ±25.6km
   DEPTH = 167.0 ± 35.2 km
   4.3mb (  4 obs.)
 TAJIK SSR                         (715)

NDI      9.68 152 eP     55 14.00  -0.1
        0.7s    10.96nm          4.5mb
                  eS     56 52.50
MAIO    10.09 268 ePn    55 20.00   0.5
                  eSn    56 38.00
HYB     20.68 162 eP     57 25.00  -0.9
NUR     37.62 323 iP     59 57.00  -0.3
SOD     39.32 334 iP     00 15.10   3.8X
HFS     42.91 321 eP     00 40.90   0.2
        0.7s     3.90nm          4.1mb
NB2     44.20 322 P      00 50.50  -0.7
        0.8s     4.50nm          4.1mb
MBC     66.45   3 eP     03 36.50   6.2X
        0.9s     8.00nm          4.6mb
INK     72.94  10 eP     04 16.00   6.4X
WB5     81.73 123 eP     05 00.00   1.2
      S.D. = 1.0  on   7 of  10 obs.
-----------------------------------
?  NOV  24, 1989  21h 29m 13.77± 7.08s
   32.642 S ±37.9km   70.821 W ±15.0km
   DEPTH =  86.2 ± 51.9 km
 CHILE-ARGENTINA BORDER REGION     (127)

JACH     0.20 102 iPc    29 26.50  -0.3
                  iS     29 35.50
ROCH     0.37 206 iPd    29 27.60   0.0
PEL      0.51 167 iPd    29 28.60   0.1
                  iS     29 38.50
FCH      0.82 147 iPd    29 32.30   0.6
                  iS     29 45.20
SAN      0.82 171 iPd    29 31.50   0.0
                  iS     29 44.00
PCH      1.01 165 eP     29 33.50  -0.2
                  iS     29 48.00
```

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TACH     1.01 185 iPc    29 33.20  -0.4
                 iS     29 47.50
LCCH     1.04 217 iPc    29 34.50   0.5
                 iS     29 49.00
LNV      1.40 200 iPd    29 38.10  -0.3
                 iS     29 56.40
     S.D. = 0.5  on   9 of   9 obs.
-------------------------------------
   NOV  24, 1989  21h 31m 00.47± 0.55s
   41.766 N ± 5.0km   19.572 E ± 5.6km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                          (391)
      ML 2.3 (TTG).

SDA      0.26 348 iPgc   31 06.50   0.6
ULC      0.31 309 ePg    31 05.70  -1.2
PHP      0.66  97 iPgc   31 11.80  -1.7
TTG      0.70 341 ePg    31 13.30  -1.0
                 eSg    31 24.50
BCI      0.70  31 iPgc   31 13.40  -0.9
BDV      0.76 313 ePg    31 14.70  -0.6
                 eSg    31 27.00
PVY      0.88  20 ePg    31 16.60  -0.9
                 eSg    31 31.50
HCY      1.05 311 ePg    31 20.50   0.2
                 eSg    31 35.00
BERA     1.10 165 ePg    31 21.00  -0.1
NKY      1.13 338 ePg    31 23.50   1.8
                 eSg    31 38.00
IVA      1.13  12 ePg    31 21.60  -0.1
                 eSg    31 40.50
BRY      1.37 326 ePg    31 26.00   0.3
                 eSg    31 46.00
PLE      1.57 355 ePn    31 30.60   2.1
                 eSn    31 54.00
LSK      1.79 154 ePn    31 33.10   1.4
LCI      1.88 221 P      31 28.50  -4.4X
                 eSn    31 49.50
BRT      1.99 244 P      31 33.60  -1.0
                 eSn    32 00.40
GRG      2.28 110 eP     31 39.00   0.3
KNT      2.57 102 eP     31 43.60   0.7
TDS      3.24 230 P      31 33.50 -18.8X
SDI      4.31 271 P      32 03.30  -4.3X
                 eSn    32 53.00
     S.D. = 1.2  on  17 of  20 obs.
-------------------------------------
? NOV  24, 1989  22h 44m 40.87± 3.22s
   43.064 N ±11.8km     0.550 W ±26.4km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                         (378)
      MD 1.0 (STR).

ESCF     0.02 308 Pg     44 42.96   0.1
                 Sg     44 43.75
ATE      0.11 281 Pg     44 43.62  -0.2
                 Sg     44 45.05
LHE      0.16 199 Pg     44 44.62   0.0
                 Sg     44 47.38
ISSF     0.18 259 Pg     44 45.17   0.1
                 Sg     44 47.83
     S.D. = 0.2  on   4 of   4 obs.
-------------------------------------
   NOV  24, 1989  23h 02m 23.40± 1.31s
   19.082 S ± 6.0km  173.498 W ± 5.4km
   DEPTH =  66.5 ± 10.9 km
   5.4mb ( 24 obs.)
 TONGA ISLANDS                    (173)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 13S, 22C
      Centroid Locotion:
      Origin Time        23:02:31.6 0.5
      Lot 18.87S  FIX;Lon 173.77W  FIX
      Oep  52.3 4.7 Holf-durotion  1.6
      Moment Tensor;   Scole 10**16 Nm
        Mrr= 5.46 0.37  Mtt= 1.30 0.73
        Mff=-6.76 0.54  Mrt= 1.25 0.61
        Mrf=-1.78 0.62  Mtf=-2.66 0.42
       Principal Axes:
        T  Val=  6.29  Plg=67  Azm= 30
        N        1.42      22      193
        P       -7.70       6      286
      Best Double Couple:Mo=7.0*10**16
       NP1:Strike= 39 Dip=44 Slip= 124
       NP2:        176     55       62
```

```
AFI      5.40  18 eP     03 34.00  -9.4X
                 eS     04 36.00
SVA      7.69 276 ePc    04 18.00   2.9
MBU      7.69 285 ePd    04 17.10   1.9
VUN      7.70 277 eP     04 17.10   1.8
PVC     17.31 272 iP     06 28.00   5.8X
DZM     19.01 258 iPc    06 42.00  -0.9
TVO     23.04  91 eP     07 26.00   2.2
         1.0s    60.00nm          5.0mb
PGZ     23.19 200 P      07 27.20   2.2
MNG     23.46 201 eP     07 26.30  -1.3
         0.1s    15.00nm          5.4mb
                 eS     11 36.50
KIW     23.87 202 P      07 32.60   0.9
CAW     24.03 202 P      07 33.40   0.2
MRW     24.27 202 P      07 35.70   0.2
WEL     24.30 202 P      07 36.00   0.3
                 S      11 56.00
TCW     24.41 203 P      07 36.30  -0.5
RUV     25.24  85 eP     07 43.00  -1.9
         1.0s    25.00nm          4.6mb
MSZ     29.85 207 P      08 33.00   6.5X
BRS     32.00 249 iPc    08 45.00  -0.6
                 i      08 49.00
COO     33.30 243 eP     08 55.50  -1.5
RMO     35.48 251 eP     09 14.00  -1.6
CNB     36.53 236 eP     09 24.00  -0.5
CAN     36.82 236 eP     09 25.50  -1.3
BWA     37.04 238 eP     09 24.20  -4.5X
CTA     37.87 262 iP     09 33.40  -2.4
         0.8s    70.15nm          5.6mb
CMS     38.59 243 eP     09 40.00  -1.7
PMG     39.25 279 eP     09 47 00  -0.4
TOO     40.15 234 eP     09 53.80  -0.8
STK     42.22 243 eP     10 10.00  -1.6
QIS     44.03 260 eP     10 24.00  -2.4
ASPA    48.98 255 eP     11 03.40  -2.0
         1.0s    95.00nm          5.8mb
       Z  21s     0.76um          4.7Msz
                 eS     17 53.70
                 LR     30 24.00
WB5     48.99 260 eP     11 02.80  -2.8X
MTN     53.42 268 eP     11 37.00  -2.0
FORR    53.70 245 eP     11 39.00  -1.9
KNA     54.98 264 eP     11 48.00  -2.5
WARB    55.30 251 iPd    11 50.40  -2.3
         0.5s    15.00nm          5.3mb
SBA     59.59 185 iPc    12 25.80   3.7X
MBL     62.21 256 iPc    12 38.70  -2.0
NWAO    62.78 242 eP     12 45.00   0.6
RKG     62.86 241 eP     12 44.00  -0.8
SPA     71.04 180 eP     13 37.20   1.1
         1.3s   173.33nm          5.8mb
KKM     73.55 283 eP     13 52.00   0.4
PRS     73.91  42 eP     13 52.10  -1.1
BCH     74.02  43 P      13 52.50  -1.5
PRI     74.24  42 eP     13 54.50  -0.8
BRK     74.34  40 eP     13 53.30  -2.3
BKS     74.36  40 eP     13 55.10  -0.7
         0.7s    22.00nm          5.2mb
                 e      14 10.00
ARN     74.45  41 P      13 54.50  -1.9
PLM     75.08  46 P      13 59.50  -0.8
FRI     75.37  42 eP     14 00.00  -1.6
CMB     75.59  41 eP     14 01.70  -1.2
ORV     75.87  39 eP     14 03.00  -1.4
WDC     75.93  38 eP     14 03.80  -0.9
LBFM    76.80  37 P      14 08.00  -1.8
TNP     77.60  42 iP     14 14.00  -0.3
         1.1s    37.34nm          5.3mb
KVN     77.63  41 P      14 13.00  -1.4
KDC     78.51  11 eP     14 17.40  -1.2
LON     80.37  33 P      14 27.50  -1.5
RMW     80.84  33 P      14 30.00  -1.5
MSU     81.11  44 P      14 33.30   0.0
III     81.65  67 (P)    14 37.00   0.6
MDJ     81.88 323 eP     14 36.50  -0.3
NJ2     82.31 308 Pd     14 40.00   0.7
PPM     82.65  67 iPc    14 43.00   1.0
PMR     82.73  11 ePc    14 39.50  -1.3
         1.0s    37.50nm          5.3mb
TTA     82.89   8 P      14 41.00  -0.8
         1.0s    41.88nm          5.4mb
PNT     83.16  32 ePc    14 43.00  -0.4
         0.9s    29.00nm          5.3mb
ALQ     83.24  50 iP     14 45.00   0.7
         1.1s    33.86nm          5.2mb
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                 e      14 54.00
OXX     83.57  70 iPc    14 47.50   1.2
TOA     83.78  13 eP     14 46.00  -0.3
CN2     83.84 320 Pc     14 47.00   0.1
       Z  20s     0.40um          4.8Msz
SNY     83.93 318 Pc     14 47.00  -0.3
MAW     84.29 199 eP     14 50.00   1.1
LRM     84.96  38 ePc    14 52.20  -0.6
BW06    85.07  42 P      14 52.00  -1.4
WHN     85.08 304 eP     14 54.00   0.6
TIA     85.51 311 eP     14 55.80   0.3
FBA     86.01  11 iPc    14 56.30  -1.0
         1.0s    75.00nm          5.7mb
                 i      15 09.00
IMA     86.20   8 ePc    14 57.90  -0.5
         1.0s    28.60nm          5.3mb
GOL     86.27  46 P      14 59.00  -0.5
IPM     87.22 276 ePc    15 05.10   0.8
         1.0s    41.50nm          5.6mb
BJI     87.93 314 eP     15 07.00  -0.1
         1.5s    39.00nm          5.3mb
       Z  24s     0.32um          4.7MszX
                 eS     25 48.00
SES     88.27  35 ePc    15 07.40  -1.2
         1.2s    76.00nm          5.8mb
                 pP     15 25.00  62kmX
SNG     88.45 278 eP     15 21.70  11.6X
EDM     88.66  31 iPc    15 09.50  -0.9
         1.2s    66.00nm          5.7mb
ACO     89.33  51 eP     15 13.00  -0.9
TIY     89.54 310 Pc     15 15.60   0.6
       Z  20s     0.90um          5.2Msz
GYA     89.68 298 P      15 17.20   1.3
SNA     90.63 177 iPd    15 24.40   5.1X
         0.9s    87.39nm          6.1mb
XAN     90.70 306 Pd     15 21.10   0.8
NNT     91.05 283 eP     15 34.00  11.8X
SIO     91.06  53 eP     15 22.50   0.6
HHC     91.45 313 eP     15 24.60   0.9
TUL     91.51  53 eP     15 24.30   0.4
         1.3s    40.80nm          5.7mb
       Z  21s     0.31um          4.7Msz
                 LR     45 00.00
LNO     91.51  53 eP     15 24.30   0.5
INK     91.85  14 eP     15 24.00  -0.8
KMI     92.52 296 Pc     15 30.50   1.4
BDT     93.23 287 eP     15 33.90   1.7
         0.9s    14.90nm          5.4mb
CHG     93.78 288 iPc    15 36.00   1.2
         1.0s    10.50nm          5.2mb
LZH     95.32 306 eP     15 43.00   1.3
         1.5s    19.00nm          5.3mb
FVM     96.26  52 P      15 45.50  -0.2
ZOBO    98.65 110 (P)    16 00.00   2.3
       Z  22s     0.58um          5.0Msz
                 LR     48 36.00
GTA     99.39 308 eP     16 00.00   0.0
GBA    112.11 277 PKPd   20 53.40  -0.3
         1.0s     4.80nm
QUE    124.50 294 ePKP   21 18.00   0 6
SOD    130.04 350 iPKP   21 27.00   0.4
MAIO   130.65 302 iPKPd  21 29.50   0.7
SUF    134.33 347 iPKP   21 35.30   0.5
         0.8s    15.30nm
BUL    135.40 210 iPKPc  21 36.10  -2.3
         0.9s     8.82nm
NUR    136.64 347 iPKP   21 39.20  -0.1
         0.9s    20.30nm
NB2    137.95 357 PKP    21 28.20 -13.7X
         1.2s    12.20nm
SLL    138.37 355 ePKP   21 30.20 -12.4X
         0.5s     2.60nm
PTZ    138.83 218 ePKP   21 45.00   0.2
LSZ    139.73 213 ePKP   21 40.00  -6.5X
                 i      21 45.00
KMZ    142.48 212 ePKP   21 49.00  -2.4
MZZ    142.74 218 iPKPc  21 49.00  -2.9
                 i      21 56.00
                 i      22 10.00
                 i      22 14.00
EKA    143.07   9 PKP    21 47.00  -4.1X
         2.0s    57.90nm
BHD    143.39 300 ePKP   21 45.00  -7.3X
MSL    143.54 306 ePKP   21 49.00  -3.5X
NAI    144.01 239 iPKPd  21 55.00   0.8
         0.8s    24.63nm
ECP    145.46  14 ePKP   21 54.90  -0.3
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24d 23h

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        1.0s   206.00nm
WIT   146.34 360 ePKP  21 59.00   2.4X
KVT   146.58 317 ePKP  21 54.00  -3.5X
WTS   147.15 360 ePKP  21 58.50   0.6
        0.9s    74.00nm
                  i    22 00.80
KRA   147.28 344 iPKPc 22 01.00   2.8X
        1.2s   108.00nm
                  e    22 07.20
                  e    22 18.20
KSP   147.37 348 ePKP  21 58.60   0.2
CLL   147.43 352 iPKPd 21 59.30   0.9
CLI   147.71 333 ePKPc 22 02.50   3.4X
BRG   147.73 351 ePKP  21 59.40   0.4
        1.2s   120.00nm
                  i    22 02.30
KAS   147.85 320 ePKP  22 01.00   1.4
SPC   147.99 343 ePKP  22 01.00   1.3
MOX   148.24 354 ePKP  22 00.00   0.2
UCC   148.31   3 PKPc 22 04.00   4.2X
CFR   148.36 330 ePKP  22 00.00  -0.1
ENN   148.38   1 ePKP  22 00.50   0.5
        0.9s    45.00nm
                  i    22 04.00
VRI   148.49 332 iPKPc 22 04.00   3.7X
PRU   148.50 350 PKPc  22 05.00   4.8X
        1.0s    72.30nm
MEM   148.54   1 iPKP  22 01.51   1.3
                  i    22 04.15
SNF   148.59   3 iPKP  21 59.42  -0.9
                  i    22 04.52
BRD   148.62 332 ePKPc 22 05.50   4.9X
TLB   148.86 330 ePKPc 22 05.50   4.6X
DOU   149.02   2 PKPc 22 05.60   4.6X
MLR   149.12 333 ePKPc 22 02.00   0.5
ISR   149.14 332 ePKPc 22 06.50   5.0X
GRF   149.23 354 iPKP  22 02.60   1.2
                  i    22 06.80
                  i    22 10.80
PSZ   149.24 342 ePKP  22 06.20   4.6X
BBTK  149.36 318 iPKPd 22 03.00   0.9
PSN   149.45 328 iPKPc 22 07.00   5.1X
KHC   149.49 351 iPKPc 22 03.00   1.2
                  i    22 08.00
CMP   149.69 334 ePKPc 22 08.00   5.8X
ZST   149.71 346 ePKP  22 02.80   0.7
                  i    22 07.80
SRO   149.77 344 ePKP  22 02.80   0.6
                  i    22 08.10
VKA   149.82 347 ePKP  22 02.00  -0.3
        1.5s   179.00nm
                  i    22 07.30
                  i    22 13.00
FLN   149.86   9 ePKP  22 03.10   0.8
LDF   150.08   9 ePKP  22 03.30   0.6
BHL   150.15 306 PKP   22 09.50   6.1X
GRR   150.16  10 ePKP  22 03.70   0.9
GWF   150.16 359 PKP   22 03.41   0.6
SOP   150.32 346 ePKP  22 04.50   1.5
HRI   150.32 304 iPKP  22 05.00   1.3
KMR   150.44 350 iPKP+ 22 09.60   6.4X
LPF   150.48  10 ePKP  22 04.10   0.8
BZS   150.72 338 ePKP  22 05.50   1.8X
FUR   150.73 353 iPKPc 22 10.00   6.3X
        1.0s   139.00nm
WLS   150.73 359 PKP   22 03.93   0.2
CDF   150.74 359 PKP   22 03.83   0.0
ECH   150.93 359 PKP   22 03.73  -0.3
VITF  150.94   1 PKP   22 04.20   0.3
BHG   150.96 351 iPKPc 22 10.60   6.5X
        1.0s    82.00nm
YLV   150.97 322 iPKP  22 10.40   6.0X
CTT   151.11 324 iPKP  22 10.30   5.8X
HAU   151.15   0 ePKP  22 05.00   0.7
DSI   151.18 301 ePKP  22 06.00   1.2
FEL   151.25 358 PKP   22 04.63   0.0
MOF   151.30 359 PKP   22 04.85   0.2
BSF   151.32 360 PKP   22 04.85   0.1
CSS   151.46 309 ePKP  22 12.20   7.0X
KBA   151.52 350 iPKPd 22 04.80  -0.3
        0.9s    36.00nm
                  i    22 10.80
                  i    22 13.40
BBS   151.68 359 PKP   22 05.44   0.3
LOMF  151.80 360 PKP   22 05.97   0.5
LOR   151.80   4 ePKP  22 06.30   1.0
BEO   151.82 339 iPKP  22 12.50   7.1X
PRNI  151.87 299 e(PKP)22 06.00   0.0
BNT   151.93 324 iPKP  22 12.40   6.7X
DIM   151.97 329 iPKPc 22 13.00   7.3X
SSF   151.99   4 ePKP  22 06.50   0.9
MFF   152.01  10 ePKP  22 06.50   0.9
DST   152.03 322 iPKP  22 12.90   7.0X
FVI   152.08 351 PKP   22 06.10   0.4
LBF   152.09   4 ePKP  22 06.80   1.0
BCK   152.11 316 ePKP  22 12.40   6.2X
PTJ   152.14 346 ePKP  22 12.40   6.5X
ZAG   152.21 346 ePKP  22 06.50   0.6
PGB   152.23 331 ePKP  22 14.00   7.8X
AVF   152.24   5 ePKP  22 06.70   0.8
KHL   152.29 319 iPKP  22 13.60   7.2X
LJU   152.31 348 ePKP  22 06.40   0.3
                  i    22 13.50
                  e    22 17.40
                  e    22 25.50
KDZ   152.33 328 iPKPd 22 13.00   6.7X
SMF   152.42   4 ePKP  22 06.90   0.7
BGF   152.43   5 ePKP  22 07.10   0.9
VOY   152.44 349 ePKP  22 06.40   0.0
                  i    22 13.20
                  e    22 20.00
                  e    22 23.40
CEY   152.62 348 ePKP  22 06.50  -0.1
                  i    22 14.10
                  e    22 18.60
                  e    22 24.50
                  e    22 40.00
TCF   152.64   6 ePKP  22 07.30   0.7
RZN   152.64 329 ePKP  22 15.00   8.1X
VBY   152.67 347 iPKPd 22 08.30   1.7
                  i    22 14.80
                  i    22 21.00
                  i    22 32.00
CTI   152.77 352 PKP   22 07.20   0.3
TRI   152.77 349 iPKPc 22 13.90   7.2X
ELL   152.96 315 ePKP  22 15.00   7.6X
AGO   152.96   5 PKP   22 07.76   0.8
RIY   153.01 348 ePKPd 22 14.20   7.2X
EZN   153.18 325 iPKP  22 07.00  -0.4
VAI   153.22 356 PKP   22 07.50   0.2
PYM   153.25   5 PKP   22 08.73   1.2
KKB   153.26 332 iPKPc 22 16.00   8.4X
SAL   153.34 354 PKP   22 15.50   8.0X
ORO   153.50 358 PKP   22 16.00   8.1X
RJF   153.53   8 ePKP  22 09.00   1.2
BNI   154.10 360 PKP   22 10.50   1.7
BOB   154.27 355 PKP   22 17.00   8.1X
BDI   154.86 353 PKP   22 09.50  -0.2
FIR   155.06 352 ePKP  22 19.00   9.2X
BCAO  161.29 220 iPKPd 22 19.00   0.9
        0.4s     7.00nm
                  id   23 03.20
                  ic   27 03.40
LIC   162.99 137 PKP   22 19.80   0.1
KIC   163.28 138 PKP   22 20.20   0.2
        0.8s     7.50nm
TIC   163.31 136 PKP   22 20.40   0.3
      S.D. = 1.1  on 168 of 223 obs.
-----------------------------------
?  NOV  25, 1989  00h 12m 53.12± 3.28s
     6.774 S ±31.7km  150.116 E ±22.7km
    DEPTH =  33.0km  (normal)
    4.4mb (  1 obs.)
 NEW BRITAIN REGION                (192)

LAT     3.10 272 eP    13 41.00   0.2
                 eS    14 22.00
KDB     3.97 227 iPd   13 53.40   0.2
                 eS    14 42.00
RMO    19.65 184 iPd   17 22.40   0.1
WB5    20.09 228 iPd   17 22.50  -4.4X
BRS    20.66 173 iPd   17 33.00   0.2
ASPA   22.91 221 eP    17 54.70  -0.7
        0.9s    12.00nm          4.4mb
      S.D. = 0.5  on   5 of   6 obs.
-----------------------------------
*  NOV  25, 1989  00h 32m 13.38± 1.52s
    15.983 N ± 7.3km   60.879 W ±15.1km
    DEPTH =  70.2 ± 17.7 km
 LEEWARD ISLANDS                   ( 92)

DEG     0.37 332 ePc   32 25.06  -0.2
                 S     32 33.20
SFG     0.41 311 eP    32 25.78   0.3
                 S     32 34.40
MGG     0.43 261 ePc   32 25.63   0.0
                 S     32 34.20
SEG     0.73 305 ePc   32 29.08   0.2
                 S     32 40.90
BBL     0.74 232 eP    32 28.61  -0.3
                 S     32 38.80
PAG     0.77 274 eP    32 29.60   0.2
                 S     32 41.50
CRM     1.22 182 iPd   32 34.96  -0.1
                 S     32 50.50
FDF     1.27 192 iPd   32 35.58  -0.1
                 S     32 51.40
BPA     1.41 319 eP    32 37.40  -0.2
MVM     1.42 181 iPd   32 37.87   0.2
                 S     32 55.60
BIM     1.47 187 iPd   32 38.54   0.2
                 S     32 56.60
      S.D. = 0.3  on  11 of  11 obs.
-----------------------------------
%  NOV  25, 1989  00h 39m 25.62± 0.95s
    42.134 N ± 6.9km   19.199 E ±10.2km
    DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.2 (TTG)

ULC     0.17 167 ePg   39 29.60   0.0
                 eSg   39 33.00
TTG     0.30   9 iPgd  39 31.90   0.1
                 iSg   39 36.30
BDV     0.31 299 ePg   39 32.50   0.4
                 eSg   39 38.00
HCY     0.61 301 ePg   39 37.50  -0.4
                 eSg   39 48.00
BRY     0.91 328 ePg   39 43.00  -0.1
                 eSg   39 58.50
      S.D. = 0.4  on   5 of   5 obs.
-----------------------------------
?  NOV  25, 1989  03h 14m 28.74±11.29s
    41.713 N ±84.9km   12.718 E ±74.1km
    DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

RDP     0.05 359 Pd    14 30.80  -0.1
                 eSg   14 32.50
RMP     0.10 353 Pc    14 31.40  -0.1
                 eSg   14 33.20
MNS     0.67 358 P     14 42.00  -0.1
                 eSg   14 51.30
SDI     0.82  90 P     14 44.60  -0.1
                 eSg   14 58.40
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------
?  NOV  25, 1989  03h 17m 08.74± 3.58s
    41.736 N ±33.0km   12.733 E ±23.7km
    DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

RDP     0.03 331 Pd    17 10.70  -0.1
                 eSg   17 13.60
RMP     0.08 343 Pc    17 11.30   0.1
                 eSg   17 15.20
MNS     0.65 357 P     17 21.70  -0.1
                 eSg   17 31.20
SDI     0.81  92 Pc    17 24.50   0.0
                 eSg   17 38.50
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------
%  NOV  25, 1989  03h 32m 07.24± 2.00s
    11.161 N ± 7.4km   62.036 W ±25.0km
    DEPTH =  33.0km  (normal)
 WINDWARD ISLANDS                  ( 95)
      MD 3.2 (TRN).

TCE     0.54 149 iP    32 18.26  -0.2
                 iS    32 30.94
TRN     0.80 129 eP    32 21.59  -0.5
                 eS    32 36.88
TPP     1.02 146 eP    32 25.70   0.5
                 eS    32 40.55
GRW     1.06  20 eP    32 26.12   0.3
                 eS    32 42.19
BOT     1.29  90 eP    32 29.30   0.2
                 eS    32 50.61
SVV     2.29  20 eP    32 43.15  -0.3
                 eS    33 17.42
      S.D. = 0.5  on   6 of   6 obs.
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   NOV  25, 1989  04h 46m 00.17± 0.61s
   38.961 N ± 6.0km   26.980 E ± 7.9km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                          (365)

IZM      0.60 158 iPg    46 11.10   -1.3
                  iSg    46 17.10
EZN      1.00 330 iPg    46 19.60    0.5
                  iSg    46 35.10
DST      1.43  63 iPn    46 26.00   -0.2
EDC      1.54  26 iPn    46 27.50   -0.2
BNT      1.57  27 iPn    46 28.20    0.1
CIN      1.61 147 ePg    46 28.00   -0.7
                  iSg    46 48.00
KHL      2.09 107 ePn    46 36.10    0.3
YER      2.09 150 iPn    46 38.00    2.2
CTT      2.45  27 ePn    46 40.30   -0.5
ISK      2.64  37 ePn    46 49.00    5.5X
KDZ      2.94 337 eP     46 49.00    1.2
                  iS     47 25.00
RZN      3.23 328 ePc    46 52.00    0.0
MMB      3.62 318 eP     46 56.00   -1.4
VTS      4.62 323 eP     47 12.00    0.2
      S.D. = 1.1  on  13 of  14 obs.
-----------------------------------------
*  NOV  25, 1989  04h 58m 48.12± 2 45s
   21.891 S ±22.1km   67.679 W ±18.7km
   DEPTH =  33.0km  (normal)
 CHILE-BOLIVIA BORDER REGION         (124)

CCH      4.71  18 Pc     59 58.50   -0.6
CNCB     5.06 357 Pc     00 05.20    0.9
                  S      00 55.00
LPB      5.35 356 iPc    00 08.70    0.6
       0.9s   168.07nm          5.5mb X
ZOBO     5.61 356 P      00 11.20   -0.8
                  S      01 06.00
ARE      6.49 326 iPc    00 23.90   -0.3
                  eS     01 28.00
PPD     15.19  94 e(P)   02 22.00    0.1
      S.D. = 0.8  on   6 of   6 obs.
-----------------------------------------
%  NOV  25, 1989  05h 12m 29.05± 1.01s
   60.127 N ± 5.8km    5.151 E ±11.0km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                     (535)
      MD 1.6 (BER).

ASK      0.36   4 iPgd   12 37.27    0.9
                  iSg    12 42.10
ODD1     0.77 106 iP     12 44.39    0.2
                  iSg    12 55.48
KMY      0.92 177 iP     12 46.21   -0.4
                  eS     12 57.08
SUE      0.95 349 eP     12 46.97   -0.2
                  eS     12 57.94
BLS1     1.12 130 eP     12 51.08    0.9
                  eS     13 05.49
HYA      1.16  26 iP     12 50.31   -0.4
                  iS     13 07.80
NRA0     3.23  76 eP     13 19.70   -1.0
                  eS     13 56.10
                  iSg    14 08.30
      S.D. = 0.9  on   7 of   7 obs.
-----------------------------------------
?  NOV  25, 1989  06h 12m 44.83± 1.21s
   79.252 N ±16.0km    3.035 E ±17.5km
   DEPTH =  10.0km  (geophysicist)
   3.9mb (  2 obs.)
 GREENLAND SEA                       (640)

KBS      1.73  97 iP+    13 14.50   -0.5
                  iS     13 33.50
KEV     11.33 134 eP     15 39.00    9.5X
SOD     13.53 139 eP     16 00.00    1.1
SUF     17.96 144 eP     16 58.30    2.6X
HFS     19.49 164 eP     17 13.60   -0.8
       0.5s    3.30nm          3.9mb
MBC     21.63 327 eP     17 36.50    0.1
       1.1s    7.00nm          4.0mb
      S.D. = 1.5  on   4 of   6 obs.
-----------------------------------------
   NOV  25, 1989  07h 02m 49.00± 0.70s
   35.944 N ± 6.7km  140.134 E ± 6.2km
   DEPTH =  76.1 ±  5.3 km
   4.8mb ( 13 obs.)
```

```
NEAR EAST COAST OF HONSHU, JAPAN(228)

KAKJ     0.26   7 iP+    03 00.50   -0.2
                  S      03 07.80
CHJJ     0.93 277 iPd    03 07.10   -0.1
                  S      03 20.20
NIIJ     1.58 325 iPd    03 16.00    0.4
                  S      03 34.90
IIDJ     1.87 256 iPd    03 20.60    1.0
                  S      03 43.80
MTMJ     1.99 289 iPd    03 22.20    0.9
YAMJ     2.23 358 eP     03 23.40   -1.1
OFUJ     3.36  21 iPd    03 40.60    0.4
                  S      04 19.30
TSRJ     3.40 264 iPd    03 41.10    0.3
WKYJ     4.10 247 P      03 50.30   -0.4
TKSJ     5.37 250 P      04 07.90   -0.4
YONJ     5.49 264 P      04 09.60   -0.4
SHK      6.26 259 iP     04 20.10   -0.6
       0.8s    89.55nm          5.2mb
MRRJ     6.51   6 P      04 25.40    1.3
HOOJ     6.88  20 eP     04 27.30   -1.9
                  eS     05 41.20
SHNJ     7.62 259 eP     04 40.10    0.6
KUSJ     7.97  25 P      04 40.10   -4.1X
                  eS     06 03.70
ASAJ     8.39  12 P      04 47.50   -2.5
KUMJ     8.42 249 iPd    04 51.70    1.2
CN2     13.73 309 eP     06 02.00    0.5
SNY     14.16 299 eP     06 07.40    0.3
DL2     15.00 287 eP     06 20.00    2.0
SSE     16.52 258 eP     06 38.00    0.8
       1.0s    17.00nm          4.2mb
     E  10s     0.20um
TIA     18.60 278 eP     07 05.20    2.4
BJI     19.30 289 eP     07 08.50   -2.0
WHN     22.20 263 Pc     07 40.00    0.0
       0.7s     0.05nm          2.0mb X
TIY     22.22 283 eP     07 37.00   -3.3X
HHC     22.87 291 eP     07 45.00   -1.7
GYA     30.03 261 P      08 50.20   -2.7
KMI     33.78 262 Pd     09 24.00   -1.9
WMQ     40.42 298 P      10 21.40    0.1
PMR     50.11  36 P      11 38.00    0.1
FBA     50.57  32 P      11 42.00    0.6
       0.7s     8.36nm          4.9mb
WB5     55.79 187 eP     12 19.20   -1.2
INK     55.82  27 ePc    12 20.00   -0.2
MBC     57.86  16 eP     12 28.00   -6.5X
       0.5s     3.00nm          4.7mb
ASPA    59.58 187 eP     12 47.20    0.2
       0.7s     5.00nm          4.8mb
MBL     59.96 202 iPc    12 48.50   -1.1
GBA     60.10 265 P      12 49.90   -0.9
POO     60.38 272 eP     12 51.50   -1.2
NANU    62.67 206 eP     13 07.00   -0.8
       0.5s    16.00nm          5.3mb
SOD     65.57 337 iP     13 25.60   -0.6
SUF     68.49 333 iP     13 43.90   -0.8
       0.7s     7.60nm          4.7mb
NUR     70.42 332 iP     13 55.80   -0.7
       0.6s    10.40nm          4.9mb
HFS     74.65 335 eP     14 20.50   -0.9
       1.3s    28.70nm          5.0mb
NB2     74.79 337 P      14 21.80   -0.5
       0.8s     7.30nm          4.7mb
FFC     75.18  32 eP     14 25.00    0.5
       0.8s    11.00nm          4.8mb
LRM     75.65  44 eP     14 29.20    1.5
KVN     76.24  52 P      14 32.80    1.7
TNP     77.37  52 P      14 37.50    0.1
       0.8s     1.96nm          4.1mb
MSU     80.27  49 P      14 53.50    0.3
KSP     80.48 328 ePc    14 54.00    0.3
CLL     81.52 330 iPd    14 59.70    0.6
PRU     81.87 328 P      15 01.80    0.8
KHC     82.92 328 P      15 07.50    0.9
GRF     83.49 329 iPc    15 10.40    1.0
       0.9s    12.00nm          4.9mb
PRNI    83.65 303 iPc    15 11.00    0.4
ALQ     86.08  49 P      15 41.00   18.1X
ZOBO   148.12  59 PKP    22 27.00    1.7
LPB    148.32  60 ePKP   22 27.00    1.6
CNCB   148.59  60 PKP    22 32.00    6.0X
CCH    150.26  58 PKP    22 35.70    7.5X
PPD    162.92  39 e(PKP)22 29.00  -14.4X
      S.D. = 1.2  on  55 of  62 obs.
```

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-----------------------------------------
?  NOV  25, 1989  07h 19m 47.81± 5.98s
   23.028 S ±23.6km  177.662 W ±24.1km
   DEPTH = 322.9 ± 56.7 km
   4.2mb (  1 obs.)
 SOUTH OF FIJI ISLANDS               (171)

DZM     14.72 271 iPc    23 04.20    0.7
MNG     18.47 197 eP     23 42.40   -0.1
                  eS     27 00.70
CAN     31.43 240 eP     25 43.20    1.4
BWA     31.70 241 eP     25 42.90   -1.2
ASPA    44.30 259 eP     27 27.70   -0.6
       0.5s     7.00nm          4.2mb
WB5     44.60 265 eP     27 29.90   -0.8
FORR    48.59 249 eP     28 01.00   -0.4
PNT     88.57  34 eP     32 04.00   -1.3
NB2    141.52 353 PKP    38 42.60    0.8
       0.6s     1.10nm
SLL    141.80 351 ePKP   38 34.90   -7.3X
       0.8s     2.70nm
EKA    147.48   6 PKP    38 53.00    1.2
       0.8s     5.10nm
CLL    150.58 346 iPKP   39 01.90    5.2X
BRG    150.77 345 ePKP   39 02.10    5.1X
KHC    152.47 344 ePKP   39 07.00    7.3X
      S.D. = 1.2  on  10 of  14 obs.
-----------------------------------------
   NOV  25, 1989  07h 49m 44.22± 0.11s
    2.179 S ± 2.5km  138.862 E ± 3.1km
   DEPTH =  25.8km  (geophysicist)
   5.9mb ( 44 obs.)  5.7Msz ( 33 obs.)
 WEST IRIAN                          (201)
      Ms 5.9 (PAS), 5.8 (BRK). Depth
      from broodbond displocement
      seismogroms.
      FAULT PLANE SOLUTION: P-Woves
       NP1:Strike=317 Dip=74 Slip=  90
       NP2:        137     16        90
       Principol Axes:
        T                Plg=61  Azm=227
        P                   29       47
      Comment: The focol mechonism is
        poorly controlled ond
        corresponds to reverse
        foulting. The preferred foult
        plone is NP2.
      RADIATED ENERGY
       No. of sto:   8  Focol mech.  M
       Energy        2.3±0.7*10**13 Nm
      MOMENT TENSOR SOLUTION
      Dep  25            No. of sto: 11
      Moment Tensor;   Scole 10**18 Nm
        Mrr= 1.03        Mtt=-0.41
        Mff=-0.62        Mrt=-0.95
        Mrf= 0.39        Mtf= 0.51
       Principol oxes:
        T  Vol=  1.51  Plg=64  Azm=188
        N       -0.11      13       308
        P       -1.40      22        43
      Best Double Couple:Mo=1.5*10**18
       NP1:Strike=156 Dip=26 Slip= 121
       NP2:        302     68        76
      CENTROID, MOMENT TENSOR     (HRV)
      Dato Used: GDSN
      L.P.B.: 17S, 42C
      Centroid Locotion:
      Origin Time        07:49:51.0 0.4
      Lot  1.91S 0.04 Lon 138.50E 0.04
      Dep  15.0 FIX Holf-durotion  3.7
      Moment Tensor;   Scole 10**17 Nm
        Mrr= 8.56 0.26  Mtt=-3.67 0.33
        Mff=-4.88 0.36  Mrt=-8.18 1.00
        Mrf= 4.06 1.01  Mtf= 4.26 0.28
       Principol Axes:
        T  Vol= 12.84  Plg=64  Azm=194
        N       -0.66      11       307
        P      -12.18      23        42
      Best Double Couple:Mo=1.3*10**18
       NP1:Strike=153 Dip=24 Slip= 117
       NP2:        303     69        79

MNDI     6.20 130 eP     51 23.00    6.3X
LAT      9.25 119 eP     51 59.00    0.0
AAI     10.76 262 ePd    52 21.40    1.6
       0.6s    64.60nm          6.1mb
KDB     10.98 132 eP     52 21.00   -1.8
```

25d 07h

```
MTN     13.07 215 iPd    52 49.20  -1.8
RAB     13.44  99 e(P)   53 00.00   4.2X
                  iS     55 30.00
DAV     16.14 305 eP     53 32.00   0.9
GUA     16.73  21 eP     53 37.20  -1.4
        1.0s  1376.00nm          6.0mb
KNA     16.76 216 eP     53 37.80  -1.1
        0.3s   136.00nm          5.6mb
                  eS     56 37.00
GUMO    16.76  21 eP     53 37.20  -1.7
        1.2s  2133.33nm          6.1mb
PJG     16.76  21 eP     53 37.30  -1.6
KUPT    17.10 242 iPc    53 52.40   9 2X
        0.7s   846.90nm          6.0mb
WB5     18.13 194 eP     53 51.90  -4.2X
                  eS     57 12.20
QIS     18.28 178 eP     53 54.00  -3.9X
                  e      53 57.00
                  e      57 14.00
CTA     19.21 158 iPd+   54 08.20  -1.0
        1.0s   315.00nm          5.5mb
                  iS     57 42.00
CTAO    19.21 158 ePc    54 05.99  -3.2X
TSM     21.73 287 ePc    54 40.20   4.5X
        1.1s   557.60nm          5.9mb
ASPA    21.89 192 eP     54 35.70  -1.6
        1.3s  1222.00nm          6.2mb
      Z  18s   117.87um          6.3Msz
                  eS     58 36.80
                  LR     03 23.20
HNR     22.17 110 eP+    54 38.00  -2.0
                  eS     58 40.00
KHKI    23.95 254 iPd    54 58.20   0.8
                  e      05 56.00
KKM     24.05 290 ePc    55 00.00   1.5
        0.9s   298.90nm          5.8mb
OCP     24.28 314 eP     55 01.10   0.4
BAG     25.83 316 ePc+   55 14.00  -1.7
                  eS     59 41.00
RMO     25.97 159 eP     55 17.00   0.3
                  e      55 19.00   7kmX
MBL     26.45 223 iPc    55 21.20   0.1
        0.5s    71.00nm          5.6mb
WARB    26.60 205 iPd    55 22.50   0.0
        0.3s    50.00nm          5.6mb
TRT     26.69 257 ePd    55 23.50   0.1
STK     29.66 175 eP     55 49.00  -1.0
                  e      55 57.00  28kmX
CMS     29.88 168 eP     55 52.00  -0.1
                  e      02 08.00
FORR    30.28 199 eP     55 54.30  -1.3
        0.4s   133.00nm          6.1mb
NANU    30.39 226 iPd    55 56.70   0.0
        0.5s    58.00nm          5.7mb
COO     30.82 158 eP     55 59.60  -0.9
MEKA    31.16 217 eP     56 03.30  -0.1
TPI     31.18 268 P      56 04.70   0.9
                  e      02 00.00
                  i      05 55.30
ANP     31.98 329 eP     56 19.00   8.3X
ADE     32.62 180 iPc    56 15.70  -0.4
        1.0s   620.00nm          6.5mb
PVC     32.78 120 iPd    56 18.00   0.3
COOL    33.11 209 iPd    56 19.80  -0.6
        0.7s   146.00nm          6.0mb
BWA     33.30 166 eP     56 22.30   0.3
DZM     33.31 129 iPd    56 21.30  -1.1
QZH     33.37 325 Pc     56 21.50  -1.2
      Z  20s     6.20um          5.3Msz
      E  16s     5.00um
                  pP     56 30.50  31kmX
RIV     33.52 161 eP+    56 24.00   0.1
      Z  17s    32.38um          6.1MszX
                  eS     01 48.00
                  e      06 24.00
KAGJ    34.04 348 eP     56 27.60  -0.8
HKC     34.25 317 eP     56 31.00   0.6
                  S      01 57.00
CAN     34.29 165 eP     56 30.20  -0.5
CNB     34.38 165 iPc    56 31.70   0.2
        0.6s   179.00nm          6.2mb
                  e      56 43.00  41kmX
MRWA    34.59 217 iPd    56 33.00  -0.2
BFD     34.99 175 iPc    56 36.50  -0.1
BAL     35.21 214 iPd    56 58.30  19.8X
        0.9s   538.00nm
GZH     35.34 317 iPc    56 39.00  -0.7
```

```
        4.0s     1.90nm          3.4mb X
      Z  18s     5.50um          5.4Msz
      N  13s     1.80um
      E  15s     3.80um
                  S     02 05.40
KUMJ    35.35 348 eP     56 39.70   0.0
KLB     35.39 212 iPd    56 39.70  -0.3
QIZ     35.47 308 P      56 39.00  -1.9
      E  16s     5.70um
                  PP     58 01.00
                  S      02 13.50
                  sS     02 27.00
                  SS     04 34.50
TOO     35.74 171 eP     56 44.00   1.0
                  e      56 45.00   3kmX
TKSJ    36.25 353 eP     56 46.60  -0.7
WKYJ    36.34 355 P      56 47.00  -1.0
MUN     36.52 213 iPd    56 49.80   0.2
        1.0s   430.00nm          6.3mb
NWAO    36.71 211 ePc    56 50.80  -0.3
        0.9s   286.00nm          6.1mb
                  ePPd   56 58.25  25kmX
SHNJ    36.84 349 eP     56 51.60  -0.6
SHK     36.98 351 iPc    56 53.00  -0.4
        1.0s   120.00nm          5.7mb
SSE     37.12 334 iPc    56 55.00   0.4
        1.0s   106.00nm          5.6mb
      Z  20s     7.40um          5.5Msz
      N  14s     2.00um
      E  13s     3.90um
                  pP     57 03.00  27kmX
                  PP     58 20.00
                  PPP    58 36.00
                  eS     02 28.00
                  sS     02 42.00
IIDJ    37.47 359 P      56 56.20  -1.4
YONJ    37.51 353 P      56 57.80  -0.1
TSRJ    37.62 356 P      56 57.90  -0.8
CHJJ    38.03   0 P      57 00.70  -1.5
KAKJ    38.21   2 P      57 02.30  -1.3
IPM     38.40 280 ePc    57 05.40  -0.2
        1.1s   226.30nm          5.9mb
PPI     38.49 272 eP     57 06.00  -0.4
        0.7s   388.60nm          6.3mb
MAJO    38.53 359 ePc    57 03.78  -2.6
                  esP    57 14.87
MTMJ    38.58 359 P      57 05.80  -1.1
NJ2     38.98 332 iPc    57 11.00   0.8
        5.0s     1.20nm          2.9mb X
      Z  18s     8.90um          5.6Msz
      N  14s     3.40um
      E  14s     4.40um
                  iS     03 06.00
NIIJ    39.22   0 P      57 11.10  -1.0
WHN     40.06 326 Pc     57 20.60   1.4
        5.0s     2.14nm          3.1mb X
      Z  18s     3.64um          5.3Msz
      N  14s     3.87um
      E  16s     6.19um
YAMJ    40.17   1 eP     57 20.10   0.2
PSI     40.22 277 ePc    57 20.80   0.1
        1.0s    41.40nm          5.1mb
OFUJ    41.14   3 eP     57 27.60  -0.3
TAU     41.25 171 ePc    57 27.82  -1.0
                  epP    57 35.44  26kmX
                  esP    57 38.58
                  ePP    59 04.83
NNT     41.53 292 iPd    57 32.00   0.5
MBU     41.84 113 eP     57 34.80   0.8
VUN     41.90 115 ePd    57 34.60   0.1
SVA     41.93 115 eP     57 34.90   0.2
GYA     42.16 315 iPc    57 37.40   0.8
      N  18s     4.70um
      E  18s     4.60um
                  S      03 57.00
NST     42.20 296 iPc    57 37.60   0.7
AOMJ    42.56   2 P      57 29.00 -10.5X
TIA     43.24 334 eP     57 44.40  -0.8
      Z  20s     7.40um          5.6Msz
      N  17s     5.40um
      E  14s     2.90um
                  sP     58 00.00
                  S      04 08.50
BDT     43.79 298 eP     57 50.10   0.2
        0.9s    78.10nm          5.5mb
DL2     43.86 341 iPc    57 51.00   0.9
        4.0s     1.00nm          3.0mb X
```

```
      Z  20s     3.00um          5.2Msz
      N  13s     1.60um
      E  13s     2.80um
                  pP     57 58.50  25kmX
                  PcP    59 38.00
                  PcS    03 30.00
                  S      04 14.00
KMI     44.29 310 ePc    57 54.94   0.7
      Z  20s    10.60um          5.8Msz
      N  14s     4.10um
                  epPd   58 02.88  27kmX
                  esPc   58 06.52
                  eS     04 29.07
                  eScS   07 53.51
MRRJ    44.44   2 P      57 54.70  -0.1
CHG     44.45 300 iPc    57 55.30   0.0
        1.4s   345.35nm          6.0mb
HOOJ    44.54   5 eP     57 55.90   0.4
KUSJ    45.38   6 eP     58 01.80  -0.5
XAN     45.73 325 iPc    58 05.00  -0.3
        1.5s     0.50nm          3.2mb X
      N  14s     3.80um
      E  15s     3.80um
                  S      04 50.00
SNY     45.95 344 iPc    58 06.40  -0.4
        5.0s     1.70nm          3.2mb X
      Z  21s     8.00um          5.6Msz
      N  16s     2.50um
      E  15s     3.30um
                  pP     58 16.20  33kmX
                  sP     58 23.50
ASAJ    46.21   4 P      58 09.10   0.2
TIY     46.63 331 P      58 11.80  -0.6
      N  17s     7.10um
                  PcS    03 38.00
                  S      04 59.00
BJI     46.87 336 ePc    58 13.15  -1.0
        1.5s   328.00nm          6.1mb
      Z  18s     9.40um          5.8Msz
      N  17s     4.71um
      E  17s     4.12um
                  epPd   58 21.26  27kmX
                  esP    58 24.24
                  eS     05 04.62
                  eScS   08 07.95
CD2     46.89 317 P      58 15.20   0.7
      Z  19s     4.60um          5.5Msz
      N  15s     7.20um
                  S      05 01.30
MDJ     47.32 351 eP     58 17.50  -0.1
      Z  20s     7.40um          5.6Msz
      N  17s     4.80um
                  epP    58 23.50  20kmX
                  S      05 10.00
CN2     47.33 347 iPc    58 17.00  -0.7
        1.8s     0.49nm          3.2mb X
      Z  18s    10.20um          5.8Msz
      N  16s     5.20um
      E  16s     1.30um
                  pP     58 24.00  23kmX
                  PcP    59 50.00
                  eS     05 03.00
                  ScS    08 08.00
                  SS     08 24.00
MSZ     49.48 153 P      58 35.00   0.7
HHC     49.53 333 eP     58 34.50  -0.5
      Z  19s    11.30um          5.9Msz
      N  17s     5.40um
      E  16s     4.80um
                  sP     58 51.00
                  PcP    59 55.00
                  PP     00 28.50
                  S      05 44.00
BTO     50.06 331 iPc    58 38.00  -1.0
      Z  16s     6.40um          5.7MszX
      N  16s    11.40um
      E  16s     5.00um
                  sP     58 55.00
                  iS     05 50.50
AFI     50.13 106 ePc    58 39.05  -0.9
LZH     50.15 323 ePc    58 40.58   0.7
      Z  24s     6.90um          5.6MszX
      N  17s     2.70um
      E  13s     0.80um
                  epPd   58 48.53  27kmX
                  esP    58 52.01
                  eS     05 52.77
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                 eScS  08 30.36
WEL   50.59 145 P      58 41.00  -1.9
SHL   53.16 304 iP     59 02.30  -0.5
                 eS    06 27.00
HIA   53.85 345 ePc    59 06.23  -1.0
                 epPd  59 13.84  25kmX
                 esPc  59 17.82
                 eS    06 43.07
                 eScS  08 57.82
GTA   54.74 323 Pc     59 13.80  -0.3
      1.0s     0.10nm          2.8mb X
    Z  16s     3.10um          5.5MszX
    E  13s     2.10um
                 pP    59 24.00  34kmX
                 sP    59 29.00
                 S     06 54.00
                 sS    07 10.00
LSA   55.50 309 iPc    59 21.00   0.8
                 PcS   04 18.50
                 iS    07 05.50
KOD   62.34 283 eP     00 08.00   0.3
                 eS    08 36.00
HYB   62.53 291 ePc    00 06.00  -2.6
      1.0s   150.00nm          6.1mb
                 eS    08 34.00
GBA   62.88 286 P      00 10.50  -0.3
DRV   64.36 179 eP     00 18.80  -0.9
WMQ   64.69 321 iPc    00 22.71   0.3
    Z  16s     2.90um          5.6MszX
    N  13s     1.30um
    E  13s     1.50um
                 epPd  00 30.16  24kmX
                 esP   00 33.97
                 eS    09 03.07
HON   65.95  66 P      00 31.50   0.7
    Z  19s     3.91um          5.6Msz
NDI   66.49 303 iPd    00 32.50  -1.7
      0.8s    89.55nm          5.9mb
BOM   68.16 291 eP     00 43.00  -1.8
                 eS    09 40.50
KSH   70.81 313 iPd    01 03.00   2.1
      4.0s     2.90nm          3.8mb X
    N  15s     2.10um
                 iS    10 20.00
AFR   71.58 108 iP     01 05.70   0.0
      1.5s   165.00nm          5.9mb
PPT   71.77 108 iP     01 06.80  -0.1
      1.5s   245.00nm          6.0mb
PAE   71.77 108 iP     01 06.70  -0.2
      1.5s   125.00nm          5.7mb
PPN   71.90 108 iP     01 07.40  -0.3
      1.5s   175.00nm          5.9mb
TVO   72.09 108 iP     01 09.00   0.1
      1.5s   270.00nm          6.1mb
PMO   73.25 105 iP     01 16.00   0.4
      1.5s   340.00nm          6.2mb
VAH   73.52 105 iP     01 17.20   0.0
      1.5s   185.00nm          5.9mb
TPT   73.52 105 iP     01 17.30   0.1
      1.5s   310.00nm          6.1mb
RUV   73.75 105 iP     01 18.80   0.2
      1.5s   235.00nm          6.0mb
SBA   77.06 174 Pc     01 36.90   0.6
KDC   80.61  30 eP     01 56.50   0.6
TTA   80.87  25 eP     01 58.20   0.8
MAW   82.67 202 eP     02 06.00  -0.5
MAIO  82.72 307 iPc    02 08.40   0.8
      0.9s   127.88nm          6.0mb
IMA   83.01  22 eP     02 08.80   0.3
      2.0s   117.00nm          5.7mb
PMR   83.43  27 eP     02 09.60  -0.9
      1.2s    93.80nm          5.8mb
    Z  20s     4.00um          5.8Msz
BRW   84.06  17 eP     02 14.10   0.6
TOA   84.92  27 eP     02 18.70   0.6
COL   84.95  24 ePc    02 16.77  -1.4
                 epPd  02 24.22  23kmX
                 esPc  02 28.19
                 eSKS  12 41.99
                 eS    12 45.80
FBA   84.95  24 eP     02 17.50  -0.6
SPA   87.84 180 iPc    02 32.10  -0.4
      1.5s   379.55nm          6.5mb
    Z  20s     9.05um          6.2Msz
INK   91.12  22 eP     02 47.00  -0.6
MBC   94.90  14 eP     03 04.50  -0.5
      1.3s    28.00nm          5.5mb
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WDC   97.95  49 eP     03 20.80   1.4
                ePP    07 23.80
LON   97.98  43 P      03 25.00   5.5X
BKS   98.36  52 ePd    03 22.30   0.9
      0.9s    44.00nm          6.0mb
    Z  20s     3.60um          5.9Msz
    N  20s     2.50um
    E  20s     1.10um
                iSKS   14 02.00
                iPS    16 18.00
                ePPS   17 00.00
                e      20 24.00
                iSS    21 42.00
                ePSPS  22 00.00
                eLQ    29 59.00
                eLR    34 16.00
GCC   98.61  53 eP     03 23.50   1.0
ORV   98.82  50 eP     03 24.40   1.0
MHC   98.87  53 eP     03 24.90   1.1
ARN   98.96  53 P      03 25.00   0.9
PNT   99.16  41 eP     03 25.00   0.2
PRS   99.16  54 eP     03 26.20   1.2
KEV   99.49 341 eP     03 25.00  -0.9
                e      03 34.00  28kmX
PRI   99.74  54 eP     03 29.30   1.4
CMB   99.81  52 ePDIFc03 27.66  -0.4
SOD  100.44 339 iPdiff03 29.40  -0.7
FRI  100.44  53 ePdiff03 31.50   0.7
                ePP    07 37.90
KVN  101.49  51 Pdiff 03 36.00   0.2
PAS  101.95  56 ePdiff03 38.42   0.8
                ePP    08 01.00
                eSKS   14 19.58
                eSP    16 46.24
                ePS    16 54.00
                e      17 47.82
                ePPS   18 10.00
                e      18 59.33
                eSS    22 24.00
                eSSS   26 02.00
                eLg    31 48.00
                eLR    35 00.00
MWC  102.04  56 ePdiff03 40.00   1.7
SBB  102.18  55 ePdiff03 39.00   0.2
SUF  102.20 334 iPdiff03 23.30 -14.7X
      0.9s    49.40nm
CLC  102.25  54 ePdiff03 39.00   0.0
TNP  102.29  52 Pdiff 03 39.00  -0.4
      1.3s    10.20nm          5.3mb
EDM  102.34  36 ePdiff03 39.20   0.2
RVR  102.62  56 ePdiff03 42.00   1.3
GSC  102.95  54 ePdiff03 43.00   0.8
PLM  103.12  56 ePdiff03 52.00   8.9X
BAR  103.35  57 ePdiff03 45.00   1.1
SES  104.41  38 ePdiff03 49.00   0.8
LRM  104.53  43 ePdiff03 49.60   0.4
GLA  104.85  56 ePdiff03 55.00   4.4X
SLR  107.49 242 iPKPc 08 09.00  -2.3
      1.5s    63.89nm
    Z  20s     3.90um          6.0Msz
KRI  107.74 252 ePKP  08 16.00   4.0X
PRY  107.96 241 e(PKP)08 08.50  -3.7X
BUL  108.18 248 iPKPc 08 10.50  -2.3
      1.0s     5.00nm
BFS  108.57 241 ePKP  08 11.00  -2.3
KSR  108.69 242 iPKPd 08 04.50  -9.1X
FRS  109.17 238 ePKP  08 06.00  -8.2X
NB2  109.27 336 Pdiff 04 08.40  -1.2
      0.8s     5.50nm
GOL  111.05  48 PKP   08 28.00  10.2X
    Z  18s     2.17um          5.8Msz
GLD  111.15  48 PKP   08 28.00  10.1X
    Z  18s     3.04um          5.9Msz
ALQ  111.37  53 PKP   08 31.00  12.5X
    Z  20s     3.62um          6.0Msz
BRG  113.06 326 iPKP  08 21.40   0.5
      1.8s    48.00nm
    Z  18s     1.50um          5.6Msz
    N  18s     2.50um
    E  18s     2.00um
                e      09 20.00
CER  113.08 232 ePKP  08 23.00   1.5
PRU  113.11 325 ePKP  08 15.50  -5.5X
                e      08 21.50
CLL  113.38 326 (PKP) 08 20.00  -1.5
    Z  18s     3.50um          6.0Msz
                e      09 10.00
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KHC  114.06 324 iPKP  08 24.50   1.5
                e     09 24.50
KMR  114.20 323 ePKP  08 15.00  -8.3X
                iPP   09 18.80
RSON 114.47  34 PKP   08 33.00   9.3X
    Z  21s     2.39um          5.8Msz
KBA  115.11 322 ePKP  08 23.00  -2.3
      2.0s    45.90nm
                e     09 27.00
                i     09 40.60
GRF  115.15 325 ePdiff04 37.00   0.9
      1.7s    42.00nm
GRF  115.15 325 e(PKP)08 25.00   0.0
      1.4s    22.00nm
SDI  117.05 317 PKP   08 17.00 -12.0X
CRE  117.50 319 PKP   08 25.50  -4.3X
MEM  117.53 328 PKP   08 30.70   1.3
PGD  117.54 319 PKP   08 31.00   1.0
FIR  117.89 320 ePKP  08 40.00   9.6X
WIN  118.15 243 ePKP  08 32.40   0.6
    Z  18s     3.44um          6.0Msz
VAI  118.47 323 PKP   08 30.50  -0.9
SNF  118.48 329 PKP   08 32.50   1.2
DOU  118.56 328 PKP   08 33.40   1.9
BSF  118.62 325 ePKP  08 31.40  -0.4
HAU  118.78 326 ePKP  08 31.70  -0.3
ORO  119.07 323 PKP   08 30.50  -2.2
SIO  119.09  50 ePKP  08 33.50   0.5
TUL  119.43  49 ePKP  08 33.50  -0.1
      1.3s    55.80nm
    Z  18s     2.87um          6.0Msz
                e     08 42.20
                LR    45 40.00
LNO  119.43  49 ePKP  08 33.30  -0.2
LPG  119.88 323 ePKP  08 34.30  -0.2
BNI  120.15 323 PKP   08 33.00  -1.9
BCAO 120.40 274 ePKP  08 32.97  -3.1X
                ePP   09 58.80
                eSKP  11 57.99
LOR  120.59 326 ePKP  08 35.40  -0.1
LBF  120.69 326 ePKP  08 35.60  -0.1
SSF  120.91 326 ePKP  08 36.00   0.0
SMF  120.96 325 ePKP  08 35.90  -0.3
UYO  121.07  51 iPKPc 08 36.50  -0.2
AVF  121.15 326 ePKP  08 36.20  -0.3
BGF  121.57 326 ePKP  08 37.40   0.1
MAF  121.92 326 ePKP  08 38.10   0.1
FLN  122 00 329 ePKP  08 38.00   0.0
TCF  122.08 326 ePKP  08 38.40   0.1
GRR  122.43 329 ePKP  08 39.00   0.1
LSF  122.49 326 ePKP  08 38.90  -0.2
FVM  122.56  45 PKP   08 39.00  -0.5
LPF  122.76 329 ePKP  08 39.90   0.4
CAF  122.96 325 ePKP  08 40.60   0.5
RJF  123.05 325 ePKP  08 40.50   0.3
MFF  123.19 327 ePKP  08 40.60   0.2
SCH  123.52  17 ePKP  08 41.00   0.2
LPO  123.61 325 ePKP  08 41.80   0.5
LFF  123.71 325 ePKP  08 41.80   0.3
EPF  125.08 324 ePKP  08 44.20  -0.1
ECRI 127.00 325 ePKP  08 49.80   1.8
RSCP 127.10  46 PKP   08 48.00  -0.4
    Z  22s     2.33um          5.8Msz
ETOR 127.83 323 ePKP  08 51.20   1.5
ECHE 127.88 321 ePKP  08 51.20   1.4
RSNY 128.53  30 PKP   09 00.00   9.2X
    Z  21s     3.80um          6.1Msz
GUD  129.19 324 ePKP  08 54.20   1.8
HBVT 129.39  29 PKP   08 52.00  -0.5
EVIA 129.41 321 ePKP  08 54.80   2.0
TOL  129.61 323 ePKP  08 55.00   2.0
                iPP   11 03.00
                ePKS  12 14.00
                ePS   21 10.00
                ePPS  22 46.00
                iSS   28 45.00
ENIJ 130.19 319 ePKP  08 55.20   1.0
EPLA 130.69 324 e(PKP)08 57.00   1.9
JSC  130.84  45 PKP   08 55.00  -0.5
CBN  131.17  38 ePKP  08 57.00   1.0
TAF  131.52 317 iPKP  08 59.00   2.1
EHOR 131.62 322 e(PKP)08 59.00   2.1
NKM  133.17 319 ePKP  08 56.00  -3.9X
PEL  135.14 144 iPKPd 09 04.60   0.8
      0.1s   333.33nm
UPA  141.22  78 e(PKP)09 08.10  -7.3X
    Z  20s     1 42um          5.7Msz
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25d 08h

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NNA    141.83 112 ePKP   09 08.00   -8.6X
        1.0s     65.00nm
     Z  20s      0.89um          5.5Msz
KIC    143.48 278 PKP    09 15.42   -4.0X
TIC    143.73 278 PKP    09 16.44   -3 4X
LIC    143.77 278 PKP    09 16.48   -3.4X
PSO    143.82  91 ePKP   09 18.00   -2.5
YJA    146.06 137 ePKPc  09 25.00    0.9
BOG    147.04  85 iPKPc  09 26.00    0.2
CNCB   147.47 126 PKP    09 28.30    1.7
LPB    147.53 126 PKPd   09 28.80    2.3
        1.6s    666.67nm
     Z  20s      0.71um          5.5Msz
                 LR       33 34.00
ZOBO   147.65 125 ePKP   09 27.45    0.5
        1.2s    202.70nm
     Z  24s      0.29um          5.0MszX
                 e        09 29.44
                 epPKP    09 35.40
                 LR       32 46.00
CCH    148.60 129 PKP    09 30.90    2.8X
ITB7   150.06 156 ePKP   09 34.30    4.5X
LRS    150.14  56 PKP    09 30.50    0.4
ITB    150.34 155 ePKP   09 35.60    5.4X
ITB1   150.39 155 ePKP   09 33.90    3.7X
PORP   150.43  56 PKP    09 31.00    0.5
CPD    151.03  55 PKP    09 32.00    0.6
PPD    153.96 158 ePKP   09 36.10    0.6
                 e        09 37.60
                 e        09 44.80
VAO    154.33 168 ePKP   09 37.40    1.3
                 e        09 45.40
TRN    158.19  66 ePKP   09 42.50    1.4
        1.2s     73.60nm
BAO    161.05 159 ePKP   09 45.50    1.2
BDF    161.05 160 ePKP   09 44.52    0.2
     S.D. = 1.0  on 232 of 271 obs.
-----------------------------------
   NOV  25, 1989  07h 54m 09.23± 0.41s
   12.711 N ± 4.8km    48.204 E ± 7.5km
   DEPTH =  10.0km  (geophysicist)
   5.0mb ( 35 obs.)  5.0Msz (  2 obs.)
 EASTERN GULF OF ADEN              (415)

KMSA     8.41 335 eP     56 09.30   -4.8X
RYD     12.04 353 eP     57 05.00    1.1
DHR     13.64   7 eP     57 16.00   -9.2X
QASM    14.02 342 eP     57 33.70    3.5X
WAJH    17.30 322 eP     58 17.00    4.5X
NAI     17.92 220 iPc    58 21.00    0.5
ASW     18.39 310 iPd    58 28.00    1.9
                 eS       00 20.20
AYN     19.69 327 eP     58 42.70    1.1
HQL     20.52 325 ePc    58 51.70    1.4
BHD     20.76 351 iPnd   58 52.00   -0.8
                 eSn      00 23.00
PRNI    21.39 327 eP     59 01.00    1.7
KER     21.57 358 iPc    58 59.70   -1.5
DSI     22.17 330 e(P)   59 03.00   -4.1X
KOT     22.89 321 eP     59 16.50    2.3
TEH     23.11   7 eP     59 20.00    3.5X
HLW     23.14 320 eP     59 20.00    3.3X
KHI     23.35  22 eP     59 20.00    1.1
BOM     24.45  72 eP     59 28.80   -0.7
QUE     24.57  42 eP     59 33.00    2.2
                 e        01 29.70
                 eS       11 10.00
TAB     25.31 357 eP     59 41.00    3.3X
POO     25.35  74 iPc    59 39.20    1.0
MAIO    25.59  21 iPc    59 40.80    0.5
        1.2s     52.08nm          5.1mb
BCAO    30.44 257 iPd    00 24.10   -0.4
        0.5s      6.00nm          4.7mb
MZZ     30.49 220 iP     00 26.00    1.0
                 i        00 29.00
                 i        00 34.00
PTZ     31.57 213 eP     00 34.00   -0.4
LSZ     34.14 216 iP     00 57.00    0.1
                 i        01 04.00
KMZ     34.17 221 eP     01 06.00    8 9X
BUL     37.91 211 iPc    01 26.00   -2.8
        1.0s     12.50nm          4.6mb
BZS     39.81 331 eP     01 46.00    1.8
SLR     42.86 207 iPc    02 11.50    1.9
SRO     42.97 330 eP     02 10.60    0.5
SPC     43.07 333 eP     02 11.90    0.7
KSR     43.60 208 eP     02 10.00   -5.7X
ZST     43.82 330 eP     02 17.10    0.1
                 e        09 07.60
KRA     43.85 334 eP     02 17.80    0.6
        0.9s     32.00nm          5.1mb
     Z  20s      2.00um          5.0Msz
                 e        02 26.20
PRY     44.25 207 eP     02 09.30  -11.6X
VKA     44.25 330 ePc    02 21.00    0.5
        1.5s     67 20nm          5.3mb
                 e        09 00.00
BFS     44.53 208 eP     02 23.00   -0.2
KBA     45.02 326 ePc    02 27.00    0.0
        0.7s      8.20nm          4.8mb
                 e        08 23.00
                 e        09 27.00
                 i        09 40.60
                 e        31 18.00
                 e(Sg)    32 04.00
FVI     45.03 326 P      02 26.50   -0.3
CTI     45.35 324 P      02 19.00  -10.5X
KSP     46.03 332 iPc    02 35.00    0.3
                 e        04 21.50
                 e        08 19.70
KHC     46.19 329 iPc    02 36.00    0.0
     Z  18s      1.80um          5.1Msz
     N  17s      1.00um
     E  17s      1.30um
PRU     46.27 330 P      02 35.80   -0.8
        1.8s     37.50nm          5.1mb
                 e        02 48.20
BLF     46.70 207 eP     02 42.50    2.1
VAI     46.92 323 P      02 40.70   -1.0
8RG     47.15 331 iP     02 43.30   -0.2
        1.4s     24.00nm          5.1mb
                 e        02 53.00
                 e        04 34.00
                 e        04 38.00
FRS     47.63 207 eP     02 46.00   -1.5
        0.4s     12.71nm          5.4mb
GRF     47.74 328 iPc    02 47.30   -0.9
        2.3s    124.00nm          5.6mb
CLL     47.88 331 iPd    02 49.20   -0.1
        1.9s     48.00nm          5.3mb
                 i        04 29.50
LPG     47.95 321 eP     02 49.10   -1.2
        0.8s     13.40nm          5.1mb
MOX     48.13 329 eP     02 50.00   -1.3
        1.9s     43.00nm          5.2mb
HVD     48.29 206 e(P)   02 40.00  -12.9X
BSF     49.11 324 eP     02 58.30   -0.6
        1.0s     16.00nm          5.0mb
CDF     49.14 325 eP     02 58.60   -0.5
        0.8s      9.10nm          4.8mb
HAU     49.45 324 eP     03 00.90   -0.6
        1.0s      8.00nm          4.7mb
EBR     50.16 313 ePKP   03 09.00    2.0
LBF     50.35 322 eP     03 07.80   -0.6
        0.8s     24.10nm          5.2mb
LOR     50.55 322 eP     03 09.20   -0.7
        1.0s     18.00nm          5.0mb
AVF     50.64 321 eP     03 09.70   -0.9
        0.8s      9.10nm          4.8mb
SSF     50.67 322 eP     03 09.90   -0.9
        0.8s     16.10nm          5.0mb
NUR     50.76 345 iP     03 11.40    0.2
        0.8s     38.10nm          5.4mb
ECHE    50.82 311 e(P)   03 13.20    1.1
BGF     50.85 321 eP     03 11.70   -0.4
        1.0s     26.00nm          5.1mb
MEM     51.02 327 iPc    03 13.31    0.0
LPO     51.11 318 eP     03 14.10   -0.1
        1.0s     12.00nm          4.8mb
ENN     51.14 327 e(P)   03 15.00    0.7
WTS     51.36 328 eP     03 16.00    0.1
        1.0s     17.00nm          4.9mb
LFF     51.51 318 eP     03 17.00   -0.2
        0.8s      8.10nm          4.7mb
DOU     51.52 325 P      03 16.90   -0.3
        0.9s     22.50nm          5.1mb
SNF     51.90 326 P      03 19.40   -0.6
ETOR    51.99 312 eP     03 21.60    0.6
KIC     52.52 268 P      03 27.20    1.9
MFF     52.74 320 eP     03 25.50   -0.9
        0.8s      5.30nm          4.5mb
TIC     52.74 269 P      03 27.66    0 7
LIC     52.83 268 P      03 27.28   -0.3
ECRI    52.87 314 eP     03 28.00    0.4
TOL     53.18 311 eP     03 30.00    0.1
GUD     53.46 311 eP     03 32.00   -0.1
LDF     53.54 322 eP     03 31.00   -1.3
        0.8s     11.80nm          4.9mb
HFS     53.72 339 eP     03 31.80   -1.6
        0.8s     19.30nm          5.2mb
FLN     53.83 322 eP     03 33.20   -1.2
        0.8s     21.40nm          5.2mb
LPF     53.87 321 eP     03 33.40   -1.3
        0.9s     26.20nm          5.3mb
GRR     53.90 321 eP     03 33.70   -1.2
        0.8s      8.00nm          4.8mb
NB2     55.23 339 P      03 43.20   -1.4
        1.0s     16.80nm          5.0mb
EKA     58.16 328 Pd     04 04.10   -1.3
        0.8s      7.70nm          4.8mb
KEV     58.56 352 iP     04 07.10   -0.9
        0.9s     49.00nm          5.6mb
     S.D. = 1.1  on  74 of  87 obs.
-----------------------------------
*  NOV  25, 1989  07h 55m 25.31± 0.92s
   38.901 N ± 8.4km    35.473 E ± 9.5km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)
      One house collopsed and 12 were
      domaged in Saroycik. Felt in the
      Kayseri areo.

GAZ      2.21 141 iPn     56 03.50    1.0
KVT      2.22  11 iPn     56 01.80   -1.0
BBTK     2.30 295 iPc     56 05.00    1.0
                 i        56 12.00
KAS      2.79 333 eP      56 12.50    1.6
GPA      4.22 291 ePn     56 31.00   -0.2
CSS      4.29 204 eP      56 30.50   -1.6
KHL      4.70 265 ePn     56 39.00    1.0
HRT      4.86 295 iPn     56 39.20   -1.1
ELL      4.90 246 ePn     56 47.00    6.1X
BHL      4.99 178 P       56 47.00    4.9X
                 S        07 04.00
DST      5.36 280 ePn     56 49.00    1.7
ISK      5.38 296 ePn     56 47.00   -0.5
CTT      5.85 295 ePn     56 53.00   -1.2
BNT      6.01 286 ePn     56 48.00   -8.4X
MSL      6.59 110 ePd     57 25.00   20.4X
                 eS       58 54.50
                 e        01 07.50
CFR      8.31 321 eP      57 28.00   -0.6
SLY      8.65 109 ePd     58 03.00   29.6X
                 i        59 20.00
VRI      9.50 320 ePd     58 02.50   17.4X
MLR      9.66 316 eP      58 00.00   12.6X
PRU     18.54 314 eP      59 46.50    2.8X
KHC     18.71 310 eP      59 50.00    4.1X
VAI     20.86 298 P       00 12.50    2.9X
     S.D. = 1.3  on  12 of  22 obs.
-----------------------------------
&  NOV  25, 1989  08h 56m 23.90s
   37.087 N            121.782 W
   DEPTH =   4.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.0 (BRK). Felt in
      Santa Cruz County.

GCC      0.18 252 iPd     56 28.00    0.4
MHC      0.28  24 iPd     56 29.90    0.4
ARN      0.33  37 iPd     56 30.50    0.0
SAO      0.42 140 eP      56 32.00   -0.3
PCC      0.63 311 eP      56 35.70   -0.8
LLA      0.82 125 eP      56 39.70   -0.6
PRS      0.82 156 eP      56 39.20   -1.1
BKS      0.87 336 iPd     56 40.50   -0.6
                 eS       56 54.20
BRK      0.87 334 eP      56 40.60   -0.6
                 eS       56 54.00
PRI      1.30 136 eP      56 48.50   -0.2
CMB      1.46  49 eP      56 49.60   -1.5
FRI      1.66  93 eP      56 53.20   -0.7
PHAM     1.67 138 eP      56 52.70   -1.4
BCH      2.34 144 eP      57 02.00   -1.9
KVN      3.51  55 eP      57 19.00   -1.5
TNP      3.76  73 eP      57 24.70    0.5
        16 obs. associoted
-----------------------------------
&  NOV  25, 1989  09h 00m 31.70s
   37.093 N            121.765 W
   DEPTH =   7.0km
```

```
 CENTRAL CALIFORNIA                    ( 39)
      <BRK>. ML 2.3 (BRK). Felt in
      Santa Cruz County.

GCC      0.20 251 iPd    00 35.40  -0.4
                  iS     00 38.00
MHC      0.27  22 iPd    00 37.30   0.1
ARN      0.32  36 iPd    00 38.10   0.0
SAO      0.42 142 eP     00 39.80  -0.3
PCC      0.64 310 eP     00 43.40  -1.1
LLA      0.81 126 eP     00 47.00  -0.7
PRS      0.82 157 eP     00 47.90   0.0
BKS      0.87 335 ePd    00 48.10  -0.6
                  eS     01 01.50
                  i      01 02.90
BRK      0.87 333 eP     00 48.10  -0.6
                  eS     01 01.40
KVN      3.49  55 eP     01 25.00  -2.7
       10 obs. associated
-------------------------------------
&  NOV  25, 1989  09h 50m 21.60s
   37.090 N          121.772 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                    ( 39)
      <BRK>. ML 3.2 (BRK). Felt in
      Santa Cruz County.

GCC      0.19 252 iPd    50 25.70   0.2
MHC      0.27  22 iPd    50 27.50   0.3
ARN      0.32  36 iPd    50 28.30   0.2
SAO      0.42 141 eP     50 29.70  -0.3
PCC      0.64 310 eP     50 33.70  -0.6
LLA      0.82 125 ePd    50 37.30  -0.5
PRS      0.82 157 eP     50 37.00  -0.9
BKS      0.87 335 ePc    50 37.90  -0.7
                  iS     50 51.80
                  i      50 53.30
BRK      0.87 334 eP     50 37.80  -0.9
                  eS     50 51.70
PRI      1.30 136 eP     50 45.20  -0.9
CMB      1.45  49 eP     50 47.20  -1.2
FRI      1.65  93 eP     50 49.70  -1.6
PHAM     1.67 138 eP     50 50.50  -1.0
BCH      2.34 144 eP     50 59.50  -1.8
KVN      3.50  55 eP     51 16.80  -1.0
       15 obs. associated
-------------------------------------
%  NOV  25, 1989  11h 45m 50.93± 1.73s
   44.630 N ±11.2km    7.231 E ±17.0km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                        (545)
      ML 2.0 (GEN).

PZZ      0.16 217 P      45 54.65   0.0
                  S      45 57.12
STV      0.39 170 P      45 58.96   0.0
                  S      46 04.50
ENR      0.43 161 P      45 59.68   0.0
                  S      46 05.32
RRL      0.43 312 P      45 59.78   0.0
                  S      46 05.63
     S.D. = 0.0  on   4 of   4 obs.
-------------------------------------
   NOV  25, 1989  11h 53m 44.66± 0.64s
    6.750 N ± 7.2km   73.017 W ± 5.5km
   DEPTH = 176.0 ±  9.1 km
   4.6mb (  8 obs.)
 NORTHERN COLOMBIA                     ( 99)

BOG      2.36 206 iPd    54 26.50   0.3
                  iS     54 57.00
UPA      6.83 289 eP     55 17.70  -5.7X
       0.9s     58.82nm          4.9mb
                  i      56 34.90
PSO      7.00 218 eP     55 25.00  -1 0
TCE     11.80  70 eP     56 29.83   1.1
TRN     12.12  71 eP     56 32.11  -0.6
       1.0s     24.00nm          4.6mb
TPX     20.55 295 iP     57 56.00 -15.1X
                  iS     58 22.00
ZOBO    23.38 168 P      58 40.00   0.6
                  i      59 13.00
LPB     23.64 168 eP     58 49.00   7.3X
                  i      59 17.00
CNCB    23.93 168 P      58 57.50  12.9X
CCH     24.92 164 (P)    58 41.00 -12.6X
JSC     28.43 346 P      59 25.50   0.5
RSCP    30.95 340 P      59 47.80   0.6
FVM     34.88 336 P      00 21.00   0.0
LNO     35.75 327 iP     00 27.70  -0.5
TUL     35.75 327 eP     00 28.00  -0.3
       1.0s     11.30nm          4.5mb
     Z  20s      0.20um          3.9Msz
                  e      00 32.80
                  LR     49 00.00
SIO     35.91 327 e(P)   00 29.20  -0.4
ALO     41.63 317 eP     01 17.50   0.1
GOL     43.82 323 P      01 35.20   0.1
       0.6s     20.58nm          4.9mb
GLA     46.76 310 P      01 59.00   0.8
RSON    47.22 342 P      02 00.80  -0.7
MSU     47.42 318 P      02 04.00   0.4
BW06    48.20 324 P      02 09.00  -0.5
PLM     48.44 309 P      02 12.00   0.6
TNP     50.69 315 P      02 28.80   0.3
       0.8s      3.92nm          4.1mb
LRM     51.69 326 eP     02 36.10   0.1
KVN     51.74 315 P      02 36.00  -0.4
CMB     52.93 313 eP     02 45.20   0.2
ARN     53.50 312 P      02 49.50   0.3
BKS     54.22 312 ePc    02 55.00   0.6
       0.8s      9.00nm          4.6mb
ORV     54.34 315 eP     02 55.40   0.1
EDM     56.73 332 iPd    03 11.10  -1.1
FRB     56.98   2 eP     03 12.00  -1.6
PNT     57.67 326 eP     03 19.00   0.2
       0.7s      6.00nm          4.5mb
KIC     67.78  86 P      04 25.50  -0.5
INK     73.13 340 eP     04 57.00  -0.1
MBC     73.89 350 eP     05 02.00   0.6
       0.7s     10.00nm          4.7mb
RAB    134.96 271 iPdiff09 36.30 -10.9X
ASPA   149.15 234 ePKP  13 14.10   4.1X
       0.7s      7.00nm
WB5    150.39 241 ePKP  13 18.00   6.1X
     S.D. = 0.6  on  31 of  39 obs.
-------------------------------------
?  NOV  25, 1989  12h 09m 00.90± 2.65s
    5.419 S ±29.3km  151.673 E ±25.7km
   DEPTH =  33.0km  (normal)
   4.6mb (  1 obs.)
 NEW BRITAIN REGION                    (192)

LAT      4.81 255 eP     10 25.50  12.7X
KDB      6.02 228 eP     10 30.00   0.0
RMO     21.14 187 iPc    13 45.60   0.1
ASPA    24.94 222 iPc    14 23.30   0.4
       0.5s     32.00nm          5.2mb X
WARB    31.60 227 iPc    15 23.10   0.1
       0.4s      4.00nm          4.6mb
FORR    33.63 218 iPc    15 39.70  -0.9
       0.4s     28.00nm          5.5mb X
MBL     34.60 240 eP     15 49.00  -0.2
MEKA    37.99 233 eP     16 18.10   0.3
       0.4s     20.00nm          5.3mb X
NANU    38.83 240 eP     16 25.00   0.1
     S.D. = 0.5  on   8 of   9 obs.
-------------------------------------
   NOV  25, 1989  12h 11m 14.09± 0.34s
    0.603 S ± 6.8km   19.774 W ± 6.7km
   DEPTH =  10.0km  (geophysicist)
   4.8mb ( 31 obs.)  4.8Msz (  3 obs.)
 CENTRAL MID-ATLANTIC RIDGE            (406)
      CENTROID, MOMENT TENSOR          (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 33C
      Centroid Location:
      Origin Time        12:11:24.9 0.5
      Lat  0.07S 0.05 Lon  19.43W 0.06
      Dep  15.0 FIX Half-duration  1.7
      Moment Tensor;   Scale 10**16 Nm
        Mrr=-0.42 0.35  Mtt= 5.45 0.50
        Mff=-5.03 0.56  Mrt= 3.73 1.57
        Mrf=-2.38 1.40  Mtf=-9.27 0.35
       Principal Axes:
        T  Val= 12.39  Plg=19  Azm= 30
        N       -1.94      71      207
        P      -10.45       1      300
      Best Double Couple:Mo=1.1*10**17
       NP1:Strike= 73 Dip=76 Slip= 167
       NP2:        167     77       14

LIC     16.21  65 P      15 02.90  -0.7
                  S      17 49.92
                  TT     26 12.00
TIC     16.39  64 P      15 05.42  -0.5
                  S      17 53.84
KIC     16.52  65 P      15 07.64   0.0
                  S      17 57.36
BAO     31.60 240 eP     17 38.50  -1.2
PPD     37.38 233 eP     18 30.00   0.9
BCAO    38.60  82 iPc    18 40.40   0.9
       1.6s     39.00nm          4.9mb
                  ic     18 46.80
                  id     19 10.20
ATEJ    40.09  20 eP     18 52.70   1.0
APHE    40.23  20 eP     18 54.00   1.1
ALOJ    40.23  20 eP     18 53.50   0.6
ACHM    40.32  20 eP     18 55.50   2.0
AAPN    40.41  19 eP     18 54.50   0.2
AFC     40.56  20 e(P)   18 56.40   0.9
ASMO    40.58  20 eP     18 56.00   0.3
ENIJ    40.78  22 e(P)   18 58.00   0.8
TOL     42.78  18 iP     19 15.00   1.4
       1.2s     78.13nm          5.3mb
                  eS     25 45.00
GUD     43.45  17 e(P)   19 20.40   1.3
ECHE    43.55  21 e(P)   19 20.50   0.7
EPF     47.05  20 eP     19 48.60   0.9
       1.0s     12.00nm          4.9mb
CCH     48.55 247 (P)    19 59.00  -1.2
LPO     48.79  20 eP     20 01.40   0.1
       0.8s      8.00nm          4.8mb
LFF     48.87  19 eP     20 02.20   0.4
       1.0s     25.60nm          5.2mb
CAF     49.31  20 eP     20 05.20  -0.1
       0.8s      5.30nm          4.6mb
MFF     50.07  18 eP     20 11.20   0.1
       0.8s      8.00nm          4.7mb
CNCB    50.11 249 P      20 11.00  -1.5
ZOBO    50.12 249 P      20 12.50  -0.1
       1.6s     43.86nm          5.2mb
     Z  18s      0.66um          4.7Msz
                  LR     36 06.00
LPB     50.16 249 P      20 15.00   2.3
     Z  18s      0.69um          4.7Msz
                  LR     36 22.00
LSF     50.29  19 eP     20 12.90   0.2
       1.0s     10.00nm          4.7mb
TCF     50.54  20 eP     20 15.50   0.8
       0.8s      6.70nm          4.6mb
MAF     50.61  20 eP     20 15.60   0.4
       1.0s      8.80nm          4.7mb
BUL     51.13 116 iPc    20 22.40   2.6
       1.1s     12.66nm          4.8mb
KSR     51.48 123 eP     20 12.20 -10.2X
LPG     51.55  24 eP     20 23.20   0.5
       0.8s      8.00nm          4.7mb
SSF     51.66  20 eP     20 23.30   0.1
       0.8s      9.40nm          4.8mb
FRS     51.76 128 iPc    20 22.30  -1.8
       0.4s      8.47nm          5.0mb
LBF     51.76  21 eP     20 23.90  -0.1
       0.8s      6.70nm          4.6mb
BFS     51.78 124 eP     20 29.00   4.4X
LOR     51.96  20 eP     20 25.30  -0.2
       0.8s      8.00nm          4.7mb
BLF     52.17 127 iPc    20 27.50   0.0
HVD     52.26 129 iPd    20 20.00  -8.2X
SLR     52.60 122 iPd    20 30.00  -0.8
       0.9s     12.60nm          4.8mb
     Z  19s      3.47um          5.4Msz
HAU     53.47  22 eP     20 36.40  -0.3
       0.8s     10.70nm          4.9mb
BSF     53.49  22 eP     20 36.40  -0.6
CDF     54.16  22 eP     20 41.00  -0.8
       0.8s      5.30nm          4.6mb
DOU     54.64  19 iPc    20 44.90  -0.3
       0.7s     11.10nm          5.0mb
KBA     55.61  27 eP     20 52.00  -0.6
PTJ     55.99  29 eP     20 54.50  -0.7
GRF     56.72  24 iPc    20 59.20  -1.1
       1.0s     10.00nm          4.8mb
WTS     57.00  19 eP     21 02.00  -0.2
       0.9s     16.00nm          5.0mb
                  e      21 11.00
KHC     57.26  25 P      21 03.40  -0.8
MOX     57.63  23 eP     21 05.00  -1.7
ZST     58.17  28 eP     21 09.30  -1.2
SRO     58.48  29 eP     21 20.80   8.2X
CLL     58.70  23 eP     21 21.00   6.9X
```

25d 12h

```
        1.4s    12.00nm          4.8mb
BRG    58.74  24 e(P)  21 13.00  -1.5
MLR    61.07  35 ePc   21 29.00  -1.7
                e      35 44.00
HFS    65.89  18 eP    21 59.50  -2.5
       0.8s     2.80nm          4.5mb
NB2    65.92  16 P     22 01.10  -1.1
       1.0s     5.80nm          4.7mb
SUF    71.87  20 eP    22 38.70  -0.3
       0.9s    13.50nm          5.0mb
LNO    79.04 307 e(P)  23 19.20  -1.0
TUL    79.05 307 eP    23 19.20  -1.2
       1.3s    10.60nm          4.7mb
MAIO   81.71  53 iPc   23 34.90   0.3
GOL    86.99 310 eP    24 02.00   0.6
       1.0s     4.00nm          4.6mb
ALQ    87.62 305 eP    24 05.20   0.7
SPA    89.40 180 eP    24 14.90   2.6
       1.1s    14.88nm          5.2mb
EDM    92.63 323 eP    24 27.00  -0.3
MBC    92.87 346 eP    24 30.00   2.1
       1.0s     5.00nm          4.9mb
ASPA  144.84 135 ePKP  30 53.30  -0.6
       0.8s    26.00nm
WB5   147.49 130 ePKP  31 09.80  11 5X
     S.D. = 1.1  on  62 of  68 obs.
-----------------------------------------
&  NOV  25, 1989  13h 44m 08.83s
   58.565 N          153.975 W
   DEPTH =  95.6km
 KODIAK ISLAND REGION                ( 13)
      <AGS-P>.

AUE      0.86  21 eP    44 26.78  -0.8
OPT      1.16  19 eP    44 30.27  -0.8
PDB      1.23 355 iP    44 30.73  -1.2
                eS      44 47.37
XLV      1.47  52 eP    44 33.94  -0 9
ILIM     1.61  18 eP    44 35.63  -1.0
CNPM     1.71  55 eP    44 36.75  -1.2
RED      1.96  18 eP    44 40.34  -1.0
NNL      2.02  42 eP    44 41.85  -0.2
SLKM     2.73  43 eP    44 49.83  -1.8
CKL      2 77  17 eP    44 51.53  -0.7
SEW      2.79  54 eP    44 49.65  -2.6
SUA      3.33  28 eP    44 58.96  -0.9
PMS      3.49  38 eP    45 00 53  -1.5
MTU      3.54  64 eP    45 00.66  -2.1
SKT      3.64  19 eP    45 03.10  -0.9
PWA      3.71  32 eP    45 04.03  -1.0
       16 obs. associated
-----------------------------------------
?  NOV  25, 1989  14h 16m 53.87± 1.10s
   38.986 N ± 8.4km   27.293 E ±17.2km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

IZM      0.59 182 iPg   17 05.80   0.0
                iSg     17 18.00
EZN      1.13 319 ePg   17 14.90   0.0
DST      1.21  59 iPn   17 21.10   4.7X
EDC      1.43  18 ePn   17 21 00   1.2
BNT      1.45  19 ePn   17 19.00  -1.1
KHL      1.87 110 ePn   17 33.00   6.8X
     S.D. = 1.6  on   4 of   6 obs.
-----------------------------------------
   NOV  25, 1989  15h 10m 50.43± 0.27s
    6.117 N ± 4.6km  124.992 E ± 5.6km
   DEPTH =  14.3km  (  5 depth phases)
   5.2mb ( 12 obs.)  5.0Msz ( 10 obs.)
 MINDANAO, PHILIPPINE ISLANDS      (259)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 15S, 33C
      Centroid Location:
      Origin Time        15:10:52.3 0.6
      Lat  6.36N 0.06 Lon 124.95E 0.09
      Dep  15.0 FIX Half-duration  2.0
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-0.56 0.08  Mtt= 1.53 0.08
        Mff=-0.97 0.12  Mrt= 0.03 0.41
        Mrf=-0.63 0.21  Mtf= 0.26 0.08
       Principal Axes:
        T  Vol=  1.56  Plg= 1  Azm=174
        N        -0.12       54       82
        P        -1.45       36      265
      Best Double Couple:Mo=1.5*10**17
```

```
      NP1:Strike=303 Dip=65 Slip= -26
      NP2:          45      66      -152

DAV     1.12  31 iPd-  11 09.40  -1.7
TSM     7.14 255 eP    12 36.40  -0.6
      0.2s    66.90nm          6.4mb X
                e      18 51.00
KKM     8.73 270 eP    12 57.20  -2.0
QCP     9.30 336 eP    13 01.30  -5.7X
BAG    11 11 337 eP    13 30.00  -2.0
KUPT   16.22 185 eP    14 55.50  16.0X
      0.8s   250.40nm
KHKI   17 16 213 ePd   15 03.30  11.9X
                e      20 30.00
TRT    18.45 222 ePd   15 12.30   4.9X
      0.5s    29 60nm          4.7mb
HKC    19.19 328 eP    15 16.00  -0.4
                S      18 51.00
ANP    19.25 350 eP    15 16.00  -1.3
TPI    19.43 243 eP    15 20.00   0.6
                e      24 00.00
QIZ    19.55 312 eP    15 19.00  -1.8
     N  12s     3 60um
MTN    19.80 162 iPc   15 21.10  -2.4
GUMO   20.93  68 eP    15 33.00  -2.2
GUA    20.95  68 eP    15 33.20  -2.3
KGM    21.99 260 ePc   15 49.30   3.3X
KNA    22.04 170 eP    15 45.00  -1.5
IPM    23.91 268 ePc   16 06.60   1.8
      1.9s   673.20nm          5.9mb
SNG    24.23 274 eP    16 04.20  -3.7X
                eS     20 30.60
SSE    25.10 352 P     16 16.00  -0.2
      1.5s    61.00nm          5.1mb
     Z  20s     3 50um          4 9Msz
     N  14s     3 00um
                pP     16 30.00  58kmX
                S      20 46.00
                SS     22 12.00
LOE    25.35 298 eP    16 16.50  -2.2
LAT    25.36 120 eP    16 20.00   1.2
NNT    25 72 286 eP    16 23.00   0.8
WHN    26.28 339 eP    16 28.00   0.9
     Z  20s     3 14um          4.9Msz
     N  14s     4.58um
     E  12s     2.44um
                sS     21 10.00
NJ2    26 43 348 Pc    16 31.00   2.5
     Z  20s     5 60um          5.1Msz
     N  11s     1.80um
     E  10s     0 80um
TSI    26.46 266 iPc   16 25.00  -4.0X
GYA    26 73 321 P     16 34.00   2.4
     N  16s     4 40um
     E  16s     4 70um
KDB    26.98 125 eP    16 34.00   0.3
WB5    27.43 161 eP    16 33.00  -4.8X
                i      16 38.00  18km
                i      17 41.50
                eS     21 13.50
CHG    28.34 299 ePc   16 44.00  -2.1
      1.3s    52.88nm          5.2mb
KMI    28.48 314 Pd    16 49.00   1.4
     Z  22s     6 10um          5.2Msz
     N  13s     2 30um
                S      21 12.00
QIS    30 15 152 eP    17 02.00  -0.3
TIA    30.81 348 eP    17 07.20  -0.8
     Z  38s     3 20um          4.7MszX
     E  15s     2.90um
ASPA   30.85 164 eP    17 06.60  -1.9
      0.9s    41 00nm          5.3mb
     Z  21s     1.19um          4.5Msz
                eS     22 13 70
                LR     32 53.10
TSRJ   30.98  18 P     17 08.80  -0.6
XAN    31.52 334 P     17 13.50  -0.8
      1.5s     0 10nm          2.5mb X
     N  15s     2 90um
     E  12s     1.80um
                pP     17 22.00  30kmX
                S      22 19.00
IIDJ   31.55  20 P     17 15.80   1 3
CD2    31.71 324 eP    17 15 20  -0.8
     Z  22s     4 30um          5.1Msz
     E  15s     4 70um
                eS     22 26 50
```

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WARB   32.15 177 eP    17 18.00  -1.8
       0.4s    11.00nm          5.1mb
CHJJ   32.44  21 P     17 17.20  -5.1X
MTMJ   32.51  19 P     17 21.90  -1.1
DL2    32.78 355 Pc    17 25.00  -0.2
     Z  20s     2.10um          4.8Msz
     N  14s     2.00um
     E  14s     1.40um
CTA    33.40 142 iPd   17 32.60   1.8
       1.4s   151.16nm          5.7mb
                eS     22 52.00
TIY    33.46 342 eP    17 30.20  -1.1
     N  11s     1.80um
BJI    34.69 348 eP    17 40.50  -1.2
     Z  20s     2.69um          5.0Msz
     N  14s     1.72um
                eS     23 08.00
LZH    35.58 330 P     17 50.50   0.9
     Z  20s     4.40um          5.2Msz
     N  15s     3.00um
     E  16s     3.70um
                pP     17 56.00  19km
                eS     23 25.00
                (SS)   26 37.00
SNY    35.58 358 iPc   17 48.00  -1.3
       1.4s     0.20nm          2.8mb X
     Z  18s     4.60um          5.3Msz
     N  14s     1.50um
     E  13s     1.20um
                pP     18 02.50  56kmX
                sS     23 34.00
HHC    36.61 343 P     17 58.00  -0.2
     N  16s     2.70um
     E  12s     0.70um
FORR   36.88 176 eP    17 58.00  -2.3
SHL    37.08 305 iP    18 01.00  -1.4
CN2    37.53   1 P     18 08.00   2.3
       5.0s     0.30nm          2.3mb X
     Z  15s     2.10um          5.1MszX
     N  13s     0.60um
     E  13s     1.60um
                pP     18 12.50  15km
                ePP    19 37.00
                ePcP   20 23.00
MDJ    38.56   5 eP    18 14.50   0.2
     Z  24s     1.80um          4.8MszX
     E  12s     1.50um
                S      24 03.00
LSA    39.58 310 P     18 25.00   1.4
RMQ    39.77 146 eP    18 24.00  -0.6
GTA    40.17 329 P     18 28.20   0.2
       1.6s     0.20nm          2.6mb X
     Z  16s     3.20um          5.3MszX
     E  14s     1.80um
                S      24 34.00
KUSJ   40.74  22 eP    18 37.70   5.3X
ASAJ   40.89  19 eP    18 34.80   1.1
STK    40.97 158 eP    18 33.00  -1.4
                e      18 36.00  10km
                e      24 48.00
CMS    42.36 153 eP    18 46.00   0.2
ADE    42.86 163 iPc   18 49.70  -0.3
       0.8s    94.03nm          5.6mb
COO    44.67 146 eP    19 06.00   1.3
                e      20 55.00 626kmX
BWA    46.00 153 eP    19 15.90   0.7
BFD    46.09 160 eP    19 18.00   2.2
HYB    46.71 288 eP    19 21.50   0.5
       1.4s   100.00nm          5.7mb
CAN    47.01 153 eP    19 23.70   0.6
CNB    47.17 153 eP    19 25.00   0.6
KOD    47.19 278 eP    19 27.20   2.0
                eS     26 24.00
GBA    47.37 283 P     19 27.00   0.7
TOO    47.48 158 eP    19 26.00  -0.9
                e      19 29.00  10km
DZM    49.32 126 iPc   19 42.40   1.0
WMO    49.79 325 eP    19 43.80  -0.9
       4.0s     0.70nm          3.0mb X
     Z  17s     6.80um          5.7MszX
     N  15s     2.00um
     E  15s     1.70um
                S      26 44.00
NDI    50.38 302 eP    19 48.00  -1.4
                eS     27 06.00
POO    51.29 289 eP    19 54.00  -2.5
BOM    52.31 289 eP    20 05.50   1.4
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                    eS     27 35.00
KSH     55.11 315 eP     20 26.50    1.8
     N  16s      3.20um
                    ePP    22 30.00
                    eS     28 07.00
QUE     59.42 301 eP     20 55.20   -0.3
                    e(S)   27 25.00
MSZ     63.55 147 P      21 23.80    1.1
MAIO    66.70 307 iPd    21 43 90    0.5
                    eS     30 36.00
TAB     77.33 308 eP     22 48.00    1.3
SLY     77.93 305 ePd    22 49.00   -0.8
BHD     78.83 303 ePd    22 53.50   -1.3
                    e      32 50.00
MSL     79.84 306 ePc    23 01.50    1.2
PMR     82.70  29 eP     23 15.00    0.3
        1.0s     15.00nm          5.1mb
FBA     83.32  25 eP     23 20.00    2.1
        1.1s      9.38nm          4.9mb
DSI     86.51 301 e(P)   23 35.00    0.5
PRNI    86.95 300 eP     23 38.00    1.3
INK     88.59  21 eP     23 46.00    2.2
SUF     88.65 333 eP     23 44.90    0.7
NUR     89.79 331 eP     23 42.00   -7.6X
MBC     90.01  12 eP     23 51.00    0.6
        1.1s     12.00nm          5.0mb
MLR     91.99 316 eP     24 01.50    1.2
CLL     98.70 324 e(P)   24 47.00   16.4X
PEL    149.41 154 iPKPc  30 42.60    6.0X
        0.1s    288.89nm
CNCB   163.44 131 ePKP   30 58.00    2.8X
LPB    163.52 130 ePKP   30 59.00    3.9X
ZOBO   163.66 129 PKP    30 56.00    0.5
        1.4s     23.02nm
PPD    163.78 192 e(PKP)30 56.00    1.3
     S.D. = 1.4  on  82 of  97 obs.
-----------------------------------
?  NOV  25, 1989  15h 17m 04.16± 0.83s
    6.087 N ±15.8km  125.072 E ±21.6km
    DEPTH =  10.0km  (geophysicist)
    4.4mb (  2 obs.)
 MINDANAO, PHILIPPINE ISLANDS     (259)

MTN     19.75 162 eP     21 36 00   -1.4
IPM     23.99 268 eP     22 20.10    0.1
WB5     27.38 161 eP     22 49.90   -1.8
                    e      27 37.00
CHTO    28.42 299 eP     23 00.00   -1.3
        1.0s      5.00nm          4.3mb
BJI     34.74 348 eP     23 55.50   -1.0
ADE     42.81 163 eP     25 04.70    0.7
BWA     45.94 153 eP     25 31.00    1.9
CAN     46.94 153 eP     25 37.90    0.8
GBA     47.46 283 P      25 47.00    5.6X
MAIO    66.78 307 iPd    28 00.60    2.2
INK     88.59  21 eP     29 58.00   -0.3
MBC     90.03  12 eP     30 09.00    4.1X
        1.0s      4.00nm          4.6mb
     S.D. = 1.6  on  10 of  12 obs.
-----------------------------------
*  NOV  25, 1989  16h 00m 36.92± 1.52s
    31.816 N ± 7.7km   53.467 E ±22.6km
    DEPTH =  33.0km  (normol)
    4.2mb (  2 obs.)
 IRAN                             (348)

KHI      4.93  61 e(P)   02 27.00   36.2X
BRF      6.25 205 eP     02 08.70   -0.6
                    eSn    03 19 70
BJA      6.32 204 eP     02 10.50    0.3
BEE      6.33 205 eP     02 10 60    0.3
                    eSn    03 19.50
SLY      7.64 302 eP     02 40.00   11.4X
                    e      04 17 00
BHD      7.80 283 eP     02 31 00    0.0
                    e      04 09 00
NUR     34.41 335 eP     07 50.00   27.1X
HFS     38.59 329 eP     07 58.10   -0.1
        0.4s      3.20nm          4.5mb
SOD     38.95 344 eP     07 56.00   -5.1X
NB2     40.09 329 P      08 10.80    0.1
        0.5s      1.00nm          3.8mb
KVN    109.06 353 ePdiff15 26 90   26.2X
     S.D. = 0.4  on   6 of  11 obs.
-----------------------------------
    NOV  25, 1989  16h 13m 48.97± 0.52s
    23.721 N ± 6.6km  114.580 E ± 7.1km
    DEPTH =  33.0km  (normal)
    4.9mb (  5 obs.)
 NEAR SOUTHEASTERN COAST OF CHINA(242)
      ML 5.1 (BJI). Felt in Guangdong
      Province. Also felt ot Hong
      Kong.
      CENTROID, MOMENT TENSOR     (HRV)
      Doto Used: GDSN
      L.P.B.:  8S, 13C
      Centroid Locotion:
      Origin Time        16:13:45.6 0.9
      Lot 23.72N  FIX;Lon 114.57E  FIX
      Dep  15.0 FIX Holf-durotion  1.7
      Moment Tensor;    Scole 10**17 Nm
        Mrr=-0.62 0.11  Mtt=-0.28 0.09
        Mff= 0.90 0.17  Mrt=-0.72 0.20
        Mrf= 2.17 0.22  Mtf=-0.19 0.09
       Principol Axes:
        T  Vol=  2.55  Plg=36  Azm=256
        N        -0.28       5       162
        P        -2.28      54        66
      Best Double Couple:Mo=2.4*10**17
       NP1:Strike=  8 Dip=10 Slip= -63
       NP2:        162      81       -95

GZH      1.30 241 iPn    14 11.20    0.3
                    Pg     14 12.70
                    Sg     14 30.00
HKC      1.46 195 iP     14 12.50   -0.7
                    iS     14 30.80
MCO      1.85 211 eP     14 17.50   -1.4
                    eS     14 45.20
QZH      3.86  71 ePn    14 45.00   -2.4
QIZ      6.42 224 Pn     15 22.00   -1.8
                    Pg     15 46.90
                    Sn     16 33.60
                    Sg     17 05.00
ANP      6.49  76 eP     15 27.00    2.3
WHN      6.80 358 Pnc    15 27.50   -1.5
     Z  10s      3.82um
                    pP     15 32.00
                    Sn     16 41.50
                    Sg     17 23.50
GYA      7.68 292 Pn     15 40.00   -1.4
                    Sn     17 02.00
NJ2      9.12  24 Pd     16 01.00   -0.2
                    S      17 38.00
SSE      9.40  37 eP     16 03.00   -2.1
                    eS     17 36.50
                    Lg     18 41.50
KMI     10.88 280 eP     16 27.50    1.8
                    eS     18 28.00
                    e      19 05.00
XAN     11.41 336 Pc     16 28.60   -4.1X
     N  10s      1.30um
CD2     11.99 309 eP     16 38.30   -2.3
     Z  12s      0.90um          4.3MszX
TIA     12.64   9 eP     16 46.70   -2.5
LOE     13 57 245 eP     17 01.00   -0.6
TIY     14.07 353 eP     17 10.80    2.7X
LZH     15.43 325 eP     17 25.00   -1.0
        1.3s     18.00nm          4.1mb X
     Z  12s      0.80um          4.2Msz
                    pP     17 33.00
BJI     16.33   4 eP     17 38.00    0.7
     N  10s      0.54um
                    Lg     22 22.00
BTO     17.26 348 eP     17 51.00    1.8
     N  13s      0.90um
     E  13s      1.30um
HHC     17.27 352 eP     17 53.00    3.8X
                    S      20 55.00
SNY     19.56  20 eP     18 16.80    0.0
GTA     20.03 325 P      18 22.40    0.3
SHL     20.71 280 iP     18 30.00    0.7
LSA     21.74 291 P      18 41.20    1.2
CN2     21.93  21 eP     18 43.50    2.2
FORR    55.79 166 eP     23 26.00    0.9
STK     61.03 154 eP     24 02.00    0.3
ADE     62.69 158 ePd    24 18.10    5.2X
        0.8s     82.09nm          5.9mb
BWA     66.16 150 eP     24 40.50    5.1X
                    i      24 46.90
CAN     67.17 150 eP     24 48.10    6.2X
                    i      24 53.80
TOO     67.55 154 eP     24 56.00   11.8X
HFS     74.95 329 eP     25 27.20   -1.1
        0.5s      1.80nm          4.3mb
NB2     75.74 331 P      25 32.60   -0.3
        0.8s      5.50nm          4.6mb
INK     75.86  21 eP     25 33.00   -0.4
LPG     85.01 318 eP     26 24.30    1.5
SMF     86.20 320 eP     26 29.20    0.9
        1.2s     16.00nm          5.1mb
AVF     86.41 320 eP     26 30.30    1.0
CAF     88.15 319 eP     26 39.80    1.9
RJF     88.28 319 eP     26 40.50    2.1
        0.9s      7.80nm          5.0mb
PPM    126.54  40 ePdiff29 42.50   10.9X
     S.D. = 1.5  on  32 of  40 obs.
-----------------------------------
?  NOV  25, 1989  16h 15m 21.93± 1.76s
    12.014 N ±16.9km  126.319 E ±19.4km
    DEPTH =  10.0km  (geophysicist)
 PHILIPPINE ISLANDS REGION        (248)

DAV      4.95 189 iPc+   16 37.80   -0.3
TSM     11.25 227 eP     18 06.00    0.2
KKM     11.61 240 eP     18 21.50   10.7X
TPI     23.65 233 ePc    20 48.60   14.1X
                    e      22 00.00
MTN     25.16 169 eP     20 49.00    0.1
CHG     27.22 288 eP     21 13.80    5.7X
CHTO    27.22 288 eP     21 08.00   -0.1
KNA     27.69 175 eP     21 12.50    0.2
WB5     32.67 166 eP     22 03.00    6.4X
QIS     34.90 158 eP     22 28.00   12.1X
ASPA    36.23 168 eP     22 33.00    5.8X
        0.6s     29.00nm          5.3mb
     Z  22s      0.25um          3.9MszX
                    LR     38 20.20
     S.D. = 0.3  on   5 of  11 obs.
-----------------------------------
    NOV  25, 1989  17h 02m 32.68± 0.76s
    23.727 N ± 7.4km  114.608 E ± 9.9km
    DEPTH =  33.0km  (normal)
 NEAR SOUTHEASTERN COAST OF CHINA(242)
      ML 4.7 (BJI). Felt in Guongdong
      Province. Also felt ot Hong
      Kong.

GZH      1.32 241 Pn     02 56.00    1.0
                    Pg     02 57.40
                    Sg     03 14.90
HKC      1.47 196 iP     02 57.30    0.2
                    iS     03 15.80
MCO      1.87 211 eP     03 02.50   -0.4
                    eS     03 30.50
QZH      3.83  71 ePn    03 29.80   -0.9
QIZ      6.45 224 ePn    04 07.60   -0.2
                    Pg     04 31.40
                    Sg     05 53.80
WHN      6.79 358 Pn     04 13.00    0.4
                    pP     04 16.50
                    Sn     05 30.00
GYA      7.70 292 Pn     04 24.40   -1.0
                    Sn     05 47.40
NJ2      9.10  23 Pc     04 46.00    1.3
SSE      9.38  37 e(P)   05 04.00   15.4X
XAN     11.42 335 P      05 14.50   -2.0
CD2     12.00 309 eP     05 27.50    3.0X
GTA     20.04 325 eP     07 07.60    1.7
     S.D. = 1.3  on  10 of  12 obs.
-----------------------------------
    NOV  25, 1989  18h 06m 03.37± 0.76s
    18.850 N ± 3.1km  145.640 E ± 4.6km
    DEPTH = 204.9 ±  7.6 km
    4.9mb ( 23 obs.)
 MARIANA ISLANDS                  (216)
      CENTROID, MOMENT TENSOR     (HRV)
      Doto Used: GDSN
      L.P.B.: 12S, 21C
      Centroid Locotion:
      Origin Time        18:06: 7.0 1.0
      Lot 18.87N 0.11 Lon 145.17E 0.13
      Dep 195.2 5.9 Holf-durotion  1.5
      Moment Tensor;    Scole 10**16 Nm
        Mrr= 2.31 0.42  Mtt=-1.03 0.68
        Mff=-1.27 0.67  Mrt=-3.23 0.64
        Mrf= 3.57 0.49  Mtf= 0.94 0.53
       Principal Axes:
        T  Vol=  5.39  Plg=57  Azm=227
        N        -0.21       1       318
        P        -5.19      33        48
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25d 18h

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      Best Double Couple:Mo=5.3*10**16
       NP1:Strike=141 Dip=12 Slip=   93
       NP2:        318      78       89
                                        
GUMO    5.29 188 eP     07 22.70   0.5
PJG     5.29 188 eP     07 22.50   0.3
GUA     5.33 188 eP     07 23.30   0.5
       0.6s   181.33nm          5.4mb
                eS     08 20.30
WKYJ   17.73 332 eP     09 57.40  -1.2
IIDJ   17.92 339 P      10 00.00  -0.6
KAKJ   17.95 346 P      10 00.40  -0.4
                eS     13 17.60
CHJJ   18.11 342 P      10 01.60  -0.9
                S      13 19.30
KAGJ   18.13 315 eP     10 02.70  -0.1
TKSJ   18.28 328 eP     10 03.20  -1.1
TSRJ   18.69 335 eP     10 08.90   0.4
MTMJ   18.97 340 P      10 10.80  -0.7
KUMJ   19.04 319 eP     10 12.50   0.3
NIIJ   19.22 344 P      10 13.70  -0.3
                S      13 41.70
SHK    19.41 326 eP     10 14.50  -1.5
YONJ   19.53 329 eP     10 15.50  -1.6
YAMJ   19.86 347 P      10 21.70   1.2
                S      13 04.90
SHNJ   19.98 322 P      10 21.00  -0.6
OFUJ   20.45 351 P      10 27.40   1.1
AOMJ   22.11 349 eP     10 48.00   5.5X
HOOJ   23.54 356 P      10 59.30   3.0X
MRRJ   23.82 352 P      11 00.30   1.4
KUSJ   24.19 358 P      11 02.00  -0.4
ASAJ   25.32 355 eP     11 13.90   1.1
OZH    25.79 288 P      11 17.50   0.2
KDB    28.18 177 eP     11 38.00  -0.9
MDJ    28.98 336 eP     11 45.00  -0.8
SNY    29.62 325 Pc     11 49.60  -1.8
CN2    30.11 330 eP     11 54.60  -1.1
TIA    30.47 310 eP     12 00.00   0.9
WHN    30.62 298 eP     12 03.50   3.1X
BJI    32.99 316 eP     12 19.50  -1.3
       1.1s   14.00nm          4.5mb
                e      18 23.50
TIY    34.51 310 eP     12 34.30   0.3
MTN    34.59 205 iPd    12 34.80   0.1
XAN    35.97 302 P      12 45.60  -0.7
HHC    36.46 314 eP     12 50.00  -0.3
GYA    36.65 289 P      12 53.60   1.5
                PcP    15 11.80
KNA    38.18 207 eP     13 05.20   0.4
OIS    39.61 189 iPc    13 15.80  -0.7
                e      13 18.00
                e      14 48.00
CD2    39.63 296 eP     13 18.30   1.5
WB5    40.05 197 eP     13 19.90  -0.2
                eScP   18 30.70
KHKI   40.10 230 ePc    13 21.60   0.9
                e      15 56.20
KMI    40 14 287 Pd     13 23.00   1.8
LZH    40.52 304 eP     13 24.00  -0.1
LOE    41.68 275 eP     13 34.00   0.4
TPI    43.10 244 ePc    13 45.60   0.5
                e      13 56.00
NST    43.49 273 iPc    13 50.60   2.3
ASPA   43.78 196 eP     13 50.50  -0.1
       0.6s   39.00nm          5.1mb
                eS     20 06.50
CHG    44.09 278 iPc    13 54.00   0.8
       0.1s   152.78nm         6.5mb X
CHTO   44.09 278 eP     13 54.00   0.8
       1.1s   16.20nm          4.4mb
                ePP    14 42.00 225kmX
ADK    44.22  33 eP     13 54.20   0.5
BDT    44.27 276 eP     13 56.10   1.6
       0.7s   35.20nm          5.0mb
GTA    44.41 307 eP     13 55.20  -0.4
                PcP    15 35.40
NNT    44.53 269 iPc    13 57.70   1.1
RMO    45.17 176 eP     14 00.00  -1.4
DZM    45.48 152 iPc    14 03.90  -0.1
IPM    45.77 258 ePc    14 08.80   2.3
       1.0s   33.20nm          4.7mb
MBL    47.11 214 iPc    14 17.10   0.3
       0.4s   9.00nm          4.5mb
PSI    48.43 256 ePc    14 28.60   1.5
       1.3s   66.50nm          4.9mb
SHL    49.94 288 iP     14 39.00   0.2
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                eS     19 33.00
STK    50.59 184 eP     14 42.00  -1.2
FORR   52.21 199 iPd    14 55.10  -0.3
       0.4s   52.00nm          5.5mb
MEKA   52.29 211 eP     14 55.30  -0.8
       0.3s   8.00nm          4.8mb
BWA    53.04 177 eP     15 00.50  -0.9
CAN    53.97 177 eP     15 06.90  -1.3
WMQ    54.17 311 iPd    15 09.90   0.1
SDN    54.36  35 eP     15 10.00  -0.9
COOL   54.77 206 iPc    15 13.00  -1.1
       0.7s   44.00nm          5.3mb
MRWA   55.70 212 iPd    15 20.70  -0.1
       0.3s   14.00nm          5.1mb
MUN    57.88 210 iPd    15 35.90  -0.1
       0.9s   177.00nm         5.8mb
SVW    58.71  29 iPd    15 42.00   0.5
TTA    59.14  27 ePd    15 44.30  -0.2
KDC    59.30  33 eP     15 45.00  -0.5
IMA    61.16  24 eP     15 58.40   0.2
       0.9s   17.80nm          4.8mb
PMR    61.85  30 iPd    16 01.60  -1.0
       0.9s   62.50nm          5.4mb
BRW    62.12  18 eP     16 04.50   0.2
NDI    62.66 293 iPd    16 08.50   0.0
KSH    62.73 305 eP     16 08.00  -1.1
FBA    63.18  26 eP     16 10.10  -1.3
HYB    63.41 280 eP     16 12.50  -1.2
                e      16 47.50
MNG    65.35 155 eP     16 23.80  -1.8
GBA    65.36 277 P      16 26.00  -0.2
PGZ    65.67 155 P      16 26.20  -1.4
       0.8s   27.00nm          5.1mb
MSZ    66.40 163 eP     16 30.90  -1.3
INK    69.26  23 ePd    16 48.60  -1.0
                pP     17 31.00 178kmX
MBC    73.02  14 eP     17 12.00   0.1
       0.7s   13 00nm          4.8mb
                pP     17 54.00 174kmX
MAIO   76.07 304 iPc    17 30.60   0.4
BMW    77.34  45 P      17 38.00   1.1
GMW    77.37  44 P      17 38.00   1.0
LON    78.22  45 eP     17 42.70   0.9
PNT    78.95  42 eP     17 47.00   1.4
LBFM   79.59  50 P      17 50.00   0.5
BRK    80.28  53 e(P)   18 00.90   8.0X
ORV    80.38  52 ePd    17 53.80   0.4
                e      18 36.90
MHC    80.90  54 e(P)   18 02.40   6.1X
ARN    80.98  54 P      17 57.00   0.4
EDM    81.50  37 iP     18 00.00   1.0
CMB    81.65  53 ePd    18 01.00   0.9
                e      18 44.00
KEV    81.77 342 eP     17 58.00  -2.0
PRI    82.00  55 e(P)   18 04.80   2.8
FRI    82.48  54 ePd    18 04.70   0.4
                e      18 47.80
                e      18 52.50
KVN    83.04  51 eP     18 08.30   0.8
                pP     18 51.00 172kmX
SOD    83.20 340 iP     18 06.90  -0.5
SES    83.85  39 eP     18 12.00   0.9
TNP    84.01  52 P      18 13.00   0.7
       0.6s   5.40nm          4.5mb
LRM    84.67  43 eP     18 16.10   0.6
SUF    85.97 336 eP     18 20.00  -1.3
       0.3s   9.40nm          5.1mb
FFC    87.00  32 eP     18 27.00   0.6
       0.8s   15.00nm         4.9mb
MSU    87.57  50 P      18 30.30   0.5
                pP     19 18.00 192kmX
NUR    87.83 335 eP     18 28.60  -1.7
RSSD   90.81  42 eP     18 45.90   1.1
UPP    90.98 337 iP     18 42.40  -2.6X
GOL    91.91  47 eP     18 51.10   1.0
       0.9s   4.17nm          4.5mb
                pP     19 36.20 180kmX
HFS    92.22 338 eP     18 48.30  -2.5
       0.4s   5.60nm          5.0mb
NB2    92.41 340 P      18 49.50  -2.2
       0.8s   4.20nm          4.6mb
BUL   120.95 257 iPKPd  24 29.90  -3.8X
       1.0s   15.00nm
SLR   122.09 251 ePKP   24 32.50  -3.2X
BCAO  123.02 288 iPKPd  24 37.50  -0.2
       0.6s   5.00nm
BFS   123.55 250 ePKP   24 35.00  -3.5X
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BLF    124.26 247 ePKP   24 28.00 -11.9X
KIC    141.53 308 PKP    25 07.00  -5.6X
SAN    144.52 121 ePKP   25 16.50  -0.7
PEL    144.58 121 iPKPc  25 16.70  -0.6
        0.4s   55.08nm
PCH    144.59 122 iPKPd  25 17.10  -0.3
FCH    144.85 121 ePKP   25 19.00   0.8
ZOBO   147.73  91 PKPc   25 24.00   0.4
LPB    147.80  91 PKP    25 25.00   1.5
CNCB   147.96  92 PKP    25 25.00   1.1
                S       26 14.00
CCH    149.78  92 PKP    25 32.90   6.5X
      S.D. = 1.0  on 116 of 128 obs.
-----------------------------------
&  NOV  25, 1989  18h 13m 39.09s
   62.242 N          151.174 W
   DEPTH =  78.2km
 CENTRAL ALASKA                    (  1)
      <AGS-P>.

SKT      0.31 213 iP     13 50.83  -0.6
CUT      0.45  68 iP     13 51.79  -0.6
SUA      0.81 165 eP     13 55.75  -0.4
PWA      0.85 134 iPc    13 56.00  -0.5
NCG      0.96 209 eP     13 57.09  -0.9
HUR      1.03  43 eP     13 57.66  -1.0
                eS      14 12.43
GHO      1.16 113 eP     14 00.06  -0.3
                eS      14 15.08
PMR      1.17 123 iPc    13 59.80  -0.5
                eS      14 15.80
PMS      1.26 142 iP     14 01.00  -0.6
KTH      1.32   5 eP     14 01.46  -1.0
RND      1.58  41 eP     14 04.50  -1 4
                eS      14 24.75
RDT      1.78 200 eP     14 07.83  -0.7
SLKM     1.80 165 eP     14 08.45  -0.4
MCK      1.81  33 eP     14 07.89  -1 1
NCA      2.06  95 eP     14 11.04  -1.3
NNL      2.21 182 eP     14 15.86   1.5
ILIM     2.34 203 eP     14 15.47  -0.7
TOA      2.35  91 eP     14 15.40  -1.0
GLI      2.38 123 eP     14 14.45  -2.3
SVW      2.41 244 eP     14 15.50  -1.6
NEA      2.53  21 eP     14 16.59  -2.1
VLZ      2.56 114 eP     14 17.23  -2.0
KLU      2.60 104 eP     14 17.64  -2.2
WRH      2.63  30 eP     14 18.22  -2.0
FID      2.70 122 eP     14 18.43  -2.8
PAX      2.74  72 eP     14 20.62  -1.1
CCB      2.85  31 eP     14 20.55  -2.6
PDB      2.87 212 eP     14 22.52  -0.9
DDM      2.88  55 eP     14 23.53  -0.1
HDA      2.89  39 eP     14 21.70  -2.0
FBA      3.07  28 eP     14 24.20  -2.0
BALM     4.38 102 eP     14 41.55  -3.2
      32 obs. associated
-----------------------------------
   NOV  25, 1989  18h 21m 54.26± 0.29s
   41.693 N ± 3.5km   15.831 E ± 3.4km
   DEPTH =  33.0km  (normal)
 SOUTHERN ITALY                    (390)
      ML 3.2 (KBA).

DUI      1.03 269 P      22 13.00   0.5
                eSg     22 28.70
SGO      1.20 199 P      22 15.80   1.0
                eSg     22 32.40
BRT      1.32 128 P      22 14.80  -1.7
                eSg     22 33.20
SDI      1.51 271 P      22 19.90   0.6
                eSg     22 40.50
HVAR     1.55  17 i(Pn)  22 21.10   1.2
                iSg     22 47.30
MGR      1.57 188 P      22 19.20  -0.9
MMN      1.80 176 P      22 23.60   0.1
CSI      1.95 170 P      22 25.60   0.0
ALP      2.00 304 iPnd   22 26.92   0.5
                iSn     22 51.89
TDS      2.07 169 P      22 27.50   0.2
LCI      2.10 130 P      22 27.80   0.0
HCY      2.12  68 ePn    22 32.00   3.9X
BDV      2.31  74 ePn    22 35.00   4.2X
BRY      2.35  58 ePn    22 35.50   4.1X
SSO      2.40 313 iPn    22 40.56   8.5X
MNS      2.45 287 P      22 33.90   1.1
CZI      2.48 175 P      22 33.20   0.0
```

CIO	2.49	308	iPnd	22	33.34	-0.1
			iSn	23	16.64	
NKY	2.60	63	ePn	22	36.50	1.4
TTG	2.66	73	ePn	22	40.00	4.3X
			eSn	23	13.00	
ASS	2.72	301	P	22	37.50	0.8
SDA	2.76	82	ePn	22	46.00	8.9X
ARV	2.79	311	Pd	22	37.00	-0.6
TIR	3.05	95	ePn	22	52.20	10.9X
PVY	3.21	72	ePn	22	43.00	-0.6
BCI	3.23	77	ePn	22	52.30	8.6X
RSM	3.34	313	P	22	45.70	0.3
PHP	3.45	89	iPnc	22	48.60	1.6
CRE	3.45	305	P	22	46.80	-0.3
SFI	3.68	309	P	22	50.60	0.5
OHR	3.78	97	ePn	22	51.70	0.0
RIY	3.80	344	e(Pn)	22	51.80	0.0
VBY	3.83	354	ePn	23	00.40	8.1X
			i	23	38.30	
			iSn	23	49.30	
			iSg	24	07.00	
CEY	4.17	346	eP	23	03.50	6.3X
			e(Sn)	23	51.20	
SKO	4.20	84	ePn	23	10.00	12.4X
PTJ	4.21	1	ePn	23	03.00	5.3X
			eSn	23	53.50	
TRI	4.29	340	eP	23	13.70	14.9X
			e	23	46.00	
			e	24	27.10	
LJU	4.45	348	e(Pn)	22	59.80	-1.4
			eSn	23	49.50	
BDI	4.52	303	P	23	01.00	-1.2
MME	4.52	305	P	23	01.80	-0.6
VOY	4.56	343	ePn	23	01.80	-1.0
			eSn	23	52.40	
CTI	5.30	327	Pc	23	10.40	-2.8X
			eSn	24	07.50	
FVI	5.37	337	P	23	11.50	-2.5X
BOB	5.58	306	P	23	16.60	-0.6
			eSn	24	15.70	
AGG	5.64	116	eP	23	17.20	-0.7
KBA	5.67	343	iPnc	23	16.10	-2.4X
			i	23	25.50	
			i	23	32.70	
			iSn	24	19.80	

S.D. = 0.9 on 30 of 46 obs.

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* NOV 25, 1989 18h 31m 21.82± 0.68s
39.683 N ± 8.8km 75.161 E ±10.5km
DEPTH = 10.0km (geophysicist)
4.7mb (6 obs.)
SOUTHERN XINJIANG, CHINA (321)

NDI	11.10	171	iPc	34	03.40	-0.3
			eS	36	03.00	
QUE	11.62	218	eP	34	12.50	1.6
MAIO	12.81	260	eP	34	25.00	-1.8
			eS	36	45.00	
KHI	14.32	252	eP	34	46.00	-0.8
SHL	19.86	130	iP	35	54.60	-1.5
			eS	39	30.50	
HYB	22.38	171	eP	36	23.00	1.3
GBA	26.05	175	P	37	11.00	14.0X
HFS	42.68	320	eP	39	20.40	0.4
	0.4s	3.00nm			4.4mb	
NB2	43.90	321	P	39	30.70	0.8
	0.7s	2.80nm			4.2mb	
EKA	52.32	315	P	40	36.00	0.5
	0.8s	4.30nm			4.4mb	
BCAO	61.83	251	ePd	41	51.90	8.3X
	0.2s	4.00nm			5.3mb	
			id	41	57.80	
MBC	63.98	4	ePc	41	57.00	0.1
	0.5s	6.00nm			5.0mb	
INK	70.20	11	eP	42	36.00	-0.2
ASPA	83.49	128	eP	43	59.10	8.0X
	0.8s	6.00nm			4.9mb	

S.D. = 1.2 on 11 of 14 obs.

NOV 25, 1989 20h 14m 34.78± 0.56s
1.008 N ± 3.6km 98.867 E ± 4.0km
DEPTH = 110.5 ± 5.1 km
5.1mb (30 obs.)
NORTHERN SUMATERA (706)

PSI	1.68	2	eP	15	04.00	-0.1
			i(S)	16	27.50	
PPI	2.11	134	iPd	15	10.00	0.3
TSI	2.49	353	iPc	15	15.00	0.3
			eS	16	11.00	
KLM	3.47	53	ePc	15	28.50	0.6
	0.9s	992.20nm				
			e	16	01.50	
IPM	4.15	31	ePc	15	37.90	0.7
	0.7s	383.90nm				
			e	16	17.90	
			e	16	54.60	
KGM	4.56	77	iPc	15	43.70	0.9
			e	16	34.40	
			e	17	52.40	
BSI	5.71	321	iP	15	57.00	-1.6
			iS	16	52.00	
SNG	6.37	16	eP	16	06.80	-0.9
	0.7s	194.52nm			5.5mb	
			eS	17	49.30	
TPI	9.55	113	P	16	52.70	1.9
NNT	11.54	4	eP	17	16.50	-0.8
NST	14.62	5	iPd	17	58.80	1.3
BDT	16.13	0	eP	18	16.20	-0.3
	0.6s	40.40nm			4.8mb	
LOE	16.54	10	iPc	18	21.00	-0.5
CHG	17.70	0	iPd	18	34.90	-0.9
	0.9s	2.10nm			3.4mb X	
KKM	18.02	73	ePd	18	41.00	1.2
	0.9s	145.80nm			5.2mb	
KHKI	19.11	119	ePc	18	50.60	-1.1
			e	21	16.70	
TSM	19.45	80	ePd	18	54.00	-1.3
	0.9s	449.80nm			5.8mb	
QIZ	20.89	30	P	19	12.80	2.7X
KOD	23.16	294	iP	19	34.20	1.4
KMI	24.26	9	eP	19	43.50	0.3
SHL	25.33	345	iP	19	53.50	0.3
			iS	24	12.00	
HYB	25.79	310	iPd	19	57.00	-0.3
	1.0s	60.00nm			5.1mb	
			e	20	30.50	
GYA	26.39	16	P	20	02.00	-0.9
LSA	29.46	346	Pd	20	31.20	0.3
CD2	30.10	8	eP	20	34.20	-1.8
POO	30.10	307	iPd	20	35.60	-0.6
	0.9s	23.53nm			4.9mb	
BOM	31.12	306	eP	20	44.20	-0.9
WHN	32.85	25	P	21	00.50	0.5
MEKA	33.37	147	eP	21	05.00	0.4
XAN	34.18	15	P	21	09.00	-2.6
			S	26	29.00	
NDI	34.42	325	iPd	21	13.00	-0.6
LZH	35.21	7	Pd	21	20.50	0.1
	2.0s	47.00nm			5.0mb	
			pP	21	48.50	123kmX
SSE	36.64	33	Pc	21	33.20	1.0
	1.0s	40.00nm			5.3mb	
MUN	36.69	155	eP	21	34.50	1.8
KLB	37.04	153	eP	21	37.00	1.3
COOL	38.14	148	eP	21	45.00	0.1
GTA	38.23	1	Pc	21	46.00	0.3
TIY	38.60	17	eP	21	49.60	0.8
TIA	38.91	24	P	21	51.50	0.3
WB5	40.52	123	eP	22	03.30	-1.5
BTO	40.69	13	P	22	07.00	1.0
HHC	41.29	15	Pc	22	12.50	1.6
BJI	41.92	20	Pc+	22	17.00	1.1
	0.8s	221.00nm			6.0mb	
			eS	28	28.00	
ASPA	41.96	128	eP	22	15.20	-1.3
	1.1s	21.00nm			4.8mb	
QUE	41.96	317	iPd	22	16.40	-0.3
FORR	42.14	141	iPd	22	18.00	0.1
	0.3s	14.00nm			5.2mb	
DL2	43.09	26	iPc	22	26.00	0.6
	1 0s	0.50nm			3.3mb X	
			S	28	47.00	
KSH	43.60	334	eP	22	30.50	0.8
WMQ	43.77	348	iPc	22	31.90	0.8
QIS	45.26	121	iPc	22	41.40	-1.8
			e	22	57.00	
SNY	46.33	26	Pc	22	50.80	-0.5
	1.0s	0.14nm			2.7mb X	
TSRJ	48.67	41	P	23	09.40	-0.2
CN2	48.74	26	iPc	23	09.50	-0.5
	0.3s	0 10nm			3.2mb X	
IIDJ	49.92	42	P	23	18.20	-1.1
MTMJ	50.48	41	P	23	23.00	-0.6
MAIO	50.60	318	iPd	23	23.20	-1.3
CHJJ	50.97	42	P	23	26.10	-1.1
MDJ	51.24	28	Pd	23	29.50	0.4
NIIJ	51.64	41	P	23	30.70	-1.6
ADE	51.64	138	eP	23	32.20	-0.2
STK	52.00	133	iPd	23	34.30	-0.7
CMS	54.98	130	eP	23	56.00	-0.9
BWA	58.24	132	eP	24	18.30	-1.8
BHD	60.25	308	ePd	24	31.00	-2.9
NAI	62.10	268	iPd	24	47.50	0.5
DSI	67.04	304	eP	25	18.00	-0.3
PRNI	67.08	303	iPd	25	18.50	-0.2
PTZ	68.51	254	iP	25	28.00	0.1
			i	25	53.40	
DZM	69.68	114	iPc	25	35.00	0.0
KAS	70.83	314	iPd	25	41.30	-0.3
BBTK	71.16	312	eP	25	52.00	8.3X
LSZ	71.66	254	iP	25	47.40	0.4
			i	26	14.00	
BUL	71.86	249	iPc	25	45.80	-2.4
	1.0s	9.00nm			4.5mb	
BCK	72.24	309	iP	25	48.60	-1.5
ELL	72.62	308	eP	25	51.60	-0.8
KMZ	73.75	256	eP	26	00.60	1.3
PRY	73.92	242	eP	25	56.50	-3.7X
BFS	74.52	242	eP	26	01.50	-2.2
BLF	75.40	240	eP	26	08.50	-0.2
GRM	75.81	235	eP	26	09.00	-1.8
HVD	76.24	238	eP	26	15.00	1.6
FRS	76.25	239	eP	26	12.00	-1.2
	0.4s	8.47nm			4.9mb	
MLR	77.35	316	ePd	26	19.00	-0.2
BCAO	80.28	274	iPd	26	35.50	-0.1
	0.6s	28.00nm			5.2mb	
			id	26	50.20	
BZS	80.37	316	eP	26	36.00	0.7
SUF	81.23	334	eP	26	39.80	0.3
NUR	81.39	331	iP	26	40.70	0.4
KRA	82.12	320	eP	26	44.70	0.3
	0.9s	27.00nm			5.1mb	
SOD	82.29	338	iP	26	45.40	0.5
SRO	82.91	318	eP	26	48.90	0.4
TDS	83.60	310	P	26	53.00	0.8
ZST	83.75	318	eP	26	53.10	0.3
MGR	84.23	310	P	26	56.00	0.6
SGO	84.45	310	P	26	57.00	0.6
KSP	84.52	321	ePc	26	57.60	1.0
PRU	85.57	320	P	27	02.20	0.3
SDI	85.63	312	P	27	02.00	-0.4
BRG	86.01	321	iP	27	04.90	0.9
	1.0s	10.00nm			4.8mb	
KHC	86.15	319	P	27	05.90	1.1
ARV	86.35	313	P	27	06.50	0.7
FVI	86.58	316	P	27	07.00	0.2
CLL	86.63	321	iPc	27	07.70	0.7
HFS	86.72	330	eP	27	07.00	-0.2
	0.9s	16.60nm			5.0mb	
CTI	87.34	316	P	27	11.50	0.8
GRF	87.71	320	iPd	27	13.40	1.1
	1.0s	18.00nm			5.0mb	
NB2	87.98	331	P	27	13.40	0.0
	1.0s	8.00nm			4.7mb	
SAL	88.12	315	P	27	15.50	1.2
BOB	88.88	315	P	27	19.00	0.9
VAI	89.35	316	P	27	14.00	-6.1X
CDF	90.31	318	eP	27	24.60	-0.1
	0.7s	4.40nm			4.7mb	
SBF	90.34	314	eP	27	25.00	0.1
	0.6s	11.50nm			5.2mb	
BSF	90.66	318	eP	27	26.20	-0.1
LPG	90.78	315	eP	27	27.20	0.1
	0.8s	20.10nm			5.4mb	
FRF	90.93	313	eP	27	27.90	0.4
	0.7s	13.20nm			5.2mb	
HAU	90.95	318	eP	27	27.60	0.1
	0.7s	14.10nm			5.3mb	
SPA	91.00	180	iPc	27	29.30	1.8
	0 8s	4.58nm			4.7mb	
LMR	91.04	313	eP	27	28.30	0.4
LRG	91.14	313	eP	27	29.00	0.6
LBF	92.61	317	eP	27	35.40	0.2
	0.9s	12.10nm			5.2mb	
LOR	92.67	317	eP	27	35.70	0.2
	0 8s	12.60nm			5.3mb	
SMF	92.73	317	eP	27	35.80	0.1
	0.7s	8.80nm			5.2mb	
SSF	92.93	317	eP	27	37.00	0.4

25d 20h

```
AVF     93.06 317 eP     27 37.50   0.3
         0.8s      4.50nm          4.8mb
BGF     93.42 317 eP     27 39.40   0.5
         0.9s      9.80nm          5.1mb
INK    102.16  18 ePdiff28 18.00   0.1
FFC    121.86  14 ePKP  33 17.00  -0.3
         0.7s      7.00nm
PPD    144.23 232 ePKP  33 59.30  -0.8
                  e     34 00.20
ZOBO   160.14 220 PKP   34 25.00   1.4
      S.D. = 1.0  on 124 of 128 obs.
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%  NOV  25, 1989  21h 30m 06.82± 0.73s
   44.473 N ± 7.0km     7.449 E ± 5.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.2 (GEN).

STV      0.25 201 P      30 12.09   0.0
                  S      30 15.27
ENR      0.25 185 P      30 11.99  -0.1
                  S      30 15.16
PZZ      0.25 278 P      30 12.50   0.3
                  S      30 16.19
ROB      0.35 120 P      30 14.45   0.4
                  S      30 19.88
FIN      0.60 116 P      30 18.86  -0.2
                  S      30 26.75
IMI      0.65 150 P      30 19.68  -0.1
                  S      30 27.88
RRL      0.65 314 P      30 19.78  -0.2
                  S      30 28.19
      S.D. = 0.3  on   7 of   7 obs.
-----------------------------------
   NOV  26, 1989  00h 10m 20.83± 0.48s
   42.386 N ± 4.5km    19.078 E ± 3.9km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.5 (TTG).

TTG      0.14  72 iPgd  10 24.00  -0.1
                  iSg   10 27.50
BDV      0.21 241 ePg   10 25.60   0.2
                  eSg   10 29.50
NKY      0.43 352 ePg   10 30.20   0.5
                  eSg   10 38.30
HCY      0.43 278 ePg   10 29.50  -0.2
                  eSg   10 37.00
ULC      0.44 163 ePg   10 29.50  -0.3
                  eSg   10 35.50
SDA      0.48 140 ePg   10 31.50   0.8
BRY      0.65 323 ePg   10 33.50  -0.4
                  eSg   10 44.50
PVY      0.69  72 ePg   10 34.00  -0.7
                  eSg   10 45.00
BCI      0.73  91 iPgd  10 34.70  -0.5
IVA      0.78  51 ePg   10 36.70   0.7
                  eSg   10 49.50
TIR      1.19 150 ePg   10 46.00   2.9X
PHP      1.23 124 ePg   10 46.20   2.5X
      S.D. = 0.6  on  10 of  12 obs.
-----------------------------------
*  NOV  26, 1989  00h 14m 06.08± 1.41s
   9.434 N ±12.9km   84.435 W ±12.8km
   DEPTH =  38.7 ±  9.6 km
 COSTA RICA                        ( 78)
      ML 4.5 (SJR). Felt (II) at
      Alajuelas.

QCR      0.27  88 iPc   14 12.70  -1.2
                  S     14 18.80
LCR2     0.52  54 iPd   14 16.90  -0.4
SJS      0.63  37 iPc   14 18.80   0.1
                  S     14 28.80
VPS2     0.78  15 iPd   14 20.80  -0.1
ACR      1.47 122 iPd   14 30.80   0.3
LIO      1.49  68 iPd   14 32.70   1.9
UPA      4.86  95 ePd   15 18.50  -0.2
         0.8s     44.78nm
PPM     16.75 306 (P)   18 01.00   0.9
EKA     77.34  35 P     25 58.00  -0.4
         1.5s     29.90nm         5.1mb
LIC     78.59  86 P     26 07.00   0.9
KIC     78.85  85 P     26 08.20   0.7
NB2     84.55  29 P     26 35.70  -0.7
         0.7s      3.30nm         4.6mb
HFS     85.92  30 eP    26 41.30  -1.9
         1.0s     11.10nm         5.0mb
HYB    148.47  32 ePKP  33 50.00   2.5X
GBA    150.89  38 PKPd  34 03.50  12.3X
         0.7s      3.70nm
      S.D. = 1.1  on  13 of  15 obs.
-----------------------------------
*  NOV  26, 1989  01h 06m 14.67± 1.46s
   45.317 N ±16.4km   99.908 W ±19.9km
   DEPTH =   5.0km  (geophysicist)
 SOUTH DAKOTA                      (462)
      mbLg 3.3 (NEIS). Felt in the
      area about 7 miles northeast of
      Gettysburg.

RSSD     3.18 249 ePn   07 08.00   1.5
                  ePg   07 15.00
                  eSg   07 48.00
GOL      6.91 218 ePn   07 59.00  -0.4
                  eLg   09 49.00
RSON     6.93  35 ePn   07 59.50   0.2
                  eLg   09 52.00
BW06     7.40 253 e(Pn) 08 05.00  -1.2
FFC      9.51 353 eP    08 35.00  -0.2
      S.D. = 1.4  on   5 of   5 obs.
-----------------------------------
   NOV  26, 1989  02h 58m 54.15± 0.75s
   34.681 N ± 8.1km   32.198 E ±11.1km
   DEPTH =  26.7 ±  8.7 km
 CYPRUS                            (372)
      ML 3.6 (CSS).

PPCY     0.24  31 eP    59 00.50   0.1
CSS      0.97  73 ePc   59 11.10  -0.9
                  eS    59 25.00
FAM      1.52  78 eP    59 21.50   1.7
SHMJ     3.55 122 P     59 48.50  -0.4
JARJ     3.97 127 P     59 55.10   0.3
KFNJ     4.05 133 P     59 55.50  -0.4
MASJ     4.17 134 P     59 57.30  -0.4
KHL      4.22 330 ePn   59 58.40   0.0
CIN      4.42 312 iPd   00 01.00  -0.2
KOT      4.75 184 ePn   00 06.25   0.5
                  eSn   00 58.00
      S.D. = 0.9  on  10 of  10 obs.
-----------------------------------
&  NOV  26, 1989  03h 22m 14.38s
   53.084 N          165.985 W
   DEPTH =   6.4km
 FOX ISLANDS, ALEUTIAN ISLANDS   (  9)
      <PAL>.

SNKA     2.36  53 eP    22 52.80  -1.4
                  eS    23 19.76
DRRA     2.86  48 eP    22 59.33  -2.0
PVV      3.37  45 eP    23 06.20  -2.3
SASA     3.94  53 eP    23 14.40  -2.1
NGI      4.00  58 eP    23 15.16  -2.3
CNBA     4.16  63 eP    23 17.35  -2.3
IVF      4.70  51 eP    23 24.41  -3.0
         7 obs. associated
-----------------------------------
?  NOV  26, 1989  05h 30m 52.85± 2.80s
   14.587 N ±32.8km   93.250 W ±10.0km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF CHIAPAS, MEXICO   ( 69)

TPX      1.01  72 iP    31 10.59  -0.1
                  iS    31 23.16
SCX      2.22  15 iP    31 28.27   0.3
                  iS    31 53.43
OXX      4.16 307 iP    31 56.00   0.1
                  iS    32 43.00
IISM     5.90 318 (P)   32 19.00  -1.2
                  (S)   33 21.50
PPM      6.81 312 eP    32 34.47   0.9
      S.D. = 1.1  on   5 of   5 obs.
-----------------------------------
*  NOV  26, 1989  08h 43m 38.49± 1.02s
   39.850 N ± 9.4km  143.518 E ±13.7km
   DEPTH =  33.0km  (normal)
   4.3mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ     4.40 235 P     44 45.30   0.7
KAKJ     4.50 217 P     44 44.00  -2.0
                  S     45 34.80
CHJJ     5.21 225 iP+   44 55.60  -0.6
                  S     45 54.00
MAT      5.33 233 iPc   44 58.70   0.9
         1.0s     59.00nm         5.0mb X
                  eS    46 00.00
MTMJ     5.55 236 eP    45 02.20   1.1
IIDJ     6.23 227 iP+   45 11.20   0.6
TSRJ     7.36 237 P     45 27.60   1.2
CN2     14.04 292 eP    47 03.00   5.9X
      Z  16s      0.60um
      N  15s      0.80um
      E  15s      0.40um
                  pP    47 08.00
                  eS    49 45.00
SSE     20.14 251 P     48 18.40   5.9X
         1.0s     12.00nm         4.2mb
                  eS    55 00.00
                  esS   55 49.00
BJI     20.94 279 eP    48 19.00  -1.7
      Z  16s      0.29um          3.8MszX
TIA     21.08 268 eP    48 20.50  -1.7
      N  13s      0.40um
      E  13s      0.70um
TIY     24.27 275 eP    48 53.40  -0.3
      N  16s      0.50um
WHN     25.49 258 eP    49 05.10  -0.1
XAN     28.13 269 P     49 27.80  -1.8
GYA     33.38 258 P     50 16.40   0.4
GTA     33.41 284 P     50 17.20   1.0
WMQ     41.11 294 P     51 22.20   1.3
CHG     43.61 255 eP    51 47.30   5.9X
WB5     60.03 190 eP    53 44.00  -0.4
GBA     63.09 265 P     54 06.00   0.9
RMQ     66.18 175 eP    54 25.00   0.2
                  e     54 30.00
HFS     72.19 336 eP    55 01.30  -0.3
         0.7s      2.70nm         4.4mb
NB2     72.22 338 P     55 02.60   0.8
         0.9s      2.80nm         4.3mb
      S.D. = 1.1  on  20 of  23 obs.
-----------------------------------
&  NOV  26, 1989  08h 52m 21.30s
   37.443 N          121.690 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.6 (BRK).

MHC      0.11 159 iPd   52 23.70  -0.4
GCC      0.48 211 iPd   52 30.40  -0.6
                  eS    52 37.60
PCC      0.55 276 iPc   52 31.60  -0.9
BKS      0.61 315 ePc   52 32.90  -0.7
                  eS    52 42.30
BRK      0.62 314 ePc   52 33.20  -0.6
                  iS    52 44.00
ZSP      0.67 318 ePd   52 34.70   0 0
                  i     52 36.70
                  iS    52 45.70
SAO      0.70 164 iPc   52 34.90  -0.4
LLA      1.02 144 iPc   52 39.30  -1.4
PRS      1.14 167 iPd   52 41.50  -1.2
CMB      1.19  60 iPd   52 42.70  -0.9
                  eS    52 58.00
PRI      1.54 147 ePc   52 47.20  -1.8
FRI      1.64 105 ePc   52 48.60  -1.8
                  eS    53 10.20
         12 obs. associated
-----------------------------------
   NOV  26, 1989  10h 49m 35.26± 0.95s
   41.230 N ± 6.8km   20.011 E ± 9.3km
   DEPTH =  10.0km  (geophysicist)
 ALBANIA                           (391)
      ML 2.7 (SKO).

TIR      0.16 317 iPgd  49 39.20   0.3
BERA     0.53 185 iPgd  49 45.50  -0.5
PHP      0.56  35 iPgc  49 44.90  -1.7
OHR      0.61 101 iPg   49 47.20  -0.3
                  iSg   49 57.00
LSK      1.17 157 ePn   49 57.60   0.5
SKO      1.30  55 iPg   50 01.00   1.6
                  iSg   50 17.70
VAY      1.93  86 ePn   50 10.80   2.4X
      S.D. = 1.4  on   6 of   7 obs.
-----------------------------------
   NOV  26, 1989  10h 52m 27.49± 0.79s
    1.004 N ± 5.0km   98.812 E ± 6.1km
   DEPTH =  93.2 ±  7.5 km
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   5.0mb ( 11 obs.)
 NORTHERN SUMATERA                          (706)

PPI      2.15 132 iPc    53 03.00    0.7
                  i(S)   53 12.00
TSI      2.49 354 iP     53 07.00    0.0
KLM      3.52  54 iPc    53 22.00    1.0
IPM      4.18  32 ePc    53 30.90    0.6
       0.8s   562.20nm
                  e      54 02.90
KGM      4.62  77 iPc    53 36.30    0.1
       0.5s   695.80nm
                  e      54 14.70
BSI      5.68 322 ePd    53 48.50   -2.5
                  eS     54 48.00
SNG      6.39  16 eP     54 01.00    0.2
                  eS     55 40.50
NNT     11.55   5 eP     55 10.00   -0.8
                  e      58 35.00
BDT     16.14   1 eP     56 11.00    0.8
       0.6s    25.00nm          4.6mb
TRT     16.28 122 iPc    56 11.20   -0.7
LOE     16.55  10 iPc    56 15.20   -0.2
CHG     17.70   0 eP     56 28.00   -1.6
       0.8s    14.74nm          4.3mb
KKM     18.07  74 eP     56 36.00    1.8
       0.9s   142.20nm          5.2mb
KHKI    19.16 119 eP     56 47.00    0.7
                  e      59 14.80
KOD     23.12 294 eP     57 27.00    0.5
KMI     24.28   9 Pc     57 40.50    2.9X
                  eS     01 52.00
GBA     24.58 302 P      57 41.20    0.8
SHL     25.32 345 iP     57 48.00    0.6
                  iS     02 08.00
HYB     25.75 310 eP     57 51.00   -0.3
GYA     26.41  16 P      57 57.40    0.0
LSA     29.45 346 P      58 25.40    0.2
XAN     34.20  15 P      59 05.00   -1.1
NDI     34.40 325 iPc    59 07.00   -0.8
LZH     35.22   7 (P)    59 00.00  -14.9X
MUN     36.71 155 iPd    59 29.00    1.7
KLB     37.07 153 eP     59 31.00    0.7
NWAO    37.96 154 iPd    59 39.00    1.2
       0.7s    17.00nm          5.1mb
COOL    38.17 148 eP     59 39.50   -0.1
       0.4s     7.00nm          4.9mb
GTA     38.24   1 P      59 40.00   -0.2
TIY     38.63  17 eP     59 44.00    0.6
WB5     40.57 123 iPd    59 57.50   -2.1
BTO     40.70  13 eP     00 01.00    0.4
HHC     41.31  15 P      00 08.00    2.4X
BJI     41.95  20 Pc     00 12.50    1.9
       1.0s    61.00nm          5.4mb
                  eS     06 24.00
ASPA    42.00 128 eP     00 08.70   -2.6
       1.0s    21.00nm          4.9mb
FORR    42.17 141 iPc    00 12.00   -0.6
       0.4s    36.00nm          5.6mb
                  e      00 29.00
WMQ     43.77 348 iPc    00 26.50    1.0
OIS     45.31 121 iPc    00 36.00   -2.1
                  e      00 41.00
SNY     46.36  26 Pd     00 45.20   -0.8
CN2     48.77  26 eP     01 04.50   -0.3
MAIO    50.57 318 eP     01 17.00   -1.8
MDJ     51.27  28 eP     01 23.50   -0.3
STK     52.04 133 iPd    01 28.50   -1.4
BWA     58.28 132 eP     02 19.30    4.4X
CAN     59.10 133 eP     02 14.80   -5.8X
PRNI    67.04 303 e(P)   03 12.00   -1.1
PTZ     68.46 254 iP     03 22.80    0.6
                  i      03 46.00
MZZ     70.53 258 iPd    03 36.40    1.4
                  i      03 56.10
LSZ     71.60 254 eP     03 42.00    0.6
                  e      04 03.00
KMZ     73.70 256 eP     03 49.00   -4.7X
VRI     76.86 317 iPc    04 11.50    0.5
MLR     77.32 316 ePc    04 14.00    0.3
BCAO    80.23 274 iPc    04 30.10    0.1
       0.9s    23.00nm          5.0mb
                  ic     04 49.70
SUF     81.21 334 eP     04 31.50   -2.6X
SOD     82.27 338 iP     04 39.80    0.2
                  i      05 21.20
SRO     82.87 318 eP     04 44.60    1.6
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ZST     83.72 318 eP     04 47.80    0.4
HFS     86.69 330 eP     05 01.80   -0.1
       0.6s     7.50nm          4.9mb
NB2     87.96 331 P      05 08.80    0.8
       0.4s     0.90nm          4.2mb
FFC    121.88  14 ePKP   11 12.00   -0.2
       0.8s     7.00nm
PPD    144.19 232 ePKP   11 54.50   -0.4
                  e      11 59.80
ZOBO   160.10 220 PKP    12 18.50    0.1
      S.D. = 1.1  on  55 of  62 obs.
-----------------------------------------
?  NOV  26, 1989  11h 31m 12.16± 0.95s
    14.584 N ±16.3km   61.036 W ±18.6km
    DEPTH =  33.0km  (normol)
 WINDWARD ISLANDS                     ( 95)
      ML 1.6 (FDF).

BIM      0.07 207 eP     31 17.81   -0.1
                  S      31 19.50
MVM      0.14 102 iPc    31 18.32    0.1
FDF      0.19 323 eP     31 18.71    0.0
       0.1s     0.45nm
                  S      31 21.70
CRM      0.21  35 iPc    31 18.75   -0.1
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------------
    NOV  26, 1989  11h 37m 58.10± 0.84s
    38.379 N ± 7.1km   22.165 E ± 8.7km
    DEPTH =  10.0km  (geophysicist)
 GREECE                               (364)
      ML 3.0 (ATH), 2.9 (THE).

AGG      0.66  11 ePg     38 09.50   -1.7
                  eSg    38 21.00
NEO      1.24  41 ePn     38 20.50   -0.7
VLS      1.26 261 ePn     38 20.90   -0.6
ATH      1.29 108 ePn     38 21.90   -0.1
                  eSn    38 38.60
LIT      1.74   8 ePb     38 30.60    2.1
VLI      1.77 159 ePn     38 29.00    0.1
KZN      1.95 351 ePn     38 32.00    0.4
GRG      2.58   4 ePn     38 41.20    0.6
KNT      2.84  11 ePn     38 44.00   -0.3
                  eSn    39 20.60
SRS      2.95  21 ePn     38 43.80   -2.0
      S.D. = 1.3  on  10 of  10 obs.
-----------------------------------------
%  NOV  26, 1989  11h 44m 02.90± 2.25s
    32.974 S ±13.1km   71.143 W ±11.2km
    DEPTH =  45.4 ± 23.2 km
 NEAR COAST OF CENTRAL CHILE          (135)

ROCH     0.11  89 iPc    44 10.50   -0.2
                  iS     44 16.60
PEL      0.42 114 iPc    44 13.40    0.4
                  iS     44 22.50
JACH     0 55  58 iP     44 14.70    0.1
                  iS     44 25.70
LCCH     0.61 215 iPd    44 15.50    0.1
                  iS     44 26.80
SAN      0.63 140 iPc    44 15.70    0.1
                  iS     44 26.10
TACH     0.70 166 iPc    44 16.50   -0.1
                  iS     44 28.00
FCH      0.80 117 iPc    44 18.00   -0.2
                  iS     44 30.80
PCH      0.83 141 iPc    44 18.40   -0.1
                  iS     44 31.50
      S.D. = 0.3  on   8 of   8 obs.
-----------------------------------------
*  NOV  26, 1989  11h 53m 35.79± 1.56s
    31.595 S ± 9.7km   69.267 W ±12.0km
    DEPTH = 123.3 ± 14.6 km
 SAN JUAN PROVINCE, ARGENTINA         (137)

RTBS     0.17 247 iPd    53 52.80   -0.3
ZON      0.50  85 iPd    53 55.00    0.6
                  eS     54 05.00
RTCV     0.68 113 iPc    53 56.00    0.4
RTLL     0.73  69 iPc    53 55.50   -0.5
                  S      54 09.20
CFA      0.88  91 iPd    53 57.00   -0.3
                  S      54 12.00
RTRS     1.43 353 iPc    54 03.20    0.3
                  S      54 23.00
MRA      3.13 106 iPc    54 25 00    0.4
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RFA      3.24 168 ePc    54 26.00   -0.1
                  S      55 02.60
TCA      4.00  88 iPc    54 36.00   -0.4
                  S      55 20.50
      S.D. = 0.5  on   9 of   9 obs.
-----------------------------------------
    NOV  26, 1989  12h 10m 11.50± 0.30s
    46.339 N ± 2.8km    6.643 E ± 3.7km
    DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                          (544)
      ML 3.2 (LDG). MD 2.8 (STR).

EMS      0.33 143 ePc    10 17.60   -0.9
DIX      0.59 116 iPd    10 22.70   -1.0
LPL      0.82 176 Pg     10 26.70   -0.9
LPG      0.84 175 Pg     10 27.40   -0.6
LSD      0.95 158 P      10 29.00   -0.8
                  S      10 40.99
MMK      0.96 107 ePd    10 28.90   -1.1
LOMF     1.02   7 Pg     10 31.83    1.0
ORX      1.17 127 P      10 32.38   -1.1
                  S      10 46.99
ORO      1.17 127 P      10 32.60   -0.9
RSP      1.26 160 P      10 35.46    0.4
                  S      10 51.45
BBS      1.27  27 Pg     10 35.99    0.8
BNI      1.29 179 P      10 35.70    0.2
                  eSg    10 51.30
RRL      1.42 176 P      10 38.07    0.5
                  S      10 55.92
BSF      1.50   4 Pn     10 38.00   -0.5
                  Pg     10 40.19
                  Sg     11 00.36
MOF      1.55  12 Pg     10 41.01    1.7
                  Sg     11 01.95
TMA      1.57  98 ePc    10 40.60    1.0
ZLA      1.66  46 eP     10 42.90    2.1
HAU      1.68 353 Pn     10 40.90   -0.2
                  Sg     11 05.60
FEL      1.80  31 Pn     10 41.84   -1.1
                  Pg     10 45.20
                  Sg     11 08.39
PZZ      1.86 170 P      10 45.46    1.6
                  S      11 07.30
ECH      1.91  10 Pn     10 43.41   -1.0
                  Sg     11 12.95
VITF     1.93 347 Pn     10 44.57   -0.1
                  Sg     11 13.68
LBF      1.95 290 Pn     10 46.80    1.8
                  Sg     11 14.50
SMF      1.96 280 Pn     10 44.00   -1.1
                  Pg     10 48.60
                  Sg     11 13.20
CDF      2.12  11 Pn     10 46.13   -1.4
                  Sg     11 19.43
LOR      2.13 297 Pn     10 47.00   -0.6
                  Pg     10 52.60
                  Sg     11 18.40
WLS      2.13  13 Pn     10 46.35   -1.3
                  Sg     11 19.87
STV      2.15 167 P      10 50.07    2.1
ENR      2.18 165 P      10 48.38   -0.1
ROB      2.22 157 P      10 49.76    0.8
                  S      11 14.84
PCP      2.24 143 P      10 50.69    1.4
SSF      2.28 290 Pn     10 51.20    1.5
                  Pg     10 55.10
                  Sg     11 24.00
AVF      2.31 282 Pn     10 50.00   -0.2
                  Sg     11 23.40
SBF      2.54 167 Pg     11 01.40    7.9X
IMI      2.58 160 P      10 53.92   -0.2
BGF      2.63 276 Pn     10 54.20   -0.6
                  Pg     11 01.80
                  Sn     11 24.20
                  Sg     11 35.00
FRF      2.78 180 Pn     10 57.00    0.1
                  Pg     11 04.10
                  Sg     11 39.00
MAF      2.83 269 Pn     10 56.80   -0.8
                  Pg     11 05.60
                  Sg     11 42.00
CAF      3.51 248 Pn     11 06.20   -1.0
                  Pg     11 20.00
                  Sg     12 00.40
DOU      4.00 341 eP     11 46.30   32.2X
      S.D. = 1.1  on  38 of  40 obs.
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*  NOV  26, 1989  12h 27m 17.11± 0.92s
   36.726 N ±10.4km   26.686 E ± 8.4km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                (369)
      MD 3.6 (ATH).

APE      0.99 291 eP     27 34.50  -1.4
                  eS     27 48.90
KAP      1.24 161 eP     27 38.40  -1.7
YER      1.34  72 eP     27 42.50   0.6
CIN      1.42  52 eP     27 43.00   0.1
NPS      1.70 211 eP     27 48.10   1.1
VAM      2.41 238 eP     27 58.40   1.3
      S.D. = 1.6  on   6 of   6 obs.
-------------------------------------
*  NOV  26, 1989  12h 31m 26.62± 1.02s
   3.732 S ±14.6km  151.387 E ±11.4km
   DEPTH =  33.0km  (normol)
   4.6mb (  3 obs.)
 NEW IRELAND REGION                (190)

RA8      0.90 120 iPd-   31 41.00  -2.0
                  iS     31 50.00
KDB      7.08 216 eP     33 11.00   0.4
CTA     17.01 197 iPd    35 28.00   4.3X
        1.6s   150.00nm          4.9mb
                  iS     38 40.00
GUMO    18.38 340 eP     35 26.00 -14.8X
QIS     20.28 214 eP     36 01.00  -1.4
RMQ     22.77 186 iPd    36 28.50   1.1
WB5     23.09 225 eP     36 30.70   0.1
DZM     23.36 143 iPc    36 34.90   1.6
BRS     23.56 177 iPc    36 36.00   0.8
                  i      36 42.50
ASPA    26.04 219 eP     36 57.30  -1.5
        1.4s    17.00nm          4.5mb
CHG     56.26 295 eP     41 06.90   0.3
CHTO    56.26 295 eP     41 06.20  -0.4
        1.1s     6.18nm          4.5mb
INK     87.97  21 eP     44 26.00  11.8X
PPD    146.11 140 ePKP   51 06.10   1.2
                  e      51 11.80
      S.D. = 1.3  on  11 of  14 obs.
-------------------------------------
?  NOV  26, 1989  13h 26m 16.05± 4.46s
   43.029 N ±12.4km    0.339 W ±29.2km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      MD 1.8 (STR).

JAU      0.02 292 Pg     26 17.66  -0.5
                  Sg     26 18.55
OGE      0.17 325 Pg     26 20.30   0.4
ESCF     0.18 286 Pg     26 19.84  -0.3
                  Sg     26 22.37
LHE      0.24 241 Pg     26 21.33   0.1
                  Sg     26 24.73
ATE      0.27 282 Pg     26 21.42  -0.4
                  Sg     26 25.57
ISSF     0.33 270 Pg     26 23.26   0.2
                  Sg     26 27.87
      S.D. = 0.5  on   6 of   6 obs.
-------------------------------------
%  NOV  26, 1989  18h 27m 12.74± 1.04s
   44.618 N ± 8.2km    7.245 E ± 9.0km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 1.6 (GEN).

PZZ      0.15 222 P      27 16.45   0.1
                  S      27 18.81
STV      0.38 171 P      27 20.45  -0.1
                  S      27 25.27
ENR      0.41 162 P      27 21.17   0.0
                  S      27 26.50
RRL      0.45 313 P      27 21.88   0.0
                  S      27 28.04
ROB      0.55 126 P      27 24.04   0.0
                  S      27 31.63
      S.D. = 0.1  on   5 of   5 obs.
-------------------------------------
   NOV  26, 1989  18h 49m 24.71± 0.30s
   44.636 N ± 2.4km    7.282 E ± 3.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.3 (GEN), 2.4 (LDG).

DOI      0.14 191 P      49 28.20   0.2
                  eSg    49 30.20
PZZ      0.18 225 P      49 28.41  -0.5
                  S      49 30.77
STV      0.39 176 P      49 32.31  -0.5
                  S      49 37.33
ENR      0.42 166 P      49 32.72  -0.6
                  S      49 38.15
RRL      0.45 309 P      49 33.84  -0.2
                  S      49 40.00
RSP      0.52 358 P      49 34.97  -0.2
                  S      49 41.94
ROB      0.54 129 P      49 35.79   0.1
                  S      49 43.07
BNI      0.60 314 P      49 36.20  -0.7
                  eSg    49 44.90
SBF      0.78 172 Pg     49 40.40   0.4
                  Sg     49 50.00
FIN      0.79 122 P      49 40.30   0.2
                  S      49 50.20
LSD      0.83 354 P      49 40.61  -0.3
                  S      49 51.33
IMI      0.85 149 P      49 40.51  -0.6
                  S      49 50.81
PCP      0.91  96 P      49 42.25   0.1
                  S      49 54.51
LPG      0.94 337 Pg     49 43.40   0.6
                  Sg     49 55.70
LPL      0.96 336 Pg     49 43.70   0.5
                  Sg     49 56.00
FRF      1.17 203 Pg     49 47.10   0.6
                  Sg     50 01.00
LRG      1.36 210 Pg     49 50.20   0.6
                  Sg     50 07.00
LMR      1.42 203 Pg     49 50.80   0.3
                  Sg     50 09.00
      S.D. = 0.5  on  18 of  18 obs.
-------------------------------------
   NOV  26, 1989  19h 00m 59.83± 0.49s
   25.892 N ± 7.0km  110.076 W ± 6.6km
   DEPTH =  10.0km  (geophysicist)
   5.1mb ( 23 obs.)  5.1Msz (  3 obs.)
 GULF OF CALIFORNIA                (49)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 32C
      Centroid Location:
      Origin Time        19:01: 3.8 0.3
      Lat 25.48N 0.04 Lon 110.22W 0.04
      Dep  15.0 FIX Half-duration  2.4
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.26 0.07  Mtt=-2.60 0.09
        Mff= 2.34 0.10  Mrt=-0.37 0.29
        Mrf=-0.26 0.22  Mtf=-0.93 0.07
       Principal Axes:
        T  Val=  2.52  Plg= 5  Azm= 80
        N        0.30      81      202
        P       -2.82       8      349
      Best Double Couple:Mo=2.7*10**17
       NP1:Strike=125 Dip=81 Slip=-178
       NP2:        35     88       -9

AGX      8.16 118 eP     03 01.50   0.4
                  iS     04 58.00
GLA      8.25 331 eP     03 01.00  -1.4
                  e      05 15.00
BAR      8.88 321 eP     03 13.00   1.8
PLM      9.49 323 eP     03 21.00   1.3
ALQ      9.54  18 eP     03 19.00  -1.5
        1.0s    31.25nm          5.7mb
TPC      9.68 329 eP     03 23.00   0.7
                  e      06 26.00
MRX     10.25 125 eP     03 31.00   1.0
RVR     10.26 324 eP     03 31.00   0.9
MWC     10.80 322 eP     03 39.00   1.3
GSC     11.02 330 eP     03 44.00   3.4X
                  e      07 01.00
SBB     11.03 324 eP     03 42.00   1.3
CRX     11.56 122 iP     03 51.00   2.7
CLC     11.81 329 eP     03 52.00   0.7
UNM     11.99 121 (P)    04 06.50  12.5X
ISA     12.12 325 eP     03 56.00   0.5
SYP     12.13 318 eP     04 01.00   5.2X
III     12.35 125 eP     03 50.00  -8.8X
PPM     12.57 120 iP     04 03.00   0.9
BCH     12.65 319 eP     04 03.00   0.3
MSU     12.71 352 eP     04 03.00  -0.6

ACX     13.08 131 iP     04 10.00   1.7
TNP     13.57 335 eP     04 15.00   0.0
        1.3s   105.44nm          5.6mb
IISM    13.60 118 eP     04 17.00   1.8
PRI     13.66 321 ePc    04 17.70   1.7
FRI     13.77 326 eP     04 19.20   1.8
LVVM    13.97 113 eP     04 25.50   5.4X
LLA     14.15 322 ePc    04 30.30   7.8X
PRS     14.20 320 ePc    04 31.00   8.0X
GOL     14.32  15 eP     04 25.00   0.1
        1.0s    29.50nm          4.9mb
GLD     14.41  15 eP     04 26.50   0.6
        1.3s    72.41nm          5.2mb
DUG     14.45 352 eP     04 26.00  -0.4
        0.9s    26.32nm          4.9mb
OCO     14.47  45 iP     04 29.00   2.4
                  eLg    08 44.00
KVN     14.75 335 eP     04 31.00   0.5
CMB     14.92 327 eP     04 33.00   0.4
        1.5s    82.76nm          5.0mb
ARN     15.01 322 eP     04 32.50  -1.2
MHC     15.06 322 ePc    04 40.50   6.0X
OXX     15.20 123 iP     04 41.00   4.6X
BKS     15.77 322 e(P)   04 48.50   4.9X
        1.1s   195.00nm          5.2mb
      Z  20s    11.00um          5.0Msz
      N  20s    19.00um
      E  20s    36.00um
                  e      07 40.00
                  e      07 50.00
                  eS     08 26.00
                  eLR    09 16.00
BRK     15.79 322 ePc    04 48.70   5.0X
                  eLR    09 08.00
TUL     15.79  47 eP     04 45.30   1.4
        1.0s    26.00nm          4.4mb
      Z  22s    13.09um          5.4Msz
                  e      04 47.50
                  e      04 51.90
                  eS     07 38.00
                  LR     08 36.00
UYO     15.83  55 eP     04 46.30   2.0
ORV     16.65 328 ePc    04 57.10   2.3
LTCM    17.46 328 e(P)   05 06.00   1.0
WDC     17.95 328 ePc    05 11.30   0.3
LBFM    18.26 331 eP     05 13.00  -2.1
FHC     18.83 326 eP     05 22.00   0.0
        1.2s   210.53nm          5.2mb
POW     19.12  53 eP     05 23.50  -1.9
TPX     19.93 120 iP     05 35.00   0.2
LRM     19.98 355 eP     05 34.40  -1.0
FVM     20.53  49 eP     05 39.50  -1.4
LON     22.81 339 eP     06 03.00  -0.9
SES     24.48 359 eP     06 19.00  -1.0
PNT     24.54 345 eP     06 21.00   0.4
        0.9s    18.00nm          4.7mb
PRM     25.30  65 eP     06 28.00   0.0
JSC     26.23  65 eP     06 37.00   0.3
EDM     27.41 356 ePc    06 45.00  -2.3
        1.1s    54.00nm          5.2mb
FFC     29.42  10 eP     07 05.00  -0.4
        0.8s     6.00nm          4.5mb
UPA     33.51 115 e(P)   07 46.00   4.2X
      Z  20s     3.87um          5.1Msz
PSO     39.97 123 eP     08 37.00   0.1
BOG     40.44 115 eP     08 50.00   9.3X
                  eS     14 54.00
SCH     42.81  36 eP     09 09.00   9.7X
PMR     44.28 334 e(P)   09 10.40  -0.7
INK     44.73 348 eP     09 14.00  -0.6
FBA     45.83 339 eP     09 23.30  -0.2
TTA     47.72 334 eP     09 36.50  -2.0
IMA     48.50 338 eP     09 43.20  -1.4
        1.9s    63.00nm          5.4mb
NNA     49.64 135 eP     09 52.30  -1.5
        0.9s     6.72nm          4.6mb
MBC     50.62 357 ePc    10 00.20  -0.3
        0.8s    19.00nm          5.1mb
BRW     52.38 343 e(P)   10 24.50  10.6X
ARE     56.41 134 e(P)   10 43.00  -1.4
ZOBO    58.50 131 eP     10 42.00 -17.5X
      Z  20s     0.91um          4.9Msz
                  i      11 03.80
                  S      19 08.00
                  LR     30 46.00
LPB     58.70 131 P      10 57.00  -3.7X
      Z  22s     1.85um          5.2Msz
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                    LR     32 04.00
CNCB    58.98 131 P        11 00.00   -2.8
                  i        11 07.50
BAO     73.14 117 eP       12 40.00    7.0X
PPD     74.25 124 e(P)     12 37.00   -2.2
                  e        12 44.80
NB2     81.28  25 P        13 15.40   -2.0
        1.0s     6.60nm            4.6mb
SOD     81.56  16 eP       13 18.00   -0.7
                  i        13 38.00
FLN     82.78  39 eP       13 26.50    1.1
        1.2s    29.70nm            5.3mb
HFS     82.80  25 eP       13 24.10   -1.2
        1.5s    46.50nm            5.4mb
      Z  16s     0.82um            5.2MszX
                  LR       44 28.00
DOU     84.83  36 P        13 42.40    6.6X
WTS     84.87  34 eP       13 44.50    8.6X
        1.0s    16.00nm            5.2mb
ENN     85.14  35 eP       13 43.00    5.7X
        1.0s    33.00nm            5.5mb
MEM     85.27  35 P        13 43.60    5.7X
TCF     85.64  40 eP       13 45.30    5.3X
        1.1s    12.20nm            5.0mb
LBF     86.26  39 eP       13 42.20   -0.9
        1.2s    11.90nm            5.0mb
GRA4    88.68  34 e(PKP)14 01.00    6.4X
PRU     89.92  32 eP       14 07.00    6.5X
      Z  16s     2.60um            5.8MszX
      N  16s     0.70um
      E  16s     3.10um
MAT     90.63 312 eP       14 08.00    4.0X
        1.2s    20.31nm            5.3mb
                  eS       24 40.00
BCAO   121.81  66 ePKPd 20 03.10    6.5X
        0.2s     8.00nm
CHG    127.37 325 ePKP   20 11.60    4.5X
GBA    140.07 349 PKP    20 38.00    6.9X
        0.9s     3.40nm
BLF    141.24 105 e(PKP)20 29.00   -4.1X
SLR    142.63  99 ePKP   20 20.00 -15.6X
      S.D. = 1.3  on  62 of  93 obs.
-----------------------------------
&  NOV  26, 1989  19h 38m 02.88s
   61.690 N          154.086 W
   DEPTH =  13.7km
 SOUTHERN ALASKA                  (  2)
      <AGS-P>.

BGL      0.92 117 eP     38 19.01   -1.2
SVW      0.94 232 eP     38 19.03   -1.5
                  eS     38 31.76
NCG      0.97 106 eP     38 19.76   -1.3
CKL      0.98 120 eP     38 20.13   -1.0
CRP      1.02 114 eP     38 20.95   -1.0
CGLM     1.07 110 eP     38 21.81   -0.9
SPU      1.10 117 eP     38 22.25   -1.0
                  eS     38 37.08
RDT      1.39 143 eP     38 27.17   -0.7
TTA      1.54 325 eP     38 29.23   -0.7
SUA      1.62  97 eP     38 31.49    0.3
ILIM     1.71 161 eP     38 31.83   -0.6
                  eS     38 53.33
PDB      1.91 182 eP     38 34.17   -1.1
PWA      2.01  89 eP     38 36.32   -0.4
OPT      2.09 168 eP     38 37.93    0.0
NNL      2.14 139 eP     38 39.67    1.0
SLKM     2.22 121 eP     38 40.79    0.9
       16 obs. associated
-----------------------------------
?  NOV  26, 1989  19h 59m 59.36±12.11s
   24.392 N ±19.9km  122.710 E ±109.km
   DEPTH =  65.9 ± 48.2 km
 TAIWAN REGION                    (243)

TWC      0.81 286 iPc    00 15.80    0.3
                  eS     00 24.70
TWD      1.06 253 iPc    00 18.40   -0.3
                  eS     00 30.40
TWZ      1.25 305 iPd    00 20.90   -0.3
                  eS     00 35.00
ANP      1.34 306 eP     00 22.60    0.1
TWQ      1.71 266 iPc    00 27.60    0.0
TWK      2.32 242 ePc    00 36.20    0.1
SSE      6.81 349 e(P)   01 47 60    8.8X
                  eLg    03 42.20
      S.D. = 0.4  on   6 of   7 obs.
-----------------------------------
   NOV  26, 1989  21h 52m 57.96± 0.57s
   37.047 N ± 5.6km   27.999 E ± 6.2km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

YER      0.24  69 iPg    53 02.50   -0.7
                  iSg    53 04.50
IZM      1.47 337 iPn    53 23.80   -0.7
ELL      1.56 100 ePn    53 27.70    1.8
KSL      1.58 126 ePb    53 27.00    1.0
                  eSg    53 51.00
KAP      1.63 204 ePb    53 26.60   -0.3
KHL      1.76  43 iPn    53 28.70    0.0
BCK      2.11  78 ePn    53 35.80    2.0
PRK      2.58 329 ePn    53 41.20    0.7
DST      2.60  11 ePn    53 40.60   -0.2
NPS      2.63 228 ePn    53 42.60    1.4
EZN      3.07 335 iPn    53 47.40    0.1
EDC      3.30 358 ePn    53 47.00   -3.6X
BNT      3.30 359 ePn    53 49.00   -1.8
VAM      3.48 243 ePb    54 01.90    8.7X
BBTK     4.66  52 eP     54 11.00    0.8
KNT      5.71 318 ePc    54 25.10    0.2
HRI      7.37 118 eP     54 46.00   -2.4
KOT      7.79 155 ePn    54 52.50   -1.5
                  eSn    56 16.50
DSI      8.19 130 eP     54 59.00   -0.7
                  e(S)   55 27.00
MBH      9.26 140 eP     55 11.00   -3.4X
                  eS     56 52.00
      S.D. = 1.3  on  17 of  20 obs.
-----------------------------------
   NOV  26, 1989  22h 55m 49.10± 0.30s
   34.312 S ± 6.2km  179.431 W ± 7.8km
   DEPTH =  46.2km  (  5 depth phases)
   5.0mb (  5 obs.)
 SOUTH OF KERMADEC ISLANDS        (179)
      CENTROID, MOMENT TENSOR     (HRV)
      Doto Used: GDSN
      L.P.8.: 10S, 20C
      Centroid Locotion:
      Origin Time        22:55:44.6 0.9
      Lot 34 42S 0.12 Lon 179.10W 0.10
      Dep  79.1 7.7 Holf-durotion  1.5
      Moment Tensor;   Scole 10**16 Nm
        Mrr=-0.04 0.38  Mtt=-4.52 0.84
        Mff= 4.56 0.63  Mrt= 1.92 0.52
        Mrf= 0.08 0.59  Mtf= 3.70 0.54
       Principol Axes:
        T  Vol=  5.96  Plg= 7  Azm=291
        N        0.38      73       44
        P       -6.35      16      199
      Best Double Couple:Mo=6.2*10**16
       NP1:Strike=336 Dip=74 Slip=-174
       NP2:        244      84      -16

HBZ      3.76 209 eP     56 50.70    4.7X
KRP      5.44 227 P      57 15.00    5.3X
PGZ      7.16 207 eP     57 33.70   -0.1
MNG      7.48 211 P      57 38.00   -0.4
                  eS     59 04.50
MTW      7.93 209 P      57 43.60   -0.9
KIW      7.93 213 P      57 44.50   -0.1
CAW      8.06 211 P      57 45.80   -0.6
BLW      8.11 208 P      57 46.30   -0.8
MRW      8.32 212 eP     57 48.70   -1.2
                  eS     59 24.40
WEL      8.34 212 eP     57 52.00    1.8
                  S      59 26.00
SGE     16.82 351 eP     59 38.90   -4.2X
DZM     17.40 311 iPc    59 49.50   -0.8
RMQ     28.44 277 eP     01 43.50    1.8
CTA     33.47 286 iPc    02 26.30    0.2
        0.8s    18.66nm            5.0mb
QIS     38.59 280 iPc    03 09.20   -0.3
                  e      03 23.00   53km
ASPA    41.86 272 iPd    03 36.10   -0.4
        1.0s    23.00nm            4.9mb
      Z  22s     0.40um            4.2MszX
                  eS     09 45.00
                  LR     19 13.50
FORR    43.95 259 eP     03 53.50    0.2
        0.3s    10.00nm            5.0mb
WARB    46.83 265 eP     04 15.00   -1.3
        0.4s     4.00nm            4.7mb
MBL     54.62 267 eP     05 13.00   -2.5X
SPA     55.87 180 eP     05 29.10    4.9X
        1.1s    51.19nm            5.5mb
PRS     88.70  43 e(P)   08 38.30   -0.4
PRI     88.97  44 ePc    08 40.40    0.2
MHC     89.27  42 ePc    08 41.40   -0.2
                  e      08 54.00   41km
BRK     89.31  42 e(P)   08 40.90   -0.6
FRI     90.12  44 ePc    08 44.90   -0.4
                  e      08 57.80   43km
CMB     90.46  43 ePc    08 46.30   -0.7
                  i      09 00.30   47km
ORV     90.92  41 eP     08 47.80   -1.2
WDC     91.10  40 ePc    08 49.00   -0.8
                  e      09 03.10   47km
MIN     91.43  40 eP     08 50.30   -1.2
ZOBO    97.62 115 eP     09 21.00    0.0
                  LR     41 36.00
MBC    116.48  13 ePKP   14 28.00   -0.3
        0.9s     5.00nm
PTZ    123.53 217 ePKP   14 48.00    4.4X
LSZ    124.12 213 iPKP   14 46.00    1.2
KMZ    126.77 211 ePKP   14 51.00    1.1
MZZ    127.41 216 ePKP   14 51.00   -0.2
                  i      15 04.00
SOD    143.62 343 ePKP   15 13.00   -6.5X
BCAO   145.91 213 iPKPd  15 25.10    0.0
        0.6s    33.00nm
                  id     15 39.00
                  ic     17 09.00
AKU    146.66  14 iPKP   15 25.80    1.2
        1.0s    48.00nm
                  i      15 39.00
REY    147.11  18 iPKP   15 26.80    1.4
SUF    147.35 338 iPKP   15 25.50   -0.3
        0.5s    11.00nm
NUR    149.49 337 iPKP   15 31.30    2.1
        0.8s    48.40nm
PRNI   150.72 272 ePKP   15 37.00    4.9X
DSI    150.74 274 ePKP   15 33.00    1.0
BHL    151.03 279 PKP    15 38.00    5.4X
LIC    151.57 168 PKP    15 34.90    1.1
KIC    151.76 169 PKP    15 35.14    1.0
TIC    151.99 168 PKP    15 35.42    1.0
NB2    152.39 349 PKP    15 38.40    4.7X
        0.9s    30.80nm
HFS    152.78 346 ePKP   15 31.90   -2.2
        0.8s     2.90nm
ZST    161.43 323 ePKP   15 41.80   -3.2X
      S.D. = 1.0  on  39 of  50 obs.
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*  NOV  26, 1989  23h 20m 03.82± 1.95s
   35.381 N ±25.2km   27.576 E ± 8.7km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS               (369)
      MD 3.6 (ATH).

KAP      0.37 297 iPgd   20 11.50    0.1
                  eSg    20 18.70
NPS      1.61 266 iPbc   20 33.30    0.9
                  eSb    20 54.20
KSL      1.79  65 ePn    20 40.60    5.6X
ELL      2.33  53 ePn    20 42.00   -0.9
VAM      2.76 272 ePb    20 51.90    3.0X
BCK      3.20  49 ePn    20 55.30    0.2
KHL      3.33  27 ePn    20 58.00    1.0
VLI      3.99 291 ePn    21 05.00   -1.3
      S.D. = 1.2  on   6 of   8 obs.
-----------------------------------
*  NOV  27, 1989  00h 31m 02.56± 1.51s
   44.873 N ± 7.1km    6.725 E ±14.3km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                           (538)
      ML 2.4 (GEN).

RRL      0.06  42 P      31 05.47    0.4
                  S      31 06.91
PZZ      0.46 144 P      31 11.83    0.0
                  S      31 17.88
RSP      0.47  53 P      31 12.24    0.1
                  S      31 19.11
LPG      0.63   2 Pg     31 15.40    0.1
                  Sg     31 23.80
LPL      0.64   0 Pg     31 15.60    0.0
LSD      0.66  27 P      31 15.41   -0.5
                  S      31 24.24
      S.D. = 0.4  on   6 of   6 obs.
-----------------------------------
```

27d 01h

```
%  NOV  27, 1989  01h 11m 21.03± 0.78s
   42.144 N ± 6.1km    19.225 E ± 6.7km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                              (383)
      ML 1.9 (TTG).

ULC      0.18 174 iPgd   11 25.20   0.1
                  iSg    11 28.60
TTG      0.29   5 ePg    11 27.30   0.3
                  eSg    11 32.50
BDV      0.33 295 ePg    11 28.10   0.3
                  eSg    11 34.50
HCY      0.62 300 ePg    11 33 00  -0.5
                  eSg    11 43.00
PVY      0.71  51 ePg    11 35.00  -0.2
                  eSg    11 46.00
BRY      0.91 327 ePg    11 38.50   0.0
                  eSg    11 53.80
      S.D. = 0.4  on   6 of   6 obs.
-------------------------------------
   NOV  27, 1989  01h 20m 31.17± 0.54s
   25.791 N ± 7.4km    96.524 E ± 6.9km
   DEPTH =  33.0km  (normol)
   4.4mb (  5 obs.)
 BURMA                                   (296)

KMI      5.66  95 eP     22 06.00  10.6X
                  S      23 12.00
LSA      6.15 310 Pn     22 03.20   0.6
CHG      7.30 162 eP     22 19.00   0.8
BDT      8.81 164 eP     23 24.80  45.6X
GYA      9.14  84 P      22 42.80  -1.1
LZH     12.03  30 eP     23 22.50  -0.9
XAN     13.52  50 eP     23 44.50   1.3
HYB     18.66 247 eP     24 48.00  -0.7
        1.0s     20.00nm          4.3mb
WMQ     19.37 340 P      24 56.70  -0.4
GBA     21.64 240 Pc     25 20.40  -0.3
        0.6s      2.80nm          3.9mb
WB5     58.42 137 eP     30 29.70   3.6X
SUF     58.43 329 iP     30 26.00   0.3
        0.4s      2.50nm          4.7mb
SOD     58.74 335 eP     30 29.00   1.2
KEV     58.97 338 eP     30 24.00  -5.4X
NUR     59.01 327 eP     30 33.80   4.0X
HFS     64.47 327 eP     31 06.00  -0.5
        0.4s      1.90nm          4.5mb
NB2     65.55 328 P      31 13.00  -0.5
        0.7s      2.60nm          4.4mb
      S.D. = 0.9  on  12 of  17 obs.
-------------------------------------
?  NOV  27, 1989  01h 25m 53.56± 4.44s
   18.521 N ±28.0km   66.774 W ±19.3km
   DEPTH =  10.0km  (geophysicist)
 PUERTO RICO REGION                      ( 90)

LRS      0.24 197 P      25 58.70   0.1
PORP     0.48 164 P      26 03.10  -0.3
SJG      0.72 124 iP     26 08.00   0.3
LPR      0.88 104 P      26 10.20  -0.4
CPD      0.95 120 P      26 11.90   0.3
      S.D. = 0.4  on   5 of   5 obs.
-------------------------------------
?  NOV  27, 1989  01h 28m 54.81± 4.82s
    8.034 N ±18.2km  127.080 E ±41.6km
   DEPTH =  64.0 ± 43.7 km
   4.8mb (  2 obs.)
 PHILIPPINE ISLANDS REGION               (248)

DAV      1.76 238 eP     29 24.00   0.4
                  eS     29 55.00
MTN     21.13 169 iPc    33 36.30  -0.2
WB5     28.65 166 eP     34 52.80   5.1X
QIS     30.97 157 eP     35 08.60   0.3
ASPA    32.20 168 eP     35 17.00  -2.1
BJI     33.33 345 eP     35 27.00  -1.7
WARB    34.01 181 eP     35 36.00   1.2
        0.6s     10.00nm          4.9mb
FORR    38.67 179 eP     36 14.00   0.0
MAIO    67.24 306 eP     39 45.00   0.0
INK     86.06  22 eP     41 31.50   2.1
MBC     87.70  13 eP     41 41.00   3.7X
        1.0s      6.00nm          4.7mb
      S.D. = 1.6  on   9 of  11 obs.
-------------------------------------
   NOV  27, 1989  01h 38m 59.44± 0.44s
   45.961 N ± 4.0km     2.247 E ± 4.1km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                                  (538)
      ML 2.5 (LDG).

TCF      0.33 355 Pg     39 06.00  -0.2
                  Sg     39 10.60
MAF      0.34  40 Pg     39 06.60   0.1
                  Sg     39 11.50
PYM      0.57 111 Pg     39 10.61  -0.5
                  Sg     39 18.45
LSF      0.58 300 Pg     39 10.10  -1.0
                  Sg     39 17.60
AGO      0.62  81 Pg     39 11.78  -0.2
                  Sg     39 20.36
BGF      0.73  35 Pg     39 13.40  -0.3
                  Sg     39 23.70
RJF      0.83 218 Pg     39 14.80  -0.8
                  Sg     39 24.90
PLDF     0.96  89 Pg     39 18.23   0.5
                  Sg     39 30.75
LBL      1.01 136 Pg     39 18.93   0.4
                  Sg     39 31.91
CAF      1.04 187 Pg     39 18.60  -0.6
                  Sg     39 31.60
AVF      1.13  42 Pg     39 21.00   0.4
                  Sg     39 35.60
SMF      1.30  58 Pn     39 23.00  -0.5
                  Pg     39 24.00
                  Sg     39 40.80
SSF      1.40  38 Pg     39 25.40   0.4
                  Sg     39 43.60
LPO      1.48 211 Pg     39 27.00   0.9
                  Sg     39 45.20
LBF      1.57  49 Pg     39 28.90   1.4
                  Sg     39 48.80
LOR      1.72  40 Pn     39 28.00  -1.5
                  Pg     39 30.80
                  Sg     39 53.20
MFF      1.78 292 Pg     39 32.00   1.6
                  Sg     39 54.20
      S.D. = 0.9  on  17 of  17 obs.
-------------------------------------
?  NOV  27, 1989  01h 57m 27.24± 3.98s
   45.936 N ±30.7km     2.212 E ±10.3km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                                  (538)
      ML 1.8 (LDG).

TCF      0.35 360 Pg     57 34.50   0.0
                  Sg     57 39.10
MAF      0.38  41 Pg     57 35.00   0.0
                  Sg     57 40.00
LSF      0.57 304 Pg     57 38.80   0.0
                  Sg     57 46.30
BGF      0.76  35 Pg     57 42.10   0.0
                  Sg     57 52.30
      S.D. = 0.0  on   4 of   4 obs.
-------------------------------------
%  NOV  27, 1989  02h 18m 11.53± 0.58s
   45.969 N ± 5.2km     2.193 E ± 6.0km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                                  (538)
      ML 2.1 (LDG).

TCF      0.32   2 Pg     18 18.00  -0.2
                  Sg     18 22.80
MAF      0.36  46 Pg     18 18.50  -0.5
                  Sg     18 23.50
LSF      0.54 302 Pg     18 22.30  -0.2
                  Sg     18 29.50
BGF      0.74  37 Pg     18 25.50  -0.6
                  Sg     18 35.60
CAF      1.05 185 Pg     18 30.70  -0.6
                  Sg     18 44.00
AVF      1.15  44 Pg     18 33.00   0.0
                  Sg     18 47.40
SMF      1.33  59 Pg     18 35.90  -0.1
                  Sg     18 52.60
SSF      1.42  39 Pg     18 37.60   0.2
                  Sg     18 56.00
LPO      1.47 209 Pg     18 38.60   0.6
                  Sg     18 57.00
LOR      1.73  41 Pg     18 43.30   1.4
                  Sg     19 05.00
      S.D. = 0.7  on  10 of  10 obs.
-------------------------------------
*  NOV  27, 1989  02h 53m 12.33± 1.78s
   23.851 N ± 8.6km   121.822 E ±15.3km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN                                  (244)

TWD      0.31 318 iPd    53 18.70   0.0
                  eS     53 22.40
TWF1     0.69 224 ePc    53 26.00   0.0
                  eS     53 36.00
TWC      0.76   2 iPd    53 27.20   0.1
                  eS     53 38.80
TWQ      1.00 295 iPd    53 31.30   0.1
                  eS     53 45.00
TWZ      1.26 350 eP     53 35.60  -0.1
ANP      1.36 348 eP     53 39.00   1.7X
      S.D. = 0.1  on   5 of   6 obs.
-------------------------------------
   NOV  27, 1989  06h 44m 18.77± 0.59s
   37.879 N ± 5.2km    26.606 E ± 5.9km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                      (369)
      MD 3.5 (ATH).

IZM      0.73  45 iPg    44 33.00  -0.2
                  iSg    44 42.50
APE      1.18 227 ePb    44 40.60  -0.2
PRK      1.39 349 ePg    44 45.00   0.9
YER      1.53 119 iPn    44 46.00  -0.2
EZN      1.96 354 iPn    44 52.60   0.3
DST      2.34  42 ePn    44 57.70  -0.2
KHL      2.34  78 ePn    44 57.70  -0.3
EDC      2.65  21 ePn    45 03.00   0.7
BNT      2.68  22 iPn    45 01.90  -0.8
NPS      2.73 197 ePn    45 11.00   7.5X
ELL      2.86 112 ePn    45 06.00   0.5
VAM      3.14 219 ePg    45 20.00  10.9X
RDO      3.37 346 ePn    45 11.50  -0.9
YLV      3.44  38 iPn    45 25.20  11.7X
      S.D. = 0.6  on  11 of  14 obs.
-------------------------------------
%  NOV  27, 1989  06h 44m 54.56± 0.85s
   46.455 N ±11.4km     2.588 E ± 7.6km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                                  (538)
      ML 2.1 (LDG).

BGF      0.21  60 Pg     44 59.60   0.5
                  Sg     45 02.80
MAF      0.23 184 Pg     44 59.70   0.1
                  Sg     45 02.70
TCF      0.31 238 Pg     45 01.20   0.2
                  Sg     45 05.60
LSF      0.76 255 Pg     45 09.20  -0.2
                  Sg     45 19.20
SMF      0.89  77 Pg     45 11.00  -0.6
                  Sg     45 22.40
      S.D. = 0.6  on   5 of   5 obs.
-------------------------------------
?  NOV  27, 1989  06h 50m 58.17± 1.41s
   38.878 N ±11.7km    26.911 E ±15.7km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                              (365)

IZM      0.55 150 iPg    51 09.00  -0.4
                  eSg    51 18.00
EZN      1.05 335 ePg    51 18.10   0.2
DST      1.52  61 ePn    51 24.70  -0.7
BNT      1.67  28 ePn    51 20.90  -6.7X
KHL      2.12 104 ePn    51 35.20   1.0
      S.D. = 1.3  on   4 of   5 obs.
-------------------------------------
   NOV  27, 1989  07h 02m 45.80± 0.66s
   37.887 N ± 6.0km    26.600 E ± 7.2km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                      (369)
      MD 3.5 (ATH).

IZM      0.73  45 iPg    02 59.30  -0.9
                  eSg    03 08.10
APE      1.18 227 ePn    03 07.10  -0.7
CIN      1.21 103 iPgc   03 08.00  -0.4
                  iSg    03 25.00
PRK      1.38 349 ePn    03 11.50   0.4
YER      1.53 119 iPn    03 12.00  -1.3
EZN      1.95 354 iPn    03 19.60   0.4
DST      2.34  42 iPn    03 26.70   1.8
KHL      2.35  78 ePn    03 26.00   0.9
EDC      2.65  21 ePn    03 30.00   0.8
```

```
BNT      2.67  22 iPn   03 28.40  -1.2
NPS      2.74 197 ePn   03 32.00   1.4
VAM      3.14 219 ePb   03 47.00  10.8X
RDO      3.36 346 ePn   03 38.10  -1.2
YLV      3.43  38 iPn   03 51.20  10.7X
     S.D. = 1.2  on  12 of  14 obs.
-----------------------------------------
?  NOV  27, 1989  07h 26m 46.31± 0.90s
   44.273 N ± 9.8km     7.443 E ± 7.1km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                     (545)
      ML 1.8 (GEN).

ENR      0.05 199 P      26 48.47  -0.1
                  S      26 50.11
STV      0.09 251 P      26 49.09   0.1
                  S      26 50.73
ROB      0.31  86 P      26 52.78   0.0
                  S      26 56.47
PZZ      0.34 314 P      26 53.29   0.0
                  S      26 57.50
     S.D. = 0.2  on   4 of   4 obs.
-----------------------------------------
*  NOV  27, 1989  07h 30m 57.57± 0.87s
   63.580 N ± 8.5km  147.524 W ± 9.8km
   DEPTH =  33.0km  (normal)
 CENTRAL ALASKA                      (  1)
      ML 3.4 (PMR).

FBA      1.33 355 iPc   31 20.40   0.4
PMR      2.13 201 eP    31 30.80  -0.7
PMS      2.53 203 eP    31 37.60   0.4
DWY      3.62  79 P     31 52.80   0.2
IMA      3.63 316 eP    31 51.50  -1.4
TTA      3.89 264 P     31 58.50   1.9
SVW      4.52 240 eP    32 04.60  -0.8
     S.D. = 1.3  on   7 of   7 obs.
-----------------------------------------
   NOV  27, 1989  07h 48m 06.05± 0.81s
   39.483 N ± 5.9km  122.646 W ± 8.3km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN CALIFORNIA                 ( 36)
      ML 2.7 (BRK).

LTCM     0.83  29 eP    48 22.80   0.3
ORV      0.89  85 ePd   48 23.20  -0.4
                  iS     48 39.80
NWRM     1.04 190 eP    48 25.00  -1.2
WDC      1.10   4 ePd   48 26.20  -0.9
                  eS     48 42.20
MIN      1.18  43 ePd   48 28.20  -0.4
FHC      1.67 322 e(P)  48 37.40   1.3
LBFM     1.95  17 eP    48 40.00  -0.3
CMB      2.28 129 ePc   48 46.40   1.3
                  eS     49 14.70
                  e      49 17.10
KVN      3.56  96 eP    49 03.50   0.3
     S.D. = 1.0  on   9 of   9 obs.
-----------------------------------------
   NOV  27, 1989  07h 48m 29.49± 0.94s
   38.912 N ± 6.4km   27.003 E ±11.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

IZM      0.55 158 iPg   48 40.50  -0.2
                  iSg    48 49.50
EZN      1.05 330 iPg   48 49.10  -0.2
                  iSg    49 02.60
DST      1.44  61 iPn   48 55.70   0.0
CIN      1.56 147 ePn   48 58.00   0.7
                  iSg    49 18.00
EDC      1.58  25 iPn   48 57.00  -0.6
BNT      1.61  26 iPn   48 58.90   0.9
KHL      2.06 106 ePn   49 04.00  -0.6
     S.D. = 0.7  on   7 of   7 obs.
-----------------------------------------
*  NOV  27, 1989  08h 02m 23.62± 1.20s
   23.883 S ± 8.9km   70.645 W ±20.2km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF NORTHERN CHILE        (122)

ARE      7.43 354 eP    04 12.00  -0.7
CNCB     7.47  20 P     04 17.20   3.6X
LPB      7.69  19 P     04 20.00   3.4X
       1.0s   134.00nm          5.9mb X
     Z  16s     1.01um          3 9MszX
                  i      04 37.00
                  LR     07 20.00
CCH      7.72  34 P     04 20.40   3.5X
ZON      7.83 168 eP    04 20.00   1.9
ZOBO     7.94  18 P     04 22.00   1.9
     Z  24s     0.33um
                  LR     07 04.00
JACH     8.77 180 eP    04 36.50   5.3X
                  iS     06 27.00
PEL      9.23 180 eP    04 36.40  -1.1
                  iS     06 32.10
LCCH     9.59 185 eP    04 56.50  14.1X
                  iS     06 48.00
PCH      9.70 179 eP    04 50.50   6.4X
PPD     17.90  88 eP    06 31.70  -0.1
                  e      06 34.60
                  e      06 40.00
                  e      06 56.00
                  e      09 34.40
VAO     21.74  92 eP    07 11.10  -3.1X
                  e      07 20.90
                  eS     10 14.70
BAO     22.82  73 eP    07 24.20  -0.9
KIC     70.90  74 P     13 39.00  -1.0
GBA    148.16 103 PKP   22 08.00   3.0X
     S.D. = 1.6  on   7 of  15 obs.
-----------------------------------------
?  NOV  27, 1989  08h 07m 50.89± 2.75s
     4.750 S ±20.9km   81.201 W ±27.0km
   DEPTH =  73.8 ± 26.6 km
   4.6mb (  3 obs.)
 NEAR COAST OF NORTHERN PERU         (109)

NNA      8.38 149 eP    09 51.70  -0.4
       0.5s     4.93nm          4.5mb
                  eS     11 31.00
PT10     8.39 150 e(P)  09 53.00   0.8
                  e(S)   11 31.00
PT08     8.51 148 iPd   09 53.40  -0.7
                  iS     11 32.50
ZOBO    17.20 133 eP    11 48.00  -0.5
LPB     17.39 133 eP    11 52.00   1.3
CNCB    17.65 134 eP    11 54.00  -0.1
CCH     19.37 132 P     12 13.40  -0.5
TUL     42.70 342 eP    15 42.20   0.0
       1.0s     7.70nm          4.5mb
                  e      16 42.80
SPA     85.28 180 eP    20 20.80   0.1
       0.9s     9.09nm          4.8mb
     S.D. = 0.9  on   9 of   9 obs.
-----------------------------------------
   NOV  27, 1989  08h 27m 34.09± 0.21s
   21.884 N ± 3.7km  144.412 E ± 4.4km
   DEPTH =  69.3km  ( 21 depth phases)
   5.2mb ( 21 obs.)
 MARIANA ISLANDS REGION              (215)
      CENTROID, MOMENT TENSOR        (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 17C
      Centroid Location:
      Origin Time        08:27:36.8 1.7
      Lat 20.94N 0.21 Lon 144.07E 0.12
      Dep  56.714.8 Half-duration  1.5
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 1.96 0.49  Mtt= 0.67 0.75
        Mff=-2.63 0.63  Mrt=-0.54 0.71
        Mrf= 5.55 1.01  Mtf=-0.83 0.67
       Principal Axes:
        T  Vol=  5.83  Plg=55  Azm=252
        N        0.53     10      357
        P       -6.36     33       94
      Best Double Couple:Mo=6.1*10**16
       NP1:Strike=218 Dip=15 Slip= 132
       NP2:        355     79       80

PJG      8.26 177 eP    29 36.10   2.5
GUMO     8.26 177 eP    29 36.10   2.5
       1.0s   400.00nm          6.2mb
GUA      8.31 177 eP    29 35.80   1.5
       1.2s   475.00nm          6.2mb
WKYJ    14.54 330 P     30 58.80   1.2
IIDJ    14.69 339 P     30 58.20  -1.4
KAKJ    14.74 346 P     30 59.90  -0.2
CHJJ    14.88 343 P     31 00.20  -1.8
TKSJ    15.12 325 eP    31 07.40   2.3
KAGJ    15.23 310 eP    31 13.30   6.8X
TSRJ    15.47 333 P     31 12.30   2.8X
MAT     15.57 341 eP    31 09.00  -1.8
       0.8s    38.81nm          4.6mb
     Z  20s     0.35um          3.9MszX
                  (S)    33 48.00
MTMJ    15.74 340 P     31 12.00  -1.0
NIIJ    16.00 344 P     31 14.70  -1.5
KUMJ    16.06 314 P     31 20.40   3.4X
SHK     16.28 323 eP    31 23.00   3.2X
YONJ    16.36 326 eP    31 21.90   1.1
YAMJ    16.67 348 eP    31 07.00 -17.6X
SHNJ    16.91 319 P     31 31.90   4.3X
OFUJ    17.30 353 eP    31 26.50  -6.0X
MRRJ    20.67 353 eP    32 11.90   1.4
KUSJ    21.16   1 eP    32 18.10   2.7X
ASAJ    22.22 357 eP    32 28.90   2.9X
SSE     22.69 299 iPc   32 31.00   0.4
       0.9s   231.00nm          5.6mb
     Z  22s     1.00um          4.2Msz
                  pP     32 42.20  44kmX
                  eS     36 44.00
                  sS     37 02.00
QZH     23.88 282 Pc    32 43.60   1.4
JAY     24.52 189 ePc   32 46.20  -2.3
NJ2     24.87 299 Pc    32 50.00  -1.7
MDJ     25.76 335 eP    33 01.40   1.5
DL2     25.85 316 P     33 02.00   1.2
SNY     26.49 323 iPc   33 05.50  -1.1
     Z  31s     1.40um          4.3MszX
                  eS     37 38.00
CN2     26.92 329 eP    33 10.00  -0.6
     Z  24s     1.00um          4.3MszX
TIA     27.68 307 Pd    33 17.50  -0.1
WHN     28.25 294 Pd    33 23.00   0.3
       1.0s     0.03nm          1.9mb X
BJI     30.04 313 eP    33 37.00  -1.7
TIY     31.73 307 iPd   33 54.00   0.4
     Z  30s     0.80um          4.2MszX
XAN     33.44 299 Pc    34 08.00  -0.6
BTO     34.53 311 eP    34 18.00   0.1
GYA     34.66 285 P     34 19.00  -0.2
MTN     36.89 202 eP    34 36.00  -1.9
CD2     37.34 293 eP    34 41.60  -0.1
LZH     37.92 301 eP    34 46.00  -0.7
       1.8s   127.00nm          5.5mb
     Z  31s     1.40um          4.6MszX
                  pP     38 06.00
KMI     38.24 283 eP    34 50.50   0.9
GTA     41.70 305 Pc    35 18.00   0.2
NST     42.26 269 iPd   35 24.20   1.7
QIS     42.44 187 iPd   35 22.40  -1.4
CHG     42.63 274 iPd   35 26.10   0.6
       1.0s    44.50nm          5.2mb
WB5     42.65 194 eP    35 24.20  -1.4
                  e      41 01.70
BDT     42.92 272 eP    35 29.50   1.7
NNT     43.53 265 eP    35 33.50   0.7
SNG     44.66 258 eP    35 44.00   2.0
       0.9s    73.95nm          5.5mb
IPM     45.39 254 ePd   35 49.70   1.9
       0.9s    41.90nm          5.3mb
PSI     48.11 253 iPd   36 09.90   0.8
       1.0s    10.00nm          4.7mb
LSA     48.24 291 P     36 11.60   1.0
DZM     48.68 152 iPc   36 12.20  -1.3
WARB    50.79 201 iPd   36 28.40  -1.1
       0.4s     8.00nm          5.1mb
WMQ     51.35 309 iPc   36 34.00   0.3
NANU    52.38 214 eP    36 40.00  -1.5
FORR    54.72 197 eP    36 56.20  -2.4
       0.4s    18.00nm          5.5mb
COOL    57.02 204 eP    37 10.00  -5.2X
BAL     58.58 208 eP    37 23.50  -2.6
IMA     58.89  25 eP    37 28.10   0.1
BRW     59.62  19 eP    37 33.30   0.5
PMR     59.81  30 eP    37 33.00  -1.2
       1.0s    21.30nm          5.2mb
MUN     59.98 208 eP    37 34.00  -1.6
NWAO    60.37 206 eP    37 36.40  -1.9
NDI     60.45 291 iPc   37 38.20  -0.8
FBA     61.00  27 eP    37 41.70  -0.5
RKG     61.45 206 eP    37 47.30   1.6
GBA     63.91 275 P     38 01.00  -1.3
POO     65.77 281 iPc   38 13.30  -1.1
INK     66.94  24 eP    38 20.00  -1.0
                  pP     38 38.00  67km
QUE     68.90 295 eP    38 34.00  -0.1
MBC     70.39  15 eP    38 43.00   0.9
       1.0s    18.00nm          5.0mb
```

27d 08h

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MAIO    73.45 303 iPd    39 02.20    1.0
KHI     74.70 301 eP     39 09.00    0.4
GMW     76.01  44 P      39 16.30    0.8
                  pP     39 34.80   68km
BMW     76.03  45 P      39 16.50    0.8
RMW     76.67  44 P      39 19.80    0.5
                  pP     39 38.70   70km
LON     76.88  45 P      39 21.00    0.5
                  pP     39 40.00   70km
PNT     77.47  42 eP     39 24.00    0.4
VGB     77.95  46 P      39 26.60    0.2
WDC     78.32  51 e(P)   39 28.90    0.5
                  epP    39 47.90   70km
LBFM    78.54  50 P      39 30.00    0.1
KEV     78.55 342 eP     39 37.00    7.9X
MIN     79.07  51 ePd    39 32.30   -0.4
                  epP    39 51.50   71km
ORV     79.41  52 ePd    39 34.20   -0.2
                  epP    39 53.20   70km
EDM     79.76  37 ePd    39 36.50    0.4
SOD     79.97 340 iP     39 37.10    0.3
ARN     80.12  54 P      39 39.00    0.7
CMB     80.74  53 ePd    39 42.00    0.4
                  epP    40 00.90   69km
FRI     81.62  54 ePd    39 46.30    0.2
                  epP    40 05.50   70km
KVN     82.05  51 P      39 48.90    0.3
SES     82.22  39 ePc    39 48.50   -0.5
                  pP     40 07.00   67km
SUF     82.75 336 iP     39 50.90   -0.5
        0.5s     8.30nm          4.9mb
ISA     83.03  54 eP     39 52.00   -1.5
                  e      40 12.00   73km
TNP     83.06  52 P      39 54.10    0.3
        1.2s    20.50nm          5.0mb
LRM     83.27  43 eP     39 55.70    0.9
                  e      40 14.20   67km
CLC     83.63  54 eP     39 56.00   -0.6
                  e      40 16.00   73km
SBB     83.88  55 eP     39 58.00    0.1
                  e      40 17.00   69km
GSC     84.42  54 eP     40 01.00    0.4
                  e      40 20.00   69km
NUR     84.61 334 iP     40 00.20   -0.7
        0.8s    26.40nm          5.3mb
PEC     84.70  56 P      40 02.00    0.0
FFC     85.06  32 iPc    40 03.90    0.6
        0.9s    12.00nm          4.9mb
PLM     85.13  56 P      40 04.50    0.2
DUG     85.36  49 P      40 06.00    0.7
        1.1s    18.09nm          5.0mb
                  pP     40 25.00   69km
TPC     85.46  55 eP     40 05.00   -0.8
                  e      40 25.00   73km
DAU     86.35  48 P      40 10.50    0.1
BW06    86.45  45 P      40 10.60   -0.2
                  pP     40 29.40   68km
MSU     86.52  50 P      40 11.70    0.5
                  pP     40 30.50   68km
GLA     86.82  56 eP     40 13.00    0.5
                  e      40 32.00   68km
HFS     88.99 338 eP     40 20.80   -1.5
        0.5s     7.80nm          5.2mb
NAO     89.47 339 P      40 23.20   -1.4
        0.9s    10.30nm          5.1mb
ALQ     92.22  51 P      40 38.70    0.7
        1.3s    23.49nm          5.5mb
                  pP     40 57.70   68km
KSP     94.41 330 iPd    40 47.40   -0.1
CLL     95.57 332 eP     40 52.00   -0.8
PTZ    116.33 264 ePKP   46 12.00   -0.3X
MZZ    117.65 269 ePKP   46 31.00   16.1X
LSZ    119.55 264 iPKPd  46 29.00   10.6X
                  i      46 37.00
BCAO   120.95 290 iPKPc  46 20.60   -0.4
        0.6s     6.00nm
                  id     46 24.70
KIC    138.75 309 PKP    46 56.20    1.3
ARE    145.72  87 iPKPd  47 07.90    0.5
PEL    147.06 117 iPKPd  47 10.50    1.7
        0.4s    16.95nm
ZOBO   148.79  85 PKP    47 16.80    4.1X
     Z  24s     0.15um          4.7MszX
                  LR     36 24.00
LPB    148.88  86 PKP    47 17.00    4.4X
CNCB   149.06  86 PKP    47 17.90    4.8X
CCH    150.90  87 PKP    47 20.90    5.4X
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      S.D. = 1.1  on 107 of 125 obs.
-----------------------------------------
*  NOV  27, 1989  08h 29m 08.21± 3.07s
   31.911 S ±31.1km   69.965 W ±21.6km
   DEPTH = 140.4 ± 27.8 km
 SAN JUAN PROVINCE, ARGENTINA      (137)

JACH    0.93 215 iPc    29 31.40   -0.5
                 iS     29 47.50
ZON     1.15  72 iPd    29 34.00    0.1
                 eS     29 50.00
PEL     1.37 206 iPd    29 36.10    0.0
                 iS     29 54.30
ROCH    1.38 220 iPd    29 36.50    0.2
                 iS     29 56.00
SAN     1.65 201 eP     29 39.30    0.2
                 iS     30 00.20
PCH     1.77 195 iPd    29 41.00    0.5X
                 iS     30 04.60
TACH    1.92 205 iPc    29 42.20    0.0
                 iS     30 06.50
LCCH    2.06 221 eP     29 44.60    0.7
                 iS     30 10.00
LNV     2.37 210 iPc    29 47.10   -0.6
MRA     3.64  99 ePc    30 04.50    0.3
TCA     4.62  84 ePd    30 17.00   -0.3
                 S      31 06.50
      S.D. = 0.5  on  10 of  11 obs.
-----------------------------------------
%  NOV  27, 1989  08h 29m 39.78± 2.04s
   44.203 N ±24.3km   11.401 E ± 7.8km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)

SFI     0.43 131 P      29 47.90   -0.6
                 eSg    29 55.60
MME     0.50 269 P      29 49.60   -0.5
                 eSg    29 58.70
BDI     0.60 257 P      29 52.50    0.6
                 eSg    30 00.50
CRE     0.70 145 P      29 54.00    0.3
                 eSg    30 04.80
PII     0.80 233 P      29 55.00   -0.2
                 eSg    30 07.00
ARV     1.32 122 P      30 04.50    0.3
      S.D. = 0.7  on   6 of   6 obs.
-----------------------------------------
%  NOV  27, 1989  08h 51m 30.02± 0.76s
   37.936 N ± 7.1km    1.416 W ± 8.0km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                             (377)
      mbLg 2.7 (MDD).

EALH    0.08 183 ePg    51 32.50    0.0
                 eSg    51 34.80
ACU     0.98  54 ePg    51 48.20   -0.4
EVIA    1.11 310 ePg    51 49.60   -1.3
                 eSg    52 03.60
ENIJ    1.16 214 Pg     51 51.00   -0.6
                 eSg    52 06.80
ECHE    1.69  12 ePn    52 00.60    0.9
                 eSn    52 21.60
AFC     1.82 249 ePn    52 02.60    0.8
EBAN    1.88 278 ePn    52 03.20    0.6
                 eSn    52 25.40
      S.D. = 1.0  on   7 of   7 obs.
-----------------------------------------
*  NOV  27, 1989  09h 33m 13.00± 2.91s
   51.210 N ±23.9km   15.944 E ±16.3km
   DEPTH =  10.0km  (geophysicist)
 POLAND                            (548)
      ML 3.2 (KBA), 2.6 (KRA).

KSP     0.43 149 iPd    33 21.80    0.1
        0.5s    72.00nm
                 iS     33 30.20
                 iLR    33 36.00
BRG     1.31 256 iPg    33 37.10    0.0
                 iSg    33 56.90
PRU     1.52 217 ePn    33 40.70    0.5
                 Pg     33 42.60
                 Sg     34 06.70
CLL     1.85 274 ePg    33 45.00    0.0
                 eSg    34 11.00
KRA     2.79 113 eP     34 03.40    4.9X
                 eS     34 40.70
MOX     2.80 260 ePg    34 06.00    7.4X
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                 iSg    34 45.00
ZST     3.11 166 eP     34 55.50   52.5X
KBA     4.47 203 ePg    34 22.00   -0.5
        0.7s     5.70nm
                 e      35 38.00
                 i      56 25.10
      S.D. = 0.5  on   5 of   8 obs.
-----------------------------------------
%  NOV  27, 1989  09h 48m 55.34± 1.91s
   43.122 N ±16.2km    0.457 W ± 9.3km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      MD 1.0 (STR).

ESCF    0.10 243 Pg     48 58.13    0.1
                 Sg     48 59.85
JAU     0.11 143 Pg     48 58.28    0.0
                 Sg     49 01.24
ATE     0.18 259 Pg     48 59.38   -0.1
                 Sg     49 02.02
LHE     0.24 210 Pg     49 00.54    0.0
                 Sg     49 03.45
ISSF    0.27 249 Pg     49 01.00    0.0
                 Sg     49 04.72
MADF    0.27 275 Pg     49 01.00    0.0
                 Sg     49 04.72
      S.D. = 0.1  on   6 of   6 obs.
-----------------------------------------
   NOV  27, 1989  10h 39m 36.68± 0.68s
   40.087 N ± 5.7km  121.286 W ± 7.1km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN CALIFORNIA               ( 36)
      ML 2.9 (BRK).

MIN     0.36 317 iPc    39 44.20    0.3
                 iS     39 49.60
ORV     0.56 197 iPc    39 47.30   -0.5
                 iS     39 55.10
LTCM    0.65 281 eP     39 50.20    0.4
WDC     1.08 298 eP     39 56.40   -1.0
                 iS     40 11.80
LBFM    1.34 340 eP     40 02.20    0.2
CMB     2.17 161 e(P)   40 14.10    0.1
                 iS     40 44.60
KVN     2.67 112 eP     40 21.00   -0.3
ARN     2.74 184 eP     40 22.90    0.7
FRI     3.33 158 e(P)   40 37.70    7.3X
      S.D. = 0.7  on   8 of   9 obs.
-----------------------------------------
   NOV  27, 1989  10h 52m 15.86± 0.86s
   46.250 N ± 7.9km    7.397 E ± 7.9km
   DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                       (544)

DIX     0.17 177 iPd    52 20.40    0.5
EMS     0.37 241 iPc    52 23.10   -0.4
MMK     0.44 116 iPc    52 24.60   -0.3
LLS     1.27  60 ePd    52 38.40   -1.1
SAX     1.67  53 ePd    52 46.80    1.2
SLE     1.69  26 ePc    52 45.70    0.1
      S.D. = 1.1  on   6 of   6 obs.
-----------------------------------------
%  NOV  27, 1989  11h 48m 01.76± 0.85s
   45.959 N ± 6.5km    2.212 E ± 8.5km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 1.5 (LDG).

TCF     0.33 360 Pg     48 08.60    0.0
                 Sg     48 13.40
MAF     0.36  43 Pg     48 09.30    0.1
                 Sg     48 14.30
LSF     0.56 302 Pg     48 13.10    0.0
                 Sg     48 20.30
BGF     0.74  36 Pg     48 16.20   -0.1
                 Sg     48 26.60
CAF     1.04 186 Pg     48 21.40    0.0
                 Sg     48 35.90
      S.D. = 0.1  on   5 of   5 obs.
-----------------------------------------
?  NOV  27, 1989  12h 13m 05.13± 5.09s
   37.067 N ±34.7km   20.624 E ±37.2km
   DEPTH =  10.0km  (geophysicist)
 IONIAN SEA                        (399)
      MD 3.3 (ATH).

ITM     1.05  83 ePb    13 24.90    0.0
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VLS      1.11 359 ePg    13 25.00  -0.9
VLI      1.89 100 ePb    13 37.50  -0.2
KEK      2.72 346 ePg    13 57.50   7.8X
KZN      3.36  15 ePn    13 59.20   0.5
LIT      3.36  25 eP     14 51.20  52.4X
OHR      4.04   2 ePn    14 09.00   0.6
VAY      4.51  19 ePn    14 12.00  -3.0X
SKO      4.94   7 ePn    14 09.00 -12.1X
     S.D. = 0.9  on   5 of   9 obs.
-----------------------------------
?  NOV  27, 1989  12h 23m 12.54± 6.05s
   36.866 S ±55.8km   72.498 W ±42.7km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF CENTRAL CHILE      (135)

LNV      3.04  17 iPc    24 00.50   1.1
                  iS     24 30.50
TACH     3.45  22 eP     24 05.00  -0.3
LCCH     3.47  13 iPc    24 05.10  -0.4
                  iS     24 41.00
PCH      3.62  27 ePd    24 07.70  -0.1
                  iS     24 50.60
SAN      3.72  24 iP     24 09.80   0.7
                  iS     24 48.00
FCH      3.97  28 iPc    24 13.00   0.1
PEL      4.00  22 iPd    24 13.00  -0.1
                  iS     24 53.60
ROCH     4.07  18 ePd    24 14.50   0.2
JACH     4.46  21 iPd    24 18.50  -1.2
                  iS     25 04.50
ZOBO    20.88  12 eP     27 55.00   0.0
     S.D. = 0.7  on  10 of  10 obs.
-----------------------------------
%  NOV  27, 1989  12h 43m 19.37± 1.10s
   40.083 N ± 9.7km   29.483 E ± 7.8km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

YLV      0.49 350 iPg    43 29.30   0.0
GPA      0.67  72 ePg    43 33.00   0.4
HRT      0.75  11 ePg    43 33.60  -0.5
DST      0.81 234 iPg    43 34.70  -0.5
                  eSg    43 46.70
BNT      1.23 283 iPn    43 43.80   1.6
EDC      1.27 283 iPn    43 42.00  -0.9
KHL      1.76 179 ePn    43 55.00   4.9X
     S.D. = 1.1  on   6 of   7 obs.
-----------------------------------
%  NOV  27, 1989  12h 43m 35.03± 0.84s
   44.384 N ± 8.3km    7.393 E ± 6.2km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                   (545)
      ML 2.3 (GEN).

STV      0.15 199 P      43 38.69   0.1
                  S      43 41.76
ENR      0.16 173 P      43 38.69  -0.1
                  S      43 41.66
PZZ      0.24 300 P      43 40.23   0.0
                  S      43 44.25
ROB      0.35 104 P      43 42.69   0.3
                  S      43 48.97
IMI      0.59 143 P      43 46.92  -0.2
                  S      43 55.64
FIN      0.61 106 P      43 47.12  -0.3
                  S      43 56.15
     S.D. = 0.3  on   6 of   6 obs.
-----------------------------------
*  NOV  27, 1989  13h 25m 08.55± 2.58s
   51.155 N ±22.4km   15.951 E ±14.3km
   DEPTH =  10.0km  (geophysicist)
 POLAND                           (548)

KSP      0.38 145 iPd    25 16.20  -0.1
       0.3s    43.00nm
                  iS     25 24.20
                  iLR    25 30.40
BRG      1.30 258 iPg    25 32.00  -0.6
                  iSg    25 52.00
PRU      1.47 218 ePn    25 35.50   0.4
                  Pg     25 37.50
                  Sn     25 54.70
                  Sg     26 00.00
CLL      1.86 276 (Pg)   25 41.00   0.3
                  eSg    26 10.00
KHC      2.54 218 Pn     25 50.50   0.0
                  Pg     25 56.90
                  Sn     26 23.00
                  Sg     26 34.00
MOX      2.79 261 ePg    26 01.00   6.9X
                  iSg    26 41.00
     S.D. = 0.5  on   5 of   6 obs.
-----------------------------------
?  NOV  27, 1989  13h 33m 59.33± 1.01s
   44.373 N ± 9.8km    7.357 E ± 8.8km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                   (545)
      ML 2.3 (GEN).

STV      0.13 190 P      34 02.71   0.1
                  S      34 05.58
ENR      0.15 163 P      34 02.81  -0.1
                  S      34 05.79
PZZ      0.23 306 P      34 04.25   0.0
                  S      34 08.45
ROB      0.38 102 P      34 07.12   0.0
                  S      34 12.66
     S.D. = 0.2  on   4 of   4 obs.
-----------------------------------
%  NOV  27, 1989  14h 11m 42.69± 0.71s
   43.417 N ± 5.1km    5.455 E ± 5.7km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE       (379)
      MD 2.5 (STR).

GELF     0.04 212 Pg     11 44.35  -0.5
BERF     0.20 121 Pg     11 47.64   0.5
PUYF     0.21  57 Pg     11 46.86  -0.5
TREF     0.21 346 Pg     11 47.24  -0.1
PRAF     0.44 332 Pg     11 52.24   0.6
VILF     0.47  23 Pg     11 52.51   0.2
TAVF     0.48  65 Pg     11 52.69   0.2
GANF     0.67  29 Pg     11 55.51  -0.5
     S.D. = 0.5  on   8 of   8 obs.
-----------------------------------
?  NOV  27, 1989  14h 45m 06.33± 4.34s
   33.147 S ±16.3km   70.246 W ±28.2km
   DEPTH =  10.0km  (geophysicist)
 CHILE-ARGENTINA BORDER REGION    (127)

FCH      0.18 192 iP     45 10.70   0.1
                  iS     45 13.50
SAN      0.46 229 eP     45 16.50   0.8
                  iS     45 26.00
PCH      0.52 205 iPd    45 17.30   0.4
                  iS     45 24.80
ROCH     0.67 285 eP     45 20.00   0.3
TACH     0.77 229 eP     45 20.00  -1.3
LNV      1.26 230 ePd    45 29.60  -0.2
                  iS     45 46.00
     S.D. = 0.9  on   6 of   6 obs.
-----------------------------------
?  NOV  27, 1989  15h 01m 29.50± 1.49s
   26.883 S ±14.7km   26.505 E ±16.2km
   DEPTH =   5.0km  (geophysicist)
 REPUBLIC OF SOUTH AFRICA         (584)

SEK      1.75 146 iPc    02 00.40  -0.4
                  S      02 20.00
SLR      1.96  55 iPd    02 04.00   0.1
                  S      02 27.00
BLF      2.23 187 iPd    02 08.50   0.6
                  S      02 36.00
KIM      2.41 219 iPd    02 10.00  -0.3
                  S      02 40.00
FRS      3.04 200 iPd    02 40.50  21.4X
                  S      03 16.00
HVD      3.81 193 iPc    02 15.00 -15.3X
                  S      02 59.50
GRM      6.41 179 e(P)   02 17.00 -49.9X
       1.2s   125.00nm
     S.D. = 0.8  on   4 of   7 obs.
-----------------------------------
&  NOV  27, 1989  15h 29m 33.02s
   63.592 N          147.811 W
   DEPTH =   0.0km
 CENTRAL ALASKA                   (  1)
      <AGS-P>. ML 3.2 (PMR).

FBA      1.31   0 iPd    29 57.80  -0.4
TOA      1.67 153 iP     30 03.50  -0.2
PMR      2.10 198 eP     30 09.20  -0.6
KLU      2.28 157 iP     30 12.00  -0.6
                  eS     30 42.40
PMS      2.49 200 eP     30 16.20   0.6
SPU      3.12 221 eP     30 24.00  -0.5
                  eS     31 08.00
IMA      3.53 317 eP     30 29.10  -1.3
DWY      3.74  79 P      30 31.20  -2.1
SVW      4.41 239 eP     30 43.10   0.3
INK      7.50  45 eP     31 23.00  -3.3
     10 obs. associated
-----------------------------------
   NOV  27, 1989  16h 04m 42.89± 0.69s
    5.835 N ± 3.2km  126.758 E ± 5.0km
   DEPTH = 142.9 ±  6.6 km
   5.1mb ( 31 obs.)
 MINDANAO, PHILIPPINE ISLANDS     (259)

DAV      1.71 317 iPd    05 14.50  -0.1
                  iS     05 40.50
MNI      4.76 204 iPd    05 53.40  -0.5
                  eS     06 50.50
TSM      8.80 260 eP     06 52.10   3.9X
AAI      9.57 171 ePd    06 57.00  -1.4
                  e(S)   07 02.00
PCI      9.62 226 ePd    07 01.50   2.3
                  e(S)   07 48.00
QCP     10.38 328 eP     07 01.60  -7.5X
KKM     10.49 272 eP     07 11.30   0.6
BAG     12.13 331 eP     07 36.00   3.7X
MTN     19.06 167 iPd    08 55.80  -1.0
QZH     20.55 338 eP     09 11.20  -0.7
QIZ     21.06 310 Pc     09 17.60   0.5
                  eS     12 58.00
KNA     21.54 175 iPd    09 22.20   0.4
       0.8s   746.00nm          6.2mb X
KGM     23.69 262 eP     09 43.10   0.3
PMG     25.35 127 eP     09 57.00  -1.3
IPM     25.66 268 ePd    10 01.00  -0.2
SSE     25.67 349 P      10 02.50   1.4
       1.0s    39.00nm          4.9mb
SNG     26.01 274 eP     10 04.50   0.1
WB5     26.63 164 eP     10 08.00  -2.0
                  eS     14 31.30
LOE     27.04 297 iPc    10 13.00  -0.8
NJ2     27.11 345 Pd     10 16.70   2.4
WHN     27.21 336 Pd     10 16.50   1.3
       1.0s     0.06nm          2.2mb X
                  pP     10 40.50 110kmX
NNT     27.49 286 eP     10 17.00  -0.9
MBL     27.67 194 eP     10 19.30  -0.2
       0.6s    13.00nm          4.8mb
NST     27.89 293 iPc    10 21.80   0.3
PSI     27.93 265 iPd    10 21.50  -0.3
       0.6s    11.50nm          4.8mb
GYA     28.08 319 P      10 24.00   0.8
OIS     29.11 155 iPd    10 31.50  -0.9
       0.9s   174.00nm          5.8mb
BDT     29.41 295 eP     10 30.20  -4.9X
KMI     29.96 312 Pc     10 40.50   0.4
                  pP     10 51.50  40kmX
                  sP     10 56.00
CHG     30.02 298 eP     10 39.30  -1.2
       0.9s    10.92nm          4.6mb
ASPA    30.14 167 iPd    10 40.20  -1.3
       0.8s    28.00nm          5.0mb
                  eScS   21 02.90
                  LR     23 40.10
NANU    30.29 201 eP     10 42.00  -0.7
TIA     31.50 345 P      10 52.40  -0.8
WARB    31.83 180 iPd    10 56.40   0.2
       0.5s    20.00nm          5.2mb
CTA     32.11 144 iPc    10 59.20   0.5
       0.9s    67.23nm          5.5mb
                  i      11 15.10
MAT     32.31  17 eP     10 57.00  -3.3X
       0.9s    10.92nm          4.6mb
CD2     32.99 322 iPc    11 05.60  -0.7
MEKA    33.23 194 iPd    11 08.30   0.0
       0.7s    65.00nm          5.5mb
TIY     34.31 340 iPc    11 17.40  -0.2
BJI     35.36 346 eP     11 26.00  -0.4
       1.0s    12.00nm          4.6mb
SNY     35.95 356 iPd    11 31.00  -0.3
MRWA    36.36 196 iPd    11 35.50   0.6
       0.3s     6.00nm          4.8mb
OLP     36.41 153 eP     11 34.70  -0.6
FORR    36.50 178 iPd    11 35.70  -0.3
       0.4s    47.00nm          5.6mb
LZH     36.73 328 Pc     11 38.00  -0.1
```

27d 16h

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COOL   36.90 188 iPd   11 39.10  -0.4
       0.5s    10.00nm          4.8mb
HHC    37.43 341 Pc    11 44.40   0.5
BAL    37.49 194 eP    11 44.30  -0.1
       0.4s    17.00nm          5.2mb
BTO    37.73 339 eP    11 46.00  -0.4
CN2    37.83 358 P     11 45.60  -1.5
KLB    38.20 192 eP    11 50.90   0.6
       0.3s     3.00nm          4.6mb
RMO    38.56 147 iPd   11 52.90  -0.5
                e      12 08.00
MDJ    38.71   3 eP    11 54.50   0.1
MUN    38.92 194 iPd   11 57.00   0.7
       0.6s    79.00nm          5.6mb
NWAO   39.60 193 iPd   12 03.00   1.2
       0.7s    67.00nm          5.5mb
STK    40.08 160 iPd   12 06.20   0.3
       0.7s    63.00nm          5.5mb
RKG    40.75 192 eP    12 17.10   5.8X
       0.6s    63.00nm          5.5mb
LSA    41.10 310 P     12 15.50   0.7
GTA    41.33 328 iPc   12 16.30   0.1
       0.8s     0.10nm          2.5mb X
CMS    41.34 155 iP    12 16.40   0.2
BRS    41.52 144 iPc   12 17.20  -0.5
                i      12 50.50
ADE    42.12 165 iPd   12 23.20   0.6
       0.7s    76.71nm          5.5mb
COO    43.48 148 iPd   12 34.30   0.7
BWA    44.97 154 iPd   12 47.10   1.6
                e      14 31.30
BFD    45.26 162 iPd   12 48.10   0.4
       0.9s    79.00nm          5.4mb
CAN    45.98 155 iPd   12 54.10   0.6
                e      14 42.30
CNB    46.13 154 iPd   12 55.70   1.0
TOO    46.58 159 iPc   12 59.60   1.4
DZM    47.74 127 iPc   13 08.10   0.5
HYB    48.46 288 iPc   13 12.50  -0.6
       1.0s    50.00nm          5.2mb
                e      14 38.00
GBA    49.15 283 P     13 17.50  -0.9
WMQ    51.04 324 iPc   13 32.10  -0.4
NDI    52.01 302 iPc   13 38.00  -2.0
POO    53.05 289 iPd   13 46.80  -0.9
       0.8s    31.34nm          5.2mb
KSH    56.57 314 P     14 14.40   1.3
QUE    61.07 301 eP    14 43.50  -0.9
MSZ    62.37 148 P     14 52.20  -0.2
MAIO   68.28 307 iPc   15 30.40  -0.3
       1.0s    25.00nm          5.0mb
TAB    78.90 308 eP    16 33.00   0.8
BHD    80.46 303 ePd   16 40.00  -0.4
MSL    81.43 306 ePd   16 46.00   0.5
PMR    82.10  29 eP    16 50.00   1.6
FBA    82.82  25 eP    16 52.50   0.4
       1.0s     6.00nm          4.4mb
HRI    87.69 303 eP    17 18.00   1.0
INK    88.21  22 eP    17 18.00  -0.6
SOD    88.54 338 iP    17 19.80  -0.4
MBH    88.77 300 iPc   17 23.50   1.5
BBTK   89.37 310 eP    17 24.00  -0.8
SUF    89.70 333 iP    17 26.70   1.0
       0.4s     5.00nm          4.9mb
MBC    89.91  13 eP    17 26.50   0.0
       1.0s     7.00nm          4.7mb
NUR    90.89 331 eP    17 30.60  -0.6
BCK    91.37 308 eP    17 33.00  -1.1
ELL    92.01 307 eP    17 36.00  -1.1
KHL    92.07 309 eP    17 36.00  -1.3
VRI    92.80 316 ePd   17 40.00  -0.4
MLR    93.41 316 ePd   17 43.50   0.1
SLL    96.22 333 eP    17 54.00  -1.7
       0.8s    23.60nm          5.7mb
NB2    96.92 334 P     17 58.40  -0.6
       0.8s     2.70nm          4.7mb
KSP    98.19 323 eP    18 05.60   0.8
BRG    99.57 324 iP    18 12.80   1.7
       0.8s    16.00nm          5.6mb
BUL    99.61 251 iPd   18 12.20   0.2
LSZ    99.76 256 iPd   18 13.00   0.3
LPG   106.15 321 ePKP  23 04.80  12.6X
       1.2s    14.80nm
SMF   107.41 323 ePKP  23 12.90  18.7X
       1.0s    12.00nm
MAF   108.39 323 ePKP  23 14.50  18.5X
       1.2s    14.80nm
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UPA   149.94  61 ePKPd 24 17.50   3.9X
ZOBO  162.10 127 PKP   24 32.00   2.4X
CCH   162.95 133 (PKP) 24 35.00   4.9X
      S.D. = 0.9  on  96 of 108 obs.
-----------------------------------------
%  NOV  27, 1989  16h 42m 03.08± 0.64s
   59.598 N ± 5.5km    6.140 E ± 5.5km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                  (535)
      MD 2.3 (BER).

ODD1    0.40  38 iP    42 11.37   0.1
                eS    42 16.43
BLS1    0.41 120 iPd   42 11.93   0.5
                iSg   42 17.86
KMY     0.60 230 iP    42 14.85  -0.3
                eS    42 21.77
BER     0.89 333 iP    42 20.76   0.7
                eS    42 29.47
ASK     1.01 332 iP    42 21.51  -0.6
                iS    42 33.80
HYA     1.57   1 eP    42 31.10   0.1
                iS    42 49.83
SUE     1.62 335 eP    42 32.29   0.6
                iS    42 50.14
NRA0    2.93  65 iPd   42 50.00  -0.5
                iPg   42 54.30
                eS    43 23.90
                iSg   43 32.60
MOL     3.06  12 eP    42 51.80  -0.5
                eS    43 23.49
      S.D. = 0.6  on   9 of   9 obs.
-----------------------------------------
   NOV  27, 1989  16h 59m 58.06± 0.17s
   22.276 S ± 5.1km  138.836 W ± 6.3km
   DEPTH =   0.0km  (geophysicist)
   5.6mb ( 19 obs.)  4.0Msz (  1 obs.)
 TUAMOTU ARCHIPELAGO REGION       (631)

DZM    50.43 259 iPc   09 01.00   1.2
PLM    59.16  21 eP    10 04.00   0.7
SYP    59.26  18 eP    10 05.00   1.0
PEC    59.55  21 P     10 06.00   0.2
MWC    59.56  20 eP    10 06.00  -0.1
RVR    59.57  21 eP    10 06.00   0.1
GLA    59.60  23 P     10 06.60   0.4
LNV    59.66 117 eP    10 06.00  -0.7
SBB    60.06  20 eP    10 09.00  -0.4
TPC    60.12  22 eP    10 09.00  -0.7
SAN    60.35 117 ePd   10 11.00  -0.5
PRS    60.58  16 ePc   10 13.30   0.5
PRI    60.59  17 eP    10 14.30   1.3
FCH    60.68 117 ePd   10 14.20   0.1
ISA    60.77  19 eP    10 15.00   0.9
GSC    60.95  21 eP    10 15.00  -0.5
LLA    60.96  16 ePc   10 16.00   0.6
SAO    60.97  16 ePc   10 15.80   0.3
GCC    61.09  15 ePc   10 16.50   0.3
CLC    61.18  20 eP    10 17.00   0.1
PCC    61.44  15 ePc   10 18.90   0.3
MHC    61.47  16 ePc   10 19.10   0.1
ARN    61.51  16 P     10 18.60  -0.5
BRS    61.59 250 e(P)  10 19.00  -1.0
                e      10 33.00
FRI    61.65  17 ePc   10 20.20   0.2
BRK    61.83  15 ePc   10 21.60   0.4
BKS    61.84  15 ePc   10 21.50   0.2
       1.0s    70.00nm          5.8mb
CMB    62.45  16 ePc   10 25.70   0.3
CAN    63.33 241 eP    10 30.00  -1.5
ARE    63.35  98 iPd   10 32.60   0.4
TNP    63.38  19 P     10 31.70  -0.1
       0.8s     6.27nm          4.9mb
ORV    63.61  15 ePc   10 33.00   0.0
BWA    63.95 241 eP    10 33.50  -2.1
KVN    64.02  18 P     10 36.20   0.2
FHC    64.26  12 eP    10 37.90   0.6
MIN    64.33  15 eP    10 37.40  -0.6
WDC    64.35  14 iPc   10 37.60  -0.2
ALO    64.67  29 iPc   10 40.10  -0.2
       1.5s    59.03nm          5.6mb
                pP     11 09.00 117kmX
LBFM   65.22  14 P     10 43.10  -0.7
RMQ    65.29 250 iPd   10 45.30   1.0
MSU    65.44  23 P     10 43.10  -2.1
LPB    66.44  99 P     10 52.80   0.4
       1.0s    80.00nm          5.9mb
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CNCB   66.47  99 iPc   10 54.00   1.3
ZOBO   66.50  99 iPc   10 53.20   0.3
       1.0s    90.00nm          6.0mb
     Z  20s     0.09um          4.0Msz
                LR     32 16.00
CMS    66.66 244 iPc   10 53.60   0.5
YJA    67.19 106 ePc   10 57.60   0.5
DAU    67.45  23 P     10 59.00   0.8
SPA    67.86 180 ePc   11 00.30   0.0
       1.0s    44.50nm          5.6mb
CCH    67.97 100 eP    10 53.00  -8.9X
GOL    69.12  27 P     11 08.10  -0.4
       1.0s    36.25nm          5.5mb
CTA    69.19 256 iPc   11 09.60   0.5
       1.0s   130.00nm          6.1mb
                i      11 24.10
GLD    69.23  27 P     11 09.60   0.5
       1.0s    39.00nm          5.6mb
OCO    69.57  35 iPc   11 10.40  -0.6
BMW    69.87  11 P     11 12.20  -0.5
BW06   70.13  23 P     11 13.60  -1.0
       1.0s    14.50nm          5.1mb
LON    70.40  12 P     11 15.30  -0.7
ADE    71.64 239 ePc   11 23.70  -0.2
PMG    71.76 267 eP    11 25.00   0.2
LRM    71.89  19 iPc   11 25.50   0.3
OLY    72.90  39 P     11 30.60  -0.5
PNT    73.30  13 eP    11 33.00  -0.1
QIS    74.99 254 iPc   11 43.60   0.0
SES    76.42  18 ePc   11 51.00  -0.1
RSCP   76.51  42 P     11 50.30  -1.6
       1.3s   109.80nm          5.8mb
ASPA   78.99 249 iPc   12 05.70  -0.2
       1.4s    46.00nm          5.3mb
WB5    79.86 253 iPc   12 11.00   0.4
KDC    80.53 353 eP    12 13.20   0.0
ADK    80.93 337 eP    12 15.90   0.4
       0.9s    37.50nm          5.4mb
FFC    82.94  21 eP    12 25.00  -0.9
       0.6s     7.00nm          5.1mb
RSON   82.96  27 P     12 24.50  -1.6
       0.7s    30.45nm          5.6mb
VAO    83.19 112 e(P)  12 29.00   0.9
PMR    83.98 355 ePc   12 31.00   0.0
       1.5s   243.10nm          6.2mb
SVW    84.19 352 ePc   12 31.50  -0.7
SVW    84.19 352 ePc   12 33.00   0.8
BAO    84.96 105 eP    12 37.50   0.3
TTA    86.00 352 ePc   12 41.30   0.0
FBA    87.17 356 ePc   12 46.30  -0.5
RSNY   88.64  40 P     12 53.20  -1.2
       1.1s    38.51nm          5.6mb
IMA    88.79 354 eP    12 54.80   0.0
       0.7s     5.70nm          4.9mb
MAW    88.95 188 eP    12 55.00  -0.6
INK    90.40   2 ePc   13 01.30  -0.7
BRW    94.16 354 eP    13 20.10   0.8
MBC    99.03   5 eP    13 42.00   0.7
       1.4s    16.00nm          5.6mb
PSI   120.74 259 iPKPc 18 54.50  -0.1
                e      19 20.00
LZH   124.43 299 PKP   19 01.00  -0.3
       1.4s    40.00nm
BDT   125.61 276 ePKP  19 04.20   0.4
CHG   126.06 278 iPKPd 19 05.90   1.1
       1.1s    37.97nm
BLF   126.91 164 iPKPd 19 06.00  -0.3
SEK   128.03 165 ePKP  19 09.50   1.0
       1.0s    17.00nm
KSR   130.19 163 iPKPd 19 12.50  -0.2
       0.9s    15.38nm
SLR   130.67 165 iPKPd 19 13.50   0.0
KEV   131.75   7 ePKP  19 14.00   0.0
LIC   132.69 103 PKP   19 16.96  -0.5
TIC   132.87 102 PKP   19 17.42  -0.4
KIC   133.01 103 PKP   19 17.64  -0.5
       0.9s    17.00nm
SOD   133.99   8 ePKP  19 16.00  -2.3
NB2   136.04  20 PKP   19 23.70   1.2
       1.4s    14.10nm
SUF   138.31  10 ePKP  19 16.20 -10.5X
SNF   139.74  36 PKP   19 30.20   0.6
NUR   140.08  13 ePKP  19 25.00  -4.9X
DOU   140.12  37 PKP   19 30.90   0.6
WTS   140.27  33 ePKP  19 31.00   0.5
       1.0s    17.00nm
ENN   140.49  35 ePKP  19 33.00   2.1
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        0.8s     10.00nm
LSZ   140.57 160 iPKP   19 25.00  -7.3X
                 i      19 35.00
MEM   140.62  35 PKPc   19 33.80   2.6X
KMZ   141.44 156 iPKP   19 27.00  -6.9X
VITF  141.86  39 PKP    19 26.44  -7.0X
GWF   142.39  37 PKP    19 29.72  -4.7X
PTZ   142.45 164 iPKP   19 32.00  -3.6X
                 i      19 35.00
                 i      19 39.00
CDF   142.50  38 PKP    19 29.35  -5.4X
ECH   142.54  38 PKP    19 29.79  -4.9X
MOF   142.71  38 PKP    19 30.05  -5.1X
FEL   143.20  38 PKP    19 31.23  -4.8X
KOD   143.25 257 ePKP   19 36.00  -1.3
MOX   143.48  32 iPKP   19 33.00  -3.2X
        1.4s     39.00nm
CLL   143.70  30 iPKP   19 33.20  -3.3X
BNI   143.81  43 PKP    19 35.00  -2.1
GRF   143.89  33 iPKPc  19 34.60  -2.4
                 i      19 38.50
LSD   143.92  42 PKP    19 34.42  -3.1X
RRL   143.93  43 PKP    19 35.35  -2.1
RSP   144.12  42 PKP    19 35.55  -2.1
PZZ   144.33  43 PKP    19 36.07  -2.0
ORX   144.34  41 PKP    19 35.14  -2.9X
ORO   144.34  41 PKP    19 35.50  -2.5
DOI   144.42  43 PKP    19 35.50  -2.6X
BRG   144.44  30 iPKP   19 36.20  -1.6
GBA   144.50 262 PKP    19 37.80  -1.1
HYB   144.56 269 iPKP   19 38.40  -0.7
        1.0s     70.00nm
                 e      20 06.50
STV   144.59  44 PKP    19 35.86  -2.6X
ENR   144.66  44 ePKP   19 35.45  -3.1X
MZZ   144.67 159 iPKPc  19 39.00  -0.5
                 i      19 50.00
VAI   144.70  40 PKP    19 37.10  -1.3
AUTN  144.77  44 PKP    19 37.23  -1.7
FUR   144.85  35 iPKPc  19 37.50  -1.2
ROB   144.91  43 PKP    19 37.50  -1.4
IMI   145.10  44 PKP    19 37.71  -1.6
CKI   145.11  43 PKP    19 38.00  -1.2
FIN   145.17  43 PKP    19 38.22  -1.1
PCP   145.22  43 PKP    19 38.32  -1.1
PRU   145.32  31 iPKPc  19 39.00  -0.4
        1.2s    132.00nm
KHC   145.43  32 iPKPc  19 39.40  -0.2
        1.2s     90.00nm
                 e      20 20.40
OGA   145.47  37 iPKPc  19 40.30   0.3
KSP   145.51  28 iPKPc  19 39.40  -0.3
        1.1s     83.00nm
BOB   145.67  42 PKP    19 40.30   0.1
SAL   145.88  40 PKP    19 40.90   0.5
CTI   146.29  38 PKP    19 42.10   0.8
KMR   146.41  33 iPKP+  19 42.60   1.3
FVI   146.61  37 PKP    19 42.10   0.6
KBA   146.62  35 iPKPc  19 41.20  -0.6
        1.2s     69.70nm
                 ic     19 42.30
MME   146.73  42 PKP    19 43.90   1.7
BDI   146.74  42 PKP    19 42.20   0.2
VVI   146.77  38 PKP    19 43.10   1.2
PII   146.86  43 PKP    19 38.50  -3.6X
NDI   146.92 289 iPKPc  19 44.50   1.8
FIR   147.29  42 iPKPc  19 45.00   2.3
VKA   147.36  31 iPKPc  19 45.20   2.4X
        1.4s    179.00nm
PGD   147.53  41 PKP    19 45.50   2.1
SFI   147.58  41 PKP    19 46.40   3.2X
KRA   147.64  26 ePKP   19 43.90   0.8
                 i      19 46.30
TRI   147.68  37 iPKPc  19 46.00   2.7X
ZST   147.78  31 ePKP   19 43.80   0.4
                 i      19 46.60
CRE   147.80  42 PKP    19 45.90   2.2
SOP   147.87  32 ePKP   19 44.80   1.2
RSM   147.94  41 PKP    19 47.70   3.9X
RIY   148.25  37 ePKP   19 45.00   0.8
SPC   148.44  27 ePKP   19 45.40   0.7
ARV   148.48  41 PKP    19 48.20   3.5X
ASS   148.53  42 PKP    19 47.40   2.5X
SRO   148.62  30 ePKP   19 46.70   1.9
                 i      19 49.20
PTJ   148.76  35 ePKP   19 45.80   0.6
ZAG   148.83  35 ePKP   19 46.50   1.3
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                 i      19 49.50
AOI   148.85  41 ePKP   19 48.90   3.6X
MNS   148.91  43 PKP    19 48.90   3.4X
POO   149.17 269 iPKPc  19 50.70   4.1X
BUD   149.19  30 iPKP   19 50.00   4.3X
RMP   149.21  44 PKP    19 50.00   4.1X
ALP   149.26  42 ePKP   19 49.87   3.7X
SDI   149.98  43 PKP    19 51.90   4.8X
DUI   150.41  43 PKP    19 53.40   5.6X
HVAR  150.75  39 iPKP   19 53.40   5.3X
SGO   151.54  44 PKP    19 54.50   5.1X
BEO   151.81  32 ePKP   19 50.50   0.8
MGR   151.93  45 PKP    19 56.50   6.5X
TDS   152.69  45 PKP    19 56.00   4.9X
VRI   153.68  23 ePKPd  19 52.00  -0.3
MLR   153.71  25 ePKPc  19 53.00   0.4
CFR   154.78  22 ePKPc  19 55.50   1.8
QUE   155.60 294 ePKP   19 53.00  -2.7X
MAIO  158.82 315 iPKPd  20 00.50   1.2
                 e      20 36.00
BBTK  161.08  20 ePKP   20 03.00   1.4
KHL   161.14  29 ePKP   20 02.90   1.2
ELL   162.59  32 ePKP   20 05.00   1.8
        S.D. = 1.0  on 152 of 192 obs.
-----------------------------------
&  NOV  27, 1989  17h 01m 34.61s
   60.087 N            152.923 W
   DEPTH =  93.3km
 SOUTHERN ALASKA                    (  2)
      <AGS-P>. Felt (II) at Anchorage.

RDT     0.55  28 iP     01 50.40   0.0
SPU     1.18  21 iP     01 56.00  -1.0
                 eS     02 13.60
SLKM    1.41  71 iP     01 58.80  -1.0
                 eS     02 17.60
KLU     3.71  65 eP     02 28.00  -2.9
WAX     5.03  81 eP     02 46.56  -2.5
        5 obs. associated
-----------------------------------
&  NOV  27, 1989  17h 01m 51.53s
   62.908 N            150.732 W
   DEPTH =  99.5km
 CENTRAL ALASKA                     (  1)
      <AGS-P>.

PWA     1.32 162 iPc    02 16.90   1.0
PMR     1.52 150 iPc    02 18.70   0.4
SPU     1.84 200 eP     02 22.40  -0.2
                 eS     02 45.20
TOA     2.26 109 eP     02 28.50   0.3
FBA     2.38  32 iPd    02 29.20  -0.5
TTA     2.42 273 iPd    02 29.40  -0.8
SLKM    2.42 174 eP     02 30.00  -0.2
RDT     2.47 200 eP     02 32.00   1.0
SVW     2.93 234 ePd    02 36.30  -0.8
HIN     3.23 139 eP     02 39.93  -1.2
                 eS     03 17.94
CVA     3.35 133 eP     02 41.93  -0.9
                 eS     03 22.07
IMA     3.42 339 ePc    02 42.60  -1.3
SGAM    3.57 130 eP     02 44.32  -1.5
                 eS     03 25.98
RAGM    3.84 128 eP     02 49.06  -0.5
                 eS     03 31.52
MID     4.09 147 eP     02 52.00  -0.9
WAX     4.49 120 eP     02 57.17  -1.4
SNH     4.66 122 eP     02 59.58  -1.3
DWY     5.19  72 Pd     03 06.50  -1.7
HYT     6.60 103 P      03 25.00  -2.6
INK     8.92  45 eP     03 58.50  -0.7
        20 obs. associated
-----------------------------------
   NOV  27, 1989  18h 19m 06.63± 0.64s
   34.380 N ± 6.6km    32.798 E ± 9.2km
   DEPTH =  33.0km  (normal)
 CYPRUS                             (372)
      ML 3.6 (CSS).

PPCY    0.63 324 eP     19 19.00   0.0
CSS     0.73  37 eP     19 21.30   0.8
                 eS     19 32.60
FAM     1.17  58 eP     19 26.00  -0.7
ELL     3.34 316 ePn    19 58.00   0.2
BCK     3.56 330 ePn    20 02.90   2.0
KOT     4.51 191 ePn    20 15.50   1.1
                 eSn    21 07.00
```

```
KHL     4.74 327 iPn    20 16.40  -1.3
CIN     4.99 311 eP     20 20.00  -1.2
HQL     5.44 159 ePd    20 27.70   0.2
BADA    6.13 162 ePd    20 36.30  -1.0
      S.D. = 1.2  on  10 of  10 obs.
-----------------------------------
   NOV  27, 1989  18h 41m 35.76± 0.83s
   38.577 N ± 9.6km    7.968 W ± 6.1km
   DEPTH =  10.0km  (geophysicist)
 PORTUGAL                           (376)
      mbLg 3.3 (MDD). Felt (IV) at
      Evora.

MOE     0.31 262 iP     41 41.20  -0.9
                 iS     41 44.80
LIS     0.94 279 eP     41 54.00   0.4
                 iS     42 06.20
MTH     1.01 289 eP     41 55.00   0.1
                 iS     42 09.00
EVAL    1.38 135 ePn    42 01.60   0.5
                 eSn    42 20.30
COI     1.66 348 P      42 09.60   4.5X
                 S      42 30.70
MTE     1.85  10 P      42 06.00  -1.9
                 S      42 29.60
EHOR    2.27 109 ePg    42 18.50   4.6X
                 eSg    42 47.00
TOL     3.31  66 ePn    42 29.00   0.3
                 eSg    43 22.50
GUD     3.60  54 ePg    42 45.00  12.2X
                 eSg    43 27.00
EZAM    3.61 351 ePn    42 35.00   2.1
                 eSn    43 17.20
ERUA    3.86   9 Pn     42 36.60   0.1
                 eSn    43 20.80
ETOR    5.08  62 ePn    42 53.10  -0.7
      S.D. = 1.3  on   9 of  12 obs.
-----------------------------------
   NOV  27, 1989  18h 51m 02.22± 0.78s
   43.177 N ± 5.8km   13.302 E ± 6.8km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)
      MD 2.3 (SSO).

CIO     0.12 279 iPgc   51 06.32   1.1
                 iSg    51 09.79
ARV     0.42 321 P      51 10.40  -0.3
                 eSg    51 16.70
AOI     0.43  30 iPg    51 10.93  -0.1
                 iSg    51 18.27
ALP     0.44 153 ePg    51 11.52   0.2
                 iSg    51 19.72
ASS     0.48 257 Pd     51 11.60  -0.4
                 eSg    51 18.70
MNS     0.91 210 P      51 19.30  -0.4
                 eSg    51 33.20
      S.D. = 0.7  on   6 of   6 obs.
-----------------------------------
?  NOV  27, 1989  18h 56m 30.15± 1.65s
   40.722 N ±11.7km   23.359 E ±14.7km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      ML 2.1 (THE).

THE     0.31 254 ePgd   56 36.70   0.1
                 eSg    56 40.90
SRS     0.43  24 ePg    56 39.00   0.0
KNT     0.56 322 iPgc   56 41.50  -0.1
                 eSg    56 50.50
LIT     0.91 227 ePg    56 47.50   0.0
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------
?  NOV  27, 1989  18h 58m 18.38± 4.45s
   31.238 S ±19.6km   68.390 W ±31.6km
   DEPTH =  87.9 ± 42.2 km
 SAN JUAN PROVINCE, ARGENTINA       (137)

RTLL    0.11 217 iPc    58 31.30  -0.1
CFA     0.39 161 iPd    58 32.50   0.1
                 S      58 43.00
ZON     0.39 219 iPd    58 32.00  -0.4
                 eS     58 43.00
RTCB    0.43 235 iPd    58 33.10   0.4
                 S      58 47.00
RTCV    0.63 191 iPd    58 34.30  -0.1
                 S      58 47.00
RTRS    1.41 319 iPc    58 43.20   0.0
```

27d 18h

S.D. = 0.4 on 6 of 6 obs.

NOV 27, 1989 19h 04m 07.05± 0.79s
40.693 N ± 6.9km 23.291 E ± 7.6km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 2.5 (THE). MD 2.6 (ATH).

THE	0.26	256	iPgd	04 13.10	0.6
			eS	04 17.00	
PLG	0.34	160	iPgc	04 12.50	-1.6
SRS	0.48	28	ePgc	04 15.20	-1.6
KNT	0.56	328	iPgc	04 17.80	-0.5
			eSg	04 23.30	
LIT	0.85	226	ePg	04 23.60	0.1
			eSg	04 37.10	
KZN	1.22	252	ePb	04 30.10	0.3
NEO	1.39	182	ePg	04 32.00	-0.4
RDO	1.76	74	ePb	04 40.50	2.7
AGG	1.83	204	ePb	04 38.80	0.1

S.D. = 1.5 on 9 of 9 obs.

NOV 27, 1989 19h 53m 00.47± 0.68s
28.052 S ± 6.6km 26.776 E ± 9.0km
DEPTH = 5.0km (geophysicist)
REPUBLIC OF SOUTH AFRICA (584)

SEK	0.80	110	iPc	53 16.50	0.0
			S	53 25.40	
BLF	1.17	206	iPd	53 24.50	1.5
			S	53 41.50	
KIM	1.89	248	iPd	53 33.00	-0.9
			S	53 57.50	
FRS	2.12	217	iPd	53 58.50	21.5X
			S	54 25.00	
KSR	2.18	3	iPc	53 38.20	0.1
			S	54 05.00	
SLR	2.67	31	iPc	53 45.00	0.0
			S	54 16.50	
HVD	2.78	203	eP	53 32.00	-14.6X
GRM	5.25	182	eP	54 20.50	-1.0
			S	55 11.00	
CER	8.34	229	eP	55 10.00	5.1X
			S	56 46.50	
LSZ	12.78	6	iP	56 02.00	-3.8X
			i	56 04.00	
			i	58 18.00	
			i	59 49.00	
PTZ	14.38	18	eP	56 20.00	-6.9X
			i	58 56.00	
			i	00 24.00	
KMZ	14.55	356	eP	56 24.00	-5.2X
			e	59 28.00	
			i	59 42.00	
			i	00 15.00	
MZZ	16.94	7	iP	57 00.30	0.3
			i	01 53.50	

S.D. = 1.0 on 7 of 13 obs.

? NOV 27, 1989 20h 05m 20.24±10.16s
8.519 S ±94.7km 127.570 E ±19.8km
DEPTH = 150.5 ± 42.3 km
3.8mb (1 obs.)
TIMOR (289)

MTN	5.54	141	iPc	06 41.90	0.1
			eS	07 44.00	
KNA	7.28	171	eP	07 05.20	0.0
			eS	08 30.00	
WB5	13.07	150	eP	08 21.00	-0.5
			eS	10 42.20	
MBL	14.62	210	eP	08 41.00	0.0
			eS	11 20.00	
ASPA	16.24	159	eP	09 01.60	0.4
	0.4s	2.00nm			3.8mb
			eS	11 53.40	

S.D. = 0.6 on 5 of 5 obs.

• NOV 27, 1989 21h 22m 43.53± 0.85s
47.565 N ±10.0km 13.688 E ±15.9km
DEPTH = 10.0km (geophysicist)
AUSTRIA (546)
ML 3.1 (VKA).

KBA	0.54	206	iPgc	22 53.90	-0.6
			iSg	23 04.50	
FVI	1.15	213	P	23 06.50	1.4
			eSn	23 27.10	
KHC	1.57	357	Pg	23 10.50	-1.0
			Sg	23 31.50	
VKA	1.90	67	ePg	23 16.00	-0.3
			iSg	23 41.30	
OGA	1.94	250	eP	23 22.00	4.9X
CTI	2.07	223	P	23 18.00	-0.8
			eSn	23 51.00	
PRU	2.49	13	eP	23 26.00	1.3
			Sg	23 55.70	

S.D. = 1.4 on 6 of 7 obs.

NOV 27, 1989 22h 08m 51.36± 0.77s
19.371 N ± 8.9km 104.185 W ± 8.8km
DEPTH = 33.0km (normol)
4.4mb (1 obs.)
NEAR COAST OF JALISCO, MEXICO (55)

MNZ	0.34	204	eP	09 00.00	0.3
CRX	4.25	89	(P)	10 16.00	20.2X
MZX	4.35	332	iP	09 55.03	-1.7
			iS	10 49.88	
III	4.57	102	iP	10 00.31	0.0
			(S)	10 54.00	
UNM	4.72	90	(P)	10 18.00	15.6X
ACX	4.81	120	(P)	10 03.00	-0.4
			(S)	10 58.00	
PPM	5.26	92	iP	10 10.81	0.5
IIT	5.56	93	(P)	10 20.00	5.7X
IISM	6.45	92	eP	10 25.84	-0.6
ALQ	15.64	353	eP	12 33.50	2.3
	1.0s	25.00nm			4.4mb
UYO	17.09	28	iPd	12 49.00	-0.3
GOL	20.29	357	P	13 30.00	2.7X
MSU	20.30	342	P	13 26.80	-0.6
KVN	23.01	331	P	13 55.00	0.4

S.D. = 1.2 on 10 of 14 obs.

NOV 27, 1989 22h 42m 49.97± 0.79s
43.243 N ± 7.7km 11.028 E ± 4.4km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.8 (FIR).

FIR	0.56	17	ePg	42 59.00	-2.3
			eSg	43 10.00	
PII	0.60	323	P	43 02.90	0.8
			eSg	43 12.90	
CRE	0.78	60	Pd	43 05.80	0.6
			eSg	43 18.30	
PGD	0.81	38	P	43 06.50	0.7
			eSg	43 18.80	
BDI	0.88	339	P	43 07.60	0.7
			eSg	43 21.10	
SFI	0.90	41	P	43 07.50	0.2
			eSg	43 21.70	
MME	0.98	346	Pc	43 10.00	1.3
			eSg	43 24.10	
ASS	1.21	98	P	43 12.10	-0.4
ARV	1.42	79	P	43 16.30	0.5
BOB	1.90	324	P	43 22.50	-0.3
SBF	2.68	285	Pn	43 33.60	-0.5
CTI	2.84	9	P	43 35.50	-0.8
LMR	3.30	273	Pn	43 42.10	-0.6
LRG	3.41	275	Pn	43 44.50	0.3
FVI	3.57	20	P	43 46.10	-0.4

S.D. = 1.0 on 15 of 15 obs.

NOV 27, 1989 22h 45m 36.58± 0.69s
43.276 N ± 7.4km 11.050 E ± 3.9km
DEPTH = 23.9 ± 6.0 km
CENTRAL ITALY (381)
MD 3.0 (FIR).

FIR	0.52	17	ePg	45 47.00	-0.1
			eSg	45 56.00	
PII	0.59	319	P	45 47.90	-0.2
			eSg	45 56.70	
CRE	0.75	62	Pd	45 50.90	0.0
			eSg	46 01.00	
PGD	0.77	39	P	45 51.90	0.5
			eSg	46 02.70	
BDI	0.85	337	Pd	45 52.90	0.2
			eSg	46 05.90	
SFI	0.87	42	P	45 52.60	-0.3
			eSg	46 05.60	
MME	0.95	345	P	45 55.10	0.6
			eSg	46 08.70	
ASS	1.20	99	P	45 58.30	0.4
ARV	1.40	80	P	46 00.80	0.1
BOB	1.89	323	P	46 08.80	0.9
SBF	2.69	284	Pn	46 19.80	0.4
CTI	2.80	9	P	46 20.50	-0.5
LMR	3.31	273	Pn	46 26.80	-1.3
LRG	3.42	275	Pn	46 30.00	0.3
FVI	3.54	20	P	46 30.10	-1.2

S.D. = 0.7 on 15 of 15 obs.

NOV 27, 1989 23h 30m 51.66± 0.66s
32.490 N ± 9.5km 25.885 E ± 6.1km
DEPTH = 10.0km (geophysicist)
EASTERN MEDITERRANEAN SEA (371)

HLW	5.36	118	ePn	32 16.00	2.4
			eSn	33 11.00	
ELL	5.39	37	iPn	32 15.60	1.4
KOT	5.70	115	ePn	32 19.00	0.7
			eSn	33 18.00	
BCK	6.28	37	ePn	32 27.60	0.9
KHL	6.53	26	ePn	32 30.50	0.2
CSS	6.68	66	eP	32 33.00	0.8
AGG	7.13	337	eP	32 41.70	3.2X
PRNI	8.08	103	eP	32 51.00	-0.8
DSI	8.11	94	eP	32 51.00	-1.3
			eS	34 14.00	
MBH	8.17	107	eP	32 53.00	-0.1
SALJ	8.32	91	P	32 54.20	-1.0
KFNJ	8.32	92	P	32 55.00	-0.2
SHMJ	8.34	86	P	32 55.00	-0.5
MASJ	8.38	93	P	32 54.60	-1.5
HQL	8.50	110	eP+	32 57.70	0.0
BADA	8.80	114	eP+	33 01.90	0.1
AYN	9.43	110	eP+	33 10.50	0.0
ATN	10.22	307	P	33 22.90	1.5
			eSn	35 07.50	
ROI	10.33	316	P	33 26.60	3.6X
CZI	10.37	313	P	33 24.60	1.1
TDS	10.52	315	P	33 24.10	-1.5
			eSn	35 10.00	
CSI	10.63	316	P	33 26.20	-0.8
MNO	10.64	304	P	33 28.50	1.1
MMN	10.88	316	P	33 35.60	5.2X
BRT	10.89	323	P	33 28.50	-2.0
SGO	11.71	316	P	33 41.00	-0.6
			eSn	35 41.00	

S.D. = 1.2 on 23 of 26 obs.

% NOV 27, 1989 23h 35m 48.37± 1.16s
31.050 S ±15.6km 68.968 W ±23.5km
DEPTH = 33.0km (normol)
SAN JUAN PROVINCE, ARGENTINA (137)

RTCB	0.46	162	iPd	35 59.60	1.1
			S	36 12.00	
RTLL	0.51	123	iPc	36 00.00	0.8
CFA	0.83	132	iPc	36 03.00	-0.7
			S	36 18.50	
RTCV	0.89	156	iPd	36 03.30	-1.2
			S	36 18.80	
RTRS	0.97	334	iPd	36 05.70	0.0

S.D. = 1.4 on 5 of 5 obs.

? NOV 27, 1989 23h 48m 56.59± 7.68s
4.548 S ±67.4km 131.750 E ±41.2km
DEPTH = 33.0km (normol)
4.0mb (2 obs.)
BANDA SEA (280)

MTN	8.27	184	iPc	50 57.80	0.6
			eS	52 17.00	
KNA	11.51	195	eP	51 41.50	-0.2
	0.3s	15.00nm			5.7mb X
			eS	53 33.00	
WB5	15.45	171	eP	52 32.70	-1.2
			eS	55 09.80	
ASPA	19.12	174	eP	53 21.00	1.2
	0.5s	14.00nm			4.5mb
			eS	56 35.70	
MBL	20.17	214	eP	53 31.00	-0.1
WARB	22.06	192	eP	53 56.00	5.6X
	0.4s	1.00nm			3.6mb

S.D. = 1.3 on 5 of 6 obs.

NOV 27, 1989 23h 54m 18.68± 0.30s

```
    16.314 S ±11.8km  173.257 W ± 8.8km
    DEPTH =  33.0km  (normal)
    5.0mb ( 10 abs.)  4.2Msz (   1 obs.)
  TONGA ISLANDS                          (173)

AFI      2.79  31 P      54 55.70  -6.3X
                  eS     55 00.00
SGE      8.54 260 eP      56 30.90   7.8X
DZM     20.00 250 iPc     58 51.90   0.3
CAN     38.59 233 eP      01 39.90  -0.6
BWA     38.76 235 eP      01 39.10  -2.8X
CMS     40.09 240 iPd     01 52.80  -0.2
        0.8s    27.00nm          5.1mb
STK     43.71 241 iPc     02 23.00   0.4
WB5     49.75 258 eP      03 09.10  -1.2
ASPA    49.97 253 iPd     03 10.90  -1.1
        0.9s    28.00nm          5.3mb
      Z  21s     0.29um          4.2Msz
                  LR     22 04.90
WARB    56.45 249 iPc     03 59.20  -0.8
        0.5s     8.00nm          5.0mb
MBL     63.15 254 eP      04 45.00  -1.0
PRS     71.70  42 ePd     05 39.70   0.2
GCC     71.73  41 ePd     05 38.70  -0.9
PCC     71.78  41 ePc     05 39.80  -0.1
SAO     71.92  42 ePd     05 40.40  -0.4
PRI     72.05  43 eP      05 41.80   0.1
BRK     72.09  40 ePd     05 41.70   0.0
BKS     72.10  40 e(P)c   05 42.10   0.3
        0.8s    28.00nm          5.3mb
MHC     72.15  41 eP      05 42.30   0.0
FRI     73.17  42 ePd     05 47.80  -0.3
CMB     73.36  41 ePd     05 49.20  -0.1
ORV     73.59  39 ePd     05 50.20  -0.3
WDC     73.61  38 ePd     05 50.70   0.1
MIN     74.02  39 ePd     05 52.50  -0.7
KVN     75.40  41 iP      06 00.50  -0.8
TNP     75.41  43 iP      06 01.00  -0.4
        1.0s    10.00nm          4.8mb
KDC     75.77  11 eP      06 02.30  -0.3
SVW     78.44   9 eP      06 16.80  -0.7
MDJ     79.83 322 eP      06 26.00   0.7
PMR     79.98  11 eP      06 24.90  -0.9
        0.7s     8.60nm          4.9mb
TTA     80.13   8 ePd     06 26.70   0.0
PNT     80.71  32 eP      06 30.00   0.0
TOA     81.04  13 ePd     06 31.70   0.2
ALQ     81.28  50 eP      06 34.00   0.5
        1.0s     9.75nm          4.8mb
CN2     81.87 320 Pc      06 36.60   0.5
BW06    82.86  42 iP      06 42.10   0.5
        1.0s    21.25nm          5.2mb
FBA     83.26  11 ePd     06 42.50  -0.4
IMA     83.44   8 eP      06 44.10   0.2
        0.8s     3.40nm          4.5mb
GOL     84.19  46 iP      06 49.00   0.5
        1.0s    14.00nm          5.1mb
                  i      07 07.00
GLD     84.31  46 P       06 49.00   0.0
SES     85.87  35 ePd     06 56.00  -0.3
EDM     86.19  31 eP      06 57.50  -0.3
BJI     86.19 313 eP      06 59.00   0.9
TIY     87.94 310 iPc     07 08.10   1.4
INK     89.12  14 eP      07 11.50  -0.1
MAIO   129.35 304 ePKP    13 27.00   1.0
LSZ    142.14 215 iPKP    13 56.80   6.4X
                  i      14 05.00
                  i      14 10.00
                  i      14 14.00
WTS    144.40 360 e(PKP)13 53.50   0.5
        0.9s     7.00nm
KRA    144.69 345 ePKP    13 52.70  -0.9
KSP    144.71 350 iPKP    13 52.30  -1.3
CLL    144.73 353 iPKP    13 52.30  -1.3
        0.6s    13.00nm
                  i      13 56.10
KMZ    144.91 214 iPKPc   13 56.50   1.3
                  i      14 09.00
MZZ    145.02 220 iPKPc   13 56.00   0.6
BRG    145.04 352 iPKP    13 53.60  -0.6
CLI    145.35 335 ePKPd   13 55.00   0.1
SPC    145.41 344 ePKP    13 55.30   0.2
MOX    145.53 355 ePKP    13 55.00   0.0
        1.0s    30.00nm
NAI    145.56 242 iPKPc   13 59.50   3.1X
ENN    145.63   1 ePKP    13 55.50   0.4
        1.0s    29.00nm
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PRU    145.82 351 iPKPd 13 56.50   1.0
                  e     14 08.30
VRI    146.13 335 ePKPd 13 57.50   1.3
GRF    146.51 355 iPKPd 13 58.90   2.2X
                  i     14 15.50
TLB    146.57 332 ePKPc 13 52.50  -4.4X
PSZ    146.67 344 ePKP  13 58.90   1.8X
MLR    146.75 335 ePKPc 14 00.00   2.6X
ISR    146.79 334 ePKPc 14 00.00   2.7X
KHC    146.80 352 PKP   13 57.50   0.3
                  e     14 11.50
ZST    147.09 347 ePKP  14 00.70   3.1X
FLN    147.10   9 ePKP  13 59.60   2.0X
SRO    147.17 346 ePKP  14 01.20   3.5X
LDF    147.32   8 ePKP  14 00.10   2.1X
BBTK   147.41 321 ePKP  14 02.00   3.4X
GRR    147.41   9 ePKP  14 00.80   2.7X
GWF    147.42 359 PKP   14 01.14   3.0X
LPF    147.73  10 ePKP  14 01.60   3.0X
WLS    147.99 359 PKP   14 02.13   3.0X
CDF    147.99 359 PKP   14 02.65   3.5X
FUR    148.02 354 ePKP  14 02.70   3.6X
        0.9s    70.00nm
VITF   148.18   1 PKP   14 03.02   3.7X
ECH    148.18 359 PKP   14 02.65   3.2X
BZS    148.24 340 ePKP  14 00.50   1.0
HAU    148.40   1 ePKP  14 03.70   3.9X
FEL    148.51 358 PKP   14 03.93   3.8X
GPA    148.55 324 ePKP  14 04.00   3.7X
BSF    148.57 360 PKP   14 04.05   3.9X
KBA    148.84 351 iPKPd 14 02.10   1.4
        0 7s    13.70nm
                  id    14 04.30
                  i     14 10.40
HRI    148.88 308 iPKPd 14 06.00   4.9X
LOR    149.04   4 ePKP  14 05.40   4.6X
SSF    149.22   4 ePKP  14 06.00   4.9X
BEO    149.32 341 ePKP  14 06.00   4.8X
OGA    149.33 354 iPKPd 14 06.90   5.4X
LBF    149.33   4 ePKP  14 06.10   4.8X
FVI    149.39 352 PKP   14 03.50   2.2X
AVF    149.48   5 ePKP  14 06.20   4.8X
SMF    149.66   4 ePKP  14 06.80   5.1X
BGF    149.67   5 ePKP  14 06.80   5.1X
LSF    149.84   7 ePKP  14 06.80   4.8X
DSI    149.86 305 ePKP  14 09.00   6.5X
TCF    149.88   6 ePKP  14 07.10   5.0X
MAF    149.98   6 ePKP  14 07.70   5.5X
CTI    150.07 353 PKP   14 07.50   5.0X
TRI    150.11 350 PKP   14 07.50   5.1X
BCK    150.22 320 ePKP  14 08.40   5.4X
KHL    150.32 322 iPKP  14 09.10   6.0X
PLDF   150.32   4 PKP   14 08.85   6.0X
RIY    150.36 349 ePKP  14 08.10   5.3X
PYM    150.49   5 PKP   14 07.71   4.6X
VAI    150.49 357 PKP   14 08.10   5.2X
SAL    150.62 355 PKP   14 09.00   5.8X
ORX    150.75 358 PKP   14 08.92   5.4X
ORO    150.76 358 PKP   14 09.50   5.9X
LPG    150.91 360 ePKP  14 11.00   7.0X
MBH    150.94 302 ePKP  14 11.00   6.9X
LSD    150.94 359 PKP   14 10.97   6.9X
LFF    151.02   9 ePKP  14 10.10   6.3X
LBL    151.02   5 PKP   14 10.79   7.0X
ELL    151.09 319 ePKP  14 10.90   6.5X
CAF    151.21   7 ePKP  14 10.80   6.7X
RSP    151.25 359 PKP   14 11.18   6.9X
LPO    151.33   8 ePKP  14 10.80   6.5X
BNI    151.35   0 PKP   14 12.00   7.5X
RRL    151.48 360 PKP   14 11.69   6.9X
BOB    151.54 356 PKP   14 11.50   6.8X
KNT    151.57 334 ePKP  14 10.80   6.0X
PCP    151.82 357 PKP   14 12.82   7.7X
DOI    151.90 359 PKP   14 13.00   7.7X
PZZ    151.90 359 PKP   14 12.41   7.1X
CKI    151.95 358 PKP   14 10.50   5.3X
HVAR   151.97 345 iPKP  14 11.70   6.4X
ROB    152.09 358 PKP   14 12.10   6.6X
SFI    152.14 352 PKP   14 13.00   7.5X
BDI    152.15 354 PKP   14 09.00   3.4X
STV    152.15 359 PKP   14 11.69   6.1X
FIN    152.17 358 PKP   14 11.89   6.3X
ENR    152.17 359 PKP   14 12.10   6.4X
PGD    152.20 352 PKP   14 12.00   6.2X
AOI    152.23 349 ePKP  14 13.40   7.7X
ARV    152.40 350 PKP   14 13.00   7.1X
CRE    152.42 352 PKP   14 12.50   6.4X
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IMI    152.48 358 PKP   14 12.51   6.4X
PII    152.49 354 PKP   14 12.00   6.0X
SBF    152.53 359 ePKP  14 13.20   7.0X
CIO    152.66 350 ePKP  14 14.11   7.7X
ASS    152.86 350 PKP   14 13.50   6.9X
SDI    153.97 348 PKP   14 16.00   7.8X
BCAO   163.46 226 ePKPd 14 22.50   2.6X
        0.7s     5.00nm
                  ic    15 12.70
     S.D. = 0.7  on  59 of 146 obs.
-----------------------------------
?  NOV  28, 1989  00h 28m 02.38± 5.09s
    31.741 S ±15.8km   68.106 W ±32.0km
    DEPTH =   5.0km  (geophysicist)
  SAN JUAN PROVINCE, ARGENTINA     (137)

CFA      0.18 320 iPd    28 05.50  -0.5
                  S      28 13.00
RTCV     0.39 252 ePd    28 09.80  -0.4
RTLL     0.51 323 ePd    28 12.20  -0.5
RTCB     0.64 293 ePc    28 15.90   0.6
                  S      28 29.00
RTRS     1.95 323 ePd    28 37.00   0.6
ZOBO    15.40 360 eP     31 49.00   6.3X
                  LR     40 12.00
     S.D. = 0.8  on   5 of   6 obs.
-----------------------------------
    NOV  28, 1989  02h 35m 46.00± 0.32s
    18.465 S ±11.8km  174.608 W ± 6.6km
    DEPTH = 131.7km  (  6 depth phases)
    5.0mb ( 21 obs.)
  TONGA ISLANDS                      (173)

AFI      5.28  31 P      36 56.50  -7.5X
SGE      7.16 276 eP      37 34.20   4.6X
PVC     16.26 270 iPc     39 34.50   6.4X
DZM     18.13 255 iPc     39 52.10   1.2
PGZ     23.43 198 eP      40 46.20   2.1
AFR     23.63  92 iP      40 46.30   0.1
        0.8s    30.00nm          4.8mb
MNG     23.67 199 eP      40 45.60  -0.9
        0.3s    12.00nm          4.8mb
PAE     23.80  92 iP      40 48.00   0.1
        0.8s    85.00nm          5.3mb
PPT     23.82  92 iP      40 48.20   0.1
        0.8s    80.00nm          5.2mb
PPN     23.96  92 iP      40 49.50   0.1
        0.8s    30.00nm          4.8mb
TVO     24.10  92 iP      40 51.00   0.1
        0.8s   140.00nm          5.5mb
PMO     25.80  86 iP      41 05.90  -0.7
        0.8s    30.00nm          4.9mb
VAH     26.01  87 iP      41 07.20  -1.3
        0.8s    30.00nm          4.9mb
TPT     26.07  86 iP      41 08.30  -0.7
        0.8s    30.00nm          4.9mb
RUV     26.25  87 iP      41 09.80  -0.9
        0.8s    55.00nm          5.2mb
RMO     34.69 250 eP      42 24.00  -1.1
CTA     36.92 261 iP      42 43.70  -0.3
        0.5s    30.99nm          5.4mb
WB5     48.07 260 eP      44 12.00  -2.2
ASPA    48.12 254 iPd     44 13.40  -1.3
        0.9s   149.00nm          5.8mb
                  eS     51 00.40
KNA     54.01 264 iPc     44 57.30  -1.7
        0.5s    52.00nm          5.7mb
WARB    54.51 251 iPd     45 00.50  -2.1
        0.4s     7.00nm          4.9mb
MBL     61.35 256 iPc     45 48.50  -1.9
        0.4s    10.00nm          5.1mb
SPA     71.65 180 iPc     46 55.90   0.9
        0.9s    18.18nm          4.9mb
PCC     74.24  41 e(P)    47 11.30   1.1
PRI     74.49  43 e(P)    47 14.30   2.4
FRI     75.62  43 eP      47 17.20  -0.9
CMB     75.82  41 ePc     47 18.80  -0.5
ORV     76.06  40 eP      47 19.80  -0.8
WDC     76.09  38 ePc     47 20.30  -0.4
MIN     76.49  39 ePc     47 22.10  -1.1
KVN     77.86  42 eP      47 30.50  -0.3
                  epP    48 04.00 133km
TNP     77.86  43 iP      47 31.00   0.1
        1.0s     5.25nm          4.3mb
                  epP    48 04.00 131km
ALQ     83.64  50 iPc     48 02.00   0.6
        1.0s     2.50nm          4.0mb
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28d 02h

			pP	48 36.00	134km	
LRM	85.13	38	eP	48 09.40	0.8	
			e	48 41.80	126km	
BW06	85.31	42	eP	48 08.00	-1.6	
			epP	48 42.00	133km	
FBA	85.61	11	iP	48 09.00	-1.3	
	1.0s		22.50nm		5.0mb	
			epP	48 43.00	133km	
GOL	86.60	46	P	48 15.00	-1.0	
PSI	87.50	274	iPc	48 20.60	0.1	
			e	49 20.00	245kmX	
INK	91.50	14	eP	48 37.00	-1.1	
8DT	92.04	287	eP	48 43.60	2.0	
CHG	92.59	289	eP	48 45.30	1.1	
	0.9s		10.08nm		5.1mb	
CHTO	92.59	289	iP	48 45.20	1.1	
	0.9s		10.87nm		5.1mb	
KSP	146.55	347	iPKP	55 13.20	1.7	
CLL	146.68	351	iPKPc	55 12.80	1.1	
	1.3s		31.00nm			
			epP	55 49.00		
CLI	146.68	332	ePKPc	55 13.50	1.6	
KAS	146.70	319	ePKP	55 15.00	2.8	
BRG	146.95	350	iPKP	55 13.80	1.6	
VRI	147.45	332	ePKP	55 15.50	2.3	
PRU	147.71	349	PKP	55 16.50	3.1X	
			e	55 54.00		
MLR	148.09	332	ePKPc	55 17.50	3.1X	
GRF	148.50	353	e(PKP)	55 19.00	4.3X	
KHC	148.70	350	PKP	55 19.20	4.1X	
SRO	148.88	343	ePKP	55 20.50	5.2X	
BHL	148.94	306	PKP	55 14.50	-1.5	
FLN	149.40	8	ePKP	55 20.70	4.6X	
LDF	149.62	7	ePKP	55 21.10	4.7X	
GRR	149.72	8	ePKP	55 20.90	4.3X	
BZS	149.76	337	ePKP	55 21.00	4.3X	
DSI	149.97	302	ePKP	55 23.00	5.5X	
LPF	150.05	9	ePKP	55 22.40	5.3X	
CDF	150.09	357	ePKP	55 22.60	5.3X	
HAU	150.53	359	ePKP	55 23.70	5.8X	
PRNI	150.65	299	iPKPc	55 25.00	6.4X	
BSF	150.69	358	ePKP	55 24.00	5.8X	
MBH	150.91	298	ePKP	55 25.00	6.1X	
LOR	151.25	2	ePKP	55 25.20	6.2X	
SSF	151.44	3	ePKP	55 25.90	6.7X	
LBF	151.53	2	ePKP	55 25.90	6.5X	
AVF	151.70	3	ePKP	55 26.20	6.6X	
SMF	151.87	2	ePKP	55 26.70	6.8X	
BGF	151.91	4	ePKP	55 26.90	7.0X	
CTI	152.01	351	PKP	55 24.50	4.2X	
LSF	152.11	6	ePKP	55 26.90	6.6X	
TCF	152.13	5	ePKP	55 27.10	6.8X	
MAF	152.22	4	ePKP	55 27.70	7.3X	
VAI	152.53	355	PKP	55 27.40	6.6X	
BCAO	161.04	224	ePKPc	55 32.50	0.2	
	0.6s		2.00nm			
			ic	56 16.10		

S.D. = 1.3 on 47 of 77 obs.

NOV 28, 1989 02h 52m 30.98± 0.36s
46.298 N ± 3.0km 7.413 E ± 4.1km
DEPTH = 11.9 ± 3.2 km
SWITZERLAND (544)
ML 2.9 (LDG). MD 2.8 (STR).

DIX	0.22	180	iPc	52 36.00	0.0	
EMS	0.41	236	iPc	52 38.90	-0.5	
MMK	0.46	123	iPd	52 39.80	-0.6	
ORX	0.77	149	P	52 45.77	-0.2	
			S	52 56.38		
ORO	0.78	149	Pd	52 45.80	-0.3	
			eSg	52 56.80		
LSD	0.86	192	P	52 47.20	-0.3	
			S	52 58.68		
LPL	0.91	212	Pg	52 48.40	-0.1	
			Sg	53 00.90		
LPG	0.92	210	Pg	52 48.60	-0.1	
			Sg	53 01.40		
TMA	1.03	100	ePd	52 50.40	0.0	
RSP	1.15	186	P	52 53.15	0.7	
			S	53 07.60		
LLS	1.23	62	ePc	52 53.70	-0.2	
BNI	1.35	203	P	52 55.50	-0.2	
			eSn	53 14.10		
ZLA	1.36	29	ePd	52 56.30	0.5	
VDL	1.44	82	ePd	52 57.30	0.3	
RRL	1.45	198	P	52 58.48	1.3	
			S	53 16.53		
MOF	1.57	353	Pg	52 59.99	1.3	
			Sg	53 20.02		
BSF	1.59	345	Pg	53 00.43	1.3	
			Sg	53 21.01		
FEL	1.63	14	Pn	52 58.42	-1.3	
			Pg	53 01.41		
			Sg	53 21.51		
SAX	1.63	54	iP	53 02.40	2.5	
SLE	1.64	26	ePc	52 58.70	-1.1	
PZZ	1.81	187	P	53 03.92	1.6	
			S	53 26.22		
HAU	1.86	337	Pg	53 05.10	2.2	
			Sg	53 28.50		
OSS	1.93	77	ePc	53 05.90	1.9	
PCP	1.93	155	P	53 04.69	0.7	
			S	53 25.14		
ROB	2.03	171	P	53 06.68	1.2	
WLS	2.12	359	Pn	53 05.41	-1.3	
CDF	2.12	358	Pn	53 05.38	-1.4	
FIN	2.16	165	P	53 07.46	0.1	
IMI	2.41	172	P	53 10.69	-0.2	
SBF	2.43	180	Pg	53 16.90	5.6X	
			Sg	53 46.90		
LBF	2.46	287	Pg	53 17.40	5.8X	
			Sg	53 47.90		
SMF	2.49	279	Pg	53 17.20	5.2X	
			Sg	53 48.80		
LOR	2.63	293	Pg	53 20.40	6.4X	
			Sg	53 54.10		
FRF	2.79	192	Pg	53 23.70	7.4X	
			Sg	53 59.40		
SSF	2.80	287	Pg	53 23.50	7.2X	
			Sg	53 57.40		
LRG	2.94	195	Pg	53 26.80	8.5X	
BGF	3.17	276	Pn	53 21.10	-0.5	
			Sg	54 11.80		
MAF	3.36	270	Pg	53 34.10	9.7X	
			Sg	54 16.80		
TCF	3.61	272	Pn	53 27.30	-0.6	
			Pg	53 38.50		
			Sg	54 26.90		

S.D. = 1.1 on 31 of 39 obs.

NOV 28, 1989 04h 13m 17.16± 0.80s
36.736 N ± 8.5km 26.585 E ± 7.7km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
MD 3.4 (ATH).

APE	0.91	292	ePg	13 34.50	-0.1	
			eSg	13 49.10		
KAP	1.28	158	ePb	13 39.50	-1.3	
YER	1.42	73	iPn	13 42.00	-1.0	
NPS	1.67	208	ePn	13 47.50	0.9	
IZM	1.74	18	iPn	13 47.00	-0.7	
PRK	2.52	354	ePb	14 03.70	5.0X	
ELL	2.67	89	ePn	14 02.00	0.9	
KHL	2.82	55	iPn	14 09.00	5.8X	
BCK	3.28	76	ePn	14 11.00	1.3	
DST	3.29	29	ePn	14 19.00	9.3X	

S.D. = 1.3 on 7 of 10 obs.

? NOV 28, 1989 07h 19m 45.20± 4.69s
18.696 N ±66.9km 63.775 W ±23.0km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 3.8 (FDF).

LPR	2.02	259	P	20 16.70	-1.0	
CPD	2.14	253	P	20 19.50	0.2	
SJG	2.33	256	iP	20 22.30	0.3	
PORP	2.79	257	P	20 28.00	-0.5	
LRS	2.94	263	P	20 29.80	-0.9	
PAG	3.32	143	eP	20 36.50	0.3	
			S	21 13.00		
DEG	3.51	132	eP	20 39.00	0.1	
BBL	3.84	145	eP	20 42.00	-1.5	
			S	21 25.00		

S.D. = 0.9 on 8 of 8 obs.

NOV 28, 1989 07h 51m 16.26± 0.68s
6.887 S ± 5.2km 129.733 E ± 5.3km
DEPTH = 144.5 ± 8.5 km
4.8mb (11 obs.)
BANDA SEA (280)

TLE	3.25	68	iPc	52 05.50	-1.6	
			iS	52 30.00		
AAI	3.53	334	ePc	52 13.20	2.3	
			eS	52 58.00		
MTN	6.08	167	iP	52 45.10	0.1	
KUPT	6.87	241	eP	53 00.00	4.2X	
			e(S)	54 18.50		
KNA	8.86	186	eP	53 21.50	-0.9	
	0.3s		63.00nm		5.7mb X	
			eS	54 55.00		
JAY	11.76	69	ePd	54 01.70	1.0	
WB5	13.68	161	eP	54 21.80	-3.7X	
			eS	56 47.10		
KHKI	14.08	263	eP	54 29.50	-1.0	
			eS	54 34.20		
			e	56 50.00		
OIS	16.62	146	eP	55 01.00	-1.2	
			eS	57 54.00		
TRT	16.98	266	iPc	55 08.00	1.4	
	0.9s		114.20nm		5.2mb	
MBL	17.12	213	eP	55 08.30	0.0	
	0.3s		8.00nm		4.5mb	
			eS	58 10.00		
ASPA	17.16	167	iPd	55 07.60	-1.2	
	0.6s		127.00nm		5.4mb	
	Z 19s		0.23um		4.4Msz	
			eS	58 09.00		
			LR	02 15.60		
			e	06 39.00		
PMG	17.43	99	eP	55 13.00	0.9	
KKM	18.63	313	ePd	55 24.00	-1.6	
WARB	19.41	188	eP	55 35.00	1.3	
	0.3s		6.00nm		4.4mb	
			eS	59 03.00		
CTA	20.71	131	iPd	55 47.40	0.5	
	1.8s		329.55nm		5.5mb	
MEKA	22.33	207	eP	56 04.30	1.5	
	0.4s		12.00nm		4.7mb	
			eS	00 16.00		
OLP	23.96	146	eP	56 19.00	0.4	
COOL	25.19	198	eP	56 35.00	4.9X	
MRWA	25.72	209	eP	56 34.30	-0.6	
	0.3s		5.00nm		4.6mb	
			eS	01 28.00		
BAL	26.57	206	eP	56 43.00	0.3	
RMO	26.61	139	eP	56 42.60	-0.5	
			e	57 05.00		
KLB	27.01	203	eP	56 46.90	0.3	
	0.3s		4.00nm		4.5mb	
STK	27.22	158	iPd	56 48.20	-0.3	
			e	56 52.00		
			e	02 00.30		
MUN	27.97	205	eP	56 55.10	-0.2	
NWAO	28.39	203	eP	56 59.10	0.0	
ADE	29.14	165	ePd	57 06.00	0.2	
BRS	29.90	136	iPc	57 11.50	-1.1	
PSI	32.19	286	eP	57 31.40	-1.3	
			e	59 10.00		
BWA	32.38	150	eP	57 35.60	1.4	
CAN	33.38	151	eP	57 43.30	0.4	
DZM	38.48	117	iPc	58 26.00	-0.1	
BDT	38.70	309	eP	58 28.00	0.2	
CHTO	39.67	311	eP	58 34.80	-1.1	
	1.2s		17.71nm		4.7mb	
BJI	48.34	346	eP	00 15.00	30.0X	
LZH	49.18	332	Pd	59 50.50	-1.2	
	1.8s		38.00nm		4.8mb	
GBA	55.77	291	P	00 40.00	-0.7	
	0.3s		13.00nm		5.3mb	
HYB	56.03	296	eP	00 44.00	1.4	
CNCB	150.65	144	ePKP	10 51.00	2.5X	
			i	10 55.00		
LPB	150.80	143	PKP	10 55.00	6.5X	
ZOBO	150.99	143	PKP	10 50.00	1.0	
PPD	151.24	178	ePKP	10 54.80	6.3X	
			e	10 58.90		

S.D. = 1.1 on 35 of 42 obs.

? NOV 28, 1989 09h 25m 58.15± 4.43s
7.558 S ±31.5km 129.350 E ±53.7km
DEPTH = 124.4 ± 45.5 km
BANDA SEA (280)

TLE	3.88	61	ePc	26 57.00	0.0	
MTN	5.54	162	eP	27 20.00	0.4	
			eS	28 22.00		
KNA	8.16	184	eP	27 55.00	-0.3	

```
                    eS     29 22.00
WB5     13.18 159 eP     29 00.70   -1.0
                    eS     31 19.50
ASPA    16.60 165 eP     29 45.80    0.8
                    eS     32 42.00
      S.D. = 1.4  on   5 of   5 obs.
-----------------------------------
?  NOV  28, 1989  10h 24m 05.13± 4.59s
   33.031 S ±18.0km   71.900 W ±36.2km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF CENTRAL CHILE      (135)

LCCH     0.52 148 iPc    24 16.20    0.1
                    iS     24 22.00
ROCH     0.75  86 iP     24 19.50    0.0
                    iS     24 27.50
LNV      1.01 156 iPc    24 23.00    0.1
                    iS     24 33.60
TACH     1.02 128 iPd    24 22.70   -0.4
                    iS     24 33.20
SAN      1.12 112 eP     24 24.50   -0.1
                    iS     24 36.60
JACH     1.15  73 iP     24 25.00   -0.1
                    iS     24 39.00
PCH      1.30 117 iPd    24 27.20    0.0
                    iS     24 41.70
FCH      1.38 103 iPd    24 29.00    0.4
                    iS     24 44.50
      S.D. = 0.3  on   8 of   8 obs.
-----------------------------------
   NOV  28, 1989  12h 26m 03.28± 0.62s
   43.375 N ± 4.6km   13.225 E ± 5.2km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                    (381)
      MD 2.8 (SSO).

CIO      0.19 198 iPg    26 08.24    0.7
                    iSg    26 12.95
ARV      0.24 301 Pd     26 07.50   -0.9
                    eSg    26 11.80
AOI      0.33  57 iPg    26 09.93   -0.1
                    iSg    26 16.54
ASS      0.51 234 Pc     26 12.90   -0.8
                    eSg    26 21.60
ALP      0.65 157 iPg    26 16.36    0.0
                    iSg    26 28.46
RSM      0.79 315 P      26 18.10   -0.5
                    eSg    26 31.60
CRE      0.96 286 P      26 22.00    0.4
                    eSg    26 37.00
MNS      1.07 202 P      26 23.10   -0.3
                    eSg    26 39.20
SFI      1.14 299 P      26 25.30    0.8
                    eSg    26 42.00
PGD      1.20 295 P      26 26.50    0.7
                    eSg    26 43.50
      S.D. = 0.7  on  10 of  10 obs.
-----------------------------------
   NOV  28, 1989  12h 30m 40.93± 0.58s
   41.951 N ± 4.0km   22.973 E ± 6.0km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                       (383)
      ML 3.0 (THE).

KKB      0.12 135 iPc    30 44.00    0.1
VTS      0.66  15 iPg    30 54.00   -0.3
MMB      0.67 122 iPc    30 54.00   -0.3
KNT      0.79 184 iPgc   30 55.80   -0.5
                    eSg    31 05.80
SRS      0.95 151 iPgc   30 58.30   -0.8
                    eSg    31 10.50
PGB      1.07  56 iPg    31 01.00   -0.1
GRG      1.08 204 ePgc   31 01.20   -0.1
                    eSg    31 15.80
PLD      1.30  83 eP     31 06.00    1.0
THE      1.32 180 ePb    31 04.80   -0.4
                    iSg    31 22.70
RZN      1.33 101 iPc    31 05.00   -0.6
LIT      1.88 191 ePb    31 15.40    1.9
DIM      1.91  86 eP     31 17.00    3.2X
MFT      3.44 108 ePn    31 36.00    0.2
DMK      3.57  90 ePn    31 47.00    9.4X
BZS      3.79 345 ePc    31 40.00   -0.7
MLR      4.14  30 ePc    31 51.50    5.8X
VRI      4.76  33 eP     31 55.00    0.5
      S.D. = 0.8  on  14 of  17 obs.
-----------------------------------
*  NOV  28, 1989  13h 19m 23.15± 4.05s
   34.919 N ±42.0km   26.079 E ±12.3km
   DEPTH =  33.0km  (normal)
 CRETE                            (370)
      MD 4.0 (ATH).

NPS      0.51 312 iPc    19 34.00    0.0
                    eS     19 43.50
KAP      1.10  55 iPc    19 41.50   -0.7
                    eS     19 55.00
APE      2.19 348 eP     19 58.00    0.0
YER      2.84  38 ePn    20 07.00   -0.2
KSL      3.10  66 eP     20 10.00   -0.8
ELL      3.61  58 eP     20 20.00    1.8
BCK      4.44  54 eP     20 40.00    9.9X
      S.D. = 1.2  on   6 of   7 obs.
-----------------------------------
?  NOV  28, 1989  13h 41m 51.22± 4.21s
   40.282 N ±15.2km  124.165 W ±33.0km
   DEPTH =  10.0km  (geophysicist)
 NEAR COAST OF NORTHERN CALIF.    ( 35)
      ML 3.1 (BRK).

FHC      0.54  15 iPc    42 02.10    0.0
                    iS     42 08.80
                    i      42 11.30
WDC      1.28  76 ePc    42 14.80   -0.1
                    iS     42 33.40
MIN      1.96  87 eP     42 25.10    0.1
                    eS     42 52.20
LBFM     2.03  58 eP     42 26.00    0.0
ORV      2.17 109 eP     42 27.50   -0.5
                    eS     42 55.30
KVN      4.84 103 eP     43 06.50    0.5
      S.D. = 0.4  on   6 of   6 obs.
-----------------------------------
?  NOV  28, 1989  13h 54m 28.97± 1.12s
   37.267 N ±14.7km    3.341 W ± 8.9km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                            (377)
      mbLg 2.8 (MDD).

AFC      0.16 265 ePg    54 32.00   -0.8
                    eSg    54 34.20
ENIJ     0.95 108 ePg    54 47.00    0.0
                    eSg    55 02.00
EBAN     0.96 339 ePg    54 46.80   -0.5
EHOR     1.61 291 ePn    54 58.80    1.3
                    eSn    55 20.60
      S.D. = 1.6  on   4 of   4 obs.
-----------------------------------
*  NOV  28, 1989  15h 10m 29.59± 1.08s
    4.597 S ±12.6km  144.084 E ± 7.9km
   DEPTH = 113.7 ±  9.4 km
   5.2mb (  4 obs.)
 NEAR N COAST OF PAPUA NEW GUINEA(200)

MNDI     1.60 195 iPd    11 00.00    1.5
LAT      3.55 125 eP     11 24.00    0.2
                    eS     12 03.00
JAY      3.96 301 iPc    11 30.00    0.6
PMG      5.67 148 eP     11 51.00   -1.8
       0.9s   107.56nm          5.1mb
                    eS     12 52.00
MTN     15.19 237 eP     13 59.00   -0.4
                    e      16 39.00
QIS     16.45 195 iPc    14 14.50   -0.6
                    e      14 19.00
                    eS     17 21.00
HNR     16.46 108 eP     14 14.00   -1.2
WB5     17.90 211 eP     14 31.50   -1.4
                    eS     17 46.00
KNA     18.69 233 eP     14 40.50   -1.4
ASPA    21.35 206 eP     15 09.90    0.7
       0.4s    26.00nm          4.9mb
RMO     22.22 169 iPc    15 20.60    2.9
                    e      15 26.00
                    i      15 53.70
BRS     24.14 161 iPc    15 36.90    0.6
MBL     28.73 233 eP     16 17.70   -0.7
BWA     29.95 173 eP     16 30.00    0.8
CAN     30.91 172 eP     16 37.90    0.3
COOL    33.91 217 iPc    17 03.30   -0.5
       0.3s    19.00nm          5.4mb
MRWA    36.15 224 eP     17 23.00    0.2
KLB     36.49 220 eP     17 25.50   -0.1
BAL     36.53 222 eP     17 26.00    0.1
NWAO    37.72 218 eP     17 36.00    0.2
MUN     37.74 220 eP     17 36.10    0.1
       0.4s    50.00nm          5.7mb
ZOBO   141.99 124 PKP    29 47.00   -4.6X
      S.D. = 1.1  on  21 of  22 obs.
-----------------------------------
&  NOV  28, 1989  19h 52m 14.32s
   58.049 N          142.548 W
   DEPTH =  10.0km  (geophysicist)
   4.2mb (  1 obs.)
 GULF OF ALASKA                   ( 15)
      <AGS-P>.

YAH      2.36  10 iP     52 48.87   -5.0
                    eS     53 15.73
PCA      2.37  29 iP     52 48.83   -5.1
                    eS     53 14.12
HQN      2.37  52 iP     52 48.50   -5.4
                    eS     53 15.87
BCPM     2.43  37 iP     52 49.48   -5.3
                    eS     53 16.56
RAGM     2.59 336 eP     52 51.70   -5.3
SGAM     2.81 332 iP     52 54.68   -5.5
CVA      3.00 328 eP     52 56.08   -6.6
HIN      3.11 321 eP     52 58.21   -6.1
                    eS     53 30.92
HYT      3.79  41 P      53 09.00   -5.2
DWY      6.21  13 P      53 43.20   -5.0
FFC     22.46  81 eP     57 12.00   -2.5
       0.9s     8.00nm          4.2mb
       11 obs. associated
-----------------------------------
?  NOV  28, 1989  19h 59m 18.13± 5.02s
   31.283 S ±22.4km   68.523 W ±34.5km
   DEPTH =  93.7 ± 48.5 km
 SAN JUAN PROVINCE, ARGENTINA     (137)

RTLL     0.06 135 iPd    59 31.60   -0.2
RTCB     0.31 229 iPc    59 32.50    0.1
                    S      59 44.50
CFA      0.40 143 iPc    59 33.00    0.2
                    S      59 44.50
RTCV     0.58 181 iPd    59 34.00   -0.1
                    S      59 47.30
RTRS     1.37 324 iPd    59 42.80    0.0
      S.D. = 0.3  on   5 of   5 obs.
-----------------------------------
&  NOV  28, 1989  20h 09m 46.00s
   57.953 N          142.644 W
   DEPTH =  10.0km  (geophysicist)
   4.5mb (  2 obs.)
 GULF OF ALASKA                   ( 15)
      <AGS-P>. ML 4.4 (PMR).

CYK      2.14   2 eP     10 17.31   -4.8
                    eS     10 41.05
YKU      2.21  42 eP     10 18.70   -4.5
SNH      2.24 358 eP     10 18.85   -4.8
                    iS     10 42.70
YAH      2.46  10 iP     10 22.07   -5.0
HQN      2.47  51 iP     10 21.59   -5.4
                    eS     10 49.43
PCA      2.48  29 iP     10 21.98   -5.1
                    eS     10 49.93
WAX      2.51 358 iP     10 22.05   -5.5
                    eS     10 50.13
BCPM     2.54  37 iP     10 22.63   -5.3
                    eS     10 50.08
RAGM     2.66 338 eP     10 24.51   -5.1
SGAM     2.88 334 iP     10 27.64   -5.1
CVA      3.05 330 eP     10 29.22   -5.9
HIN      3.15 323 eP     10 31.35   -5.3
                    eS     11 04.01
HYT      3.90  40 P      10 41.90   -5.5
SIT      4.05 100 eP     10 42.20   -7.1
TOA      4.53 338 ePc    10 50.80   -5.3
PMS      4.82 316 eP     10 54.20   -6.2
PMR      4.91 321 eP     10 55.50   -6.0
KDC      5.26 272 ePc    11 02.50   -4.0
DWY      6.32  13 P      11 15.80   -5.6
SVW      7.32 301 ePc    11 29.30   -6.2
FBA      7.39 343 eP     11 29.00   -7.5
TTA      8.27 313 eP     11 41.90   -7.0
IMA      9.64 332 ePd    11 59.60   -8.2
INK     11.16  18 eP     12 22.00   -6.5
PNT     16.09 113 eP     13 32.00   -1.7
LON     16.88 123 eP     13 44.00    0.3
```

28d 20h

```
EDM     17.14  93 eP     13 43.00  -3.9
SES     19.84  99 eP     14 15.00  -4.5
MBC     20.18  16 eP     14 18.50  -4.4
        1.0s     19.00nm          4.4mb
FHC     20.91 137 ePc    14 32.30   1.6
WDC     21.64 135 iPc    14 38.00  -0.1
                  i      14 45.40
                  ePcP   19 18.90
LRM     22.03 110 eP     14 40.60  -1.7
MIN     22.20 133 ePc    14 45.40   1.5
FFC     22.52  81 iPc    14 44.90  -1.9
        0.9s    25.00nm          4.7mb
ORV     22.92 134 e(P)   14 50.70  -0.2
CMB     24.67 134 ePc    15 07.60  -0.3
KVN     24.70 129 eP     15 08.00  -0.4
MHC     24.81 137 ePc    15 10.20   0.8
FRI     25.84 134 ePc    15 18.10  -0.8
PRI     26.24 137 ePc    15 23.90   1.2
MSU     27.73 121 eP     15 35.70  -0.8
        41 obs. associated
-----------------------------------------
&  NOV  28, 1989  20h 14m 25.46s
   57.894 N          142.662 W
   DEPTH =  10.0km  (geophysicist)
   4.2mb (  1 obs.)
 GULF OF ALASKA                    ( 15)
      <AGS-P>. ML 3.9 (PMR).

YKU      2.26  41 eP     14 59.30  -4.1
MID      2.46 310 eP     15 01.50  -4.7
BALM     3.16   3 eP     15 10.00  -6.2
                  eS     15 44.00
HYT      3.95  40 P      15 21.50  -6.0
SIT      4.05  99 eP     15 22.70  -6.0X
TOA      4.58 339 ePc    15 31.00  -5.4
PMS      4.86 317 eP     15 34.10  -6.2
PMR      4.95 321 eP     15 36.10  -5.4
KDC      5.26 273 eP     15 43.00  -2.9
DWY      6.38  13 P      15 57.00  -4.7
SVW      7.34 301 eP     16 10.00  -5.2
FBA      7.45 343 eP     16 09.60  -7.1
TTA      8.31 313 eP     16 22.10  -6.7
IMA      9.68 332 eP     16 40.40  -7.5
LON     16.86 122 eP     18 26.00   3.1
MBC     20.24  16 eP     19 01.50  -1.4
        1.0s    12.00nm          4.2mb
KVN     24.67 129 eP     19 48.50   0.9
MSU     27.71 121 eP     20 15.00  -0.8
        18 obs. associated
-----------------------------------------
*  NOV  28, 1989  20h 41m 28.96± 0.57s
   21.337 N ±14.1km  144.133 E ±10.6km
   DEPTH =  33.0km  (normal)
   4.9mb ( 10 obs.)  4.0Msz (  1 obs.)
 MARIANA ISLANDS REGION            (215)

SSE     22.73 300 P      46 28.40  -0.8
        0.1s     0.05nm          2.9mb X
      Z  18s     0.50um          4.0Msz
                  eS     50 24.00
SNY     26.78 324 eP     47 00.90  -6.8X
BJI     30.23 314 eP     47 40.00   1.2
TIY     31.85 308 eP     47 50.60  -2.6
      N  13s     0.50um
HHC     33.73 313 eP     48 02.40  -7.2X
CD2     37.31 293 eP     48 39.00  -1.1
LZH     37.99 302 Pd     48 44.50  -1.3
        1.8s    63.00nm          5.2mb
      N  15s     0.70um
GTA     41.80 306 eP     49 11.20  -6.1X
WB5     42.06 194 eP     49 18.90  -0.5
CHG     42.41 275 eP     49 24.00   1.6
ASPA    45.83 193 iPd    49 49.30  -0.5
SGE     50.92 137 ePc    50 03.30 -26.2X
WMQ     51.49 310 P      50 33.80   0.2
PMR     60.41  30 eP     51 41.50   4.3X
        1.0s    12.00nm          5.0mb
FBA     61.60  27 eP     51 51.00   5.7X
        1.0s     7.50nm          4.8mb
INK     67.54  23 eP     52 20.00  -3.8X
MBC     70.98  15 eP     52 48.50   3.7X
        0.6s     6.00nm          4.8mb
WDC     78.86  51 ePc    53 30.50  -0.1
                  e      53 38.30
MIN     79.61  51 ePc    53 34.00  -0.9
                  e      53 42.00
ORV     79.95  52 ePc    53 36.10  -0.4
                  e      53 43.90
CMB     81.28  53 ePc    53 43.60   0.0
                  e      53 51.50
FRI     82.15  53 ePc    53 47.90  -0.1
                  e      53 56.00
KVN     82.60  51 iP     53 50.00  -0.6
SUF     83.14 336 eP     53 54.60   2.0
        0.4s     3.90nm          4.9mb
TNP     83.60  52 eP     53 55.10  -0.7
        1.0s     4.50nm          4.6mb
NUR     84.99 334 eP     54 04.00   2.0
FFC     85.66  32 iPd    54 03.60  -1.9
        0.9s    18.00nm          5.3mb
HFS     89.40 338 eP     54 24.70   1.2
        0.7s     4.80nm          4.9mb
NB2     89.60 339 P      54 25.20   0.7
        1.1s     7.20nm          4.9mb
GOL     91.24  46 eP     54 33.00   0.2
        1.0s     4.00nm          4.8mb
ZOBO   149.09  86 PKP    01 15.00   2.4
        1.0s    10.00nm
LPB    149.17  87 ePKP   01 16.00   3.4X
CNCB   149.35  87 PKP    01 17.90   4.9X
      S.D. = 1.3  on  23 of  33 obs.
-----------------------------------------
   NOV  28, 1989  21h 04m 49.62± 0.75s
   38.274 N ± 5.4km   73.862 E ± 4.8km
   DEPTH = 123.0 ±  8.2 km
   4.6mb ( 10 obs.)
 TAJIK-XINJIANG BORDER REGION      (719)

KSH      2.03  54 iPd    05 26.10   1.9
                  S      05 52.00
QUE      9.88 217 eP     07 09.50  -0.5
                  eS     08 59.00
NDI      9.97 163 iPc    07 10.00  -0.9
        0.4s    194.92nm         6.2mb X
                  iS     08 50.50
MAIO    11.62 265 eP     07 31.00  -1.7
                  eS     09 35.00
WMQ     11.82  58 iPd    07 33.60  -1.8
                  S      09 37.50
LSA     16.68 116 P      08 38.10   0.4
POO     19.67 180 iPc    09 12.60   1.3
                  iS     12 49.80
GTA     20.23  79 iPc    09 16.80  -0.2
HYB     21.18 168 ePc    09 27.50   0.9
        0.8s    30.80nm          4.7mb
                  eS     13 16.00
GBA     24.77 172 P      10 02.00   0.7
                  S      14 06.00
BTO     27.90  74 eP     10 29.60  -0.3
HHC     29.03  73 eP     10 40.00  -0.1
TIY     30.26  79 eP     10 50.20  -0.7
WHN     34.07  91 P      11 24.00   0.0
SUF     37.67 326 iP     11 54.60   0.6
        0.6s     4.70nm          4.5mb
NUR     37.77 322 iP     11 55.20   0.4
HFS     43.11 321 eP     12 38.90   0.1
        0.5s    13.20nm          4.9mb
      Z  19s     0.09um          3.7Msz
                  LR     29 54.00
KHC     43.83 305 eP     12 47.50   2.7X
                  i      13 20.30
NB2     44.37 322 P      12 48.80  -0.2
        0.5s     2.80nm          4.3mb
LPG     49.17 301 eP     13 27.80   0.8
        1.0s     6.80nm          4.4mb
SMF     50.77 303 eP     13 37.90  -1.0
        1.2s    11.90nm          4.7mb
AVF     51.05 304 eP     13 41.40   0.4
        1.0s     6.00nm          4.4mb
MAF     51.74 303 eP     13 46.80   0.6
        1.0s     4.00nm          4.3mb
BCAO    60.41 251 iPc    14 47.80  -0.5
        0.6s    26.00nm          5.4mb
MBC     65.45   3 eP     15 21.00   0.3
        0.5s     5.00nm          4.7mb
INK     71.77  10 eP     15 59.00  -0.8
KIC     77.15 268 P      16 31.90   0.5
TIC     77.19 268 P      16 32.10   0.4
LIC     77.45 268 P      16 33.50   0.4
WB5     81.01 124 eP     16 50.80  -1.3
EDM     88.66   4 eP     17 30.00   0.1
      S.D. = 0.9  on  30 of  31 obs.
-----------------------------------------
?  NOV  28, 1989  21h 20m 12.68± 0.94s
   37.964 N ± 8.5km   28.040 E ± 9.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

IZM      0.75 305 iPg    20 27.60   0.2
                  iSg    20 37.40
YER      0.85 167 iPg    20 29.00  -0.1
                  iSg    20 42.00
KHL      1.22  73 iPn    20 35.80   0.3
DST      1.70  15 ePn    20 42.20  -0.4
ELL      1.92 129 ePn    20 51.00   5.1X
BNT      2.39 358 ePn    20 57.00   4.5X
YLV      2.80  21 iPn    21 08.00   9.6X
      S.D. = 0.6  on  4 of  7 obs.
-----------------------------------------
   NOV  28, 1989  21h 31m 43.94± 1.47s
   11.163 S ± 6.0km  165.305 E ± 5.6km
   DEPTH =  33.7 ± 12.7 km
   5.0mb (  7 obs.)  4.8Msz (  1 obs.)
 SANTA CRUZ ISLANDS                (184)

HNR      5.55 288 ePc    33 06.00  -0.3
                  eS     34 07.00
DZM     10.90 174 iPd    34 19.60  -1.3
                  iS     36 17.10
PMG     17.94 274 eP     35 55.00   2.3
BRS     19.98 214 iPd    36 17.70   1.2
                  i      36 29.00
                  e(S)   40 08.00
CTA     20.36 242 iPd    36 21.70   1.2
        1.0s    91.00nm          5.1mb
                  iS     40 13.00
RMQ     21.82 223 eP     36 36.00   0.7
        0.9s    79.00nm          5.1mb
QIS     26.39 246 eP     37 19.00  -0.3
                  e      37 29.00
CMS     27.08 219 iPc    37 25.90   0.4
BWA     27.81 211 eP     37 31.00  -1.2
STK     30.06 223 eP     37 52.00  -0.4
WB5     31.00 250 eP     38 00.00  -0.8
                  i      38 10.00
                  e      40 55.50
ASPA    32.36 243 eP     38 11.10  -1.6
        1.1s    28.00nm          5.1mb
                  epP    38 20.60  33kmX
ADE     33.86 221 iPd    38 25.60   0.0
        1.0s    40.00nm          5.3mb
PCI     46.28 280 ePd    40 11.50   3.0X
MAT     53.88 333 (P)    41 05.00  -1.2
CN2     65.62 329 eP     42 26.40  -0.4
      Z  18s     0.60um          4.8Msz
PSI     67.43 278 ePc    42 39.00   0.0
                  e      42 43.00
GYA     68.13 304 P      42 43.00  -0.3
BJI     68.30 321 (P)    42 42.50  -1.4
TIY     69.35 317 eP     42 50.40  -0.1
XAN     69.88 313 P      42 53.00  -0.8
KMI     70.81 302 Pc     43 01.00   1.1
HHC     71.64 320 P      43 04.60   0.2
CHG     71.88 294 eP     43 06.70   0.6
CD2     72.33 308 eP     43 08.30  -0.3
LZH     74.52 312 (P)    43 20.50  -0.9
GTA     78.83 314 Pd     43 46.00   0.5
TTA     79.66  17 P      43 48.90  -0.6
IMA     82.74  16 eP     44 05.80   0.2
GCC     83.21  50 ePc    44 08.90   0.5
PRS     83.46  51 ePc    44 10.50   0.7
FBA     83.57  18 eP     44 09.00  -0.7
        1.0s    10.00nm          4.9mb
MHC     83.58  50 ePc    44 11.30   0.8
ARN     83.67  50 P      44 11.00   0.2
LLA     83.88  51 ePc    44 11.60  -0.3
PRI     83.94  51 ePc    44 13.30   1.0
                  e      44 23.50
WDC     84.01  47 ePc    44 13.10   0.7
                  i      44 22.80
ORV     84.41  48 ePc    44 14.60   0.1
                  e      44 24.10
MAW     84.45 202 eP     44 15.00   0.8
CMB     84.75  50 ePc    44 16.50   0.2
FRI     84.93  51 ePc    44 17.30   0.2
                  e      44 27.60
MWC     85.40  54 eP     44 21.00   1.2
ISA     85.49  52 eP     44 13.00  -7.0X
SBB     85.71  54 eP     44 21.00  -0.2
RVR     85.88  54 eP     44 22.00   0.1
CLC     86.22  53 eP     44 24.00   0.4
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GSC     86.69  53 eP     44 25.00  -1.0
KVN     86.76  49 P      44 26.00  -0.4
TPC     86.97  55 eP     44 27.00  -0.3
TNP     87.15  50 iP     44 28.40   0.1
        1.0s     4.50nm          4.7mb
GBA     90.54 284 Pd     44 44.70   0.2
        0.8s     4.30nm          4.8mb
MSU     91.09  51 P      44 48.00   1.1
LRM     92.57  44 eP     44 52.70  -0.9
BW06    93.95  47 eP     45 00.00   0.0
AIA     95.36 161 eP     44 49.80 -16.0X
SOD    117.55 343 ePKP   50 19.00  -8.5X
ZOBO   120.53 116 PKP    50 35.00  -0.4
SUF    120.85 339 iPKP   50 33.30  -0.6
        0.7s     8.10nm
NUR    122.86 338 ePKP   50 35.00  -2.7
        0.7s    21.40nm
                    i    50 50.00
NB2    126.70 345 PKP    50 44.20  -1.1
        0.9s     4.00nm
HFS    126.77 343 ePKP   50 44.60  -0.8
        1.0s     9.80nm
CLL    134.04 336 ePKP   51 00.00   0.5
KHC    135.46 334 ePKP   51 02.00  -0.3
KBA    137.09 332 ePKP   51 06.50   0.8
        0.7s     2.60nm
BAO    137.63 128 ePKP   51 04.50  -3.0X
LOR    140.75 340 ePKP   51 14.50   2.3X
        1.0s     8.80nm
LBF    140.96 340 ePKP   51 15.00   2.4X
        1.0s     8.80nm
SSF    141.05 340 ePKP   51 14.20   1.5
        1.0s     8.80nm
LPG    141.18 336 ePKP   51 14.10   0.8
        1.2s    11.90nm
SMF    141.30 339 ePKP   51 14.60   1.5
        0.8s     5.30nm
BGF    141.71 340 ePKP   51 16.40   2.5X
        1.0s    12.00nm
TCF    142.16 341 ePKP   51 17.30   2.6X
        1.2s    11.90nm
EPF    145.66 340 ePKP   51 20.70  -0.1
        1.0s     8.00nm
BCAO   146.43 261 iPKPd  51 23.00   0.1
        1.0s   125.00nm
                    ic   51 25.00
                    id   51 29.30
                    id   51 36.30
ECRI   146.92 343 e(PKP)51 25.80   2.9X
ETOR   148.43 342 ePKP   51 30.00   4.6X
GUD    149.20 344 ePKP   51 31.80   5.1X
TOL    149.88 344 ePKP   51 33.50   6.0X
EVIA   150.55 340 ePKP   51 35.20   6.5X
EALH   150.87 338 e(PKP)51 36.00   6.9X
ENIJ   151.95 338 ePKP   51 37.60   6.9X
EHOR   152.14 344 e(PKP)51 38.40   7.5X
      S.D. = 0.9  on  65 of  82 obs.
-----------------------------------
?  NOV  28, 1989  22h 05m 50.93± 2.11s
   44.302 N ±18.4km     7.194 E ±19.2km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.1 (GEN).

STV     0.11 122 P      05 53.83   0.0
                 S      05 55.26
ENR     0.18 115 P      05 55.07   0.1
                 S      05 57.44
PZZ     0.21 342 P      05 55.66   0.0
                 S      05 58.70
ROB     0.49  91 P      06 00.80   0.0
                 S      06 07.33
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------
?  NOV  28, 1989  22h 32m 51.03± 1.87s
   10.303 N ±22.3km    61.411 W ±11.3km
   DEPTH =  33.0km  (normal)
 TRINIDAD                          ( 98)
      MD 2.6 (TRN).

TPP     0.04 289 eP     32 56.53   0.0
                 eS     33 04.23
TRN     0.34   1 ePc    32 59.24  -0.1
                 eS     33 08.50
TBH     0.38  62 eP     32 59.97   0.0
                 eS     33 08.12
TCE     0.52 319 eP     33 01.97   0.1
                 eS     33 11.48
GRW     1.86 352 eP     33 38.45  17.2X
                 eS     33 50.22
      S.D. = 0.1  on   4 of   5 obs.
-----------------------------------
?  NOV  28, 1989  22h 52m 04.43± 4.09s
   45.941 N ±31.9km     2.208 E ±10.4km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)

TCF     0.35   0 Pg     52 11.60   0.0
                 Sg     52 16.30
MAF     0.38  42 Pg     52 12.20   0.1
                 Sg     52 17.20
LSF     0.56 303 Pg     52 15.90   0.0
                 Sg     52 23.30
BGF     0.76  35 Pg     52 19.20  -0.1
                 Sg     52 29.60
      S.D. = 0.1  on   4 of   4 abs.
-----------------------------------
   NOV  29, 1989  00h 03m 21.97± 0.37s
   18.133 S ± 9.4km   167.889 E ± 8.8km
   DEPTH =  10.0km  (geophysicist)
   4.7mb (  1 obs.)  4.0Msz (  1 obs.)
 VANUATU ISLANDS                   (186)

PVC     0.56  46 iPd    03 33.30   0.0
                 iS     03 39.50
DZM     4.15 199 iPc    04 25.90  -0.9
                 iS     05 13.00
SGE     9.57  88 eP     05 42.10  -0.9
HNR    11.58 317 eP     06 10.00  -0.5
BWA    23.76 223 eP     08 31.10  -4.4X
                 e      08 47.70
CAN    23.96 221 eP     08 39.40   2.0
                 e      08 50.90
ASPA   32.18 254 eP     09 50.70  -1.7
       Z  20s      0.34um          4.0Msz
                 LR     22 02.40
GBA    94.57 283 Pd     16 43.80  -0.8
        0.8s     2.50nm          4.7mb
FVI   144.97 330 PKP    22 56.80  -4.2X
CTI   145.91 330 PKP    22 58.50  -4.4X
CDF   145.93 337 ePKP   23 00.80  -2.0
BSF   146.59 337 ePKP   23 02.50  -1.4
HAU   146.61 337 ePKP   23 02.80  -1.0
BCAO  147.08 249 iPKPc  23 05.00  -0.6
        0.7s    10.00nm
                 ic     23 10.90
SFI   147.33 327 PKP    23 06.00   1.0
VAI   147.36 332 PKP    23 04.20  -0.8
CRE   147.48 327 PKP    23 05.50   0.1
BOB   147.90 330 PKP    23 06.50   0.5
FLN   148.02 345 iPKPc  23 06.00   0.0
LDF   148.09 345 ePKP   23 06.30   0.2
LOR   148.12 339 iPKPc  23 06.70   0.5
LBF   148.32 339 iPKPc  23 07.20   0.6
SSF   148.42 339 iPKPc  23 07.60   0.9
GRR   148.46 346 ePKP   23 07.40   0.7
LPG   148.52 334 iPKPc  23 08.50   1.2
SMF   148.67 339 ePKP   23 08.00   0.9
AVF   148.71 339 ePKP   23 08.00   0.9
LPF   148.84 346 iPKPc  23 08.50   1.2
BNI   148.91 334 PKP    23 09.50   1.8X
BGF   149.08 340 iPKPc  23 09.20   1.4X
MAF   149.47 340 iPKPc  23 10.20   1.8X
SBF   149.52 332 ePKP   23 10.30   1.7X
TCF   149.52 340 iPKPc  23 10.30   1.8X
LSF   149.77 341 iPKPc  23 10.60   1.8X
MFF   149.94 343 iPKPc  23 11.20   2.2X
FRF   150.11 332 ePKP   23 11.70   2.3X
LRG   150.32 332 ePKP   23 12.60   2.9X
LMR   150.35 332 ePKP   23 12.10   2.3X
RJF   150.62 340 ePKP   23 13.10   3.0X
LFF   151.19 341 ePKP   23 14.10   3.1X
LPO   151.28 340 ePKP   23 14.70   3.6X
EPF   153.03 340 ePKP   23 19.70   5.9X
      S.D. = 1.1  on  25 of  42 obs.
-----------------------------------
?  NOV  29, 1989  00h 29m 37.77± 4.09s
   45.928 N ±31.5km     2 194 E ±10.3km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 1.8 (LDG)

TCF     0.36   2 Pg     29 45.20   0.0
                 Sg     29 49.80
MAF     0.39  41 Pg     29 45.70  -0.1
                 Sg     29 50.70
LSF     0.56 305 Pg     29 49.20   0.0
                 Sg     29 56.80
BGF     0.78  35 Pg     29 53.00   0.1
                 Sg     30 03.00
      S.D. = 0.1  on   4 of   4 obs.
-----------------------------------
   NOV  29, 1989  01h 00m 14.85± 0.12s
   15.808 S ± 2.7km    73.242 W ± 3.2km
   DEPTH =  70.8km  (geophysicist)
   6.1mb ( 76 obs.)
 SOUTHERN PERU                     (117)
      mb 6.5 (PAS), 6.1 (BRK).
      Mo=4.0*10**18 Nm (PPT). Felt
      (IV) at Arequipa. Depth from
      broadband displacement
      seismograms.
      FAULT PLANE SOLUTION: P-Waves
       NP1:Strike=302 Dip=81 Slip= 118
       NP2:        48     29        19
       Principal Axes:
        T                Plg=47  Azm=241
        P                   30        9
      Comment: The focal mechanism is
        poorly controlled and
        corresponds to reverse
        faulting with a moderate
        strike-slip component. The
        preferred fault plane is not
        determined.
      RADIATED ENERGY
       No. of sta:   6  Focal mech.  F
       Energy        3.3±1.4*10**13 Nm
      MOMENT TENSOR SOLUTION
      Dep  62            No. of sta: 16
      Moment Tensor;    Scale 10**18 Nm
        Mrr= 0.19        Mtt=-1.32
        Mff= 1.13        Mrt=-0.76
        Mrf= 0.87        Mtf= 0.02
       Principal axes:
        T  Val=  1.70  Plg=33  Azm=261
        N       -0.01       46       128
        P       -1.68       25         9
      Best Double Couple:Mo=1.7*10**18
       NP1:Strike= 48 Dip=47 Slip=   6
       NP2:       313     85       136
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 16S, 44C  M.W.: 12S, 24C
      Centroid Location:
      Origin Time        01:00:24.4 0.3
      Lat 15.68S 0.02 Lon  73.31W 0.04
      Dep  66.4 2.5 Half-duration  5.5
      Moment Tensor;    Scale 10**18 Nm
        Mrr= 0.35 0.08  Mtt=-1.84 0.06
        Mff= 1.49 0.08  Mrt=-2.86 0.09
        Mrf= 0.50 0.08  Mtf=-0.20 0.06
       Principal Axes:
        T  Val=  2.57  Plg=48  Azm=221
        N        1.24       20       106
        P       -3.81       35         2
      Best Double Couple:Mo=3.2*10**18
       NP1:Strike= 38 Dip=22 Slip=  20
       NP2:       289     83       110

ARE     1.80 111 iP     00 45.50   0.8
ZOBO    4.94  96 iPc    01 32.80   4.0
PT08    4.99 320 iPc    01 29.00  -0.4
LPB     4.99  99 iPc    01 33.20   3.8
CNCB    5.15 102 iPc    01 35.00   3.3
CCH     6.98 104 iPc    01 58.50   1.5
YJA     9.67 132 ePd    02 32.40  -1.7
SLA    11.47 142 ePd    02 55.20  -2.9
CYA    14.34 153 ePd    03 33.20  -2.5
RTRS   14.71 167 e(P)   03 40.20  -0.3
RTLL   16.05 165 ePc    03 55.80  -1.9
RTCB   16.12 166 ePc    03 57.00  -1.6
ZON    16.21 166 eP     03 59.00  -0.7
                 eS     06 59.00
JACH   16.97 172 iPc    04 09.50   0.3
IHA    17.20 175 eP     04 11.00  -1.0
                 eS     07 29.00
TCA    17.36 154 ePd    04 12.00  -2.0
PSO    17.37 346 eP     04 16.50   2.0
FCH    17.65 172 iP     04 17.00  -0.8
LCCH   17.66 175 iPd    04 18.00   0.4
```

29d 01h

SAN	17.72	173	iP	04	16.50	-1.9
			iS	07	19.00	
MRA	17.89	159	ePd	04	19.00	-1.4
LNV	18.14	175	iPd	04	21.50	-2.0
CHCH	18.20	173	iPd	04	24.00	-0.3
RFA	19.36	168	ePd	04	35.80	-1.9
			S	04	59.90	
ITB1	19.74	119	Pc	04	38.60	-3.0X
ITB	19.95	120	e(P)	04	40.70	-3.1X
ITB7	20.10	121	e(P)	04	41.20	-4.3X
BOG	20.32	358	iPd	04	51.00	2.9X
			iS	08	38.00	
BAO	24.30	93	eP	05	25.60	-1.6
BDF	24.39	93	ePc	05	30.74	2.7
UPA	25.41	345	ePd	05	38.50	1.0
	1.0s	1000.00nm				6.3mb
	Z 20s	29.96um				5.8Msz
VAO	25.77	110	eP	05	39.10	-1.8
			e	05	43.00	
			i	05	51.70	
BUS	27.27	337	iPc	05	56.70	1.6
QCR	27.32	336	iPd	05	54.00	-1.0
CUM	27.61	20	eP	05	57.00	-0.6
			iS	11	46.60	
			i	12	51.60	
SJS	27.73	337	iPd	06	01.70	2.8X
TPP	28.46	25	eP	06	06.30	1.0
TBH	28.77	26	eP	06	09.64	1.5
TRN	28.78	25	iPc	06	07.87	-0.3
	1.2s	1052.00nm				6.3mb
GRW	30.06	23	eP	06	18.59	-1.1
SVB	31.23	23	eP	06	28.15	-1.8
SVV	31.29	23	eP	06	28.72	-1.7
SSV	31.30	23	eP	06	29.09	-1.6
SOA	31.36	23	eP	06	29.54	-1.5
SLB	31.82	23	eP	06	33.39	-1.8
BIM	32.44	22	eP	06	39.84	-0.7
FDF	32.61	22	eP	06	39.69	-2.4
	0.7s	0.85nm				3.7mb X
			S	12	30.00	
CRM	32.72	22	eP	06	40.77	-2.1
BBL	33.23	21	eP	06	38.08	-9.3X
PORP	34.27	11	P	06	55.10	-1.2
CPD	34.40	12	P	06	55.80	-1.7
SJG	34.42	12	iP	06	56.00	-1.7
LRS	34.47	11	P	06	56.70	-1.3
TPX	35.84	327	iPc	07	11.50	1.8
ACX	41.76	320	iPc	08	02.00	3.1X
IISM	41.95	325	iPd	08	03.50	3.1X
LVVM	42.05	326	iPc	08	02.00	0.7
IIT	42.50	324	iPc	08	08.50	3.2X
III	42.67	322	iPd	08	08.50	1.9
PPM	42.72	323	iPc	08	09.50	2.1
CRX	43.60	322	iPc	08	17.50	3.2X
HBF	48.94	352	P	08	55.80	0.0
SGS	49.22	352	P	08	58.00	0.1
AIA	49.77	175	eP	09	01.80	0.0
			eS	09	26.10	
LHS	50.52	352	P	09	07.60	-0.3
			pP	09	37.20	127kmX
MZX	50.56	319	iPc	09	09.50	1.1
GBTN	52.24	349	P	09	19.40	-1.5
PWLA	52.43	345	P	09	20.00	-2.4
RSCP	52.45	347	P	09	21.00	-1.5
	Z 22s	10.58um				5.8Msz
BLA	53.17	353	P	09	27.40	-0.4
	1.2s	325.76nm				6.2mb
NAV	53.31	352	P	09	28.20	-0.7
UYO	53.65	338	iPc	09	30.50	-0.8
CVL	53.73	355	P	09	31.60	-0.2
NA2	53.81	356	P	09	32.60	0.2
CBN	53.86	356	iPc	09	32.90	0.1
	0.9s	350.00nm				6.4mb
			e	10	10.00	
OLY	53.88	342	P	09	31.40	-1.6
LST	54.33	344	P	09	34.80	-1.5
POW	54.39	342	P	09	35.20	-1.6
ELC	54.91	344	P	09	38.40	-2.2
MEO	55.78	335	iPd	09	45.30	-1.6
FVM	55.89	344	P	09	46.00	-1.6
	1.1s	829.27nm				6.7mb
OCO	55.98	336	iPd	09	56.10	7.8X
PNJ	56.43	359	iP	09	51.30	-0.1
			pP	10	20.80	124kmX
CLE	57.52	353	iP	09	58.10	-1.0
HRV	58.04	1	eP	10	02.26	-0.4
			ePc	10	20.64	71kmX

			esPc	10	29.41
			ePP	12	11.88
			eS	18	00.44
			esS	18	28.92
RKT	58.30	252	iP	10	04.20	-0.8
DHN	58.52	356	P	10	05.60	-0.5
DLA	58.87	353	P	10	07.55	-1.0
ELF	59.17	353	P	10	08.60	-2.0
ALQ	59.52	329	iPd	10	12.40	-1.0
	1.0s	84.25nm				5.8mb
	Z 22s	4.44um				5.6Msz
ANMO	59.52	329	ePd	10	12.93	-0.4
			epPc	10	30.64	68kmX
			eS	18	17.78
			eScS	19	55.45
HBVT	59.88	0	P	10	16.20	0.8
RSNY	60.07	359	P	10	16.20	-0.5
	1.5s	414.75nm				6.3mb
	Z 20s	16.95um				6.2Msz
BNH	60.13	2	P	10	17.40	0.3
GLA	62.76	321	eP	10	35.00	-0.1
			e	11	14.00
GLD	62.80	333	P	10	35.40	0.0
	1.3s	781.61nm				6.6mb
	Z 21s	4.30um				5.6Msz
GOL	62.82	333	P	10	34.80	-0.9
	1.3s	130.21nm				5.8mb
BAR	63.63	320	eP	10	41.00	0.1
PFO	64.13	321	ePc	10	44.23	0.0
PLM	64.20	320	eP	10	44.00	-0.8
TPC	64.22	321	eP	10	45.00	0.3
			e	11	19.00
PEC	64.75	320	P	10	47.30	-0.8
RVR	64.95	320	eP	10	50.00	0.7
			e	11	21.00
MSU	65.19	327	P	10	50.60	-0.5
GSC	65.49	322	eP	10	53.00	0.1
MWC	65.53	320	eP	10	53.00	-0.3
PAS	65.55	320	iPd	10	53.41	0.2
			ePcP	11	28.00
			ePP	13	06.00
			iS	19	38.00
			eScS	21	22.00
			e	23	23.00
			eSS	24	01.00
			eLg	27	19.00
			eLR	28	02.00
SBB	65.69	321	eP	10	54.00	-0.2
CLC	66.31	322	eP	10	57.00	-1.1
ABL	66.66	320	P	11	00.90	0.3
ISA	66.74	321	eP	11	01.00	0.1
DUG	66.77	328	P	11	01.10	0.0
	1.2s	147.06nm				5.8mb
SYP	66.92	319	eP	11	03.00	0.9
BW06	67.17	332	P	11	02.80	-0.9
	1.2s	294.52nm				6.1mb
BLP	67.21	319	P	11	05.00	1.2
BCH	67.41	320	P	11	05.50	0.3
TNP	67.64	324	P	11	06.70	0.0
PKEM	68.00	320	P	11	10.20	1.5
PHAM	68.03	320	P	11	09.60	0.7
FRI	68.36	321	ePd	11	09.50	-1.4
			eP'P'	39	27.00
PRI	68.39	320	ePd	11	11.50	0.2
			eP'P'	39	25.10
RSON	68.76	346	P	11	11.60	-1.5
	1.2s	699.71nm				6.5mb
	Z 22s	14.81um				6.2Msz
KVN	68.81	324	P	11	13.80	-0.1
LLA	68.87	320	iPd	11	14.10	0.0
			eP'P'	39	26.70
PRS	68.95	320	ePd	11	14.70	0.1
			eP'P'	39	26.50
SAO	69.27	320	e(P)	11	16.00	-0.6
TBT	69.39	51	iPc	11	16.50	-0.9
CMB	69.46	322	ePd	11	17.33	-0.4
			epPc	11	36.04	70kmX
			eS	20	23.17
			esS	21	10.34
			eP'P'	39	22.20
ARN	69.70	321	P	11	19.60	0.4
MHC	69.76	321	ePd	11	20.20	0.5
			ipP	11	49.00	115kmX
			iS	20	30.00
			isS	21	03.00
			eSS	25	08.00
			e(sSS)	25	57.00

			e(SSS)	28	56.00
			e	29	09.00
			eLQ	30	33.00
			eLR	34	54.00
			eP'P'	39	25.00
GCC	69.78	320	ePd	11	19.80	0.2
PCC	70.32	320	e(P)	11	22.90	0.0
BKS	70.47	321	iPd	11	24.30	0.5
	1.0s	326.00nm				6.2mb
			ePcP	11	37.50
			epP	11	45.90	82kmX
			eS	20	32.00
			e	25	13.20
			eSS	25	22.00
			eSSS	29	14.00
			eLQ	30	24.00
			e	35	08.00
BRK	70.48	321	ePd	11	24.10	0.2
CTFE	70.53	52	iPc	11	24.50	0.1
SCH	70.56	4	eP	11	21.00	-3.0X
	1.3s	30.00nm				5.1mb X
GGC	70.82	52	iPc	11	25.60	-0.6
LIC	70.97	78	P	11	25.30	-2.0
	1.2s	135.50nm				5.8mb
RUV	71.07	259	iP	11	28.20	0.4
	1.3s	550.00nm				6.3mb
ORV	71.11	322	ePd	11	28.20	0.5
TIC	71.11	77	P	11	26.30	-1.9
	1.4s	143.00nm				5.7mb
KIC	71.28	78	Pd	11	27.32	-1.9
	1.0s	147.00nm				5.9mb
VAH	71.29	259	iP	11	29.60	0.4
	1.3s	440.00nm				6.2mb
TPT	71.33	259	iP	11	30.00	0.6
	1.3s	770.00nm				6.5mb
TBI	71.49	250	iP	11	30.70	0.4
	1.1s	210.00nm				6.0mb
PMO	71.59	259	iP	11	31.90	0.9
	1.3s	550.00nm				6.3mb
MIN	71.68	323	ePd	11	30.50	-0.8
CFTV	72.15	53	iP	11	33.40	-0.7
TVO	72.31	256	iP	11	36.10	0.8
	1.3s	425.00nm				6.2mb
WDC	72.38	323	ePc	11	33.70	-1.5
LBFM	72.50	324	P	11	36.30	0.1
PPN	72.52	256	iP	11	37.20	0.7
	1.3s	125.00nm				5.7mb
PAE	72.64	256	iP	11	37.90	0.7
	1.3s	470.00nm				6.3mb
PPT	72.65	256	iP	11	38.30	1.0
	1.3s	440.00nm				6.2mb
AFR	72.85	256	iP	11	39.10	0.7
	1.3s	275.00nm				6.0mb
FHC	73.37	322	ePd	11	41.80	0.8
SES	73.81	336	iPd	11	43.10	-0.3
	1.0s	499.00nm				6.4mb
SPA	74.29	180	iPc	11	45.30	-0.9
	2.9s	2614.86nm				6.7mb
	Z 21s	3.33um				5.6Msz
			i	12	35.10
FFC	74.39	343	iPd	11	45.60	-1.0
	1.3s	239.00nm				6.0mb
VGB	74.66	327	P	11	49.80	1.4
NEW	74.80	331	P	11	48.80	-0.3
DPW	75.02	330	P	11	50.90	0.4
KUK	75.35	79	eP	11	52.00	-1.0
			e	21	26.00
LEGH	75.36	80	eP	11	51.00	-2.0
KOGH	75.44	79	eP	11	52.00	-1.5
SHGH	75.58	79	eP	11	53.00	-1.3
SHW	75.88	327	P	11	58.00	2.5X
LON	76.03	328	ePd	11	56.25	0.1
			ePP	14	50.89
PNT	76.71	331	ePd	12	00.00	0.1
	0.6s	94.00nm				5.9mb
EDM	76.91	337	iPd	11	59.80	-1.2
GMW	77.05	328	P	12	02.00	0.2
MCW	77.83	329	P	12	07.10	1.0
TIO	78.56	53	iP	12	11.00	0.3
			i	12	33.50
FRB	79.38	2	eP	12	13.00	-1.1
	0.8s	164.00nm				6.0mb
AVE	79.50	51	iPc	12	17.00	1.5
			i	12	34.00
SBA	80.64	191	P	12	22.60	1.7
IFR	81.32	52	iP	12	27.00	1.6
			i	12	29.00

EVAL	81.92	47	eP	12	29.60	1.4
NKM	81.94	50	iPd	12	28.50	0.2
EJIF	82.33	49	eP	12	32.00	1.7
EZAM	82.72	43	eP	12	33.20	0.9
EPRU	82.73	48	eP	12	34.00	1.6
EHOR	83.09	48	eP	12	35.00	0.8
STS	83.17	42	eP	12	34.90	0.4
EPLA	83.50	45	iPd	12	37.40	1.1
CER	83.54	123	iPc	12	35.40	-1.4
	1.2s	520.00nm				6.4mb
			e	13	24.50	
ATEJ	83.59	49	iPc	12	37.70	0.7
ALOJ	83.60	49	iPd	12	38.00	1.0
EMEL	83.69	51	eP	12	38.30	1.0
ACHM	83.80	49	iPc	12	39.00	1.0
APHE	83.84	49	iPd	12	39.20	1.0
ERUA	83.85	43	e(P)	12	39.00	1.0
TAF	83.90	51	iP	12	40.00	1.5
ASMO	83.97	49	iPc	12	39.50	0.6
CRT	84.00	49	eP	12	41.00	2.0
AFC	84.07	49	eP	12	40.00	0.6
EMON	84.22	42	eP	12	40.50	0.6
EBAN	84.28	48	eP	12	41.10	0.8
TOL	84.82	46	ePd	12	43.57	0.6
	1.0s	93.75nm				5.8mb
			ePP	16	09.43	
			eSKS	23	04.82	
			eS	23	07.58	
			esS	23	39.58	
			ePS	25	23.00	
			iSS	28	43.00	
ENIJ	84.92	49	eP	12	43.20	-0.3
GUD	85.08	46	eP	12	45.00	0.6
EVIA	85.39	48	eP	12	46.70	0.8
GDH	85.98	7	eP	12	50.00	2.0
			i	23	05.00	
			e	28	55.00	
ETOR	86.60	46	iPd	12	52.80	1.0
VAL	86.68	34	eP	12	53.00	1.3
			S	23	13.00	
ECHE	86.87	47	eP	12	54.00	0.9
ECRI	87.02	44	eP	12	54.40	0.6
BOH	88.23	44	P	13	00.05	0.4
ELYF	88.27	44	P	12	59.46	-0.3
ISSF	88.35	44	P	13	00.65	0.4
MADF	88.38	44	P	13	00.11	-0.1
LHE	88.42	45	P	13	00.92	0.4
ATE	88.43	44	P	13	00.57	0.1
ESCF	88.52	44	P	13	01.27	0.4
OGE	88.62	44	P	13	01.39	0.0
JAU	88.64	44	P	13	02.14	0.5
EPF	89.12	45	eP	13	03.80	0.0
	1.5s	15.60nm				5.0mb X
DLE	89.30	33	eP	13	04.80	0.5
HVD	89.37	122	iPc	12	50.00	-15.5X
FRS	89.48	121	iPc	13	01.00	-4.8X
	1.0s	100.00nm				6.0mb
			i	13	45.00	
ESEL	89.70	48	eP	13	06.40	-0.1
LFF	90.11	43	eP	13	07.80	-0.5
	1.2s	192.70nm				6.2mb
MFF	90.18	41	eP	13	07.80	-0.8
	1.5s	229.80nm				6.2mb
LPF	90.18	40	eP	13	07.60	-0.9
	1.4s	99.30nm				5.9mb
LPO	90.31	43	eP	13	08.90	-0.3
	1.4s	165.50nm				6.1mb
GRR	90.44	39	eP	13	09.00	-0.7
	1.6s	211.40nm				6.2mb
ETER	90.57	46	eP	13	11.00	0.5
RJF	90.76	43	eP	13	10.70	-0.6
	1.6s	223.80nm				6.2mb
FLN	90.81	39	eP	13	11.00	-0.4
	1.4s	113.20nm				6.0mb
MAW	90.91	165	eP	13	11.00	-0.7
	1.1s	180.00nm				6.3mb
LDF	90.97	39	eP	13	11.50	-0.6
	1.4s	113.20nm				6.0mb
CAF	90.98	43	eP	13	11.90	-0.4
	1.4s	95.80nm				5.9mb
AKU	91.07	20	iP	13	14.30	2.1
	1.0s	40.00nm				5.7mb
LSF	91.11	42	eP	13	12.30	-0.6
TCF	91.57	42	eP	13	14.10	-0.9
	1.4s	91.40nm				6.0mb
SEK	91.85	120	iPc	13	18.00	1.0
LBL	91.87	43	P	13	16.48	0.1
PYM	91.90	43	P	13	16.46	-0.1
ESK	91.96	33	eP	13	17.91	1.4
EKA	91.99	33	Pc	13	16.70	0.0
	2.1s	283.10nm				6.3mb
KSR	92.02	117	iPc	13	18.50	0.7
BGF	92.08	42	eP	13	16.70	-0.6
AGO	92.08	43	P	13	16.96	-0.4
PLDF	92.37	43	P	13	18.28	-0.5
GRC	92.48	41	P	13	18.72	-0.4
AVF	92.48	42	eP	13	18.50	-0.7
	1.6s	118.10nm				6.1mb
SSF	92.68	42	eP	13	19.30	-0.8
	1.5s	83.50nm				5.9mb
SMF	92.75	42	eP	13	19.70	-0.7
	1.6s	189.00nm				6.3mb
BCAO	92.90	86	ePd	13	21.16	-0.7
	1.1s	125.00nm				6.3mb
			ePc	13	39.87	66kmX
			ePP	17	00.98	
LBF	92.95	42	eP	13	20.40	-1.0
	1.4s	56.60nm				5.8mb
LOR	92.97	42	eP	13	20.90	-0.6
	1.6s	124.30nm				6.1mb
SLR	93.24	118	iPc	13	23.50	0.1
	1.2s	85.94nm				6.1mb
	Z 22s	9.63um				6.2Msz
LRG	93.38	46	eP	13	23.60	0.2
	1.6s	223.80nm				6.3mb
LMR	93.45	46	eP	13	23.70	0.0
	1.6s	154.20nm				6.2mb
FRF	93.61	46	eP	13	24.60	0.1
	1.6s	191.50nm				6.3mb
BNI	94.10	44	P	13	27.50	0.7
RRL	94.13	45	P	13	27.08	0.0
DRV	94.15	193	eP	13	28.00	1.4
PZZ	94.22	45	P	13	27.60	0.2
INK	94.24	341	ePd	13	26.20	-0.6
	0.9s	76.10nm				6.1mb
			pP	14	07.00	161kmX
SBF	94.25	46	eP	13	27.50	0.0
	1.6s	211.40nm				6.3mb
LPG	94.29	44	eP	13	28.10	0.2
	1.6s	199.00nm				6.3mb
DOI	94.32	45	P	13	28.50	0.7
ENR	94.35	45	P	13	28.31	0.4
RSP	94.52	44	P	13	28.72	0 0
LSD	94.55	44	P	13	29.55	0.5
IMI	94.58	46	P	13	29.75	0.8
ROB	94.68	45	P	13	28.93	-0.5
HAU	94.81	42	eP	13	29.40	-0.5
	1.6s	87.00nm				5.9mb
KMZ	94.88	105	eP	13	31.00	-0.1
			i	14	09.00	
FIN	94.89	46	P	13	29.75	-0.6
LOMF	94.91	42	P	13	28.28	-2.2
BSF	95.04	42	P	13	29.79	-1.3
ORX	95.15	44	P	13	31.49	-0.2
PCP	95.22	45	P	13	30.78	-1.1
MOF	95.26	42	P	13	31.02	-1.0
BUL	95.34	113	iPc	13	33.20	0.0
DBN	95.39	37	eP	13	30.00	-2.3
	Z 20s	5.00um				6.0Msz
			e	14	00.00	
			ePP	17	20.00	
			iSKS	24	06.00	
			eS	24	43.00	
			eSP	26	04.00	
BBS	95.39	42	P	13	30.66	-1.9
ECH	95.39	41	P	13	32.06	-0.5
ENN	95.41	39	eP	13	32.50	0.0
	1.2s	111.00nm				6.2mb
			e	14	21.00	
SNZO	95.41	225	P	13	24.00	-8.9X
			PP	17	32.00	
			SKS	23	52.00	
			SP	25	52.00	
			SS	31	16.00	
CDF	95.52	41	P	13	32.22	-1.0
WLS	95.57	41	P	13	32.64	-0 8
VAI	95.75	44	P	13	33.00	-1.2
FEL	95.83	42	P	13	33.58	-1.2
BOB	95.90	45	P	13	36.50	1.5
GWF	95.91	41	P	13	34.39	-0.5
MBC	95.92	350	ePd	13	34.50	0.1
	0.9s	38.00nm				5.9mb
KRP	96.31	228	P	13	37.40	0.4
WTS	96.31	38	eP	13	36.50	-0.1
	1.2s	112.00nm				6.3mb
			e	14	25.50	
ERC	96.36	52	P	13	36.00	-1.3
WIT	96.48	37	eP	13	38.50	1.2
BDI	96.50	46	P	13	35.20	-2.5
LSZ	96.50	108	eP	13	39.00	0.6
			i	13	44.00	
			i	14	20.00	
SAL	96.86	45	P	13	40.00	0.8
FAI	97.01	53	P	13	45.00	4.9X
PMR	97.21	332	P	13	41.00	0.6
	1.4s	51.14nm				5.9mb
PGD	97.23	47	P	13	41.00	-0.2
KRI	97.31	110	eP	13	49.20	7.1X
			iPP	17	22.50	
CRE	97.33	47	P	13	40.50	-1.0
SFI	97.33	47	P	13	43.00	1.7
RMP	97.41	49	P	13	42.50	0.7
GIB	97.45	53	P	13	44.00	1.8
OGA	97.53	44	iPd	13	42.70	0.2
	1.3s	113.00nm				6.2mb
MNS	97.53	48	P	13	42.40	0.0
ASS	97.69	48	P	13	43.50	0.4
CTI	97.73	44	P	13	41.70	-1.6
COL	97.79	335	eP	13	42.64	-0.3
			eS	25	13.35	
			eSP	26	25.84	
			e	27	07.91	
FBA	97.79	335	P	13	42.70	-0.3
	1.3s	141.51nm				6.3mb
			pP	14	12.50	113kmX
MNO	97.95	53	P	13	45.50	0.9
FUR	98.02	42	iPc	13	45.00	0.6
	1.1s	67.00nm				6.1mb
GRF	98.37	41	iPKPd	13	46.30	0.4
	Z 23s	6.80um				6.1MszX
			i	14	09.70	
			e(PP)	17	27.00	
			e(S)	24	23.00	
MZZ	98.42	104	eP	13	47.00	-0.1
			i	13	50.00	
			i	14	21.50	
			i	17	48.00	
FVI	98.63	44	P	13	46.80	-0.3
DUI	98.65	49	P	13	47.50	0.0
MOX	98.85	40	eP	13	49.00	0.9
	1.9s	121.00nm				6.1mb
	Z 20s	2.70um				5.7Msz
	N 18s	1.70um				
	E 20s	4.50um				
			e	13	51.50	
			e	24	25.00	
SGO	99.02	50	P	13	49.00	0.0
KBA	99.12	44	ePc	13	49.00	-0.6
	1.0s	16.10nm				5.5mb
			i	13	52.00	
			i(PP)	17	50.50	
PTZ	99.72	108	iPd	13	55.50	2.5
			i	17	56.00	
KHC	99.73	42	P	13	49.50	-2.7X
	1.4s	29.00nm				5.7mb
	Z 22s	4.30um				5.9Msz
	N 22s	1.90um				
	E 22s	2.30um				
			e	14	20.00	
			S	24	28.00	
KMR	99.86	43	iP-	13	49.30	-3.5X
			i	13	56.50	
CLL	99.86	39	iP	13	52.70	0.0
	1.7s	71.00nm				6.0mb
	Z 19s	4.00um				5.9Msz
			eSKS	24	26.00	
			eS	25	24.00	
BRG	100.34	40	iPdiff	13	55.70	0.8
	1.4s	66.00nm				6.1mb
	N 20s	1.00um				
	E 20s	4.00um				
			i	14	17.20	
			e	16	25.50	
			e	17	32.00	
			iSKS	24	24.00	
			eP'P'	38	25.50	
IMA	100.48	336	Pdiff	13	54.20	-1.2
	1.4s	39.77nm				5.8mb
PRU	100.53	41	ePdiff	13	55.50	-0.3
	1.9s	42.00nm				5.7mb
	Z 24s	4.30um				5.9MszX

29d 01h

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     N  24s      2.20um
     E  24s      2.90um
                 ePP    17 33.00
                 SKS    24 28.00
                 eS     25 09.00
                 ePS    27 24.00
NB2   101.02  30 Pdiff 13 58.00   0.2X
       1.7s    44.10nm          5.8mb
VKA   101.33  43 ePdiff14 00.00   0.6
     Z  20s      3.90um          5.9Msz
                 e(PP) 18 07.00
                 LR    56 15.00
KSP   101.79  40 ePdiff14 02.50   1.1
                 e     17 40.00
ZST   101.83  43 ePdiff14 01.80   0.2
                 e     18 09.50
SRO   102.57  44 ePdiff14 06.90   2.0
                 e     18 24.60
                 e     19 15.50
BEO   103.55  47 ePdiff14 12.60   3.2X
     Z  20s      3.46um          5.9Msz
                 i(PPP)18 25.60
                 i(S)  24 46.60
                 i(PS) 25 58.60
                 i(PPS)26 37.60
SKO   103.83  50 ePdiff14 12.00   1.3
     Z  26s      2.70um          5.7MszX
     N  25s      2.20um
     E  26s      3.32um
                 i(S)  24 46.00
                 i     25 22.00
KRA   103.97  42 ePdiff14 14.80   3.7X
BZS   104.48  46 ePdiff13 58.50 -15.0X
MLR   107.49  47 ePKP  18 18.50 -16.8X
NUR   107.50  31 ePKP  18 35.00   0.4
                 e     25 00.00
                 e     25 40.00
                 e     26 26.00
                 e     28 08.00
                 e     34 04.00
VRI   108.06  46 ePKPc 18 32.00  -4.2X
                 e     30 01.00
KEV   108.26  21 ePKP  18 50.00  14.2X
                 e     25 04.00
                 e     28 22.00
                 e     34 28.00
BBTK  112.15  53 ePKP  18 43.00  -1.3
MBH   113.21  64 e(PKP)18 49.00   2.6X
DSI   113.79  62 ePKP  18 49.00   1.5
HRI   114.21  60 ePKP  18 48.00  -0.5
CAN   115.28 217 ePKP  18 51.20   0.8
MSL   120.34  57 ePKPd 19 02.50   2.6X
                 ePP   20 28.50
                 eSKKS 27 21.00
ADE   121.09 210 ePKP  19 02.50   1.1
BHD   121.45  60 ePKPd 19 03.00   0.9
                 ePP   20 35.00
                 eSKKS 27 27.00
                 e     31 34.00
STK   122.00 215 ePKP  19 02.00  -1.2
                 i     19 04.90
SLY   122.29  58 ePKPd 19 04.50   0.9
                 ePP   20 38.00
                 eSKKS 27 31.50
KER   123.67  59 ePKP  19 06.00  -0.6
OLP   124.31 221 ePKP  19 08.00   0.2
CTA   127.28 229 iPKPc 19 14.30   0.6
       1.1s   135.44nm
QIS   131.56 223 ePKP  19 21.00  -0.9
                 e     22 39.00
ASPA  132.64 215 ePKP  19 23.50  -0.4
                 eSKP  22 43.10
                 ePKS  22 49.00
PMG   132.80 241 ePKP  19 26.00   1.7
MAIO  133.42  55 ePKP  19 25.00  -0.1
                 i     21 55.00
WB5   135.34 218 ePKP  19 12.00 -17.1X
                 e     19 29.80
                 ePP   22 01.80
                 eSKP  22 54.70
KUSJ  137.76 318 ePKP  19 27.20  -5.7X
ASAJ  138.55 320 ePKP  19 29.50  -4.9X
QUE   140.87  61 ePKP  19 33.80  -5.5X
MBL   141.09 200 ePKP  19 31.00  -8.6X
MTN   142.69 222 ePKP  19 39.00  -3.5X
GUA   143.05 272 e(PKP)19 42.30  -0.9
       0.8s   137.31nm
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GUMO  143.10 272 e(PKP)19 42.50  -0.7
       0.7s   116.90nm
KAKJ  144.01 311 PKP   19 40.60  -3.6X
KSH   144.26  43 ePKP  19 43.80  -1.0
     N  12s      2.80um
                 ePP   23 04.00
                 SKKS  29 44.00
                 eSS   41 44.00
CHJJ  144.93 311 PKP   19 45.60  -0.2
HIA   144.99 345 ePKP  19 43.88  -1.7
                 ePP   23 02.18
MAJO  145.27 312 ePKP  19 44.81  -1.6
MAT   145.27 312 iPKPd 19 44.90  -1.5
     Z  20s      1.42um          5.7Msz
MDJ   145.40 331 ePKP  19 45.00  -1.3
     Z  32s      5.50um          6.1MszX
                 e     19 47.80
                 PP    23 10.00
                 SKS   26 52.00
                 SKKS  29 56.00
MTMJ  145.54 313 PKP   19 46.40  -0.6
IIDJ  145.98 311 PKP   19 48.30   0.6
TSRJ  147.34 312 PKP   19 53.60   3.8X
WMQ   147.71  26 ePKP  19 52.10   1.9
     Z  28s      9.80um          6.4MszX
     N  23s      3.80um
                 PP    23 19.00
                 SKKS  30 05.50
CN2   147.89 334 PKP   19 51.00   0.6
     Z  32s      8.40um          6.3MszX
     N  20s      2.80um
     E  20s      2.00um
                 e     20 02.00
                 PP    23 21.00
                 SKS   26 48.00
                 SKKS  30 05.00
                 SS    42 16.00
WKYJ  148.25 311 ePKP  19 54.10   2.7X
POO   148.47  80 iPKPc 19 52.70   0.6
KUPT  149.28 214 ePKPd 20 02.00   8.6X
YONJ  149.28 314 ePKP  19 54.90   2.0
TKSJ  149.49 311 ePKP  19 56.10   2.9X
NDI   149.90  60 ePKP  19 55.00   1.0
                 eS    30 20.00
SHK   150.18 313 ePKP  19 56.00   1.8
SNY   150.29 334 ePKP  19 58.00   3.9X
     Z  40s      9.00um          6.3MszX
     N  40s      8.80um
     E  40s      2.80um
                 e     20 05.70
                 SKS   27 00.00
                 SKKS  30 15.00
KOD   150.95  97 ePKP  19 59.20   2.9X
SHNJ  151.49 314 ePKP  19 59.90   3.7X
GBA   151.56  91 PKP   19 56.00  -0.8
KUMJ  152.54 312 PKP   20 04.60   6.8X
HYB   152.93  83 ePKP  19 58.50  -0.3
       1.0s   100.00nm
                 eS    30 36.00
KAGJ  153.18 309 ePKP  20 06.40   7.7X
DL2   153.54 333 ePKP  20 00.50   1.5
     Z  46s     42.10um          6.9MszX
BJI   154.50 343 ePKP  20 02.00   1.8
     Z  60s     11.66um          6.2MszX
     N  22s      3.07um
                 ePP   23 57.00
                 eSKKS 30 40.00
                 eSS   43 28.00
HHC   154.70 351 PKP   20 03.00   2.4X
     N  10s      1.00um
                 sPKP  20 27.00
                 PP    24 00.00
BTO   155.14 354 PKP   20 03.00   1.8
     N  20s      3.10um
     E  20s      1.80um
                 e     20 27.00
                 PP    24 03.00
                 SKKS  30 47.00
                 SS    43 38.00
MKS   155.61 212 ePKPc 20 06.50   4.0X
                 e     21 58.50
GTA   155.71  13 ePKP  20 02.20   0.1
     Z  37s      7.60um          6.3MszX
     E  21s      2.20um
                 e     20 30.00
                 PP    24 06.00
                 SKKS  30 49.00
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TRT   155.93 194 iPKPd 20 04.60   1.7
       0.9s    85.10nm
TIY   157.61 348 ePKP  20 06.00   1.5
     N  16s      2.10um
                 pPKP  20 24.50
                 PP    24 14.50
                 SKKS  31 01.00
TIA   157.68 337 ePKP  20 06.00   1.5
     Z  48s      5.60um          6.0MszX
     N  58s      5.80um
                 e     20 37.00
                 PP    24 17.00
                 SKKS  30 56.00
                 SS    44 05.00
LZH   159.64   7 PKP   20 08.00   1.1
       1.4s    62.00nm
                 sPKP  20 22.00
DAV   159.64 247 ePKP  20 06.00  -1.3
SSE   159.87 322 PKP   20 09.50   2.4X
       1.2s   123.00nm
                 epPKP 20 19.80
                 sPKP  20 24.00
LSA   160.07  43 PKP   20 08.90   0.9
                 PP    24 25.00
                 iSKKS 31 15.00
NJ2   160.44 328 PKPc  20 10.80   3.2X
                 PP    24 33.50
XAN   161.74 354 PKP   20 10.00   1.0
     N  14s      1.40um
                 SKKS  31 20.00
WHN   163.77 336 PKP   20 13.50   2.5X
                 e     21 04.00
                 PP    24 49.50
                 SKKS  31 36.00
TSM   163.99 225 ePKPc 20 15.10   3.4X
CD2   164.72  10 ePKP  20 12.40   0.4
     Z  34s      3.30um
                 PP    24 55.00
                 iSKKS 31 37.50
PSI   164.86 149 ePKPc 20 14.00   1.5
       1.0s    72.50nm
QZH   165.67 311 ePKP  20 16.00   3.2X
     Z  38s      6.10um
                 pPKP  20 34.00
KGM   165.88 166 ePKP  20 16.00   2.7X
KKM   166.58 225 ePKPd 20 16.00   2.0
       1.1s   125.30nm
BAG   166.70 274 ePKP  20 16.00   1.9
IPM   167.50 153 ePKPd 20 16.70   2.1
       1.1s    76.80nm
GYA   169.40   0 PKP   20 17.40   1.8
     Z  36s      3.30um
     N  21s      1.50um
     E  21s      0.80um
                 pPKP  20 39.00
                 e     21 30.00
                 PP    25 18.00
                 SKKS  31 57.00
                 SS    46 00.00
SNG   169.52 144 ePKP  20 18.00   2.2
       1.2s   131.25nm
KMI   170.00  21 ePKP  20 16.81   0.7
GZH   170.46 320 PKPd  20 24.00   7.9X
CHG   171.96  67 ePKPc 20 18.50   1.6
       1.0s    27.50nm
BDT   172.43  78 PKP   20 19.30   2.3
       1.0s    41.40nm
     S.D. = 1.1  on 366 of 420 obs.
-----------------------------------
   NOV  29, 1989  02h 25m 07.44± 0.32s
   36.527 N ± 4.1km   28.589 E ± 4.1km
   DEPTH =  83.3 ±  9.9 km
   3.8mb (  2 obs.)
 DODECANESE ISLANDS                (369)
      MD 3.9 (ATH).

YER     0.65 338 iPg   25 22.00  -1.2
                 iSg   25 29.00
KSL     0.90 117 iPnc  25 26.50   0.7
ELL     1.08  78 iPn   25 30.50   2.4
KAP     1.50 230 ePn   25 33.50   0.2
                 eSn   25 51.20
BCK     1.85  59 iPn   25 41.00   2.9X
KHL     1.94  22 iPn   25 39.50   0.2
IZM     2.14 331 iPn   25 41.10  -0.9
APE     2.51 283 ePn   25 46.50  -0.5
NPS     2.73 243 ePn   25 50.00   0.1
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                    eSn    26 19.40
DST      3.07   1 iPn    25 54.20   -0.6
PRK      3.28 327 ePn    25 57.00   -0.5
PPCY     3.47 117 ePn    26 01.80    1.6
                    eSn    26 42.50
EZN      3.75 332 ePn    26 03.00   -1.0
EDC      3.86 352 ePn    26 04.00   -1.6
BNT      3.86 352 ePn    25 55.00  -10.6X
GPA      3.99  19 ePn    26 07.00   -0.5
YLV      4.08   8 iPn    26 09.40    0.6
ATH      4.15 292 ePn    26 10.60    1.0
CSS      4.16 111 eP     26 10.00    0.1
                    eSn    27 00.00
VLI      4.55 274 iPnd   26 15.70    0.4
BBTK     4.66  44 eP     26 19.00    2.0
                    eS     27 11.00
RDO      5.19 334 ePn    26 24.00   -0.2
ITM      5.38 279 ePn    26 28.80    1.9
BHL      6.35 112 Pn     26 39.00   -1.3
                    Sn     27 45.50
HRI      6.71 117 eP     26 45.00   -0.4
HLW      7.04 160 ePn    26 49.00   -0.8
                    eSn    28 04.00
KOT      7.12 157 ePn    26 50.00   -0.8
                    eSn    28 04.00
DSI      7.50 129 eP     26 55.50   -0.5
MBH      8.55 140 eP     27 09.50   -1.1
HQL      9.05 141 eP     27 16.80   -0.5
MLR      9.18 348 eP     27 19.00   -0.2
SRFA     9.39 142 eP     27 21.80   -0.2
BADA     9.64 144 ePd    27 24.30   -1.1
AYN      9.86 139 eP     27 29.00    0.7
KBA     15.48 318 eP     28 48.50    6.3X
        1.0s      3.60nm          3.5mb
SUF     26.26 357 iP     30 41.90    5.7X
        0.6s      3.30nm          4.0mb
KIC     42.77 234 P      32 59.90    1.6
     S.D. = 1.1  on  33 of  37 obs.
-----------------------------------------
?  NOV  29, 1989  02h 26m 44.07± 3.90s
   36.704 N ±37.2km   28.629 E ±18.8km
   DEPTH =  10.0km  (geophysicist)
 DODECANESE ISLANDS                (369)

YER      0.51 327 iPg    26 55.00    0.5
                    iSg    27 06.00
ELL      1.03  87 ePn    27 03.00   -0.6
BCK      1.74  64 ePn    27 16.00    1.4
KHL      1.77  23 iPn    27 14.00   -0.9
IZM      2.01 328 ePn    27 18.00   -0.4
     S.D. = 1.4  on   5 of   5 obs.
-----------------------------------------
   NOV  29, 1989  03h 02m 44.99± 0.38s
   15.936 S ± 7.8km   73.463 W ± 6.9km
   DEPTH =  92.5km  (  7 depth phases)
   4.7mb (  8 obs.)
 SOUTHERN PERU                     (117)
      Felt (II) at Arequipa. Also felt
      at Arica, Chile.

ARE      1.97 106 iPd    03 16.30   -1.4
PT08     4.96 322 iP     03 56.90   -2.0
NNA      5.11 320 iPd    03 58.70   -2.0
        0.6s   310.00nm          5.7mb X
                    i      04 02.00
                    eS     04 32.50
ZOBO     5.14  94 Pd     04 02.20    0.6
LPB      5.19  97 Pd     04 03.70    1.6
CNCB     5.33 100 iPd    04 05.50    1.2
CCH      7.16 103 P      04 28.00   -1.3
PSO     17.44 347 eP     06 46.00    1.7
LCCH    17.55 175 iPc    06 54.60    9.5X
SAN     17.62 172 eP     06 46.50    0.4
LNV     18.04 174 eP     06 50.00   -1.0
ITB1    19.86 119 eP     07 09.30   -1.9
BOG     20.43 358 eP     07 20.00    2.4X
                    eS     11 06.00
BAO     24.51  93 eP     07 56.40   -1.0
UPA     25.48 346 e(P)   08 09.50    3.3X
        1.0s   120.00nm          5.3mb
VAO     25.92 110 eP     08 08.60   -1.9
                    e      08 13.30   17kmX
                    e      08 18.30
                    e      08 34.30
PPM     42.69 324 eP     10 40.00    4.9X
HBF     49.04 352 P      11 24.50    0.1
SGS     49.31 352 P      11 28.00    1.5
PRM     50.46 350 P      11 34.80   -0.5
                    pP     11 57.30   92km
JSC     50.48 352 P      11 35.00   -0.4
LHS     50.62 352 P      11 35.80   -0.7
                    pP     11 59.20   97km
GBTN    52.32 349 P      11 48.00   -1.4
PWLA    52.50 345 P      11 50.00   -0.7
RSCP    52.52 348 P      11 49.50   -1.4
                    pP     12 11.90   91km
BLA     53.26 353 P      11 56.00   -0.3
        0.7s      8.33nm          4.9mb
NAV     53.41 353 P      11 56.50   -0.9
UYO     53.69 338 iPd    11 59.50    0.1
CVL     53.83 355 P      12 00.20   -0.2
                    pP     12 22.10   88km
NA2     53.92 356 P      12 00.70   -0.3
                    pP     12 23.40   92km
OLY     53.93 342 P      11 59.90   -1.3
POW     54.45 342 P      12 03.80   -1.2
ELC     54.98 345 P      12 07.00   -1.8
                    pP     12 30.00   93km
FVM     55.95 344 P      12 13.80   -2.0
                    pP     12 37.00   94km
ALQ     59.51 329 eP     12 41.20    0.1
        1.0s      7.50nm          4.8mb
GLD     62.81 333 P      13 03.70    0.5
GOL     62.84 333 P      13 03.00   -0.5
MSU     65.18 327 P      13 19.50    0.8
DAU     66.15 329 P      13 25.60    0.6
DUG     66.77 328 P      13 29.80    1.1
BW06    67.19 332 P      13 31.00   -0.5
        1.2s      3.42nm          4.2mb
TNP     67.62 324 P      13 34.50    0.3
        0.8s      5.39nm          4.5mb
PRI     68.35 320 eP     13 40.20    1.5
KVN     68.79 324 P      13 41.50    0.1
LLA     68.83 321 ePc    13 42.90    1.4
CMB     69.42 322 P      13 50.00    4.8X
        0.9s      5.90nm          4.4mb
ARN     69.67 321 P      13 47.20    0.6
SCH     70.70   4 ePd    13 52.00   -0.5
ORV     71.08 323 ePc    13 57.00    1.9
LIC     71.21  78 P      13 54.80   -1.6
TIC     71.35  77 P      13 55.70   -1.6
KIC     71.52  78 P      13 56.80   -1.5
WDC     72.35 323 ePc    14 02.40   -0.3
LBFM    72.48 324 P      14 04.60    0.9
SES     73.84 336 eP     14 12.00    0.8
PNT     76.71 331 eP     14 29.00    1.5
        0.8s     10.00nm          4.7mb
EDM     76.95 337 iPd    14 28.50   -0.3
ATEJ    83.83  49 eP     15 07.50    1.7
ALOJ    83.85  49 eP     15 08.00    2.2
ACHM    84.04  49 eP     15 08.50    1.7
APHE    84.08  49 eP     15 08.50    1.5
ASMO    84.21  49 eP     15 09.10    1.5
TOL     85.06  46 eP     15 13.50    1.8
BCAO    93.12  86 iPd    15 51.40    1.0
        0.5s      9.00nm          5.4mb
INK     94.29 341 eP     15 55.00    0.5
MBC     96.01 350 eP     15 45.00  -17.3X
        0.9s      3.00nm
ASPA   132.41 215 iPKPc  21 50.90    0.0
        1.4s     14.00nm
                    eS     25 17.90
LAT    134.08 244 ePdiff 18 43.00  -10.6X
WB5    135.11 219 ePKP   21 56.20    0.2
MAT    145.20 312 ePKP   22 14.00    0.3
        1.0s     38.00nm
GBA    151.78  91 PKPc   22 25.40    0.9
        1.1s      9.60nm
     S.D. = 1.2  on  64 of  71 obs.
-----------------------------------------
?  NOV  29, 1989  03h 37m 31.35± 4.63s
   44.260 N ±33.4km   7.155 E ±31.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.0 (GEN).

STV      0.12  97 P      37 34.55    0.1
                    S      37 36.19
ENR      0.19 100 P      37 35.58   -0.1
                    S      37 38.24
PZZ      0.25 351 P      37 36.70    0.0
                    S      37 40.19
ROB      0.51  86 P      37 41.83    0.0
                    S      37 47.57
     S.D. = 0.1  on   4 of   4 obs.
-----------------------------------------
*  NOV  29, 1989  04h 45m 51.06± 1.70s
   16.483 N ±11.0km   60.945 W ±17.1km
   DEPTH =  35.1 ± 16.4 km
 LEEWARD ISLANDS                   ( 92)
      ML 3.0 (FDF).

DEG      0.20 213 ePd    45 57.96    0.0
MGG      0.67 213 ePd    46 03.98    0.0
                    S      46 13.70
PAG      0.84 238 ePd    46 06.64    0.1
                    S      46 18.10
ANG      1.08 308 eP     46 09.85    0.0
                    eS     46 25.85
BBL      1.08 208 eP     46 09.83   -0.1
                    S      46 23.50
CRM      1.72 179 eP     46 19.26    0.1
FDF      1.75 187 eP     46 19.01   -0.6
                    S      46 29.80
MVM      1.92 179 eP     46 21.83   -0.2
                    S      46 44.80
BIM      1.96 184 eP     46 23.38    0.8
     S.D. = 0.5  on   9 of   9 obs.
-----------------------------------------
&  NOV  29, 1989  05h 08m 57.85s
   59.692 N          152.532 W
   DEPTH =  64.8km
 SOUTHERN ALASKA                   (  2)
      <AGS-P>. Felt (II) at Homer.

RDT      0.89   4 iP     09 14.00   -1.0
                    eS     09 28.00
SLKM     1.42  54 iP     09 21.20   -0.8
SPU      1.51   9 iP     09 22.80   -0.5
                    eS     09 42.00
KDC      1.95 179 iP     09 27.70   -1.5
SVW      2.09 314 iP     09 29.10   -2.2
PMS      2.14  42 eP     09 31.40   -0.6
PWA      2.36  32 iP     09 34.40   -0.6
PMR      2.54  40 eP     09 36.40   -1.1
HIN      3.11  74 eP     09 43.73   -1.8
                    eS     10 17.65
CVA      3.50  73 eP     09 48.64   -2.3
                    eS     10 27.64
TTA      3.66 334 eP     09 49.80   -3.5
SGAM     3.76  74 eP     09 52.14   -2.5
                    eS     10 32.85
RAGM     4.00  77 eP     09 55.85   -2.3
SNH      4.90  80 eP     10 09.03   -1.7
WAX      4.91  77 eP     10 08.16   -2.7
CYK      5.08  81 eP     10 11.45   -1.7
PCA      6.19  81 eP     10 26.47   -2.3
BCPM     6.51  82 eP     10 31.03   -2.1
HQN      6.94  86 eP     10 36.10   -3.0
HYT      7.56  75 P      10 44.00   -3.8
DWY      7.57  49 P      10 45.30   -2.6
INK     11.95  36 eP     11 44.00   -3.2
        22 obs. associated
-----------------------------------------
?  NOV  29, 1989  05h 29m 52.17± 6.04s
   16.374 S ±103.km   73.511 W ±54.7km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF PERU                (115)

ARE      1.94  93 iPc    30 23.40   -0.3
                    iS     30 44.40
ZOBO     5.17  90 Pc     31 09.20   -0.7
LPB      5.20  92 P      31 11.00    0.9
CNCB     5.32  95 P      31 12.70    0.7
PT10     5.43 321 eP     31 13.00    0.0
                    eS     32 18.00
CCH      7.13  99 P      31 36.50   -0.6
     S.D. = 0.9  on   6 of   6 obs.
-----------------------------------------
   NOV  29, 1989  05h 48m 59.84± 0.12s
   25.374 S ± 3.5km  179.629 E ± 2.9km
   DEPTH = 487.0km  (  9 depth phases)
   5.7mb ( 49 obs.)
 SOUTH OF FIJI ISLANDS             (171)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 16S, 43C
      Centroid Location:
      Origin Time        05:49: 8.7 0.3
      Lat 25.37S 0.03 Lon 179.52E 0.03
      Dep 515.6 1.6 Half-duration  4.1
```

29d 05h

```
      Moment Tensor;   Scale 10**18 Nm
        Mrr= 0.38 0.03  Mtt=-0.44 0.04
        Mff= 0.05 0.05  Mrt=-0.37 0.04
        Mrf=-1.30 0.04  Mtf=-0.52 0.03
       Principal Axes:
        T  Vol=  1.53  Plg=48  Azm= 87
        N       -0.05      22      203
        P       -1.48      34      309
      Best Double Couple:Mo=1.5*10**18
       NP1:Strike= 92 Dip=23 Slip= 160
       NP2:        200     82       68

RAO     4.44 151 iP     50 23.50   1.7
                iS     51 35.30
SVA     7.30 351 iPd    50 56.10   6.3X
VUN     7.41 351 ePd    50 56.30   5.4X
SGE     7.91 348 eP     50 02.60 -53.7X
KRO     8.02 358 ePd    51 03.90   6.5X
MBU     8.40 354 eP     50 08.00 -53.5X
NDE     8.75 358 eP     51 11.00   5.8X
YSA     8.85 347 iPd    51 12.00   5.9X
HBZ    12.24 185 eP     51 41.60  -0.5
       0.3s   281.00nm          6.2mb
DZM    12.52 283 iPd    51 48.90   3.6X
                iS     54 07.20
                ScP    59 30.00
PVC    12.98 304 iPc    51 53.00   3.0X
KRP    12.99 195 P      51 51.80   1.8
       0.6s   914.00nm          6.5mb
                S      53 15.50
TUTZ   13.65 192 eP     51 58.00   1.1
HITZ   13.69 193 eP     51 57.20  -0.1
AFI    13.98  37 eP     51 55.00  -5.5X
                eS     54 19.00
MNG    15.59 192 eP     52 13.20  -3.5X
                eS     54 48.20
KIW    15.94 193 eP     52 17.70  -2.5
CAW    16.14 192 eP     52 20.70  -1.5
WDW    16.31 193 P      52 21.40  -2.4
MRW    16.34 193 eP     52 21.90  -2.2
                S      55 03.90
WEL    16.38 193 Pc     52 24.00  -0.5
                S      55 04.00
TCW    16.41 194 P      52 23.30  -1.5
MSZ    21.47 203 P      53 13.80   0.5
                S      56 34.50
BRS    24.13 259 iPc+   53 38.50   0.8
                i      53 50.00
                e      53 56.00
                i      57 17.00
                iScP   59 54.50
                iScS   03 45.00
HNR    24.52 307 eP+    53 40.00  -1.3
                e(S)   59 43.00
COO    25.01 252 iPd    53 47.70   2.0
                e      59 57.00
RMQ    27.76 261 iPd    54 11.70   1.8
       1.0s   627.00nm          6.1mb
                e      55 34.00
CNB    27.84 242 iPd    54 12.80   2.1
       1.0s   120.00nm          5.4mb
                e      55 36.00
                e      00 06.00
TBI    28.20  92 iP     54 10.10  -3.7X
       1.0s   305.00nm          5.8mb
                eScP   00 06.00
BWA    28.43 244 iPd    54 14.90  -0.9
                iPP    55 40.90
                iScP   00 06.20
AFR    29.47  81 iP     54 23.60  -1.3
                iScP   00 09.20
PAE    29.60  81 iP     54 24.80  -1.2
       1.2s   460.00nm          5.9mb
                iScP   00 09.50
PPT    29.64  81 iP     54 25.20  -1.2
       1.2s   720.00nm          6.1mb
                iScP   00 10.00
PPN    29.78  81 iP     54 26.50  -1.1
                iScP   00 10.20
TVO    29.86  82 iP     54 27.20  -1.1
                iScP   00 10.60
CMS    30.26 251 iPd    54 32.50   0.9
       0.8s    97.00nm          5.4mb
                e      00 13.00
CTA    31.18 273 iPd-   54 40.40   0.8
       1.0s   518.00nm          6.0mb
                iS     59 10.00
                iScP   00 17.00
                iScS   04 16.50
TOO    31.38 239 iPd    54 42.50   1.3
       1.2s   190.00nm          5.5mb
                e      00 16.00
QLP    31.78 260 iPd    54 44.70   0.1
                e      00 18.00
PMO    32.10  78 iP     54 46.50  -0.8
       1.2s   450.00nm          5.8mb
                iScP   00 18.30
VAH    32.24  78 iP     54 47.30  -1.2
       1.2s   450.00nm          5.8mb
                iScP   00 18.60
TPT    32.35  78 iP     54 48.60  -0.9
       1.2s   810.00nm          6.1mb
                iScP   00 19.10
RUV    32.48  78 iP     54 49.70  -0.8
       1.2s   810.00nm          6.1mb
                iScP   00 19.40
BFD    33.61 240 iPd    55 01.20   1.3
                e      00 24.00
STK    33.89 250 iPd    55 03.50   1.2
                e      00 25.00
                e      04 30.00
PMG    34.69 291 iPd    55 10.00   0.9
       1.2s   906.25nm          6.2mb
LAT    36.31 295 eP     55 24.00   1.4
ADE    36.43 245 iPd    55 24.10   0.6
       1.0s   160.00nm          5.5mb
QIS    37.07 269 iPd    55 29.10   0.3
       0.9s   318.00nm          5.8mb
                e      00 36.00
                e      04 47.00
RKT    41.31  97 iP     56 02.90  -0.4
                iScP   00 53.40
ASPA   41.49 262 iPd    56 04.00  -0.8
       1.3s   702.00nm          6.0mb
     Z  17s     4.12um          5.3MszX
                iPcP   57 36.90
                eScP   00 54.50
                iS     01 42.60
                iScS   05 10.40
                LR     12 08.70
WB5    41.98 268 iPd    56 08.50  -0.3
                iScP   00 57.20
                iS     01 48.50
MTN    47.25 276 iPc    56 49.10  -0.7
                e      01 18.00
                e      03 10.00
DRV    48.05 200 eP     56 55.00  -0.2
KNA    48.33 271 iPd    56 57.80  -0.2
       0.5s   198.00nm          5.8mb
HON    51.25  27 P      57 19.00  -0.4
COOL   51.37 250 iPd    57 19.00  -1.5
       0.3s    11.00nm          4.7mb
GUA    51.39 315 ePd    57 19.20  -1.4
       0.8s   388.06nm          5.8mb
GUMO   51.45 315 iPd    57 19.70  -1.4
PJG    51.45 315 ePd    57 19.60  -1.5
SBA    52.89 183 Pc     57 32.20   1.4
KLB    54.12 248 iPd    57 39.00  -1.2
       0.3s    12.00nm          4.7mb
NWAO   54.33 247 eP     57 40.20  -1.5
MBL    54.71 261 iPd    57 43.10  -1.4
       0.3s    15.00nm          4.8mb
                e      59 22.00
BAL    55.18 249 iPd    57 46.10  -1.6
       0.3s    25.00nm          5.0mb
MUN    55.35 248 eP     57 47.20  -1.6
MRWA   56.07 251 eP     57 52.20  -1.7
       0.3s    16.00nm          4.8mb
MKS    60.87 279 ePd    58 28.00   1.5
                e      59 55.00
DAV    61.65 294 eP     58 30.00  -1.6
SPA    64.77 180 eP     58 52.00   0.8
       1.7s   617.19nm          6.0mb
                e      00 01.90
TRT    65.97 273 iPd    58 58.70  -0.5
       0.9s   328.10nm          6.0mb
TSM    66.51 287 ePd    59 04.20   1.7
KKM    69.02 288 ePd    59 16.70  -1.2
       1.2s   293.80nm          5.8mb
BAG    70.92 299 eP     59 27.20  -2.0
       1.2s   359.38nm          5.8mb
KAKJ   71.68 327 iPd    59 32.30  -0.6
CHJJ   72.14 326 iPd    59 35.00  -0.6
IIDJ   72.25 325 P      59 35.50  -0.8
WKYJ   72.52 323 eP     59 37.50  -0.5
MAT    72.92 326 iPd-   59 39.10  -1.1
       1.3s   634.62nm          6.0mb
                iS     08 25.60
KAGJ   73.04 318 P      59 40.60  -0.3
NIIJ   73.07 327 eP     59 40.50  -0.5
MTMJ   73.16 326 P      59 41.20  -0.4
TKSJ   73.20 322 eP     59 41.60  -0.2
OFUJ   73.29 330 P      59 41.50  -0.6
TSRJ   73.30 324 eP     59 42.10  -0.2
YAMJ   73.31 328 eP     59 42.70   0.4
KUMJ   74.02 319 P      59 45.80  -0.7
YONJ   74.41 322 eP     59 48.10  -0.5
SHNJ   74.98 320 eP     59 50.80  -1.0
HOOJ   75.31 333 eP     59 54.40   1.1
KUSJ   75.33 334 eP     59 53.30  -0.2
MAW    76.26 201 eP     59 58.00  -0.3
MRRJ   76.27 332 eP     59 58.10  -0.6
ADK    76.99   2 P      00 01.80  -0.6
ASAJ   77.01 334 eP     00 03.90   1.2
AIA    77.35 157 e(P)   00 12.00   7.7X
QZH    77.35 306 Pd     00 04.00  -1.0
       3.0s     0.90nm          2.7mb X
                S      09 12.00
                ScS    09 32.50
                sS     12 17.00
KGM    78.52 278 ePd    00 11.80   0.3
                e      02 06.00
SSE    79.21 312 Pc     00 14.20  -0.5
       1.2s   123.00nm          5.3mb
     Z  20s     0.90um          5.1Msz
     E  12s     0.80um
                sP     00 27.00
                S      09 26.00
                sS     09 42.00
                e      09 56.00
                SKS    10 00.00
GZH    80.28 301 Pd     00 20.00  -0.4
                S      09 43.00
QIZ    80.93 296 P      00 24.00   0.1
NJ2    81.37 311 Pd     00 26.60   0.7
       3.0s     1.00nm          2.8mb X
                S      09 58.00
IPM    81.70 279 ePd    00 27.90  -0.1
       1.1s   187.90nm          5.6mb
BLP    82.36  46 P      00 31.50   0.6
SYP    82.61  46 eP     00 33.00   0 7
                e      02 24.00
PSI    82.76 276 ePd    00 32.00  -1.3
       0.8s    90.70nm          5.4mb
PRS    82.83  44 iPc    00 34.20   1.0
                epP    02 28.70 523kmX
GCC    82.87  43 ePc    00 34.10   0.7
                epP    02 28.80 524kmX
PCC    82.93  43 ePc    00 34.20   0.5
BCH    82.94  46 P      00 33.80  -0.2
                pP     02 29.40 529kmX
SAO    83.05  44 iPc    00 34.70   0.4
PRI    83.16  45 iPc    00 36.00   1.0
SNG    83.21 281 eP     00 36.50   1.0
       1.5s   305.56nm          5.7mb
                eS     10 11.00
NWRM   83.23  42 P      00 35.60   0.5
BRK    83.24  43 ePc    00 36.00   0.8
BKS    83.26  43 iPc    00 36.20   0.9
       0.8s   281.00nm          5.9mb
                eS     10 18.00
                esS    13 38.00
LLA    83.27  44 iPc    00 36.20   0.7
MHC    83.29  43 ePc    00 36.40   0.7
MDJ    83.30 327 iPd    00 36.00   0.7
       5.0s     1.50nm          2.9mb X
                pP     02 24.00 486km
                PP     03 54.00
                S      10 05.00
                sS     13 24.00
ARN    83.36  43 P      00 36.00   0.1
CPE    83.56  49 eP     00 38.30   1.4
PAS    83.58  48 eP     00 37.00   0.0
WHN    83.63 308 iPd    00 38.00   0.7
       1.6s     0.58nm          3.0mb X
                S      10 14.00
MWC    83.70  48 eP     00 38.00   0.1
BAR    83.74  50 eP     00 38.00   0.1
DL2    83.83 318 P      00 38.00  -0 1
       5.0s     1.10nm          2.8mb X
                S      10 10.00
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PLM	84.00	49	eP	00	39.00	-0.4
			e	02	32.00	
RVR	84.02	48	eP	00	40.00	0.8
			e	02	33.00	
FHC	84.10	39	ePc	00	40.20	0.7
PEC	84.11	48	P	00	40.20	0.5
IKP	84.11	50	eP	00	41.60	1.8
SBB	84.13	47	eP	00	40.00	0.2
			e	02	33.00	
ISA	84.28	46	eP	00	41.00	0.4
			e	02	36.00	
FRI	84.29	45	iPc	00	40.80	0.4
			epP	02	35.70	522kmX
CMB	84.50	43	iPc	00	41.80	0.2
			epP	02	35.70	517kmX
SNY	84.58	321	iPd	00	41.00	-0.7
	1.2s		0.20nm			2.6mb X
			pP	02	29.00	484km
			sP	03	24.00	
ORV	84.76	42	ePc	00	42.90	0.1
			epP	02	36.50	515kmX
WDC	84.80	40	iPc	00	43.40	0.5
			epP	02	37.00	515kmX
CN2	84.87	324	iPc	00	41.00	-2.1
	1.4s		0.50nm			3.0mb X
			pP	02	30.00	489km
			sP	03	21.00	
CLC	84.95	47	eP	00	44.00	0.2
			e	02	37.00	
TPC	84.99	49	eP	00	45.00	1.0
			e	02	38.00	
TIA	85.00	314	Pd	00	44.20	0.2
	4.0s		1.30nm			2.9mb X
			pP	02	32.00	482km
			SKS	10	19.00	
GSC	85.17	47	eP	00	45.00	0.1
			e	02	39.00	
MIN	85.20	41	ePc	00	44.70	-0.3
GLA	85.23	50	eP	00	45.00	-0.2
			e	02	38.00	
LBFM	85.66	40	P	00	47.70	0.4
MZX	86.37	62	iPc	00	51.00	0.2
NNT	86.41	286	eP	00	52.10	1.0
TNP	86.52	45	P	00	51.80	0.3
	0.9s		111.33nm			5.6mb
			pP	02	45.20	511kmX
KVN	86.54	44	P	00	51.70	0.1
			pP	02	44.90	510kmX
GYA	87.21	301	iPd	00	55.00	0.1
			pP	02	45.00	491km
			sP	03	36.00	
			PP	04	26.00	
			SKS	10	35.00	
NST	87.45	289	iPd	00	58.00	2.0
			e	02	47.00	
BJI	87.86	317	Pd-	00	58.00	0.5
	1.5s		262.00nm			5.8mb
			epP	02	48.00	490km
			esP	03	38.00	
			eSKS	10	36.00	
			eS	11	00.00	
			esS	13	16.00	
BMW	88.21	36	P	00	59.50	0.4
SHW	88.56	36	P	01	00.90	0.1
ACX	88.86	71	iPc	01	04.00	1.4
VGB	88.92	37	P	01	02.30	-0.1
TIY	88.94	313	iPd	01	03.50	0.8
			SKS	10	44.00	
BDT	89.13	289	eP	01	05.00	1.2
	1.1s		76.60nm			5.5mb
GMW	89.14	35	P	01	03.80	0.5
LON	89.14	36	P	01	03.30	-0.1
XAN	89.38	308	iPd	01	05.50	0.7
KMI	89.65	298	iPd-	01	07.50	1.1
	2.0s		0.90nm			3.3mb X
			sP	02	57.00	
			iS	10	50.00	
MCW	89.85	34	P	01	07.00	0.5
III	89.87	70	iPc	01	08.00	0.5
CHG	89.88	291	iPd	01	08.80	1.5
	1.1s		134.49nm			5.8mb
			eS	11	56.00	
CHTO	89.88	291	iPd	01	07.20	-0.1
	1.0s		130.50nm			5.8mb
			epP	03	57.50	
MSU	90.04	47	P	01	08.60	0.6
TTA	90.11	11	P	01	07.00	-0.5

	1.2s		30.30nm			5.1mb
			pP	03	04.00	525kmX
CRX	90.15	69	iPd	01	10.00	1.1
PMR	90.25	14	P	01	07.20	-0.9
	1.0s		26.50nm			5.1mb
LNV	90.42	128	iPc	01	09.50	-0.1
DUG	90.54	45	P	01	09.80	-0.3
	0.9s		17.86nm			5.0mb
LCCH	90.56	128	iPc	01	11.50	1.2
PPM	90.89	69	iPd	01	13.00	0.4
CHCH	90.97	128	ePc	01	12.10	-0.2
IIT	91.14	70	iPd	01	14.50	1.1
SAN	91.22	128	ePd	01	13.60	0.2
HHC	91.22	315	Pd	01	14.10	0.9
	1.4s		0.10nm			2.6mb X
			pP	03	05.50	495km
			SKS	10	58.00	
CD2	91.61	304	iPc	01	16.20	1.1
	1.3s		0.02nm			1.9mb X
			pP	03	06.00	486km
			iSKS	10	58.50	
			S	11	34.00	
DAU	91.66	46	P	01	15.70	0.2
DPW	91.76	37	P	01	15.10	-0.3
PNT	91.89	35	ePc	01	16.00	0.1
	0.9s		29.00nm			5.3mb
IISM	91.92	70	iPc	01	17.50	0.9
BTO	92.08	314	iPd	01	17.50	0.4
			pP	03	05.50	476kmX
			SKS	11	00.00	
ALQ	92.12	52	iPc	01	17.20	-0.4
	1.0s		38.25nm			5.4mb
PTI	92.28	43	P	01	18.70	0.6
LVVM	93.03	70	iPc	01	22.00	0.3
FBA	93.46	13	P	01	21.90	-0.9
	0.9s		17.29nm			5.1mb
			pP	03	14.40	500kmX
LRM	93.83	41	eP	01	24.90	-0.4
BW06	93.99	44	P	01	24.30	-1.7
	1.2s		12.33nm			4.9mb
LZH	94.01	308	Pd	01	26.50	0.3
	1.8s		0.17nm			2.9mb X
	Z 36s		2.10um			5.3MszX
			pP	03	15.50	481km
			SKS	11	11.00	
			sS	11	27.50	
			PS	11	57.00	
			(SS)	15	18.00	
GLD	95.32	48	P	01	31.60	-0.4
	1.2s		101.01nm			5.9mb
SES	97.07	37	ePc	01	38.70	-0.8
EDM	97.36	34	ePd	01	40.20	-0.5
MEO	97.80	55	iPd	01	40.80	-2.3
GTA	98.37	310	iPd	01	45.80	0.0
			SKS	11	33.00	
ARE	99.26	113	eP	01	52.00	1.5
INK	99.53	16	ePc	01	48.60	-1.5
CNCB	101.98	115	Pdiff	02	03.50	0.5
			e	06	15.00	
			i	11	53.00	
LPB	102.03	115	Pdiff	02	04.00	1.0
			e	06	21.00	
			i	11	54.00	
ZOBO	102.14	115	Pdiff	02	03.00	-0.7
	1.3s		28.39nm			5.8mb
			i	06	16.00	
			i	11	54.00	
CCH	103.18	117	Pdiff	02	09.00	1.0
GBA	106.58	277	PKP	06	47.00	16.2X
	1.3s		17.20nm			
MBC	107.99	13	ePKP	06	30.00	-1.8
	0.5s		3.00nm			
WMQ	108.43	310	Pdiff	02	30.50	0.1
POO	111.59	281	ePKP	06	40.50	0.2
KSH	115.79	303	ePKP	06	48.50	0.6
GRM	116.25	205	e(PKP)	06	50.50	1.6
BAO	118.25	126	ePKP	06	55.40	2.2
HVD	119.07	205	ePKP	06	39.00	-15.5X
FRS	119.90	206	iPKPd	06	56.00	0.2
	0.6s		43.33nm			
			i	09	44.40	
BLF	120.12	207	ePKP	06	42.00	-14.5X
SEK	120.20	209	iPKPc	06	56.00	-0.7
	0.4s		10.17nm			
			e	09	04.00	
KIM	121.00	206	iPKPc	06	59.00	0.8
FRB	122.09	29	ePKP	06	51.00	-7.9X

	0.8s		56.00nm			
PAG	122.32	87	ePKP	06	58.00	-2.8
KSR	122.65	209	ePKP	07	05.00	3.5X
			e	09	23.00	
SCH	123.85	40	ePKPd	07	00.60	-2.1
MAIO	128.18	297	ePKP	07	12.00	0.3
PTZ	129.94	222	iPKPd	07	16.00	0.4
			i	09	50.20	
			i	10	05.00	
KEV	132.78	347	ePKP	07	19.00	-0.2
	0.7s		17.40nm			
MZZ	133.85	222	iPKPd	07	24.00	0.9
			i	08	51.00	
			i	10	05.00	
			i	10	09.00	
SOD	134.82	346	ePKP	07	29.00	5.8X
SUF	138.70	342	ePKP	07	20.80	-9.8X
NUR	140.89	341	ePKP	07	28.70	-5.9X
MSL	141.36	297	ePKPd	07	50.50	14.3X
UPP	143.33	345	iPKP	07	35.40	-3.4X
	1.0s		400.00nm			
			i	10	28.40	
NB2	143.48	351	PKP	07	34.90	-4.2X
	1.1s		200.80nm			
HFS	143.92	348	ePKP	07	36.60	-3.2X
	0.5s		109.60nm			
KVT	146.03	307	iPKP	07	45.60	1.6
HLBJ	147.27	290	PKP	07	49.50	3.2X
AYN	147.52	284	ePKP	07	48.00	1.3
KAS	147.58	308	iPKPd	07	49.80	3.3X
HRI	147.67	293	e(PKP)	07	50.00	3.0X
BURJ	147.68	291	PKP	07	52.10	5.1X
BHL	147.69	294	PKP	07	50.00	3.1X
			PP	09	46.00	
SHMJ	147.69	292	PKP	07	51.50	4.6X
DSI	148.07	289	e(PKP)	07	52.00	4.5X
COP	148.30	346	iPKPc	07	51.00	4.0X
	1.0s		128.00nm			
			i	09	48.00	
HQL	148.37	285	ePKP	07	49.70	1.7
BADA	148.38	284	ePKPd	07	52.40	4.4X
MBH	148.52	286	ePKP	07	53.00	4.8X
BBTK	148.78	306	ePKP	07	46.00	-2.5
CSS	149.46	296	ePKP	07	54.20	4.7X
CLI	149.48	321	iPKPc	07	54.00	4.8X
CFR	149.70	318	ePKP	07	54.00	4.5X
AMAN	149.74	274	iPKPc	07	55.00	4.8X
AGRW	149.80	274	ePKP	07	55.00	4.7X
EKA	150.00	3	PKP	07	49.00	-0.7
	2.2s		64.30nm			
TLB	150.08	317	ePKPc	07	56.50	6.4X
VRI	150.18	320	ePKPc	07	55.50	5.2X
GPA	150.42	308	ePKP	07	56.10	5.3X
ISR	150.69	319	ePKPc	07	57.50	6.4X
KRA	150.77	333	ePKP	07	57.20	6.2X
	0.8s		66.00nm			
			e	08	18.20	
			e	09	55.50	
BMR	150.83	326	ePKPd	07	57.00	5.8X
MLR	150.85	320	ePKPd	07	57.00	5.5X
BCK	151.09	302	ePKP	07	57.00	5.0X
KOT	151.17	286	ePKP	07	59.00	6.8X
SPC	151.30	331	ePKP	07	58.50	6.4X
			e	09	57.00	
KSP	151.53	338	ePKP	07	52.70	0.6
	0.9s		63.00nm			
			ic	07	59.10	
			ic	08	09.80	
			ic	09	57.00	
HLW	151.60	286	ePKP	07	58.00	5.2X
DLE	151.74	8	ePKP	07	58.20	5.9X
ELL	151.81	301	ePKP	07	59.30	6.2X
DST	151.87	307	ePKP	07	59.30	6.3X
WIT	152.09	351	ePKP	08	01.00	8.2X
			e	10	01.00	
CLL	152.15	342	iPKP	08	00.50	7.6X
	1.2s		140.00nm			
			i	08	11.70	
			pPKP	10	01.70	
			SKKS	17	45.00	
BRG	152.26	340	ePKP	07	52.80	-0.3
			i	08	00.30	
			i	08	11.60	
			ipPKP	09	59.80	
			i	10	11.10	
			e	11	04.60	
BCAO	152.38	224	iPKPc	07	53.10	-1.3

29d 06h

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        0.5s     60.00nm
                      ic     08 00.90
                      ic     09 29.00
                      id     10 00.00
PSZ    152.40 330 ePKP   07 46.60   -6.9X
PRU    152.84 339 ePKP   08 01.50    7.5X
                      i      08 15.20
WTS    152.86 350 ePKP   08 01.00    7.1X
        0.9s     47.00nm
                      e      10 01.00
MOX    153.13 343 e(PKP)07 56.00    1.6
                      e      08 02.00
                      i      08 16.00
BZS    153.17 324 ePKPc  07 53.50   -1.0
SRO    153.18 331 ePKP   07 56.60    2.1
                      i      08 16.20
ZST    153.39 333 ePKP   07 54.60   -0.2
                      i      08 17.60
                      e      09 54.90
KHC    153.90 339 iPKPd  07 55.50    0.0
                      e      08 04.00
                      i      08 19.80
SOP    154.02 333 ePKP   07 58.10    2.5X
PTJ    155.69 332 ePKP   08 08.20   10.1X
KBA    155.75 337 (PKP)  08 01.00    2.7X
        1.1s     25.60nm
                      i      08 12.60
                      i      08 27.30
                      e      10 03.50
                      e      10 25.00
                      e(PP)  12 15.00
FLN    156.65   0 ePKP   07 58.50   -0.6
LOR    157.89 352 ePKP   08 00.10   -0.6
        0.8s      5.30nm
SSF    158.14 353 ePKP   08 00.60   -0.3
        0.8s      4.00nm
LBF    158.16 352 ePKP   08 00.80   -0.2
        0.8s      5.30nm
TCF    159.03 355 ePKP   08 01.50   -0.5
        1.0s      8.80nm
LIC    160.44 166 PKPc   08 03.72   -0.6
        0.9s     34.00nm
KIC    160.64 167 PKPc   08 03.88   -0.6
        1.0s     42.00nm
TIC    160.85 166 PKP    08 04.26   -0.5
        0.9s     30.50nm
ASMO   167.71  13 ePKP   08 10.00   -0.3
                      e      09 21.50
ALOJ   167.88  14 ePKP   08 10.20   -0.2
                      e      09 22.50
ACHM   167.94  13 ePKP   08 10.20   -0.2
ATEJ   168.08  14 ePKP   08 10.00   -0.6
                      e      09 22.50
APHE   168.12  13 ePKP   08 10.50   -0.1
                      e      09 23.00
AVE    170.00  36 iPKP   08 12.00    0.4
                      i      09 30.00
TIO    171.78  46 iPKPd  08 13.50    0.8
                      i      09 38.00
     S.D. = 1.0   on 233 of 295 obs.
-----------------------------------------
   NOV  29, 1989  06h 29m 13.47± 0.85s
   47.831 N ±11.9km  116.424 W ± 8.2km
   DEPTH =   5.0km  (geophysicist)
 WESTERN IDAHO                        ( 33)
      ML 2.9 (BUT). Felt 10 miles
      north of Coeur d'Alene.

NEW      0.64 313 eP      29 26.20    0.0
                      eS     29 34.00
EBI      1.02 168 P       29 34.00    0.7
DPW      1.20 273 eP      29 37.10    0.8
                      eS     29 52.00
SAW      2.01 267 P       29 48.20   -0.3
WRD      2.04 246 P       29 51.90    3.1X
ETW      2.65 267 P       29 57.00   -0.7
BUT      3.21 123 (P)     30 10.00    4.3X
                      eSg    30 56.70
LRM      3.39 125 ePn     30 09.10    0.8
MCMT     3.89 139 ePn     30 13.80   -1.7
MEMT     4.36 119 ePn     30 22.40    0.3
     S.D. = 1.0   on   8 of  10 obs.
-----------------------------------------
&  NOV  29, 1989  06h 54m 38.50s
   34.455 N          106.891 W
   DEPTH =  13.0km
   4.6mb (   5 obs.)
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 NEW MEXICO                                (496)
      <SNM>. MD 4.7 (SNM). Felt (V) at
      Bosque, La Jaya and Tome; (IV)
      at Jarales, Magadalena and
      McIntosh; (III) at Albuquerque,
      Alto, Encina, Lemitar, Los
      Lunas, Peralta, San Antonio,
      Sacorro and Willard.

LAZ      0.21 256 P       54 43.00   -0.5
LPM      0.26 124 P       54 43.80   -0.5
BMNM     0.35 240 P       54 46.00   -0.1
SNM      0.39 186 P       54 46.20   -0.4
CRNM     0.52 165 P       54 48.50   -0.6
SBM      0.54 207 P       54 49.00   -0.5
ALO      0.60  36 iP      54 50.00   -0.5
SMNM     0.68 189 P       54 51.80   -0.1
EPT      2.70 173 ePnd    55 22.80    0.4
                      eS     56 05.00
GOL      5.37  13 eP      56 01.40    0.9
GLD      5.45  14 eP      56 00.70   -0.9
MSU      5.87 315 eP      56 07.30   -0.2
GLA      6.76 260 eP      56 22.00    2.2
MEO      6.86  85 e(P)    56 19.30   -1.9
DAU      6.89 331 eP      56 21.50   -0.4
TPC      7.59 270 eP      56 34.00    2.5
OCO      7.80  79 iPn     56 45.00   10.6
GSC      8.19 279 eP      56 44.00    4.1
BAR      8.35 260 eP      56 52.00    9.9
PEC      8.53 269 eP      56 45.50    0.9
BW06     8.57 347 eP      56 43.50   -1.8
RVR      8.70 270 eP      56 49.00    2.1
SIO      8.77  79 Pn      56 45.40   -2.5
CLC      8.87 282 eP      57 03.00   13.6
SBB      9.02 275 eP      56 56.00    4.6
TNP      9.09 296 eP      56 53.20    0.7
TUL      9.20  78 Pn      56 54.80    1.0
MWC      9.24 272 eP      56 58.00    3.5
ISA      9.57 281 eP      57 02.00    3.0
KVN     10.09 300 eP      57 07.50    1.2
UYO     10.29  88 eP      57 05.00   -3.8
FRI     10.72 287 e(P)    57 21.30    6.6
                      eSg    00 19.90
PRI     11.38 282 e(P)    57 30.30    6.4
CMB     11.47 292 e(P)    57 36.10   11.2
                      eSg    00 42.20
LRM     12.12 341 eP      57 35.30    1.4
POW     12.94  78 P       57 42.00   -2.7
FVM     13.75  70 eP      57 50.80   -4.6
WDC     13.84 301 e(P)    58 03.20    6.7
                      eS     02 06.70
SES     16.22 350 eP      58 33.00    5.5
LON     16.67 322 eP      58 41.00    7.7
PPM     17.00 152 eP      58 43.00    5.0
RSCP    17.49  80 eP      58 40.00   -3.6
RSON    19.00  26 eP      59 01.00   -1.0
        1.0s     36.44nm          4.6mb
EDM     19.32 348 eP      59 06.00    0.0
FFC     20.56   8 iPd     59 18.60   -0.6
        1.0s     24.00nm          4.5mb
CBN     24.02  72 eP      59 55.00    1.2
RSNY    26.77  58 eP      00 20.00    0.3
        1.0s     14.46nm          4.6mb
INK     37.11 344 eP      01 48.00   -2.0
FBA     39.12 334 eP      02 08.00    1.1
        1.0s     12.50nm          4.5mb
IMA     41.84 334 eP      02 29.80    0.4
ARE     60.81 140 eP      04 54.00    0.9
ZOBO    62.48 137 P       05 02.00   -2.7
LPB     62.71 137 P       05 05.00   -1.0
CNCB    63.00 138 P       05 07.00   -1.1
CCH     64.50 136 eP      05 16.00   -1.6
NB2     72.39  27 P       06 05.90    0.0
        1.4s     18.60nm          5.0mb
     56 obs. associated
-----------------------------------------
*  NOV  29, 1989  10h 00m 02.22± 1.09s
   31.051 S ±13.0km   68.805 W ±20.2km
   DEPTH =  33.0km  (normal)
 SAN JUAN PROVINCE, ARGENTINA          (137)

RTLL     0.40 134 iPc     00 12.50    1.1
RTCB     0.43 179 iPd     00 13.00    1.1
                      S      00 24.80
ZON      0.50 168 iPd     00 13.00    0.0
                      eS     00 25.00
CFA      0.74 139 iPc     00 15.50   -0.7
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                      S      00 28.50
RTCV     0.84 164 iPd     00 16.20   -1.5
                      S      00 30.00
RTRS     1.04 327 iPc     00 20.50    0.0
     S.D. = 1.3   on   6 of   6 obs.
-----------------------------------------
*  NOV  29, 1989  10h 14m 35.01± 0.54s
   9.476 N ± 9.2km  126.397 E ±19.2km
   DEPTH =  33.0km  (normal)
   5.0mb (   4 obs.)
 MINDANAO, PHILIPPINE ISLANDS          (259)

MTN     22.67 168 eP      19 35.00    0.1
KNA     25.17 175 eP      19 59.20    0.1
WB5     30.21 165 eP      20 43.00   -1.9
OIS     32.55 157 iPc     21 04.00   -1.5
ASPA    33.75 168 eP      21 14.60   -1.3
        0.4s     6.00nm          4.9mb
COOL    40.44 187 eP      22 13.00    0.8
KLB     41.66 191 eP      22 22.00   -0.1
MUN     42.36 193 eP      22 28.40    0.6
NWAO    43.06 191 eP      22 34.00    0.5
ADE     45.71 166 eP      22 55.70    0.8
GBA     48.09 280 Pc      23 13.80   -0.1
        0.7s     4.80nm          4.6mb
8WA     48.40 156 eP      23 17.30    1.3
CAN     49.41 156 eP      23 24.70    0.9
KEV     84.42 340 eP      27 05.00   -0.1
INK     84.97  22 eP      27 09.00    1.1
SOD     85.06 337 eP      27 09.00    0.6
SUF     86.31 333 iP      27 14.50   -0.2
        0.4s     5.60nm          5.1mb
SLL     92.83 333 eP      27 43.80   -1.7
        0.5s     7.40nm          5.4mb
     S.D. = 1.0   on  18 of  18 obs.
-----------------------------------------
?  NOV  29, 1989  10h 17m 16.16± 6.73s
   16.616 S ±93.0km   73.915 W ±54.3km
   DEPTH =  33.0km  (normal)
 NEAR COAST OF PERU                    (115)

ARE      2.33  87 iPd     17 53.00   -0.3
                      i(S)   18 15.50
PT08     5.29 331 eP      18 33.90   -1.4
                      eS     19 29.30
PT10     5.40 326 eP      18 41.00    4.5X
                      eS     19 39.00
NNA      5.41 328 iPc     18 38.00    1.3
        0.4s    17.80nm          4.9mb X
                      eS     19 32.00
ZOBO     5.57  87 P       18 39.30   -0.1
LPB      5.58  90 eP      18 40.00    0.6
                      e      18 46.00
CNCB     5.69  93 P       18 42.00    0.9
CCH      7.47  97 eP      19 05.00   -1.0
GBA    152.19  92 PKPd    37 08.10    4.3X
        0.7s     2.70nm
     S.D. = 1.2   on   7 of   9 obs.
-----------------------------------------
%  NOV  29, 1989  10h 19m 59.45± 1.35s
   10.970 N ± 9.3km   61.175 W ±22.3km
   DEPTH =  33.0km  (normal)
 TRINIDAD                              ( 98)
      MD 2.8 (TRN).

TRN      0.39 215 ePc     20 13.41    5.0X
                      eS     20 25.91
TCE      0.63 245 eP      20 12.48    0.6
                      eS     20 21.95
TPP      0.70 203 eP      20 12.51   -0.4
                      eS     20 25.00
GRW      1.28 338 eP      20 20.06   -1.1
                      eS     20 33.69
SVB      2.29 358 eP      20 35.96    0.3
                      eS     21 06.04
SVV      2.33 359 eP      20 36.57    0.2
                      eS     21 07.37
SSV      2.34 360 eP      20 37.12    0.6
                      eS     21 07.83
SLB      2.84   3 eP      20 43.35   -0.2
                      eS     21 19.25
     S.D. = 0.7   on   7 of   8 obs.
-----------------------------------------
*  NOV  29, 1989  10h 29m 24.74± 1.26s
   3.488 S ±14.2km  134.550 E ±13.7km
   DEPTH =  33.0km  (normal)
   4.9mb (   1 obs.)  3.9Msz (   1 obs.)
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```
 WEST IRIAN REGION                    (196)
MTN      9.89 200 eP     31 48.00    0.2
                  eS     33 28.00
KNA     13.45 205 eP     32 36.20    0.4
        0.4s     18.00nm          5.3mb X
PMG     13.83 116 eP     32 41.00    0.2
WB5     16.29 181 eP     33 06.50   -6.3X
                  eS     35 51.00
                  i      37 55.00
QIS     17.67 164 e(P)   33 15.00  -15.1X
                  eS     36 22.00
CTA     20.06 146 eP     33 58.00   -0.3
ASPA    20.07 182 eP     33 57.10   -1.3
        0.5s     31.00nm          4.9mb
      Z  19s      0.50um          3.9Msz
                  eS     37 11.20
                  LR     41 26.50
QLP     24.77 159 eP     34 45.70    0.8
INK     93.93  22 eP     42 40.00    0.0
      S.D. = 0.8  on   7 of   9 obs.
-----------------------------------
? NOV  29, 1989  11h 22m 51.98± 4.59s
   31.210 S ±20.5km   68.398 W ±35.8km
   DEPTH =  84.2 ± 44.1 km
 SAN JUAN PROVINCE, ARGENTINA     (137)

RTLL     0.13 207 iPc     23 04.30   -0.3
                  S      23 14.50
CFA      0.42 161 iPc     23 06.00    0.3
                  S      23 17.20
RTCB     0.44 231 iPd     23 06.20    0.2
RTCV     0.66 190 ePc     23 07.60   -0.2
                  S      23 20.80
RTRS     1.38 318 iPc     23 16.30    0.0
      S.D. = 0.5  on   5 of   5 obs.
-----------------------------------
   NOV  29, 1989  12h 29m 25.40± 0.47s
   39.975 N ± 5.8km   20.772 E ± 4.2km
   DEPTH =  10.0km  (geophysicist)
   3.8mb (  3 obs.)
 GREECE-ALBANIA BDRDER REGION     (392)
      MD 3.9 (ATH). ML 3.6 (THE).

KEK      0.79 251 ePg     29 39.80   -1.0
KZN      0.83  66 ePg     29 38.50   -3.1X
LIT      1.32  84 ePb     29 49.10   -0.8
                  eSb    30 10.00
AGG      1.54 128 ePb     29 53.10    0.2
GRG      1.58  51 ePb     29 50.70   -2.9X
THE      1.80  68 ePb     29 55.80   -0.9
VLS      1.80 185 ePn     29 58.80    2.1
KNT      2.01  53 ePn     30 01.00    1.3
                  eSn    30 26.80
PLG      2.09  78 ePb     30 01.00    0.1
LCI      2.19 280 P       30 02.50    0.2
                  eSn    30 34.50
ULC      2.30 330 ePn     30 06.00    2.1
SRS      2.43  61 ePnd    30 05.00   -0.8
KKB      2.58  42 ePc     30 07.00   -0.9
PVY      2.69 347 ePn     30 12.00    2.4X
                  eSn    30 50.00
TTG      2.70 336 ePn     30 11.30    1.6
                  eSn    30 48.00
BRT      2.87 289 P       30 10.50   -1.5
ITM      2.93 162 ePb     30 20.50    7.6X
IVA      2.97 347 ePn     30 15.00    1.5
                  eSn    30 56.00
HCY      3.01 326 ePn     30 15.00    1.1
                  eSn    30 55.00
VTS      3.19  34 eP      30 16.00   -0.8
ROI      3.26 264 P       30 15.40   -2.3
TDS      3.43 266 P       30 15.50   -4.5X
RZN      3.45  59 eP      30 19.00   -1.4
CSI      3.45 268 P       30 14.70   -5.6X
CZI      3.66 260 P       30 23.60    0.3
VLI      3.67 152 ePn     30 25.00    1.6
MMN      3.68 270 P       30 26.60    3.1X
SGO      4.22 280 P       30 32.50    1.3
ATN      4.51 248 P       30 34.00   -1.3
HVAR     4.56 316 i(Pn)   30 34.60   -1.3
BZS      5.67   6 ePc     30 53.00    1.3
ALP      6.09 300 ePn     30 58.15    0.3
                  eSn    32 04.68
VRI      7.33  35 ePc     31 03.00  -12.1X
HFS     20.66 350 eP      34 03.60   -4.0X
        0.6s      2.70nm          3.8mb
NUR     20.70   5 eP      34 04.00   -4.0X
NB2     21.90 347 P       34 18.50   -1.8
        0.5s      2.80nm          3.9mb
EKA     22.10 322 P       34 22.00   -0.2
        0.7s      2.30nm          3.7mb
      S.D. = 1.3  on  27 of  37 obs.
-----------------------------------
*  NOV  29, 1989  13h 12m 26.09± 0.85s
   30.155 N ± 6.2km   50.690 E ±13.5km
   DEPTH =  33.0km  (normol)
   3.8mb (  1 obs.)
 IRAN                                 (348)

DHR      3.87 187 eP      13 24.00   -0.7
BRF      4.07 181 ePn     13 27.70    0.2
BEE      4.13 182 ePn     13 29.00    0.6
                  eSn    14 16.90
BJA      4.15 181 ePn     13 28.60   -0.1
                  eSn    14 15.20
BHD      6.21 302 ePnd    14 32.00   34.2X
                  eSn    16 09.00
                  eS*    16 37.00
RYD      6.51 215 eP      14 02.00   -0.2
SLY      6.97 323 eP      15 15.00   66.6X
QASM     7.50 239 eP      14 15.10   -0.9
MSL      8.85 317 ePc     14 35.00    0.3
                  eS     16 13.50
MLR     24.69 315 ePc     17 50.00    4.6X
HFS     38.84 331 eP      19 48.70   -0.7
        0.4s      0.80nm          3.8mb
KIC     57.08 257 P       22 13.00    1.2
LIC     57.39 257 P       22 14.80    0.8
INK     81.79   2 eP      24 42.00   -0.5
      S.D. = 0.8  on  11 of  14 obs.
-----------------------------------
*  NOV  29, 1989  13h 26m 45.30± 1.16s
   46.735 N ± 9.8km   26.107 E ± 9.9km
   DEPTH =  10.0km  (geophysicist)
 ROMANIA                              (358)

PTT      0.28  44 eP      26 50.50   -0.6
CLI      0.83 102 iPc     27 02.00    0.6
VRI      0.97 153 ePd     27 04.50    0.8
MLR      1.25 185 ePc     27 07.00   -1.6
BZS      3.31 252 ePc     27 39.00    0.8
      S.D. = 1.5  on   5 of   5 obs.
-----------------------------------
   NOV  29, 1989  13h 37m 14.75± 0.37s
   52.959 N ± 7.7km  159.485 E ± 6.1km
   DEPTH =  33.0km  (normal)
   4.8mb ( 33 obs.)
 OFF EAST COAST OF KAMCHATKA          (219)

MAT     22.18 231 eP      42 11.00    1.7
        0.8s     25.37nm          4.7mb
CN2     24.19 262 eP      42 27.40   -1.5
FBA     28.78  45 eP      43 11.00   -0.1
        1.0s      4.50nm          4.1mb
INK     34.20  38 eP      43 58.00   -0.6
MBC     37.31  23 eP      44 25.50    0.6
        1.0s      6.00nm          4.4mb
GTA     42.26 276 eP      45 06.20   -0.2
WMQ     46.67 289 P       45 41.20   -0.5
EDM     49.14  53 eP      46 01.00    0.1
FFC     53.38  46 eP      46 32.00   -0.8
        0.9s     11.00nm          4.8mb
LRM     54.31  59 eP      46 39.70   -0.4
KVN     55.82  69 iP      46 51.20    0.1
TNP     56.99  69 iP      46 59.50    0.0
        1.0s      3.75nm          4.4mb
BW06    57.90  60 eP      47 05.50   -0.4
        1.0s      7.00nm          4.7mb
SUF     58.98 337 eP      47 12.90    0.1
NUR     61.26 336 eP      47 10.00  -18.4X
NB2     63.57 343 P       47 41.80   -2.1
        0.8s      2.30nm          4.3mb
HFS     63.96 342 eP      47 44.50   -1.9
        0.7s      2.10nm          4.3mb
EKA     71.12 350 Pd      48 31.00   -0.3
        0.8s      4.50nm          4.6mb
CLL     72.35 339 iPc     48 38.00   -0.6
        1.1s     18.00nm          5.0mb
PRU     73.23 337 eP      48 44.00    0.1
MOX     73.27 339 eP      48 45.00    0.9
KHC     74.26 338 iPd     48 50.60    0.7
        1.0s      7.00nm          4.6mb
GBA     74.49 272 Pd      48 50.50   -1.1
        1.1s     19.60nm          5.0mb
WB5     75.74 204 eP      48 57.90   -0.7
KBA     76.24 337 iPc     49 01.50    0.1
        0.8s     33.30nm          5.4mb
CDF     76.28 341 eP      49 01.70    0.2
        0.9s     14.40nm          5.0mb
HAU     76.85 342 eP      49 04.80    0.2
        1.0s     12.00nm          4.9mb
BSF     76.93 341 eP      49 05.10   -0.1
        0.8s      5.30nm          4.6mb
LDF     77.35 346 eP      49 07.00   -0.3
        0.8s      8.00nm          4.8mb
GRR     77.66 347 eP      49 08.80   -0.2
        0.8s     13.40nm          5.0mb
LOR     78.01 343 eP      49 11.10    0.1
LPF     78.03 347 eP      49 11.20    0.2
        1.0s     12.00nm          4.9mb
LBF     78.26 343 eP      49 12.20   -0.2
        1.0s      6.00nm          4.6mb
SSF     78.27 343 eP      49 12.70    0.3
        0.8s      6.70nm          4.7mb
AVF     78.56 344 eP      49 14.40    0.4
        0.8s     13.40nm          5.0mb
SMF     78.61 343 eP      49 14.40    0.1
        1.0s     14.00nm          4.9mb
BGF     78.87 344 eP      49 15.90    0.2
        1.0s     10.00nm          4.8mb
LPG     79.18 341 eP      49 18.80    1.0
        0.8s     25.50nm          5.3mb
TCF     79.24 344 eP      49 18.00    0.2
        0.8s      5.30nm          4.6mb
MAF     79.24 344 eP      49 18.40    0.6
        0.8s      9.40nm          4.8mb
MFF     79.30 346 eP      49 18.40    0.4
        0.8s      8.00nm          4.8mb
LSF     79.39 345 eP      49 18.90    0.4
        0.8s     10.70nm          4.9mb
ASPA    79.49 204 iPc     49 19.50    0.2
CAF     80.59 344 eP      49 26.10    1.1
        1.0s     16.00nm          5.0mb
LFF     80.79 345 eP      49 27.00    1.0
        1.0s     16.00nm          5.0mb
LPO     80.97 345 eP      49 27.90    0.9
        1.0s     12.00nm          4.8mb
EPF     82.71 345 eP      49 36.30    0.1
        1.0s     14.00nm          5.0mb
      S.D. = 0.7  on  46 of  47 obs.
-----------------------------------
   NOV  29, 1989  15h 59m 55.39± 0.38s
   18.322 S ± 7.4km  168.153 E ± 8.3km
   DEPTH =  23.3km  (  4 depth phoses)
   5.1mb (  6 obs.)  4.8Msz (  2 obs.)
 VANUATU ISLANDS                      (186)
      CENTROID, MOMENT TENSOR         (HRV)
      Data Used: GDSN
      L.P.B.:  8S, 14C
      Centroid Location:
      Origin Time        16:00:12.2 1.8
      Lat 17.84S 0.19 Lon 167.62E 0.11
      Dep  33.0 FIX Half-durotion  1.5
      Moment Tensor;    Scale 10**16 Nm
        Mrr= 5.05 0.49  Mtt= 1.76 0.99
        Mff=-6.81 0.94  Mrt= 1.64 1.16
        Mrf=-5.36 1.30  Mtf=-0.97 0.50
       Principal Axes:
        T  Val=  7.71  Plg=63  Azm= 49
        N        1.17       17       175
        P       -8.88       21       272
      Best Double Couple:Mo=8.3*10**16
       NP1:Strike= 29 Dip=29 Slip= 127
       NP2:        168      68        72

PVC      0.60  15 iPd     00 09.50    2.4
                  iS     00 19.00
DZM      4.06 203 iPd     00 56.20   -1.5
                  iS     01 40.00
HNR     11.89 317 eP      02 45.00   -1.6
BRS     16.79 235 iPd+    03 51.00    0.3
                  eS     07 10.00
COO     19.15 227 eP      04 20.00    0.0
RMQ     19.67 242 iPd     04 26.90    0.9
                  e      04 39.50   60kmX
KRP     20.57 163 P       04 35.20    0.0
CTA     20.75 262 iP      04 38.30    1.1
        1.6s    166.67nm          5.2mb
      Z  18s      3.30um          4.7Msz
                  iS     08 31.00
```

29d 16h

```
PMG     22.21 291 eP     04 54.00    2.1
OLP     23.56 245 eP     05 06.00    1.0
CNB     23.75 221 eP     05 12.00    5.0X
                  e      05 16.00   14km
BWA     23.80 224 eP     05 07.00   -0.4
                  e      05 14.10   25km
CAN     23.99 221 eP     05 11.50    2.3
                  e      05 17.70   22km
CMS     24.06 233 eP     05 11.00    1.1
                  e      05 20.00   32km
STK     27.49 235 eP     05 42.00    0.0
WB5     31.93 262 eP     06 19.60   -2.2
ASPA    32.37 255 iPd    06 23.50   -2.0
        0.5s     17.00nm          5.2mb
      Z  20s      2.31um          4.9Msz
                  epP    06 38.70   62kmX
                  LR     18 41.90
MBL     45.43 258 eP     08 14.00   -0.5
MAT     61.47 333 eP     10 10.00   -2.5
        1.0s     18.00nm          5.2mb
SPA     71.79 180 iPc    11 16.80   -1.1
        1.0s     34.00nm          5.4mb
MDJ     71.83 332 eP     11 17.00   -1.1
CN2     73.15 329 P      11 24.60   -1.3
TIY     76.47 318 eP     11 46.00    0.8
      Z  26s      0.85um          4.9MszX
CHG     77.34 295 eP     11 50.70    0.3
CHTO    77.34 295 eP     11 51.00    0.7
        1.1s      8.83nm          4.7mb
LZH     81.35 312 eP     12 11.00   -0.9
GTA     85.75 314 eP     12 34.60    0.4
PRS     85.87  50 ePc    12 34.60   -0.1
FHC     86.08  45 eP     12 36.70    1.0
PRI     86.30  50 ePc    12 37.10    0.1
WDC     86.95  46 ePc    12 39.70   -0.2
ORV     87.20  47 eP     12 40.90   -0.2
CMB     87.32  49 ePc    12 41.30   -0.5
FRI     87.36  50 ePc    12 41.50   -0.4
KVN     89.37  48 eP     12 50.80   -1.0
FBA     89.51  17 eP     12 50.00   -1.6
TNP     89.61  50 eP     12 53.00    0.1
        1.1s      4.87nm          4.7mb
WMQ     95.83 314 eP     13 21.60    0.3
KHC    143.05 332 ePKP   19 27.30   -1.7
GRF    143.63 335 ePKP   19 27.00   -3.0X
KBA    144.64 330 ePKP   19 29.50   -2.5
        1.1s     15.10nm
                  i      19 42.80
FVI    145.26 330 PKP    19 31.30   -1.5
OGA    145.88 332 iPKPc  19 34.30    0.1
                  i      19 47.60
                  i      19 57.90
CTI    146.20 330 PKP    19 26.50   -8.1X
CDF    146.20 337 ePKP   19 35.00    0.5
BSF    146.86 337 ePKP   19 37.00    1.4
HAU    146.88 337 ePKP   19 37.00    1.5
BCAO   147.25 249 iPKPd  19 39.00    1.9
        0.9s     32.00nm
                  ic     19 53.00
VAI    147.65 333 PKP    19 38.60    1.9
PGD    147.72 327 PKP    19 38.50    1.3
ORO    148.18 333 PKP    19 39.00    1.3
FLN    148.27 346 ePKP   19 40.20    2.6X
LDF    148.34 345 ePKP   19 40.40    2.7X
LOR    148.38 339 ePKP   19 41.00    3.1X
LBF    148.59 339 ePKP   19 41.40    3.1X
SSF    148.68 340 ePKP   19 41.80    3.4X
GRR    148.71 346 ePKP   19 41.80    3.5X
LPG    148.80 334 ePKP   19 42.70    3.7X
SMF    148.93 339 ePKP   19 42.20    3.4X
AVF    148.97 340 ePKP   19 42.30    3.5X
LPF    149.08 346 ePKP   19 42.70    3.8X
BNI    149.19 334 PKP    19 43.50    4.1X
BGF    149.34 340 ePKP   19 43.10    3.7X
MAF    149.73 340 ePKP   19 44.40    4.4X
TCF    149.78 340 ePKP   19 44.60    4.5X
LSF    150.03 341 ePKP   19 45.10    4.6X
MFF    150.19 344 ePKP   19 45.10    4.4X
RJF    150.88 340 ePKP   19 47.20    5.4X
LFF    151.45 341 ePKP   19 48.50    5.9X
LPO    151.54 340 ePKP   19 48.90    6.1X
      S.D. = 1.3  on  48 of  70 obs.
-----------------------------------------
&  NOV  29, 1989  16h 45m 13.80s
   37.520 N          118.768 W
   DEPTH =   5.0km
 CALIFORNIA-NEVADA BORDER REGION ( 40)
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        <BRK>. ML 3.0 (BRK).

FRI     0.92 235 iPc    45 30.60   -1.2
                 iS     45 42.10
CMB     1.38 292 iPc    45 38.60   -1.2
                 iS     45 56.90
LLA     1.96 243 iPd    45 48.70    0.6
PRI     2.05 228 ePd    45 50.30    0.8
SAO     2.27 251 iPd    45 53.10    0.6
MHC     2.29 266 ePd    45 54.00    1.0
PRS     2.40 241 ePc    45 54.60    0.2
        7 obs. ossociated
-----------------------------------------
   NOV  29, 1989  17h 13m 04.50± 0.68s
   38.418 N ± 5.7km   21.879 E ± 8.8km
   DEPTH =  10.0km  (geophysicist)
 GREECE                              (364)
        ML 3.1 (ATH), 3.0 (THE).

AGG     0 70  30 ePg    13 16.20   -2.1
                 eSg    13 27.60
VLS     1.04 257 ePb    13 24.20    0.0
ITM     1.24 178 ePb    13 26.70   -0.8
NEO     1.37  49 ePb    13 28.70   -1.0
ATH     1.51 107 ePn    13 33.30    1.7
LIT     1.75  16 ePb    13 35.00    0.0
                 eSb    13 59.50
KZN     1.89 357 ePn    13 38.50    1.4
VLI     1.89 153 ePb    13 37.00   -0.2
KEK     2.07 309 ePg    13 45.70    6.0X
PLG     2.30  31 ePn    13 45.00    1.9
GRG     2.57   9 ePn    13 46.70   -0.1
KNT     2.85  16 ePn    13 51.20    0.3
                 eSn    14 24.50
SRS     3.00  26 ePn    13 52.60   -0.4
MMB     3.47  24 ePd    13 59.00   -0.7
      S.D. = 1.2  on  13 of  14 obs.
-----------------------------------------
?  NOV  29, 1989  18h 17m 33.03± 8.34s
   36.481 N ±77.4km   29.542 E ±13.2km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

ELL     0.40  48 iPg    17 40.20   -1.0
                 eSg    17 47.30
YER     1.20 303 ePn    17 55.00   -0.5
BCK     1 29  40 ePn    17 58.00    1.0
CIN     1.61 314 eP     18 02.00    0.4
KHL     1.84 360 ePn    18 05.00    0.0
      S.D. = 1.1  on   5 of   5 obs.
-----------------------------------------
*  NOV  29, 1989  18h 19m 54.99± 0.79s
   42.504 N ± 6.1km   13.277 E ± 7.6km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                       (381)
        MD 2.3 (SSO).

AQU     0.18 148 P      19 58.60   -0.4
                 eSg    20 02.00
ALP     0.35  39 iPg    20 01.84   -0.5
                 iSg    20 06.56
MNS     0.46 255 P      20 04.00   -0.3
                 eSg    20 11.20
CIO     0.70 352 e(Pg)  20 09.38    0.5
                 eSg    20 19.10
SDI     0.89 153 P      20 12.80    0.7
                 eSg    20 26.50
      S.D. = 0.8  on   5 of   5 obs.
-----------------------------------------
%  NOV  29, 1989  19h 39m 47.08± 1.03s
   45.518 N ±12.3km   26.990 E ±10.2km
   DEPTH =  33.0km  (normal)
 ROMANIA                             (358)

VRI     0.40 332 iPc    39 57.00    0.8
ISR     0.49 220 ePc    39 59.00    1.3
MLR     0.74 268 iPc    39 59.50   -1.6
CFR     0.89 112 iPc    40 03.00   -0.1
TLB     1.19 141 ePc    40 07.00   -0.4
      S.D. = 1.6  on   5 of   5 obs.
-----------------------------------------
?  NOV  29, 1989  20h 21m 01.88± 1.57s
   39.671 N ±28.5km  143.435 E ±22.8km
   DEPTH =  33.0km  (normal)
   4.5mb (  3 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)
```

```
MAT     5.17 234 iPc    22 18.40   -0.6
        1.0s     83.00nm          5.2mb X
                 eS     23 22.00
BJI    20.91 280 eP     25 41.50   -2.3
        1.5s     26.00nm          4.4mb
      Z  14s      0.41um          4.0MszX
TIA    21.01 269 eP     25 48.20    3.3X
TIY    24.22 275 eP     26 20.00    3.4X
      Z  16s      0.80um          4.3MszX
WHN    25.39 258 Pd     26 29.00    1.3
                 sP     26 39.50
BTO    25.48 283 eP     26 31.20    2.5X
LZH    31.28 276 eP     27 22.00    0.9
GYA    33.28 258 P      27 38.20   -0.4
GTA    33.39 284 Pc     27 41.00    1.5
WMQ    41.13 295 eP     28 46.70    2.3X
INK    51.32  28 eP     30 04.00   -0.5
FFC    70.63  34 eP     32 16.00    0.3
        1.1s     15.00nm          5.0mb
APO    71.94 336 eP     32 23.20   -0.3
        0.7s      1.90nm          4.2mb
      S.D. = 1.4  on   9 of  13 obs.
-----------------------------------------
*  NOV  29, 1989  20h 32m 17.72± 0.68s
   30.092 N ±19.8km   68.398 E ±10.5km
   DEPTH =  33.0km  (normal)
   4.7mb (  5 obs.)
 PAKISTAN                            (710)

QUE     1.26 275 eP     32 38.50   -0.8
NDI     7.82  98 eP     34 10.00   -2.1
                 eS     35 36.00
MAIO    9.69 312 eP     34 40.00    2.0
HYB    15.66 141 eP     36 04.50    6.9X
                 eS     39 07.00
CHG    29.90 105 eP     38 25.80    1.0
CHTO   29.90 105 eP     38 25.50    0.7
        1.2s     17.71nm          4.7mb
APO    46.95 327 eP     40 45.90   -1.0
        0.7s      6.20nm          4.7mb
NB2    48.36 327 P      40 56.60   -1.4
        0.8s      2.10nm          4.2mb
BCAO   53.46 252 ePc    41 36.60   -0.6
        0.6s      4.00nm          4.6mb
                 ic     41 39.50
INK    80.55   8 eP     44 28.00    0.3
WB5    80.59 119 eP     44 29.70    1.0
ASPA   82.51 123 iPc    44 39.50    0.8
        0.9s      6.00nm          4.7mb
      S.D. = 1.4  on  11 of  12 obs.
-----------------------------------------
*  NOV  29, 1989  22h 41m 41.73± 1.16s
   11.432 N ± 6.6km   61.305 W ±11.8km
   DEPTH =  59.0 ± 35.4 km
 WINDWARD ISLANDS                    ( 95)
        MD 3.1 (TRN).

PIG     0.53 121 eP     41 54.66    0.7
                 eS     42 06.61
BOT     0.63 115 eP     41 54.76   -0.4
                 eS     42 06.67
TRN     0.79 187 eP     41 57.36    0.3
                 eS     42 09.36
GRW     0.80 334 eP     41 56.73   -0.6
                 eS     42 11.46
TCE     0.85 211 eP     41 58.34    0.4
                 eS     42 10.87
TBH     0.97 166 eP     41 58.70   -0.8
                 eS     42 11.61
SVB     1.83   2 eP     42 11.60    0.3
                 eS     42 34.24
SVV     1.88   3 eP     42 12.25    0.3
                 eS     42 34.86
      S.D. = 0.7  on   8 of   8 obs.
-----------------------------------------
%  NOV  30, 1989  00h 33m 20.04± 0.57s
   44.873 N ± 4.5km   10.414 E ± 7.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                      (545)

BOB     0.70 262 P      33 33.50   -0.3
                 eSg    33 44.50
MME     0.71 163 P      33 34.40    0.2
                 eSg    33 45.40
SAL     0.74   6 P      33 35.40    0.9
                 eSg    33 46.50
BDI     0.82 171 Pc     33 35.70   -0.3
```

```
                    eSg    33 48.40
MDI       1.03 332 P      33 39.60    0.1
                    eSg    33 55.10
PII       1.15 176 P      33 41.90    0.3
                    eSg    33 57.40
PGD       1.37 136 P      33 45.50    0.2
CTI       1.46  36 P      33 45.50   -1.1
                    eSn    34 05.00
      S.D. = 0.7  on   8 of   8 obs.
-------------------------------------
?  NOV  30, 1989  00h 50m 17.73± 9.98s
   44.674 N ±39.0km  129.261 W ±70.0km
   DEPTH =  10.0km  (geophysicist)
 OFF COAST OF OREGON                ( 30)

GROR      4.03  78 eP      51 20.29   -0.6
                    eS     52 13.83
KMOR      4.19  75 eP      51 22.47   -0.8
NLO       4.33  69 eP      51 25.54    0.3
ONR       4.43  58 eP      51 26.45    0.0
BMW       4.60  65 eP      51 28.66   -0.4
OOW       4.67  47 eP      51 29.91    0.0
RVW       4.82  70 eP      51 32.00   -0.1
OSP       4.84  40 eP      51 32.53    0.2
CPW       4.86  60 eP      51 32.38   -0.3
SMW       4.90  55 eP      51 32.87   -0.4
OSD       4.98  49 eP      51 34.28   -0.2
GT2       4.99  82 eP      51 34.70    0.2
LVP       5.03  71 eP      51 35.40    0.4
APW       5.04  65 eP      51 34.89   -0.3
CZM       5.06  67 eP      51 35.28   -0.2
FL2       5.10  70 eP      51 36.32    0.2
ERK       5.13  69 eP      51 36.11   -0.5
MTMW      5.15  72 eP      51 36.72   -0.1
SHW       5.17  70 eP      51 37.27    0.1
VLMM      5.19  78 eP      51 37.38    0.1
STD       5.19  70 eP      51 37.31   -0.1
STW       5.20  46 eP      51 37.19   -0.2
HSR       5.20  71 eP      51 38.10    0.5
YEL       5.21  70 eP      51 37.83    0.1
TDL       5.23  69 eP      51 37.72   -0.2
HDW       5.24  53 eP      51 38.12    0.1
SOSW      5.25  70 eP      51 38.58    0.3
MEW       5.26  59 eP      51 39.26    1.0
LMW       5.28  65 eP      51 38.80    0.2
KOSW      5.28  68 eP      51 39.14    0.6
CDFW      5.28  72 eP      51 38.69    0.1
GMW       5.34  55 eP      51 39.20   -0.2
      S.D. = 0.4  on  32 of  32 obs.
-------------------------------------
*  NOV  30, 1989  01h 11m 54.26± 1.27s
   12.216 N ±13.2km   88.655 W ±10.0km
   DEPTH =  48.0 ±  7.5 km
   4.9mb (  7 obs.)
 OFF COAST OF CENTRAL AMERICA       ( 76)

VSM       1.26  17 eP      12 17.00    1.0
OZA       1.34 346 iPc     12 16.80   -0.1
SJAS      1.53 341 eP      12 19.80    0.2
LFU       1.59 344 eP      12 21.20    0.7
VSS       1.62 339 iPc     12 22.00    1.0
TME       1.92 339 iPc     12 26.10    1.0
YPE       2.14 332 eP      12 30.50    2.1X
YUP       2.27 331 ePc     12 28.80   -1.4
                    S      12 58.70
CMG2      2.67 336 ePc     12 34.60   -1.3
SLP       2.97 328 ePc     12 39.30   -0.9
LHG       3.31 312 ePc     12 44.10   -0.8
SBG       4.39 312 ePc     13 00.00   -0.5
SRA       4.64 117 ePd     13 04.00    0.2
SJS       5.05 116 ePd     13 12.00    2.4X
IISM     10.76 310 (P)     14 29.00    0.3
PPM      11.77 307 eP      14 46.50    3.7X
UYO      22.48 347 iPc     16 51.80    1.0
PRM      22.51  14 P       16 52.00    0.9
OLY      23.32 354 P       16 59.90    1.0
RSCP     23.45   6 P       16 59.90   -0.3
         1.5s   103.69nm          5.1mb
MEO      24.21 340 iPd     17 18.50   10.9X
FVM      25.71 357 P       17 19.60   -2.2
ALQ      27.80 327 eP      17 46.00    4.8X
GLD      31.09 335 P       18 11.90    1.4
         1.2s    40.40nm          5.0mb
GOL      31.11 335 P       18 11.00    0.2
         0.9s    17.42nm          4.8mb
ZOBO     34.83 144 eP      18 37.00   -6.6X
      Z  24s     0.13um          3.6MszX
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```
                    LR     29 04.00
BW06     35.44 333 P      18 48.50    0.3
TNP      36.22 320 eP     19 00.50    5.7X
         1.0s     2.00nm          4.0mb
KVN      37.36 321 P      19 05.50    1.2
RSON     38.75 355 P      19 14.20   -1.4
         0.9s    37.17nm          5.2mb
LRM      39.12 333 eP     19 20.60    1.5
SES      42.26 339 eP     19 46.00    1.4
FFC      43.69 349 eP     19 56.00    0.0
         0.8s    10.00nm          4.6mb
PNT      44.96 332 eP     20 12.00    5.6X
EDM      45.40 339 ePc    20 09.70   -0.2
         0.7s    15.00nm          5.0mb
SCH      45.85  17 eP     20 11.50   -1.9
FRB      53.37  11 eP     21 09.00   -1.8
INK      63.08 343 eP     22 18.00   -0.6
GBA     150.88  29 PKPd   31 45.10    7.0X
         0.6s     5.50nm
      S.D. = 1.1  on  30 of  39 obs.
-------------------------------------
*  NOV  30, 1989  01h 26m 25.10± 1.06s
   12.193 N ±10.8km   88.643 W ±10.0km
   DEPTH =  43.1 ±  7.1 km
   4.9mb ( 10 obs.)
 OFF COAST OF CENTRAL AMERICA       ( 76)

VSM       1.28  16 eP      26 48.20    1.1
OZA       1.37 345 iPc     26 48.00   -0.1
SJAS      1.55 341 eP      26 51.30    0.5
LFU       1.61 344 iPd     26 52.50    0.9
VSS       1.65 339 iPd     26 53.00    0.8
TME       1.94 339 iPc     26 57.30    1.0
YPE       2.17 332 eP      27 02.00    2.4X
YUP       2.29 331 iPd     27 00.30   -1.1
CMG2      2.69 336 ePc     27 05.70   -1.5
                    S      27 21.20
PCG       2.93 318 eP      27 11.20    0.6
SLP       2.99 328 ePc     27 10.20   -1.2
ITG       3.21 318 ePc     27 13.80   -0.8
LHG       3.33 312 ePc     27 14.50   -1.7
SBG       4.42 312 ePc     27 31.70   -0.1
                    S      28 22.50
TPX       4.43 308 eP      27 37.00    5.3X
                    iS     28 21.00
SRA       4.62 117 iPd     27 35.20    0.8
SJS       5.03 116 eP      27 27.30  -12.9X
BUS       5.47 118 eP      27 16.30  -30.4X
SCX       5.94 320 eP      28 10.00   17.1X
IISM     10.79 310 (P)     29 05.50    5.5X
PPM      11.79 307 eP      29 17.50    3.3X
UYO      22.51 347 iPc     31 23.30    1.0
PRM      22.53  14 P       31 23.00    0.5
OLY      23.35 354 P       31 30.50    0.0
RSCP     23.47   6 P       31 31.00   -0.7
         0.9s    46.47nm          5.0mb
MEO      24.24 340 iPd     31 39.50    0.4
OCO      24.57 342 iPc     31 42.10   -0.2
FVM      25.73 357 eP      31 52.50   -0.8
ALQ      27.83 327 eP      32 17.00    4.3X
         1.0s     5.00nm          4.1mb
GLD      31.12 335 P       32 43.50    1.5
         1.3s    57.47nm          5.2mb
GOL      31.14 335 P       32 42.80    0.5
         0.8s    28.27nm          5.1mb
PLM      33.29 314 P       33 03.00    1.9
ZOBO     34.81 144 P       33 14.00   -0.7
BW06     35.47 333 P       33 19.90    0.2
TNP      36.25 320 eP      33 28.50    2.1
         0.9s     2.34nm          4.1mb
CCH      36.84 142 (P)     33 37.00    5.4X
KVN      37.39 321 P       33 35.90    0.0
RSON     38.78 355 P       33 44.80   -2.4
         0.9s    42.29nm          5.3mb
LRM      39.14 333 eP      33 50.70    0.1
SES      42.29 339 ePd     34 16.60    0.5
FFC      43.71 349 eP      34 27.50   -0.1
         0.6s    11.00nm          4.8mb
PNT      44.99 332 eP      34 40.00    2.0
         0.9s    12.00nm          4.8mb
EDM      45.43 339 iPd     34 41.40   -0.1
         0.7s    27.00nm          5.2mb
FRB      53.39  11 eP      35 40.00   -2.4
INK      63.10 343 eP      36 49.00   -1.2
MBC      66.11 352 eP      37 08.00   -1.6
         1.0s     7.00nm          4.7mb
CHG     148.29 346 ePKP    46 10.50    4.9X
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GBA     150.89  29 PKPd   46 16.30    6 7X
         0.7s     9.50nm
      S.D. = 1.2  on  37 of  48 obs.
-------------------------------------
%  NOV  30, 1989  01h 28m 57.26± 1.04s
   46.771 N ± 5.2km    6.537 E ±43.4km
   DEPTH =  10.0km  (geophysicist)
 SWITZERLAND                        (544)
      ML 2.5 (LDG).

BSF       1.08   9 Pg      29 17.00   -0.6
                    Sg     29 31.20
HAU       1.24 354 Pg      29 20.50    0.2
                    Sg     29 37.40
LPL       1.26 174 Pg      29 21.00    0.1
LPG       1.28 173 Pg      29 21.10   -0.2
                    Sg     29 39.70
CDF       1.72  17 Pg      29 27.90    0.5
                    Sg     29 50.40
      S.D. = 0.6  on   5 of   5 obs.
-------------------------------------
*  NOV  30, 1989  02h 19m 30.09± 1.20s
   12.032 N ±14.0km   88.334 W ±12.2km
   DEPTH =  19.9 ±  5.3 km
   4.9mb (  9 obs.)  3.7Msz (  1 obs.)
 OFF COAST OF CENTRAL AMERICA       ( 76)

VSM       1.39   2 eP      19 57.60    2.9
OZA       1.62 337 iPc     19 58.00    0.2
SJAS      1.82 334 iPd     20 02.00    1.3
LFU       1.87 336 iPd     20 02.00    0.6
VSS       1.92 333 iPd     20 02.80    0.6
                    eS     20 26.30
TME       2.21 333 iPc     20 07.00    0.6
YPE       2.46 328 eP      20 11.50    1.5
YUP       2.59 327 ePc     20 09.75   -2.1
CMG2      2.97 332 iP+     20 15.50   -1.8
                    S      20 54.00
REC       3.20 319 eP      20 18.00   -2.6X
SLP       3.30 325 eP+     20 19.80   -2.1
GCG       3.32 320 eP      20 29.00    6.7X
                    S      21 38.60
MMG       3.38 318 eP      20 23.00   -0.2
ITG       3.53 316 ePc     20 24.50   -0.9
                    S      21 28.00
LHG       3.67 311 eP      20 23.50   -3.6X
                    S      21 24.50
SRA       4.28 117 eP      20 44.30    8.5X
SJS       4.69 116 eP      20 40.00   -1.7
SBG       4.75 311 ePc     20 41.00   -1.8
                    S      22 13.25
TPX       4.77 307 iP      20 48.00    5.3X
                    iS     21 30.00
BUS       5.12 118 eP      20 55.80    7.7X
SCX       6.26 319 (P)     21 03.00   -0.7
PPM      12.13 306 iP      22 26.50    1.1
ACX      12.15 295 (P)     22 28.50    3.3X
PRM      22.62  13 P       24 33.70    2.7X
UYO      22.73 347 iPc     24 32.80    0.7
RSCP     23.60   6 P       24 41.00    0.5
MEO      24.49 339 iPc     24 48.80   -0.4
FVM      25.91 356 P       25 02.00   -0.6
         0.5s    12.60nm          4.8mb
ALQ      28.12 327 eP      25 24.20    1.1
         1.0s     5.00nm          4.2mb
GLD      31.39 335 P       25 53.50    1.3
         1.2s    44.44nm          5.2mb
GOL      31.41 334 P       25 52.00   -0.5
         0.8s    20.83nm          5.1mb
PLM      33.62 314 P       26 13.20    1.5
ZOBO     34.50 144 P       26 22.00    2.1
      Z  22s     0.16um          3.7Msz
                    LR     36 44.00
BW06     35.75 333 P       26 30.20    0.3
TNP      36.56 320 P       26 40.00    3.2X
         0.5s     1.92nm          4.2mb
KVN      37.70 321 eP      26 47.90    1.6
RSON     38.97 355 iP      26 55.00   -1.5
         1.0s    27.11nm          4.9mb
LRM      39.42 333 eP      27 01.40    0.7
SES      42.54 339 eP      27 26.00   -0.1
FFC      43.93 349 eP      27 36.00   -1.2
         0.7s    12.00nm          4.8mb
PNT      45.27 331 eP      27 48.00   -0.1
EDM      45.69 339 iPc     27 50.70   -0.7
         0.7s    20.00nm          5.2mb
FRB      53.49  11 eP      28 49.00   -2.0
```

30d 02h

```
MBC     66.31 352 eP     30 18.50  -0.4
         1.1s      9.00nm          4.8mb
WB5    138.30 254 ePKP   39 06.80  10.0X
CHG    148.52 347 ePKP   39 20.00   5.7X
CHTO   148.52 347 iPKP   39 20.00   5.7X
         0.8s      3.66nm
GBA    150.88  29 PKP    39 26.00   8.1X
      S.D. = 1.4  on  35 of  48 obs.
-----------------------------------------
&  NOV  30, 1989  03h 00m 41.53s
   47.461 N            121.707 W
   DEPTH =  12.9km
 WASHINGTON                            ( 29)
      <SEA>. CL 2.2 (SEA). Felt at
      North Bend.

RMW      0.07 269 iPc    00 44.39   0.0
GSM      0.26 193 iPd    00 46.88  -0.5
                  S      00 50.87
HTW      0.35 353 iPd    00 47.93  -0.9
                  S      00 52.70
SPW      0.38 284 eP     00 49.68   0.3
BLH      0.44 330 eP     00 49.62  -0.9
                  S      00 56.44
FMW      0.53 177 ePd    00 50.93  -1.4
                  S      00 58.23
RVC      0.55 199 iPd    00 51.57  -1.0
TWW      0.66 119 eP     00 53.71  -0.7
GMW      0.74 277 eP     00 55.07  -0.7
JCW      0.75 349 eP     00 54.68  -1.3
WPW      0.77 172 iPd    00 55.02  -1.4
TBM      0.81 111 eP     00 56.20  -0.8
LMW      0.89 207 eP     00 57.32  -1.1
GLK      0.90 176 eP     00 57.50  -1.1
HDW      0.93 282 eP     00 57.78  -1.3
NAC      0.94 140 eP     00 58.52  -0.8
EBG      0.95 125 eP     00 59.08  -0.4
RPW      1.00   7 iPd    00 58.80  -1 4
CMW      1.00 344 eP     00 59.37  -1.0
BLN      1.01 303 eP     00 58.88  -1 6
OHW      1.03 328 eP     00 59.53  -1.1
APW      1.03 219 eP     00 59.51  -1.3
KOSW     1.05 198 eP     00 59.96  -1.2
NLW      1.11  56 eP     01 01.27  -0.9
TDL      1.16 198 eP     01 01.56  -1.6
ERK      1.23 201 eP     01 02.73  -1.6
STD      1.27 196 eP     01 03.42  -1.6
YEL      1.29 195 eP     01 03.86  -1.6
        28 obs. associated
-----------------------------------------
   NOV  30, 1989  03h 26m 03.15± 0.38s
   41.054 N ± 3.8km   23.377 E ± 3.8km
   DEPTH =  10.0km  (geophysicist)
 GREECE-BULGARIA BORDER REGION    (363)
      ML 2.9 (THE). MD 3.1 (ATH).

SRS      0.17  69 iPgc   26 07.70   0.6
KNT      0.38 287 iPgd   26 11.00   0.1
THE      0.52 217 iPgc   26 14.10   0.3
                 eSg     26 21.20
MMB      0.60  26 iPgc   26 15.00  -0.2
PLG      0.68 176 iPnc   26 16.30  -0.4
KKB      0.84 345 iPgc   26 19.00  -0.4
LIT      1.17 216 ePg    26 25.00   0.0
RZN      1.19  57 ePgc   26 26.00   0.5
KZN      1.43 239 ePn    26 29.50   0.3
RDO      1.64  86 ePn    26 31.70  -0.3
KDZ      1.65  68 iP     26 32.00  -0.2
NEO      1.75 184 ePn    26 33.50  -0.2
DIM      1.90  58 iPg    26 39.00   3.1X
      S.D. = 0.4  on  12 of  13 obs.
-----------------------------------------
   NOV  30, 1989  04h 32m 36.05± 0.37s
   14.944 N ± 6.5km   92.468 W ± 4.9km
   DEPTH =  81.9 ±  4.0 km
   4.7mb ( 10 obs.)
 NEAR COAST OF CHIAPAS, MEXICO    ( 69)
      Felt in Chiapas.

TPX      0.20 101 iP     32 47.81  -1.4
                  iS     32 57.00
SBG      0.44  65 iPd    32 49.20  -0.9
JAT      1.02 128 iPc    32 54.30  -1 4
ITG      1.61 102 iPc    33 07.70   4.2X
FUG      1.65 107 iPc    33 03.60  -0.4
MMG      1.77 103 iPd    33 06.20   0.4
BVA      1.79  99 iPc    33 06.40   0.4
PCG      1.85 107 iPd    33 07.30   0.5
PSG2     1.88 121 iPc    33 06.40  -0.5
GCG      1.91 101 iPc    33 08.30   0.9
                  S      35 00.50
REC      1.95 105 iPd    33 09.00   1.0
SLP      2.12  95 iPc    33 10.70   0.3
CMG2     2.61  96 iPc    33 16.80  -0.3
YUP      2.69 106 iPc    33 17.80  -0.3
EVV      4.45 322 (P)    33 42.00  -0.6
IIT      6.90 307 (P)    34 19.00   2.1
PPM      7.18 306 iP     34 23.83   3.0X
                  (S)    35 45.55
ACX      7.36 286 eP     34 21.94  -1.0
III      7.53 298 eP     34 25.29  -0.1
UNM      7.76 305 (P)    34 45.00  16.3X
CRX      8.20 304 eP     34 36.50   1.8
SRA      9.20 121 eP     34 49.30   1.0
MRX      9.58 301 eP     34 53.50   0.2
SJS      9.60 120 ePc    34 55.10   1.3
BUS     10.05 121 eP     35 03.50   3.3X
OLY     20.49   2 P      37 11.00   1.4
MEO     20.51 346 iPd    37 09.00  -0.8
OCO     20.98 349 ePc    37 16.00   1.4
PRM     21.13  24 P      37 16.00  -0.1
RSCP    21.48  15 P      37 20.00   0.4
FVM     23.02   4 P      37 35.00   0.3
         1.0s     38.00nm          4.8mb
ALQ     23.56 330 iPc    37 41.50   1.4
         1.0s     15.00nm          4.4mb
GOL     27.13 338 P      38 13.00  -0.6
GLA     27.14 316 eP     38 14.00   0.5
                  e      38 31.00
TPC     28.59 316 eP     38 45.00  18.4X
PLM     28.71 314 P      38 28.00   0.1
GSC     29.80 317 eP     38 56.00  18.6X
CLC     30.62 317 eP     38 45.00   0.4
                  e      39 03.00
TNP     31.78 321 P      38 54.20  -0.7
         0.9s      7.62nm          4.5mb
KVN     32.93 322 P      39 05.00   0.1
CMB     33.73 318 eP     39 12.00   0.3
                  e      39 30.00
LRM     35.07 335 eP     39 23.40   0.0
                  e      39 41.10
RSON    35.84 359 P      39 45.00  15.6X
         0.7s     26.99nm
ARE     37.45 146 eP     39 45.00   1.3
SES     38.43 341 eP     40 08.00  16.7X
ZOBO    39.24 141 P      39 54.00  -5.0X
         1.1s     15.95nm          4.8mb
      Z  24s      0.20um          3.9MszX
                  i      40 13.90
                  LR     49 06.00
LPB     39.46 141 eP     40 00.00  -0.6
CNCB    39.74 142 P      40 03.00  -0.1
LON     40.05 328 P      40 05.00   0.2
FFC     40.38 351 eP     40 13.00   5.7X
         0.7s      5.00nm          4.5mb
PNT     40.83 333 eP     40 12.00   0.9
         0.7s     23.00nm          5.1mb
CCH     41.30 140 P      40 15.00  -0.6
EDM     41.60 341 eP     40 17.00  -0.4
PGC     42.15 329 eP     40 22.00   0.2
FRB     51.50  13 eP     41 34.00  -1.1
INK     59.41 344 eP     42 31.00  -1.0
PMR     61.37 333 eP     42 44.50  -0.9
         0.8s     11.50nm          5.0mb
KDC     61.62 328 eP     42 47.00  -0.1
FBA     62.20 337 eP     42 49.90  -1.0
MBC     62.93 353 eP     42 55.00  -0.5
         0.5s      6.00nm          4.9mb
SVW     64.15 331 eP     43 02.20  -1.6
TTA     64.86 333 eP     43 06.90  -1.5
NB2     83.54  28 P      44 55.20  -0.9
         1.1s      2.90nm          4.2mb
APO     84.96  28 eP     45 02.10  -1.1
         0.7s      6.50nm          4.7mb
BDT    146.07 340 ePKP   52 09.80   1.8
         1.0s     55.20nm
GBA    149.93  20 PKP    52 18.80   4.7X
      S.D. = 0.9  on  55 of  66 obs.
-----------------------------------------
   NOV  30, 1989  05h 09m 27.16± 0.41s
   44.628 N ± 3.4km    7.246 E ± 4.7km
   DEPTH =  13 6 ±  4.5 km
 NORTHERN ITALY                     (545)
      ML 2.4 (GEN), 2.2 (LDG).
DOI      0.12 180 P      09 30.40  -0.4
                  eSg    09 32.40
PZZ      0.16 220 P      09 30.64  -0.7
                  S      09 32.89
STV      0.39 172 P      09 34.64  -0.7
                  S      09 39.46
ENR      0.42 163 P      09 34.94  -1.0
                  S      09 40.58
RRL      0.44 312 P      09 36.18  -0.2
                  S      09 42.33
RSP      0.52   1 P      09 37.10  -0.6
                  S      09 44.28
ROB      0.56 126 P      09 38.12  -0.2
                  S      09 45.71
BNI      0.59 316 Pd     09 38.70  -0.1
                  eSg    09 48.60
CKI      0.77 105 P      09 42.50   0.7
                  eSg    09 52.00
SBF      0.78 170 Pg     09 43.00   1.0
                  Sg     09 52.50
FIN      0.81 121 P      09 42.64   0.1
                  S      09 53.71
LSD      0.83 356 P      09 42.23  -0.9
                  S      09 54.02
IMI      0.85 147 P      09 42.74  -0.6
                  S      09 54.74
PCP      0.93  95 P      09 44.79   0.1
                  S      09 57.81
LPG      0.94 338 Pg     09 45.60   0.7
                  Sg     09 57.70
LPL      0.96 338 Pg     09 45.80   0.6
                  Sg     09 58.20
FRF      1.15 202 Pg     09 49.00   0.6
                  Sg     10 03.60
LRG      1.34 209 Pg     09 52.40   1.0
                  Sg     10 09.80
      S.D. = 0.7  on  18 of  18 obs.
-----------------------------------------
&  NOV  30, 1989  05h 50m 02.50s
   36.490 N            120.137 W
   DEPTH =  16.0km
 CENTRAL CALIFORNIA                   ( 39)
      <BRK>. ML 2.8 (BRK).

PKEM     0.43 177 eP     50 10.00  -1.2
PRI      0.55 231 iPd    50 12.50  -0.9
FRI      0.61  34 iPd    50 14.00  -0.3
                  iS     50 22.30
LLA      0.66 281 iPd    50 13.90  -1.3
PHAM     0.69 198 eP     50 14.20  -1.4
PRS      1.01 261 iPd    50 19.90  -1.2
SAO      1.09 285 eP     50 20.93  -1.6
                  eS     50 32.65
                  e      50 36.00
                  e      50 41.70
                  e      50 43.25
BCH      1.30 178 eP     50 24.30  -1.8
ARN      1.41 308 eP     50 26.20  -1.3
MHC      1.48 306 eP     50 26.87  -1.6
                  i      50 29.35
                  e      50 30.93
                  i      50 32.50
                  e(S)   50 49.55
CMB      1.55 353 eP     50 29.10  -0.5
GCC      1.59 290 e(P)   50 27.40  -2.6
BKS      2.17 310 e(P)   50 39.80   1.3
TNP      2.82  55 eP     50 45.50  -2.4
KVN      3.02  32 eP     50 53.00   2.3
        15 obs. associated
-----------------------------------------
*  NOV  30, 1989  05h 53m 41.99± 0.47s
   17.527 S ±13.5km  173.557 W ± 9.2km
   DEPTH =  33.0km  (normal)
   5.0mb ( 10 obs.)
 TONGA ISLANDS                        (173)

DZM     19.35 253 iPc    58 13.10   5.2X
PAE     22.85  94 eP     58 42.00  -1.6
         1.2s     45.00nm          4.8mb
TVO     23.16  94 eP     58 46.00  -0.7
         1.2s     55.00nm          4.9mb
TBI     23.30 108 eP     58 48.00   0.1
         1.1s     90.00nm          5.2mb
TPT     25.02  88 eP     59 05.00   0.4
         1 2s     40.00nm          4.9mb
RKT     36.53 105 iP     01 02.60  16.1X
         1.2s     70.00nm
```

```
WB5     49.22 259 eP     02 28.20  -1.4
ASPA    49.34 254 iPd    02 29.30  -1.2
        0.8s     74.00nm          5.8mb
                  eS     09 31.10
SPA     72.58 180 iPd    05 09.20   1.4
        1.1s     13.10nm          4.8mb
                  i      05 21.00
PRS     72.79  42 eP     05 09.40   0.1
PRI     73.13  42 eP     05 11.90   0.5
PLM     74.05  47 P      05 17.90   1.0
FRI     74.26  42 eP     05 17.90   0.2
CMB     74.46  41 eP     05 19.10   0.1
ORV     74.71  39 eP     05 21.80   1.5
GLA     75.32  48 P      05 24.00   0.0
TNP     76.50  42 P      05 30.00  -0.8
        1.2s     15.32nm          4.9mb
KVN     76.50  41 P      05 29.80  -1.0
PNT     81.88  32 eP     06 02.00   2.6X
        0.8s      8.00nm          4.8mb
ALQ     82.28  50 iPc    06 03.00   1.0
        2.0s     44.12nm          5.2mb
LRM     83.77  38 eP     06 09.20  -0.3
BW06    83.95  42 P      06 08.20  -2.3
FBA     84.50  11 P      06 11.80  -0.6
        0.5s      7.23nm          5.1mb
SES     87.03  35 eP     06 25.00  -0.3
EDM     87.37  31 ePc    06 26.80   0.0
INK     90.36  14 ePc    06 40.50  -0.1
NAI    144.73 241 ePKP   13 21.00   2.7X
KRA    145.78 344 ePKP   13 22.10   3.4X
KSP    145.84 349 ePKP   13 20.50   1.7
CLL    145.89 353 ePKP   13 20.00   1.1
BRG    146.20 351 ePKP   13 19.20  -0.2
                  i      13 38.70
SPC    146.49 344 ePKP   13 23.00   2.8X
MOX    146.70 354 ePKP   13 23.00   2.8X
PRU    146.97 350 ePKP   13 22.00   1.4
KHC    147.95 351 iPKP   13 27.00   4.7X
ZST    148.19 346 ePKP   13 27.60   4.9X
FLN    148.34   9 ePKP   13 26.50   3.6X
LDF    148.56   8 ePKP   13 27.20   4.0X
GRR    148.65   9 ePKP   13 27.70   4.3X
CDF    149.19 359 ePKP   13 29.30   4.9X
HAU    149.60   0 ePKP   13 30.50   5.6X
KBA    149.99 351 e(PKP)13 34.00   8.3X
LOR    150.26   4 ePKP   13 32.10   6.2X
SSF    150.45   4 ePKP   13 32.60   6.4X
LBF    150.55   3 ePKP   13 32.70   6.3X
AVF    150.71   4 ePKP   13 32.70   6.1X
BGF    150.90   5 ePKP   13 33.30   6.4X
LSF    151.07   7 ePKP   13 33.50   6.3X
TCF    151.11   6 ePKP   13 33.70   6.5X
MAF    151.21   6 ePKP   13 34.50   7.1X
      S.D. = 1.0  on  27 of  50 obs.
-----------------------------------
%  NOV  30, 1989  06h 46m 21.56± 0.86s
   44.613 N ± 7.3km    7.250 E ± 6.7km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.2 (GEN).

PZZ     0.15 225 P      46 25.31   0.1
                 S      46 27.67
STV     0.37 172 P      46 29.21   0.0
                 S      46 34.23
ENR     0.40 162 P      46 29.72  -0.2
                 S      46 35.26
RRL     0.45 313 P      46 30.75  -0.1
                 S      46 37.21
ROB     0.55 125 P      46 32.49  -0.1
                 S      46 40.08
FIN     0.80 120 P      46 37.31   0.2
                 S      46 48.49
      S.D. = 0.2  on   6 of   6 obs.
-----------------------------------
%  NOV  30, 1989  06h 47m 00.68± 0.86s
   31.505 S ± 9.1km   68.940 W ± 6.3km
   DEPTH =  10.0km  (geophysicist)
 SAN JUAN PROVINCE, ARGENTINA      (137)

RTLL    0.44  67 iPc    47 10.60   1.0
RTBS    0.47 250 ePc    47 10.50   0.4
RTCV    0.49 136 iPc    47 10.70   0.0
CFA     0.61 100 iPc    47 12.20  -0.8
                 S      47 25.50
RTRS    1.40 341 ePc    47 25.70  -0.6
      S.D. = 1.0  on   5 of   5 obs.
-----------------------------------
   NOV  30, 1989  06h 54m 44.84± 0.74s
   26.158 S ±10.5km  179.669 E ± 5.1km
   DEPTH = 507.6 ± 10.9 km
   4.8mb ( 13 obs.)
 SOUTH OF FIJI ISLANDS             (171)

RAO     3.75 146 iP     56 01.80  -0.7
                 eS     57 11.80
KRP    12.24 196 P      57 27.90   1.1
DZM    12.74 286 iPc    57 33.00   0.8
TCW    15.67 195 P      58 01.00  -0.7
RMQ    27.68 262 iPc    59 53.80   0.8
                 e      01 17.00
CAN    27.81 243 eP     59 54.80   0.7
BWA    28.13 245 eP     59 55.30  -1.6
TBI    28.14  91 iP     59 57.80   0.8
       0.7s     30.00nm          4.9mb
AFR    29.57  79 iP     00 09.30  -0.2
       1.0s     25.00nm          4.7mb
PPT    29.74  80 iP     00 10.90  -0.1
       1.0s     45.00nm          5.0mb
PPN    29.88  80 iP     00 12.00  -0.1
       1.0s     15.00nm          4.5mb
TVO    29.94  80 iP     00 12.60  -0.2
       1.0s     40.00nm          4.9mb
PMO    32.24  76 iP     00 32.30   0.1
       1.0s     10.00nm          4.3mb
VAH    32.37  77 iP     00 33.40   0.1
       1.0s     25.00nm          4.7mb
TPT    32.49  76 iP     00 34.60   0.3
       1.0s     30.00nm          4.8mb
RUV    32.61  77 iP     00 35.60   0.3
       1.0s     25.00nm          4.7mb
PMG    35.01 292 iPd    00 55.00  -0.5
       0.9s     70.59nm          5.2mb
QIS    37.10 270 iPd    01 12.20  -0.5
ASPA   41.42 263 iPc    01 47.70  -0.2
       1.0s     21.00nm          4.6mb
                 ePcP   03 23.40
                 iS     07 24.20
WB5    42.00 269 iPd    01 51.70  -0.8
SPA    63.99 180 eP     04 30.40   0.9
       0.8s      4.58nm          4.1mb
MAT    73.59 326 eP     05 26.00  -1.2
       1.3s     57.69nm          4.9mb
MDJ    83.97 327 eP     06 22.50   0.7
CN2    85.52 324 Pd     06 30.00   0.6
                 eS     16 20.00
BJI    88.45 317 eP     06 44.00   0.7
TIY    89.50 313 Pc     06 49.60   1.3
CHG    90.19 291 eP     06 53.40   1.6
KEV   133.55 347 ePKP   13 18.00  14.4X
SUF   139.45 342 ePKP   13 07.10  -7.7X
       0.5s      2.90nm
NUR   141.64 340 ePKP   13 17.00  -1.7
NB2   144.25 350 PKP    13 22.20  -1.1
       0.8s     29.80nm
HFS   144.69 348 ePKP   13 23.00  -1.0
       0.3s     11.40nm
EKA   150.78   3 PKPc   13 40.10   6.4X
       0.5s      2.30nm
BCAO  151.84 223 iPKPd  13 43.80   7.3X
       0.4s      6.00nm
KSP   152.26 337 iPKP   13 44.20   8.2X
CLL   152.90 341 ePKP   13 45.00   8.1X
       1.0s     13.00nm
                 i      13 58.40
BRG   153.01 340 iPKP   13 45.40   8.4X
       1.0s     14.00nm
                 i      13 59.00
      S.D. = 0.9  on  30 of  37 obs.
-----------------------------------
   NOV  30, 1989  07h 14m 04.57± 0.66s
   44.691 N ± 5.2km   10.556 E ± 8.3km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)

MME     0.51 168 P      14 15.30   0.4
                 eSg    14 22.60
BDI     0.63 177 P      14 16.90  -0.4
                 eSg    14 27.30
BOB     0.79 276 P      14 19.90  -0.1
                 eSg    14 30.50
SAL     0.92 359 P      14 22.00  -0.1
                 eSg    14 36.00
MDI     1.24 332 P      14 28.00   0.4
                 eSg    14 44.00
CTI     1.56  29 P      14 31.40  -1.1
                 eSn    14 51.90
FVI     2.46  39 P      14 44.50  -0.8
                 eSn    15 14.50
KBA     3.08  38 eP     14 56.00   1.7
       0.5s      1.60nm
                 e(Sg)  15 06.00
      S.D. = 1.0  on   8 of   8 obs.
-----------------------------------
   NOV  30, 1989  07h 38m 15.79± 0.40s
   44.721 N ± 4.1km   10.434 E ± 4.9km
   DEPTH =  23.4 ±  5.6 km
 NORTHERN ITALY                    (545)
      ML 2.8 (LDG), 2.8 (KBA).

MME     0.56 160 P      38 26.40  -0.7
                 eSg    38 36.10
BDI     0.67 170 P      38 28.00  -0.8
                 eSg    38 38.80
BOB     0.70 274 P      38 30.40   1.0
                 eSg    38 40.50
SAL     0.89   4 P      38 33.20   0.8
                 eSg    38 46.20
PII     1.00 176 P      38 35.70   1.4
                 eSg    38 49.40
MDI     1.17 334 P      38 36.90   0.2
                 eSg    38 52.80
PGD     1.25 132 P      38 37.50  -0.6
CRE     1.54 135 P      38 43.00   0.8
CKI     1.57 260 P      38 42.80   0.4
CTI     1.58  32 P      38 42.70   0.0
                 eSn    39 03.10
SBF     2.32 249 Pn     38 54.20   0.9
                 Sn     39 22.90
FVI     2.49  40 P      38 55.70   0.0
LPG     2.72 288 Pn     39 00.00   0.8
KBA     3.11  40 ePn    39 06.50   1.8
       0.5s      2.80nm
                 iPg    39 15.80
                 i      39 17.80
                 iSn    39 44.90
                 iSg    39 58.50
                 e      58 43.00
                 i      58 47.30
                 iS     59 21.90
                 e      59 44.00
BSF     4.01 322 Pn     39 17.20  -0.1
                 Sn     40 01.80
CDF     4.29 331 Pn     39 20.50  -0.7
                 Sn     40 08.80
HAU     4.33 321 Pn     39 21.10  -0.8
                 Sn     40 09.30
KHC     4.91  25 eP     40 26.40  56.4X
                 e      41 01.00
      S.D. = 0.9  on  17 of  18 obs.
-----------------------------------
%  NOV  30, 1989  07h 57m 45.21± 0.59s
   44.688 N ± 5.4km   10.528 E ± 7.4km
   DEPTH =  26.5 ±  9.0 km
 NORTHERN ITALY                    (545)

MME     0.51 166 Pc     57 55.80   0.0
                 eSg    58 04.70
BDI     0.63 175 P      57 57.40  -0.2
                 eSg    58 07.80
BOB     0.77 276 P      58 00.00  -0.1
                 eSg    58 11.10
SAL     0.92 360 P      58 01.50  -0.8
                 eSg    58 15.50
PGD     1.18 133 P      58 06.50   0.3
MDI     1.23 332 P      58 07.40   0.7
                 eSg    58 23.60
CTI     1.57  30 P      58 11.90   0.1
                 eSn    58 32.50
FVI     2.48  39 P      58 24.50  -0.1
                 eSn    58 54.50
      S.D. = 0.6  on   8 of   8 obs.
-----------------------------------
   NOV  30, 1989  08h 58m 34.22± 1.29s
   38.881 S ± 5.4km  178.231 E ±12.5km
   DEPTH =  34.6 ±  6.9 km
   5.6mb (  2 obs.)  5.0Msz (  1 obs.)
 OFF E. COAST OF N. ISLAND, N.Z. (160)
      Felt at Gisborne, Wairoa and
      Napier.
```

30d 08h

HBZ	1.28	2	Pd	58 56.80	0.8
TAZ	1.50	295	Pc	58 58.90	-0.2
HATZ	1.67	269	P	59 02.00	0.4
TUTZ	1.76	275	P	59 03.40	0.5
RATZ	1.92	270	P	59 05.50	0.3
HITZ	1.93	274	P	59 05.40	0.0
KETZ	2.02	263	eP	59 07.40	0.6
PGZ	2.30	220	P	59 12.00	1.5
KRP	2.32	293	P	59 09.10	-1.8
MNG	2.74	230	P	59 17.50	0.7
			S	59 48.80	
MTW	3.09	222	P	59 21.80	0.0
KIW	3.23	231	P	59 23.80	0.0
BLW	3.26	220	P	59 24.40	0.1
CAW	3.30	227	P	59 24.50	-0.2
MOW	3.41	221	P	59 25.90	-0.5
WDW	3.44	225	P	59 26.10	-0.7
WEL	3.58	227	P	59 28.20	-0.5
MRW	3.58	228	P	59 28.00	-0.7
TCW	3.83	231	P	59 31.10	-1.1
DZM	19.56	326	iPc	03 01.00	-1.2
COO	23.12	283	eP	03 41.00	2.8X
CNB	23.26	270	iPc	03 42.30	2.8X
CAN	23.54	270	eP	03 44.10	1.9
BRS	24.12	291	iPc	03 49.00	1.2
			i	04 04.00	
			e(S)	08 28.00	
BWA	24.27	271	eP	03 48.50	-0.8
TOO	25.68	263	eP	04 04.00	1.3
CMS	27.39	276	iPc	04 19.10	0.7
RMQ	27.59	288	iPd	04 20.90	0.7
BFD	28.06	262	eP	04 25.00	0.7
STK	30.53	272	iPd	04 47.30	0.8
ADE	31.67	265	iPd	04 57.50	1.0
CTA	33.31	295	iPc	05 10.70	-0.2
	1.2s	110.94nm		5.6mb	
QIS	37.85	288	iPc	05 48.40	-1.1
ASPA	40.41	279	iPc	06 10.20	-0.6
	1.0s	111.00nm		5.6mb	
	Z 18s	2.01um		5.0Msz	
			iS	12 10.30	
			LR	23 41.10	
PMG	40.43	308	eP	06 11.00	0.0
WB5	42.19	284	iPc	06 24.00	-1.4
MBL	52.69	272	eP	07 45.70	-2.0
KEV	145.51	343	ePKP	18 06.00	-3.1X
SOD	147.37	340	ePKP	18 17.00	4.8X
KIC	147.51	174	PKP	18 21.00	7.0X
SUF	150.76	334	ePKP	18 25.60	8.0X
	0.4s	3.20nm			
NUR	152.76	331	ePKP	18 29.30	8.8X

S.D. = 1.0 on 35 of 42 obs.

NOV 30, 1989 09h 37m 41.78± 0.16s
22.812 S ± 4.9km 177.641 W ± 3.9km
DEPTH = 297.1km (3 depth phases)
5.3mb (30 obs.)
SOUTH OF FIJI ISLANDS (171)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 10S, 20C
Centroid Location:
Origin Time 09:37:47.7 1.1
Lat 23.08S 0.13 Lon 178.06W 0.09
Dep 308.6 4.8 Half-duration 1.6
Moment Tensor; Scale 10**16 Nm
Mrr=-2.87 0.62 Mtt=-3.20 1.03
Mff= 6.08 1.02 Mrt=-5.03 0.88
Mrf=-4.85 0.83 Mtf=-1.53 0.81
Principal Axes:
T Val= 8.24 Plg=25 Azm= 94
N 1.17 34 203
P -9.41 45 336
Best Double Couple:Mo=8.8*10**16
NP1:Strike=137 Dip=37 Slip=-160
NP2: 31 78 -55

RAO	6.42	182	eP	39 14.60	-2.0
			iS	40 33.00	
SGE	6.66	320	eP	39 29.00	9.3X
AFI	10.46	33	eP	40 00.00	-6.6X
			(S)	41 46.00	
PVC	14.11	288	iPc	40 55.00	3.9X
DZM	14.74	270	iPc	41 00.80	2.1
			iS	44 00.10	
			ScP	48 51.10	
KRP	16.16	200	P	41 14.20	0.0
PGZ	18.48	195	P	41 38.00	-0.3
MNG	18.68	197	P	41 36.90	-3.4X
			S	44 51.90	
BLW	19.39	196	P	41 47.80	0.5
WDW	19.42	197	P	41 49.00	1.4
MRW	19.46	198	P	41 46.60	-1.4
TCW	19.57	198	P	41 46.70	-2.4
MSZ	24.82	205	P	42 40.80	1.8
HNR	25.26	298	P	42 40.00	-3.3X
TBI	25.92	97	iP	42 48.80	-0.4
	0.8s	45.00nm		5.0mb	
AFR	26.65	84	iP	42 54.60	-1.2
	1.0s	145.00nm		5.4mb	
PPT	26.83	84	iP	42 56.40	-1.1
	1.0s	225.00nm		5.6mb	
PPN	26.97	84	iP	42 57.50	-1.2
	1.0s	115.00nm		5.3mb	
TVO	27.07	85	iP	42 58.50	-1.2
	1.0s	160.00nm		5.4mb	
BRS	27.14	254	iPc	43 01.00	0.7
			i	43 05.00	14kmX
			i	43 59.50	
COO	28.23	248	eP	43 11.00	1.0
PMO	29.15	80	iP	43 16.60	-1.4
	1.0s	70.00nm		5.2mb	
VAH	29.31	80	iP	43 17.60	-1.9
	1.0s	45.00nm		5.0mb	
TPT	29.41	80	iP	43 18.90	-1.4
	1.0s	125.00nm		5.4mb	
RUV	29.55	81	iP	43 20.00	-1.6
	1.0s	100.00nm		5.3mb	
RMO	30.71	256	iPd	43 32.80	1.1
	1.0s	139.00nm		5.4mb	
CAN	31.56	239	eP	43 39.20	0.2
			e	44 43.70	337kmX
			e	47 50.00	
BWA	31.82	241	eP	43 39.60	-1.7
			e	44 43.30	331kmX
CTA	33.66	268	iPd	43 57.20	0.1
	1.0s	288.00nm		5.8mb	
			iS	48 58.00	
PMG	36.24	286	iPd	44 18.00	-0.8
	0 9s	504.20nm		6.0mb	
STK	37.14	247	eP	44 27.00	0.8
RKT	39.18	99	iP	44 43.20	0.1
	1.5s	165.00nm		5.2mb	
QIS	39.69	265	iPd	44 46.70	-0.7
ADE	39.80	242	e(P)	44 48.30	0.1
ASPA	44.36	259	iPd	45 24.60	-0.5
	1.1s	115.00nm		5.1mb	
	Z 17s	0.46um		4.5MszX	
			eS	51 34.40	
			LR	02 10.60	
WB5	44.65	264	eP	45 27.00	-0.3
			e	46 28.60	298km
			e	47 29.50	
			e	48 23.80	
			e	50 31.20	
			e	51 44.20	
JAY	45.13	290	ePd	45 30.00	-1.2
	0.7s	94.90nm		5.2mb	
KNA	50.85	268	eP	46 13.50	-1.6
GUA	51.48	311	eP	46 18.60	-1.1
	1.2s	387.50nm		5.7mb	
GUMO	51.55	311	eP	46 18.40	-1.8
	1.3s	300.65nm		5.6mb	
PJG	51.55	311	eP	46 18.50	-1.7
MBL	57.61	259	eP	47 01.90	-1.8
SPA	67.33	180	iPc	48 08.80	1.9
	0.8s	12.92nm		4.7mb	
TRT	68.39	271	iPc	48 14.30	0.3
MAT	72.26	324	eP	48 34.00	-2.7
	0.9s	17.65nm		4.8mb	
ADK	74.38	1	eP	48 45.50	-3.0
	0.8s	50.60nm		5.3mb	
SYP	79.05	45	eP	49 16.00	1.1
SDN	79.20	10	eP	49 13.00	-2.0
PRS	79.26	43	eP	49 16.80	1.0
GCC	79.31	42	e(P)	49 16.50	0.5
PCC	79.37	42	eP	49 16.90	0.6
BCH	79.38	45	P	49 18.00	1.4
PRI	79.59	44	eP	49 18.90	1.2
BRK	79.68	41	e(P)	49 17.50	-0.4
BKS	79.70	41	ePc	49 19.20	1.1
	0.8s	38.00nm		5.3mb	
MHC	79.72	42	eP	49 19.20	0.8
ARN	79.80	42	P	49 19.30	0.6
MWC	80.14	46	eP	49 21.00	0.3
PLM	80.44	48	eP	49 22.00	-0.3
RVR	80.46	47	eP	49 23.00	0.8
PEC	80.55	47	P	49 30.00	7.3X
SBB	80.57	46	eP	49 23.00	0.2
ISA	80.71	45	eP	49 24.00	0.5
CMB	80.93	42	ePd	49 25.00	0.4
ORV	81.20	41	eP	49 26.40	0.5
WDC	81.24	39	ePd	49 26.80	0.7
CLC	81.38	45	eP	49 27.00	0.0
TPC	81.43	48	eP	49 28.00	0.7
GSC	81.60	46	eP	49 29.00	0.8
MIN	81.64	40	ePd	49 28.40	0.1
GLA	81.67	49	eP	49 30.00	1.4
LBFM	82.11	39	P	49 31.70	0.9
MDJ	82.59	325	eP	49 32.50	-0.4
TNP	82.96	44	P	49 35.40	0.2
	1.0s	12.50nm		4.7mb	
KDC	82.96	13	eP	49 33.60	-0.9
KVN	82.97	43	P	49 35.20	-0.1
SNY	84.19	320	eP	49 40.00	-0.9
CN2	84.33	322	Pd	49 41.40	-0.2
BMW	84.69	34	P	49 44.30	0.8
			pP	50 54.60	297km
PSI	84.99	275	ePc	49 45.00	-0.6
	0.9s	5.50nm		4.4mb	
			e	50 40.00	226kmX
SVW	85.50	11	ePd	49 46.30	-0.9
LON	85.61	35	P	49 48.00	0.0
GMW	85.63	34	P	49 48.60	0.6
			pP	50 58.90	296km
PGC	86.01	33	eP	49 51.00	1.2
MCW	86.34	33	P	49 53.00	1.5
MSU	86.47	46	P	49 53.70	1.1
TTA	87.15	10	ePd	49 54.90	-0.2
PMR	87.18	13	ePc	49 54.10	-1.0
	1.0s	108.20nm		5.7mb	
BJI	87.76	315	eP	49 57.50	-0.9
GYA	88.08	300	P	50 01.00	0.6
NNT	88.16	284	eP	50 02.50	1.7
DPW	88.23	35	P	50 00.80	0.2
TOA	88.28	14	eP	50 00.30	-0.2
PNT	88.38	34	iPc	50 02.40	1.2
	0.9s	58.00nm		5.5mb	
ALQ	88.58	51	iPd	50 03.80	1.1
	1.0s	11.25nm		4.7mb	
TIY	89.06	312	Pc	50 05.20	0.5
XAN	89.79	307	P	50 08.50	0.4
LRM	90.28	39	eP	50 11.10	0.8
BW06	90.42	43	P	50 10.90	-0.2
	1.0s	5.00nm		4.4mb	
FBA	90.42	12	eP	50 09.00	-1.3
IMA	90.46	10	ePd	50 10.20	-0.4
	0.9s	44.80nm		5.4mb	
KMI	90.69	297	Pc	50 14.50	1.8
HHC	91.20	314	eP	50 14.20	-0.3
CHG	91.34	290	ePd	50 16.80	1.3
	1.0s	32.75nm		5.2mb	
GOL	91.63	47	P	50 17.20	0.5
	0.8s	10.42nm		4.8mb	
BTO	92.11	313	eP	50 19.00	0.3
SES	93.53	36	ePd	50 24.30	-0.7
EDM	93.86	33	eP	50 26.00	-0.4
MEO	94.29	54	iPc	50 29.20	0.4
LZH	94.43	307	P	50 30.00	0.4
			pP	50 32.00	6kmX
BRW	94.98	7	eP	50 30.50	-0.6
INK	96.41	15	ePd	50 36.80	-0.8
ZOBO	100.88	113	ePdiff	50 55.00	-4.7X
MAIO	129.18	299	ePKP	56 16.00	-0.5
SOD	132.92	347	ePKP	56 22.00	-0.5
NUR	139.24	343	iPKP	56 26.80	-7.7X
	0.8s	32.30nm			
			e	56 33.00	
NB2	141.31	353	PKP	56 31.50	-6.8X
	0.8s	12.10nm			
UPP	141.45	348	PKP	56 32.80	-5.7X
HFS	141.86	351	ePKP	56 32.50	-6.8X
	1.0s	31.00nm			
COP	146.33	350	iPKPc	56 46.40	-0.5X
	1.3s	230.77nm			
EKA	147.26	6	PKPd	56 50.60	2.2
	0.8s	72.20nm			
DLE	148.83	10	ePKP	56 55.00	4.0X
	0.8s	40.00nm			
BBTK	149.18	311	ePKP	56 52.00	-0.1
CFR	149.33	323	ePKP	56 56.00	4.0X

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ETA    149.45  10 ePKP  57 02.00   10.1X
KRA    149.51 337 ePKP  56 57.10    5.0X
        1.4s   168.00nm
                   e    57 02.20
VRI    149.66 325 ePKPd 56 57.00    4.5X
WIT    149.87 355 ePKPd 56 59.00    6.5X
ECP    149.92  11 ePKP  57 04.10   11.5X
PRNI   149.94 291 e(PKP)56 59.50    6.1X
KSP    149.99 342 ePKPc 56 53.00    0.2
SPC    150.12 336 ePKP  56 54.00    0.7
                   i    57 00.00
CLL    150.38 346 ePKP  56 53.00   -0.4
        1.1s   330.00nm
                   i    56 59.10
                   eSg  04 46.00
BRG    150.57 345 iPKP  56 53.80    0.1
                   i    56 59.50
                   e    58 11.00
WTS    150.66 354 iPKPd 57 00.10    6.4X
        0.9s   289.00nm
                   e    57 09.00
GPA    150.67 313 ePKP  56 59.20    5.0X
PRU    151.24 344 iPKPd 57 01.50    6.8X
        1.0s   105.50nm
                   e    57 09.50
MOX    151.29 348 ePKP  56 55.00    0.2
        1.1s   142.00nm
                   i    57 01.00
HOF    151.56 347 iPKPc 56 55.40    0.2
BCK    151.69 307 ePKP  57 01.00    5.1X
ENN    151.96 355 iPKPd 57 03.00    7.3X
        0.9s   146.00nm
                   i    57 12.60
SRO    151.98 337 iPKP  57 02.80    7.0X
ZST    152.07 339 e(PKP)56 56.00    0.0
                   i    57 03.00
                   e    57 11.50
                   e    03 06.80
KHL    152.10 310 ePKP  57 03.00    6.5X
KHC    152.27 344 iPKPd 56 56.40    0.1
                   i    57 03.70
                   i    57 14.50
BZS    152.37 330 ePKP  56 56.00   -0.5
ELL    152.47 307 ePKP  57 04.00    6.9X
SOP    152.70 339 ePKP  56 57.90    1.0
DIM    152.75 320 ePKP  57 05.00    7.9X
KDZ    153.06 320 iPKPd 57 05.00    7.4X
RZN    153.45 320 ePKP  57 06.00    7.6X
BEO    153.51 330 e(PKP)57 06.20    8.1X
FUR    153.72 346 iPKPc 57 07.10    8.8X
                   i    57 20.60
MMB    154.09 321 ePKP  57 07.00    7.9X
KBA    154.22 343 iPKPd 56 58.00   -1.3
        1.3s    37.90nm
                   i    57 07.30
                   i    57 22.00
PTJ    154.45 338 ePKP  57 03.30    3.8X
FVI    154.82 343 PKP   56 52.50   -7.2X
OGA    155.00 346 iPKPc 57 00.90    0.6
LOR    155.57 358 ePKP  57 01.30    0.4
        1.2s    20.80nm
CTI    155.62 344 PKP   57 01.00   -0.1
SSF    155.79 358 ePKP  57 01.50    0.4
        1.1s    12.20nm
LBF    155.85 357 ePKP  57 01.80    0.5
        1.2s    17.80nm
BCAO   155.95 223 ePKPd 57 02.10   -0.3
        0.6s    17.00nm
                   ic   57 31.60
                   id   58 42.30
SMF    156.19 357 ePKP  57 01.90    0.2
        1.2s    14.80nm
VAI    156.42 349 PKP   57 00.00   -1.9
TCF    156.58   0 ePKP  57 02.70    0.5
        1.0s    10.80nm
BNI    157.54 352 PKP   57 03.50   -0.1
LIC    162.04 156 PKP   57 10.00    1.0
KIC    162.27 156 PKP   57 11.00    1.7
TIC    162.42 155 PKP   57 10.30    0.9
     S.D. = 1.0  on 134 of 170 obs.
-----------------------------------
&  NOV  30, 1989  09h 50m 40.50s
   36.710 N          121.385 W
   DEPTH =   3.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.5 (BRK).
      Mo=8.4*10**14 Nm (BRK). Felt at
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      Hollister and Tres Pinos.

SAO      0.07 319 iPc   50 41.98   -0.1
                  iS    50 43.20
LLA      0.37 105 iPc   50 48.00    0.1
PRS      0.38 178 iPd   50 47.90   -0.2
GCC      0.59 303 iPc   50 51.30   -0.9
ARN      0.65 350 iPd   50 53.50    0.0
MHC      0.66 342 iPd   50 53.88    0.1
                  eS    51 04.65
PRI      0.81 134 ePd   50 55.90   -0.8
PHAM     1.18 137 eP    51 01.70   -1.5
PKEM     1.22 122 eP    51 03.00   -0.8
BKS      1.35 330 ePc   51 03.70   -2.3
                  eS    51 22.80
BRK      1.35 329 eP    51 03.70   -2.5
FRI      1.37  78 eP    51 04.70   -1.8
                  eS    51 22.60
CMB      1.54  31 eP    51 07.60   -1.4
                  iS    51 27.10
BCH      1.85 145 eP    51 11.00   -2.5
BLP      2.29 159 eP    51 17.50   -2.3
ABL      2.56 136 eP    51 21.00   -2.8
ORV      2.84 358 eP    51 26.10   -1.5
KVN      3.50  47 eP    51 35.00   -2.1
TNP      3.59  66 eP    51 36.50   -1.9
        19 obs. associated
-----------------------------------
    NOV  30, 1989  10h 01m 37.23± 0.72s
    45.604 N ± 8.1km   15.373 E ± 4.7km
    DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                        (383)
      ML 2.3 (ZAG), 2.9 (KBA). MD 2.9
      (TRI). Felt (V) at Metlika and
      Crnomelj; (IV) at Novo Mesto.

VBY      0.13 219 iPgd  01 40.50    0.1
                  eSg   01 41.50
ZAG      0.48  63 iPgc  01 46.80   -0.1
                  iSg   01 54.50
PTJ      0.51  54 iPgc  01 47.40   -0.1
                  eSg   01 55.60
CEY      0.68 282 iPgd  01 49.90   -0.8
                  eSg   01 58.40
LJU      0.73 307 iPgc  01 50.70   -0.9
                  eSg   01 59.50
RIY      0.74 250 iPg   01 51.50   -0.2
                  iSg   02 01.30
VOY      1.12 293 ePg   01 58.00   -0.3
                  eSg   02 13.80
TRI      1.13 276 iPgd  01 59.00    0.6
                  iSg   02 14.20
KBA      2.04 317 iPnc  02 13.10    1.0
                  iPgc  02 14.90
                  iSg   02 39.50
FVI      2.06 300 Pc    02 13.00    0.8
                  eSn   02 40.50
CTI      2.64 281 P     02 27.00    6.3X
                  eSn   03 03.70
OGA      3.27 294 iPc   02 38.50    8.7X
KHC      3.73 342 eP    02 48.00   11.8X
                  e     03 36.50
PRU      4.42 353 eP    03 01.50   15.6X
                  e     03 55.50
     S.D. = 0.7  on  10 of  14 obs.
-----------------------------------
    NOV  30, 1989  10h 09m 47.01± 1.86s
     1.712 N ±10.2km  126.524 E ±11.8km
    DEPTH =  40.3 ± 18.2 km
    4.8mb (  4 obs.)
 MOLUCCA PASSAGE                   (266)

MNI      1.71 261 ePc   10 16.00    1.2
                  eS    10 30.50
TSM      8.80 287 eP    11 58.90    4.1X
TLE      9.59 140 ePc   12 04.20   -1.4
KHKI    14.79 227 ePd   13 22.40    7.2X
                  e     15 33.10
KNA     17.49 173 eP    13 49.20   -0.5
WB5     22.80 161 eP    14 47.00   -0.5
                  eS    18 54.80
OIS     25.58 151 iPc   15 14.10   -0.1
ASPA    26.23 165 iPc   15 19.90   -0.3
        0.8s    58.00nm          5.2mb
                  eS    19 59.50
PSI     27.60 273 ePc   15 32.00   -0.8
        0.9s    5.00nm           4.2mb
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                  e     17 40.00
CHG     31.93 304 eP    16 17.50    6.1X
CHTO    31.93 304 eP    16 11.80    0.4
        1.0s     5.00nm          4.3mb
MAT     36.30  16 (P)   16 49.00    0.2
        1.7s    96.15nm          5.4mb
STK     36.34 158 eP    16 49.00   -0.1
ADE     38.23 164 eP    17 06.00    0.9
BJI     39.29 347 eP    17 14.50    0.7
LZH     40.14 331 P     17 20.50   -0.6
BWA     41.41 152 eP    17 33.20    1.9
CAN     42.42 152 eP    17 40.60    1.0
GBA     49.95 286 P     18 37.40   -2.1
MAIO    70.57 308 eP    21 06.00    5.5X
ZOBO   159.57 136 PKP   29 47.00    2.9X
     S.D. = 1.1  on  16 of  21 obs.
-----------------------------------
    NOV  30, 1989  10h 25m 41.43± 0.39s
    44.705 N ± 3.8km   10.467 E ± 4.1km
    DEPTH =  19.4 ±  5.1 km
 NORTHERN ITALY                    (545)
      ML 3.0 (LDG), 3.0 (KBA).

MME      0.54 162 Pc    25 51.70   -0.6
                  eSg   26 00.90
BDI      0.65 172 P     25 53.40   -0.6
                  eSg   26 03.70
BOB      0.73 275 P     25 55.90    0.5
                  eSg   26 07.00
SAL      0.90   3 P     25 58.00   -0.2
                  eSg   26 12.50
PII      0.98 178 P     26 00.60    1.0
                  eSg   26 14.80
MDI      1.20 334 Pd    26 02.90   -0.2
                  eSg   26 20.80
PGD      1.22 132 P     26 03.80    0.1
CRE      1.52 135 P     26 08.00    0.3
CTI      1.58  31 P     26 07.80   -0.9
                  eSn   26 29.10
CKI      1.59 261 P     26 09.00    0.3
VAI      1.67 315 P     26 10.20    0.4
ORO      1.98 298 P     26 15.00    0.5
SBF      2.33 250 Pn    26 19.60    0.1
                  Sn    26 48.60
FVI      2.49  40 P     26 21.10   -0.5
TRI      2.54  66 iP    26 50.80   28.5X
                  i     27 09.70
LPG      2.75 288 Pn    26 25.40   -0.2
FRF      2.98 249 Pn    26 29.40    0.9
                  Sn    27 03.50
KBA      3.11  39 ePn   26 33.00    2.4
                  iPg   26 42.70
                  iSn   27 10.20
                  iSg   27 24.00
LMR      3.17 246 Pn    26 30.00   -1.3
                  Sn    27 06.80
LRG      3.21 249 Pn    26 32.40    0.5
                  Sn    27 07.60
KHC      4.91  25 eP    27 23.50   27.5X
                  e     27 51.00
     S.D. = 0.9  on  19 of  21 obs.
-----------------------------------
?   NOV  30, 1989  10h 41m 00.07± 1.14s
    55.135 N ±22.6km  161.537 E ±21.3km
    DEPTH =  33.0km  (normal)
    4.6mb (  4 obs.)
 NEAR EAST COAST OF KAMCHATKA      (218)

MAT     24.50 230 eP    46 17.00   -0.3
        0.8s    13.43nm          4.6mb
INK     31.74  40 eP    47 21.50   -1.1
EDM     46.88  55 eP    49 30.00    1.5
FRB     55.29  25 eP    50 31.00   -1.0
SUF     57.44 337 eP    50 48.30    1.0
NB2     61.81 344 P     51 17.90    0.3
        0.8s     2.30nm          4.4mb
HFS     62.26 342 eP    51 20.00   -0.5
        0.8s     4.00nm          4.6mb
KBA     74.69 338 e(P)  52 42.00    4.1X
        1.0s     6.30nm          4.6mb
                  i     52 49.80
     S.D. = 1.2  on   7 of   8 obs.
-----------------------------------
?   NOV  30, 1989  14h 36m 00.02± 5.48s
    17.384 N ±48.4km   61.758 W ±19.8km
    DEPTH =  33.0km  (normal)
 LEEWARD ISLANDS                   ( 92)
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30d 14h

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      ML 3.2 (FDF).

ANG     0.24 197 eP     36 07.18   0.2
BPA     0.35 196 eP     36 08.17  -0.3
                 iS     36 16.59
DEG     1.26 148 eP     36 21.26  -0.2
PAG     1.35 177 eP     36 23.00   0.2
                 S      36 42.40
MGG     1.52 164 eP     36 25.40   0.3
                 S      36 45.80
BBL     1.87 172 eP     36 30.10  -0.2
     S.D. = 0.3  on   6 of   6 obs.
-----------------------------------------
   NOV  30, 1989  14h 53m 21.43± 0.31s
   21.383 N ± 5.3km  146.180 E ± 5.7km
   DEPTH =  33.0km  (normol)
   5.0mb ( 12 obs.)  4.5Msz (  4 obs.)
 MARIANA ISLANDS REGION            (215)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 12S, 20C
      Centroid Location:
      Origin Time        14:53:26.0 0.8
      Lat 21.19N 0.14 Lon 146.61E 0.10
      Dep  15.0 FIX Half-duration  1.5
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 3.46 0.39  Mtt= 0.79 0.49
        Mff=-4.25 0.39  Mrt=-0.20 1.69
        Mrf=-4.35 1.86  Mtf= 3.35 0.50
       Principal Axes:
        T  Val=  5.96  Plg=56  Azm=126
        N        1.36     27      349
        P       -7.32     20      248
      Best Double Couple:Mo=6.6*10**16
       NP1:Strike=301 Dip=34 Slip=  37
       NP2:        179     70      119

GUMO    7.85 189 eP     55 17.50   1.2
PJG     7.85 189 eP     55 17.50   1.2
GUA     7.89 189 eP     55 18.30   1.4
      0.7s    43.84nm          5.7mb X
                 eS     56 43.70
KAKJ   15.67 342 P      57 06.20   4.8X
CHJJ   15.90 338 eP     57 05.10   0.7
MAT    16.63 337 (P)    57 15.00   1.4
      1.2s    40.63nm          4.4mb
                 eS     00 19.00
MTMJ   16.81 336 P      57 19.00   3.0X
KAGJ   16.82 309 eP     57 20.60   4.6X
KUMJ   17.60 312 eP     57 28.10   2.3
SHNJ   18.38 317 eP     57 37.10   1.6
SSE    24.37 299 P      58 36.50  -1.2
     Z  12s      0.50um          4.2MszX
     N  12s      0.80um
                 S      03 00.00
                 sS     03 20.00
                 SS     04 08.00
MDJ    26.92 333 eP     59 05.50   4.1X
     Z  15s      1.50um          4.7MszX
DL2    27.36 315 eP     59 06.50   1.0
     Z  15s      0.90um          4.5MszX
SNY    27.89 322 Pc     59 09.80  -0.4
     Z  20s      1.30um          4.5Msz
     N  14s      0.90um
     E  16s      1.10um
                 eS     03 57.00
CN2    28.22 327 eP     59 15.00   1.8
     Z  16s      1.80um          4.8MszX
     N  12s      0.60um
     E  12s      0.60um
                 epP    59 23.00  28kmX
                 eS     03 54.00
TIA    29.30 307 P      59 21.80  -1.3
     Z  15s      1.20um          4.6MszX
     E  12s      1.10um
WHN    29.95 294 Pc     59 28.00  -1.0
     Z  20s      0.75um          4.3Msz
BJI    31.58 313 eP     59 46.00   2.8X
     Z  16s      0.87um          4.5MszX
                 eS     04 48.00
TIY    33.34 307 eP     59 58.00  -0.7
     E  13s      0.70um
                 sS     05 31.00
HHC    35.11 311 eP     00 13.40  -0.6
XAN    35.12 299 P      00 12.50  -1.5
BTO    36.11 310 eP     00 23.00   0.6
GYA    36.37 286 P      00 25.00   0.2
CD2    39.05 293 eP     00 46.20  -0.9
                 eS     06 40.50
LZH    39.59 301 P      00 51 00  -0.7
      1.2s    65.00nm          5.3mb
     Z  18s      0.70um          4.5Msz
                 pP     00 59.00  27kmX
                 (S)    06 46.00
KMI    39.96 284 eP     00 56.00   1.1
     Z  16s      0.80um          4.7MszX
WB5    42.61 197 eP     01 14.00  -2.3
GTA    43.33 305 Pc     01 21 20  -1.1
     Z  14s      0.60um          4.6MszX
CHG    44.31 275 eP     01 30.00  -0.3
ASPA   46.35 196 eP     01 42.30  -4.0X
     Z  22s      0.69um          4.6Msz
                 LR     19 57.80
PSI    49.55 255 ePd    02 11.40  -0.1
      0.8s    8.50nm          4.8mb
                 e      04 00.00
LSA    49.95 291 P      02 16.10   1.1
WMO    52.93 309 P      02 36.80  -0.1
     Z  16s      0.70um          4.8MszX
KSH    61.72 304 eP     03 40.00   0.9
NDI    62.16 292 eP     03 41.00  -1.1
HYB    63.48 279 eP     03 50.00  -1.0
      1.0s    30.00nm          5.4mb
GBA    65.59 276 P      04 04.00  -0.7
KOD    66.61 272 eP     04 11.00  -0.6
INK    66.74  24 eP     04 10.00  -1.2
POO    67.49 282 iPd    04 16.30  -0.5
      0.9s    23.53nm          5.3mb
MBC    70.45  15 eP     04 34.00  -0.1
      1.1s    9.00nm          4.7mb
MAIO   75.10 303 eP     05 04.00   1.7
EDM    79.18  37 ePc    05 25.00   0.5
CMB    79.73  53 eP     05 27.30  -0.6
FRI    80.58  54 eP     05 31.60  -0.7
SOD    81.00 340 iP     05 34.00   0.0
KVN    81.08  52 eP     05 34.50  -0.7
SES    81.57  39 eP     05 37.00  -0.3
TNP    82.06  52 eP     05 40.30   0.0
      0.9s    8.01nm          4.8mb
LRM    82.49  44 eP     05 42.40  -0.1
CLC    82.58  55 eP     05 43.00   0.1
SBB    82.81  56 eP     05 44.00  -0.1
GSC    83.37  55 eP     05 47.00   0.0
SUF    83.87 336 eP     05 48.00  -0.9
      0.4s    5.90nm          5.1mb
TPC    84.39  56 eP     05 55.00   2.9X
FFC    84.60  33 eP     05 53.00   0.3
      0.9s    15.00nm         5.2mb
BW06   85.63  46 eP     06 00.00   1.6
      1.0s    2.75nm          4.4mb
NUR    85.77 335 eP     05 59.00   0.6
APO    89.70 339 eP     06 15.50  -1.9
      0.8s    16.10nm         5.4mb
GOL    89.82  47 eP     06 20.00   1.3
NB2    90.22 340 P      06 19.50  -0.4
      0.9s    3.50nm          4.6mb
ZOBO  147 18  87 PKP    13 02.00  -0.1
      1.0s    15.50nm
LPB   147.27  87 (PKP) 13 07.00   5.0X
CNCB  147.44  88 PKP    13 06.00   3.6X
CCH   149.28  88 (PKP) 13 10.00   5.0X
     S.D. = 1.0  on  55 of  65 obs.
-----------------------------------------
?  NOV  30, 1989  15h 12m 40.73± 0.95s
   39.842 N ±11.6km  113.984 E ± 9.0km
   DEPTH =  33.0km  (normol)
 NORTHEASTERN CHINA                (658)
      ML 3.1 (BJI).

BJI     1.70  83 Pn     13 08.50   0.1
                 Pg     13 10.50
                 Sn     13 33.50
                 Sg     13 35.50
HHC     2.11 299 Pgc    13 14.40  -0.1
                 Sn     13 39.00
                 Sg     13 43.60
TIY     2.45 210 ePn    13 19.40   0.1
                 Pg     13 22.20
                 Sn     13 51.10
                 Sg     13 54.70
BTO     3.13 285 Pg     13 33.00   4.0X
                 Sg     14 10.80
TIA     4.39 145 ePn    13 46.70  -0.1
                 ePg    13 56.70
                 Sn     14 42.10
                 Sg     14 52.20
LZH     8.84 248 (P)    15 18.50  29.1X
     S.D. = 0.2  on   4 of   6 obs.
-----------------------------------------
?  NOV  30, 1989  16h 44m 20.42± 1.04s
   44.758 N ± 8.5km   10.558 E ±11.4km
   DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.3 (KBA).

MME     0.57 170 P      44 31.40  -0.8
                 eSg    44 40.70
BOB     0.79 271 P      44 35.70  -0.1
                 eSg    44 47.20
PII     1.04 181 P      44 40.90   0.9
                 eSg    44 54.70
CTI     1.50  30 Pc     44 47.60   0.1
                 eSn    45 08.90
KBA     3.03  39 i(Pn) 45 25.20  15.8X
                 iSg    46 16.50
     S.D. = 1.2  on   4 of   5 obs.
-----------------------------------------
*  NOV  30, 1989  16h 45m 02.83± 0.76s
   21.290 N ±14.8km  146.136 E ±13.4km
   DEPTH =  33.0km  (normal)
   4.4mb (  5 obs.)
 MARIANA ISLANDS REGION            (215)

MAT    16.69 337 (P)    48 56.00   0.2
      0.8s    3.73nm          3.6mb
                 eS     52 30.00
SSE    24.38 299 Pc     50 18.60  -0.6
      1.0s    0.24nm          2.7mb X
     Z  12s      0.50um          4.2MszX
TIY    33.37 307 eP     51 50.00   9.7X
LZH    39.60 301 P      52 34.50   1.3
      1.4s    36.00nm         4.9mb X
WB5    42.50 197 eP     52 56.80  -0.1
GTA    43.35 305 eP     53 04.00   0.2
WMO    52.96 309 Pd     54 18.70   0.2
GBA    65.56 276 Pc     55 46.00   0.1
      0.8s    4.20nm          4.6mb
INK    66.84  23 ePd    55 53.20   0.0
MBC    70.55  15 eP     56 16.00  -0.1
      1.0s    5.00nm          4.5mb
CMB    79.82  53 eP     57 13.20   3.5X
KVN    81.17  52 iP     57 18.20   1.1
TNP    82.15  52 eP     57 24.20   2.0
      1.0s    3.00nm          4.3mb
SUF    83.94 336 eP     57 30.60   0.0
BW06   85.72  46 eP     57 38.00  -2.3
HFS    90.14 338 eP     57 58.80  -2.0
      0.4s    1.00nm          4.4mb
ZOBO  147.22  87 PKP    04 47.00   3.5X
CNCB  147.48  88 ePKP   04 50.00   6.1X
     S.D. = 1.2  on  14 of  18 obs.
-----------------------------------------
?  NOV  30, 1989  16h 51m 16.68± 1.33s
   42.304 N ±12.0km    6.886 W ±16.9km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                             (377)
      mbLg 2.6 (MDD).

ERUA    0.21 295 iPc    51 20.50  -0.8
                 eSg    51 24.00
EMON    1.18 344 ePg    51 38.60  -0.1
                 eSg    51 55.80
STS     1.36 296 ePn    51 42.60   0.9
                 eSn    52 01.00
EPLA    2.32 165 ePn    51 55.40  -0.1
GUD     2.64 128 ePg    52 07.50   7.3X
                 eSg    52 39.40
     S.D. = 1.2  on   4 of   5 obs.
-----------------------------------------
%  NOV  30, 1989  19h 16m 47.96± 1.71s
   41.725 N ±16.1km   12.774 E ±10.5km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

RDP     0.05 308 Pd     16 50.10  -0.1
                 eSg    16 51.40
RMP     0.10 328 Pd     16 50.90   0.2
                 eSg    16 53.00
MNS     0.66 354 Pc     17 01.10  -0.1
                 eSg    17 12.70
SDI     0.78  91 Pc     17 03.20   0.0
```

```
                    eSg    17 16.90
ASS      1.35 356 P      17 12.80    0.0
                    eSn    17 31.90
     S.D. = 0.2  on   5 of   5 obs.
-------------------------------------
   NOV  30, 1989  19h 46m 02.94± 0.13s
   23.490 S ± 3.5km  179.792 W ± 3.5km
   DEPTH = 557.2km  (  2 depth phases)
   5.3mb ( 29 obs.)
 SOUTH OF FIJI ISLANDS              (171)
      CENTROID, MOMENT TENSOR       (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 18C
      Centroid Location:
      Origin Time        19:46:12.0 1.3
      Lat 23.07S 0.18 Lon 179.69E 0.13
      Dep 520.9 9.4 Half-duration  1.6
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 1.29 0.62  Mtt= 5.24 1.09
        Mff=-6.54 0.94  Mrt= 5.70 0.99
        Mrf=-2.06 1.03  Mtf= 0.79 0.77
       Principal Axes:
        T  Vol=  9.32  Plg=36  Azm=  3
        N        -1.80      47      143
        P        -7.52      21      257
      Best Double Couple:Mo=8.4*10**16
       NP1:Strike= 34 Dip=49 Slip= 167
       NP2:        133      81       42

SGE      6.25 340 eP     47 45.10    0.1
DZM     12.78 274 iPc    48 50.80    1.0
                  iS     51 17.20
KRP     14.93 194 P      49 14.20    3.1X
        0.6s   107.00nm          5.5mb
PGZ     17.40 190 P      49 35.20    0.2
MNG     17.54 192 eP     49 33.50   -2.9
        0.2s    15.00nm          5.3mb
                  eS     52 27.70
KIW     17.89 193 P      49 39.50   -0.3
MTW     18.06 192 eP     49 40.20   -1.2
CAW     18.09 193 eP     49 41.40   -0.3
WDW     18.26 193 P      49 42.90   -0.4
BLW     18.26 191 eP     49 43.30   -0.1
MRW     18.28 193 eP     49 43.20   -0.3
WEL     18.32 193 P      49 45.00    1.1
                  S      52 45.00
MOW     18.36 192 P      49 44.10   -0.2
TCW     18.36 194 P      49 43.70   -0.6
CCW     18.89 194 P      49 51.20    1.9
MHZ     23.29 200 eP     50 28.20   -1.5
MSZ     23.40 202 P      50 30.10   -0.4
BRS     25.05 255 iPc    50 46.20    0.7
                  ipP    51 06.00   89kmX
                  i      51 21.00
COO     26.15 248 iPd    50 56.50    1.4
        0.8s    79.00nm          5.4mb
RMO     28.63 257 iPd    51 17.70    1.0
        1.0s   343.00nm          5.9mb
CNB     29.22 239 iPc    51 23.10    1.3
        0.9s   144.00nm          5.6mb
CAN     29.51 239 iPd    51 25.10    0.8
                  eScP   57 03.00
BWA     29.76 241 iPd    51 24.90   -1.5
                  eScP   57 03.30
PMO     31.22  80 iP     51 38.40   -0.4
        0.8s    10.00nm          4.5mb
VAH     31.38  81 iP     51 39.40   -0.8
        0.8s    10.00nm          4.5mb
CMS     31.42 248 iPd    51 41.20    0.7
        0.8s   164.00nm          5.7mb
TPT     31.47  80 iP     51 40.60   -0.4
        0.8s    30.00nm          5.0mb
RUV     31.62  81 iP     51 41.80   -0.4
        0.8s    20.00nm          4.8mb
CTA     31.67 270 iPd    51 42.90    0.3
        0.7s   262.33nm          6.0mb
                  iS     56 12.80
QLP     32.67 257 iPd    51 51.50    0.5
TOO     32.83 237 iPd    51 53.50    1.2
        0.6s   128.00nm          5.7mb
PMG     34.55 288 eP     52 07.00    0.2
BFD     35.02 238 iPd    52 11.50    1.0
STK     35.06 248 iPd    52 12.10    1.2
        0.6s    74.00nm          5.5mb
OIS     37.67 266 iPd    52 31.80   -0.7
                  e      55 52.00
ADE     37.73 243 iPd    52 33.10    0.2
        1.0s   140.00nm          5.5mb
ASPA    42.29 260 iPd    53 09.30   -0.4
        1.1s   183.00nm          5.5mb
      Z  20s     0.14um          3.8Msz
                  e      57 50.60
                  eS     58 48.00
                  LR     28 40.50
WB5     42.61 266 iPd    53 11.50   -0.7
                  eS     58 51.00
KNA     48.86 269 iPd    53 59.30   -0.8
        0.3s    38.00nm          5.4mb
GUA     50.46 313 eP     54 10.60   -1.2
        0.7s   180.82nm          5.7mb
GUMO    50.53 313 eP     54 10.90   -1.4
        0.6s   125.70nm          5.6mb
PJG     50.53 313 eP     54 11.00   -1.3
COOL    52.54 248 iPd    54 25.90   -1.0
        0.7s    92.00nm          5.3mb
KLB     55.32 247 iPc    54 45.90   -0.5
MBL     55.54 260 iPd    54 47.00   -1.1
        0.3s    21.00nm          4.9mb
NWAO    55.58 245 eP     54 48.00   -0.2
BAL     56.36 248 eP     54 53.00   -0.6
MUN     56.57 246 eP     54 54.00   -1.1
        0.6s   226.00nm          5.7mb
MRWA    57.21 249 eP     54 58.50   -0.9
        0.3s    20.00nm          4.9mb
TRT     66.43 272 iPc    55 59.30    0.0
SPA     66.65 180 iPd    56 01.20    1.1
        0.8s    60.42nm          5.2mb
MAT     71.67 325 iPc    56 28.90   -1.2
        0.9s    22.69nm          4.7mb
ADK     75.09   2 ePc    56 47.40   -1.6
        0.6s    88.70nm          5.4mb
MAW     78.20 200 eP     57 07.00    1.2
SSE     78.36 311 P      57 07.00   -0.2
        1.0s     0.15nm          2.4mb X
NJ2     80.54 311 Pc     57 19.00    0.5
BLP     80.68  46 P      57 22.50    3.3X
SYP     80.94  46 eP     57 21.00    0.3
PRS     81.12  44 eP     57 22.10    0.6
GCC     81.15  43 eP     57 22.10    0.5
PCC     81.20  43 eP     57 22.20    0.4
BCH     81.26  46 P      57 23.00    0.7
                  pP     59 23.00  557km
PRI     81.45  45 eP     57 23.80    0.5
MHC     81.56  43 eP     57 24.60    0.7
ABL     81.63  46 P      57 24.90    0.5
ARN     81.63  43 P      57 24.20    0.1
MDJ     82.03 326 eP     57 26.10    0.2
MWC     82.05  47 eP     57 26.00   -0.4
BAR     82.12  49 eP     57 27.00    0.4
PLM     82.37  49 eP     57 28.00   -0.1
RVR     82.38  48 eP     57 28.00    0.2
PEC     82.47  48 P      57 28.40    0.0
SBB     82.47  47 eP     57 28.00   -0.4
FRI     82.58  44 eP     57 28.80    0.0
ISA     82.60  46 eP     57 29.00    0.0
CMB     82.77  43 eP     57 29.80    0.0
WHN     82.90 307 eP     57 31.20    0.7
ORV     83.01  42 eP     57 31.20    0.3
WDC     83.02  40 eP     57 31.50    0.6
CLC     83.27  46 eP     57 32.00   -0.4
TPC     83.35  49 eP     57 34.00    1.2
MIN     83.43  41 eP     57 32.50   -0.7
SNY     83.45 321 eP     57 32.00   -1.0
GSC     83.51  47 eP     57 34.00    0.4
GLA     83.62  50 eP     57 35.00    0.9
CN2     83.67 323 iPc    57 34.00   -0.1
        4.0s     0.20nm          2.1mb X
                  eS     07 14.00
LBFM    83.89  40 P      57 36.10    0.6
TIA     84.09 314 P      57 36.40    0.1
KDC     84.09  14 P      57 34.90   -0.9
KVN     84.82  43 P      57 39.60   -0.5
                  pP     59 40.80  557km
TNP     84.82  45 P      57 39.90   -0.2
                  pP     59 44.00  574kmX
BMW     86.38  35 P      57 47.50    0.3
SVW     86.54  11 eP     57 46.70   -1.0
GYA     86.70 301 P      57 49.60    0.3
SHW     86.73  36 P      57 49.80    0.8
BJI     86.87 316 eP     57 50.00    0.4
VGB     87.10  37 P      57 50.00   -0.7
GMW     87.30  35 P      57 52.00    0.5
LON     87.31  36 P      57 51.30   -0.3
RMW     87.76  35 P      57 53.80    0.1
MCW     87.99  34 P      57 55.20    0.4
TIY     88.05 313 eP     57 55.50    0.2
        1.0s     0.04nm          2.2mb X
TTA     88.17  11 ePc    57 54.70   -0.6
PMR     88.30  14 ePc    57 54.90   -0.9
        0.9s    32.10nm          5.2mb
MSU     88.37  47 P      57 58.00    1.0
XAN     88.64 308 Pc     57 59.00    0.9
DUG     88.84  45 P      57 59.70    0.7
TOA     89.44  15 eP     58 01.60    0.4
CHG     89.71 291 eP     58 05.00    1.8
        0.8s    14.18nm          4.9mb
DPW     89.94  36 P      58 03.60   -0.1
DAU     89.97  45 P      58 04.90    0.5
PNT     90.05  35 eP     58 04.00   -0.2
HHC     90.26 315 eP     58 06.40    0.9
PTI     90.54  43 P      58 07 40    0.6
ALQ     90.55  52 P      58 03.60   -3.5X
        1.2s    17.36nm          4.9mb
IMA     91.46  10 eP     58 09 70   -0.8
F8A     91.51  13 ePc    58 08.60   -1.9
BW06    92.27  44 P      58 15.00    0.2
GOL     93.55  48 P      58 20.20   -0.6
        1.0s    20.00nm          5.2mb
GLD     93.68  48 P      58 21.50    0.2
GTA     97.58 310 eP     58 39.00    0.1
INK     97.58  16 eP     58 36.50   -1.6
SOD    133.13 346 ePKP   04 09.00   -7.1X
SUF    137.07 343 ePKP   04 14.20   -9.5X
        0.4s     2.50nm
NUR    139.29 342 iPKP   04 19.50   -8.3X
                  e      04 27.00
UPP    141.65 346 iPKP   04 26.20   -5.8X
NB2    141.71 351 PKP    04 26.70   -5.5X
        0.7s    13.70nm
LWI    142.20 231 iPKPc  04 32.10   -2.6X
COP    146.60 347 iPKP   04 42.50    2.1
BBTK   148.08 308 ePKP   04 57.00   13.5X
EKA    148.10   4 PKP    04 44.00    1.2
        1.0s    30.60nm
KRA    149.32 335 iPKPc  04 49.50    4.6X
GPA    149.64 311 ePKP   04 49.00    3.3X
MLR    149.71 323 iPKPc  04 50.00    4.2X
DLE    149.81   8 ePKP   04 50.00    4.5X
KSP    149.97 339 ePKP   04 44.50   -1.3
WIT    150.31 352 ePKP   04 53.00    6.8X
BCK    150.49 305 ePKP   04 52.00    4.8X
CLL    150.52 344 iPKPc  04 52.10    5.5X
        1.1s    80.00nm
                  i      05 00.70
BRG    150.66 342 iPKPc  04 53.00    6.1X
                  i      05 02.40
                  epPKP  07 12.00
KHL    150.98 307 ePKP   04 53.00    5.1X
WTS    151.09 352 iPKPc  04 53.50    6.1X
        0.8s    52.00nm
                  e      05 03.50
ELL    151.24 304 ePKP   04 54.00    5.6X
PRU    151.27 341 PKPc   04 54.30    6.5X
        1.0s    21.70nm
                  e      05 05.10
MOX    151.48 345 ePKPc  04 54.50    6.4X
        1.1s    29.00nm
                  e      05 05.00
SRO    151.76 334 ePKP   04 55.40    6.9X
ZST    151.92 336 ePKP   04 55.40    6.6X
                  i      05 07.60
KHC    152.32 341 ePKP   04 50.00    0.6
                  i      04 56.80
                  i      05 09.80
ENN    152.41 352 ePKP   04 56.50    7.1X
        0.9s    45.00nm
                  e      05 09.00
BCAO   154.08 226 iPKPd  04 52.40   -0.4
        0.4s    13.00nm
                  id     05 18.00
                  id     07 15.00
KBA    154.21 339 ePKP   05 03.00   10.8X
        1.0s     7.10nm
                  i      05 18.20
LIC    162.11 163 PKP    05 02.10    0.1
KIC    162.32 164 PKPd   05 02.10   -0.1
        1.1s    15.50nm
TIC    162.51 162 PKP    05 02.50    0.1
     S.D. = 0.8  on 127 of 154 obs.
-------------------------------------
   NOV  30, 1989  20h 07m 48.66± 0.48s
```

30d 20h

39.300 S ± 4.4km 174.630 E ± 5.1km
DEPTH = 10.0km (geophysicist)
NORTH ISLAND, NEW ZEALAND (159)

KETZ	0.82	76	P	08 04.60	0.0
RATZ	0.99	64	P	08 07.70	0.3
HITZ	1.06	57	Pd	08 08.90	0.2
HATZ	1.21	71	eP	08 10.60	-0.6
TUTZ	1.21	61	eP	08 11.80	0.5
MNG	1.47	154	eP	08 15.40	0.2
			eS	08 34.90	
KIW	1.58	172	P	08 16.40	-0.3
TAZ	1.81	55	P	08 19.80	-0.3
PGZ	1.83	137	P	08 20.40	0.1
CAW	1.84	170	P	08 20.50	0.0
TCW	1.93	188	Pc	08 21.30	-0.5
MRW	1.93	178	P	08 21.70	-0.1
MTW	1.97	161	P	08 22.30	-0.2
WDW	1.99	172	P	08 22.70	0.1
WEL	1.99	177	P	08 22.90	0.3
MOW	2.17	168	eP	08 24.90	-0.5
CCW	2.47	187	P	08 30.40	0.9
HBZ	3.35	61	eP	08 42.20	0.2
CAN	20.75	273	eP	12 34.60	2.6
BWA	21.50	275	eP	12 38.90	-0.8
WB5	39.60	287	eP	15 20.00	-2.0
LZH	99.39	309	(P)	21 45.00	12.5X
LIC	147.07	181	PKP	27 28.06	-3.5X
KIC	147.20	181	PKP	27 28.50	-3.3X
SUF	149.84	331	ePKP	27 33.70	-0.8X
	0.6s		4.90nm		
NUR	151.72	329	ePKP	27 39.00	1.7X

S.D. = 0.9 on 21 of 26 obs.

• NOV 30, 1989 22h 11m 24.57± 2.83s
32.872 S ±15.2km 71.634 W ±22.6km
DEPTH = 33.0km (normol)
NEAR COAST OF CENTRAL CHILE (135)

ROCH	0.53	101	iPd	11 34.50	-1.4
			iS	11 43.50	
LCCH	0.60	175	iPd	11 36.00	-0 6
			iS	11 46.90	
JACH	0.90	78	iPd	11 39.50	-1.4
			iS	11 52.60	
TACH	0.97	143	iPd	11 42.40	0.5
			iS	11 57.00	
SAN	1.00	126	iP	11 42.20	-0.1
			iS	11 59.50	
LNV	1.10	170	iP	11 43.10	-0.5
			iS	11 59.00	
PCH	1.20	129	iPc	11 45.70	0.5
			iS	12 04.50	
FCH	1.22	112	iPd	11 46.00	0.4
			iS	12 04.50	
CHCH	1.34	142	iP	11 48.50	1.3
			iS	12 09.50	
ZON	2.83	63	e(P)	12 10.00	1.5

S.D. = 1.1 on 10 of 10 obs.

? NOV 30, 1989 22h 13m 47.89± 3.29s
5.959 S ±42.6km 146.301 E ±23.7km
DEPTH = 156.0 ± 16.0 km
4.8mb (1 obs.)
EAST PAPUA NEW GUINEA REGION (207)

LAT	0.98	135	eP	14 13.00	-0.3
			eS	14 34.00	
MNDI	2.64	266	eP	14 32.00	0.3
			eS	15 13.00	
PMG	3.53	166	eP	14 43.00	0.2
			eS	15 30.00	
WB5	18.06	219	iPd	17 49.20	-1.0
			eS	21 12.50	
RMQ	20.55	174	iPc	18 16.40	0.5
ASPA	21.27	213	eP	18 23.40	0.3
	0.4s		16.00nm	4.8mb	
			eS	22 15.20	

S.D. = 0.9 on 6 of 6 obs.

NOV 30, 1989 22h 48m 32.96± 1.20s
2.749 N ± 5.2km 128.398 E ± 7.6km
DEPTH = 146.3 ± 12.1 km
4.9mb (10 obs.)
HALMAHERA (267)

MNI	3.79	250	ePd	49 30.30	-0.7
TLE	9.40	152	ePc	50 45.40	-0.8
	1.4s		5.90nm	4.0mb	
TSM	10.41	278	ePd	51 01.50	1.9
MKS	11.92	228	ePd	51 20.00	0.6
KHKI	16.87	229	ePd	52 22.00	0.1
			e	54 13.00	
KNA	18.38	179	eP	52 38.20	-1.2
TRT	18.85	236	ePd	52 43.40	-0.9
	0.6s		60.20nm	5.1mb	
WB5	23.24	166	iPc	53 28.00	-0.2
			eS	57 33.80	
QZH	24.01	338	eP	53 36.00	0.5
QIZ	24.32	313	P	53 39.50	1.0
MBL	25.20	199	eP	53 45.00	-1.7
QIS	25.64	155	iPc	53 51.30	0.5
ASPA	26.80	169	iPc	54 00.40	-0.9
WHN	30.68	336	Pc	54 36.50	0.7
GYA	31.47	321	P	54 43.00	0.0
CHG	32.95	301	eP	54 55.10	-0.8
	0.9s		12.60nm	4.7mb	
CHTO	32.95	301	iP	54 54.80	-1.0
	1.2s		20.14nm	4.7mb	
			epP	55 34.00	187kmX
KMI	33.25	314	Pc	54 59.00	0.4
MAT	34.83	14	eP	55 10.00	-1.7
	0.8s		15.67nm	4.8mb	
RMQ	35.10	147	iPd	55 13.70	-0.4
XAN	36.05	332	Pc	55 21.50	-0.5
CD2	36.42	323	eP	55 21.00	-4.2X
STK	36.65	161	iPc	55 27.20	0.2
	0.7s		54.00nm	5.4mb	
TIY	37.75	339	Pd	55 36.30	-0.1
BRS	38.08	143	iPc	55 39.80	0.6
			i	55 49.00	
BJI	38.74	345	eP	55 44.00	-0.4
			e	56 15.50	
ADE	38.75	166	ePd	55 45.70	1.1
	0.7s		61.64nm	5.5mb	
SNY	39.15	354	eP	55 47.20	-0.6
LZH	40.19	329	Pc	55 57.50	0.8
	1.8s		84.00nm	5.2mb	
HHC	40.86	340	P	56 02.30	0.3
BWA	41.50	155	eP	56 09.00	1.8
SHL	41.79	306	iP	56 09.70	-0.3
BFD	41.84	163	eP	56 10.00	0.0
CAN	42.51	155	eP	56 16.10	0.6
TOO	43.14	160	eP	56 22.00	1.5
LSA	44.33	311	P	56 31.90	1.1
GTA	44.79	328	P	56 34.00	0.1
HYB	51.01	290	eP	57 21.70	-0.6
	1.0s		25.00nm	4.9mb	
GBA	51.48	285	P	57 26.00	0.2
	0.9s		6.50nm	4.4mb	
WMQ	54.48	325	iPd	57 47.40	-0.3
KSH	59.88	315	eP	58 26.40	0.7
MAIO	71.43	307	eP	59 38.00	-1.5
			e	00 18.00	

S.D. = 0.9 on 41 of 42 obs.

STATION DATA REPORT FOR NOVEMBER, 1989

1278 stations reported 54505 reading arrival groups

X = data received for this 6-hour time period

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                 1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24   25   26   27   28   29   30
DATE   ----------------------------------------------------------------------------------------------------------------------------------------------------------
AAI     XXX XX X X   XX      XX    X XXX  X XX  XXXXXX   XXX XX XXX X    XXX XX  XXX XX X     XXXX     XXXXX X  XX XX
AAPN    X X X         X    X  XX             X    X                                                X     X
ABH                                          X                 XX    X X X   X     X   X  XX   X X
ABL     X XX       X  XX X        X X       XX  X X           X     X  X               X           X X                 X    X X
ACHM    X X X              X  X                              X      X            X      X        X  X  X             XX
ACO                                          X                X     X X                 XX  X
ACX     XX  XX      XX   X           X  XX  X X                     XX  X   XXX  X     X  XX X      X   XX X X   XXX  X
ADE     X X X   XXXX     X     XX    X X  X  X   X   XX  X   X  X X XX   X    XX X X XXXXX    XX   X  X XXX      X  X XXX   X X
ADH                                          XXX     X X    X   X XX   X X              XX X   X
ADK     X X      X    X       X X    X      X      X    X     X    XX        X X X                XX X    X      X      X   X X
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
AFC     X X X        XX X  X   X   X  X      X                 X    X                     XX     X X     X      X    X X
AFI     X X  X X X  X XX  X   X X         XX     X    X X    X    X X    X      XX X   X       X   XX X XX X  X   XX   X    X
AFR     X                    X                                X      X              X  XX            X X              X   X    X X
AGG     X XXX XXXXXXXXXXXXX XXXXX X  X     XX   XX  X  X X XXXXX XXXXX       XXXXXXXXXX X XX XXX     XXXX  XXXXXXXXXXX  XXX
AGO     XXX           X X   X                X    X          X        X     X     X   X XXX         X       X        XX
AIA     XXXXXXXX XXXX XX XX X  XXXXXXX X XX XXXXXXX XXX  XXX X XX  X XXXXXXXX  X XXXXXXXX  XX   XX XX X  XXXXX     XX XXXX  XX
AKRL                X    X              XX          X          X    X                X  X
AKU       X  X       X     X                X                   X X  X     X     X     X       X         X  X        X
ALOJ    X X X                  X              X                 X    X                X              X  X  X             XX
ALP     X  X XX     XX     XXX X X   X  X X    X XX XXXX    X XXXX XXX  XXXXX XXXXXXX XXX XX      X X X   XX      XX  X   XX
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
ALO     XXXXXXX XX XXXX  XX XXXXX XXXX XX   XXX  XXX    X  XXXXXX X X  XXX  XX X X X XXXXXXX  XX XXX XXXXXX   XXXXXXX XXXXXXXXX
ANG    XX    X   X   X       X   XX   X            X      XX                                                                X     X
ANP     XXXXXX XXX X XXX XX XXX  X    X     X      XX     X  XXX   XXXX XXX X XX  XXXX XXXX     X X X  X XX    XXX  X X X     X
ANT    XXXX X X     X XXXXX X  XXXX          XXXXXX X
AOI      XX  X     XX                   X    X                    X    X      XX  X    X              X           XXX X
AOMJ    XXX        X     X  X  X                X                  X  XX                X       X X
APE      XX  X    X    XX  XXX XX     X  X    X   XXX    XX X X    X XX      X X  X  X  XX X   XX XX        X  X  X X X
APHE    X X X         X    X  XX             X                    X    X  X      X  X X      X        X  X  X              XX
AQU                                                               XXX  X  X  X X  XX X X  XX                                X
ARE    XXXX XX X   XXX XXXX   XXXX XX  XX   XX  XX X   X   XX X  XX      X X  XX  XX  XX X X X  X XX XXX  X  X XX X   XX  XX
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
ARN     X XX    XXX XX X XX X X   X  XXX   X XX  XXX XXXX    XX XXXXXX X XX      X X X X       X  XX XX XXX   X XX    XXXX XX X
ARV                                                          X XXXX X XX  XXXXXXX XXX XXX XX  XXX X  XXX     XXXXXX  X     X
ASAJ                                     X  X    X         XX         XX  X    XX    X X         X X  XXX     X  X   XX
ASK                                                         X    X  X      X        X X            X          X              X
ASMO    X X X         X    X  XX             X    X              X    X  X      X  X        X         X  X  X             XX
ASPA   XXXXXXX XXXXXXXXX XXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
ASS     XXXX X   X XX  X  XXXXX      X   X    XX   X XX  X X X X XXXXX XXXX  XXXXXXX XXX XXX  X  XXXXX  XXX     XXXXXX XXX   XX
ASW     X X          X   X   X                X                X    X                    XX         X X X              X
ATE        X                    X   X        X   X X    X      X                        XX         XX      X  X      X
ATEJ    X X X         X    X  XX             X                  X    X  X      X  X X      X         X  X  X             XX
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
ATH     X XX     X     XXX  XXX X      X       X    X      XX  XX    XXX     X X    X   X XX X      X   X    X X        X X
ATN     X                                X X  X     X      XX     X XX X XX X XXX XXXX    XX       X          X   X      X X
AURF    XX X      X XX XXX     X  X      X       X            XX X X X  X           X
AUTN    X  X      X XX XXX     X  X      X       X            XX X X X  X           X                              X
AVE     X X X    X    X X        X   XXX     X                 X    X  X       X X X  X   XX  XX                    XX     X
AVF     XXXXXX  XX XX X XX XX XX XXX  XX     XXX   XX   XX X XXXX X X  XXX  XX X   X X XX XXX X  X XXXX XXX  X X X X  XX X XX X
AYN     XXX  X     X  X  X X X       X X   X XX  X  X    X   X XX   XX X     XXX   X   X XX              X   XX   XX    XX
BADA    XXX  X  X  X  X    X          X   X  X  X            XX    X X X   XX    X   X  X                X    XX
BAG     X X XX   X X  X  X   XX X     XX  XX XX      XX  X   X      X  X X   XX  X X          XX   X  X XX       X     X
BAL     X X   X  X X   X X    X X XX X X     X    X  XX  X   X  X X X    X    XX X X XXXXX    X X  X  X X X     XX  XX X      X
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
BALM       X                                        X    X    X       XX          X       X   X            X           X
BAO     XX XX   XX XXXXXXX XXXXX          X  XX  XX XX   X  XX X   XXX  XXX  X X XXXXXXXX XX  X  XXXXXX XX  X X XX    XXX  X XX
BAR     XXXXXX X X  XXX  XX X X    XXX  X   XXX  XX     X   XX      X  X X   X   X   XXXX      X   X  X X     X        XX    X
BBL    XX    X   X   XX           X   X                      XX      X    X                X         X    X         X X  X   X
BBS     XX X         X  X                  X                  X X  X  X X   X     X      XX   X      X      X          XX
BBTK    XXX XXX  X XX XXXXXXXXX X X XXXXX XXXXX X XX  XXXX XXXXX  X X  XXXXXXXXX X X XXX XXXXX XXXXXX XXXXX   XXXXXX XXXXXXXXXX
BCAO   XXXXXXX XXXXXXXXXXXX X XXXXXXXXX X XXXXXX XXXXXX XX   XXXXX XXXXXXXXXXXXXXXXXXXXXXXX    XXXXXXXXXXXXXXXX XXXXXXXXXX
BCH     X  X    XXXXX XX X        X  X    X XXX XXXX XXX    X X   XXXXXX X        X   X X           X  XX X     XX        XX  XX X
BCI          X X  X   X   XX       X X X     XX   X           XX   X  X             XX          XX XX   XX
BCK    X XX   XXX X  XXX  XXX X X X  XX    X  X  XXXX  XX   XX X  X XX XX  X  XX  XX  XX XX XXX    XX XX  X  XX XXXX XXXX X X X
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
BDI    XXXXX X     XXX  X XX    X X    X     XX   XX          XXX  XX  X X   X X  XXX  X  XX         XXX X X     XXXX   X   XX
BDT     X XXXX X XXXX X XXX XXX      X XXX   XXXX XXX X  XXX X   XXXX    X  XXXXXX     XXX  X XXXXXXX X XXX X XXXX XXX XX  XX
BDV       XX                     XXX X           X      X   X   X       X XX X X      X       XX  XX  XX   X
BEO     XXX  X       XX  XX X   X   X   X X    X    X X      X  XX X X  X      XXX   X     XXX      XX XX         X X   X    X
BERA   X  XXX X X  X       XX       X X                    XX X X  X X  X         X  XX        X XX     X      X
BFD     X X      XX      X      X  XX  X  X  X             XXX  X   X    X    XX X   XXXXX    X X  X    XX       X      X    XXX
BFS     X X XX   X X  X    XXXX        X     X          XX  XX  X   X       X X   XX XXX X  X     XXX  XXX
BGF     XXXXXX  XX XX X XX X  XX  XXX  XX   XXX    X    XX   X XX X X  X X X X   X X X  XXX X  X  XX X X XXXX XX  X  XX X XX X
BHD     X X  X   X    X      XX    X   XX     X X         X XX X    X  XX    XXX X X XXX  X    X   XX X XXX      X     XXX
BHG                                                                    X   X X  XX XXX  XX     X   XX
       ----------------------------------------------------------------------------------------------------------------------------------------------------------
BHL     XXX  XX   XX XX XX  X X       XXX    XX X X XX          X   XX           X X   X XX    X   XX X X     X    X   XX
BIM     X   XXXX    X X X              X     X         X   X  XX  XXX     X   XX      X  X X        XX X    X          X
BJI     XXXXXXXXXXXXXXX XXXXXXXXXXX XXX  XXXXXXXXX XXXXXXXX  XXXXXX XXXXXXXXXXXX XXXXXXX XXX XXXXXXXXXX X  XXXXXX XXX XXXXX
BKS     XXXXXXX XXX X  X X  X X   X  XXX   X XX  XX   XXX   XXX X  XXX X XX      X X XXXX      X  X  XX XX  X X  X X   XX  XX
BLA     X X X         X             X             X         XX  X       X                X        X  X                X
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DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
BLF   X X X       X       XXX                 X    X  X               X  X           XXX XX   X X  XXX XXX   X  XX      X
BLP   X  X        X  X  X                   X  X                  X                X                                      XX   X X
BLS1   X                   X                          XX     XX   X        X           X        X     X          X            X
BLW          X  X                          X   X              X    X   X  X                  X  X    X  X        X X            X X
BLY   XXX         XXX       XX    X  X  X                     X   X          X
BMA   X XXX        X  XX X      XX  X  XX    XXX  X XX       X              X      X X  X   X    X    X    X
BMG   X X X  X      X       X XX       X X         X  X
BMR                                                            X  X X    X    X  XX X     X   X X                  X
BMW   XXXX X  XX  XXX  XX  XX       X XX    X   XXX                X  X X    X     X XXXX      X     X     XX       X  XX X
BNG                                                       XXX                                      XXX
BNI   XXXX X   X X  X XX  X      XX  XX     XXXX  X     XX   XXXX   X  X X X X X  XX X X  XX  X      XXX X     XX  X X   XXX XX X
BNT   XXXXXX  X X XXX XXX XXX XXXX          XXXXXX XX XXX XX XXXXXXXXXXXXXXX XXX XXXX  XXXX XXX X X  XXXX X  X XX X  XX   X XX
BOB   X XX X   X XX  X  X X   XXX  X X X    X    X    X    XXX   XX  X X    X X   X X X  XX  X      XXX   X       XXX   XX  XXXX
BOG   X X X  X      X    X X XX    X X X    X   X  X  X X XX  X                          XX    X  XX X  X      X         X
BOM                 X  XX  XX               XX X   X X  X               X     X X X X   X          X X    XXX              X X  X
BOT   X                 X      X                    X                XX  X    XX       X                    X                  X
BPA  XX    X   X   XX  X   X X XX                        XX            X       X  X    X X       X   XX                      X
BRG   X X XXX XX XX X XXXXX        X   XX X XX X XX XX            X XX XXX       XXXXXXXXXXXX   XXX XXXX XXX X  XXX X XXXX X XXX
BRK   X XXX   XXX X XX X  X X   X  XXXX  X XX  XX  XXXX   XXX X  XXX X XX          X X XX         X   X X X X X  X X   XX   X
BRLK                  X  X           X    X             X               X    X                X                X
BRS  XXXXXXXX XXX X  X XX   X X X XXXXX X  XX  XX  XX  X XXXX XXX XX X XX   XX X XXXXXXX X   XXX XX XX    XX   X  XXXX X  X X
BRT  XXXXX XXX    XX X  XXX      XX      X    X  X       X    X X X  X  X  XXXX     X X XXXX     XXX  X   X    X X      XX
BRW   X X      X    X  X XX         X X      X    X         X  XX           X X   X   XX           X X  X X   X XX          XX
BRY    XX    X    X              XXX X             X      X   X    X        X XX X X       X        X   XX  XX   X
BSF   XXX XXX  X XX X XX XX XX  XX    X     XXX   X     X X X XXXX XX X X X XXX  XX XXXX XX  XX X XXXX XXX  XX    X   XXX XX X
BSI    XX    XXX  XXX  X X XXX X    X X  XX       XX  X X X  X   X  X X          X  X   X X    XX      X X         X
BTO  XXXXXX X XXX  X  XX XXXXXX   XXX   XXXX       X XX X X    XXX  XXXXXXXXX X X  XXX  X XX  XXXXX  XXX X   XX    XXX X XX
BUC    X  XX       X        X                    X                  X          X      X      X   X
BUD  X X  X    X  XX                      X                X   X  X      XX    X  X  X    X  XX              X      X
BUL  XXX XXXXXX XXXXXXXX XXXXXX XXX XXX   XX X   X X  XXXXXXX  X XX XXXXX XXXXX X  XXX XX XX    XX X XXX X X XXX    XX      X
BURJ   X    X       X    X                      XX                                  X      X    X  X                XX   X
BW06  X X     XX  XXX  XXXXXXXX  XXX XX    XX    X   X  X XX    X  X    XX   X X XXXX X          XX  X X   XXX X  XXXX XXXX
BWA  XXXXXX XXX XXXXX X  XXX X XX XXX  X  XXXXXXX XX  XXXXXXXXXX XXXXXX   XXX X XXXXXXXXX  XX XXXXXX XXX X X  X XXXXXXX  X X
BZS  X XX X       XX XXX X   X   XXX XXX   XX     X     X   XXXX XX X X   XXXX  X X X XXX  X    X XXXX X        X X XXXX X
CAF  XXXXXX  XX XX X X   X  X  X X  X     XX X  X  X X    XXXX      X X XXX     X   X XXXX X  X X X  XX   X XXX X   X X
CALN XX X     X X  X X     X  X      X       X            XX  X X  X            X
CAN  XXXXXX XXX XXXXX X   XX X XXXXXX  X  XX X X  XX  XXXXXXXXXX XXXX XX  XX  X XXXXXXXX   XXXX XX X XXX X X  X XXXXXXX  X X
CAW        X  X    X      X  X           X   X        X   X    X   X  X               X X  X     X X     X X X      X    X X
CAYA XX  XX   X    X        XXX   X  X  X  X   X   X X X    X     X   X      XX    X
CBM  X X X                                                  X    X        X          X X            X
CBN  X X                        X      X        X             X      X                        X     X         XX
CCB      X          X   X              X             X             XX    XX                X
CCH  XXXXXXXX  X  XXXXXXXXX X    XX  XXXXXXXXXXXXXXX XX XXXXXX X   XXXXX        XX XXX   XXX  XXXXX XXXXX X  XXX X XXXX X X
CD2  XXXXXX X X   XXX XXXXXXXX    XXX  XXXXX       X XX XXX   XX X  XXXXXXXXX X X XXXX     X  XXX XX XXX     XX    XXX   XXX
CDD      X        X  X  X              X            XXX   X       XX    X              X  X
CDF  XXX XXX X  XX X XX  X XX  X    XX X XXXX   X    XX X  XXXXX XX X X  XXXX  XX XXXX XX   X X XXXX XXXX X   X X   XXX XX X
CER      XXXXXX                                      XX XXXXX                                XXX XXX X X  XX XXXXX
CEY  XXXX XX    X X      X   X     X       X                XX   X  X X   XXX  XX XXX  XX      X  XX   X      X X        X
CFA   XXXXX X XX   XXXX  XX  XXXXX XXX X  X X XX  X  X X XX   XX XXXX   XXX  X X  X      XX             X     XX  X X   X X
CFR  X X  X  XXX   X     XXX      X        X    XX  X       XX X XXXX X         X   X X     X   XXXX X      X X  X   XXX X
CGLM     X                        X    X             X   X   X    X                X                    X
CHCH XXXX X    XXX  XX     X  X XXX X X    X X X   X  X X X  X    X X   XXXXX    X XX X X  XXX                      XXX    X
CHG  XXXXXXXXXXXXXXXXXXXXXX    XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXX    XXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CHJJ XXXXXXXXXX X XXX XXXXXXXX     XXX  X  X  X     X     XX     X X XXX X X     XXXXX  X  X X XX X  XXX XXXXXX  X  X   X X
CHTO XXXXXXXXXX XXXXX XXXXXXXXXX XXXXXXXXXXXXX X    X X           XXXXXXXXX XXXXXXXXX  X XXX XX  X XXX  X      XX   XXXXXXX
CIN  XX          XX XX  XX   XXXXXXX         X XXXXXX XXXX  X XXXX XXXX X XXX X XXX X X XXX     XX XXX XXX  XXX  X  XXXXXXX
CIO  X  XXXX     XX  X  XXXXX  XX      XX   XXXXX  XXX  XXX XXXXX   X XXX X XXXXXXX XXXXXXXXX  XX XX  XXX      XXXXX    X XX
CKI  XX XX X   X XX XXX X      XX    X    X X    X    X     XXXX XXX X X   X X  XX X X  XX          X           X X X  X  XX
CLC  XXXXXXXX X XXXX  XX X X     XX XX    XX  XX     X   XX    X X  X X                     X  XX  X X     X XX    XXX  XXXX
CLI    X  XX X X   X     X                                   XXXX       X     X  XX XX    X     XX          X  X    XX  X
CLL  XXXXXXX XXXXXXXXXXXXXXXXX XXXXXX  XX XX XXXX XX XXXX XXX XX XXXXXXXXXXXXXXXXXXXXXXXX XX XXXXXXXXXX X XXXX XX XXXX  XXX
CMB  XXXXXXX XXX XXXXXXX XXX   XXXXXXXXXXXXX  XXX XXXX   XXXX XXXX  XXXX XX X XXX XXXX      X XXXXXX XXX X X XX X  XXXX XXXX
CMP  XXX  X        X XX XX X               X  X  X       X   XXX  XX X            X  XX XX      X   XXXX X                    XX
CMS  XXX      X  XXXX      X X XX X X     XX  X    X  X XXXX   X X XX X X  XX X   X XXX          X  X XXX       X X  XX X  X X
CN2  XXXXXXXXXX XX XX X XXXXXXXX XXX   XXXXXXX X  X XX X X  X  XX  XXXXXXX  X X XXXXX X XXX XXXXXX XXX X   XX X  XXXX  XXX
CNB  X XX     X                        XX XX          X  XX    X X  X X X  X  X X XXXXX    X    X  X XX        X     X X  X X
CNCB XXXXXXXXXX XXXX XXXXXXXXXXXXXXXXXXXXXXXXXX            XXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX XXXXXXXXXX
CNPM      X        X X   X            X    X        X   XXX   X       XX    XX              X  X            X
COO  X XX     X  X  X      X      XX      XX          X XXXX   X X XX X       X  X  XXX    X    X  X XX X     X     X X XX X
COOL X XX XX XX XX XX X  X X X XX X X    X               X  X X X    X     X X X XXXXX    X X  X  X X X X   XX  XX XX     X
COP                                        X X                X     X     X   X          X                      XX   X X
COTA XX  XX   XX   X        XXX  XX     X  X   X   X X X    X     X   X      XX
CPD  X XXX  X  XXXX  XXX  XX  X  X           X    X    XX X      X  X X   X X   X     X      X  X   X    X  XX     X
CRE  XXX XX     X       XX    X    X X    X    X   X     X XX   X  X X   XXX  XX X X  XX X   XX  X  X X     XXXX X X    X
CRM  X   XXX     X X                X              X   X  X   XXX                X             XX X    X          X
CRX  XX  XX      X                 XXX X X                  XX  X   XXX   X    X  X            XX X X   XXX  X
CSI  XXXXX XXX     XXXX  XX      X   X X    XXX  XX   X XXX XXX X XX X X  XXXXX XX XXX XXX       X     X   XX X      X   X
CSS   XX  XX       X X  X    X   X X            X              X   X    X   X    X     X      XX X X XX      X  XXXX   X
CTA  XXXXXXX XX  XXXX XX XXX X XX X XX XX XX  XXXX XXXX XXXXXX X X XXXXX  XXX X XXXXXXX    XXX  XX X XX  XXX  X XX XXXX  X X
CTI  XXXXXX  X  X  XX XX X  XXXX   XX     XXX   X    XX   X XX   X  X X   XXX  XX XXX XXX  X  XXXXXX X X      XXXX  XXX XXXX
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DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
CTT   XXXXXX   X  XXXXX XXXX  XXXX X   X       XXX XX XX       XX XXXXXXXX XXXXXXXXX   X   X     X XXXX                    X
CUM   XXX X    X            XX  X    X     X              X            X    X          X                          X
CUT       X          XX  X          X    X        X   X X   X   XX    XX                X            X
CVA                                                      X X X  X       X        X                        X    XX
CVF  X  X      X X  X X                     X X  X    X     X X X X  X X                    X
CVL   X   X                   X             X        X       X            X            X            X            X
CYA                XX  X      XXXX X X    X XXX   X  X X XX    X X X            XX  X   X   X    X X         X X   X  X      X
CZI  XXXXX XXXX XX XXXX  XX   X  X X X X X XXXX  XXX  XX XX  XX X XX X XX X XXX XXXXXX XXX  X  X X      X  XXX  X    X X XXX
DAU   XXXXXX  X     X  X   XX     XX XX    XX  X X    X      X X  X  X X     X X   XXXX     X      X          XX    XXX     X
DAV   X X XX   X X  X  X   XX X    X X  X  X       XX    X X    X X  X X   XX  X            XX   XX   XX     X X     X
DDM       X          X   X               X        X    X            XX    XX                X   X       X
DEG                                                                 X       X    X X  X    X        X   XX X          X  X X   X
DEV    X                  X  X    X   X    X         X  X X X          X                X X                X   X   X
DIM    X                XX                X    X           X  XX            X        XX        X  X               X     XX
DIX   XXX                                                    X X X X X  XX   X  XX     X            X  X  X
DL2    X XX   X    X  X  XX       X       XX             X      X  X     XX  X     X X    XX XXX X  XXX     X      XX    X
DLE   X X   X      X     X  X              X         XX        XX        X X   X   X            X                  XX   X X
DMK    XX XX      X   X XXXX       X   X   X   XXX  X X    X X    XX       XX  X XX    X   X X                      X   X
DMU   X X   X      X     X  X              X    X    X           X
DOI  XX X  X   X XXXXXXX  X    X X X X    XXX XX X         XXXXX  X  X     X X   X   X              X        X  X X X X   X
DOU   XXX XXX   XXXXXXXX XXXXX XXX X X  X XXX  X XXX  XXX XX X XX XXXX X   XXX   X XXX XXX   X   XXXX XX   XX  XX
DPW    X  X   X        X   X       X       X   X                  X  X           X  XXX                              XX   X X
DRV   XXXXXXX XX  XX    XXXXX X   XX X  X X    X  X X   XX X   XX XX XXX    X  X XX XX X X XX X  XX   X      XX   X XXX     X
DSI   XXX XXX        X  X X           XX X    X    XX                X    XX        X  XX  X    X   XX X XXX   X   XX   XX
DST   XXX XXX XXX XXX XXXXXXX XXXXXX  XXX XXX XXXXXXXXXXX XX XX XXXXXXXXXXX XXXXXXXXX XXXXXXXXXXXXX XXXXXXXXXXX XX XXXXXXX
DUG    X XX   X X   X              XX XX    XX  XXX           X X  X  X            XX                    X X      XX     X
DUI  XXXXX X X       X                X     X X              X  X X  X X   XXX  XX XXXX XX    XXXXXX X  XX     X  XX X    X
DWY    X X    X        XXX       X            XX X X XXX          X X       XX     X    X X  XX X     X    XX X  XX     X
DZM  XXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXX XXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXX XXXXXXXX XXXXXXXXXXXXXX XXXXXXXXX
EBAN  XXX X         XX X  X   X   X  X      X           X   X  X    XX X            X      XX  X  X               X    X X
EBR   XXX X                 XX   XXX   X   XX              X X    X  X X   X X    X    XX XXXXXX XX   XX    X     XX X X X X
ECH   XXX X          X  X  X X           X   XX              X X  X  X X   X     X      XX   X   X  X      X   X X   XX
ECHE  XXX X         XX X      X                              X         X   X   XX   X  XX  X         XX      X      X
ECRI                                                         X    X  X   X       X      XXX X    X    X              XX
EDC   XXXXXX  XXX XXXXXXXXXXX XXX           X XXXX XX XXX  X XXXXXXXX XXXXXXXX  XXXXXXXX   XX   X  XX X XX X XX    XX    XX
EDM   XXXXXX  XX  XXX  XXXXXXXX XXXXXXX  X XX  XXX    XX  XXXX  X X  XX X XX XXX X XXXXXXX   X  XX XX XXX   XXX XX  XXXX XXX
EHOR  X X X        X  X      X      X      X           X  XX X    XX             X      XX  X  X X    X         X  XXX
EJIF  X X X        X     X          X      X                X X    X  X     X    X      X                        X
EKA   XXX  XX X X X X XX  XXXX  X    X     XX    XX X XX X XXX  X X  X    XX X X X XXXXXX      XX XXX X XX      X    XXX  X X
ELC   X   X                X     X         X                X       X                    X         X                X
ELL                                        X  X          X  X XX XXXXXXXXX XXXXXXX XX XXX XX XXXXXXXX   X XXXX XXXX X X X
EMS   XXXX                                                     X X X X X  XX   X  XX     X           X  X  X
ENIJ  XX  X         X X      X      X                        X                X  XX  X    X    XX      X    XXX
ENN      X XX  X  X X XX XX  X  XXX  X    XX    X  X X     XX    X  X X   XXX   X XXX  XX   XX  X XX XX   X  X X   XX   XXX
ENR  XXXXXX   XX X  XXXXXX  X XX     XXX     XX   XX  X   X XXXX  XXX X   X XXX   X X XXXXX  X         X X XXX XX X  XXX  XX
EPF   XXXXX      XX X X     XX    X  XX     X X  X  X        X    X  XX  X   X   X   X  XXX X    X    XX   X    XX  XX X
EPLA  X X X        X  X      X             X                  X    X  X            X      XX     X      X              X     X
EPRU  X X X        X                X                       X X    X              X      XX                            X
ERC    X           X                     X         X       XX                 XX         X        X                    X
EROO  XXX X        XX X      X
ERUA  X X X          X                                        X              X      X                      X    X     X
ESCF                                     XX X    X      X                          XX        XX      X  X     X
ESEL  XXX          XX X                                   X        X   X       X                        X
ESY    X                                X                          X     X   X                          X   X
ETOR  X X X         X X      X            X                    X  X           X        X X         X         X   XX
EVAL  X   X        X         X            X                    XX                          X               X    X
EVIA  XXX X        XX X      X   X  X     X                    X  X           X   X      X  X X    X       X     XX
EZN   XXX  X X XX X  XX XXXX  XXX  XX  X    XXXXXXXXXXXXXXXXXXXXXXXXXXXX XXX XX XXXXXXX XXXX X X XXXXX  XXXXXXXX X X X   X
FAI    X           X                    X                X   X              X  X         X          X                X
FAM    XX               X                      X              X              X   X          X       X      X
FBA  XXXXXXXX X  XXXX XXXXXX X X XXXXX   XXX  XXXX XXXX XXXX XXX XXXXXXXXXXXX X X XXXXXX   XX XXX XX XXX   XXXX X  XXXX XX X
FCH  XXXX X   XXXX  XX     X  X XXX X X    X X X   X  X X X  X      XX  XXXXX    X XXXX X  XXX X X XXXX X XX   X  X  X X  X X
FDF  X   XXXX    X X               X     X         X   X  X   XXX     X   XX      X  X X   X    XX X    X          X
FEL  XXX X      X  X  X  X X           X   XX            X XXX  XX X X   X    XX   X  XX  XX      X      X   X X   XX
FFC  XXXXXX  XXX  XXXXXXXXX   X XXX XX X XX   XX   XX  XX      X X XX  X XX X XXX  XXXX    X  XX XXXXX XXXXX XXX X XXXXXX X
FHC  X XXX   XXX XXXX X  X X   XX X  XX   XX  XX  X   X          X  X          X X X                  X XX   XXXXX
FID      X          XX  X          X    X        X   XXX   X   X   XX  X XX    X        X  X            X
FIN  XXXXX X   X XX XXX X   X XXX    XX     X    X   X     XXXX  XX  X X   X X   X X XXXXX  X           X   X  X X   X   XX X
FIR  XXXX X   X X  X                  X    X          X  X X  X X   X X XXX  XX  X        X XX X        XX    X
FISA  X X X  X X   X        XX        X     X   X          XX
FLN  XXXXXXX     X X    XX XX     X  XX   XXX    X    XX   XXX    X  X X   X X   X XXXX XX   X X X XX X   X X  X X   XXX  X X
FORR  XXX  XXXXX    XX X X XX X XX XXXX X XXXXXX XXXX  X X XX XXXXX   XX   X X   X X XX     XXXXXXXXX XXX XXXXXXX
FOUF                                                        X   X  XXX   X  XX  X X      X      X    X  X          XX
FRB  X X  X        X  X  X XX       XX            X  X            X X            X X       X           XX            XX  XX
FRF          X X  X  XX    X   X          XX X  X  X XX    XXX   X  X X X X X XX       X   X           X  XX    XX   X   XX
FRI  X XX XX XXX XXXXXXX X X   X  XXXX XXXXX  XXX XXXX   XXX  XXXX XXXXX XX X XXX XXXX      X  XX XX X X X X XX X  XXXX XXXX
FRS  X X X     XX XX XXXXXXX      X  XX    XX X  X  X XXX XXXX                      XXXX        XX   XXX X    XX    XX
FUR  X X  XX     X X  X                                  X  X X   X X   X   X  XX        X  X            X X   XX   X
FVI  XXXXXX  X  X  XX XX X  XX X X XX      XX X X    XX     XXXX X  X X   XXX  XX XXX XXX     XXXXXXXX X  XX  XXX   XXX  X X
FVM  X X X        XX       X    XX   X       X         XX  X       X  X  X   X   X X XX      XX XX XX    X         XX  X
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DATE  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30

GAZ    XXX         X XX          X  X              X     X   X           X                X   X            X   XX   X
GBA   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXX
GBTN   X   X           X                    X                       X     X   X     X             X                       X
GBZT   XXX XX    X   X        XX  XXX XX    X      XXXX     X    XX XX    X        XXXX      XX    XX X X X X X     XX       XX    X  X
GCC    X  XX    XXX X  X XX X X    X  XXXX  X XX   XX    XXX     XXX X  XXXXX XX         X X XX          X    X X    X     X X  XXX   XX X
GDH      X  X          X                                                     XX          X    XXX                      X  XX  XX   X
GGP      XXX      X  X      XX X     XX  X  X  X    X   X X       X      X   X       XX
GHO        X          XX  X          X    X         X   XXX   X    X    XX  X XX     X         X   X         X
GIB    XXX            X X                XX         X          X               X      X XXX       X        X                   X
GLA    X XXXXXXXX  XXX  XXXXXX    X  X XX   XXX   XXX X  X    XX X     X  X X   X    X    XXXX       X  XX XX XX    X XX      XX   XX X

GLB                    X                                 XX    X       XX       X                 X
GLD    X X X    X    X X  XX XXX      XX XX     X                X  X     X  X     X    X      X XX           X   X      X  X X  XXX   X  X
GLI        X          XX  X                           X    XXX    X    X    XX  X XX     X         X   X         X
GMW    X XX     X        X          X XX    X   XXX                   X  X         X X  XXX           X    X      X       XX  XX X
GOL    XXXXXX  XX     X        X      XX  X                XXXX     X  X X  XX X X X X XXXXX  X     X XX XXXX  XX XXX  XXX   XXXX
GPA      X  X              XX  X            X  XXXX  XXX    X                         X       X     X          X X   XX    X X
GRF    XXXXXX  X  XX X                                               X  XX    XXXXX XX XXXXXXX   X X    XX XXX       X X  XXXX
GRG   XXXXX  XXX XXXXX  X XX                         X                                 XX   X    X  X X   X        X   X
GRM    X X X      X  X    X XX                                                                    X XX     X        XX     X
GRR    XXXXXXX XX  X X  X XX XX  X X  XX    XXX     X      XX     XX     X  X X   X X   X XXX  XX    X X X XX X   X     X X   X X  X X

GRW    X                 X   X X                             X            XXX X    X X     X       X  X     X X        X   XXX X X
GSC    X XXXX   X XXXX  XX    X      X  X     XX  XX     X   XX     X X  X X    X   X    XXXX      X    X  X X     X XX     XXX  XXXX
GTA    XXXXXXXXXXX XXX XXXXXXXXXX   XXX   XXXXXXXX XXXX XX XXX  XXXXX   XXXXXXXXXXX X XXXXX X XXX XXXXXX XXX X   XX     XXXXX XXX
GUA    X X XX     X XXX XX  XXXXX    XXX      XX        XX    XXXX    XX X    X XX           XXXX     X XXXX XXXXX      X X    X     XXX
GUD    XXX X       XX X  X   X                X                     X     X   X     X     X    X  XXX X  X X      XX          X   XX     X
GUMO   XXXXXX    X XXXXX XX XXXXXX X XXX    XX XXX X     X XXX XX X XX X   X X XX XX X   XXXX      X XXXX X XXX  XX X X   XX      XXX
GWF    XXX X      X  X  X  X X          X   XX                  X     X  X X   X      X         XX        X  X         X X    XX
GYA    XXXXXXXXXXX   XX XXXXXXXXXX  XXX   XXXXXXXX X   X   X X X   XXX X   XXXXXXXXX X XXXXXXX     XX XXXXXX XXX X  XXX      XXX X XXX
GZH    X X XX    X     X  X  XXX            X          X        X       X  X X X          XX                  X    XX           XX
HAU    XXXXXXX XX XX X XX XX X   XXX  X     XXXX    X     XX     XXXXXXXXX X X XXXXX  XX XXXX XX  XX X  XXX XXX  XX     X    X X XX X

HBVT   X X X          X                                             X     X         X      X X X X            X  X              X
HBZ          X              X X     X          X            X        X X  X                       X                      X       X    X X
HCY       XX     X     X       X       XXX X        X           X    X            X XX X X      X        XX   XX  XX    XX       X
HDA        X           XX  X              X           X                   XX     XX                         X       X
HFS   XXXXXXXXXXXXXXXXX            X XXXXX XXXXXXX XXX XXXX XXXXX XXXXXXXXXXXXXXXXXXX XXXX XXX  XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXX
HHC    XXXXXX X X X  XX XXXXXXXXX    XXX  XXXXX  X    XX XX X X       X  XXXXXXXXX X X XXXX  X XXX XXX XX XXX X    X     XXX    XXX
HIN                                                             X X X   X            X          X                     X     XX
HKC    X XX      X      X        XX                         X                          X X                 X      XX  X                X
HLW    XXX              X     X                    X           X      X   X   X           X          X         XX    X          X     XX
HNR   XXXXXXXX   XXX XX XXX   XXXX XX XX   XXXXXX XXXXXXX XXX   XXXXXXXX X XX     XX XXX XX XXX X XXX X XXXXXXXX XX     X XXXX X   XX

HOF                                  X X     X                      X X   X       X X   X XXX XX       X                                X X
HON    X X        X          X    X                         X          X     X                    X                X                X
HOOJ                                           X    X    X          XX          X   XX      X      X X      X X X   XXX        X   X
HQL    XXX      X  X     X X X     X X    X X   X   X     X     X  X    X   X      XX      X    X XX              X    XX   XX     XX
HRI      X XXX      X X     XX  X X X    XX       XX  X                  X     XX          X    X  XX    X X XX X         X  X X     XX
HRT    XXX        X  X XXX   XXX  XX X X   X  X       XXX    XX          XX X    X     X    X    XXXX XX  X X       X         X              X
HUR        X            X    X          X              X    X X        X   XX      XX                             X
HVAR  XXXXX       XX    X X     X        X  X    X X X   X X      XX    X X X X X X  XXXX   XX XXX   X  X     XXXX     X        XXX     X
HVD    X X XX              X  X      X   X        XX         XX    XX      X      X X        X          XX X  XX XXX  XXX         XX    XXX
HYA     XX  XX X    X X                        X           XX       XX     XX X      X                X                X     X     X

HYB    X X XX  XX XXXX XXX XXX  X   X   XX XXXXX XX XXXX XXXXXXX     X X  XXXX  XXXXX X XXX X     X  XXXXXXXXXXXX  X X   X XXX X  XX
HYT                                                    X XX    X        XXX                XX X X   X  XX         XX      X     XXXX  X  X
IAS       X             X                         X               X       X    X          X     X     X      X                   X
IGT   X XXX  X   XXX XX       X                   X          X  XX XX    XX      X         XX
IHA   XXXX X     XX    XX                 X                                                             X                         X
IIDJ   XXXXXXXXXX X XXX XXXXXXX      XX     X  X            XX       X X XX  X X       XX   XX   X   X X XX X    XXX XXX X        X
III    XXX X        XX     XXX XX    X X  XX  X X                         XX  X  XXX     XX     X   XXXX     X  X    XX X X   XXXX   X  X
IISM   X   XX XX    X         XX       XX  XXX    X                       XX  X  XX X  X     XX   XXXXX     X X  X XX X X    XXX XX
IIT    XX  X          X     X   X         XX  X X                         XX  X  XX X  X       X  XX X                X X      XX  X
ILIM       X          X XX  X           X     X            XXX   X    X    XX   X XX     X              X  X                 XX   X

IMA    XXXXXX X X XXXX  XXXXXX X X   X X    XXXX     XXX XXXX XXXX X XXXXXXXXX   X X X X   XXXX       X XXX XX X X   X XX X   XXX   XX X
IMI   XXXXXXX  XX XX XXX X    X  XX     XX      X      X    X       XXXX  XX  X X   X X   X    XXXXX  X        X     X  XX  X X    XX   X X
INK   XXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXX XX XXXXXXXXXXXXXXXXXX XXXXXXXXXXXX
IPM    XXX XXX XXXX  X  X   XX        X X  XX XX        X  XXX XX X X X   XX  XXXXX X  XXXX       XXXXXXX X XXX X   XX        XX  X
ISA    X XXXX X X XXXX  X  X       X   X     XX  XX      X     X         X  X X    X    X    X XX        X       X        X XX      XXX    X X
ISK     XX XX  XX  XXX XX XXX   XX    X   XX        X XX XX XX    XX    X XX X    X   X  X X   XX     XXXXXX X   X   XX                    X
ISR      X  X   X X         X                  X     X    X            XXXX            X    X XX         X XX              X        X X X
ISSF        X                    X    X        X  XX X     X       X                               XX               XX       X   X         X
ITB   XX    X     X          X         X  X     XX  XX X    X    X                                    X   X   X        X X                 X
ITB1  XX    X     X       X X     X    X XXX    XXX XXXX   X    XX X                                  X   X   X        X X                 X

ITB7  XX    X     X          X       X    X   X     XX  XX X         X                                          X            X             X
ITM   XXXXXXXX X XX XXXX  XXX                                          XX X      X   X X X X     XXXX XX                      X          X X X
ITU       X             X X  X                      XX     X       X        X                     X   X                                  X
IVA                          X        XX                             X              XX                        X    X    X               X
IZM    XXX XXXXXXX XXXXX  XXXX XXX          XXX XXXXXXXXXXXXXXXXX XXXXXXX     XXX X   XXXXXXXX XXX XXXXXXXXXXXXXXXXXXXXXX XXXX  X
JACH  XXXX X       XXX  XX      X  X XXX X X    XXX XX  X  X X X X  X      X X    XXXXX      X X X      XXX X X XXXX    XX   XX  X  XX   X
JAY    XXX          X X                 X X     XX  X    X   X   X  X  X X         X X X    XX X      X                  X    XX        X
JMB     XX             X    X                    X     X          X    XX                 X       X         X
JMI       X X          X                   X                                     X               X   X
JNE       X X          X                   X                                     X               X   X
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DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
JNW     XX X        X             X      X X          X                     X          X  X
JSC   X   X         X             X   X                  X   X       X     X          XX          X  X     X         X
KAGJ    X  X        X  X   X  X     X    XXX                    X            X  X  XX          X    XXX     X       X     X
KAKJ  XXXXXXXXXXX X XXX XXXXXXX      XXX     X  X     X     XX     X   X   X X     XXXXX  X  X X XX    XXX XXX XX      X   X X
KAP    XXX    X     X X  XX   X         X   XX  XXXX      X      X X         X   XX X   XX  X  XX XX        XXX X X X X
KAS   X X  XX     X X    X X               X   XX    X  X X X    X  X X X   X          XX    X X X  X X X    X   X  X X   X
KBA   XXX XX   X XX X  XX X   X           XXX X X    XX X XXX  X X  XXX XXXXXXXXXXXXXXXXX  XXXXXXXX XXX  X  XXXXXXXXXX  XXX
KBN  X  XX       X        X         X       X    X            XX      X X  X  X   X  X           X                    X
KBS     XX X        X     X             X         X  X          X       X   X     X        X   X  X      X
KDB   XXX            XX X    XXX XXXX                                  XX                            XXXX  X
KDC   X X XX X X   XX  X X X  X      X   X XX    XX   XX    X     XXXX    XX X X X XXXX     X   XX XX X X      X X  XX   XX X
KDZ     X  XX     X      XX     X           X    X       X   X  XXX       XX     X  X  XX        X  XX                    XX
KEK  X X X XX X XX X XX  XX         X       X          X  X     XX   X  X X        X XX                        X       X
KER     X   X   X  XX  X          XX  X      X X         XXXX      X   X    X      X              XX   X        X X   X     X
KEV   XXXXXXX XX X XXX XXXX XX XX  XXX   XXXXX   XX XX X   X X    X  X X  XXXX X X XXXXXXX  XX X XX X X X    XXX    XXX  XX
KFNJ        X                                  X                          X      X            X      X   XX    X
KGM   X X  X  XXXX  X  X    X         X            X  X X X      X    X   X X      X      X            XX X    X     XX
KHC   XXXXXXX XXXXXXXXXXXXXXXXXX XXXXXXXXXXXX XXXXX XXX XXXXXXXXX XXXXXXXXXXXXXXXXXXXXX  XXXXXXXXXXXXX  X  XXXXXXXXX XXXX
KHI     X        X  X          X  XX X   X  X               X X            X   XXX XX X  X    XXX X XXX     X
KHKI  XX X XXXXXX         XX  XXX     XX       XX         X X          XXX XXXX XX         X X         XXXXXX     XXXX     X X
KHL   X XXXXXXXX X XXXXXX XXXX   X  XX  X XX X  XXXX XXXXXXXX X  X X  XXXXXXXXXXXX XXX XXXXXXX X XX XXXX X XX XXXX  XX XX XXX
KIC   XXXXXXX X X  XXX XXXXXXXXXX XXX XXXX  XX  X XX XXXXX XXXXX X X  XXXX  XXXXX XXXXXXXXXX XX  XXXXX XXXXXXX XX    XXXX XX X
KIM            X X  X    X XX                                          X  X          X   XX            XX     X
KIW         X       X    X X     X         X   X        X   X    X      X              X X  X     X X        X X      X    X X
KKB        XX     X XXXX XX                 X    X       X      XXXX X     XX  X X  X  XX       XX  X              X   X X
KKM   XX XX X X X X  XX X   XX      X X  X   X       X X  X X      X    X    XX X X  XXXXX   XXXX X  X XXX X  X X  X  X
KLB   X X   X  X     X X    X   X  X X     X   X  XX  X   X  X X X    X    XX X X XXXX    X    X  X X X X    X  XX XX     X
KLU      X          XX  X          X    X        X   XXX   X   XX XXX  X  X    X       XX  X            X      X
KMI   XXXXXXXXXXXX  XX XX XXXXX  X XXX  XXX X XXXX  X XX X X   XX X  XXXXXXXXX X X XXXXXX  XXX XXX XX XXX X XXXX    XXX   XXX
KMR   X X        X  X      XX                                        X          X      X        X  X X        X     X
KMY    XX     X            X                           XX     XX   X  X     X          X       X     X    X    X           X
KMZ                                                                                                XX X X X X X  XXX   X
KNA   XXXX XXXXX X     X   XXXX XX XXX XX XXXXXXX X XXX XX XXXX XXX XX X X  XX XXX XXXXXX XXXXXX XX X XXX  X  XXXXXX XXXX X X
KNT   XXXXX XXXXXXXXXXXX XX       X X   XX  XX X X XX   XX  X XXXX          XXX XXXXXX X XXX XXX    XXX X   XXXXXXXXXX   X X
KOD                                                      XX     X X       X X  X       X       X XXX X    X X   XX X  X
KOGH      X    X   XX       XX    X        XX X X          X X    X  X  XX  XX   X   X XXX       XX    X    X       X
KOT    XX  X        X  X  X   X        X X     X  X          X X  X  X X   XX    X       X       X  X  XXX X    XX
KRA   XXXXXXX XX XX X XXXXXXXX  X XXXX  XX  X X  X    XX X X X XX X  XXX XXXXXXX XXXXXXXXX  XXXXXXXXXXXX   X XX X  XXX   X X
KRI   XXX X        XXXX X        XXX XXX   XX X   X     X XXXX    X   XXX  XXXX  X  XX  XX      XXX X X X     XXX    XX   XXX
KRP   X X   X  X  XXX     X  XXX                                                                  X X  X     X X  X X
KSH   X XXXX   X    X  XX X X XX   XXX  X  XX  X XX   XX X X    X X  X  X  XXX X X XXX      X    X X  XXX      X    XXX X  XX
KSL    XXX    X      XX  XX   X        X    X  X XX   X      X    X         X   XX      X  X  X  X          X      X X
KSP   XXXXXXXXXX XX XXXXXXXX  XXX XXXX XXX XXXX  X     XXXXXXX XXXXX XXXXXXXXXXXXXX XXXXXX   X XXXXXXXX X     XX X XXXXX  XXX
KSR   X X XX   X              X      X      XX      X XX          X          X   X    X XX X   X XXX  XX       XX    XX   X
KTH      X          XX  X               X        X   XXX   X   X   XX    XX          X      X       X
KUG                                                  X   XX X   X X  XX                  X
KUK      X    X   XX     X X             X  X X                  X  X  X   XX   X   X XXX       XX         X X      X    X
KUMJ   X  X        X  X   X  X     X    XXXX                    X            X  X  XX           X    XXX     X      X
KUPT  X X                          X                                                        XX      XX    X     X  X
KUSJ                                  X  XXX  X         X          X  XXX    X    X   X     X X X  XXX     X  X   X
KVN   XXXXXXX XXXXXXXXX XXXXXXXX XXXXXXXXXXXX XXXXXXXXX XXXXXXXXXXXXXXXXXX XXX X XXXXXX   XX XXX XX XXX   XXXXXX XXXXX XXXX
KVT   XXXX  XX  X    XX X XX        XXXX  X  X    X    X    X X X  X  X           X  XX         X X  X X  X       X    X
KZN   X XXX X XX XX X XX  XX         XX      X    X      XX  XX  X XX   X  X X X  X   X XX        X        XX   XX      X X
LACI  X  XX  X X  X   X   XX       X X       X                X       X    X  X X X     XX                              X
LAT   XXXXXXX XXXXXX XXX XXXXXXXX XXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXX XXX  X  X XXXXXXXXXXX XX XXXXXXXXX X XXX  XXXXXXXX XXX
LBF   XXXXXXX XX XX X  X XX XX XXXXXXXX   XXXX   X    XX X XXXXXXXX  X X XXXXX  XX XXXXXXX  X  X XX X XXX XXXX   X  XXXX  X X
LBFM  X XX X  XXX XXX  X   XX   XXXX  XX   XX  XXX X  XX      X X  X  X           X   X              XX   X   X XX   XXXX   X X
LBL   XXX            X X   X               X    X          X      X     X      X  X XXX                  X   X   XX
LCCH  XXXX X    XXX  XX     X  X XXX X X    XXX X   X  X   X  X    X X   XXXXX    X XXXX X  XXX X X XXXX   XX  XX  X  XXX    X
LCI   X XXXXX         X   XX              X   XX  X       XXX  X X X  X X  XXXX    X     XX        X  X   X             XX   X
LCR2          X             X X                       XX       X             X          X                X    X
LDF   XXXXXXX X   X X    XX XX    X  XX   XXX    X    XX    XX    X  X X   X X   X XXXX XX   X X X XX X   X      X   X X  X X
LEGH  XX X X    X   XX        X    X        XX              X X    X  X  X   XX   X   X   X  X    XX    X             X
LFF   XXXXXX  X  XX X X  XX  X  X X  XX    XX X  X    X     XX    X  X X XXXXX   X   X  XXX X  X   X  XX   X   X X   X X X  X
LHE       X                                XX             X                          XX          X      X  X      X
LHS   X   X         X             X   X                   X                          X                          X
LIC   XX  XX X X  XXX  XXXX XXXX XXX XXXX  XX    XX XXXXX XX XX   X  X XX  XXXX  XXXXXXXXX   X   XXXX XX XX X  X    XXXX  X X
LIT   XXXXX XXXXXXXXXXXX XX X      XXX          X                        X X     X X   XX    XX X X   X    XXX X   X X
LJU   XXXX XX    X X     X    X     X          X      XX X X  X X   XXX  XX XXX XXX     XXX  X   X      X X    XX  X
LLA   X XXX   XXX X XX XX X X   X  XXXX XX XX  XXXXXXXX   X X X  XXXXX XX        X XXX          XX X  X   X X  X    XXXX XX
LLAV  X X X    X   XX        XX        XX                  X
LLS   XXXX                                                      X X   X X  XX   X  XX     X              X  X
LMR           X X    XX    X   X    X     XX X  X     X    XXX   X  X X   X X X X   X  X   X           X   X   X    X    X
LNO   X X XX  X   XXX X   X X    XX   X    XX  X XX X X  XXXXX   XX  X  X  X   X XXX XX XXXXXX  XXXXX XX
LNV   XXXX X    XXXXXXX  X     X XXX X X    XXX X   X  X X X  X    X XX  XXXXX    X XXXXXX XXXX X XXXX XX      XX XX  XXX  X X
LOE   X X XX   X  X XXXX XXXX      XXX  X  XXXX XX  X  XXX X    X X  X XX  XXX X       X    X  XXX  X  XX X    X     XX   X
LOF     X   XX    X X   X    X  XX  X  XX   X           X  XX   X   X  X    X   X       X   X       XX       X          XX
LOMF  XXX X      X  X  X  X                XX              X X  X  X X   X     X       XX   X       X       X          XX
LON   XXXXXX  XXX X X  X  XXX      X XX    X    XX          X   X X  X X  XX    X X XXXX X    X     X X X   XXXX    XXX  XX X
LOR   XXXXXXX XX XX X  X XX XX XXXXXXXX   XXXX   X    XX X XXXXXXXXX XXX XXXXX  XXXXXXXXXX  XX X XXXX XXX  X X X X  XXXX XX X
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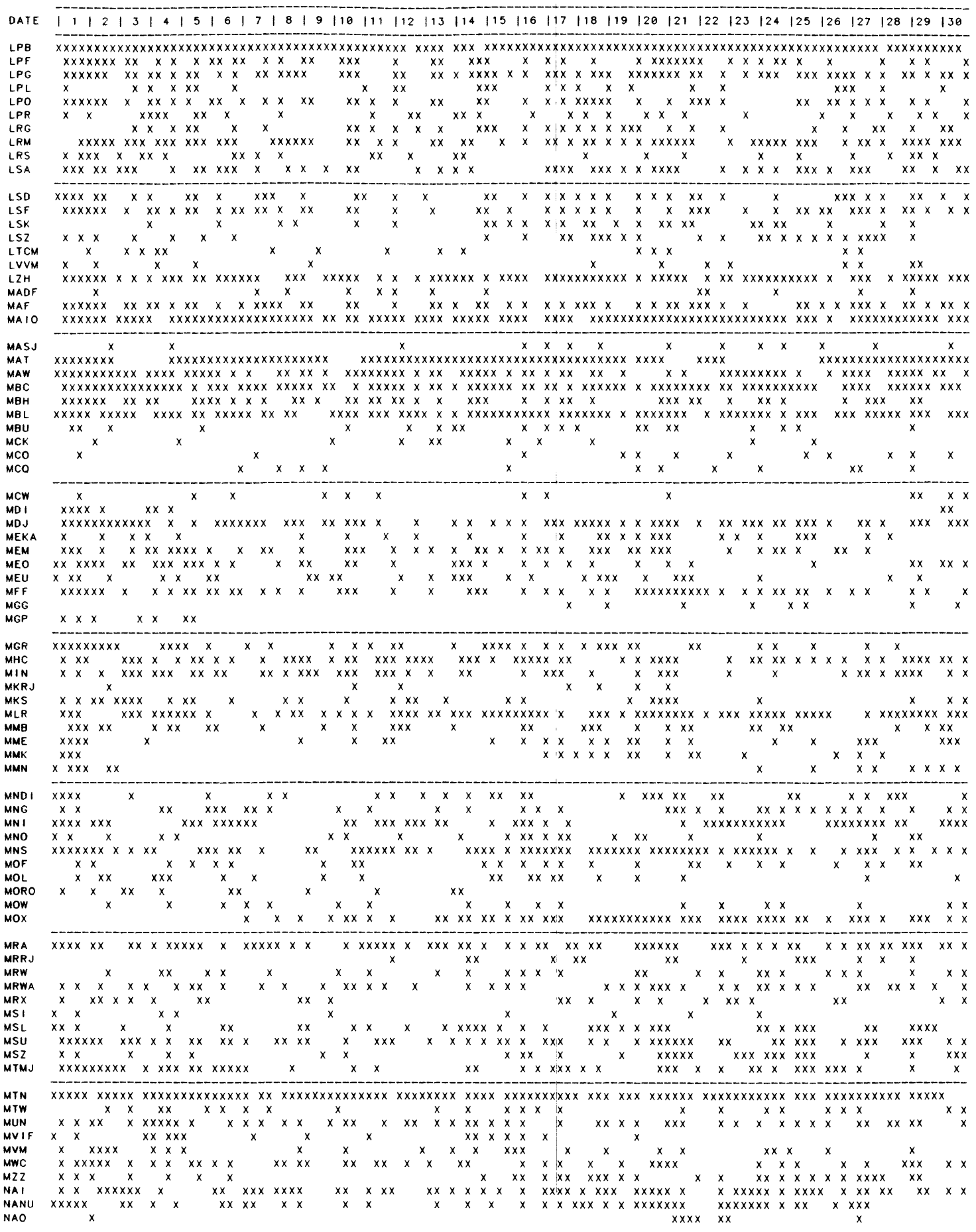
DATE
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LPB
LPF
LPG
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LPR
LRG
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LRS
LSA
LSD
LSF
LSK
LSZ
LTCM
LVVM
LZH
MADF
MAF
MAIO
MASJ
MAT
MAW
MBC
MBH
MBL
MBU
MCK
MCO
MCQ
MCW
MDI
MDJ
MEKA
MEM
MEO
MEU
MFF
MGG
MGP
MGR
MHC
MIN
MKRJ
MKS
MLR
MMB
MME
MMK
MMN
MNDI
MNG
MNI
MNO
MNS
MOF
MOL
MORO
MOW
MOX
MRA
MRRJ
MRW
MRWA
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MSI
MSL
MSU
MSZ
MTMJ
MTN
MTW
MUN
MVIF
MVM
MWC
MZZ
NAI
NANU
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DATE  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
NB2    XXXXXXXXXXXXXXXXXXXXXXXXXX  XXX  XXXXXX XXXX XXXX XXXXX XXXXXXXXXXXXXX X X XXX         XXXXXXXXXXXX XX X XXXXXXXXXXXX
NCA        X           X   X           X             X   XXX       X    X  X XX    X        X               X
NCG                    X   X                 X               X    X     X     X                              X   X
NDI    XXX XX XXX  XXX XX  XXXXXXX   XXXXXXXXXXX XXX  XXX XXXX     XX XXXX  XXXXXXX XXX X    XXXXXXXXXXXXX XX  XX    XX  XX XX
NEO   X XXXXXXXX XX XXXX  XXX X      XX      X    X      XX  XX  XXX X     X X X  X   X XX X      X        X X   X      X X
NIIJ   XXXXXXXXXX X XXX XX XXXXX     XX      X  X           XX     X X X X X       X  X   X  X   XX    X X XXX X      X
NJ2    XXXXXX X X X  XX X  XXX XXX  XXX   X XX      XX  X   X   XXXX  XX  X XXX X XXXXX X    XX   X XX XX      XX     XX     X
NKA        X         X  X  X          X    X            XXX   X   X   XX  X X              X  X
NKM    X X X         X X  XX    XX   X   X                            X     X             X             X              X
NKY      XX    X    X               XXX               X      X   X            X XX X X      X       X   X   XX
NNA    XXX XX X X  XXX   X   XXX XXX  XXXX  X   XX X  X XX XX X XX    X XX  X XXXXX  XXX XX XXXXX  XX XXX X  XXX   X  XXXXX  X
NNL        X        X  X  X          X    X            XXX   X       XX  X X              X  X          XX   X
NNT    XXX XXXX X    X  X  XXX      X    X   X XXXX  X XXX  X   XX X    XX  X XXX      X   XX X  X  X X XXX X   XX       X   X
NPS     XXX X  X     XXX XXX   X   X    X   XX   XXX      X   X  X X         X   XX X   XXXXX XXXXXX     X  XXXXX X X X
NRA0    XX  XX XXX XXX      X        X   X    X                XX   XX XX    X   X      X  X   XX   X X  X X  X X   X   X   X
NSS      X   XX    XXX         X     X   X   X          X      X   X   X         X                 XX       X          X
NST    XXX    X X X  X  X  XXX      X X  X   X X XX  X  X X X  XXX      XX      X     XXX  X    XXXX X XXX X  XXX      XX   X
NUR    XXXXXXX XXXXXXXXXXXXX XXXXX  XXX  XXXXXX X XXXXXXXXX XXX XXXXXXXXXX XXXXXXXX XXXXXXXX XX XXXXXX XXX   XXXX  X XXXXXXXXX
NWAO   X XXXXX XX X XXX X    X X X  X X     X       XX  X X XX X X X    X   XXX X X XXXXX    X X  X  X X X X   XX  XX XX     X
NWRM   X  X        X  X X        X      X                    X    X                                          X       X
OCO    X X                                   X                                        X           X  X     XX  X
ODD1    XX     X              X              XX     XX   X  X     X        X X  X    X     X    X          X           X
OFUJ   XXX         X   XXXX X  X X    XX   X   X   X    X  X X      X   X  XX  XX         X     X X X  X X     X  X   X
OGA                      X X          X     XXXX        X     X   X  X X   XXX  XX XXX  XX                    XXX   X X  X
OHR   XXXXXXXXXXXXXXXXXXXXXXX   X  XXXXXXX XXX XX XXX XXX X  XXX XXXXXXXXXXXXXXXXX XXXXXXXXX X XXXXXXX  XXX  XXXXX
OLLA   X X X  X X   XX       XX       XX    X   X         XX  X
OLY    X                    X   X   X         X         XX  X       X     X       X    X                      X     X   X
OPT        X        X  X  X              X            XXX   X   X   XX    X             X  X          X    X
ORO     XXX X   X X  X            XX          XX              XX  XX  X X X X X  XX XXX  XX     X    X X    X   X X    XX  X X
ORV    XXXXXXX XXX XXXX XX X X   XXXX XXX  XXX  XXXXX  X   X X     X  XXXX XX   X X XXXX      X   X XX XXX   X XX X XXXXX  X X
ORX    XXXX X   X  X X X   X    XXX   X      X    X           XX   X  X X X X X   X X X  XX                 X   X X   XX
OSS    XXXX                                                          X X   X X  XX   X  XX     X                X
OUR    XXXXX XXXXXXX XX  X XX
OXX    X X XX XX   X  X X XXXXXX XX X XXX X X                          XX     XXXX  XX  XXX  XX XX  X XXXX XX X
PAE    X X                            X                 X      X                  X              X X          X   X   X  X
PAG    XX X  X   XX  X           XX  X X  X                 XX    X X     X            X  X         X    X X          X  XX    X
PAIG   XXXXX XXXX  X XX  X XX
PAS    X X         X         X               X  X X                  X            X                        X              XX
PAX        X          X   X              X        X   XX            X    XX                            X
PCC    X  X    XXX X  X XX X X   X  XXX   X XX  XX   XXX    XX X  XXXXX XX        X X XX             X X   X    X X   XX   X X
PCH    XXXX X   XXXXX XX     X  X XXXXX X    XXX XX  X  X X X  X   XX X    XXXX    X XXXX X  XXX X X XXXX X XX  XX  X  X X    X
PCI    XXXXX XXXXXXX XXXXXX XXXXX                              X X     XXX         XXX XXX  XX XXX            X X  XXX
PCP    XXXXXXX   X XX XXX X X   XXX     XX     X          XXX  XX  X X   X     X X X      X        X        XX  X X   XX  X  X
PDA     X                X                 X XX                X X     X           X          X     X            X   X     X
PDCR    XXXXX XXXXXXXXXXXX XXXXXXXXX  XX X  XX  XX   X XX  XX X    X
PEC    X XXX    X XX X    X      X XX XX   XXX X XX X  X    X    X X  X X       X     X            XX         XX     XX   X X
PEL    XXXX X    XXXXXXX  X  X  XXXXXXX X    XXXXXX XXX XX XXX    X X XX  XXXXXX      XXXXXX XXXX X X XXXXXX XX  XX
PGB      X  X      X X XX XX                X   X                  X  X  X         X  X              X
PGC    X X      X  X    X                X  X     X   X            X  X              X                          XX      XX
PGD    XXXX X  X  X        XX    X   XX X    X   X X XX    X XX X X  X X   XXX  XX XXX   X     X   X  X       XXXX X XXX XX X
PGZ    X        X           X  X  X        X   XX       X          X X  X             XX     X       X   X X X X  X        X X
PHAM   X  X    X   X  X XX X     X       XX X   X     X     XX       XX             X            X  X  X              X   XX
PHP   X  XXX   X  X       XX       X X X     X               XX X X  X    XX XXX X  XX X     X  XX XX   XXX X             X
PICO                                X                        X X      X     X      X     X X       X        XXX  XXX          X
PII    X XX       X                    X      X   XX   X       XX   X  X X     X  XXX  X            X        XXXX       XXX
PJG    XXXXX    X X X X XX XX XXX   X X  X  XXX X    X  X  XX X XX X    X      X     X  X        XXX X XXX     X X   XX    XXX
PKEM   X  X    X XX   X XX       X       X                  X       X                                X                X X XX
PLD     XX           X    XX                 X    X                        X           XX       X                X
PLDF   X X               X                   X    X           X    X  X     X     X   X XXX                   X   X   XX
PLE      XX         X      X       X X X            X      X   X            XX          X       X   X
PLG    X XXX XXX             X X              X    X  X X  X  XX  XXXXXX    X X X  X     XX        X         X    X      X X
PLM    XXXXXX X XXXXXX  XXXX XX  XXXX XX X XXX XXXX X  X  XXXX   X X  X X             XXX     X  XX XX XX    X XX     XXX XX X
PLRM       X          X   X          X    X        X   XXX   X   X   XX  X                    X
PME        X          X   X          X        X   X   X   X    X  X  X
PMG       XXXXXXXXXX  XX  XX X        XXXXXXXXX XXX XXXXXXXXXXXXXXXXX      XX XXXXXXXXXX XXXX X  XXXX        X X XXXXXXXXXXXX
PMO    X X                  X             X                  X X    X            XXX            X X          X   X    X X
PMR    XXXXXX X X  XXX  XXXXXX      X XX  XXXX   XXX X XX   XX XXX XXXX X  XX X X X XXXXXX   XX X X XX XXX   XXXX X  XXX  XX X
PMS        X  X        X  X    X X   X    X       XX   XXX   X   X  XXX  X X     X       XX  X      X   XX      XX   XX   X
PNT    XXXXXXX XXX XXX XXX XXXX   X   XX  X XX  XXXXX  X      XXXX X  X XX XX X X X X         X  X XXX XXX   X XX X  XXX XXX X
POO    XXX XX  XX X  X  XX XX   X XXXXX    XXX XX XXXXXXX XXX X XX X  XX X XX X X X XXXXX   XX XXXXXXXXXXX X   XX XXXXXX X  X
PORP   X XXX  X  XXXX  XXX  XXX X  X           XX   X     XX X           X X  X    X    XX      X X    X  X   X    X  XX X
PPCY    XX  XX            X          X             X               X   X          X              X       X      X   XX
PPD    XXXXXXX  XX  XXXXXXXX  XXXXXXXX XX    XXX XXXXXXXX XXXX XXX XXXXX XXX XXX X X XXXX XXX XXXXXXX  XXXXXXXX XXX XX
PPI     XX                                                                                          XX   X X X
PPM    XXXX XX XXXX XXXXXXXXXXXX  XXXX XXX X X                          XX  X  XXXX  XX  XXX  XXXXX  X XXXX XX XXXX XXXX XX  X
PPN    X                            X                X    X X               X  XX           X X X          X   X    X
PPT    X X                          X                X    X                 X  X             X X          X   X    X
PRI    X  X  X XXX X  X XX X X   X  XXXX XX XX  X X XXXX   XXX X  XXXXX X          X X XX            XX X X X X  X X  XXXX XX X
PRK     XX       X    XX  XXX        X      X    X XX X XX X X  XXX XX      X X  X  X  XX   X    X          X X  X   X
PRM    X                    X     X                     XX  X                        X                    X        X   X
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DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
PRNI  XXXX XX XX  X X  XX X   X X   XX X   XX  X X  X  X   XXX    X  X XXX X     X  XXX  X     X    X XXX X X   XX        X
PRS   X XXXXX XXX X XX XX X X   X  XXXX XXXXX  XXX XXXX   XXX X  XXXXX XX      X X X XX      X  X  XX X   X X  X X  XXXX XX X
PRU   XXXXXXX XX XXXXXXXXXXXXXXX XXXX     XXXX XXXXX  XX XX XXXX X  XXX XXXXXXXXXXXXXXXXXX XXXXXXXXXXXX X X XXXX XXXXX XXXX
PRY     X XX X X X XX    XXXX                          X      X     X  X XX  X  X X X         XX  X X
PSI   X XX XX  XXX  X  XX X X X                        X  X  X X                                X X XX  XX XX XXXXX XX
PSO   X X X  X     X    X   XX    X        X   X     X X  X                            XX    X        X     X        X
PSZ     X       X  XX XX XX          X X  X X               X XXX  XX X     XXX   X   X XX X  XXXXXXXX         X  XXXX X
PT03            X        XX  XXX XXX  X                      X       X
PT08  X X X  X X   XX       XXX   X  XX XX X   XX X  X XX XX   X       X     X  X       XX    X    X     X   XX   X  XX X X X
PT10  X X XX X     X    X   XXX   X  X  X  X   X  X  X XX XX X X       X     X  X   X   XX    X   XX X X     XX      XXXX

PTI     X X                          X    X     X               X                X                                        X     X
PTJ   XXX  X  X  X XXX   XX   X X  XXXX  X  X X  X X   X XX  XX X X  X X XXXXX  XX XXX XXX XX  XXX XX  XX X   XX      X   X X
PTT     X                            X     X    X       X  XX   XX X           X           X    X  X        X        X
PTZ   X X X    X    X   X   X                              X   X  X XX  XXX X X          X    XX X X X X X X XXX    XX
PUK  X   X              XX        X            X              X X X  X   X  X X    X  XX       XX          X             X
PVC   X XX X   X   XX   X   X X           XXX X  X  X  XX  XX  XX X  XXXX   XX XX X  XXX  X  X   XX X XX  XX X XXXX XXXXX XX
PVL    XX  XX      X X X  XX     X            X    X              XXX  X  X        X  X  XX        X
PVY     XX    X          XX       XXX X                        X          X XX X                XX  X   XX   X          X
PWA       X           XX XX          X    X        X   X X   X   X  XXX  X                    X          XX   X  X      X
PWLA  X   X                        X            X              X    X                    X                                X

PYM   XXX           X X   X                X    X           X    X  X           X   X XXX          X        X   X   XX
PZZ  XXXXX X  XX XX XXXX XX X XXXX  XX       XX   XX  X X X XXXX XXXX X X X XXX   X X XXXXX  X X    X  X X XXXXXX X  XXX  XX X
OCP   X X XX   X X  X  X   XX X      X  X  X        X  X   X      X        XX  X                 X  X XX       X     X
OIS   XXX XX XXX X   X XX XXX X  X XXXXXX XXXXXXX XXXX X X XXXX XXXX XXXX   XX X XXXXXXX X  X XXXXXXX XXX XXXXXXX XXXXX  XX X
OIZ   X XXXX   X X  XX X  XXX X           XX        X  X X X      X  X X   XX  X X  XX      X    X    XXX      X     X
OLP   X XX X  XX            X X    X X  X  XX                              XXXX     X    X  X          X  X  XXX    X
OUE   X X XX  XX       X  X X XX    XX X X XX X XX  XXXX XXXX   X X XXX X  XXX X XXXXXXXX  XXXXXXXXXXXXX     XX    XXX X   X
OUR  XX XXX    XX          X X      X  X  X  X                  X   X
OZH   X X XX X X    XX X  XXX      XX   X  X        X      X   X  X      X XX    XXXXX X       X X    XXX     XX      XX      X
RAB  XXXXXXX   X XX X XX  XXX X    X    X XX  X  XXX   XX XXX  X  X    XX XXX  XXXX XX X         XXX XXXXXXXX X

RAGM                                                        X X X  X       X       X                          X    XX
RAO            X X    X                                  X                     X     X  X X                     X    X
RDO    XXX X X       XX  XX                 X    X XX X  X X X  XXXXXX      X    X  X  XX        X         X  X X    X   X
RDP  XXXXXXX X   X          X     X XXX XX XXX  XXX X X   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XX XX X  X                X X XXX
RDT        X          X  X          X    X            X X   X   XX XXX  X  X    X                  X   X  X     X
RED        X        X XX  X           X            XX    X       XX    X            X  X           X
RFA   XXX X    X XXXX            XX  XX X  X X X   X  X X XX    X X X   XXX X    X XX       X  X X X      X   XX X   X    X X
RGS     X           X                                          X  X     X X   X   X                    X         X
RIV     X        X            X                                X X    X               X              X
RIY   XXXX       X   X    X   X    X   X  X X                XX   X  X X   XXX  XX XXX XX        X   X   X      X X        X

RJF   XXXXXX      X X X  XX  X  X X  XX    XX X  X    X      X    X  X X XXXXX   X   X XXXX X  X   XX XX     X       X X    X
RKG   X X              X        X  XXX                        X X X    X   XXX X X                  X         XX
RKT   X                     X            X                    X                    X                                X    X
RMP  XXXXX   X X          X XX     X XXX  X XXX  XXX   X   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXX X  X      X  X  X  XX X XXX
RMO   XXXX X   X   XX     X X X XX X XX X  XX  X  X X  XXXXXXXXXX X XX X         XXXXXXXXX  XX X XXXXXXXX XXX  X XXXXX X  X X
RMW   XXXX X  XX  X    X          X                    X X  X  X X         X  XXX           XX          X           X  X
RND      X           X   X          X    X         X   XXX       X    X    XX              X  X   X       X
ROB  XXXXXXX  XX XX XXX X X X XXX    XX     X    X   X     XXXX  XXX X X   X X   X X XXXXX  X      X    X  XX XX X  XXX  XX X
ROCH X XX      XXX  XX     X  X  X  X X      X X    X    X X  X    X X  XXX X    XXXX      XXX X X  XXX   XX  XX XXX        X
ROI  XXXXX XXX     XXXX  XX      X   X   X XXXX  XX     XXX  XX X X  X X  XXXXX XX X X XXX     X X              X    X X X X

RRL  XXXX XX   X X  XXXX  X    XXX   X      XX   X   X X   XXXX X X  X X X XXX   X X X  XX  X      X  X X  XXX X X   XX  XX X
RSCP  X        X    X      XXX   XX   X    X            XXX X    X  X     X        X  X       X  X  X       X     XX  X
RSM            X                          X    X   X    X    X X          X  XX                X      X   X       X
RSNY  X X          X                    X                X  X    X    X    X     X X   X              X       X     XX
RSON  X X      X   XX  X  X X      X       X          X   XX X    X  X     X     X X X XX        X X  XX X     X     XX  X
RSP  XXXX XX   X XX X XXX X    XXX   X      XX   X   X      XXX  XX  X X X X     X X X  XX  X       X       XXX X X   XX  X
RSSD    X          X   X  XX    XXX   X                XX       X       X  X X X  XX          XX       XXX
RTBS  XX XXX X            XX  X   X XXX X    X X   X XX   XX X  X XXXX    XXX  X X  X      XX    X        X X            X
RTCB  XXXXXX X XX   XXXX  XX  XXXXX X X    X X XX  X  X X XX X XX XXXX    XXX  X X  X      XX   XX              XX  XXX   X X
RTCV   X X X X XX   XX X  XX  XXXXX XXX X  X X XX  X XX   XX X XX XXXX    XXX  X X  X     XXX   XX        X     XX  X X   X

RTLL  XXXXXX X XX   XXXX  XX  XXXXX XXX X  X X X   X  X X      XX XXX     X   X    X      XX   XX        X     XX  XXX   X X
RTRS  XX XXX X X    XXXX  XX  XXXXX XXX X  X X XX  X  X X XX X XX XXXX    XXX  X X  X      X    X        X     XX  XXX   X X
RUP                                        X                XX      X  X   X      X  XX   X X
RUV   X X                  X              XX                  X X    X          X  XXX        X  X X          X   X    X X
RVR   X XXXX   X  XXX  XX X X    XXX XX    XX XXX  X  X   XX      X  X  X   X   X   X X      X      X X     X  X    XXX  X X
RYD     X  X        X     X          X    X              X    X   X X  X X   X             X              X              X
RZN    XXX XX     X XXXX XX     X       X   X    X      X   X  XXX  X    XX   X X  XX XX        X  XX             X   X XX
SAL   XXXX X     X                        X              XX   X  X X  X   X X  XX XXX  XX         XX   X      X X   X   XX
SAN  XXXX X   XXXXX XX        X XXX   X    XX  X   X  X X X  X    X X   XXXX     X  XXX X  XXX X X XXX  X XX  XX  X  XX   X X
SAO   X  X    XXX X  X XX X X   X   XX   X XX  XX   XXX    XX X  XXXXX  X X      X X XX         X  X  X   X   X X   XXX XX
SAOF  XX X      X  X XXX     X  X      X       X            XX X X X  X          X
SAP     X XX        X  X  X     X  X        X                              XX         X         X
SAX   XXXX                                                              X  X   X X  XX   X  XX     X              X  X
SBA   X X X    X            X     X  XX XX X  X  X   XXXXXXXX   X X  X XX    X X    XX XX    X   XX X X  X      X    X
SBB   XXXXXXXX X XXXX  XX X X     XX XX    XX  XX  X  X   XX      X  X X       X   XXXX      X  XX  X X     X XX    XXX   XXX
SBF     X  X   X X  X XX    X   XX   X    XX X  X    X           X  X X X X X XXX XXX  X   X    X      X  XX   XX   X   XX X
SCH   X X X        X XX         X    XX   XX          XX  X X  X     X X   X X X X    X   X X     X     X         XX  X
SCX       X  XX   X        X         X                                  X   X        X  X      X X  X            X
SDA     XX  X X  X   X    X       X X X     XX   X            X X X  X   X  X X X  X  XX    X  XX XX   XX  X
SDI  XXXXXXXXX   X XXX  X X     XX X XX     XXX  X  X    XXXXXX X X XXXXXX XXX  XX X  X XX    X XX XXXX XX  XX X XX     X X X
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DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
SDN   x       x         x    x    x     x       x    x     x                                   x x    x                 x
SDV   x x x  x x   x        xx       xx    x   x         xx  x
SEK  xx x xx  xx xx x  xxxxxx        xx    xx x  x  x xxx xxxxx                 x   x  x  x                x  xx    xx     x
SES   xx       xx xxxxxxx xxxxx   x  xx  x xx  xxx  x x   x xx xx x  x    xx x x x xxxxxx    x    xxx x x   xxxx x  xxx  xxx
SEW       x        x xx  x              x        x   xxx   x   x   xx  x x     x        x  x          x
SFI   xxxxxx     x x      x           x      x    x x x          x x  x x   xxx  xx xxx  xx        xx    x     xxxx x x
SGAM                                                             x x x  x       x       x                      x    xx
SGE                                                                                                        x x  xxxx xx    x x
SGO  xx xxxxxx  x    x    x x x  x       xxxx x  x       x x xx x x  x x  xxxxx xx x x  xx  x    x      x     xx    x x
SHGH                                                                          xx x x   x xxx       xx    x              x
SHK     x xx x x    x  x  xx       x   x x xx x            x     xx   xx   x     x  x          x x    x x     x       x
SHL   xxx    x x                            xx x            xx xxxx   xx                 xxx     xxxxxxx                xxxx
SHMJ   x                 x                   xx                                x   x       x    x  x    x      x   xxx
SHNJ    x            x  x   x        x    x              x     x                  x            x    x x     x       x     x
SHW     x              x    x                 x                x  x              xx                                xx  x  x
SIO   x x x   x   x   x    x    x    x    xx  x xx x x  xxx x   xx   x x  x   x x x x  xxx xx  xxxxx xx   xx         x
SJG   x xxx     xxxx  xx   xx  x                        xx        xx     x  x    x            x              x    x  x      x
SJS      x  xx            x x                 x      xx    x  x            x           x  x    x      x x    x     xx   x
SKI  xx        x   x       x x x                        xx                x                                      x
SKO  xxxxxxxxxxx xxxxxxxxxx       xxxxx x xxx    x    x  xxxxxxxx xxxxxx xxxxx xxx  xxxxxx   x xxxxxx x xxx    x xxx xxx xx x
SKT        x          xx  x              x        x   xxx   x   x   xx    xx    x        x  x          xx
SLA   xxx x       xxx xxx        xx   x    x   xx xxx     xxx x     x    x       x  x       x    x              x      x
SLB   xx  x x x         x    x    x                       x        x          x      x xx                            xx
SLE   xxxx                                                            x x   x x  xx   x  xx     x            x  x
SLKM      x  x     x xx  x           x    x        x   xxx   x   xx xxx  x xx    x      xx  x          xx   x  x     x
SLL         x   x  xxx                x      x      xx       xxx   x                 x                xxx     x  x      x    x
SLR  xx x xxx xxxxxxx xxxxxxxxx x   xx    xxx x  xx x xx  xx xx   x x xxxx x xxxxxx xxxxxxxxx x xxxx xxx x x xxx  xxx
SLY   x x  x  xx    xx      x     xx xx    xx x        xx xx x x  x  xx    x x x x x x xx    x   xx x xxx x    x x  xxxx
SMF   xxxxxx  xx xx x xx  x xx xxx  xx     xxx   xx   xx x  xxxxx x  xxx  xxxx  xx x xx xxx    x xx x xxx xx xxx x  xx x  x x
SMG    xx     x x    xx  xx   x     x          x xxxx   x  x       x          x x xx  x  xx  x
SMY   x x      x    x                     x    x    x                  x   x                  x x
SNA   x xxxx x    x xx xx xxx    xx        xx xx xxxx     xxxx    x xx xxx x x x    xx xx x       x x x x x       x
SNF   xxx  x   x xx x xx x         x x      x  x x    x x  x x  x x        xxx  xx   x       x   x  x x    x  xx
SNG   x xx x   xxx  x  xx xxx      x x      xx x xx x  x x x    x x  x xx    x x     xxxxx  xx xxxx x xxx x   xx     xx
SNY   xxxxxxx x    x  x  xxxxxx   xxx  xx xx    x xx xx   x    xxx  xxxx  xx  x x xxxxx    xx xxx xx xxx x   xx    xxx   xxx
SNZO  x  x              x   x x          x                  x                x                                    x
SOD   xxxxxxx xxxxxxxxxxxx xxxxx  xxx   xxxxx x xxxxxxx x xxx xxxx  xxxx xxxxxxx xxxxxxx  xx xxxxxx xxx x xxxx  x x xx xxxx
SOI  xxxxxxxx x x  xxxx  x
SOP    xxx x    xx  x     x                x                x    x  x      xx   x   x  x    x xx   x          x      x   x
SPA   xxx xxxx xxxxxxx xx x x x   x   x x  xxx x  x x  xx xxx x x x    xx  x   x   x xxxxx xxxx   x x xxxxx xxxx xx  x xx x x
SPC   xxxxx x x       xxxxx   x    xxx  xxxxxxx  x    xx x  xx x  xx x xx xx x x xxxxx xxx  x   xx xxxxx      xxxxx   x xxx
SPU       x          xx  x                x        x   x x   x    x xxx    x      x        x   x              x  x     x
SRA       x   x             x x       xx       xx      xx      x              x            x xx    x      x      x     x    x
SRFA   xx     x      x  x x x       x     x x      x    x      x   x  x x   xx    x   x                    xx   x     x
SRN  x  xx  x x  x   x   xx                x                xx   x       x   x  x   x  x        x
SRO   xxxxxxx xxxx xx xxxxx x    xx xx xx   x xx x  x xx x  xx xx x  xxx  xxxx xxx xxx xxx   x xxx xx xxx x    x x   xx   xxx
SRS  x xxx xxxxx xxxxxxx xx       x x       x    x        x  x  x x x  x   xx    xx x x xxx  xx   x xx x  xxx xx x  x   x x
SSE   xxxxxxxxxxxxxxxx x  xxxxxx   xxx  xxxxx   xx  x  x xxx  xxx x  xxxxx xx  x xxxxxxxxx xxx xxx xx xxx x x xx    xxx    xx
SSF   xxxxxxx xx xx x  x  x xx xxxxxxx   xxxx   x    xx x x x xx x  xxx xxxxx   xxxxxxxxx  xx x xxxx xxxxxx x   x  xxxx xx x
STK   xxxx x  xx  x  x x x  x x xx x x  x  xx  xx   x  x x xxxx x x  x xx  xxx x x xxxxx    x xx xx x xxx x    x xx xx x  x x
STV  xxxxx x  xx xx xxxxxx  x xx    xxx     xx   xx  x   x xxxx  xxx x   x xxx   x x xxxxx  x      x  x x xxx xx x  xx   xx
SUA       x          xx  x               x        x   xxx   x   x   xx  x xx    x        x  x          xx   x
SUE   xx   x x   x x      x                x         x      xx   xx x     x            x    x    x           x
SUF   xxxxxxx x xx  xxxxxxx xxxxx  xxxx x xxxx x xxxxx xxx xxx xxxxxxxxx xxxx  xx xxxxxxx  xx xxx xx xxx x xxxx xx xxxx xxxx
SVA   x xx     x            x                    x  x            x    x         xx  xx      x  x   x x              x
SVB  xxx  x  xxx         x    x    x            x       x                  x x    x        x                      xx x
SVO                            xxxx  xx     xxxxxxx xxx  xxxx xxx xxxx x xxxxxxxxxxxx
SVV  xxx  x   x          x    x  x xx            x                          x      x                x              xx x
SVW   xxx xx x x    x xx x xx x    x xx  x       xx   xxx  xx xxx xxxx  x      x x   x   x  x      x    x   x xx x  xx   xx x
SYP   x xxxxx  x  x x       x      x  x    xx   x     x   xx      x  x x   x   x   x xx             x       x  x     xx   x x
TAB   x x xx   x   xx  xx xxx       xx      x x    x    xxxx x  x x xx  x  xxx x x x x xxx  xx   xx x xxx      x    xxx x
TACH  xxxx x   xx x  xx     x  x xxx x x    x x xx  x  x x x  x    x xx   xxxx    xxxx      xxx x x xxxx   xx  xx  x  x x  x x
TAF   x x x         x x        xx                            x              x x x      x   x          x              x     x
TBH   xx                x      x                      x            xx  x    xx      x     x  x              x     x  xx  x
TBI   x                                x                    x                  x x                      x     x   xx
TBR   x   x          x                  x                    x    x         x     x x
TCA  xxxx x    xxxxxxxxxx  x  xxxxx x x    x xxxx  x  x x xx x  x x xx  x        xx x  x    x  x x   x    x x x      x      x
TCE                                  x        xx   x         x   xxxxx    xx      x     x xx     x xx    x xxxxxxxxxx x x
TCF   xxxxxx     xx x xx xx  x xx xx xx   xxx    x    xx x xxx  x x  x x x x x   x  xxx xxx x  x x  x xx x  xxxx x  xxxx xx x
TCW         x  x    x    x x  x  x        x   x        x   x      x    x             x x x       xx x               x    x x
TDS  xxxxxxxxx     xxxx  xx    x x   x   x  xxx  xx      xxx x  x x  x x   xxxx xx  xx  xx      xxxxx   x      xx x  xxx
TEH     x          x    x        x            x     x  x                   x   x              x
THE  x  xx  xxx  x x x    x               x    xx      x    x   x  xx  x          x          x x  x      x  x x x x
TIA   xxxxxxxxxxx  x  x  xxxxxxx  xxx   xxxxx   x  x xx  xx    x x  xxxx xx x x x xxxxx x  xx x xxxx xxx x   xx     xx x  xx
TIC   x x xx x x  xxx  xxxx xx   xxx xxxx  xx    xx    xx xx xx   x  xx x  xxxx  xxxxxxxxx       xxxx xx  x x  x    xxx   x x
TIO   x x xx      xxx x                                                                                          xxx xx x
TIR  x  xxx x x  x   x   xx       x x       x    x           xx x x  x x  xx xxx x  xx xx    x  xx xx   xxx       x
TIY   xxxxxx xxxxxxxxx xxxxxxxxxx  xxx  xxxxx xx x xx xx xxx   xxxx  xxxx xxxxxx x xxxx  x xxx xxxxxx xxx x   xx x  xxxxx xxx
TKSJ    xxxx        x  x   x        x      x x            x                        x            x    x x     x      x
TLB   x x  x  x x   x     xxx x    x  xx   xx         xx xxx      xxxxxx         x x xxxx    x   x xx          x xx   xxx
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DATE  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30

TLE     XXX    X X                   XXX                                                          X                      XXX     X X
TMA     XXXX                                                                   X X X X X  XX   X  XX     X               X     X
TNP     XXXXXX  XXXXXXXX XX XXXXX X XX XX X XXX  XXXXX  X    XXXX XXXX  XXX  XX   X X XXXX     X XXX XX XXX   X XX X  XXXX XXXX
TNS     X X XX   X XX XX  X X                   X X  X       X X X  XX X X  XXXX  X
TOA     XXX XX   X  X XXXX X  X X    XX    X  X    XX    XXX   X XXX XXXX X XX X XXX    XX XX  X    X XX X X      X X  X     X X
TOD                                             X X             XX    X  X          X   X  XX     X
TOL     X X XX    X    X X  XXXXX X  XX X X  XXX  X         X   X X X  XX X X  X     X   XXXXX  X  X X X  XX      XXX   XXX   XX
TOO     X X       X  X  XXX     X   XX   X  X  XX           X  XXX X X XX   X    XX X XXXXXXX    X    X  X XX      X     X     X X
TOUF   XX X       X XX XXX      X  X     X        X             XX X X X  X        X
TOV     X X X  X X   XX         XX       XX    X   X          X

TPC     X XXXXXX X  XXX  XXXX X      XX XX    XX  XX  X  X   XX        X  X X  X   X   X XX     X  XX  X       X XX    XXX  XXXX
TPE                            XX      X X     X                   X    X  X X XX XX     X  X                     X
TPP     XX      XX        X    X                    X   X X    X   XXXXX    XX     X     X  X      XX           XXXXXX   X
TPT     X X                    X              XX                    X X    X         X  XXX      X  X X         X   X   XX X
TPX    XX   X   X           XX     X    X    X                                     X   X      X  X  X  XX X  X    XX  X   X
TRI     XXXXXX  XX X X X   XX  XXX    XX  X  XXX X   X  XX  XX XXXX X  XXX   XXX  XXXXXXXXXXXX   XXXXXX   X     X XX  XX   X
TRN     X X     X          X   X X   X    X         XX   X X X    X   XXXXX   XX      X     X XX      XX    X XXXXXXXXXX X X
TRO       X  XX     XXX   X X     X   X   X   X          X         X  XXX X  XXX  XX     X   X      XX        X        X
TRT    XXXX         XXX     X XXX X XXXXXXXX          X X XXXXXXXXXXX    XX X X    XXXXX XXX  X XXX    XX XXX     XXX XX   X X
TSI       X   X  XX             X                  X  X X XX    X    X                   X    X    XXX X

TSM    XX XXXX  XX    X  X XX X       XXX  X  XX       X X XX X  X   X    XXX X    X  X     X XX X    XXX     X     XX   XX X
TSRJ     XXXXX XXX X XXX XX X XX      X       X        X     XX      X   XXX X X   X   X         X    XXX X   X     X
TTA     X XXXX X X  XXXX X X XX       X XX  XXXX   XXX   XX    XX XXXXXXXX XX  X X X X X X XX   XX X X XX X X   X XX X  XXX  XX X
TTG       XX          X      XX      XXX X            X     X   X   X       X XX X      X       XX  XX  XX   XX        X
TUL     X XXXX  XX  XXX XXX XXXXXX XXX  X     XX  XXXX X X  XXXXX   XX XX XX  X   X X X X XXXXXXX XXXXXX XX    XXXX      X
TVO     X                   X                 X                X   X X                  X X             X X         X   X   XX X
TWC      X        X  X   X    X          X         X       X                  X       X  X                     XX
TWD               X      X    X          XX        X       X                  X       X  X      X              XX
TWF1     X        X  X                   XX        XX      X                  X    X  X  X      X               X
UCC     X X  X       X X                       X                X    X                   X                 X

ULC       XX                XX       XXX X          X          X    X       X XX X X                  XX   X   XX        X
UNM     X   X       X                    X   X                            X  X    X X      X                 XX X X        X
UPA    XXXXXXXXX XXXXXX XXXXXXXXXXX   X X   XX  XX XXX X X  XXXX XX  XX    X  X XX    X  XXX    X XXX X XXX XX X  XXX   XX XXX
UPP      XX XXX X       X X  X       XXX  XX  X                    X  X X  XX X   X  XX XX   X      XXX   X   X  X  XX XX   X X
UYO    XX               X      XXXX    X  XX    XX    X        XX  X     X  X      X        X        X     X     X   X    XX  X
VAH     X X                    X                X                  X X    X                XXX         X X X          X    X   X X
VAI     XXXXXX  XX X  X XX  X     X    XX      XXX   X     XX   X XX   X  X X  X X  XX X X  XX  X  X  XXX X X      X X   XXX  X X
VAM    X XXX XX         XXX XXXX  X   X    X    XX    XXX   X  X       XXX           X    XX X    XXXX XXXXXXX    X  XXXXX
VAO    XXXX XX X XX XXXXXX   XXXXXXXXX XXX      XXX  X XXX XXX XX          X  X   XX X    XXX XX X XX X    XX   X X       XXX   XX  X
VAY    XXXXXXXXXXXXXXXXXXXXXX  X XX XXX  XX   XXX X X XX XX X XX XXXXXXXX XX XXXXXX X XXXXXXX XXXXXXXXXX X X X    XXX X  XX XXXX

VBY     XXXX X  XX XXX X    XX    X      X  X    X     X      X      XX    X  X X   XXX  XX XXXXXXX       X   XX    X X     X X       X
VDL                                                                    X X X X X  XX    X  XX      X                      X
VG8                          X      X                                X  X                XX                       X       XX      X
VITF    XXX X       X X  X  X X          X   XX            X X  X  X X   X    X       XX       X  X      X    X X     X
VKA     XXX  X   XXXXXX  X X             X          X   X X   X  XX      XXX XXX X  XX   XX XXXX X X        XX  XXXX      X
VLI    XXXX XXX X X  XXX XXXX XX   X X  X   XX     X XX XXX   XXXXX       X X X  X X X XXXX XXXX X    X  X XXX  X      X X X
VLS    XXXXXXXX X XX XXXX  X        XX      XX     X     XX  XX   XXX X X  X X X  X  X  XX                XX   X       X X X
VLZ        X         XX                                X    X    X       XX  X X     X        X               X
VOY     XXXX XX X  X X XX   X   X     XXX X   XX      X     X      XX X X  XXX   XXX   XX X XXXXXXX   XXX XX    X X    XXXX  XX   X
VRI     XXX XXX XXX XXX XXXXXX  XX      XX XXXXXX XX XXXX XXXXXX XXXXXXXXX       XXXX     XXX XXXX  XXX XXXXXX XXX   XX XXX XXXX X

VTS       XXX XX      X XXXX XX      X         X    X         X  XXXX X    XXX  X X  XX XX        XX  XX              X   X
VUN     XX        X      X   X        X        XX   X X           X X    X     X   XX  XX         X   X X           X
VZW         X        X   X                          X   XXX   X   X   XX  X XX
WAR       X          X       XX                                          X              X   X         X       X
WARB    XXXXXXX XX  X XX X  XXXXX XX XXXXXXXXXXXXXX XXX  X X XXXXXXXX XXXX  XXXXXX XXXXXX    XXXXXXX X XX   XXXXXXXX
WAX                                                            X X X  X        X        X                       X   XX
WB5    XXXXXXXXXXXXXX  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
WDC     XXXXXXX XXX XXX  X   XXX X XX X XXX   XX  XXXXX  XX  X     X X  XXX  X X   X XXXX      X      XX X    X XX X XXXXX  X X
WDW          X  X   X    X X X        X   X         X   X     X   X            X X  X     X X    X   X     X   X X
WEGH    X X X    X   XX        XX  X X        XX                 X X    X  X

WEL       X      X    X      X     X           X                  X X    X              X X    X     XX X X      X        X     X X
WET                                                        X    X    X X  X     XX X  X
WHN     XXXXXXXXXXXX XXX XX XXXX XX  XXX  XXXXXX X    X XX X X   XXXX   XXXXXXXXX X X XXXXX    XX XXX XX XXX X   XX    XXX X XXX
WIN                                   X  XX X  XX X      XX  XXXX                             X  XXXX  X
WIT     X X  XX                                X               X      X  X      X     X  XX  X    X      X                XX    X X
WKYJ      X XX        X  X   X         X       X               X       X                X          X    X X    X        X
WLF     XXX  XX    XX X X      X  XX X X      XX    XXX    X  X X X
WLS     XXX X         X  X  X X          X   XX                X X  X  X         X     XX   X     X     X     X   XX
WMO    XXXXXXXXXXXX  XX XXXXXXXXXXX XXX  XXXXXXXX XX X XX XXX  XXX X  XXXXXXXXXXXX X XXXX    XX  XXXXXX XXX X  XXX     XXXXX XXX
WRA    XXX  XX XXX XXX XXX XXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXX XXXXX

WRH         X          XX  X            X           X           XX    XX                      X       X
WTS     X X  XX     X X XXXXX  X  XX   X     XX     X  X      XX    X  X X  XXX   X XXX  XX    XX  XXXX XX    X XX X   XX    X X
XAN     XXXXXX X X XXXXX XXXXXXXXXX  X X  XX XXX       X XX XXX  XXXXX   XXXXX XXX X X XXXXX X XXX XXXXXX XXX X  XX     XXX   XXX
XLV                 X                                XXX   X       XX   X                X  X           X
YAMJ    XXX         X   X X  X  X      X          X          X      X   X  XX  X             X  X  X X X  X X    X      X
YER      XXX XX XXX XX      XXX  X   XXX  X X    X X    XX  XXX     X XX XX  X X    XXXX XXX  XX  XX XXX XX  X XXXX  X XXX  X X
YJA    XX X XX X X  XXX XX  X      XX  XX     X    X XX   X    XXXXX X  XX X   XXX X       X XXX X X X XX X XXXXX XX XX    X X XX
YLV     XXX XX  XX  XXXXXX  XXX XXXXXX   X   XX  XX      XXX  X XXXX XXX  XXXX XXX   XXX  XXXXX        X  X    XX   XX     XXX
YONJ      X XX        X  X          X   X    X X         X                     X            X     X X    X        X
ZAG     X X  X   X  X XX    X    X          X  X      X        X     X  X X    XX  XX   X  X   X  XXX  X  X        X      X   X
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      ------------------------------------------------------------------------------------------------------------------------
DATE  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |10 |11 |12 |13 |14 |15 |16 |17 |18 |19 |20 |21 |22 |23 |24 |25 |26 |27 |28 |29 |30
      ------------------------------------------------------------------------------------------------------------------------
ZLA    XXX                                                            X X   X    XX   X XX                  X     X
ZOBO  XXXXXXXXXXX XXXX  XXXXXX    XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
ZON   XXXX XX     X  X X    X   XXXX XXXXX   XXXXX  X  X X XX X  X X X   XXXXX  X X         XX    XXX     XX X X X    XX     X
ZSP              X X  X X  X X   X   XX   X     XX   XX             X               X                      X
ZST   XXXXXXXX XXXXXXX XXXXXXX XX XX XX XXX XX XX XX X XX X XXX XX XX XXXXXXXXXXXXXXXXXXXXXXX XXXXXXXX XXXXXXXXXX X XXXXXXXXXX
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The following stotions each reported less thon 10 reodings:

AAE	ACI	ACR	ACU	ADI	AGMR	AGRW	AGX	ALB	ALPW	AMAN	ANCC	ANM	ANMO	APA	APM	APO	APW
ARO	ASKD	ASR	ATA	ATZ	AUE	AUI	AUL	AUW	BAA	BALA	BBB	BCPM	BDF	BDH	BEE	BER	BERF
BGB	BGIO	BGL	BGM	BIR	BJA	BKB2	BKR	BLH	BLN	BLS2	BMNM	BNH	BOH	BRD	BRF	BTB	BUC1
BUS	BUT	BVA	CALA	CAR	CBZ	CCM	CCW	CDFW	CDH1	CEI	CFTV	CGL	CHO	CHT	CIS	CKL	CLE
CLK	CLMC	CMG2	CMW	CNBA	CNIL	COI	COL	COY	CPE	CPI	CPW	CRNM	CROR	CRP	CRT	CTAO	CTFE
CVD	CVO	CVT	CYK	CZM	DAF	DAG	DBN	DES	DHN	DHR	DIAC	DLA	DLG	DMW	DOT	DPMT	DRA
DRRA	DSH	DSVT	DTMT	EAB	EALH	EAU	EBG	EBH	EBI	EBL	ECP	EDB	EDI	EDR	EDU	ELF	ELO
ELT	ELYF	EMEL	EMM	EMON	EPT	ERE	ERK	ESD	ESK	ETA	ETB	ETER	ETW	EVV	EZAM	FAR	FCV
FG2	FG4	FKO	FL2	FMW	FRU	FUG	FUO	GANF	GBR	GCG	GDR	GELF	GGC	GLK	GLM	GLR	GMB
GMO	GMR	GRA4	GRB2	GRB3	GRB5	GRC	GRC1	GRC3	GRC4	GRI	GROR	GSM	GT2	GUAC	GULW	GZR	HAC
HATZ	HBF	HDW	HIA	HITZ	HLBJ	HLD	HLK	HMT	HOBC	HOR	HON	HRV	HSR	HTW	IFR	IIC	IKP
IKZ	ILT	IRK	ITG	IVF	JARJ	JAT	JAU	JCW	JLK	JVI	KBR	KETZ	KHZ	KIP	KKS	KLI	KLM
KMOR	KMSA	KNK	KONO	KOSW	KRNA	KRO	KSU	KTD	LAC	LAZ	LCH	LDN	LFU	LHG	LIO	LIS	LKO
LMW	LOHW	LPI	LPM	LPS	LSM	LST	LVP	LWI	MAJO	MAO	MAZ	MBW	MCA	MCMT	MCNL	MCT	MEMT
MEW	MFT	MGB	MGD	MGM	MHI	MHZ	MID	MIM	MIY	MKL	MLH	MMG	MMU	MNK	MNZ	MOE	MOH
MOMI	MON	MRK	MTE	MTH	MTMW	MTU	MZX	NA2	NAC	NAH	NAV	NDE	NDF	NEA	NEW	NGI	NLO
NLU	NLW	NOH	NOP	NRI	OBC	OBN	OBO	OGE	OHW	ONR	OOW	OPA	OSD	OSP	OTR	OZB	PACW
PCA	PCG	PCM	PDB	PET	PFO	PGO	PHC	PIG	PLAT	PLAV	PLL	PMV	PNJ	POF	POW	PPE	PPK
PRAF	PRIN	PS4	PSD	PSG2	PSN	PT02	PT06	PTN	PTS	PUL	PURC	PUYF	PV01	PV02	PV03	PV04	PV05
PV06	PV07	PV08	PV09	PV10	PVV	PZI	QASM	QCR	QSM	QUTJ	QZA	RAR	RATZ	RBA	RDS	REC	REDW
REY	RFI	RPW	RVC	RVW	RW1	RW2	RW3	RW4	RW5	RW6	SAI	SALC	SALJ	SASA	SAW	SBG	SBM
SCI	SCP	SDG	SEG	SFG	SGH	SGS	SGU	SHU	SIM	SIT	SJAS	SLM	SLP	SMMM	SMNM	SMW	SNH
SNKA	SNM	SOA	SOSW	SPW	SOF	SRE	SRO	SSB	SSO	SSP	SSS	SSV	STD	STR	STS	STU	STW
SUU	SVP	SWZ	TAIF	TARW	TAS	TAU	TAVF	TAZ	TBM	TBT	TCO	TDD	TDH	TDL	TGL	TID	TIK
TIM	TKL	TLG	TME	TNE	TPI	TPR	TREF	TTH	TUTZ	TWG	TWK	TWO	TWW	TWZ	USI	UZH	VAL
VBEM	VFP	VIE	VILF	VIPM	VLL	VLMM	VLO	VPS2	VSM	VSS	VTHM	VVI	WAJH	WHH	WPI	WPW	WRD
WTV	YAH	YEL	YKU	YPE	YRH	YSA	YSS	YUP	ZNT								