UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

EARTHQUAKE DATA REPORT

OCTOBER 1989

by

U.S. Geological Survey

NATIONAL EARTHQUAKE INFORMATION CENTER[1]

Open-File Report 89-610-A

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1989

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

Earthquake Data Report for ____October_____, 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. 10-89
Part 1 of 2
P. 1-156

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.

OCT 01, 1989 00h 39m 29.29± 0.36s
44.585 N ± 2.3km 6.876 E ± 3.7km
DEPTH = 13.6 ± 3.6 km
FRANCE (538)
ML 2.1 (LDG).

PZZ	0.18	116	P	39 33.78	0.0
			S	39 37.58	
DOI	0.28	107	P	39 35.40	0.0
			eSg	39 39.30	
RRL	0.34	349	P	39 36.86	0.2
			S	39 42.29	
STV	0.47	137	P	39 38.58	-0.3
			S	39 45.37	
BNI	0.49	343	P	39 38.80	-0.5
			eSg	39 45.70	
ENR	0.53	132	P	39 39.63	-0.3
			S	39 47.11	
TOUF	0.63	155	Pg	39 41.38	-0.4
			Sg	39 50.03	
AUTN	0.71	146	Pg	39 42.96	-0.2
			Sg	39 52.24	
ROB	0.77	112	P	39 44.04	0.0
			S	39 54.60	
AURF	0.77	155	Pg	39 43.96	-0.1
			Sg	39 55.60	
SAOF	0.77	141	Pg	39 43.96	-0.1
			Sg	39 54.43	
SBF	0.83	151	Pg	39 45.80	0.8
			Sg	39 56.80	
LSD	0.89	13	P	39 46.29	0.0
			S	39 58.61	
LPG	0.92	355	Pg	39 46.80	0.1
			Sg	39 59.40	
LPL	0.94	354	Pg	39 47.10	0.1
IMI	0.99	132	P	39 48.04	0.2
			S	40 01.22	
FIN	1.03	111	P	39 48.55	0.2
			S	40 02.15	
FRF	1.04	189	Pg	39 48.30	-0.2
			Sg	40 01.80	
LRG	1.19	198	Pg	39 51.60	0.5
			Sg	40 07.00	
PCP	1.19	92	P	39 51.63	0.4
			S	40 06.76	
LMR	1.28	192	Pg	39 52.80	0.2
			Sg	40 10.10	

S.D. = 0.3 on 21 of 21 obs.

• OCT 01, 1989 00h 49m 52.28± 1.97s
33.798 S ± 9.9km 70.335 W ± 9.6km
DEPTH = 118.9 ± 20.9 km
CHILE-ARGENTINA BORDER REGION (127)

PCH	0.23	320	iPd	50 09.10	-0.2
			iS	50 20.50	
CHCH	0.30	243	iPd	50 09.60	0.1
			iS	50 22.20	
SAN	0.44	321	iPc	50 09.90	-0.1
			iS	50 22.10	
FCH	0.47	5	iPd	50 10.60	0.0
			iS	50 23.10	
TACH	0.52	286	iPc	50 10.50	0.0
			iS	50 23.80	
PEL	0.72	336	iPc	50 12.00	0.0
			iS	50 26.30	
LNV	0.91	260	iPc	50 14.00	0.4
			iS	50 28.60	
ROCH	1.00	325	iPc	50 15.00	0.2
			iS	50 31.30	
LCCH	1.08	287	iPc	50 14.70	-0.6
			iS	50 32.00	
JACH	1.13	349	iPc	50 16.10	0.1
			iS	50 33.90	
RFA	1.83	123	iPc	50 24.00	-0.1

S.D. = 0.3 on 11 of 11 obs.

• OCT 01, 1989 01h 47m 23.13± 1.72s
6.738 S ±22.5km 147.756 E ±13.8km
DEPTH = 33.0km (normal)
4.6mb (1 obs.)
EAST PAPUA NEW GUINEA REGION (207)

LAT	0.76	276	iPd	47 38.00	0.7
KDB	2.78	192	eP	48 13.00	6.7X
MNDI	4.11	278	eP	48 25.00	-0.5
WB5	18.43	224	eP	51 37.10	-0.8
BRS	21.09	168	iPc	52 08.00	0.8
ASPA	21.46	217	eP	52 11.30	0.3
	0.4s		11.00nm		4.6mb
			eS	56 18.30	
DZM	23.62	132	iPd	52 31.80	-0.5

S.D. = 0.9 on 6 of 7 obs.

? OCT 01, 1989 02h 27m 48.48± 0.95s
20.555 S ± 9.2km 69.284 W ±16.2km
DEPTH = 33.0km (normal)
NORTHERN CHILE (123)

ANT	3.31	198	e(P)	28 39.00	-0.1
CNCB	3.93	19	iPc	28 48.50	0.0
LPB	4.16	16	P	28 52.00	0.4
	1.0s		540.00nm		
			i	28 53.40	
CCH	4.34	44	P	28 54.70	0.6
ZOBO	4.40	15	iPc	28 53.90	-1.4
	1.0s		145.00nm		
ARE	4.58	332	eP	28 58.00	0.5
			iS	29 37.00	

S.D. = 1.0 on 6 of 6 obs.

OCT 01, 1989 02h 59m 06.35± 0.42s
30.960 N ± 3.6km 51.421 E ± 2.4km
DEPTH = 41.7 ± 4.1 km
5.2mb (57 obs.) 4.7Msz (6 obs.)
IRAN (348)

At leost 300 homes domoged ond four londslides blocked roods in the Deh Borzorg-e Sisokht oreo. Felt in the Yosuj oreo.

SHI	1.62	144	iP	59 34.00	0.9
			eS	59 57.00	
BRF	4.92	189	iPn	00 18.80	-1.0
			eSn	01 10.00	
KER	4.97	314	eP	00 10.00	-10.5X
BJA	5.00	188	iPn	00 18.90	-2.0
			eSn	01 09.00	
BHD	6.40	293	ePnd	00 37.00	-3.5X
			eP•	00 51.50	
			iPg	01 11.00	
			iSn	01 45.00	
			iS•	01 52.00	
			iSg	02 31.00	
			i	02 55.00	
SLY	6.78	315	ePnc	00 46.50	0.6
			iP•	01 03.00	
			iPg	01 21.50	
			iSn	02 01.00	
			iS•	02 21.50	
			iSg	02 37.50	
RYD	7.53	216	eP	00 53.00	-3.5X
			iS	02 18.00	
TAB	8.24	331	eP	01 17.00	10.6X
OASM	8.46	237	eP	01 04.50	-4.9X
MAIO	8.58	49	iPd	01 12.00	0.9
	0.7s		31.77nm		5.5mb
			eS	03 02.00	
MSL	8.76	310	ePc	01 11.50	-1.9
			e	01 47.50	
			e	02 05.50	
			eS	02 48.00	
			eLQ	04 03.00	
			eLR	04 48.50	
KMSA	12.25	212	eP	01 56.00	-5.1X
AYN	13.54	265	eP	02 15.00	-3.0X
BHL	13.64	287	Pc	02 16.00	-3.4X
			S	06 38.00	
HOL	14.27	267	eP	02 26.00	-1.6
BADA	14.47	264	eP	02 28.50	-1.7
CSS	15.70	290	eP	02 45.70	-0.5
PPCY	16.49	289	eP	02 57.50	1.4
KOT	16.93	272	eP	03 02.00	0.3
HLW	17.36	272	eP	03 07.00	-0.1
			eS	06 15.00	
KAS	17.61	311	eP	03 10.50	0.3
ASW	17.80	252	iPc	03 12.00	-0.6
			eS	06 40.00	
AMAN	17.83	251	eP	03 14.00	1.1
AKSR	17.89	250	eP	03 15.50	1.8
AGAL	18.15	250	eP	03 18.50	1.6
AGMR	18.33	251	eP	03 22.00	2.9X
BCK	18.39	296	eP	03 20.50	0.6
ELL	18.76	294	eP	03 25.80	1.3
KSL	18.90	292	eP	03 25.40	-0.7
KHL	19.43	298	eP	03 31.50	-0.7
YER	20.11	294	eP	03 38.00	-1.4
HRT	20.14	305	eP	03 39.00	-0.6
ISK	20.66	305	eP	03 46.00	1.1
ITU	20.70	305	eP	03 48.00	2.6
KCT	20.87	303	iP	03 28.40	-18.8X
ARO	20.90	204	ePd	03 47.00	-0.8
CTT	21.13	305	eP	03 49.00	-0.8
IZM	21.17	297	iP	03 50.00	-0.3
BNT	21.22	303	iP	03 51.50	0.8
SMG	21.35	295	eP	03 50.60	-1.4
KSH	21.73	60	P	03 57.50	1.5
NPS	22.02	288	eP	03 59.50	0.8
PRK	22.12	299	eP	04 00.90	1.2
APE	22.27	293	eP	04 02.00	0.7
NDI	22.48	89	iPc	04 05.60	2.2
	0.7s		65.07nm		5.2mb
			eS	08 10.00	
TLB	22.85	313	eP	04 07.50	0.7
CFR	23.07	315	eP	04 09.00	0.1
VAM	23.18	288	eP	04 12.50	2.4
POO	23.78	116	iPc	04 15.50	-0.6
PPE	23.92	316	eP	04 17.50	0.3
BUC1	24.02	311	iPc	04 19.00	0.8
ISR	24.04	313	eP	04 16.00	-2.5
VRI	24.28	315	iPc	04 22.00	1.3
CLI	24.29	317	iPc	04 19.00	-1.8
VLI	24.30	291	eP	04 21.00	0.0
NEO	24.44	298	eP	04 24.40	2.0
IAS	24.47	318	eP	04 24.00	1.5
PLG	24.51	300	eP	04 25.40	2.4
MLR	24.58	313	iPc	04 25.50	1.7
SRS	24.59	302	eP	04 25.70	1.9
AAE	24.81	211	eP	04 28.00	1.6
PTT	25.02	317	eP	04 28.00	0.2
CMP	25.06	312	ePc	04 29.00	0.8
KNT	25.11	302	eP	04 30.10	1.4
ITM	25.15	292	eP	04 29.60	0.5
LIT	25.16	299	eP	04 30.00	0.8
GRG	25.42	301	eP	04 33.20	1.5
KZN	25.74	299	eP	04 35.00	0.3
VLS	26.31	294	eP	04 40.00	0.1
SKO	26.37	303	iP	04 41.00	0.6
			i	04 43.80	
KBN	26.52	300	iPd	04 42.80	1.0
LSK	26.59	299	iPd	04 44.00	1.4
OHR	26.63	301	iP	04 43.00	0.1
	1.3s		300.00nm		5.7mb
			i	05 04.40	
			i	05 17.40	
DEV	26.67	312	eP	04 31.00	-12.2X
SRN	27.00	298	eP	04 45.10	-1.0
PHP	27.03	302	iPc	04 56.90	10.5X
SSR	27.04	309	ePc	04 48.00	1.4
BERA	27.18	300	iPc	04 48.20	0.4
TIR	27.37	301	eP	04 49.70	0.1
BZS	27.40	311	eP	04 49.00	-0.8
SDA	27.79	302	eP	04 46.00	-7.3X
HYB	28.09	112	eP	04 58.00	1.7
	1.0s		45.00nm		5.1mb
GKN	29.01	87	Pc	05 03.54	-1.1
	0.4s		36.00nm		5.4mb
DMN	29.51	88	Pc	05 08.12	-1.2
	0.9s		74.00nm		5.4mb
GBA	29.51	120	P	05 08.50	-0.5
KKN	29.61	87	Pc	05 09.10	-1.1
	0.9s		119.00nm		5.6mb
TDS	29.77	297	P	05 14.50	3.3X
PKI	29.78	88	Pc	05 10.46	-1.3
	1.0s		102.00nm		5.5mb
GUN	30.09	87	Pc	05 13.72	-0.9
	0.9s		207.00nm		5.9mb
KRA	30.28	318	eP	05 14.90	-0.7
	1.1s		43.00nm		5.1mb
			i	05 27.90	
SRO	30.33	313	iP	05 17.00	1.0
MGR	30.41	297	Pd	05 17.50	0.6
SGO	30.65	298	P	05 19.90	1.0
ZAG	31.20	308	iPc	05 24.20	0.5
ZST	31.22	313	iP	05 23.50	-0.4
PTJ	31.24	309	eP	05 24.10	-0.1
SOP	31.39	312	eP	05 29.20	3.8X
DUI	31.43	300	P	05 27.20	1.3
VBY	31.61	308	ePc	05 27.60	0.3
VKA	31.74	313	eP	05 28.00	-0.5

01d 03h

			i	05	32.00			RUP		37.99	312	ePc	06	21.19	-0.8		DLE	46.93	316	eP	07	34.20	-0.3
			e	05	39.50			HAU		38.12	310	iPc	06	21.90	-1.1		EPLA	46.97	298	eP	07	36.00	0.9
MCT	31.76	292	P	05	32.40	3.4X				0.9s		29.40nm			5.2mb		EJIF	47.07	293	e(P)	07	36.20	0.3
AZI	32.23	301	Pd	05	33.60	0.9		VITF		38.40	310	P	06	23.98	-1.3		DMU	47.19	317	eP	07	36.20	-0.4
CEY	32.23	308	eP	05	32.50	-0.3		HFS		38.44	330	eP	06	24.80	-0.7		LOE	47.47	94	eP	07	38.50	-0.7
LJU	32.23	308	iPc	05	33.40	0.6				0.4s		18.80nm			5.3mb		BTO	47.73	61	eP	07	40.50	-0.7
VOY	32.66	308	iPc	05	36.70	0.0			Z	20s		0.16um			3.8Msz			N	14s		0.50um		
TRI	32.67	308	eP	05	36.70	0.1						LR	21	32.00				E	14s		0.30um		
KSP	32.72	318	eP	05	36.30	-0.7		WTS		38.70	316	eP	06	29.00	1.3					eS	14	35.00	
			e	06	45.80					1.2s		48.00nm			5.2mb		EVAL	47.87	294	eP	07	42.30	0.2
			e	08	22.00			ENN		38.94	314	ePc	06	30.00	0.2		NNT	48.04	101	eP	07	48.00	4.3X
RDP	32.73	300	P	05	37.60	0.3				1.2s		102.00nm			5.5mb		XAN	48.05	70	Pc	07	43.10	-0.6
ARV	32.81	303	P	05	38.50	0.6		SOD		39.30	345	iP	06	33.20	0.6		GYA	48.25	81	P	07	44.60	-0.8
MNS	32.84	301	P	05	38.30	0.2		LBF		39.57	308	iPc	06	34.50	-0.6		PTO	48.72	299	eP	07	50.00	1.3
ASS	32.94	302	P	05	39.50	0.4				0.6s		15.30nm			5.0mb		HHC	48.86	61	P	07	50.20	0.3
KBA	33.29	310	iPc	05	42.20	0.0		SMF		39.62	307	iPc	06	35.10	-0.5		VAL	49.12	314	eP	07	52.00	0.4
	0.9s	106.00nm				5.7mb		NRA0		39.67	330	P	06	36.40	0.7		TIY	50.06	65	Pd	07	59.60	0.5
			id	05	42.50			LOR		39.68	308	iPc	06	35.30	-0.7			Z	20s		0.75um		4.7Msz
			i	05	51.30					0.9s		35.00nm			5.2mb		BJI	52.46	61	eP	08	17.50	0.4
PRU	33.43	315	P	05	43.00	-0.2		PLDF		39.71	306	P	06	35.75	-0.6		WHN	53.41	73	eP	08	23.30	-0.9
			e	06	16.50			SSF		39.90	308	iPc	06	37.60	-0.2		TIA	54.06	66	eP	08	28.50	-0.4
FVI	33.55	309	Pd	05	44.10	-0.1				0.8s		34.90nm			5.2mb		BUL	55.33	206	iPd	08	48.00	9.5X
SFI	33.66	304	Pd	05	46.50	1.3		SNF		39.91	313	iPc	06	38.24	0.4			1.0s		12.50nm			4.9mb
KHC	33.74	313	iPc	05	45.10	-0.8		NB2		39.96	331	P	06	37.00	-1.2		CFTV	56.22	285	iP	08	45.50	0.7
	1.2s	60.00nm				5.4mb				0.5s		4.30nm			4.5mb					i	10	51.60	
			e	06	02.50			AVF		39.97	307	iPc	06	37.80	-0.6		DL2	56.83	61	eP	08	49.50	0.6
PGD	33.74	304	Pd	05	47.70	1.5				1.0s		32.00nm			5.1mb					eS	16	38.00	
BHG	33.77	311	iPc	05	45.90	-0.3		GTA		40.04	64	iPc	06	40.20	0.9		GGC	57.60	286	iP	08	55.80	1.2
FIR	34.06	303	eP	05	51.00	2.3			E	10s		0.32um					KIC	57.87	257	Pc	08	56.14	-0.5
			i(S)	11	16.00			AGO		40.06	306	P	06	38.60	-0.6			1.0s		61.50nm			5.7mb
WET	34.18	313	iPc	05	48.70	-1.0		PYM		40.12	306	P	06	39.53	-0.2		TIC	57.96	258	Pc	08	56.54	-0.7
	1.2s	63.00nm				5.4mb		GRC		40.21	308	P	06	40.30	-0.1			1.1s		36.00nm			5.4mb
CTI	34.19	308	P	05	49.40	-0.5		BGF		40.30	307	iPc	06	40.50	-0.6		CTFE	58.00	286	iP	09	02.00	4.7X
MME	34.52	304	P	05	53.80	0.9				0.9s		21.20nm			4.9mb		LIC	58.19	257	Pc	08	58.28	-0.5
BDI	34.57	304	Pd	05	53.00	-0.2		MAF		40.46	306	iPc	06	42.30	-0.2			0.8s		57.50nm			5.7mb
PII	34.58	303	P	05	52.50	-0.6		BCAO		40.66	236	iPc	06	43.20	-1.2			Z	21s		0.16um		4.1Msz
OGA	34.79	309	iPc	05	55.00	-0.1				0.8s		21.00nm			4.9mb		CN2	58.38	55	eP	08	59.60	-0.1
	0.8s	82.00nm				5.7mb						id	07	31.00			TBT	59.29	287	iP	09	08.30	2.1
CLL	34.82	317	iPd	05	54.70	-0.4		TCF		40.71	306	eP	06	44.30	-0.2		BFT	59.92	202	iPc	09	11.50	0.6
	1.3s	19.00nm				4.9mb				0.8s		15.30nm			4.8mb			0.7s		10.27nm			5.1mb
SAL	34.87	307	P	05	55.90	0.3		CAF		40.73	304	iPc	06	44.50	-0.2		SLR	60.57	204	iPc	09	16.00	0.9
FUR	34.93	311	iPc	05	55.40	-0.7		RJF		41.14	305	eP	06	48.10	0.1			1.0s		30.00nm			5.4mb
	0.8s	127.00nm				5.9mb				0.6s		7.90nm			4.6mb		KSR	61.18	205	eP	09	14.70	-4.7X
GRF	35.38	314	iPc	05	59.90	0.0		LSF		41.18	306	iPc	06	47.80	-0.6		BFS	62.16	205	eP	09	24.50	-1.4
	1.3s	99.00nm				5.6mb				0.6s		5.70nm			4.5mb			1.0s		40.00nm			5.5mb
MOX	35.42	315	e(P)	06	00.00	-0.3		LPO		41.35	304	eP	06	49.60	-0.1		SEK	63.17	203	eP	09	29.30	-3.3X
MDI	35.47	307	Pd	06	00.50	-0.1				0.6s		7.20nm			4.6mb			1.0s		22.00nm			5.2mb
BOB	35.49	305	Pd	06	01.60	0.6		LFF		41.67	304	iPc	06	52.30	-0.1		BLF	64.39	204	iPc	09	43.00	2.4
SUF	35.68	340	eP	06	02.00	-0.3				0.6s		16.90nm			4.9mb		FRS	65.28	205	iPc	09	49.00	2.9X
	0.6s	5.60nm				4.7mb		EBR		41.90	298	iPc	06	56.00	1.7			1.0s		23.00nm			5.2mb
VDL	35.76	308	ePd	06	03.60	0.2		EPF		41.95	301	eP	06	53.60	-1.1		MBC	72.90	358	eP	10	33.00	0.6
SAX	35.99	309	ePc	06	04.70	-0.7		EROQ		41.97	298	eP	06	56.60	1.7			1.0s		7.00nm			4.6mb
PCP	36.10	304	P	06	04.86	-1.3		MFF		42.36	307	eP	06	57.40	-0.6		BRW	76.10	9	P	10	58.60	7.7X
TMA	36.10	307	eP+	06	05.50	-0.8				0.9s		37.30nm			5.1mb		IMA	81.37	10	P	11	21.00	1.2
VAI	36.13	307	Pd	06	05.60	-0.6		LDF		42.48	310	iPc	06	58.30	-0.7			1.2s		18.94nm			5.0mb
FIN	36.30	304	P	06	06.60	-1.2				0.6s		34.90nm			5.3mb		FBA	83.28	8	eP	11	31.00	1.4
IMI	36.49	303	P	06	08.65	-0.8		FLN		42.73	310	iPc	07	00.40	-0.6		TTA	83.90	12	P	11	34.60	1.8
ROB	36.55	304	P	06	09.27	-0.6				0.7s		48.50nm			5.3mb		PMR	86.28	10	eP	11	45.70	1.1
ORO	36.64	306	P	06	09.50	-1.2		GRR		42.95	309	iPc	07	02.20	-0.6			1.2s		39.10nm			5.5mb
SLE	36.66	310	ePc	06	09.90	-0.9				0.7s		44.00nm			5.3mb		WB5	94.23	111	eP	12	23.50	1.0
ZLA	36.67	309	ePd	06	10.50	-0.4		LPF		43.05	309	iPc	07	02.90	-0.7		EDM	95.13	351	eP	12	27.00	0.7
MMK	36.71	307	ePd	06	10.30	-1.2				0.9s		47.10nm			5.2mb		GLD	106.38	341	PKP	17	30.00	1.7
SBF	36.82	303	iPc	06	12.00	-0.2		ECHE		43.11	296	e(P)	07	06.00	1.7			Z	19s		1.91um		5.7Msz
	0.9s	50.40nm				5.4mb		LZH		43.57	69	eP	07	09.00	0.8		GOL	106.47	342	PKP	17	30.00	1.4
ENR	36.86	304	P	06	11.73	-0.9				3.5s		0.17nm			2.2mb X			Z	19s		1.89um		5.7Msz
TOD	36.87	313	ePc	06	11.53	-0.9			Z	20s		0.50um			4.4Msz		SPA	120.79	180	ePKPd	17	55.10	0.3
STV	36.93	304	P	06	11.93	-1.2		ETOR		43.83	298	eP	07	11.00	0.8			1.0s		19.50nm			
FEL	37.00	310	P	06	12.46	-1.3		EVIA		44.40	295	eP	07	16.20	1.4		ZOBO	123.32	270	PKP	18	04.00	2.3X
DOI	37.02	304	P	06	11.90	-2.0		CHG		44.47	94	ePc	07	15.00	-0.5		LPB	123.42	270	PKP	18	04.00	2.3X
IIX	37.10	307	ePc	06	14.40	-0.4				1.1s		20.57nm			4.9mb		CNCB	123.44	270	PKP	18	03.00	1.1
ZZ	37.12	304	P	06	13.06	-1.7		CHTO		44.47	94	iPc	07	15.20	-0.3			S.D. = 1.0		on 246 of 272 obs.			
SD	37.19	306	P	06	15.22	-0.3				1.2s		36.81nm			5.1mb		----------						
NS	37.24	314	ePc	06	15.50	-0.2		CD2		44.54	76	eP	07	16.00	0.0		OCT 01, 1989 03h 16m 54.90± 0.78s						
BBS	37.26	309	P	06	14.74	-1.0		EKA		45.20	319	Pc	07	19.70	-1.2		6.562 S ± 4.3km 130.098 E ± 5.9km						
RRL	37.39	305	P	06	16.14	-1.0				0.7s		5.50nm			4.5mb		DEPTH = 155.1 ± 9.1 km						
EMS	37.43	307	ePd	06	17.30	-0.1		BDT		45.21	96	eP	07	19.90	-1.4		5.3mb (16 obs.)						
GWF	37.48	311	P	06	16.02	-1.6		KMI		45.35	84	Pc	07	22.50	-0.2		BANDA SEA						(280)
LPG	37.48	306	iPc	06	17.60	-0.4		AFC		45.41	293	eP	07	23.00	0.0								
	0.7s	41.30nm				5.4mb		GUD		45.44	298	eP	07	23.90	0.8		TLE	2.79	71	iPc	17	38.50	-1.8
BNI	37.48	305	Pd	06	17.30	-0.5		EBAN		45.46	295	eP	07	24.00	0.8					eS	18	14.00	
WLS	37.54	310	P	06	16.61	-1.5		MAL		46.18	293	iPd	07	29.20	0.4		MTN	6.33	171	iPd	18	26.00	-1.0
MOF	37.58	310	P	06	17.21	-1.3		EHOR		46.65	295	eP	07	32.70	0.1		KUPT	7.35	241	ePc	18	47.00	6.3X
CDF	37.59	310	P	06	16.97	-1.6		ETA		46.68	315	eP	07	31.80	-0.7					eS	20	05.00	
ECH	37.63	310	P	06	17.62	-1.2		ECP		46.74	314	eP	07	32.50	-0.5		KNA	9.22	188	eP	19	03.80	-1.9
LOMF	37.69	309	P	06	18.90	-0.6				0.6s		55.00nm			5.7mb					eS	20	41.00	
ABH	37.72	313	ePc	06	19.00	-0.7		EPRU		46.79	293	eP	07	33.10	-0.6		MNI	9.53	326	e(P)	19	12.00	2.3
BSF	37.80	309	P	06	19.06	-1.4		NST		46.89	97	eP	07	54.70	20.1X		MNDI	13.48	89	eP	20	03.00	1.6

WB5	13.87	163	iPd	20 01.80	-4.4X
DAV	14.29	342	eP	20 14.00	2.6
QIS	16.69	147	iP	20 39.10	-2.1
	0.5s	101.00nm		5.4mb	
			eS	23 33.00	
KDB	17.14	101	eP	20 48.00	1.4
TRT	17.37	265	iPc	20 50.00	0.6
	1.0s	242.40nm		5.5mb	
ASPA	17.40	168	iPc	20 48.20	-1.6
	1.1s	516.00nm		5.8mb	
			eS	23 49.00	
MBL	17.59	213	iPc	20 52.00	0.0
	0.4s	13.00nm		4.6mb	
			eS	23 57.00	
KKM	18.68	312	ePc	21 03.50	-0.4
WARB	19.79	189	iPd	21 16.00	0.7
			eS	24 50.00	
CTA	20.66	132	iPd	21 24.80	0.7
	1.1s	208.23nm		5.5mb	
			iS	25 09.00	
NANU	21.22	220	eP	21 31.00	1.3
			eS	25 27.00	
MEKA	22.78	208	iPc	21 46.60	1.7
			eS	26 01.00	
OCP	22.88	337	eP	21 46.00	0.1
OLP	24.04	148	iPd	21 57.40	0.4
			eS	26 24.00	
FORR	24.23	184	eP	21 58.70	-0.1
	0.4s	48.00nm		5.4mb	
BAG	24.69	338	eP	22 02.10	-1.3
MRWA	26.17	209	eP	22 20.00	3.3X
			eS	27 18.00	
RMO	26.62	140	iPd	22 20.80	0.0
BAL	27.02	206	eP	22 25.00	0.6
			eS	27 38.00	
KLB	27.45	203	eP	22 28.90	0.7
KGM	28.06	287	eP	22 36.00	2.1
MUN	28.42	205	eP	22 37.30	0.3
ADE	29.36	165	iPc	22 44.50	-0.9
	0.9s	84.03nm		5.5mb	
BWA	32.48	151	iPd	23 14.70	2.0
CAN	33.49	151	iPd	23 22.20	0.8
CNB	33.66	151	iPd	23 24.00	1.1
	0.9s	33.00nm		5.1mb	
TOO	33.90	158	iPd	23 26.50	1.6
	0.9s	31.00nm		5.0mb	
LOE	36.78	311	eP	23 49.00	-0.4
DZM	38.31	118	iPc	24 02.40	0.1
BDT	38.78	308	eP	24 04.80	-1.3
CHG	39.74	310	iPc	24 14.10	0.1
	1.0s	31.50nm		5.0mb	
CHTO	39.74	310	iPc	24 14.30	0.3
	1.2s	40.63nm		5.0mb	
			i	24 21.00	
WHN	39.86	339	Pc	24 16.00	1.2
GYA	39.92	326	P	24 16.00	0.4
KMI	41.24	321	Pc	24 22.50	-4.0X
CD2	44.99	327	eP	24 55.50	-1.0
XAN	45.08	335	Pc	24 56.50	-0.7
TIY	47.03	341	eP	25 12.10	-0.5
BJI	48.12	346	eP	25 20.50	-0.3
			e	25 59.50	
LZH	49.07	332	eP	25 28.50	0.1
	2.0s	0.05nm		1.8mb	X
			pP	26 02.50	149kmX
			sP	26 09.00	
CN2	50.30	356	eP	25 37.00	-0.5
			eS	32 41.00	
LSA	51.95	316	eP	25 50.00	-0.8
MNG	52.78	137	eP	25 54.90	-1.3
GTA	53.64	331	iPc	26 02.60	0.0
GUN	54.74	311	Pc	26 10.68	-0.4
PKI	54.92	310	Pc	26 11.46	-0.9
	0.6s	47.00nm		5.5mb	
KKN	55.13	310	Pc	26 13.06	-0.7
DMN	55.17	310	Pc	26 13.60	-0.5
GKN	55.73	310	Pc	26 17.44	-0.5
	0.4s	110.00nm		6.1mb	
GBA	55.99	291	P	26 18.60	-1.2
HYB	56.21	296	iPc	26 20.20	-1.2
	1.0s	60.00nm		5.5mb	
POO	60.80	295	iPd	26 52.40	-0.8
POO	60.80	295	iPd	26 54.40	1.2
NDI	61.80	307	iPc	26 58.00	-1.7
	0.5s	28.17nm		5.4mb	
WMO	63.08	327	P	27 08.00	0.0
	1.0s	0.03nm		2.2mb	X
			pP	27 43.00	146kmX
			eS	35 24.00	
MAIO	78.48	309	iPc	28 41.40	0.8
SPA	83.48	180	ePd	29 05.00	-1.2
	0.8s	8.33nm		4.6mb	
ARE	148.70	137	ePKP	36 26.00	3.5X
CNCB	150.69	143	PKP	36 33.90	8.0X
LPB	150.83	142	PKP	36 35.00	9.1X
ZOBO	151.02	142	PKP	36 34.00	7.6X
	1.0s	25.00nm			
	Z 24s	0.10um		4.5MszX	
			LR	05 52.00	
CCH	151.30	146	PKP	36 33.70	7.3X
PPD	151.55	177	ePKP	36 33.50	7.2X

S.D. = 1.2 on 59 of 69 obs.

OCT 01, 1989 04h 20m 52.37± 0.60s
42.608 N ± 4.7km 18.789 E ± 5.4km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.2 (TTG).

NKY	0.26	37	iPgc	20 58.00	0.1
			eSg	21 02.50	
HCY	0.27	233	ePg	20 58.50	0.5
			eSg	21 03.00	
BDV	0.33	175	ePg	20 59.20	0.1
			iSg	21 06.00	
BRY	0.34	328	iPgc	20 59.10	-0.4
			iSg	21 04.50	
TTG	0.39	117	ePg	21 00.70	0.3
			eSg	21 07.70	
PLE	0.85	31	ePg	21 09.00	0.2
			eSg	21 22.00	
PVY	0.87	90	ePg	21 09.60	0.3
			eSg	21 21.60	
OHR	2.12	134	ePn	21 27.20	-1.2

S.D. = 0.6 on 8 of 8 obs.

• OCT 01, 1989 05h 02m 59.93± 3.73s
10.886 N ±16.0km 62.235 W ±35.9km
DEPTH = 32.8 ± 7.4 km
NEAR COAST OF VENEZUELA (97)
MD 3.6 (TRN).

TCE	0.51	112	iP	03 12.02	1.3
			eS	03 23.89	
TRN	0.85	106	iP	03 15.65	0.2
			iS	03 30.60	
TPP	0.96	126	eP	03 16.46	-0.6
			eS	03 34.00	
TBH	1.22	109	eP	03 20.86	0.2
			eS	03 40.75	
GRW	1.39	24	eP	03 23.09	-0.1
			eS	03 39.88	
TPR	1.46	78	eP	03 32.11	7.8X
BOT	1.52	79	eP	03 24.40	-0.6
			eS	03 46.99	
CUM	1.95	258	iPd	02 22.20	-69.1X
			iS	02 44.20	
SVB	2.56	22	eP	03 40.92	0.9
			eS	04 15.93	
SVV	2.61	22	eP	03 41.36	0.6
			eS	04 16.37	
SOA	2.69	23	eP	03 41.53	-0.3

S.D. = 0.8 on 9 of 11 obs.

& OCT 01, 1989 08h 25m 27.52s
59.480 N 152.561 W
DEPTH = 81.3km
SOUTHERN ALASKA (2)
<AGS-P>.

OPT	0.38	297	eP	25 39.94	-0.8
			eS	25 49.78	
XLV	0.43	93	eP	25 40.30	-0.7
			eS	25 50.15	
AUE	0.43	254	eP	25 40.71	-0.3
			eS	25 49.94	
AUL	0.46	258	eP	25 40.81	-0.4
AUW	0.48	257	eP	25 40.87	-0.5
			eS	25 51.63	
ILIM	0.64	342	eP	25 41.99	-0.9
			eS	25 53.90	
CNPM	0.68	86	eP	25 42.55	-0.7
			iS	25 54.46	
CDD	0.78	226	eP	25 43.27	-1.2
			eS	25 55.33	
NNL	0.85	48	iP	25 45.63	0.5
			eS	25 58.31	
SHU	0.86	173	eP	25 44.22	-1.0
			eS	25 56.24	
BRLK	0.90	71	eP	25 45.44	-0.3
			eS	25 59.18	
RED	0.95	354	eP	25 45.78	-0.6
			eS	25 59.93	
RDT	1.10	4	iP	25 47.59	-0.6
			eS	26 03.14	
NKA	1.43	27	eP	25 53.72	1.4
SLKM	1.56	48	iP	25 49.99	-4.2
			eS	26 14.47	
SEW	1.69	67	eP	25 55.40	-0.4
CKL	1.73	4	iP	25 56.19	-0.2
			eS	26 18.43	
SPU	1.73	8	eP	25 56.03	-0.3
			eS	26 18.35	
KDC	1.74	179	eP	25 54.62	-1.8
BGL	1.79	3	eP	25 57.34	0.1
CRP	1.80	6	eP	25 57.76	0.2
CGLM	1.85	8	eP	25 58.25	0.1
NCG	1.94	6	eP	25 59.94	0.6
SUA	2.18	24	eP	26 02.77	0.1
PMS	2.31	39	eP	26 03.92	-0.4
PWA	2.55	30	iP	26 07.49	0.0
SKT	2.56	11	eP	26 09.75	2.1
PME	2.77	37	eP	26 09.57	-1.0
GLI	3.07	60	eP	26 12.39	-2.3
CUT	3.14	20	eP	26 15.19	-0.5
FID	3.30	65	eP	26 15.05	-2.9
VZW	3.39	60	eP	26 17.21	-1.9
VLZ	3.51	59	eP	26 19.12	-1.7

33 obs. associated

OCT 01, 1989 08h 41m 43.77± 1.37s
44.062 N ± 9.0km 8.205 E ± 8.3km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.4 (GEN).

FIN	0.15	1	P	41 47.64	0.4
			S	41 50.03	
IMI	0.27	236	P	41 49.69	0.1
			S	41 53.84	
ROB	0.33	314	P	41 51.05	0.3
			S	41 55.69	
PCP	0.54	27	P	41 54.37	-0.3
			S	42 01.47	
ENR	0.59	286	P	41 55.42	-0.3
			S	42 04.19	
STV	0.66	286	P	41 57.04	0.1
			S	42 06.14	
DOI	0.82	303	P	41 59.50	-0.2
			eSg	42 10.50	
PZZ	0.91	300	P	42 01.05	-0.2
			S	42 14.03	

S.D. = 0.3 on 8 of 8 obs.

OCT 01, 1989 08h 42m 58.07± 0.73s
8.402 N ± 7.7km 82.763 W ± 7.4km
DEPTH = 35.3 ± 7.3 km
5.1mb (10 obs.) 4.0Msz (2 obs.)
PANAMA-COSTA RICA BORDER REGION (80)
MD 5.1 (UPA), 5.1 (SJR). Felt (IV) at Puerto Armuelles and (III) at Concepcion, Dovid and Boquete, Panama. Also felt (III) at Paso Canoas, Costa Rica.

ACR	0.47	301	iPc	43 05.80	-2.5
LIO	1.62	350	iPc	43 26.00	1.3
			S	43 47.40	
QCR	1.73	307	iP	43 26.20	0.0
			S	43 49.30	
LCR2	1.81	317	iPc	43 27.30	-0.3
SJS	1.99	320	iPc	43 30.80	0.6
			S	43 57.50	
UPA	3.24	80	iPd	43 48.10	0.2
			iS	44 33.00	
PSO	8.98	143	eP	45 10.00	1.2
FUO	9.42	107	eP	45 13.00	-1.9
BOG	9.42	113	eP	45 17.50	2.6
			eS	47 10.00	
BMG	9.69	97	eP	45 32.00	13.6X
NNA	21.09	164	iPd	47 41.50	-0.6

01d 08h

```
        1.0s     18.00nm          4.4mb
TRN    21.18  82 eP     47 42.73   -0 2
HUA    21.61 160 e(P)   47 47.90    0.2
ZOBO   28.47 149 P      48 51.50   -1.4
     Z  18s      0.45um          4.1Msz
                  LR     58 44.00
LPB    28.71 150 eP     48 56.00    1.2
     Z  16s      1.01um          4.5MszX
                  LR     59 30.00
CNCB   29.00 150 P      48 57.00   -0.7
TUL    29.86 338 eP     49 02.90   -1.6
       0.8s     8.00nm          4.5mb
     Z  20s      0.29um          3.9Msz
                  LR     59 00.00
LNO    29.86 338 eP     49 02.70   -1.7
CCH    30.43 147 P      49 09.90   -0.2
ALQ    34.20 324 eP     49 42.00   -0.7
       1.0s     5.00nm          4.4mb
GLD    37.12 331 P      50 07.00   -0.4
       1.2s    40.40nm          5.2mb
GOL    37.15 331 P      50 07.00   -0.8
       1.1s    41.67nm          5.2mb
GLA    38.46 314 eP     50 20.00    1.4
BAR    39.60 312 eP     50 41.00   12.9X
TPC    39.89 315 eP     50 32.00    1.5
PLM    40.08 313 eP     50 34.00    1.8
GSC    41.05 316 eP     50 42.00    1.9
MWC    41.38 314 eP     50 26.00  -16.8X
SBB    41.44 314 eP     50 44.00    0.7
BAO    41.91 125 eP     50 46.20   -1.2
ISA    42.40 315 eP     50 52.00    0.9
FRI    43.94 316 eP     51 03.20   -0.3
KVN    43.98 320 P      51 04.50    0.4
CMB    44.94 317 eP     51 12.10    0.5
LRM    45.18 331 eP     51 13.60   -0.1
ORV    46.47 318 eP     51 24.70    1.0
FFC    48.68 345 eP     51 40.00   -0.7
       0.7s    10.00nm          5.0mb
PNT    51.11 330 eP     51 59.00   -0.4
MBC    70.67 351 ePc    54 10.70   -1.1
       1.0s    28.00nm          5.3mb
FBA    71.97 336 e(P)   54 19.00   -0.8
TIC    76.98  85 Pc     54 49.38   -0.2
       1.3s    34.50nm          5.2mb
LIC    77.02  86 Pc     54 49.94    0.1
       1.0s    25.50nm          5.2mb
KIC    77.29  85 Pc     54 51.42    0.1
       1.2s    33.50nm          5.3mb
WB5   142.32 248 ePKP   02 23.50   -6.2X
SHL   145.84   9 iPKP   02 33.50   -2.2X
GBA   150.60  42 PKPc   02 40.70   -2.5X
       0.8s     3.10nm
GBA   150.60  42 PKP    02 48.10    4.9X
     S.D. = 1.2  on  40 of  47 obs.
-------------------------------------
   OCT  01, 1989  09h 34m 04.29± 1.20s
   43.987 N ±10.0km    7.575 E ± 5.6km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE        (379)
     ML 2.5 (GEN).

IMI      0.24 109 P      34 09.52    0.1
                 S      34 13.47
ENR      0.26 335 P      34 10.04    0.1
                 S      34 14.19
STV      0.31 325 P      34 10.96    0.1
                 S      34 15.42
ROB      0.37  35 P      34 12.06    0.1
                 S      34 17.57
FIN      0.51  64 P      34 14.32   -0.3
                 S      34 20.75
PZZ      0.62 327 P      34 16.60   -0.3
                 S      34 24.75
PCP      0.89  51 P      34 21.60    0.2
                 S      34 32.46
PRL      1.09 329 P      34 25.00    0.0
                 S      34 37.58
BNI      1.25 329 P      34 27.50    0.0
                eSn     34 45.00
     S.D. = 0.2  on   9 of   9 obs.
-------------------------------------
?  OCT  01, 1989  10h 34m 06.40± 9.40s
   43.093 N ±42.2km    0.401 W ±65.5km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
     MD 2.6 (STR).

OGE      0.09 325 Pg     34 09.04    0.0
ESCF     0.13 264 Pg     34 09.52    0.0
                 Sg     34 12.01
ATE      0.22 268 Pg     34 11.16    0.0
                 Sg     34 15.01
ISSF     0.30 257 Pg     34 12.67    0.0
                 Sg     34 17.48
     S.D. = 0.1  on   4 of   4 obs.
-------------------------------------
%  OCT  01, 1989  10h 58m 18.00± 1.55s
   38.348 S ±12.2km  175.568 E ±13.2km
   DEPTH = 227.8 ± 12.7 km
 NORTH ISLAND, NEW ZEALAND         (159)

HITZ     0.39 157 Pc     58 48.30    0.2
RATZ     0.54 163 Pd     58 48.60    0.0
HATZ     0.68 143 Pc     58 48.80   -0.3
KETZ     0.75 175 P      58 49.80    0.0
WHH      0.90 127 Pd     58 49.70   -0.8
TTH      1.54 141 P      58 55.20    0.4
MNG      2.27 182 Pd     59 01.80    0.2
                 S      59 30.30
HBZ      2.29  72 P      59 02.10    0.3
PGZ      2.33 167 Pd     59 02.20   -0.1
KIW      2.56 191 Pc     59 04.90    0.2
CAW      2.78 188 Pc     59 07.20    0.1
MTW      2.81 181 Pc     59 07.00   -0.4
WDW      2.95 188 Pd     59 08.80   -0.2
MRW      2.96 193 Pc     59 09.20    0.2
WEL      3.00 192 Pc     59 09.60    0.1
BLW      3.02 181 Pc     59 09.40   -0.3
TCW      3.03 199 Pc     59 10.30    0.4
MOW      3.08 184 Pc     59 10.20   -0.3
CCW      3.55 197 Pc     59 16.80    0.9
MHZ      8.19 213 eP     00 14.00   -0.6
     S.D. = 0.4  on  20 of  20 obs.
-------------------------------------
   OCT  01, 1989  12h 30m 18.04± 0.94s
   39.367 N ± 6.0km   25.834 E ± 9.1km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                        (365)
     MD 3.4 (ATH).

PRK      0.36 110 iPgd   30 26.00    0.5
EZN      0.59  39 iPn    30 29.20   -0.8
                 eSg    30 36.70
IZM      1.48 131 iPn    30 44.00   -0.7
RDO      1.79 353 ePn    30 49.50    0.3
SMG      1.83 154 ePg    30 53.70    3.9X
EDC      1.84  57 ePn    30 50.00    0.0
BNT      1.88  58 ePn    30 51.00    0.4
KCT      2.13  65 iPn    30 54.30    0.1
APE      2.31 186 ePn    30 56.80    0.1
     S.D. = 0.6  on   8 of   9 obs.
-------------------------------------
*  OCT  01, 1989  12h 50m 46.81± 0.89s
   25.118 N ± 9.9km  122.210 E ±14.8km
   DEPTH = 206.9 ±  6.6 km
   4.2mb (  1 obs.)
 TAIWAN REGION                     (243)

TWC      0.60 213 iPd    51 15.20   -0.7
                 eS     51 37.30
ANP      0.63 276 eP     51 15.50   -0.1
TWD      1.17 209 iPc    51 18.50   -0.2
TWQ      1.51 236 iPd    51 21.80    0.3
                 eS     51 48.70
TWK      2.42 221 ePd    51 31.20    0.5
TIY     15.06 329 Pc     54 13.40    2.7
CD2     17.28 294 eP     54 35.50   -1.5
HHC     18.03 333 eP     54 46.00    1.0
CN2     18.83   7 eP     54 52.00   -1.1
LZH     19.19 309 Pc     54 56.00   -1.1
       2.0s      0.05nm          1.7mb X
                 pP     55 01.50   21kmX
CHTO    22.45 258 eP     55 30.30    1.0
       1.0s      7.00nm          4.2mb
GTA     23.62 313 eP     55 40.00   -0.5
SHL     27.39 277 iP     56 14.50   -0.7
PKI     32.99 282 P      57 04.40   -0.3
KKN     33.09 283 P      57 05.20   -0.2
GKN     33.65 283 P      57 10.40    0.4
WB5     46.26 164 eP     58 54.00    0.6
     S.D = 1.1  on  17 of  17 obs.
-------------------------------------
&  OCT  01, 1989  13h 10m 24.70s
   38.147 N          121.923 W
   DEPTH =  18.0km
 NORTHERN CALIFORNIA               ( 36)
     <BRK>. ML 3.0 (BRK).
     Mo=2.2*10**14 Nm (BRK). Felt at
     Foirfield.

ZSP      0.33 233 iPd    10 31.70   -0.1
BKS      0.37 222 iPd    10 32.00   -0.4
                 iS     10 37.75
BRK      0.38 224 iPd    10 32.40   -0.2
PCC      0.74 209 iPd    10 38.50   -0.3
NWRM     0.82 292 eP     10 38.60   -1.5
MHC      0.83 164 iPd    10 39.75   -0.7
                 eS     10 52.35
ARN      0.85 159 iPd    10 40.20   -0.5
GCC      1.12 183 iPd    10 43.70   -1.5
CMB      1.22  95 iPd    10 46.00   -0.9
                 iS     11 02.20
SAO      1.43 164 ePd    10 48.23   -1.6
ORV      1.44  13 eP     10 47.00   -3.0
LLA      1.72 153 eP     10 52.30   -1.6
PRS      1.86 166 eP     10 54.10   -2.0
LTCM     2.06 356 eP     10 56.10   -2.9
FRI      2.10 123 eP     10 58.70   -0.8
MIN      2.21   6 eP     11 00.20   -1.0
PHAM     2.61 152 eP     11 05.70   -1.1
KVN      3.13  72 eP     11 12.50   -1.8
LBFM     3.20   0 eP     11 14.00   -1.3
BCH      3.31 153 eP     11 13.60   -3.1
TNP      3.71  90 eP     11 21.20   -1.4
       21 obs. ossaciated
-------------------------------------
&  OCT  01, 1989  13h 19m 27.90s
   38.167 N          121.925 W
   DEPTH =  18.0km
 NORTHERN CALIFORNIA               ( 36)
     <BRK>. ML 3.2 (BRK).
     Mo=1.7*10**14 Nm (BRK). Felt at
     Foirfield.

ZSP      0.34 230 iPd    19 34.90   -0.3
BKS      0.38 220 iPd    19 35.60   -0.2
                 iS     19 41.25
BRK      0.39 222 iPd    19 35.80   -0.3
PCC      0.76 209 iPd    19 41.90   -0.3
NWRM     0.81 291 eP     19 42.10   -1.0
MHC      0.85 165 iPc    19 43.20   -0.8
                e(S)    19 55.70
ARN      0.87 159 iPd    19 43.60   -0.7
GCC      1.14 183 ePd    19 47.20   -1.5
CMB      1.22  96 eP     19 49.40   -0.7
ORV      1.43  13 eP     19 50.50   -2.4
SAO      1.45 165 e(P)   19 51.75   -1.5
LLA      1.73 153 eP     19 55.90   -1.5
PRS      1.88 166 eP     19 58.10   -1.5
LTCM     2.04 356 eP     19 59.30   -2.6
MIN      2.19   6 e(P)   20 03.20   -0.9
PHAM     2.63 152 eP     20 09.30   -1.0
KVN      3.12  72 eP     20 16.00   -1.4
LBFM     3.18   0 eP     20 18.00   -0.2
TNP      3.71  90 eP     20 25.00   -0.9
       19 obs. ossociated
-------------------------------------
?  OCT  01, 1989  13h 27m 04.05± 4.07s
   51.685 N ±72.5km  168.584 W ±29.6km
   DEPTH =  33.0km  (normol)
   4.4mb (  2 obs.)
 FOX ISLANDS, ALEUTIAN ISLANDS    ( 9)

ADK      5.03 275 eP     28 20.30    1.1
KDC     11.10  51 eP     29 44.50    1.2
FBA     17.05  31 eP     31 00.40   -0.7
NB2     67.63   0 P      37 59.60    0.4
       0.6s     1.20nm          4.2mb
HFS     68.52 359 eP     38 04.30   -0.4
       0.4s     2.80nm          4.7mb
DMN     78.14 300 P      39 00.00   -1.7
     S.D. = 1.4  on   6 of   6 obs.
-------------------------------------
%  OCT  01, 1989  14h 16m 15.73± 1.60s
   38.128 N ± 8.4km  141.692 E ±17.9km
   DEPTH =  10.0km  (geophysicist)
 NEAR EAST COAST OF HONSHU, JAPAN(228)

OFUJ     0.95 359 iPd    16 34.00    0.2
                 S      16 45.50
YAMJ     1.31 272 iPd    16 39.70   -0.2
```

		eS	16	56.20	
KAKJ	2.27	213 P	16	53.10	-0.7
		S	17	19.20	
NIIJ	2.31	248 iPd	16	54.20	-0.2
		S	17	27.00	
AOMJ	2.64	338 P	16	58.80	-0.2
CHJJ	2.99	227 P	17	03.70	-0.4
		eS	17	44.10	
IIDJ	4.02	230 P	17	20.30	1.5
		eS	18	13.90	

S.D. = 0.9 on 7 of 7 obs.

OCT 01, 1989 15h 15m 48.09± 1.01s
6.064 S ± 6.2km 148.615 E ± 9.0km
DEPTH = 81.5 ± 10.5 km
4.8mb (8 obs.)
NEW BRITAIN REGION (192)

LAT	1.71	250 eP	16	17.00	0.4
KDB	3.68	203 eP	16	43.00	-0.8
		eS	17	28.00	
RAB	4.00	62 iPd	16	46.70	-1.6
	1.0s	1920.00nm			
MNDI	4.93	269 eP	17	06.00	4.5X
		eS	18	19.00	
CTA	14.13	189 iPc	19	06.10	0.4
QIS	16.85	210 eP	19	40.00	-0.3
MTN	18.51	247 eP	20	01.20	0.5
WB5	19.50	224 iPc	20	11.30	-0.3
		eS	23	43.50	
GUA	19.82	349 eP	20	16.70	1.8
GUMO	19.88	349 eP	20	16.50	1.0
PJG	19.88	349 eP	20	16.80	1.3
RMQ	20.31	180 eP	20	20.00	0.1
QLP	20.83	191 eP	20	26.00	0.8
BRS	21.58	170 eP	20	32.00	-0.7
ASPA	22.51	217 iPd	20	42.90	0.9
	0.8s	20.00nm		4.6mb	
	Z 21s	0.25um		3.6Msz	
		eS	24	44.80	
		LR	29	38.70	
		iScS	31	54.90	
DZM	23.46	134 iPc	20	52.10	0.9
WARB	28.98	224 eP	21	43.20	0.9
FORR	31.29	215 eP	22	02.30	-0.2
NANU	35.88	239 iPd	22	43.00	0.8
	0.4s	5.00nm		4.8mb	
CN2	53.87	339 eP	25	06.60	1.6
BJI	54.75	330 eP	25	12.50	1.0
GTA	63.82	319 eP	26	14.20	-0.1
GUN	69.25	303 P	26	47.16	-2.0
	0.5s	12.00nm		5.1mb	
PKI	69.53	302 P	26	49.06	-1.8
	0.5s	3.00nm		4.4mb	
KKN	69.71	302 P	26	49.54	-2.3
	0.8s	8.00nm		4.7mb	
DMN	69.80	302 P	26	51.00	-1.4
	0.5s	13.00nm		5.1mb	
GKN	70.32	302 P	26	53.22	-2.2
	0.6s	11.00nm		5.0mb	
SPA	83.98	180 e(P)	28	10.60	0.1
	0.6s	6.91nm		4.8mb	
PPD	145.93	146 ePKP	35	21.00	1.1
BAO	152.88	143 ePKP	35	27.50	-3.4X
		e	35	38.60	

S.D. = 1.3 on 28 of 30 obs.

% OCT 01, 1989 15h 57m 08.38± 0.70s
42.628 N ± 5.2km 18.770 E ± 6.4km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.2 (TTG).

NKY	0.25	42 ePg	57	13.70	0.0
		eSg	57	18.50	
HCY	0.27	228 ePg	57	14.30	0.2
		eSg	57	19.00	
BRY	0.32	329 iPgd	57	15.00	-0.1
		iSg	57	20.50	
BDV	0.35	173 ePg	57	15.60	0.0
		eSg	57	22.00	
TTG	0.41	119 ePg	57	17.30	0.5
		eSg	57	24.10	
ULC	0.75	152 ePg	57	22.50	-0.6
		eSg	57	34.20	

S.D. = 0.5 on 6 of 6 obs.

? OCT 01, 1989 17h 02m 23.10± 5.51s
28.482 N ±38.2km 128.811 E ±24.6km
DEPTH = 136.6 ± 35.8 km
4.2mb (3 obs.)
RYUKYU ISLANDS (238)

SSE	7.12	293 Pc	04	05.80	-0.1
	0.8s	23.00nm		4.7mb X	
BJI	15.54	321 eP	05	56.00	0.1
	1.0s	20.00nm		4.4mb	
LZH	22.39	296 eP	07	11.00	0.1
PKI	38.17	279 P	09	31.60	0.3
KKN	38.24	280 P	09	31.40	-0.3
DMN	38.43	279 P	09	33.00	-0.3
GKN	38.75	280 P	09	36.30	0.4
WB5	48.38	173 eP	10	56.20	3.2X
FBA	61.82	29 eP	12	30.10	0.8
	0.7s	0.90nm		3.8mb	
MBC	67.53	14 eP	13	05.00	-1.0
	0.5s	2.00nm		4.2mb	

S.D. = 0.6 on 9 of 10 obs.

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* OCT 01, 1989 18h 38m 55.25± 0.80s
34.647 N ± 8.8km 33.160 E ± 9.9km
DEPTH = 33.0km (normal)
CYPRUS (372)
ML 3.3 (CSS).

CSS	0.34	24 eP	39	03.00	-0.6
PPCY	0.71	290 eP	39	09.50	0.7
		eS	39	21.00	
FAM	0.78	63 eP	39	14.00	4.3X
SHMJ	2.90	131 Pc	39	40.30	0.2
MASJ	3.62	143 Pd	39	50.80	0.4
MKRJ	3.72	145 P	39	52.20	0.3
KOT	4.84	194 eP	40	06.50	-1.1

S.D. = 0.9 on 6 of 7 obs.

OCT 01, 1989 19h 14m 32.19± 1.29s
7.546 S ± 4.7km 154.775 E ± 6.3km
DEPTH = 36.2 ± 10.7 km
5.2mb (10 obs.)
SOLOMON ISLANDS (193)

RAB	4.22	322 iPd	15	36.50	0.6
	0.7s	493.15nm			
		iS	16	27.00	
SVO	5.24	108 eP	15	01.00	-49.2X
HNR	5.45	110 eP	16	21.00	27.9X
		e(S)	20	27.00	
LAT	7.77	276 eP	16	26.00	0.3
KDB	7.77	255 eP	16	31.00	5.2X
CTA	14.95	213 iPd	18	09.00	6.2X
	1.2s	51.56nm		4.7mb	
		eS	21	06.00	
DZM	18.31	143 iPc	18	45.60	0.3
QIS	19.57	227 iPc	18	59.10	-1.1
RMQ	19.69	196 e(P)	19	00.00	-1.5
BRS	19.83	185 iPd	19	02.00	-1.0
QLP	21.42	207 e(P)	19	20.00	0.7
COO	23.07	186 eP	19	37.00	1.3
WB5	23.27	236 eP	19	38.60	0.9
MTN	23.85	255 iPd	19	44.30	1.0
	1.0s	68.00nm		5.1mb	
CMS	25.24	198 eP	19	56.50	0.0
ASPA	25.65	229 iPc	19	59.70	-0.8
	1.5s	19.00nm		4.5mb	
	Z 22s	0.31um		3.8MszX	
		LR	28	41.10	
WARB	32.55	232 eP	21	01.50	-0.9
NJ2	52.20	321 Pd	23	42.60	0.8
	N 18s	2.40um			
WHN	54.18	316 eP	23	55.50	-1.0
	Z 16s	2.97um		5.4MszX	
DL2	55.52	329 P	24	05.40	-0.7
	Z 16s	2.70um		5.4MszX	
	E 14s	2.70um			
TIA	56.07	323 eP	24	09.20	-1.0
MDJ	56.67	339 eP	24	13.00	-1.3
CN2	57.59	335 eP	24	19.60	-1.3
	Z 15s	4.60um		5.7MszX	
	N 14s	3.10um			
		epP	24	29.60	33kmX
GYA	57.61	308 P	24	21.60	0.1
LOE	57.97	296 eP	24	23.60	-0.4
		e	30	39.50	
NST	58.82	293 eP	24	30.50	0.6
BJI	59.25	326 eP	24	32.00	-0.5
TIY	59.89	322 eP	24	36.60	-0.4
CHG	60.95	296 ePd	24	44.50	0.0
	1.0s	26.50nm		5.3mb	
		e	30	54.30	
CHTO	60.95	296 iPd	24	45.00	0.5
	1.4s	48.08nm		5.4mb	
		pP	25	09.80	99kmX
CD2	62.00	311 eP	24	50.70	-0.8
HHC	62.41	324 Pc	24	54.20	0.1
BTO	63.16	323 eP	24	59.20	0.2
LZH	64.55	316 eP	25	08.50	0.1
	1.5s	0.06nm		2.4mb X	
GTA	68.99	317 iPd	25	37.00	0.6
SHL	69.39	301 iP	25	39.00	-0.1
GUN	75.22	301 Pd	26	14.20	0.3
	0.8s	59.00nm		5.6mb	
PKI	75.52	301 Pd	26	15.42	-0.2
KKN	75.69	301 Pd	26	16.52	0.1
DMN	75.79	301 Pd	26	17.30	0.3
GKN	76.29	301 Pd	26	19.68	-0.1
	0.9s	54.00nm		5.5mb	
KDC	77.77	26 eP	26	26.10	-0.9
GBA	79.58	285 P	26	38.00	0.2
TTA	79.61	21 eP	26	37.00	-0.2
PMR	81.38	24 ePd	26	45.50	-0.9
	0.9s	43.70nm		5.5mb	
		e	26	54.50	
SPA	82.50	180 e(P)	26	52.00	-0.4
	1.0s	7.00nm		4.7mb	
NDI	82.80	300 iPd	26	53.50	-1.0
FBA	83.70	21 iPd	26	57.20	-1.2
KSH	86.18	310 P	27	14.20	2.7
GCC	89.12	53 eP	27	26.20	0.7
WDC	89.33	49 eP	27	27.50	1.1
ORV	89.94	50 eP	27	28.60	-0.7
MIN	90.00	49 eP	27	28.40	-1.3
PRI	90.03	54 eP	27	31.60	1.7
CMB	90.55	52 ePc	27	32.60	0.4
FRI	90.92	53 eP	27	34.40	0.6
MBC	96.29	14 eP	27	57.00	-0.7
	1.0s	4.00nm		4.9mb	
KSP	124.86	329 ePKP	33	30.20	0.2
CLL	126.19	331 iPKP	33	32.70	0.2
SKO	126.46	318 iPKP	33	33.20	-0.2
OHR	127.27	317 ePKP	33	33.50	-1.5
KHC	127.29	329 iPKPc	33	35.50	0.7
	1.2s	10.00nm			
GRB2	128.17	330 iPKPc	33	37.10	0.7
	1.2s	16.00nm			
VBY	128.54	324 e(PKP)	33	38.40	1.2
LJU	128.64	325 e(PKP)	33	38.00	0.6
CNCB	131.28	120 PKP	33	45.00	1.0
LPB	131.30	120 PKP	33	46.00	2.2X
ZOBO	131.40	119 PKP	33	44.50	0.3
	1.3s	9.07nm			
BSF	131.51	332 ePKP	33	43.60	0.7
HAU	131.60	332 ePKP	33	43.70	0.7
LPG	133.18	329 ePKP	33	46.70	0.3
	0.8s	4.50nm			
LOR	133.28	333 ePKP	33	47.30	1.1
SMF	133.76	332 ePKP	33	48.40	1.3
CVF	133.98	325 ePKP	33	47.90	0.2
	0.7s	5.20nm			
LPF	134.73	337 ePKP	33	49.50	0.6
	0.9s	9.80nm			
TCF	134.76	333 ePKP	33	50.50	1.4
BCAO	136.38	269 ePKPc	33	52.80	-0.3
	0.4s	3.00nm			
ASMO	144.48	330 iPKP	34	05.50	-1.5
AAPN	144.71	330 iPKP	34	06.00	-1.4
APHE	144.77	329 iPKP	34	06.00	-1.6
EHOR	144.84	332 ePKP	34	07.20	-0.3
ALOJ	144.86	330 iPKP	34	06.40	-1.3
ATEJ	144.96	330 iPKP	34	06.50	-1.4
EPRU	145.52	331 ePKP	34	09.50	0.8
EVAL	145.72	333 ePKP	34	10.60	1.6
EJIF	146.05	331 e(PKP)	34	11.00	1.4
BAO	147.77	136 ePKP	34	12.50	-0.5
PDCR	155.74	145 e(PKP)	34	23.00	-1.5

S.D. = 0.9 on 83 of 88 obs.

OCT 01, 1989 19h 24m 33.26± 0.76s
31.072 N ± 7.3km 131.435 E ± 4.7km
DEPTH = 48.5 ± 5.6 km
5.0mb (14 obs.) 5.0Msz (1 obs.)
KYUSHU, JAPAN (235)

01d 19h

Felt (I JMA) at Miyazaki and Kagoshima.

KAGJ	0.48	284	iPd	24	43.40	-0.9
			S	24	51.10	
MYZ	0.84	360	iP+	24	49.30	0.4
			iS	25	01.30	
KAG	0.91	304	iPd	24	50.60	0.8
			S	25	01.20	
KUMJ	1.55	341	iP+	24	59.00	0.2
			S	25	19.00	
SHNJ	3.06	355	iPd	25	19.30	-0.9
SHK	3.61	17	eP	25	27.00	-1.1
TKSJ	3.65	37	P	25	28.00	-0.6
YONJ	4.44	22	P	25	39.20	-0.6
WKYJ	4.71	47	P	25	41.50	-2.1
TSRJ	5.86	39	P	25	58.90	-0.8
IIDJ	6.98	49	eP	26	17.80	2.3
MTMJ	7.64	42	eP	26	25.00	0.3
CHJJ	8.03	50	P	26	30.10	0.1
NIIJ	8.78	43	eP	26	47.00	6.6X
SSE	8.79	273	eP	26	42.20	1.7
Z	16s		2.90um			
E	14s		2.30um			
			eLg	29	44.50	
SNY	12.45	332	Pc	27	32.40	2.2
Z	14s		4.60um			
N	14s		3.00um			
E	13s		1.70um			
			eS	29	55.00	
TIA	12.98	297	eP	27	38.40	1.2
Z	15s		2.44um			
WHN	14.69	272	eP	28	02.00	2.3
BJI	15.29	310	eP	28	06.00	-1.4
	1.3s		0.04nm		1.5mb X	
Z	16s		4.66um			
N	14s		0.86um			
E	13s		2.04um			
			ePP	28	20.50	
			eS	31	04.00	
TIY	17.01	298	eP	28	32.00	2.7
E	15s		1.60um			
			S	31	45.00	
BAG	17.64	217	eP	28	36.00	-1.3
HHC	18.78	307	P	28	52.00	0.9
Z	16s		3.60um			
N	13s		1.60um			
E	13s		1.56um			
BTO	19.75	305	eP	29	01.00	-1.0
N	13s		1.30um			
E	13s		1.50um			
GYA	22.18	264	P	29	27.00	0.2
LZH	23.49	290	eP	29	40.00	0.4
	1.5s		0.10nm		2.1mb X	
Z	16s		2.40um		4.8MszX	
E	13s		1.10um			
			pP	29	52.00	48kmX
			eS	34	06.00	
CD2	23.71	277	P	29	41.40	-0.2
GTA	27.03	297	eP	30	11.10	-1.8
Z	16s		0.90um		4.4MszX	
N	12s		0.60um			
CHTO	31.77	255	iP	30	54.20	-1.0
	0.9s		6.39nm		4.4mb	
SHL	35.12	271	iP	31	22.50	-1.9
WMQ	36.58	303	eP	31	35.00	-1.4
GUN	39.57	277	P	32	01.80	-0.2
	0.5s		65.00nm		5.7mb	
PKI	40.06	277	P	32	04.92	-1.1
	0.6s		16.00nm		5.1mb	
KKN	40.11	277	P	32	05.72	-0.6
	0.5s		25.00nm		5.3mb	
DMN	40.31	277	P	32	07.50	-0.5
	0.4s		6.00nm		4.7mb	
GKN	40.60	278	P	32	09.42	-0.8
	0.4s		10.00nm		5.0mb	
WB5	50.74	176	eP	33	30.00	-0.4
GBA	52.38	263	P	33	42.00	-1.0
MAIO	58.83	296	eP	34	29.00	-0.2
DZM	62.61	143	iPc	34	56.40	1.4
MBC	64.46	15	ePc	35	06.00	-0.5
	0.5s		12.00nm		5.2mb	
KEV	65.98	338	eP	35	15.00	-1.3
	0.8s		19.10nm		5.2mb	
			i	35	21.70	
SOD	67.13	336	iP	35	22.00	-1.6
			i	35	33.30	
SUF	69.42	332	eP	35	37.00	-0.8
NUR	71.11	330	eP	35	47.00	-1.2
	0.7s		10.70nm		4.9mb	
Z	20s		0.80um		5.0Msz	
			LR	10	20.00	
HFS	75.83	333	ePKP	36	14.20	-1.5
	0.4s		2.40nm		4.5mb	
VRI	77.57	316	eP	36	26.50	0.8
PNT	78.11	39	eP	36	29.00	0.4
MLR	78.24	316	eP	36	30.50	1.0
EDM	79.02	34	eP	36	34.50	1.0
KSP	80.44	324	eP	36	41.00	-0.1
SRFA	80.49	298	eP	36	42.00	0.3
BADA	80.83	298	eP	36	44.00	0.4
WDC	81.24	48	eP	36	53.40	7.9X
CLL	81.76	326	eP	36	48.00	0.0
			e	36	54.00	
PRU	81.85	324	eP	36	55.50	7.0X
KHC	82.88	324	eP	36	55.50	1.5
CMB	84.05	49	eP	37	02.40	2.3
LRM	84.09	39	eP	37	02.30	1.8
VBY	84.32	321	e(P)	37	03.40	2.1
CEY	84.62	321	e(P)	37	08.00	5.2X
VOY	84.72	322	e(P)	37	05.40	0.0
EKA	85.57	336	Pd	37	18.50	11.2X
	1.2s		12.40nm			
CDF	86.45	326	eP	37	11.90	0.0
HAU	87.17	327	eP	37	15.30	-0.1
LPG	88.76	325	eP	37	22.90	-0.5
	0.4s		1.70nm		4.7mb	
LOR	88.87	327	eP	37	23.10	-0.4
LBF	89.02	327	eP	37	23.70	-0.6
SSF	89.19	327	eP	37	24.80	-0.2
AVF	89.46	327	eP	37	25.80	-0.5
MAF	90.24	327	eP	37	30.30	0.3
LPF	90.47	330	eP	37	30.30	-0.6
LSF	90.70	328	eP	37	31.70	-0.4
	0.5s		2.10nm		4.8mb	
MFF	91.19	329	eP	37	34.20	-0.1
CAF	91.45	327	eP	37	35.90	0.3
LPO	92.04	327	eP	37	39.20	0.9
	0.6s		5.40nm		5.2mb	
LFF	92.05	327	eP	37	38.90	0.6
	0.6s		5.40nm		5.2mb	
ZOBO	156.86	55	PKP	44	27.00	1.3
LPB	157.06	55	PKP	44	38.80	13.1X
CNCB	157.33	56	PKP	44	39.00	12.8X
	S.D. = 1.1		on 72 of 79 obs.			

? OCT 01, 1989 20h 33m 21.29± 3.30s
23.910 N ±18.0km 122.893 E ±24.2km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWC	1.18	306	iPc	33	43.50	0.2
			eS	33	56.80	
TWD	1.20	278	ePc	33	42.70	-0.9
TWF1	1.57	250	ePc	33	49.10	-0.1
			eS	34	06.40	
ANP	1.78	316	eP	33	56.50	4.1X
TWQ	1.91	281	ePc	33	55.30	1.0
			eS	34	16.70	
SSE	7.32	348	eP	35	10.50	-0.2
WB5	44.94	165	eP	41	54.10	15.8X
	S.D. = 1.0		on 5 of 7 obs.			

OCT 01, 1989 21h 55m 07.02± 0.63s
17.571 S ± 9.6km 70.511 W ± 6.6km
DEPTH = 138.8 ± 13.7 km
NEAR COAST OF PERU (115)

ARE	1.45	319	iPc	55	35.90	0.0
			iS	55	55.80	
LPB	2.53	66	iPc	55	50.00	1.1
	1.0s		350.00nm			
			S	56	20.00	
CNCB	2.53	73	iPc	55	49.00	-0.1
			S	56	19.00	
ZOBO	2.63	61	iPc	55	49.30	-1.0
			S	56	28.00	
CCH	4.17	88	iPc	56	10.40	0.0
			eS	56	38.50	
ANT	6.10	179	e(P)	56	36.00	-0.1
HUA	7.20	319	e(P)	57	11.20	19.7X
			eS	58	08.40	
PT08	8.07	313	eP	57	03.50	0.4
			eS	58	47.00	
NNA	8.26	311	eP	57	05.00	-0.4
	0.6s		6.00nm		4.4mb X	
			eS	58	51.50	
PPD	18.60	107	eP	59	16.40	0.0
	S.D. = 0.7		on 9 of 10 obs.			

& OCT 01, 1989 22h 08m 36.00s
36.555 N 121.177 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

LLA	0.20	72	iPc	08	40.00	-0.2
PRS	0.27	215	iPd	08	41.60	0.0
			iS	08	45.10	
SAO	0.30	314	iPc	08	41.70	-0.4
			iS	08	45.95	
PRI	0.58	135	iPd	08	47.40	-0.3
GCC	0.81	306	iPd	08	51.00	-1.0
ARN	0.84	340	iPc	08	52.70	0.1
MHC	0.87	335	iPc	08	53.00	-0.1
			iS	09	06.25	
PHAM	0.95	138	eP	08	53.60	-0.9
PKEM	0.99	119	eP	08	55.30	0.2
FRI	1.26	69	iPc	08	58.20	-1.4
			iS	09	15.00	
PCC	1.35	315	eP	08	59.40	-1.7
BKS	1.57	328	iPc	09	03.20	-1.1
BRK	1.57	327	e(P)	09	02.60	-1.8
CMB	1.61	23	eP	09	04.00	-0.9
			eS	09	25.40	
BCH	1.63	147	eP	09	03.50	-1.8
ORV	3.01	355	e(P)	09	23.90	-1.0
KVN	3.49	43	eP	09	32.50	0.6
	17 obs. associated					

& OCT 01, 1989 22h 35m 13.60s
42.684 N 111.272 W
DEPTH = 0.2km
EASTERN IDAHO (457)
<SLC-P>. ML 3.7 (SLC).

RR12	0.68	357	P	35	26.80	-0.4
TMI	0.78	323	P	35	29.10	-0.1
PTI	0.83	283	P	35	29.80	-0.4
IMW	1.24	11	P	35	38.90	1.2
BW06	1.27	85	eP	35	36.20	-2.0
CBTI	1.39	301	P	35	40.00	-0.3
GBI	1.43	336	P	35	40.30	-0.5
HPI	1.68	308	P	35	44.60	-0.1
JGI	1.74	324	P	35	45.00	-0.4
DAU	2.27	180	eP	35	53.30	0.1
BGMT	2.61	348	ePnd	35	59.40	1.5
DUG	2.74	205	eP	35	58.80	-1.0
MEMT	2.93	4	ePn	36	04.50	2.0
LCCM	3.18	352	ePn	36	08.70	2.7
BUT	3.46	345	ePg	36	21.20	11.3
			eSg	37	00.50	
SXM	3.46	1	ePn	36	17.20	7.1
MSU	4.22	190	eP	36	20.50	-0.4
GOL	5.36	122	eP	36	37.60	0.6
RSSD	5.46	72	eP	36	36.50	-2.0
	19 obs. associated					

? OCT 01, 1989 23h 44m 02.99± 0.89s
30.642 S ±18.3km 179.841 E ±15.9km
DEPTH = 33.0km (normal)
4.7mb (2 obs.)
KERMADEC ISLANDS REGION (177)

MNG	10.57	198	eP	46	35.20	0.0
			eS	48	39.70	
BRS	23.87	271	iPd	49	19.50	5.1X
CTA	32.01	281	iPc	50	29.90	1.3
	0.8s		12.31nm		4.9mb	
WB5	42.25	274	eP	51	54.10	-0.9
SPA	59.53	180	e(P)	54	00.80	-4.6X
	0.7s		3.52nm		4.6mb	
CHTO	91.91	291	eP	57	08.90	-0.7
CNCB	99.55	116	P	57	44.20	-1.1
LPB	99.62	116	eP	57	45.00	-0.4
ZOBO	99.75	115	P	57	48.00	1.8
	S.D. = 1.4		on 7 of 9 obs.			

OCT 02, 1989 01h 03m 01.02± 0.90s
37.649 N ± 6.6km 15.048 E ± 7.3km
DEPTH = 10.0km (geophysicist)

SICILY (398)

MNO	0.40	315	P	03	08.90	-0.3
			eSg	03	14.50	
MEU	0.55	190	P	03	12.10	-0.3
			eSg	03	20.70	
MSI	0.68	36	P	03	14.70	0.2
GIB	0.88	293	P	03	17.90	0.0
			eSg	03	30.80	
MCT	1.12	270	P	03	22.30	0.1
FAI	1.15	252	P	03	22.90	0.3

S.D. = 0.3 on 6 of 6 obs.

OCT 02, 1989 01h 17m 29.10± 0.78s
41.789 N ± 7.4km 20.395 E ± 7.7km
DEPTH = 10.0km (geophysicist)

ALBANIA (391)
ML 3.0 (SKO).

PHP	0.11	161	iPgc	17	31.60	-0.3
KKS	0.29	2	ePg	17	35.00	-0.1
PUK	0.45	304	iPgc	17	37.00	-1.3
SDA	0.71	289	ePg	17	44.50	1.5
OHR	0.74	156	ePg	17	43.50	-0.2
			eSg	17	55.80	
SKO	0.80	76	ePg	17	45.00	0.3
			eSg	17	57.00	

S.D. = 1.2 on 6 of 6 obs.

OCT 02, 1989 02h 52m 23.23± 0.80s
41.808 N ± 9.1km 32.473 E ± 6.4km
DEPTH = 10.0km (geophysicist)

TURKEY (366)

KAS	1.06	114	iPgc	52	42.30	-1.0
			iSg	52	59.50	
BBTK	1.98	174	iPd	52	57.50	0.3
			iS	53	26.00	
HRT	2.33	246	ePn	53	03.60	1.3
GBZT	2.50	247	ePn	53	06.70	2.2
			eSg	53	40.10	
ISK	2.67	255	iPn	53	06.60	-0.5
KVT	2.78	104	iPn	53	10.00	1.3
CTT	3.11	259	ePn	53	13.10	-0.1
KCT	3.48	245	iPn	53	20.10	1.6
EDC	3.78	249	ePn	53	22.00	-0.8
KHL	4.15	214	ePn	53	27.00	-1.1
JMB	4.43	281	eP	53	33.00	1.0
BCK	4.58	199	ePn	53	33.40	-0.8
CFR	4.61	319	eP	53	54.00	19.5X
EZN	5.07	249	iPn	53	39.40	-1.6
DIM	5.18	275	iPd	53	43.00	0.3
KDZ	5.28	271	iP	53	43.00	-1.1
PVL	5.46	287	iPc	53	46.00	-0.6
VRI	5.81	316	ePc	53	52.50	1.0
PGB	6.22	280	eP	54	07.00	9.7X
MMB	6.55	271	eP	54	03.00	1.0
BZS	8.74	299	ePc	54	30.00	-2.5

S.D. = 1.3 on 19 of 21 obs.

? OCT 02, 1989 03h 06m 00.26± 0.94s
46.238 N ± 8.6km 7.376 E ± 6.9km
DEPTH = 10.0km (geophysicist)

SWITZERLAND (544)

DIX	0.16	171	iPd	06	04.60	0.5
EMS	0.35	242	ePd	06	07.30	-0.3
MMK	0.45	114	ePc	06	08.80	-0.7
TMA	1.05	97	ePd	06	20.50	0.3
SLE	1.71	26	ePd	06	30.40	0.1

S.D. = 0.7 on 5 of 5 obs.

* OCT 02, 1989 03h 09m 21.88± 0.59s
16.639 N ±15.2km 93.686 W ±11.3km
DEPTH = 169.5 ± 9.4 km

CHIAPAS, MEXICO (61)

SCX	1.01	84	iP	09	49.11	0.2
			iS	10	02.57	
SBG	2.17	133	Pc	10	01.00	0.1
			S	10	28.50	
TPX	2.20	141	(P)	10	29.80	28.9X
			(S)	10	29.90	
EVV	2.41	319	eP	10	02.30	-1.0
			(S)	10	29.70	
JAT	3.04	139	eP	10	11.60	0.6
SLP	3.78	119	ePd	10	20.80	0.1
			S	10	53.50	
LVVM	4.05	320	(P)	10	22.92	-1.0
			(S)	11	07.22	
IISM	4.22	304	iP	10	25.03	-1.1
			iS	11	06.70	
IIT	5.00	299	eP	10	38.20	1.5
			(S)	11	13.30	
PPM	5.29	298	iP	10	43.05	2.3X
			(S)	11	28.68	
III	5.78	288	iP	10	47.95	1.0
			(S)	11	46.70	
ACX	5.92	273	(P)	10	47.80	-0.8
SIO	19.17	353	e(P)	13	45.70	11.0X
TUL	19.28	355	eP	13	50.40	14.5X
	0.5s		9.20nm			
LNO	19.29	355	eP	13	50.40	14.6X
ALQ	21.51	330	e(P)	14	00.80	2.3
	0.7s		0.34nm		2.9mb	
ANMO	21.52	330	eP	14	01.30	2.8X
PPD	56.56	131	e(P)	18	48.00	-1.2
INK	57.46	344	eP	18	54.00	-0.9

S.D. = 1.3 on 13 of 19 obs.

OCT 02, 1989 03h 12m 05.10± 0.23s
44.555 N ± 2.1km 6.859 E ± 2.7km
DEPTH = 12.7 ± 2.2 km

FRANCE (538)
ML 2.9 (GEN), 2.8 (LDG). MD 2.1 (STR).

PZZ	0.18	106	P	12	10.02	0.5
			S	12	13.64	
DOI	0.28	100	P	12	11.30	0.1
			eSg	12	15.80	
RRL	0.37	352	P	12	12.52	-0.4
			S	12	17.72	
STV	0.46	133	P	12	14.69	0.2
			S	12	21.39	
BNI	0.51	345	P	12	14.90	-0.7
			eSg	12	21.70	
ENR	0.52	129	P	12	15.70	0.0
			S	12	23.38	
TOUF	0.61	153	Pg	12	17.48	0.2
			Sg	12	26.21	
MVIF	0.69	162	Pg	12	18.89	0.3
			Sg	12	28.61	
AUTN	0.69	144	Pg	12	19.04	0.3
			Sg	12	28.64	
AURF	0.75	153	Pg	12	19.99	0.4
			Sg	12	30.20	
SAOF	0.76	138	Pg	12	20.14	0.5
			Sg	12	30.74	
ROB	0.77	109	P	12	20.24	0.3
			S	12	31.07	
CALN	0.80	178	Pg	12	21.18	0.6
			Sg	12	31.67	
SBF	0.81	149	Pg	12	21.20	0.7
			Sg	12	31.40	
			Sn	12	33.50	
REVF	0.89	156	Pg	12	23.02	1.0
			Sg	12	36.08	
LSD	0.93	13	P	12	22.84	0.1
			S	12	35.17	
LPG	0.95	355	Pg	12	25.10	2.0
			Sg	12	35.90	
LPL	0.97	355	Pg	12	25.40	2.0
			Sg	12	36.90	
IMI	0.98	131	P	12	24.02	0.5
			S	12	36.65	
FRF	1.01	189	Pg	12	24.40	0.5
			Sg	12	36.60	
FIN	1.03	109	P	12	24.54	0.3
			S	12	37.17	
LRG	1.16	198	Pn	12	26.90	0.4
			Pg	12	27.90	
			Sg	12	43.20	
PCP	1.21	90	P	12	27.65	0.3
			S	12	41.38	
LMR	1.25	192	Pg	12	28.90	0.9
			Sg	12	44.30	
ORO	1.33	36	P	12	28.60	-0.9
CVF	2.47	143	Pn	12	45.45	-0.2
SMF	2.98	316	Pg	13	00.70	7.8X
LBF	3.16	321	Pn	12	56.00	0.5
			Pg	13	04.20	
LOR	3.43	323	Pn	12	59.40	0.1
CAF	3.44	278	Pn	12	59.10	-0.3
MAF	3.45	300	Pn	13	00.50	0.8
			Pg	13	10.20	
BGF	3.46	307	Pn	13	00.20	0.5
			Pg	13	09.60	
HAU	3.47	354	Pn	13	00.20	0.3
TCF	3.70	300	Pn	13	03.60	0.3
			Pg	13	15.40	

S.D. = 0.6 on 33 of 34 obs.

OCT 02, 1989 04h 19m 06.39± 0.61s
42.622 N ± 5.3km 18.761 E ± 5.3km
DEPTH = 10.0km (geophysicist)

YUGOSLAVIA (383)
ML 2.3 (TTG).

NKY	0.26	42	ePg	19	11.70	-0.2
			eSg	19	16.50	
HCY	0.26	228	ePg	19	12.00	0.1
			eSg	19	17.50	
BRY	0.32	330	iPgc	19	13.10	0.0
			iSg	19	18.50	
BDV	0.34	172	iPgd	19	13.20	-0.3
			eSg	19	19.00	
TTG	0.42	117	ePg	19	14.30	-0.6
			eSg	19	21.30	
ULC	0.75	151	ePg	19	20.50	-0.6
			eSg	19	32.00	
PVY	0.90	91	ePg	19	24.00	0.4
			eSg	19	37.50	
PUK	1.02	124	ePg	19	27.00	1.4
TIR	1.52	147	ePn	19	35.20	1.6
HVAR	1.79	289	iPn	19	37.50	0.0
			iSn	20	01.00	
OHR	2.14	134	ePn	19	41.00	-1.7

S.D. = 1.0 on 11 of 11 obs.

% OCT 02, 1989 06h 02m 14.22± 0.75s
40.829 N ± 5.7km 22.960 E ± 7.6km
DEPTH = 10.0km (geophysicist)

GREECE (364)

THE	0.20	179	iPgd	02	18.70	0.2
			eSg	02	21.70	
KNT	0.34	352	iPgc	02	21.40	0.2
			eSg	02	25.10	
GRG	0.44	287	ePgc	02	23.10	-0.1
			eSg	02	28.80	
SRS	0.56	59	ePgc	02	25.40	-0.2
			eSg	02	33.20	
LIT	0.81	206	ePgd	02	29.90	-0.1
			eSg	02	42.00	

S.D. = 0.3 on 5 of 5 obs.

% OCT 02, 1989 06h 04m 36.21± 0.98s
38.143 N ± 9.1km 5.867 W ± 9.2km
DEPTH = 10.0km (geophysicist)

SPAIN (377)

EHOR	0.59	123	ePg	04	47.40	-0.7
			eSg	04	55.90	
EVAL	0.89	232	ePg	04	52.60	-0.7
			eSg	05	03.70	
EPRU	1.28	157	ePg	05	01.30	1.3
			eSg	05	19.80	
EBAN	1.64	89	ePn	05	04.70	-0.5
			eSn	05	28.60	
EPLA	1.93	355	ePg	05	09.90	0.5
			eSg	05	33.80	

S.D. = 1.3 on 5 of 5 obs.

OCT 02, 1989 07h 55m 40.68± 0.55s
10.531 N ± 3.0km 126.918 E ± 4.1km
DEPTH = 25.1 ± 3.9 km
5.4mb (25 obs.) 4.5Msz (6 obs.)

PHILIPPINE ISLANDS REGION (248)
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 13S, 26C
Centroid Locotion:
Origin Time 07:55:44.4 0.7
Lot 10.65N 0.08 Lon 126.63E 0.07
Dep 15.0 FIX Half-durotion 1.7
Moment Tensor; Scole 10**16 Nm
Mrr=-7.14 0.37 Mtt=-0.84 0.41
Mff= 7.97 0.52 Mrt=-5.36 1.41
Mrf= 5.00 1.27 Mtf=-2.20 0.45
Principal Axes:

02d 07h

T Val= 10.74 Plg=20 Azm=250
N 0.07 19 152
P -10.81 62 23
Best Double Couple:Mo=1.1*10**17
NP1:Strike= 9 Dip=30 Slip= -50
NP2: 144 68 -110

DAV 3.67 201 eP 56 38.00 0.8
OCP 7.01 306 eP 57 26.00 1.6
BAG 8.49 314 eP 57 42.80 -2.5
MNI 9.26 193 eP 58 00.00 4.3X
KKM 11.49 248 ePc 58 28.00 1.6
1.3s 160.20nm 6.1mb
OZH 16.37 332 eP 59 33.40 2.9
Z 15s 1.30um
MKS 17.31 206 ePc 59 46.50 4.1X
GUMO 17.81 78 eP 59 47.20 -1.5
JAY 18.88 133 ePd 00 02.50 0.7
KAGJ 20.88 10 eP 00 24.00 0.5
SSE 21.14 346 Pd 00 27.00 0.8
1.5s 0.15nm 2.2mb X
Z 18s 1.00um 4.2Msz
pP 00 46.50 92kmX
S 04 26.00
KUMJ 22.19 9 eP 00 28.10 -8.6X
NJ2 22.68 342 Pc 00 42.20 0.7
WHN 23.09 331 eP 00 46.50 1.0
Z 16s 1.20um 4.4MszX
pP 00 50.00 13kmX
S 04 54.00
MTN 23.60 170 eP 00 50.40 -0.2
TKSJ 24.24 15 eP 00 56.40 -0.3
SHK 24.46 12 eP 00 58.80 -0.1
GYA 24.84 312 iPd 01 05.00 2.3
WKYJ 24.88 17 eP 01 02.90 -0.1
KGM 24.91 252 ePd 01 04.90 1.5
YONJ 25.26 13 eP 01 06.60 0.1
LOE 25.36 288 eP 01 06.00 -1.6
KNA 26.17 176 eP 01 14.00 -1.1
0.7s 46.00nm 5.2mb
SNG 26.20 265 eP 01 16.30 0.9
eS 05 49.00
IPM 26.33 259 ePd 01 06.80 -9.8X
0.8s 107.90nm 5.5mb
e 01 38.70
NST 26.57 284 eP 01 19.00 0.2
NNT 26.71 277 iPc 01 08.90 -11.2X
IIDJ 26.78 20 P 01 20.40 -0.2
KMI 27.14 306 Pc 01 23.50 -0.8
Z 15s 2.80um 5.0MszX
S 05 04.00
CHJJ 27.67 21 P 01 25.40 -3.2X
MAT 27.84 20 iPd 01 27.80 -2.4
1.4s 67.44nm 5.2mb
Z 20s 0.71um 4.2Msz
eS 06 16.00
BDT 27.89 287 eP 01 27.00 -3.8X
PMG 28.24 134 eP 01 36.00 2.0
CHG 28.25 290 iPd 01 32.20 -2.0
1.0s 11.50nm 4.6mb
CHTO 28.25 290 iP 01 32.60 -1.5
0.9s 8.53nm 4.5mb
DL2 28.65 351 Pd 01 37.50 0.1
CD2 29.55 317 eP 01 45.30 -0.5
TIY 30.04 337 iPc 01 49.80 -0.2
Z 18s 1.00um 4.5Msz
BJI 30.90 344 eP 01 56.50 -1.0
1.5s 0.06nm 2.2mb X
Z 14s 0.82um 4.5MszX
eS 06 52.00
WB5 31.10 166 eP 01 57.20 -2.2
e 02 43.00
e 04 54.90
SNY 31.31 355 iPd 02 01.20 0.1
0.9s 0.10nm 2.7mb X
Z 20s 1.00um 4.5Msz
N 20s 1.20um
E 19s 0.80um
MBL 32.25 192 eP 02 09.00 -0.5
0.5s 7.00nm 4.8mb
LZH 32.93 324 Pd 02 15.50 -0.1
2.0s 0.12nm 2.5mb X
Z 16s 1.50um 4.8MszX
pP 02 20.00 16kmX
HHC 33.10 338 P 02 17.00 0.1
CN2 33.17 358 Pd 02 16.50 -0.8
4.0s 0.60nm 2.9mb X

Z 14s 0.90um 4.6MszX
pP 02 21.00 15kmX
PcP 04 59.00
eS 07 27.00
QIS 33.32 158 iPd 02 17.80 -1.0
0.9s 110.00nm 5.8mb
BTO 33.47 336 eP 02 20.00 -0.1
N 15s 1.00um
E 15s 0.90um
eS 07 40.00
MDJ 34.04 3 iPd 02 24.00 -0.9
Z 12s 1.10um 4.8MszX
S 07 46.00
ASPA 34.67 169 iPd 02 29.10 -1.4
0.9s 38.00nm 5.3mb
eS 08 47.00
NANU 34.73 199 eP 02 31.10 0.1
CTA 35.89 148 iPd 02 40.10 -0.8
1.2s 51.56nm 5.3mb
iS 08 22.00
WARB 36.49 180 eP 02 47.00 1.1
GTA 37.53 325 iPd 02 55.10 0.4
1.0s 0.10nm 2.6mb X
Z 16s 0.70um 4.6MszX
MEKA 37.81 192 eP 02 57.30 0.3
LSA 38.40 305 P 03 02.60 0.1
QLP 40.55 156 iPc 03 19.20 -0.6
MRWA 40.90 195 eP 03 23.00 0.4
FORR 41.16 178 iPc 03 24.70 0.1
0.4s 50.00nm 5.6mb
COOL 41.55 187 eP 03 25.00 -2.9X
BAL 42.06 193 eP 03 22.00 -10.1X
GUN 42.19 300 Pc 03 32.14 -1.6
0.9s 116.00nm 5.6mb
RMQ 42.48 150 eP 03 34.70 -0.9
PKI 42.50 299 P 03 34.00 -2.2
KKN 42.66 300 Pc 03 35.72 -1.8
1.0s 53.00nm 5.2mb
DMN 42.77 299 P 03 36.58 -1.8
GKN 43.27 300 Pc 03 40.86 -1.5
0.5s 10.00nm 4.9mb
MUN 43.49 193 eP 03 43.00 -0.8
NWAO 44.19 192 eP 03 49.50 0.1
BRS 45.27 147 iPc 03 57.50 -0.8
i 04 08.00
i 04 17.00
e 05 39.00
i 05 51.00
e 07 49.00
CMS 45.54 157 eP 04 00.00 -0.3
ADE 46.61 167 iPc 04 07.30 -1.4
0.8s 101.49nm 5.9mb
HYB 47.33 284 ePd 04 16.50 1.8
0.6s 20.00nm 5.3mb
COO 47.40 150 eP 04 17.00 2.0
WMO 47.41 322 Pd 04 15.50 0.4
Z 20s 0.90um 4.7Msz
S 11 09.50
ScS 14 06.00
GBA 48.42 279 P 04 22.70 -0.5
BWA 49.14 156 eP 04 30.00 1.5
NDI 49.79 299 eP 04 33.00 -0.6
CN8 50.30 156 eP 04 37.30 -0.1
1.0s 69.00nm 5.6mb
DZM 50.52 130 iPd 04 39.00 -0.3
TOO 50.92 161 eP 04 42.80 0.8
0.7s 40.00nm 5.5mb
POO 51.83 285 eP 04 48.50 -0.8
KSH 53.51 312 eP 05 03.00 1.4
MAIO 65.67 305 eP 06 24.00 -1.5
MSZ 66.28 149 eP 06 30.00 1.1
SVW 74.79 29 eP 07 01.40 -19.0X
TTA 74.80 28 eP 07 20.90 0.4
BRW 75.71 19 eP 07 26.80 1.4
IMA 76.14 24 eP 07 28.60 0.5
1.1s 25.80nm 5.2mb
KDC 76.14 33 eP 07 29.40 1.3
DRV 77.58 175 eP 07 35.80 0.0
PMR 77.94 29 eP 07 37.80 -0.1
1.3s 63.70nm 5.5mb
FBA 78.54 26 eP 07 40.30 -0.9
TOA 79.33 29 eP 07 46.90 1.2
KMSA 79.37 289 eP 07 46.50 -0.2
KEV 83.61 340 iP 08 08.20 0.3
0.8s 22.00nm 5.4mb
INK 83.81 22 ePd 08 09.20 0.3
SOD 84.29 338 iP 08 11.60 0.2

MBC 85.32 13 ePd 08 16.80 0.4
0.8s 36.00nm 5.7mb
SUF 85.61 333 iP 08 17.50 -0.5
0.7s 44.30nm 5.8mb
SRFA 86.48 299 eP 08 24.50 1.5
HQL 86.54 299 eP 08 24.60 1.3
BADA 86.71 298 eP 08 25.50 1.3
NUR 86.88 331 iP 08 24.80 0.5
0.7s 33.40nm 5.7mb
PPE 88.84 317 eP 08 33.70 -0.3
KHL 89.28 309 eP 08 35.70 -0.7
ELL 89.32 307 eP 08 36.00 -0.7
VRI 89.52 317 eP 08 37.00 -0.3
MLR 90.15 316 eP 08 41.00 0.6
MAW 90.16 200 eP 08 40.00 0.3
HFS 92.11 333 eP 08 47.70 -1.3
0.5s 8.60nm 5.4mb
KRA 92.65 322 eP 08 52.00 0.4
KSP 94.54 323 ePc 09 00.80 0.5
PRU 95.91 323 eP 09 07.50 0.9
CLL 96.25 325 iPc 09 08.20 0.1
PNT 96.83 37 eP 09 11.00 0.1
KHC 96.83 323 iPc 09 11.50 0.6
VBY 97.25 319 e(P) 09 13.40 0.6
MOX 97.33 325 eP 09 13.00 -0.1
CEY 97.69 319 e(P) 09 15.00 0.2
VOY 97.91 320 eP 09 15.70 -0.2
GRF 97.98 324 eP 09 16.80 0.8
EDM 98.52 32 ePd 09 18.50 0.1
OGA 99.36 321 iPc 09 23.30 0.7
SES 101.21 34 ePdiff09 17.00 -13.5X
RSSD 108.67 36 PKP 14 08.50 -1.1
GOL 110.40 41 PKP 14 13.00 -0.1
ALQ 112.24 45 ePKP 14 16.00 -0.6
SIO 118.51 39 ePKP 14 28.50 0.1
TUL 118.72 39 ePKP 14 28.80 0.1
1.3s 11.20nm
Z 22s 0.32um 4.9Msz
LR 51 38.00
LNO 118.72 39 ePKP 14 28.70 0.1
FVM 120.43 34 PKP 14 31.00 -0.9
UYO 120.69 40 iPKPd 14 32.30 -0.2
RSCP 124.80 32 PKP 14 39.90 -0.5
PRM 127.63 31 PKP 14 45.50 -0.4
KIC 129.03 287 PKP 14 49.50 0.4
TIC 129.20 288 PKP 14 49.80 0.3
LIC 129.34 287 PKP 14 50.10 0.4
UPA 147.31 55 iPKPd 15 24.00 1.8
1.0s 130.00nm
LPB 164.23 114 PKP 15 48.00 3.7X
i 16 43.00
CNCB 164.24 115 PKP 15 46.50 2.0X
i 16 42.00
PDCR 166.18 260 ePKP 15 42.40 -3.0X
PPD 168.44 188 ePKP 15 47.50 0.6
e 15 50.80
e 16 56.40
S.D. = 1.0 on 128 of 142 obs.

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* OCT 02, 1989 08h 15m 42.11± 1.37s
37.666 N ± 7.9km 15.221 E ±11.3km
DEPTH = 10.0km (geophysicist)
SICILY (398)

MNO 0.49 303 P 15 51.90 -0.3
eSg 16 01.00
MEU 0.61 202 P 15 54.30 -0.2
eSg 16 01.50
GIB 1.00 289 P 16 00.90 -0.2
eSg 16 15.40
MCT 1.26 269 P 16 06.20 0.5
MGR 2.48 6 P 16 23.30 0.1
S.D. = 0.5 on 5 of 5 obs.

OCT 02, 1989 08h 17m 05.26± 0.53s
46.653 N ± 5.9km 9.824 E ± 4.5km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)

OSS 0.22 81 iPc 17 08.80 -1.4
VDL 0.30 236 iPc 17 10.80 -0.7
SAX 0.68 331 ePc 17 18.40 -0.6
OGA 0.85 75 iPgc 17 20.40 -1.5
TMA 0.86 231 ePc 17 21.40 -0.5
MDI 0.88 185 P 17 22.30 0.2
eSg 17 32.90
VAI 1.07 223 Pc 17 25.20 -0.2

			eSg	17	40.90	
ZLA	1.28	311	iPc	17	29.80	0.7
CTI	1.40	115	P	17	32.00	1.0
MMK	1.42	246	eP	17	30.70	-0.6
SLE	1.44	321	iPc	17	31.90	0.5
DIX	1.77	252	eP	17	37.30	1.0
FVI	2.04	91	P	17	42.00	2.0
			eSn	18	09.50	

S.D. = 1.1 on 13 of 13 obs.

OCT 02, 1989 09h 08m 39.70± 0.65s
50.749 N ± 7.2km 130.029 W ± 7.7km
DEPTH = 10.0km (geophysicist)
3.8mb (4 obs.)
VANCOUVER ISLAND REGION (25)

PHC	1.65	90	Pnc	09	08.90	0.1
			eSn	09	31.80	
BBB	1.87	39	Pnd	09	10.80	-1.2
			Sn	09	34.00	
EDB	2.06	114	Pnc	09	13.51	-1.2
ETB	2.64	120	Pnc	09	21.71	-1.3
GDR	2.73	109	Pnc	09	23.60	-0.7
BTB	3.17	112	Pnc	09	29.93	-0.8
OZB	3.44	120	Pn	09	33.01	-1.4
OTR	4.57	124	eP	09	50.70	0.2
OBC	4.74	123	eP	09	53.71	0.7
STW	4.90	120	eP	09	54.82	-0.2
MCW	5.11	111	eP	09	58.13	0.0
BLN	5.36	118	eP	10	01.60	-0.1
OHW	5.45	114	eP	10	04.83	1.9
HDW	5.53	121	eP	10	04.05	0.0
MBW	5.62	107	eP	10	05.32	-0.2
CMW	5.65	111	eP	10	05.98	0.2
PGW	5.68	118	eP	10	08.12	2.1
GMW	5.73	121	eP	10	07.20	0.3
JCW	5.87	113	eP	10	08.85	0.1
RMW	6.32	118	eP	10	15.50	0.2
LON	6.75	123	eP	10	21.40	0.2
PNT	6.86	98	eP	10	24.00	1.2
SHW	6.90	128	eP	10	23.60	0.2
DPW	8.25	106	eP	10	41.50	-0.7
EDM	10.58	70	eP	11	15.50	1.1
MIN	11.95	147	eP	11	36.70	3.6X
SES	12.08	84	eP	11	34.00	-0.7
LRM	12.69	106	eP	11	42.40	-0.8
KVN	14.41	140	eP	12	10.00	4.3X
PMR	15.13	323	eP	12	14.50	-0.3
TNP	15.59	139	eP	12	20.00	-1.2
	0.7s		2.44nm			3.6mb
BW06	16.10	112	eP	12	29.50	1.7
	1.0s		6.56nm			3.7mb
FBA	16.95	333	eP	12	39.80	1.7
	1.1s		9.38nm			3.8mb
RSSD	18.73	101	eP	13	01.00	0.4
IMA	19.53	331	eP	13	09.00	-0.9
GOL	20.48	113	e(P)	13	20.00	-0.5
GLD	20.54	113	e(P)	13	20.00	-0.9
GLA	20.92	142	eP	13	25.00	0.3
ALO	23.27	124	eP	13	49.00	0.7
	1.0s		4.00nm			3.9mb

S.D. = 1.0 on 37 of 39 obs.

? OCT 02, 1989 10h 00m 32.07± 0.59s
76.462 N ±25.6km 133.411 E ±18.5km
DEPTH = 10.0km (geophysicist)
4.5mb (9 obs.)
LAPTEV SEA (655)

MBC	22.04	38	eP	05	30.00	2.2
	1.0s		12.00nm			4.3mb
IMA	23.72	76	eP	05	44.60	0.1
	0.9s		7.80nm			4.3mb
TTA	25.84	82	eP	06	04.30	-0.4
FBA	26.03	72	eP	06	08.60	2.2
INK	26.17	57	eP	06	08.50	0.9
			pP	06	32.00	108kmX
EDM	43.89	53	eP	08	40.30	0.5
	0.8s		23.00nm			5.0mb
RMW	47.70	63	P	09	10.50	0.3
LON	48.37	63	P	09	15.00	-0.4
GUN	53.61	234	P	09	58.18	2.5
	0.6s		9.00nm			4.9mb
GKN	53.76	236	P	09	55.60	-0.9
KKN	53.84	235	P	09	57.56	0.4
	0.7s		7.00nm			4.8mb
KVN	56.52	62	eP	10	17.00	0.4
TNP	57.64	62	P	10	23.00	-1.5
	0.6s		2.13nm			4.4mb
MSU	58.25	57	P	10	28.50	-0.3
GOL	58.39	51	P	10	29.60	-0.2
CHTO	60.30	218	eP	10	41.70	-1.1
	0.7s		1.75nm			4.3mb
ALO	62.81	53	eP	10	58.00	-1.9
	0.8s		1.87nm			4.3mb
GLA	62.99	61	P	11	01.00	0.2
LNO	63.73	43	eP	11	05.00	-0.5
TUL	63.73	43	eP	11	05.10	-0.6
	0.7s		12.10nm			5.2mb
UYO	65.65	42	iPd	11	16.30	-1.8

S.D. = 1.3 on 21 of 21 obs.

? OCT 02, 1989 10h 33m 26.21± 6.19s
24.433 N ±10.6km 122.369 E ±56.6km
DEPTH = 33.0km (normal)
TAIWAN REGION (243)

TWC	0.51	290	iPd	33	37.00	0.1
			eS	33	50.00	
TWD	0.79	244	iPd	33	40.60	-0.3
			eS	33	57.50	
TWZ	0.98	313	iPd	33	43.50	-0.1
			eS	34	03.00	
TWK	2.08	236	iPd	33	59.40	-0.1
TWM1	2.40	228	iPc	34	04.10	0.1

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

• OCT 02, 1989 10h 36m 41.35± 0.68s
8.879 S ±16.8km 124.571 E ±25.0km
DEPTH = 33.0km (normal)
4.8mb (5 obs.)
TIMOR (289)

MTN	7.55	122	iPc	38	36.70	4.7X
			eS	39	58.30	
KNA	7.96	149	eP	38	38.20	0.5
	0.2s		30.00nm			6.0mb X
			eS	40	04.00	
TLE	8.73	69	iPc	38	04.10	-44.2X
MBL	13.04	200	eP	39	42.50	-4.4X
WB5	14.47	140	iPc	40	05.00	-0.8
			eS	42	39.50	
ASPA	17.20	150	iPc	40	41.40	0.5
	0.6s		29.00nm			4.6mb
	Z 20s		0.14um			
			eS	43	45.50	
			LR	47	26.00	
WARB	17.32	174	eP	40	41.20	-1.2
			eS	43	45.00	
QIS	18.59	130	eP	41	01.00	3.0X
			eS	44	15.00	
FORR	22.11	172	eP	41	36.70	1.2
GUN	52.33	316	P	45	52.80	0.0
	0.5s		12.00nm			5.1mb
PKI	52.44	315	P	45	53.64	-0.1
	0.5s		8.00nm			4.9mb
KKN	52.67	315	P	45	55.40	0.2
	0.5s		4.00nm			4.6mb
DMN	52.68	315	P	45	55.30	-0.1
GKN	53.25	315	P	45	59.30	-0.1
	0.5s		6.00nm			4.8mb

S.D. = 0.8 on 10 of 14 obs.

OCT 02, 1989 11h 41m 55.62± 0.37s
33.646 N ± 4.8km 34.819 E ± 6.1km
DEPTH = 28.5 ± 4.1 km
3.7mb (2 obs.)
EASTERN MEDITERRANEAN SEA (371)
ML 4.1 (CSS), 3.7 (BHL). MD 4.1 (HLW). Felt ot Hoifo, Afulo, ond in other ports of northern Isroel.

ADI	0.66	149	iPc	42	08.60	0.0
HRI	0.86	116	iPd	42	10.50	-1.2
ATZ	0.90	155	iPc	42	12.60	0.2
			eS	42	21.00	
SHMJ	1.21	139	Pc	42	16.70	0.0
MML	1.31	157	iPc	42	18.70	0.6
ZNT	1.42	173	eP	42	20.30	0.7
			eS	42	36.80	
FAM	1.51	334	eP	42	21.70	0.8
BURJ	1.63	149	P	42	22.65	-0.2
JARJ	1.69	146	Pd	42	23.40	-0.4
SALJ	1.79	156	Pc	42	24.33	-0.8
CSS	1.80	317	eP	42	25.70	0.5
			eS	42	47.80	
KFNJ	1.92	158	Pc	42	26.34	-0.6
HLBJ	2.00	141	Pc	42	27.12	-1.1
MKRJ	2.20	161	Pc	42	30.49	-0.5
PPCY	2.39	302	eP	42	35.30	1.6
QUTJ	2.55	156	P	42	34.68	-1.3
SHBJ	2.68	119	Pc	42	36.20	-1.6
RUWJ	3.56	108	Pc	42	44.05	-6.4X
HOL	4.37	177	eP	43	02.00	0.3
KOT	4.49	215	eP	43	04.00	0.5
			eS	43	51.75	
HLW	4.80	219	ePnd	43	08.00	0.2
			eSn	44	01.00	
AYN	4.87	168	eP	43	08.30	-0.5
KSL	4.96	301	eP	43	09.90	-0.2
ELL	5.07	309	ePn	43	12.90	1.0
BCK	5.14	319	ePn	43	13.30	0.6
KHL	6.34	319	ePn	43	29.50	-0.2
YER	6.37	305	iPn	43	29.80	-0.3
BBTK	6.40	346	eP	43	31.00	0.4
			eS	44	48.00	
CIN	6.75	308	iPc	43	35.00	-0.4
MSL	7.36	66	ePd	44	14.50	30.6X
			eS	45	37.00	
SMG	7.65	304	eP	43	46.50	-1.5
IZM	7.74	310	iPn	43	46.70	-2.6
NPS	7.77	285	eP	43	48.30	-1.4
BHD	8.00	90	ePd	44	25.00	32.1X
			eS	46	05.00	
			e	46	22.00	
APE	8.32	297	eP	43	56.30	-1.0
PRK	8.87	312	eP	44	03.50	-1.3
VAM	8.94	284	eP	44	04.50	-1.3
VLI	10.20	291	eP	44	19.90	-3.3X
ITM	11.09	292	eP	44	32.80	-2.7
OHR	13.40	308	eP	45	15.00	8.6X
LPG	24.53	307	eP	47	15.40	1.2
	0.7s		2.60nm			3.9mb
CDF	25.30	314	eP	47	21.70	0.4
HAU	25.70	312	eP	47	25.30	0.4
BCAO	32.78	211	e(P)	48	28.30	-0.3
	0.6s		0.30nm			3.4mb

S.D. = 1.0 on 39 of 44 obs.

OCT 02, 1989 12h 19m 18.74± 0.60s
52.584 N ±13.7km 169.215 W ± 6.8km
DEPTH = 33.0km (normal)
4.8mb (8 obs.)
FOX ISLANDS, ALEUTIAN ISLANDS (9)

ADK	4.64	264	eP	20	29.50	1.2
KDC	10.86	55	eP	21	53.90	-0.9
SVW	11.31	36	eP	22	06.50	5.6X
TTA	12.51	29	eP	22	22.10	5.0X
PMR	14.10	42	eP	22	38.90	0.9
TOA	15.58	43	eP	22	57.40	0.1
FBA	16.49	33	eP	23	09.30	0.5
INK	23.12	34	eP	24	21.00	-1.2
MBC	30.30	21	eP	25	30.00	1.4
	0.5s		2.00nm			4.2mb
LON	30.77	82	eP	25	34.50	1.4
BW06	40.27	79	eP	26	53.80	-0.4
GOL	44.64	80	eP	27	29.50	-0.5
SSE	53.87	275	eP	28	40.50	-0.1
	1.2s		0.03nm			2.2mb X
GTA	60.47	297	eP	29	26.60	-0.9
GYA	65.98	282	P	30	05.20	1.2
NB2	66.73	360	P	30	08.70	0.5
	0.6s		3.20nm			4.6mb
HFS	67.61	358	eP	30	13.10	-0.6
	0.4s		6.40nm			5.1mb
GUN	76.70	299	P	31	08.28	-0.3
KKN	77.12	299	P	31	10.20	-0.5
	0.5s		6.00nm			4.9mb
PKI	77.22	299	Pc	31	10.90	-0.5
	0.7s		5.00nm			4.7mb
GKN	77.29	299	P	31	11.16	-0.4
	0.4s		5.00nm			4.9mb
DMN	77.36	299	P	31	11.80	-0.2
	0.6s		6.00nm			4.8mb
GBA	92.86	297	Pd	32	28.60	-0.8
	0.4s		1.20nm			4.7mb
BUL	144.79	330	iPKPc	38	54.00	0.2
	0.9s		4.20nm			

S.D. = 0.8 on 22 of 24 obs.

* OCT 02, 1989 12h 20m 36.90± 0.90s
33.684 N ± 9.6km 34.866 E ± 9.7km
DEPTH = 33.0km (normal)
EASTERN MEDITERRANEAN SEA (371)
ML 3.3 (CSS), 3.0 (JER). Felt at Haifa and Afula, Israel.

ADI	0.67	153	iPc	20 49.30	-0.7
HRI	0.84	119	iPd	20 51.30	-1.1
ATZ	0.92	158	iPc	20 53.30	-0.3
			eS	21 04.80	
SHMJ	1.22	141	Pc	20 57.20	-0.5
MML	1.33	160	iPc	20 59.40	0.1
ZNT	1.45	174	iP	21 01.40	0.4
			eS	21 20.40	
BURJ	1.64	151	Pd	21 03.80	-0.1
CSS	1.80	316	eP	21 06.40	0.3
			eS	21 26.80	
KFNJ	1.94	159	P	21 08.80	0.7
HLBJ	2.01	143	P	21 11.30	2.1
MASJ	2.08	160	Pd	21 09.60	-0.6
MKRJ	2.22	163	Pd	21 12.50	0.3
KOT	4.55	215	eP	21 44.50	-0.7

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

OCT 02, 1989 12h 32m 30.94± 0.78s
49.172 N ± 4.5km 6.806 E ±11.2km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
MD 2.0 (STR).

RUP	0.56	17	ePg	32 42.21	-0.1
CDF	0.82	158	Pg	32 46.89	0.0
			Sg	32 58.39	
WLS	0.84	154	Pg	32 46.29	-0.9
ABH	0.86	34	ePn	32 47.51	0.0
ECH	0.98	166	Pg	32 49.79	0.1
			Sg	33 02.94	
VITF	1.10	210	Pg	32 51.46	-0.1
MOF	1.34	171	Pg	32 55.85	0.2
			Sg	33 14.14	
BSF	1.34	180	Pg	32 55.82	0.1
			Sg	33 14.75	
FEL	1.52	148	Pg	32 59.07	0.7
			Sg	33 19.03	

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

% OCT 02, 1989 13h 11m 06.71± 0.58s
60.714 N ± 4.8km 5.508 E ± 6.4km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 1.8 (BER).

ASK	0.28	214	iPg	11 12.70	0.2
			eS	11 16.61	
SUE	0.50	314	eP	11 16.76	-0.1
			eS	11 23.59	
HYA	0.56	36	iP	11 17.38	-0.7
			iS	11 25.66	
ODD1	0.98	145	eP	11 24.71	-0.6
			eS	11 37.04	
KMY	1.51	185	eP	11 33.35	-0.5
			eS	11 55.01	
BLS2	1.59	153	eP	11 35.81	0.7
			eS	11 56.56	
MOL	2.10	27	eP	11 42.97	0.6
			eS	12 09.00	
NRA0	2.96	87	eP	11 54.90	0.3
			iSg	12 37.10	

S.D. = 0.6 on 8 of 8 obs.

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* OCT 02, 1989 13h 44m 38.92± 1.51s
36.558 N ±14.2km 22.049 E ±13.8km
DEPTH = 33.0km (normal)
SOUTHERN GREECE (368)
ML 3.5 (ATH).

ITM	0.63	351	ePb	44 51.20	-0.2
VLI	0.73	77	ePg	44 51.50	-1.3
ATH	1.94	43	ePg	45 18.50	8.3X
VLS	1.99	325	ePn	45 09.50	-1.4
VAM	2.09	123	ePn	45 13.00	0.7
APE	2.84	79	ePb	45 28.50	5.5X
NEO	2.90	18	ePn	45 24.50	0.7
NPS	3.17	113	ePb	45 32.00	4.4X
LIT	3.55	5	eP	45 33.50	0.4
KEK	3.62	331	ePn	45 34.90	1.0
KZN	3.75	357	ePn	45 36.00	0.1

S.D. = 1.1 on 8 of 11 obs.

& OCT 02, 1989 14h 01m 43.55s
57.494 N 142.877 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

MID	2.66	318	eP	02 20.60	-6.6
HQN	2.88	45	iP	02 24.28	-6.0
			eS	02 52.57	
YAH	2.94	11	iP	02 26.48	-4.9
			iS	02 55.35	
PCA	2.95	26	iP	02 26.09	-5.2
			eS	02 57.13	
BCPM	2.99	33	iP	02 26.45	-5.4
			eS	02 58.65	
TGL	3.27	0	eP	02 30.51	-5.5
			eS	03 07.01	
MTU	3.53	317	eP	02 32.73	-6.8
BALM	3.56	4	iP	02 34.78	-5.3
			eS	03 11.87	
CTGM	3.57	12	eP	02 34.97	-5.3
			eS	03 09.64	
FID	3.76	332	eP	02 36.72	-6.1
			eS	03 15.84	
GLB	3.99	354	eP	02 40.19	-5.9
			eS	03 23.72	
GLI	4.03	329	eP	02 39.76	-6.8
			eS	03 21.02	
VZW	4.04	334	eP	02 40.02	-6.8
			eS	03 23.51	
VLZ	4.06	336	eP	02 39.72	-7.2
			eS	03 23.66	
KLU	4.30	340	eP	02 43.84	-6.7
			eS	03 30.59	
SEW	4.30	310	eP	02 42.89	-7.6
			eS	03 30.29	
HYT	4.34	37	P	02 45.70	-5.4
CNPM	4.83	298	eP	02 50.04	-8.0
			eS	03 42.51	
SLKM	4.85	312	eP	02 50.99	-7.3
			eS	03 41.78	
NCA	4.94	338	eP	02 54.05	-5.5
NNL	5.07	304	eP	02 54.64	-6.7
PMS	5.08	321	eP	02 53.94	-7.6
KDC	5.18	277	eP	02 55.07	-7.7
PME	5.19	326	eP	02 58.39	-4.7
PWA	5.48	322	eP	03 01.42	-5.7
RDT	5.81	306	eP	03 04.00	-7.8
AUE	5.82	293	eP	03 05.70	-6.2
OPT	5.83	296	eP	03 04.54	-7.6
ILIM	5.85	301	eP	03 03.94	-8.4
CDD	5.87	289	eP	03 04.88	-7.8
RED	5.90	304	eP	03 05.67	-7.5
SPU	5.98	312	eP	03 06.55	-7.6
CGLM	6.03	313	eP	03 07.78	-7.2
CRP	6.06	312	eP	03 08.68	-6.8
CKL	6.10	311	eP	03 08.56	-7.4
NCG	6.14	314	eP	03 09.35	-7.2
BGL	6.16	312	eP	03 09.75	-7.0
CUT	6.17	326	eP	03 10.65	-6.1
SKT	6.27	319	eP	03 10.40	-8.0

39 obs. associated

? OCT 02, 1989 15h 02m 32.11± 1.40s
28.864 S ±19.2km 26.988 E ±17.2km
DEPTH = 5.0km (geophysicist)
REPUBLIC OF SOUTH AFRICA (5B4)

BLF	0.74	251	iPc	02 51.00	4.0X
			S	03 17.80	
SEK	0.78	46	iPd	02 47.00	-0.8
			S	03 11.50	
FRS	1.70	238	iPc	03 02.50	-0.1
BFS	1.97	355	iPd	03 06.50	-0.1
			S	03 57.00	
BFT	4.17	41	eP	03 39.00	1.0
			S	04 25.50	

S.D. = 1.3 on 4 of 5 obs.

OCT 02, 1989 15h 22m 01.94± 0.65s
4.854 N ± 6.6km 78.412 W ± 8.8km
DEPTH = 9.8 ± 4.3 km
4.7mb (7 obs.)

SOUTH OF PANAMA (83)

ANCC	2.04	131	ePc	22 36.00	-0.7
CLMC	2.08	118	iPc	22 37.20	-0.3
HOQC	2.25	128	iPc	22 39.00	-1.0
SALC	2.54	137	iPc	22 43.00	-1.0
DIAC	2.70	125	iPc	22 45.40	-1.0
PURC	3.24	141	P	22 53.60	-0.8
UPA	4.25	345	eP	23 08.30	0.1
	0.8s		20.90nm		
			i	23 20.20	
			i	23 53.50	
			S	24 49.20	
BOG	4.34	93	eP	23 12.00	2.2
			eS	24 09.00	
RECU	5.46	182	eP	23 26.70	0.8
BMG	5.75	67	iPd	23 42.00	12.5X
ACR	6.04	309	iP	23 17.60	-16.0X
JCR	6.81	317	iPc	23 50.20	5.7X
			S	24 24.60	
LIO	6.87	318	iP	23 41.00	-4.2X
			S	24 03.00	
QCR	7.30	309	iPc	23 37.60	-13.7X
			S	24 02.50	
LCR2	7.37	312	iP	23 40.00	-12.5X
			S	24 13.00	
SJS	7.54	312	iPc	23 43.30	-11.4X
			S	24 13.50	
ZOBO	23.33	154	P	27 10.00	-2.0
	1.0s		7.50nm		4.2mb
Z	24s		0.15um		3.4MszX
			LR	35 28.00	
LPB	23.57	155	eP	27 16.00	1.8
CNCB	23.87	155	P	27 18.00	0.8
CCH	25.20	152	P	27 30.50	0.7
RSCP	31.30	349	P	28 24.70	0.1
	0.6s		12.08nm		5.0mb
BLA	32.26	357	P	28 33.50	0.6
UYO	32.75	335	iPd	28 36.80	-0.4
TUL	34.81	335	e(P)	28 54.30	-0.7
	1.0s		10.70nm		4.7mb
ALO	39.61	323	eP	29 36.10	0.4
	0.9s		4.83nm		4.2mb
GLD	42.34	329	P	29 58.50	0.5
	0.8s		47.06nm		5.3mb
GOL	42.38	329	P	29 59.00	0.5
RSSD	45.14	334	P	30 21.00	0.2
BW06	46.78	328	P	30 33.80	0.0
TNP	48.36	319	P	30 46.80	0.5
KVN	49.47	319	P	30 54.70	-0.1
LRM	50.39	329	eP	31 01.40	-0.4
SES	53.01	334	eP	31 21.00	-0.2
FFC	53.25	343	eP	31 21.00	-1.9
	1.6s		58.00nm		5.3mb
LON	56.02	325	P	31 42.90	-0.4
PNT	56.35	329	eP	31 46.00	0.5
INK	73.14	341	eP	33 34.00	-0.3
MBC	74.83	351	eP	33 43.00	-0.9
	1.0s		6.00nm		4.6mb
GKN	143.47	26	PKP	41 34.86	-4.7X
ASPA	143.68	236	iPKPd	41 35.40	-4.4X
	0.8s		15.00nm		
KKN	143.93	25	PKP	41 36.58	-3.8X
	0.7s		12.00nm		
DMN	144.02	25	PKP	41 37.26	-3.3X
	0.8s		42.00nm		
GUN	144.07	24	PKP	41 37.64	-3.2X
	0.9s		56.00nm		
PKI	144.18	25	PKP	41 37.40	-3.6X
	0.9s		25.00nm		
WB5	144.77	242	ePKP	41 39.50	-2.2X
GBA	149.82	52	PKP	41 54.00	4.1X

S.D. = 1.0 on 31 of 46 obs.

? OCT 02, 1989 15h 24m 10.27± 8.41s
41.411 N ±47.0km 28.264 E ±35.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

CTT	0.29	155	ePg	24 16.60	0.2
ISK	0.69	120	ePg	24 23.40	-0.5
KCT	1.16	176	iPg	24 32.00	0.0
YLV	1.19	135	iPg	24 32.00	-0.5
HRT	1.21	119	ePg	24 33.70	0.8
			eSg	24 48.70	

S.D. = 0.8 on 5 of 5 obs.

% OCT 02, 1989 15h 54m 54.70± 0.59s
60.650 N ± 5.0km 5.904 E ± 5.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.9 (BER).

ASK	0.39	245	iP	55	02.40	-0.2
			eS	55	05.84	
HYA	0.54	15	eP	55	05.75	0.2
			eS	55	14.71	
SUE	0.69	307	iP	55	08.30	-0.1
			eS	55	19.06	
ODD1	0.82	154	iP	55	10.33	-0.3
			eS	55	21.20	
BLS1	1.35	159	iP	55	19.81	0.3
			eS	55	37.80	
KMY	1.48	193	eP	55	21.76	0.4
			eS	55	40.76	
NRA0	2.77	86	eP	55	39.70	-0.3
			iSg	56	21.80	

S.D. = 0.4 on 7 of 7 obs.

? OCT 02, 1989 16h 07m 05.90± 5.86s
24.602 S ±18.7km 111.586 E ±53.7km
DEPTH = 10.0km (geophysicist)
WEST OF AUSTRALIA (589)

NANU	4.15	61	eP	08	11.00	0.4
			eS	09	01.00	
MRWA	6.05	140	iPc	08	39.50	1.9
			eS	09	48.00	
MEKA	6.58	109	eP	08	46.50	1.3
			eS	10	04.70	
BAL	7.51	144	eP	08	58.30	0.2
			eS	10	23.00	
MBL	8.34	67	eP	09	10.00	0.3
			iS	10	39.50	
MUN	8.40	152	eP	09	10.10	-0.5
			eS	10	40.00	
KLB	8.84	143	eP	09	16.00	-0.7
COOL	10.52	129	eP	09	39.00	-0.9
	0.3s		4.00nm			5.3mb X
			iS	11	33.50	
WARB	13.70	100	eP	10	20.70	-2.0
			eS	12	52.00	

S.D. = 1.4 on 9 of 9 obs.

OCT 02, 1989 16h 23m 08.43± 0.47s
44.376 N ± 5.0km 7.369 E ± 4.7km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.3 (GEN).

STV	0.14	194	P	23	11.93	0.2
			S	23	15.21	
ENR	0.15	166	P	23	11.83	-0.2
			S	23	14.91	
DOI	0.16	325	Pc	23	11.90	-0.2
			eSg	23	14.50	
PZZ	0.23	304	P	23	13.47	0.0
			S	23	17.47	
ROB	0.37	103	P	23	15.93	-0.1
			S	23	21.16	
IMI	0.60	141	P	23	20.85	0.3
			S	23	29.78	
FIN	0.63	105	P	23	20.65	-0.4
			S	23	29.57	
RRL	0.69	323	P	23	22.29	0.1
			S	23	31.84	
PCP	0.86	78	P	23	25.37	0.4
			S	23	36.46	

S.D. = 0.3 on 9 of 9 obs.

? OCT 02, 1989 16h 43m 25.89± 1.06s
42.408 N ± 9.9km 7.123 W ±11.3km
DEPTH = 10.0km (geophysicist)
SPAIN (377)

ERUA	0.02	222	iP	43	26.80	-1.1
			eS	43	30.20	
EMON	1.04	352	iP	43	44.90	-0.6
			eS	44	00.30	
STS	1.16	295	eP	43	48.30	0.8
			eS	44	05.30	
GUD	2.84	127	eP	44	12.80	0.5
			eS	44	45.00	

S.D. = 1.5 on 4 of 4 obs.

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* OCT 02, 1989 18h 01m 18.68± 1.56s
35.498 N ±16.3km 26.405 E ±12.1km
DEPTH = 33.0km (normal)
CRETE (370)
MD 3.3 (ATH).

NPS	0.69	250	iPnd	01	32.00	0.0
			eSn	01	43.00	
APE	1.72	336	ePn	01	47.00	0.2
VAM	1.80	268	ePn	01	48.10	0.2
YER	2.23	42	ePn	01	54.00	-0.1
VLI	3.06	294	ePn	02	05.50	-0.4

S.D. = 0.3 on 5 of 5 obs.

? OCT 02, 1989 20h 32m 15.57± 0.97s
39.218 N ± 8.7km 20.413 E ±10.2km
DEPTH = 10.0km (geophysicist)
GREECE-ALBANIA BORDER REGION (392)
MD 2.7 (ATH).

KEK	0.69	316	eP	32	29.00	-0.2
VLS	1.05	172	eP	32	35.50	0.2
KZN	1.51	43	eP	32	43.20	0.5
			eS	33	03.00	
OHR	1.91	9	ePn	32	59.00	10.4X
NEO	2.18	87	eP	32	52.00	-0.5

S.D. = 0.7 on 4 of 5 obs.

? OCT 02, 1989 20h 55m 58.03± 1.87s
37.852 N ±14.1km 30.310 E ±16.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

BCK	0.45	150	ePg	56	06.90	-0.3
			eSg	56	13.80	
KHL	0.78	307	iPg	56	13.60	0.3
			iSg	56	27.00	
ELL	1.15	196	ePn	56	20.40	0.8
YER	1.76	247	ePn	56	28.00	-0.9
YLV	2.81	345	ePn	56	49.00	5.2X

S.D. = 1.3 on 4 of 5 obs.

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* OCT 02, 1989 21h 04m 39.04± 2.72s
37.599 N ±16.6km 27.222 E ±19.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
MD 3.3 (ATH).

SMG	0.32	290	iPgc	04	45.50	-0.3
CIN	0.69	90	iPgd	05	00.00	7.4X
			iSg	05	20.00	
IZM	0.80	2	iPg	04	54.20	-0.4
			iSg	05	05.20	
YER	0.96	118	ePn	05	06.20	8.8X
APE	1.45	249	ePb	05	05.30	0.0
			eSb	05	27.00	
PRK	1.81	336	ePn	05	11.60	1.2
KHL	1.96	68	iPn	05	25.50	12.8X
EZN	2.33	343	ePn	05	18.00	0.0
EDC	2.79	10	ePn	05	30.00	5.5X
KCT	2.79	18	ePn	05	30.00	5.4X
BNT	2.81	11	ePn	05	28.00	3.2X
YLV	3.40	29	ePn	05	43.00	9.7X
RDO	3.78	340	ePn	05	37.70	-0.8

S.D. = 0.9 on 6 of 13 obs.

OCT 02, 1989 21h 08m 29.14± 0.70s
37.780 N ± 6.5km 26.959 E ± 7.0km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
MD 3.3 (ATH).

SMG	0.12	234	iPgc	08	32.10	0.0
IZM	0.66	21	iPg	08	40.20	-2.1
			iSg	08	51.20	
CIN	0.91	101	iPgd	08	46.00	-0.6
			iSg	09	00.00	
YER	1.23	121	iPn	08	52.70	0.6
APE	1.34	238	ePg	08	53.50	-0.4
			eSb	09	13.00	
PRK	1.56	340	ePn	08	58.00	1.1
KHL	2.10	74	ePn	09	09.00	4.2X
EZN	2.10	347	ePn	09	05.00	0.2
EDC	2.66	15	ePn	09	15.00	2.2
BNT	2.68	16	ePn	09	13.00	-0.1
KCT	2.70	23	ePn	09	16.90	3.6X
YLV	3.36	33	ePn	09	23.00	0.3
RDO	3.54	342	ePn	09	24.00	-1.2

S.D. = 1.3 on 11 of 13 obs.

% OCT 02, 1989 21h 36m 22.06± 0.87s
40.365 N ± 7.3km 23.144 E ± 6.3km
DEPTH = 10.0km (geophysicist)
GREECE (364)

THE	0.30	333	ePgd	36	28.30	0.0
			eSg	36	32.20	
LIT	0.57	242	ePg	36	33.60	0.0
			eSg	36	40.80	
OUR	0.64	92	ePg	36	34.80	-0.1
			eSg	36	44.20	
GRG	0.82	317	ePg	36	38.00	0.1
			eSg	36	49.40	
KNT	0.82	347	ePgc	36	37.60	-0.3
			eSg	36	49.00	
SRS	0.83	24	ePg	36	38.30	0.3
			eSg	36	50.10	

S.D. = 0.2 on 6 of 6 obs.

OCT 02, 1989 21h 41m 10.62± 0.55s
38.732 N ± 4.2km 23.608 E ± 8.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 3.2 (ATH).

NEO	0.65	333	ePn	41	22.00	-1.6
ATH	0.76	174	ePn	41	25.50	0.0
			eSn	41	38.70	
LIT	1.62	328	ePb	41	38.30	-1.0
			eSb	41	58.40	
OUR	1.63	10	ePb	41	39.80	0.5
PLG	1.64	356	ePn	41	39.50	-0.2
THE	1.96	346	ePb	41	44.20	0.0
ITM	2.04	221	ePn	41	45.00	-0.4
VLI	2.08	195	ePn	41	45.50	-0.5
KZN	2.12	318	ePb	41	48.30	1.7
APE	2.25	137	ePn	41	49.00	0.5
SRS	2.38	360	ePn	41	50.00	-0.3
			eSn	42	18.80	
VLS	2.43	258	ePn	41	51.20	0.1
KNT	2.49	348	ePn	41	51.50	-0.3
OHR	3.21	319	ePn	42	03.70	1.6

S.D. = 0.9 on 14 of 14 obs.

OCT 02, 1989 22h 10m 16.22± 0.29s
47.071 N ± 7.4km 156.299 E ± 4.1km
DEPTH = 33.0km (normal)
5.0mb (29 obs.)
KURIL ISLANDS REGION (222)

KUSJ	9.11	248	P	12	21.60	-6.7X
			S	13	54.80	
ASAJ	10.02	258	eP	12	39.20	-1.6X
HOOJ	10.37	248	eP	12	41.50	-4.2X
			eS	14	28.80	
MAT	17.06	238	eP	14	13.00	-0.8X
	1.1s		41.77nm			4.5mb
			eS	17	37.00	
MDJ	18.74	272	eP	14	30.50	-3.9X
CN2	21.82	273	Pc	15	03.60	-3.7X
Z	15s		0.60um			4.1MszX
			eS	19	05.00	
SNY	23.83	269	iPc	15	27.00	0.1
	0.7s		0.02nm			1.8mb X
Z	13s		0.80um			4.4MszX
N	22s		0.80um			
			eS	19	31.00	
DL2	26.47	265	eP	15	51.00	-0.9
BJI	29.66	271	eP	16	25.00	4.2X
Z	15s		0.29um			4.0MszX
			eS	21	20.00	
TTA	30.73	41	eP	16	29.90	-0.3
NJ2	32.19	256	Pc	16	43.60	0.5
IMA	32.27	36	eP	16	43.30	-0.3
HHC	32.44	276	Pc	16	45.30	-0.1
TIY	33.34	270	Pc	16	57.50	4.3X
Z	16s		0.36um			4.2MszX
BTO	33.61	276	eP	16	54.00	-1.5
FBA	34.55	39	P	17	01.50	-1.8
	0.6s		7.64nm			4.8mb
WHN	36.13	258	eP	17	15.50	-1.5
XAN	37.72	267	P	17	30.00	-0.4
LZH	40.05	274	eP	17	51.50	1.5

02d 22h

	1.5s	0.04nm		1.9mb X	WET	79.04	337	iPc	22	19.30	1.0				e	04	42.00					
		pP	17	55.00 12kmX	ENN	79.25	341	e(P)	22	27.50	8.2X	LJU	3.98	349	eP	03	37.00	7.1X				
INK	40.20	33 ePd	17	51.50 0.9		1.0s	16.00nm			5.0mb					e(Sn)	04	32.00					
		pP	18	08.00 66kmX	ABH	79.71	340	eP	22	20.50	-1.4	VOY	4.08	343	ePn	03	30.30	-1.2				
GTA	41.07	281 Pd	17	58.60 0.4	BBTK	79.92	319	eP	22	24.00	0.8				eSn	04	21.30					
	1.2s	0.05nm		2.1mb X	VAL	80.70	352	eP	22	29.00	2.1	BOB	5.19	303	P	03	46.40	-0.8				
Z	16s	0.35um		4.3MszX	CDF	81.15	340	eP	22	28.90	-0.7		S.D. = 0.8		on	12	of	20 obs.				
CD2	43.08	267 eP	18	15.00 0.3	ZAG	81.15	333	eP	22	35.20	5.7X	---										
MBC	43.55	20 eP	18	19.00 1.1	FVI	81.40	336	P	22	38.40	7.7X	?	OCT 03, 1989 01h 58m 50.75± 4.40s									
	1.0s	6.00nm		4.3mb	FEL	81.47	339	eP	22	29.91	-1.4		36.468 N ±40.8km 28.529 E ±19.0km									
GYA	43.92	260 iPd	18	23.00 1.4	CTI	82.21	336	P	22	44.00	8.8X		DEPTH = 31.1 ± 8.7 km									
WMQ	46.83	292 P	18	44.50 -0.1	SKO	82.72	328	eP	22	34.00	-3.7X		DODECANESE ISLANDS								(369)	
LSA	52.43	275 P	19	28.80 0.6	GRR	82.87	345	eP	22	37.90	-0.5											
PNT	53.27	54 eP	19	34.00 0.3		0.9s	11.10nm			4.9mb		YER	0.69	344	iPg	59	04.50	0.2				
	0.8s	18.00nm		5.1mb	MDI	82.99	337	P	22	39.80	0.8				iSg	59	16.20					
LON	53.40	58 P	19	33.80 -0.9	LOR	83.00	341	eP	22	38.30	-0.8	ELL	1.14	75	ePn	59	10.90	0.1				
CHG	54.32	259 iPd	19	42.00 0.3		1.4s	14.80nm			4.9mb		CIN	1.18	343	iPgc	59	12.00	0.8				
	1.0s	22.50nm		5.2mb	VAI	83.15	338	P	22	40.40	0.6				iSg	59	29.00					
CHTO	54.32	259 iP	19	42.20 0.5	SSF	83.28	342	eP	22	39.90	-0.6	BCK	1.92	58	ePn	59	22.00	0.0				
		pP	19	52.00 32kmX		1.1s	4.80nm			4.5mb		KHL	2.01	23	ePn	59	23.00	-0.3				
WDC	56.43	65 e(P)	20	02.50 5.7X	AVF	83.57	342	eP	22	41.30	-0.7	IZM	2.17	333	iPn	59	24.80	-0.7				
GUN	57.14	277 Pd	20	01.96 -0.5		1.1s	9.70nm			4.9mb			S.D. = 0.8		on	6	of	6 obs.				
	0.6s	16.00nm		5.2mb	SMF	83.60	341	eP	22	41.70	-0.5	---										
MIN	57.14	64 e(P)	20	05.70 3.6X		1.0s	12.80nm			5.0mb			OCT 03, 1989 02h 15m 32.46± 0.44s									
SES	57.28	49 eP	20	02.00 -0.8	OHR	83.70	328	eP	22	39.00	-3.8X		41.210 S ± 6.4km 174.562 E ± 6.5km									
KKN	57.62	277 P	20	05.50 -0.1	LSD	83.94	339	P	22	52.17	7.9X		DEPTH = 44.8 ± 6.9 km									
	0.7s	52.00nm		5.7mb	BOB	84.00	337	P	22	45.20	0.9		4.7mb (2 obs.) 4.1Msz (1 obs.)									
PKI	57.68	277 Pd	20	05.78 -0.4	LPG	84.01	339	eP	22	44.80	0.2		COOK STRAIT, NEW ZEALAND								(163)	
ORV	57.68	65 eP	20	07.60 2.0		1.1s	9.70nm			4.9mb			Felt at Wellington.									
KEV	57.75	341 eP	20	04.00 -1.7	MME	84.18	336	P	22	46.70	1.2											
	0.7s	14.70nm		5.1mb	MAF	84.28	342	eP	22	45.50	-0.1	MRW	0.11	102	iPd	15	39.20	-0.1				
DMN	57.86	277 Pd	20	07.46 0.1		1.1s	12.20nm			5.0mb		WEL	0.17	116	iPc	15	39.60	-0.5				
	1.0s	110.00nm		5.9mb	BDI	84.33	336	P	22	46.50	0.5	TCW	0.22	269	iPd	15	40.60	0.2				
GKN	57.92	278 Pd	20	07.40 -0.3	FIR	84.41	335	eP	22	43.00	-3.2X	CAW	0.40	75	iPc	15	42.00	-0.2				
	0.7s	52.00nm		5.7mb	BNI	84.44	339	P	22	56.50	9.9X	KIW	0.44	37	P	15	42.90	0.2				
FFC	59.07	41 eP	20	15.00 -0.1	PCP	84.44	337	P	22	55.35	8.8X	MOW	0.56	112	Pc	15	44.40	0.1				
	0.9s	25.00nm		5.3mb	LSF	84.46	343	eP	22	46.10	-0.5	BLW	0.71	103	P	15	46.40	0.2				
LRM	59.25	54 eP	20	17.00 0.2	RRL	84.54	339	P	22	56.17	8.9X	MTW	0.71	86	Pd	15	46.50	0.2				
CMB	59.29	66 ePd	20	17.30 0.3	DOI	84.81	338	P	22	54.50	6.1X	MNG	0.91	50	Pc	15	49.80	0.7				
SOD	59.72	340 iP	20	18.80 -0.7	FIN	84.84	338	P	22	55.25	6.7X				S	16	02.80					
KVN	60.08	64 P	20	22.00 -0.5	PZZ	84.85	338	P	22	55.96	7.3X	PGZ	1.43	66	iP	15	55.60	-0.6				
TNP	61.22	64 P	20	30.00 -0.4	ROB	84.85	338	P	22	56.27	7.7X	KETZ	2.27	22	eP	16	09.70	1.4				
	0.7s	4.44nm		4.7mb	STV	85.04	338	P	22	55.55	6.0X	RATZ	2.52	22	eP	16	12.60	0.8				
NDI	62.47	283 eP	20	38.00 -0.5	IMI	85.20	338	P	22	58.02	7.7X	HATZ	2.60	27	P	16	12.70	-0.3				
BW06	62.77	56 P	20	40.00 -0.7	MNS	85.27	334	P	22	51.00	0.3	HITZ	2.66	21	eP	16	14.30	0.4				
SUF	63.60	337 eP	20	44.00 -1.5	SDI	85.54	333	P	22	48.00	-4.0X	WHH	2.76	33	eP	16	14.40	-0.9				
	0.8s	14.90nm		5.2mb	ZOBO	132.23	65	PKP	29	29.00	-0.2	MOH	2.87	45	eP	16	15.20	-1.6				
NUR	65.82	336 iP	21	04.70 4.8X	LPB	132.44	65	PKP	29	30.00	0.6	MHZ	5.45	223	eP	16	51.30	-2.1				
GOL	67.17	56 P	21	09.50 0.3	CNCB	132.73	66	PKP	29	32.20	2.0X	MSZ	5.98	232	P	17	03.00	2.3				
GLD	67.22	56 P	21	09.90 0.5	SPA	136.88	180	e(PKP)	29	30.00	-6.0X				S	18	14.00					
MAIO	68.60	301 eP	21	23.00 5.0X		0.8s	3.33nm					DZM	20.28	338	iPc	20	17.20	10.1X				
HFS	68.89	341 (P)	21	20.90 1.7				e	29	37.70		BWA	21.69	280	eP	20	20.00	-1.3				
	1.0s	20.70nm		5.2mb		S.D. = 0.8		on	84	of	121 obs.	CTA	31.96	303	iPd	21	57.00	0.6				
HYB	69.17	273 iPd	21	20.80 -0.8	---								1.0s	10.00nm				4.6mb				
	1.0s	55.00nm		5.6mb		OCT 03, 1989 00h 02m 29.44± 0.82s						ASPA	38.12	285	iPc	22	48.10	-0.8				
WB5	69.51	202 eP	21	22.70 -0.7		42.136 N ± 6.8km 15.597 E ± 9.1km							Z 21s	0.31um				4.1Msz				
ALQ	69.80	60 eP	21	25.60 0.2		DEPTH = 30.0 ± 7.5 km									LR	37	18.40					
	0.7s	3.42nm		4.5mb		ADRIATIC SEA					(382)	SPA	48.98	180	e(P)	24	17.40	1.2				
POO	71.59	278 iPc	21	37.40 1.1									1.0s	10.00nm				4.8mb				
GBA	72.60	271 P	21	42.00 -0.3	DUI	0.97	241	P	02	46.20	-0.9				e	24	30.70					
ASPA	73.26	201 eP	21	45.90 0.1				eSg	03	00.00			S.D. = 1.1		on	22	of	23 obs.				
SIO	75.03	53 eP	21	56.30 0.2	HVAR	1.22	31	iPg	02	51.30	0.9	---										
TUL	75.19	53 eP	21	57.40 0.4				iSg	03	08.60		?	OCT 03, 1989 02h 32m 14.48± 6.58s									
	0.9s	13.30nm		4.9mb	SDI	1.40	253	P	02	53.60	0.5		15.211 N ±11.1km 60.101 W ±61.0km									
LNO	75.19	53 eP	21	56.60 -0.3	SGO	1.59	188	P	02	55.50	-0.4		DEPTH = 33.0km (normal)									
FVM	76.47	48 P	22	03.50 -0.8				eSn	03	17.00			LEEWARD ISLANDS								(92)	
	0.5s	14.00nm		5.2mb	AZI	1.62	265	P	02	56.90	0.7											
EKA	76.51	348 P	22	10.00 5.9X	ALP	1.63	294	ePn	02	57.07	0.5	CRM	0.91	240	iPd	32	33.76	2.9X				
	0.8s	7.90nm		4.8mb				eSn	03	20.69		MVM	1.01	230	iPd	32	33.75	1.4				
KSP	76.56	335 eP	22	04.50 0.0	MGR	2.00	181	P	03	01.80	0.0	FDF	1.12	245	iPd	32	33.47	-0.5				
PPE	76.78	326 eP	22	04.50 -1.3				eSn	03	27.00					S	32	50.60					
CLL	77.04	337 iPc	22	07.40 0.2	AOI	2.04	315	ePn	03	07.32	5.0X	BIM	1.16	234	iPd	32	33.29	-1.3				
	1.5s	22.00nm		5.0mb				eSn	03	35.21					S	32	50.40					
		e	22	25.00	CIO	2.10	301	ePn	03	00.50	-2.8X	BBL	1.36	283	ePc	32	37.72	0.3				
VRI	77.41	327 eP	22	10.50 1.2	MNS	2.18	278	P	03	05.10	0.7	MGG	1.37	301	ePc	32	40.79	3.4X				
PRU	77.82	336 P	22	12.00 0.5				eSn	03	30.70		PAG	1.73	298	ePc	32	42.91	0.2				
WTS	77.90	341 e(P)	22	19.50 7.7X	ARV	2.38	306	P	03	06.70	-0.6				S	33	13.00					
TLB	77.98	325 eP	22	12.50 0.1				eSn	03	36.50		BPA	2.49	317	ePc	32	53.30	-0.3				
MOX	78.01	338 e(P)	22	25.00 12.5X	RIY	3.32	345	eP	04	00.30	39.8X		S.D. = 1.1		on	6	of	8 obs.				
MLR	78.03	327 eP	22	13.50 0.7	PGD	3.33	303	P	03	21.30	0.4	---										
ISR	78.10	326 eP	22	13.50 0.4	VBY	3.38	356	ePn	03	29.70	8.4X	•	OCT 03, 1989 05h 13m 53.79± 0.68s									
DMU	78.40	350 eP	22	22.00 7.4X				eSn	04	15.00			7.084 S ± 8.3km 146.049 E ±10.9km									
KHC	78.87	336 iPd	22	17.70 0.4	CEY	3.70	347	eP	03	36.50	10.6X		DEPTH = 185.0 ± 7.2 km									
DLE	78.96	350 eP	22	24.80 7.2X				e(Sn)	04	15.00			5.2mb (6 obs.)									
GRF	78.99	338 eP	22	18.30 0.4	PTJ	3.77	4	eP	03	35.60	8.6X		EAST PAPUA NEW GUINEA REGION								(207)	
	1.6s	43.00nm		5.2mb	TRI	3.81	340	eP	04	11.30	43.9X											
		e	22	19.50				i	04	34.00		LAT	1.04	66	iPc	14	22.00	-0.5				

		eS	14	35.00	
MNDI	2.55	291 iP	14	40.00	2.0
PMG	2.56	155 iPc+	14	37.00	-0.8
	1.1s	278.48nm			
		eS	15	11.00	
PAA	9.41	86 eP	16	29.00	22.4X
SVO	13.78	99 eP	17	10.00	7.3X
MTN	15.77	248 eP	17	26.00	-1.4
		eS	20	16.00	
WB5	17.04	221 iPc	17	41.20	-1.6
RMO	19.47	173 iPd	18	09.30	0.7
ASPA	20.20	214 eP	18	16.40	0.4
BWA	27.30	176 eP	19	25.00	1.9
SSE	44.80	329 Pc	21	52.00	1.1
	1.0s	28.00nm		4.7mb	
BJI	54.40	332 eP	23	03.00	-0.7
GUN	67.68	304 Pc	24	33.56	-0.1
	0.6s	40.00nm		5.4mb	
PKI	67.94	303 Pc	24	34.84	-0.5
KKN	68.13	304 Pc	24	36.06	-0.3
	0.8s	35.00nm		5.2mb	
DMN	68.21	303 Pc	24	36.92	0.0
	0.6s	41.00nm		5.4mb	
GKN	68.73	304 Pc	24	39.74	-0.2
	0.6s	34.00nm		5.3mb	
SPA	82.96	180 e(P)	25	59.90	0.8
	0.6s	15.45nm		4.9mb	
INK	93.00	22 eP	26	46.00	-0.8
ZOBO	138.98	125 ePKP	32	55.00	-6.6X
VAO	147.50	157 e(PKP)	33	19.00	3.6X
KIC	150.98	270 PKPc	33	27.58	6.6X
	0.8s	16.00nm			
LIC	151.26	270 PKP	33	28.14	6.8X
TIC	151.28	271 PKPc	33	28.20	6.8X
	0.5s	22.50nm			
	S.D. = 1.1	on 17 of 24 obs.			

OCT 03, 1989 05h 15m 33.32± 0.55s
37.950 N ± 5.0km 22.204 E ± 6.4km
DEPTH = 10.0km (geophysicist)
SOUTHERN GREECE (368)
ML 3.1 (ATH).

ITM	0.80	196 ePg	15	48.50	-0.4
ATH	1.20	88 ePb	15	56.10	0.5
VLS	1.29	281 ePb	15	56.30	-1.0
VLI	1.36	154 ePg	15	59.10	0.8
NEO	1.57	30 ePb	16	00.60	-0.7
LIT	2.16	6 ePn	16	09.80	0.0
KZN	2.38	352 ePn	16	14.40	1.4
KEK	2.57	314 ePn	16	17.00	1.3
PLG	2.61	21 ePb	16	19.50	3.3X
OUR	2.75	30 ePn	16	17.20	-1.1
VAM	3.00	147 ePn	16	21.50	-0.3
KNT	3.25	9 ePn	16	25.00	-0.4
OHR	3.34	341 ePn	16	30.00	3.3X
	S.D. = 1.0	on 11 of 13 obs.			

OCT 03, 1989 05h 42m 15.16± 0.92s
41.435 N ± 7.6km 21.048 E ± 8.8km
DEPTH = 5.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.7 (TTG), 2.3 (SKO).

PHP	0.52	299 iPgc	42	24.20	-1.4
SKO	0.61	29 ePg	42	34.30	6.9X
		iSg	42	42.20	
KKS	0.80	324 ePg	42	31.60	0.5
KBN	0.83	192 ePg	42	30.50	-1.2
TIR	0.89	265 ePg	42	37.00	4.3X
PUK	1.06	305 ePg	42	35.00	-0.5
BERA	1.11	229 ePg	42	38.10	1.7
PVY	1.41	326 ePg	42	42.50	0.9
		eSg	43	02.50	
ULC	1.45	292 ePg	42	42.00	-0.1
		eSg	43	02.00	
TTG	1.66	307 ePg	42	47.60	2.6X
		eSg	43	10.20	
LIT	1.73	140 eP	42	52.50	6.5X
SRS	1.94	99 eP	42	49.10	-0.1
		eS	43	11.50	
BRY	2.37	309 ePn	43	00.00	4.6X
		eSn	43	31.50	
	S.D. = 1.2	on 8 of 13 obs.			

% OCT 03, 1989 06h 23m 14.05± 1.15s
24.712 N ± 8.9km 121.240 E ±10.5km
DEPTH = 10.0km (geophysicist)
TAIWAN (244)

TWZ	0.49	39 iPc	23	24.20	0.2
		eS	23	31.90	
TWC	0.56	100 iPc	23	25.10	-0.4
		eS	23	33.40	
TWO	0.57	220 iPd	23	25.20	-0.4
		eS	23	33.70	
TWD	0.71	153 iPc	23	27.90	-0.1
TWF1	1.35	178 ePd	23	39.70	0.8
	S.D. = 0.7	on 5 of 5 obs.			

& OCT 03, 1989 06h 23m 22.00s
37.160 N 118.237 W
DEPTH = 9.0km
CALIFORNIA-NEVADA BORDER REGION (40)
<BRK>. ML 3.1 (BRK).

FRI	1.19	262 iPc	23	43.40	-0.8
		eS	23	58.70	
TNP	1.23	41 ePd	23	44.10	-0.9
KVN	1.89	3 eP	23	54.20	-0.7
CMB	1.92	298 iPc	23	56.10	0.9
		iS	24	21.10	
PRI	2.20	243 ePc	24	00.60	1.2
LLA	2.24	257 ePc	24	01.60	1.8
ABL	2.44	199 eP	24	04.50	1.7
BCH	2.47	218 eP	24	03.60	0.4
SAO	2.60	262 eP	24	05.90	1.0
ARN	2.64	275 eP	24	07.00	1.5
	10 obs. associated				

? OCT 03, 1989 08h 21m 07.58± 4.59s
41.366 N ±32.9km 29.266 E ±11.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

ISK	0.34	208 ePg	21	14.20	-0.4
GBZT	0.59	167 eP	21	19.00	-0.5
HRT	0.62	151 ePg	21	20.00	-0.1
YLV	0.80	174 iPn	21	23.80	0.6
KCT	1.31	212 iPn	21	32.30	0.4
EDC	1.47	227 ePn	21	34.00	-0.1
	S.D. = 0.6	on 6 of 6 obs.			

OCT 03, 1989 08h 36m 34.56± 0.36s
38.638 N ± 3.8km 26.971 E ± 4.2km
DEPTH = 6.5 ± 2.7 km
AEGEAN SEA (365)
ML 3.7 (ATH). Felt at Izmir, Turkey.

IZM	0.33	136 iPg	36	40.30	-1.0
PRK	0.82	318 ePg	36	51.00	0.3
SMG	0.93	187 ePg	36	50.50	-2.2
EZN	1.29	337 iPn	36	59.20	0.5
CIN	1.36	139 iPnd	36	59.00	-0.9
		iSg	37	18.00	
YER	1.83	145 ePn	37	05.40	-1.3
EDC	1.84	22 iPn	37	07.00	0.1
BNT	1.87	23 iPn	37	07.80	0.6
KCT	1.93	33 iPn	37	08.80	0.6
KHL	2.03	98 iPn	37	09.10	-0.6
ATH	2.64	256 ePb	37	26.40	8.0X
YLV	2.67	43 iPn	37	18.80	-0.1
PAIG	2.86	298 ePn	37	20.70	-0.8
OUR	2.87	307 ePn	37	21.10	-0.5
		eSn	38	09.10	
GBZT	2.87	41 ePn	37	22.20	0.5
		ePg	37	33.00	
		iSg	38	12.00	
ISK	2.91	33 ePn	37	25.20	3.1X
ELL	3.00	128 ePn	37	24.90	1.3
HRT	3.01	43 iPn	37	24.20	0.5
BCK	3.09	111 iPn	37	24.70	-0.1
PLG	3.23	304 ePn	37	31.50	4.7X
KDZ	3.24	339 eP	37	26.00	-0.8
KSL	3.26	140 ePn	37	27.50	0.3
RZN	3.50	331 iP	37	31.00	0.3
NPS	3.54	198 ePn	37	34.00	2.8
DIM	3.58	343 eP	37	32.00	0.3
SRS	3.59	315 ePn	37	30.70	-1.1
		eSn	38	29.70	
LIT	3.77	294 ePn	37	34.00	-0.4
MMB	3.86	321 iPc	37	35.00	-0.7
PLD	3.87	334 eP	37	36.00	0.2
VAM	3.91	215 ePb	37	44.50	8.0X
KNT	4.02	310 ePn	37	37.80	-0.1
GRG	4.21	305 ePn	37	40.60	-0.1
ITM	4.25	252 ePn	37	44.00	2.8
KKB	4.39	319 iP	37	43.00	-0.2
PGB	4.45	332 eP	37	42.00	-2.1
BBTK	4.65	73 eP	38	02.00	14.9X
		eS	39	11.00	
PVL	4.74	345 eP	37	47.00	-1.1
VTS	4.88	325 iP	37	50.00	-0.3
TLB	6.00	7 eP	38	10.50	4.6X
ISR	6.50	357 eP	38	16.00	2.9X
MLR	6.89	354 eP	38	20.00	1.4
VRI	7.23	359 eP	38	23.50	0.3
	S.D. = 1.1	on 35 of 42 obs.			

? OCT 03, 1989 09h 13m 56.38± 4.48s
31.832 S ±24.1km 72.015 W ±32.1km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

ROCH	1.42	144 iPd	14	22.00	-0.4
		iS	14	41.50	
LCCH	1.68	167 iPc	14	26.00	0.1
		iS	14	46.70	
PEL	1.72	140 iPc	14	26.60	0.0
		iS	14	48.00	
SAN	1.98	145 iP	14	31.70	1.4
		iS	14	57.70	
TACH	2.03	154 iP	14	31.50	0.5
		iS	14	59.10	
FCH	2.08	136 iPd	14	31.70	-0.4
		iS	14	58.60	
LNV	2.18	167 iPd	14	32.50	-0.6
		iS	14	58.50	
PCH	2.19	145 iPd	14	33.00	-0.4
		iS	15	02.00	
CHCH	2.39	152 iPd	14	36.60	0.4
		iS	15	05.10	
ZON	2.86	85 eP	14	43.00	0.1
RFA	4.17	136 ePc	15	01.00	-0.6
	S.D. = 0.7	on 11 of 11 obs.			

OCT 03, 1989 09h 41m 32.65± 0.19s
44.529 N ± 2.2km 10.128 E ± 1.7km
DEPTH = 25.7 ± 2.2 km
4.1mb (1 obs.)
NORTHERN ITALY (545)
ML 4.2 (FUR), 4.1 (LDG), 3.5 (ROM), 3.2 (LJU). MD 3.9 (TRI), 3.8 (STR).

MME	0.53	129 P	41	43.00	-0.5
		eSg	41	52.10	
BOB	0.54	296 P	41	43.80	0.2
		eSg	41	53.00	
BDI	0.58	144 P	41	44.00	-0.2
		eSg	41	54.00	
PII	0.86	160 P	41	48.50	-0.3
FIR	1.11	132 ePg	41	53.50	1.0
		iSg	42	10.00	
SAL	1.12	15 Pd	41	54.60	2.0
PCP	1.13	271 Pd	41	53.81	0.9
MDI	1.28	347 P	41	56.50	1.6
		eSg	42	14.90	
PGD	1.32	119 P	41	56.40	0.7
		eSg	42	15.40	
SFI	1.38	116 P	41	59.10	2.8
FIN	1.41	258 Pd	41	56.99	0.1
ROB	1.63	263 Pd	42	00.19	0.1
		S	42	20.20	
VAI	1.65	325 P	42	01.50	1.3
		eSg	42	22.40	
IMI	1.72	250 Pd	42	01.12	-0.3
		S	42	22.07	
TMA	1.81	331 iPc	42	03.90	1.1
CTI	1.86	35 P	42	03.80	0.4
		eSn	42	27.20	
ORO	1.88	307 P	42	04.20	0.5
		eSn	42	29.00	
SAOF	1.93	255 Pn	42	04.56	0.2
ENR	1.96	262 P	42	05.17	0.2
		S	42	28.51	
AUTN	2.01	256 Pn	42	06.15	0.4
		Sg	42	34.33	
VDL	2.01	347 iPc	42	07.30	1.6
STV	2.03	263 P	42	06.11	0.2

03d 09h

			S	42	30.17		BHG	3.72	30	iPnc	42	31.30	1.5				eS	44	57.50		
SBF	2.05	252	Pn	42	06.20	0.1	FUR	3.72	12	iPnc	42	30.40	0.5				i	45	34.80		
			Sn	42	32.20		VBY	3.77	73	ePnc	42	29.90	-0.5	LDF	8.15	304	Pn	43	32.40	0.2
DOI	2.06	270	P	42	06.50	0.1				iSn	43	12.80		FLN	8.44	304	Pn	43	35.80	-0.4
			eSn	42	34.00		SDI	3.90	135	P	42	35.41	3.0X	LPF	8.49	298	Pn	43	36.40	-0.5
AURF	2.11	253	Pn	42	07.12	0.0	MOF	3.92	329	Pn	42	32.53	-0.2	GRR	8.51	301	Pn	43	36.80	-0.4
TOUF	2.13	257	Pn	42	08.10	0.6	BSF	4.04	326	Pn	42	34.19	-0.2	OHR	8.55	110	ePn	43	36.20	-1.6
REVF	2.14	249	Pn	42	06.99	-0.4	ECH	4.22	332	Pn	42	36.43	-0.5	SKO	8.64	103	ePn	43	37.10	-1.9
			Sg	42	37.08		DUI	4.27	131	P	42	36.00	-1.7	SLL	16.09	6	(P)	45	14.10	-4.4X
MMK	2.16	316	ePd	42	07.50	-0.3	STU	4.29	352	ePnd	42	37.40	-0.5		0.3s		4.50nm			4.1mb	
OSS	2.16	0	iPc	42	10.00	2.2		0.5s		16.90nm					S.D. = 1.1		on 128 of 133 obs.				
CVF	2.16	205	Pn	42	06.71	-1.0	WLS	4.33	335	Pn	42	37.73	-0.8	----------							
PZZ	2.17	270	P	42	07.53	-0.3	ZAG	4.34	71	i(Pn)	42	41.50	3.0X	%	OCT	03,	1989	10h	06m	54.35±	0.92s
			S	42	32.25		PTJ	4.34	70	ePn	42	39.00	0.3		41.133 N ± 9.0km			28.474 E ± 5.2km			
MVIF	2.23	255	Pn	42	09.09	0.3				eSn	43	33.10			DEPTH = 10.0km (geophysicist)						
			Sg	42	41.88		HAU	4.35	324	Pn	42	38.90	0.1	TURKEY							(366)
MAO	2.24	160	P	42	08.30	-0.5				Sn	43	27.30									
			eSn	42	36.60		CDF	4.36	334	Pn	42	38.25	-0.6	CTT	0.04	294	ePg	06	56.20	-0.2
ARV	2.28	116	P	42	11.00	1.7	KMR	4.49	37	iPn-	42	41.30	0.6	ISK	0.45	98	ePg	07	03.50	0.0
			eSn	42	37.50					iPg	42	59.00		GBZT	0.81	115	ePg	07	10.00	-0.1
LSD	2.30	295	P	42	08.53	-1.4				i	43	16.30					iSg	07	24.20		
			S	42	33.49					iSn	43	31.20		BNT	0.88	209	iPg	07	12.50	1.2
ASS	2.34	128	P	42	09.90	-0.4				iSg	43	56.00		YLV	0.89	129	iPg	07	10.70	-0.7
			eSn	42	38.70					i	43	58.60					iSg	07	24.20		
RRL	2.42	280	P	42	11.28	-0.2	GRC1	4.57	12	iPnc	42	39.60	-2.3	KCT	0.89	186	iPg	07	11.20	-0.2
			S	42	37.65					e(Pg)	42	59.00		EDC	0.91	211	iPg	07	11.00	-0.8
OGA	2.42	15	iPnc	42	13.20	1.6				e(Sg)	43	58.00					eSg	07	25.00		
CALN	2.46	253	Pn	42	12.23	0.2	VITF	4.67	324	Pn	42	43.19	-0.1	HRT	0.96	109	iPg	07	13.20	0.6
DIX	2.47	310	ePd	42	13.40	1.1	HVAR	4.77	104	iPn	42	43.50	-1.1				iSg	07	28.20		
BNI	2.51	283	P	42	14.10	1.3				iSn	43	38.00		YER	3.99	182	iPg	08	46.00	49.0X
			eSn	42	43.90		GWF	4.77	340	Pn	42	43.96	-0.8		S.D. = 0.8		on 8 of 9 obs.				
CIO	2.56	120	iPnd	42	14.59	1.2	PLDF	4.82	290	Pn	42	44.81	-0.6	----------							
LPG	2.58	293	Pn	42	14.40	0.4	SMF	4.89	298	Pn	42	46.40	0.0		OCT	03,	1989	10h	08m	59.26±	0.42s
			Sn	42	46.40					Sn	43	41.40			38.533 N ± 4.1km			23.542 E ± 5.0km			
LPL	2.60	293	Pn	42	14.60	0.4	LBL	4.94	281	Pn	42	47.55	0.5		DEPTH = 10.0km (geophysicist)						
			Sn	42	46.80		LBF	4.96	302	Pn	42	47.00	-0.4	GREECE							(364)
SSO	2.68	116	e(Pn)	42	15.82	0.8				Sn	43	43.80			ML 3.8 (ATH).						
AOI	2.69	110	iPn	42	16.51	1.3	TOD	5.16	350	ePn	42	58.84	8.6X								
FRF	2.69	250	Pn	42	15.10	-0.1	LOR	5.16	304	Pn	42	49.60	-0.7	ATH	0.58	166	ePg	09	10.00	-0.9
			Sn	42	45.80					Sn	43	47.80		NEO	0.81	342	ePg	09	15.00	0.0
EMS	2.73	305	ePd	42	18.10	2.1	AGO	5.17	290	Pn	42	49.51	-0.8	LIT	1.77	333	ePb	09	30.00	-0.1
SCE	2.74	23	iPnc	42	16.60	0.5	KHC	5.18	26	iPn	42	49.70	-0.8				eSb	09	59.00		
SAX	2.78	349	ePd	42	18.70	2.0				ePg	42	59.00		PLG	1.84	358	ePb	09	31.00	-0.2
FVI	2.78	41	P	42	16.70	0.3				Sg	44	20.80		ITM	1.86	224	ePb	09	30.80	-0.7
			eSn	42	49.40		PYM	5.18	286	Pn	42	51.11	0.5	VLI	1.87	195	ePb	09	30.00	-1.6
TRI	2.83	64	iPnc	42	16.50	-0.6	AVF	5.26	298	Pn	42	51.80	0.2	THE	2.14	348	ePnc	09	35.30	-0.2
			iSn	42	46.10		SSF	5.28	301	Pn	42	51.50	-0.4				eSn	10	01.50	
			i	43	04.10					Sn	43	50.00		KZN	2.24	323	ePn	09	37.00	0.0
MNS	2.84	138	P	42	17.60	0.3	SOP	5.47	53	eP	42	57.90	3.3X	PRK	2.25	71	ePb	09	41.00	4.0X
			eSn	42	52.10		BGF	5.50	294	Pn	42	54.40	-0.7	VLS	2.35	262	ePb	09	39.00	0.5
LMR	2.87	247	Pn	42	17.10	-0.6				Sn	43	56.60		EZN	2.52	58	ePn	09	46.00	5.1X
			Sn	42	49.00		RUP	5.58	339	ePn	42	55.80	-0.4	SRS	2.58	1	ePn	09	42.30	0.5
LRG	2.92	250	Pn	42	18.40	0.0	MAF	5.59	290	Pn	42	55.40	-0.9				eSn	10	14.50		
			Sn	42	51.00		ABH	5.64	343	ePnc	42	55.59	-1.3	KNT	2.67	350	ePn	09	43.30	0.2
ALP	3.05	124	ePn	42	22.75	2.3	GRC	5.65	302	Pn	42	57.40	0.3	SMG	2.73	107	ePn	09	44.00	0.2
			iSn	42	59.88		VKA	5.68	47	iPnc	42	58.20	0.6	LSK	2.80	306	ePn	09	46.10	1.2
VOY	3.05	59	iPnc	42	19.80	-0.6				i	43	27.30		IZM	2.92	91	iPn	09	46.30	-0.4
			eSn	42	56.20					i	43	40.20		KBN	2.97	316	ePn	09	45.00	-2.2
TAVF	3.07	254	Pn	42	20.90	0.2				iSn	44	01.60		MMB	3.06	3	iPc	09	48.00	-0.5
RIY	3.13	73	iPnc	42	20.40	-1.0				i	44	02.30		SRN	3.06	297	ePn	09	50.20	1.7
			iSn	42	56.10					i	44	44.50		KEK	3.14	293	ePb	09	51.00	1.3
ZLA	3.19	338	ePd	42	23.00	0.6	CAF	5.76	277	Pn	42	58.60	-0.1	VAM	3.16	170	ePn	09	49.00	-1.0
AQU	3.23	131	P	42	23.00	0.2	TNS	5.81	349	iPnd	42	58.70	-0.7	RZN	3.28	16	iP	09	52.00	0.2
VILF	3.25	260	Pn	42	24.00	0.9	TCF	5.85	290	Pn	42	59.10	-0.8	OHR	3.33	321	iPn	09	52.70	0.2
CEY	3.27	67	iPnc	42	22.60	-0.9				Sn	44	01.80		KKB	3.35	354	iPc	09	52.00	-0.7
			e	42	32.50		HOF	5.91	11	iPc	42	59.00	-1.8	KDZ	3.43	24	eP	09	51.00	-2.8
			eSn	43	02.50		RJF	6.16	280	Pn	43	05.00	0.6	BERA	3.52	309	ePn	09	56.90	1.8
KBA	3.40	40	iPgd	42	27.30	1.9	MOX	6.20	9	ePn	43	02.00	-2.9	NPS	3.66	152	ePn	09	59.00	1.8
			i	42	27.70					ePg	43	31.00		CIN	3.71	103	ePg	08	48.00	-69.8X
			i	42	37.30					iSn	44	13.00					iSg	08	53.00		
			i	43	00.80					iSg	44	53.00		SKO	3.79	336	ePn	09	57.00	-2.0
			i	43	07.50		PRU	6.23	27	Pn	43	03.70	-1.6	EDC	3.80	60	eP	10	07.00	7.8X
			iSg	43	08.70					Sn	44	11.00		PHP	3.95	324	ePn	10	10.30	9.2X
			i	43	24.60					Sg	44	49.00		TIR	3.98	316	ePn	10	21.50	19.8X
BERF	3.43	251	Pn	42	25.78	0.0	LPO	6.39	275	Pn	43	07.10	-0.4	YER	4.00	109	eP	10	03.00	1.0
SLE	3.43	341	ePd	42	25.50	-0.2	LFF	6.70	277	Pn	43	11.20	-0.7	VTS	4.06	357	iP	10	03.00	0.1
BBS	3.46	329	Pn	42	26.28	0.2	DOU	6.72	328	Pn	43	11.00	-1.1	KCT	4.10	64	eP	10	06.00	2.6
LJU	3.46	62	ePn	42	25.50	-0.6				i	43	21.60		YLV	4.94	64	eP	10	22.00	6.6X
			i	42	35.50		ENN	6.86	337	e(Pn)	43	14.50	0.5	CMP	6.82	9	eP	11	01.00	19.2X
			eSn	43	07.00			0.5s		6.00nm			4.8mb X	MLR	7.18	14	eP	10	47.00	0.1
AZI	3.50	135	P	42	26.50	-0.2	CLL	7.05	15	iPn	43	14.30	-2.5	VRI	7.70	17	eP	10	54.00	-0.1
			eSn	43	06.60					ePg	43	47.00			S.D. = 1.2		on 31 of 39 obs.				
TREF	3.54	257	Pn	42	27.91	0.7				eSg	45	17.00		----------							
GELF	3.58	253	Pn	42	27.67	-0.2	EPF	7.24	261	Pn	43	16.60	-2.9		OCT	03,	1989	10h	19m	48.52±	0.69s
PRAF	3.64	260	Pn	42	28.75	0.0	MFF	7.50	290	Pn	43	22.80	-0.3		40.163 N ± 5.5km			142.491 E ± 9.7km			
LOMF	3.64	322	Pn	42	28.32	-0.5	KSP	7.56	31	iP	43	21.20	-2.7		DEPTH = 54.5 ± 8.4 km						
FEL	3.66	337	Pn	42	28.43	-0.6		0.3s		*******nm			9.1mb X	NEAR EAST COAST OF HONSHU, JAPAN(228)							

MG 4.1 (JMA). Felt (I JMA) at Hachinohe.

HAC	0.82	296	P	20 03.00	-1.1
			S	20 12.90	
OFUJ	1.25	211	P	20 09.40	-0.6
			S	20 25.40	
AOMJ	1.67	284	P	20 16.20	0.4
HOOJ	2.30	15	P	20 26.00	1.4
			S	20 55.80	
MRRJ	2.50	335	P	20 27.50	0.0
			S	20 55.90	
YAMJ	2.75	225	P	20 31.70	0.5
KUSJ	3.37	29	P	20 38.60	-1.3
			eS	21 15.70	
ASAJ	3.95	2	P	20 48.10	0.0
NIIJ	4.00	224	P	20 49.60	0.9
KAKJ	4.35	206	P	20 52.40	-1.3
			S	21 43.20	
MAT	4.94	224	iPc	21 02.80	0.7
	0.6s		26.67nm		
			(S)	22 10.00	
CHJJ	4.95	215	P	21 01.40	-0.7
MTMJ	5.13	227	P	21 05.80	1.0
IIDJ	5.91	219	P	21 16.20	0.5
GUN	47.75	273	P	28 22.10	-0.4
KKN	48.27	274	P	28 25.60	-0.7
GKN	48.65	274	P	28 28.80	-0.4
INK	51.23	28	eP	28 49.00	0.9
S.D. = 0.9		on	18 of	18 obs.	

• OCT 03, 1989 10h 20m 38.54± 1.40s
3.005 S ± 9.7km 128.052 E ±13.9km
DEPTH = 59.9 ± 13.2 km
5.0mb (5 obs.)
CERAM (272)

AAI	0.69	168	iPd	20 52.50	-0.3
			iS	21 15.10	
MNI	5.46	324	eP	22 25.80	26.5X
			eS	22 26.00	
MTN	10.24	163	eP	23 06.20	0.8
			eS	24 58.00	
KNA	12.68	177	eP	23 39.20	1.0
WB5	17.87	160	eP	24 43.90	-0.8
			eS	28 06.00	
MBL	19.74	203	eP	25 05.00	-1.3
QIS	20.77	148	iPd	25 15.80	-1.1
	0.7s		15.00nm	4.4mb	
			eS	28 56.00	
ASPA	21.31	165	iPd	25 22.10	-0.3
	0.9s		92.00nm	5.1mb	
			eS	29 16.40	
NANU	22.92	211	iPd	25 38.40	0.1
	0.7s		76.00nm	5.2mb	
WARB	23.09	183	eP	25 41.60	1.7
CTA	24.57	135	eP	25 55.00	0.6
MEKA	25.19	200	iPc	25 59.80	-0.3
	0.6s		24.00nm	4.9mb	
CHTO	35.92	308	eP	27 36.20	0.9
CAN	37.57	151	eP	27 57.00	8.1X
GUN	50.89	310	P	29 36.40	0.1
PKI	51.09	309	P	29 37.18	-0.5
KKN	51.29	310	P	29 39.12	0.0
	0.8s		12.00nm	5.0mb	
DMN	51.34	309	P	29 39.60	0.0
GKN	51.89	309	P	29 43.54	-0.1
ZOBO	155.05	141	PKP	40 33.00	5.5X
S.D. = 0.9		on	17 of	20 obs.	

• OCT 03, 1989 11h 34m 39.99± 3.41s
44.033 N ±17.0km 128.482 W ±23.0km
DEPTH = 10.0km (geophysicist)
4.4mb (1 obs.)
OFF COAST OF OREGON (30)

NLO	4.12	58	eP	35 43.94	-0.4
BMW	4.44	55	eP	35 48.66	-0.3
PGO	4.53	69	eP	35 50.78	0.7
GT2	4.58	74	eP	35 50.60	-0.3
RVW	4.58	60	eP	35 50.20	-0.7
OBH	4.62	43	eP	35 52.13	0.7
LVP	4.76	63	eP	35 53.35	-0.2
CPW	4.77	50	eP	35 52.88	-0.8
VLMM	4.83	70	eP	35 54.58	0.1
FL2	4.85	61	eP	35 55.15	0.3
MTMW	4.87	64	eP	35 55.10	0.0
APW	4.88	55	eP	35 55.08	0.0
ERK	4.90	60	eP	35 55.23	-0.3
SHW	4.92	62	eP	35 56.29	0.4
TDH	4.94	73	eP	35 55.84	-0.3
HSR	4.95	62	eP	35 56.72	0.5
STD	4.95	61	eP	35 56.21	0.0
YEL	4.96	62	eP	35 56.61	0.2
ESD	4.98	62	eP	35 57.01	0.3
TDL	5.00	60	eP	35 56.61	-0.3
SOSW	5.00	62	eP	35 57.02	0.1
CDFW	5.01	63	eP	35 56.95	-0.1
VBEM	5.03	76	eP	35 57.62	0.1
VLL	5.05	71	eP	35 57.91	0.2
KOSW	5.06	59	eP	35 57.50	-0.3
LMW	5.10	57	eP	35 58.27	0.0
APM	5.12	68	eP	35 58.89	0.2
VFP	5.17	73	eP	35 59.36	0.0
GULW	5.24	66	eP	36 00.46	0.1
HDW	5.24	44	eP	36 00.72	0.4
GMW	5.31	47	eP	36 01.33	0.0
ASR	5.32	64	eP	36 01.54	0.1
RVC	5.42	55	eP	36 03.35	0.4
LON	5.43	58	eP	36 02.50	-0.5
PNT	8.07	46	eP	36 40.00	0.1
	0.5s		3.00nm	4.8mb X	
FFC	20.18	49	eP	39 17.00	-0.2
	0.8s		14.00nm	4.4mb	
S.D. = 0.4		on	36 of	36 obs.	

% OCT 03, 1989 11h 39m 46.84± 0.76s
40.239 N ± 7.6km 1.938 W ± 8.2km
DEPTH = 10.0km (geophysicist)
SPAIN (377)
mbLg 2.5 (MDD).

ETOR	0.59	351	ePg	39 58.30	-0.5
ECHE	0.99	131	ePg	40 05.40	-0.2
			eSg	40 18.50	
EVIA	1.66	196	ePn	40 16.00	-0.2
			eSn	40 36.00	
GUD	1.74	284	ePn	40 17.80	0.4
			eSn	40 40.80	
EROQ	1.88	71	ePn	40 19.80	0.5
S.D. = 0.6		on	5 of	5 obs.	

? OCT 03, 1989 11h 46m 19.22± 2.69s
18.471 S ±53.7km 177.835 W ±45.0km
DEPTH = 623.4 ± 11.1 km
4.6mb (3 obs.)
FIJI ISLANDS REGION (181)

VUN	3.55	277	ePc	47 43.90	0.1
MBU	3.60	294	iPc	47 44.20	-0.1
SGE	4.13	282	eP	47 48.00	0.2
CTA	33.90	261	iP	52 14.20	0.0
	0.6s		8.00nm	4.5mb	
WB5	45.05	260	eP	53 42.80	-0.6
ASPA	45.17	255	iPd	53 44.40	0.1
	0.8s		18.00nm	4.6mb	
MTN	49.33	269	iPc	54 14.40	-1.2
	0.6s		13.00nm	4.6mb	
FORR	50.23	245	eP	54 22.20	0.2
WARB	51.61	251	iPd	54 32.20	0.1
FBA	86.24	12	eP	57 56.70	-0.1
CHTO	89.70	290	eP	58 15.70	1.9
INK	92.28	15	eP	58 24.00	-0.6
S.D. = 0.9		on	12 of	12 obs.	

& OCT 03, 1989 12h 53m 37.90s
40.570 N 124.597 W
DEPTH = 20.0km
NEAR COAST OF NORTHERN CALIF. (35)
<BRK>. ML 3.3 (BRK). Felt (IV) at Eureka; (III) at Ferndale, Fortuno, Redcrest, Rio Dell and Scotio; (II) at Mirondo. Also felt at Arcoto and Trinidad.

FHC	0.52	63	iPd	53 48.20	-0.1
			iS	53 54.80	
WDC	1.57	89	iPc	54 03.10	-1.7
LTCM	1.92	100	eP	54 08.20	-1.8
LBFM	2.19	68	eP	54 13.00	-1.1
MIN	2.29	95	iPd	54 13.70	-1.7
			eS	54 42.80	
NWRM	2.49	147	eP	54 15.00	-3.1
ORV	2.58	112	ePc	54 16.60	-2.9
			eS	54 48.70	
BRK	3.25	145	eP	54 25.70	-3.1
PCC	3.52	150	eP	54 30.30	-2.4
MHC	3.96	144	eP	54 35.80	-3.3
ARN	4.01	142	eP	54 36.50	-3.1
GCC	4.08	149	e(P)	54 37.90	-2.7
CMB	4.13	126	eP	54 40.00	-1.5
SAO	4.53	146	eP	54 42.50	-4.6
KVN	5.23	105	eP	54 53.50	-3.6
FRI	5.23	132	ePd	54 55.40	-1.5
TNP	6.24	111	eP	55 08.60	-2.7
17 obs. associated					

% OCT 03, 1989 13h 46m 53.29± 0.62s
60.481 N ± 5.5km 5.345 E ± 6.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 1.5 (BER).

ASK	0.07	271	iPgc	46 55.93	0.3
			iSg	46 57.66	
BER	0.10	183	iPg	46 55.45	-0.5
			iSg	46 56.96	
SUE	0.65	334	eP	47 05.93	-0.3
			eS	47 17.03	
HYA	0.80	31	eP	47 08.57	-0.2
			eS	47 19.68	
ODD1	0.86	131	iP	47 09.21	-0.6
			eS	47 20.21	
KMY	1.27	182	iP	47 17.44	0.5
			eS	47 29.80	
NRA0	3.07	83	eP	47 43.50	0.9
			iPg	47 47.90	
			iSg	48 25.50	
S.D. = 0.7		on	7 of	7 obs.	

• OCT 03, 1989 14h 01m 06.46± 2.64s
36.437 N ±21.0km 140.745 E ±23.9km
DEPTH = 59.6 ± 20.9 km
NEAR EAST COAST OF HONSHU, JAPAN(228)
MG 3.4 (JMA). Felt (II JMA) at Mito.

MIT	0.23	255	iP+	01 16.40	0.3
			iS	01 22.90	
KAKJ	0.52	244	iPd	01 18.10	-0.5
			S	01 25.40	
CHJJ	1.47	255	iPd	01 30.10	-0.9
			S	01 46.60	
YAMJ	1.82	342	iPd	01 36.20	0.3
			S	01 58.30	
MAT	2.05	274	iPd	01 38.90	-0.2
			(S)	01 59.00	
MTMJ	2.37	274	P	01 43.90	0.1
IIDJ	2.49	248	P	01 46.50	1.2
OFUJ	2.74	15	eP	01 48.60	-0.2
			eS	02 20.20	
S.D. = 0.8		on	8 of	8 obs.	

% OCT 03, 1989 14h 30m 31.48± 0.57s
60.644 N ± 4.8km 6.222 E ± 6.2km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.7 (BER).

HYA	0.52	358	iP	30 41.57	-0.5
			eS	30 49.79	
ASK	0.53	253	eP	30 42.00	-0.2
			eS	30 49.09	
ODD1	0.76	164	iP	30 45.59	-0.8
			eS	30 54.39	
SUE	0.83	301	iP	30 47.46	0.0
			eS	30 58.83	
BLS1	1.29	166	eP	30 55.20	-0.3
			eS	31 12.10	
KMY	1.52	199	iP	30 59.79	1.1
			eS	31 18.63	
MOL	2.03	18	eP	31 06.53	0.4
			eS	31 33.53	
NRA0	2.62	86	eP	31 14.80	0.3
			iPg	31 17.40	
			iSg	31 51.30	
S.D. = 0.7		on	8 of	8 obs.	

OCT 03, 1989 15h 21m 44.08± 0.12s
5.548 S ± 2.3km 147.455 E ± 3.1km
DEPTH = 180.8km (3 depth phases)

03d 15h

5.3mb (36 obs.)
EAST PAPUA NEW GUINEA REGION (207)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 25C
Centroid Location:
Origin Time 15:21:51.1 1.0
Lat 5.78S 0.07 Lon 147.24E 0.09
Dep 187.1 2.7 Half-duration 1.7
Moment Tensor; Scale 10**16 Nm
Mrr= 3.72 0.46 Mtt=-7.29 0.68
Mff= 3.57 0.74 Mrt= 3.58 0.53
Mrf=-4.62 0.54 Mtf=-3.01 0.73
Principal Axes:
T Val= 9.56 Plg=43 Azm= 68
N -0.96 44 274
P -8.60 13 171
Best Double Couple:Mo=9.1*10**16
NP1:Strike=220 Dip=50 Slip= 25
NP2: 113 71 137

MNDI	3.82	261	iP	22 46.00	2.2
			eS	23 29.00	
PMG	3.85	184	iPd-	22 43.20	-0.7
			eS	23 27.00	
JAY	7.38	294	ePd	23 18.70	-11.5X
			eS	25 03.00	
BGA	7.71	95	eP	24 06.00	31.3X
PAA	8.03	96	eP	24 04.00	25.2X
SVO	12.77	107	eP	24 40.00	-0.4
HNR	12.97	108	ePc	24 42.00	-1.0
			eS	27 16.00	
CTA	14.50	185	iPd-	25 03.00	0.8
	1.2s	500.00nm		5.8mb	
			iS	27 45.00	
QIS	16.75	206	iPd	25 29.40	-0.5
	0.8s	248.00nm		5.7mb	
			eS	28 32.00	
W85	19.11	221	iPd	25 55.20	-0.3
			iPcP	29 13.70	
			eS	29 19.50	
GUA	19.13	352	eP	25 56.00	0.2
	0.9s	188.24nm		5.5mb	
GUMO	19.18	352	eP	25 56.50	0.2
	0.7s	182.97nm		5.6mb	
PJG	19.18	352	eP	25 57.00	0.7
RMQ	20.86	177	iPd	26 14.20	1.0
	0.7s	321.00nm		5.9mb	
KNA	20.96	240	eP	26 14.20	0.0
	0.5s	87.00nm		5.5mb	
			eS	29 53.00	
QLP	21.14	188	iPd	26 17.00	1.0
ASPA	22.25	215	iPd	26 28.30	1.5
	1.0s	584.00nm		6.0mb	
Z	23s	0.58um		3.9MszX	
			eS	30 19.70	
			LR	34 50.50	
			iScS	37 23.20	
BRS	22.31	167	iPc	26 27.50	0.2
			i	26 44.00	74kmX
			i	27 17.00	
			e(PP)	27 35.00	
			e	30 22.00	
			i	33 34.00	
MNI	23.63	286	eP	26 57.00	16.8X
PVC	23.72	122	iPd	26 42.00	1.0
KUG	24.08	258	ePc	26 51.00	6.6X
	0.5s	240.10nm		6.0mb	
DZM	24.64	134	iPd	26 49.00	-0.7
COO	25.25	171	iPc	26 55.80	0.6
CMS	25.85	183	eP	27 00.00	-0.6
WARB	28.57	222	iPd	27 24.80	-0.6
BWA	28.75	178	eP	27 27.00	0.2
			iScP	34 00.00	
CAN	29.66	177	iPd	27 35.00	0.1
			eScP	34 02.90	
CNB	29.67	177	iPd	27 35.10	0.1
	0.8s	70.00nm		5.4mb	
ADE	30.37	194	iPd	27 41.00	-0.1
	0.5s	30.99nm		5.3mb	
MBL	30.95	237	eP	27 45.00	-1.3
	0.5s	24.00nm		5.2mb	
FORR	31.05	214	eP	27 46.60	-0.4
	0.4s	31.00nm		5.4mb	
TOO	31.92	183	iPd	27 54.90	0.3
	0.9s	71.00nm		5.4mb	
			i	34 09.90	
MEKA	34.64	230	eP	28 18.00	-0.1
	0.3s	39.00nm		5.6mb	
NANU	35.16	238	iPd	28 22.20	-0.3
COOL	35.30	221	eP	28 23.00	-0.6
	0.3s	10.00nm		5.0mb	
MRWA	37.92	228	iPd	28 45.80	0.2
	0.5s	32.00nm		5.2mb	
KLB	38.01	223	eP	28 46.00	-0.3
	0.3s	10.00nm		5.0mb	
			e	28 54.00	27kmX
BAL	38.17	226	eP	28 47.50	-0.2
NWAO	39.17	222	eP	28 56.00	0.1
Z	20s	0.70um		4.5Msz	
MUN	39.30	224	iPc	28 57.10	0.1
			e	29 05.00	27kmX
RKG	40.01	221	iPc	29 06.20	3.4X
	0.5s	38.00nm		5.3mb	
KRP	41.13	146	Pc	29 13.60	1.8
	1.0s	85.00nm		5.3mb	
OZH	41.32	318	iPd	29 14.60	1.1
IIDJ	41.78	348	P	29 17.70	0.4
CHJJ	42.13	350	P	29 20.60	0.5
MAT	42.75	349	iPc	29 25.30	0.1
	1.1s	146.84nm		5.5mb	
			eS	35 34.00	
TCW	42.84	150	eP	29 26.40	0.6
MTMJ	42.87	349	P	29 26.80	0.6
MSZ	42.89	158	P	29 27.50	1.4
KIW	42.90	149	eP	29 27.10	0.8
MNG	43.02	148	P	29 27.60	0.3
	0.4s	16.00nm		4.9mb	
CAW	43.16	149	eP	29 28.70	0.3
WDW	43.25	149	eP	29 28.90	-0.2
MTW	43.42	149	P	29 30.30	-0.2
PGZ	43.44	148	P	29 30.60	0.0
MOW	43.49	149	P	29 30.80	-0.3
BLW	43.56	149	P	29 31.40	-0.3
SSE	44.25	327	Pc	29 38.00	0.8
	0.8s	0.03nm		1.9mb X	
			eS	35 56.00	
NJ2	46.26	326	Pc	29 54.00	0.9
IPM	47.45	281	eP	30 18.10	15.4X
WHN	47.87	321	Pc	30 07.00	1.3
	1.0s	0.03nm		1.8mb X	
LOE	50.59	298	eP	30 27.00	0.3
GYA	50.73	311	P	30 28.40	0.6
NST	51.38	295	eP	30 32.00	-0.6
			e	31 19.00	212kmX
SNY	51.94	337	eP	30 36.00	-0.5
MDJ	52.45	344	eP	30 40.00	-0.2
CN2	52.99	340	eP	30 43.00	-1.1
			PcP	31 49.00	
CHG	53.57	298	eP	30 49.00	0.1
CHTO	53.57	298	eP	30 49.50	0.7
			pP	31 31.90	188km
XAN	53.63	320	P	30 48.50	-0.6
BJI	53.73	330	eP	30 49.50	-0.1
	1.5s	0.03nm		1.7mb X	
TIY	53.99	326	eP	30 51.40	-0.3
			S	38 17.00	
CD2	55.29	314	P	31 01.00	-0.2
HHC	56.69	328	eP	31 10.80	-0.2
BTO	57.35	327	eP	31 15.00	-0.6
LZH	58.17	319	Pc	31 22.00	0.5
	1.5s	0.08nm		2.3mb X	
			pP	32 02.00	172km
GTA	62.69	320	iPc	31 52.00	0.0
	1.0s	0.04nm		2.2mb X	
PPN	62.73	107	iP	31 52.90	0.5
	0.8s	35.00nm		5.3mb	
PMO	64.12	104	iP	32 01.90	0.4
	0.8s	20.00nm		5.0mb	
LSA	64.33	307	P	32 05.00	1.7
VAH	64.38	104	iP	32 03.20	0.0
	0.8s	20.00nm		5.0mb	
TPT	64.38	104	iP	32 03.40	0.2
	0.8s	20.00nm		5.0mb	
RUV	64.61	104	iP	32 05.10	0.4
	0.8s	20.00nm		5.0mb	
GUN	68.00	303	P	32 26.60	0.1
	0.4s	16.00nm		5.1mb	
PKI	68.28	302	P	32 27.80	-0.4
	0.8s	17.00nm		4.9mb	
KKN	68.46	303	P	32 28.90	-0.3
	0.8s	36.00nm		5.2mb	
DMN	68.55	302	P	32 29.80	0.1
	0.7s	47.00nm		5.4mb	
GKN	69.07	303	P	32 32.60	-0.2
	0.8s	40.00nm		5.2mb	
GBA	72.04	286	P	32 51.00	0.4
WMQ	72.75	319	Pc	32 54.50	0.1
KDC	79.32	28	eP	33 31.50	0.8
KSH	79.39	312	eP	33 33.70	1.9
SVW	79.64	24	eP	33 34.60	2.1
PMR	82.61	26	ePd	33 48.50	0.6
	1.0s	45.00nm		5.2mb	
MAW	82.84	203	eP	33 49.00	0.0
IMA	82.98	21	eP	33 51.70	1.8
	1.1s	26.60nm		4.9mb	
TOA	84.10	26	eP	33 56.60	1.1
SPA	84.49	180	e(P)	33 57.70	0.1
	0.8s	15.42nm		4.8mb	
			e	34 42.80	182km
FBA	84.59	23	ePd	33 57.20	-0.7
QUE	84.60	301	eP	33 58.50	-0.4
INK	91.07	21	eP	34 29.00	0.3
WDC	93.57	50	eP	34 40.60	-0.2
ORV	94.30	51	eP	34 43.60	-0.6
CMB	95.08	52	ePc	34 47.40	-0.5
FRI	95.57	53	e(P)	34 50.60	0.6
PNT	96.08	41	eP	34 53.00	0.9
	0.6s	11.00nm		5.4mb	
MBC	96.11	14	eP	34 51.50	-0.2
	0.8s	4.00nm		4.8mb	
CLL	120.82	329	iPKPd	40 15.70	-0.4
	1.1s	12.00nm			
KHC	121.71	326	ePKP	40 17.40	-0.5
EKA	125.06	340	PKP	40 24.00	-0.1
	1.3s	15.70nm			
CDF	125.52	328	ePKP	40 23.90	-1.5
BSF	126.13	328	ePKP	40 25.40	-1.3
	1.1s	26.30nm			
HAU	126.26	328	ePKP	40 25.60	-1.2
	0.7s	8.80nm			
LPG	127.59	326	ePKP	40 29.00	-0.8
LOR	128.02	329	ePKP	40 29.40	-0.7
CVF	128.04	322	ePKP	40 29.30	-1.0
	0.8s	8.00nm			
LBF	128.15	329	ePKP	40 29.70	-0.7
	0.8s	5.90nm			
SBF	128.17	324	ePKP	40 29.60	-1.0
	1.1s	14.60nm			
SSF	128.34	329	ePKP	40 30.30	-0.4
	0.9s	12.10nm			
SMF	128.44	329	ePKP	40 30.10	-0.9
	1.1s	15.60nm			
AVF	128.59	329	ePKP	40 30.10	-1.1
FRF	128.81	324	ePKP	40 31.10	-0.6
	1.1s	16.60nm			
BGF	129.01	329	ePKP	40 31.70	-0.3
	0.9s	14.70nm			
LMR	129.03	324	ePKP	40 31.30	-0.8
	1.2s	20.20nm			
LRG	129.04	324	ePKP	40 31.60	-0.5
	1.1s	21.40nm			
FLN	129.06	333	ePKP	40 30.30	-1.7
	1.1s	21.40nm			
BCAO	129.11	271	iPKPc	40 33.00	-0.2
	0.9s	14.00nm			
			id	41 23.40	
			ic	43 37.50	
MAF	129.38	329	ePKP	40 32.40	-0.4
	1.2s	11.90nm			
GRR	129.51	333	ePKP	40 32.10	-0.8
TCF	129.52	329	ePKP	40 32.40	-0.6
	0.8s	11.20nm			
LPF	129.85	333	ePKP	40 33.10	-0.4
	1.1s	26.30nm			
MFF	130.47	331	ePKP	40 34.20	-0.6
CNCB	138.52	123	PKP	40 41.80	-9.8X
			i	44 12.00	
LPB	138.56	123	ePKP	40 40.00	-11.5X
CCH	139.75	125	PKP	40 53.00	-0.5
VAO	148.32	154	e(PKP)	41 11.00	3.4X
PAG	149.59	68	ePKP	41 13.00	3.4X
BMA	149.72	158	e(PKP)	41 09.00	-0.7
BBL	149.92	69	ePKP	41 14.00	3.9X
MGG	149.96	68	ePKP	41 23.50	13.4X
KIC	152.34	273	PKPd	41 21.00	7.3X
	0.8s	10.00nm			
TIC	152.61	274	PKPd	41 21.80	7.7X
LIC	152.62	273	PKPd	41 21.60	7.5X
BAO	153.98	144	ePKP	41 15.20	-0.9

S.D. = 0.8 on 128 of 144 obs.

& OCT 03, 1989 16h 07m 23.85s
63.072 N 150.884 W
DEPTH = 127.8km
CENTRAL ALASKA (1)
<AGS-P>.

KTH	0.48	358	iP	07	42.51	-0.4
			eS	07	57.79	
HUR	0.58	99	iP	07	42.91	-0.5
			eS	07	57.80	
CUT	0.73	157	iP	07	44.25	-0.2
			eS	08	00.98	
RND	0.98	69	eP	07	46.17	-0.6
			eS	08	03.35	
MCK	1.10	52	eP	07	47.39	-0.5
			eS	08	04.89	
SKT	1.14	196	iP	07	47.83	-0.4
			eS	08	06.26	
PWA	1.50	161	eP	07	52.01	-0.1
			eS	08	13.78	
SUA	1.62	178	eP	07	53.77	0.1
			eS	08	16.47	
PME	1.69	148	eP	07	53.58	-0.7
PMR	1.70	150	eP	07	53.20	-1.2
NEA	1.71	27	iP	07	53.28	-1.3
			eS	08	15.18	
NCG	1.78	200	eP	07	54.84	-0.7
			eS	08	19.92	
CGLM	1.85	197	eP	07	55.80	-0.6
			eS	08	25.29	
WRH	1.87	40	eP	07	55.47	-1.1
			eS	08	22.19	
CRP	1.91	199	eP	07	56.70	-0.5
PMS	1.94	161	eP	07	56.77	-0.6
			eS	08	20.06	
BGL	1.95	202	eP	07	57.55	-0.1
			eS	08	25.70	
SPU	1.98	197	eP	07	57.04	-0.9
			eS	08	22.87	
CKL	2.00	201	eP	07	57.70	-0.6
CCB	2.09	39	eP	07	57.99	-1.2
			eS	08	23.95	
RDS	2.14	33	eP	07	58.64	-1.2
			eS	08	23.91	
NCA	2.17	118	eP	07	59.30	-1.0
HDA	2.20	51	eP	07	59.39	-1.3
			eS	08	26.84	
FBA	2.29	35	eP	08	00.00	-1.7
NKA	2.34	184	eP	08	04.10	1.7
TTA	2.34	269	eP	08	01.00	-1.6
DDM	2.37	70	eP	08	02.58	-0.3
			eS	08	32.52	
GLM	2.46	37	eP	08	02.84	-1.2
PAX	2.47	90	eP	08	03.56	-0.7
			eS	08	39.06	
DMW	2.51	65	eP	08	03.85	-0.7
SDG	2.51	100	eP	08	07.33	2.6
			eS	08	41.30	
SLKM	2.59	173	eP	08	02.58	-3.1
RDT	2.61	197	eP	08	05.04	-0.9
KLU	2.81	122	eP	08	06.78	-1.8
			eS	08	41.00	
VZW	2.87	133	eP	08	07.28	-2.1
SEW	3.06	166	eP	08	10.64	-1.1
DOT	3.13	76	eP	08	11.09	-1.6
			eS	08	46.80	
IMA	3.24	339	eP	08	12.50	-1.8
CNPM	3.56	183	eP	08	17.47	-1.1
			eS	08	56.27	
DWY	5.21	74	P	08	38.70	-2.0
KDC	5.40	189	eP	08	39.80	-3.4
INK	8.86	46	eP	09	28.00	-2.1

42 obs. ossociated

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* OCT 03, 1989 16h 08m 36.87± 1.10s
8.200 S ± 9.3km 158.795 E ±10.6km
DEPTH = 143.4 ± 11.5 km
4.9mb (7 obs.)
SOLOMON ISLANDS (193)

SVO	1.38	133	eP	09	04.00	-1.0
			eS	09	31.00	
HNR	1.67	137	ePd	09	12.00	3.8X
			eS	09	35.00	
PAA	3.78	300	eP	10	03.00	28.1X
BGA	4.12	299	eP	10	06.00	26.5X
DZM	15.63	153	iP	12	12.00	1.2
CTA	16.94	224	iPc	12	29.10	2.3
	0.7s		17.12nm		4.5mb	
BRS	19.92	196	iPd	12	59.60	0.0
			i	13	11.00	
RMO	20.54	206	iPc	13	06.70	0.9
	0.7s		54.00nm		5.1mb	
QIS	22.25	234	eP	13	23.50	0.8
QLP	22.92	215	iP	13	30.00	0.8
COO	23.18	195	eP	13	32.00	0.3
CMS	26.13	206	iPc	13	58.40	-0.9
W85	26.35	241	iPc	14	01.80	0.3
ASPA	28.37	234	iPc	14	18.50	-1.3
	0.4s		37.00nm		5.5mb	
KNA	30.29	253	eP	14	36.50	-0.3
TOO	31.63	200	eP	14	47.00	-1.3
WARB	35.39	236	iPc	15	20.70	-0.1
FORR	36.45	228	iPc	15	29.00	-0.6
	0.3s		16.00nm		5.3mb	
MSZ	37.19	169	eP	15	35.00	-0.6
MBL	39.71	247	eP	15	56.40	-0.5
COOL	41.74	232	eP	16	13.20	-0.3
	0.3s		10.00nm		4.9mb	
MEKA	42.32	239	eP	16	18.60	0.3
NANU	43.92	246	eP	16	31.10	-0.1
BAL	45.16	235	eP	16	40.30	-0.7
MRWA	45.27	237	iPd	16	41.70	-0.2
	0.4s		11.00nm		4.9mb	
MUN	46.05	233	eP	16	48.00	0.0
MAT	48.52	338	eP	17	09.00	1.8
	0.7s		5.48nm		4.4mb	
CHG	64.82	295	eP	19	02.00	-0.8
CHTO	64.82	295	eP	19	02.00	-0.8
	0.7s		0.95nm		3.8mb X	
ZOBO	127.59	118	ePKP	27	29.00	0.8
	Z 24s		0.09um		4.4MszX	
			LR	41	44.00	

S.D. = 1.0 on 27 of 30 obs.

? OCT 03, 1989 18h 43m 47.70± 3.72s
31.712 S ±17.7km 72.276 W ±30.7km
DEPTH = 30.6 ± 6.6 km
OFF COAST OF CENTRAL CHILE (134)

ROCH	1.65	140	iPc	44	14.90	-0.3
			iS	44	31.50	
JACH	1.72	125	iPc	44	15.00	-1.1
			iS	44	34.20	
LCCH	1.86	161	iPc	44	18.50	0.6
			iS	44	39.00	
PEL	1.96	137	iPc	44	19.30	-0.2
			iS	44	42.30	
SAN	2.21	142	eP	44	21.50	-1.5
			iS	44	49.10	
TACH	2.24	150	iPc	44	24.10	0.7
			iS	44	52.00	
FCH	2.33	134	iPd	44	25.00	0.0
			iS	44	52.20	
LNV	2.35	162	eP	44	25.00	0.0
			iS	44	51.90	
PCH	2.42	142	iPd	44	26.00	0.0
			iS	44	53.60	
CHCH	2.60	149	eP	44	29.80	1.2
			iS	45	04.10	
ZON	3.07	88	eP	44	37.00	1.7
			eS	45	14.00	
RFA	4.42	135	ePc	44	54.40	0.0
VAO	24.05	75	e(P)	49	00.30	-0.9

S.D. = 1.0 on 13 of 13 obs.

& OCT 03, 1989 18h 50m 46.80s
39.653 N 122.520 W
DEPTH = 5.0km (geophysicist)
NORTHERN CALIFORNIA (36)
<BRK>. ML 2.6 (BRK).

LTCM	0.63	29	eP	51	00.00	0.5
ORV	0.79	97	iPc	51	01.00	-1.7
WDC	0.93	359	iPc	51	02.90	-2.0
			eS	51	19.00	
FHC	1.60	316	eP	51	15.60	-0.3
LBFM	1.76	16	eP	51	17.20	-1.1
CMB	2.32	133	ePc	51	23.00	-3.3
			eS	51	55.00	
ARN	2.43	161	eP	51	26.50	-1.3

7 obs. ossocioted

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* OCT 03, 1989 19h 21m 28.25± 1.91s
38.179 N ±13.1km 74.185 E ± 8.7km
DEPTH = 143.8 ± 22.0 km
4.6mb (5 obs.)
TAJIK-XINJIANG BORDER REGION (719)

NDI	9.80	164	iPd	23	47.50	0.7
	0.6s		33.33nm		5.2mb	
			iS	25	26.00	
QUE	9.97	219	eP	23	50.00	0.8
			eS	25	37.00	
MAIO	11.86	265	eP	24	14.00	0.1
			eS	26	14.00	
GKN	13.40	136	P	24	33.40	-0.5
KKN	13.92	135	P	24	40.00	-0.6
DMN	13.96	136	P	24	40.90	-0.3
PKI	14.16	135	P	24	43.30	-0.5
GUN	14.17	133	P	24	43.40	-0.5
HYB	21.04	168	ePc	26	03.00	1.0
GBA	24.64	172	P	26	38.00	1.1
			S	33	22.00	
HFS	43.35	321	eP	29	16.60	-0.6
	0.5s		3.70nm		4.3mb	
BCAO	60.62	251	ePd	31	23.40	-2.8
	0.4s		2.00nm		4.4mb	
MBC	65.53	4	ePd	31	58.10	0.6
	0.6s		27.00nm		5.4mb	
INK	71.82	10	ePd	32	37.00	0.6
FBA	72.13	17	eP	32	39.30	1.0
	0.6s		2.00nm		4.0mb	

S.D. = 1.1 on 15 of 15 obs.

& OCT 03, 1989 21h 03m 42.32s
57.928 N 142.786 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

CYK	2.17	4	eP	04	14.12	-4.8
			eS	04	38.20	
KAIM	2.18	338	eP	04	13.88	-5.2
SNH	2.26	359	iP	04	15.47	-4.9
			eS	04	40.74	
MID	2.39	311	eP	04	15.23	-6.8
			eS	04	41.58	
YAH	2.50	12	eP	04	18.54	-5.4
			eS	04	47.17	
WAX	2.53	359	iP	04	18.83	-5.3
PCA	2.54	30	eP	04	19.27	-5.0
			eS	04	45.31	
HQN	2.55	52	iP	04	18.78	-5.6
			eS	04	46.70	
BCPM	2.61	37	iP	04	19.92	-5.3
			eS	04	46.55	
RAGM	2.65	339	eP	04	20.28	-5.6
TGL	2.84	360	eP	04	23.05	-5.5
			eS	04	54.23	
SGAM	2.87	335	eP	04	23.39	-5.5
			eS	04	57.46	
CVA	3.04	331	eP	04	24.96	-6.3
			eS	05	01.37	
BALM	3.13	4	eP	04	27.38	-5.3
			eS	05	02.37	
HIN	3.13	324	eP	04	26.47	-6.1
			eS	04	58.34	
CTGM	3.14	13	eP	04	27.69	-5.1
			eS	05	02.88	
FID	3.40	328	eP	04	30.07	-6.5
GLB	3.56	352	eP	04	32.91	-5.9
VZW	3.68	330	eP	04	33.79	-6.7
VLZ	3.69	332	eP	04	33.66	-6.8
GLI	3.69	325	eP	04	33.59	-7.0
KLU	3.91	337	eP	04	37.42	-6.4
HYT	3.97	41	P	04	39.70	-4.9

23 obs. ossocioted

OCT 03, 1989 21h 33m 34.77± 0.14s
24.103 S ± 3.3km 66.891 W ± 3.3km
DEPTH = 154.6km (3 depth phoses)
5.4mb (51 obs.)
SALTA PROVINCE, ARGENTINA (129)
Felt (III) in the Antofogosta oreo, Chile.
CENTROID, MOMENT TENSOR (HRV)
Dato Used: GDSN
L.P.B.: 15S, 26C
Centroid Locotion:

03d 21h

Origin Time 21:33:44.9 0.4
Lat 24.21S 0.06 Lon 66.65W 0.04
Dep 186.1 1.6 Half-duration 1.8
Moment Tensor; Scale 10**17 Nm
Mrr=-1.14 0.05 Mtt=-0.60 0.08
Mff= 1.74 0.08 Mrt= 0.29 0.06
Mrf=-0.43 0.06 Mtf= 0.11 0.08
Principal Axes:
T Val= 1.80 Plg= 8 Azm= 92
N -0.47 23 358
P -1.33 66 200
Best Double Couple:Mo=1.6*10**17
NP1:Strike=206 Dip=42 Slip= -55
NP2: 343 57 -117

ANT	3.25	276	iPc+	34	27.30	1.3																	
			i	34	43.00																		
			iS	35	02.00																		
CCH	6.72	6	iPc	35	16.80	4.3X																	
CNCB	7.33	352	iPd	35	25.20	4.3X																	
ZON	7.58	192	eP	35	22.00	-1.7																	
LPB	7.62	351	P	35	30.50	5.9X																	
	0.9s	554.62nm			6.1mb																		
			eLR	37	06.00																		
ZOBO	7.88	351	P	35	31.70	3.5X																	
Z	18s	1.91um																					
			S	36	06.00																		
			LR	37	04.00																		
ARE	8.74	330	eP	35	39.00	-0.4																	
			iS	37	10.50																		
JACH	9.15	200	eP	35	44.60	0.0																	
ROCH	9.55	201	eP	35	48.00	-2.0																	
PEL	9.60	199	eP	35	46.60	-3.9X																	
FCH	9.66	197	eP	35	52.00	0.4																	
SAN	9.88	199	eP	35	54.00	-0.2																	
PCH	10.00	198	eP	35	54.10	-1.7																	
TACH	10.15	200	eP	35	58.00	0.3																	
LCCH	10.20	203	eP	35	52.00	-6.3X																	
RFA	10.72	187	e(P)	36	01.80	-3.4X																	
ITB1	11.41	95	e(P)	36	15.40	1.2																	
ITB	11.57	96	e(P)	36	14.20	-2.2																	
ITB7	11.61	98	e(P)	36	18.00	1.1																	
HUA	14.42	325	eP	36	36.30	-17.1X																	
			eS	37	50.40																		
			eS	39	48.90																		
NNA	15.31	320	iPd	37	06.00	1.9																	
	0.8s	22.39nm			4.6mb																		
			e	39	52.50																		
VAO	18.30	91	iPc	37	39.50	-0.2																	
			i	37	41.30																		
			e	37	43.70																		
			e	37	50.10																		
			e	37	57.00																		
			e	40	58.50																		
BAO	19.65	68	eP	37	53.50	-0.4																	
BMA	20.91	91	eP	38	06.30	-0.2																	
			e(pP)	38	35.00	156km																	
			e(sP)	38	55.00																		
PDCR	28.70	71	eP	39	17.80	-1.7																	
			e	39	29.20	43kmX																	
			e	40	14.00																		
			i	45	51.50																		
UPA	35.12	338	ePd	40	16.60	1.4																	
	1.2s	187.50nm			5.7mb																		
			i	42	43.10																		
BIM	38.80	9	eP	40	45.34	-0.8																	
MVM	38.86	9	eP	40	45.97	-0.6																	
FDF	39.00	9	eP	40	47.24	-0.5																	
	0.3s	0.75nm			3.8mb	X																	
CRM	39.06	9	eP	40	47.63	-0.5																	
HBF	58.16	347	P	43	14.50	0.1																	
SGS	58.44	347	P	43	16.30	-0.1																	
PRM	59.70	345	P	43	24.40	-0.7																	
TKL	61.55	344	P	43	36.20	-1.4																	
GBTN	61.66	344	P	43	36.60	-1.7																	
RSCP	61.96	343	P	43	38.90	-1.4																	
	1.0s	124.73nm			5.8mb																		
			pP	44	16.80	160km																	
BLA	62.30	348	P	43	42.40	-0.2																	
	1.3s	83.33nm			5.5mb																		
NAV	62 48	348	P	43	43.10	-0.6																	
UYO	63.60	335	iPc	43	50.00	-1.1																	
OLY	63.69	338	P	43	49.80	-1.9																	
			pP	44	25.30	148km																	
POW	64.18	338	P	43	53.40	-1.4																	
			pP	44	26.60	137kmX																	
ELC	64.58	340	P	43	55.80	-1.6																	

FVM	65.60	340	P	44	02.80	-1.1																	
LNO	65.65	334	ePd	44	02.90	-1.2																	
TUL	65.65	334	ePd	44	03.00	-1.3																	
	1.2s	87.70nm			5.5mb																		
SIO	65.71	334	iPd	44	03.60	-1.1																	
SPA	66.04	180	ePd	44	05.00	-1.7																	
	1.0s	90.00nm			5.6mb																		
CLE	66.65	348	iP	44	09.80	-0.8																	
LIC	67.37	72	Pd	44	14.20	-1.5																	
Z	20s	0.30um			4.5Msz																		
TIC	67.59	71	P	44	16.60	-0.4																	
KIC	67.69	72	Pd	44	16.20	-1.4																	
	0.6s	23.00nm			5.2mb																		
RSNY	68.67	354	P	44	23.60	0.5																	
PTN	68.74	354	P	44	23.80	0.3																	
ALQ	69.68	326	iPd	44	29.90	0.2																	
	1.0s	73.25nm			5.5mb																		
GLD	72.90	330	P	44	49.40	0.6																	
	1.5s	156.25nm			5.5mb																		
GLA	72.92	319	eP	44	49.00	0.2																	
GOL	72.93	330	P	44	49.00	0.0																	
	1.2s	118.44nm			5.5mb																		
BAR	73.77	318	eP	44	54.00	0.2																	
PLM	74.35	318	eP	44	58.00	0.7																	
TPC	74.38	319	eP	44	58.00	0.7																	
TBI	74.42	251	iP	44	58.90	1.2																	
	1.2s	170.00nm			5.7mb																		
PEC	74.90	319	P	45	00.60	0.3																	
RVR	75.10	318	eP	45	01.00	-0.4																	
MSU	75.37	325	P	45	03.90	0.8																	
RUV	75.44	260	iP	45	04.90	1.3																	
	1.2s	95.00nm			5.4mb																		
VAH	75.64	260	iP	45	05.60	0.8																	
	1.2s	150.00nm			5.6mb																		
GSC	75.66	320	eP	45	05.00	0.4																	
MWC	75.67	318	eP	45	05.00	0.1																	
PAS	75.69	318	eP	45	05.00	0.3																	
TPT	75.72	260	iP	45	06.40	1.2																	
	1.2s	145.00nm			5.6mb																		
SBB	75.85	319	eP	45	05.00	-0.7																	
RSSD	75.94	333	P	45	06.10	-0.1																	
PMO	75.96	260	iP	45	07.60	1.0																	
	1.2s	140.00nm			5.6mb																		
PAE	76.51	257	iP	45	10.70	1.1																	
	1.2s	90.00nm			5.4mb																		
PPT	76.54	257	iP	45	11.20	1.4																	
	1.2s	205.00nm			5.7mb																		
ISA	76.90	319	eP	45	12.00	0.5																	
SYP	77.05	317	eP	45	13.00	0.5																	
BW06	77.29	329	P	45	13.90	0.2																	
BCH	77.55	318	P	45	16.00	0.8																	
TNP	77.82	322	P	45	17.30	0.6																	
	1.1s	57.36nm			5.2mb																		
RSON	78.30	343	P	45	16.00	-2.8																	
	1.0s	111.17nm			5.5mb																		
FRI	78.53	319	eP	45	19.00	-1.3																	
PRI	78.54	318	ePd	45	21.10	0.5																	
KVN	78.99	322	P	45	23.20	0.2																	
LLA	79.02	318	ePd	45	23.30	0.3																	
PRS	79.09	318	ePd	45	23.80	0.4																	
SAO	79.42	318	e(P)	45	24.80	-0.4																	
CMB	79.62	320	iPd	45	26.30	0.0																	
ARN	79.86	319	P	45	28.30	0.8																	
MHC	79.92	319	iPd	45	28.60	0.6																	
GCC	79.93	318	ePd	45	27.90	0.1																	
FRS	80.22	118	iPd	45	31.50	1.8																	
	1.0s	115.00nm			5.6mb																		
BRK	80.63	319	ePd	45	31.70	0.2																	
LRM	80.96	330	ePd	45	33.90	0.5																	
BLF	81.17	118	eP	45	34.50	-0.4																	
	1.0s	120.00nm			5.6mb																		
ORV	81.28	320	iPd	45	35.30	0.4																	
MAW	81.31	163	iPd	45	33.90	-0.7																	
	1.0s	90.00nm			5.5mb																		
BFS	82.51	116	iPd	45	36.00	-5.8X																	
	1.0s	410.00nm			6.2mb																		
WDC	82.55	321	iPd	45	40.20	-1.3																	
SEK	82.63	118	iPc	45	41.50	-1.0																	
	0.7s	73.97nm			5.6mb																		
LBFM	82.68	322	P	45	42.60	0.2																	
EVAL	83.41	44	eP	45	47.40	1.5																	
EJIF	83.56	45	eP	45	48.80	2.1																	
SES	83.82	333	iPd	45	46.30	-1.4																	
	1.0s	63.00nm			5.4mb																		
FFC	84.09	340	iPd	45	48.40	-0.5																	
	1.2s	64.00nm			5.3mb																		
MAL	84.41	46	iPc	45	52.50	1.6																	

			iS	56	03.00																		
EHOR	84.50	44	eP	45	52.60	1.3																	
ATEJ	84.78	46	iP	45	54.00	1.0																	
ALOJ	84.83	46	iP	45	54.40	1.2																	
AAPN	84.93	45	iP	45	54.70	1.0																	
ACHM	85.01	46	iP	45	55.50	1.5																	
APHE	85.01	46	iP	45	55.00	0.9																	
DPW	85.16	328	P	45	54.70	0.2																	
ASMO	85.21	46	iP	45	55.70	0.7																	
AFC	85.28	46	eP	45	56.50	1.0																	
EPLA	85.32	42	eP	45	56.80	1.4																	
EBAN	85.64	45	eP	45	58.20	1.1																	
ENIJ	85.99	47	eP	45	59.20	0.4																	
LON	86.20	326	P	45	59.00	-0.6																	
TOL	86.47	43	iPc	46	02.50	1.4																	
	1.5s	166.67nm			5.7mb																		
			eS	56	16.00																		
EMON	86.62	39	eP	46	02.80	1.1																	
EVIA	86.74	45	e(P)	46	03.00	0.5																	
PNT	86.84	329	eP	46	02.00	-0.6																	
	0.9s	45.00nm			5.4mb																		
GUD	86.84	43	eP	46	03.40	0.4																	
BCAO	87.62	84	iPc	46	07.10	-0.1																	
	0.7s	31.00nm			5.4mb																		
MCW	87.99	327	P	46	08.50	0.3																	
ETOR	88.25	43	eP	46	11.00	1.3																	
ECHE	88.26	45	eP	46	10.30	0.6																	
PGC	88.28	326	eP	46	10.00	0.5																	
LSZ	88.38	106	iPd	46	13.00	2.1																	
	1.0s	48.60nm			5.5mb																		
			i	46	15.50	8kmX																	
MZZ	90.70	102	iP	46	23.50	1.8																	
EPF	90.96	43	eP	46	22.10	-0.1																	
	0.8s	8.00nm			4.9mb																		
PTZ	91.58	106	eP	46	27.00	1.3																	
	0.9s	13.80nm			5.1mb																		
LFF	92.23	41	eP	46	27.70	-0.2																	
	0.7s	9.70nm			5.1mb																		
LPO	92.36	41	eP	46	28.30	-0.2																	
MFF	92.60	39	eP	46	28.90	-0.7																	
	0.9s	24.20nm			5.4mb																		
RJF	92.89	41	eP	46	30.60	-0.4																	
CAF	93.02	42	eP	46	31.30	-0.3																	
	0.7s	4.40nm			4.8mb																		
GRR	93.17	38	eP	46	31.00	-1.1																	
	0.7s	7.40nm			5.0mb																		
LSF	93.39	40	eP	46	32.70	-0.6																	
	0.8s	8.00nm			5.0mb																		
FLN	93.58	37	eP	46	33.30	-0.7																	
	0.9s	14.40nm			5.2mb																		
LDF	93.69	38	eP	46	33.60	-0.9																	
	0.8s	13.40nm			5.2mb																		
TCF	93.81	40	eP	46	34.50	-0.7																	
MAF	93.99	41	eP	46	35.70	-0.3																	
	1.1s	10.70nm			5.0mb																		
LWI	94.29	94	iPc	46	40.10	1.7																	
BGF	94.33	40	eP	46	37.20	-0.4																	
	1.1s	14.60nm			5.1mb																		
AVF	94.75	40	eP	46	39.20	-0.2																	
	1.1s	7.30nm			4.9mb																		
LRG	94.96	44	eP	46	41.10	0.6																	
	1.2s	47.60nm			5.7mb																		
SMF	94.97	41	eP	46	40.10	-0.4																	
	1.1s	14.60nm			5.2mb																		
SSF	94.98	40	eP	46	39.90	-0.6																	
	0.8s	4.00nm			4.8mb																		
LMR	95.00	45	eP	46	40.90	0.2																	
	1.1s	14.60nm			5.2mb																		
LOR	95.29	40	eP	46	40.90	-1.1																	
	0.8s	5.30nm			4.9mb																		
SBF	95.84	44	eP	46	44.70	0.1																	
	0.9s	14.40nm			5.4mb																		
EKA	95.86	31	Pd	46	43.60	-0.7																	
	0.9s	4.30nm			4.9mb																		
LPG	96.18	43	eP	46	47.00	0.6																	
	0.9s	13.10nm			5.4mb																		
HAU	97.12	40	eP	46	49.30	-0.9																	
CDF	97.86	40	eP	46	52.80	-0.8																	
CTA	125.49	219	iPKPc	52	18.70	-0.9																	
	1.0s	29.00nm																					
WB5	131.62	207	ePKP	52	26.70	-4.6X																	
			i	52	29.60																		
			i	55	38.40																		
MAIO	132.63	62	ePKP	52	33.00	0.1																	
			e	53	22.00																		
GBA	144.76	101	PKP	52	54.00	-1.4																	
KSH	145.20	55	ePKP	52	53.00	-2.7X																	

HYB 147.07 95 ePKPc 52 58.50 -0.7
1.0s 105.00nm
e 53 49.00
NDI 147.60 74 iPKPd 53 00.00 0.3
1.3s 230.77nm
GUA 148.19 256 ePKP 53 03.30 2.3X
0.9s 309.24nm
GUMO 148.25 257 ePKP 53 03.40 2.3X
1.1s 659.60nm
PJG 148.25 257 ePKP 53 03.50 2.4X
TRT 148.38 179 ePKPc 53 01.40 0.1
0.7s 55.20nm
MKS 150.21 193 iPKPc 53 10.00 5.9X
WMO 151.36 40 PKP 53 04.50 -0.6
KAKJ 153.76 304 ePKP 53 16.40 7.8X
GKN 154.15 75 PKP 53 09.60 -0.1
DMN 154.58 76 PKP 53 10.50 0.1
CHJJ 154.71 304 ePKP 53 19.70 9.8X
KKN 154.73 76 PKP 53 10.30 -0.2
1.0s 38.00nm
PKI 154.85 76 PKP 53 10.70 -0.1
1.1s 33.00nm
GUN 155.26 75 PKP 53 11.70 0.3
MTMJ 155.40 306 ePKP 53 21.40 10.4X
MDJ 155.51 331 ePKP 53 10.00 -0.8
IIDJ 155.74 304 ePKP 53 21.70 10.3X
CN2 157.89 336 PKPc 53 12.80 -1.0
SKS 00 08.00
SS 17 23.00
LSA 159.65 69 PKP 53 18.20 1.4
GTA 161.04 33 iPKPd 53 17.50 0.0
HHC 163.25 4 ePKP 53 20.00 0.4
LZH 165.63 32 ePKP 53 21.50 -0.5
1.5s 38.00nm
CHG 165.80 109 ePKP 53 22.00 -0.4
1.3s 28.37nm
TIY 166.42 2 ePKP 53 23.00 0.6
TIA 167.44 345 ePKP 53 23.70 0.5
CD2 169.29 49 PKP 53 25.20 0.7
XAN 169.44 19 iPKPc 53 25.10 0.6
GYA 173.71 67 PKP 53 27.00 0.2
S.D. = 1.0 on 172 of 191 obs.

? OCT 03, 1989 21h 49m 25.20± 8.96s
61.420 N ±45.7km 2.192 E ±57.6km
DEPTH = 10.0km (geophysicist)
NORWEGIAN SEA (642)
MD 2.0 (BER).

SUE 1.29 105 iP 49 49.30 0.2
iS 50 03.78
ASK 1.74 121 eP 49 54.96 -0.6
eS 50 14.98
HYA 1.95 96 iP 49 58.58 0.0
iS 50 19.83
ODD1 2.66 123 iP 50 09.03 0.2
eS 50 34.59
KMY 2.69 144 iP 50 09.37 0.2
eS 50 36.66
S.D. = 0.5 on 5 of 5 obs.

OCT 03, 1989 23h 09m 53.86± 0.15s
80.638 N ± 3.1km 121.761 E ± 2.4km
DEPTH = 31.0km (23 depth phases)
5.2mb (55 obs.) 4.9Msz (14 obs.)
EAST OF SEVERNAYA ZEMLYA (654)
Ms 5.3 (BRK).
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 16S, 30C
Centroid Location:
Origin Time 23:10:56.5 0.7
Lat 80.24N 0.08 Lon 121.66E 0.58
Dep 15.0 FIX Half-duration 2.3
Moment Tensor; Scale 10**17 Nm
Mrr=-1.74 0.11 Mtt= 0.56 0.11
Mff= 1.17 0.15 Mrt=-0.63 0.55
Mrf= 0.34 0.60 Mtf=-0.96 0.16
Principal Axes:
T Val= 1.99 Plg=10 Azm=232
N -0.08 9 141
P -1.90 76 9
Best Double Couple:Mo=2.0*10**17
NP1:Strike=334 Dip=36 Slip= -74
NP2: 134 56 -101

KBS 16.84 321 eP 13 53.50 5.2X
BRW 19.68 71 P 14 23.50 0.9
MBC 20.13 38 ePd 14 26.50 -0.9
0.6s 62.00nm 5.1mb
KEV 23.06 298 iP 14 57.60 0.7
1.0s 146.00nm 5.4mb
e 19 12.00
TRO 24.31 304 eP 15 12.20 3.2X
IMA 24.90 75 ePc 15 15.40 0.5
0.8s 35.10nm 5.0mb
SOD 25.31 296 iP 15 18.40 -0.2
i 15 28.20 36km
INK 25.80 56 eP 15 23.00 -0.1
FBA 26.91 70 ePd 15 35.00 1.6
TTA 27.46 79 ePd 15 39.60 1.1
SUF 29.76 292 iP 15 58.50 -0.5
0.8s 34.60nm 5.2mb
TOA 29.80 71 eP 16 00.20 0.7
PMR 29.82 74 eP 16 02.70 3.1X
0.8s 24.00nm 5.0mb
Z 21s 4.40um 5.1Msz
NUR 32.09 292 eP 16 19.00 -0.5
1.0s 24.00nm 5.1mb
Z 17s 2.20um 4.9MszX
i 16 30.00 41km
e 21 32.00
LR 32 40.00
UPP 33.75 298 iP 16 32.20 -1.8
HFS 34.04 302 eP 16 34.70 -1.8
0.5s 7.30nm 4.9mb
Z 16s 1.13um 4.7MszX
LR 33 15.00
FRB 35.72 8 eP 17 01.00 10.3X
MDJ 36.26 171 eP 16 55.20 -0.3
Z 12s 4.60um 5.5MszX
E 13s 2.10um
S 22 38.00
CN2 36.99 176 Pc 17 01.50 -0.2
4.0s 0.40nm 2.6mb X
Z 14s 4.40um 5.4MszX
N 13s 1.30um
E 13s 1.40um
pP 17 07.50 20kmX
PP 18 26.00
eS 22 40.00
iSS 25 18.00
WMO 38.84 220 P 17 18.00 0.6
Z 19s 10.60um 5.7Msz
N 16s 6.20um
E 18s 7.90um
S 23 16.00
SNY 38.95 178 Pc 17 18.10 0.1
Z 19s 2.30um 5.0Msz
N 13s 1.40um
E 12s 1.10um
PP 18 55.00
S 23 20.00
HHC 40.09 192 eP 17 28.00 0.3
Z 24s 3.70um 5.1MszX
N 11s 1.90um
E 10s 1.10um
S 23 35.00
BTO 40.40 194 eP 17 31.50 1.3
Z 11s 3.20um 5.4MszX
N 11s 3.00um
E 11s 1.10um
BJI 40.78 187 eP 17 34.00 0.8
1.0s 0.04nm 2.1mb X
Z 16s 5.25um 5.5MszX
N 11s 1.46um
ePP 19 12.00
eS 23 40.00
eSS 26 40.00
EKA 40.88 314 Pc 17 34.40 0.5
1.0s 24.00nm 4.9mb
DL2 41.86 180 P 17 46.00 4.0X
Z 22s 0.90um 4.6Msz
N 12s 2.00um
E 12s 1.70um
S 24 02.00
WIT 42.11 305 eP 17 47.00 3.0X
GTA 42.15 206 eP 17 44.80 0.2
Z 24s 2.10um 4.9MszX
E 15s 3.20um
PP 19 26.00
S 24 04.00
SS 27 04.00
KSP 42.68 296 iPd 17 49.20 0.5
i 17 57.00 26km
e 19 30.50
FFC 42.70 36 eP 17 48.00 -0.8
0.9s 15.00nm 4.7mb
CLL 42.70 299 iPd 17 48.40 -0.5
1.1s 66.00nm 5.3mb
ipP 17 56.30 26km
eS 24 17.00
DMU 42.72 317 eP 17 49.20 0.2
WTS 42.89 305 ePc 17 51.50 1.1
0.8s 22.00nm 4.9mb
KRA 42.90 292 eP 17 53.00 2.5
Z 18s 2.20um 5.1Msz
N 18s 3.60um
e 19 39.00 608kmX
eS 24 23.00
DBN 43.01 306 e(P) 17 55.00 3.7X
Z 18s 0.70um 4.6Msz
ePP 19 40.00
eS 24 28.00
TIY 43.19 191 eP 17 54.50 1.4
N 11s 1.70um
DLE 43.28 317 eP 17 55.00 1.4
MOX 43.55 300 eP 17 57.00 1.2
1.3s 75.00nm 5.3mb
Z 16s 2.10um 5.1MszX
N 16s 1.40um
E 14s 1.80um
i 18 04.50 25km
e 24 20.00
PRU 43.77 297 P 17 58.50 1.0
Z 14s 1.80um 5.1MszX
N 15s 1.50um
E 15s 3.90um
e 18 06.50 27km
PP 19 49.50
S 24 30.00
ETA 43.83 316 eP 18 01.00 3.0X
HOF 43.83 299 eP 17 58.90 0.8
ECB 44.22 317 eP 18 02.00 0.9
ECP 44.35 316 eP 18 02.00 -0.2
GRF 44.53 300 iPd 18 04.70 0.9
1.2s 59.00nm 5.3mb
Z 18s 1.00um 4.8Msz
e 18 13.10 28km
KSH 44.54 232 eP 18 05.00 0.9
Z 16s 4.80um 5.5MszX
E 13s 4.10um
TIA 44.58 185 eP 18 04.20 -0.1
Z 17s 3.20um 5.3MszX
N 15s 2.60um
E 15s 2.20um
S 24 37.50
MAT 44.66 161 eP 18 03.00 -1.9
eS 24 48.00
SNF 44.68 306 P 18 05.40 0.5
e 18 14.00 29km
KHC 44.74 298 iPd 18 06.40 0.9
1.0s 21.50nm 5.0mb
Z 14s 1.70um 5.1MszX
N 14s 1.20um
E 15s 2.70um
e 18 14.70 28km
S 24 48.00
WET 44.83 298 eP 18 07.10 0.9
1.3s 56.00nm 5.3mb
Z 17s 1.10um 4.9MszX
ABH 44.86 303 eP 18 06.92 0.5
PSZ 44.98 291 iP 18 08.70 1.2
VAL 45.02 319 iP 18 07.80 0.2
S 24 54.00
DOU 45.05 306 Pc 18 08.00 0.1
e 18 18.30 35km
S 24 55.00
SS 28 08.00
RUP 45.10 304 eP 18 08.64 0.2
ZST 45.14 294 iPc 18 09.50 0.9
i 18 35.00 109kmX
CLI 45.17 284 eP 18 09.00 0.1
VKA 45.19 295 eP 18 09.50 0.5
Z 17s 1.30um 4.9MszX
e 18 16.00 22km
i 18 23.50
i 18 34.30
i 19 04.60
i 19 14.80
e 20 02.00

03d 23h

| | | |

AYN	61.02	271	eP	20	06.50	0.2
MWC	61.05	55	eP	20	05.00	-1.7
			e	20	16.00	37km
ELC	61.11	28	P	20	04.80	-2.0
RVR	61.37	54	eP	20	10.00	1.4
			e	20	18.00	26km
TPC	61.43	53	eP	20	09.00	-0.1
			e	20	20.00	37km
BLA	61.77	20	P	20	09.50	-1.9
ALO	61.78	44	ePc	20	10.50	-1.2
	1.0s	22.75nm			5.3mb	
	Z 22s	1.41um			5.1Msz	
			e	20	20.80	34km
LNO	61.92	34	eP	20	10.80	-1.4
TUL	61.92	34	ePc	20	11.30	-1.1
	1.3s	27.40nm			5.2mb	
	Z 21s	0.20um			4.3Msz	
			i	20	21.60	34km
			LR	38	46.00	
SIO	62.04	35	eP	20	11.20	-2.0
GLA	62.63	52	eP	20	17.00	-0.1
			e	20	28.00	37km
CHG	62.67	204	eP	20	16.20	-1.2
CHTO	62.67	204	iP	20	16.50	-0.9
	1.3s	11.44nm			4.8mb	
			pP	20	27.00	34km
OLY	62.70	30	P	20	15.60	-1.9
BAR	62.75	54	eP	20	18.00	0.1
			e	20	27.00	29km
RSCP	63.05	25	P	20	18.40	-1.5
	0.8s	60.10nm			5.8mb	
TKL	63.12	23	P	20	18.70	-1.5
RYD	63.36	260	eP	20	22.00	0.0
UYO	63.77	33	iPc	20	23.50	-1.1
PRM	64.77	22	P	20	30.00	-1.1
HYB	65.96	226	eP	20	36.50	-2.3
GBA	69.85	226	P	21	03.00	-0.1
BCAO	87.80	284	ePd	22	40.20	-0.6
	0.7s	8.00nm			5.1mb	
			ic	22	50.50	32km
			ic	26	19.30	
KIC	89.33	307	PKPc	22	48.48	0.4
	1.2s	37.50nm			5.6mb	
LIC	89.50	307	PKPc	22	49.32	0.5
	1.3s	56.00nm			5.7mb	
	Z 20s	0.31um			4.7Msz	
ZOBO	115.44	11	ePKP	28	47.00	12.8X
			LR	06	08.00	
			SKS	39	26.00	
MAW	151.49	223	ePKP	29	44.00	6.5X
	S.D. = 1.0	on 237 of 259 obs.				

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* OCT 04, 1989 00h 58m 48.32± 2.06s
36.654 N ±24.0km 22.145 E ±20.0km
DEPTH = 33.0km (normal)
SOUTHERN GREECE (368)
MD 3.4 (ATH).

ITM	0.55	342	ePn	59	00.50	0.8
VLI	0.64	84	ePn	58	59.30	-1.6
VLS	1.96	321	ePn	59	19.50	-0.4
NPS	3.14	115	ePn	59	37.80	1.2
KEK	3.57	330	ePn	59	41.50	-1.2
KZN	3.66	356	ePn	59	45.30	1.3
OHR	4.57	347	ePn	59	57.00	0.0
	S.D. = 1.4	on 7 of 7 obs.				

% OCT 04, 1989 02h 54m 06.00± 0.72s
59.458 N ± 6.3km 6.715 E ± 7.0km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.7 (BER).

BLS1	0.09	140	iPg	54	08.56	-0.1
			iSg	54	10.21	
ODD1	0.46	354	iP	54	14.51	-0.8
			eS	54	20.64	
KMY	0.79	252	iP	54	21.17	-0.2
			eS	54	31.58	
ASK	1.28	324	eP	54	30.27	0.5
			eS	54	45.63	
HYA	1.73	352	eP	54	36.49	0.2
			eS	54	58.68	
SUE	1.88	330	eP	54	38.52	0.2
			eS	55	00.69	
NRA0	2.74	60	iPd	54	51.00	0.3
			iSg	55	29.50	
	S.D. = 0.5	on 7 of 7 obs.				

? OCT 04, 1989 03h 12m 03.49± 6.04s
1.750 N ±74.5km 122.230 E ±27.9km
DEPTH = 33.0km (normal)
4.8mb (7 obs.)
MINAHASSA PENINSULA (265)

KNA	18.55	160	iPd	16	19.90	0.2
	0.3s	20.00nm			4.9mb	
MBL	22.89	186	iPc	17	05.10	-0.4
	0.3s	6.00nm			4.6mb	
WB5	24.57	152	eP	17	23.20	1.3
NANU	25.03	195	iPc	17	32.10	5.9X
	0.4s	14.00nm			4.9mb	
ASPA	27.70	156	iPc	17	49.20	-1.7
	0.3s	7.00nm			4.8mb	
WARB	28.09	172	eP	17	59.90	5.5X
MEKA	28.42	187	eP	17	56.60	-0.7
	0.3s	17.00nm			5.2mb	
MRWA	31.37	191	eP	18	24.70	1.2
	0.3s	3.00nm			4.7mb	
BAL	32.60	189	eP	18	34.30	0.0
	0.3s	5.00nm			4.9mb	
MUN	34.03	189	eP	18	47.00	0.4
NWAO	34.81	187	eP	18	53.00	-0.4
	S.D. = 1.1	on 9 of 11 obs.				

OCT 04, 1989 04h 57m 23.02± 0.39s
49.133 N ± 3.5km 8.289 E ± 4.1km
DEPTH = 18.9 ± 4.2 km
GERMANY (543)
ML 3.4 (LDG), 2.9 (GRF). MD 3.0 (STR), 2.8 (UCC).

KTD	0.23	324	ePd	57	28.25	-0.4
TOD	0.58	35	ePc	57	31.75	-2.7
ABH	0.89	327	iPd	57	40.00	0.3
WLS	0.95	221	Pg	57	41.73	1.0
			Sg	57	57.60	
CDF	0.98	223	Pg	57	42.39	1.1
			Sg	57	59.11	
RUP	0.98	306	ePd	57	42.50	1.2
TNS	1.10	5	ePb	57	43.00	-0.2
			eSn	57	57.00	
ECH	1.18	220	Pg	57	47.12	2.5X
			Sg	58	04.72	
FEL	1.27	188	Pg	57	46.05	0.1
			Sg	58	05.88	
SLE	1.37	174	iPd	57	47.40	0.1
MOF	1.50	211	Pn	57	48.76	-0.3
			Pg	57	52.80	
			Sg	58	14.36	
BSF	1.64	218	Pn	57	50.89	-0.3
			Pg	57	55.89	
			Sg	58	19.65	
ZLA	1.65	178	eP	57	55.20	3.9X
HAU	1.71	230	Pn	57	52.00	-0.2
			Pg	57	56.10	
			Sg	58	19.80	
BBS	1.75	198	Pg	57	56.56	3.9X
VITF	1.78	240	Pg	57	58.20	5.1X
GRF	2.00	73	ePn	57	57.60	1.4
			ePg	58	00.40	
			eSg	58	23.30	
SAX	2.01	159	iPd	57	57.20	0.5
LOMF	2.03	209	Pn	57	56.41	-0.4
			Pg	58	02.46	
			Sg	58	32.03	
MEM	2.09	316	iPd	57	59.30	1.8
FUR	2.20	115	iPd	57	44.60	-14.7X
DOU	2.59	293	P	58	06.30	1.6
			iS	58	33.50	
HOF	2.61	62	iPc	58	08.90	3.8X
MOX	2.63	54	ePg	58	09.50	4.2X
			iSg	58	45.00	
OSS	2.75	152	ePd	58	07.50	0.4
VDL	2.76	163	ePd	58	08.00	0.6
OGA	2.92	140	iPc	58	10.90	1.4
TMA	3.05	172	eP	58	12.60	1.1
MMK	3.09	184	eP	58	12.20	0.2
SCE	3.11	131	iPnc	58	12.30	0.1
DIX	3.11	191	ePd	58	12.10	-0.3
KHC	3.47	88	Pg	58	16.00	-1.3
			Sg	58	55.50	
LOR	3.50	239	Pn	58	16.80	-0.9
			Pg	58	28.80	
			Sg	59	14.60	
LBF	3.60	235	Pg	58	32.40	13.2X
			Sg	59	18.40	
CLL	3.73	52	i(Pg)	58	31.90	11.0X
			eSg	59	18.00	
LPL	3.77	197	Pn	58	21.10	-0.6
LPG	3.78	197	Pn	58	21.40	-0.5
SSF	3.82	239	Pg	58	35.40	13.3X
			Sg	59	26.00	
SMF	3.89	232	Pn	58	22.60	-0.6
			Pg	58	38.10	
			Sg	59	28.60	
GRC	3.94	244	Pg	57	33.64	-50.2X
			Sg	57	42.41	
AVF	4.06	237	Pn	58	24.20	-1.3
			Pg	58	41.70	
			Sg	59	35.00	
PRU	4.16	76	ePg	58	39.50	12.5X
			Sg	59	30.80	
BGF	4.48	237	Pn	58	29.70	-1.8
			Pg	58	48.80	
			Sg	59	47.70	
MAF	4.84	235	Pg	58	53.70	17.1X
			Sg	59	58.20	
CAF	5.98	228	Pn	58	49.40	-3.3X
RJF	5.99	233	Pn	58	51.80	-1.1
	S.D. = 1.1	on 32 of 46 obs.				

OCT 04, 1989 06h 46m 13.76± 0.47s
23.807 S ± 4.3km 179.949 E ± 3.9km
DEPTH = 524.9 ± 6.0 km
5.0mb (25 obs.)
SOUTH OF FIJI ISLANDS (171)
Felt on Rooul Island.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 14S, 24C
Centroid Location:
Origin Time 06:46:20.6 1.3
Lat 23.64S 0.10 Lon 179.52E 0.10
Dep 538.3 4.4 Half-duration 1.6
Moment Tensor; Scale 10**16 Nm
Mrr= 5.09 0.49 Mtt=-1.02 0.87
Mff=-4.07 0.82 Mrt=-0.13 0.89
Mrf=-8.43 0.83 Mtf=-4.31 0.74
Principal Axes:

	Val=	Plg=	Azm=
T	10.51	56	70
N	0.09	21	194
P	-10.60	26	295

Best Double Couple:Mo=1.1*10**17
NP1:Strike= 63 Dip=26 Slip= 143
NP2: 188 74 68

RAO	5.75	161	iP	47	49.10	-0.5
			eS	48	03.00	
SVA	5.83	346	eP	47	50.10	-0.3
NDF	6.46	338	ePd	47	22.10	-34.3X
MBU	6.90	350	eP	48	01.40	0.7
DZM	12.56	275	iPc	49	01.10	2.1
			iS	50	48.70	
KRP	14.57	194	P	49	24.00	4.9X
	0.7s	49.00nm			5.2mb	
PGZ	17.05	190	P	49	43.00	-0.5
	0.4s	23.00nm			5.2mb	
MTW	17.70	191	P	49	49.60	-0.3
CAW	17.73	192	P	49	49.40	-0.8
WDW	17.90	192	P	49	51.00	-0.8
BLW	17.91	191	P	49	52.80	0.9
MRW	17.92	193	P	49	52.20	0.2
TCW	18.00	194	P	49	51.90	-0.8
MOW	18.00	191	P	49	53.30	0.5
HNR	23.86	303	eP	50	46.00	-1.3
BRS	24.75	256	iPd	50	56.00	0.8
			e	57	04.00	
COO	25.81	249	iPc	51	05.90	1.3
	0.5s	45.00nm			5.3mb	
RMQ	28.33	258	iPd	51	28.10	1.5
	0.6s	83.00nm			5.5mb	
			iPcP	53	14.30	
			eScP	57	17.40	
CNB	28.86	240	iPd	51	32.50	1.2
CAN	29.15	240	eP	51	34.90	1.2
BWA	29.40	242	eP	51	34.90	-1.0
CMS	31.09	248	eP	51	51.00	0.7
CTA	31.43	270	iPd	51	54.00	0.7
	0.5s	232.39nm			6.0mb X	
			i	53	06.60	

04d 06h

			i	53	40.00	
			iS	56	25.00	
			iScP	57	27.70	
PMO	31.51	80	iP	51	52.80	-1.1
	0.8s	20.00nm			4.7mb	
TPT	31.76	80	iP	51	55.00	-1.1
	0.8s	35.00nm			5.0mb	
RUV	31.90	80	iP	51	56.20	-1.1
	0.8s	20.00nm			4.7mb	
TOO	32.46	237	iPc	52	03.00	1.1
PMG	34.42	289	eP	52	19.00	0.5
QIS	37.41	267	iPd	52	42.80	-0.3
ASPA	42.01	261	iPd	53	20.30	0.0
	0.5s	113.00nm			5.7mb	
			iPcP	55	06.50	
			iScP	58	06.10	
			iS	58	59.80	
			iScS	02	25.30	
WB5	42.35	266	eP	53	22.70	-0.3
			iPcP	55	09.00	
			iScP	58	08.10	
			eS	59	05.30	
FORR	46.26	249	iPd	53	52.80	-0.5
	0.5s	202.00nm			5.9mb	
WARB	48.09	255	iPd	54	06.50	-0.8
	0.2s	6.00nm			4.7mb	
KNA	48.61	270	eP	54	11.00	-0.3
GUA	50.51	314	eP	54	24.00	-1.2
	0.8s	131.34nm			5.4mb	
PJG	50.57	314	eP	54	24.80	-0.9
COOL	52.20	249	eP	54	36.00	-1.6
	0.5s	13.00nm			4.6mb	
SBA	54.47	183	P	54	55.10	2.1
KLB	54.98	247	eP	54	56.20	-1.0
	0.3s	4.00nm			4.2mb	
MEKA	55.17	253	eP	54	56.80	-1.9
NWAO	55.23	245	eP	54	58.20	-0.8
MBL	55.25	260	iPd	54	58.10	-1.2
	0.4s	10.00nm			4.5mb	
BAL	56.02	248	iPc	55	03.60	-0.9
	0.4s	15.00nm			4.7mb	
MUN	56.23	246	eP	55	05.20	-0.7
MRWA	56.87	250	iPc	55	09.70	-0.7
	0.4s	13.00nm			4.6mb	
NANU	58.76	257	iPd	55	23.10	-0.2
	0.4s	46.00nm			5.2mb	
SPA	66.34	180	iPc	56	12.00	0.4
	0.8s	41.67nm			5.1mb	
KKM	68.83	287	eP	56	27.20	-0.3
MAW	77.82	200	eP	57	18.00	0.6
AIA	78.68	157	eP	57	22.60	0.7
SYP	81.33	46	eP	57	37.00	0.6
PRS	81.51	44	eP	57	37.50	0.4
GCC	81.54	43	eP	57	37.60	0.4
PCC	81.59	43	eP	57	37.70	0.3
SAO	81.72	44	e(P)	57	38.50	0.3
PRI	81.84	45	eP	57	40.20	1.2
BRK	81.90	43	eP	57	39.50	0.5
BKS	81.91	43	iPd	57	40.00	0.9
	0.6s	96.00nm			5.5mb	
LLA	81.95	44	e(P)	57	38.70	-0.7
MHC	81.95	43	iPc	57	39.80	0.3
MWC	82.43	48	eP	57	42.00	0.0
BAR	82.51	50	eP	57	43.00	0.8
PLM	82.75	49	eP	57	43.00	-0.7
			e	59	30.00	
RVR	82.77	48	eP	57	43.00	-0.4
SBB	82.86	47	eP	57	44.00	0.0
			e	59	30.00	
FRI	82.97	45	ePc	57	44.50	0.1
			e	59	30.70	
ISA	82.99	46	eP	57	45.00	0.4
			e	59	32.00	
CMB	83.17	43	iPc	57	45.50	0.1
			e	59	31.70	
ORV	83.40	42	iPc	57	46.70	0.2
			e	59	32.90	
WDC	83.42	40	iPc	57	47.00	0.4
TPC	83.74	49	eP	57	48.00	-0.4
			e	59	35.00	
MIN	83.83	41	eP	57	49.40	0.6
GSC	83.90	47	eP	57	50.00	0.8
GLA	84.00	50	eP	57	51.00	1.3
			e	59	37.00	
KVN	85.21	44	P	57	55.80	0.1
			pP	59	41.50	471kmX
TNP	85.21	45	P	57	55.50	-0.2
	1.0s	27.50nm			4.9mb	
			pP	59	42.00	475kmX
PGC	88.06	34	eP	58	09.50	0.9
TIY	88.09	313	eP	58	10.80	1.6
PMR	88.67	14	eP	58	10.30	-0.9
	0.6s	10.20nm			4.9mb	
CHTO	89.60	291	eP	58	18.00	1.6
	1.0s	4.25nm			4.3mb	
PNT	90.44	35	eP	58	20.00	0.3
	0.7s	12.00nm			5.0mb	
ALQ	90.94	52	eP	58	22.00	-0.6
	0.9s	7.98nm			4.7mb	
			epP	00	08.00	466kmX
IMA	91.82	10	eP	58	25.90	0.1
FBA	91.87	13	eP	58	25.30	-0.6
LRM	92.46	40	eP	58	29.00	-0.4
BW06	92.66	44	P	58	30.20	-0.2
GOL	93.94	48	P	58	35.70	-0.6
	1.0s	22.50nm			5.2mb	
			pP	00	22.00	467kmX
GLD	94.06	48	P	58	37.90	1.1
RSSD	96.84	45	P	58	49.50	0.3
INK	97.95	16	eP	58	52.00	-1.5
PDCR	127.43	129	ePKP	04	17.90	-2.9X
BUL	128.15	215	iPKPc	04	22.80	0.5
	0.7s	6.51nm				
KEV	131.32	348	ePKP	04	25.00	-1.6
SOD	133.38	346	ePKP	04	29.00	-1.6
SUF	137.30	343	ePKP	04	27.00	-11.1X
NUR	139.51	341	ePKP	04	36.00	-6.2X
	0.6s	9.10nm				
			i	04	43.00	
NB2	141.98	351	PKP	04	40.90	-5.8X
	0.7s	4.60nm				
HFS	142.45	349	ePKP	04	42.30	-5.1X
	0.3s	15.40nm				
EKA	148.43	3	PKPc	05	00.50	3.1X
	0.8s	8.90nm				
DMU	149.51	8	ePKP	05	03.40	4.3X
DLE	150.15	8	ePKP	05	04.80	4.8X
KSP	150.18	339	iPKP	05	05.80	5.6X
	0.6s	36.00nm				
			i	06	52.40	
			e	07	12.80	
CLL	150.75	343	iPKPc	05	06.70	5.7X
	1.2s	43.00nm				
			e	07	13.00	
PRU	151.49	340	PKP	05	08.70	6.5X
MOX	151.71	344	ePKP	05	10.00	7.5X
KHC	152.54	340	PKP	05	11.20	7.5X
BCAO	153.69	226	ePKPd	05	05.80	-0.5
	0.4s	10.00nm				
			ic	05	06.90	
			id	05	30.00	
LIC	161.88	164	PKP	05	16.10	0.3
KIC	162.08	165	PKP	05	16.30	0.3
	0.8s	8.00nm				
TIC	162.28	164	PKP	05	16.60	0.3
	0.7s	8.50nm				

S.D. = 0.9 on 95 of 110 obs.

OCT 04, 1989 07h 26m 01.59± 0.55s
38.563 N ± 4.6km 27.006 E ± 7.2km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
MD 3.3 (ATH).

IZM	0.26	129	iPg	26	06.90	-0.2
SMG	0.86	189	ePb	26	17.00	-1.2
			eSb	26	29.50	
PRK	0.89	320	ePb	26	18.00	-0.7
CIN	1.29	138	iPnd	26	26.00	0.6
			iSg	26	45.00	
EZN	1.37	337	ePn	26	27.20	0.6
YER	1.75	144	ePn	26	32.00	-0.2
APE	1.89	219	ePn	26	35.50	1.2
EDC	1.90	20	ePn	26	34.00	-0.3
BNT	1.93	21	iPn	26	34.00	-0.7
KCT	1.98	31	iPn	26	36.50	1.0
KHL	1.99	96	ePn	26	40.00	4.2X

S.D. = 0.9 on 10 of 11 obs.

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* OCT 04, 1989 07h 31m 37.69± 0.87s
6.756 S ±11.6km 131.088 E ±13.8km
DEPTH = 33.0km (normal)
4.6mb (6 obs.)
TANIMBAR ISLANDS REGION (281)

KNA	9.22	194	eP	33	53.30	1.8
	0.3s	27.00nm			6.0mb	X
			eS	35	43.00	
WB5	13.43	167	eP	34	46.30	-2.2
			eS	37	24.50	
QIS	16.01	150	eP	35	21.50	-0.7
			eS	37	18.00	
ASPA	17.03	171	eP	35	35.20	0.1
	0.6s	37.00nm			4.7mb	
			eS	38	48.70	
MBL	17.99	216	iPd	35	47.70	0.7
	0.3s	9.00nm			4.4mb	
WARB	19.78	192	eP	36	09.50	1.3
			eS	39	55.00	
CTA	19.80	133	iPd	36	08.20	-0.3
	1.0s	12.00nm			4.2mb	
NANU	21.72	222	eP	36	26.30	-1.8
FORR	24.13	186	eP	36	51.50	-0.2
	0.5s	29.00nm			5.1mb	
BRS	29.07	137	iPc	37	45.20	7.8X
BWA	31.85	152	eP	38	03.20	1.3
CAN	32.85	152	eP	38	11.00	0.3
CHTO	40.62	309	iP	39	15.60	-0.8
	0.9s	5.12nm			4.3mb	
SPA	83.29	180	e(P)	43	59.90	-2.5
	0.6s	10.98nm			5.1mb	
			i	44	18.80	
CNCB	149.94	141	PKP	51	24.00	1.2
LPB	150.07	141	PKP	51	23.00	0.1
ZOBO	150.25	140	PKP	51	23.70	0.4
CCH	150.59	145	PKP	51	24.80	1.3

S.D. = 1.4 on 17 of 18 obs.

? OCT 04, 1989 09h 19m 57.26± 4.98s
33.137 S ±12.1km 72.262 W ±36.4km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

LCCH	0.67	120	iPc	20	10.60	0.0
			iS	20	20.00	
ROCH	1.06	81	iPd	20	17.50	0.0
			iS	20	32.00	
LNV	1.08	139	iPc	20	17.50	-0.1
			iS	20	31.50	
TACH	1.22	115	iPd	20	19.60	-0.4
			iS	20	35.50	
PEL	1.32	91	iPc	20	21.80	0.1
			iS	20	39.00	
SAN	1.38	104	eP	20	22.10	-0.4
			iS	20	41.50	
JACH	1.48	73	iPc	20	23.60	-0.4
			iS	20	42.00	
PCH	1.54	109	iPc	20	25.50	0.6
			iS	20	45.00	
FCH	1.66	97	iPc	20	27.40	0.5
			iS	20	49.60	

S.D. = 0.4 on 9 of 9 obs.

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* OCT 04, 1989 09h 58m 23.39± 0.86s
24.047 N ± 8.2km 121.518 E ± 9.9km
DEPTH = 10.0km (geophysicist)
TAIWAN (244)

TWD	0.08	65	iPd	58	27.00	1.2
			eS	58	29.50	
TWC	0.64	28	iPd	58	34.90	-1.2
			eS	58	43.50	
TWQ	0.66	290	iPc	58	37.10	0.5
TWF1	0.72	196	iPc	58	37.40	-0.2
			eS	58	48.50	
TWG	1.29	199	eP	58	47.00	-0.3

S.D. = 1.3 on 5 of 5 obs.

OCT 04, 1989 11h 29m 57.67± 0.24s
49.746 N ± 5.9km 78.013 E ± 5.0km
DEPTH = 0.0km (geophysicist)
4.6mb (24 obs.)
EASTERN KAZAKH SSR (329)

WMQ	8.90	128	P	32	09.40	-1.1
GTA	18.59	115	eP	34	18.30	0.1
NDI	21.04	182	eP	34	46.00	0.5
SUF	30.68	315	iP	36	15.10	-0.7
	0.4s	6.30nm			4.9mb	
NUR	31.47	310	eP	36	22.10	-0.6
WHN	33.32	111	iPd	36	39.50	0.4
CHTO	35.13	144	eP	36	55.10	0.2

0.8s 2.01nm 4.0mb
GBA 36.04 181 P 37 02.10 -0.5
HFS 36.91 311 iPc 37 08.70 -0.8
0.4s 15.90nm 5.1mb
GRF 41.86 297 eP 37 53.00 2.2
1.1s 7.30nm 4.3mb
Z 14s 0.03um 3.3MszX
HAU 45.50 297 eP 38 20.40 0.1
0.5s 2.90nm 4.5mb
LPG 46.56 293 iPc 38 30.20 1.1
0.4s 17.10nm 5.5mb
EKA 47.04 310 Pd 38 32.30 0.0
0.6s 7.60nm 5.0mb
LOR 47.32 297 iPc 38 34.10 -0.6
0.4s 2.80nm 4.7mb
LBF 47.40 297 eP 38 34.70 -0.7
0.5s 2.90nm 4.7mb
SSF 47.63 297 eP 38 36.70 -0.4
0.3s 0.80nm 4.3mb
FRF 47.68 291 eP 38 37.90 0.4
AVF 47.87 297 eP 38 38.40 -0.6
0.4s 1.10nm 4.3mb
MAF 48.63 296 eP 38 45.40 0.5
0.5s 2.40nm 4.5mb
LDF 48.88 300 iPc 38 46.60 -0.1
FLN 48.99 301 iPc 38 47.40 -0.2
0.3s 5.10nm 5.0mb
GRR 49.40 301 iPc 38 50.20 -0.6
0.4s 3.80nm 4.7mb
DMU 49.65 309 eP 38 52.80 0.2
LPF 49.70 300 eP 38 52.70 -0.4
0.4s 3.40nm 4.7mb
MFF 49.99 298 iPc 38 54.70 -0.6
0.4s 4.50nm 4.8mb
LPO 50.30 295 iPc 38 58.10 0.4
0.4s 4.50nm 4.8mb
LFF 50.41 296 eP 38 59.40 0.8
0.4s 2.20nm 4.4mb
EPF 51.76 294 iPc 39 08.20 -0.7
0.5s 3.20nm 4.5mb
MBC 53.79 5 ePc 39 23.00 -0.5
0.5s 14.00nm 5.2mb
INK 59.94 13 iPc 40 06.80 -0.6
FBA 60.30 21 iP 40 10.10 0.2
0.9s 1.50nm 4.1mb
BCAO 67.24 249 iPd 40 55.50 -0.6
0.4s 6.00nm 5.2mb
PNT 80.16 12 eP 42 11.00 0.1
0.6s 4.00nm 4.5mb
KIC 80.50 269 P 42 13.60 0.4
LIC 80.79 269 P 42 15.00 0.3
WB5 85.35 128 eP 42 37.90 0.0
RSSD 86.50 1 eP 42 44.30 0.6
KVN 90.45 12 eP 43 03.70 1.2
TNP 91.52 12 eP 43 07.90 0.4
0.7s 1.22nm 4.3mb
S.D. = 0.7 on 39 of 39 obs.

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* OCT 04, 1989 11h 43m 06.06± 1.39s
33.316 S ±12.1km 118.010 E ±11.6km
DEPTH = 10.0km (geophysicist)
WESTERN AUSTRALIA (590)

NWAO 0.76 301 eP 43 20.20 -0.7
eS 43 31.00
RKG 1.12 228 iPc 43 27.50 0.4
iS 43 43.70
KLB 1.73 353 eP 43 38.00 1.6
eS 44 02.00
MUN 2.02 311 eP 43 40.00 -0.6
eS 44 07.00
COOL 3.60 48 eP 44 02.30 -0.8
iS 44 45.30
WARB 10.33 49 eP 45 33.00 -4.4X
eS 47 26.50
S.D. = 1.5 on 5 of 6 obs.

% OCT 04, 1989 12h 10m 42.47± 0.74s
46.562 N ± 9.8km 9.928 E ± 6.1km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)

OSS 0.19 50 iPc 10 46.90 0.0
VDL 0.33 257 iPc 10 49.00 -0.3
OGA 0.81 68 iPgc 10 58.30 -0.1
TMA 0.86 238 eP 10 59.60 0.4
ZLA 1.40 312 iPc 11 08.20 0.1
WMK 1.45 250 eP 11 08.80 -0.2
SLE 1.55 321 iPc 11 10.20 0.0
S.D. = 0.3 on 7 of 7 obs.

OCT 04, 1989 12h 17m 38.97± 0.23s
46.844 N ± 5.3km 153.963 E ± 3.5km
DEPTH = 37.7km (20 depth phases)
5.5mb (61 obs.) 5.0Msz (1 obs.)
KURIL ISLANDS (221)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 11S, 21C
Centroid Location:
Origin Time 12:17:44.5 0.8
Lat 47.09N 0.11 Lon 153.94E 0.11
Dep 15.0 FIX Half-duration 1.5
Moment Tensor; Scale 10**16 Nm
Mrr= 3.55 0.23 Mtt=-0.72 0.28
Mff=-2.83 0.27 Mrt=-0.19 0.94
Mrf= 0.42 0.98 Mtf=-1.83 0.31
Principal Axes:
T Val= 3.60 Plg=83 Azm=227
N 0.30 7 30
P -3.90 2 120
Best Double Couple:Mo=3.8*10**16
NP1:Strike=217 Dip=43 Slip= 100
NP2: 24 47 81

MAT 15.61 234 eP 21 13.00 -4.7X
1.4s 148.84nm 5.0mb
eS 24 27.00
MDJ 17.15 271 eP 21 36.00 -1.2
SHK 20.22 240 eP 22 12.40 -0.9
SNY 22.23 268 Pc 22 29.00 -4.6X
0.8s 0.10nm 2.3mb X
Z 16s 2.70um 4.8MszX
N 12s 0.90um
eS 26 30.00
DL2 24.85 263 P 22 59.00 -0.2
N 10s 0.60um
BJI 28.06 270 eP 23 28.00 -0.7
Z 16s 2.04um 4.8MszX
N 16s 1.21um
eS 28 21.00
TIA 29.31 262 eP 23 39.20 -0.8
SSE 29.68 250 P 23 43.50 0.2
1.0s 0.05nm 2.2mb X
Z 16s 0.60um 4.3MszX
N 10s 0.20um
epP 23 53.00 33km
eS 28 50.00
i 53 31.00
NJ2 30.58 254 Pd 23 51.40 0.1
pP 24 01.00 33km
HHC 30.87 274 Pd 23 58.00 4.1X
Z 17s 1.70um 4.8MszX
N 14s 0.80um
E 13s 0.90um
TIY 31.73 269 eP 24 01.50 0.0
E 16s 0.80um
SVW 31.99 45 eP 24 10.80 7.3X
BTO 32.04 275 eP 24 03.00 -1.1
N 14s 0.90um
E 15s 0.40um
eS 29 11.00
IMA 33.39 36 eP 24 15.00 -0.7
1.0s 15.00nm 4.8mb
WHN 34.52 256 iPc 24 25.00 -0.6
pP 24 35.00 35km
PMR 35.13 44 e(P) 24 30.90 0.5
pP 24 41.00 35km
QZH 35.60 245 Pd 24 35.70 0.9
FBA 35.73 38 iP 24 34.40 -1.1
1.0s 7.10nm 4.6mb
pP 24 46.90 46km
XAN 36.10 266 Pc 24 33.50 -5.6X
TOA 36.50 43 eP 24 50.40 8.2X
LZH 38.47 272 Pc 24 59.00 -0.1
E 14s 0.70um
pP 25 03.50 15kmX
sP 25 08.50
GTA 39.53 279 Pc 25 07.20 -0.7
Z 14s 1.00um 4.8MszX
N 13s 0.60um
INK 41.26 33 eP 25 21.50 0.0
CD2 41.47 266 iPc 25 23.80 0.0
GYA 42.31 258 iPc 25 30.80 0.0
pP 25 43.00 45km
MBC 44.31 20 ePc 25 47.00 0.7
0.7s 8.00nm 4.6mb
WMQ 45.44 292 P 25 55.50 -0.3
Z 16s 1.60um 5.1MszX
N 13s 0.50um
eS 32 28.00
KMI 45.83 260 Pc 25 59.00 -0.3
LSA 50.85 274 P 26 40.00 1.5
LOE 51.86 254 eP 26 45.00 -0.7
CHG 52.71 257 iPc 26 52.50 0.4
1.0s 32.25nm 5.3mb
CHTO 52.71 257 iPc 26 52.20 0.1
1.0s 30.00nm 5.2mb
pP 27 05.80 50kmX
NST 54.16 254 eP 27 04.00 1.3
PNT 54.70 53 eP 27 05.00 -1.4
0.9s 16.00nm 5.0mb
KSH 55.19 293 eP 27 08.90 -1.3
EDM 55.83 47 eP 27 13.50 -1.1
1.0s 26.00nm 5.2mb
NNT 56.69 251 eP 27 22.00 0.9
KEV 57.45 341 eP 27 23.00 -2.8
WDC 57.97 63 eP 27 29.50 -0.3
e 27 41.00 40km
e 27 45.70
SES 58.64 48 eP 27 33.00 -1.5
SOD 59.37 339 iP 27 37.80 -1.5
SNG 60.21 247 eP 27 46.20 0.6
FFC 60.29 40 eP 27 45.00 -0.7
1.0s 27.00nm 5.3mb
LRM 60.67 53 eP 27 48.60 -0.2
e 28 00.00 39km
CMB 60.84 64 ePc 27 50.00 0.2
e 28 05.50 57kmX
e 28 11.40
NDI 60.96 282 iP 27 49.50 -1.1
1.0s 130.00nm 6.0mb
KVN 61.61 62 iP 27 54.60 -0.6
pP 28 06.00 39km
TNP 62.75 63 P 28 02.30 -0.5
0.9s 5.21nm 4.7mb
pP 28 13.50 37km
SUF 63.16 336 iP 28 03.70 -1.2
0.8s 36.80nm 5.6mb
ISA 63.52 65 eP 28 17.00 9.3X
DUG 64.03 58 P 28 10.80 -0.3
BW06 64.21 54 P 28 13.40 1.0
0.9s 4.77nm 4.6mb
pP 28 25.20 40km
SBB 64.56 66 eP 28 14.00 -0.5
e 28 25.00 36km
MWC 64.71 66 eP 28 15.00 -0.7
e 28 26.00 36km
FRB 64.77 19 eP 28 15.00 -0.3
GSC 64.80 65 eP 28 26.00 9.9X
RVR 65.29 66 eP 28 23.00 3.9X
e 28 35.00 41km
NUR 65.37 335 iP 28 17.90 -1.3
0.8s 68.90nm 5.8mb
PEC 65.49 66 P 28 20.00 -0.5
MSU 65.50 59 P 28 20.80 0.1
PLM 66.03 66 eP 28 26.00 1.9
TPC 66.05 65 eP 28 34.00 10.0X
RSSD 66.32 50 P 28 27.00 1.1
pP 28 38.00 36km
BAR 66.60 67 eP 28 30.00 2.4
e 28 38.00 26kmX
QUE 66.75 290 eP 28 28.60 -0.1
HYB 67.58 272 ePc 28 33.30 -0.6
1.0s 30.00nm 5.3mb
UPP 67.84 338 iP 28 33.30 -1.6
HFS 68.57 340 ePKP 28 38.00 -1.5
1.0s 105.30nm 5.8mb
Z 17s 0.23um 4.5MszX
LR 02 30.00
GOL 68.62 55 P 28 40.30 -0.1
1.0s 15.00nm 5.0mb
GLD 68.66 54 P 28 42.10 1.5
1.1s 19.29nm 5.1mb
WB5 68.73 200 eP 28 39.00 -1.8
e 28 51.20 41km
POO 70.03 276 iPc 28 49.25 0.2
GBA 71.01 270 P 28 55.00 0.1
ALQ 71.29 59 eP 28 56.00 -0.7
1.0s 12.50nm 4.9mb
e 29 07.20 37km

04d 12h

ASPA		72.49	199	iPc	29	03.10	-0.4	SAX		81.31	336	ePd	29	53.20	0.3	EPF		87.51	341	eP	30	24.50	0.6
		1.2s		20.00nm			5.0mb	MOF		81.34	338	P	29	52.48	-0.3			1.0s		14.00nm			5.2mb
				ipP	29	15.00	40km	ZLA		81.36	337	ePd	29	53.00	0.2	KMSA		87.88	298	eP	30	26.30	0.3
KRA		75.61	331	eP	29	21.30	-0.1	HAU		81.40	339	eP	29	52.50	-0.5	ZOBO		133.77	63	PKP	36	54.00	-0.3
		0.8s		42.00nm			5.5mb			1.0s		36.00nm			5.3mb	LPB		133.99	63	PKP	36	54.00	-0.5
	Z	16s		0.90um			5.2MszX	BSF		81.45	338	P	29	53.03	-0.3	CNCB		134.27	63	PKP	36	55.90	0.7
				e	29	27.00	18kmX	BBS		81.61	338	P	29	54.21	0.1	PDCR		144.06	22	e(PKP)	37	09.00	-3.4X
SLY		75.86	307	iPd	29	23.50	0.5	OSS		81.61	336	ePd	29	54.80	0.5			S.D. = 0.9		on 186 of 202 obs.			
				i	29	32.50	29km	KHL		81.74	319	eP	29	54.60	-0.4	---							
CLI		75.92	325	eP	29	22.50	-0.7	CTI		81.75	335	P	29	54.00	-0.9	&	OCT	04,	1989	14h	03m	39.81s	
KSP		76.08	334	iPc	29	23.50	-0.5	LOMF		81.89	338	P	29	55.71	0.1		66.002 N				151.598 W		
		0.9s		44.00nm			5.4mb	VDL		81.98	336	ePd	29	57.10	0.9		DEPTH =	10.0km		(geophysicist)			
SHI		76.15	299	eP	29	26.00	1.0	SKO		82.04	326	iPc	29	56.00	-0.4	ALASKA							(676)
SPC		76.26	331	eP	29	25.10	-0.2			1.2s		********nm			8.7mb X		<AGS-P>.						
EKA		76.38	347	P	29	25.00	-0.6	FLN		82.22	343	iPc	29	56.90	-0.3								
		0.7s		13.60nm			5.1mb			1.0s		44.00nm			5.5mb	IMA		0.85	275	eP	03	56.30	0.0
SIO		76.44	52	eP	29	25.30	-1.0	LDF		82.31	343	eP	29	57.10	-0.5	NEA		1.78	142	eP	04	11.52	0.7
KVT		76.52	317	iP	29	27.70	1.0			0.8s		10.70nm			4.9mb	RDS		1.87	128	eP	04	12.00	-0.1
TUL		76.60	52	eP	29	26.70	-0.5	SAL		82.48	335	P	30	04.50	5.9X	FBA		1.94	123	eP	04	13.80	0.7
		1.2s		20.50nm			5.0mb	TMA		82.49	336	ePd	29	59.20	0.3	GLM		2.03	118	eP	04	13.93	-0.5
				e	29	38.20	38km	GRR		82.65	343	eP	29	59.20	-0.2					eS	04	39.90	
LNO		76.60	52	eP	29	26.40	-0.6			0.8s		40.20nm			5.5mb	CCB		2.09	129	eP	04	14.79	-0.6
CLL		76.62	336	iPc	29	26.10	-0.9	LOR		82.69	340	eP	29	59.50	-0.2	WRH		2.13	135	eP	04	15.99	0.1
		1.1s		120.00nm			5.8mb			0.8s		50.30nm			5.6mb	KTH		2.48	173	eP	04	22.52	1.6
VRI		76.70	325	eP	29	28.00	0.4	VAI		82.74	336	Pd	30	00.10	0.2	MCK		2.55	152	eP	04	21.79	-0.1
WARB		76.77	205	eP	29	29.00	0.9	MMK		82.79	337	ePd	30	01.60	1.1	PMR		4.56	165	eP	04	50.80	0.4
WIT		76.86	340	eP	29	30.00	1.7	ELL		82.85	318	eP	30	00.00	-0.9			10 obs. associated					
TLB		77.24	324	eP	29	30.50	0.0	DIX		82.91	337	ePd	30	02.10	0.9	---							
MLR		77.32	325	eP	29	31.20	0.0	LBF		82.93	340	iPc	30	00.90	-0.1	*	OCT	04,	1989	14h	14m	08.69±	0.90s
KAS		77.35	318	iPd	29	32.50	1.2			1.0s		26.80nm			5.3mb		12.660 S	±11.4km		75.487 W	±	9.3km	
PRU		77.36	335	eP	29	30.50	-0.6	SSF		82.97	340	eP	30	01.10	0.0		DEPTH =	100.0 ± 20.3 km					
		1.0s		36.10nm			5.4mb			1.0s		48.80nm			5.5mb	PERU							(116)
	Z	18s		0 60um			5.0Msz	OHR		83.02	326	eP	30	01.00	-0.6								
	N	17s		0.60um						0.9s		120.00nm			6.0mb	HUA		0.64	15	iPd	14	26.30	0.0
				e	29	38.40	25kmX	LPF		83.02	343	iPc	30	01.70	0.3					iS	14	39.80	
ISR		77.38	325	eP	29	32.00	0.6			0.8s		26.80nm			5.4mb	PT08		1.25	304	iPd	14	32.90	0.3
WTS		77.59	340	iPc	29	32.40	0.1	EMS		83.05	338	ePd	30	02.60	0.8	PT03		1.36	193	iPd	14	33.60	0.0
		1.0s		129.00nm			5.9mb	ORO		83.18	337	P	30	04.50	2.1	NNA		1.48	297	iP	14	35.00	-0.2
MOX		77.60	337	iPc	29	32.00	-0.5	AVF		83.26	340	iPc	30	02.70	0.1			0.6s		76.67nm			
		1.0s		60.00nm			5.6mb			1.0s		46.80nm			5.5mb					iS	14	56.30	
HOF		77.83	336	iPc	29	33.40	-0.3	YER		83.27	319	eP	30	04.40	1.5	PT10		1.56	292	iPd	14	36.00	-0.1
		1.0s		60.00nm			5.6mb	SMF		83.28	340	iPc	30	02.80	0.0					e(S)	14	56.00	
CMP		77.86	326	ePd	29	33.00	-1.0	RYD		83.33	299	eP	30	03.50	0.1	ARE		5.41	135	eP	15	24.00	-4.7X
SRO		78.09	331	iP	29	37.00	1.8	LSD		83.55	337	P	30	05.11	0.6	ZOBO		7.98	118	P	16	03.70	-0.6
BUD		78.14	331	eP	29	36.00	0.6	BOB		83.56	335	P	30	05.60	1.3	LPB		8.12	119	P	16	06.00	-0.1
ZST		78.15	332	iP	29	35.50	0.0	BGF		83.60	340	iPc	30	04.30	-0.1	CNCB		8.35	121	P	16	10.00	0.7
BHD		78.21	306	eP	29	35.00	-1.0			1.0s		20.00nm			5.2mb		S.D. = 0.5		on	8 of	9 obs.		
DMU		78.33	349	eP	29	37.60	1.2	LPG		83.62	337	iPc	30	05.50	0.6	---							
KHC		78.41	335	iPc	29	37.30	0.3			1.0s		44.80nm			5.5mb	%	OCT	04,	1989	14h	31m	00.02±	0.55s
		1.0s		46.00nm			5.4mb	ARV		83.66	333	P	30	05.00	0.3		44.383 N	± 5.6km		7.394 E	±	4.8km
GRF		78.57	336	iPc	29	38.10	0.3	PGD		83.70	334	Pd	30	06.50	1.4		DEPTH =	10.0km		(geophysicist)			
		0.9s		103.00nm			5.8mb	MME		83.72	334	Pd	30	06.60	1.3	NORTHERN ITALY							(545)
WET		78.60	335	iPc	29	38.40	0.4	BDI		83.87	334	Pd	30	08.40	2.5		ML 2.2 (GEN).						
		1.0s		88.00nm			5.7mb	MAF		83.98	340	iPc	30	06.80	0.5								
TNS		78.82	338	ePc	29	39.30	0.1			0.8s		51.00nm			5.7mb	STV		0.15	200	P	31	03.70	0.2
BZS		78.85	328	eP	29	28.00	-11.3X	TCF		84.00	341	eP	30	06.60	0.2					S	31	06.31	
DLE		78.87	348	eP	29	39.20	-0.1			1.0s		44.00nm			5.5mb	ENR		0.16	173	P	31	03.78	0.0
		0.8s		47.00nm			5.5mb	BNI		84.06	337	P	30	04.50	-2.4					S	31	06.49	
ENN		78.94	340	iPc	29	38.60	-1.1	ALP		84.10	332	eP	30	07.46	0.3	PZZ		0.24	300	P	31	05.48	0.2
		1.0s		132.00nm			5.9mb	ASS		84.13	333	P	30	09.50	2.3					S	31	09.36	
BBTK		79.03	318	iPd	29	41.50	0.8	RRL		84.15	337	P	30	07.98	0.5	ROB		0.35	104	P	31	07.68	0.4
MEM		79.06	340	iPd	29	40.49	0.1	LSF		84.18	341	eP	30	07.50	0.2					S	31	14.18	
UCC		79.27	341	P	29	41.00	-0.5			1.0s		50.00nm			5.6mb	IMI		0.59	143	P	31	11.59	-0.5
SNF		79.55	341	iPd	29	43.19	0.1	CKI		84.20	336	P	30	04.00	-3.4X					S	31	20.40	
DOU		79.87	341	P	29	45.00	0.2	MFF		84.21	342	eP	30	07.40	0.0	FIN		0.61	106	P	31	12.29	-0.1
				i	29	46.90	6kmX			1.0s		37.60nm			5.5mb					S	31	21.36	
BHG		79.88	334	eP	29	45.60	0.7	ROB		84.44	336	P	30	07.98	-0.7	RRL		0.69	321	P	31	13.60	-0.3
FUR		79.94	336	eP	29	46.10	0.8	PZZ		84.45	337	P	30	07.67	-1.2					S	31	23.34	
		1.2s		92.00nm			5.6mb	MNS		84.75	332	P	30	13.40	3.2X	PCP		0.84	79	P	31	16.31	0.0
BEO		79.95	328	iP	29	41.50	-3.8X	IMI		84.79	336	P	30	07.88	-2.6		S.D. = 0.3		on	8 of	8 obs.		
GWF		80.18	338	P	29	46.32	-0.2	AZI		84.86	332	P	30	12.50	1.8	---							
KBA		80.32	334	eP	29	47.50	0.0	SBF		84.95	336	iPc	30	12.00	0.7	%	OCT	04,	1989	14h	34m	47.62±	0.76s
		1.0s		225.00nm			6.1mb			1.0s		53.60nm			5.7mb		43.426 N	± 5.6km		5.465 E	±	6.6km	
				i	29	49.70	7kmX	RJF		85.08	341	eP	30	11.80	-0.1		DEPTH =	10.0km		(geophysicist)			
PTJ		80.55	332	eP	29	47.70	-0.9			1.0s		33.60nm			5.5mb	NEAR SOUTH COAST OF FRANCE							(379)
ZAG		80.61	332	iP	29	49.50	0.7	CAF		85.32	340	eP	30	13.40	0.3		MD 2.5 (STR).						
VAL		80.67	350	eP	29	50.00	1.0			1.0s		38.00nm			5.5mb								
WLS		80.77	338	P	29	49.69	0.0	LFF		85.60	341	eP	30	14.00	-0.4	GELF		0.05	213	Pg	34	49.55	-0.3
CDF		80.79	338	P	29	49.71	-0.2			0.9s		40.60nm			5.6mb	BERF		0.20	124	Pg	34	52.51	0.4
FVI		80.92	334	Pd	29	50.80	0.4	LRG		85.63	337	iPc	30	15.00	0.5	TREF		0.21	343	Pg	34	52.14	0.0
ECH		81.00	338	P	29	50.75	-0.2			1.0s		60.00nm			5.8mb	PRAF		0.43	330	Pg	34	56.58	0.1
SLE		81.07	337	ePd	29	51.30	0.0	LMR		85.70	337	eP	30	15.00	0.1	VILF		0.46	23	Pg	34	57.29	0.2
FEL		81.09	338	P	29	51.25	-0.3			1.0s		44.00nm			5.6mb	TAVF		0.47	66	Pg	34	56.68	-0.5
VBY		81.13	332	e(P)	29	51.30	-0.2	LPO		85.75	341	eP	30	14.70	-0.5		S.D. = 0.5		on	6 of	6 obs.		
OGA		81.19	335	eP	29	52.60	0.5			1.0s		32.00nm			5.5mb	---							
		1.0s		93.00nm			5.7mb	MGR		85.79	329	P	30	15.50	0.0	%	OCT	04,	1989	15h	05m	11.36±	3.00s
VITF		81.29	339	P	29	52.43	0.1	AYN		86.16	309	eP	30	18.00	0.6		37.090 N	±15.7km		6.764 W	±23.6km		

DEPTH = 10.0km (geophysicist)
SPAIN (377)
mbLg 2.7 (MDD).

EVAL	0.49	2	iPg	05 21.70	0.3
			eSg	05 27.80	
EJIF	1.22	121	ePg	05 33.90	-0.2
EPRU	1.23	95	ePn	05 35.00	0.7
EHOR	1.41	58	ePn	05 36.70	-0.3
AFC	2.58	85	ePn	05 54.00	0.0
EBAN	2.60	65	ePn	05 53.70	-0.4
EPLA	3.02	10	ePn	06 00.00	-0.1
			eSn	06 34.30	

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

? OCT 04, 1989 15h 08m 56.73± 6.04s
32.320 S ±41.6km 71.443 W ±21.7km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

ROCH	0.75	151	iPc	09 11.80	0.3
JACH	0.80	117	iPc	09 12.00	-0.4
			iS	09 31.50	
PEL	1.04	142	iPd	09 16.00	-0.4
			iS	09 38.70	
LCCH	1.16	185	iPd	09 17.90	-0.4
			iS	09 36.00	
FCH	1.40	136	eP	09 22.50	0.0
			iS	09 48.50	
PCH	1.51	149	iPc	09 25.00	1.0
			iS	09 51.10	
LNV	1.63	179	ePd	09 25.50	0.0
			iS	09 55.00	

S.D. = 0.6 on 7 of 7 obs.

? OCT 04, 1989 15h 31m 59.98± 1.43s
4.633 S ±17.0km 144.178 E ±14.2km
DEPTH = 131.3 ± 22.2 km
NEAR N COAST OF PAPUA NEW GUINEA(200)

MNDI	1.60	199	iP	32 30.00	0.1
LAT	3.45	126	eP	32 54.00	0.8
			eS	33 41.00	
JAY	4.06	301	iPc	33 01.20	-0.2
			e	35 12.00	
PMG	5.59	148	eP	33 21.00	-1.1
			eS	34 22.00	
QIS	16.44	195	eP	35 57.00	12.6X
WB5	17.92	211	eP	36 02.80	0.4
ASPA	21.36	207	iPc	36 45.40	7.2X

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

• OCT 04, 1989 15h 34m 54.05± 0.43s
1.039 S ± 9.0km 126.624 E ±12.4km
DEPTH = 33.0km (normol)
4.8mb (4 obs.)
MOLUCCA SEA (269)

WB5	20.20	158	eP	39 25.20	-3.8X
MBL	21.07	198	eP	39 38.00	0.1
PMG	22.05	113	eP	39 48.00	0.1
ASPA	23.57	163	iPc	40 01.40	-1.4
	1.1s		46.00nm		4.9mb
WARB	25.00	180	eP	40 16.90	0.4
CTA	26.97	136	iP	40 36.00	1.2
	0.9s		19.33nm		4.7mb
WHN	33.51	341	eP	41 21.00	-11.7X
			pP	41 34.00	50kmX
CHTO	33.60	307	eP	41 32.30	-1.4
	1.1s		2.06nm		4.0mb
			pP	41 51.00	79kmX
BRS	36.27	139	iPc	41 54.00	-2.5
XAN	38.66	336	Pc	42 16.40	0.0
BWA	38.96	151	eP	42 20.30	1.3
CAN	39.97	151	eP	42 27.80	0.5
TIY	40.73	343	Pd	42 34.20	0.6
BJI	41.98	348	eP	42 43.00	-0.7
LZH	42.60	332	eP	42 49.00	0.0
	1.5s		0.04nm		1.9mb X
			pP	43 23.50	156kmX
GTA	47.16	332	Pd	43 25.70	0.2
HYB	50.77	294	ePc	43 54.20	0.7
	1.0s		25.00nm		5.1mb
			e	44 16.50	
GBA	50.86	288	P	43 54.00	-0.2
NDI	55.73	306	eP	44 30.00	-0.2
MAID	72.34	309	eP	46 20.00	1.0

S.D. = 1.0 on 18 of 20 obs.

% OCT 04, 1989 16h 44m 21.38± 0.92s
44.586 N ± 7.9km 7.399 E ± 6.4km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.9 (GEN).

PZZ	0.23	249	P	44 26.37	0.0
			S	44 29.81	
STV	0.35	189	P	44 28.41	-0.1
			S	44 33.21	
ENR	0.36	178	P	44 28.95	0.1
			S	44 33.82	
ROB	0.45	131	P	44 30.54	0.1
RRL	0.55	308	P	44 32.75	0.0
FIN	0.69	123	P	44 35.03	-0.1
			S	44 43.44	

S.D. = 0.1 on 6 of 6 obs.

? OCT 04, 1989 16h 50m 18.54± 0.86s
16.195 N ±14.8km 94.598 W ± 7.9km
DEPTH = 33.0km (normol)
OAXACA, MEXICO (60)

SCX	1.96	74	iP	50 50.11	0.0
			iS	51 09.17	
OXX	2.22	294	iP	50 58.06	4.1X
			iS	51 28.10	
EVV	2.36	342	(P)	51 02.50	6.7X
TPX	2.59	119	iP	50 59.07	0.0
			iS	51 24.00	
IISM	3.84	317	iP	51 20.31	3.6X
			iS	52 09.27	
LVVM	3.94	334	(P)	51 18.00	-0.2
			(S)	52 05.00	
IIT	4.52	309	iP	51 32.20	5.5X
PPM	4.79	307	iP	51 36.98	6.3X
ACX	5.09	278	(P)	51 34.30	-0.3
III	5.13	296	(P)	51 35.80	0.4
			(S)	52 29.80	

S.D. = 0.4 on 5 of 10 obs.

OCT 04, 1989 18h 13m 58.37± 0.42s
44.041 N ± 5.0km 16.365 E ± 4.9km
DEPTH = 5.0km (geophysicist)
YUGOSLAVIA (383)
ML 3.1 (ZAG), 2.6 (LJU). MD 3.4 (TRI). Felt (V) at Cetino. Also felt at Knin.

HVAR	0.86	176	iPg	14 10.40	-5.1X
			iSg	14 23.60	
VBY	1.66	332	iPn	14 28.00	-0.3
			iSn	14 51.70	
			iSg	14 54.00	
ZAG	1.80	351	iPg	14 29.70	-0.5
			iSg	14 52.70	
PTJ	1.88	351	ePn	14 28.90	-2.6
RIY	1.92	313	ePn	14 32.60	0.6
			iSg	15 00.90	
BRY	1.95	125	ePn	14 32.70	0.1
			eSn	14 58.60	
AOI	2.06	257	ePn	14 36.88	2.8X
			iSn	15 07.87	
CEY	2.19	322	ePn	14 37.00	1.1
			i	14 40.00	
			eSn	15 07.50	
NKY	2.28	122	ePn	14 37.00	-0.3
			eSn	15 07.00	
PLE	2.31	107	ePn	14 39.00	1.2
			eSn	15 08.00	
LJU	2.39	328	e(Pn)	14 39.50	0.7
			eSn	15 10.00	
ALP	2.39	239	ePn	14 37.96	-1.0
			iSn	15 11.23	
CIO	2.49	251	ePn	14 39.20	-1.1
			iSn	15 12.09	
TRI	2.49	313	ePn	14 40.40	0.2
			iPg	14 46.00	
			iSn	15 10.00	
			iSg	15 18.80	
BDV	2.52	133	ePn	14 41.00	0.4
			eSn	15 12.00	
ARV	2.54	259	P	14 41.00	0.1
VOY	2.65	320	iPnd	14 43.80	1.2
			eSn	15 19.20	
			eSg	15 29.50	
TTG	2.66	126	ePn	14 43.70	1.1
			eSn	15 16.00	
DUI	2.76	211	Pd	14 45.90	1.7
			eSn	15 14.90	
ASS	2.86	251	P	14 45.00	-0.6
MNS	3.16	240	P	14 49.50	-0.3
			eSn	15 27.00	
PGD	3.36	269	P	14 55.20	2.5X
FVI	3.59	317	P	14 56.10	0.3
BZS	4.05	65	eP	15 12.00	9.6X
SKO	4.26	117	ePn	15 13.50	8.2X
			i	16 20.00	
OHR	4.39	130	ePn	15 05.00	-2.3
KHC	5.44	340	eP	15 22.40	0.3
			e	16 24.90	

S.D. = 1.1 on 22 of 27 obs.

• OCT 04, 1989 19h 15m 38.18± 0.86s
63.565 N ±13.9km 19.332 W ±13.9km
DEPTH = 10.0km (geophysicist)
3.9mb (4 obs.)
ICELAND (638)

REY	1.28	298	iP	16 02.00	0.2
AKU	2.19	13	iP	16 14.90	-0.3
	0.7s		427.40nm		
			iS	16 42.40	
SSF	20.83	132	eP	20 22.90	0.9
	0.8s		3.20nm		3.7mb
CLL	21.01	111	eP	20 24.00	0.2
HAU	21.02	126	eP	20 25.40	1.5
	1.0s		8.00nm		4.0mb
LBF	21.06	131	eP	20 25.00	0.6
	0.8s		5.30nm		4.0mb
TCF	21.09	135	eP	20 22.30	-2.4
	0.8s		4.50nm		3.9mb
SMF	21.31	132	eP	20 26.30	-0.6
KHC	22.91	114	P	20 47.20	4.3X
LPG	23.30	129	eP	20 50.70	3.7X

S.D. = 1.4 on 8 of 10 obs.

OCT 04, 1989 19h 28m 28.14± 0.32s
44.476 N ± 2.4km 7.297 E ± 3.1km
DEPTH = 12.3 ± 3.2 km
NORTHERN ITALY (545)
ML 2.2 (GEN), 2.1 (LDG).

DOI	0.05	306	Pc	28 31.10	0.4
			eSg	28 32.50	
PZZ	0.14	282	Pc	28 31.81	-0.1
			S	28 33.82	
STV	0.23	175	P	28 33.54	0.2
			S	28 36.62	
ENR	0.26	160	Pc	28 34.18	0.2
			S	28 37.85	
ROB	0.45	114	P	28 37.93	0.5
			S	28 43.76	
TOUF	0.46	184	Pg	28 37.18	-0.6
AUTN	0.49	169	Pg	28 38.08	-0.1
			Sg	28 44.76	
SAOF	0.52	159	Pg	28 38.54	-0.2
			Sg	28 45.46	
RRL	0.57	321	P	28 39.33	-0.5
			S	28 46.43	
AURF	0.59	178	Pg	28 39.47	-0.5
			Sg	28 47.97	
MVIF	0.59	190	Pg	28 40.06	0.1
			Sg	28 48.06	
SBF	0.62	171	Pg	28 40.40	-0.1
			Sg	28 49.30	
FIN	0.71	112	P	28 42.07	0.2
			S	28 51.35	
IMI	0.71	143	Pc	28 41.99	0.0
			S	28 51.46	
CALN	0.78	202	Pg	28 43.24	0.0
			Sg	28 54.27	
PCP	0.90	85	P	28 45.63	0.5
			S	28 57.71	
LSD	0.99	354	P	28 47.55	0.7
			S	28 59.04	
FRF	1.03	207	Pg	28 47.60	0.2
			Sg	29 00.60	
LPG	1.09	339	Pg	28 49.00	0.4
			Sg	29 02.80	
LPL	1.11	339	Pg	28 49.10	0.1
LRG	1.22	214	Pg	28 51.40	0.7

04d 19h

		Sg	29 08.00		
LMR	1.28 207	Pg	28 52.60	1.0	
		Sg	29 08.60		
S.D. = 0.4		on	22 of 22 obs.		

? OCT 04, 1989 21h 25m 13.96± 6.22s
28.076 N ±71.3km 33.732 E ±16.4km
DEPTH = 10.0km (geophysicist)
ARAB REPUBLIC OF EGYPT (553)
MD 3.7 (HLW).

BADA	1.21 68	iPc	25 35.60	-0.8	
SRFA	1.54 56	eP	25 43.30	1.9	
		iS	26 05.30		
HQL	1.66 44	eP	25 42.50	-0.7	
AYN	2.15 68	iPc	25 50.00	-0.3	
KOT	2.49 318	eP	25 55.00	-0.1	
		eS	26 39.00		
S.D. = 1.5		on	5 of 5 obs.		

* OCT 04, 1989 22h 26m 42.39± 1.15s
49.198 N ± 7.2km 8.498 E ±10.5km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
ML 2.7 (LDG).

KTD	0.30 294	ePgc	26 48.53	-0.1	
TOD	0.45 26	ePgc	26 52.04	0.4	
ABH	0.92 318	ePg	26 59.20	-0.8	
RUP	1.07 299	ePn	27 02.62	0.1	
CDF	1.13 226	Pn	27 03.00	-0.6	
		Pg	27 05.00		
		Sg	27 19.70		
FEL	1.36 194	iPnd	27 06.37	-1.1	
BSF	1.78 220	Pg	27 16.20	2.8X	
		Sg	27 39.60		
HAU	1.86 231	Pg	27 16.70	2.1	
		Sg	27 40.20		
S.D. = 1.3		on	7 of 8 obs.		

* OCT 04, 1989 22h 53m 29.12± 0.89s
15.665 S ±23.7km 72.165 W ±13.3km
DEPTH = 33.0km (normal)
SOUTHERN PERU (117)

ARE	1.02 141	iPd	53 47.30	-0.2	
		iS	54 03.00		
PT03	3.89 295	eP	54 28.40	0.3	
		e(S)	55 06.60		
ZOBO	3.93 99	P	54 28.20	-1.0	
LPB	4.00 103	P	54 32.00	1.9	
CNCB	4.18 106	iPc	54 32.00	-0.7	
NNA	5.83 308	eP	54 55.30	-0.4	
0.4s	4.24nm			4.4mb X	
		eS	03 58.00		
S.D. = 1.3		on	6 of 6 obs.		

? OCT 04, 1989 23h 47m 42.98± 8.32s
60.859 N ±23.0km 3.108 E ±62.4km
DEPTH = 10.0km (geophysicist)
NORTH SEA (534)
MD 2.3 (BER).

SUE	0.83 75	iP	47 59.15	0.1	
		eS	48 10.11		
ASK	1.09 109	eP	48 03.75	0.2	
		eS	48 16.88		
HYA	1.53 77	eP	48 10.38	0.1	
		eS	48 28.19		
ODD1	1.99 117	eP	48 15.49	-1.6	
		eS	48 38.70		
BLS1	2.37 127	eP	48 23.78	1.1	
		eS	48 48.67		
S.D. = 1.4		on	5 of 5 obs.		

% OCT 05, 1989 00h 12m 21.41± 0.72s
36.113 N ± 7.0km 133.408 E ± 6.6km
DEPTH = 10.0km (geophysicist)
SEA OF JAPAN (660)
MG 3.7 (JMA). Felt (I JMA) on Dogo.

SAI	0.11 327	iPd	12 24.10	-0.1	
		iS	12 25.60		
YONJ	0.92 177	P	12 38.60	-0.5	
		S	12 50.80		
TSRJ	2.17 105	eP	12 57.70	-0.4	
		S	13 29.00		
TKSJ	2.19 166	P	12 58.50	0.2	
		eS	13 25.40		
WKYJ	2.60 136	eP	13 04.10	-0.2	
		S	13 43.10		
SHNJ	2.74 224	P	13 05.60	-0.5	
		eS	13 40.40		
IIDJ	3.72 98	eP	13 20.70	0.6	
KUMJ	4.16 212	eP	13 27.30	1.0	
S.D. = 0.6		on	8 of 8 obs.		

OCT 05, 1989 00h 18m 55.37± 0.73s
40.385 N ± 8.1km 26.477 E ± 6.2km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
MD 3.8 (ATH).

EZN	0.57 192	iPg	19 06.50	-0.4	
		iSg	19 16.00		
RDO	1.04 317	ePg	19 11.00	-4.0X	
EDC	1.06 92	iPn	19 16.00	0.7	
BNT	1.10 91	iPn	19 18.20	2.1X	
PRK	1.15 188	ePg	19 17.00	0.2	
		eSb	19 33.20		
IZM	2.08 163	ePn	19 37.00	6.3X	
ISK	2.08 70	ePn	19 30.00	-0.7	
SRS	2.31 289	ePbc	19 34.00	-0.1	
PLG	2.32 271	ePb	19 34.50	0.3	
THE	2.69 276	ePnc	19 43.00	3.6X	
		eSn	20 13.50		
KNT	2.83 287	ePn	19 36.70	-4.7X	
KHL	3.13 130	ePg	19 47.20	1.4X	
		iSg	19 58.70		
MLR	5.12 356	eP	20 17.00	3.0X	
S.D. = 0.6		on	6 of 13 obs.		

? OCT 05, 1989 00h 23m 43.82± 4.40s
49.327 N ±36.4km 6.849 E ±13.9km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
MD 2.1 (UCC).

RUP	0.40 20	ePgd	23 52.00	0.0	
WLF	0.57 307	iP	23 54.40	-0.9	
ABH	0.72 39	ePg	23 57.64	-0.3	
MEM	1.39 337	iP	24 10.20	1.0	
FEL	1.64 152	ePn	24 28.13	15.2X	
DOU	1.65 299	iP	24 13.20	0.2	
		S	24 35.20		
S.D. = 1.0		on	5 of 6 obs.		

& OCT 05, 1989 01h 07m 45.17s
61.520 N 150.643 W
DEPTH = 61.7km
SOUTHERN ALASKA (2)
<AGS-P>.

SUA	0.07 221	iP	07 54.81	1.8	
		eS	08 02.76		
PWA	0.39 70	eP	07 55.96	-0.3	
		eS	08 05.39		
PMS	0.59 117	iP	07 58.11	-0.3	
		eS	08 08.87		
SKT	0.63 318	iP	07 58.13	-0.7	
CGLM	0.69 253	iP	07 59.25	-0.4	
		eS	08 10.21		
NCG	0.74 262	eP	07 59.82	-0.4	
SPU	0.76 244	iP	07 59.84	-0.6	
		eS	08 11.47		
CRP	0.77 251	eP	08 00.29	-0.4	
PME	0.78 81	iP	07 59.96	-0.6	
		eS	08 12.36		
NKA	0.83 201	iP	08 02.51	1.3	
BGL	0.88 254	eP	08 01.61	-0.3	
CUT	0.91 11	iP	08 01.47	-0.7	
		eS	08 14.66		
SLKM	1.04 168	eP	08 03.20	-0.7	
		eS	08 17.59		
RDT	1.28 223	iP	08 06.58	-0.7	
		eS	08 23.75		
RED	1.52 224	iP	08 09.93	-0.6	
		eS	08 29.67		
NNL	1.52 192	eP	08 10.82	0.4	
HUR	1.54 17	eP	08 10.10	-0.7	
		eS	08 31.53		
SEW	1.54 157	eP	08 11.48	0.8	
GLI	1.83 109	eP	08 12.15	-2.7	
		eS	08 35.73		
ILIM	1.84 219	eP	08 14.26	-0.7	
		eS	08 37.19		
NCA	1.88 74	eP	08 14.32	-1.2	
		eS	08 37.92		
CNPM	2.02 189	eP	08 16.08	-1.4	
VZW	2.03 101	eP	08 15.47	-2.1	
		eS	08 40.82		
KTH	2.04 357	eP	08 16.86	-1.0	
RND	2.07 23	eP	08 16.59	-1.6	
25 obs. associated					

? OCT 05, 1989 01h 38m 55.79± 1.30s
44.716 N ±10.6km 7.197 E ±12.0km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.6 (GEN).

PZZ	0.22 198	P	39 00.82	0.2	
		S	39 04.25		
RRL	0.36 305	P	39 03.19	0.0	
		S	39 08.66		
STV	0.48 169	P	39 05.36	-0.2	
		S	39 12.14		
ROB	0.64 131	P	39 08.76	0.1	
S.D. = 0.3		on	4 of 4 obs.		

? OCT 05, 1989 03h 55m 35.73± 1.21s
39.658 N ±16.3km 118.331 E ± 8.9km
DEPTH = 10.0km (geophysicist)
NORTHEASTERN CHINA (658)
ML 3.9 (BJI).

BJI	1.70 284	Pn	56 05.50	-0.1	
		Pg	56 07.50		
		Sg	56 29.00		
DL2	2.67 105	ePn	56 19.50	0.0	
		Pg	56 26.50		
		Sg	57 01.50		
TIA	3.57 196	ePn	56 32.20	-0.1	
		Pg	56 42.10		
		Sn	57 12.40		
		Sg	57 26.40		
SNY	4.54 60	Pgc	57 00.00	14.0X	
		Sg	57 59.00		
TIY	5.01 249	Pnd	56 52.90	0.2	
		Pg	57 07.40		
		Sn	57 49.60		
		Sg	58 08.90		
HHC	5.31 285	Pg	57 14.40	17.2X	
		Sg	58 22.10		
BTO	6.44 281	ePg	57 33.00	19.9X	
		Sg	58 57.40		
CN2	6.74 50	Pg	57 40.00	22.8X	
		eSn	58 35.90		
S.D. = 0.2		on	4 of 8 obs.		

% OCT 05, 1989 05h 14m 29.98± 1.17s
17.160 N ±20.4km 94.789 W ±11.0km
DEPTH = 33.0km (normal)
CHIAPAS, MEXICO (61)

OXX	1.85 268	iP	14 59.30	-0.9	
		iS	15 21.80		
SCX	2.10 101	eP	15 03.70	0.1	
		iS	15 26.20		
LVVM	3.01 329	iP	15 15.30	-1.1	
		(S)	15 51.30		
IISM	3.06 307	(P)	15 17.80	0.7	
		(S)	15 47.00		
PPM	4.11 298	eP	15 33.80	1.2	
		(S)	16 14.80		
S.D. = 1.4		on	5 of 5 obs.		

? OCT 05, 1989 06h 21m 42.91± 6.44s
7.609 S ±48.4km 127.578 E ±12.1km
DEPTH = 141.4 ± 37.5 km
BANDA SEA (280)

KNA	8.17 172	eP	23 40.00	0.1	
0.2s	13.00nm			5.2mb X	
		eS	25 05.00		
WB5	13.86 152	eP	24 54.00	-0.6	
		eS	27 17.00		
MBL	15.41 208	eP	25 14.00	-0.1	
		eS	27 56.00		
ASPA	17.08 160	iPc	25 35.30	0.6	

0.6s 118.00nm 5.4mb X
eS 28 31.50
QIS 17.35 139 iPd 25 38.10 0.1
eS 28 40.00
WARB 18.49 183 eP 25 51.00 0.1
NANU 18.86 217 eP 25 54.80 0.1
eS 29 25.00
CTA 21.94 126 eP 26 26.00 0.1
FORR 23.13 179 eP 26 37.00 -0.3
S.D. = 0.4 on 9 of 9 obs.

& OCT 05, 1989 07h 03m 20.37s
60.812 N 152.522 W
DEPTH = 120.3km
SOUTHERN ALASKA (2)
<AGS-P>.

RDT 0.25 167 iP 03 36.87 1.0
eS 03 50.60
CKL 0.40 13 iP 03 37.56 -0.6
eS 03 52.02
RED 0.41 197 iP 03 37.34 -0.9
SPU 0.44 31 iP 03 37.50 -0.8
NKA 0.63 96 eP 03 40.86 1.4
eS 03 57.89
ILIM 0.77 197 iP 03 39.87 -0.8
eS 03 55.52
NNL 0.98 141 eP 03 43.02 0.5
eS 04 00.06
SUA 1.08 52 eP 03 42.95 -0.7
OPT 1.22 197 iP 03 44.42 -0.6
eS 04 04.32
SKT 1.27 22 iP 03 44.54 -1.0
eS 04 04.02
BRLK 1.33 141 eP 03 45.54 -0.7
eS 04 06.05
XLV 1.42 163 eP 03 46.35 -0.9
eS 04 07.29
CNPM 1.44 153 eP 03 46.79 -0.7
eS 04 07.66
PMS 1.51 72 iP 03 47.47 -0.8
eS 04 09.69
AUE 1.52 197 eP 03 47.56 -0.8
PWA 1.53 55 eP 03 47.37 -1.1
SEW 1.68 114 eP 03 49.40 -0.9
PME 1.88 63 iP 03 50.97 -1.8
CUT 1.93 33 eP 03 52.10 -1.3
eS 04 16.64
CDD 1.97 197 eP 03 52.84 -1.1
SHU 2.19 178 eP 03 55.34 -1.4
HUR 2.57 31 eP 04 00.76 -0.9
eS 04 29.87
GLI 2.66 86 eP 03 59.66 -3.1
eS 04 31.75
KTH 2.85 15 eP 04 02.96 -2.5
eS 04 35.61
FID 2.96 89 eP 04 03.66 -3.2
eS 04 38.97
KLU 3.27 75 iP 04 08.57 -2.5
PAX 3.98 54 eP 04 18.64 -1.9
GLB 4.27 78 eP 04 22.14 -2.4
28 obs. associated

OCT 05, 1989 08h 11m 47.10± 0.35s
27.360 N ± 3.2km 126.318 E ± 3.3km
DEPTH = 199.5 ± 3.8 km
5.1mb (19 obs.)
EAST CHINA SEA (234)
Felt (II JMA) at Nago and (I JMA) at Naha, Okinawa.

NGO 1.66 117 iP 12 21.20 -1.3
S 12 44.80
NAH 1.67 133 iP 12 21.50 -1.1
iS 12 45.00
ANP 4.82 244 eP 13 01.50 1.5
TWC 4.87 237 ePc 13 00.70 0.3
eS 13 20.60
TWD 5.37 234 ePd 13 05.20 -1.6
KAGJ 5.52 45 iP+ 13 07.20 -1.6
eS 14 08.70
TWO 5.82 239 ePd 13 13.10 0.4
SSE 5.83 311 iPc 13 12.50 -0.3
1.0s 0.66nm 2.8mb X
i 13 21.00
i 13 32.50
sP 13 52.00
S 14 21.00
TWF1 6.05 230 ePd 13 13.00 -2.7
KUMJ 6.47 36 P 13 21.70 0.5
eS 14 34.80
TWK 6.67 234 ePc 13 22.40 -1.4
QZH 7.35 253 Pd 13 33.40 0.7
eS 15 05.00
NJ2 8.00 308 Pc 13 42.00 0.6
2.0s 0.70nm 2.5mb X
S 15 14.00
WHN 10.95 290 P 14 20.00 0.5
1.0s 0.70nm 3.0mb X
TSRJ 11.59 43 eP 14 24.70 -3.0X
TIA 11.79 321 Pd 14 31.30 1.1
DL2 12.16 342 eP 14 36.00 1.0
IIDJ 12.78 48 eP 14 46.90 4.0X
MTMJ 13.39 44 eP 14 53.40 2.8
MAT 13.62 45 (P) 14 49.00 -4.3X
eS 17 36.00
CHJJ 13.83 48 eP 15 01.30 5.4X
NIIJ 14.55 44 eP 15 06.60 1.7
SNY 14.61 352 iPd 15 06.00 0.4
1.1s 0.30nm 2.6mb X
sP 15 55.00
S 17 48.00
KAKJ 14.70 50 eP 15 07.00 0.2
BJI 15.19 329 eP 15 14.50 1.8
1.0s 0.09nm 2.1mb X
eS 18 05.00
TIY 15.59 315 iPd 15 20.00 2.2
1.0s 0.30nm 2.7mb X
XAN 16.37 298 iPd 15 27.50 0.3
0.8s 0.24nm 2.7mb X
CN2 16.42 358 iPd 15 27.50 -0.2
3.0s 0.81nm 2.6mb X
eS 18 29.00
PcP 20 07.50
ScP 23 24.00
ScS 27 02.00
MDJ 17.42 8 eP 15 36.70 -2.5
GYA 17.56 272 P 15 41.40 0.5
ScP 23 27.60
ScS 27 06.00
HHC 18.14 322 P 15 47.00 0.0
sP 16 43.00
BTO 18.86 319 P 15 54.50 0.1
CD2 20.02 286 P 16 05.20 -1.0
LZH 20.97 300 iPd 16 16.00 0.2
1.5s 0.15nm 2.3mb X
sP 16 50.00
KMI 21.26 269 Pc 16 20.00 1.2
sP 16 57.50
GUMO 22.09 125 eP 16 27.30 0.7
PJG 22.09 125 eP 16 27.30 0.7
GUA 22.15 125 ePc 16 27.60 0.4
1.2s 987.50nm 6.2mb X
GTA 25.09 305 iP 16 54.00 -1.1
0.8s 0.10nm 2.5mb X
PcP 20 25.00
PcS 24 03.60
CHG 26.54 257 eP 17 10.20 1.9
CHTO 26.54 257 iP 17 10.00 1.7
0.7s 5.24nm 4.4mb
i 17 50.50
SHL 30.82 275 iP 17 45.10 -1.5
SNG 31.58 235 eP 17 54.30 1.4
WMQ 35.08 308 Pd 18 22.00 -0.9
1.0s 0.10nm 2.4mb X
PP 19 46.50
PcP 20 50.00
eS 23 38.50
ScP 24 12.50
ScS 28 19.00
PSI 35.89 232 eP 18 30.00 0.2
e 19 30.00
PMG 41.76 148 eP 19 19.00 0.7
KNA 42.92 177 eP 19 27.90 0.2
0.4s 51.00nm 5.4mb
NDI 43.12 284 eP 19 28.50 -0.9
HYB 45.03 268 eP 19 24.50 -20.2X
GBA 47.51 263 P 20 05.00 0.9
WB5 47.60 170 iPc 20 04.30 -0.4
e 20 48.00
MBL 48.64 188 iPc 20 12.30 -0.4
QIS 49.34 164 iPc 20 17.80 -0.3
0.7s 60.00nm 5.2mb
NANU 50.71 193 eP 20 28.40 0.0
CTA 50.97 156 iPc 20 30.20 -0.2
1.2s 80.47nm 5.1mb
ASPA 51.25 171 iPc 20 32.50 -0.1
0.8s 34.00nm 5.0mb
eS 27 37.20
WARB 53.23 180 iPc 20 57.70 10.6X
0.4s 16.00nm
MEKA 54.18 189 eP 20 54.00 -0.1
MAIO 56.48 297 eP 21 11.00 0.4
RMQ 57.73 156 iPc 21 18.90 -0.3
1.2s 76.00nm 5.3mb
FORR 57.91 178 iPd 21 20.00 -0.3
0.4s 30.00nm 5.4mb
COOL 58.13 185 eP 21 21.00 -0.9
0.3s 12.00nm 5.1mb
CMS 61.40 161 iPd 21 44.90 0.7
COO 62.58 155 iPd 21 52.50 0.4
0.5s 22.00nm 5.2mb
DZM 62.61 138 iPc 21 52.10 -0.4
PMR 63.78 32 P 21 58.50 -1.0
0.5s 19.01nm 5.2mb
FBA 63.85 28 P 21 58.50 -1.5
0.5s 15.08nm 5.1mb
BWA 64.92 160 iPc 22 08.80 1.6
CAN 65.92 160 iPc 22 14.40 0.8
CNB 66.03 159 iPc 22 15.20 0.9
0.9s 25.00nm 4.9mb
TOO 67.05 164 eP 22 21.50 0.8
KEV 67.76 338 eP 22 23.00 -1.7
INK 68.53 23 ePd 22 28.10 -1.3
pP 23 17.00 208kmX
SOD 68.68 336 iP 22 29.30 -1.1
MBC 69.13 13 eP 22 31.50 -1.5
0.7s 13.00nm 4.8mb
SUF 70.53 331 eP 22 40.00 -1.6
0.6s 11.60nm 4.8mb
NUR 72.05 329 iP 22 49.70 -1.0
0.7s 20.00nm 5.0mb
HFS 77.02 332 eP 23 17.30 -1.7
0.7s 12.90nm 4.8mb
KRA 79.17 321 eP 23 30.40 -0.5
e 23 34.30
KSP 80.77 323 eP 23 38.50 -0.9
e 24 27.00
BRG 82.00 324 eP 23 45.80 0.0
PRU 82.17 323 eP 23 47.00 0.3
CLL 82.25 324 eP 23 47.00 0.0
eSg 40 03.00
SKO 82.28 313 iP 23 47.00 -0.4
KHC 83.17 322 P 23 51.50 -0.4
e 24 43.00
MOX 83.35 324 e(P) 23 52.00 -0.7
EDM 84.54 31 iPd 23 59.10 0.4
0.7s 89.00nm 5.6mb X
FHC 85.99 46 eP 24 07.30 1.2
EKA 87.02 334 P 24 11.00 0.3
1.2s 14.20nm 4.7mb
WDC 87.03 45 iPd 24 11.70 0.6
SES 87.47 33 iPd 24 14.00 0.9
0.5s 72.00nm 5.8mb X
MIN 87.75 45 eP 24 14.60 -0.2
ORV 88.26 46 eP 24 17.00 0.0
FFC 88.33 26 iPd 24 17.10 0.0
0.6s 48.00nm 5.5mb
FRB 88.45 7 ePc 24 16.50 -0.9
LRM 89.75 37 ePd 24 25.10 0.9
CMB 89.84 46 ePd 24 24.90 0.4
KVN 90.70 45 P 24 29.00 0.4
FRI 90.89 47 eP 24 29.50 0.3
TNP 91.83 45 P 24 34.20 0.3
0.5s 7.31nm 5.0mb
BW06 93.33 38 P 24 40.50 -0.2
RSSD 95.25 34 P 24 49.50 -0.1
KIC 122.03 298 PKPd 30 19.60 -0.3
0.4s 36.00nm
TIC 122.07 298 PKPd 30 19.64 -0.3
0.4s 25.50nm
LIC 122.34 298 PKPd 30 20.28 -0.2
0.6s 24.00nm
LPB 162.84 54 PKP 31 30.00 3.0X
S.D. = 1.0 on 99 of 106 obs.

• OCT 05, 1989 09h 02m 50.03± 1.50s
0.657 S ± 8.5km 121.837 E ±12.1km
DEPTH = 51.7 ± 14.6 km
4.8mb (2 obs.)
MINAHASSA PENINSULA (265)

05d 09h

BKB2	4.98	263	ePc	04	09.10	5.0X
	1.0s	1109.00nm				
MKS	5.11	208	ePd	04	06.50	0.5
			e	08	00.00	
TSM	6.14	322	ePc	04	20.50	0.1
	0.9s	749.60nm			6.2mb	X
KKM	8.71	320	ePc	04	56.00	-0.2
MBL	20.47	185	eP	07	25.00	-1.1
SNG	22.55	291	eP	07	45.40	-1.6
NANU	22.62	195	iPd	07	47.40	-0.2
WB5	22.70	148	eP	07	47.70	-0.8
PSI	23.15	278	eP	07	54.40	1.6
			e	10	00.00	
OIS	26.32	140	eP	08	24.00	1.0
CHG	29.67	312	eP	08	53.00	-0.3
CHTO	29.67	312	eP	08	52.00	-1.3
	1.2s	13.54nm			4.5mb	
CTA	30.72	130	eP	09	02.00	-0.6
KMI	31.60	326	Pc	09	11.50	1.0
SHL	38.96	314	iP	10	18.00	4.8X
MAT	40.01	21	(P)	10	14.00	-7.6X
CAN	42.77	147	eP	10	45.20	0.9
GBA	46.21	290	P	11	12.00	-0.1
HYB	46.25	295	eP	11	13.50	1.1
SPA	89.35	180	e(P)	15	42.40	0.2
	1.0s	8.50nm			5.0mb	

S.D. = 1.0 on 17 of 20 obs.

OCT 05, 1989 09h 25m 58.28± 0.70s
41.072 N ± 5.2km 20.189 E ± 6.9km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
ML 3.0 (SKO).

TIR	0.37	319	iPgd	26	06.00	0.2
BERA	0.41	206	iPgc	26	07.00	0.3
OHR	0.46	85	iPg	26	07.60	-0.1
			iSg	26	14.70	
PHP	0.64	17	ePg	26	09.50	-1.6
KBN	0.65	133	iPgc	26	12.00	0.7
LSK	0.97	161	ePg	26	15.70	-1.1
PUK	0.99	347	ePg	26	17.50	0.4
SKO	1.30	46	iPg	26	23.50	1.2
			iSg	26	39.30	

S.D. = 1.1 on 8 of 8 obs.

OCT 05, 1989 09h 33m 54.68± 0.33s
40.141 N ± 3.7km 25.070 E ± 3.2km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
ML 3.8 (ATH).

OUR	0.85	283	iPgd	34	12.20	1.1
			eSg	34	23.70	
EZN	1.01	108	iPn	34	14.60	0.7
RDO	1.07	19	iPnc	34	14.50	-0.2
PAIG	1.09	259	ePg	34	15.30	0.2
			eSg	34	30.40	
PLG	1.26	281	iPnd	34	18.00	-0.2
PRK	1.29	134	ePn	34	19.20	0.7
SRS	1.49	311	iPbd	34	21.10	-0.4
			eSb	34	42.60	
KDZ	1.53	10	iPc	34	22.00	-0.1
RZN	1.57	350	iPc	34	23.00	0.2
NEO	1.65	240	ePn	34	23.00	-0.8
THE	1.68	288	ePb	34	24.40	0.2
			eSb	34	47.10	
MMB	1.77	325	iPd	34	25.00	-0.6
MFT	1.81	68	iPn	34	25.60	-0.6
DIM	1.94	10	eP	34	28.00	0.0
KNT	1.94	302	ePnd	34	28.20	0.2
			eSn	34	54.70	
LIT	1.98	270	ePn	34	28.20	-0.4
PLD	1.98	352	iPc	34	31.00	2.4
EDC	2.15	84	ePn	34	32.00	1.0
GRG	2.19	293	ePn	34	32.00	0.3
KKB	2.29	320	iP	34	35.00	1.9
ATH	2.41	206	ePn	34	36.00	1.3
IZM	2.43	135	iPn	34	34.60	-0.6
PGB	2.50	345	eP	34	35.00	-1.1
KZN	2.53	275	ePn	34	36.50	-0.1
JMB	2.59	26	eP	34	42.00	4.7X
SMG	2.79	150	ePn	34	40.50	0.3
VTS	2.82	331	iP	34	41.00	0.2
PVL	3.08	4	iPd	34	43.00	-1.2
ITU	3.15	71	ePn	34	58.00	12.7X
			iSg	35	55.00	
ISK	3.17	72	ePn	34	48.00	2.4
SKO	3.30	305	iPn	34	47.30	-0.1
			i	34	58.50	
OHR	3.39	288	ePn	34	48.00	-0.8
GBZT	3.40	78	ePn	35	00.00	11.2X
			iSg	35	45.00	
HRT	3.57	78	ePn	35	00.00	8.7X
VLI	3.81	207	ePn	34	54.00	-0.6
ITM	3.85	221	ePn	34	55.50	0.3
KHL	3.91	116	ePn	34	54.00	-2.1
DRA	4.57	353	eP	35	25.00	19.6X
CMP	5.12	360	ePc	35	26.00	12.7X
BBTK	5.91	90	eP	35	23.00	-1.5
DEV	5.95	345	ePc	36	04.00	39.1X
BZS	6.03	336	ePc	35	24.00	-2.0

S.D. = 1.1 on 35 of 42 obs.

& OCT 05, 1989 10h 04m 55.88s
62.184 N 150.384 W
DEPTH = 9.2km
CENTRAL ALASKA (1)
<AGS-P>. ML 3.2 (PMR).

CUT	0.23	14	iP	05	00.76	0.0
SKT	0.58	250	iP	05	07.01	-0.5
			eS	05	15.45	
PWA	0.59	156	iPd	05	07.30	-0.4
SUA	0.74	193	eP	05	10.40	-0.2
PMR	0.84	134	iPd	05	11.20	-0.9
PME	0.85	130	iP	05	11.50	-0.8
HUR	0.87	23	eP	05	10.98	-1.7
			eS	05	21.89	
PMS	1.02	157	iPd	05	14.30	-1.0
NCG	1.15	228	eP	05	17.01	-0.5
			eS	05	33.37	
SPU	1.28	219	eP	05	19.04	-0.7
BGL	1.33	227	eP	05	20.21	-0.3
KTH	1.40	350	eP	05	20.16	-1.4
			eS	05	37.36	
RND	1.41	29	eP	05	19.69	-2.1
			eS	05	38.08	
NKA	1.50	196	eP	05	26.27	3.3
NCA	1.69	95	eP	05	24.43	-1.2
RDT	1.89	212	eP	05	29.48	0.9
TOA	1.98	90	ePc	05	29.40	-0.5
GLI	2.05	128	iP	05	30.98	0.1
			eS	05	58.51	
VZW	2.15	120	eP	05	32.38	0.0
			eS	06	02.41	
NNL	2.19	192	eP	05	36.00	3.0
SDG	2.28	79	eP	05	33.17	-1.1
PAX	2.41	69	eP	05	35.17	-1.0
TTA	2.71	289	eP	05	43.40	2.9
SVW	2.72	249	eP	05	40.60	0.0
FBA	2.96	22	ePc	05	41.30	-2.6
IMA	4.16	341	P	05	58.70	-2.3
KDC	4.57	194	eP	06	10.00	3.3
DWY	5.31	65	P	06	15.80	-1.4

28 obs. ossocioted

OCT 05, 1989 11h 09m 17.12± 0.27s
42.239 N ± 3.4km 15.545 E ± 2.7km
DEPTH = 10.0km (geophysicist)
4.5mb (1 obs.)
ADRIATIC SEA (382)
ML 4.3 (LDG), 3.9 (ROM), 3.7 (TTG), 3.1 (LJU). MD 4.6 (TRI).

DUI	1.00	235	Pc	09	35.90	-0.1
			eSg	09	50.50	
HVAR	1.15	35	iPnc	09	39.60	1.0
			iSn	09	58.90	
SDI	1.40	248	P	09	42.20	-0.5
RFI	1.50	232	P	09	44.68	0.7
ALP	1.55	291	iPnc	09	46.63	1.7
			iSn	10	14.66	
AZI	1.59	262	Pc	09	46.00	0.7
AQU	1.59	275	P	09	47.10	1.6
SGD	1.69	186	Pd	09	45.20	-1.6
			eSn	10	07.00	
SSO	1.89	305	ePn	09	51.07	1.4
			iSn	10	25.70	
AOI	1.94	313	ePn	09	51.25	0.8
			iSn	10	24.90	
CIO	2.01	299	ePnd	09	52.85	1.3
			iSn	10	30.37	
MGR	2.10	180	P	09	51.00	-1.8
			eSn	10	18.70	
MNS	2.13	275	P	09	54.00	0.8
RMP	2.16	260	P	09	55.00	1.3
			eSn	10	20.50	
RDP	2.16	258	P	09	54.00	0.3
HCY	2.20	84	ePn	09	57.00	2.8X
			eSn	10	28.00	
ASS	2.28	292	P	09	55.80	0.3
ARV	2.29	304	P	09	56.40	0.9
			eSn	10	26.00	
BRY	2.31	72	ePn	09	56.50	0.5
			eSn	10	29.20	
BDV	2.44	88	ePn	09	58.50	0.9
			eSn	10	34.50	
LCI	2.63	136	P	10	01.40	1.1
			eSn	10	31.80	
TDS	2.65	167	P	10	00.20	-0.4
TTG	2.76	85	ePn	10	03.20	1.0
			eSn	10	41.00	
ULC	2.77	94	ePn	10	04.50	2.1
			eSn	10	42.00	
BLY	2.78	25	eP	10	06.30	3.9X
			S	10	38.30	
RSM	2.82	308	P	10	04.40	1.3
SDA	2.95	93	ePn	10	06.50	1.7
PLE	3.04	68	ePn	10	08.40	2.2
			eSn	10	47.00	
SFI	3.18	303	P	10	08.00	-0.2
RIY	3.21	345	iPnd	10	09.10	0.5
			iSn	10	49.30	
PUK	3.24	92	ePn	10	09.00	0.0
PGD	3.24	302	P	10	11.00	1.8
MAO	3.26	275	P	10	09.50	0.2
VBY	3.27	356	ePn	10	10.80	1.4
			iSn	10	55.40	
			iSg	11	12.20	
TIR	3.35	104	ePn	10	11.00	0.4
GRI	3.48	169	P	10	12.84	0.4
FIR	3.50	297	ePn	10	14.00	1.4
			iPg	10	32.00	
			iSn	10	54.00	
			iSg	11	14.00	
ZAG	3.59	5	iPb	10	22.00	8.1X
			iSn	10	58.50	
KKS	3.62	91	ePn	10	18.00	3.6X
BERA	3.65	113	ePn	10	14.50	-0.3
PTJ	3.67	5	iPnc	10	15.70	0.5
			eSn	10	57.80	
PHP	3.69	97	ePn	10	15.00	-0.4
TRI	3.70	340	iPnd	10	12.40	-3.1X
			i	10	29.50	
			iSn	11	04.60	
			iSg	11	30.00	
LJU	3.87	350	ePn	10	18.50	0.5
			e	10	27.00	
			eSn	11	07.00	
PII	3.97	294	P	10	19.80	0.5
VOY	3.97	343	ePnd	10	19.20	-0.3
			eSn	11	09.99	
BDI	4.05	298	P	10	20.80	0.2
KEK	4.09	127	eP	10	19.50	-1.5
OHR	4.09	104	ePn	10	18.80	-2.3
SRN	4.11	124	ePn	10	22.80	1.5
LSK	4.35	117	ePn	10	23.50	-1.3
SKO	4.39	92	ePn	10	21.50	-3.9X
			i	10	45.50	
			i	11	44.20	
BEO	4.41	52	ePn	10	41.50	16.0X
			e(Sg)	11	48.00	
CTI	4.73	325	P	10	29.20	-1.0
			eSn	11	23.70	
FVI	4.78	336	P	10	30.80	0.0
SAL	4.95	315	P	10	32.30	-0.9
CVF	4.95	276	Pn	10	33.40	0.1
KZN	5.07	110	eP	10	34.70	-0.4
KBA	5.09	343	iPnd	10	34.90	-0.4
			e	11	39.50	
BOB	5.10	302	Pd	10	36.20	0.7
SSR	5.21	58	eP	10	07.00	-30.0X
SOP	5.49	7	eP	10	45.50	4.6X
MDI	5.50	312	P	10	39.50	-1.4
			eSn	11	42.40	
VLS	5.60	135	eP	10	39.50	-3.0X
CKI	5.73	295	P	10	43.50	-0.8
KMR	5.90	351	iPn+	10	46.40	-0.2
			eSn	11	51.00	
			i	12	23.40	

SRO	5.91	18	iP	10	56.00	9.3X
			e	12	43.00	
ZST	6.06	10	iP	10	48.50	-0.3
			i	11	13.00	
			i(S)	12	43.00	
VAI	6.08	309	P	10	48.00	-1.1
			eSn	11	54.80	
SBF	6.16	288	Pn	10	50.60	0.2
			Sn	11	57.00	
PSZ	6.46	27	eP	11	04.00	9.4X
FRF	6.67	284	Pn	10	57.40	-0.1
LMR	6.74	282	Pn	10	58.20	-0.3
LRG	6.86	283	Pn	11	00.70	0.5
BNI	7.02	297	P	11	02.70	0.1
KHC	7.03	349	iP	11	01.50	-1.1
	1.0s		7.00nm			4.8mb X
			e	11	11.20	
LPG	7.14	300	Pn	11	01.20	-3.2X
			Sn	12	18.40	
WET	7.15	346	iPc	10	24.10	-40.2X
LPL	7.16	300	Pn	11	01.40	-3.2X
			Sn	12	17.80	
PRU	7.78	355	eP	11	11.00	-2.1
Z	14s		0.60um			
N	13s		0.50um			
E	14s		0.80um			
			e	12	36.00	
GRF	8.04	340	e(Pn)	11	22.00	5.4X
BSF	8.34	315	Pn	11	19.20	-1.9
			Sn	12	47.20	
CDF	8.48	319	Pn	11	20.30	-2.7
KSP	8.62	3	eP	11	27.00	2.2X
			e	13	00.00	
			e	14	02.00	
HAU	8.69	315	Pn	11	22.90	-2.8
			Sn	12	54.60	
BRG	8.71	353	ePn	11	25.00	-0.9
			e	12	10.00	
			e	12	48.00	
			e	13	15.00	
			e	13	52.00	
			i	14	15.00	
MOX	8 83	343	ePn	11	25.00	-2.7
CLL	9 24	350	ePn	11	43.00	9.7X
			eSg	14	18.00	
			eSg	36	40.00	
SMF	9.46	302	Pn	11	32.70	-3.7X
			Sn	13	13.00	
LBF	9.51	304	Pn	11	33.20	-4.0X
			Sn	13	14.40	
LOR	9.71	305	Pn	11	36.20	-3.7X
			Sn	13	19.50	
AVF	9.82	302	Pn	11	37.70	-3.7X
BGF	10.06	300	Pn	11	41.00	-3.7X
			Sn	13	26.20	
BCAO	37.74	175	ePd	16	32.20	-2.6
	0.7s		6.00nm			4.5mb
			ic	16	35.00	

S.D. = 1.2 on 71 of 94 obs.

OCT 05, 1989 11h 31m 39.90± 0.36s
42.169 N ± 4.5km 15.569 E ± 3.4km
DEPTH = 18.8 ± 4.4 km
ADRIATIC SEA (382)
ML 3.0 (TTG).

DUI	0.97	239	Pd	31	57.60	-0.4
			eSg	32	11.80	
HVAR	1.20	32	iPg	32	01.10	-0.6
			iSn	32	19.90	
SDI	1.39	251	P	32	04.80	0.4
			eSg	32	22.70	
ALP	1.60	293	ePn	32	07.92	0.5
			iSn	32	34.98	
AOU	1.62	277	P	32	08.60	0.9
SGO	1.62	187	Pd	32	07.60	0.0
			eSg	32	30.00	
AOI	2.00	314	ePn	32	17.14	4.0X
			eSn	32	50.55	
MGR	2 03	180	P	32	13.20	-0.4
CIO	2.06	301	ePn	32	14.12	0.0
			eSn	32	42.69	
MNS	2.15	277	P	32	17.30	1.8
RMP	2.17	261	P	32	16.00	0.4
HCY	2 19	82	ePn	32	18.00	2.1
			eSn	32	50.00	
BRY	2.32	71	ePn	32	18.50	0.6
			eSn	32	51.50	
ARV	2.34	305	P	32	17.90	-0.2
BDV	2.42	86	ePn	32	21.00	1.8
			eSn	32	54.00	
LCI	2.57	135	P	32	24.80	3.5X
TDS	2.57	167	P	32	21.70	0.3
TTG	2.75	83	ePn	32	23.50	-0.4
			eSn	32	59.00	
SDA	2.93	92	ePn	32	27.90	1.6
PUK	3.22	91	ePn	32	31.50	1.0
RIY	3.29	345	ePn	32	30.50	-1.0
			iSn	33	11.20	
PGD	3.30	302	P	32	32.80	1.0
TIR	3.32	103	ePn	32	38.20	6.3X
VBY	3.34	356	ePn	32	33.00	0.8
			iSn	33	13.20	
FIR	3.55	298	ePn	33	15.00	39.8X
BERA	3.60	113	ePn	32	34.20	-1.8
PHP	3.67	96	ePn	32	39.00	2.1
PTJ	3.74	4	ePn	32	38.00	0.0
			eSn	33	20.60	
TRI	3.77	340	iP	32	51.50	13.2X
			i	33	21.90	
			i	33	51.70	
LJU	3.94	349	e(Pn)	32	40.00	-0.8
			iSn	33	27.50	
VOY	4.05	343	ePn	32	42.50	0.2
			eSn	33	31.90	
OHR	4.06	103	ePn	32	41.80	-0.7
LSK	4.30	116	ePn	32	45.20	-0.8
SKO	4.37	91	ePn	32	45.00	-1.9
CTI	4.80	325	P	32	51.10	-1.9
			eSn	33	47.00	
FVI	4.85	337	P	32	54.50	0.9
BOB	5.16	302	P	32	57.60	-0.5
KHC	7.10	349	eP	33	37.00	11.6X
			e	34	45.00	
PRU	7.85	355	eP	34	08.50	32.6X
			e	35	18.00	

S.D. = 1.1 on 32 of 39 obs.

OCT 05, 1989 11h 39m 24.40± 0.37s
44.634 N ± 3.1km 7.267 E ± 4.2km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (LDG), 2.0 (GEN).

PZZ	0.17	223	P	39	28.43	0.0
			S	39	30.98	
STV	0.39	174	P	39	32.20	-0.3
			S	39	37.42	
ENR	0.42	165	P	39	32.69	-0.4
			S	39	38.12	
RRL	0.45	310	P	39	33.13	-0.4
			S	39	38.66	
ROB	0.55	128	P	39	35.39	-0.1
			S	39	42.62	
FIN	0.80	122	P	39	39.90	0.0
			S	39	49.88	
LSD	0.83	355	P	39	40.70	0.1
			S	39	50.67	
IMI	0.85	148	P	39	41.10	0.2
			S	39	51.49	
PCP	0.92	95	P	39	42.05	0.1
			S	39	54.73	
LPG	0.94	337	Pg	39	42.60	0.1
			Sg	39	54.40	
LPL	0.96	337	Pg	39	42.90	0.1
			Sg	39	55.60	
FRF	1.16	203	Pg	39	46.70	0.6
			Sg	40	01.60	

S.D. = 0.3 on 12 of 12 obs.

OCT 05, 1989 11h 41m 58.22± 0.33s
44.657 N ± 2.7km 7.285 E ± 3.5km
DEPTH = 5.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.4 (GEN), 2.2 (LDG).

PZZ	0.20	221	P	42	02.53	0.2
			S	42	05.14	
STV	0.41	176	P	42	06.39	-0.1
			S	42	12.01	
ENR	0.44	167	P	42	06.83	-0.2
			S	42	12.42	
RRL	0.44	307	P	42	07.24	0.1
			S	42	12.83	
ROB	0.55	131	P	42	09.73	0.4
			S	42	17.13	
FIN	0.80	124	P	42	14.09	-0.1
			S	42	24.62	
LSD	0.81	354	P	42	14.52	0.0
			S	42	24.62	
IMI	0.86	150	P	42	15.19	-0.2
	-		S	42	25.85	
PCP	0.91	97	P	42	16.17	0.1
	-		S	42	27.91	
LPG	0.92	336	Pg	42	16.40	-0.1
			Sg	42	27.70	
LPL	0.94	336	Pg	42	16.80	0.0
			Sg	42	28.50	
FRF	1.19	203	Pg	42	21.10	0.3
			Sg	42	35.70	
LRG	1.37	209	Pg	42	24.00	0.0
LMR	1.44	203	Pg	42	24.80	-0.1
			Sg	42	43.40	

S.D. = 0.2 on 14 of 14 obs.

OCT 05, 1989 12h 07m 44.41± 0.74s
42.186 N ± 5.6km 15.656 E ± 8.6km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)

DUI	1.04	240	Pd	08	03.70	-0.3
			eSg	08	19.60	
HVAR	1.15	30	iPg	08	06.60	0.7
			iSg	08	24.90	
SGO	1.65	189	P	08	13.00	-0.4
			eSn	08	34.00	
AOU	1.68	276	P	08	16.00	2.0
			eSn	08	37.00	
MGR	2.05	182	P	08	19.30	0.0
VBY	3.33	355	ePn	08	37.90	0.3
			eSn	09	17.10	
PGD	3.34	302	Pd	08	38.40	0.5
PTJ	3.72	3	eP	08	43.40	0.2
TRI	3.78	339	eP	08	51.00	7.1X
			i	09	26.80	
			i	09	54.50	
LJU	3.94	349	eP	08	54.00	7.8X
			eSn	09	33.00	
VOY	4.05	342	ePn	08	46.80	-1.0
			eSn	09	36.60	
CTI	4.82	325	P	08	57.50	-1.3
BOB	5.20	302	Pd	09	03.40	-0.8

S.D. = 1.0 on 11 of 13 obs.

OCT 05, 1989 12h 32m 16.26± 0.33s
46.196 N ± 3.3km 6.794 E ± 3.5km
DEPTH = 5.0km (geophysicist)
SWITZERLAND (544)
ML 3.1 (LDG).

EMS	0.16	143	iPc	32	18.80	-0.8
DIX	0.44	105	iPd	32	23.10	-2.1
LPL	0.68	184	Pg	32	29.50	-0.4
			Sg	32	39.40	
LPG	0.70	182	Pg	32	29.80	-0.5
			Sg	32	39.80	
LSD	0.78	161	P	32	30.23	-1.9
			S	32	40.02	
MMK	0.83	100	ePc	32	29.60	-3.3X
ORO	1.01	124	P	32	36.50	0.6
BNI	1.15	184	P	32	37.50	-0.8
			eSg	32	56.30	
RRL	1.28	180	P	32	39.71	-0.9
			S	32	58.92	
VAI	1.42	103	Pd	32	43.40	0.7
			eSg	33	04.10	
TMA	1.45	93	ePc	32	43.30	0.0
BSF	1.64	360	Pn	32	44.80	-1.1
			Pg	32	46.60	
			Sg	33	08.00	
LLS	1.66	65	ePd	32	45.80	-0.6
PZZ	1.71	173	P	32	47.42	0.5
			S	33	08.85	
DOI	1.72	169	P	32	48.10	1.0
			eSg	33	13.80	
HAU	1.84	351	Pn	32	47.70	-1.0
			Pg	32	50.20	
			Sg	33	14.20	
SLE	1.95	36	ePc	32	51.50	1.1
STV	1.99	169	P	32	50.16	-0.8
			S	33	12.16	

05d 12h

ENR	2.02	167	P	32	50.64	-0.8
			S	33	12.55	
ROB	2.05	158	P	32	51.52	-0.3
			S	33	14.50	
CKI	2.06	149	P	32	52.50	0.6
PCP	2.06	143	P	32	52.92	0.9
			S	33	15.47	
MDI	2.08	101	P	32	52.80	0.7
			eSn	33	20.50	
SMF	2.09	283	Pg	32	56.50	4.1X
			Sg	33	23.50	
LBF	2.10	293	Pn	32	53.00	0.5
			Sg	33	24.70	
FIN	2.22	153	P	32	55.09	0.7
			S	33	18.59	
CDF	2.24	8	Pn	32	52.70	-2.0
			Sg	33	26.20	
LOR	2.29	299	Pn	32	55.00	-0.3
			Pg	33	00.40	
			Sg	33	28.40	
OSS	2.37	77	ePc	32	58.90	2.3
SBF	2.38	169	Pg	32	58.20	1.6
			Sg	33	30.60	
IMI	2.41	161	P	32	58.31	1.2
SSF	2.43	292	Pn	32	58.70	1.5
			Sg	33	34.00	
AVF	2.45	285	Pn	32	57.60	0.1
			Sg	33	35.00	
FRF	2.64	182	Pg	33	05.40	5.2X
BGF	2.76	279	Pn	33	02.20	0.3
			Pg	33	08.40	
			Sg	33	45.80	
LRG	2.76	187	Pg	33	07.20	5.3X
MAF	2.94	272	Pn	33	04.20	-0.3
			Pg	33	12.20	
			Sg	33	50.40	
TCF	3.18	273	Pn	33	08.40	0.5
			Pg	33	17.30	
CAF	3.56	251	Pn	33	13.00	-0.3

S.D. = 1.1 on 35 of 39 obs.

OCT 05, 1989 13h 02m 04.51± 0.49s
22.362 S ± 6.3km 70 237 W ±11.2km
DEPTH = 53.3km (3 depth phases)
4.8mb (6 obs)
NEAR COAST OF NORTHERN CHILE (122)
Felt (III) in the Antofogosta area

ANT	1.35	187	iPc	02	25.00	-2.3
			iS	02	38.00	
			i	02	42.00	
CNCB	5.92	21	P	03	35.90	3.6X
LPB	6.14	20	eP	03	33.00	-2.3
	1.2s	468.75nm				5.8mb X
			i	03	43.00	
CCH	6.28	39	Pc	03	38.70	1.6
ZOBO	6.38	19	P	03	40.50	1.7
	1.0s	128.00nm				5.4mb X
			i	03	45.30	
PT03	9.86	327	e(P)	04	25.70	-0.7
			e(S)	06	12.80	
PEL	10.75	182	eP	04	39.80	1.3
			iS	06	50.50	
LNV	11.60	185	eP	04	49.50	-0.3
			iS	07	25.00	
NNA	12.09	327	eP	05	02.00	5.4X
	0.6s	3.33nm				4.5mb
RFA	12.46	173	e(P)	05	02.70	1.2
BAO	22.06	76	e(P)	06	52.00	-4.6X
BMA	24.09	96	e(P)	07	17.00	0.8
PDCR	31.19	77	eP	08	18.80	-2.2
RSCP	59.45	345	P	12	02.60	-1.6
	0.9s	18.59nm				5.2mb
FVM	62.95	342	P	12	26.20	-1.6
	0.7s	14.97nm				5.2mb
ALQ	66.56	328	eP	12	51.50	0.1
	0.8s	6.90nm				4.7mb
			e	13	06.90	
GOL	69.92	332	P	13	12.50	0.2
	0.6s	5.76nm				4.7mb
			pP	13	27.00	51km
KIC	70.12	74	P	13	13.50	-0.2
RSSD	73.05	335	P	13	31.20	0.3
			pP	13	46.40	54km
TNP	74.57	323	P	13	40.80	0.9
	0.5s	3.00nm				4.5mb
KVN	75.74	323	P	13	47.00	0.5
			pP	14	02.30	54km
LRM	77.93	331	eP	14	00.00	1.4
ORV	78.00	322	eP	14	00.50	1.7
			e	14	15.70	
WDC	79.28	322	eP	14	05.50	-0.3
			e	14	20.50	
EDM	84.02	336	iPd	14	30.20	-0.1
FORR	124.24	199	ePdiff	17	42.30	8.8X
GBA	148.10	100	PKP	21	47.00	3.8X
MAT	151.61	306	ePKP	21	55.00	6.9X
	0.8s	8.96nm				

S.D. = 1.4 on 22 of 28 obs.

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* OCT 05, 1989 13h 02m 29.22± 1.40s
58.345 N ±10.0km 6.246 E ±20.0km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 2.5 (BER).

ODD1	1.58	7	eP	02	58.46	1.0
			eS	03	20.50	
SUE	2.82	345	iP	03	14.54	-0.6
			eS	03	48.50	
HYA	2.83	359	iP	03	15.38	0.1
			eS	03	47.99	
NRA0	3.61	46	iPd	03	25.90	-0.4
			iS	04	08.60	
			iSg	04	20.80	
MOL	4.29	8	iP	03	35.65	-0.3
			eS	04	23.06	
BRG	8.71	146	eP	04	38.20	0.1
	1.1s	10.00nm				5.0mb X

S.D. = 0.8 on 6 of 6 obs.

OCT 05, 1989 13h 34m 49.87± 0.32s
42.145 N ± 4.0km 15.595 E ± 3.3km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)
ML 3.7 (TTG), 3.3 (LJU).

DUI	0.98	241	P	35	09.30	0.8
			eSg	35	23.80	
HVAR	1.21	31	iPg	35	13.10	0.7
			iSg	35	31.40	
SGO	1.60	188	P	35	18.10	-0.1
ALP	1.62	294	iPnd	35	19.87	1.1
			iSn	35	47.04	
AQU	1.64	278	P	35	20.30	1.4
SSO	1.97	306	e(Pn)	35	25.98	2.3
			eSn	35	59.50	
MGR	2.01	181	P	35	24.10	0.0
CIO	2.09	301	ePnd	35	25.98	0.5
MNS	2.18	277	P	35	27.20	0.5
RDP	2.18	261	P	35	27.20	0.4
BRY	2.31	70	ePn	35	30.00	1.3
			eSn	36	00.80	
ASS	2.36	294	P	35	29.60	0.3
ARV	2.37	306	P	35	29.70	0.2
LCI	2.54	135	P	35	32.50	0.8
TDS	2.55	167	P	35	30.40	-1.5
ULC	2.73	93	ePn	35	39.20	4.7X
			eSn	36	21.00	
TTG	2.73	83	ePn	35	36.00	1.4
			eSn	36	14.50	
BLY	2.85	23	eP	35	39.30	3.1X
			eS	36	11.30	
SDA	2.91	91	ePn	35	38.00	1.0
PUK	3.20	90	ePn	35	43.00	1.9
TIR	3.29	103	ePn	35	45.70	3.2X
RIY	3.32	345	iPnd	35	42.30	-0.5
PGD	3.33	303	P	35	44.00	0.9
VBY	3.37	356	ePn	35	44.50	1.0
			iSn	36	24.60	
BERA	3.58	112	ePn	35	46.20	-0.3
FIR	3.58	299	ePn	35	48.00	1.5
			iSn	36	30.00	
PHP	3.64	96	ePn	35	47.10	-0.4
ZAG	3.68	4	i(Pn)	35	50.00	2.0
			iSb	36	31.60	
PTJ	3.76	4	ePn	35	48.90	-0.4
			eSn	36	25.50	
TRI	3.80	340	eP	35	48.70	-1.0
			i	36	32.50	
			i	37	03.50	
LJU	3.97	349	ePn	35	52.00	-0.1
			iSn	36	39.00	
KEK	4.00	126	eP	35	51.70	-0.9
OHR	4.03	103	ePn	35	52.70	-0.4
VOY	4.07	343	ePnd	35	52.80	-0.8
			eSn	36	43.90	
KBN	4.21	109	ePn	36	03.00	7.5X
LSK	4.27	116	ePn	35	56.00	-0.5
SKO	4.36	90	ePn	35	57.00	-0.6
			i	36	11.50	
BEO	4.43	51	ePn	36	15.00	16.3X
			e(Sg)	37	20.50	
CTI	4.83	325	Pd	36	02.70	-1.7
			eSn	36	57.90	
FVI	4.88	337	P	36	03.70	-1.3
KZN	5.01	109	eP	36	00.50	-6.4X
SAL	5.04	315	P	36	06.00	-1.2
BOB	5.19	302	Pd	36	09.70	0.3
KBA	5.19	343	eP	36	31.00	21.5X
			e(Sn)	37	08.50	
VLS	5.51	134	eP	36	12.20	-1.7
BZS	5.57	49	eP	35	37.00	-37.7X
MDI	5.59	313	P	36	12.00	-3.0X
CKI	5.81	296	P	36	16.50	-1.6
KMR	6.00	351	eP	36	28.00	7.2X
			e	38	00.00	
VAI	6.17	309	P	36	21.50	-1.6
DOI	6.53	294	P	36	27.50	-0.9
KHC	7.13	349	eP	36	34.00	-2.7
			e	37	57.50	
PRU	7.88	355	eP	36	47.00	-0.2
			e	37	02.80	
MOX	8.94	343	e(P)	37	31.00	29.1X

S.D. = 1.2 on 43 of 54 obs.

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* OCT 05, 1989 13h 54m 16.99± 0.90s
42.157 N ± 7.0km 15.625 E ±10.8km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)

DUI	1.00	241	P	54	36.40	0.4
			eSg	54	50.60	
HVAR	1.19	30	iPg	54	39.90	0.8
			iSg	54	58.90	
SGO	1.62	189	P	54	44.80	-0.8
			eSn	55	08.00	
MGR	2.02	182	P	54	51.80	0.3
			eSn	55	16.00	
CIO	2.10	300	e(Pn)	54	54.29	1.5
ARV	2.39	305	P	54	55.90	-0.9
PTJ	3.75	4	eP	55	51.00	34.8X
VOY	4.07	343	ePn	55	19.30	-1.4
			eSn	56	14.70	

S.D. = 1.3 on 7 of 8 obs.

OCT 05, 1989 14h 47m 07.86± 1.58s
29.059 N ± 8.9km 67.232 E ± 5.4km
DEPTH = 33.6 ± 14.8 km
4.6mb (15 obs.) 4.1Msz (1 obs.)
PAKISTAN (710)

QUE	1.15	348	iPc+	47	28.00	0.1
NDI	8.76	90	iPd	49	09.50	-5.7X
	0.6s	126.67nm				6.2mb X
MAIO	9.72	320	eP	49	18.00	-10.6X
			eS	51	32.00	
KSH	12.64	33	eP	50	03.00	-5.1X
			S	52	22.00	
HYB	15.56	136	ePc	50	42.00	-4.4X
	1.0s	25.00nm				4.4mb
			e	50	50.50	
GBA	18.06	146	P	51	18.00	0.1
			S	57	18.00	
RYD	18.89	262	eP	51	28.50	0.4
SLY	19.47	295	eP	51	36.50	1.8
			eS	55	18.00	
			eLR	59	38.00	
TAB	19.57	303	e(P)	51	34.00	-2.0
BHD	19.99	288	ePc	51	39.00	-1.3
			e	57	33.00	
			e	58	32.00	
			e	00	24.00	
LSA	20.85	82	eP	51	50.00	0.2
			pP	51	57.00	26kmX
MSL	21.50	296	eP	51	55.50	-0.4
			e	01	02.00	
WMO	22.01	42	eP	52	00.00	-0.9
	1.5s	0.10nm				2.0mb X
Z	16s	0.70um				4.2MszX

	N	10s	0.50um			
			eS	55	52.50	
			PcP	56	01.50	
			sS	56	06.00	
SHL		22.17	93 iP	52	01.50	-1.3
			eS	55	55.00	
GTA		28.71	60 eP	53	04.70	0.5
	Z	14s	0.30um			4.1MszX
	N	11s	0.50um			
CHTO		30.64	102 e(P)	53	23.10	1.7
		0.7s	1.11nm			3.8mb
BTO		36.63	60 eP	54	15.40	2.3X
TIY		38.41	65 eP	54	28.80	0.8
	N	11s	0.50um			
WHN		40.68	76 eP	54	44.50	-2.3
KRA		41.22	314 eP	54	59.30	8.3X
TIA		42.24	67 eP	55	01.20	1.7
NUR		42.36	330 eP	55	06.00	5.8X
	Z	16s	1.00um			4.8MszX
			LR	16	38.00	
SUF		42.87	334 iP	55	03.90	-0.4
		0.4s	7.90nm			4.8mb
KSP		43.66	315 eP	55	13.30	2.4X
BRG		45.13	314 eP	55	24.60	1.8
		1.5s	25.00nm			4.9mb
KHC		45.16	312 eP	55	41.40	18.3X
SOD		45.35	339 eP	55	25.00	0.8
CLL		45.78	315 eP	55	29.00	1.1
MOX		46.57	314 eP	55	36.00	1.8
		2.0s	54.00nm			5.2mb
HFS		47.25	327 (P)	55	38.40	-1.0
		0.4s	2.50nm			4.6mb
SBF		49.29	304 eP	55	57.20	1.7
		0.7s	17.60nm			5.2mb
LPG		49.69	307 eP	55	58.80	-0.1
LBF		51.54	309 eP	56	11.70	-0.9
		0.6s	2.70nm			4.4mb
LOR		51.61	309 eP	56	12.50	-0.6
SMF		51.65	308 eP	56	12.70	-0.7
		0.8s	5.30nm			4.6mb
SSF		51.86	309 eP	56	14.40	-0.6
		0.7s	3.30nm			4.4mb
BCAO		52.17	251 ePd	56	18.30	0.5
		0.5s	3.00nm			4.5mb
CAF		53.04	306 eP	56	23.60	-0.2
		1.0s	8.80nm			4.7mb
FLN		54.41	311 eP	56	32.80	-1.0
		0.8s	11.80nm			5.0mb
KIC		71.19	267 P	58	25.40	-0.4
TIC		71.30	267 P	58	26.60	0.1
LIC		71.50	267 P	58	27.50	-0.2
	Z	20s	0.10um			4.1Msz
MBC		74.87	2 eP	58	46.50	0.2
		0.8s	5.00nm			4.6mb
WB5		80.98	119 eP	59	19.90	-1.0
			e	59	52.00	
ASPA		82.82	122 iPc	59	30.50	0.1
		0.6s	3.00nm			4.6mb
	S.D. = 1.1		on 36 of 45 obs.			

OCT 05, 1989 15h 04m 37.17± 0.48s
38.790 N ± 5.0km 21.223 E ± 4.5km
DEPTH = 21.4 ± 4.8 km
3.9mb (1 obs.)
GREECE (364)
ML 3.8 (ATH).

VLS		0.79	219 ePg	04	51.50	-0.6
KEK		1.44	310 ePb	05	03.00	0.9
LSK		1.44	341 iPnc	05	02.80	0.6
SRN		1.44	319 iPn	05	03.20	1.1
KZN		1.57	15 ePb	05	05.00	0.9
LIT		1.64	36 ePbd	05	05.00	0.0
			eSb	05	27.00	
NEO		1.64	71 ePb	05	05.00	-0.1
KBN		1.86	350 iPnd	05	11.00	2.9X
ATH		2.12	112 ePb	05	13.00	1.0
PAIG		2.22	58 ePn	05	12.80	-0.6
			eSn	05	40.90	
THE		2.28	36 ePn	05	14.20	0.0
			eSn	05	42.50	
PLG		2.33	47 ePn	05	14.00	-1.0
			eSn	05	43.70	
OHR		2.34	352 iPnc	05	16.20	1.1
GRG		2.35	22 ePnc	05	15.30	0.1
			eSn	05	45.50	
VLI		2.47	146 ePb	05	19.00	2.0
OUR		2.63	53 ePn	05	18.50	-0.7
KNT		2.70	28 ePn	05	20.70	0.5
			eSn	05	53.10	
TIR		2.76	338 iPnc	05	21.00	0.0
SRS		2.95	37 ePnd	05	23.30	-0.5
			eSn	05	58.30	
PHP		2.96	349 iPnc	05	23.20	-0.5
SKO		3.18	3 iPnc	05	26.70	-0.4
			i	05	31.80	
			iSn	06	03.40	
			i	06	13.50	
KKS		3.34	350 ePn	05	30.50	1.3
PUK		3.40	343 iPnd	05	30.50	0.4
SDA		3.48	338 ePn	05	31.40	0.2
APE		3.81	115 ePn	05	36.70	0.6
TDS		3.89	284 Pd	05	38.20	1.1
RDO		4.07	53 ePn	05	38.00	-1.6
SMG		4.55	102 ePn	05	46.20	-0.3
MGR		4.59	289 P	05	46.60	-0.5
SGO		4.89	293 P	05	51.10	-0.2
MEU		5.25	253 Pd	05	54.00	-2.5
			eSn	06	51.70	
HVAR		5.68	322 i(Pn)	05	57.90	-4.5X
			iSn	07	00.40	
VBY		8.04	328 e(Pn)	06	31.70	-3.8X
VOY		9.04	326 ePn	06	45.70	-3.7X
			eSn	08	22.50	
NB2		23.13	348 P	09	40.30	-2.3
		0.5s	1.90nm			3.9mb
	S.D. = 1.1		on 31 of 35 obs.			

• OCT 05, 1989 15h 16m 25.64± 0.80s
36.128 N ± 9.7km 27.534 E ± 8.5km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
MD 3.3 (ATH).

KAP		0.65	207 ePb	16	38.30	-0.3
			eSb	16	48.00	
KSL		1.66	90 ePb	16	54.20	-0.7
SMG		1.67	341 ePb	16	54.70	-0.4
NPS		1.79	242 ePn	16	57.20	0.4
ELL		2.01	71 ePn	17	01.00	0.9
	S.D. = 0.9		on 5 of 5 obs.			

OCT 05, 1989 15h 32m 06.13± 0.56s
38.817 N ± 5.4km 21.214 E ± 4.6km
DEPTH = 15.2 ± 4.9 km
3.7mb (1 obs.)
GREECE (364)
ML 3.5 (ATH).

VLS		0.80	218 ePg	32	20.70	-0.6
LSK		1.41	341 iPnd	32	32.20	0.9
KEK		1.42	310 ePb	32	32.20	0.9
			eSb	32	54.30	
SRN		1.42	319 iPn	32	32.50	1.3
KZN		1.55	16 ePb	32	34.50	1.3
LIT		1.62	37 ePbc	32	34.60	0.4
NEO		1.64	72 ePb	32	34.00	-0.5
KBN		1.83	350 ePn	32	40.30	3.1X
ATH		2.14	112 ePb	32	42.50	0.8
THE		2.26	36 ePn	32	43.90	0.5
			eSn	33	12.00	
OHR		2.31	352 iPn	32	45.60	1.3
PLG		2.32	47 ePn	32	43.50	-0.9
GRG		2.32	23 ePnd	32	44.50	0.1
			eSn	33	14.00	
VLI		2.50	146 ePb	32	48.30	1.5
OUR		2.62	54 ePn	32	48.70	0.1
			eSn	33	21.30	
KNT		2.68	28 ePnd	32	49.90	0.5
			eSn	33	22.70	
TIR		2.73	338 ePn	32	50.70	0.6
PHP		2.93	349 iPnc	32	53.20	0.3
SRS		2.94	38 ePnc	32	52.90	-0.1
			eSn	33	27.60	
LCI		2.94	302 Pc	32	53.30	0.3
			eSn	33	28.70	
SKO		3.16	3 ePn	32	55.50	-0.7
			i	33	33.00	
PUK		3.38	343 ePn	32	58.50	-0.7
SDA		3.45	338 ePn	33	00.20	-0.1
TDS		3.88	284 P	33	08.00	1.6
RDO		4.05	54 ePn	33	07.50	-1.4
MGR		4.57	289 Pc	33	16.60	0.3
			eSn	34	08.50	
SGO		4.88	293 Pd	33	20.80	0.2
			eSn	34	15.10	
MEU		5.25	253 P	33	23.90	-2.1
			eSn	34	21.10	
VBY		8.01	328 e(Pn)	34	02.00	-2.6
VOY		9.01	325 ePn	34	14.80	-3.8X
			eSn	35	53.80	
NB2		23.11	348 P	37	09.80	-2.3
		0.4s	0.90nm			3.7mb
	S.D. = 1.2		on 29 of 31 obs.			

• OCT 05, 1989 15h 39m 31.49± 0.78s
4.337 S ± 6.6km 80.913 W ±12.9km
DEPTH = 33.0km (normal)
4.4mb (1 obs.)
PERU-ECUADOR BORDER REGION (110)

TUNG		3.80	40 P	40	28.60	-0.9
			eS	40	52.00	
RECU		4.36	33 iP+	40	38.50	0.9
GGP		4.74	29 P+	40	43.00	-0.1
			eS	41	33.00	
COTA		5.31	29 iP+	40	50.70	-0.3
NNA		8.60	152 eP	41	37.00	0.2
		0.7s	4.79nm			4.7mb X
			iS	43	05.70	
PT10		8.62	153 e(P)	41	42.50	5.5X
			eS	43	11.00	
PT08		8.72	151 eP	41	39.80	1.1
			iS	43	06.10	
HUA		9.44	144 e(P)	41	46.50	-2.2
			eS	42	31.40	
ZOBO		17.27	134 P	43	34.50	2.0
LPB		17.47	135 eP	43	46.00	11.2X
CNCB		17.74	135 eP	43	38.00	-0.3
			i	43	53.00	
ALQ		45.87	330 iP	47	54.10	1.3
		0.7s	3.25nm			4.4mb
KVN		55.15	325 eP	49	03.60	0.2
INK		81.06	343 eP	51	44.00	-0.3
WB5		137.79	234 ePKP	58	53.70	-1.6
	S.D. = 1.3		on 13 of 15 obs.			

? OCT 05, 1989 17h 45m 04.61± 0.87s
40.623 N ± 7.1km 20.601 E ± 7.1km
DEPTH = 10.0km (geophysicist)
GREECE-ALBANIA BORDER REGION (392)
ML 1.9 (SKO).

KBN		0.16	90 iPgd	45	08.50	0.2
LSK		0.47	180 iPgd	45	14.10	-0.1
BERA		0.50	279 iPgd	45	14.90	0.1
OHR		0.51	17 ePg	45	14.80	-0.2
			eSg	45	22.80	
TIR		0.91	323 ePn	45	30.70	8.7X
	S.D. = 0.3		on 4 of 5 obs.			

OCT 05, 1989 18h 09m 27.66± 1.33s
9.467 S ± 7.6km 119.009 E ±10.8km
DEPTH = 89.8 ± 15.3 km
4.8mb (6 obs.)
SUMBA ISLAND REGION (287)

MKS		4.25	6 iPc	10	34.00	2.7
			eS	11	21.50	
			e	15	43.00	
TRT		6.54	285 iPc	11	02.10	-1.0
			iS	12	01.40	
KNA		11.38	124 iPd	12	06.10	-2.8
			eS	14	05.00	
MBL		11.65	176 eP	12	07.00	-5.5X
		0.3s	17.00nm			5.4mb
			eS	14	03.00	
NANU		13.44	194 eP	12	32.00	-4.0X
TSM		13.63	356 ePc	12	44.30	5.8X
MEKA		17.06	181 eP	13	21.90	-0.1
		0.3s	14.00nm			4.7mb
			eS	16	13.00	
WB5		18.09	127 eP	13	32.60	-2.1
			eS	16	44.00	
WARB		18.13	157 eP	13	35.00	-0.2
			eS	16	45.00	
MRWA		19.85	188 eP	13	55.00	1.0
		0.2s	7.00nm			4.6mb
			eS	17	16.00	
ASPA		20.05	137 iPc	13	56.20	0.0
		0.9s	54.00nm			4.9mb

05d 18h

			eS	17 32.70		
BAL	21.14	186	eP	14 16.60	9.4X	
			eS	17 51.00		
COOL	21.40	175	eP	14 10.00	0.2	
			eS	17 53.00		
KLB	22.05	183	eP	14 29.30	13.2X	
			eS	18 10.00		
MUN	22.55	186	eP	14 35.60	14.5X	
			eS	18 21.00		
OIS	22.71	121	eP	14 24.00	1.2	
			eS	18 29.00		
FORR	22.90	160	eP	14 25.10	0.7	
PSI	23.38	300	eP	14 33.00	3.8X	
			e	16 30.00		
NWAO	23.40	184	eP	14 31.30	2.0	
			pP	14 45.80	61kmX	
CTA	28.34	115	eP	15 17.00	1.7	
CHTO	34.37	325	eP	16 08.10	-0.1	
	0.7s		1.27nm		3.9mb	
			pP	16 28.20	86kmX	
BRS	36.49	124	iPc	16 29.00	2.9X	
	0.5s		8.50nm		4.9mb	
WHN	40.03	354	eP	16 51.50	-3.9X	
CD2	42.73	341	P	17 17.40	-0.3	
SHL	43.70	323	eP	17 25.00	-0.8	
XAN	44.31	348	Pd	17 30.10	-0.4	
TIY	47.33	353	eP	17 53.80	-0.5	
GTA	51.79	341	eP	18 28.40	-0.2	
WMO	60.18	334	eP	19 27.50	-0.9	
MAIO	72.06	313	eP	20 44.00	-0.2	
BUL	87.16	250	eP	22 08.50	2.8X	
CNCB	152.99	165	PKP	29 22.00	12.0X	
LPB	153.23	165	ePKP	29 24.00	13.8X	
ZOBO	153.47	165	PKP	29 18.00	7.3X	
	S.D. = 1.4		on	21 of 34 obs.		

? OCT 05, 1989 19h 33m 11.07± 1.62s
16.291 N ±10.8km 61.284 W ±14.7km
DEPTH = 28.6 ± 13.0 km
LEEWARD ISLANDS (92)
ML 2.6 (FDF).

SFG	0.09	114	iPc	33 16.12	0.0	
			S	33 17.80		
MGG	0.37	185	iPc	33 19.57	0.1	
			S	33 23.90		
PAG	0.46	236	iPd	33 20.84	0.0	
			S	33 27.30		
BBL	0.79	194	iPc	33 26.00	-0.1	
			S	33 36.50		
BPA	0.93	324	iPc	33 28.18	0.0	
			S	33 40.40		
	S.D. = 0.2		on	5 of 5 obs.		

& OCT 05, 1989 20h 04m 41.20s
62.582 N 124.861 W
DEPTH = 18.0km (geophysicist)
NORTHWEST TERRITORIES, CANADA (679)
<PGC>. ML 3.9 (PGC).

YKA	4.75	87	Pn	05 50.12	-3.5	
			Pg	06 07.11		
			Sn	06 41.43		
			Lg	07 10.05		
DLB	4.90	214	Pn	05 54.20	-1.6	
			Lg	07 13.00		
WHC	5.22	254	(Pn)	05 58.00	-2.2	
			Pg	06 17.00		
			Lg	07 24.00		
HYT	6.27	259	Pn	06 12.60	-2.5	
DWY	6.73	289	Pn	06 18.50	-3.0	
INK	6.78	332	eP	06 18.00	-4.2	
MBC	13.85	5	eP	07 53.00	-5.5	
	0.4s		3.00nm		4.5mb	
FFC	14.21	113	eP	08 00.00	-3.3	
SES	14.36	142	eP	08 05.00	-0.3	
	9 obs. associated					

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* OCT 05, 1989 21h 09m 22.99± 1.54s
34.878 N ±19.5km 140.112 E ±15.1km
DEPTH = 121.5 ± 22.7 km
NEAR EAST COAST OF HONSHU, JAPAN(228)

KAKJ	1.33	2	iP+	09 48.80	0.0	
			S	10 06.10		
CHJJ	1.48	322	iPd	09 50.50	-0.2	
			S	10 09.20		
IIDJ	1.90	289	iPd	09 56.30	0.5	
			S	10 20.20		
MAT	2.27	318	iPd	09 59.90	-0.5	
			eS	10 25.00		
NIIJ	2.52	339	P	10 04.30	0.6	
			S	10 33.60		
MTMJ	2.53	313	iPd	10 03.70	-0.2	
YAMJ	3.29	359	P	10 14.70	0.8	
			S	10 50.70		
TSRJ	3.44	282	P	10 15.60	-0.3	
			eS	10 56.60		
OFUJ	4.38	16	P	10 27.70	-0.8	
			S	11 13.60		
WB5	54.73	187	eP	18 42.00	0.1	
	S.D. = 0.6		on	10 of 10 obs.		

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* OCT 05, 1989 22h 16m 20.04± 1.15s
19.413 N ±11.9km 97.542 E ±13.9km
DEPTH = 33.0km (normal)
BURMA (296)

CHG	1.45	114	iPn	16 43.80	-0.5	
			iSg	17 04.00		
CHTO	1.45	114	iPnd	16 43.60	-0.7	
			iPg	16 45.00		
BDT	2.56	147	ePn	17 01.00	0.8	
			ePg	17 11.00		
			eSg	17 31.80		
LOE	4.45	116	ePn	17 18.80	-8.2X	
			ePg	17 29.90		
			eSg	18 22.80		
NST	4.47	146	ePn	17 33.20	6.0X	
			ePg	17 50.00		
			eSg	18 49.00		
NNT	7.10	162	eP	18 11.00	6.6X	
KMI	7.45	39	eP	18 10.00	0.6	
SHL	8.05	321	iP	18 17.50	-0.3	
			eS	20 22.50		
	S.D. = 1.0		on	5 of 8 obs.		

OCT 05, 1989 23h 09m 20.92± 0.20s
25.676 S ± 4.3km 179.382 E ± 4.2km
DEPTH = 505.2km (2 depth phases)
5.1mb (30 obs.)
SOUTH OF FIJI ISLANDS (171)

NDF	8.08	347	ePc	11 20.00	0.6	
HBZ	11.92	184	eP	11 59.20	-0.4	
	0.6s		214.00nm		5.8mb	
DZM	12.37	284	iPc	12 06.00	1.6	
			iS	14 22.20		
KRP	12.64	194	P	12 09.70	2.6	
	0.8s		297.00nm		5.8mb	
			S	14 29.00		
AFI	14.35	37	P	12 20.50	-4.3X	
			S	14 52.90		
PGZ	15.13	189	P	12 31.30	-1.1	
	0.5s		72.00nm		5.5mb	
KIW	15.60	193	P	12 36.40	-0.8	
MTW	15.78	191	eP	12 38.40	-0.5	
CAW	15.80	192	P	12 39.80	0.6	
WDW	15.97	192	P	12 40.30	-0.6	
BLW	15.98	191	P	12 40.60	-0.4	
MRW	15.99	193	eP	12 40.50	-0.5	
			eS	15 21.30		
WEL	16.03	193	P	12 42.40	0.9	
TCW	16.07	194	P	12 41.30	-0.5	
MOW	16.07	191	P	12 40.80	-1.1	
CCW	16.59	194	eP	12 44.70	-2.3	
MHZ	20.99	200	eP	13 28.40	-0.8	
MSZ	21.10	203	eP	13 32.00	1.9	
BRS	23.85	260	iPd	13 56.50	1.2	
	0.7s		9.00nm		4.4mb	
			i	14 53.00		
			i	15 05.50		
COO	24.70	252	iPd	14 04.90	1.9	
RMQ	27.49	262	iPd	14 29.20	1.6	
	0.8s		61.00nm		5.2mb	
CNB	27.50	242	iPc	14 29.70	2.0	
CAN	27.80	242	iPc	14 31.80	1.6	
BWA	28.10	245	iPc	14 32.30	-0.6	
			e	18 43.60		
TBI	28.41	92	iP	14 36.00	0.4	
	0.7s		75.00nm		5.3mb	
AFR	29.74	80	iP	14 46.70	-0.5	
	1.0s		115.00nm		5.4mb	
PAE	29.87	81	iP	14 47.80	-0.5	
	1.0s		100.00nm		5.3mb	
PPT	29.91	81	iP	14 48.40	-0.3	
	1.0s		115.00nm		5.4mb	
CMS	29.95	251	eP	14 49.50	0.6	
TVO	30.12	81	iP	14 49.80	-0.8	
	1.0s		120.00nm		5.4mb	
CTA	30.97	273	iPd	14 58.20	0.4	
	0.8s		65.67nm		5.2mb	
			iPP	16 24.20		
			iS	19 26.20		
			iScP	20 35.20		
TOO	31.04	239	eP	14 59.50	1.3	
PMO	32.38	77	iP	15 09.40	-0.2	
	1.0s		40.00nm		4.9mb	
VAH	32.52	78	iP	15 10.30	-0.5	
	1.0s		60.00nm		5.1mb	
TPT	32.63	77	iP	15 11.60	-0.2	
RUV	32.76	78	iP	15 12.50	-0.3	
	1.0s		85.00nm		5.2mb	
PMG	34.59	292	eP	15 28.00	-0.3	
OIS	36.84	270	iPd	15 46.60	-0.2	
	0.4s		24.00nm		5.1mb	
			e	20 56.00		
ASPA	41.23	263	iPd	16 22.70	0.1	
	0.5s		115.00nm		5.7mb	
			ePcP	19 08.20		
			e	21 51.50		
			iS	21 58.20		
WB5	41.75	268	iPd	16 26.30	-0.5	
			iScP	22 14.00		
FORR	45.15	251	iPc	16 52.70	-0.5	
	0.4s		27.00nm		5.1mb	
KNA	48.12	272	iPd	17 15.60	-0.5	
	0.4s		57.00nm		5.4mb	
COOL	51.06	250	eP	17 36.50	-1.4	
	0.4s		7.00nm		4.4mb	
GUA	51.44	315	eP	17 38.50	-2.2	
	0.8s		143.28nm		5.4mb	
GUMO	51.51	315	eP	17 39.00	-2.2	
	0.8s		93.70nm		5.2mb	
PJG	51.51	315	eP	17 39.10	-2.1	
KLB	53.80	249	eP	17 56.50	-1.1	
	0.4s		3.00nm		4.0mb X	
MBL	54.44	262	eP	18 00.60	-1.7	
	0.5s		9.00nm		4.4mb	
BAL	54.87	249	eP	18 04.00	-1.1	
	0.3s		5.00nm		4.3mb	
MRWA	55.76	251	iPc	18 10.30	-1.1	
NANU	57.86	259	iPd	18 25.30	-0.5	
	0.6s		34.00nm		4.9mb	
TRT	65.77	273	ePc	19 17.00	-0.4	
CHJJ	72.27	327	P	19 54.80	-1.1	
IIDJ	72.37	325	P	19 55.40	-1.1	
NIIJ	73.21	327	P	20 00.30	-0.9	
TSRJ	73.42	324	P	20 01.80	-0.6	
SSE	79.25	312	iP	20 33.20	-1.2	
NJ2	81.41	312	Pd	20 45.20	-0.3	
BCH	83.31	46	P	20 56.50	1.3	
WHN	83.64	308	ePd	20 56.70	-0.1	
ARN	83.73	43	P	20 58.20	1.0	
PLM	84.37	49	P	21 01.30	0.7	
PEC	84.48	48	P	21 01.70	0.8	
SNY	84.68	322	iPc	21 01.80	0.2	
CMB	84.87	43	P	21 03.70	0.9	
	0.9s		8.85nm		4.4mb	
CN2	84.98	324	iPd	21 03.00	-0.1	
	2.0s		0.50nm		2.8mb X	
TIA	85.05	314	Pd	21 03.90	0.3	
GLA	85.59	50	iP	21 07.80	1.5	
			pP	23 01.00	511km	
TNP	86.89	45	P	21 12.90	0.2	
	0.8s		7.48nm		4.5mb	
KVN	86.91	44	iP	21 13.60	0.9	
			pP	23 11.70	536kmX	
NST	87.34	289	eP	21 16.80	1.9	
BJI	87.93	317	eP	21 17.50	0.3	
TIY	88.98	313	Pd	21 23.20	0.9	
	1.0s		0.10nm		2.6mb X	
LON	89.51	36	P	21 24.50	0.0	
KMI	89.60	298	Pd	21 26.00	0.4	
CHTO	89.78	291	iPc	21 27.60	1.4	
	1.1s		28.86nm		5.1mb	
			pP	23 19.70	499km	
MSU	90.41	47	P	21 29.90	0.9	
TTA	90.45	11	P	21 27.80	-0.7	
PMR	90.60	14	P	21 28.50	-0.5	
DUG	90.91	45	P	21 30.90	-0.3	

```
HHC     91.28 315 P      21 33.60    0.8
CD2     91.59 304 iPc    21 35.80    1.4
DAU     92.03  46 P      21 37.80    1.3
ALQ     92.48  52 eP     21 39.00    0.4
        1.0s      3.25nm          4.3mb
IMA     93.74  11 P      21 42.50   -1.1
FBA     93.80  13 P      21 42.20   -1.5
        0.6s      2.77nm          4.5mb
GOL     95.56  49 P      21 52.80    0.2
        0.8s      7.44nm          4.9mb
GLD     95.68  49 P      21 54.30    1.3
GTA     98.39 310 eP     22 05.20   -0.1
KEV    133.02 347 ePKP   27 39.00    0.1
SUF    138.91 342 ePKP   27 39.80  -10.4X
        0.5s      2.50nm
NUR    141.10 340 iPKP   27 48.30   -5.8X
        0.5s      8.40nm
                   i     27 55.80
                   i     30 42.80
UPP    143.56 345 iPKP   27 55.00   -3.4X
NB2    143.74 350 PKP    27 55.20   -3.5X
        0.7s     43.40nm
HFS    144.16 348 ePKP   27 56.50   -2.9X
        0.6s     52.10nm
HRI    147.58 292 iPKPd  28 10.00    4.0X
DSI    147.96 289 iPKPd  28 10.50    4.0X
MBH    148.39 286 iPKPd  28 12.00    4.8X
EKA    150.31   3 PKPd   28 14.00    4.7X
        0.5s      4.00nm
KRA    150.94 332 ePKP   28 16.00    5.6X
        0.6s     25.00nm
KSP    151.72 337 iPKPd  28 18.20    6.6X
                   e     28 29.50
                   e     30 19.50
BCAO   152.01 224 iPKPd  28 15.90    2.8X
        0.7s      8.00nm
                   id    28 23.60
                   id    31 32.60
CLL    152.37 341 iPKPd  28 19.30    6.8X
        1.3s     26.00nm
                   i     28 31.40
BRG    152.47 340 iPKPd  28 19.20    6.6X
        0.8s     20.00nm
                   i     28 30.90
MOX    153.35 342 e(PKP) 28 21.50    7.6X
                   e     28 36.00
KHC    154.10 338 PKP    28 23.90    8.9X
                   i     28 40.30
     S.D. = 1.1  on  89 of 106 obs.
-------------------------------------
*  OCT  05, 1989  23h 42m 32.86± 1.65s
   51.267 N ±16.7km   15.971 E ± 8.8km
   DEPTH =  10.0km  (geophysicist)
 POLAND                              (548)
      ML 3.3 (VKA), 2.6 (KRA).

KSP     0.47 154 iPd     42 41.60   -0.8
        0.4s     62.00nm
                   iS    42 51.10
BRG     1.34 254 iPg     42 56.60   -0.9
                   iSg   43 16.80
PRU     1.57 216 Pg      43 02.50    1.7
                   Sn    43 20.00
                   Sg    43 25.70
                   i     43 33.40
CLL     1.86 272 iPg     43 05.00   -0.1
                   iSg   43 30.80
KHC     2.63 217 Pn      43 16.00   -0.2
                   Sn    43 51.60
                   eSg   44 00.00
KRA     2.80 114 eP      43 18.80    0.3
                   eS    44 00.40
MOX     2.82 259 ePg     43 24.00    5.2X
                   iSg   44 04.00
VKA     3.01 176 iPgc    43 29.70    8.2X
                   iSg   44 13.20
ZST     3.16 166 eP      44 27.00   63.4X
GRF     3.42 244 e(Pg)   43 38.00   10.7X
                   e     44 03.90
                   e     44 13.50
                   eSg   44 24.50
SPC     3.44 126 eP      44 24.00   56.2X
     S.D. = 1.2  on   6 of  11 obs.
-------------------------------------
%  OCT  05, 1989  23h 54m 58.67± 0.92s
   38.137 N ±13.2km   119.337 E ± 9.0km
   DEPTH =  10.0km  (geophysicist)

  NORTHEASTERN CHINA                 (658)
       ML 3.7 (BJI).

DL2     1.95  66 ePn     55 31.70   -0.5
                   Pg    55 34.70
                   Sn    55 54.20
                   Sg    55 59.00
TIA     2.61 223 Pn      55 41.50   -0.1
                   Pg    55 47.60
                   Sg    56 22.40
BJI     3.11 309 Pn      55 48.00   -0.6
                   Pg    55 52.00
                   Sn    56 23.00
                   Sg    56 37.00
SNY     4.92  40 ePn     56 15.00    0.7
                   Sg    57 31.40
TIY     5.47 268 ePn     56 22.90    0.6
     S.D. = 0.8  on   5 of   5 obs.
-------------------------------------
*  OCT  06, 1989  00h 01m 09.28± 1.42s
   30.711 S ± 8.8km    71.876 W ±19.1km
   DEPTH =  60.9 ± 17.5 km
  NEAR COAST OF CENTRAL CHILE        (135)

JACH    2.25 151 iPc     01 44.50   -0.4
                   iS    02 14.40
ROCH    2.37 162 iPd     01 47.00    0.3
                   iS    02 17.00
PEL     2.63 158 iPc     01 50.00   -0.1
LCCH    2.77 175 iPd     01 50.50   -1.6
                   iS    02 33.50
ZON     2.87 108 iPd     01 54.20    0.6
SAN     2.92 160 eP      01 57.80    3.5X
                   iS    02 28.10
FCH     2.94 153 iPc     01 56.50    1.7
                   iS    02 33.50
TACH    3.04 165 iPc     01 56.00    0.0
                   iS    02 28.50
PCH     3.12 159 eP      01 57.10   -0.1
                   iS    02 38.10
LNV     3.26 173 eP      01 59.00    0.0
                   iS    02 45.50
CHCH    3.38 162 iPc     02 01.10    0.4
                   iS    02 42.50
RFA     4.96 146 ePc     02 22.70   -0.4
ANT     7.10  11 e(P)    03 51.00   58.2X
ARE    14.19   2 eP      04 38.00    9.1X
CCH    14.26  23 P       04 35.30    5.5X
CNCB   14.29  15 P       04 32.00    1.6
ZOBO   14.78  14 P       04 35.60   -1.2
                   eLR   10 12.00
PPD    20.33  70 eP      05 40.30   -2.6
                   e     05 44.30
LIC    73.63  72 P       12 39.20    0.9
KIC    73.94  72 P       12 41.00    0.9
     S.D. = 1.3  on  16 of  20 obs.
-------------------------------------
&  OCT  06, 1989  00h 07m 24.68s
   61.719 N          151.846 W
   DEPTH = 103.7km
  SOUTHERN ALASKA                    ( 2)
       <AGS-P>.

SKT     0.30  30 iP      07 39.17   -0.8
                   eS    07 50.53
NCG     0.35 205 iP      07 39.69   -0.6
                   eS    07 51.56
CGLM    0.42 191 eP      07 39.94   -0.7
                   eS    07 52.01
CRP     0.48 198 iP      07 40.54   -0.6
                   eS    07 52.38
BGL     0.53 210 eP      07 40.91   -0.5
SPU     0.55 191 iP      07 40.76   -0.7
                   eS    07 53.68
CKL     0.58 204 eP      07 40.97   -0.8
                   eS    07 55.23
SUA     0.59 115 iP      07 41.78   -0.1
                   eS    07 54.31
PWA     0.94  93 eP      07 44.68   -0.3
                   eS    08 00.78
CUT     1.01  46 eP      07 45.17   -0.6
                   eS    08 02.30
NKA     1.02 163 eP      07 46.98    1.1
RDT     1.18 194 eP      07 47.13   -0.6
                   eS    08 04.84
PMS     1.20 112 eP      07 47.34   -0.6
                   eS    08 05.07

SLKM    1.45 146 eP      07 50.26   -0.7
                   eS    08 09.72
KTH     1.89  13 eP      07 55.10   -1.4
                   eS    08 18.09
SEW     2.00 143 eP      07 56.91   -0.9
                   eS    08 21.91
        16 obs. associated
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&  OCT  06, 1989  00h 28m 58.63s
   62.520 N          151.074 W
   DEPTH =  85.0km
 CENTRAL ALASKA                      ( 1)
       <AGS-P>.

CUT     0.39 107 iP      29 12.16    0.0
SKT     0.58 202 iP      29 13.68   -0.1
                   eS    29 25.18
HUR     0.81  55 iP      29 15.81   -0.2
                   eS    29 27.79
PWA     1.04 147 eP      29 18.67    0.0
KTH     1.04   4 iP      29 18.64   -0.2
                   eS    29 32.76
SUA     1.07 171 eP      29 19.12   -0.1
                   eS    29 34.98
NCG     1.23 205 iP      29 20.87   -0.3
                   eS    29 37.98
CGLM    1.29 200 iP      29 21.58   -0.4
                   eS    29 38.91
PMR     1.31 135 iP      29 22.10    0.1
PME     1.31 132 eP      29 22.48    0.4
                   eS    29 41.72
RND     1.35  48 eP      29 22.27   -0.4
                   eS    29 39.92
CKL     1.46 205 eP      29 23.99   -0.1
                   eS    29 42.10
PMS     1.47 150 eP      29 24.32    0.2
                   eS    29 44.47
MCK     1.56  38 eP      29 25.05   -0.3
                   eS    29 44.83
NKA     1.79 183 eP      29 30.85    2.6
                   eS    29 53.29
RDT     2.05 199 eP      29 32.30    0.3
NCA     2.06 103 eP      29 32.02    0.0
NEA     2.25  23 eP      29 33.42   -1.2
                   eS    29 58.20
RED     2.26 202 eP      29 35.26    0.4
TTA     2.31 282 iPc     29 34.50   -1.0
NNL     2.49 183 eP      29 39.61    1.7
GLI     2.51 129 eP      29 37.53   -0.6
SEW     2.55 161 eP      29 39.61    1.0
SDG     2.56  87 eP      29 39.72    0.8
SVW     2.58 239 eP      29 38.56   -0.6
CCB     2.59  33 eP      29 38.03   -1.2
PAX     2.62  78 eP      29 39.98    0.2
KLU     2.64 111 eP      29 38.73   -1.3
HDA     2.65  43 eP      29 39.09   -1.0
RDS     2.66  28 eP      29 39.19   -1.0
DDM     2.69  59 eP      29 38.75   -1.9
FBA     2.80  30 iPc     29 41.20   -0.9
FID     2.82 127 eP      29 41.17   -1.3
GLM     2.97  32 eP      29 43.46   -1.1
CNPM    3.01 182 eP      29 45.80    0.8
OPT     3.06 201 eP      29 47.22    1.4
DOT     3.38  67 eP      29 49.46   -0.8
GLB     3.59 104 eP      29 52.25   -0.9
IMA     3.74 343 eP      29 54.20   -1.1
CDD     3.82 200 eP      29 57.42    1.2
BALM    4.40 106 eP      30 02.49   -2.1
KDC     4.84 189 eP      30 11.20    0.8
DWY     5.47  69 P       30 19.00   -0.3
        43 obs. associated
-------------------------------------
    OCT  06, 1989  00h 36m 39.74± 0.46s
    44.563 N ± 2.8km     6.839 E ± 5.1km
    DEPTH =  10.0km  (geophysicist)
  FRANCE                             (538)
       ML 2.2 (GEN), 1.8 (LDG).

PZZ     0.20 107 P       36 44.61    0.5
                   S     36 48.20
RRL     0.36 354 P       36 47.07   -0.1
                   S     36 52.61
STV     0.47 132 P       36 49.33    0.0
                   S     36 56.09
ENR     0.54 129 P       36 50.35   -0.2
                   S     36 58.15
TOUF    0.62 152 Pg      36 52.09   -0.3
```

06d 00h

		Sg	37	00.61	
AURF	0.76 152	Pg	36	54.63	-0.1
		Sg	37	04.59	
SAOF	0.77 138	Pg	36	54.99	0.2
		Sg	37	05.59	
ROB	0.79 110	P	36	54.86	-0.2
		S	37	05.40	
SBF	0.82 148	Pg	36	56.00	0.3
		Sg	37	07.90	
LSD	0.92 14	P	36	57.43	-0.1
LPG	0.94 356	Pg	36	58.00	0.2
		Sg	37	11.40	
LPL	0.96 355	Pg	36	58.20	0.1
IMI	1.00 130	P	36	58.97	0.3
FRF	1.01 188	Pg	36	58.80	-0.1
		Sg	37	11.90	
FIN	1 04 109	P	36	59.48	0.0
PCP	1.22 90	P	37	02.14	-0.3

S.D. = 0.3 on 16 of 16 obs.

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* OCT 06, 1989 00h 48m 16.45± 2.20s
1.090 S ± 6.9km 78.757 W ±30.2km
DEPTH = 10.0km (geophysicist)
ECUADOR (107)

TUNG	0.45 136	P	48	25.20	-0.5
		eS	48	31.20	
RECU	0.49 23	iPd	48	24.80	-1.7
		S	48	30.40	
GGP	0.92 10	P+	48	34.30	-0.2
		eS	48	53.60	
OUR	0.94 14	eP	48	34.00	-0.7
CAYA	1.40 34	iP+	48	37.50	-4.9X
		S	48	53.70	
COTA	1.48 16	eP	48	41.70	-1.9
		eS	49	03.50	
PSO	2.68 32	eP	49	01.00	0.2
PURC	4.15 35	ePd	49	21.80	0.1
SALC	4.53 27	ePc	49	28.09	1.2
ANCC	4.95 22	eP	49	34.29	1.6
HOOC	5.00 25	iPd	49	34.90	1.3
CLMC	5.40 24	eP	49	39.65	0.4
NNA	10.99 170	eP	51	01.20	4.3X
	0.9s 7.56nm			5.0mb X	
		eS	52	55.00	
ZOBO	18.37 146	P	52	33.00	-0.6
CNCB	18.88 146	P	52	40.50	0.5

S.D. = 1.2 on 13 of 15 obs.

? OCT 06, 1989 00h 56m 20.58± 1.99s
6.400 S ±26.8km 126.620 E ±20.9km
DEPTH = 431.3 ± 28.0 km
4.5mb (3 obs.)
BANDA SEA (280)

TLE	6.14 83	iPd	57	56.50	-0.1
KNA	9.53 167	eP	58	34.30	0.0
WB5	15.37 151	eP	59	37.90	0.2
		eS	02	15.10	
MBL	16.08 203	iPd	59	44.10	-0.8
ASPA	18.54 159	eP	00	10.00	0.5
	0.4s 16.00nm			4.8mb	
		eS	03	16.80	
NANU	19.31 213	iPd	00	18.00	1.2
	0.4s 8.00nm			4.6mb	
FORR	24.36 177	iPd	01	03.30	-0.7
NWAO	27.80 197	iP	01	34.20	-0.5
	0.6s 1.80nm			3.6mb	

S.D. = 0 9 on 8 of 8 obs.

% OCT 06, 1989 01h 22m 18.33± 0.76s
43.109 N ± 8.6km 0.653 W ± 6.0km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.9 (STR).

ATE	0.04 238	Pg	22	20.76	0.3
		Sg	22	22.86	
ESCF	0.06 118	Pg	22	20.98	0.3
		Sg	22	23.40	
MADF	0.13 287	Pg	22	21.26	-0.2
		Sg	22	24.44	
ISSF	0.13 232	Pg	22	21.70	0.1
		Sg	22	24.70	
OGE	0.14 66	Pg	22	21.61	-0.1
LHE	0.20 173	Pg	22	22.37	-0.4
		Sg	22	25.71	

S.D. = 0.3 on 6 of 6 obs.

& OCT 06, 1989 02h 31m 08.61s
61.781 N 149.718 W
DEPTH = 54.2km
SOUTHERN ALASKA (2)
<AGS-P>.

PME	0.36 115	eP	31	18.24	-0.5
		eS	31	26.46	
SUA	0.58 237	eP	31	21.35	0.0
		eS	31	32.04	
CUT	0.68 338	eP	31	21.62	-0.7
SKT	0.88 284	eP	31	24.26	-0.8
		eS	31	36.77	
CGLM	1.19 248	eP	31	29.32	-0.1
		eS	31	45.68	
HUR	1.20 2	eP	31	29.16	-0.2
		eS	31	44.93	
NCG	1.23 253	iP	31	29.57	-0.3
GLI	1.56 124	eP	31	33.50	-0.8
VZW	1.69 114	eP	31	35.80	-0.4
SEW	1.69 175	eP	31	37.37	1.2
KLU	1.84 97	eP	31	37.70	-0.6
KTH	1.86 343	eP	31	38.33	-0.4
FID	1.88 122	eP	31	37.38	-1.4

13 obs. associated

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* OCT 06, 1989 03h 40m 44.17± 1.28s
36.914 N ± 9.0km 141.642 E ±10.9km
DEPTH = 49.9 ± 9.4 km
4.2mb (3 obs.) 4.3Msz (1 obs.)
NEAR EAST COAST OF HONSHU, JAPAN(228)
Felt (I JMA) at Shirokawa and Utsunomiya.

SHR	1.15 281	P	41	00.00	-4.2X
KAKJ	1.38 240	iPd	41	05.90	-1.4
		S	41	24.40	
UTS	1.47 256	eP	41	09.00	0.4
		S	41	26.80	
YAMJ	1.79 315	P	41	13.60	0.4
		S	41	37.60	
NIIJ	2.14 280	P	41	18.60	0.5
		eS	41	47.20	
OFUJ	2.16 1	P	41	17.10	-1.3
		eS	41	44.70	
CHJJ	2.30 249	P	41	18.80	-1.6
		S	41	47.90	
MAT	2.78 263	iPd	41	27.90	0.6
		(S)	42	02.00	
MTMJ	3.10 265	P	41	32.80	0.9
IIDJ	3.34 246	iPd	41	35.90	0.7
AOMJ	3.77 345	eP	41	41.50	0.2
TSRJ	4.78 255	eP	41	56.60	1.2
MDJ	11.93 314	eP	43	38.50	4.3X
CN2	14.12 304	eP	43	59.60	-3.4X
TIA	19.70 275	eP	45	16.00	3.9X
BJI	20.16 287	eP	45	16.50	-0.4
TIY	23.21 281	eP	45	48.50	1.0
E 13s 0.40um					
WHN	23.52 262	eP	45	50.50	0.0
LZH	30.27 280	eP	46	51.90	-0.9
	2.0s 0.04nm			1.7mb X	
Z 18s 0.60um				4.3Msz	
		i	47	17.00	
GYA	31.38 261	P	47	01.00	-1.6
		pP	47	10.00	31kmX
GTA	32.77 287	eP	47	13.10	-1.6
WMQ	41.06 297	eP	48	25.70	1.4
CHTO	41.44 256	eP	48	28.20	0.6
	0.5s 0.77nm			3.7mb	
WB5	56.90 188	eP	50	25.80	-0.6
NB2	74.37 337	P	52	16.60	-1.5
	1.1s 3.80nm			4.2mb	
KVN	74.69 53	iP	52	20.90	0.4
KHC	82.74 329	eP	53	06.90	3.0X
ALQ	84.53 50	eP	53	14.20	0.8
	1.0s 4.25nm			4.5mb	
ZOBO	146.59 60	PKP	00	23.00	1.7
CNCB	147.06 61	PKP	00	25.00	3.0X

S.D. = 1.1 on 24 of 30 obs.

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* OCT 06, 1989 04h 19m 13.95± 1.55s
31.777 S ±11.7km 67.193 W ±23.0km
DEPTH = 134.7 ± 27.5 km
SAN JUAN PROVINCE, ARGENTINA (137)

ZON	1.29 280	iPc	19	40.00	-0.5
		eS	20	00.00	
JACH	3.02 252	iPd	20	02.40	0.7
		iS	20	33.10	
FCH	3.04 239	iPd	20	03.10	0.9
		iS	20	32.40	
RFA	3.17 199	ePc	20	03.10	-0.5
PEL	3.25 244	iPd	20	05.10	0.4
		iS	21	44.60	
PCH	3.35 236	iPc	20	06.50	0.5
		iS	20	38.00	
ROCH	3.44 249	iPc	20	07.10	-0.3
CHCH	3.62 233	iPd	20	09.50	-0.1
TACH	3.67 238	iPd	20	10.00	-0.2
		iS	20	54.00	
LCCH	4.06 244	iPc	20	14.50	-0.9
CCH	14.36 4	eP	22	35.00	2.5
CNCB	14.92 357	P	22	38.30	-1.4
ZOBO	15.46 357	P	22	45.50	-1.1

S.D. = 1.2 on 13 of 13 obs.

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* OCT 06, 1989 04h 25m 33.81± 0.67s
60.844 S ±16.1km 26.799 W ±13.0km
DEPTH = 33.0km (normal)
4.9mb (4 obs.) 4.1Msz (1 obs.)
SOUTH SANDWICH ISLANDS REGION (153)

SNA	13.75 144	iPd	28	45.70	-2.7
	1.0s 70.00nm			5.4mb X	
SPA	29.32 180	e(P)	31	41.70	6.5X
	1.0s 29.00nm			5.0mb	
		e	32	19.00	
MAW	36.25 140	eP	32	39.00	4.0X
LNV	39.24 293	eP	33	01.00	0.6
PEL	39.60 294	iPd	33	04.50	1.0
ITB7	40.33 320	e(P)	33	12.50	2.9X
ITB	40.65 320	e(P)	33	10.70	-1.5
PPD	42.39 325	eP	33	26.10	-0.4
		i	33	27.70	
		e	33	34.90	
BAO	47.67 332	eP	33	48.00	-20.9X
PDCR	49.07 344	eP	34	15.30	-4.2X
CCH	51.65 309	Pd	34	38.50	-1.1
CNCB	52.87 308	P	34	49.50	0.4
ZOBO	53.42 308	Pc	34	52.60	-0.5
		LR	51	48.00	
ARE	54.58 304	eP	35	01.00	-0.3
LSZ	60.04 66	eP	35	41.00	1.3
		i	35	51.70	
		i	36	05.50	
PTZ	62.36 68	iP	36	07.50	12.1X
	1.0s 13.80nm				
MZZ	64.00 64	iP	36	07.80	1.6
		i	36	18.50	
LIC	69.01 23	Pc	36	36.84	-1.0
Z 20s 0.11um				4.1Msz	
KIC	69.20 24	Pc	36	37.94	-1.0
	0.9s 12.50nm			5.0mb	
TIC	69.42 23	Pc	36	39.18	-1.2
	0.8s 10.00nm			4.9mb	
BCAO	73.96 48	iPd	37	08.00	0.5
	0.6s 8.00nm			4.9mb	
		id	37	17.00	
LAT	112.54 173	ePdiff	40	15.00	2.4
NB2	125.02 21	PKP	44	32.40	1.8
	0.7s 2.20nm				
LRM	126.68 300	ePKP	44	37.30	2.7X
MBC	148.41 333	ePKP	45	16.00	3.3X
	0.8s 8.00nm				
BJI	149.19 116	ePKP	45	31.00	16.0X
INK	149.52 315	iPKPd	45	19.90	5.3X

S.D. = 1.5 on 17 of 27 obs.

? OCT 06, 1989 04h 39m 27.18± 1.00s
39.704 N ± 8.6km 27.758 E ± 9.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EDC	0.65 7	iPg	39	40.00	-0.1
		eSg	39	50.00	
BNT	0.66 11	iPg	39	40.50	0.1
		iSg	39	50.50	
EZN	1.11 277	iPn	39	48.00	0.0
IZM	1.36 197	iPn	39	48.70	-3.5X
KHL	1.95 135	ePn	40	00.70	0.0

S.D. = 0.2 on 4 of 5 obs.

? OCT 06, 1989 05h 48m 42.31± 8.38s
10.316 N ±42.6km 59.734 W ±57.4km
DEPTH = 10.0km (geophysicist)
NORTH ATLANTIC OCEAN (402)

TBH	1.32	277	eP	49 07.39	0.7
			eS	49 28.86	
TRN	1.67	282	eP	49 11.21	-0.6
TPP	1.69	270	eP	49 12.36	0.4
			eS	49 30.70	
TCE	2.02	281	eP	49 15.99	-0.8
			eS	49 41.53	
GRW	2.63	314	eP	49 25.81	0.1
			eS	50 02.63	
SVB	3.29	333	eP	49 35.03	0.0
			eS	50 15.66	

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

OCT 06, 1989 06h 32m 10.25± 0.64s
44.608 N ± 5.7km 9.623 E ± 5.4km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)

BOB	0.20	322	Pd	32 14.00	-0.7
			eSg	32 18.80	
PCP	0.77	265	P	32 24.88	-0.5
			S	32 36.39	
MME	0.88	118	Pc	32 26.60	-0.7
			eSg	32 38.80	
BDI	0.89	128	Pc	32 26.50	-0.8
			eSg	32 39.80	
CKI	0.98	260	P	32 31.00	2.2
			eSg	32 47.20	
FIN	1.09	249	P	32 28.94	-1.8
			S	32 43.15	
MDI	1.17	3	P	32 32.10	0.0
			eSg	32 49.40	
ROB	1.29	257	P	32 32.56	-1.7
			S	32 48.93	
VAI	1.40	335	P	32 37.00	1.3
			eSn	32 56.10	
IMI	1.43	241	P	32 35.00	-1.3
			S	32 51.75	
ORO	1.54	312	Pc	32 38.70	0.8
			eSg	33 01.30	
ENR	1.62	257	P	32 38.26	-0.8
			S	32 56.29	
STV	1.69	258	P	32 39.24	-0.7
			S	32 58.01	
DOI	1.70	267	Pc	32 41.00	0.8
			eSn	33 05.40	
SBF	1.74	245	Pn	32 41.00	0.3
			Sn	33 01.20	
PZZ	1.81	268	P	32 41.39	-0.4
			S	33 00.81	
LSD	1.94	297	P	32 42.05	-1.8
RRL	2.05	280	P	32 46.12	0.8
CVF	2.11	195	Pn	32 48.90	2.8
LPG	2.22	295	Pn	32 48.70	0.8
LPL	2.24	295	Pn	32 48.90	0.7
FRF	2.39	245	Pn	32 51.30	1.3
			Sn	33 15.80	
LMR	2.58	242	Pn	32 52.80	0.0
LRG	2.62	245	Pn	32 53.40	0.1
BGF	5.14	295	Pn	33 28.50	-0.6

S.D. = 1.2 on 25 of 25 obs.

& OCT 06, 1989 06h 51m 16.70s
53.813 N 163.322 W
DEPTH = 10.9km
UNIMAK ISLAND REGION (10)
<PAL>.

DRRA	1.27	28	iPd	51 37.77	-2.4
			eS	51 52.17	
BALA	1.42	13	eP	51 40.98	-1.4
DLG	1.59	32	eP	51 42.70	-2.1
			eS	52 01.88	
PS4	1.76	28	eP	51 45.66	-1.7
			eS	52 06.74	
PVV	1.80	29	eP	51 46.25	-1.6
			eS	52 07.70	
SASA	2.25	46	eP	51 52.67	-1.6
			eS	52 19.05	
NGI	2.26	56	eP	51 52.93	-1.7
BKJ	2.58	57	eP	51 57.35	-1.6
IVF	3.03	45	eP	52 03.38	-2.0

9 obs. associated

? OCT 06, 1989 07h 51m 04.63± 1.20s
12.280 S ± 8.9km 76.808 W ±10.7km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF PERU (115)

PT10	0.26	322	iPc	51 10.00	-0.1
			iS	51 24.00	
NNA	0.29	353	iPc	51 10.60	-0.2
	0.3s		80.52nm		
			iS	51 24.50	
PT08	0.41	39	iPc	51 14.00	0.9
			iS	51 31.00	
HUA	1.47	81	eP	51 30.40	-1.2
			eS	51 54.90	
PT03	1.97	150	iPc	51 38.90	0.5
			eS	52 16.20	

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

% OCT 06, 1989 08h 59m 56.57± 0.73s
43.408 N ± 5.3km 5.454 E ± 6.1km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 2.5 (STR).

GELF	0.03	218	Pg	59 58.45	-0.2
BERF	0.20	119	Pg	00 01.32	0.3
TREF	0.22	347	Pg	00 01.20	-0.2
PRAF	0.45	333	Pg	00 05.80	0.1
VILF	0.48	23	Pg	00 06.75	0.4
TAVF	0.49	64	Pg	00 05.93	-0.5
GANF	0.68	29	Pg	00 10.01	0.0

S.D. = 0.4 on 7 of 7 obs.

% OCT 06, 1989 09h 42m 39.39± 0.91s
24.026 N ± 8.0km 121.506 E ± 9.5km
DEPTH = 10.0km (geophysicist)
TAIWAN (244)

TWD	0.10	57	iPc	42 42.90	0.9
			eS	42 45.10	
TWC	0.66	28	iPd	42 51.70	-0.8
			eS	43 01.90	
TWQ	0.66	292	iPc	42 52.90	0.3
TWZ	1.07	4	eP	42 59.40	-0.1
			eS	43 14.30	
TWG	1.26	198	iP	43 02.60	-0.3

S.D. = 0.9 on 5 of 5 obs.

OCT 06, 1989 09h 49m 27.69± 0.67s
41.891 N ± 6.0km 13.805 E ± 6.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

SDI	0.19	178	P	49 31.80	-0.1
AZI	0.29	290	P	49 33.20	-0.6
			eSg	49 37.30	
DUI	0.54	115	Pc	49 38.50	-0.1
			eSg	49 48.30	
AQU	0.55	327	P	49 38.90	0.0
			eSg	49 47.60	
RDP	0.82	261	P	49 43.70	0.0
			eSg	49 55.70	
ALP	0.90	349	ePg	49 42.74	-2.4
			i(Sg)	49 55.77	
MNS	0.97	301	P	49 46.00	-0.2
			eSg	50 00.90	
CIO	1.39	340	iPnd	49 54.04	0.8
ASS	1.45	325	P	49 54.90	0.9
			eSn	50 13.50	
AOI	1.66	355	ePn	49 57.43	0.4
ARV	1.73	339	P	49 59.10	1.1
			eSn	50 19.60	

S.D. = 1.1 on 11 of 11 obs.

& OCT 06, 1989 10h 08m 19.52s
60.546 N 152.280 W
DEPTH = 100.3km
SOUTHERN ALASKA (2)
<AGS-P>.

RDT	0.07	294	iP	08 33.26	1.1
			eS	08 44.29	
RED	0.27	243	eP	08 33.67	0.9
			eS	08 45.40	
NKA	0.55	68	iP	08 37.32	1.4
ILIM	0.58	216	iP	08 35.44	-0.8
SPU	0.65	10	iP	08 35.97	-0.8
CKL	0.65	358	iP	08 36.13	-0.8
NNL	0.70	135	iP	08 37.79	0.5
BGL	0.72	356	iP	08 36.89	-0.6
CRP	0.73	5	iP	08 36.94	-0.7
			eS	08 52.06	
CGLM	0.78	10	iP	08 37.24	-0.8
NCG	0.86	4	iP	08 38.08	-0.8
OPT	1.01	208	iP	08 39.87	-0.6
			eS	08 56.27	
SLKM	1.02	91	iP	08 39.53	-1.0
			eS	08 55.40	
XLV	1.13	165	eP	08 40.85	-0.9
CNPM	1.15	152	eP	08 41.18	-0.8
			eS	08 57.97	
SUA	1.19	38	iP	08 42.05	-0.5
AUE	1.31	205	iP	08 42.75	-1.1
SEW	1.48	106	eP	08 44.50	-1.3
SKT	1.48	14	eP	08 44.74	-1.3
PMS	1.50	61	eP	08 45.16	-1.1
			eS	09 05.82	
CDD	1.76	204	eP	08 48.34	-1.2
PME	1.92	54	eP	08 50.12	-1.4
SHU	1.92	181	eP	08 50.28	-1.3
CUT	2.10	26	eP	08 52.49	-1.4
GLI	2.57	80	eP	08 56.68	-3.5
			eS	09 26.76	
FID	2.86	83	eP	09 00.13	-4.1
VLZ	2.97	76	iP	09 02.81	-2.8
KLU	3.24	70	eP	09 06.33	-3.0

28 obs. associated

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* OCT 06, 1989 10h 10m 33.68± 1.71s
37.645 S ±10.9km 177.212 E ±22.3km
DEPTH = 194.8 ± 6.7 km
OFF E. COAST OF N. ISLAND, N.Z. (160)

UTU	0.97	236	P	11 02.00	-1.0
KRP	1.36	258	iPd	11 05.00	-0.9
WHH	1.36	204	iPc	11 05.70	-0.4
MOH	1.49	182	P	11 07.00	-0.1
HATZ	1.53	215	P	11 07.80	0.3
HITZ	1.56	227	P	11 08.50	0.7
RATZ	1.67	222	P	11 09.90	1.1
KETZ	1.90	220	Pc	11 12.60	1.3
TTH	1.92	189	P	11 12.00	0.8
GBZ	1.99	315	P	11 04.60	-7.4X
NEZ	2.94	235	eP	11 28.40	5.6X
			S	12 16.70	
PGZ	3.06	194	P	11 24.50	0.4
KIW	3.68	208	P	11 31.80	0.0
MTW	3.75	200	P	11 32.40	-0.3
CAW	3.84	205	P	11 33.50	-0.3
BLW	3.95	199	P	11 34.90	-0.3
WDW	4.00	205	P	11 35.40	-0.4
MOW	4.06	201	P	11 36.00	-0.6
MRW	4.07	208	P	11 36.40	-0.3
			S	12 29.00	
WEL	4.10	207	P	11 36.90	-0.1
TCW	4.23	212	P	11 38.20	-0.4
FORR	40.78	264	eP	17 58.50	1.3
WB5	41.12	283	eP	17 59.20	-0.9

S.D. = 0.8 on 21 of 23 obs.

? OCT 06, 1989 10h 29m 14.43± 0.83s
33.299 S ± 7.9km 70.606 W ±10.4km
DEPTH = 33.0km (normal)
CHILE-ARGENTINA BORDER REGION (127)

PEL	0.17	337	iPc	29 23.00	2.2
			iS	29 34.60	
FCH	0.27	96	iPd	29 22.10	0.0
			iS	29 33.70	
PCH	0.33	166	iPc	29 23.60	0.9
			iS	29 35.50	
TACH	0.45	218	iPc	29 24.90	0.6
			iS	29 38.00	
ROCH	0.47	314	iPc	29 25.50	0.7
			iS	29 39.00	
JACH	0.62	1	iPc	29 24.60	-2.2
			iS	29 38.10	
CHCH	0.63	183	iPd	29 26.70	-0.3
			iS	29 40.00	
LCCH	0.82	257	iPd	29 29.50	-0.1
			iS	29 45.60	
LNV	0.94	225	iPc	29 29.50	-1.7

06d 10h

		iS	29 46.00		
S.D. = 1.5		on	9 of 9 obs.		

& OCT 06, 1989 11h 36m 33.70s
62.790 N 150.797 W
DEPTH = 89.9km
CENTRAL ALASKA (1)
<AGS-P>.

CUT	0.46	148	iP	36 48.21	-0.1
			eS	36 58.81	
HUR	0.56	70	iP	36 48.95	-0.3
			eS	37 00.02	
KTH	0.77	356	iP	36 51.05	-0.2
			eS	37 03.83	
SKT	0.88	203	iP	36 52.01	-0.4
			eS	37 05.62	
RND	1.08	54	iP	36 54.32	-0.4
			eS	37 09.66	
PWA	1.22	159	eP	36 56.32	0.0
			eS	37 14.07	
MCK	1.27	41	eP	36 56.41	-0.5
SUA	1.33	179	iP	36 58.10	0.3
			eS	37 18.03	
PME	1.43	144	eP	36 58.78	-0.1
PMR	1.43	146	eP	36 58.50	-0.5
NCG	1.53	205	eP	37 00.00	-0.4
CGLM	1.59	201	eP	37 00.98	-0.2
PMS	1.66	159	eP	37 02.01	0.1
			eS	37 23.34	
BGL	1.71	207	eP	37 01.90	-0.7
SPU	1.72	201	eP	37 02.28	-0.5
NEA	1.95	22	iP	37 04.69	-1.1
			eS	37 26.61	
NCA	2.02	112	eP	37 06.10	-0.6
WRH	2.08	34	iP	37 06.48	-1.0
CCB	2.29	34	eP	37 09.26	-1.1
SLKM	2.31	173	eP	37 11.29	0.7
RDT	2.35	200	eP	37 11.57	0.3
RDS	2.36	29	iP	37 10.50	-0.8
			eS	37 36.87	
TTA	2.39	276	eP	37 10.70	-1.1
FBA	2.50	31	eP	37 12.00	-1.2
KLU	2.63	117	iP	37 13.58	-1.5
IMA	3.52	340	eP	37 25.90	-1.4
KDC	5.13	190	eP	37 46.40	-3.1

27 obs. associated

OCT 06, 1989 11h 42m 47.49± 0.61s
38.192 N ± 5.4km 22.662 E ± 7.1km
DEPTH = 33.0km (normal)
GREECE (364)
ML 3.3 (ATH).

ATH	0.86	104	ePb	43 05.00	1.8
ITM	1.17	210	iPnd	43 06.20	-1.4
NEO	1.20	21	ePn	43 08.20	0.2
VLI	1.49	171	ePn	43 12.10	-0.1
VLS	1.63	270	ePn	43 14.00	-0.3
PAIG	1.91	24	ePb	43 17.90	-0.3
			eSb	43 42.50	
LIT	1.91	356	ePb	43 18.30	0.0
KZN	2.22	342	ePn	43 23.20	0.4
PLG	2.26	15	ePn	43 22.50	-0.8
OUR	2.37	25	ePn	43 24.70	-0.2
			eSn	43 54.20	
THE	2.45	5	ePn	43 24.90	-1.1
LSK	2.53	321	iPnd	43 29.40	2.2
KEK	2.70	305	ePn	43 30.00	0.5
GRG	2.77	356	ePn	43 30.50	0.0
KNT	2.97	3	ePn	43 33.50	0.1
			eSn	44 08.70	
SRS	3.01	14	ePn	43 33.50	-0.4
			eSn	44 08.60	
OHR	3.25	334	ePn	43 39.30	1.9
TIR	3.82	327	ePn	43 56.70	11.4X
SKO	3.89	346	ePn	43 44.00	-2.4
SDA	4.52	329	ePn	44 08.60	13.2X
MLR	7.69	18	eP	44 39.50	-0.6
VRI	8.24	20	eP	44 48.10	0.4

S.D. = 1.2 on 20 of 22 obs.

OCT 06, 1989 12h 02m 27.65± 0.40s
42.675 N ± 3.0km 13.146 E ± 4.3km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 3.1 (SSO).

ALP	0.33	71	iPgc	02 34.32	-0.3
			iSg	02 39.48	
AQU	0.37	149	P	02 34.70	-0.6
			eSg	02 40.80	
MNS	0.45	230	Pc	02 36.50	-0.3
			eSg	02 43.90	
CIO	0.52	360	iPgd	02 37.86	-0.3
			iSg	02 46.70	
ASS	0.53	318	P	02 38.40	0.0
			eSg	02 47.10	
SSO	0.65	18	iPgd	02 41.38	0.7
			iSg	02 52.70	
AZI	0.72	162	P	02 42.30	0.5
			eSg	02 52.60	
ARV	0.84	350	P	02 43.90	0.1
			iSg	02 57.20	
AOI	0.94	21	iPgd	02 45.67	0.1
			iSg	03 01.05	
RDP	0.97	199	P	02 46.50	0.4
			eSg	03 00.70	
MAO	1.50	261	P	02 54.80	0.3
PGD	1.59	320	P	02 55.50	-0.5
TRI	3.07	8	eP	03 52.70	35.7X
			e	04 12.00	
VOY	3.40	9	ePn	03 10.20	-11.7X
			e(Sn)	04 03.20	

S.D. = 0.5 on 12 of 14 obs.

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* OCT 06, 1989 13h 17m 01.27± 0.89s
42.708 N ± 9.4km 24.211 E ±14.7km
DEPTH = 10.0km (geophysicist)
BULGARIA (359)

SKO	2.18	251	ePn	17 38.20	0.1
GRG	2.21	218	ePn	17 38.80	0.2
			eSn	18 06.10	
THE	2.27	205	ePn	17 39.80	0.4
			eSn	18 06.40	
OUR	2.38	184	ePn	17 41.10	0.2
LIT	2.91	207	ePn	17 47.60	-0.9
MLR	3.05	24	eP	17 50.50	0.0
			e	29 20.00	
BZS	3.46	328	ePc	18 07.00	10.9X
			e	39 53.00	
VRI	3.64	29	eP	18 10.50	11.7X

S.D. = 0.6 on 6 of 8 obs.

OCT 06, 1989 13h 45m 44.95± 0.49s
44.375 N ± 5.6km 7.398 E ± 4.8km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.1 (GEN).

STV	0.14	202	P	45 48.66	0.3
			S	45 51.84	
ENR	0.15	174	P	45 48.66	0.2
			S	45 51.74	
DOI	0.17	320	Pd	45 48.70	-0.1
			eSg	45 51.40	
PZZ	0.25	302	P	45 50.20	-0.1
			S	45 54.09	
ROB	0.35	103	P	45 51.45	-0.7
			S	45 57.89	
IMI	0.58	143	P	45 56.61	-0.2
			S	46 06.05	
FIN	0.61	106	P	45 57.07	-0.1
			S	46 06.30	
RRL	0.70	321	P	45 58.91	0.0
			S	46 08.61	
PCP	0.84	78	P	46 02.09	0.9
			S	46 13.33	

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

% OCT 06, 1989 14h 58m 44.31± 1.35s
44.619 N ±11.6km 8.296 E ± 5.7km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

PCP	0.19	113	P	58 48.65	0.0
			S	58 51.35	
FIN	0.41	189	P	58 52.57	-0.2
			S	58 59.04	
ROB	0.44	223	P	58 53.35	0.0
			S	59 00.27	
ENR	0.74	238	P	58 59.29	0.4
			S	59 09.55	
IMI	0.77	203	P	58 59.51	0.2
			S	59 10.07	
STV	0.79	242	P	58 59.53	-0.2
			S	59 10.93	
PZZ	0.86	263	P	59 00.86	-0.1
			S	59 13.02	

S.D. = 0.3 on 7 of 7 obs.

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* OCT 06, 1989 15h 12m 56.66± 1.20s
34.826 N ±11.3km 24.136 E ± 8.3km
DEPTH = 33.0km (normal)
4.3mb (2 obs.)
CRETE (370)
ML 3.8 (ATH).

VAM	0.58	5	iPbd	13 07.40	-1.0
NPS	1.29	70	ePn	13 20.00	1.5
VLI	2.12	333	ePn	13 33.00	2.5
APE	2.51	26	ePn	13 36.10	0.1
KAP	2.59	73	ePn	13 39.50	2.3
ITM	2.95	323	ePn	13 43.50	1.2
ATH	3.16	354	ePn	13 46.50	1.3
SMG	3.61	36	ePn	13 52.80	1.2
YER	4.08	54	iPn	13 59.40	1.1
IZM	4.36	34	iPn	14 01.70	-0.7
VLS	4.40	321	ePn	14 05.00	2.1
NEO	4.53	351	ePn	14 04.30	-0.4
ELL	5.07	66	iPn	14 12.20	-0.3
EZN	5.29	19	eP	14 13.00	-2.3
LIT	5.43	347	eP	14 17.00	-0.3
KHL	5.56	50	iP	14 19.60	0.2
PLG	5.56	355	ePn	14 19.00	-0.3
KZN	5.78	342	ePn	14 22.50	0.0
KEK	5.98	326	ePn	14 24.50	-0.7
KNT	6.40	352	eP	14 31.00	-0.1
RDO	6.41	10	ePn	14 29.50	-1.6
OHR	6.81	338	ePn	14 34.20	-2.6
SKO	7.44	344	ePn	14 50.00	4.3X
HLW	7.85	127	ePn	14 51.00	-0.4
			eSn	16 09.00	
BBTK	8.50	51	ePg	14 48.00	-12.5X
			eSg	15 00.00	
DSI	9.96	106	eP	15 15.50	-5.1X
			eS	16 59.00	
PRNI	10.19	113	eP	15 22.00	-1.8
			eS	17 07.00	
MLR	10.74	7	eP	15 21.20	-10.1X
KHC	16.28	335	P	16 44.00	-0.3
			i	16 47.30	
PRU	16.70	338	eP	16 51.00	1.4
KSP	16.99	343	eP	17 01.00	7.8X
HFS	26.22	348	eP	18 27.90	-2.1
	0.4s		3.80nm		4.4mb
NB2	27.52	346	P	18 38.00	-3.9X
	0.7s		4.20nm		4.2mb

S.D. = 1.5 on 27 of 33 obs.

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* OCT 06, 1989 15h 16m 33.62± 1.80s
5.078 N ± 9.8km 94.535 E ±16.7km
DEPTH = 82.3 ± 16.1 km
4.1mb (2 obs.)
NORTHERN SUMATERA (706)

BSI	0.86	61	ePc	16 51.60	0.2
			eS	17 07.00	
TSI	4.31	111	eP	17 39.00	0.8
PSI	4.98	118	eP	17 47.00	-0.4
			e	20 35.00	
SNG	6.40	71	ePn	18 08.00	0.8
			ePg	18 21.90	
			eSn	18 55.00	
			eSg	19 10.20	
IPM	6.49	94	ePd	18 07.20	-1.2
NNT	9.06	34	eP	18 42.80	-1.0
CHG	14.31	17	eP	19 54.10	0.4
CHTO	14.31	17	eP	19 53.90	0.2
	1.0s		3.00nm		3.5mb
			pP	19 59.30	
WB5	46.35	124	eP	24 54.00	0.4
BCAO	75.70	273	iPc	28 12.30	-0.2
	0.4s		5.00nm		4.8mb

S.D. = 0.9 on 10 of 10 obs.

& OCT 06, 1989 15h 25m 41.00s
33.972 N 116.570 W
DEPTH = 6.0km (geophysicist)
SOUTHERN CALIFORNIA (43)

<PAS-P>. ML 2.7 (PAS). Felt (III) at North Palm Springs. Also felt at Desert Hot Springs, Morango Valley and Palm Springs.

PEC	0.50	261	iPc	25 51.00	0.0
PLM	0.66	202	iPd	25 54.40	0.1
GLA	1.72	122	eP	26 13.50	1.8
ABL	2.36	293	eP	26 20.80	-0.3
BCH	3.14	294	e(P)	26 30.00	-2.1
KVN	5.22	347	e(P)	27 04.50	2.9

6 obs. associated

& OCT 06, 1989 17h 22m 14.32s
60.515 N 151.841 W
DEPTH = 65.0km
KENAI PENINSULA, ALASKA (14)
<AGS-P>.

RDT	0.29	282	eP	22 24.69	-0.4
			eS	22 33.70	
NKA	0.38	52	eP	22 27.32	1.7
RED	0.47	259	eP	22 26.16	-0.5
			eS	22 36.28	
NNL	0.55	150	eP	22 28.08	0.7
SPU	0.68	351	eP	22 28.01	-0.9
			eS	22 39.39	
ILIM	0.71	232	eP	22 28.50	-0.7
			eS	22 40.27	
CKL	0.73	341	eP	22 28.61	-0.9
			eS	22 40.73	
CRP	0.77	349	eP	22 29.68	-0.4
			eS	22 42.46	
BGL	0.80	341	eP	22 29.52	-0.9
CGLM	0.80	354	eP	22 29.67	-0.7
SLKM	0.80	90	eP	22 29.80	-0.6
			eS	22 43.36	
NCG	0.91	350	eP	22 30.92	-0.8
			eS	22 44.36	
CNPM	1.04	163	eP	22 33.08	-0.3
			eS	22 48.39	
SUA	1.09	29	eP	22 33.57	-0.6
			eS	22 49.16	
OPT	1.11	219	eP	22 33.81	-0.5
			eS	22 49.67	
SEW	1.26	108	eP	22 36.74	0.5
PMS	1.33	56	eP	22 36.82	-0.5
			eS	22 55.39	
PWA	1.49	39	eP	22 38.92	-0.4
PME	1.76	49	eP	22 43.73	0.6
KTH	3.08	8	eP	23 00.68	-1.0

20 obs. associated

OCT 06, 1989 17h 38m 25.96± 0.26s
42.210 N ± 3.5km 15.587 E ± 2.5km
DEPTH = 10.0km (geophysicist)
4.2mb (2 obs.)
ADRIATIC SEA (382)
ML 4.7 (KBA), 4.4 (LDG), 4.1 (ROM), 3.5 (LJU). MD 4.8 (TRI), 4.4 (TTG), 4.1 (ATH).

DUI	1.01	237	P	38 45.80	0.7
			eSg	39 02.70	
HVAR	1.16	33	iPgc	38 49.80	2.2
			iSg	39 06.50	
RFI	1.50	233	P	38 54.38	1.4
ALP	1.59	292	iPnd	38 56.94	2.6
			iSn	39 22.22	
AZI	1.62	263	P	38 56.00	1.4
			eSn	39 16.60	
AQU	1.63	276	P	38 56.80	2.0
SGO	1.66	187	P	38 55.50	0.3
			eSn	39 17.30	
SSO	1.93	305	e(Pn)	39 02.12	3.0X
			iSn	39 33.32	
AOI	1.98	313	e(Pn)	39 01.08	1.2
			iSn	39 29.59	
CIO	2.05	299	ePn	39 02.42	1.4
			iSn	39 33.81	
MGR	2.07	181	P	39 00.60	-0.6
			eSn	39 27.40	
MNS	2.16	276	P	39 04.30	1.7
			eSn	39 30.30	
HCY	2.17	83	ePn	39 03.50	0.8
			eSn	39 36.00	
RMP	2.19	260	P	39 04.50	1.6
			eSn	39 30.60	
RDP	2.19	259	P	39 04.80	1.9
			eSn	39 30.00	
ASS	2.32	293	P	39 07.90	3.0X
			eSn	39 33.30	
ARV	2.33	304	P	39 06.20	1.2
BDV	2.41	87	ePn	39 07.60	1.6
			eSn	39 42.00	
LCI	2.59	136	P	39 08.80	0.3
TDS	2.61	167	P	39 09.30	0.4
			eSn	39 41.20	
TTG	2.73	84	ePn	39 11.80	1.2
			eSn	39 52.00	
ULC	2.74	94	ePn	39 12.00	1.2
			eSn	39 52.50	
RSM	2.87	308	P	39 14.30	1.8
SDA	2.92	93	iPnc	39 14.50	1.3
PLE	3.02	67	ePn	39 17.00	2.2
			eSn	40 00.50	
CRE	3.02	299	P	39 16.00	1.2
SFI	3.23	303	P	39 19.70	2.1
RIY	3.25	345	iPnd	39 19.00	1.0
			iSn	40 00.00	
PVY	3.27	82	ePn	39 17.00	-1.4
			eSn	40 01.00	
PGD	3.29	302	P	39 20.50	1.8
MAO	3.30	275	P	39 19.10	0.4
VBY	3.30	356	ePnd	39 20.70	2.0
			iSn	40 00.00	
TIR	3.31	104	ePn	39 19.70	0.8
FIR	3.54	298	iPnc	39 25.00	2.9X
			iPg	39 44.00	
			iSn	40 08.00	
			iSg	40 23.00	
ZAG	3.62	4	iPn	39 24.50	1.3
			iSn	40 08.00	
			iSg	40 24.50	
CEY	3.63	347	ePnd	39 24.30	1.0
			eSn	40 10.20	
PHP	3.66	97	iPnc	39 24.20	0.4
PTJ	3.70	4	iPn	39 25.60	1.2
			eSn	40 08.10	
TRI	3.74	340	ePn	39 24.00	-0.9
			iPg	39 38.00	
			iPgPg	39 42.00	
			iSn	40 14.30	
			iSb	40 32.60	
			iSg	40 39.40	
			i	40 42.80	
LJU	3.91	349	iPnd	39 28.50	1.2
			iSn	40 15.40	
			iSg	40 30.50	
PII	4.01	294	P	39 29.80	1.1
VOY	4.01	343	iP	39 29.20	0.4
			eSn	40 11.46	
			eSg	40 37.60	
KEK	4.05	127	ePg	39 29.20	-0.1
OHR	4.06	104	iPn	39 28.70	-0.7
MME	4.09	301	P	39 31.21	1.2
BDI	4.09	299	P	39 29.90	-0.1
			eSn	40 16.30	
LSK	4.31	117	iPnc	39 32.70	-0.4
MNO	4.33	189	Pd	39 33.80	0.3
SKO	4.36	91	iPn	39 34.70	0.9
Z	10s		1487.00um		
N	11s		1509.00um		
E	11s		1288.00um		
			i	39 48.90	
			iSn	40 22.50	
			LR	41 45.00	
BEO	4.40	52	ePn	39 51.80	17.5X
			i(Sg)	40 52.50	
CTI	4.77	325	P	39 39.00	-0.7
FVI	4.82	336	P	39 40.20	0.0
CVF	4.99	276	Pn	39 43.80	1.1
SAL	4.99	315	P	39 41.75	-0.9
KZN	5.03	110	ePb	39 42.00	-1.4
KBA	5.12	343	ePn	39 45.00	0.3
			e	39 55.00	
			i	40 09.10	
			eSn	40 45.50	
			i	40 50.50	
			e	41 01.50	
BOB	5.15	302	P	39 45.80	0.9
			eSn	40 40.30	
GRG	5.26	101	eP	39 46.20	-0.4
SOP	5.52	7	eP	39 55.00	4.9X
MDI	5.54	312	P	39 49.00	-1.4
			eSn	40 50.50	
VLS	5.56	135	ePb	39 48.50	-2.2
SCE	5.56	332	ePn	39 51.00	0.1
KNT	5.57	98	eP	39 49.70	-1.3
			eS	40 50.10	
KKB	5.59	91	iPc	39 52.00	0.8
LIT	5.62	110	eP	39 49.00	-2.6
			eS	40 51.20	
PCP	5.64	297	P	39 51.94	0.1
VTS	5.66	84	iP	39 54.00	1.7
OGA	5.68	327	ePn	39 52.50	-0.2
FIN	5.75	293	P	39 53.35	-0.1
CKI	5.77	295	P	39 53.10	-0.6
IMI	5.89	289	P	39 55.33	-0.1
SRO	5.93	18	e(Pn)	39 55.00	-0.8
			e	40 06.00	
			i	40 38.00	
			e(Sn)	41 17.00	
OSS	5.93	321	ePd	39 56.70	0.6
KMR	5.94	351	eP	39 44.00	-12.0X
			i	39 57.20	
			i	40 07.10	
			i	41 06.30	
			i	41 34.50	
ROB	6.01	293	P	39 56.46	-0.6
VKA	6.08	5	e(Pn)	40 01.00	3.0X
			i	40 14.70	
			i	40 22.80	
			i	40 28.80	
			iSn	41 08.50	
			i	41 28.80	
ZST	6.08	10	iPn	39 57.50	-0.5
			i	40 21.00	
			e	41 24.00	
			e	41 52.00	
SRS	6.09	98	eP	39 56.20	-2.0
MMB	6.11	93	eP	39 59.00	0.6
VAI	6.12	309	P	39 57.60	-1.0
			eSn	41 04.20	
VDL	6.12	316	ePd	39 59.00	0.2
PLG	6.20	105	ePn	40 00.20	0.5
SBF	6.20	288	Pn	40 00.50	0.7
			Sn	41 12.20	
TMA	6.20	311	ePd	39 58.80	-1.1
ENR	6.30	291	P	40 02.94	1.7
STV	6.37	291	P	40 02.66	0.4
DEV	6.42	53	ePc	40 18.00	15.1X
ORO	6.47	304	P	40 01.60	-2.0
NEO	6.48	114	ePb	40 00.00	-3.8X
PZZ	6.60	293	P	40 04.07	-1.4
LLS	6.62	317	ePc	40 06.50	0.6
MMK	6.69	308	ePd	40 04.60	-2.4
FRF	6.70	285	Pn	40 07.30	0.4
			Sn	41 24.40	
LMR	6.77	283	Pn	40 07.80	0.0
LRG	6.90	283	Pn	40 10.50	1.0
LSD	6.91	301	P	40 06.32	-3.6X
RRL	6.94	296	P	40 08.02	-2.4
ITM	7.01	134	ePb	40 09.10	-2.0
DIX	7.04	306	ePc	40 10.40	-1.4
KHC	7.06	349	iPc	40 11.40	-0.5
			e	41 33.60	
LPG	7.18	300	Pn	40 11.30	-2.5
LPL	7.20	300	Pn	40 11.40	-2.7
GRC3	7.25	339	ePn	40 22.40	8.0X
EMS	7.32	305	ePd	40 15.80	0.1
SLE	7.49	320	ePc	40 16.40	-1.5
SPC	7.70	23	eP	40 36.00	15.0X
			e	40 48.00	
PRU	7.81	355	eP	40 21.00	-1.3
Z	12s		0.90um		
N	12s		1.00um		
VLI	7.90	132	ePb	40 22.00	-1.6
MLR	8.17	63	eP	40 30.00	2.5X
BSF	8.39	315	Pn	40 24.40	-6.1X
			Sn	41 56.40	
CDF	8.53	319	Pn	40 27.30	-5.1X
KSP	8.65	3	eP	40 35.00	1.0
			e	42 16.00	
HAU	8.73	315	Pn	40 30.40	-4.8X
			Sn	42 04.00	
BRG	8.74	353	ePn	40 38.00	2.8X
			e	42 04.00	
			e	42 36.00	
			e	43 14.00	
VRI	8.82	62	eP	40 31.00	-5.4X

06d 17h

```
MOX      8.87 343 (Pn)   40 35.00   -2.1
                  e      42 13.00
CLL      9.27 350 e(P)   40 42.00   -0.6
        1.8s     25.00nm          5.3mb X
                  e      41 43.00
                  e      42 24.00
                  i      43 30.40
                  eSg    43 46.00
SMF      9.50 302 Pn     40 43.40   -2.4
                  Sn     42 23.60
LBF      9.56 304 Pn     40 43.50   -3.1X
LOR      9.75 305 Pn     40 46.20   -3.1X
AVF      9.87 302 Pn     40 48.20   -2.6
SSF      9.88 303 Pn     40 48.70   -2.3
BGF     10.10 300 Pn     40 51.30   -2.8
MAF     10.17 298 Pn     40 52.40   -2.6
NB2     19.04 353 P      42 47.90   -2.5
        0.8s     3.70nm          3.7mb
SUF     21.47  13 eP     43 17.00    0.6
BCAO    37.71 175 ePc    45 43.00   -0.4
        0.3s     4.00nm          4.7mb
      S.D. = 1.4  on 107 of 127 obs.
-------------------------------------
   OCT 06, 1989  17h 53m 02.31± 0.64s
    9.882 N ± 9.5km   92.794 E ± 7.9km
   DEPTH =  33.0km  (normal)
   4.9mb (  5 obs.)
 NICOBAR ISLANDS REGION            (704)

NNT      7.32  68 iPc    54 50.00    0.3
SNG      8.19 109 ePn    55 03.40    1.6
                  ePg    55 21.10
                  eSn    56 08.00
                  eSg    56 28.40
NST      9.18  50 eP     55 16.00    0.4
PSI      9.38 139 eP     55 20.00    1.7
                  e      58 30.00
IPM      9.72 122 ePd    55 24.60    1.7
CHG     10.69  33 eP     55 36.90    0.6
CHTO    10.69  33 iP     55 36.70    0.4
LOE     11.46  48 iPc    55 51.00    4.2X
GBA     15.48 285 P      56 41.00    1.0
                  S      59 11.00
HYB     15.73 300 ePc    56 43.00   -0.2
        1.0s     38.00nm          4.5mb
POO     20.26 297 iPc    57 39.70    1.7
NDI     23.74 324 iPd    58 13.00    0.5
        0.8s     44.78nm          5.0mb
                  eS     02 33.00
BJI     36.52  31 eP     00 05.00   -1.6
WB5     50.50 126 iPc    01 56.70   -2.9X
ASPA    52.22 130 iPd    02 09.50   -3.1X
        0.8s     21.00nm          5.2mb
CTA     60.45 120 iP     03 09.20   -2.4
        0.9s     10.08nm          4.9mb
RMO     65.25 125 eP     03 42.00   -1.3
BRS     68.88 124 eP     04 05.00   -1.3
CAN     69.51 133 eP     04 08.30   -1.7
BCAO    73.76 272 ePc    04 50.30   14.5X
        0.5s     5.00nm
                  ic     04 54.50
MBC     91.96   7 eP     06 07.00   -1.4
        0.8s     3.00nm          4.8mb
INK     95.44  16 eP     06 41.00   16.4X
      S.D. = 1.4  on  17 of  22 obs.
-------------------------------------
   OCT 06, 1989  21h 15m 41.63± 0.54s
    0.676 S ± 5.7km   77.546 W ± 7.4km
   DEPTH =  10.0km  (geophysicist)
   4.6mb (  4 obs.)
 ECUADOR                           (107)

CAYA     0.87 330 iP+    15 56.70   -2.0
                  S      16 11.00
RECU     1.02 272 iP+    16 00.20   -1.1
OUR      1.10 297 iPd    16 03.80    1.2
GGP      1.16 295 iPd    16 04.70    0.9
                  eS     16 20.30
TUNG     1.16 231 iP+    16 06.50    2.9X
                  S      16 23.60
COTA     1.28 322 iP+    16 05.30   -0.4
PSO      1.87   7 iPd    16 13.00   -1.3
SALC     3.72  13 eP     16 00.68  -39.9X
CLMC     4.63  12 ePd    16 55.42    1.9
HOBC     5.19  16 eP     17 01.30   -0.1
BOG      6.31  33 eP     17 37.00   19.7X
                  eS     18 56.00

BMG      8.90  30 iPc    18 06.00   12.7X
UPA      9.80 348 eP     18 06.30    0.7
NNA     11.26 176 eP     18 26.50    0.7
        0.8s     6.72nm          5.0mb
                  eS     20 30.00
ZOBO    18.07 150 eP     19 54.00   -1.1
        1.1s     7.25nm          3.7mb
      Z  20s     1.32um          3.6Msz
                  S      25 18.00
                  LR     37 26.00
LPB     18.30 150 eP     19 58.00    0.1
      Z  16s     2.02um
                  S      26 14.00
                  LR     37 28.00
CNCB    18.60 150 eP     20 01.00   -0.6
                  S      25 51.00
ALQ     44.57 326 eP     23 55.90    0.0
        0.7s     4.62nm          4.5mb
SPA     89.33 180 e(P)   28 40.50    1.0
        1.0s     4.50nm          4.7mb
      S.D. = 1.2  on  15 of  19 obs.
-------------------------------------
?  OCT 06, 1989  21h 42m 18.67± 1.86s
   11.527 S ±18.6km  118.224 E ±26.1km
   DEPTH =  33.0km  (normal)
 SOUTH OF SUMBAWA ISLAND           (291)

TRT      6.69 304 ePd    43 57.20    0.0
MBL      9.70 171 iPd    44 38.50   -0.6
        0.2s     6.00nm          5.5mb X
                  eS     46 18.00
NANU    11.27 193 eP     45 01.00    0.5
        0.2s     2.00nm          5.0mb X
                  eS     46 55.00
MEKA    15.01 179 eP     45 50.00   -0.2
                  eS     48 23.00
WARB    16.60 153 eP     46 11.00    0.4
MRWA    17.72 186 eP     46 17.80   -6.8X
                  eS     49 29.00
      S.D. = 0.6  on   5 of   6 obs.
-------------------------------------
?  OCT 06, 1989  22h 04m 05.89± 1.32s
   13.149 N ±13.3km  143.530 E ±22.3km
   DEPTH = 148.5 ± 10.1 km
   4.5mb (  1 obs.)
 SOUTH OF MARIANA ISLANDS          (210)

GUMO     1.37  71 iPd    04 34.30    0.0
PJG      1 37  71 iPd    04 34.50    0.2
GUA      1.40  74 iPd    04 34.40   -0.2
                  eS     04 53.50
MAT     23.78 349 eP     09 06.00    0.0
        1.1s    18.99nm          4.5mb
WB5     34.04 196 eP     10 37.80    0.0
PRS     86.36  54 eP     16 33.00    0.3
CMB     86.72  52 eP     16 34.50    0.0
FRI     87.50  53 eP     16 37.90   -0.3
LIC    143.31 300 PKP    23 22.60   -2.5X
      S.D. = 0.2  on   8 of   9 obs.
-------------------------------------
   OCT 06, 1989  23h 07m 12.59± 0.60s
   44.304 N ±12.6km  148.024 E ± 7.4km
   DEPTH =  33.0km  (normal)
   5.0mb ( 29 obs.)
 KURIL ISLANDS                     (221)

KUSJ     2.69 245 P      07 53.20   -1.2X
                  eS     08 25.30
ASAJ     3.87 269 eP     08 15.40    4.1X
HOOJ     3.95 243 P      08 13.60    1.2X
                  eS     08 59.20
MRRJ     5.40 252 eP     08 33.10    0.2X
                  S      09 36.10
OFUJ     7.06 225 P      08 51.00   -5.2X
                  S      10 05.60
MAT     10.77 227 iPc    09 43.40   -4.1X
        0.9s    14.29nm          5.2mb
BJI     23.90 271 eP     12 24.50    0.5
TIA     24.82 262 eP     12 32.90   -0.1
NJ2     25.85 252 Pc     12 43.40    0.8
TIY     27.50 269 eP     12 58.50    0.7
BTO     28.12 276 eP     13 04.60    1.1
LZH     34.38 272 eP     13 59.00    0.2
        1.5s     0.05nm          2.2mb X
GTA     35.83 279 eP     14 11.10    0.1
IMA     37.87  34 eP     14 28.80    1.0
        0.7s    11.40nm          4.8mb

FBA     40.28  36 eP     14 48.90    1.2
WMQ     42.48 291 P      15 06.50    0.4
      Z  16s     0.50um          4.5MszX
INK     45.61  31 eP     15 32.00    1.1
CHTO    48.04 254 eP     15 50.00   -0.7
        0.9s     6.39nm          4.7mb
NDI     57.33 280 eP     16 58.50   -1.2
SUF     63.70 334 eP     17 41.40   -1.2
        0.8s     5.10nm          4.7mb
MAIO    64.84 297 iPc    17 50.00   -0.5
FFC     64.88  37 eP     17 50.00   -0.4
        1.0s    22.00nm          5.2mb
LRM     65.51  49 eP     17 54.50   -0.4
NUR     65.83 333 eP     17 55.00   -1.3
GBA     66.75 266 P      18 02.00   -0.9
TNP     67.63  58 iP     18 08.00   -0.5
        0.9s     6.25nm          4.7mb
NB2     69.31 339 P      18 17.80   -0.5
        0.6s     1.10nm          4.1mb
HFS     69.42 338 eP     18 16.90   -2.0
        0.4s     1.20nm          4.3mb
KRA     75.72 328 eP     18 56.60    0.4
ALQ     76.17  55 e(P)   18 59.30    0.0
SPC     76.31 328 eP     19 00.80    1.0
KSP     76.39 331 eP     19 00.30    0.3
MLR     76.91 322 eP     19 03.30    0.2
CLL     77.11 333 iPc    19 03.60   -0.4
        1.0s    20.00nm          5.1mb
BRG     77.17 332 eP     19 04.60    0.3
        1.0s    20.00nm          5.1mb
PRU     77.72 331 eP     19 07.50    0.2
MOX     78.13 333 eP     19 10.00    0.4
SRO     78.17 328 iP     19 11.10    1.3
ZST     78.31 329 iP     19 12.10    1.5
KHC     78.78 331 iPc    19 14.00    0.8
        1.0s    10.50nm          4.8mb
GRF     79.08 333 iPc    19 15.50    0.6
        1.0s    24.00nm          5.1mb
CDF     81.45 335 eP     19 27.00   -0.6
        0.8s     5.30nm          4.6mb
FLN     83.29 340 eP     19 36.60   -0.4
        1.0s    13.60nm          5.0mb
LDF     83.36 339 eP     19 37.00   -0.3
LOR     83.50 336 eP     19 38.10    0.0
        0.8s     7.20nm          4.9mb
LBF     83.72 336 eP     19 39.30    0.0
        0.8s     8.50nm          4.9mb
GRR     83.74 340 eP     19 38.60   -0.6
SSF     83.79 336 eP     19 39.90    0.4
        0.8s     7.20nm          4.9mb
SMF     84.07 336 eP     19 40.40   -0.6
        0.9s    10.40nm          5.0mb
AVF     84.08 336 eP     19 40.70   -0.3
        0.8s     4.50nm          4.7mb
LPF     84.11 340 eP     19 41.10    0.0
        1.0s    16.00nm          5.1mb
LPG     84.21 334 eP     19 42.00   -0.1
        0.8s     8.00nm          4.9mb
MAF     84.82 337 eP     19 45.00    0.2
        0.9s    15.30nm          5.2mb
TCF     84.86 337 eP     19 44.70   -0.3
LSF     85.08 337 eP     19 45.90   -0.2
        0.9s    17.00nm          5.2mb
MFF     85.21 339 eP     19 46.50   -0.2
        0.8s     9.10nm          5.0mb
RJF     85.95 337 eP     19 50.40    0.0
FRF     85.98 333 eP     19 49.90   -0.7
        1.0s    16.00nm          5.2mb
CAF     86.15 337 eP     19 51.60    0.2
        1.1s    15.60nm          5.2mb
LRG     86.16 333 eP     19 51.20   -0.3
LMR     86.22 333 eP     19 51.20   -0.6
        1.1s    24.40nm          5.3mb
LFF     86.51 337 eP     19 53.20    0.1
        0.7s     6.60nm          5.0mb
LPO     86.62 337 eP     19 53.70    0.0
        0.7s     6.60nm          5.0mb
      S.D. = 0.7  on  57 of  63 obs.
-------------------------------------
*  OCT 06, 1989  23h 38m 49.41± 2.48s
   42.717 N ±12.5km  145.975 E ±24.0km
   DEPTH =  48.2 ± 16.1 km
   4.1mb (  2 obs.)
 HOKKAIDO, JAPAN REGION            (224)
      Felt (I JMA) at Nemuro.

NEM      0.67 335 eP     39 03.00    0.2
```

		iS	39 10.30		
KUSJ	1.00 293	iPd	39 04.30	-3.0X	
		S	39 12.30		
HOOJ	2.01 261	P	39 21.60	0.1	
		S	39 43.00		
ASAJ	2.80 301	P	39 32.10	-0.7	
		S	40 03.60		
MRRJ	3.63 267	eP	39 45.20	0.6	
		eS	40 22.70		
OFUJ	4.88 223	eP	40 01.90	-0.3	
NB2	70.25 338	P	49 59.50	0.4	
	0.8s	1.50nm		4.0mb	
HFS	70.31 337	eP	49 59.00	-0.3	
	0.4s	1.20nm		4.2mb	
	S.D. = 0.7	on	7 of	8 obs.	

• OCT 07, 1989 00h 01m 25.83± 2.52s
3.111 N ± 9.5km 127.642 E ±14.4km
DEPTH = 92.3 ± 23.0 km
4.9mb (6 obs.)
TALAUD ISLANDS (263)

MNI	3.25 239	iPc	02 16.50	0.8	
		eS	02 55.20		
KNA	18.77 177	eP	05 39.30	-1.3	
WB5	23.78 164	iPd	06 30.80	-0.3	
MBL	25.30 197	eP	06 46.00	0.5	
QIS	26.29 154	iPd	06 54.00	-0.6	
ASPA	27.30 167	iPc	07 02.00	-1.9	
	0.7s	15.00nm		4.7mb	
	Z 20s	0.25um		3.8Msz	
		LR	18 33.20		
NANU	28.13 204	eP	07 11.70	0.5	
LOE	29.12 301	iPc	07 19.00	-1.3	
WARB	29.14 182	eP	07 20.50	0.2	
CTA	29.42 142	iPc	07 23.00	0.1	
MEKA	30.83 196	eP	07 34.00	-1.3	
FORR	33.77 179	eP	07 59.00	-1.8	
	0.4s	15.00nm		5.2mb	
MRWA	34.03 198	iPc	08 02.80	-0.3	
	0.3s	6.00nm		4.9mb	
XAR	35.38 333	P	08 14.40	-0.2	
CDZ	35.68 323	P	08 16.70	-0.5	
BUT	38.20 346	eP	08 38.00	-0.1	
	1.0s	0.01nm		1.8mb X	
BRS	38.82 143	iPc	08 45.00	1.5	
BWA	42.15 154	eP	09 12.90	2.1	
CAN	43.16 154	eP	09 20.00	1.0	
GTA	44.09 329	eP	09 26.60	-0.1	
DZM	45.44 125	iPc	09 37.00	-0.6	
HYB	50.18 290	eP	10 14.50	0.0	
	1.0s	25.00nm		5.2mb	
GBA	50.65 285	P	10 19.00	1.0	
WMQ	53.75 325	P	10 41.60	0.8	
KSH	59.09 315	eP	11 20.40	1.3	
SPA	93.09 180	e(P)	14 33.10	2.8	
	1.0s	5.00nm		4.8mb	
SLL	99.03 333	eP	14 55.10	-2.2	
	0.5s	1.50nm		4.8mb	
	S.D. = 1.3	on	27 of	27 obs.	

? OCT 07, 1989 00h 13m 57.13± 5.00s
44.685 N ±31.6km 7.586 E ±13.5km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

PZZ	0.39 243	P	14 05.19	0.0	
		S	14 13.09		
ROB	0.44 152	P	14 06.11	0.0	
		S	14 14.11		
ENR	0.47 195	P	14 06.93	0.2	
		S	14 14.73		
STV	0.48 203	P	14 06.73	-0.2	
		S	14 14.52		
	S.D. = 0.2	on	4 of	4 obs.	

OCT 07, 1989 00h 54m 22.38± 0.81s
38.773 N ± 7.0km 27.661 E ± 9.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.49 220	iPg	54 31.90	-0.4	
		iSg	54 40.90		
CIN	1.22 164	eP	54 44.00	-1.0	
EZN	1.48 316	iPn	54 49.40	0.4	
KHL	1.53 107	ePn	54 49.70	-0.1	
EDC	1.58 6	ePn	54 50.00	-0.5	
YER	1.71 163	ePn	54 54.00	1.6	
	S.D. = 1.2	on	6 of	6 obs.	

• OCT 07, 1989 01h 17m 58.30± 0.81s
4.949 S ± 7.3km 78.039 W ±23.7km
DEPTH = 81.8 ± 18.9 km
4.3mb (1 obs.)
PERU-ECUADOR BORDER REGION (110)

TUNG	3.53 353	eP	18 51.50	-0.8	
RECU	4.31 353	eP	19 03.90	0.5	
GGP	4.78 353	eP	19 10.60	0.7	
CAYA	5.00 1	eP	19 12.50	-0.4	
COTA	5.26 357	eP	19 05.70	-10.9X	
NNA	7.09 170	iPc	19 41.00	-0.5	
	0.6s	28.00nm		5.1mb X	
		eS	21 00.50		
PT08	7.12 168	iPd	19 43.90	1.7	
		iS	21 04.20		
PT10	7.16 172	iP	19 42.00	-0.4	
		eS	20 05.00		
PT03	9.25 166	eP	20 10.20	-0.9	
		eS	21 56.20		
ARE	13.12 151	e(P)	21 16.00	12.9X	
ZOBO	14.87 140	ePKP	21 25.00	-1.2	
		LR	14 08.00		
LPB	15.09 140	P	21 30.00	1.3	
CNCB	15.37 141	P	21 41.00	8.5X	
ALQ	47.85 328	eP	26 30.10	0.0	
	1.0s	4.25nm		4.3mb	
	Z 18s	0.52um		4.5Msz	
	S.D. = 1.1	on	11 of	14 obs.	

OCT 07, 1989 01h 25m 03.66± 0.22s
78.841 N ± 3.9km 4.402 E ± 5.1km
DEPTH = 10.0km (geophysicist)
5.0mb (32 obs.) 4.1Msz (2 obs.)
GREENLAND SEA (640)
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 13S, 25C
Centroid Locotion:
Origin Time 01:25: 9.0 0.6
Lot 79.04N 0.08 Lon 4.04E 0.25
Dep 15.0 FIX Holf-durotion 1.5
Moment Tensor; Scole 10**16 Nm
Mrr=-0.22 0.45 Mtt=-5.83 0.58
Mff= 6.05 0.36 Mrt= 0.00 0.00
Mrf= 0.00 0.00 Mtf=-0.90 0.46
Principal Axes:

T	Val= 6.12	Plg= 0	Azm=266
N	-0.22	90	180
P	-5.90	0	176

Best Double Couple:Mo=6.0*10**16
NP1:Strike=311 Dip=90 Slip=-180
NP2: 41 90 0

KBS	1.46 83	iP	25 27.50	-2.5	
JNW	8.50 209	iPg	27 04.50	-5.0X	
TRO	10.01 150	eP	27 28.30	-2.0	
KEV	10.86 135	iP	27 40.90	-1.0	
	0.7s	24.00nm		5.7mb	
SOD	13.04 140	iP	28 07.10	-4.2X	
NSS	14.56 167	iP	28 32.85	1.7	
MOL	16.38 175	eP	28 55.16	0.4	
SUF	17.47 145	eP	29 05.20	-3.2X	
	0.7s	51.90nm		4.8mb	
NB2	18.02 169	P	29 13.20	-2.1	
	1.5s	47.20nm		4.4mb	
HFS	19.03 166	eP	29 26.30	-1.3	
	1.1s	38.20nm		4.5mb	
	Z 17s	0.71um		3.3MszX	
		LR	32 50.00		
NUR	19.47 149	eP	29 30.00	-3.0X	
	0.9s	28.70nm		4.6mb	
		i	29 40.10		
MBC	22.12 328	eP	30 01.50	1.4	
	1.0s	47.00nm		4.9mb	
EKA	23.75 191	P	30 25.00	8.7X	
	1.0s	24.20nm		4.7mb	
WTS	26.97 177	eP	30 57.00	10.3X	
	1.0s	39.00nm			
CLL	27.82 168	eP	30 54.00	-0.4	
	1.5s	24.00nm		4.7mb	
	Z 17s	1.00um		4.5MszX	
		i	31 01.20		
BRG	28.29 167	iPc	30 58.40	-0.3	
	1.5s	52.00nm		5.1mb	
		i	31 04.80		
MOX	28.43 170	iPc	31 00.00	0.1	
	1.6s	43.00nm		5.0mb	
	Z 16s	0.60um		4.3Msz	
		i	31 07.50		
KSP	28.43 164	eP	31 00.00	0.0	
		ec	31 07.50		
HOF	28.77 170	iPc	31 03.30	0.3	
	1.6s	33.00nm		4.9mb	
PRU	29.20 167	eP	31 06.00	-0.9	
	Z 20s	1.10um		4.5Msz	
	N 18s	0.50um			
		e	31 15.50		
GRF	29.37 171	eP	31 07.60	-0.8	
	1.4s	27.00nm		4.9mb	
	Z 18s	0.20um		3.8Msz	
		e	31 15.60		
KRA	29.44 159	eP	31 08.30	-0.7	
		e	31 17.70		
KHC	30.02 168	iP	31 14.80	0.6	
	Z 16s	0.70um		4.4Msz	
	N 17s	0.40um			
	E 16s	0.20um			
		e	31 22.50		
SPC	30.32 159	eP	31 19.00	1.8	
		e	31 25.30		
		e	31 46.90		
CDF	30.57 176	eP	31 19.60	0.5	
HAU	30.96 177	iPc	31 22.90	0.4	
INK	31.04 331	eP	31 22.00	-1.0	
	1.0s	87.00nm		5.6mb	
ZST	31.12 163	eP	31 24.00	0.1	
		i	31 32.00		
BSF	31.14 177	eP	31 24.60	0.4	
SRO	31.57 162	e(P)	31 36.50	8.7X	
LOR	31.69 181	iPc	31 28.40	-0.6	
	1.0s	12.80nm		4.8mb	
SSF	31.90 181	ePc	31 30.60	-0.2	
	1.1s	15.60nm		4.8mb	
LBF	31.98 181	iPc	31 31.10	-0.4	
	1.0s	14.00nm		4.8mb	
AVF	32.17 181	iPc	31 33.00	-0.1	
	1.1s	19.50nm		4.9mb	
SMF	32.32 181	iPc	31 33.90	-0.5	
BGF	32.41 182	iPc	31 35.10	-0.1	
	1.1s	48.80nm		5.3mb	
FVI	32.52 169	Pc	31 37.00	0.9	
TCF	32.68 183	eP	31 37.50	-0.1	
	1.0s	28.00nm		5.1mb	
LSF	32.73 184	iPc	31 37.70	-0.3	
	1.1s	24.40nm		5.0mb	
MAF	32.75 182	iPc	31 37.90	-0.3	
	1.0s	18.80nm		5.0mb	
VOY	33.12 168	e(P)	31 41.30	-0.2	
VAI	33.13 174	Pd	31 49.20	7.7X	
MDI	33.24 173	P	31 44.00	1.6	
SCH	33.26 267	eP	31 41.00	-1.6	
TRI	33.44 168	iPd	31 51.60	7.4X	
LPG	33.47 177	iPc	31 45.90	1.1	
RJF	33.67 184	iPc	31 46.20	0.0	
	1.1s	31.20nm		5.2mb	
BZS	33.98 158	eP	31 49.00	0.2	
VRI	34.15 152	eP	31 52.00	1.7	
MLR	34.45 153	eP	31 52.00	-1.1	
CKI	34.57 175	P	31 45.00	-8.9X	
BDI	34.98 172	P	32 06.00	8.4X	
SFI	35.16 171	P	31 56.00	-2.9	
PGD	35.20 171	P	32 01.50	2.0	
CRE	35.45 171	P	32 02.50	0.9	
FBA	35.55 340	eP	32 04.00	1.9	
	1.2s	45.45nm		5.2mb	
ARV	35.62 169	Pc	32 03.50	0.6	
EPF	35.96 185	iPc	32 05.80	-0.1	
	1.2s	32.70nm		5.1mb	
ASS	36.03 170	P	32 08.00	1.5	
MNS	36.72 170	P	32 13.50	1.3	
AZI	37.14 169	P	32 19.50	3.8X	
RDP	37.35 170	P	32 18.00	0.5	
DUI	37.51 168	P	32 27.50	8.6X	
SKO	37.59 159	eP	32 17.50	-2.0	
OHR	38.40 160	eP	32 25.30	-1.1	
SGO	38.65 167	Pc	32 30.50	2.2	
TOL	39.22 190	eP	32 34.00	0.8	
TDS	39.59 165	P	32 37.00	0.7	
FFC	39.91 300	eP	32 39.00	0.3	

07d 01h

0.7s 9.00nm 4.5mb
CBM 41.03 265 eP 32 47.90 -0.1
RSON 42.16 291 eP 32 56.70 -0.5
1.0s 53.15nm 5.2mb
EDM 43.18 309 eP 33 06.00 0.3
SES 45.57 306 eP 33 25.00 0.1
1.0s 73.00nm 5.6mb
WMO 46.11 86 eP 33 29.00 -0.3
Z 17s 1.30um 4.9MszX
N 10s 0.80um
PNT 47.91 313 eP 33 44.00 0.7
0.6s 4.00nm 4.7mb
MAIO 48.07 117 eP 33 46.00 1.2
e 35 41.00
eS 40 40.00
LRM 50.24 306 ePc 34 01.70 0.1
RSSD 50.50 298 eP 34 02.90 -0.7
GTA 52.70 76 eP 34 20.50 0.3
BW06 52.74 302 eP 34 20.00 -0.5
CN2 52.86 51 eP 34 25.60 4.5X
5.0s 0.40nm 2.6mb X
Z 15s 0.70um 4.8MszX
N 10s 0.20um
esP 34 37.00
SNY 54.50 53 Pc 34 40.80 7.6X
GOL 55.03 298 eP 34 36.70 -0.7
1.0s 30.00nm 5.3mb
BJI 55.04 60 eP 34 43.00 5.9X
Z 16s 1.75um 5.2MszX
E 16s 2.36um
QUE 55.36 111 eP 34 40.50 0.7
PRM 56.20 274 eP 34 44.00 -1.6
TIY 56.66 65 eP 34 48.40 -0.6
E 18s 2.30um
WDC 56.88 313 e(P) 34 55.20 4.8X
MIN 56.98 312 eP 34 50.60 -0.7
UYO 58.44 286 iPd 35 00.40 -1.0
TNP 58.54 308 eP 35 01.00 -1.4
MEO 58.60 290 iPd 35 01.90 -0.7
CMB 59.07 311 eP 35 07.80 1.9
0.5s 6.97nm 5.0mb
XAN 59.61 69 P 35 10.60 1.0
ALQ 59.85 297 eP 35 10.00 -1.5
1.0s 9.25nm 4.9mb
e 35 18.10
LLA 60.54 311 e(P) 35 16.10 0.2
CLC 60.82 308 eP 35 18.00 0.1
e 35 26.00
ISA 61.11 309 eP 35 20.00 0.2
e 35 28.00
GSC 61.20 307 eP 35 29.00 8.5X
SBB 61.96 308 eP 35 25.00 -0.7
TPC 62.26 306 eP 35 29.00 1.4
e 35 36.00
MWC 62.45 308 eP 35 29.00 -0.1
RVR 62.57 307 eP 35 36.00 6.4X
GLA 63.09 305 eP 35 33.00 -0.1
PLM 63.12 307 eP 35 34.00 0.5
BAR 63.75 306 eP 35 38.00 0.6
GYA 66.57 73 P 35 56.80 1.0
HYB 69.97 102 eP 36 16.00 -0.9
KIC 72.60 190 P 36 35.90 3.3X
GBA 73.47 104 P 36 38.00 0.3
BCAO 74.71 165 iPc 36 45.10 0.2
0.9s 23.00nm 5.2mb
id 36 52.30
PDCR 94.22 222 e(P) 38 24.00 0.5
SNA 149.01 184 e(PKP) 44 52.00 5.1X
1.0s 24.00nm
S.D. = 1.0 on 92 of 113 obs.

% OCT 07, 1989 04h 45m 10.85± 0.68s
37.156 N ± 7.8km 3.659 W ± 5.4km
DEPTH = 5.0km (geophysicist)
SPAIN (377)
ML 3.4 (MDD). Felt (V) in the Alhendin areo.

MAL 0.74 235 ePg 45 25.00 -0.6
ALM 1.01 107 ePg 45 29.50 -0.9
eSg 45 40.80
EPRU 1.27 262 ePn 45 36.80 1.9
eSn 45 51.30
EHOR 1.43 298 ePn 45 37.20 -0.2
eSn 45 57.60
EVIA 1.74 31 ePn 45 42.00 0.0
eSn 46 03.00
EALH 1.91 68 ePn 45 46.00 1.6
eSn 46 07.50
EVAL 2.50 281 ePn 45 51.80 -1.0
TOL 2.74 354 iPg 46 04.50 8.2X
eSn 46 24.50
eSb 46 37.50
iSg 46 43.00
ECHE 3.22 40 ePn 46 02.90 -0.2
EPLA 3.47 328 ePn 46 06.80 0.2
eSn 46 47.00
GUD 3.50 354 ePn 46 06.40 -0.8
eSn 46 47.00
ETOR 3.87 18 ePn 46 12.30 0.0
eSn 46 56.20
S.D. = 1.1 on 11 of 12 obs.

? OCT 07, 1989 05h 52m 41.07± 9.06s
33.210 S ±23.0km 72.941 W ±70.7km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)
LCCH 1.18 103 iPc 53 02.70 -0.3
iS 53 19.40
ROCH 1.64 82 iPd 53 10.20 0.0
TACH 1.73 105 iPd 53 10.60 -0.8
iS 53 32.00
PEL 1.89 89 eP 53 14.50 0.7
iS 53 40.50
SAN 1.92 98 iPd 53 15.00 0.8
iS 53 40.60
CHCH 2.04 111 iPc 53 15.80 -0.1
iS 53 42.20
JACH 2.04 76 iPc 53 15.10 -0.9
iS 53 42.20
FCH 2.22 94 iPc 53 19.50 0.7
iS 53 48.40
S.D. = 0.8 on 8 of 8 obs.

& OCT 07, 1989 06h 27m 40.48s
59.001 N 153.821 W
DEPTH = 115.7km
SOUTHERN ALASKA (2)
<AGS-P>.
CDD 0.12 128 iP 27 55.57 0.4
MCNL 0.32 305 eP 27 56.50 -0.8
AUI 0.39 31 eP 27 56.68 -0.9
AUW 0.41 26 iP 27 56.93 -0.7
eS 28 09.66
AUE 0.43 33 iP 27 57.10 -0.6
eS 28 11.07
AUL 0.43 27 iP 27 57.03 -0.8
OPT 0.72 25 iP 27 59.22 -0.7
eS 28 12.23
SHU 0.85 115 iP 28 00.37 -0.6
eS 28 14.99
ILIM 1.17 22 iP 28 03.18 -1.1
eS 28 20.11
XLV 1.17 66 eP 28 03.43 -0.8
eS 28 20.78
CNPM 1.43 67 iP 28 06.36 -0.8
iS 28 25.59
KDC 1.44 150 iPd 28 05.90 -1.3
RED 1.52 20 iP 28 07.28 -1.1
eS 28 27.92
NNL 1.66 50 eP 28 09.62 -0.3
eS 28 30.35
BRLK 1.69 62 eP 28 09.47 -0.8
eS 28 30.70
RDT 1.73 24 iP 28 09.62 -1.3
iS 28 32.05
NKA 2.18 36 eP 28 16.92 0.5
eS 28 43.92
SVW 2.30 338 iPd 28 16.60 -1.5
CKL 2.32 18 iP 28 17.45 -1.1
iS 28 45.58
SPU 2.36 21 iP 28 17.57 -1.3
iS 28 46.32
SLKM 2.37 49 eP 28 17.53 -1.5
BGL 2.38 17 iP 28 18.33 -0.9
CRP 2.42 19 iP 28 18.77 -1.1
CGLM 2.49 21 iP 28 19.36 -1.2
SEW 2.49 62 eP 28 19.58 -0.9
eS 28 47.15
NCG 2.55 18 iP 28 20.44 -1.0
SUA 2.91 31 iP 28 25.33 -0.9
eS 28 59.26
PMS 3.10 42 iPd 28 27.40 -1.3
SKT 3.20 20 eP 28 28.28 -1.7
PWA 3.30 35 eP 28 29.70 -1.7
PLRM 3.49 40 eP 28 31.51 -2.4
PMR 3.49 40 eP 28 31.60 -2.3
PME 3.55 40 eP 28 32.54 -2.2
KNK 3.61 46 eP 28 33.26 -2.3
GHO 3.69 39 eP 28 34.24 -2.5
CUT 3.84 26 eP 28 36.60 -2.0
GLI 3.87 58 eP 28 36.00 -3.1
TTA 4.08 346 iPd 28 40.30 -1.8
FID 4.10 62 eP 28 39.22 -2.9
VZW 4.19 57 eP 28 39.24 -4.2
VLZ 4.32 57 eP 28 42.89 -2.2
HUR 4.48 25 eP 28 45.58 -1.8
NCA 4.58 46 eP 28 46.44 -2.3
KLU 4.66 54 eP 28 47.86 -2.1
KTH 4.78 16 eP 28 49.77 -1.7
TOA 4.89 47 iPc 28 51.30 -1.8
RND 5.03 26 eP 28 52.22 -2.7
SDN 5.16 228 eP 28 54.50 -2.1
MCK 5.30 24 eP 28 56.71 -1.8
SDG 5.38 45 eP 28 58.76 -0.9
PAX 5.69 42 eP 29 02.33 -1.7
WRH 6.13 24 eP 29 06.33 -3.6
CCB 6.34 24 iP 29 09.04 -3.8
FBA 6.56 23 eP 29 12.30 -3.6
IMA 7.10 0 eP 29 21.00 -2.3
INK 12.90 35 eP 30 45.00 4.7
56 obs. ossociated

OCT 07, 1989 06h 55m 41.22± 0.13s
20.095 S ± 3.4km 169.023 E ± 3.2km
DEPTH = 38.8km (12 depth phoses)
5.5mb (32 obs.) 5.7Msz (28 obs.)
VANUATU ISLANDS (186)
Mo=1.6*10**18 Nm (PPT). Ms 5.8 (BRK).
CENTROID, MOMENT TENSOR (HRV)
Dota Used: GDSN
L.P.B.: 18S, 46C
Centroid Locotion:
Origin Time 06:55:48.3 0.6
Lot 19.95S 0.04 Lon 168.83E 0.05
Dep 44.0 1.6 Holf-durotion 3.0
Moment Tensor; Scole 10**18 Nm
Mrr= 1.37 0.03 Mtt=-0.04 0.05
Mff=-1.32 0.05 Mrt=-0.21 0.05
Mrf= 0.22 0.06 Mtf=-1.13 0.04
Principol Axes:
T Vol= 1.46 Plg=71 Azm=214
N 0.52 19 30
P -1.98 1 120
Best Double Couple:Mo=1.7*10**18
NP1:Strike=228 Dip=47 Slip= 116
NP2: 13 49 65
PVC 2.44 344 iPd 56 21.50 2.0
iS 56 51.00
DZM 3.11 230 iPd 56 27.70 -1.4
iS 57 03.80
NDF 8.31 75 eP 57 46.60 4.4X
SVA 9.13 79 ePd 57 57.90 4.3
VUN 9.17 78 ePd 57 57.60 3.5X
HNR 13.75 319 eP 58 57.00 1.0
BRS 16.54 241 iPd 59 32.40 0.3
0.5s 1.10nm 3.2mb X
i 59 35.00
ipP 59 39.00
i(PP) 59 49.00
i(sP) 59 58.00
i 00 10.50
i 02 25.50
eS 02 48.00
i 03 07.00
eTT 12 10.00
KRP 18.65 164 P 59 59.80 1.7
COO 18.65 233 eP 00 00.00 1.7
PAA 18.99 314 eP 00 24.00 21.5X
BGA 19.31 314 eP 00 26.00 19.7X
AFI 19.36 74 P 00 06.00 -0.7
S 03 38.00
RMQ 19.66 247 eP 00 10.50 0.5
0.5s 180.00nm 5.6mb
RIV 20.95 226 eP 00 26.00 2.8
Z 20s 3.33um 4.7MszX
eS 04 24.00

07d 07h

KIW	21.30	168	P	00	27.30	0.5	MAT	63.41	333	iPc	06	07.30	-1.9	XAN	78.54	313	P	07	40.60	0.2
PGZ	21.38	165	P	00	26.20	-1.3		0.8s	35.82nm			5.5mb		KMI	78.55	302	Pc	07	41.50	0.6
	0.7s	226.00nm			5.7mb			Z 20s	3.19um			5.5Msz		KMI	78.55	302	P+	07	42.00	1.1X
CTA	21.38	266	iPd-	00	28.70	1.0			eS	14	26.00				Z 20s	4.70um			5.8Msz	
	1.0s	186.00nm			5.4mb		NIIJ	63.66	334	eP	06	10.90	0.1		N 18s	2.40um				
	Z 22s	14.26um			5.3Msz		YAMJ	64.04	335	eP	06	13.60	0.3			pP	07	52.00	32km	
		iS	04	16.00			OFUJ	64.20	337	eP	06	14.00	-0.3			PP	10	39.00		
		iScS	11	50.00			ANP	64.49	312	eP	06	34.00	17.4X			S	17	37.00		
TCW	21.52	169	P	00	29.80	0.9	KUSJ	66.74	341	eP	06	30.80	0.2	CHG	78.82	295	ePc	07	43.00	0.7
CAW	21.57	167	P	00	29.60	0.1	KGM	68.00	281	ePd	06	39.60	0.4		1.1s	37.97nm			5.3mb	
MRW	21.62	168	eP	00	30.30	0.4	ASAJ	68.32	340	eP	06	41.50	1.0	CHTO	78.82	295	iPc	07	43.10	0.9
WEL	21.68	168	P	00	32.00	1.5	SSE	68.55	317	Pd	06	42.50	0.3		1.4s	57.21nm			5.4mb	
		S	04	30.00				1.1s	0.04nm			2.4mb	X			pP	08	02.00	69kmX	
WDW	21.71	168	P	00	32.10	1.3		Z 20s	2.80um			5.5Msz		CD2	80.59	308	eP	07	52.50	0.9
MOW	21.91	167	P	00	33.40	0.6		N 16s	1.30um						Z 34s	2.90um			5.4MszX	
RAB	22.79	312	iPd-	00	40.00	-1.8		E 16s	2.00um							S	17	56.00		
		iS	04	48.00					pP	06	54.00	38km		HHC	80.74	320	P	07	52.60	0.4
CNB	23.02	225	iPd	00	45.90	2.0			S	15	38.00				Z 24s	4.80um			5.8MszX	
	1.1s	651.00nm			6.0mb				sS	15	56.00					S	17	59.00		
BWA	23.16	228	iPc	00	44.90	-0.3			ePS	16	10.00			BTO	81.54	319	P	07	57.00	0.6
CAN	23.26	225	iPc	00	47.80	1.6			ScS	16	40.00				N 20s	3.60um				
		ipP	00	58.80	43km		SPA	70.03	180	iPc	06	50.00	-1.0		E 20s	2.70um				
PMG	23.63	294	eP	00	51.00	1.1		1.0s	159.00nm			6.0mb				pP	08	08.00	35km	
	1.2s	281.25nm			5.6mb			Z 18s	8.43um			6.0Msz				S	18	04.50		
QLP	23.64	249	ePc	00	51.00	1.1	NJ2	70.68	316	Pc	06	56.00	0.8	LZH	83.15	312	Pc	08	05.80	0.9
CMS	23.71	237	ePc	00	51.50	0.9		Z 22s	3.80um			5.6Msz			5.0s	1.46nm			3.3mb	X
MSZ	24.52	182	P	00	58.30	0.0			S	16	08.00				Z 36s	5.20um			5.6MszX	
	1.2s	412.00nm			5.9mb		IPM	71.10	282	ePc	06	57.40	-0.7		E 20s	2.30um				
LAT	25.20	299	eP	01	06.00	0.9		0.7s	82.80nm			5.9mb				pP	08	17.50	38km	
TOO	26.87	225	ePd	01	21.00	0.7	SNG	72.49	285	iPc	07	05.80	-0.6			sP	08	22.00		
QIS	27.57	264	eP	01	27.00	0.1			eS	16	29.40					S	18	25.00		
MNDI	28.26	296	eP	01	35.00	1.6	SMY	72.65	3	P	07	07.00	0.5			sS	18	42.00		
ADE	30.55	235	iPd	01	52.10	-1.4		Z 20s	7.00um			5.9Msz				eSS	23	50.00		
	1.1s	129.11nm			5.6mb		WHN	72.77	313	eP	07	08.50	0.8	KDC	83.90	20	P	08	08.00	0.0
WB5	32.53	264	iPc	02	11.30	0.3		Z 22s	3.26um			5.6Msz		BRK	86.49	48	eP	08	21.60	0.2
		i	03	21.20	368kmX			N 20s	4.72um					BKS	86.51	48	iPc	08	22.00	0.5
		iPP	03	32.00					S	16	30.00				0.9s	58.00nm			5.8mb	
		eS	07	27.00			DL2	73.57	323	eP	07	12.00	-0.2		Z 20s	3.90um			5.8Msz	
FORR	38.28	245	iPd	02	59.30	-0.4		Z 26s	4.30um			5.6MszX			N 20s	2.30um				
	0.4s	125.00nm			6.1mb				S	16	40.00				E 20s	3.40um				
KNA	38.48	270	eP	03	00.50	-1.1	MDJ	73.78	332	eP	07	13.50	0.2			e	08	34.50	41km	
	0.6s	32.00nm			5.3mb			Z 25s	4.70um			5.7MszX				eSKS	18	43.00		
WARB	39.31	253	eP	03	08.50	0.0		N 22s	6.40um							eSS	24	46.00		
TVO	39.46	94	iP	03	07.40	-2.5			epP	07	25.00	38km				e	29	02.00		
	1.1s	85.00nm			5.4mb				S	16	40.00					eLQ	31	40.00		
GUA	40.98	323	eP	03	32.20	9.9X	TIA	74.45	319	Pc	07	16.60	-0.8			eLR	35	04.00		
GUMO	41.05	323	eP	03	32.80	10.0X		N 19s	2.40um					SYP	86.56	51	eP	08	23.00	1.0
PMO	41.30	90	iP	03	25.40	0.5		E 19s	3.00um					MHC	86.67	48	eP	08	22.60	0.1
	1.1s	80.00nm			5.4mb				eS	16	49.00			FHC	86.76	44	e(P)	08	23.20	0.5
VAH	41.50	90	iP	03	26.70	0.2	SNY	74.58	326	iPc	07	18.00	0.0	BCH	86.79	51	P	08	23.00	0.0
	1.1s	65.00nm			5.3mb			5.0s	0.90nm			3.0mb	X	TTA	87.21	15	P	08	24.80	0.4
TPT	41.57	90	iP	03	27.50	0.4		Z 20s	2.10um			5.4Msz			1.0s	10.00nm			5.0mb	
	1.1s	90.00nm			5.4mb			N 20s	1.80um					GTA	87.56	314	Pc	08	27.50	0.8
RUV	41.74	91	iP	03	28.90	0.4		E 20s	2.60um						1.2s	0.10nm			2.9mb	X
	1.1s	105.00nm			5.5mb				pP	07	29.50	38km			Z 24s	2.10um			5.5MszX	
COOL	44.24	246	iP	03	47.50	-1.3			iS	16	50.00				N 18s	1.70um				
	0.4s	17.00nm			5.2mb				sS	17	12.00					SKS	18	48.00		
MBL	45.90	260	eP	04	01.20	-0.9	CN2	75.08	329	Pc	07	20.80	0.0	WDC	87.61	45	ePc	08	26.70	0.0
	0.5s	55.00nm			5.7mb			4.0s	1.00nm			3.1mb	X	PAS	87.73	52	eP	08	28.00	0.5
MEKA	46.57	252	iPd	04	07.00	-0.3		Z 18s	4.00um			5.8Msz		ORV	87.82	46	ePc	08	27.40	-0.3
	0.5s	50.00nm			5.7mb			N 17s	1.70um					MWC	87.85	52	eP	08	28.00	-0.3
KLB	47.16	245	eP	04	10.60	-1.4			pP	07	32.00	37km		CMB	87.88	48	iPc	08	28.10	0.0
NWAO	47.65	243	eP	04	14.40	-1.4			sP	07	37.00			FRI	87.88	49	ePc	08	27.80	-0.3
		eS	11	11.00					PP	10	15.00			PMR	88.00	19	P	08	40.00	11.9X
		LR	17	00.00					eS	16	56.00				Z 20s	7.00um			6.1Msz	
RKG	47.88	242	iPd	04	06.80	-10.8X			sS	17	16.00			MIN	88.12	46	eP	08	28.60	-0.8
	0.5s	75.00nm					LOE	75.83	295	eP	07	26.00	0.4	ISA	88.17	51	eP	08	30.00	0.4
BAL	48.06	247	eP	04	17.50	-1.5	GYA	76.14	305	iPd	07	29.00	1.6	SBB	88.22	52	eP	08	30.00	0.1
	0.6s	57.00nm			5.8mb			Z 24s	1.90um			5.3MszX		BAR	88.23	54	eP	08	31.00	1.1
MUN	48.49	245	iPd	04	21.20	-1.1			pP	07	41.60	43km		RVR	88.26	53	eP	08	29.00	-1.0
	Z 20s	8.10um			5.7Msz				S	17	08.00					e	08	44.00	51kmX	
MRWA	48.70	248	eP	04	22.70	-1.3			SKS	17	26.00			PLM	88.37	54	eP	08	30.00	-0.8
NANU	49.67	257	eP	04	31.00	-0.5			SS	22	02.00			CLC	88.88	51	eP	08	33.00	0.0
	0.5s	52.00nm			5.8mb		NST	76.44	292	eP	07	30.80	1.7	GSC	89.24	52	eP	08	35.00	0.2
DRV	50.16	195	eP	04	34.00	-0.6	BJI	77.47	321	eP	07	34.00	-0.3	TPC	89.30	53	eP	08	35.00	0.0
MKS	50.35	280	i(P)	04	37.00	0.2		1.0s	0.05nm			2.5mb	X	SNA	89.63	183	iPc	08	35.70	-0.2
DAV	50.56	298	eP	04	42.00	3.7X		Z 20s	4.19um			5.8Msz			1.0s	89.00nm			6.0mb	
RKT	51.89	104	iP	04	53.20	4.8X		N 20s	2.53um					GLA	89.80	55	eP	08	38.00	0.6
	1.0s	35.00nm			5.3mb				epP	07	46.00	40km		LSA	89.80	302	P	08	39.30	1.3
HON	52.29	40	P	05	00.00	8.7X			eS	17	23.00					SKS	19	06.00		
	Z 20s	7.45um			5.7Msz				eSKS	17	40.00					S	19	27.00		
SBA	57.81	181	iPc+	05	31.80	1.2			eSS	22	24.00			BMW	90.05	40	P	08	38.50	0.2
KKM	58.04	291	ePd	05	33.80	0.6	MAW	77.57	202	iPc	07	34.60	0.1	IMA	90.39	14	P	08	39.70	0.2
BAG	59.83	304	eP	05	45.10	-0.6	TIY	78.32	317	Pc	07	39.50	0.3		0.8s	4.31nm			4.8mb	
		eS	13	52.00				E 24s	5.00um					GMW	90.84	39	P	08	41.90	0.1
KAKJ	62.29	334	eP	06	02.80	1.0			pP	07	52.00	42km		FBA	90.95	17	P	08	40.40	-1.5
IIDJ	62.65	332	P	06	03.60	-0.7			S	17	34.00				0.8s	13.79nm			5.4mb	

07d 07h

PGC	91.00	38	eP	08	43.00	0.6	KSP	142.54	331	ePKP	15	06.80	-4.8X	BERA	146.60	315	ePKP	15	19.10	0.4
LON	91.04	40	P	08	42.40	-0.4				i	18	47.80		VBY	146.69	326	ePKP	15	17.70	-1.1
RMW	91.38	39	P	08	44.20	-0.2	BRG	143.54	333	iPKPc	15	09.40	-3.9X	DLE	146.69	355	ePKP	15	18.90	0.4
PNT	93.54	38	eP	08	55.00	0.8	Z	20s		1.00um			5.6Msz		0.8s		126.00nm			
	0.8s		11.00nm			5.3mb	N	24s		3.50um				ITM	146.70	308	ePKP	15	19.60	0.5
GBA	96.03	282	P	09	08.30	2.0	E	24s		3.00um				LJU	146.71	327	ePKP	15	17.00	-1.8
HYB	96.26	286	ePd	09	08.00	0.7				iSKP	18	50.30		MEM	146.72	340	iPKPc	15	19.82	1.2
ALQ	96.95	55	eP	09	10.00	-0.4	SRO	143.59	326	iPKP	15	11.50	-2.0	FUR	146.73	332	ePKP	15	19.50	0.7
	1.0s		4.25nm			4.9mb				e	16	36.00		CEY	146.97	327	ePKP	15	19.00	-0.3
	Z 20s		1.72um			5.5Msz	CLL	143.60	335	iPKPc	15	09.60	-3.8X	VOY	147.04	327	ePKPc	15	17.50	-2.0
INK	97.42	18	eP	09	10.50	-0.9		2.7s		460.00nm				UCC	147.05	342	PKP	15	21.00	1.8X
WMO	97.65	314	P	09	13.40	0.3	Z	22s		3.00um			6.0Msz				e	15	33.00	
	4.0s		0.60nm			3.5mb X	PRU	143.93	332	PKP	15	11.00	-3.0X	KEK	147.17	313	ePKP	15	21.50	1.8
	Z 24s		5.60um			6.0MszX	Z	24s		6.10um			6.3MszX	FVI	147.20	329	PKP	15	17.70	-1.8
	N 25s		5.70um				N	24s		3.90um					1.1s		71.20nm			
			SKS	19	46.00		E	24s		1.80um				ETA	147.25	355	ePKP	15	21.30	1.9
SES	99.05	40	eP	09	20.00	0.8	SRS	143.95	313	ePKP	15	11.10	-3.3X		1.0s		255.00nm			
GOL	99.31	51	P	09	22.00	1.0	ZST	143.97	328	iPKP	15	12.50	-1.6	RIY	147.26	326	ePKP	15	20.00	0.3
	Z 20s		1.50um			5.5Msz	OUR	144.00	312	ePKP	15	11.60	-2.8X	VLS	147.28	310	ePKP	15	22.90	2.9X
GLD	99.43	51	P	09	22.00	0.6	BEO	144.16	321	iPKP	15	11.50	-3.0X	BCAO	147.32	245	iPKPc	15	19.20	-1.6
	Z 20s		2.00um			5.6Msz	VKA	144.31	328	iPKPc	15	12.50	-2.2X		0.7s		150.00nm			
RSSD	101.59	47	Pdiff	09	32.20	1.1		3.5s		1646.00nm							ic	15	22.60	
MBC	105.11	14	ePKP	13	58.00	-2.1	Z	22s		2.80um			6.0Msz				id	15	47.50	
	0.7s		3.00nm							i	15	24.80		SNF	147.33	342	PKPc	15	20.64	1.0
RSON	109.85	42	Pdiff	10	20.00	12.5X	EKA	144.33	352	PKP	15	12.00	-2.5X				i	15	21.69	
	Z 20s		2.26um			5.7Msz		0.6s		11.50nm				TRI	147.33	327	ePKPc	15	17.10	-2.7X
CNCB	113.08	119	PKP	14	17.00	-0.6	PLG	144.36	312	ePKP	15	12.00	-3.1X	HVAR	147.47	321	iPKP	15	21.40	1.3
LPB	113.13	119	PKP	14	28.00	10.5X	KNT	144.40	314	ePKP	15	12.60	-2.5X	WLF	147.48	339	PKPc	15	21.50	1.6
	Z 24s		3.88um			5.9MszX	NPS	144.47	303	ePKP	15	14.10	-1.3				i	15	22.60	
			LR	49	26.00		SOP	144.58	327	iPKPc	15	19.00	3.8X				i	15	37.40	
ZOBO	113.24	119	ePKP	14	14.00	-3.9X	THE	144.58	313	ePKP	15	13.00	-2.4X	GWF	147.55	337	PKP	15	22.61	2.5X
	Z 24s		0.83um			5.2MszX	WIT	144.60	341	ePKP	15	15.00	0.0	DOU	147.61	341	PKP	15	19.00	-1.1
			LR	24	44.00					e	15	34.50			Z 22s		3.10um			6.0Msz
PPD	122.50	135	ePKP	14	33.20	-1.6	MOX	144.67	335	PKPc+	15	14.00	-1.3				i	15	22.40	
			e	14	34.20			2.0s		588.00nm							e	15	34.00	
RSNY	122.55	49	PKP	14	31.00	-3.2X	Z	20s		2.90um			6.0Msz	ECB	147.63	355	ePKP	15	21.60	1.6
	Z 22s		4.23um			6.1Msz	N	20s		2.70um					0.9s		154.00nm			
HBVT	123.61	50	PKP	14	33.80	-2.5X	HOF	144.82	334	iPKPc	15	14.20	-1.4	ECP	147.78	355	ePKP	15	22.20	2.0X
BUL	124.30	226	iPKPd	14	37.90	-0.6	NEO	144.94	311	ePKP	15	13.50	-2.6X		0.7s		324.00nm			
	1.0s		15.00nm				KHC	144.99	332	iPKPc	15	15.00	-0.9	OGA	147.82	331	ePKP	15	19.50	-1.3
			i	16	22.80			1.0s		96.00nm							i	15	25.30	
KEV	125 31	345	iPKP	14	37.80	-0.9	Z	24s		1.80um			5.8MszX	STR	147.82	336	PKP	15	23.26	2.8X
	0.8s		24.90nm				N	24s		1.60um				LCI	148.10	316	PKP	15	23.50	2.3X
	Z 20s		1.20um			5.6Msz				e	15	27.30		WLS	148.12	337	PKP	15	23.75	2.7X
			LR	09	20.00		SKO	145.01	316	iPKPc	15	15.00	-1.1	CTI	148.14	329	PKP	15	20.86	-0.4
SCH	125.75	36	ePKP	14	38.00	-2.1X				i	15	23.00			0.9s		60.90nm			
PTZ	126.18	234	iPKPd+	14	42.00	-0.2				i	15	28.00		CDF	148.15	337	PKP	15	23.83	2.7X
	1.0s		17.40nm							i	18	30.00		SLE	148.20	335	ePKPc	15	23.60	2.4X
BMA	126.54	141	ePKP	14	41.10	-1.6				i	18	53.00		SAX	148.26	333	ePKPc	15	24.30	2.7X
C8M	126.74	46	PKP	14	40.50	-1.7				i	24	53.00		FEL	148.30	335	PKP	15	24.07	2.6X
RYD	126.88	286	ePKP	14	43.00	-0.3	ATH	145.08	308	ePKP	15	14.80	-1.5	ECH	148.35	337	PKP	15	24.07	2.7X
SOD	127.09	343	ePKP	14	41.00	-1.3	WTS	145.26	341	iPKPc	15	15.30	-0.9	OSS	148.35	332	ePKPc	15	24.90	3.2X
TAB	127.62	303	ePKP	14	44.00	-0.4		0.8s		133.00nm				ZLA	148.47	335	ePKPc	15	24.40	2.7X
LSZ	127.87	231	iPKP	14	46.00	0.6				i	15	28.00		MOF	148.66	336	PKP	15	24.91	2.9
			i	16	44.00		WET	145.29	332	iPKPc	15	16.30	-0.1	LLS	148.71	333	ePKPc	15	25.50	3.2X
KMSA	128.17	281	ePKP	14	46.00	0.2	Z	19s		2.20um			6.0Msz	VITF	148.78	338	PKP	15	25.27	3.3X
SLY	128.39	300	ePKPd	14	43.00	-2.7X	KMR	145.51	330	ePKP+	15	15.50	-1.3	VDL	148.80	332	ePKPc	15	25.80	3.4X
			ePKS	18	04.00					i+	15	17.10		BSF	148.81	337	PKP	15	25.22	3.0X
BAO	129.17	132	ePKP	14	46.90	-1.0				i	15	29.80		HAU	148.83	337	ePKP	15	25.30	3.1X
BHD	129.35	297	ePKPd	14	47.00	-0.6				e	18	31.00			0.9s		153.55nm			
			ePKS	18	09.00					e	25	59.00		BBS	148.84	335	PKP	15	25.27	3.0X
MZZ	129.98	235	iPKP	14	49.00	-0.5	VAM	145.54	304	ePKP	15	17.10	-0.1	AOI	148.86	324	ePKP	15	26.03	3.7X
MSL	130.25	301	ePKPd	14	48.00	-1.3	KZN	145.55	313	ePKP	15	15.78	-1.4	SAL	148.99	330	PKP	15	20.00	-2.4X
			ePKS	18	12.50		GRF	145.57	334	ePKP	15	15.20	-1.7	FG2	149.05	320	PKP	15	26.54	3.9X
SUF	130.42	339	ePKP	14	47.60	-1.1	Z	20s		2.20um			5.9Msz	LOMF	149.19	336	PKP	15	26.38	3.5X
	0.4s		9.80nm							ic	15	17.20		RSM	149.23	326	PKP	15	24.90	2.1X
NUR	132.44	337	iPKP	14	52.20	-0.4				e	15	19.40		MDI	149.24	331	PKP	15	22.84	0.1
	1.0s		62.00nm							e	15	28.90			0.5s		54.00nm			
	Z 24s		1.60um			5.6MszX	DBN	145.66	342	ePKP	15	16.00	-0.8	ARV	149.26	325	PKP	15	22.31	-0.7
			LR	06	10.00					e	15	30.00			1.0s		177.40nm			
LWI	135.12	245	iPKPc	14	57.50	-1.9	PHP	145.80	316	iPKPc	15	17.00	-0.4	CIO	149.35	324	ePKP	15	27.40	4.2X
SLL	136.14	343	(PKP)	14	45.30	-14.4X	OHR	145.84	315	iPKP	15	16.50	-1.1	TMA	149.36	332	iPKPc	15	27.00	3.7X
	1.0s		11.00nm					2.2s		1100.00nm				ALP	149.38	323	ePKP	15	18.21	-5.1X
NB2	136.21	345	PKP	14	47.40	-12.5X				i	15	25.20		TDS	149.51	316	PKP	15	23.37	-0.1
	0.9s		9.70nm							i	15	31.50			2.3s		576.40nm			
PDCR	137.36	137	ePKP	14	50.40	-12.9X	PUK	145.97	317	ePKP	15	18.90	1.2	SFI	149.55	326	PKP	15	19.21	-4.1X
			e	15	01.40		PTJ	146.06	325	iPKPc	15	18.50	0.6		1.0s		1288.90nm			
			e	18	32.00		ZAG	146.10	325	ePKP	15	18.70	0.9	DUI	149.56	321	PKP	15	25.02	1.5
			e	18	54.40		DMU	146.11	356	ePKP	15	17.50	-0.1		0.2s		11.30nm			
BBTK	137.80	308	iPKP	14	56.00	-7.7X	TNS	146.21	337	ePKPc	15	18.70	0.7	VAI	149.59	332	PKP	15	22.84	-0.5
VRI	139.81	319	ePKP	15	02.50	-4.5X	SDA	146.24	317	iPKPc	15	14.10	-4.0X		1.0s		796.70nm			
MLR	140.47	318	ePKP	15	03.00	-5.3X	BHG	146.34	330	ePKP	15	16.40	-1.8	PGD	149.65	326	PKP	15	24.70	1.0
BUC	140.86	317	ePKP	15	01.00	-7.8X				i	15	18.50		SGO	149.68	318	PKP	15	23.26	-0.4
KRA	141.34	328	ePKP	15	06.20	-3.3X	TIR	146.34	316	ePKP	15	19.00	0.6		1.0s		127.30nm			
			e	15	12.50		K8A	146.58	329	iPKPc	15	19.10	0.3	ASS	149.69	324	PKPd	15	27.50	3.8X
			e	18	29.00					i	15	36.30		CRE	149.70	326	PKP	15	27.50	3.8X
SPC	141.73	327	ePKP	15	07.70	-2.8X				i	15	38.60		AOU	149.75	323	PKP	15	24.80	1.0

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AQU   149.75 323 PKP   15 28.62   4.8X
       0.1s    18.00nm
MGR   149.76 317 PKP   15 27.26   3.5X
       1.2s   220.50nm
MMK   149.79 333 ePKPc 15 28.80   4.8X
GRI   149.89 314 PKP   15 24.57   0.5
       1.0s   278.70nm
SDI   149.91 321 PKP   15 19.00  -5.1X
MME   149.94 328 PKP   15 28.97   4.7X
FIR   149.96 327 iPKPc 15 29.00   5.1X
AZI   149.96 322 PKPd  15 27.00   3.0X
AZI   149.96 322 PKP   15 23.02  -1.0
       1.0s    98.60nm
DIX   150.00 334 ePKPc 15 29.30   5.0X
BDI   150.09 328 PKP   15 23.30  -1.0
ORO   150.12 333 PKP   15 23.86  -0.5
       0.5s    97.60nm
BOB   150.13 330 PKP   15 05.60 -18.7X
BOB   150.13 330 PKP   15 28.86   4.6X
       0.8s   276.90nm
MNS   150.14 323 PKP   15 23.34  -1.0
       0.8s   263.30nm
FLN   150.18 346 ePKP  15 28.10   4.0X
       0.8s   167.90nm
EMS   150.21 334 ePKPc 15 29.50   5.0X
LDF   150.25 345 ePKP  15 28.10   3.8X
       1.0s   132.00nm
LOR   150.32 339 ePKP  15 28.70   4.3X
       0.9s   166.35nm
PII   150.37 327 PKP   15 19.40  -5.2X
RMP   150.49 322 PKP   15 17.00  -7.9X
SOI   150.51 313 PKP   15 27.50   2.6X
RDP   150.52 322 PKP   15 17.30  -7.7X
LBF   150.53 339 ePKP  15 29.10   4.3X
GRC   150.55 340 PKP   15 29.96   5.2X
GMB   150.60 314 PKP   15 30.39   5.1X
       0.8s   123.50nm
LSD   150.61 333 PKP   15 30.34   5.1X
GRR   150.62 346 ePKP  15 29.00   4.2X
SSF   150.62 340 ePKP  15 29.70   4.8X
PCP   150.72 331 PKP   15 29.63   4.5X
LPG   150.74 334 ePKP  15 30.50   5.0X
       0.9s   102.35nm
SMF   150.87 339 ePKP  15 29.90   4.6X
AVF   150.91 340 ePKP  15 29.80   4.5X
CKI   150.93 331 PKP   15 29.87   4.5X
       1.6s   321.90nm
LPF   150.99 346 ePKP  15 30.20   4.8X
FIN   151.13 331 PKP   15 30.24   4.5X
BNI   151.14 334 PKP   15 31.78   5.9X
       0.4s    25.40nm
RRL   151.20 333 PKP   15 31.58   5.5X
ROB   151.21 331 PKP   15 30.45   4.5X
BGF   151.28 340 ePKP  15 31.00   5.1X
DOI   151.33 332 PKP   15 30.65   4.5X
       0.4s    23.90nm
PZZ   151.39 332 PKP   15 30.75   4.5X
ENR   151.47 332 PKP   15 30.24   3.9X
STV   151.50 332 PKP   15 30.86   4.5X
IMI   151.50 331 PKP   15 31.37   5.0X
PLDF  151.54 338 PKP   15 32.39   6.0X
AGO   151.63 339 PKP   15 32.22   5.8X
MAF   151.67 340 ePKP  15 32.00   5.5X
       1.0s    63.00nm
TCF   151.72 340 ePKP  15 32.00   5.4X
SBF   151.75 331 ePKP  15 31.50   4.7X
PYM   151.94 339 PKP   15 33.33   6.3X
LSF   151.96 341 ePKP  15 32.30   5.4X
CVF   152.04 328 ePKP  15 32.50   5.3X
MFF   152.11 344 ePKP  15 32.30   5.2X
       1.0s   106.00nm
LBL   152.31 338 PKP   15 33.99   6.6X
FRF   152.34 332 ePKP  15 33.10   5.6X
       0.8s    57.75nm
LRG   152.55 332 ePKP  15 33.90   6.1X
       0.9s    57.35nm
LMR   152.58 332 ePKP  15 33.50   5.7X
       0.9s    58.95nm
RJF   152.82 340 ePKP  15 34.50   6.4X
       0.9s    54.05nm
CAF   152.98 339 ePKP  15 35.10   6.7X
       0.9s    22.10nm
LFF   153.39 341 ePKP  15 35.70   6.8X
       0.9s    60.60nm
LPO   153.48 340 ePKP  15 35.90   6.8X
       1.0s    60.00nm
TOL   159.40 345 ePKP  15 36.00  -0.7

LIC   165.05 204 PKPd  15 43.06   0.0
      Z  20s      2.50um
KIC   165.06 205 PKPd  15 43.10   0.1
TIC   165.43 204 PKPd  15 43.44   0.1
      S.D. = 1.1  on 219 of 352 obs.
-------------------------------------
*  OCT 07, 1989  09h 02m 16.83± 0.90s
   16.643 S ±14.8km   72.491 W ±10.0km
   DEPTH = 107.9 ± 12.1 km
 NEAR COAST OF PERU                (115)

ARE     0.98  80 iPc   02 36.00  -2.2
PT03    4.14 309 e(P)  03 18.50  -0.6
                iS     03 22.50
ZOBO    4.21  86 iPc   03 21.60   1.1
LPB     4.21  89 P     03 20.80   0.3
CNCB    4.32  93 P     03 23.90   1.8
PT08    6.09 319 eP    03 46.00  -0.3
                eS     04 58.30
NNA     6.26 317 iPd   03 49.80   1.5
       0.6s    33.33nm          4.8mb X
                iS     03 50.80
                eS     05 00.00
PT10    6.28 316 e(P)  03 51.00   2.5X
                eS     05 10.00
ANT     7.29 165 e(P)  04 02.50   0.2
PPD    20.68 108 eP    06 50.00  -0.2
PDCR   32.53  87 e(P)  08 38.00  -1.7
GBA   150.83  92 PKP   21 53.00   0.0
       0.2s     1.80nm
      S.D. = 1.5  on  11 of  12 obs.
-------------------------------------
%  OCT 07, 1989  09h 47m 56.48± 1.13s
   17.326 N ±17.4km   95.234 W ±10.6km
   DEPTH = 33.0km  (normal)
 OAXACA, MEXICO                    ( 60)

EVV     1.13 354 (P)   48 22.50   6.5X
                iS     48 43.00
OXX     1.44 261 iPd   48 20.31  -0.4
                iS     48 39.44
SCX     2.56 103 iP    48 36.60   0.1
                eS     49 06.39
IISM    2.62 309 eP    48 38.20   0.8
                eS     49 04.43
LVVM    2.66 335 iPc   48 37.26  -0.7
                iS     49 09.82
IIT     3.37 300 eP    48 47.00  -1.4
PPM     3.66 299 eP    48 54.30   1.6
                (S)    49 40.00
TPX     3.74 130 (P)   49 10.00  16.8X
      S.D. = 1.4  on   6 of   8 obs.
-------------------------------------
?  OCT 07, 1989  11h 20m 28.80± 2.15s
   19.184 N ±11.3km   98.777 E ±28.7km
   DEPTH = 32.8 ± 10.8 km
 SOUTHEAST ASIA                    (299)

CHG     0.40 157 iPn   20 38.00   0.0
                iSg    20 54.00
CHTO    0.40 157 iPn   20 37.90   0.0
                iPg    20 39.30
BDT     1.94 174 ePn   21 00.70   0.6
                ePg    21 06.00
                eSg    21 41.90
LOE     3.32 122 ePn   21 20.00   0.4
                eSg    22 16.00
                e      26 33.00
NST     3.72 159 eP    21 24.00  -1.4
KMI     6.96  31 eP    22 11.20  -0.1
      S.D. = 1.1  on   6 of   6 obs.
-------------------------------------
   OCT 07, 1989  12h 34m 27.84± 0.74s
   44.629 N ± 4.8km    8.328 E ± 4.8km
   DEPTH = 10.0km  (geophysicist)
 NORTHERN ITALY                    (545)
      ML 2.5 (GEN).

PCP     0.18 119 P     34 31.96   0.1
                S     34 34.63
CKI     0.21 190 Pc    34 32.20  -0.2
                eSg    34 35.20
FIN     0.43 192 P     34 35.86  -0.7
                S     34 42.22
ROB     0.47 225 P     34 36.58  -0.8
                S     34 43.55
ENR     0.76 239 P     34 42.63  -0.2

                S     34 52.78
DOI     0.78 261 P     34 43.10  -0.1
                eSg    34 51.30
IMI     0.78 204 P     34 42.93  -0.2
                S     34 53.39
STV     0.82 242 P     34 43.55  -0.1
                S     34 54.11
SAOF    0.85 221 Pg    34 44.74   0.5
PZZ     0.89 262 P     34 44.57  -0.4
                S     34 54.62
AUTN    0.91 226 Pg    34 45.43   0.1
TOUF    0.99 232 Pg    34 47.19   0.4
AURF    1.03 224 Pg    34 47.71   0.3
                Sg     35 02.42
MVIF    1.12 229 Pg    34 49.22   0.3
                Sg     35 04.33
RRL     1.14 285 P     34 48.98  -0.3
LSD     1.17 315 P     34 49.80  -0.1
CALN    1.36 230 Pg    34 54.36   1.5
      S.D. = 0.6  on  17 of  17 obs.
-------------------------------------
   OCT 07, 1989  13h 21m 05.44± 1.42s
   12.146 N ± 5.0km  125.553 E ± 7.4km
   DEPTH =  56.1 ± 13.6 km
   5.2mb ( 13 obs.) 4.6Msz (  8 obs.)
 SAMAR, PHILIPPINE ISLANDS         (251)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 14S, 26C
      Centraid Lacotion:
      Origin Time        13:21: 7.2 0.7
      Lat 11.63N 0.10 Lon 125.66E 0.14
      Dep  47.2 7.4 Half-duration  1.6
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 1.50 0.77  Mtt= 1.71 0.68
        Mff=-3.21 1.28  Mrt= 4.42 0.95
        Mrf=-0.42 0.82  Mtf=-6.30 0.83
       Principal Axes:
        T  Val=  8.32  Plg=31  Azm= 30
        N       -0.26      56      240
        P       -8.06      14      128
      Best Double Couple:Mo=8.2*10**16
       NP1:Strike=173 Dip=58 Slip=  13
       NP2:        76     79      147

QCP     5.01 300 eP    22 33.00  13.1X
DAV     5.03 180 eP    22 23.00   2.8
                eS     23 31.50
BAG     6.42 312 eP    22 38.50  -1.3
                eS     23 51.00
PCI    14.15 204 ePd   24 32.00   7.4X
       0.8s    12.00nm          4.5mb
GUMO   18.88  84 eP    25 24.00  -0.2
SSE    19.29 349 Pc    25 29.00   0.5
       1.1s     0.07nm          1.8mb X
     Z 20s      1.90um          3.8Msz
     E 14s      1.70um
                sP     25 42.00
                S      29 02.00
NJ2    20.75 344 Pc    25 43.60  -0.2
     Z 22s      1.70um          4.4Msz
WHN    21.04 332 Pc    25 48.00   1.2
       1.0s     0.04nm          1.7mb X
GYA    22.77 311 P     26 04.80   0.6
     Z 20s      3.40um          4.8Msz
     N 16s      4.30um
     E 16s      4.40um
LOE    23.61 286 eP    26 11.00  -1.3
KGM    24.22 247 eP    26 20.00   1.7
SNG    25.06 261 eP    26 35.50   9.2X
                eS     31 02.00
KMI    25.12 304 Pc    26 27.50   0.4
     Z 18s      5.20um          5.1Msz
                S      30 11.00
TIA    25.14 344 P     26 26.40  -0.4
NNT    25.22 274 eP    26 28.00   0.2
IPM    25.39 255 ePd   26 35.40   6.0X
MTN    25.44 167 eP    26 28.00  -1.8
CHTO   26.47 288 iP    26 38.70  -0.6
       0.9s     8.53nm          4.3mb
XAN    26.55 328 Pd    26 39.80  -0.2
DL2    26.88 353 eP    26 40.00  -2.8
     Z 20s      0.90um          4.3Msz
CD2    27.47 316 iPd   26 48.50   0.1
     Z 18s      3.20um          4.9Msz
KNA    27.90 173 eP    26 51.00  -1.3
TIY    28.04 337 Pc    26 53.50   0.0
```

07d 13h

	N	15s	1.40um			
BJI		28.99	345 eP	27	01.00	-0.9
		1.0s	0.01nm			1.5mb X
	Z	20s	0.90um			4.4Msz
			eS	31	46.00	
SNY		29.62	357 Pc	27	07.30	-0.2
	Z	20s	1.20um			4.5Msz
	N	20s	1.00um			
	E	16s	0.90um			
PMG		30.32	134 eP	27	13.00	-1.0
LZH		30.85	324 P	27	17.80	-0.9
		1.5s	0.05nm			2.0mb X
	Z	16s	4.30um			5.2MszX
	N	15s	2.40um			
	E	15s	2.00um			
			eS	32	29.00	
HHC		31.12	339 eP	27	21.80	0.8
BTO		31.47	337 eP	27	22.50	-1.5
	N	12s	1.00um			
	E	12s	0.80um			
			eS	32	30.00	
MDJ		32.54	5 eP	27	33.50	0.3
WB5		32.99	165 eP	27	35.60	-1.7
QIS		35.31	157 iPd	27	55.00	-2.3
GTA		35.45	325 Pc	27	59.00	0.5
	Z	16s	1.20um			4.7MszX
	E	12s	0.90um			
LSA		36.38	304 P	28	09.00	2.1
ASPA		36.52	167 iPc	28	06.00	-1.5
		0.5s	32.00nm			5.5mb
			eS	33	45.90	
CTA		37.96	147 iPd	28	19.20	-0.4
		1.0s	27.00nm			5.1mb
			eS	34	10.00	
WARB		38.11	178 eP	28	21.50	0.7
MEKA		39.13	190 eP	28	28.00	-1.3
FORR		42.82	177 eP	28	59.00	-0.5
		0.4s	27.00nm			5.4mb
WMQ		45.32	321 P	29	20.50	0.7
	Z	16s	2.30um			5.2MszX
	N	16s	1.80um			
	E	16s	2.00um			
			eS	36	00.00	
NWAO		45.52	190 eP	29	21.00	-0.2
HYB		45.66	283 ePc	29	22.40	-0.3
GBA		46.87	277 P	29	33.00	0.8
BRS		47.35	146 iP	29	35.50	-0.4
		0.9s	22.00nm			5.1mb
			i	29	43.50	
			i	31	26.00	
CMS		47.54	156 eP	29	38.00	0.7
NDI		47.86	298 eP	29	38.80	-1.0
BWA		51.16	156 eP	30	07.10	2.1
CAN		52.17	156 eP	30	14.40	1.7
DZM		52.58	130 iPc	30	16.50	0.5
MAIO		63.65	305 eP	31	32.00	-1.4
MSZ		68.34	149 P	32	04.20	1.3
		0.9s	91.00nm			5.8mb
IMA		75.23	25 eP	32	45.10	1.2
		0.9s	6.20nm			4.5mb
FBA		77.68	26 eP	32	58.00	0.7
KEV		81.64	340 eP	33	19.00	0.5
SOD		82.30	337 iP	33	23.20	1.2
INK		82.81	22 eP	33	25.00	0.4
SUF		83.57	333 iP	33	29.30	0.7
		0.4s	12.10nm			5.3mb
MBC		84.05	13 eP	33	32.00	1.2
		0.9s	11.00nm			4.9mb
MBH		84.65	299 ePd	33	32 00	-2.7
NUR		84.83	331 iP	33	36.20	1.3
		0.9s	47.30nm			5.6mb
CSS		84.95	305 eP	33	37.50	1.4
MLR		88.07	316 eP	33	52.00	0.7
HFS		90.07	332 eP	34	00.10	-0.2
		1.1s	24.60nm			5.4mb
	Z	19s	0.38um			4.8Msz
			LR	13	46.00	
NB2		90.78	334 P	34	03.10	-0.5
		0.9s	6.40nm			5.0mb
UPA		147.41	51 ePKP	40	46.80	3.9X
CNCB		166.10	111 ePKP	41	14.00	7.4X
ZOBO		166.12	109 PKP	41	10.20	3.6X
	S.D. = 1.2		on 60 of 67 obs.			

OCT 07, 1989 13h 34m 31.82± 0.84s
38.778 N ± 6.3km 27.351 E ±11.2km
DEPTH = 10.0km (geophysicist)

TURKEY (366)

IZM	0.39	190	iPg	34	40.00	0.3
			iSg	34	47.90	
CIN	1.31	154	ePn	34	55.00	-1.0
			iSg	35	15.00	
EZN	1.31	323	iPn	34	56.40	0.3
BNT	1.64	15	iPn	35	01.00	0.3
KCT	1.66	28	iPn	35	00.00	-1.1
KHL	1.76	104	ePn	35	04.00	1.3
S.D. = 1.2			on 6 of 6 obs.			

% OCT 07, 1989 13h 41m 02.85± 0.85s
38.783 N ± 7.3km 27.448 E ±10.8km
DEPTH = 10.0km (geophysicist)

TURKEY (366)

IZM	0.41	201	ePg	41	11.00	-0.3
EZN	1.36	320	iPn	41	28.40	0.6
EDC	1.59	11	ePn	41	30.00	-1.1
KCT	1.62	25	iPn	41	32.00	0.4
KHL	1.69	105	ePn	41	33.00	0.3
S.D. = 1.0			on 5 of 5 obs.			

* OCT 07, 1989 14h 03m 46.51± 0.56s
16.051 N ± 8.7km 47.966 W ±12.8km
DEPTH = 10.0km (geophysicist)
4.4mb (4 obs.)

NORTH ATLANTIC RIDGE (403)

PDCR	29.72	162	eP	09	53.70	-1.5
BLA	35.59	313	eP	10	45.50	-0.8
ZOBO	37.77	213	P	11	06.00	0.6
	1.1s		9.28nm			4.5mb
LPB	37.98	212	P	11	06.00	-1.0
CNCB	38.15	212	P	11	10.00	1.4
FVM	43.20	309	eP	11	49.00	-0.5
	0.9s		5.93nm			4.3mb
UYO	45.37	302	iPd	12	07.80	0.8
MEO	48.84	302	iPc	12	33.80	-0.4
ALQ	55.28	302	eP	13	22.30	-0.6
EDM	62.59	322	eP	14	12.50	-0.6
TPC	63.18	300	eP	14	17.00	-0.4
BAR	63.76	299	eP	14	21.00	-0.2
GSC	63.77	302	eP	14	22.00	0.7
RVR	64.29	300	eP	14	25.00	0.4
CLC	64.40	302	eP	14	26.00	0.6
SBB	64.63	301	eP	14	27.00	0.1
KVN	64.73	306	iP	14	27.10	-0.6
ISA	65.12	302	eP	14	31.00	1.0
PNT	66.06	317	eP	14	36.00	0.3
BCAO	66.21	92	iPc	14	38.30	1.0
	0.8s		7.00nm			4.9mb
FBA	79.72	335	eP	15	55.50	-0.3
	1.3s		0.70nm			3.5mb
DZM	146.98	254	iPKPc	23	32.80	3.0X
S.D. = 0.8			on 21 of 22 obs.			

* OCT 07, 1989 14h 05m 20.62± 1.08s
33.784 N ±18.4km 94.956 E ±13.3km
DEPTH = 33.0km (normal)
4.7mb (4 obs.)

QINGHAI PROVINCE, CHINA (325)

LZH	7.65	70	ePn	07	13.00	0.2
			Pg	07	46.20	
			Sg	09	26.00	
KMI	10.97	140	eP	07	55.00	-3.6X
CHTO	15.33	166	eP	08	57.10	0.9
HYB	21.96	226	ePc	10	11.70	-1.6
	1.0s		25.00nm			4.6mb
GBA	25.63	223	P	10	50.00	1.1
SUF	50.95	326	eP	14	22.50	1.9X
	0.6s		5.90nm			4.7mb
KEV	51.12	336	eP	14	17.00	-4.8X
NUR	51.69	324	eP	14	18.00	-8.2X
HFS	57.15	324	eP	15	08.70	2.6X
	0.9s		8.80nm			4.8mb
NB2	58.15	325	P	15	14.30	1.1X
	0.7s		2.20nm			4.3mb
WB5	65.26	139	eP	16	00.20	-1.2
CTA	72.51	130	eP	16	46.00	-0.3
BCAO	76.26	266	iPd	17	08.90	0.8
S.D. = 1.3			on 7 of 13 obs.			

OCT 07, 1989 15h 41m 11.27± 0.68s
37.637 N ± 6.3km 21.223 E ± 6.0km
DEPTH = 5.0km (geophysicist)
3.5mb (2 obs.)

SOUTHERN GREECE (368)
ML 3.5 (ATH).

ITM	0.72	129	iPgc	41	24.10	-1.6
VLS	0.74	317	iPgc	41	24.40	-1.6
VLI	1.65	123	ePn	41	41.40	0.4
ATH	2.00	80	ePn	41	46.60	0.5
NEO	2.29	43	ePn	41	50.70	0.4
KEK	2.35	332	ePb	41	51.90	0.7
LSK	2.56	349	ePn	41	54.30	0.2
LIT	2.65	22	ePn	41	56.60	1.2
			eSn	42	31.40	
KZN	2.70	9	ePn	41	56.50	0.3
PAIG	2.99	39	ePn	41	59.70	-0.4
BERA	3.22	342	ePn	42	02.80	-0.6
PLG	3.23	32	ePn	42	03.10	-0.6
VAM	3.27	132	ePn	42	03.10	-1.1
OUR	3.45	38	ePn	42	06.10	-0.6
APE	3.48	98	ePb	42	09.70	2.5
OHR	3.48	355	iPn	42	06.80	-0.5
LCI	3.71	318	P	42	18.50	8.1X
			eSn	42	59.50	
KNT	3.75	20	ePn	42	11.70	0.6
TIR	3.85	345	ePn	42	11.50	-0.9
SRS	3.93	27	ePn	42	12.80	-0.8
			eSn	43	01.30	
PHP	4.09	352	ePn	42	15.10	-0.7
SKO	4.33	2	ePn	42	16.50	-2.8X
PUK	4.52	347	ePn	42	17.80	-4.0X
MEU	5.04	266	P	42	24.80	-4.6X
MGR	5.08	301	P	42	31.00	1.1
			eSn	43	25.00	
SGO	5.45	304	P	42	36.50	1.4
			eSn	43	34.00	
HFS	23.02	350	(P)	46	12.50	-5.4X
	0.5s		0.70nm			3.4mb
NB2	24.26	348	P	46	33.50	3.5X
	0.7s		1.10nm			3.6mb
S.D. = 1.1			on 22 of 28 obs.			

OCT 07, 1989 15h 48m 29.06± 0.10s
51.314 N ± 2.5km 179.028 W ± 1.8km
DEPTH = 19.6km (geophysicist)
6.1mb (65 obs.) 6.7Msz (29 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
Ms 6.2 (BRK), 6.1 (PAS).
Mo=3.0*10**19 Nm (PPT). Felt (IV) on Adok and Amchitko. Two events obout 2.5 seconds oport. Depth from broadbond displacement seismograms, bosed on first event.
FAULT PLANE SOLUTION: P-Waves

NP1:Strike=	65	Dip=75	Slip= 90
NP2:	245	15	90

Principol Axes:

T		Plg=60	Azm=335
P		30	155

Comment: The focol mechonism is poorly controlled ond corresponds to reverse faulting. The preferred foult plone is NP2.
RADIATED ENERGY
No. of sto: 15 Focal mech. C
Energy 1.0±0.2*10**14 Nm
CENTROID, MOMENT TENSOR (HRV)
Dato Used: GDSN
L.P.B.: 24S, 62C M.W.: 18S, 41C
Centroid Locotion:
Origin Time 15:48:36.6 0.1
Lat 51.24N 0.01 Lon 178.97W 0.02
Dep 26.8 0.7 Half-duration 9.0
Moment Tensor; Scole 10**19 Nm
Mrr= 1.08 0.01 Mtt=-1.09 0.01
Mff= 0.01 0.01 Mrt= 1.18 0.05
Mrf= 0.70 0.05 Mtf=-0.35 0.01
Principol Axes:

T	Vol= 1.75	Plg=63	Azm=319
N	0.07	8	65
P	-1.82	25	159

Best Double Couple:Mo=1.8*10**19

NP1:Strike=	266	Dip=21	Slip= 113
NP2:	62	71	82

ADK	1.57	68	iPc	48	57.70	1.7				PcP	58	04.80		ISA	45.32	86	eP	56	46.00	-1.4
SMY	4.47	291	eP	49	39.30	1.9				S	01	20.00		CLC	45.77	85	eP	56	50.00	-0.9
SDN	11.78	63	eP	51	19.00	0.1				ScS	05	55.80		DUG	46.02	77	eP	56	52.80	-0.2
			i	51	20.40		YONJ	37.45	263	P	55	42.50	-0.2	SBB	46.36	86	eP	56	55.00	-0.5
PET	13.80	286	iPc	51	47.00	1.3	TKSJ	37.88	261	eP	55	47.10	0.9	PAS	46.49	87	ePc	56	56.25	-0.3
			eS	54	24.00		HIA	38.18	292	ePc	55	48.66	0.0				ec	56	59.73	
SVW	16.21	44	eP	52	21.80	4.8X				ec	55	52.31					epPd	57	02.54	21kmX
KDC	16.62	57	eP	52	20.20	-2.0				esPd	55	59.09					ePcP	57	54.00	
			i	52	21.80					ePP	57	17.31					ePP	58	49.00	
ILT	16.64	0	iPc	52	27.80	5.4X				eS	01	32.34					ePPP	59	38.00	
			iS	55	44.00		VGB	38.21	75	eP	55	49.30	0.3				ePcS	02	22.00	
TTA	16.95	38	ePc	52	29.60	3.2X	FHC	38.76	84	eP	55	56.00	2.3				eS	03	43.77	
			id	52	31.80		EDM	38.97	61	iP	55	54.00	-1.3				eScS	06	48.00	
PMS	18.97	47	eP	52	51.50	0.1	SHNJ	39.61	264	P	56	01.90	1.2				eLg	07	22.00	
			i	52	53.10		SNY	39.65	279	iPc	56	01.00	0.1				eLR	09	47.00	
PMR	19.28	46	eP	52	55.50	0.5		1.4s		2.30nm			3.7mb X	MWC	46.51	87	eP	56	56.00	-0.9
	0.7s		1.10nm			3.2mb X		Z 30s		82.80um			6.4MszX	GSC	46.60	85	eP	56	57.00	-0.5
			i	52	57.80			N 17s		41.80um				DAU	46.84	76	eP	56	59.00	-0.6
IMA	19.58	31	eP	52	59.10	0.5		E 18s		63.80um				TIA	47.03	277	Pc	57	00.60	-0.2
MID	20.09	53	e(P)	53	05.20	1.3				pP	56	11.00	34kmX		Z 36s		87.40um			6.5MszX
TOA	20.77	46	eP	53	10.20	-0.8				PP	57	35.00			E 18s		48.90um			
			id	53	13.20		LBFM	39.76	81	eP	56	03.00	0.8				PP	58	50.00	
COL	21.09	38	ePc	53	12.94	-1.2	WDC	39.79	83	eP	55	57.90	-4.3X				S	03	48.00	
FBA	21.09	38	eP	53	14.70	0.6	MIN	40.51	83	eP	56	08.50	0.2	RVR	47.09	87	eP	57	01.00	-0.3
DWY	24.23	43	P	53	44.90	-0.2	KUMJ	40.85	262	P	56	13.00	2.1	MSU	47.44	78	eP	57	04.00	-0.3
HYT	24.65	51	P	53	48.90	-0.5	ORV	41.04	83	eP	56	12.40	0.0	PJG	47.56	231	eP	57	02.50	-2.6
YSS	25.18	275	iPc	53	54.00	-0.4				eScP	02	01.20		GUMO	47.56	231	ePc	57	01.95	-3.2X
			eS	58	40.00		SES	41.52	64	iPc	56	15.80	-0.5		1.5s		864.86nm			6.6mb
KUSJ	25.75	266	eP	53	58.60	-1.2		0.8s		151.00nm			5.8mb				ec	57	05.09	
SIT	25.85	60	eP	54	03.20	2.7	BRK	41.57	86	eP	56	18.00	1.2				epPd	57	08.07	21kmX
Z	20s		20.00um			5.6MszX		Z 20s		41.00um			6.3Msz	HHC	47.57	286	iPc	57	05.50	0.4
ASAJ	26.53	269	P	54	07.50	0.5				eLR	07	30.00			6.0s		3.90nm			3.6mb X
HOOJ	27.02	266	eP	54	11.60	0.2	BKS	41.58	86	iPc	56	17.00	0.1		Z 22s		180.00um			7.0Msz
INK	27.60	35	eP	54	16.00	-0.4		0.9s		120.00nm			5.6mb		N 18s		65.70um			
	0.8s		150.00nm			5.8mb		Z 20s		77.00um			6.6Msz		E 19s		134.00um			
SAP	27.89	268	eP	54	21.00	1.7		N 20s		25.00um							S	03	57.00	
			eS	59	05.00			E 20s		68.00um				GUA	47.58	231	eP	57	02.70	-2.6
MRRJ	28.38	268	eP	54	23.70	-0.1				ePPP	58	18.00			0.7s		142.47nm			6.1mb
AOMJ	29.85	265	eP	54	38.00	1.0				eS	02	24.00			Z 20s		36.17um			6.3Msz
OFUJ	29.91	261	P	54	38.10	0.5				e	03	54.00		PLM	47.83	87	eP	57	07.00	-0.4
TIK	30.62	331	iPc	54	42.00	-1.5				eLQ	05	32.00		TPC	47.85	86	eP	57	06.00	-1.3
			eS	59	28.00					eLR	07	44.00		CPE	48.00	88	eP	57	09.40	1.0
YAMJ	31.48	261	eP	54	50.30	-1.1	KAGJ	41.73	261	eP	56	19.40	1.2	BAR	48.40	87	eP	57	11.00	-0.6
KAKJ	32.64	258	P	55	00.10	-1.4	MHC	42.28	86	eP	56	23.10	0.3	BTO	48.65	287	iPc	57	14.00	0.5
NIIJ	32.70	261	P	55	01.70	-0.4		Z 20s		257.00um			7.1Msz		4.0s		4.30nm			3.8mb X
CHJJ	33.46	259	P	55	07.90	-0.8		N 20s		135.00um					Z 19s		161.00um			7.0Msz
MAJO	33.63	261	ePc	55	10.92	0.7		E 20s		295.00um					N 16s		90.50um			
			ec	55	14.40					e	00	11.00			E 18s		114.00um			
			epPd	55	17.04	21kmX				e	01	15.00					pP	57	20.00	20kmX
			ePP	56	22.02					eScP	02	05.00					PP	59	03.50	
MAT	33.63	261	iPd	55	10.20	0.0				eS	02	45.00		NJ2	48.67	272	Pc	57	12.50	-1.1
	1.7s	3184	.61nm			7.0mb				e	03	42.00			7.5s		10.90nm			4.0mb X
			eS	00	32.00					eLQ	05	48.00			Z 14s		42.70um			6.6MszX
MBC	33.72	22	eP	55	11.00	0.5				eScS	06	19.00			N 17s		5.20um			
	0.9s	384	.00nm			6.3mb				eLR	07	58.00			E 19s		40.10um			
			pP	55	28.50	73kmX	ARN	42.35	86	eP	56	23.00	-0.3				PP	59	07.00	
OPA	33.80	143	eP	55	11.40	-0.4	DL2	42.55	277	iPc	56	24.00	-0.8				iS	04	11.50	
MTMJ	33.86	261	P	55	13.10	0.8		Z 24s		50.30um			6.3MszX	TIY	48.98	282	eP	57	16.40	0.4
KIP	34.05	143	ePd	55	16.60	2.7		N 16s		55.90um					Z 20s		85.60um			6.7Msz
			ePc	55	22.89	21kmX		E 16s		23.40um					N 22s		118.00um			
HON	34.14	143	ePd	55	19.22	4.5X				PP	58	04.00					sP	57	33.00	
			ePP	56	15.68					S	02	45.00					PP	59	13.50	
			e	58	22.32		CMB	42.65	84	ePc	56	26.28	0.6	GLA	49.31	86	eP	57	18.00	-0.6
HON	34.14	143	eP	55	12.50	-2.2				ec	56	30.09		KBS	49.87	357	iP+	57	22.70	0.5
MDJ	34.44	279	ePc	55	16.19	-0.9				epPd	56	33.40	24kmX	RSON	50.61	55	eP	57	26.00	-2.2
N	16s		57.60um							e	58	40.37			Z 20s		76.84um			6.7Msz
			ec	55	20.16					eS	02	50.68		GOL	50.83	73	eP	57	30.00	-0.4
			esPd	55	26.45		LRM	43.03	70	ePc	56	28.40	-0.6		Z 20s		60.00um			6.6Msz
			ePP	56	38.54		PRS	43.08	87	eP	56	29.30	0.1	GLD	50.89	73	eP	57	30.70	-0.1
			S	00	45.00		KVN	43.45	82	ePd	56	32.40	0.0		Z 20s		65.00um			6.6Msz
IIDJ	34.50	260	P	55	18.30	0.5	FRI	43.71	85	ePc	56	34.40	0.1	ANP	51.80	263	iP+	57	39.00	1.3
PGC	35.12	72	eP	55	24.00	1.2				eScP	02	13.60			Z 20s		23.12um			6.2Msz
	1.1s	269	.00nm			6.1mb	FFC	44.30	54	iPc	56	38.40	-0.4				eS	04	46.00	
MCW	35.47	72	eP	55	26.50	0.6		0.7s		22.00nm			5.1mb	WHN	52.52	274	eP	57	41.60	-1.3
TSRJ	35.66	262	P	55	27.50	-0.1	TNP	44.59	82	eP	56	41.50	-0.2		8.0s		13.20nm			3.9mb X
GMW	36.01	73	eP	55	31.20	0.7	PTI	44.72	74	eP	56	43.30	0.7		Z 28s		49.70um			6.4MszX
BMW	36.25	75	eP	55	33.20	0.7	SYP	45.11	88	eP	56	46.00	0.2		N 20s		51.90um			
RMW	36.64	73	eP	55	36.20	0.4	BJI	45.25	282	ePc	56	47.10	0.5		E 17s		27.70um			
WKYJ	36.76	260	P	55	38.00	1.0		1.4s		0.69nm			3.4mb X				pP	57	53.00	40kmX
LON	36.97	74	eP	55	38.90	0.3	E	19s		77.50um							S	05	40.00	
PNT	37.09	69	iPc	55	39.90	0.4				ec	56	50.91		ANMO	53.25	78	ePc	57	48.25	-0.3
CN2	37.42	281	iPc	55	41.00	-1.3				ePP	58	38.34					epPd	57	54.70	21kmX
	8.0s		12.20nm			3.8mb X				eS	03	22.14					esPd	57	56.36	
Z	19s		79.50um			6.5Msz				eSS	06	32.00					eS	05	18.44	
N	16s		42.90um							eScS	06	40.00		ALO	53.25	78	eP	57	47.50	-1.1
E	21s		48.00um				IRK	45.32	303	iPc	56	48.00	0.9		Z 20s		53.19um			6.6Msz
			PP	57	10.00					eS	03	24.00		XAN	53.53	281	Pd	57	49.60	-0.8

07d 15h

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	Z	16s	28.20um			6.7MszX	WLS	80.50	356	P	00	40.48	-0.3	MAF	82.84	359	iPc	00	52.70	-0.3
	N	20s	30.50um				CDF	80.51	356	P	00	40.57	-0.3	EMS	82.86	356	ePc	00	54.10	0.7
	E	20s	28.60um				FUR	80.51	353	iPc	00	40.90	0.1	VAI	82.97	355	P	00	53.20	-0.4
			i	00	32.00			1.3s	266.00nm			6.1mb		AGO	83.00	358	P	00	54.11	0.3
UCC	78.23	358	Pc+	00	28.50	0.2		Z 17s	29.10um			6.7MszX		RIY	83.03	351	iP	00	53.10	-0.8
			S	10	23.00		GRR	80.67	1	iPc	00	40.90	-0.7	KVT	83.03	334	iP	00	54.10	0.0
HOF	78.33	353	eP	00	28.30	-0.7	VRI	80.68	342	iPc	00	41.50	-0.2	PLDF	83.07	358	P	00	54.61	0.3
	Z	17s	27.30um			6.6MszX	ECH	80.71	356	P	00	41.51	-0.4	SAL	83.11	353	P	00	54.40	0.1
MEM	78.37	357	iPc	00	29.35	0.3	KGM	80.72	262	eP	00	43.00	0.6	ORO	83.25	355	P	00	56.30	1.0
SNG	78.41	267	iPc	00	29.50	-0.4	VITF	80.76	357	P	00	41.68	-0.4	PYM	83.30	359	P	00	55.59	0.1
	1.1s	306.33nm				6.3mb	KNA	80.77	230	eP	00	41.00	-1.5	KAS	83.37	336	iPc	00	57.30	1.4
			eS	10	20.00		BHG	80.82	352	iPc	00	42.80	0.4	LPG	83.44	356	eP	00	56.90	0.4
PRU	78.42	351	P	00	29.00	-0.5	KLM	80.91	264	eP	00	44.00	0.6		0.8s	104.90nm				6.1mb
	1.5s	122.80nm				5.7mb	BRD	80.95	342	eP	00	44.50	1.3	LSD	83.46	356	P	00	57.58	1.0
	Z	17s	50.80um			6.9MszX	HAU	80.95	356	eP	00	42.60	-0.6	PVL	83.50	342	iPc	00	57.00	0.6
	N	22s	12.50um					0.8s	104.90nm			5.9mb		RKT	83.61	140	iP	01	13.00	16.0X
	E	20s	48.40um				KHI	80.99	315	eP	00	43.80	0.0		1.2s	75.00nm				
			e	00	34.60		FEL	81.01	355	eP	00	43.00	-0.6	RJF	83.76	360	eP	00	57.20	-0.5
SNF	78.51	358	iPd	00	29.68	-0.3	LPF	81.02	1	iPc	00	43.10	-0.3	LBL	83.82	358	P	00	58.26	0.3
SPC	78.53	347	eP	00	30.20	-0.2	MOF	81.07	356	P	00	43.29	-0.6	BNI	83.89	356	Pc	00	59.80	1.2
	Z	15s	60.60um			7.1MszX	SLE	81.09	355	ePc	00	43.70	-0.2	JMB	83.98	341	iP	00	59.00	0.1
TNS	78.64	355	ePd	00	30.40	-0.4	BSF	81.11	356	P	00	43.53	-0.6	RRL	84.02	356	P	01	00.55	1.2
UZH	78.77	346	eP	00	30.00	-1.4	MLR	81.19	343	iPc	00	44.70	0.1	BOB	84.02	354	P	00	59.60	0.4
			eS	10	23.00		ZLA	81.38	355	ePc	00	45.60	0.2	OLP	84.04	213	iPc	00	59.40	0.2
MAIO	78.81	315	iPc+	00	32.40	0.4	KBA	81.41	351	iPd	00	46.10	0.3	HYB	84.10	290	iPc	00	59.00	-0.9
	1.0s	37.50nm				5.4mb				i	00	48.70			1.0s	840.00nm				6.9mb
			eS	10	52.00					i	00	51.80		LFF	84.13	0	iPc	00	59.30	-0.3
LPS	78.91	81	iPc	00	34.00	1.2				i	00	57.60		CAF	84.14	359	eP	00	59.60	-0.1
			eS	10	59.00					i	01	03.40		PCP	84.30	355	P	01	00.24	-0.3
DOU	78.92	358	Pc+	00	32.20	0.0				i	03	20.30		PGB	84.36	343	iP	01	01.00	0.1
			i	00	35.60		ISR	81.42	342	eP	00	47.00	1.3	LPO	84.39	360	iPc	01	00.50	-0.4
			S	10	29.00		BBS	81.44	356	P	00	44.37	-1.4	PLE	84.39	347	eP	01	01.60	0.5
GRF	78.99	353	iPc	00	32.20	-0.5	SAX	81.55	354	ePc	00	46.80	0.2	DOI	84.41	355	Pc	01	00.00	-1.1
	Z	20s	31.00um			6.6Msz	LOMF	81.59	356	P	00	46.45	-0.1	PZZ	84.42	356	P	01	00.65	-0.6
			e	00	34.90		TLB	81.65	341	eP	00	47.00	0.2	CKI	84.43	355	Pc	01	00.90	-0.2
			e	00	38.20		GRC	81.76	359	P	00	47.48	0.2	VTS	84.49	344	iP	01	01.00	-0.7
			eS	10	35.00		LOR	81.77	358	iPc	00	46.70	-0.7	ROB	84.59	355	P	01	01.06	-0.9
			e(SKS)	11	27.00			0.9s	230.30nm			6.2mb		DIM	84.59	342	eP	01	03.00	1.1
GRFO	78.99	353	ePc	00	36.16	3.5X	WB5	81.80	224	eP	00	46.20	-1.6	RSM	84.62	352	P	01	03.20	1.2
ABH	79.03	356	eP	00	32.84	0.0	BZS	81.82	346	eP	00	47.50	-0.2	BDI	84.64	353	P	01	01.90	-0.4
RUP	79.23	356	eP	00	33.29	-0.7	OGA	81.82	353	eP	00	47.50	-0.4	FIN	84.65	355	P	01	02.09	-0.2
TOD	79.24	355	eP	00	33.20	-0.8		1.0s	162.00nm			6.0mb		STV	84.66	355	P	01	01.06	-1.3
IAS	79.24	342	eP	00	35.00	1.0	GZR	81.85	345	iPc	00	50.50	2.6	ENR	84.68	355	P	01	01.27	-1.2
WLF	79.30	357	Pc	00	34.60	0.4	FVI	81.95	352	P	00	48.30	0.0	SFI	84.68	352	P	01	03.50	1.2
			i	00	39.20		LLS	81.96	354	ePc	00	48.80	0.2	PLD	84.69	342	eP	01	03.00	0.6
KHC	79.36	352	iPc	00	34.30	-0.4	SSF	81.98	358	iPc	00	48.30	-0.2	PGD	84.73	352	Pc	01	03.70	0.8
	1.3s	241.50nm				6.1mb	LBF	82.05	358	eP	00	48.20	-0.7	ITU	84.76	339	iPc	01	04.00	1.2
	Z	18s	46.60um			6.9Msz	OSS	82.06	354	ePc	00	49.60	0.4	ISK	84.79	339	eP	01	02.00	-0.9
	N	17s	24.30um				BUC	82.20	342	iPc	00	50.00	0.4	CTT	84.85	340	eP	01	02.00	-1.3
	E	18s	34.00um				BRS	82.21	205	iPc	00	49.90	0.1	FIR	84.87	353	iPc	01	04.00	0.7
			S	10	40.00			1.2s	15.80nm			5.0mb X					iS	11	30.00	
WET	79.40	352	eP	00	35.00	0.1				ipP	01	10.00	74kmX	AOI	84.88	351	iP	01	03.27	-0.2
	1.6s	571.00nm				6.3mb				e	01	52.00		HRT	84.89	339	eP	00	58.90	-4.6X
	Z	20s	47.00um			6.8Msz				e	04	26.00		TOUF	84.90	355	P	01	03.98	0.3
CEI	79.67	345	eP	00	43.00	6.7X				eS	11	04.00		AUTN	84.91	355	P	01	03.83	0.0
PTT	79.72	343	eP	00	37.50	0.9	AVF	82.26	358	eP	00	49.40	-0.5	SAOF	84.91	355	P	01	03.53	0.0
PSZ	79.82	347	iP	00	36.80	-0.4	DRA	82.29	343	eP	00	52.00	1.9	BRY	84.93	347	eP	01	03.20	-0.6
ZST	79.91	349	iPd	00	36.70	-0.9	VDL	82.31	354	ePc	00	50.80	0.3	HVAR	84.93	349	iP	01	02.80	-0.8
CLI	79.92	342	iPc	00	37.00	-0.7	PTJ	82.31	350	eP	00	48.00	-2.3	NKY	84.95	347	eP	01	03.50	-0.4
SIM	79.92	337	iP	00	38.00	0.3	LJU	82.32	351	eP	00	50.00	-0.3	CRE	84.96	352	P	01	04.00	0.1
			iS	10	40.00					eS	11	08.00		GBZT	84.97	339	eP	01	08.00	4.2X
GWF	79.93	356	P	00	37.48	-0.2	ZAG	82.39	349	iPc	00	51.00	0.4	IMI	84.97	355	P	01	03.63	-0.3
VKA	79.93	350	ePc	00	38.00	0.3	SMF	82.39	358	eP	00	50.10	-0.6	GANF	84.97	356	P	01	04.28	0.4
	7.0s	3761.00nm				6.5mb X	VOY	82.40	351	eP	00	49.70	-1.1	PII	84.98	353	P	01	03.20	-0.6
			ePP	03	46.00		MFF	82.46	1	eP	00	50.50	-0.5	ARV	85.00	351	P	01	04.40	0.4
			eS	10	43.00		PSN	82.48	340	iPd	00	52.00	0.8	AURF	85.02	355	P	01	03.98	-0.2
			esS	11	01.00		BGF	82.50	359	eP	00	50.60	-0.6	MVIF	85.02	356	P	01	04.20	-0.1
			iSP	11	36.00		RMO	82.50	209	eP	00	51.00	-0.3	PVY	85.02	346	eP	01	04.10	-0.2
			(PS)	11	45.00			1.1s	229.00nm			6.2mb		ANTO	85.03	336	ePc	01	05.25	1.0
SRO	80.14	348	iPc	00	40.00	1.2	TAB	82.54	326	iP+	00	53.00	1.3				ec	01	09.23	
IPM	80.16	265	ePd	00	38.90	-0.5	CTI	82.58	353	Pc	00	51.30	-0.5				epPd	01	11.88	21kmX
	0.9s	113.60nm				5.9mb	CEY	82.63	351	eP	00	51.60	-0.4				ePP	04	27.13	
PPE	80.17	342	iPc	00	39.20	0.2	TEH	82.69	321	eP	00	55.00	2.5	SLY	85.04	325	iPd	01	04.20	0.0
OIS	80.23	219	eP	00	37.00	-2.6	TMA	82.72	354	ePc	00	52.80	0.2				iPP	04	06.00	
FLN	80.30	1	iPc	00	38.80	-0.8	TRI	82.73	351	iPc	00	51.90	-0.5				iS	11	27.00	
	0.9s	307.10nm				6.3mb				iPP	04	02.00					iPS	12	45.00	
OUE	80.31	307	ePc	00	41.00	0.7				iPPP	06	10.00					iSS	17	18.00	
			eS	10	45.50					eS	11	04.00					iSSS	20	37.50	
STR	80.31	355	P	00	40.15	0.5				iSP	12	12.00					iLR	26	05.00	
BUD	80.37	348	eP	00	40.80	0.8				iSS	16	34.00		SBF	85.04	355	iPc	01	03.70	-0.6
KMR	80.37	351	iP+	00	40.30	0.2				iSSS	20	24.00		BBTK	85.06	336	iPd	01	05.00	0.5
			i	00	45.00		BEO	82.77	346	iP	00	53.00	0.4	SRA	85.06	80	eP	01	06.10	1.3
			ePP	03	45.00		TCF	82.77	359	eP	00	52.10	-0.6	RZN	85.09	342	iP	01	05.00	0.3
			ipPP	03	54.50		VBY	82.78	350	eP	00	49.10	-3.6X	VILF	85.13	357	P	01	05.17	0.5
			e	11	57.50		LSF	82.82	360	iPc	00	52.40	-0.5	KLI	85.15	256	ePc	01	04.00	-1.0
LDF	80.47	1	eP	00	39.70	-0.8	DIX	82.83	355	ePc	00	54.20	0.9	SSO	85.16	351	e(P)	01	05.34	0.6
SOP	80.48	349	eP	00	47.00	6.4X	MMK	82.83	355	ePc	00	54.20	0.9	MSL	85.16	327	ePd	01	04.50	-0.4

07d 16h

			epP	01	08.50	13kmX	PAIG	86.99	343	eP	01	17.40	3.5X	BBL	94.17	59	eP	01	40.00	-7.8X
			ePP	04	30.50		LIT	87.04	344	iPd	01	13.50	-0.7	RYD	94.32	319	eP	01	48.50	0.1
			eS	11	28.50		KHL	87.30	338	eP	01	15.40	-0.1	BMG	94.36	73	eP	02	03.00	14.2X
REVF	85.17	355	P	01	03.59	-1.3	LSK	87.31	345	iPd	01	15.20	-0.4	SDV	94.37	70	eP	01	49.60	0.7
CALN	85.18	356	P	01	05.93	0.9	SHI	87.51	317	iPc	01	16.00	-0.8	AYN	94.41	330	eP	01	50.30	1.6
PRAF	85.19	357	P	01	05.60	0.6	BHD	87.52	325	iPd	01	15.50	-1.0	DPMT	94.44	59	eP	01	50.00	1.0
KKB	85.22	344	iPc	01	06.00	0.9				iPP	04	40.00		DTMT	94.48	59	eP	01	49.85	0.6
CIO	85.28	351	iP	01	06.03	0.5				i	06	10.00		HLW	94.86	334	eP	01	50.00	-0.8
TTG	85.29	347	iPc	01	05.60	0.2				iS	11	40.00					ePPP	05	42.00	
			eS	11	32.30					iScS	11	50.00					eS	12	30.00	
ASPA	85.34	222	eP	01	04.90	-0.9				iPS	12	42.00		MEKA	94.99	233	eP	01	50.20	-0.9
	1.5s	191.00nm				6.1mb				i	17	24.00			0.8s	108.00nm				6.3mb
Z	21s	56.95um				6.9Msz	LCI	87.53	347	P	01	16.50	0.0	FDF	95.00	59	eP	01	58.19	6.5X
			eS	11	26.10		PTO	87.55	7	eP	01	16.50	0.0		0.5s	0.55nm				4.2mb X
			LR	36	22.60					eS	11	46.00		CRM	95.11	59	eP	01	52.38	0.3
TAVF	85.35	356	P	01	05.95	0.2	SGO	87.65	349	P	01	17.80	0.8	BIM	95.22	59	eP	01	53.88	1.2
EMON	85.36	6	eP	01	06.00	0.2	IZM	87.74	340	eP	01	15.90	-1.7	CAR	95.23	66	iPKP	01	51.00	-1.8
TREF	85.37	357	P	01	06.28	0.5	GBA	87.76	289	P	01	17.00	-0.9	MVM	95.29	59	eP	01	53.71	0.8
FRF	85.38	356	iPc	01	05.50	-0.4	BCK	87.86	337	eP	01	19.60	1.4	GUAC	95.29	67	ePKP	01	54.00	0.9
HCY	85.38	347	iPc	01	05.50	-0.4	MGR	88.04	349	Pc	01	18.10	-0.8	LLAV	95.33	66	ePKP	01	52.50	-0.7
SKO	85.40	345	iPc	01	06.50	0.5	CMS	88.06	209	eP	01	19.00	0.2	CEOS	95.61	68	ePKP	01	55.30	0.8
			i	02	34.00		ETOR	88.21	2	eP	01	21.00	1.2	BOG	95.69	75	iPc	01	56.00	0.8
			iPP	04	24.00		EBR	88.24	0	iPc	01	20.00	0.2				iS	12	27.00	
			iPSP	06	16.00					iPP	04	50.00		SLB	95.81	60	eP	01	55.79	0.4
			iPPP	06	32.00					iS	12	05.00		SVV	96.13	60	eP	01	56.84	0.0
			i	08	10.00		GUD	88.31	4	eP	01	20.00	-0.4	SSV	96.14	60	eP	01	56.49	-0.5
			iS	11	40.00		TDS	88.41	348	P	01	20.40	-0.3	SVB	96.15	60	eP	01	57.58	0.7
			i	13	49.00		ELL	88.71	337	eP	01	23.00	0.6	PSO	96.38	80	eP	02	01.00	2.6
			i	15	00.00		YER	88.72	338	eP	01	22.00	-0.4	GUAN	96.41	65	ePKP	02	00.50	2.3
			eSS	16	48.00		EPLA	88.79	5	eP	01	22.20	-0.4	KMSA	99.07	319	eP	02	10.50	0.5
			LR	44	41.00		LRS	88.98	62	P	01	24.00	0.2	NWAO	100.81	230	ePdiff	02	18.00	0.5
SJS	85.42	80	eP	01	08.00	1.4	KRP	88.99	184	P	01	23.80	0.7				e	13	11.00	
MFT	85.45	340	iP	01	02.50	-3.9X	TOL	89.08	4	iPd	01	25.50	1.6	NNA	106.88	88	ePdiff	02	52.00	7.1X
ASS	85.45	351	P	01	06.30	0.0		1.2s	406.25nm			6.6mb			Z 22s	4.44um				6.0Msz
COO	85.47	205	eP	01	07.40	1.1				iPP	04	58.00		AAE	111.62	319	Pdiff	03	08.00	1.6X
	1.0s	89.00nm				5.9mb				iPPP	07	05.00		ZOBO	115.58	84	Pdiff	03	35.00	10.7X
BDV	85.50	347	eP	01	07.00	0.5				iS	12	08.00					i	08	25.00	
LRG	85.50	356	eP	01	06.50	0.1				iPS	13	28.00		LPB	115.80	84	ePKP	07	13.00	0.7
	0.7s	161.90nm				6.4mb				iSS	18	05.00					LR	44	30.00	
KER	85.56	323	ePc	01	07.00	-0.1	MGP	89.08	62	P	01	13.00	-11.2X	CNCB	116.08	84	PKP	07	14.00	0.9
PUK	85.57	346	eP	01	08.30	1.5	ECHE	89.46	2	eP	01	27.90	2.1	NAI	121.73	317	iPKPc	07	29.00	5.5X
GELF	85.60	357	P	01	07.18	0.1	CSS	89.50	334	eP	01	26.50	0.5	TIC	122.04	7	PKP	07	22.56	-1.2
LMR	85.61	356	iPc	01	06.80	-0.2	SJG	89.51	61	eP	01	27.00	0.7		0.9s	65.00nm				
ALP	85.65	351	iP	01	07.69	0.3	MBL	89.81	235	eP	01	26.50	-0.9	KIC	122.35	7	PKP	07	23.14	-1.2
SDA	85.66	346	eP	01	08.00	0.7		0.6s	30.00nm			5.7mb			0.8s	49.00nm				
BERF	85.67	357	P	01	07.64	0.2	BHL	89.83	332	Pc	01	27.00	-0.7	LIC	122.46	7	PKP	07	23.36	-1.2
BNT	85.72	340	iP	01	08.50	0.8				PP	05	00.00		BCAO	122.47	339	ePKP	07	23.47	-1.2X
KCT	85.73	339	iP	01	08.50	0.8				SKS	11	56.00			0.9s	39.00nm				
EDC	85.74	340	iP	01	08.00	0.3	BWA	90.05	206	eP	01	28.10	-0.2				e	07	27.78	
ULC	85.75	346	eP	01	08.50	0.7	EVIA	90.37	3	eP	01	30.00	-0.1				ePP	08	52.86	
STS	85.82	7	eP	01	09.50	1.4	HRI	90.39	331	eP	01	30.00	-0.3	KUK	122.72	2	ePKP	07	26.00	0.9
PHP	85.84	346	eP	01	07.10	-1.0	CNB	90.62	205	eP	01	32.00	1.1				e	14	23.00	
SRS	85.86	343	eP	01	08.30	0.0	CAN	90.73	206	eP	01	33.00	1.6	KOGH	122.82	1	ePKP	07	27.00	1.7X
ELYF	85.88	1	P	01	07.96	-0.5	WARB	90.73	227	eP	01	33.00	1.4	LEGH	123.26	1	ePKP	07	27.00	0.9
OGE	85.89	1	P	01	09.52	1.1	MCT	90.74	350	P	01	38.70	6.8X	LCCH	125.79	101	iPKPc	07	31.00	0.5
MADF	85.91	1	P	01	09.52	1.0	EBAN	90.80	4	eP	01	31.60	-0.4	LWI	125.79	325	ePdiff	04	06.00	-3.3X
KNT	85.94	344	ePd	01	08.80	0.1	SHMJ	90.89	331	Pd	01	35.30	2.8	LWI	125.79	325	iPKPc	07	33.40	2.0X
BOH	85.95	1	P	01	09.79	0.9	EHOR	91.08	5	eP	01	33.00	-0.2	JACH	125.86	99	ePKPc	07	24.80	-6.1X
POO	85.95	295	iPd	01	09.40	0.3	EALH	91.18	2	eP	01	36.00	2.3	PEL	126.11	100	iPKP	07	33.50	2.2X
			iS	11	45.00		EVAL	91.22	6	eP	01	33.20	-0.7	LNV	126.21	101	ePKP	07	29.00	-2.3X
ATE	85.97	1	P	01	08.56	-0.3	BRF	91.46	317	(P)	01	36.10	1.0	TACH	126.30	100	ePKP	07	31.00	-0.6
ESCF	85.98	1	P	01	06.43	-2.5		0.3s	89.00nm			6.6mb		FCH	126.48	100	ePKP	07	37.00	4.7X
ISSF	86.03	1	P	01	10.71	1.4	BJA	91.52	317	eP	01	35.80	0.4	BAO	127.27	66	ePKP	07	33.10	-0.9
EPF	86.04	0	eP	01	08.10	-1.1		0.3s	89.00nm			6.6mb		BDF	127.34	66	ePKP	07	38.10	4.0X
	0.6s	70.40nm				6.0mb	ASMO	91.61	4	iPc	01	35.50	-0.3				ePP	09	33.57	
JCR	86.07	79	eP	01	09.00	-0.8	AAPN	91.64	4	iPd	01	35.20	-0.8				eSKP	11	04.20	
AQU	86.09	351	P	01	10.20	0.7	AFC	91.72	4	eP	01	36.00	-0.4	RFA	128.57	100	e(PKP)	07	28.00	-7.9X
MNS	86.13	351	P	01	08.60	-1.1	ALOJ	91.84	4	iP	01	36.50	-0.4	SBA	129.20	184	ePKPc	07	40.00	4.3X
LHE	86.14	1	P	01	10.69	0.9	ACHM	91.85	4	iP	01	39.00	2.1	PDCR	129.54	55	ePKP	07	20.10	-18.1X
GRG	86.22	344	ePd	01	11.80	1.6	EPRU	91.93	5	eP	01	37.20	0.0				e	07	39.20	
MAO	86.23	352	P	01	10.20	0.1	APHE	92.01	4	iPd	01	39.40	1.6				e	09	49.30	
CVF	86.25	354	P	01	10.07	-0.2	ATEJ	92.04	4	iP	01	37.30	-0.6				e	10	57.10	
TIR	86.26	346	eP	01	12.50	2.2	ENIJ	92.05	3	eP	01	37.90	0.2	MZZ	133.93	320	iPKP	07	47.00	0.3
OHR	86.34	345	iP	01	10.90	0.1	DSI	92.09	331	eP	01	36.00	-1.9		1.0s	48.00nm				
	1.6s	362.00nm				6.3mb	WEL	92.38	185	eP	01	44.00	5.3X				i	10	22.00	
			i	01	15.00					SKS	12	08.00					i	11	15.00	
			eS	11	33.00					S	12	36.00					i	12	21.00	
ERUA	86.41	6	e(P)	01	12.80	1.8				PS	13	42.00		BMA	135.04	68	ePKP	07	41.20	-7.3X
AZI	86.45	351	P	01	11.30	0.1	EJIF	92.43	5	eP	01	40.00	0.5				e	07	53.00	
EZAM	86.54	7	e(P)	01	14.00	2.3	NANU	93.20	237	eP	01	43.50	0.5				e	08	10.70	
OUR	86.54	343	eP	01	11.50	-0.2	FISA	93.23	68	ePKP	01	45.00	1.5	PTZ	135.68	315	ePKP	07	41.00	-9.0X
EZN	86.57	341	iP	01	11.00	-0.8	PAG	93.65	59	eP	01	44.00	-1.4				i	07	55.50	
DUI	86.66	350	P	01	12.60	0.2	TOO	93.82	208	eP	01	46.00	0.5				i	10	30.00	
SDI	86.69	350	P	01	12.80	0.3	MBH	93.92	331	ePd	01	47.00	0.6				i	11	21.00	
RMP	86.69	351	P	01	13.50	1.1	FORR	94.10	223	eP	01	47.30	0.4				i	12	15.40	
RDP	86.74	351	P	01	12.50	-0.2	MORO	94.14	67	ePKP	01	48.50	0.8	LSZ	137.95	319	ePKP	07	46.00	-8.3X
BERA	86.88	346	eP	01	14.50	1.2	TOV	94.15	69	eP	01	50.00	2.3				i	08	32.00	

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                  i      10 52.00
 SPA   141.12 180 e(PKP)07 52.50   -6.0X
       0.7s     8.20nm
     Z 20s     13.96um          6.7Msz
 BUL   142.08 315 iPKPc 07 56.90   -4.8X
       0.9s     29.83nm
 AIA   144.77 138 iPKP   08 02.60   -2.0X
 MAW   146.34 218 ePKP   08 07.00   -0.2
       0.9s    135.00nm
 SLR   147.05 310 ePKP   08 12.25    2.4X
                 e       11 42.32
 PRY   148.45 310 iPKPd 08 16.40    4.3X
       0.9s    255.38nm
 WIN   148.69 330 iPKPd 08 16.60    4.0X
       1.1s    487.34nm
     Z 18s     36.43um          7.2Msz
 BLF   150.89 310 iPKPc 08 21.50    5.8X
       0.9s    484.62nm
 FRS   151.84 311 iPKPd 08 22.50    5.6X
 HVD   152.46 309 iPKPc 08 21.50    3.5X
       1.0s    260.00nm
 GRM   154.09 304 iPKPc 08 14.50   -5.6X
     Z 20s     24.33um          7.0Msz
                 i       08 43.50
     S.D. = 1.0  on 533 of 595 obs.
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   OCT 07, 1989  16h 42m 30.75± 0.14s
   51.188 N ± 3.4km  179.234 W ± 2.2km
   DEPTH =  33.0km  (normal)
   5.7mb ( 59 obs.)  5.9Msz ( 9 obs.)
 ANDREANOF ISLANDS, ALEUTIAN IS. ( 7)
     ML 5.7 (PMR). Felt (III) on Adak
     and Amchitka.
     CENTROID, MOMENT TENSOR     (HRV)
     Data Used: GDSN
     L.P.B.: 15S, 29C  M.W.: 13S, 25C
     Centroid Location:
     Origin Time          16:42:32.1 0.4
     Lat 51.10N 0.03 Lon 179.07W 0.08
     Dep  15.0 FIX Half-duration  5.8
     Moment Tensor;    Scale 10**18 Nm
       Mrr= 1.86 0.06   Mtt=-2.02 0.06
       Mff= 0.16 0.06   Mrt= 1.11 0.34
       Mrf=-0.19 0.26   Mtf=-0.50 0.06
      Principal Axes:
       T  Val=  2.20  Plg=72  Azm= 29
       N        0.19       11      263
       P       -2.39       14      170
     Best Double Couple:Mo=2.3*10**18
      NP1:Strike=245 Dip=32 Slip=  69
      NP2:         89     60      103

 ADK     1.74  65 iPd    43 00.00    1.0
 SMY     4.40 293 eP     43 39.30    2.4
 SDN    11.95  62 iP     45 20.80   -0.8
                 i       45 21.70
 PET    13.71 286 eP     45 52.00    7.1X
                 eS      48 20.00
 ANM    15.25  23 P      46 11.40    6.5X
 SVW    16.39  44 eP     46 22.00    2.4
                 ic      46 23.70
 ILT    16.77   1 iPc    46 28.00    3.7X
 KDC    16.80  57 eP     46 22.90   -1.8
                 ic      46 24.30
 TTA    17.13  38 eP     46 30.70    1.7
 PMS    19.15  47 eP     46 52.40   -1.3
 PMR    19.46  46 eP     46 56.10   -1.1
       0.7s    92.90nm          5.2mb
     Z 19s     74.00um          4.2Msz
 IMA    19.76  31 iPc    47 00.40   -0.1
 TOA    20.95  46 eP     47 11.60   -1.3
 FBA    21.26  38 iPc    47 16.00    0.1
 KUSJ   25.61 266 P      47 56.50   -1.9
 ASAJ   26.40 270 eP     48 06.20    0.4
 HOOJ   26.88 266 eP     48 10.50    0.4
 INK    27.77  35 eP     48 15.00   -3.0
       0.8s    61.00nm          5.3mb
 MRRJ   28.25 268 eP     48 21.10   -1.4
 TIK    30.67 331 eP     48 41.00   -2.8
                 eS      54 12.00
 NIIJ   32.55 261 P      49 00.10   -0.6
 CHJJ   33.31 259 eP     49 06.90   -0.5
 MAT    33.49 261 eP     49 08.00   -0.9
       1.1s   105.06nm          5.7mb
                 eS      54 26.00
 MTMJ   33.71 261 P      49 11.00    0.1
 MBC    33.89  22 ePc    49 12.00    0.1

       0.7s    86.00nm          5.8mb
 MDJ    34.34 279 eP     49 14.50   -1.6
                 S       54 44.50
 IIDJ   34.35 260 P      49 16.30   -0.1
 PGC    35.28  72 eP     49 25.00    0.9
       0.9s    81.00nm          5.7mb
 MCW    35.63  71 eP     49 27.80    0.6
 GMW    36.17  73 eP     49 32.50    0.8
 BMW    36.40  75 eP     49 34.00    0.3
 RMW    36.80  73 eP     49 37.50    0.4
 LON    37.13  74 eP     49 40.20    0.4
 PNT    37.26  69 ePc    49 41.00    0.2
       0.8s   165.00nm          5.9mb
 CN2    37.32 281 eP     49 40.00   -1.3
 EDM    39.14  60 iPc    49 55.70   -0.9
       0.6s   126.00nm          5.9mb
 SHNJ   39.47 264 P      50 01.00    1.5
 LBFM   39.90  81 eP     50 03.80    0.5
 WDC    39.93  83 eP     50 04.50    1.3
                 eScP    56 08.60
 MIN    40.65  82 eP     50 09.50    0.2
 KUMJ   40.70 262 eP     50 11.00    1.4
 ORV    41.18  83 eP     50 11.80   -1.7
 KAGJ   41.58 261 eP     50 18.60    1.8
 BKS    41.72  86 iPd    50 19.10    1.2
       0.9s    58.00nm          5.3mb
                 eS      56 40.00
                 eLQ     00 02.00
                 eLR     02 00.00
 MHC    42.42  86 eP     50 23.70   -0.2
 DL2    42.44 277 eP     50 24.00    0.2
 ARN    42.49  86 eP     50 25.20    0.9
 CMB    42.79  84 eP     50 26.60   -0.1
                 eScP    56 07.00
 KVN    43.60  81 eP     50 33.00   -0.5
 FRI    43.85  85 eP     50 35.50    0.2
 FFC    44.48  54 eP     50 38.50   -1.6
       0.6s     8.00nm          4.7mb
 TNP    44.74  82 eP     50 42.00   -0.7
       1.0s    54.17nm          5.4mb
 PTI    44.88  73 eP     50 44.20    0.4
 BJI    45.15 282 eP     50 45.50   -0.2
       1.0s     0.05nm          2.4mb X
 SYP    45.24  88 eP     50 47.00    0.3
 IRK    45.28 303 eP     50 47.00    0.4
                 eS      57 43.00
 ISA    45.46  85 eP     50 48.00   -0.3
 CLC    45.91  85 eP     50 52.00    0.1
 DUG    46.18  77 eP     50 54.00    0.0
 SBB    46.49  86 eP     50 57.00    0.5
 BW06   46.62  72 eP     50 57.00   -0.6
 MWC    46.65  87 eP     50 58.00    0.1
 GSC    46.74  85 eP     51 00.00    1.5
 TIA    46.92 277 eP     50 58.90   -0.8
 RVR    47.23  86 eP     51 03.00    0.8
 HHC    47.48 286 P      51 04.80    0.5
 MSU    47.60  78 eP     51 05.20   -0.2
 SSE    47.72 269 P      51 05.40   -0.7
       1.1s    69.00nm          5.6mb
                 pP      51 20.00   56kmX
 PLM    47.97  87 eP     51 08.00   -0.3
 TPC    47.99  85 eP     51 08.00   -0.3
 BAR    48.53  87 eP     51 13.00    0.5
 NJ2    48.54 272 Pc     51 11.40   -1.1
 TIY    48.88 282 iPc    51 15.60    0.5
 GLA    49.45  85 eP     51 20.00    0.5
 RSON   50.79  55 eP     51 27.40   -2.0
       1.0s    54.23nm          5.5mb
 GOL    51.00  72 eP     51 31.00   -0.5
     Z 20s      7.50um          5.7Msz
 GLD    51.05  72 eP     51 31.00   -0.8
       1.0s   240.00nm          6.1mb
     Z 20s     10.00um          5.8Msz
 WHN    52.40 274 eP     51 41.50   -0.4
       1.5s     0.15nm          2.7mb X
     Z 20s      6.90um          5.7Msz
                 pP      51 53.00   40kmX
                 S       59 04.00
 ALQ    53.40  78 eP     51 48.40   -1.1
       1.0s    70.00nm          5.6mb
     Z 20s     12.77um          6.0Msz
 XAN    53.43 281 Pc     51 48.30   -1.2
 OZH    53.66 265 eP     51 52.50    1.3
     Z 22s      8.70um          5.8Msz
 LZH    55.17 286 iPc    52 02.20   -0.3
       2.0s     0.27nm          2.9mb X
     Z 22s     29.10um          6.3Msz

     E 16s     15.20um
                 pP      52 09.80   25kmX
                 eS      59 42.00
 GTA    55.38 292 iPc    52 03.30   -0.6
       0.8s     0.10nm          2.9mb X
     Z 24s      9.00um          5.8MszX
 KEV    57.86 350 eP     52 21.00    0.1
       0.6s    18.30nm          5.3mb
 MEO    58.30  73 iPd    52 23.70   -0.8
 CD2    58.75 282 P      52 26.50   -1.2
 TRO    58.76 353 eP     52 25.75   -1.5
 WMQ    59.22 303 P      52 30.50   -0.4
     Z 22s     52.20um          6.6Msz
     N 20s     23.60um
                 PcS     57 19.50
                 S       00 37.50
 GYA    60.07 276 iPc    52 35.80   -1.2
                 pP      52 46.20   34kmX
 SOD    60.17 349 iP     52 35.40   -1.6
 SCH    60.35  38 ePc    52 36.00   -2.5
       0.9s   143.00nm          6.1mb
 FVM    60.88  65 eP     52 40.00   -2.2
       1.2s   147.06nm          6.0mb
 UYO    61.19  70 iPd    52 42.30   -2.0
 AKU    62.56   9 iP     52 55.00    1.9
       0.9s    33.61nm          5.5mb
 SVO    62.77 203 eP     52 56.00    1.0
 CLE    63.29  56 iP     52 58.80    0.5
 KMI    63.48 278 Pc     52 59.00   -1.0
 QIZ    63.48 268 eP     53 00.20    0.4
 NSS    64.29 355 iP     53 04.52    0.1
 PTN    64.35  50 eP     53 03.00   -2.2
 SUF    64.68 347 eP     53 05.70   -1.3
       0.4s    53.00nm          6.0mb
 RSCP   65.31  64 eP     53 10.00   -1.5
       1.0s   108.46nm          5.9mb
 HBVT   65.43  49 eP     53 09.00   -3.1X
 CBM    65.76  45 eP     53 12.50   -1.7
 MOL    66.46 357 eP     53 17.52   -0.9
 BLA    66.98  59 eP     53 21.80   -0.4
       1.0s    80.00nm          5.8mb
 PMG    66.99 216 eP     53 22.00   -0.3
 NUR    67.01 347 iP     53 20.60   -1.3
       0.7s   108.10nm          6.1mb
 LSA    67.25 289 P      53 26.00    1.5
 NB2    67.81 355 P      53 25.40   -1.6
       0.5s    24.10nm          5.6mb
 HFS    68.54 353 eP     53 30.00   -1.5
       0.4s    47.40nm          5.9mb
     Z 18s      6.17um          5.9Msz
                 LR      13 13.00
 JSC    68.69  62 ePc    53 32.10   -0.7
 LHS    68.79  61 eP     53 32.30   -1.2
 LOE    69.80 273 eP     53 38.00   -1.8
 TSM    69.83 251 eP     53 40.90    0.9
 OBN    69.96 339 iPc    53 39.00   -1.2
       0.9s   140.00nm          6.0mb
     Z 18s     37.00um          6.7Msz
 CHG    70.49 276 iPc    53 42.80   -1.3
       1.0s    35.00nm          5.4mb
 BDT    71.63 275 eP     53 48.70   -2.2
       0.7s    36.50nm          5.5mb
 RUV    71.71 148 iP     54 08.60   17.4X
       0.9s    35.00nm
 PCI    72.93 246 ePd    53 58.50   -0.1
       1.4s     9.00nm          4.6mb X
 EKA    73.80   2 Pc     54 02.80   -0.3
       0.6s    31.40nm          5.5mb
 DZM    74.02 194 iPc    54 07.00    2.2
 NNT    74.69 271 eP     54 08.50   -0.3
 DMU    75.09   5 eP     54 10.20   -0.4
 DLE    75.72   5 eP     54 14.50    0.4
 NDI    76.02 298 iPc    54 16.00   -0.3
                 eS      03 57.00
 WIT    76.25 356 eP     54 18.00    0.9
 ETA    76.32   4 eP     54 18.10    0.5
       0.8s   117.00nm          5.9mb
 ECB    76.62   5 eP     54 20.00    0.8
 ECP    76.83   5 eP     54 20.80    0.4
       0.7s    89.00nm          5.9mb
 MTN    76.95 230 eP     54 20.00   -1.5
 WTS    77.07 356 iPc    54 21.90    0.2
       0.9s   101.00nm          5.9mb
 CTA    77.17 213 iPc    54 23.10    0.5
       1.1s    98.73nm          5.8mb
 CLL    77.35 352 iPc    54 22.50   -0.8
       1.1s    68.00nm          5.6mb
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07d 16h

			i	54	33.90						e	06	17.00			PII	85.09	353	P	55	03.40	-0.7
KSP	77.49	350	ePc	54	23.00	-1.1		OGA	81.93	353	iPc	54	48.60	0.4		ARV	85.10	351	Pc	55	04.80	0.6
	0.8s	50.00nm			5.6mb				0.8s	64.00nm			5.7mb			BBTK	85.13	336	iPc	55	05.00	0.5
			i	54	25.00			GZR	81.93	345	iPd	54	51.50	3.4X		SBF	85.15	355	eP	55	04.30	-0.2
BRG	77.70	351	iPc	54	25.00	-0.2		BRS	82.04	205	iPc	54	47.30	-1.4		ASPA	85.16	222	eP	55	03.90	-0.7
	2.0s	44.00nm			5.1mb						i	54	52.00				1.2s	48.00nm			5.6mb	
			e	57	19.20						i	54	58.00			RZN	85.17	342	iP	55	05.00	0.1
KRA	77.82	347	ePc	54	25.70	-0.2		FVI	82.05	352	P	54	48.90	0.4		MSL	85.19	327	ePd	55	05.00	0.2
	0.8s	71.00nm			5.7mb			LLS	82.07	354	ePc	54	49.10	0.1					eS	05	29.00	
			e	54	27.40			SSF	82.10	358	iPc	54	48.90	0.0		COO	85.30	205	eP	55	09.00	3.8X
			e	54	40.50			LBF	82.17	358	iPc	54	48.70	-0.6			0.8s	16.00nm			5.3mb	
MOX	78.13	353	iPc	54	27.00	-0.6			0.8s	31.40nm			5.4mb			KKB	85.30	343	iP	55	06.00	0.7
	1.6s	80.00nm			5.5mb			OSS	82.17	353	ePc	54	49.80	0.3		SKO	85.49	345	iPc	55	06.10	-0.1
SNG	78.27	267	iPc	54	28.70	-0.2		BUC	82.28	342	eP	54	48.00	-1.8					i	55	18.00	
UCC	78.35	358	P	54	30.40	1.7		RMQ	82.33	209	eP	54	51.00	0.8		EMON	85.49	6	eP	55	08.00	1.8
HOF	78.44	353	iPc	54	28.60	-0.7		AVF	82.38	358	eP	54	50.10	-0.2		FRF	85.49	356	iPc	55	06.40	0.2
MEM	78.48	357	iPc	54	29.49	0.0		PTJ	82.41	349	eP	54	50.40	-0.2			0.6s	61.30nm			6.0mb	
PRU	78.52	351	P	54	29.00	-0.8		VDL	82.42	354	ePc	54	51.20	0.4		ASS	85.55	351	P	55	06.50	-0.1
	1.0s	36.10nm			5.3mb			LJU	82.42	350	eP	54	51.60	1.0		LRG	85.61	356	eP	55	07.20	0.5
SPC	78.63	347	eP	54	30.60	0.0		ZAG	82.49	349	iP	54	51.30	0.4			0.8s	62.90nm			5.9mb	
SNF	78.63	358	iPc	54	30.28	-0.1		VOY	82.50	351	eP	54	51.70	0.6		LMR	85.73	356	eP	55	07.50	0.2
TNS	78.76	355	ePc	54	31.10	0.0		SMF	82.51	358	iPc	54	50.80	-0.2			0.6s	57.70nm			6.0mb	
MAIO	78.80	315	eP	54	32.00	0.3		MFF	82.59	1	iPc	54	51.20	-0.2		SDA	85.75	346	eP	55	07.90	0.5
UZH	78.86	346	eP	54	33.00	1.4			0.8s	91.30nm			5.9mb			BNT	85.79	340	iP	55	09.00	1.3
DOU	79.04	357	iPc	54	32.40	-0.2		BGF	82.62	359	eP	54	51.50	-0.1		EDC	85.82	340	eP	55	07.00	-0.8
GRF	79.10	353	iPc	54	33.50	0.5		SSR	82.62	345	iPc	54	52.00	0.4		POO	85.88	294	iPc	55	08.80	0.3
			e	54	35.10			CTI	82.69	352	P	54	51.60	-0.5		PHP	85.93	345	eP	55	09.60	1.3
ABH	79.14	356	ePc	54	32.81	-0.4		TEH	82.70	321	eP	54	53.00	0.6		SRS	85.94	343	ePd	55	09.30	0.8
RUP	79.35	356	ePc	54	34.20	-0.1		CEY	82.74	350	eP	54	51.50	-0.7		STS	85.96	7	e(P)	55	08.60	0.1
TOD	79.35	355	ePc	54	34.15	-0.2		TRI	82.83	351	iPd	54	53.50	0.8		KNT	86.02	343	eP	55	08.80	-0.1
WLF	79.42	356	Pc	54	34.80	0.2		TMA	82.84	354	ePc	54	53.00	0.1		MADF	86.04	1	P	55	09.31	0.4
KHC	79.46	351	iPc	54	35.30	0.3		BEO	82.86	346	eP	54	52.50	-0.3		BOH	86.08	1	P	55	09.26	0.0
	0.8s	29.00nm			5.3mb			VBY	82.88	350	iPc	54	53.00	0.1		ATE	86.10	1	P	55	09.74	0.5
WET	79.51	352	iPc	54	35.20	0.0		TCF	82.90	359	iPc	54	52.70	-0.3		ESCF	86.11	1	P	55	10.32	1.1
PTT	79.80	342	eP	54	37.00	0.2		LSF	82.94	359	iPc	54	53.00	-0.2		ISSF	86.16	1	P	55	09.37	-0.2
PSZ	79.92	347	iP	54	38.60	1.1		MMK	82.94	355	ePc	54	54.40	0.8		EPF	86.16	0	eP	55	08.80	-0.8
CLI	80.00	342	iPc	54	37.60	-0.2		DIX	82.94	355	ePc	54	54.40	0.8			0.6s	28.10nm			5.7mb	
IPM	80.02	265	ePd	54	39.00	0.6		MAF	82.96	359	iPc	54	53.40	0.1		MNS	86.23	351	P	55	09.40	-0 5
	1.0s	31.20nm			5.3mb			EMS	82.98	356	ePc	54	54.30	0.6		LHE	86.27	1	P	55	11.00	0.8
GWF	80.04	355	P	54	37.85	-0.2		VAI	83.08	354	P	54	49.10	-4.8X		GRG	86.31	344	eP	55	11.30	1.0
QIS	80.05	219	eP	54	37.00	-1.4		KVT	83.09	334	iP	54	54.10	0.0		TIR	86.35	346	eP	55	11.70	1.3
SRO	80.23	348	iPc	54	39.50	0.5		AGO	83.12	358	P	54	54.72	0.5		CVF	86.36	354	iPc	55	10.40	-0.1
			e	55	02.00			PLDF	83.19	358	P	54	55.15	0.5		OHR	86.43	345	eP	55	10.50	-0.4
PPE	80.25	341	eP	54	39.50	0.3		SAL	83.22	353	P	54	55.30	0.7		ERUA	86.55	6	eP	55	13.00	1.6
OUE	80.28	307	eP	54	40.50	0.6		ORO	83.37	355	P	54	56.50	0.9		AZI	86.55	351	P	55	03.50	-7.9X
			e	57	38.50			PYM	83.42	358	P	54	56.16	0.3		OUR	86.62	342	ePc	55	12.90	1.1
			e	01	58.00			LPG	83.56	356	iPc	54	57.70	0.9		DUI	86.76	350	P	55	12.10	-0.5
			eS	04	46.00				0.8s	42.10nm			5.6mb			SDI	86.79	350	P	55	12.50	-0.2
FLN	80.42	1	eP	54	39.40	-0.6		LSD	83.58	355	P	54	57.86	1.0		KHL	87.37	338	eP	55	15.00	-0.6
	0.7s	75.70nm			5.8mb			QLP	83.86	212	eP	54	58.50	0.5		LSK	87.40	345	eP	55	15.70	0.0
KMR	80.47	351	e(P)	54	41.00	0.7		RJF	83.89	359	iPc	54	58.00	-0.1		SHI	87.52	317	eP	55	15.00	-1.5
KGM	80 57	261	eP	54	42.50	1.2			0.9s	52.40nm			5.7mb			BHD	87.55	325	ePd	55	15.50	-0.9
SOP	80.58	349	eP	54	47.00	6.1X		LBL	83.94	358	P	54	58.92	0.6					eS	05	43.00	
KNA	80.59	230	eP	54	40.00	-1.3		BNI	84.00	356	P	55	00.00	1.1		GBA	87.68	289	P	55	17.00	-0.2
LDF	80.60	1	eP	54	40.20	-0.7		HYB	84.03	290	iP	54	58.50	-0.7		SGO	87.75	349	P	55	18.10	0.9
FUR	80.62	353	iPc	54	41.30	0.2			1.0s	150.00nm			6.1mb			CMS	87.89	209	eP	55	18.50	0.8
WLS	80.62	356	P	54	40.93	-0.2					e	55	09.50			BCK	87.93	337	eP	55	17.10	-1.1
CDF	80.62	356	P	54	40.87	-0.4		BOB	84.13	354	Pc	55	00.10	0.7		MGR	88.14	349	Pd	55	18.40	-0.7
VRI	80.76	342	iPc	54	42.00	0.1		RRL	84.13	356	P	55	00.83	1.2		ETOR	88.34	2	eP	55	21.00	0.8
GRR	80.79	1	iPc	54	41.60	-0.4		LFF	84.25	0	iPc	55	00.00	0.1		GUD	88.45	4	eP	55	20.60	-0.2
ECH	80.83	356	P	54	41.86	-0.4		CAF	84.26	359	iPc	55	00.10	0.1		TDS	88.51	348	P	55	22.10	1.2
VITF	80.87	356	P	54	42.34	0.0		PCP	84.41	354	P	55	00.01	-0.8		YER	88.79	338	eP	55	22.00	-0.4
BHG	80.92	352	iPc	54	43.00	0.3		PGB	84.44	343	iP	55	01.00	0.0		KRP	88.86	184	P	55	23.70	1.5
BRD	81.03	342	eP	54	43.50	0.2		LPO	84.51	360	iPc	55	01.10	-0.1		EPLA	88.93	5	eP	55	23.00	0.0
HAU	81.07	356	iPc	54	43.30	-0.2		DOI	84.52	355	P	55	01.30	-0.1		UPA	89.10	77	ePc	55	24.20	0.2
	0.8s	53.70nm			5.6mb			PZZ	84.53	355	P	55	01.24	-0.3			0.8s	25.37nm			5.6mb	
FEL	81.12	355	P	54	43.38	-0.5		CKI	84.55	355	P	55	01.00	-0.4		TOL	89.21	4	eP	55	25.00	0.7
LPF	81.15	1	eP	54	43.70	-0.1		ROB	84.70	355	P	55	01.65	-0.6		ECHE	89.59	1	e(P)	55	28.00	1.9
	0.7s	62.60nm			5.7mb			RSM	84.72	352	P	55	03.50	1.2		BWA	89.88	206	eP	55	29.70	2.5
MOF	81.19	356	P	54	43.54	-0.7		BDI	84.75	353	P	55	02.40	-0.1					i	55	42.40	
SLE	81.20	355	ePc	54	43.90	-0.3		FIN	84.77	355	P	55	02.88	0.3		EVIA	90.51	3	eP	55	31.80	1.4
BSF	81.23	356	P	54	44.00	-0.4		PLD	84.77	342	iP	55	03.00	0.4		WARB	90.55	227	eP	55	32.00	1.5
MLR	81.27	342	eP	54	45.00	0.2		STV	84.78	355	P	55	01.45	-1.2		CAN	90.56	206	eP	55	29.70	-0.6
ZLA	81.49	355	ePc	54	45.70	-0.1		SFI	84.78	352	P	55	03.80	1.2					i	55	42.40	
ISR	81.50	342	eP	54	47.00	1.2		ENR	84.79	355	P	55	01.45	-1.3		EBAN	90.93	4	eP	55	33.90	1.6
KBA	81.52	351	iPc	54	46.70	0.6		PGD	84.84	352	Pc	55	04.50	1.4		EHOR	91.21	5	eP	55	35.00	1.5
			i	54	48.70			HRT	84.96	338	eP	54	54.90	-8.7X		EVAL	91.36	6	e(P)	55	35.60	1.4
			i	55	03.70			FIR	84.98	352	iPc	55	05.00	1.5		BRF	91.46	317	eP	55	42.80	7.9X
BBS	81.56	355	P	54	45.78	-0.3		KLI	85.00	256	eP	55	03.50	-0.5			0.4s	2.00nm			4.9mb	
WB5	81.62	224	eP	54	45.00	-1.6					e	55	58.00			BJA	91.52	317	eP	55	43.50	8.4X
CMP	81.66	343	ePc	54	45.00	-1.6		HVAR	85.03	349	iP	55	03.30	-0.6			0.4s	2.00nm			4.9mb	
LOMF	81.70	356	P	54	46.86	0.0		SLY	85.06	325	iPd	55	04.00	-0.1		ASMO	91.74	4	iP	55	36.00	-0.2
TLB	81.72	341	eP	54	47.00	0.1					i	55	06.50			AAPN	91.77	4	iP	55	36.40	0.1
GRC	81.88	358	P	54	47.81	0.2					e	55	50.00			ALOJ	91.97	4	iP	55	38.70	1.4
LOR	81.89	358	iPc	54	47.30	-0.5					eS	05	41.50			ACHM	91.99	4	eP	55	36.00	-1.3
	0.7s	41.30nm			5.6mb			CRE	85.07	352	P	55	04.50	0.3		EPRU	92.06	5	eP	55	39.60	2.1
BZS	81.91	345	eP	54	48.00	0.2		IMI	85.08	355	P	55	03.70	-0.5		APHE	92.15	4	iP	55	40.00	1.9

ATEJ	92.17	4	iP	55	39.50	1.3
EJIF	92.56	5	eP	55	42.10	2.3
NANU	93.03	237	eP	55	39.00	-2.9
FORR	93.92	223	eP	55	47.00	1.3
MEKA	94.81	233	eP	55	49.00	-1.0
KMSA	99.08	319	eP	56	16.00	6.2X
ZOBO	115.73	84	PKP	01	12.00	-0.1
LPB	115.94	84	PKP	01	23.00	10.7X
LPB	115.94	84	PKP	01	06.00	-6.3X
CNCB	116.22	84	PKP	01	13.00	0.0
CCH	117.80	83	(PKP)	01	25.00	9.4X
TIC	122.18	7	PKP	01	23.50	-0.2
KIC	122.49	6	PKP	01	24.50	0.2
	0.7s	16.00nm				
BCAO	122.54	339	ePKPd	01	24.70	0.3
	0.7s	6.00nm				
			id	01	42.10	
LIC	122.60	7	PKP	01	24.30	-0.2
BAO	127.44	66	ePKP	01	29.00	-5.0X
PDCR	129.72	55	ePKP	01	26.20	-12.0X
			e	01	40.80	
			e	01	54.30	
			e	03	49.40	
			e	05	00.80	
BMA	135.21	68	e(PKP)	01	46.00	-2.5X
			e	05	28.50	
SPA	141.00	180	e(PKP)	01	53.00	-4.9X
	1.0s	12.00nm				
BUL	142.08	314	iPKPd	01	58.20	-3.1X
	1.0s	19.00nm				
AIA	144.76	139	ePKP	02	04.10	-0.1
MAW	146.17	217	ePKP	02	07.00	0.4
PRY	148.43	310	ePKP	02	12.50	0.8
	0.9s	34.62nm				
			i	02	18.50	
WIN	148.73	330	iPKPd	02	17.80	5.5X
	0.8s	37.31nm				
BLF	150.87	309	iPKPc	02	23.00	7.7X
	0.9s	123.08nm				
FRS	151.82	310	iPKPc	02	26.30	9.8X
	0.7s	102.74nm				
HVD	152.44	309	ePKP	02	25.00	7.4X
	0.9s	67.23nm				
			i	02	35.00	
GRM	154.06	304	ePKP	02	29.50	9.9X
	0.9s	75.63nm				
SNA	160.75	177	iPKPc	02	28.40	1.9X
	0.9s	10.92nm				

S.D. = 1.0 on 345 of 373 obs.

OCT 07, 1989 16h 49m 47.08± 0.43s
51.096 N ± 9.0km 179.191 W ± 3.9km
DEPTH = 33.0km (normal)
5.0mb (28 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
Felt (III) on Amchitko.

ADK	1.75	62	iPd	50	17.40	1.8
SMY	4.46	294	eP	50	57.00	2.9
SDN	11.97	62	eP	52	36.60	-1.6
SVW	16.43	43	eP	53	40.40	3.9X
KDC	16.83	56	eP	53	40.10	-1.3
TTA	17.19	38	eP	53	48.20	2.2
PMR	19.50	46	eP	54	16.10	2.1
IMA	19.82	31	iPd	54	17.50	0.0
	1.0s	32.50nm			4.6mb	
TOA	21.00	46	e(P)	54	28.60	-1.1
			i	54	31.90	
FBA	21.32	38	eP	54	32.20	-0.6
INK	27.83	35	eP	55	34.00	-0.9
MBC	33.96	22	eP	56	29.00	0.1
	0.6s	5.00nm			4.6mb	
GMW	36.17	73	eP	56	49.00	1.0
BMW	36.40	75	eP	56	51.00	0.9
RMW	36.80	73	eP	56	54.30	0.9
LON	37.13	74	eP	56	57.40	1.2
PNT	37.27	69	eP	56	58.00	0.8
	0.8s	25.00nm			5.1mb	
EDM	39.17	60	iPd	57	13.00	-0.1
	0.5s	26.00nm			5.2mb	
LBFM	39.89	81	eP	57	20.70	1.2
SES	41.71	63	eP	57	34.00	-0.1
LRM	43.20	70	eP	57	46.80	0.2
KVN	43.59	81	eP	57	50.20	0.5
TNP	44.72	82	eP	57	59.30	0.4
	0.6s	4.94nm			4.6mb	
BW06	46.63	72	eP	58	14.30	0.3
RSSD	49.10	67	eP	58	33.00	-0.2
GLA	49.43	85	eP	58	35.30	-0.4
RSON	50.82	55	eP	58	44.60	-1.4
	0.4s	9.10nm			5.1mb	
GOL	51.00	72	eP	58	48.00	0.1
	0.7s	21.84nm			5.2mb	
KEV	57.95	350	eP	59	49.00	11.1X
WMQ	59.29	303	P	59	44.50	-3.2X
SOD	60.26	349	iP	59	53.00	-1.0
SCH	60.41	38	eP	59	54.00	-1.2
SUF	64.77	347	eP	00	22.90	-1.1
	0.4s	6.80nm			5.1mb	
RSCP	65.33	64	eP	00	26.60	-1.4
GBTN	66.05	63	eP	00	32.00	-0.5
NUR	67.10	347	iP	00	38.00	-0.8
	0.9s	30.40nm			5.4mb	
NB2	67.91	355	P	00	42.80	-1.2
	0.6s	3.70nm			4.7mb	
UPP	68.57	351	iP	00	43.60	-4.4X
	1.0s	100.00nm			5.8mb	
HFS	68.64	353	eP	00	46.30	-2.1
	0.6s	8.70nm			5.0mb	
JSC	68.71	62	eP	00	49.00	-0.3
LHS	68.81	61	eP	00	49.50	-0.4
DMU	75.18	5	eP	01	27.30	-0.1
CLL	77.45	352	iPd	01	39.80	-0.4
	1.0s	14.00nm			4.9mb	
KSP	77.59	350	eP	01	40.60	-0.4
BRG	77.80	352	iP	01	41.30	-0.8
	0.8s	10.00nm			4.9mb	
KRA	77.92	348	eP	01	43.10	0.3
MOX	78.22	353	eP	01	44.00	-0.5
MEM	78.58	357	Pc	01	46.80	0.5
PRU	78.62	351	eP	01	46.50	-0.1
SNF	78.73	358	iPd	01	47.50	0.3
DOU	79.14	358	iPd	01	49.70	0.3
GRF	79.20	353	eP	01	49.90	0.1
WLF	79.52	356	P	01	52.50	1.0
KHC	79.56	352	iPd	01	52.50	0.7
CLI	80.09	342	eP	01	55.00	0.3
ZST	80.10	349	iPd	01	55.00	0.3
SRO	80.33	348	iP	01	57.00	1.1
FLN	80.52	1	eP	01	56.40	-0.4
LDF	80.69	1	eP	01	57.00	-0.8
	0.7s	18.50nm			5.2mb	
CDF	80.72	356	eP	01	57.60	-0.5
VRI	80.85	342	eP	01	59.00	0.3
GRR	80.89	1	eP	01	58.30	-0.5
	0.8s	18.80nm			5.1mb	
HAU	81.17	356	eP	01	59.90	-0.4
LPF	81.24	1	eP	02	00.30	-0.4
	0.7s	8.80nm			4.9mb	
BSF	81.32	356	eP	02	00.70	-0.6
MLR	81.37	342	eP	02	02.00	0.4
W85	81.57	224	eP	02	01.50	-1.2
KBA	81.61	351	iPd	02	03.80	0.9
LOR	81.98	358	eP	02	04.10	-0.5
	0.8s	5.90nm			4.7mb	
FVI	82.15	352	P	02	05.00	-0.4
SSF	82.20	358	eP	02	05.50	-0.2
	1.0s	12.00nm			4.9mb	
LBF	82.26	358	eP	02	05.50	-0.6
AVF	82.47	358	eP	02	06.80	-0.3
	0.8s	5.90nm			4.7mb	
PTJ	82.50	349	eP	02	08.00	0.6
SMF	82.61	358	eP	02	07.50	-0.3
	1.0s	14.00nm			5.0mb	
MFF	82.68	1	eP	02	07.70	-0.5
	0.8s	9.10nm			4.9mb	
BGF	82.71	359	eP	02	07.90	-0.5
	1.0s	12.80nm			5.0mb	
CTI	82.79	352	P	02	03.50	-5.4X
TCF	82.99	359	eP	02	09.40	-0.5
LSF	83.03	359	eP	02	09.70	-0.4
	0.7s	8.10nm			4.9mb	
MAF	83.05	359	eP	02	10.00	-0.2
	0.7s	4.80nm			4.7mb	
VAI	83.17	354	P	02	11.00	0.3
LSD	83.67	356	P	02	14.87	1.2
RJF	83.98	359	eP	02	14.50	-0.4
HYB	84.08	290	eP	02	15.50	-0.3
BNI	84.10	356	P	02	17.00	1.3
BOB	84.23	354	P	02	16.20	0.0
RRL	84.23	356	P	02	17.75	1.3
LFF	84.35	0	eP	02	16.70	0.0
	0.8s	17.10nm			5.3mb	
CAF	84.35	359	eP	02	16.90	0.1
	0.9s	9.80nm			5.0mb	
PCP	84.51	354	P	02	17.44	-0.2
LPO	84.60	360	eP	02	17.70	-0.3
	0.7s	13.20nm			5.2mb	
PZZ	84.62	355	P	02	18.05	-0.3
ROB	84.79	355	P	02	18.67	-0.4
BDI	84.84	353	P	02	19.50	0.2
STV	84.87	355	P	02	18.77	-0.7
PGD	84.94	352	P	02	21.00	1.1
ARV	85.20	351	P	02	22.00	0.9
ASS	85.65	351	P	02	24.50	1.1
POO	85.95	295	iPd	02	28.00	2.8X
MNS	86.33	351	P	02	23.50	-3.2X
GBA	87.73	289	P	02	34.00	0.2

S.D. = 0.9 on 95 of 102 obs.

OCT 07, 1989 16h 53m 59.16± 0.30s
51.063 N ± 6.9km 179.149 W ± 2.8km
DEPTH = 33.0km (normal)
5.2mb (44 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)

ADK	1.75	61	iP	54	29.10	1.5
SMY	4.50	294	eP	55	08.00	1.3
SDN	11.97	62	eP	56	49.90	-0.3
SVW	16.44	43	eP	57	52.20	3.5X
KDC	16.82	56	eP	57	52.40	-1.0
TTA	17.20	37	eP	58	00.60	2.4
PMR	19.51	46	eP	58	27.70	1.6
IMA	19.83	31	ePc	58	29.30	-0.5
	0.7s	30.00nm			4.7mb	
TOA	21.00	46	eP	58	42.30	0.5
FBA	21.33	38	eP	58	44.00	-1.0
INK	27.84	35	eP	59	45.00	-2.0
MBC	33.98	22	ePc	00	41.00	-0.1
	0.7s	19.00nm			5.1mb	
MDJ	34.41	280	eP	00	43.50	-1.6
PGC	35.27	72	eP	00	54.00	1.6
GMW	36.15	73	eP	01	01.20	1.2
BMW	36.38	75	eP	01	02.50	0.5
RMW	36.79	73	eP	01	06.30	0.9
LON	37.12	74	eP	01	08.90	0.8
PNT	37.25	69	iPc	01	09.90	0.7
	0.8s	35.00nm			5.3mb	
CN2	37.39	281	eP	01	09.60	-0.8
EDM	39.16	60	iPd	01	25.10	0.0
	0.6s	44.00nm			5.4mb	
SNY	39.61	280	Pc	01	29.50	0.6
LBFM	39.87	81	eP	01	32.50	1.1
SES	41.70	63	eP	01	46.00	-0.1
LRM	43.19	70	ePc	01	58.50	-0.1
KVN	43.56	81	eP	02	02.00	0.4
TNP	44.70	82	eP	02	11.00	0.1
	0.7s	9.63nm			4.8mb	
BJI	45.23	282	eP	02	15.00	0.3
	1.0s	0.01nm			1.8mb	X
BW06	46.61	72	eP	02	26.00	0.0
PLM	47.92	87	eP	02	36.30	-0.1
BTO	48.65	287	eP	02	43.00	1.2
RSSD	49.08	67	eP	02	44.30	-0.9
GLA	49.40	85	eP	02	47.60	0.0
RSON	50.82	55	eP	02	56.40	-1.7
	0.5s	13.51nm			5.2mb	
GOL	50.98	72	eP	02	59.70	-0.1
	0.5s	25.18nm			5.4mb	
ALQ	53.38	78	eP	03	17.50	-0.2
LZH	55.26	286	Pc	03	31.50	0.0
	1.0s	0.03nm			2.3mb	X
GTA	55.48	292	iPc	03	32.80	-0.2
KEV	57.99	350	eP	03	47.00	-3.2X
WMQ	59.33	303	eP	04	00.00	-0.1
GYA	60.14	276	P	04	05.00	-0.8
SOD	60.30	349	iP	04	05.00	-1.3
SCH	60.42	38	eP	04	06.00	-1.3
FVM	60.89	65	eP	04	09.00	-1.7
ELC	62.06	65	eP	04	17.30	-1.3
SUF	64.81	347	iP	04	35.00	-1.3
	0.6s	23.00nm			5.5mb	
RSCP	65.32	64	eP	04	39.00	-1.0
GBTN	66.04	63	eP	04	44.00	-0.6
TKL	66.29	62	eP	04	45.60	-0.6
NUR	67.14	347	iP	04	49.80	-1.4
	0.8s	48.40nm			5.6mb	
NB2	67.94	355	P	04	54.80	-1.5
	0.5s	7.80nm			5.1mb	
KSH	68.55	306	eP	05	01.80	1.3
EKA	73.92	2	Pd	05	32.20	0.0

07d 17h

	0.7s	13.20nm			5.0mb	
DMU	75.21	5 eP	05	39.40	-0.3	
DLE	75.84	5 eP	05	42.90	-0.3	
NDI	76.13	298 eP	05	45.80	0.5	
WTS	77.19	356 ePc	05	50.50	-0.3	
	0.8s	22.00nm			5.2mb	
CLL	77.48	352 iPc	05	51.90	-0.5	
	0.9s	21.00nm			5.2mb	
KSP	77.63	350 iP	05	52.80	-0.5	
BRG	77.83	352 iP	05	54.00	-0.4	
	0.8s	20.00nm			5.2mb	
KRA	77.95	348 eP	05	55.20	0.2	
MOX	78.26	353 iP	05	57.00	0.3	
MEM	78.61	357 iP	05	58.59	0.0	
PRU	78.65	351 P	05	58.50	-0.4	
SNF	78.76	358 iPc	05	59.30	-0.1	
MAIO	78.93	315 eP	06	02.00	1.2	
DOU	79.17	358 Pc	06	01.80	0.1	
GRF	79.23	353 iPc	06	02.40	0.3	
ABH	79.27	356 eP	06	02.12	-0.2	
IAS	79.46	342 eP	06	05.00	1.7	
RUP	79.47	356 eP	06	03.34	-0.1	
TOD	79.48	355 eP	06	04.91	1.5	
WLF	79.55	356 Pc	06	03.90	0.2	
KHC	79.59	352 iPc	06	04.50	0.4	
	0.9s	9.00nm			4.8mb	
CLI	80.13	342 iPc	06	07.10	0.1	
ZST	80.14	349 iPd	06	08.00	1.0	
SRO	80.37	348 iP	06	09.50	1.3	
FLN	80.55	1 eP	06	08.40	-0.7	
	0.9s	36.00nm			5.4mb	
LDF	80.72	1 eP	06	09.40	-0.6	
	0.7s	44.00nm			5.6mb	
CDF	80.75	356 eP	06	10.00	-0.3	
	0.6s	7.20nm			4.8mb	
VRI	80.89	342 iPc	06	11.50	0.5	
GRR	80.92	1 eP	06	10.50	-0.6	
	0.7s	33.00nm			5.4mb	
HAU	81.20	356 eP	06	12.20	-0.4	
	0.8s	14.50nm			5.0mb	
FEL	81.25	355 eP	06	12.70	-0.3	
LPF	81.27	1 eP	06	12.70	-0.2	
	0.7s	22.00nm			5.3mb	
BSF	81.35	356 eP	06	12.90	-0.6	
	0.8s	11.80nm			4.9mb	
MLR	81.41	342 iPc	06	14.20	0.3	
WB5	81.56	224 eP	06	14.00	-0.7	
ISR	81.63	342 eP	06	15.60	0.7	
KBA	81.65	351 iPc	06	15.90	0.7	
		i	06	18.00		
TLB	81.86	341 eP	06	16.50	0.5	
GRC	82.00	358 P	06	16.90	0.2	
LOR	82.02	358 eP	06	16.50	-0.3	
	0.8s	14.70nm			5.1mb	
FVI	82.18	352 P	06	17.50	-0.1	
SSF	82.23	358 eP	06	17.90	0.0	
	0.8s	16.10nm			5.1mb	
LBF	82.30	358 eP	06	17.80	-0.6	
	0.8s	6.70nm			4.7mb	
BUC	82.42	342 eP	06	18.00	-0.9	
AVF	82.50	358 eP	06	19.10	-0.2	
	1.1s	27.80nm			5.2mb	
PTJ	82.54	349 eP	06	18.80	-0.9	
SMF	82.64	358 eP	06	19.80	-0.3	
	1.0s	32.00nm			5.3mb	
MFF	82.71	1 eP	06	20.20	-0.2	
	0.8s	18.80nm			5.2mb	
BGF	82.75	359 eP	06	20.40	-0.2	
	0.9s	16.30nm			5.1mb	
CTI	82.82	352 P	06	19.50	-1.7	
VBY	83.01	350 eP	06	21.20	-0.8	
TCF	83.02	359 eP	06	21.70	-0.4	
	0.8s	14.70nm			5.1mb	
LSF	83.07	360 eP	06	22.10	-0.2	
	0.8s	25.50nm			5.4mb	
MAF	83.09	359 eP	06	22.40	0.0	
	0.7s	9.20nm			5.0mb	
VAI	83.21	354 P	06	23.50	0.5	
AGO	83.25	358 P	06	23.84	0.6	
PLDF	83.32	358 P	06	24.25	0.6	
SAL	83.35	353 P	06	24.00	0.3	
PYM	83.55	358 P	06	25.09	0.2	
LPG	83.69	356 eP	06	26.40	0.5	
	0.8s	10.70nm			5.0mb	
LSD	83.71	356 P	06	27.13	1.2	
RJF	84.01	360 eP	06	27.00	-0.1	
	0.8s	13.40nm			5.2mb	
LBL	84.06	358 P	06	28.00	0.7	
HYB	84.12	290 eP	06	28.30	0.2	
	1.0s	45.00nm			5.6mb	
		e	06	39.00		
BNI	84.13	356 Pc	06	28.60	0.7	
BOB	84.26	354 P	06	29.30	0.8	
RRL	84.26	356 P	06	30.00	1.3	
LFF	84.38	0 eP	06	29.00	0.1	
	0.8s	26.80nm			5.5mb	
CAF	84.39	359 eP	06	29.10	0.0	
	0.9s	24.50nm			5.4mb	
PCP	84.54	354 P	06	29.79	-0.1	
LPO	84.64	360 eP	06	30.20	-0.1	
	0.7s	31.70nm			5.6mb	
PZZ	84.66	356 P	06	30.41	-0.2	
ROB	84.83	355 P	06	31.02	-0.3	
BDI	84.88	353 P	06	31.20	-0.4	
STV	84.91	355 P	06	30.72	-1.0	
SFI	84.92	352 Pd	06	32.20	0.6	
ENR	84.92	355 P	06	30.92	-0.9	
PGD	84.97	352 P	06	33.50	1.3	
FIR	85.11	352 iPc	06	34.00	1.4	
HVAR	85.16	349 iP	06	31.80	-1.1	
CRE	85.20	352 P	06	34.00	0.8	
IMI	85.21	355 P	06	32.25	-1.0	
PII	85.22	353 P	06	33.00	-0.2	
ARV	85.23	351 P	06	34.00	0.7	
SBF	85.28	355 eP	06	33.50	-0.1	
	0.8s	38.60nm			5.7mb	
SKO	85.62	345 iP	06	36.00	0.7	
FRF	85.62	356 eP	06	35.20	0.0	
	0.8s	25.20nm			5.5mb	
ASS	85.69	351 P	06	36.50	0.9	
LRG	85.74	356 eP	06	36.30	0.5	
	0.7s	15.40nm			5.3mb	
LMR	85.86	356 eP	06	36.40	0.0	
	0.8s	24.10nm			5.5mb	
POO	85.98	295 iPc	06	38.20	0.8	
EPF	86.29	0 eP	06	37.70	-0.9	
	0.7s	10.30nm			5.2mb	
MNS	86.36	351 P	06	38.50	-0.5	
CVF	86.49	354 eP	06	39.40	-0.2	
	0.7s	51.50nm			5.9mb	
AZI	86.68	351 P	06	41.00	0.6	
GBA	87.77	289 P	06	46.00	0.0	
MGR	88.27	349 P	06	48.00	-0.2	
TDS	88.64	348 P	06	50.00	0.0	
KIC	122.60	7 PKP	12	53.00	0.1	
	S.D. = 0.8	on 150 of 152 obs.				

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* OCT 07, 1989 16h 57m 38.99± 1.38s
50.837 N ±22.7km 179.203 W ±10.8km
DEPTH = 33.0km (normal)
4.3mb (5 obs.)

ANDREANOF ISLANDS, ALEUTIAN IS. (7)

ADK	1.90	55 iP	58	10.30	0.7	
SMY	4.57	297 eP	58	51.20	3.7	
SDN	12.10	61 e(P)	00	30.00	-1.9	
SVW	16.63	43 eP	01	33.20	2.3	
KDC	16.98	56 eP	01	35.30	0.1	
TTA	17.40	37 eP	01	40.90	0.4	
PMS	19.38	46 eP	02	07.00	2.4	
IMA	20.05	31 eP	02	10.90	-0.9	
	0.8s	7.30nm			4.1mb	
TOA	21.18	45 eP	02	24.50	1.0	
FBA	21.53	37 e(P)	02	25.70	-1.2	
LON	37.21	73 eP	04	50.00	1.2	
SES	41.83	63 eP	05	26.00	-1.0	
KVN	43.63	81 e(P)	05	42.40	0.4	
TNP	44.77	82 eP	05	52.00	0.8	
	0.6s	1.39nm			4.0mb	
BW06	46.72	71 eP	06	06.80	0.2	
GOL	51.08	72 eP	06	41.50	1.1	
	0.6s	5.66nm			4.7mb	
SOD	60.52	349 eP	08	05.00	17.4X	
SUF	65.02	347 eP	08	16.00	-1.5	
GBTN	66.18	62 eP	08	24.80	-0.5	
NUR	67.35	347 eP	08	31.00	-1.3	
NB2	68.16	355 P	08	35.60	-1.9	
	0.5s	1.40nm			4.3mb	
SLL	68.58	353 eP	08	37.10	-2.9	
	0.4s	1.50nm			4.4mb	
JSC	68.84	62 eP	08	41.60	-0.4	
DMU	75.44	5 eP	09	20.00	-0.8	
	S.D. = 1.6	on 23 of 24 obs.				

OCT 07, 1989 17h 04m 18.04± 0.50s
51.146 N ±11.0km 179.290 W ± 4.8km
DEPTH = 33.0km (normal)
4.8mb (19 obs.)

ANDREANOF ISLANDS, ALEUTIAN IS. (7)

ADK	1.79	65 eP	04	47.70	0.6	
SMY	4.39	294 eP	05	26.50	2.5	
SDN	12.01	62 eP	07	08.70	-0.9	
SVW	16.44	44 eP	08	11.70	4.1X	
KDC	16.85	57 eP	08	12.30	-0.4	
TTA	17.19	38 eP	08	19.70	2.8	
		e	23	14.70		
PMS	19.21	47 eP	08	45.20	3.5X	
IMA	19.81	31 eP	08	47.40	-1.0	
TOA	21.01	46 eP	09	01.30	0.5	
FBA	21.32	38 eP	09	03.50	-0.3	
MAT	33.44	261 (P)	10	54.00	-1.8	
MBC	33.94	22 eP	11	00.50	0.9	
	0.6s	3.00nm			4.4mb	
LON	37.18	74 eP	11	28.80	1.3	
CN2	37.29	281 eP	11	27.40	-1.0	
PNT	37.31	69 eP	11	29.00	0.5	
SES	41.74	63 eP	12	05.00	-0.3	
LRM	43.24	70 eP	12	18.30	0.4	
KVN	43.64	81 e(P)	12	21.00	-0.1	
TNP	44.78	82 eP	12	30.50	0.2	
	0.7s	2.96nm			4.3mb	
BJI	45.12	282 eP	12	33.00	0.2	
BW06	46.67	72 eP	12	45.00	-0.3	
RSON	50.84	55 eP	13	16.00	-1.1	
GOL	51.04	72 eP	13	19.00	-0.2	
	1.0s	16.25nm			4.9mb	
GTA	55.37	292 iPc	13	51.00	-0.1	
WMO	59.21	303 P	14	18.00	-0.1	
SOD	60.20	349 eP	14	23.00	-1.5	
SUF	64.71	347 eP	14	53.50	-1.0	
GBTN	66.08	63 eP	15	03.00	-0.7	
NUR	67.04	347 iP	15	07.70	-1.7	
	0.8s	19.10nm			5.2mb	
NB2	67.85	355 P	15	13.20	-1.4	
	0.9s	5.40nm			4.6mb	
UPP	68.51	351 iP	15	17.00	-1.6	
HFS	68.58	353 eP	15	16.40	-2.6	
	0.4s	2.00nm			4.5mb	
JSC	68.74	62 eP	15	19.60	-0.8	
CLL	77.39	352 iP	16	10.70	-0.1	
KSP	77.53	350 eP	16	11.20	-0.4	
BRG	77.74	351 iP	16	12.00	-0.7	
KRA	77.85	347 eP	16	13.20	-0.2	
MOX	78.16	353 eP	16	15.50	0.4	
MEM	78.52	357 P	16	17.60	0.6	
PRU	78.56	351 eP	16	17.00	-0.3	
SNF	78.68	358 Pc	16	18.30	0.5	
DOU	79.08	357 P	16	20.30	0.2	
GRF	79.14	353 iPc	16	22.80	2.3	
KHC	79.50	351 iPc	16	22.50	0.0	
CLI	80.02	342 eP	16	25.50	0.2	
FLN	80.47	1 eP	16	26.90	-0.6	
	0.9s	6.50nm			4.6mb	
LDF	80.64	1 eP	16	27.70	-0.8	
	0.8s	14.50nm			5.0mb	
CDF	80.66	356 eP	16	28.20	-0.5	
VRI	80.79	342 eP	16	29.50	0.2	
GRR	80.84	1 eP	16	29.00	-0.5	
	0.7s	13.20nm			5.0mb	
HAU	81.11	356 eP	16	30.80	-0.2	
LPF	81.19	1 eP	16	30.60	-0.8	
BSF	81.27	356 eP	16	31.50	-0.4	
MLR	81.30	342 eP	16	33.50	1.3	
KBA	81.55	351 eP	16	34.00	0.5	
WB5	81.56	223 eP	16	35.80	2.2	
LOR	81.93	358 eP	16	35.00	-0.3	
	0.6s	2.10nm			4.3mb	
FVI	82.09	352 P	16	38.50	2.5	
SSF	82.15	358 eP	16	36.40	0.0	
AVF	82.42	358 eP	16	37.70	-0.1	
	0.8s	4.00nm			4.5mb	
SMF	82.55	358 eP	16	38.30	-0.2	
	1.0s	8.80nm			4.8mb	
MFF	82.63	1 eP	16	38.70	-0.2	
	0.8s	10.70nm			5.0mb	
LSF	82.98	359 eP	16	40.50	-0.3	
	0.8s	6.70nm			4.8mb	
MAF	83.00	359 eP	16	40.80	-0.1	
	0.8s	4.00nm			4.6mb	
HYB	84.01	290 eP	16	46.50	0.1	

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BNI     84.04 356 P      16 47.50   1.1
BOB     84.17 354 Pd     16 47.80   0.9
LFF     84.30 360 eP     16 47.50   0.1
        0.9s    11.10nm          5.0mb
CAF     84.30 359 eP     16 47.70   0.2
        0.8s     4.50nm          4.7mb
LPO     84.55 360 eP     16 48.70   0.0
        0.7s    13.20nm          5.2mb
BDI     84.79 353 P      16 55.50   5.5X
PGD     84.88 352 P      16 52.50   1.9
ARV     85.14 351 P      16 52.70   1.0
ASS     85.59 351 P      16 54.40   0.4
GBA     87.66 289 Pc     17 03.30  -1.1
        0.9s     4.80nm          4.8mb
      S.D. = 1.0  on  72 of  75 obs.
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   OCT 07, 1989  17h 19m 12.39± 0.53s
   51.040 N ±11.2km  179.135 W ± 5.0km
   DEPTH =  33.0km  (normal)
   4.6mb ( 10 obs.)
 ANDREANOF ISLANDS, ALEUTIAN IS. (  7)

ADK      1.75  60 iP     19 42.00   1.1
SMY      4.52 295 eP     20 23.00   2.8
SDN     11.97  62 e(P)   22 04.00   0.5
SVW     16.45  43 eP     23 05.50   3.5X
KDC     16.83  56 eP     23 05.70  -1.0
TTA     17.21  37 eP     23 13.50   1.9
PWA     19.20  45 eP     23 34.20  -1.7
PMR     19.52  46 eP     23 41.00   1.5
IMA     19.85  31 eP     23 42.50  -0.6
        0.7s     7.10nm          4.1mb
TOA     21.01  46 eP     23 55.20   0.1
FBA     21.34  38 eP     23 58.20  -0.2
MBC     34.00  22 eP     25 54.50   0.0
        0.6s     3.00nm          4.4mb
LON     37.11  74 eP     26 22.50   1.2
PNT     37.25  69 eP     26 23.00   0.6
        0.5s     4.00nm          4.5mb
SES     41.70  63 eP     26 59.00  -0.3
LRM     43.19  70 eP     27 11.90   0.1
KVN     43.56  81 eP     27 16.00   1.2
TNP     44.69  82 eP     27 25.00   1.0
        0.7s     2.22nm          4.1mb
BW06    46.61  72 eP     27 38.80  -0.4
RSSD    49.09  67 eP     27 57.50  -0.9
RSON    50.82  55 eP     28 10.00  -1.3
GOL     50.98  72 eP     28 13.00   0.0
        0.5s    11.24nm          5.1mb
GTA     55.50 292 iPc    28 45.70  -0.7
WMQ     59.35 303 P      29 13.00  -0.4
SUF     64.84 347 eP     29 48.20  -1.5
        0.4s     4.90nm          5.0mb
GBTN    66.04  63 eP     29 57.00  -0.8
NUR     67.17 347 iP     30 03.30  -1.2
        0.5s    14.00nm          5.3mb
NB2     67.96 355 P      30 08.00  -1.6
        0.5s     1.70nm          4.4mb
HFS     68.70 353 eP     30 12.00  -2.1
        0.4s     2.30nm          4.6mb
JSC     68.71  62 eP     30 14.30  -0.3
MOX     78.28 353 eP     31 10.00  -0.1
MEM     78.63 357 P      31 12.40   0.4
SNF     78.78 358 P      31 12.50  -0.3
DOU     79.19 358 P      31 14.70  -0.3
GRF     79.26 353 iPc    31 15.80   0.3
KHC     79.62 352 iPc    31 17.50   0.0
CLI     80.16 342 eP     31 20.00  -0.3
VRI     80.92 342 eP     31 24.50   0.1
MLR     81.43 342 eP     31 27.70   0.5
WB5     81.55 224 eP     31 27.60  -0.3
FVI     82.21 352 P      31 30.50  -0.5
CTI     82.85 352 P      31 34.50   0.0
HYB     84.14 290 eP     31 41.50   0.1
BNI     84.16 356 P      31 42.50   1.2
BOB     84.29 354 Pc     31 42.50   0.7
BDI     84.90 353 P      31 45.50   0.6
PGD     85.00 352 P      31 46.50   1.0
ARV     85.26 351 P      31 52.50   5.8X
ASS     85.71 351 P      31 49.50   0.5
GBA     87.78 289 Pd     31 59.10  -0.2
        0.7s     3.80nm          4.8mb
      S.D. = 1.0  on  48 of  50 obs.
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   OCT 07, 1989  17h 42m 36.45± 0.14s
   51.137 N ± 3.3km  179.221 W ± 2.2km
   DEPTH =  33.0km  (normal)
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   5.6mb ( 57 obs.)  5.7Msz (  6 obs.)
 ANDREANOF ISLANDS, ALEUTIAN IS. (  7)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 32C
      Centroid Location:
      Origin Time          17:42:45.9 0.9
      Lat 51.03N 0.16 Lon 179.22W 0.23
      Dep  15.0 FIX Half-duration  3.7
      Moment Tensor;    Scale 10**18 Nm
        Mrr= 0.54 0.10  Mtt=-0.36 0.15
        Mff=-0.18 0.10  Mrt= 1.36 0.32
        Mrf= 0.74 0.30  Mtf=-0.40 0.08
      Principal Axes:
        T  Val=  1.61  Plg=55  Azm=337
        N        0.12      5      240
        P       -1.73     34      147
      Best Double Couple:Mo=1.7*10**18
       NP1:Strike=216 Dip=12 Slip=  66
       NP2:        61     79       95

ADK      1.75  64 eP     43 05.50   0.5
SMY      4.43 294 eP     43 44.80   1.8
SDN     11.97  62 e(P)   45 27.30  -0.2
SVW     16.42  43 eP     46 27.00   1.3
                id       46 30.20
KDC     16.82  56 eP     46 28.00  -2.7
TTA     17.17  38 eP     46 36.70   1.6
PWA     19.17  45 ePd    46 58.70  -0.9
PMS     19.18  47 eP     46 58.50  -1.3
PMR     19.49  46 eP     47 03.00  -0.2
IMA     19.79  31 ePc    47 06.40  -0.2
        1.0s   260.00nm          5.5mb
TOA     20.98  46 eP     47 17.80  -1.1
FBA     21.30  38 eP     47 20.70  -1.3
KUSJ    25.62 266 eP     48 02.70  -1.5
ASAJ    26.41 270 eP     48 11.70   0.2
HOOJ    26.88 266 eP     48 17.70   1.8
INK     27.81  35 eP     48 23.00  -1.0
        1.0s    67.00nm          5.3mb
KAKJ    32.48 259 P      49 03.90  -1.9
NIIJ    32.55 261 P      49 06.00  -0.4
CHJJ    33.31 259 P      49 13.20   0.2
MAT     33.49 261 iPc    49 13.50  -1.1
        1.3s   186.54nm          5.8mb
                eS       54 39.00
MBC     33.93  22 ePc    49 17.60  -0.4
        0.6s    43.00nm          5.6mb
IIDJ    34.35 260 P      49 22.10   0.0
MDJ     34.35 280 eP     49 20.60  -1.3
      N 16s     5.10um
                S        54 50.00
PGC     35.29  72 eP     49 31.00   1.2
MCW     35.64  71 eP     49 34.00   1.0
GMW     36.18  73 eP     49 38.30   0.8
BMW     36.41  75 eP     49 40.50   1.0
RMW     36.81  73 eP     49 44.00   1.2
LON     37.14  74 eP     49 46.00   0.4
PNT     37.27  69 eP     49 47.00   0.4
        0.9s   154.00nm          5.9mb
CN2     37.33 281 eP     49 45.60  -1.6
EDM     39.16  60 iPc    50 02.30  -0.2
SHNJ    39.48 264 eP     50 06.60   1.4
LBFM    39.90  81 eP     50 10.40   1.4
WDC     39.93  83 e(P)   50 16.30   7.4X
KUMJ    40.70 263 eP     50 16.70   1.4
ORV     41.18  83 e(P)   50 19.20   0.0
KAGJ    41.58 261 eP     50 23.40   0.9
SES     41.71  63 ePc    50 22.00  -1.4
        0.9s    96.00nm          5.5mb
BKS     41.72  86 iPd    50 24.40   0.8
        0.9s    47.00nm          5.2mb
                eS       56 38.00
                eLQ      00 06.00
                eLR      02 14.00
MHC     42.42  86 eP     50 29.80   0.3
DL2     42.46 277 eP     50 29.60   0.0
ARN     42.48  86 eP     50 30.30   0.4
CMB     42.78  84 eP     50 33.20   0.8
        1.2s    43.98nm          5.1mb
LRM     43.21  70 eP     50 35.70  -0.3
KVN     43.60  81 eP     50 39.60   0.4
FRI     43.85  85 eP     50 41.20   0.2
FFC     44.50  54 eP     50 45.00  -1.0
        0.9s    15.00nm          4.8mb
TNP     44.74  82 eP     50 48.00  -0.4
        0.8s    28.43nm          5.2mb
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PTI     44.89  73 eP     50 50.80   1.3
BJI     45.17 282 eP     50 51.50   0.0
        1.2s     0.12nm          2.7mb X
SYP     45.24  88 eP     50 41.00 -11.4X
ISA     45.46  85 eP     50 53.00  -1.0
CLC     45.91  85 eP     50 57.00  -0.6
SBB     46.49  86 eP     51 01.00  -1.2
BW06    46.63  72 eP     51 03.00  -0.4
MWC     46.64  87 eP     51 03.00  -0.5
GSC     46.74  85 eP     51 04.00  -0.1
TIA     46.93 277 eP     51 04.60  -1.0
RVR     47.22  86 eP     51 10.00   2.1
HHC     47.50 286 eP     51 10.80   0.7
      Z 20s     9.50um          5.8Msz
MSU     47.60  78 eP     51 11.30   0.2
SSE     47.73 269 Pd     51 12.00   0.1
        1.1s     0.14nm          2.9mb X
      Z 20s     4.20um          5.4Msz
      N 16s     3.30um
                sP       51 27.60
                S        58 04.00
                SS       01 23.00
PLM     47.96  87 eP     51 13.00  -1.0
TPC     47.98  85 eP     51 13.00  -0.9
BAR     48.53  87 eP     51 18.00  -0.1
NJ2     48.55 272 Pd     51 17.30  -1.0
BTO     48.59 287 P      51 19.50   0.9
TIY     48.90 282 iPc    51 21.20   0.3
        7.0s     1.21nm          3.0mb X
      Z 20s     6.51um          5.6Msz
      E 17s     4.03um
                PP       53 19.00
RSSD    49.10  67 eP     51 22.30  -0.3
GLA     49.44  85 eP     51 25.00  -0.2
RSON    50.81  55 eP     51 34.40  -0.9
GOL     51.00  72 eP     51 37.00  -0.3
WHN     52.41 274 Pd     51 46.50  -1.1
        1.5s     0.25nm          3.0mb X
      Z 24s     2.73um          5.2MszX
ALQ     53.41  78 eP     51 54.20  -1.0
        1.4s    51.68nm          5.3mb
XAN     53.45 281 Pc     51 55.40   0.1
LZH     55.20 286 eP     52 08.00  -0.3
        7.0s     1.14nm          3.0mb X
      Z 20s     8.60um          5.8Msz
      E 16s    13.90um
                sP       52 19.70
KEV     57.91 350 iP     52 27.00   0.0
        0.6s    13.00nm          5.2mb
MEO     58.31  73 iPd    52 29.80  -0.5
TRO     58.81 353 eP     52 31.51  -1.8
WMQ     59.25 303 iPc    52 36.00  -0.8
      Z 20s    16.00um          6.1Msz
      N 18s     7.70um
                PcS      57 27.00
                S        00 43.50
GYA     60.08 276 P      52 41.00  -1.8
                sP       52 57.60
                S        00 54.80
SOD     60.22 349 iP     52 42.00  -1.0
SCH     60.39  38 eP     52 52.00   7.6X
        0.8s    74.00nm          5.9mb
LOF     60.67 355 eP     52 43.23  -2.8
FVM     60.90  65 eP     52 46.50  -1.5
UYO     61.20  70 eP     52 48.50  -1.6
AKU     62.61   9 eP     52 59.50   0.4
        0.7s    19.18nm          5.3mb
SVO     62.73 203 eP     53 01.00   0.6
HNR     62.96 203 eP     53 04.00   2.1
QIZ     63.49 268 eP     53 05.60   0.1
KMI     63.50 278 Pc     53 04.00  -1.8
NSS     64.34 355 eP     53 09.55  -0.9
RSNY    64.62  50 eP     53 14.40   1.8
        0.9s    18.59nm          5.2mb
SUF     64.73 347 iP     53 11.60  -1.4
        0.8s    88.50nm          5.9mb
                i        53 11.80
HBVT    65.46  49 eP     53 16.80  -1.2
CBM     65.79  45 eP     53 18.00  -2.1
GBTN    66.05  63 eP     53 21.00  -0.9
MOL     66.51 357 iP     53 23.42  -1.0
BLA     67.00  59 eP     53 27.60  -0.4
        0.9s    53.72nm          5.6mb
NUR     67.06 347 iP     53 26.40  -1.5
        0.8s   184.80nm          6.2mb
LSA     67.27 289 P      53 31.40   1.1
NB2     67.86 355 P      53 31.40  -1.7
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07d 17h

	0.8s	43.20nm		5.6mb	ZST	80.06	349	iP	54	43.50	-0.3	SAL	83.27	353	P	55	00.10	-0.5
CBN	67.89	56	eP	53 32.00 -1.5				i	54	53.00		ORO	83.42	355	P	55	01.50	0.0
PRM	68.24	63	eP	53 35.00 -0.8	GWF	80.09	355	P	54	43.72	-0.3	PYM	83.48	358	P	55	01.59	-0.2
KSH	68.47	306	iPc	53 37.00 -0.3	SRO	80.29	348	eP	54	46.00	1.0	KAS	83.48	336	eP	55	03.20	1.3
	4.0s	2.60nm		3.7mb X				i	54	47.00		LPG	83.61	356	iPc	55	03.50	0.7
UPP	68.52	351	iP	53 36.00 -1.1	PPE	80.30	341	iPc	54	45.70	0.6		1.0s	42.00nm			5.5mb	
	1.0s	500.00nm		6.6mb	FLN	80.48	1	iPc	54	45.50	-0.5	LSD	83.63	355	P	55	03.85	1.0
		i	53	37.00		0.9s	96.30nm			5.8mb		QLP	83.82	212	eP	55	04.00	0.5
HFS	68.60	353	eP	53 35.60 -1.9	KMR	80.52	351	eP+	54	56.00	9.7X	RJF	83.94	359	eP	55	03.60	-0.4
	0.6s	43.70nm		5.7mb	KGM	80.57	261	eP	54	48.50	1.5		1.3s	108.30nm			5.9mb	
	Z 19s	2.45um		5.5Msz	SOP	80.63	349	eP	54	53.10	6.2X	LBL	83.99	358	P	55	04.63	0.4
		LR	17	58.00	LDF	80.65	1	iPc	54	46.30	-0.6	HYB	84.05	290	eP	55	04.50	-0.6
JSC	68.71	62	eP	53 37.80 -0.8	WLS	80.67	356	P	54	46.76	-0.4		1.0s	100.00nm			5.9mb	
LOE	69.81	273	eP	53 44.00 -1.6	CDF	80.68	356	P	54	46.45	-0.8	BNI	84.06	356	Pd	55	06.10	1.3
		e	03	55.00	VRI	80.81	342	iPc	54	48.00	0.1	JMB	84.11	341	eP	55	05.00	0.1
TSM	69.82	251	ePc	53 45.50 -0.2	GRR	80.85	1	iPc	54	48.00	0.0	BOB	84.18	354	P	55	05.90	0.5
CHG	70.51	276	ePc	53 49.00 -0.9	ECH	80.88	356	P	54	47.22	-1.0	RRL	84.18	356	P	55	06.93	1.3
	1.1s	50.00nm		5.5mb	VITF	80.93	356	P	54	47.62	-0.7	LFF	84.31	0	iPc	55	06.00	0.1
TPT	71.39	148	iP	53 57.00 2.0	BHG	80.98	352	eP	54	48.90	0.2	CAF	84.31	359	iPc	55	06.20	0.2
	1.0s	45.00nm		5.5mb	HAU	81.12	356	iPc	54	49.10	-0.4	PCP	84.47	354	P	55	06.62	-0.2
VAH	71.63	148	iP	53 56.20 -0.2		0.9s	49.10nm			5.5mb		PGB	84.50	343	iP	55	07.00	0.0
	1.0s	25.00nm		5.2mb	FEL	81.17	355	P	54	48.22	-1.7	LPO	84.56	360	iPc	55	07.10	-0.1
BDT	71.64	275	eP	53 54.20 -2.5	LPF	81.20	1	iPc	54	49.80	0.0	DOI	84.58	355	P	55	05.40	-2.0
RUV	71.66	148	iP	53 58.50 1.8		0.9s	98.20nm			5.8mb		PZZ	84.58	355	P	55	07.44	0.0
	1.0s	30.00nm		5.3mb	MOF	81.24	356	P	54	49.58	-0.6	CKI	84.60	355	P	55	08.40	1.0
PCI	72.92	246	ePd	54 02.50 -1.7	SLE	81.26	355	ePd	54	50.00	-0.2	VTS	84.63	344	iPd	55	07.00	-0.8
	1.5s	5.00nm		4.3mb X	BSF	81.28	356	P	54	49.53	-0.9	ROB	84.75	355	P	55	07.85	-0.4
EKA	73.85	2	Pd	54 08.00 -1.1	MLR	81.32	342	iPc	54	51.00	0.3	RSM	84.78	352	P	55	09.70	1.5
	0.9s	42.00nm		5.4mb	ZLA	81.54	355	ePd	54	51.80	0.1	BDI	84.80	353	P	55	08.80	0.3
DZM	73.97	194	iPc	54 10.00 -0.2	ISR	81.55	342	eP	54	52.50	0.7	PLD	84.83	342	iP	55	09.00	0.5
DMU	75.14	5	iPd	54 16.50 0.0	KBA	81.57	351	iPc	54	52.20	0.2	STV	84.83	355	P	55	07.64	-1.0
DLE	75.77	5	iPd	54 32.05 11.9X				i	54	54.30		SFI	84.84	352	Pd	55	09.90	1.4
	1.0s	111.00nm						i	54	58.10		ENR	84.84	355	P	55	08.98	0.3
NDI	76.06	298	eP	54 22.00 -0.2	WB5	81.59	224	eP	54	51.00	-1.1	PGD	84.89	352	Pd	55	10.00	0.9
BRN	76.29	352	ePc	54 23.50 0.4	CMP	81.71	343	ePc	54	53.00	0.4	HRT	85.01	338	eP	55	03.90	-5.6X
WIT	76.31	356	eP	54 25.00 1.9	LOMF	81.76	356	P	54	52.46	-0.4	FIR	85.03	352	iPc	55	13.00	3.5X
ETA	76.37	4	eP	54 24.00 0.5	TLB	81.77	341	eP	54	53.50	0.7	TOUF	85.07	355	P	55	10.21	0.2
ECB	76.68	5	eP	54 26.00 0.8	GRC	81.93	358	P	54	53.68	0.1	AUTN	85.07	355	P	55	09.68	-0.4
ECP	76.88	5	eP	54 27.00 0.6	LOR	81.94	358	iPc	54	53.50	-0.2	SAOF	85.08	355	P	55	10.18	0.4
MTN	76.92	230	ePc	54 26.00 -1.0		0.8s	50.30nm			5.6mb		HVAR	85.08	349	iP	55	09.50	-0.3
WTS	77.12	356	ePc	54 27.50 -0.2	BZS	81.96	345	eP	54	54.50	0.7	SLY	85.11	325	iPd	55	04.00	-6.0X
	0.9s	80.00nm		5.7mb				e	05	05.00					eS	05	33.00	
CTA	77.13	213	iPc	54 27.10 -1.0	OGA	81.98	353	iPc	54	54.50	0.3	CRE	85.12	352	P	55	11.50	1.4
	1.3s	38.46nm		5.3mb		0.8s	50.00nm			5.6mb		ASPA	85.13	222	iPc	55	09.80	-0.4
		i	54	42.90	GZR	81.99	345	ePd	54	56.50	2.4		1.5s	44.00nm			5.4mb	
CLL	77.41	352	iPc	54 28.30 -1.0	BRS	82.00	205	iPd	54	58.00	3.9X	IMI	85.13	355	P	55	10.31	0.2
	1.6s	120.00nm		5.7mb				i	55	10.00		PII	85.15	353	Pd	55	10.30	0.2
		i	54	29.80	FVI	82.10	352	P	54	54.80	0.3	ARV	85.16	351	P	55	10.30	0.1
		e	54	38.00	LLS	82.12	354	ePd	54	55.30	0.4	BBTK	85.18	336	iPd	55	12.00	1.5
KSP	77.55	350	eP	54 29.30 -0.8	SSF	82.16	358	iPc	54	54.90	0.1	MVIF	85.19	355	P	55	10.44	-0.1
	0.8s	37.00nm		5.5mb	LBF	82.22	358	eP	54	54.80	-0.4	SBF	85.21	355	eP	55	10.40	-0.1
		ic	54	31.00		0.9s	26.20nm			5.3mb			0.8s	83.20nm			6.0mb	
		ePP	57	28.00	OSS	82.22	354	ePd	54	56.00	0.6	RZN	85.23	342	iP	55	11.00	0.2
BRG	77.75	352	iPc	54 30.00 -1.2	RMQ	82.29	209	eP	54	56.00	0.4	MSL	85.24	327	ePd	55	11.50	0.8
	1.4s	95.00nm		5.6mb	BUC	82.33	342	iPc	54	56.00	0.2				eS	05	35.00	
KRA	77.87	348	eP	54 31.90 0.0	AVF	82.43	358	iPc	54	56.20	0.0	REVF	85.33	355	P	55	11.13	0.0
	0.9s	108.00nm		5.9mb		1.0s	60.00nm			5.6mb		CALN	85.34	356	P	55	11.68	0.4
		i	54	34.80	PTJ	82.46	349	eP	54	56.00	-0.6	KKB	85.36	343	iP	55	11.00	-0.2
		e	54	53.00	VDL	82.47	354	ePd	54	57.30	0.5	MMB	85.51	343	iP	55	13.00	1.0
MOX	78.18	353	iPd	54 34.00 0.4	LJU	82.48	350	e(P)	54	55.50	-1.0	SKO	85.54	345	eP	55	11.50	-0.6
	1.6s	148.00nm		5.8mb	ZAG	82.54	349	iPc	54	57.00	0.2				i	55	12.60	
SNG	78.28	267	eP	54 34.40 -0.2	VOY	82.55	351	eP	54	56.00	-1.1				i	55	21.00	
UCC	78.40	358	P	54 35.80 1.1	SMF	82.56	358	iPc	54	56.90	-0.1	EMON	85.55	6	eP	55	13.00	0.8
MEM	78.54	357	iPc	54 35.41 -0.1	TAB	82.61	325	eP	55	02.00	4.4X	FRF	85.55	356	eP	55	12.10	0.0
PRU	78.57	351	P	54 36.00 0.2	MFF	82.64	1	iPc	54	57.20	-0.1		0.8s	65.50nm			5.9mb	
	1.0s	43.40nm		5.4mb		0.8s	64.40nm			5.7mb		ASS	85.61	351	P	55	14.30	1.8
SPC	78.68	347	iP	54 36.80 0.2	BGF	82.67	359	iPc	54	57.50	0.0	LRG	85.67	356	eP	55	13.10	0.4
SNF	78.69	358	iPc	54 36.05 -0.3		0.9s	37.60nm			5.5mb			0.9s	65.50nm			5.9mb	
TNS	78.81	355	ePc	54 37.10 0.0	SSR	82.67	345	iPc	54	58.00	0.4	LMR	85.78	356	eP	55	13.40	0.1
MAIO	78.85	315	eP	54 38.00 0.4	CTI	82.74	352	P	54	58.50	0.4		0.9s	72.00nm			5.9mb	
DOU	79.09	357	Pc	54 38.30 -0.3	TEH	82.75	321	eP	54	59.00	0.7	SDA	85.80	346	eP	55	14.00	0.6
GRF	79.16	353	iPc	54 39.00 0.0	CEY	82.79	350	e(P)	54	58.00	-0.2	BNT	85.85	340	eP	55	15.00	1.3
		e	54	40.40	TRI	82.89	351	iPd	54	58.00	-0.6	POO	85.91	294	iPd	55	14.80	0.4
ABH	79.20	356	eP	54 39.80 0.6	TMA	82.89	354	ePd	54	59.00	0.1				iS	06	02.50	
IAS	79.38	342	eP	54 41.00 0.9	BEO	82.91	346	eP	54	59.50	0.7	PHP	85.98	345	eP	55	14.10	-0.2
RUP	79.40	356	eP	54 40.14 -0.2	VBY	82.93	350	ePc	54	58.80	-0.1	EPF	86.21	0	eP	55	14.70	-0.8
WLF	79.47	356	P	54 41.40 0.8	TCF	82.95	359	iPc	54	58.80	-0.2		0.8s	26.80nm			5.5mb	
KHC	79.51	351	iPc	54 41.00 0.0		0.8s	35.40nm			5.5mb		AQU	86.24	351	Pd	55	16.90	1.2
	1.0s	50.00nm		5.5mb	LSF	82.99	359	iPc	54	59.10	-0.1	MNS	86.28	351	P	55	16.50	0.6
		e	54	49.70	MMK	82.99	355	ePd	55	00.50	1.0	TIR	86.40	346	eP	55	16.70	0.3
WET	79.56	352	iPc	54 41.00 -0.2	DIX	83.00	355	ePd	55	00.60	1.0	CVF	86.41	354	P	55	16.38	-0.1
PTT	79.85	342	eP	54 44.00 1.3	MAF	83.01	359	iPc	54	59.40	0.1	OHR	86.48	345	eP	55	16.70	-0.2
PSZ	79.97	347	eP	54 43.20 -0.3		0.9s	47.50nm			5.6mb		ERUA	86.60	6	e(P)	55	13.10	-4.3X
QIS	80.02	219	eP	54 32.00 -11.9X	VAI	83.13	354	Pd	54	59.90	0.0	AZI	86.60	351	Pd	55	18.60	1.3
IPM	80.02	265	ePc	54 44.00 -0.1	KVT	83.14	334	iP	55	00.10	0.0	DUI	86.81	350	Pd	55	19.70	1.2
	1.2s	56.00nm		5.4mb	AGO	83.17	358	P	55	00.41	0.3	SDI	86.84	350	P	55	19.50	0.9
CLI	80.05	342	iPc	54 43.50 -0.3	PLDF	83.24	358	P	55	01.01	0.4	KHL	87.42	338	eP	55	20.00	-1.5

LSK	87.45	345	iPd	55	22.30	0.7	FBA	21.32	38	eP	57	33.30	0.2	HBVT	65.48	49	eP	03	27.00	-2.0
SHI	87.56	317	eP	55	21.00	-1.4	INK	27.83	35	eP	58	33.00	-2.1	CBM	65.81	44	eP	03	29.00	-2.1
BHD	87.60	325	iPd	55	22.00	-0.3		0.8s		41.00nm			5.2mb	GBTN	66.07	63	eP	03	32.20	-0.7
			eS	05	50.00		MAT	33.47	261	iPc	59	24.70	-0.6	MOL	66.53	357	eP	03	33.89	-1.5
GBA	87.70	289	P	55	23.00	0.0		1.7s		211.54nm			5.8mb	BLA	67.03	59	eP	03	38.50	-0.6
CMS	87.85	209	eP	55	23.00	-0.2	MBC	33.96	22	eP	59	29.00	-0.1		1.0s		70.00nm			5.7mb
BCK	87.98	337	eP	55	23.60	-0.6		0.5s		30.00nm			5.5mb	NUR	67.08	347	iP	03	37.70	-1.2
MGR	88.19	349	P	55	25.50	0.4	MDJ	34.34	280	eP	59	31.90	-0.8		0.9s		114.90nm			6.0mb
ETOR	88.39	2	eP	55	27.00	0.9	PGC	35.31	72	eP	59	42.00	1.1	LSA	67.27	289	P	03	42.80	1.6
GUD	88.50	4	eP	55	27.80	1.1	MCW	35.66	71	eP	59	44.50	0.5	NB2	67.88	355	P	03	42.20	-1.9
TDS	88.56	348	P	55	27.50	0.6	BMW	36.43	75	eP	59	51.00	0.5		0.9s		40.40nm			5.5mb
KRP	88.80	184	P	55	31.00	3.4X	RMW	36.83	73	eP	59	54.50	0.6	PRM	68.26	63	eP	03	46.20	-0.6
YER	88.84	338	eP	55	28.00	-0.3	LON	37.16	74	eP	59	57.30	0.7	KSH	68.48	306	iPc	03	49.00	0.8
EPLA	88.98	5	eP	55	29.60	0.7	PNT	37.29	69	iPc	59	58.40	0.8	UPP	68.54	351	iP	03	46.70	-1.4
UPA	89.10	77	eP	55	29.50	-0.2		1.0s		142.00nm			5.8mb		0.9s		400.00nm			6.5mb X
TOL	89.26	4	iPd	55	31.00	0.8	CN2	37.33	281	Pc	59	58.50	0.5	HFS	68.61	353	eP	03	47.00	-1.5
	1.2s		93.75nm			6.0mb	EDM	39.18	60	iPc	00	12.90	-0.6		0.5s		26.20nm			5.6mb
ECHE	89.64	1	e(P)	55	33.50	1.5		0.5s		74.00nm			5.7mb	JSC	68.73	62	eP	03	49.20	-0.5
BWA	89.83	206	eP	55	33.00	0.3	SNY	39.55	279	iPc	00	17.00	0.4	SGS	69.95	62	eP	03	57.70	0.6
			i	55	49.30		LBFM	39.92	81	eP	00	21.00	1.0	CHG	70.50	276	eP	04	00.50	-0.2
CAN	90.52	206	eP	55	34.20	-1.6	WDC	39.95	83	e(P)	00	22.40	2.5	PCI	72.90	246	ePd	04	13.00	-2.0
WARB	90.52	227	eP	55	37.50	1.5	ORV	41.19	83	eP	00	30.80	0.6	EKA	73.87	2	P	04	20.00	-0.1
EVIA	90.56	3	eP	55	38.00	1.6	SES	41.73	63	ePc	00	33.50	-1.0		0.7s		21.80nm			5.3mb
EBAN	90.99	4	eP	55	39.80	1.6	BKS	41.73	86	ePd	00	36.10	1.5	DZM	73.95	194	iPc	04	21.60	0.6
EHOR	91.26	5	eP	55	40.50	1.0		0.9s		36.00nm			5.1mb	DMU	75.16	5	eP	04	26.90	-0.7
EVAL	91.41	6	e(P)	55	40.80	0.6				eS	06	22.00		DLE	75.79	5	eP	04	31.30	0.2
ASMO	91.79	4	eP	55	42.50	0.4	CMB	42.80	84	eP	00	43.70	0.3	NDI	76.05	298	iPc	04	33.00	-0.1
AAPN	91.83	4	eP	55	43.00	0.7	LRM	43.23	70	ePc	00	46.70	-0.3	WIT	76.33	356	eP	04	35.50	1.4
ALOJ	92.02	4	eP	55	44.20	1.0	LLA	43.32	86	eP	00	47.70	0.1	ETA	76.40	4	eP	04	34.70	0.2
ACHM	92.04	4	eP	55	42.30	-0.9	KVN	43.61	81	eP	00	50.20	0.0	ECB	76.70	5	eP	04	36.00	-0.2
EPRU	92.11	5	eP	55	44.20	0.7	FRI	43.86	85	eP	00	51.90	-0.1	MTN	76.90	230	eP	04	36.00	-1.8
APHE	92.20	4	eP	55	45.20	1.2	FFC	44.52	54	eP	00	56.00	-1.1	ECP	76.90	4	eP	04	37.50	0.1
ATEJ	92.22	4	eP	55	44.50	0.4		0.5s		5.00nm			4.6mb	CTA	77.11	213	iPd	04	38.80	-0.1
EJIF	92.61	5	eP	55	47.50	1.8	TNP	44.75	82	eP	00	59.00	-0.4		1.1s		31.65nm			5.3mb
RYD	94.38	319	eP	55	54.00	-0.1		0.6s		16.36nm			5.1mb	WTS	77.14	356	ePc	04	39.00	0.3
MEKA	94.78	233	eP	55	55.00	-0.6	PTI	44.90	73	eP	01	01.00	0.4		0.8s		42.00nm			5.5mb
ZOBO	115.72	84	ePKP	01	07.00	-10.8X	BJI	45.16	282	eP	01	02.50	0.2	CLL	77.42	352	iPc	04	39.80	-0.5
LPB	115.94	84	ePKP	01	15.00	-3.0X		1.7s		0.10nm			2.4mb X		1.7s		79.00nm			5.5mb
CNCB	116.22	84	PKP	01	19.00	0.3	ISA	45.47	85	eP	01	04.00	-1.0				i	04	51.30	
TIC	122.23	7	PKP	01	31.40	1.9X	CLC	45.92	85	eP	01	09.00	0.4	KSP	77.56	350	iP	04	40.70	-0.4
KIC	122.54	7	PKP	01	31.70	1.6X	SBB	46.50	86	eP	01	14.00	0.8		0.8s		30.00nm			5.4mb
BCAO	122.59	339	iPKPd	01	29.80	-0.4	MWC	46.66	87	eP	01	14.00	-0.5	BRG	77.77	351	iPc	04	42.10	-0.1
	0.9s		27.00nm				GSC	46.75	85	eP	01	16.00	0.9		1.0s		30.00nm			5.3mb
			id	01	42.10		HHC	47.50	286	P	01	21.50	0.5				i	04	57.60	
			ic	03	02.60			Z 22s		6.00um			5.5Msz				e	07	36.00	
LIC	122.65	7	PKP	01	32.20	1.9X	MSU	47.62	78	eP	01	21.50	-0.6	KRA	77.89	347	eP	04	42.80	-0.1
BAO	127.45	66	ePKP	01	40.50	0.8	PLM	47.98	87	eP	01	25.00	0.1		0.9s		64.00nm			5.7mb
SPA	140.95	180	e(PKP)	01	57.20	-6.3X	TPC	48.00	85	eP	01	25.00	0.1				e	04	45.30	
	0.9s		4.09nm				BAR	48.54	87	eP	01	30.00	0.9				e	04	47.70	
			e	02	12.00		NJ2	48.54	272	Pc	01	28.00	-1.0	MOX	78.20	353	iPc	04	45.00	0.4
BUL	142.12	314	iPKPd	02	06.00	-1.1	BTO	48.58	287	P	01	30.50	1.1		1.6s		74.00nm			5.5mb
	1.0s		5.50nm				TIY	48.89	282	Pc	01	32.20	0.4	SNG	78.26	267	eP	04	45.50	0.1
MAW	146.13	217	ePKP	02	12.00	-0.2				pP	03	30.00	678kmX	UCC	78.42	358	P	04	47.50	1.8
PRY	148.47	310	iPKPc	02	21.50	4.0X	GLA	49.46	85	eP	01	36.00	-0.2	HOF	78.51	353	eP	04	45.70	-0.6
	1.0s		40.00nm				GOL	51.02	72	eP	01	48.00	-0.3		1.2s		44.00nm			5.3mb
			i	02	25.40			1.0s		167.50nm			6.0mb	MEM	78.56	357	iP	04	46.64	0.2
WIN	148.78	330	iPKPd	02	23.10	5.0X	WHN	52.40	274	Pc	01	57.50	-0.9				e	05	18.90	
	0.7s		23.97nm					1.5s		0.12nm			2.6mb X	PRU	78.59	351	P	04	47.00	0.3
BLF	150.91	309	iPKPc	02	28.50	7.4X				sP	02	11.50			1.5s		44.60nm			5.3mb
	0.9s		76.92nm				ALQ	53.42	78	eP	02	05.20	-1.0	SPC	78.70	347	iP	04	48.30	0.7
FRS	151.86	310	iPKPd	02	31.00	8.7X		1.4s		32.45nm			5.1mb	SNF	78.71	358	iPc	04	47.60	0.3
			i	02	40.50		XAN	53.44	281	P	02	05.20	-1.0	TNS	78.83	355	ePc	04	48.40	0.3
HVD	152.48	309	ePKP	02	30.50	7.1X	LZH	55.19	286	iPc	02	19.50	0.3	MAIO	78.85	315	iPd	04	50.00	1.5
	1.0s		80.00nm					2.0s		0.24nm			2.9mb X	DOU	79.11	357	iPd	04	50.00	0.4
			i	02	41.00			Z 18s		93.00um			6.9MszX	GRF	79.18	353	iPc	04	50.40	0.4
GRM	154.09	303	e(PKP)	02	20.50	-4.9X		N 16s		13.00um							e	04	52.50	
	1.0s		54.00nm				GTA	55.41	292	eP	02	19.50	-1.1	ABH	79.22	356	eP	04	50.31	0.1
SNA	160.70	177	e(PKP)	02	52.20	20.1X		Z 15s		16.60um			6.2MszX	RUP	79.42	356	eP	04	51.34	0.0
	S.D. = 0.9		on 323 of 350 obs.				KEV	57.93	350	iP	02	38.20	0.2	TOD	79.42	355	eP	04	51.52	0.2
								0.8s		19.10nm			5.2mb	WLF	79.49	356	Pc	04	52.00	0.4
OCT 07, 1989 17h 52m 47.33± 0.18s							CD2	58.76	282	eP	02	39.00	-5.4X	KHC	79.53	351	iPc	04	52.60	0.7
51.115 N ± 4.3km 179.241 W ± 2.5km								Z 20s		4.60um			5.6Msz		1.0s		28.50nm			5.2mb
DEPTH = 33.0km (normal)							TRO	58.83	353	eP	02	43.10	-1.2				e	05	08.20	
5.5mb (58 obs.) 5.6Msz (3 obs.)							WMO	59.25	303	iPc	02	47.50	-0.2	WET	79.58	352	iPc	04	52.30	0.1
ANDREANOF ISLANDS, ALEUTIAN IS. (7)								Z 21s		8.50um			5.8Msz		1.7s		97.00nm			5.5mb
								N 15s		2.80um				PSZ	79.99	347	eP	04	55.10	0.7
ADK	1.77	63	eP	53	17.00	0.9				S	10	54.50		CLI	80.06	342	iPc	04	55.00	0.2
SMY	4.43	294	eP	53	55.00	1.1	GYA	60.07	276	P	02	52.40	-1.2	ZST	80.08	349	iP	04	55.00	0.2
SDN	11.99	62	eP	55	37.00	-1.7	SOD	60.24	349	iP	02	52.80	-1.2	GWF	80.11	355	P	04	55.16	0.1
SVW	16.44	43	eP	56	38.90	2.0	SCH	60.41	38	eP	02	53.00	-2.4	SRO	80.30	348	iPc	04	56.50	0.5
KDC	16.84	56	eP	56	38.40	-3.4X	LOF	60.69	355	eP	02	55.62	-1.5	PPE	80.32	341	iPc	04	57.00	0.9
TTA	17.19	38	eP	56	48.50	2.2	FVM	60.92	65	eP	02	57.00	-2.0	QUE	80.32	307	eP	04	54.00	-2.7
PWA	19.20	45	iP	57	09.80	-0.9	ELC	62.09	65	eP	03	05.40	-1.5	FLN	80.50	1	eP	04	56.20	-0.8
PMS	19.21	47	iP	57	09.80	-1.1	KMI	63.49	278	Pc	03	15.00	-1.6		1.1s		75.20nm			5.6mb
IMA	19.82	31	iPc	57	17.50	-0.3	NSS	64.36	355	eP	03	20.25	-1.3	KMR	80.54	351	eP+	04	57.00	-0.3
	1.0s		190.00nm			5.4mb	SUF	64.75	347	iP	03	22.90	-1.1	LDF	80.67	1	eP	04	56.90	-1.0
TOA	21.01	46	eP	57	28.80	-1.2		0.4s		19.60nm			5.6mb		0.8s		61.70nm			5.7mb

07d 18h

WLS	80.69	356	P	04	58.07	-0.1			1.4s	117.60nm		5.9mb			0.9s	4.09nm							
CDF	80.70	356	P	04	58.15	-0.1	PCP	84.49	354	P	05	17.35	-0.4			e	12	37.40					
VRI	80.83	342	eP	04	59.00	0.2	PGB	84.51	343	iP	05	18.00	0.1	BUL	142.13	314	iPKPd	12	19.80	1.8X			
GRR	80.87	1	eP	04	58.20	-0.8	LPO	84.58	360	eP	05	17.70	-0.5		0.9s	5.04nm							
	0.8s	69.80nm			5.7mb			0.8s	51.00nm			5.8mb		AIA	144.71	139	ePKP	12	33.40	12.7X			
ECH	80.90	356	P	04	58.43	-0.8	DOI	84.60	355	P	05	17.50	-0.9	MAW	146.10	217	ePKP	12	23.00	0.0			
VITF	80.95	356	P	04	59.51	0.2	PZZ	84.60	355	P	05	18.28	-0.2	PRY	148.47	310	iPKPd	12	31.90	3.6X			
HAU	81.14	356	eP	04	59.90	-0.6	CKI	84.62	355	P	05	17.60	-0.8		0.7s	10.00nm							
	0.8s	22.50nm			5.2mb		VTS	84.65	344	iPd	05	19.00	0.3	WIN	148.79	330	ePKP	12	33.50	4.5X			
FEL	81.19	355	P	05	00.52	-0.4	ROB	84.77	355	P	05	18.79	-0.4		1.2s	70.31nm							
LPF	81.22	1	eP	05	00.40	-0.4	BDI	84.82	353	Pd	05	19.50	0.0	BLF	150.91	309	iPKPc	12	38.00	6.0X			
	1.1s	70.30nm			5.6mb		FIN	84.84	355	P	05	19.20	-0.3		0.5s	27.03nm							
MOF	81.26	356	P	05	00.67	-0.5	PLD	84.84	342	eP	05	20.00	0.5	FRS	151.86	310	ePKP	12	42.50	9.4X			
SLE	81.28	355	ePc	05	00.90	-0.3	STV	84.85	355	P	05	18.79	-0.8		0.7s	23.97nm							
BSF	81.30	356	P	05	01.24	-0.2	SFI	84.86	352	Pd	05	21.30	1.8	HVD	152.48	309	ePKP	12	41.00	6.7X			
MLR	81.34	342	iPc	05	02.50	0.8	ENR	84.86	355	P	05	18.89	-0.8			i	12	51.00					
WB5	81.56	224	eP	05	01.50	-1.4	PGD	84.91	352	P	05	21.40	1.3	GRM	154.09	303	ePKP	12	43.50	7.2X			
			i	05	15.70		FIR	85.05	352	eP	05	22.50	2.0		1.0s	30.00nm							
ISR	81.56	342	eP	05	04.00	1.2	HVAR	85.10	349	iP	05	20.30	-0.5	SNA	160.68	177	e(PKP)	12	44.20	1.2			
ZLA	81.56	355	ePc	05	02.70	0.0	ASPA	85.11	222	iPc	05	20.50	-0.4		S.D. = 0.9		on 259 of 277 obs.						
KBA	81.59	351	iPd	05	03.20	0.2		0.8s	14.00nm			5.2mb		----------									
			i	05	04.40		SLY	85.12	325	ePc	05	21.00	0.0		OCT 07, 1989 18h 01m 18.14± 0.38s								
			i	05	07.00					eS	15	45.00			51.245 N ± 8.2km 179.327 W ± 4.1km								
			i	05	35.90		CRE	85.14	352	P	05	21.50	0.4		DEPTH = 33.0km (normal)								
BBS	81.63	355	P	05	02.77	-0.3	IMI	85.15	355	P	05	21.15	0.0		4.8mb (24 obs.)								
CMP	81.73	343	ePc	05	03.00	-0.6	PII	85.16	353	P	05	20.50	-0.6		ANDREANOF ISLANDS, ALEUTIAN IS. (7)								
LOMF	81.78	356	P	05	04.01	0.2	ARV	85.17	351	P	05	22.00	0.8										
TLB	81.79	341	eP	05	04.80	1.0	BBTK	85.19	336	iPc	05	22.00	0.6	ADK	1.77	68	eP	01	49.00	2.1			
GRC	81.95	358	P	05	04.99	0.4	SBF	85.23	355	eP	05	20.80	-0.7	SMY	4.32	293	eP	02	26.00	2.8			
LOR	81.96	358	eP	05	03.90	-0.8		0.9s	70.10nm			5.9mb		SDN	11.98	63	e(P)	04	09.10	-0.3			
	1.3s	72.20nm			5.5mb		RZN	85.24	342	iP	05	22.00	0.2	SVW	16.38	44	eP	05	11.70	4.7X			
OGA	82.00	353	eP	05	05.80	0.6	MSL	85.25	327	ePd	05	22.00	0.4	KDC	16.82	57	eP	05	12.90	0.6			
	1.0s	40.00nm			5.4mb					eS	16	03.00		PWA	19.14	46	eP	05	40.50	-0.4			
FVI	82.12	352	P	05	06.00	0.5	KKB	85.37	343	iP	05	23.00	0.8		1.0s	27.50nm				4.5mb			
LLS	82.14	354	ePc	05	06.30	0.4	MMB	85.52	343	iP	05	24.00	1.0	PMR	19.46	46	eP	05	43.80	-0.8			
SSF	82.18	358	eP	05	05.40	-0.4	SKO	85.55	345	iP	05	23.00	-0.1	IMA	19.74	32	eP	05	47.90	0.1			
	0.9s	27.80nm			5.3mb		FRF	85.57	356	eP	05	22.60	-0.5		1.2s	23.40nm				4.4mb			
LBF	82.24	358	eP	05	05.30	-0.9		0.8s	30.60nm			5.6mb		TOA	20.95	46	eP	06	02.50	2.2			
	1.1s	37.60nm			5.4mb		EMON	85.57	6	eP	05	24.90	1.7	FBA	21.25	38	eP	06	04.00	0.8			
OSS	82.24	353	ePc	05	06.90	0.5	ASS	85.63	351	P	05	24.00	0.5	MBC	33.85	22	eP	08	04.00	5.0X			
AVF	82.45	358	eP	05	06.80	-0.4	LRG	85.69	356	eP	05	23.50	-0.2		0.7s	10.00nm				4.9mb			
	0.9s	36.60nm			5.4mb			1.1s	58.60nm			5.7mb		GMW	36.21	73	eP	08	20.50	1.1			
PTJ	82.48	349	eP	05	07.70	0.2	LMR	85.80	356	eP	05	23.80	-0.5	LON	37.17	74	eP	08	28.50	0.9			
VDL	82.49	354	ePc	05	08.50	0.8		0.7s	17.60nm			5.4mb		PNT	37.29	69	eP	08	29.00	0.5			
LJU	82.49	350	e(P)	05	07.50	0.0	BNT	85.86	340	iP	05	25.50	0.8		0.6s	8.00nm				4.8mb			
VOY	82.57	351	eP	05	07.70	-0.3	POO	85.91	294	iPc	05	25.80	0.6	EDM	39.17	60	eP	08	43.50	-0.7			
SMF	82.59	358	eP	05	07.30	-0.7	EPF	86.23	0	eP	05	25.20	-1.3	LBFM	39.95	81	eP	08	52.80	1.7			
	0.9s	51.40nm			5.6mb			0.8s	16.10nm			5.3mb		SES	41.72	63	eP	09	04.00	-1.2			
MFF	82.66	1	eP	05	07.80	-0.5	AQU	86.26	351	Pd	05	27.70	1.0	LRM	43.23	70	eP	09	17.90	0.0			
	0.9s	40.60nm			5.5mb		MNS	86.30	351	Pd	05	26.90	0.1	KVN	43.65	81	eP	09	22.00	0.7			
BGF	82.69	359	eP	05	07.90	-0.6	CVF	86.43	354	eP	05	26.70	-0.8	TNP	44.79	82	eP	09	30.70	0.2			
	0.9s	26.20nm			5.3mb			0.9s	78.60nm			5.9mb			1.0s	6.67nm				4.5mb			
TEH	82.75	321	eP	05	12.00	2.8	OHR	86.50	345	eP	05	20.00	-7.9X	BJI	45.08	282	eP	09	32.50	0.0			
CTI	82.76	352	Pd	05	09.00	-0.1	AZI	86.62	351	Pd	05	29.20	0.9	DUG	46.22	77	eP	09	42.00	0.2			
CEY	82.81	350	e(P)	05	09.50	0.3	DUI	86.83	350	P	05	32.50	3.0X		1.0s	6.25nm				4.5mb			
TMA	82.91	354	ePc	05	10.20	0.3	KHL	87.43	338	eP	05	32.00	-0.5	MSU	47.64	78	eP	09	51.50	-1.6			
VBY	82.95	350	iP	05	10.20	0.3	SHI	87.57	317	eP	05	33.00	-0.4	PLM	48.02	87	e(P)	09	56.00	-0.1			
TCF	82.97	359	eP	05	09.30	-0.7	BHD	87.61	325	iPd	05	32.00	-1.2	GLA	49.50	85	eP	10	05.80	-1.5			
	0.9s	32.70nm			5.4mb					eS	16	02.00		GOL	51.03	72	eP	10	19.00	-0.2			
LSF	83.01	359	eP	05	09.50	-0.7	GBA	87.70	289	P	05	34.00	0.1	ALQ	53.45	78	eP	10	36.50	-0.7			
MMK	83.02	355	ePc	05	11.60	1.1	CMS	87.82	209	eP	05	35.00	1.0	WMQ	59.14	303	P	11	17.20	-0.5			
DIX	83.02	355	ePc	05	11.50	0.9	MGR	88.21	349	P	05	36.50	0.5	SCH	60.35	38	eP	11	25.00	-0.8			
MAF	83.03	359	eP	05	09.90	-0.4	GUD	88.52	4	eP	05	37.70	0.0	SUF	64.61	347	eP	11	52.80	-1.1			
	1.0s	38.00nm			5.5mb		TDS	88.58	348	P	05	39.00	1.2		0.4s	4.10nm				4.9mb			
VAI	83.15	354	P	05	06.80	-4.1X	KRP	88.78	184	P	05	40.60	2.2	AFI	65.21	172	eP	12	00.00	1.6			
AGO	83.19	358	P	05	11.84	0.7	EPLA	89.00	5	eP	05	40.20	0.3	GBTN	66.06	63	eP	12	02.00	-1.7			
RIY	83.20	350	iPd	05	11.10	0.0	UPA	89.12	77	eP	05	40.20	-0.5	TKL	66.31	62	eP	12	04.30	-1.0			
PLDF	83.27	358	P	05	12.33	0.7	TOL	89.28	4	iPd	05	43.00	1.8	NUR	66.94	347	iP	12	08.20	-0.7			
SAL	83.29	353	P	05	11.20	-0.4		1.2s	78.13nm			5.9mb			0.8s	24.90nm				5.4mb			
ORO	83.44	355	P	05	14.00	1.5	EVIA	90.58	3	e(P)	05	49.50	2.1	NB2	67.75	354	P	12	12.50	-1.5			
PYM	83.50	358	P	05	13.13	0.4	ASMO	91.81	4	eP	05	53.70	0.6		1.0s	9.20nm				4.8mb			
LPG	83.63	356	eP	05	14.00	0.3	AAPN	91.85	4	eP	05	53.70	0.5	UPP	68.41	351	iP	12	17.70	-0.3			
	1.3s	61.30nm			5.6mb		ALOJ	92.05	4	eP	05	55.00	0.8	HFS	68.48	353	eP	12	17.00	-1.5			
LSD	83.65	355	P	05	14.79	1.0	ATEJ	92.24	4	eP	05	55.50	0.4		0.4s	2.80nm				4.7mb			
RJF	83.96	359	eP	05	14.60	-0.4	MEKA	94.76	233	eP	06	05.30	-1.1	CLL	77.29	352	eP	13	10.00	-0.3			
	1.1s	55.60nm			5.6mb		ZOBO	115.74	84	ePKP	11	24.00	-4.7X	KSP	77.43	350	eP	13	10.80	-0.3			
LBL	84.01	358	P	05	15.96	0.7	LPB	115.95	84	ePKP	11	38.00	9.1X	BRG	77.64	351	iP	13	11.60	-0.7			
HYB	84 05	290	iPc	05	15.50	-0.4	CNCB	116.23	84	ePKP	11	29.00	-0.6		1.0s	12.00nm				4.9mb			
	1.0s	70.00nm			5.8mb		TIC	122.26	7	PKP	11	40.40	0.0	MOX	78.06	353	e(P)	13	14.00	-0.6			
		e	05	31.00		KIC	122.56	6	PKP	11	40.50	-0.5	MEM	78.42	357	P	13	16.70	0.2				
BNI	84.08	356	Pd	05	17.40	1.6	BCAO	122.61	339	ePKPd	11	26.50	-14.6X	PRU	78.45	351	eP	13	16.00	-0.8			
JMB	84.12	341	iP	05	17.00	1.1		1.0s	14.00nm					SNF	78.57	358	P	13	18.20	0.8			
BOB	84.20	354	P	05	16.90	0.5				id	11	42.90		DOU	78.98	357	Pc	13	20.30	0.6			
RRL	84.20	356	P	05	17.76	1.2				id	13	16.10		GRF	79.04	353	iPc	13	20.20	0.2			
LFF	84 33	0	eP	05	16.60	-0.2	BAO	127.47	66	ePKP	11	50.50	-0.1	WLF	79.36	356	Pc	13	21.60	-0.1			
	1.3s	161.70nm			6.0mb		PDCR	129.77	55	ePKP	11	42.40	-12.4X	KHC	79.40	351	iPc	13	22.00	0.0			
CAF	84.33	359	eP	05	16.70	-0.3	SPA	140.93	180	e(PKP)	12	09.80	-4.6X	ZST	79.94	349	iP	13	25.50	0.6			

SRO	80.17	348	iP	13	27.00	0.9	BJI	45.18	282	eP	12	53.00	-0.7		1.1s	9.70nm		4.8mb
FLN	80.37	1	iPc	13	26.80	-0.3	DUG	46.18	77	eP	13	02.20	0.4	LPG	83.63	356	iPc	17 05.50	0.6
	0.9s	11.10nm			4.9mb			1.0s	12.50nm			4.8mb			1.1s	12.20nm		5.0mb
LDF	80.54	1	eP	13	27.30	-0.7	DAU	47.00	75	eP	13	09.00	0.5	RJF	83.96	359	eP	17 06.10	-0.1
	1.1s	34.10nm			5.3mb		HHC	47.51	286	P	13	12.80	0.5		1.1s	16.60nm		5.1mb
GRR	80.74	1	iPc	13	28.80	-0.3	MSU	47.60	78	eP	13	13.00	-0.2	HYB	84.06	290	eP	17 07.00	-0.2
	0.8s	17.10nm			5.1mb		PLM	47.96	87	eP	13	15.50	-0.5				e	17 21.50	
HAU	81.01	356	eP	13	30.60	0.0	BTO	48.60	287	eP	13	21.20	0.5	BNI	84.08	356	P	17 08.00	1.0
LPF	81.09	1	eP	13	30.90	0.0	TIY	48.91	282	eP	13	23.20	0.1	BOB	84.20	354	P	17 08.50	0.9
	0.9s	16.30nm			5.0mb		GLA	49.44	85	eP	13	26.50	-0.7	LFF	84.33	0	iPc	17 08.10	0.1
BSF	81.16	356	eP	13	31.20	-0.3	GOL	51.01	72	eP	13	39.40	0.1		1.3s	57.70nm		5.6mb
KBA	81.45	351	eP	13	33.50	0.4		1.0s	10.00nm			4.7mb		CAF	84.33	359	eP	17 08.20	0.1
WB5	81.62	223	eP	13	32.80	-1.2	GLD	51.06	72	eP	13	40.00	0.3		1.0s	14.80nm		5.1mb
LOR	81.83	358	eP	13	34.70	-0.1		1.0s	12.50nm			4.8mb		LPO	84.58	360	iPc	17 09.20	-0.1
	1.1s	12.20nm			4.8mb		GTA	55.42	292	Pc	14	11.20	-0.7		0.8s	14.50nm		5.2mb
FVI	81.99	352	P	13	34.50	-1.1	KEV	57.93	350	eP	14	38.00	8.8X	BDI	84.82	353	P	17 11.30	0.6
SSF	82.04	358	eP	13	36.10	0.2	WMO	59.27	303	iPc	14	38.50	-0.5	PGD	84.91	352	P	17 13.00	1.8
	1.1s	13.10nm			4.9mb		Z	18s		5.40um			5.7Msz	FIR	85.05	352	eP	17 14.00	2.3
AVF	82.32	358	eP	13	37.50	0.1				sP	14	51.20		ARV	85.18	351	P	17 13.50	1.1
	1.1s	12.20nm			4.9mb		SOD	60.24	349	iP	14	44.20	-1.0	ASS	85.63	351	P	17 15.00	0.3
SMF	82.45	358	iPc	13	38.20	0.1	SCH	60.40	38	eP	14	45.00	-1.5	MNS	86.31	351	P	17 18.50	0.5
	1.0s	12.00nm			4.9mb		SUF	64.75	347	iP	15	14.00	-1.2	GBA	87.71	289	P	17 25.00	-0.1
MFF	82.53	1	eP	13	38.20	-0.3		1.1s	43.60nm			5.5mb		MUN	100.32	231	ePdiff	18 35.20	12.4X
	0.9s	7.80nm			4.8mb		GBTN	66.05	63	eP	15	23.00	-1.0	SPA	140.93	180	e(PKP)	24 17.50	11.9X
CTI	82.63	352	P	13	38.50	-0.6	TKL	66.30	62	eP	15	24.50	-1.1		0.7s	3.91nm			
LSF	82.88	359	iPc	13	40.30	0.0	NUR	67.08	347	iP	15	29.20	-0.9	BLF	150.92	309	ePKP	24 29.00	5.8X
	0.7s	5.50nm			4.8mb			1.0s	52.00nm			5.6mb		HVD	152.49	309	ePKP	24 42.00	16.5X
BNI	83.94	356	P	13	47.50	1.6	NB2	67.88	355	P	15	33.90	-1.4	GRM	154.11	303	e(PKP)	24 12.00	-15.5X
HYB	83.95	290	eP	13	46.00	-0.2		1.0s	12.00nm			4.9mb			S.D. = 0.9		on	93 of 104 obs.	
BOB	84.07	354	P	13	47.50	1.0	KSH	68.49	306	eP	15	40.00	0.5	---					
LFF	84.20	360	iPc	13	47.20	0.2	UPP	68.55	351	iP	15	40.50	1.2	?	OCT 07, 1989 18h 23m 57.58± 2.27s				
	1.0s	20.00nm			5.2mb			0.9s	100.00nm			5.9mb			50.674 N ±40.0km 179.208 W ±13.2km				
CAF	84.20	359	iPc	13	47.40	0.3	CLL	77.43	352	iPd	16	31.30	-0.2		DEPTH = 33.0km (normol)				
	0.9s	6.50nm			4.8mb		KSP	77.57	350	eP	16	31.70	-0.6		4.3mb (2 obs.)				
LPO	84.45	360	iPc	13	48.40	0.1	BRG	77.77	352	iP	16	32.50	-0.9		ANDREANOF ISLANDS, ALEUTIAN IS. (7)				
	0.9s	13.10nm			5.1mb			1.0s	16.00nm			5.0mb							
BDI	84.68	353	P	13	49.50	-0.1				ePg	16	50.00		ADK	1.99	52	eP	24 31.00	1.4
PGD	84.78	352	P	13	49.50	-0.7				eSg	17	09.40		SMY	4.64	299	eP	25 08.00	0.9
FIR	84.91	352	eP	13	52.00	1.4	MOX	78.20	353	eP	16	36.00	0.2	MBC	34.36	22	eP	30 41.50	-1.3
ARV	85.04	351	P	13	52.50	1.2	MEM	78.56	357	P	16	38.00	0.4		0.6s	2.00nm		4.2mb	
ASS	85.49	351	P	13	54.00	0.4	PRU	78.59	351	eP	16	38.00	0.1	SES	41.91	63	eP	31 46.00	-0.2
MNS	86.17	351	P	13	57.00	0.0	SPC	78.70	347	eP	16	38.90	0.1	KVN	43.66	81	e(P)	32 01.00	0.2
GBA	87.60	289	P	14	04.00	-0.2	SNF	78.71	358	P	16	38.20	-0.3	NB2	68.33	355	P	34 54.80	-2.3
PRY	148.35	310	ePKP	21	01.00	2.1X	DOU	79.11	358	Pc	16	40.60	-0.1		1.1s	3.80nm		4.4mb	
BLF	150.79	309	ePKP	21	14.00	11.4X		0.7s	7.80nm			4.8mb		WB5	81.26	224	eP	36 26.00	14.4X
FRS	151.74	310	ePKP	21	21.00	17.2X	GRF	79.18	353	iPc	16	41.60	0.5	MLR	81.77	342	eP	36 15.50	1.3
HVD	152.36	309	ePKP	21	10.00	5.1X	KHC	79.54	351	iPc	16	43.50	0.4		S.D. = 1.7		on	7 of 8 obs.	
			e	21	21.00			1.0s	8.00nm			4.7mb		---					
	S.D. = 0.9		on	77 of	83 obs.		ZST	80.08	349	iP	16	46.50	0.5	?	OCT 07, 1989 18h 28m 39.06± 2.61s				
---							QUE	80.34	307	eP	16	49.00	1.1		50.738 N ±41.5km 179.385 W ±16.7km				
	OCT 07, 1989 18h 04m 38.51± 0.39s						FLN	80.50	1	eP	16	47.50	-0.7		DEPTH = 33.0km (normol)				
	51.116 N ± 8.6km 179.214 W ± 3.5km							1.1s	29.30nm			5.2mb			4.4mb (3 obs.)				
	DEPTH = 33.0km (normol)						LDF	80.67	1	eP	16	48.30	-0.8		ANDREANOF ISLANDS, ALEUTIAN IS. (7)				
	4.9mb (34 obs.)							0.8s	10.70nm			4.9mb			ML 4.5 (PMR).				
	ANDREANOF ISLANDS, ALEUTIAN IS. (7)						CDF	80.70	356	eP	16	49.00	-0.4						
							VRI	80.83	342	eP	16	50.00	0.0	ADK	2.05	55	iP	29 12.10	0.3
ADK	1.76	63	eP	05	08.40	1.3	GRR	80.87	1	iPc	16	49.50	-0.6	SMY	4.51	299	eP	29 56.10	9.3X
SMY	4.44	294	eP	05	49.50	4.2X		0.8s	17.10nm			5.1mb		SDN	12.25	61	eP	31 32.00	-1.9
SDN	11.98	62	eP	07	28.30	-1.4	HAU	81.14	356	eP	16	51.40	-0.3	SVW	16.7B	43	eP	32 35.10	2.2X
SVW	16.43	43	eP	08	31.50	3.6X		0.9s	7.80nm			4.7mb		KDC	17.13	55	eP	32 35.80	-1.4
KDC	16.83	56	eP	08	32.20	-0.6	LPF	81.22	1	eP	16	51.70	-0.3	PMS	19.53	46	eP	33 09.10	2.7
TTA	17.18	38	eP	08	39.80	2.5		1.1s	31.20nm			5.2mb		IMA	20.19	31	eP	33 12.80	-0.6
PWA	19.18	45	eP	09	00.20	-1.6	BSF	81.30	356	eP	16	52.00	-0.6	TOA	21.34	45	eP	33 26.80	1.7
PMR	19.50	46	eP	09	07.00	1.6	MLR	81.34	342	eP	16	54.00	1.1	KVN	43.76	81	e(P)	36 43.50	0.4
IMA	19.81	31	ePc	09	08.50	-0.4				e	27	33.00		SUF	65.10	347	eP	39 18.30	0.3
	1.2s	62.50nm			4.8mb		WB5	81.57	224	eP	16	44.80	-9.3X		0.5s	2.70nm		4.6mb	
		i		09	15.40		CMP	81.73	343	ePc	17	02.00	7.2X	NUR	67.43	347	eP	39 17.00	-15.9X
TOA	20.99	46	e(P)	09	21.00	-0.1	LOR	81.96	358	iPc	16	55.50	-0.4	NB2	68.25	354	P	39 37.60	-0.5
FBA	21.31	38	eP	09	24.00	-0.2		0.9s	8.10nm			4.8mb			0.5s	1.00nm		4.2mb	
INK	27.82	35	eP	10	25.00	-1.2	FVI	82.12	352	P	16	58.00	1.3	HFS	68.98	353	eP	39 41.50	-1.0
MAT	33.49	261	eP	11	26.00	9.4X	SSF	82.18	358	eP	16	57.00	0.0		0.5s	2.00nm		4.4mb	
MBC	33.95	22	eP	11	20.50	0.3		0.9s	8.10nm			4.8mb		MLR	81.67	342	eP	40 58.00	2.8X
	0.6s	5.00nm			4.6mb		LBF	82.24	358	eP	16	56.80	-0.6		S.D. = 1.6		on	10 of 14 obs.	
GMW	36.18	73	eP	11	40.70	1.2		1.1s	12.20nm			4.9mb		---					
RMW	36.81	73	eP	11	45.60	0.7	AVF	82.45	358	eP	16	58.20	-0.2		OCT 07, 1989 18h 50m 40.83± 0.16s				
LON	37.14	74	eP	11	49.00	1.3		1.0s	12.80nm			4.9mb			51.076 N ± 3.9km 179.306 W ± 2.3km				
PNT	37.27	69	eP	11	49.00	0.3	SMF	82.58	358	eP	16	59.00	-0.2		DEPTH = 33.0km (normol)				
	0.9s	21.00nm			5.0mb			1.1s	20.50nm			5.1mb			5.5mb (58 obs.) 5.3Msz (7 obs.)				
CN2	37.34	281	eP	11	48.00	-1.3	MFF	82.66	1	iPc	16	59.40	-0.1		ANDREANOF ISLANDS, ALEUTIAN IS. (7)				
EDM	39.17	60	eP	12	03.00	-1.6		0.9s	13.10nm			5.0mb			ML 5.4 (PMR). Felt (III) on				
	0.5s	14.00nm			5.0mb		BGF	82.69	359	eP	16	59.60	-0.1		Amchitka.				
SES	41.71	63	ePc	12	24.00	-1.5		1.1s	12.20nm			4.9mb			CENTROID, MOMENT TENSOR (HRV)				
CMB	42.78	84	eP	12	35.50	1.1	CTI	82.76	352	P	17	01.00	0.8		Data Used: GDSN				
	0.8s	6.67nm			4.4mb		TCF	82.97	359	eP	17	00.70	-0.5		L.P.B.: 11S, 18C				
LRM	43.21	70	eP	12	38.00	-0.1	LSF	83.01	359	eP	17	01.00	-0.4		Centroid Location:				
KVN	43.60	81	eP	12	41.40	0.2		0.8s	6.70nm			4.8mb			Origin Time 18:50:43.4 1.1				
TNP	44.73	82	eP	12	50.20	-0.3	MAF	83.03	359	iPc	17	01.50	0.0		Lat 51.01N 0.14 Lon 179.23W 0.16				

07d 18h

Dep 15.0 FIX Half-duration 2.7
Moment Tensor; Scale 10**17 Nm
Mrr= 3.02 0.27 Mtt=-1.59 0.35
Mff=-1.42 0.25 Mrt= 2.02 1.18
Mrf= 0.10 1.10 Mtf=-2.01 0.35
Principal Axes:
T Val= 3.85 Plg=66 Azm= 19
N 0.03 20 235
P -3.88 13 140
Best Double Couple:Mo=3.9*10**17
NP1:Strike=206 Dip=36 Slip= 55
NP2: 67 61 113

ADK	1.83	63	iPc	51 12.40	2.0
SMY	4.41	295	eP	51 51.70	4.6X
SDN	12.05	62	eP	53 32.20	-0.7
SVW	16.50	43	ePd	54 33.30	2.2
KDC	16.90	56	eP	54 34.90	-1.1
TTA	17.25	38	eP	54 42.40	1.9
PMS	19.26	47	eP	55 03.70	-1.4
PMR	19.57	46	eP	55 07.30	-1.2
	0.7s	71.40nm		5.1mb	
IMA	19.88	31	iPc	55 11.60	-0.3
	1.0s	160.00nm		5.3mb	
TOA	21.06	46	eP	55 23.50	-0.6
FBA	21.38	38	P	55 27.00	-0.2
INK	27.89	35	eP	56 28.00	-1.1
	0.9s	56.00nm		5.3mb	
MAT	33.42	261	iPc	57 16.30	-2.1
	1.7s	284.62nm		5.9mb	
		eS	02 31.00		
MBC	34.01	22	ePc	57 23.00	0.0
	0.9s	59.00nm		5.5mb	
IIDJ	34.29	260	P	57 27.10	1.2
MDJ	34.31	280	eP	57 25.00	-1.0
N	16s	3.00um			
		S	02 55.00		
PGC	35.36	72	eP	57 36.00	1.2
MCW	35.71	71	eP	57 39.00	1.0
GMW	36.25	73	eP	57 43.80	1.4
BMW	36.48	75	eP	57 46.00	1.6
RMW	36.88	72	eP	57 48.90	1.1
LON	37.21	74	eP	57 51.70	1.1
CN2	37.29	281	eP	57 50.00	-1.2
Z	18s	5.10um		5.4Msz	
PNT	37.34	69	iPc	57 52.40	0.8
	0.9s	86.00nm		5.6mb	
EDM	39.24	60	iPc	58 06.80	-0.7
	0.5s	81.00nm		5.7mb	
SHNJ	39.42	264	P	58 11.50	2.4
SNY	39.51	279	Pc	58 09.50	-0.3
LBFM	39.97	81	eP	58 15.00	1.1
WDC	39.99	82	e(P)	58 14.90	1.1
KUMJ	40.64	263	eP	58 21.70	2.5
ORV	41.24	83	eP	58 24.00	0.0
SES	41.78	63	ePc	58 27.20	-1.2
	0.7s	46.00nm		5.3mb	
DL2	42.41	277	eP	58 34.00	0.4
ARN	42.54	86	eP	58 35.00	0.2
CMB	42.84	84	eP	58 38.00	0.7
	1.2s	27.78nm		4.9mb	
LRM	43.28	70	eP	58 40.80	-0.2
KVN	43.66	81	eP	58 44.00	-0.1
FRI	43.91	85	e(P)	58 45.50	-0.3
FFC	44.58	54	iPd	58 50.20	-0.9
	0.6s	8.00nm		4.8mb	
TNP	44.80	82	eP	58 53.10	-0.2
	1.0s	33.33nm		5.2mb	
BCH	44.81	87	eP	58 53.00	-0.3
PTI	44.96	73	eP	58 55.00	0.5
BJI	45.13	282	eP	58 55.00	-0.6
	1.2s	0.08nm		2.5mb X	
N	16s	1.45um			
SYP	45.29	88	eP	59 10.00	12.8X
SBB	46.55	86	eP	59 08.00	1.0
MWC	46.70	87	eP	59 09.00	0.6
BW06	46.70	72	eP	59 08.00	-0.3
GSC	46.79	84	eP	59 09.00	0.0
TIA	46.89	277	eP	59 09.00	-0.6
DAU	47.07	75	eP	59 11.80	0.4
RVR	47.28	86	eP	59 13.00	0.3
HHC	47.47	286	Pc	59 14.50	0.3
Z	22s	3.30um		5.3Msz	
MSU	47.66	78	eP	59 16.00	0.0
SSE	47 67	269	eP	59 17.00	1.2
	1.2s	0.10nm		2.7mb X	
Z	20s	1.70um		5.0Msz	

PLM	48.02	87	eP	59 19.00	0.2
TPC	48.04	85	eP	59 19.00	0.2
NJ2	48.50	272	Pc	59 22.00	-0.2
BTO	48.55	287	iPc	59 23.50	0.8
N	20s	5.50um			
E	20s	2.70um			
		pP	59 29.50	20kmX	
BAR	48.59	87	eP	59 23.00	0.1
TIY	48.86	282	iPc	59 25.40	0.4
	1.4s	0.13nm		2.8mb X	
RSSD	49.17	67	eP	59 27.20	-0.3
GLA	49.50	85	eP	59 30.00	0.0
RSON	50.89	55	eP	59 39.00	-1.3
	1.0s	81.34nm		5.6mb	
GOL	51.07	72	eP	59 42.00	-0.2
	1.0s	125.00nm		5.8mb	
Z	20s	2.50um		5.2Msz	
GLD	51.13	72	eP	59 42.20	-0.3
Z	20s	3.00um		5.3Msz	
WHN	52.36	274	Pd	59 51.00	-0.6
	1.5s	0.25nm		3.0mb X	
		sP	00 06.00		
XAN	53.40	281	P	00 00.00	0.6
ALQ	53.47	78	eP	59 59.50	-0.6
	1.0s	18.75nm		5.0mb	
LZH	55.16	286	P	00 13.00	0.5
	2.0s	0.29nm		3.0mb X	
Z	22s	3.80um		5.4Msz	
GTA	55.38	292	eP	00 13.60	-0.4
	1.2s	0.10nm		2.7mb X	
E	16s	2.50um			
MEO	58.38	73	iPd	00 34.40	-0.7
CD2	58.72	282	iPd	00 37.70	0.1
TRO	58.87	353	iP	00 37.04	-1.0
WMQ	59.24	303	iPc	00 40.70	-0.4
Z	20s	6.90um		5.8Msz	
N	16s	2.20um			
GYA	60.04	276	P	00 45.40	-1.4
		pP	00 59.00	49kmX	
SCH	60.47	38	ePc	00 47.50	-1.8
	0.8s	72.00nm		5.9mb	
LOF	60.73	355	eP	00 49.35	-1.5
FVM	60.97	65	P	00 51.50	-1.4
	0.8s	53.03nm		5.7mb	
UYO	61.27	70	iPd	00 53.00	-2.0
AKU	62.68	9	iP	01 04.40	0.5
	0.6s	16.00nm		5.3mb	
KMI	63.45	278	Pd	01 09.00	-0.9
NSS	64.40	355	iP	01 14.17	-1.1
SUF	64.78	347	iP	01 16.40	-1.3
	0.9s	58.30nm		5.7mb	
HBVT	65.54	49	eP	01 21.20	-1.7
CBM	65.87	44	eP	01 22.80	-2.2
MOL	66.57	357	eP	01 28.22	-0.9
BLA	67.08	59	eP	01 32.20	-0.7
	0.8s	36.91nm		5.5mb	
NUR	67.11	347	iP	01 31.30	-1.3
	0.6s	81.10nm		6.0mb	
LSA	67.24	289	P	01 36.10	1.6
NB2	67.92	354	P	01 35.00	-2.8
	0.7s	23.70nm		5.4mb	
PRM	68.31	62	eP	01 40.00	-0.6
UPP	68.58	351	iP	01 36.50	-5.3X
	0.9s	400.00nm		6.5mb X	
		i	01 40.50		
HFS	68.65	353	eP	01 40.60	-1.7
	0.5s	30.40nm		5.6mb	
Z	16s	0.69um		5.0MszX	
		LR	24 44.00		
JSC	68.79	62	eP	01 43.20	-0.3
LOE	69.76	273	eP	01 49.00	-0.7
		e	15 01.00		
SGS	70.01	62	eP	01 51.30	0.3
CHG	70.46	276	iPd	01 54.00	0.0
	0.9s	24.16nm		5.3mb	
PCI	72 84	246	ePd	02 06.00	-2.1
DZM	73.90	194	iPc	02 13.10	-1.1
EKA	73.91	2	Pc	02 13.30	-0.5
	0.7s	27.50nm		5.4mb	
DMU	75.20	5	eP	02 21.00	-0.3
DLE	75.83	4	eP	02 24.70	-0.2
WIT	76.36	356	eP	02 29.00	1.2
ETA	76.44	4	eP	02 28.20	-0.1
	0.8s	84.00nm		5.8mb	
ECB	76.74	5	eP	02 30 40	0.4
MTN	76.84	230	iPd	02 30.30	-0.7
ECP	76.95	4	eP	02 31.50	0.4

	0.7s	140.00nm		6.1mb	
CTA	77.05	213	iPd	02 32.60	0.5
	1.4s	48.84nm		5.3mb	
WTS	77.18	356	ePc	02 32.50	0.1
	0.8s	61.00nm		5.7mb	
CLL	77.46	352	iP	02 33.60	-0.4
	0.9s	58.00nm		5.6mb	
		i	02 34.60		
		i	02 41.70		
KSP	77.60	350	ePc	02 34.40	-0.4
	0.7s	29.00nm		5.4mb	
		i	02 35.20		
		e	05 22.50		
BRG	77.81	351	iPc	02 35.20	-0.7
	1.8s	70.00nm		5.4mb	
		i	02 44.60		
		e	03 03.20		
KRA	77.92	347	ePc	02 35.90	-0.6
	0.8s	570.00nm		6.7mb X	
		i	02 37.20		
		e	02 51.80		
SNG	78.22	267	eP	02 39.20	0.5
MOX	78.23	353	eP	02 38.00	-0.3
	0.8s	52.00nm		5.6mb	
		i	02 39.00		
HOF	78.54	353	eP	02 39.20	-0.8
	0.8s	31.00nm		5.4mb	
MEM	78.59	357	iPc	02 40.23	0.1
PRU	78.62	351	P	02 40.00	-0.4
	0.5s	39.70nm		5.7mb	
SPC	78.72	347	iP	02 41.70	0.5
SNF	78.75	358	iPc	02 41.04	0.0
MAIO	78.85	315	iPd	02 43.00	1.0
TNS	78.86	355	ePc	02 41.60	-0.2
DOU	79.15	357	Pc	02 43.10	-0.2
GRF	79.21	353	iPc	02 44.00	0.4
		e	02 45.20		
ABH	79.25	355	eP	02 43.81	-0.1
RUP	79.46	356	ePc	02 44.87	-0.1
TOD	79.46	355	eP	02 44.98	0.0
WLF	79.53	356	Pc	02 45.50	0.2
KHC	79.57	351	iPc	02 46.00	0.4
	0.8s	24.00nm		5.2mb	
WET	79.62	352	iPc	02 45.80	-0.1
	1.0s	44.00nm		5.4mb	
CLI	80.09	342	eP	02 48.50	0.1
ZST	80.11	349	iP	02 48.70	0.2
GWF	80.15	355	P	02 48.53	-0.2
QUE	80.31	306	eP	02 52.00	1.9
		eS	12 57.00		
SRO	80.34	348	iPd	02 51.00	1.3
PPE	80.34	341	eP	02 50.00	0.3
FLN	80.54	1	eP	02 50.10	-0.6
	0.8s	59.10nm		5.6mb	
KMR	80.58	351	iP+	02 50.80	-0.2
LDF	80.71	1	eP	02 50.70	-0.9
WLS	80.73	356	P	02 51.38	-0.4
CDF	80.73	356	P	02 51.41	-0.5
VRI	80.85	342	iPc	02 52.50	0.0
GRR	80.91	1	eP	02 52.00	-0.7
ECH	80.93	356	P	02 52.22	-0.7
VITF	80.98	356	P	02 53.13	0.1
HAU	81.18	356	eP	02 53.70	-0.5
	0.8s	26.80nm		5.3mb	
FEL	81.23	355	ePc	02 54.05	-0.5
LPF	81.26	1	eP	02 54.20	-0.3
	0.8s	51.00nm		5.6mb	
MOF	81.30	356	P	02 54.45	-0.4
SLE	81.31	355	ePc	02 54.80	-0.1
BSF	81.33	356	P	02 54.68	-0.4
MLR	81.37	342	eP	02 55.00	-0.3
		e	07 40.00		
WB5	81.51	223	eP	02 54.80	-1.3
ISR	81.59	342	eP	02 57.50	1.1
ZLA	81.60	355	ePc	02 56.50	0.1
KBA	81.62	351	iPc	02 57.40	0.7
		i	02 58.40		
		i	03 01.50		
BBS	81.67	355	P	02 56.46	-0.3
CMP	81.75	343	iPd	03 03.00	5.8X
LOMF	81.81	356	P	02 57.58	0.0
BRS	81.92	205	eP	02 56.00	-2.1
GRC	81.99	358	P	02 58.64	0.3
LOR	82.00	358	eP	02 57.90	-0.5
	0.7s	34.40nm		5.5mb	
BZS	82.00	345	eP	02 53.50	-4.9X
		e	08 08.00		

			e	18	52.50				0.7s	57.30nm		5.9mb		TTA	17.22	38	eP	59	51.70	2.3
OGA	82.03	353	iPc	02	59.40	0.5		REVF	85.39	355	P	03	16.41	0.6		PMS	19.24	47	eP	00	13.00	-1.1
FVI	82.16	352	Pd	02	59.60	0.4		KKB	85.40	343	iP	03	16.00	0.2		PMR	19.55	46	eP	00	20.20	2.7
LLS	82.18	354	ePc	03	00.00	0.4		CALN	85.40	356	P	03	14.91	-1.1		IMA	19.84	31	eP	00	21.00	0.3
RMO	82.21	209	eP	03	00.00	0.4		MMB	85.55	343	eP	03	18.00	1.4			1.1s		46.90nm			4.7mb
SSF	82.21	358	eP	02	59.50	0.0		SKO	85.58	345	iP	03	17.50	0.8		FBA	21.35	38	eP	00	34.80	-1.3
	1.0s		54.80nm			5.6mb					i	03	27.50			MBC	33.97	22	eP	02	32.50	0.6
OSS	82.28	353	ePc	03	00.60	0.5		FRF	85.60	356	eP	03	16.90	0.1			0.6s		9.00nm			4.9mb
LBF	82.28	358	eP	02	59.20	-0.7			0.7s		42.70nm		5.8mb			GMW	36.25	73	eP	02	52.70	1.1
	0.7s		17.60nm			5.2mb		EMON	85.61	6	eP	03	18.00	1.1		LON	37.21	74	eP	03	01.00	1.2
BUC	82.37	342	eP	02	58.00	-2.4		ASS	85.66	351	Pd	03	17.50	0.3		PNT	37.34	69	iP	03	01.00	0.2
AVF	82.49	358	eP	03	00.50	-0.4		LRG	85.72	356	eP	03	17.60	0.2			0.8s		16.00nm			4.9mb
	0.8s		28.20nm			5.4mb			0.7s		31.70nm		5.6mb			SNY	39.49	279	Pc	03	19.40	0.6
PTJ	82.51	349	e(P)	03	01.10	-0.1		LMR	85.84	356	eP	03	17.90	0.0		LBFM	39.98	81	eP	03	25.00	1.9
VDL	82.53	354	ePc	03	02.10	0.7			0.7s		30.80nm		5.6mb			SES	41.78	63	eP	03	36.00	-1.6
VOY	82.60	351	eP	03	01.90	0.2		POO	85.89	294	iPc	03	19.00	0.4		LRM	43.28	70	eP	03	50.30	0.1
SMF	82.62	358	eP	03	01.30	-0.4		EPF	86.27	0	eP	03	19.30	-0.9		KVN	43.67	81	eP	03	53.50	0.2
MFF	82.70	1	eP	03	01.70	-0.3			0.7s		17.60nm		5.4mb			TNP	44.81	82	eP	04	02.50	-0.1
	0.8s		53.70nm			5.7mb		AQU	86.29	351	P	03	21.70	1.4		BJI	45.10	282	eP	04	04.00	-0.6
BGF	82.73	359	eP	03	01.90	-0.3		MNS	86.34	351	Pd	03	20.50	0.0			1.2s		0.02nm			1.8mb X
	0.8s		26.80nm			5.4mb		CVF	86.47	354	eP	03	20.80	-0.3		BW06	46.70	72	eP	04	17.50	0.0
CTI	82.80	352	P	03	02.00	-0.7		AZI	86.65	351	Pd	03	22.80	0.8		TIA	46.86	277	eP	04	18.40	-0.2
TRI	82.94	351	iPd	03	03.50	0.2		DUI	86.87	350	P	03	24.00	0.8		DAU	47.08	75	eP	04	21.50	0.9
TMA	82.94	354	ePc	03	03.70	0.1		SHI	87.57	317	eP	03	26.00	-0.9		HHC	47.44	286	P	04	24.00	0.8
BEO	82.96	346	iP	03	04.20	0.8		BHD	87.62	325	ePd	03	26.00	-0.8		MSU	47.67	78	eP	04	26.30	1.1
VBY	82.98	350	eP	03	03.60	0.1					iS	14	08.00			BTO	48.52	286	eP	04	32.50	0.8
TCF	83.01	359	eP	03	03.40	-0.3		GBA	87.67	289	P	03	27.00	-0.2		TIY	48.83	282	eP	04	34.70	0.7
	0.8s		33.50nm			5.5mb		CMS	87.77	209	eP	03	29.00	1.8		RSSD	49.17	67	eP	04	35.00	-1.7
MMK	83.05	355	ePc	03	05.20	1.0		MGR	88.24	349	P	03	29.00	-0.7			1.0s		27.11nm			5.2mb
DIX	83.05	355	ePc	03	05.30	1.0		ETOR	88.45	2	e(P)	03	31.20	0.4		RSON	50.88	55	eP	04	48.20	-1.2
LSF	83.05	359	eP	03	03.50	-0.4		GUD	88.56	4	eP	03	32.10	0.7			1.0s		48.81nm			5.4mb
MAF	83.07	359	eP	03	03.90	-0.1		TDS	88.61	348	P	03	32.50	1.0		GOL	51.08	72	eP	04	51.50	0.1
	0.7s		26.40nm			5.4mb		KRP	88.74	184	P	03	35.00	3.3X		ALQ	53.48	78	eP	05	07.50	-1.8
VAI	83.19	354	Pd	03	04.40	-0.1		EPLA	89.04	5	eP	03	34.50	0.9		KEV	57.91	349	eP	05	40.00	-0.6
AGO	83.23	358	P	03	05.24	0.4		UPA	89.17	77	eP	03	32.50	-1.9		MEO	58.38	73	e(P)	05	45.00	0.7
RIY	83.23	350	iPd	03	05.10	0.3		TOL	89.33	4	eP	03	33.00	-1.9		SOD	60.22	349	eP	05	55.00	-1.6
PLDF	83.30	358	P	03	05.91	0.6		BWA	89.75	206	eP	03	38.20	1.5		SCH	60.45	38	eP	05	56.00	-2.3
SAL	83.32	353	P	03	06.50	1.2		CAN	90.44	205	eP	03	38.20	-1.6		FVM	60.97	65	eP	06	00.00	-2.1
ORO	83.48	355	P	03	07.00	0.8		EVIA	90.62	3	eP	03	42.10	1.0		SUF	64.73	347	eP	06	25.60	-1.0
PYM	83.54	358	P	03	06.51	0.0		EBAN	91.05	4	e(P)	03	43.80	0.9			0.5s		9.70nm			5.2mb
LPG	83.67	356	eP	03	07.90	0.5		EHOR	91.33	5	eP	03	45.00	0.8		RSCP	65.39	63	eP	06	31.20	-0.1
	0.8s		21.40nm			5.3mb		ASMO	91.86	4	eP	03	47.50	0.7		NUR	67.06	347	iP	06	40.20	-1.3
LSD	83.69	355	P	03	09.11	1.6		AAPN	91.89	4	eP	03	47.70	0.8			0.6s		27.40nm			5.5mb
RJF	84.00	359	eP	03	08.30	-0.4		APHE	92.26	4	eP	03	49.50	0.8		NB2	67.87	354	P	06	45.00	-1.7
	0.7s		17.60nm			5.3mb		ATEJ	92.29	4	eP	03	49.00	0.2			0.7s		10.60nm			5.0mb
HYB	84.02	290	ePc	03	09.00	-0.3		EJIF	92.68	5	eP	03	52.00	1.6		UPP	68.53	351	iP	06	49.70	-1.0
	1.2s		121.40nm			5.9mb		ZOBO	115.78	84	ePKP	09	17.00	-5.3X			1.0s		100.00nm			5.9mb
LBL	84.05	358	P	03	09.66	0.7		LPB	116.00	84	PKP	09	21.00	-1.5		HFS	68.60	353	eP	06	49.70	-1.5
BNI	84.11	356	Pd	03	11.00	1.5		CNCB	116.28	84	PKP	09	24.00	0.8			0.4s		6.00nm			5.0mb
BOB	84.24	354	P	03	10.70	0.6		CCH	117.86	83	PKP	09	16.00	-9.8X		JSC	68.78	62	eP	06	52.00	-0.6
RRL	84.24	356	P	03	11.57	1.3		TIC	122.30	7	PKP	09	34.70	0.7		DMU	75.16	5	eP	07	30.00	-0.2
LFF	84.37	360	eP	03	10.40	-0.1		KIC	122.60	6	PKP	09	34.90	0.3		CLL	77.41	352	eP	07	42.00	-0.9
	0.9s		83.20nm			5.9mb		BCAO	122.63	339	iPKPd	09	34.30	-0.4			1.4s		27.00nm			5.1mb
CAF	84.37	359	eP	03	10.60	-0.1			0.8s		14.00nm					KSP	77.55	350	eP	07	43.40	-0.3
	0.8s		34.90nm			5.6mb					id	11	18.90			BRG	77.76	351	iP	07	44.80	0.0
PCP	84.52	354	P	03	11.67	0.2		LIC	122.72	7	PKP	09	34.60	-0.2			1.2s		22.00nm			5.1mb
PGB	84.54	343	iP	03	12.00	0.4		SPA	140.89	180	e(PKP)	10	03.00	-4.8X					i	07	54.30	
LPO	84.62	360	eP	03	11.60	-0.3			0.8s		3.33nm								e	08	39.00	
	0.7s		66.10nm			5.9mb					e	10	28.00			KRA	77.87	347	eP	07	45.80	0.4
DOI	84.63	355	P	03	12.00	0.0		BUL	142.13	314	ePKP	10	09.60	-1.9X		MOX	78.18	353	eP	07	47.00	-0.2
PZZ	84.64	355	P	03	12.08	-0.1		AIA	144.71	139	e(PKP)	10	13.00	-1.2					e	08	19.00	
CKI	84.65	355	Pd	03	12.10	0.1		MAW	146.05	217	ePKP	10	17.00	0.5					e	08	52.00	
VTS	84.67	344	iPd	03	13.00	0.6		PRY	148.47	310	iPKPc	10	26.50	4.7X		MEM	78.55	357	iPc	07	49.40	0.3
ROB	84.81	355	P	03	12.59	-0.3			0.7s		8.50nm					PRU	78.58	351	eP	07	49.50	0.2
BDI	84.85	353	P	03	12.70	-0.4		WIN	148.81	330	ePKP	10	22.80	0.2		SPC	78.68	347	eP	07	50.60	0.4
PLD	84.87	342	eP	03	14.00	0.9			0.7s		13.70nm					SNF	78.70	358	Pc	07	50.80	0.8
STV	84.89	355	P	03	12.69	-0.6		BLF	150.90	309	iPKPc	10	31.60	6.1X		DOU	79.11	357	P	07	52.30	0.1
SFI	84.89	352	P	03	14.60	1.4		FRS	151.86	310	iPKPd	10	35.50	8.9X		GRF	79.16	353	iPc	07	53.00	0.4
ENR	84.90	355	P	03	12.69	-0.7			0.5s		21.13nm					ABH	79.21	355	eP	07	53.37	0.5
KLI	84.92	256	eP	03	14.00	0.3		HVD	152.47	308	ePKP	10	35.00	7.3X		RUP	79.41	356	eP	07	54.25	0.3
PGD	84.95	352	P	03	06.70	-7.0X					e	10	45.00			WLF	79.48	356	Pc	07	54.70	0.5
HRT	85.04	338	eP	03	13.00	-1.1		GRM	154.08	303	ePKP	10	39.50	9.7X		KHC	79.52	351	iPc	07	55.20	0.7
ASPA	85.05	222	eP	03	14.20	0.0			0.8s		29.85nm					ZST	80.06	349	iP	07	57.80	0.4
FIR	85.08	352	eP	03	16.00	1.9			S.D. = 0.9 on 274 of 291 obs.							SRO	80.29	348	e(P)	08	00.00	1.4
TOUF	85.12	355	P	03	14.45	-0.2		----------								FLN	80.49	1	eP	07	59.10	-0.6
SLY	85.13	325	iPd	03	21.00	6.5X			OCT 07, 1989 18h 55m 50.02± 0.43s								1.1s		24.40nm			5.1mb
			eS	13	38.50				51.122 N ± 9.5km 179.333 W ± 4.2km							LDF	80.66	1	eP	07	59.80	-0.8
HVAR	85.13	349	iP	03	14.30	-0.1			DEPTH = 33.0km (normal)								0.5s		13.70nm			5.2mb
SAOF	85.13	355	P	03	14.17	-0.3			5.1mb (25 obs.)							CDF	80.69	356	eP	08	00.40	-0.4
IMI	85.19	355	P	03	15.16	0.3			ANDREANOF ISLANDS, ALEUTIAN IS. (7)							GRR	80.86	1	eP	08	01.00	-0.6
PII	85.20	353	P	03	15.00	0.3			ML 5.0 (PMR).								0.6s		11.50nm			5.1mb
ARV	85.21	351	Pd	03	15.50	0.6										HAU	81.13	356	eP	08	02.70	-0.4
BBTK	85.21	336	iPc	03	15.00	0.0		ADK	1.82	64	iPd	56	21.40	1.9		LPF	81.22	1	eP	08	03.10	-0.4
AURF	85.24	355	P	03	14.54	-0.6		SMY	4.37	294	eP	57	00.00	4.3X		BSF	81.29	356	eP	08	03.40	-0.6
MSL	85.26	327	ePd	03	15.50	0.3		SDN	12.04	62	eP	58	40.40	-1.7		MLR	81.32	342	eP	08	05.00	0.7
			eS	13	55.00			SVW	16.48	44	eP	59	43.30	3.3X		WB5	81.53	223	eP	08	04.30	-1.1
SBF	85.26	355	eP	03	14.90	-0.3		KDC	16.89	56	ePd	59	45.20	0.1		KBA	81.57	351	eP	08	06.50	0.9

07d 19h

LOR	81.95	358	eP	08 06.60	-0.8
	0.8s	8.00nm		4 8mb	
FVI	82.11	352	P	08 08.50	0.4
SSF	82.17	358	eP	08 08.20	-0.3
	0.7s	8.10nm		4.9mb	
LBF	82.23	358	eP	08 08.00	-0.9
AVF	82.44	358	eP	08 09.60	-0.3
	1.1s	13.10nm		4.9mb	
SMF	82.58	358	eP	08 10 10	-0.5
	1.1s	27.80nm		5.2mb	
MFF	82.66	1	eP	08 10.40	-0.6
BGF	82.68	358	eP	08 10.50	-0.7
CTI	82.75	352	P	08 10.00	-1.7
LSF	83.01	359	eP	08 12.30	-0.6
	0.8s	12.00nm		5.0mb	
MAF	83.03	359	eP	08 12.90	-0.1
	1.1s	15.60nm		5.0mb	
VAI	83.14	354	P	08 14.00	0.5
LPG	83.62	356	eP	08 16.70	0.3
	1.0s	12.00nm		5.0mb	
LSD	83.64	355	P	08 17.64	1.2
RJF	83.95	359	eP	08 17.40	-0.3
HYB	83.99	290	eP	08 18.50	0.2
BNI	84.07	356	P	08 20.00	1.5
BOB	84.19	354	P	08 20.30	1.3
RRL	84.19	356	P	08 20.92	1.7
LFF	84.32	360	eP	08 19.40	-0.1
	0.7s	11.00nm		5.1mb	
CAF	84.33	359	eP	08 19.60	0.0
	0.8s	11.20nm		5.1mb	
LPO	84.58	360	eP	08 20.70	-0.1
	0.7s	13.20nm		5.2mb	
DOI	84.59	355	P	08 20.00	-1.0
PZZ	84.59	355	P	08 21.23	0.1
ROB	84.76	355	P	08 21.74	-0.1
BDI	84.81	353	P	08 23.00	0.9
PGD	84.90	352	P	08 24.50	1.8
FIR	85.04	352	eP	08 24.50	1.4
PII	85.15	353	P	08 24.00	0.3
ARV	85.16	351	P	08 24.70	0.9
ASS	85.61	351	P	08 27.00	0.9
MNS	86.29	351	P	08 29.40	-0.1
GBA	87.64	289	P	08 45.00	8.7X
	S.D. = 1.0	on 102 of 105 obs.			

OCT 07, 1989 19h 06m 34.76± 0.32s
51.173 N ± 7.6km 179.412 W ± 3.4km
DEPTH = 33.0km (normal)
4.9mb (32 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
ML 5.5 (PMR).

ADK	1.85	66	eP	07 06.50	1.9
SMY	4.30	294	eP	07 43.60	4.1X
SDN	12.06	62	eP	09 26.10	-1.0
SVW	16.47	44	eP	10 28.90	4.2X
KDC	16.90	57	eP	10 29.40	-0.6
TTA	17.21	38	eP	10 37.40	3.4X
PMS	19.24	47	eP	10 57.50	-1.3
PMR	19.55	46	eP	11 02.00	-0.2
IMA	19.83	31	ePc	11 05.20	-0.1
	0.8s	12.00nm		4.3mb	
FBA	21.34	38	eP	11 21.60	0.8
MAT	33.37	261	(P)	13 11.00	-0.9
MBC	33.94	22	eP	13 17.00	0.6
	0.7s	13.00nm		5.0mb	
GMW	36.28	73	eP	13 37.20	0.6
CN2	37.21	281	eP	13 43.40	-1.0
Z	16s	1.50um		4.9MszX	
LON	37.24	74	eP	13 45.50	0.7
PNT	37.37	69	eP	13 46.00	0.3
	0.8s	13.00nm		4.8mb	
EDM	39.25	60	iPd	14 01.00	-0.5
	0.5s	13.00nm		4.9mb	
SNY	39.43	279	Pc	14 03.30	0.3
SES	41.80	63	ePc	14 21.50	-1.0
LRM	43.31	70	eP	14 34.70	-0.4
KVN	43.71	81	eP	14 38.30	-0.1
TNP	44.85	82	eP	14 47.50	-0.1
	1.0s	9.17nm		4.6mb	
BJI	45.04	282	eP	14 48.50	-0.3
DUG	46.29	77	eP	14 59.30	0.4
	0.5s	3.47nm		4.6mb	
BW06	46.73	72	eP	15 02.00	-0.5
	0.8s	5.58nm		4.6mb	
TIA	46.81	277	eP	15 02.00	-0.9
DAU	47.11	75	eP	15 05.50	-0 1
HHC	47.38	286	P	15 07.60	0.1
MSU	47.71	78	eP	15 09.50	-0.8
PLM	48.08	87	eP	15 15.50	2.3
BTO	48.46	286	eP	15 17.00	1.1
RSSD	49.19	67	eP	15 21.00	-0.7
GLA	49.56	85	eP	15 24.00	-0.4
RSON	50.89	55	eP	15 32.50	-1.7
GOL	51.11	72	eP	15 36.30	-0.1
	0.8s	16.37nm		5.0mb	
XAN	53.32	281	P	15 54.00	1.3
ALQ	53.52	78	eP	15 54.00	-0.4
GTA	55.29	292	iPc	16 06.40	-0.8
KEV	57.85	349	eP	16 24.00	-0.9
MEO	58.41	73	e(P)	16 29.50	0.2
WMQ	59.13	303	Pd	16 33.50	-0.8
GYA	59.96	276	P	16 39.00	-1.2
			pP	16 53.80	54kmX
SOD	60.16	349	iP	16 38.80	-2.1
SCH	60.44	38	eP	16 41.00	-2.0
SUF	64.67	347	iP	17 09.90	-1.0
	0.4s	9.20nm		5.2mb	
NUR	67.00	347	iP	17 24.60	-1.3
	0.6s	20.70nm		5.4mb	
LSA	67.15	289	P	17 29.40	1.5
NB2	67.82	354	P	17 30.00	-1.1
	0.6s	5.70nm		4.8mb	
UPP	68.47	351	iP	17 33.20	-1.8
	0.9s	100.00nm		5.9mb	
HFS	68.54	353	eP	17 33.60	-1.9
	0.4s	10.20nm		5.3mb	
PVC	69.45	192	iPc	17 46.50	5.0X
DZM	73.98	194	iPc	18 08.00	-0.6
CLL	77.35	352	e(P)	18 26.00	-1.3
KSP	77.49	350	ePc	18 27.50	-0.6
BRG	77.70	351	iP	18 29.50	0.3
	0.6s	14.00nm		5.2mb	
			i	18 44.70	
KRA	77.81	347	iPd	18 29.80	-0.1
			e	18 47.80	
MOX	78.13	353	eP	18 32.00	0.4
MEM	78.49	356	iPc	18 33.54	0.0
PRU	78.52	351	eP	18 34.00	0.2
SPC	78.61	347	iP	18 35.00	0.4
SNF	78.64	358	iPc	18 34.48	0.1
DOU	79.05	357	Pc	18 36.80	0.1
GRF	79.11	353	iPc	18 37.50	0.5
WLF	79.43	356	Pc	18 39.00	0.3
KHC	79.46	351	iPc	18 39.50	0.5
ZST	80.00	349	iPd	18 42.50	0.7
QUE	80.20	306	eP	18 44.00	0.5
FLN	80.44	1	iPc	18 44.10	0.0
LDF	80.61	0	iPc	18 44.90	-0.1
	0.5s	13.10nm		5.2mb	
CDF	80.63	355	eP	18 45.40	0.1
	0.7s	4.40nm		4.6mb	
VRI	80.74	342	eP	18 46.00	0.2
GRR	80.81	1	iPc	18 46.20	0.1
	0.7s	19.80nm		5.2mb	
HAU	81.08	356	eP	18 47.80	0.2
	0.6s	4.30nm		4.6mb	
LPF	81.17	1	iPc	18 48.40	0.5
BSF	81.23	356	eP	18 48.60	0.1
MLR	81.25	342	eP	18 48.10	-0.6
CMP	81.64	343	ePc	18 57.00	6.5X
LOR	81.90	358	eP	18 52.00	0.2
	0.7s	4.80nm		4.6mb	
FVI	82.05	352	P	18 53.50	0.9
SSF	82.11	358	iPc	18 53.40	0.5
	1.0s	14.80nm		5.0mb	
LBF	82.18	358	eP	18 53.30	0.0
	0.9s	6.50nm		4.7mb	
AVF	82.39	358	iPc	18 54.60	0.3
	1.0s	10.00nm		4.8mb	
PTJ	82.40	349	eP	18 54.50	-0.1
SMF	82.52	358	iPc	18 55.30	0.2
	1.0s	16.80nm		5.1mb	
MFF	82.60	1	eP	18 55.90	0.4
	0.8s	8.00nm		4.8mb	
BGF	82.63	358	eP	18 56.00	0.4
	1.0s	10.80nm		4.9mb	
CTI	82.69	352	P	18 56.00	-0.1
TCF	82.91	359	eP	18 57.30	0.2
LSF	82.96	359	eP	18 57.70	0.4
	0.8s	11.20nm		5.0mb	
MAF	82.97	359	iPc	18 58.00	0.6
	0.7s	6.60nm		4.8mb	
VAI	83.08	354	P	18 58.00	0.1
LPG	83.56	356	eP	19 01.90	1.1
	0.9s	8.10nm		4.9mb	
HYB	83.93	290	eP	19 02.00	-0.7
BNI	84.01	356	Pc	19 04.50	1.6
BOB	84.13	354	P	19 04.20	0.7
LFF	84.27	360	iPc	19 04.50	0.5
	1.0s	29.60nm		5.4mb	
CAF	84.27	359	iPc	19 04.70	0.6
	0.8s	6.70nm		4.9mb	
LPO	84.52	360	iPc	19 05.80	0.5
	0.7s	13.20nm		5.2mb	
DOI	84.53	355	P	19 01.00	-4.5X
BDI	84.75	353	P	19 07.50	1.0
PGD	84.84	352	P	19 08.50	1.4
FIR	84.98	352	eP	19 04.00	-3.5X
ARV	85.10	351	P	19 09.20	1.0
ASS	85.55	351	P	19 11.50	0.9
AZI	86.55	350	P	19 17.60	2.2
GBA	87.57	289	Pd	19 20.10	-0.6
	0.6s	3.20nm		4.8mb	
	S.D. = 0.9	on 99 of 106 obs.			

? OCT 07, 1989 19h 31m 01.36± 2.12s
4.557 S ±30.7km 150.308 E ±14.2km
DEPTH = 33.0km (normal)
NEW BRITAIN REGION (192)

RAB	1.89	79	iPd	31 31.50	-0.4
			iS	31 57.50	
LAT	3.90	238	eP	32 11.00	10.6X
BGA	5.10	108	eP	32 18.50	0.8
PAA	5.44	109	eP	32 22.00	-0.4
PMG	5.75	213	eP	32 26.00	-0.6
	0.9s	90.76nm		5.4mb	
			eS	33 31.00	
MNDI	6.81	256	eP	33 36.00	54.2X
WB5	21.75	224	eP	35 52.80	0.7
	S.D. = 1.0	on 5 of 7 obs.			

? OCT 07, 1989 19h 37m 42.89± 2.16s
51.549 N ±31.6km 179.795 W ±14.7km
DEPTH = 33.0km (normal)
4.2mb (5 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
ML 4.2 (PMR).

ADK	1.96	79	iPc	38 13.20	-1.3
SMY	3.94	290	eP	38 53.00	10.5X
SVW	16.37	45	e(P)	41 36.00	4.4X
KDC	16.90	58	eP	41 36.70	-1.4
PMS	19.17	48	e(P)	42 07.00	1.0
IMA	19.63	32	eP	42 12.30	0.9
	0.7s	3.60nm		3.8mb	
FBA	21.20	39	eP	42 28.00	0.6
MBC	33.68	22	eP	44 28.50	6.2X
	0.6s	3.00nm		4.4mb	
TNP	45.03	82	e(P)	45 59.00	1.8
	0.8s	1.47nm		3.9mb	
SUF	64.25	347	eP	48 16.10	-0.3
NUR	66.58	347	eP	48 25.00	-6.3X
NB2	67.42	354	P	48 36.20	-0.5
	0.8s	2.10nm		4.3mb	
HFS	68.14	353	eP	48 40.40	-0.8
	0.4s	1.20nm		4.3mb	
	S.D. = 1.3	on 9 of 13 obs.			

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* OCT 07, 1989 19h 46m 40.36± 0.70s
17.890 S ±26.9km 174.963 W ±18.0km
DEPTH = 200.0km (geophysicist)
4.8mb (8 obs.)
TONGA ISLANDS (173)

SVA	6.26	267	ePc	48 26.30	14.5X
PVC	15.93	268	iP	50 21.50	6.3X
DZM	17.96	254	iPd	50 40.40	1.9
BRS	31.16	247	iPd	52 43.50	0.9
	0.9s	12.50nm		4.6mb	
CTA	36.68	260	iPc	53 31.10	1.3
	0.7s	20.55nm		4.9mb	
CMS	37.90	242	ePc	53 40.00	0.1
WB5	47.84	259	eP	54 59.60	-0.4
ASPA	47.95	254	iPd	55 00.40	-0.5
	0.9s	128.00nm		5.4mb	
			eS	03 04.20	
MTN	52.08	267	ePc	55 31.00	-1.2
FORR	52.94	245	eP	55 37.40	-0.9
KNA	53.73	263	eP	55 43.00	-1.4

WARB	54.38	250	eP	55	48.00	-1.0
MBL	61.16	255	eP	56	35.30	-1.0
	0.4s	10.00nm			4.9mb	
MEKA	61.58	249	eP	56	38.00	-1.0
BAL	62.75	244	eP	56	45.80	-0.9
	0.4s	4.00nm			4.6mb	
MUN	63.05	243	eP	56	48.40	-0.2
NANU	64.87	253	iPd	57	00.50	0.0
	0.4s	24.00nm			5.4mb	
MAT	69.90	321	eP	57	31.00	-0.5
CMB	75.61	42	eP	58	04.30	-0.6
KVN	77.66	42	eP	58	15.90	-0.5
TNP	77.67	43	eP	58	16.20	-0.4
	0.8s	4.26nm			4.2mb	
LRM	84.89	39	eP	58	53.20	-0.8
FBA	85.11	11	iPd	58	54.30	-0.1
	0.8s	4.90nm			4.3mb	
		pP		59	43.00	198kmX
SES	88.09	35	eP	59	09.00	-0.2
CHTO	92.09	289	iPd	59	30.70	2.4
NAI	143.38	242	ePKP	05	55.20	1.5
KSP	145.92	347	iPKPd	05	57.70	1.1
WTS	145.94	358	ePKPc	05	58.00	1.5
	0.9s	33.00nm				
CLL	146.06	351	iPKPd	05	57.80	1.0
	1.4s	42.00nm				
BRG	146.33	350	iPKPc	05	59.20	2.0X
	1.3s	23.00nm				
MOX	146.90	352	ePKP	06	01.00	2.8X
PRU	147.08	349	ePKP	06	01.50	3.1X
MEM	147.35	359	PKP	06	02.00	3.2X
MLR	147.43	332	ePKP	06	02.50	3.1X
DOU	147.87	1	PKPc	06	03.60	3.9X
GRF	147.89	352	ePKP	06	03.50	3.7X
ABH	148.02	357	ePKPd	06	04.02	4.0X
KHC	148.08	349	iPKPd	06	04.60	4.5X
RUP	148.22	358	ePKPd	06	04.72	4.4X
HRI	148.50	305	e(PKP)	06	07.00	5.6X
FLN	148.88	7	ePKP	06	05.30	4.0X
LDF	149.09	7	ePKP	06	05.50	3.8X
	1.1s	24.40nm				
GRR	149.20	8	ePKP	06	06.10	4.2X
	0.7s	13.25nm				
DSI	149.38	302	ePKP	06	09.00	6.4X
CDF	149.50	357	ePKP	06	07.20	4.8X
	0.8s	6.70nm				
LPF	149.53	8	ePKP	06	06.90	4.6X
	1.0s	26.00nm				
HAU	149.94	358	ePKP	06	08.20	5.2X
	0.9s	11.45nm				
FEL	149.99	356	ePKP	06	08.65	5.4X
BSF	150.10	358	ePKP	06	08.50	5.1X
MBH	150.34	299	iPKPd	06	11.00	6.9X
LOR	150.69	2	ePKP	06	09.90	5.7X
	1.1s	17.10nm				
LJU	150.84	346	e(PKP)	06	10.50	6.1X
SSF	150.88	2	ePKP	06	10.60	6.2X
	0.9s	16.40nm				
LBF	150.97	1	ePKP	06	10.50	5.9X
	0.9s	13.10nm				
VOY	150.99	347	e(PKP)	06	10.80	6.0X
MFF	151.05	7	ePKP	06	10.10	5.4X
AVF	151.15	2	ePKP	06	10.80	6.0X
	0.9s	5.75nm				
VBY	151.18	345	e(PKP)	06	12.20	7.3X
SMF	151.31	2	ePKP	06	11.30	6.2X
BGF	151.36	3	ePKP	06	11.30	6.1X
	0.8s	10.75nm				
LSF	151.57	5	ePKP	06	11.50	6.0X
	0.8s	12.75nm				
TCF	151.59	4	ePKP	06	11.70	6.1X
	0.7s	3.30nm				
MAF	151.67	4	ePKP	06	12.10	6.4X
	0.9s	11.45nm				

S.D. = 1.1 on 27 of 63 obs.

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* OCT 07, 1989 20h 15m 20.90± 0.69s
51.106 N ±15.1km 179.287 W ± 5.5km
DEPTH = 33.0km (normal)
4.6mb (11 obs.) 4.8Msz (2 obs.)
ANOREANOF ISLANDS, ALEUTIAN IS. (7)
ML 5.1 (PMR).

ADK	1.80	63	iPc	15	51.40	1.3
SMY	4.40	294	eP	16	30.50	3.4
SDN	12.02	62	eP	18	11.70	-1.0
KDC	16.87	56	eP	19	15.40	-0.4
TTA	17.22	38	eP	19	22.00	1.8
PMR	19.54	46	eP	19	50.00	1.8
IMA	19.84	31	eP	19	50.40	-1.2
	1.0s	15.00nm			4.3mb	
TOA	21.03	46	eP	20	05.50	1.6
FBA	21.35	38	eP	20	07.50	0.5
MBC	33.97	22	eP	22	02.50	-0.3
	0.6s	3.00nm			4.4mb	
LON	37.19	74	eP	22	31.00	0.5
PNT	37.32	69	eP	22	31.00	-0.5
	0.6s	6.00nm			4.6mb	
EDM	39.21	60	iPd	22	46.60	-0.7
SNY	39.52	279	eP	22	49.00	-0.9
SES	41.76	63	eP	23	07.00	-1.3
LRM	43.26	70	eP	23	21.50	0.6
KVN	43.64	81	eP	23	25.80	1.8
TNP	44.78	82	eP	23	35.00	1.8
	0.8s	3.68nm			4.3mb	
BJI	45.13	282	eP	23	35.50	-0.2
BW06	46.68	72	eP	23	47.50	-0.7
	1.0s	5.00nm			4.4mb	
HHC	47.47	286	P	23	55.00	0.7
PLM	48.01	87	eP	23	58.70	0.0
BTO	48.56	287	eP	24	03.40	0.6
TIY	48.86	282	eP	24	05.70	0.6
Z	20s	1.00um			4.8Msz	
RSON	50.86	55	eP	24	18.80	-1.4
GOL	51.05	72	eP	24	22.00	-0.1
	0.8s	10.42nm			4.8mb	
GTA	55.38	292	eP	24	53.20	-0.8
WMQ	59.23	303	Pc	25	20.20	-0.9
Z	20s	0.80um			4.8Msz	
		pP		25	32.50	43kmX
		sP		25	39.50	
SOD	60.24	349	iP	25	26.50	-1.1
SUF	64.75	347	eP	25	56.20	-1.4
	0.4s	4.80nm			4.9mb	
GBTN	66.10	63	eP	26	05.50	-1.2
NUR	67.08	347	iP	26	11.00	-1.5
	0.5s	3.90nm			4.8mb	
		e		26	26.00	
NB2	67.89	355	P	26	16.60	-1.1
	0.6s	2.20nm			4.4mb	
KSH	68.46	306	eP	26	22.00	0.3
HFS	68.62	353	eP	26	20.40	-1.8
	0.3s	2.90nm			4.8mb	
BRG	77.78	351	i(P)	27	15.20	-0.6
	1.4s	14.00nm			4.8mb	
GRF	79.18	353	iPc	27	23.60	0.0
KHC	79.54	351	iPc	27	26.00	0.5
MLR	81.34	342	eP	27	36.50	1.2
CMP	81.73	343	ePd	27	43.00	5.9X
HVD	152.46	309	ePKP	35	24.00	16.2X

S.D. = 1.2 on 39 of 41 obs.

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* OCT 07, 1989 20h 20m 56.37± 1.14s
50.892 N ±17.5km 179.581 W ±10.9km
DEPTH = 33.0km (normal)
4.4mb (9 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
ML 4.5 (PMR).

ADK	2.07	60	iPc	21	29.20	-0.2
SMY	4.33	298	eP	22	09.20	7.7X
SVW	16.75	43	eP	24	51.20	1.4
KOC	17.14	56	eP	24	51.80	-2.9
TTA	17.50	37	eP	25	01.00	1.8
PMS	19.52	46	eP	25	24.40	0.9
IMA	20.12	31	eP	25	29.10	-0.9
	0.9s	8.30nm			4.1mb	
FBA	21.63	38	e(P)	25	45.40	0.1
MBC	34.24	22	eP	27	40.50	-0.1
	0.6s	2.00nm			4.2mb	
LON	37.43	73	eP	28	08.30	0.4
PNT	37.57	68	eP	28	09.00	-0.1
LRM	43.51	69	eP	28	56.50	-1.8
KVN	43.86	81	eP	29	02.00	0.8
TNP	45.00	81	eP	29	11.20	0.8
	0.8s	1.96nm			4.1mb	
BW06	46.92	71	eP	29	26.00	0.4
	0.8s	3.57nm			4.4mb	
GOL	51.29	72	eP	30	00.00	0.6
	1.0s	8.75nm			4.7mb	
SOD	60.42	349	eP	31	04.00	-0.3
SUF	64.92	347	eP	31	34.00	-0.2
	0.6s	3.90nm			4.7mb	
GBTN	66.36	62	eP	31	43.30	-0.5
NUR	67.25	347	eP	31	48.60	-0.5
	0.7s	8.80nm			5.0mb	
NB2	68.09	354	P	31	54.00	-0.4
	0.6s	1.20nm			4.2mb	
HFS	68.81	353	eP	31	57.50	-1.3
	0.5s	1.80nm			4.4mb	
MLR	81.49	342	eP	33	13.50	2.0

S.D. = 1.2 on 22 of 23 obs.

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* OCT 07, 1989 21h 33m 57.03± 1.43s
36.957 N ± 9.9km 140.912 E ±14.8km
DEPTH = 33.0km (normal)
NEAR EAST COAST OF HONSHU, JAPAN(228)

KAKJ	0.96	219	iPd	34	13.30	-0.8
			S	34	25.40	
YAMJ	1.40	330	iP+	34	20.00	-0.4
			S	34	37.30	
NIIJ	1.55	281	iPd	34	22.10	-0.6
			S	34	40.60	
CHJJ	1.79	240	iPd	34	25.70	-0.4
			S	34	47.50	
OFUJ	2.20	16	P	34	32.30	0.3
			eS	35	02.70	
MAT	2.21	260	iPd	34	32.50	0.4
			iS	35	00.70	
MTMJ	2.52	262	P	34	37.10	0.4
IIDJ	2.84	240	iPd	34	42.20	1.1

S.D. = 0.8 on 8 of 8 obs.

OCT 07, 1989 21h 40m 16.71± 0.52s
40.842 N ± 4.3km 22.914 E ± 5.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)

THE	0.21	169	iPgd	40	21.60	0.3
			eSg	40	25.00	
KNT	0.32	358	iPgc	40	23.20	-0.2
GRG	0.41	287	iPgc	40	24.70	-0.3
			eSg	40	30.20	
SRS	0.58	62	ePg	40	28.20	-0.3
			eSg	40	35.80	
LIT	0.81	204	ePg	40	31.90	-0.5
			eSg	40	44.60	
MMB	0.97	39	iPgc	40	34.00	-1.1
KKB	1.03	7	iPg	40	35.00	-1.2
PAIG	1.08	147	ePg	40	36.80	-0.3
			eSg	40	51.70	
RZN	1.60	58	iP	40	46.00	0.7
OHR	1.62	280	ePn	40	46.20	0.7
VTS	1.76	7	eP	40	48.00	0.4
PLO	1.84	46	eP	40	53.00	4.4X
PGB	1.95	28	iP	40	52.00	1.8

S.D. = 0.9 on 12 of 13 obs.

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* OCT 07, 1989 22h 36m 42.55± 2.59s
24.309 N ± 7.2km 122.008 E ±24.0km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWC	0.33	334	iPd	36	50.70	1.3
			eS	36	56.10	
TWD	0.44	239	iPc	36	51.80	0.3
			eS	36	58.30	
TWZ	0.88	334	ePd	36	59.30	-0.1
			eS	37	11.80	
ANP	0.98	333	eP	37	00.00	-1.2
TWQ	1.07	268	ePd	37	02.50	-0.2
TWF1	1.15	214	ePc	37	04.40	0.3
TWK	1.74	234	eP	37	12.60	-0.4

S.D. = 0.9 on 7 of 7 obs.

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* OCT 08, 1989 00h 09m 15.24± 2.75s
35.050 N ±29.8km 24.923 E ± 7.8km
DEPTH = 5.0km (geophysicist)
CRETE (370)
MD 3.9 (ATH).

NPS	0.60	69	ePg	09	25.10	-2.2
VAM	0.69	301	iPgc	09	28.20	-0.9
			eSg	09	40.30	
KAP	1.91	74	ePg	09	50.10	1.4
APE	2.07	14	ePn	09	51.40	0.2
VLI	2.32	316	ePn	09	55.00	0.3
SMG	3.07	30	ePn	10	05.80	0.6
ITM	3.23	312	ePb	10	10.50	3.0X
YER	3.42	52	eP	10	11.00	0.6

08d 00h

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BCK      5.17   61 eP      10 35.20    0.0
      S.D. = 1.3   on    8 of    9 obs.
-----------------------------------------
?  OCT  08, 1989   00h 44m 33.93± 1.72s
    51.206 N ±28.2km  179.643 W ±11.7km
    DEPTH =  33.0km  (normal)
    4.5mb (  6 obs.)
  ANDREANOF ISLANDS, ALEUTIAN IS. (  7)
       ML 4.6 (PMR)

ADK      1.97   69 eP      45 05.50   -0.1
SMY      4.16  294 eP      45 45.00    8.4X
SVW     16.55   44 eP      48 28.00    3.1X
KDC     17.00   57 eP      48 31.00    0.5
PMS     19.33   47 eP      49 00.70    1.7
PMR     19.63   46 eP      49 06.20    3.9X
IMA     19.87   32 eP      49 04.20   -0.8
        0.9s       4.60nm            3.8mb
FBA     21.41   38 eP      49 19.80   -0.8
MBC     33.97   22 eP      51 16.50    0.8
        0.6s       5.00nm            4.6mb
PNT     37.49   69 eP      51 45.00   -1.0
        0.6s       3.00nm            4.3mb
KVN     43.85   81 eP      52 41.00    2.3X
TNP     44.99   82 eP      52 48.50    0.6
RSON    50.99   54 eP      53 33.00   -1.1
SUF     64.60  347 iP      55 09.90    0.2
        0.5s       2.50nm            4.6mb
                    i      55 10.00
NUR     66.93  347 eP      55 24.40   -0.2
                    e      55 24.50
NB2     67.77  354 P       55 29.10   -0.9
        0.6s       1.80nm            4.3mb
HFS     68.49  353 eP      55 33.30   -1.1
        0.4s       3.00nm            4.7mb
MLR     81.18  342 eP      56 49.50    2.1
      S.D. = 1.1   on   14 of   18 obs.
-----------------------------------------
    OCT  08, 1989   02h 16m 25.74± 0.70s
    20.140 S ± 8.0km   68.896 W ± 9.0km
    DEPTH = 172.6 ± 10.8 km
    4.0mb (  1 obs.)
  CHILE-BOLIVIA BORDER REGION      (124)

CNCB     3.42   15 iPd     17 22.00    1.5
LPB      3.67   12 P       17 23.00   -0.4
CCH      3.79   44 P       17 23.20   -1.6
                    i      17 40.00
ANT      3.82  201 eP      17 24.50   -0.3
                    iS     17 58.50
ZOBO     3.92   11 iPd     17 27.70    0.9
ARE      4.41  326 iPc     17 32.50   -0.4
                    iS     18 22.50
PT03     8.99  312 eP      18 33.10   -0.1
                    eS     20 10.10
NNA     11.13  316 eP      19 07.80    6.5X
        0.6s       3.33nm            4.0mb
                    eS     21 02.30
ITB1    14.15  111 eP      19 41.40    1.7
ITB     14.34  112 eP      19 43.20    1.0
ITB7    14.47  113 e(P)    19 43.30   -0.4
PPD     16.52  100 eP      20 07.60   -1.5
                    e      20 08.20
                    e      20 12.50
BAO     20.39   81 eP      20 49.40   -1.5
BMA     23.17  101 eP      21 18.40    0.4
PDCR    29.52   80 eP      22 16.20    0.1
LIC     68.00   74 P       27 08.84    0.2
KIC     68.32   74 Pc      27 11.04    0.4
GBA    147.18   96 PKPd    35 53.50    5.3X
        0.6s       3.10nm
      S.D. = 1.1   on   16 of   18 obs.
-----------------------------------------
?  OCT  08, 1989   02h 52m 15.68± 2.88s
    12.373 S ±22.0km  166.173 E ±40.5km
    DEPTH =  33.0km  (normal)
    4.1mb (  3 obs.)
  SANTA CRUZ ISLANDS               (184)

SVO      7.02  297 eP      54 27.00   28.2X
DZM      9.65  178 iPc     54 35.40    0.0
BRS     19.52  218 iPc     56 45.00    1.6
        0.6s       3.80nm            3.9mb
WB5     31.41  252 eP      58 37.00    0.8
WARB    39.59  244 eP      59 45.90    0.0
        0.3s       5.00nm            4.8mb
MBL     45.09  252 eP      00 31.50    0.7
COOL    45.38  239 eP      00 30.30   -2.7
MEKA    46.82  245 eP      00 43.50   -1.0
NANU    49.16  251 eP      01 02.60   -0.1
PSI     68.44  278 eP      03 17.00   -0.1
CHTO    73.14  294 eP      03 46.20    0.8
        1.0s       1.75nm            4.0mb
      S.D. = 1.4   on   10 of   11 obs.
-----------------------------------------
*  OCT  08, 1989   02h 54m 09.66± 0.51s
    13.144 S ±14.4km  167.611 E ±15.1km
    DEPTH =  33.0km  (normal)
    4.8mb (  7 obs.)
  VANUATU ISLANDS                  (186)

DZM      8.95  187 iPd     56 19.90    0.2
                    iS     58 17.60
BRS     19.83  222 iPd     58 45.00    4.3X
        0.9s       5.00nm            3.8mb
                    e      59 12.50
                    e      01 37.00
PMG     20.40  278 eP      58 49.00    2.3X
CTA     21.58  249 iPd     59 00.90    2.1
        0.8s      21.27nm            4.6mb
RMO     22.12  230 iPd     59 07.90    3.9X
        0.6s      51.00nm            5.1mb
WB5     32.53  254 eP      00 38.90   -1.1
ASPA    33.57  247 iPd     00 47.90   -1.2
        0.6s      17.00nm            5.1mb
WARB    40.53  245 eP      01 48.00    0.4
MBL     46.20  253 eP      02 33.80    0.2
MEKA    47.78  246 iPd     02 46.30    0.2
        0.4s       9.00nm            5.1mb
NANU    50 24  252 iPc     03 05.00    0.0
CHTO    74.74  294 eP      05 48.10   -0.5
        1.2s       5.56nm            4.4mb
FBA     84.75   18 eP      06 44.00    2.6
        0.8s       3.00nm            4.5mb
NB2    129.19  345 PKP     13 15.90    0.1
        0.7s       3.60nm
HFS    129.31  343 ePKP    13 15.90   -0.1
        0.4s       1.40nm
VAI    142.79  335 PKP     13 35.60   -5.9X
PDCR   143.21  133 ePKP    13 40.40   -2.7X
LBF    143.57  341 ePKP    13 40.60   -2.3X
SSF    143.65  342 ePKP    13 41.20   -1.8X
        0.8s       5.35nm
LSD    143.77  337 PKP     13 42.58   -1.0
LPG    143.89  337 ePKP    13 43.00   -0.8
        0.7s       5.50nm
LPF    143.96  347 ePKP    13 41.90   -1.5
BNI    144.29  337 PKP     13 42.80   -1.5
BGF    144.30  342 ePKP    13 42.80   -1.3
        0.8s      10.75nm
RRL    144.36  336 PKP     13 42.99   -1.6
FIN    144.37  334 PKP     13 41.35   -3.0X
ROB    144.44  335 PKP     13 42.27   -2.2X
PZZ    144.58  336 PKP     13 42.68   -2.1X
MAF    144.69  342 ePKP    13 44.30   -0.5
        0.8s      12.75nm
TCF    144.74  342 ePKP    13 44.50   -0.4
LSF    144.97  343 ePKP    13 45.00   -0.2
        0.8s      16.80nm
SBF    144.97  335 ePKP    13 44.60   -0.8
        0.8s      17.45nm
MFF    145.09  345 ePKP    13 45.40    0.0
        0.8s      37.60nm
FRF    145.55  335 ePKP    13 46.60    0.3
        1.0s      18.00nm
LMR    145.79  335 ePKP    13 47.40    0.7
        0.8s       8.05nm
CAF    146.01  342 ePKP    13 48.70    1.6
LFF    146.39  343 ePKP    13 49.50    1.9
LPO    146.50  342 ePKP    13 49.80    2.0
        1.1s      19.55nm
EPF    148.25  342 ePKP    13 54.40    3.6X
        0.8s      16.10nm
STS    150.18  354 iPKP    14 00.30    6.7X
ETOR   150.98  344 ePKP    14 02.00    7.0X
GUD    151.67  347 iPKPc   14 03.80    7.6X
EVIA   153.14  343 ePKP    14 07.00    8.8X
      S.D. = 1.2   on   28 of   43 obs.
-----------------------------------------
    OCT  08, 1989   03h 05m 32.06± 0.40s
    51.241 N ±10.0km  179.138 W ± 3.9km
    DEPTH =  33.0km  (normal)
    4.9mb ( 17 obs.)
  ANDREANOF ISLANDS, ALEUTIAN IS. (  7)
       ML 4.8 (PMR).

ADK      1.66   66 iPc     06 01.10    1.9
SMY      4.44  292 eP      06 40.70    2.0
SVW     16.31   44 eP      09 23.30    3.4X
KDC     16.72   57 eP      09 24.80   -0.2
TTA     17.05   38 eP      09 32.70    3.4X
PMR     19.38   46 ePc     10 00.40    2.8X
IMA     19.68   31 eP      10 01.10    0.0
        1.0s      31.40nm            4.6mb
FBA     21.18   38 eP      10 17.60    1.1
INK     27.69   35 eP      11 19.50    0.9
MBC     33.81   22 eP      12 13.00    0.4
        0.5s       2.00nm            4.3mb
GMW     36.10   73 eP      12 34.00    1.6
BMW     36.33   75 eP      12 35.50    1.1
RMW     36.73   73 eP      12 38.70    0.9
LON     37.06   74 eP      12 41.50    1.0
PNT     37.18   69 ePc     12 42.00    0.5
        0.7s      15.00nm            5.0mb
CN2     37.37  281 P       12 42.60   -0.4
EDM     39.07   60 iPd     12 57.00   -0.3
SNY     39.59  279 iPc     13 02.00    0.4
SES     41.61   63 eP      13 17.00   -1.3
LRM     43.12   70 eP      13 31.20    0.3
KVN     43.53   82 eP      13 35.40    1.1
TNP     44.67   82 eP      13 44.00    0.5
BJI     45.20  282 eP      13 47.50    0.1
DUG     46.11   77 eP      13 55.60    0.8
BW06    46.55   72 eP      13 58.50    0.1
DAU     46.93   76 eP      14 02.20    0.7
MSU     47.53   78 eP      14 06.50    0.4
BTO     48.61  287 eP      14 15.40    1.1
TIY     48.93  282 eP      14 17.80    1.0
RSSD    49.01   67 eP      14 16.00   -1.5
        0.8s      40.06nm            5.5mb
RSON    50.71   55 eP      14 28.00   -2.1
        0.7s      34.60nm            5.4mb
GOL     50.92   73 eP      14 32.40    0.1
GTA     55.42  292 iPc     15 05.10   -0.4
WMQ     59.24  303 P       15 32.20   -0.1
SCH     60.28   38 eP      15 37.00   -2.2
FVM     60.80   65 eP      15 41.50   -1.5
RSCP    65.23   64 eP      16 11.00   -1.3
        0.7s     256.06nm            6.4mb X
GBTN    65.95   63 eP      16 15.80   -1.1
BLA     66.90   59 eP      16 22.30   -0.7
NB2     67.76  355 P       16 27.10   -1.0
        0.6s       3.10nm            4.6mb
UPP     68.43  351 iP      16 29.90   -2.2
JSC     68.61   62 eP      16 33.00   -0.7
GRF     79.06  353 iPc     17 33.90   -0.2
ZST     79.97  349 eP      17 38.50   -0.4
FLN     80.37    1 eP      17 41.00    0.0
        0.5s       4.30nm            4.7mb
LDF     80.54    1 eP      17 41.70   -0.3
        0.5s       4.30nm            4.7mb
GRR     80.74    1 eP      17 42.80   -0.2
        0.5s       7.80nm            5.0mb
LPF     81.10    1 eP      17 44.40   -0.5
        0.6s       7.90nm            4.9mb
MLR     81.24  342 eP      17 47.00    1.1
WB5     81.70  224 eP      17 47.50   -0.8
LOR     81.84  358 eP      17 49.10    0.3
SSF     82.05  358 eP      17 50.20    0.3
        0.8s       5.90nm            4.7mb
AVF     82.33  358 eP      17 51.40    0.1
        1.0s      10.00nm            4.8mb
SMF     82.46  358 eP      17 52.20    0.1
        1.0s      18.00nm            5.1mb
BGF     82.57  359 eP      17 52.70    0.1
TCF     82.85  359 eP      17 54.20    0.1
PSI     82.85  265 ePd     17 54.90    0.4
LSF     82.89  360 eP      17 54.30    0.0
        0.7s      11.00nm            5.1mb
MAF     82.91  359 eP      17 54.70    0.3
        0.7s       4.40nm            4.7mb
LPG     83.51  356 eP      17 58.60    0.7
LSD     83.53  356 P       17 58.61    0.7
HYB     84.06  290 eP      17 59.00   -1.7
RRL     84.08  356 P       18 01.68    1.0
LFF     84.20    0 eP      18 01.00    0.1
        0.6s       9.00nm            5.1mb
CAF     84.21  359 eP      18 01.60    0.5
PCP     84.37  354 P       18 01.58   -0.3
LPO     84.46  360 eP      18 02.20   -0.1
        0.6s      10.80nm            5.2mb
```

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PZZ     84.48 356 P      18 00.86  -1.7
ROB     84.65 355 P      18 02.81  -0.5
FRF     85.45 356 eP     18 07.20   0.0
POO     85.92 295 iPd    18 10.80   0.8
GBA     87.72 289 P      18 19.00   0.3
KIC    122.43   7 PKP    24 24.60  -0.9
      S.D. = 0.9  on  70 of  73 obs.
-------------------------------------
*  OCT  08, 1989  03h 55m 46.64± 0.97s
   19.150 S ±10.1km  169.234 E ± 9.0km
   DEPTH = 194.4 ±  8.7 km
   4.6mb (  4 obs.)
 VANUATU ISLANDS                 (186)

PVC      1.65 328 iPc    56 21.50  -0.1
                 iS     56 48.50
DZM      3.91 221 iPc    56 47.90   0.2
                 iS     57 33.20
BRS     17.19 238 iPc    59 37.50   0.6
        0.7s     8.00nm          4.2mb
COO     19.39 231 eP     00 01.30   1.4
KRP     19.50 165 P      00 01.00   0.1
RMO     20.23 245 iPd    00 09.80   1.5
CTA     21.67 264 iPd    00 23.70   1.2
        0.8s    29.10nm          4.8mb
PMG     23.46 291 eP     00 40.00   0.1
CNB     23.83 223 iPd    00 44.40   1.0
BWA     23.94 226 eP     00 43.10  -1.4
CAN     24.07 224 eP     00 43.10  -2.6
QLP     24.17 248 iPd    00 46.90   0.4
CMS     24.40 235 iPc    00 49.20   0.5
WB5     32.84 263 iPd    02 02.00  -2.0
ASPA    33.15 256 iPd    02 05.60  -1.1
        0.5s   221.00nm          6.1mb X
                 epP    02 44.00 183kmX
                 eS     07 08.30
FORR    38.86 244 iPc    02 54.20  -0.4
        0.4s    22.00nm          5.2mb
WARB    39.78 252 eP     03 02.20  -0.1
MBL     46.27 259 iPd    03 54.10  -0.5
        0.5s     7.00nm          4.4mb
MEKA    47.05 251 eP     04 00.00  -0.7
PRS     85.62  49 e(P)   08 04.70   0.2
WDC     86.80  45 iPc    08 10.30   0.2
ORV     87.02  46 e(P)   08 11.10  -0.1
CMB     87.10  48 ePc    08 10.50  -1.1
FRI     87.11  49 eP     08 11.60   0.0
MWC     87.12  52 eP     08 12.00   0.0
SBB     87.49  52 eP     08 13.00  -0.6
BAR     87.52  54 eP     08 14.00   0.3
RVR     87.53  53 eP     08 13.00  -0.7
PLM     87.65  54 eP     08 14.00  -0.6
GLA     89.09  55 eP     08 22.00   0.8
PNT     92.68  38 eP     08 37.00  -0.3
NB2    135.36 345 PKP    14 43.00  -1.4
        0.7s     1.00nm
MOX    143.90 336 e(PKP)14 58.00  -2.1X
KHC    144.25 332 iPKPc 14 59.00  -1.8
KMR    144.79 331 iPKP+ 15 00.50  -1.2
GRF    144.81 335 iPKPc 15 00.60  -1.1
        1.5s    41.00nm
FVI    146.49 330 PKP   15 05.10   0.6
WLF    146.67 340 PKP   15 06.50   1.8
DOU    146.78 342 PKP   15 06.30   1.4
CDF    147.36 338 ePKP  15 07.80   1.8
        0.5s     4.35nm
CTI    147.42 330 PKP   15 08.00   1.8
BCAO   147.89 247 iPKPc 15 10.10   2.3X
        0.6s    20.00nm
                 ic     15 58.50
BSF    148.02 337 ePKP  15 09.70   2.6X
HAU    148.03 338 ePKP  15 09.70   2.7X
        0.6s     6.30nm
ARV    148.60 326 PKP   15 13.60   5.5X
VAI    148.85 333 PKP   15 10.30   2.0
PGD    148.97 328 PKP   15 13.00   4.2X
ASS    149.04 326 PKP   15 11.30   2.5X
FLN    149.31 347 ePKP  15 12.50   3.6X
        0.7s     7.70nm
ORO    149.37 334 PKP   15 12.30   3.0X
LDF    149.39 346 ePKP  15 12.50   3.4X
BDI    149.39 329 PKP   15 12.00   2.7X
BOB    149.40 331 PKP   15 13.50   4.2X
MNS    149.49 324 PKP   15 12.50   3.0X
LOR    149.51 340 ePKP  15 13.80   4.5X
        0.3s     3.00nm
LBF    149.72 340 ePKP  15 14.10   4.4X
GRR    149.75 347 ePKP  15 13.60   4.0X
        0.7s     5.50nm
SSF    149.81 340 ePKP  15 14.60   4.9X
        0.3s     3.00nm
LPG    149.98 335 ePKP  15 15.20   4.7X
        0.5s     4.35nm
LPF    150.13 347 ePKP  15 14.90   4.7X
        0.7s    12.15nm
BNI    150.38 335 PKP   15 15.50   4.6X
BGF    150.46 341 ePKP  15 15.50   4.7X
        0.5s     6.55nm
MAF    150.85 341 ePKP  15 16.50   5.1X
        0.5s     1.45nm
LSF    151.13 342 ePKP  15 16.90   5.1X
MFF    151.26 345 ePKP  15 17.60   5.7X
        0.7s     6.60nm
      S.D. = 1.2  on  41 of  65 obs.
-------------------------------------
?  OCT  08, 1989  03h 56m 00.50± 1.72s
   50.406 N ±28.8km  179.474 W ±13.9km
   DEPTH =  33.0km  (normal)
   4.3mb (  3 obs.)
 ANDREANOF ISLANDS, ALEUTIAN IS. (  7)

ADK      2.30  49 eP     56 37.00   0.2
SMY      4.63 303 e(P)   57 06.00  -3.9X
FBA     21.98  37 e(P)   00 52.50  -0.4
KVN     43.87  80 e(P)   04 05.50   0.0
SUF     65.41 347 eP     06 42.00   0.5
        0.4s     1.60nm          4.5mb
NUR     67.74 347 eP     06 56.30   0.0
NB2     68.58 354 P      07 01.90   0.4
        0.5s     0.70nm          4.0mb
HFS     69.30 353 eP     07 05.10  -0.8
        0.4s     1.30nm          4.3mb
      S.D. = 0.6  on   7 of   8 obs.
-------------------------------------
?  OCT  08, 1989  07h 20m 17.17±16.95s
   43.383 N ±82.4km  127.805 W ±106.km
   DEPTH =  10.0km  (geophysicist)
 OFF COAST OF OREGON              ( 30)

GROR     3.56  55 eP     21 13.18  -0.5
KMOR     3.82  52 eP     21 16.48  -0.9
                 eS     22 00.66
NLO      4.12  47 eP     21 21.67   0.2
GT2      4.35  64 eP     21 24.92   0.0
PGO      4.36  60 eP     21 25.74   0.7
BMW      4.49  45 eP     21 26.28  -0.5
                 eS     22 17.79
ONR      4.51  38 eP     21 27.41   0.4
RVW      4.54  51 eP     21 27.41  -0.1
VLMM     4.66  60 eP     21 29.10  -0.2
LVP      4.69  53 eP     21 29.69  -0.1
TDH      4.72  64 eP     21 29.79  -0.4
VBEM     4.77  67 eP     21 30.82  -0.2
MTMW     4.78  55 eP     21 31.10   0.0
FL2      4.79  52 eP     21 31.74   0.5
CZM      4.85  49 eP     21 31.62  -0.3
VLL      4.86  63 eP     21 32.32   0.2
SHW      4.86  53 eP     21 32.57   0.4
ERK      4.86  51 eP     21 32.04  -0.2
CPW      4.88  41 eP     21 32.19  -0.1
HSR      4.88  53 eP     21 32.95   0.5
JLK      4.88  54 eP     21 32.57   0.1
STD      4.89  52 eP     21 32.74   0.1
YEL      4.90  53 eP     21 32.87   0.1
APW      4.90  46 eP     21 32.46  -0.2
ESD      4.91  53 eP     21 33.42   0.5
LON      5.42  50 eP     21 40.00   0.0
PNT      8.20  41 eP     22 19.00   0.0
      S.D. = 0.4  on  27 of  27 obs.
-------------------------------------
&  OCT  08, 1989  08h 43m 49.32s
   60.179 N          152.876 W
   DEPTH =  94.2km
 SOUTHERN ALASKA                  (  2)
      <AGS-P>.

ILIM     0.11 203 iP     44 02.27   1.0
                 eS     44 13.32
RED      0.25  12 iP     44 02.73   1.0
                 eS     44 14.60
RDT      0.46  30 iP     44 03.82  -0.7
                 eS     44 15.59
OPT      0.56 199 iP     44 04.69  -0.5
                 eS     44 16.64
NNL      0.80  99 eP     44 07.20  -0.3
                 eS     44 24.10
AUL      0.85 200 eP     44 07.04  -0.9
AUE      0.86 197 eP     44 07.22  -0.8
                 eS     44 20.23
AUW      0.87 201 eP     44 07.61  -0.5
                 eS     44 22.90
XLV      0.93 141 eP     44 07.79  -1.0
                 iS     44 23.47
NKA      0.99  54 eP     44 10.31   0.9
                 eS     44 24.98
CKL      1.05  14 iP     44 09.64  -0.7
                 iS     44 26.70
CNPM     1.06 128 eP     44 09.04  -1.2
                 iS     44 25.22
BRLK     1.08 112 eP     44 09.70  -0.9
                 eS     44 26.63
SPU      1.08  22 iP     44 09.73  -0.9
                 eS     44 26.97
BGL      1.11  12 iP     44 10.54  -0.5
CRP      1.15  18 iP     44 10.87  -0.6
                 eS     44 28.63
CGLM     1.21  20 iP     44 11.42  -0.7
NCG      1.28  16 eP     44 12.47  -0.5
                 eS     44 32.53
CDD      1.31 198 eP     44 11.96  -1.4
SLKM     1.36  75 eP     44 12.60  -1.4
                 eS     44 33.46
SHU      1.58 170 eP     44 15.24  -1.4
SVW      1.64 306 iP     44 15.96  -1.6
                 eS     44 37.74
SUA      1.66  38 eP     44 17.00  -0.8
                 eS     44 39.30
SEW      1.72  91 eP     44 16.50  -1.9
                 eS     44 41.11
SKT      1.92  19 eP     44 19.90  -1.3
PMS      1.95  55 eP     44 20.20  -1.4
                 eS     44 45.33
PWA      2.08  43 eP     44 22.00  -1.2
                 eS     44 48.06
PLRM     2.32  51 eP     44 24.09  -2.3
                 eS     44 52.87
PME      2.38  51 eP     44 25.08  -2.1
                 eS     44 54.90
KDC      2.45 175 eP     44 24.92  -3.2
                 eS     44 53.31
KNK      2.50  58 iP     44 26.37  -2.5
                 iS     44 56.13
GHO      2.50  49 eP     44 26.83  -2.2
                 eS     44 56.86
CUT      2.56  28 eP     44 28.60  -1.1
                 eS     44 59.85
GLI      2.94  74 eP     44 31.19  -3.8
FID      3.22  77 eP     44 34.13  -4.6
                 eS     45 09.87
VZW      3.24  71 eP     44 35.19  -3.9
                 eS     45 13.55
VLZ      3.36  71 eP     44 36.45  -4.2
                 eS     45 14.80
NCA      3.46  56 eP     44 39.24  -2.8
                 eS     45 19.46
KTH      3.51  14 eP     44 41.41  -1.4
KLU      3.65  66 iP     44 41.32  -3.4
                 eS     45 22.15
RND      3.76  29 eP     44 44.47  -1.8
PAX      4.51  48 eP     44 54.13  -2.6
GLB      4.62  70 eP     44 54.05  -4.0
DDM      4.90  39 eP     45 01.02  -1.0
TGL      5.01  79 eP     45 00.64  -2.9
HDA      5.06  31 eP     45 01.56  -2.6
CCB      5.06  26 eP     45 01.40  -2.8
BALM     5.26  76 eP     45 02.78  -4.3
DOT      5.43  46 eP     45 06.76  -2.5
GLM      5.45  25 eP     45 06.90  -2.7
CTGM     5.75  77 eP     45 11.10  -2.7
PCA      6.31  85 eP     45 18.39  -3.1
      52 obs. associated
-------------------------------------
   OCT  08, 1989  09h 37m 26.74± 0.56s
   40.853 N ± 4.1km   22.888 E ± 5.0km
   DEPTH =   9.7 ±  4.8 km
 GREECE                           (364)

THE      0.23 165 iPgd   37 32.10   0.5
                 eSg    37 35.50
KNT      0.31   1 iPgc   37 33.50   0.3
GRG      0.38 286 iPgc   37 35.00   0.4
```

08d 09h

SRS	0.60	63	ePgc	37 38.30	-0.5	
			eSg	37 46.20		
LIT	0.81	202	ePgd	37 42.30	-0.2	
			eSg	37 54.50		
MMB	0.97	40	iP	37 45.00	-0.2	
			iSg	37 58.00		
OUR	0.98	121	ePg	37 45.70	0.3	
			eSg	37 58.80		
KKB	1.02	8	iPg	37 46.00	-0.1	
PAIG	1.10	147	ePgd	37 47.10	-0.4	
			eSg	38 02.40		
SKO	1.56	316	ePg	37 52.00	-2.6	
			iSg	37 56.00		
OHR	1.60	280	ePn	37 56.20	0.9	
RZN	1.61	58	iP	37 56.00	0.5	
VTS	1.75	8	iP	37 59.00	1.4	
PLD	1.85	47	eP	38 03.00	4.2X	
PGB	1.95	29	iP	38 00.00	-0.3	
KDZ	2.07	66	iP	38 01.00	-1.0	
DIM	2.32	58	eP	38 10.00	4.4X	
PVL	2.98	37	eP	38 08.00	-6.9X	
MLR	5.15	25	eP	38 46.50	0.7	
VRI	5.74	28	eP	38 54.50	0.4	

S.D. = 1.0 on 17 of 20 obs.

? OCT 08, 1989 09h 54m 26.04± 2.64s
18.284 N ±13.2km 101.495 W ±24.5km
DEPTH = 33.0km (normal)
GUERRERO, MEXICO (59)

MRX	1.44	11	iPc	54 50.00	0.0	
			iS	55 11.50		
ACX	2.10	132	(P)	54 59.80	0.2	
PPM	2.83	74	eP	55 10.30	-0.1	
			eS	56 11.50		
IISM	3.97	79	eP	55 26.50	0.4	
OXX	4.70	104	eP	55 36.30	-0.5	

S.D. = 0.4 on 5 of 5 obs.

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* OCT 08, 1989 10h 03m 28.50± 0.80s
20.195 N ± 7.8km 99.230 E ±17.1km
DEPTH = 10.0km (geophysicist)
4.4mb (2 obs.)
BURMA (296)

CHG	1.40	191	iPn	03 54.50	0.4	
			iSg	04 15.20		
CHTO	1.40	191	iPnd	03 54.90	0.8	
BDT	2.94	184	ePn	04 14.00	-2.2	
			ePg	04 19.30		
			eSg	04 37.00		
LOE	3.65	139	ePg	04 42.80	16.6X	
			eSg	05 33.00		
NST	4.58	169	ePn	04 40.50	1.1	
			ePg	05 42.00		
			eSg	05 59.00		
KMI	5.88	33	ePg	05 20.00	22.0X	
			Sg	06 41.00		
NNT	7.58	176	eP	05 25.50	3.8X	
LZH	16.34	13	e(P)	07 20.00	0.2	
GBA	21.85	256	Pd	08 23.30	0.1	
WB5	52.63	137	eP	12 44.80	-0.4	
HFS	70.51	328	(P)	14 44.90	-0.2	
	0.5s		1.10nm		4.2mb	
NB2	71.60	329	P	14 46.40	-5.4X	
	0.9s		3.60nm		4.5mb	

S.D. = 1.2 on 8 of 12 obs.

OCT 08, 1989 11h 05m 09.26± 0.74s
37.761 N ± 7.9km 29.176 E ± 6.1km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

KHL	0.62	26	iPg	05 21.10	-0.8	
			iSg	05 31.40		
CIN	0.88	260	iPgd	05 26.00	-0.1	
			iSg	05 38.00		
YER	0.95	229	iPn	05 26.70	-0.6	
BCK	1.16	105	ePn	05 31.60	0.6	
ELL	1.17	150	iPn	05 31.10	-0.1	
IZM	1.64	293	iPn	05 39.30	1.0	

S.D. = 0.9 on 6 of 6 obs

& OCT 08, 1989 12h 36m 47.30s
36.422 N 121.037 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)

<BRK>. ML 2.8 (BRK).

LLA	0.21	21	iPd	36 51.50	-0.2	
PRS	0.28	252	iPc	36 53.00	-0.2	
PRI	0.41	133	iPd	36 55.60	-0.1	
SAO	0.47	316	iPc	36 55.95	-0.9	
			eS	37 06.25		
GCC	0.98	308	eP	37 04.70	-1.4	
MHC	1.04	332	iPd	37 06.43	-0.7	
			eS	37 23.10		
FRI	1.21	62	ePd	37 07.70	-2.3	
			eS	37 23.70		
BCH	1.46	148	eP	37 12.00	-2.0	
CMB	1.69	18	eP	37 15.70	-1.6	
TNP	3.47	60	eP	37 43.00	0.1	
KVN	3.51	41	eP	37 46.00	2.6	
PLM	4.60	131	eP	37 59.00	0.1	

12 obs. associoted

OCT 08, 1989 12h 50m 17.82± 0.44s
22.416 N ± 5.4km 123.467 E ± 7.7km
DEPTH = 10.0km (geophysicist)
4.3mb (6 obs.)
SOUTHEAST OF TAIWAN (247)

TWF1	2.21	295	iPc	50 53.10	-2.0	
			eS	51 17.90		
TWG	2.25	281	iPc	50 54.00	-1.7	
			eS	51 19.30		
TWZ	3.18	327	eP	51 08.50	-0.3	
ANP	3.28	327	eP	51 12.50	2.1	
QZH	5.13	300	Pnd	51 34.50	-2.0	
			Sn	52 28.50		
SSE	8.88	347	Pc	52 27.60	-1.5	
	0.6s		0.01nm		2.5mb X	
Z	12s		1.27um		3.8Msz	
			Lg	54 28.00		
GYA	15.82	288	P	54 04.20	1.8	
XAN	17.25	315	P	54 23.40	3.0X	
KKM	17.72	204	ePc	54 30.00	3.5X	
	1.2s		84.50nm		4.7mb	
TIY	17.97	331	eP	54 30.00	0.7	
Z	10s		1.02um			
BJI	18.63	342	eP	54 39.00	1.6	
Z	14s		0.64um			
			eS	58 05.00		
MAT	19.01	39	iPd	54 43.40	1.2	
	1.2s		65.63nm		4.7mb	
SNY	19.36	0	Pd	54 46.00	-0.3	
Z	17s		1.30um			
N	16s		1.20um			
LOE	21.03	260	eP	55 05.20	1.0	
CN2	21.39	4	Pd	55 06.70	-1.0	
Z	14s		0.90um		4.3MszX	
N	12s		0.70um			
BTO	21.40	331	eP	55 07.50	-0.5	
N	12s		1.00um			
E	12s		0.70um			
LZH	21.82	313	eP	55 13.50	1.2	
	2.0s		0.11nm		1.9mb X	
CHG	23.22	266	eP	55 27.90	1.8	
CHTO	23.22	266	eP	55 28.10	2.0	
	1.3s		7.35nm		4.1mb	
GTA	26.31	315	eP	55 54.60	-1.0	
WMQ	36.39	314	P	57 24.50	0.2	
WB5	43.36	165	eP	58 22.20	0.1	
QIS	45.52	159	ePd	58 40.00	0.5	
ASPA	46.92	167	iPd	58 50.00	-0.5	
WARB	48.41	176	eP	59 02.50	0.3	
MEKA	48.97	186	eP	59 06.40	-0.1	
COOL	53.04	182	eP	59 36.80	-0.5	
BAL	53.12	187	eP	59 37.00	-0.9	
FORR	53.15	175	eP	59 38.00	0.0	
KLB	53.98	186	eP	59 43.70	-0.4	
NWAO	55.35	186	eP	59 54.00	-0.2	
SOD	72.12	336	eP	01 48.00	3.9X	
SUF	73.61	332	eP	02 01.50	8.7X	
	0.5s		1.60nm		4.3mb	
MBC	74.52	13	eP	01 58.00	0.1	
	0.5s		1.00nm		4.1mb	
NUR	74.97	330	eP	02 20.00	19.3X	
HFS	80.12	331	eP	02 27.80	-1.4	
	0.4s		0.70nm		4.0mb	

S.D. = 1.2 on 31 of 36 obs.

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* OCT 08, 1989 12h 57m 50.02± 0.90s
6.098 S ±10.6km 130.250 E ±11.9km
DEPTH = 33.0km (normal)
4.5mb (2 obs.)
BANDA SEA (280)

AAI	3.15	319	eP	58 37.00	-1.5	
MTN	6.76	173	eP	59 30.00	0.4	
KUG	7.73	238	eP	59 53.00	9.8X	
			eS	01 21.00		
KNA	9.70	189	eP	00 09.40	-1.0	
			eS	01 54.00		
WB5	14.27	164	eP	01 08.20	-3.7X	
			eS	03 40.80		
QIS	17.00	149	ePc	01 44.50	-2.5	
			eS	04 44.00		
PMG	17.07	102	eP	01 48.00	0.1	
ASPA	17.82	169	eP	01 55.50	-1.7	
			eS	04 59.30		
MBL	18.06	213	eP	01 59.70	-0.5	
WARB	20.27	189	eP	02 27.00	1.3	
CTA	20.86	133	iPc	02 33.90	2.1	
	1.4s		103.49nm		5.0mb	
NANU	21.67	219	eP	02 41.00	1.0	
OLP	24.35	148	e(P)	03 09.00	2.8X	
FORR	24.71	184	eP	03 11.00	1.5	
BRS	30.12	137	iPd	03 59.00	-0.1	
CHTO	39.56	309	eP	05 20.90	0.9	
	1.1s		2.65nm		3.9mb	
			e	05 31.00		
BJI	47.71	345	eP	06 33.50	8.0X	
CNCB	150.97	142	PKP	17 45.00	8.3X	
ZOBO	151.29	141	PKP	17 44.70	7.5X	

S.D. = 1.5 on 13 of 19 obs.

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* OCT 08, 1989 14h 13m 28.91± 2.00s
37.038 N ±12.2km 50.125 E ±13.7km
DEPTH = 57.4 ± 24.9 km
4.6mb (9 obs.)
CASPIAN SEA (338)
Felt in the Rasht area, Iran.

TEH	1.65	142	ePc	13 58.50	2.4	
TAB	3.19	290	eP	14 09.00	-8.9X	
KER	3.64	223	eP	14 38.00	13.9X	
SLY	4.00	250	ePnc	14 33.00	3.9X	
			eP*	14 47.50		
			ePg	15 00.00		
			iSn	15 39.00		
			iS*	15 54.00		
			iSg	16 06.00		
MSL	5.64	265	ePnc	15 13.00	20.8X	
			eSn	16 24.50		
BHD	6.02	233	ePn	15 20.00	22.6X	
			eSn	16 49.00		
			i	17 06.00		
MAIO	7.57	93	ePn	15 18.00	-1.1	
			eSn	16 26.00		
SHI	7.64	164	eP	15 18.00	-2.2	
VRI	19.58	304	eP	17 52.00	-2.9X	
MLR	19.99	303	eP	18 00.20	0.9	
KRA	25.26	311	eP	18 51.50	0.5	
SUF	29.63	338	eP	19 36.50	5.8X	
	0.7s		2.60nm		4.0mb	
CLL	29.85	310	iPd	19 33.20	0.5	
	0.8s		19.00nm		4.9mb	
HFS	32.71	327	eP	19 56.50	-1.1	
	0.4s		2.80nm		4.4mb	
NB2	34.21	327	P	20 09.40	-1.3	
	0.6s		1.30nm		4.0mb	
EKA	40.04	315	Pc	21 00.20	0.5	
	0.7s		4.60nm		4.4mb	
BCAO	43.48	229	iPc	21 28.00	-0.2	
	0.5s		7.00nm		4.7mb	
			id	21 37.10		
CHTO	46.26	99	iP	21 51.70	1.2	
	0.8s		6.04nm		4.6mb	
KIC	58.42	253	Pc	23 21.38	0.2	
	0.6s		11.00nm		5.2mb	
TIC	58.45	253	Pc	23 21.32	-0.1	
LIC	58.72	253	Pc	23 23.38	0.1	
	0.6s		11.50nm		5.2mb	

S.D. = 1.4 on 14 of 21 obs.

? OCT 08, 1989 14h 25m 55.33± 2.60s
51.385 N ±44.0km 179.611 W ±11.4km
DEPTH = 33.0km (normal)
4.5mb (6 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)

ML 4.3 (PMR).

ADK	1.89	74	iPd	26 26.00	0.2
SMY	4.11	292	eP	27 04.40	7.1X
SVW	16.41	44	eP	29 48.50	4.0X
KDC	16.89	57	eP	29 48.70	-1.7
PMS	19.19	47	eP	30 20.60	1.8
IMA	19.71	32	eP	30 24.70	0.0
	1.0s	6.80nm			3.9mb
TOA	20.99	46	eP	30 37.60	-0.2
FBA	21.25	38	eP	30 40.30	-0.1
MBC	33.79	22	eP	32 36.50	0.9
	0.7s	3.00nm			4.3mb
KVN	43.80	81	e(P)	34 03.00	3.3X
SUF	64.43	347	iP	36 29.60	-0.4
	0.7s	5.00nm			4.7mb
NUR	66.76	347	iP	36 45.00	0.1
	0.6s	10.40nm			5.1mb
NB2	67.59	354	P	36 49.70	-0.5
	0.6s	1.80nm			4.3mb
UPP	68.24	351	iP	36 52.80	-1.4
HFS	68.32	353	eP	36 53.40	-1.3
	0.4s	2.10nm			4.6mb
VRI	80.50	342	eP	38 06.00	0.9
MLR	81.01	342	eP	38 09.80	1.8

S.D. = 1.2 on 14 of 17 obs.

OCT 08, 1989 15h 49m 29.54± 0.17s
36.269 N ± 4.4km 82.615 E ± 3.1km
DEPTH = 10.0km (geophysicist)
5.1mb (27 obs.) 4.6Msz (1 obs.)
SOUTHERN XINJIANG, CHINA (321)

KSH	6.14	303	ePn	51 03.00	0.4
WMQ	8.49	26	Pd	51 32.00	-3.4X
			S	53 04.50	
LSA	9.71	130	P	51 56.90	4.2X
Z	10s	3.50um			
N	10s	2.90um			
E	11s	1.70um			
GTA	13.95	72	eP	52 46.80	-2.8
Z	12s	2.00um			
N	10s	1.70um			
		PP		52 59.00	
QUE	14.44	250	eP	52 54.00	-2.1
		e		53 32.80	
		e		58 49.00	
LZH	17.14	84	P	53 32.00	1.1
	2.5s	0.35nm			2.0mb X
Z	16s	2.50um			3.8Msz
N	11s	3.00um			
		Lg		59 04.00	
CD2	18.40	101	iPd	53 46.60	0.3
MAIO	18.64	277	eP	53 50.00	0.7
		eS		57 30.00	
HYB	19.12	192	eP	53 56.00	0.7
		eS		57 45.50	
POO	19.29	206	eP	53 58.00	0.6
		iS		57 36.50	
KMI	20.52	117	Pc	54 09.50	-1.3
XAN	21.60	88	P	54 21.90	0.2
BTO	21.86	70	eP	54 23.00	-1.2
N	12s	1.00um			
E	12s	1.30um			
		pP		54 27.00	14kmX
CHG	22.57	136	eP	54 31.30	0.0
	1.1s	76.58nm			5.1mb
CHTO	22.57	136	iP	54 30.20	-1.1
	1.2s	72.22nm			5.0mb
GYA	22.69	109	iPd	54 33.00	0.4
HHC	23.04	70	eP	54 37.00	1.1
Z	20s	2.01um			4.6Msz
GBA	23.04	193	P	54 37.00	1.1
TIY	23.82	78	eP	54 44.50	1.1
Z	13s	2.75um			4.9MszX
E	12s	1.45um			
LOE	25.29	133	eP	54 57.00	-0.7
NST	25.78	138	eP	55 03.50	1.3
SHI	26.03	264	eP	55 05.00	0.3
BJI	26.57	72	eP	55 10.00	0.7
	1.5s	0.03nm			1.7mb X
Z	16s	2.04um			4.8MszX
N	10s	0.82um			
		eS		59 36.00	
WHN	27.03	93	ePd	55 13.00	-0.7
TIA	27.75	80	eP	55 21.30	1.1
NNT	28.17	143	eP	55 24.20	0.1
SNY	32.07	67	eP	56 00.00	1.4
Z	15s	1.60um			4.8MszX
E	16s	1.20um			
		eS		01 09.00	
SSE	32.36	88	eP	56 01.20	0.0
Z	12s	0.70um			4.6MszX
MDJ	36.29	62	eP	56 35.70	0.8
Z	15s	1.70um			4.9MszX
N	10s	1.10um			
		eS		02 16.00	
PSI	36.65	152	ePc	56 36.10	-2.0
BBTK	39.01	291	eP	57 00.00	2.0
MBH	40.22	275	eP	57 10.00	2.1
KHL	41.80	289	eP	57 21.00	0.1
VRI	42.44	301	eP	57 29.00	3.0X
KKM	43.03	126	ePd	57 32.50	1.3
	1.1s	78.50nm			5.4mb
MLR	43.03	301	eP	57 32.00	1.0
SUF	43.24	326	eP	57 31.70	-0.6
	0.6s	7.00nm			4.6mb
NUR	43.62	323	eP	57 36.00	0.7
SOD	44.11	333	iP	57 40.40	1.2
KEV	44.68	336	eP	57 43.00	-0.8
SPC	46.34	307	eP	57 53.70	-3.8X
KRA	46.42	308	eP	57 59.20	1.4
UPP	47.09	321	iP	58 02.20	-0.8
KSP	48.61	309	eP	58 15.00	0.0
HFS	49.05	322	eP	58 17.30	-1.0
	0.6s	15.70nm			5.2mb
Z	15s	0.44um			4.6MszX
		LR		18 04.00	
PRU	49.86	308	Pc	58 25.00	0.3
Z	17s	1.00um			4.9MszX
N	16s	0.30um			
E	17s	0.80um			
BRG	50.06	310	eP	58 26.30	0.1
	1.2s	17.00nm			4.9mb
NB2	50.21	323	P	58 25.70	-1.6
	0.8s	14.10nm			5.0mb
CLL	50.56	310	iPd	58 32.10	2.1
	1.2s	21.00nm			5.0mb
Z	17s	1.00um			4.9MszX
PCI	50.64	129	ePd	58 31.50	0.5
		iS		30 13.00	
KHC	50.65	308	iPc	58 30.90	0.1
WET	51.10	308	eP	58 34.40	0.2
MOX	51.56	310	eP	58 39.00	1.4
GRF	52.02	309	eP	58 41.80	0.6
Z	16s	0.50um			4.6MszX
		e		58 44.30	
OSS	53.51	305	ePd	58 52.00	-0.4
SAX	53.87	306	ePd	58 54.90	-0.3
VDL	54.01	305	ePd	58 56.00	-0.1
GWF	54.48	309	P	58 59.17	-0.2
TMA	54.52	305	ePd	58 58.80	-1.1
CDF	54.87	308	P	59 01.46	-0.8
MOF	55.12	307	P	59 03.65	-0.5
WLF	55.21	310	P	59 05.70	1.1
BSF	55.35	307	P	59 05.19	-0.6
DIX	55.49	305	ePd	59 07.00	-0.1
HAU	55.58	308	eP	59 06.80	-0.6
VITF	55.75	308	P	59 08.07	-0.4
EMS	55.81	305	ePd	59 09.50	0.2
DOU	56.04	311	P	59 11.60	1.0
	1.0s	22.20nm			5.1mb
LPG	56.12	305	eP	59 11.80	0.2
	0.9s	42.50nm			5.5mb
LOR	57.41	308	eP	59 19.70	-0.8
LBF	57.43	307	eP	59 19.50	-1.2
	1.0s	22.00nm			5.1mb
SMF	57.64	307	eP	59 21.40	-0.6
	1.0s	20.00nm			5.1mb
SSF	57.71	307	eP	59 22.10	-0.4
	0.9s	18.00nm			5.1mb
AVF	57.90	307	eP	59 23.40	-0.4
	1.0s	36.80nm			5.4mb
BGF	58.31	307	eP	59 25.50	-1.2
	1.0s	16.00nm			5.0mb
MAF	58.61	307	eP	59 28.80	-0.1
	1.0s	22.00nm			5.2mb
TCF	58.82	307	eP	59 29.80	-0.5
	1.0s	26.00nm			5.3mb
EKA	58.84	318	P	59 30.00	-0.3
	0.9s	12.60nm			5.0mb
LSF	59.27	307	eP	59 34.20	0.8
	1.0s	18.00nm			5.2mb
CAF	59.42	306	eP	59 34.50	0.0
	0.7s	3.70nm			4.6mb
LDF	59.45	310	eP	59 34.60	0.0
	0.7s	17.60nm			5.3mb
FLN	59.61	310	eP	59 36.00	0.3
RJF	59.63	306	eP	59 36.20	0.2
GRR	59.98	310	eP	59 37.40	-0.9
	0.8s	32.20nm			5.5mb
MFF	60.21	308	eP	59 39.20	-0.7
	0.8s	10.70nm			5.0mb
LPF	60.23	310	eP	59 39.40	-0.6
BCAO	66.58	258	iPd	00 20.50	-1.8
	1.6s	78.00nm			5.6mb
		id		00 35.30	
MBC	66.89	6	eP	00 22.00	-1.4
	0.9s	9.00nm			5.0mb
BAL	73.82	150	eP	01 05.20	-0.8
WB5	74.23	130	eP	01 08.00	-0.6
MUN	74.83	151	iPd	01 11.00	-0.8
KLB	75.11	149	eP	01 07.00	-6.4X
BUL	75.84	232	eP	01 28.20	10.2X
COOL	75.95	146	eP	01 18.00	-0.3
NWAO	76.07	151	eP	01 18.20	-0.6
ASPA	76.80	133	iPc	01 22.90	-0.3
	1.5s	17.00nm			4.9mb
QIS	78.05	127	eP	01 30.00	-0.1
CTA	82.17	122	eP	01 53.00	0.8
KIC	84.15	274	P	02 03.00	0.5
FFC	89.29	3	eP	02 27.00	0.1
	0.9s	13.00nm			5.2mb
PNT	92.53	14	eP	02 43.00	0.9
SES	92.87	9	eP	02 43.00	-0.7
ZOBO	147.26	300	PKP	09 14.00	0.5
LPB	147.42	299	PKP	09 15.00	1.4
CNCB	147.52	299	PKP	09 15.00	1.1
ARE	149.71	304	ePKP	09 22.00	5.0X

S.D. = 1.0 on 99 of 106 obs.

& OCT 08, 1989 17h 58m 27.30s
33.490 N 116.460 W
DEPTH = 7.0km
SOUTHERN CALIFORNIA (43)
<PAS-P>. ML 3.2 (PAS).

PLM	0.36	248	iPc	58 34.40	-0.3
TPC	0.70	29	iPc	58 40.20	-1.2
PEC	0.71	305	iPc	58 40.30	-1.2
HAY	0.72	72	iPc	58 40.80	-0.9
CPE	0.81	222	iPc	58 41.90	-1.4
BAR	0.83	192	iPd	58 42.30	-1.3
GLA	1.44	107	eP	58 51.30	-2.5
ABL	2.66	301	e(P)	59 10.00	-1.6
TNP	4.62	353	e(P)	59 45.00	5.6

9 obs. ossocioted

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* OCT 08, 1989 18h 12m 47.82± 1.05s
6.062 S ±10.9km 130.279 E ±12.9km
DEPTH = 33.0km (normol)
4.5mb (2 obs.)
BANDA SEA (280)

AAI	3.14	319	eP	13 36.00	-0.2
MTN	6.79	173	iPd	14 29.20	1.4
		eS		15 45.00	
KNA	9.74	189	eP	15 08.20	-0.6
	0.2s	11.00nm			5.8mb X
		eS		16 54.00	
WB5	14.30	164	eP	16 06.20	-3.9X
		eS		18 39.20	
QIS	17.02	149	iPc	16 43.20	-1.8
		eS		19 41.00	
PMG	17.05	102	eP	16 46.00	0.6
ASPA	17.85	169	eP	16 54.80	-0.6
	0.6s	20.00nm			4.4mb
		eS		20 04.10	
MBL	18.10	213	eP	16 58.00	-0.5
WARB	20.31	189	eP	17 25.60	1.7
CTA	20.86	133	iPc	17 32.80	3.2X
	1.0s	21.00nm			4.5mb
FORR	24.74	184	eP	18 10.00	2.3X

S.D. = 1.4 on 8 of 11 obs.

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* OCT 08, 1989 19h 34m 23.60± 0.76s
46.112 N ±12.4km 13.437 E ± 7.9km
DEPTH = 5.0km (geophysicist)
AUSTRIA (546)
MD 2.8 (LJU), 2.7 (TRI). Felt (III) ot Cividole del Friuli,

08d 19h

Italy.

VOY	0.33	104	Pgd	34	30.00	-0.2
			eSg	34	35.70	
TRI	0.46	150	iPgd	34	32.00	-0.9
			iSg	34	40.00	
FVI	0.66	317	P	34	34.70	-2.1
			eSg	34	44.10	
LJU	0.77	95	ePg	34	39.00	0.0
			eSg	34	49.60	
CTI	1.25	268	P	34	46.80	-0.5
			eSg	35	05.10	
VBY	1.41	115	ePn	34	50.80	0.9
			iSg	35	10.90	
			iSn	35	12.60	
SCE	1.51	308	iPgd	34	52.30	0.8
OGA	1.83	295	eP	34	58.20	2.1

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

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* OCT 08, 1989 19h 56m 29.70± 2.22s
2.380 N ±10.1km 126.601 E ±16.3km
DEPTH = 86.9 ± 20.3 km
4.8mb (3 obs.)
MOLUCCA PASSAGE (266)

MNI	1.99	242	ePc	57	03.00	0.8
			eS	57	35.70	
KNA	18.14	173	eP	00	35.50	-2.0
WB5	23.40	161	eP	01	31.00	-0.7
ASPA	26.85	165	iPc	02	03.00	-1.1
WARB	28.40	180	eP	02	19.00	1.0
LOE	28.63	303	iP	02	20.20	0.0
BDT	30.87	300	eP	02	38.30	-1.8
CHG	31.62	303	eP	02	47.00	0.2
	0.8s		11.19nm			4.7mb
CHTO	31.62	303	iPd	02	47.20	0.4
	0.7s		8.74nm			4.6mb
FORR	33.08	178	iPd	02	58.90	-0.2
	0.3s		13.00nm			5.2mb
XAN	35.56	334	P	03	19.00	-1.5
TIY	37.49	341	eP	03	37.00	0.2
BJI	38.66	347	eP	03	47.00	0.6
	1.0s		0.01nm			1.8mb X
SNY	39.37	356	eP	03	52.20	0.0
BWA	41.96	153	eP	04	15.90	2.2
CAN	42.97	153	eP	04	22.80	0.8
GTA	44.19	330	eP	04	32.00	0.1
HYB	49.46	291	eP	05	13.50	0.1
GBA	49.84	286	P	05	17.00	0.7
WMQ	53.75	326	P	05	45.50	0.2

S.D. = 1.1 on 20 of 20 obs.

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* OCT 08, 1989 22h 24m 35.62± 1.39s
47.462 S ± 9.8km 165.597 E ±11.6km
DEPTH = 45.1 ± 14.7 km
5.0mb (6 obs.)
OFF W. COAST OF S. ISLAND, N.Z. (161)

MHZ	3.51	48	eP	25	27.70	-1.4
CBZ	5.59	157	iPd	25	58.80	0.5
			iS	26	55.60	
CNB	17.15	309	eP	28	36.50	2.9X
	1.0s		48.00nm			4.6mb
			eTT	44	35.00	
CAN	17.34	308	eP	28	37.30	1.4
			eS	31	42.50	
			eTT	44	00.00	
TOO	17.77	296	eP	28	42.50	1.3
			eTT	43	42.00	
BWA	18.33	309	eP	28	47.10	-1.0
			eS	32	03.20	
			eTT	44	30.00	
BRS	22.42	329	eP	29	33.00	1.4
			eTT	49	48.00	
RMQ	24.78	322	iPc	29	55.50	1.0
	1.0s		129.00nm			5.4mb
DZM	25.34	2	iPc	30	02.00	2.1
CTA	31.51	323	iPd	30	55.00	-0.4
	1.0s		26.00nm			5.0mb
OIS	34.11	313	iPd	31	17.00	-1.1
ASPA	34.66	302	iPd	31	21.30	-1.5
	1.1s		55.00nm			5.4mb
WB5	37.40	307	eP	31	44.20	-1.8
SPA	42.73	180	e(P)	32	30.00	0.2
	0.9s		4.55nm			4.2mb
			e	34	20.30	
NANU	46.93	284	eP	33	02.00	-1.6
CHTO	88.90	300	eP	37	26.30	-0.1
	1.5s		16.89nm			5.1mb
ORV	108.16	51	e(Pdif	38	39.90	-13.3X
WDC	108.37	50	ePdiff	38	48.50	-5.6X
PDCR	116.33	153	ePKP	43	31.00	15.0X
MAIO	125.80	287	ePKP	43	34.00	0.3
BCAO	128.62	224	ePdiff	40	21.00	-3.9X
	0.8s		4.00nm			
			ic	43	26.00	
BBTK	145.48	275	ePKP	44	10.00	0.1
KAS	145.51	278	iPKPc	44	09.80	-0.1
KHL	146.93	270	ePKP	44	13.00	0.7
KEV	149.97	333	iPKP	44	21.20	5.2X
	0.7s		16.00nm			
TLB	150.66	280	ePKP	44	23.00	5.3X
SOD	151.09	328	iPKP	44	23.80	6.1X
CLI	151.80	284	ePKP	44	26.50	7.0X
VRI	151.96	282	ePKP	44	27.00	7.3X
MLR	152.36	281	ePKP	44	26.00	5.5X
SUF	152.81	319	ePKP	44	26.90	6.6X
	0.6s		11.10nm			
NUR	154.03	315	ePKP	44	30.70	8.6X

S.D. = 1.3 on 19 of 32 obs.

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* OCT 08, 1989 22h 28m 07.61± 1.58s
2.095 N ±20.6km 125.261 E ±15.1km
DEPTH = 33.0km (normal)
4.9mb (1 obs.) 4.2Msz (1 obs.)
TALAUD ISLANDS (263)

MNI	0.77	213	ePd	28	22.50	0.5
			eS	28	35.00	
PCI	6.19	241	iPc	29	34.00	-5.1X
			iS	30	34.50	
AAI	6.45	153	eP	29	41.50	-1.3
TSM	7.48	287	ePc	29	56.80	-0.4
WB5	23.60	158	eP	33	16.10	-0.4
			eS	37	31.50	
PSI	26.32	272	eP	33	47.00	4.5X
OIS	26.54	149	eP	33	44.00	-0.4
ASPA	26.95	162	eP	33	49.30	1.1
	0.7s		20.00nm			4.9mb
Z	20s		0.70um			4.2Msz
			LR	44	29.00	
FORR	32.87	175	eP	34	40.00	-0.7
BRS	39.52	140	e(P)	35	31.00	-6.2X
BWA	42.35	151	eP	36	02.10	1.7
CAN	43.35	151	eP	36	12.80	4.3X

S.D. = 1.2 on 8 of 12 obs.

OCT 08, 1989 22h 32m 39.23± 0.47s
17.141 N ± 6.6km 100.190 W ± 6.0km
DEPTH = 35.0km (2 depth phases)
5.0mb (16 obs.) 4.1Msz (1 obs.)
GUERRERO, MEXICO (59)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 23C
Centroid Location:
Origin Time 22:32:41.3 2.2
Lat 17.12N 0.17 Lon 99.93W 0.12
Dep 35.0 FIX Half-duration 1.5
Moment Tensor; Scale 10**16 Nm
Mrr= 4.46 0.35 Mtt=-3.48 0.52
Mff=-0.98 0.68 Mrt=-1.02 0.95
Mrf= 0.54 0.74 Mtf=-2.15 0.38
Principal Axes:

T	Val= 4.71	Plg=77	Azm=224
N	0.05	12	62
P	-4.76	4	331

Best Double Couple:Mo=4.7*10**16
NP1:Strike= 48 Dip=42 Slip= 72
NP2: 252 50 106

ACX	0.42	130	iP	32	50.26	1.6
			eS	32	56.70	
III	1.41	29	eP	33	19.54	16.4X
CRX	2.30	12	iP	33	18.60	2.7
			eS	33	45.10	
UNM	2.38	24	iPc	33	17.30	0.4
PPM	2.42	38	iP	33	18.25	0.5
IIT	2.59	43	iP	33	20.02	0.1
MRX	2.72	340	eP	33	24.24	2.7
			(S)	33	37.50	
IIC	2.76	19	eP	33	23.09	0.7
SMMM	2.93	28	eP	33	26.90	2.4
IISM	3.25	55	eP	33	29.54	0.5
			(S)	33	35.70	
OXX	3.32	91	iP	33	32.37	2.1
			(S)	33	48.70	
LVVM	4.39	53	eP	33	52.35	7.1X
EVV	4.79	73	(P)	34	12.00	21.0X
AGX	5.12	337	(P)	34	10.20	14.7X
MZX	8.40	317	eP	34	47.50	5.9X
MEO	17.63	4	e(P)	36	41.30	-2.6
GLA	20.62	323	eP	37	19.00	0.8
BAR	21.47	319	eP	37	27.00	0.1
PLM	22.04	320	P	37	32.00	-0.8
TPC	22.08	323	eP	37	34.00	1.0
ELC	22.27	24	P	37	34.20	-0.6
FVM	22.47	21	P	37	34.20	-2.6
RVR	22.79	321	eP	37	44.00	4.1X
GOL	22.92	350	P	37	42.00	0.4
	1.0s		90.00nm			5.2mb
GLD	22.95	350	P	37	41.40	-0.3
	1.2s		126.26nm			5.3mb
MWC	23.36	320	eP	37	58.00	12.3X
GSC	23.37	324	eP	37	58.00	12.3X
TKL	23.52	35	P	37	45.40	-1.7
SBB	23.53	321	eP	37	58.00	10.7X
SGS	23.86	44	P	37	50.50	0.1
JSC	24.06	41	P	37	52.00	-0.3
LHS	24.47	41	P	37	56.00	-0.3
TNP	25.66	328	P	38	08.70	0.9
	1.1s		16.23nm			4.5mb
FRI	26.23	323	e(P)	38	14.70	1.9
PRI	26.23	320	eP	38	14.90	1.9
NAV	26.38	37	P	38	12.00	-2.3
BLA	26.52	37	P	38	14.20	-1.4
	1.0s		140.00nm			5.5mb
LLA	26.71	321	ePc	38	18.30	1.1
BW06	26.77	345	P	38	17.50	-0.5
KVN	26.85	328	P	38	19.00	0.3
CMB	27.34	324	eP	38	24.10	1.1
MHC	27.60	321	eP	38	26.60	1.1
ORV	29.02	325	P	38	36.00	-2.1
LRM	30.37	343	eP	38	50.50	0.1
TBR	32.73	38	P	39	11.40	0.6
RSON	34.04	7	P	39	20.00	-2.0
	0.8s		24.04nm			5.2mb
SES	34.30	348	eP	39	25.00	0.6
LON	34.52	333	P	39	26.20	-0.2
RSNY	34.81	33	P	39	27.40	-1.4
	1.4s		45.84nm			5.2mb
PNT	35.75	338	eP	39	37.00	0.2
EDM	37.45	347	eP	39	49.50	-1.5
FFC	37.54	358	eP	39	49.00	-2.6
	1.4s		38.00nm			5.1mb
SCH	45.51	27	eP	40	55.00	-2.0
ZOBO	45.84	135	P	41	00.50	-0.2
	1.2s		12.50nm			4.7mb
Z	24s		0.35um			4.2MszX
			LR	57	12.00	
LPB	46.04	135	P	41	02.00	-0.1
CCH	47.97	134	P	41	16.00	-1.2
INK	55.32	346	eP	42	11.00	-0.5
PMR	56.11	334	P	42	17.10	-0.1
	0.9s		14.58nm			5.0mb
			pP	42	27.40	34km
FBA	57.32	338	P	42	24.70	-1.2
	1.1s		18.75nm			5.0mb
			pP	42	35.50	36km
TTA	59.59	334	P	42	41.20	-0.6
	1.1s		18.75nm			5.1mb
MBC	59.96	355	ePd	42	43.70	-0.4
	1.2s		35.00nm			5.4mb
EKA	80.01	35	P	44	47.00	0.5
	1.1s		8.20nm			4.6mb
AAPN	84.48	53	eP	45	11.00	0.8
ALOJ	84.55	53	eP	45	12.50	1.9
ATEJ	84.68	53	eP	45	12.00	0.7
ASMO	84.75	53	eP	45	12.50	0.9
ACHM	84.76	53	eP	45	13.00	1.4
APHE	84.92	53	eP	45	13.70	1.3
NB2	85.06	27	P	45	11.00	-1.5
	1.6s		11.20nm			4.8mb
LOR	86.77	41	eP	45	21.10	-0.1
	0.5s		3.60nm			4.9mb
LBF	86.95	42	eP	45	22.00	-0.1
	0.7s		3.30nm			4.7mb
LIC	93.09	83	P	45	51.30	-0.1
Z	20s		0.08um			4.1Msz
KIC	93.33	82	P	45	52.40	-0.1
WB5	128.38	258	ePKP	51	44.80	0.1

ASPA 129.13 253 ePKP 51 45.30 -0.8
1.3s 10.00nm
HYB 145.64 2 iPKPc 52 14.90 -1.6
1.0s 70.00nm
i 52 26.70
SNG 148.27 318 ePKP 52 24.70 3.9X
GBA 149.36 5 PKP 52 26.00 3.6X
PSI 152.72 314 ePKPd 52 34.80 7.3X
S.D. = 1.3 on 67 of 79 obs.

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* OCT 09, 1989 00h 09m 57.11± 0.96s
4.131 S ±11.6km 135.378 E ±12.4km
DEPTH = 33.0km (normal)
4.1mb (2 obs.)
WEST IRIAN REGION (196)

MNDI 8.49 104 eP 12 01.00 0.0
MTN 9.62 206 eP 12 16.00 -0.5
eS 14 00.00
PMG 12.81 115 e(P) 12 42.00 -17.7X
KNA 13.25 209 eP 13 04.40 -1.1
eS 15 26.00
WB5 15.68 184 iPc 13 33.50 -3.9X
i 13 42.80
eS 16 24.00
OIS 16.84 166 eP 13 55.00 2.9X
eS 16 52.00
CTA 19.08 147 iPc 14 19.80 0.1
0.9s 10.08nm 4.1mb
ASPA 19.47 184 iPc 14 23.50 -0.9
0.9s 158.00nm 5.3mb X
eS 17 53.40
MBL 22.69 220 eP 15 01.30 4.2X
WARB 23.47 200 eP 15 07.40 2.6
CHTO 42.51 304 e(P) 17 52.10 0.7
1.0s 3.75nm 4.1mb
BJI 47.37 340 eP 18 29.00 -0.9
CNCB 148.92 133 PKP 29 48.00 7.3X
ZOBO 149.16 132 PKP 29 51.00 9.9X
1.1s 6.38nm
CCH 149.86 136 PKP 29 52.80 11.0X
S.D. = 1.5 on 8 of 15 obs.

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* OCT 09, 1989 01h 07m 44.79± 0.55s
51.224 N ±12.2km 179.155 W ± 6.0km
DEPTH = 33.0km (normal)
4.7mb (8 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
ML 4.7 (PMR).

ADK 1.68 66 iPc 08 13.80 1.6
SMY 4.43 293 eP 08 53.90 2.5
SDN 11.89 62 eP 10 34.70 -0.1
SVW 16.33 44 ePd 11 37.40 4.5X
KDC 16.74 57 eP 11 37.00 -1.0
TTA 17.07 38 eP 11 44.80 2.5
PMR 19.40 46 eP 12 09.90 -0.6
IMA 19.70 31 eP 12 13.80 -0.2
FBA 21.20 38 eP 12 29.40 0.0
GMW 36.11 73 eP 14 46.40 1.1
BMW 36.35 75 eP 14 49.00 1.7
LON 37.07 74 eP 14 54.40 1.0
PNT 37.20 69 ePc 14 55.00 0.6
0.5s 7.00nm 4.8mb
EDM 39.08 60 eP 15 09.50 -0.6
LBFM 39.85 81 eP 15 18.00 1.2
SES 41.63 63 eP 15 31.00 -0.1
TNP 44.68 82 eP 15 57.00 0.7
0.7s 2.59nm 4.2mb
PTI 44.82 73 eP 15 58.50 1.2
DUG 46.12 77 eP 16 08.00 0.4
1.1s 16.45nm 4.9mb
BW06 46.56 72 eP 16 11.00 -0.2
PLM 47.92 87 eP 16 22.40 0.5
RSSD 49.03 67 eP 16 29.00 -1.4
GOL 50.94 73 eP 16 45.00 -0.1
0.7s 16.99nm 5.1mb
GLD 51.00 72 eP 16 46.00 0.6
1.0s 10.00nm 4.7mb
SOD 60.14 349 iP 17 50.70 -0.1
FVM 60.82 65 eP 17 54.30 -1.5
ELC 61.99 65 eP 18 02.30 -1.5
PWLA 64.28 66 eP 18 17.70 -1.2
SUF 64.65 347 iP 18 20.10 -0.8
0.4s 2.80nm 4.7mb
RSCP 65.25 64 eP 18 23.50 -1.7
GBTN 65.97 63 eP 18 29.00 -0.7

NUR 66.98 347 iP 18 34.70 -1.1
0.6s 83.40nm 6.0mb X
NB2 67.78 355 P 18 40.30 -0.6
0.6s 1.80nm 4.3mb
UPP 68.44 351 iP 18 44.10 -0.8
HFS 68.51 353 eP 18 43.60 -1.8
0.4s 2.50nm 4.6mb
JSC 68.63 62 eP 18 45.80 -0.7
MLR 81.25 342 eP 20 00.00 1.3
WB5 81.68 224 eP 20 00.10 -0.9
PSI 82.84 265 ePc 20 08.10 0.9
e 20 40.00
HYB 84.06 290 eP 20 13.00 -0.4
GBA 87.71 289 P 20 32.00 0.6
S.D. = 1.1 on 40 of 41 obs.

& OCT 09, 1989 01h 22m 06.10s
63.141 N 150.410 W
DEPTH = 117.0km
CENTRAL ALASKA (1)
<AGS-P>.

HUR 0.39 115 iP 22 22.90 -0.4
eS 22 35.62
KTH 0.47 331 iP 22 23.52 -0.4
eS 22 35.50
CUT 0.74 175 iP 22 25.55 -0.2
eS 22 40.20
RND 0.75 69 iP 22 25.51 -0.4
eS 22 39.82
MCK 0.89 48 eP 22 26.69 -0.4
eS 22 41.80
SKT 1.28 204 iP 22 30.54 -0.6
eS 22 49.01
PWA 1.52 170 eP 22 33.81 -0.1
GHO 1.54 153 eP 22 34.07 -0.2
eS 22 56.05
NEA 1.56 22 iP 22 33.32 -1.1
eS 22 53.16
PME 1.65 156 eP 22 34.97 -0.5
PLRM 1.67 158 eP 22 34.84 -0.8
WRH 1.69 37 iP 22 35.25 -0.7
SUA 1.69 185 eP 22 35.98 -0.2
CCB 1.90 36 iP 22 37.77 -0.8
RDS 1.97 30 iP 22 38.63 -0.8
HDA 1.99 49 eP 22 38.91 -0.9
NCA 2.02 123 eP 22 39.75 -0.4
eS 23 07.04
FBA 2.11 32 iP 22 40.48 -0.8
CKL 2.15 206 eP 22 42.20 0.3
PAX 2.26 92 eP 22 42.97 -0.3
GLM 2.28 34 iP 22 42.72 -0.8
21 obs. associated

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* OCT 09, 1989 01h 38m 01.86± 3.03s
1.585 N ±10.5km 127.151 E ±17.7km
DEPTH = 61.1 ± 28.7 km
3.8mb (1 obs.)
HALMAHERA (267)

MNI 2.32 267 ePc 38 38.00 -0.3
eS 39 08.00
KKM 11.77 292 eP 40 43.20 -6.3X
TRT 17.17 237 ePd 42 00.50 1.3
WB5 22.48 162 eP 42 55.70 -1.5
eS 46 52.00
OIS 25.16 152 eP 43 22.50 -0.6
ASPA 25.94 166 iPd 43 29.80 -0.6
eS 48 02.70
WARB 27.61 181 eP 43 47.00 1.4
CHTO 32.52 304 eP 44 27.10 -2.1
0.6s 0.98nm 3.8mb
TIA 35.68 346 eP 44 57.60 1.4
BRS 37.92 141 iP 45 15.00 -0.2
BJI 39.56 347 eP 45 28.00 -0.6
SNY 40.19 356 eP 45 39.30 5.5X
CAN 42.02 153 eP 45 50.00 1.0
MDJ 42.90 3 eP 45 57.00 1.0
GTA 45.15 330 eP 46 14.20 -0.1
HYB 50.26 291 eP 47 02.00 7.6X
GBA 50.59 286 P 47 05.00 8.1X
WMO 54.72 326 eP 47 27.40 0.1
MAIO 71.14 308 eP 49 16.00 -0.3
ZOBO 159.04 135 ePKP 57 56.00 0.3
S.D. = 1.2 on 16 of 20 obs.

& OCT 09, 1989 01h 38m 45.70s
40.588 N 125.038 W
DEPTH = 16.0km
OFF COAST OF NORTHERN CALIFORNIA(34)
<BRK>. ML 3.0 (BRK).

FHC 0.83 75 iPc 39 00.70 -0.6
e 39 07.40
eS 39 10.90
WDC 1.90 89 iPd 39 16.30 -1.5
i 39 23.60
LBFM 2.50 71 eP 39 25.40 -1.2
MIN 2.63 94 eP 39 25.90 -2.5
i 39 33.40
e 39 59.40
ORV 2.90 110 e(P) 39 30.60 -1.5
5 obs. associated

% OCT 09, 1989 01h 56m 30.19± 0.60s
46.591 N ± 7.7km 2.736 E ± 6.3km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.1 (LDG).

BGF 0.08 114 Pg 56 33.40 0.7
Sg 56 34.60
MAF 0.39 198 Pg 56 37.40 -0.8
Sg 56 42.00
AVF 0.47 65 Pg 56 39.60 -0.1
Sg 56 45.80
TCF 0.47 230 Pg 56 39.50 -0.3
Sg 56 45.50
SSF 0.71 48 Pg 56 44.20 0.0
Sg 56 53.70
SMF 0.76 86 Pg 56 44.40 -0.7
Sg 56 54.00
Sn 56 55.80
LSF 0.90 248 Pg 56 47.50 0.0
Sg 56 59.00
L8F 0.94 65 Pg 56 47.80 -0.3
Sg 56 59.80
LOR 1.03 48 Pg 56 49.80 0.2
Sg 57 03.00
CAF 1.73 196 Pg 57 01.60 1.1
Sg 57 22.60
S.D. = 0.7 on 10 of 10 obs.

? OCT 09, 1989 03h 22m 39.18± 3.64s
14.587 N ±32.2km 97.550 W ±29.2km
DEPTH = 10.0km (geophysicist)
4.2mb (2 obs.)
OFF COAST OF OAXACA, MEXICO (67)

OXX 2.60 18 iPd 23 22.00 -0.2
eS 23 49.04
ACX 3.18 316 eP 23 32.29 2.1X
(S) 23 58.55
III 4.19 334 P 23 48.70 3.9X
III 4.19 334 eP 23 43.50 -1.3
eS 24 30.50
IISM 4.38 2 eP 23 46.47 -0.8
eS 24 33.69
EVV 4.39 28 (P) 23 06.00 -41.4X
IIT 4.47 351 eP 23 50.26 1.5
(S) 25 29.95
PPM 4.57 347 eP 23 49.65 -0.8
(S) 24 45.43
UNM 4.97 342 (P) 23 58.00 2.1
LVVM 5.23 11 (P) 24 05.02 5.7X
(S) 25 02.07
MRX 6.17 326 (P) 24 16.50 4.0X
(S) 25 27.00
ALQ 21.80 340 P 27 31.70 -1.9
1.1s 5.15nm 3.9mb
GOL 25.94 346 P 28 14.20 0.5
1.0s 12.50nm 4.6mb
INK 58.42 345 eP 32 38.00 1.0
S.D. = 1.5 on 9 of 14 obs.

& OCT 09, 1989 03h 37m 54.69s
61.386 N 146.790 W
DEPTH = 8.9km
SOUTHERN ALASKA (2)
<AGS-P>. ML 3.1 (PMR).

VLZ 0.34 139 iP 38 02.05 0.4
iS 38 07.83
VZW 0.35 161 eP 38 02.23 0.4

09d 03h

			eS	38 08.44		
KLU	0.43	75	eP	38 03.49	0.0	
			iS	38 09.76		
GLI	0.53	196	eP	38 04.73	-0.6	
			eS	38 13.38		
NCA	0.61	358	eP	38 06.68	-0.3	
			eS	38 16.59		
FID	0.66	167	eP	38 06.62	-1.2	
			eS	38 16.87		
TOA	0.78	22	iPd	38 09.40	-0.6	
KNK	0.80	273	eP	38 09.67	-0.7	
			iS	38 21.39		
CVA	0.98	148	iP	38 11.80	-1.6	
			eS	38 26.68		
HIN	1.00	172	eP	38 12.11	-1.7	
			eS	38 26.16		
GHO	1.09	292	eP	38 13.94	-1.4	
			eS	38 29.04		
PME	1.10	284	eP	38 14.23	-1.2	
			eS	38 29.56		
PLRM	1.14	281	eP	38 14.60	-1.5	
			eS	38 31.80		
PMR	1.14	281	iPc	38 14.70	-1.4	
SGAM	1.18	138	iP	38 14.45	-2.3	
			iS	38 31.27		
SDG	1.29	27	eP	38 16.81	-1.9	
			eS	38 33.36		
PMS	1.34	265	iPc	38 18.00	-1.6	
GLB	1.43	86	eP	38 17.84	-3.1	
			eS	38 36.03		
RAGM	1.44	133	iP	38 19.26	-1.7	
			eS	38 37.72		
MTU	1.47	197	iP	38 19.27	-2.0	
PWA	1.50	282	iPc	38 20.20	-1.6	
PAX	1.71	21	eP	38 23.02	-1.8	
SEW	1.83	227	eP	38 24.87	-1.7	
			eS	38 46.89		
SLKM	1.89	244	eP	38 25.40	-2.1	
SUA	1.90	274	eP	38 25.81	-1.9	
CUT	1.94	303	eP	38 27.04	-1.1	
			eS	38 52.69		
TGL	2.03	106	eP	38 26.52	-3.0	
			eS	38 51.43		
WAX	2.14	114	eP	38 27.81	-3.3	
			eS	38 58.59		
BALM	2.18	97	eP	38 28.58	-3.2	
			iS	38 54.77		
RND	2.24	336	eP	38 31.19	-1.4	
SNH	2.28	120	eP	38 32.46	-0.7	
			eS	39 03.16		
SKT	2.34	287	eP	38 31.77	-2.1	
CYK	2.49	120	eP	38 35.64	-0.3	
			eS	39 09.24		
CGLM	2.51	270	eP	38 34.42	-2.1	
SPU	2.55	268	eP	38 34.41	-2.5	
NCG	2.58	273	eP	38 35.12	-2.3	
CRP	2.59	270	eP	38 35.67	-1.9	
CTGM	2.68	97	eP	38 35.93	-3.0	
CKL	2.68	268	iP	38 36.66	-2.3	
BGL	2.70	270	eP	38 36.84	-2.4	
RDT	2.86	256	iP	38 38.35	-3.0	
CNPM	2.89	232	eP	38 38.98	-2.7	
ILIM	3.30	249	iP	38 44.36	-3.3	
FBA	3.56	353	eP	38 50.50	-0.7	
SVW	4.28	270	eP	38 57.20	-4.3	
TTA	4.59	294	eP	39 02.20	-3.8	
IMA	5.61	330	eP	39 18.30	-2.1	

47 obs. associated

? OCT 09, 1989 04h 42m 43.34± 3.76s
35.012 N ±30.4km 139.106 E ±12.6km
DEPTH = 10.0km (geophysicist)
NEAR S. COAST OF HONSHU, JAPAN (230)
MG 2.8 (JMA). Felt (I JMA) at Ajiro.

AJI	0.03	346	iP	42 44.90	-0.4	
			iS	42 45.90		
CHJJ	1.04	355	P	43 02.80	-0.1	
			S	43 16.90		
IIDJ	1.08	296	P	43 03.50	-0.2	
KAKJ	1.47	36	P	43 09.90	0.0	
MAT	1.69	335	iPc	43 13.90	0.8	
			iS	43 35.60		

S.D. = 0.7 on 5 of 5 obs.

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* OCT 09, 1989 05h 07m 23.58± 2.07s
34.174 N ±10.6km 25.136 E ±19.2km
DEPTH = 33.0km (normal)
4.0mb (2 obs.)
CRETE (370)

YER	3.91	40	iP	08 23.30	0.4	
CIN	4.17	34	eP	08 27.00	0.5	
ELL	4.67	55	eP	08 34.30	0.6	
KHL	5.45	39	eP	08 43.50	-1.2	
BCK	5.51	52	eP	08 45.50	-0.1	
SKO	8.31	341	ePn	09 28.50	3.8X	
DSI	9.00	104	ePd	09 33.00	-1.2	
			eS	11 09.00		
PRNI	9.18	112	eP	09 37.00	0.2	
			eS	11 13.00		
MBH	9.37	115	iPc	09 40.00	0.7	
			eS	11 20.00		
BRG	18.58	337	e(P)	11 36.80	-3.0X	
	1.3s		16.00nm		4.0mb	
NUR	26.35	359	eP	12 58.00	-0.1	
HFS	27.03	347	eP	13 00.30	-4.0X	
	0.4s		1.40nm		3.9mb	
SUF	28.57	1	eP	13 15.10	-3.1X	

S.D. = 0.8 on 9 of 13 obs.

OCT 09, 1989 05h 17m 32.89± 1.01s
41.518 N ± 9.7km 19.404 E ± 9.5km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
ML 3.0 (TTG).

TIR	0.39	116	iPgd	17 40.40	-0.4	
ULC	0.46	345	iPgd	17 41.50	-0.7	
			eSg	17 49.00		
SDA	0.50	8	iPgc	17 41.30	-1.8	
BDV	0.88	331	ePg	17 50.20	0.5	
			eSg	18 04.80		
BERA	0.91	153	iPgd	17 53.10	2.8X	
TTG	0.92	353	iPgd	17 50.00	-0.4	
			eSg	18 05.00		
OHR	1.13	111	iPgd	17 53.00	-1.0	
			iSg	18 10.90		
HCY	1.15	324	ePg	17 55.50	1.1	
			eSg	18 12.00		
NKY	1.33	347	ePg	17 57.80	0.3	
			eSg	18 18.00		
BRY	1.52	335	ePg	18 01.30	1.0	
			eSg	18 23.20		
SKO	1.59	73	ePn	18 01.70	0.6	
LSK	1.64	146	ePn	17 54.00	-8.0X	
PLE	1.81	360	ePn	18 06.00	1.6	
			eSn	18 30.50		
GRG	2.33	103	eP	18 12.90	1.0	
LIT	2.74	120	eP	18 17.80	0.1	
HVAR	2.75	308	iPn	18 15.80	-2.0	
SRS	3.18	96	eP	18 24.00	0.1	

S.D. = 1.1 on 15 of 17 obs.

% OCT 09, 1989 05h 31m 10.51± 0.82s
43.119 N ± 9.2km 0.825 W ± 8.3km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

MADF	0.03	8	Pg	31 12.81	0.3	
			Sg	31 15.51		
ISSF	0.09	167	Pg	31 13.49	0.2	
			Sg	31 15.43		
ATE	0.09	110	Pg	31 13.45	0.3	
			Sg	31 15.53		
ELYF	0.13	293	Pg	31 13.46	-0.3	
			Sg	31 15.38		
ESCF	0.19	102	Pg	31 14.15	-0.6	

S.D. = 0.5 on 5 of 5 obs.

? OCT 09, 1989 05h 34m 09.50± 7.42s
23.200 N ±23.0km 122.060 E ±55.2km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWF1	0.72	282	iPd	34 23.60	0.0	
			eS	34 33.10		
TWG	0.99	248	iPd	34 28.10	-0.1	
			eS	34 41.00		
TWK	1.45	273	iPc	34 36.00	0.2	
			eS	34 54.40		
TWQ	1.55	314	ePd	34 37.10	-0.1	
			eS	34 57.40		

S.D. = 0.3 on 4 of 4 obs.

& OCT 09, 1989 06h 55m 39.00s
62.022 N 124.276 W
DEPTH = 10.0km (geophysicist)
4.1mb (1 obs.)
NORTHWEST TERRITORIES, CANADA (679)
<PGC>. ML 3.9 (PGC).

YKA	4.55	80	iPnd	56 47.14	-2.2	
			Pg	57 02.48		
			Sn	57 37.67		
			Lg	57 58.62		
DLB	4.62	221	Pn	56 50.10	-0.4	
			Lg	58 02.00		
HYT	6.46	265	Pn	57 15.40	-1.2	
DWY	7.18	293	Pn	57 25.50	-1.1	
INK	7.40	332	eP	57 27.00	-2.6	
MNB	10.35	159	Pn	58 07.80	-2.9	
EDM	10.57	142	eP	58 10.50	-3.0	
FFC	13.74	112	eP	58 50.00	-5.9	
SES	13.74	142	eP	58 53.00	-3.1	
MBC	14.39	5	eP	59 02.00	-2.3	
	0.9s		4.00nm		4.1mb	

10 obs. associated

OCT 09, 1989 08h 10m 20.45± 0.39s
20.818 S ± 6.4km 179.445 W ± 4.9km
DEPTH = 649.3 ± 5.0 km
4.9mb (30 obs.)
FIJI ISLANDS REGION (181)

SVA	3.34	323	eP	11 43.80	-2.0	
			eS	12 54.90		
VUN	3.42	324	eP	11 44.80	-1.5	
MBU	4.20	335	ePc	11 50.80	-0.4	
NDF	4.23	316	eP	11 52.90	1.6	
DZM	13.20	262	iPd	13 12.20	1.4	
			iS	15 35.10		
HBZ	16.84	186	P	13 42.70	-2.2	
KRP	17.59	193	Pd	13 51.80	-0.1	
PGZ	20.07	190	P	14 10.90	-3.6X	
MSZ	25.99	201	P	15 05.00	-1.9	
BRS	26.15	250	iPd	15 09.90	1.3	
	0.7s		21.50nm		4.9mb	
			i	15 14.50		
			e	16 57.00		
COO	27.53	244	iP	15 21.50	1.0	
	0.8s		74.00nm		5.4mb	
RMQ	29.62	253	iP	15 39.40	1.1	
			e	15 53.00		
PMO	30.54	84	iP	15 48.40	2.4	
	0.7s		5.00nm		4.3mb	
VAH	30.72	85	iP	15 49.60	2.0	
	0.7s		10.00nm		4.6mb	
TPT	30.80	84	iP	15 50.50	2.3	
	0.7s		10.00nm		4.6mb	
CNB	30.93	235	iPc	15 50.20	0.9	
	1.0s		80.00nm		5.3mb	
RUV	30.97	85	iP	15 51.70	2.1	
	0.7s		15.00nm		4.7mb	
CAN	31.21	236	eP	15 52.20	0.6	
BWA	31.39	238	eP	15 51.80	-1.3	
CTA	32.11	265	iPd	16 00.20	0.9	
	0.7s		115.07nm		5.6mb	
CMS	32.81	244	iPd	16 06.10	1.1	
	0.7s		55.00nm		5.3mb	
PMG	34.11	284	iPd	16 16.50	0.7	
	0.8s		74.63nm		5.4mb	
TOO	34.62	233	iP	16 20.60	0.7	
QIS	38.24	263	eP	16 49.50	-0.1	
ADE	39.29	240	iPd	16 58.30	0.3	
	0.6s		36.00nm		5.0mb	
ASPA	43.13	257	iPd	17 28.50	0.1	
	0.7s		152.00nm		5.5mb	
			iS	23 10.40		
			iScS	26 19.50		
WB5	43.20	263	iPd	17 28.50	-0.4	
FORR	47.89	247	iPc	18 04.00	-0.4	
	0.4s		82.00nm		5.5mb	
KNA	49.27	267	iPd	18 14.50	-0.2	
	0.3s		28.00nm		5.1mb	
WARB	49.44	253	iPd	18 15.40	-0.5	
COOL	53.86	246	eP	18 46.10	-1.4	
	0.4s		10.00nm		4.5mb	
MBL	56.37	258	iPd	19 04.20	-0.7	

KLB 56.69 245 iPc 19 06.00 -1.0
0.3s 13.00nm 4.6mb
NWAO 57.02 244 iPd 19 09.00 -0.2
0.6s 14.00nm 4.4mb
BAL 57.69 246 eP 19 13.00 -0.8
MUN 57.97 245 iPd 19 15.30 -0.3
MRWA 58.47 248 eP 19 19.00 0.0
0.4s 8.00nm 4.3mb
NANU 60.01 255 iPd 19 29.10 -0.1
0.3s 26.00nm 4.9mb
SPA 69.31 180 iPd 20 26.20 -0.3
1.0s 21.00nm 4.5mb
MAT 69.67 325 eP 20 28.00 -0.8
1.1s 17.72nm 4.4mb
BLP 78.60 46 P 21 19.00 0.6
PRS 78.98 44 eP 21 20.20 -0.2
GCC 78.99 43 eP 21 20.00 -0.3
PCC 79.03 43 eP 21 19.90 -0.6
BCH 79.17 46 P 21 22.00 0.5
SAO 79.19 44 e(P) 21 20.60 -0.8
NWRM 79.28 42 P 21 22.00 0.2
BRK 79.33 43 eP 21 21.70 -0.4
PRI 79.34 45 eP 21 22.30 -0.1
BKS 79.34 43 iPc 21 22.50 0.3
0.9s 55.00nm 5.1mb
MHC 79.40 43 ePc 21 22.50 -0.2
LLA 79.43 44 e(P) 21 22.50 -0.2
ARN 79.48 43 P 21 22.80 -0.2
MDJ 80.01 326 eP 21 27.00 1.5
MWC 80.01 48 eP 21 24.00 -2.0
FHC 80.06 39 eP 21 26.00 0.1
BAR 80.15 50 eP 21 26.00 -0.5
RVR 80.36 48 eP 21 27.00 -0.5
PLM 80.37 49 eP 21 27.00 -0.9
SBB 80.43 47 eP 21 28.00 0.0
FRI 80.45 45 ePc 21 27.40 -0.5
PEC 80.46 48 P 21 27.70 -0.4
CMB 80.62 43 ePc 21 28.30 -0.5
WDC 80.79 40 ePc 21 29.40 -0.2
ORV 80.81 42 eP 21 29.20 -0.5
MIN 81.21 41 eP 21 31.30 -0.6
TPC 81.35 49 eP 21 33.00 0.4
GSC 81.46 47 eP 21 33.00 -0.2
LBFM 81.64 40 P 21 34.40 0.3
GLA 81.66 50 eP 21 35.00 0.8
KVN 82.67 44 P 21 38.00 -1.3
TNP 82.70 45 P 21 39.20 -0.3
BMW 84.02 35 P 21 46.00 0.4
GMW 84.93 35 P 21 50.00 0.1
LON 84.96 36 P 21 50.00 -0.1
PGC 85.27 33 eP 21 52.00 0.6
RMW 85.40 35 P 21 52.30 0.1
TTA 85.50 11 P 21 52.10 -0.3
1.2s 22.73nm 4.7mb
MCW 85.60 34 P 21 53.40 0.2
PMR 85.65 14 P 21 52.30 -0.7
0.9s 18.75nm 4.8mb
MSU 86.30 46 P 21 57.40 0.4
TIY 86.49 312 eP 21 59.70 2.0
XAN 87.25 308 P 22 02.40 1.1
DPW 87.60 36 P 22 02.40 -0.3
PNT 87.68 34 iPc 22 03.00 0.1
0.9s 41.00nm 5.2mb
DAU 87.87 45 P 22 04.80 0.4
PTI 88.37 43 P 22 07.00 0.6
ALQ 88.66 52 iP 22 08.00 0.0
1.2s 16.41nm 4.7mb
IMA 88.79 10 P 22 07.40 -0.4
0.8s 9.48nm 4.7mb
FBA 88.85 13 P 22 06.70 -1.2
0.9s 34.38nm 5.2mb
CHTO 89.08 290 eP 22 12.10 2.1
1.0s 7.50nm 4.5mb
LRM 89.82 40 eP 22 13.20 0.1
BW06 90.13 44 P 22 14.20 -0.4
GOL 91.53 48 P 22 21.00 -0.2
0.9s 13.26nm 4.9mb
SES 92.93 37 eP 22 26.00 -1.1
RSSD 94.32 44 P 22 33.00 -0.8
INK 94.94 16 eP 22 34.50 -1.2
SUF 134.62 344 ePKP 28 27.90 0.1
0.6s 4.80nm
NUR 136.85 343 iPKP 28 31.40 -0.7
0.5s 14.00nm
NB2 139.12 352 PKP 28 26.80 -9.5X
0.7s 2.40nm
HFS 139.63 350 ePKP 28 28.10 -9.0X
0.5s 2.60nm
KAS 145.26 314 iPKPc 28 49.10 1.5
EKA 145.42 4 PKPc 28 47.80 0.5
0.8s 20.60nm
HRI 146.46 299 ePKP 28 53.00 3.2X
DMU 146.49 8 ePKP 28 51.10 2.1X
VRI 147.08 325 ePKP 28 53.50 3.3X
DSI 147.10 296 ePKP 28 55.00 4.3X
DLE 147.13 8 ePKP 28 52.60 2.6X
KSP 147.58 341 ePKP 28 51.00 0.1
0.8s 37.00nm
ic 28 54.80
i 28 59.50
SPC 147.62 336 ePKP 28 55.80 4.5X
WIT 147.71 353 ePKP 28 55.00 4.0X
MLR 147.74 326 ePKP 28 55.00 3.5X
MBH 147.81 293 iPKPc 28 56.50 4.6X
CLL 148.04 345 ePKP 28 51.00 -0.6
1.1s 43.00nm
i 28 55.70
pPKP 31 17.00
BRG 148.21 344 iPKPc 28 56.00 4.1X
1.3s 34.00nm
i 29 02.00
WTS 148.50 353 ePKP 28 56.00 3.8X
0.9s 52.00nm
PRU 148.85 342 PKP 28 57.60 4.7X
1.0s 21.70nm
e 29 05.00
MOX 148.98 346 iPKPc 28 58.00 4.9X
1.3s 29.00nm
ZST 149.61 338 iPKP 29 08.20 14.1X
ENN 149.81 353 ePKP 29 00.00 5.7X
0.9s 28.00nm
i 29 08.80
KHC 149.89 343 ePKP 28 55.40 0.9
e 29 00.00
MEM 149.96 353 iPKPc 29 00.00 5.5X
GRF 149.96 346 iPKPc 29 00.60 6.0X
1.0s 19.00nm
e 29 09.40
SNF 150.22 355 iPKPc 29 00.95 6.1X
ABH 150.47 351 ePKP 29 01.21 5.8X
TOD 150.53 349 ePKP 29 01.31 5.8X
DOU 150.61 355 PKPc 29 01.70 6.2X
RUP 150.72 351 ePKP 29 01.92 6.1X
WLF 150.87 353 PKPc 29 03.20 7.3X
CIN 150.88 311 ePdiff 26 27.00 -18.2X
CDF 151.94 350 iPKPc 29 04.90 7.3X
0.7s 8.80nm
FLN 152.11 1 iPKPc 29 04.80 7.1X
0.6s 9.00nm
LDF 152.28 1 ePKP 29 05.00 7.0X
0.5s 5.10nm
GRR 152.47 2 ePKP 29 05.50 7.3X
0.7s 9.90nm
HAU 152.48 352 ePKP 29 05.80 7.5X
0.7s 7.70nm
BSF 152.58 351 iPKPc 29 06.20 7.6X
0.7s 6.60nm
LPF 152.82 2 ePKP 29 06.50 7.8X
1.1s 26.85nm
LOR 153.48 355 iPKPc 29 08.00 8.3X
1.0s 10.00nm
SSF 153.71 355 iPKPc 29 08.80 8.8X
1.0s 7.00nm
LBF 153.75 355 iPKPc 29 08.80 8.7X
1.0s 6.00nm
BGF 154.26 356 ePKP 29 09.60 8.9X
0.5s 3.65nm
MFF 154.27 1 iPKPc 29 09.40 8.7X
0.6s 5.40nm
MAF 154.61 357 ePKP 29 10.60 9.4X
LPG 154.86 350 ePKP 29 12.00 10.0X
BCAO 156.11 229 ePKPd 28 52.50 -11.7X
0.3s 5.00nm
ic 29 36.30
LIC 164.52 159 PKP 29 12.60 -0.3
KIC 164.74 160 PKP 29 12.80 -0.3
S.D. = 0.9 on 105 of 147 obs.

% OCT 09, 1989 08h 45m 01.03± 2.02s
43.931 N ±15.3km 7.642 E ± 9.5km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
ML 2.0 (GEN).

IMI 0.18 96 P 45 05.05 -0.1
S 45 07.82
ENR 0.34 332 P 45 08.13 0.1
S 45 12.54
STV 0.39 324 P 45 08.95 -0.1
S 45 14.08
ROB 0.40 24 P 45 09.05 -0.2
S 45 14.49
PCP 0.89 46 P 45 18.38 0.2
S.D. = 0.2 on 5 of 5 obs.

• OCT 09, 1989 08h 51m 13.55± 1.26s
31.899 S ±11.0km 68.731 W ±16.1km
DEPTH = 33.0km (normal)
SAN JUAN PROVINCE, ARGENTINA (137)

ZON 0.36 7 iPd 51 22.00 -0.1
eS 51 33.00
JACH 1.76 243 iPc 51 43.60 1.3
iS 52 11.00
FCH 1.94 222 iPd 51 48.00 2.9X
PEL 2.06 233 eP 51 47.00 0.4
iS 52 17.90
ROCH 2.20 240 iPd 51 48.70 -0.1
CHCH 2.59 218 iPc 51 56.70 2.6X
RFA 2.87 176 iPc 51 58.50 0.4
LNV 3.05 227 eP 51 58.60 -1.9
S.D. = 1.4 on 6 of 8 obs.

• OCT 09, 1989 09h 14m 21.29± 0.95s
19.324 N ±10.8km 99.000 E ±13.2km
DEPTH = 64.4 ± 14.7 km
SOUTHEAST ASIA (299)

CHG 0.51 186 iPn 14 34.10 0.2
CHTO 0.51 186 iPnd 14 33.90 0.0
BDT 2.07 180 iPn 14 53.20 -1.2
iPg 14 59.10
LOE 3.22 126 ePn 15 10.00 -0.6
ePg 15 20.00
eSg 16 09.00
NST 3.79 163 ePn 15 20.00 1.5
ePg 15 39.00
eSg 16 41.40
KMI 6.73 30 ePg 16 00.00 0.1
Sg 17 15.00
GBA 21.44 258 P 19 06.00 0.0
S.D. = 1.1 on 7 of 7 obs.

OCT 09, 1989 09h 41m 12.59± 0.21s
66.936 N ± 2.4km 156.506 W ± 3.6km
DEPTH = 5.0km (geophysicist)
5.0mb (19 obs.)
ALASKA (676)
ML 5.1 (PMR).

IMA 1.43 126 iPd 41 39.30 0.0
NEA 3.87 124 eP 42 14.09 0.0
TTA 4.03 177 iPd 42 16.70 0.4
RDS 4.03 118 eP 42 16.13 -0.2
FBA 4.11 116 ePd 42 16.60 -0.8
KTH 4.13 143 eP 42 17.49 -0.2
GLM 4.21 113 eP 42 18.02 -0.9
CCB 4.26 119 eP 42 18.90 -0.6
WRH 4.27 122 eP 42 19.30 -0.3
BRW 4.39 359 eP 42 22.16 0.8
MCK 4.52 132 eP 42 22.79 -0.4
HDA 4.70 118 eP 42 24.67 -1.1
RND 4.79 134 eP 42 26.84 -0.3
HUR 4.93 141 eP 42 29.71 0.7
CUT 5.28 147 eP 42 34.50 0.6
DMW 5.33 118 eP 42 33.90 -0.9
SKT 5.42 154 eP 42 36.13 0.1
DDM 5.46 120 eP 42 35.76 -0.8
SVW 5.86 176 iPd 42 42.10 -0.2
NCG 5.87 159 eP 42 42.27 -0.1
BGL 5.97 161 eP 42 43.89 0.0
CGLM 5.98 159 eP 42 43.85 -0.1
CRP 6.00 159 eP 42 44.44 0.1
PWA 6.04 148 eP 42 43.05 -1.5
SUA 6.04 153 eP 42 43.75 -1.1
CKL 6.04 160 eP 42 44.97 0.1
SPU 6.10 159 eP 42 45.50 0.0
GHO 6.14 144 eP 42 45.75 -0.4
PAX 6.14 125 eP 42 45.79 -0.5
DOT 6.17 117 eP 42 44.60 -1.9
PME 6.24 145 eP 42 47.35 -0.1

09d 09h

PLRM	6.25	146	eP	42	47.24	-0.4		0.6s	5.70nm		4.7mb		HOOC	7.77	7	ePc	05	13.99	0.7
PMR	6.25	146	ePd	42	47.00	-0.6	NB2	52.01	8 P	50	23.50	-0.9	ANCC	7.79	5	ePc	05	14.23	0.8
SDG	6.44	128	eP	42	50.51	0.0		0.8s	9.00nm		4.8mb		CLMC	8.18	7	ePc	05	19.29	0.3
PMS	6.47	149	eP	42	50.65	-0.2	NUR	52.86	359 eP	50	30.00	-0.7	HOBC	8.71	9	ePc	05	25.41	-0.8
NCA	6.48	135	eP	42	50.72	-0.3		0.8s	27.90nm		5.2mb		BOG	9.52	22	iPd	05	38.50	0.8
KNK	6.56	144	eP	42	52.26	0.2	BJI	52.91	286 eP	50	29.00	-2.3				iS	08	10.00	
TOA	6.58	133	iPc	42	52.90	0.5	HFS	53.03	6 eP	50	30.00	-2.0	PT03	9.79	170	iPd	05	39.00	-2.1
RDT	6.64	162	eP	42	52.96	-0.3		0.9s	18.50nm		5.0mb					e(S)	07	26.20	
RED	6.75	164	eP	42	54.29	-0.5	JSC	53.25	88 eP	50	33.70	-0.2	BMG	12.15	22	eP	06	25.00	11.8X
SLKM	7.03	154	eP	42	55.41	-3.2X	EKA	56.42	18 P	50	56.00	-0.8	ARE	13.48	154	eP	06	30.00	-1.2
ILIM	7.06	165	eP	42	58.60	-0.5		0.9s	11.10nm		4.9mb		SDV	14.80	28	iPd	06	48.20	-0.2
KLU	7.14	135	eP	42	59.86	-0.4	WMQ	59.33	311 P	51	17.50	0.0		0.9s	166.60nm			5.4mb	
NNL	7.30	159	eP	43	03.64	1.2	GTA	59.40	299 eP	51	17.80	-0.3	ZOBO	15.09	143	eP	06	51.00	-1.5
VLZ	7.33	138	eP	43	01.65	-1.1	LZH	60.96	294 eP	51	28.50	-0.3	Z	20s	6.43um				
VZW	7.33	139	eP	43	00.64	-2.3		1.8s	0.05nm		2.3mb X					LR	09	22.00	
GLI	7.35	141	eP	43	01.87	-1.3	CLL	61.81	7 e(P)	51	33.00	-1.2	LPB	15.31	143	eP	06	53.00	-2.2
OPT	7.46	167	eP	43	04.81	0.2			e	52	21.00					i	07	09.00	
SEW	7.54	152	eP	43	06.09	0.3	BRG	62.30	7 iP	51	36.70	-0.7	LCR2	15.35	335	eP	06	56.00	0.5
FID	7.62	140	eP	43	05.84	-1.0		1.0s	14.00nm		5.1mb		SJS	15.55	335	eP	07	00.10	2.1
DWY	7.66	104	P	43	04.80	-2.6	FLN	63.20	18 eP	51	41.80	-1.6	CNCB	15.59	144	P	06	57.00	-2.0
AUL	7.71	168	eP	43	08.34	0.2	PRU	63.21	6 eP	51	42.00	-1.4				i	07	07.00	
AUW	7.72	168	eP	43	08.33	0.1	KRA	63.31	3 eP	51	45.20	1.1	SRA	15.84	334	eP	06	42.00	-19.8X
AUE	7.74	168	eP	43	08.45	0.0	SPC	64.18	2 eP	51	50.50	0.4	TOV	15.99	29	eP	07	02.20	-1.4
GLB	7.80	129	eP	43	09.51	0.0	CDF	64.32	12 eP	51	51.00	0.1		0.8s	60.00nm			4.8mb	
CNPM	7.81	160	eP	43	08.29	-1.2	HAU	64.65	13 eP	51	53.10	0.1	CEOS	16.12	35	eP	07	03.40	-1.9
CDD	8.14	169	eP	43	13.51	-0.7		1.0s	12.00nm		5.1mb		CCH	17.16	140	P	07	18.70	0.0
BALM	8.57	127	eP	43	21.01	0.7	BSF	64.86	12 eP	51	54.50	0.1	FISA	17.49	28	eP	07	20.70	-1.8
INK	8.86	71	eP	43	22.00	-2.0	ZST	65.10	5 iP	51	56.00	0.2	MORO	17.66	31	eP	07	22.70	-1.9
CTGM	8.95	125	eP	43	25.97	0.5	LOR	65.15	15 eP	51	55.90	-0.3	GUAC	17.67	35	eP	07	24.50	-0.3
KDC	9.41	167	eP	43	30.70	-0.9		0.8s	8.50nm		5.0mb		OLLA	17.80	37	eP	07	28.00	1.5
HYT	10.34	117	P	43	43.50	-1.2	SSF	65.32	15 eP	51	57.40	0.2	CAR	18.12	36	iP	07	28.00	-2.4
MBC	14.63	35	eP	44	40.00	-1.8		0.7s	8.80nm		5.1mb		LLAV	18.16	36	eP	07	29.50	-1.4
	0.5s	22.00nm			5.0mb		MFF	65.37	18 eP	51	56.80	-0.8	TPP	21.64	48	eP	08	22.14	13.3X
EDM	24.88	102	eP	46	38.00	0.9	LBF	65.44	15 eP	51	57.60	-0.5				eS	14	23.30	
MCW	25.10	120	eP	46	41.00	1.7	BGF	65.75	15 eP	52	00.00	0.0	TCE	21.67	46	eP	08	11.92	2.7
PNT	25.68	115	eP	46	46.00	1.3		0.5s	6.50nm		5.1mb		TRN	21.89	47	eP	08	19.92	8.5X
	0.8s	25.00nm			5.0mb		SMF	65.76	15 eP	52	00.00	-0.1	SVB	23.81	43	eP	08	28.88	-1.4
BMW	26.88	123	eP	46	58.00	2.1	LSF	65.91	17 eP	52	00.80	-0.2	SVV	23.87	43	eP	08	29.10	-1.7
LON	27.12	121	eP	46	59.00	1.0		0.7s	7.70nm		5.0mb		SSV	23.89	43	eP	08	29.31	-1.8
SES	27.99	104	eP	47	06.00	0.2	MAF	66.05	16 eP	52	01.90	-0.1	MGP	24.45	25	P	08	37.70	1.3
FFC	28.20	89	iPd	47	09.70	2.0	LPG	67.17	13 eP	52	10.60	1.1	LRS	24.81	25	P	08	40.80	0.9
	1.0s	32.00nm			5.1mb		CAF	67.27	16 eP	52	09.60	-0.2	SJG	24.95	27	iP	08	42.00	0.8
LRM	31.24	110	eP	47	36.10	1.0		0.8s	6.70nm		4.9mb		CPD	24.99	27	P	08	42.20	0.6
LBFM	31.90	126	eP	47	41.50	0.6	GYA	68.57	287 P	52	17.80	-0.5	BBL	25.32	39	eP	08	42.00	-2.8
WDC	32.39	127	ePd	47	46.00	1.1	HRI	79.67	350 eP	53	23.00	0.7	PAG	25.59	38	eP	08	46.00	-1.3
			e	50	32.50		PRNI	82.63	350 eP	53	38.00	0.2	BPA	26.27	36	eP	08	53.87	0.2
MIN	32.90	126	e(P)	47	46.40	-3.1X	MBH	83.21	350 eP	53	41.00	0.2	ANG	26.38	36	eP	08	53.52	-1.0
			e	50	34.10		SBA	146.24	193 ePKP	00	56.00	3.6X	PEL	29.41	168	eP	09	29.00	7.0X
ORV	33.65	127	e(P)	47	55.00	-0.9		S.D. = 1.0	on 136 of 139 obs.				LNV	30.06	170	eP	09	29.50	1.8
RSON	34.40	86	eP	48	02.50	0.2							IISM	30.26	320	eP	09	31.50	1.9
KVN	35.20	123	eP	48	10.60	1.1	OCT 09, 1989 10h 03m 19.49± 0.25s						BAO	31.18	113	eP	09	38.20	0.3
CMB	35.39	127	eP	48	11.40	0.5	4.293 S ± 3.5km 77.563 W ± 5.2km						RFA	31.48	166	ePc	09	41.20	0.9
			e	50	41.50		DEPTH = 35.4km (12 depth phases)						MRX	33.29	317	eP	09	57.75	1.6
MHC	35.63	129	e(P)	48	14.10	1.0	5.4mb (37 obs.) 5.1Msz (1 obs.)						HBF	37.12	356	P	10	29.50	0.9
ARN	35.66	128	eP	48	14.00	0.8	NORTHERN PERU (111)						BMA	37.13	123	eP	10	30.00	1.1
RSSD	35.86	103	eP	48	16.80	1.7	CENTROID, MOMENT TENSOR (HRV)									e	10	39.60	32km
TNP	36.37	123	eP	48	20.30	0.9	Data Used: GDSN									e	10	50.40	
	0.7s	3.70nm			4.3mb		L.P.B.: 13S, 29C						JSC	38.52	355	P	10	40.00	-0.4
LLA	36.51	128	ePd	48	21.80	1.4	Centroid Locotion:						PDCR	38.85	105	eP	10	39.70	-3.8X
			e	09	50.00		Origin Time 10:03:26.2 0.5									e	11	11.30	142kmX
FRI	36.56	126	e(P)	48	21.70	1.0	Lat 4.61S 0.04 Lon 76.84W 0.05						TKL	40.17	352	P	10	56.20	2.2
			e	50	45.00		Dep 52.9 4.8 Half-duration 2.0						RSCP	40.39	350	P	10	53.00	-2.9
PRI	37.04	128	eP	48	26.90	2.0	Moment Tensor; Scale 10**17 Nm							0.8s	200.32nm			5.9mb	
MSU	37.72	116	eP	48	32.50	1.8	Mrr= 0.08 0.06 Mtt= 1.15 0.07						BLA	41.38	357	P	11	03.20	-0.8
GSC	39.04	124	eP	48	42.00	0.3	Mff=-1.23 0.11 Mrt=-0.15 0.08							0.8s	46.98nm			5.3mb	
GOL	39.15	108	eP	48	44.50	1.7	Mrf=-0.29 0.09 Mtf=-1.26 0.09						UYO	41.44	339	iPc	11	04.50	0.0
	1.1s	16.03nm			4.6mb		Principal Axes:						NAV	41.50	356	P	11	05.80	0.8
GLD	39.16	108	eP	48	44.80	2.0	T Val= 1.69 Plg= 1 Azm=203						MEO	43.62	335	iPd	11	21.60	-0.7
SBB	39.27	126	eP	48	44.00	0.4	N 0.14 80 108						FVM	43.73	345	P	11	21.80	-1.3
MWC	39.63	126	eP	48	48.00	1.3	P -1.83 10 293						TBR	45.32	4	P	11	36.40	0.5
RVR	40.06	125	eP	48	51.00	1.0	Best Double Couple:Mo=1.8*10**17						ALQ	47.56	327	P	11	53.20	-0.7
TPC	40.38	124	eP	48	54.00	1.2	NP1:Strike=338 Dip=82 Slip= -6							1.0s	41.25nm			5.4mb	
PLM	40.81	125	eP	48	56.00	-0.4	NP2: 69 84 -172						HBVT	48.60	4	P	12	02.30	0.7
ALQ	42.95	112	eP	49	15.30	1.3							RSNY	48.70	3	P	12	05.00	2.7
	1.0s	6.25nm			4.3mb		OUR	4.21	347 Pn	04	25.20	1.8	MIM	49.90	8	P	12	14.00	2.4
KEV	43.55	358	eP	49	20.00	1.8	GGP	4.22	346 Pnd	04	26.00	2.3	GLD	50.68	332	P	12	18.10	0.2
SOD	45.95	358	eP	49	37.00	-0.4	PSO	5.45	3 eP	04	41.50	0.6		0.8s	58.82nm			5.6mb	
MEO	46.04	104	e(P)	49	40.80	2.2	PURC	6.68	10 ePc	04	58.24	-0.1	GOL	50.71	332	P	12	17.00	-1.2
CN2	46.13	281	eP	49	39.20	0.1	SALC	7.27	7 ePc	05	06.68	0.4		0.8s	22.32nm			5.2mb	
			pP	49	42.70	12kmX	DIAC	7.66	10 ePc	05	12.72	1.0	GLA	51.23	319	eP	12	22.00	0.0
FVM	46.41	94	eP	49	42.00	0.6	NNA	7.68	175 iPc	05	11.70	-0.2				e	12	33.00	38km
MAT	47.35	264	iP	49	49.40	0.5		0.6s	95.33nm		6.0mb		BAR	52.22	318	eP	12	40.00	10.5X
	1.0s	23.00nm			5.2mb				iS	05	12.30		TPC	52.69	320	eP	12	33.00	0.0
MIM	48.49	70	eP	49	57.30	-0.3			eS	06	35.50					e	12	44.00	38km
SNY	48.53	281	Pd	49	58.40	0.4	PT08	7.68	173 iPc	05	13.80	1.6	PLM	52.76	318	eP	12	33.00	-0.7
RSCP	50.39	91	eP	50	12.50	0.1			e(S)	06	27.00					e	12	44.00	38km
SUF	50.63	358	eP	50	13.40	-0.4	PT10	7.75	176 iPc	05	12.50	-0.4							

09d 10h

MSU	53.29	326	P	12 36.80	-0.8
RVR	53.48	319	eP	12 39.00	0.3
			e	12 49.00	33km
RSSD	53.75	337	P	12 41.00	0.2
GSC	53.92	320	eP	12 43.00	1.0
			e	12 53.00	33km
MWC	54.07	318	eP	12 48.00	4.7X
			e	12 54.00	20kmX
DAU	54.16	328	P	12 43.50	-0.5
SBB	54.20	319	eP	12 44.00	-0.1
			e	12 54.00	33km
DUG	54.83	327	P	12 48.50	-0.3
BW06	55.08	332	P	12 49.00	-1.7
TNP	55.93	323	P	12 56.00	-0.8
	0.9s		5.86nm		4.6mb
			pP	13 06.60	35km
BCH	55.99	318	P	12 57.00	-0.1
RSON	56.66	348	P	12 59.40	-2.2
	0.8s		60.10nm		5.7mb
PRI	56.93	319	eP	13 02.80	-1.1
KVN	57.08	323	P	13 03.00	-2.0
LLA	57.39	319	eP	13 05.10	-1.9
			e	13 13.00	26km
			e	13 17.00	
CMB	57.86	321	e(P)	13 09.20	-1.1
ARN	58.19	319	P	13 12.30	-0.4
MHC	58.26	319	eP	13 12.00	-1.2
			e	13 24.10	42km
GCC	58.31	319	e(P)	13 11.90	-1.5
			e	13 13.80	6kmX
RKT	58.43	246	iP	13 15.30	0.8
	1.2s		45.00nm		5.4mb
LRM	58.74	332	eP	13 15.70	-0.9
BKS	58.95	320	ePc	13 18.00	0.1
	0.9s		36.00nm		5.5mb
ORV	59.47	321	ePd	13 20.90	-0.5
MIN	60.00	322	e(P)	13 22.90	-2.4
WDC	60.72	322	e(P)	13 27.50	-2.4
LBFM	60.78	323	P	13 29.70	-0.9
SES	61.63	336	eP	13 35.00	-1.0
	0.7s		26.00nm		5.5mb
FFC	62.21	344	eP	13 38.00	-1.8
	1.3s		32.00nm		5.3mb
LON	64.07	328	P	13 50.50	-1.8
PNT	64.64	331	eP	13 56.00	0.1
	0.8s		45.00nm		5.6mb
			pP	14 08.00	41km
BMW	64.67	327	P	13 55.00	-1.2
EDM	64.72	337	eP	13 54.50	-1.9
	0.7s		30.00nm		5.5mb
PGC	66.13	329	eP	14 06.00	0.6
RUV	69.42	255	iP	14 40.20	13.6X
	1.2s		35.00nm		
TPT	69.65	256	iP	14 41.60	13.6X
	1.2s		30.00nm		
VAH	69.66	255	iP	14 41.60	13.5X
	1.2s		35.00nm		
PMO	69.91	256	iP	14 43.40	13.8X
	1.2s		45.00nm		
PPT	71.57	253	iP	14 42.00	2.3
	1.2s		80.00nm		5.6mb
PAE	71.58	253	iP	14 40.80	1.1
	1.2s		55.00nm		5.4mb
LIC	73.17	82	Pc	14 49.92	0.7
	1.0s		27.50nm		5.2mb
Z	20s		0.91um		5.1Msz
TIC	73.22	82	Pc	14 50.24	0.7
	0.8s		21.50nm		5.2mb
KIC	73.47	82	P	14 51.70	0.8
	0.9s		28.50nm		5.3mb
ALOJ	79.50	51	eP	15 40.20	15.6X
ATEJ	79.52	51	eP	15 28.20	3.5X
AAPN	79.53	51	eP	15 28.70	4.0X
ACHM	79.71	51	eP	15 32.00	6.4X
APHE	79.78	51	eP	15 28.70	2.6
ASMO	79.83	51	eP	15 29.50	3.1X
TOL	80.20	48	eP	15 42.00	13.9X
SNA	81.02	161	eP	15 33.30	1.5
ECB	81.81	36	eP	15 45.70	9.5X
ECP	81.99	36	eP	15 44.40	7.3X
DMU	82.21	34	eP	15 48.40	10.1X
DLE	82.23	35	eP	15 50.10	11.7X
ETA	82.24	36	eP	15 45.20	6.8X
MBC	83.93	351	eP	15 48.00	1.3
	1.0s		49.00nm		5.6mb
TOA	83.95	334	eP	15 47.80	0.6
EPF	84.11	46	eP	15 50.00	1.7
	1.4s		82.70nm		5.7mb
LPF	84.21	41	eP	15 50.00	1.3
	1.0s		32.00nm		5.4mb
GRR	84.41	41	eP	15 50.80	1.2
	1.0s		37.60nm		5.5mb
MFF	84.50	43	eP	15 51.40	1.3
	0.7s		17.60nm		5.3mb
EKA	84.71	34	Pd	16 01.80	10.8X
	1.0s		12.80nm		
FLN	84.73	40	eP	15 52.80	1.5
	0.9s		39.30nm		5.6mb
LFF	84.77	44	eP	15 52.90	1.4
	0.8s		13.40nm		5.2mb
LDF	84.93	41	eP	15 53.50	1.2
	0.9s		37.30nm		5.6mb
LPO	85.03	45	eP	15 54.10	1.3
	0.6s		8.40nm		5.1mb
RJF	85.37	44	eP	15 55.70	1.1
	0.8s		5.90nm		4.8mb
FBA	85.61	336	eP	15 56.30	1.0
CAF	85.69	44	eP	15 57.50	1.3
	1.0s		18.80nm		5.3mb
SPA	85.74	180	e(P)	15 56.90	0.7
	1.0s		24.50nm		5.4mb
			e	16 08.50	38km
MAF	86.26	43	eP	16 01.00	2.0
	0.9s		14.70nm		5.2mb
BGF	86.51	43	eP	16 03.10	2.9X
	1.2s		36.80nm		5.5mb
DOU	88.24	40	Pc	16 19.70	11.3X
	1.0s		13.90nm		
IMA	88.30	337	eP	16 09.10	0.5
TTA	88.55	333	P	16 14.90	5.1X
ENN	89.18	39	e(P)	16 21.00	8.2X
	1.0s		17.00nm		5.3mb
WTS	89.88	38	e(P)	16 25.00	8.9X
	0.8s		8.00nm		5.0mb
CLL	93.67	39	e(P)	16 48.00	14.4X
			e	17 55.00	278kmX
KHC	93.96	41	eP	16 47.00	11.9X
BRG	94.25	39	eP	16 52.40	16.1X
KSP	95.74	39	eP	16 52.60	9.4X
BCAO	96.39	86	iPd	17 04.20	17.3X
	0.5s		5.00nm		
CTA	130.61	239	ePKP	22 41.00	11.7X
ASPA	138.61	226	ePKP	22 46.10	1.7
WB5	140.48	231	ePKP	22 41.60	-6.2X
BJI	142.31	343	ePKP	22 59.00	8.5X
GTA	144.96	4	ePKP	22 54.00	-1.2
TIA	145.48	339	ePKP	22 59.50	3.5X
MEKA	145.55	206	ePKP	22 56.40	-0.1
NDI	145.91	42	ePKP	23 08.50	11.5X
KNA	147.20	232	ePKP	23 01.50	2.2X
SSE	148.03	329	PKPc	23 05.00	4.7X
	1.0s		12.00nm		
			pP	23 17.50	
LZH	148.34	358	e(PKP)	23 03.20	2.3X
			i	23 11.50	
POO	148.68	61	ePKP	23 04.50	2.8X
MBL	149.49	213	ePKP	23 07.00	4.1X
XAN	149.80	349	PKP	23 08.90	5.9X
HYB	153.21	59	ePKP	23 15.00	6.6X
	S.D. = 1.4		on 126 of 172 obs.		

? OCT 09, 1989 10h 22m 32.01± 7.55s
7.930 S ±59.5km 129.514 E ±44.4km
DEPTH = 10.0km (geophysicist)
4.2mb (1 obs.)
BANDA SEA (280)

MTN	5.14	162	iPd	23 01.00	-49.8X
			e	23 56.00	
			eS	24 57.00	
KNA	7.81	185	eP	24 28.50	0.1
			eS	25 54.00	
WB5	12.78	159	eP	25 36.10	-0.5
			eS	27 36.50	
QIS	15.90	143	eP	26 18.00	0.4
			eS	29 12.00	
ASPA	16.20	165	iPd	26 21.60	0.1
	0.6s		13.00nm		4.2mb
			eS	29 17.60	
CTA	20.22	128	eP	27 10.00	-0.1
FORR	22.84	183	eP	27 28.00	-8.5X
NB2	110.38	333	Pdiff	37 00.90	-3.9X
	0.7s		1.90nm		
	S.D. = 0.5		on 5 of 8 obs.		

? OCT 09, 1989 10h 24m 41.18± 1.26s
28.862 N ±12.4km 142.551 E ±27.0km
DEPTH = 33.0km (normal)
BONIN ISLANDS REGION (212)

KAKJ	7.59	345	eP	26 31.00	-1.3
			eS	27 54.50	
IIDJ	7.68	330	eP	26 36.70	3.1X
			S	28 08.10	
CHJJ	7.77	338	eP	26 34.40	-0.4
			S	28 00.30	
MAT	8.49	336	iPd	26 44.80	0.0
	1.0s		22.00nm		5.2mb X
			(S)	28 18.00	
MTMJ	8.68	334	P	26 49.70	2.2
NIIJ	8.87	341	eP	26 49.10	-0.9
BJI	24.35	304	eP	29 57.00	-0.1
WB5	49.10	190	eP	33 27.20	-0.3
INK	61.30	25	eP	34 56.00	0.7
	S.D. = 1.3		on 8 of 9 obs.		

OCT 09, 1989 10h 40m 39.57± 0.41s
31.314 N ± 4.7km 130.409 E ± 3.2km
DEPTH = 168.4 ± 3.5 km
4.8mb (24 obs.)
KYUSHU, JAPAN (235)

KAGJ	0.43	107	iP+	41 02.80	-0.4
			S	41 18.80	
KUMJ	1.27	16	iP+	41 08.80	0.1
			S	41 28.40	
SHNJ	2.86	12	iP+	41 26.30	-0.2
			S	42 01.40	
SHK	3.73	30	eP	41 35.00	-2.5
TKSJ	4.06	48	iP+	41 41.20	-0.5
			S	42 25.00	
YONJ	4.63	33	P	41 47.80	-1.4
			S	42 38.10	
WKYJ	5.24	55	iP+	41 56.30	-1.0
			S	42 54.30	
TSRJ	6.28	46	P	42 10.70	-0.3
			S	43 19.50	
IIDJ	7.52	54	P	42 28.60	1.0
			eS	43 51.30	
SSE	7.90	271	Pd	42 31.50	-1.0
	1.0s		0.03nm		1.7mb X
			pP	42 35.80	
			sP	42 41.00	
			i	42 48.00	
			Lg	44 48.60	
MTMJ	8.08	47	P	42 36.80	1.7
MAT	8.32	49	(P)	42 38.00	-0.1
	0.4s		19.49nm		5.0mb
			eS	44 09.00	
CHJJ	8.57	54	eP	42 42.90	1.5
NIIJ	9.24	48	eP	42 51.20	1.0
KAKJ	9.48	56	eP	42 54.40	1.1
NJ2	9.87	277	Pd	42 59.00	0.5
SNY	11.84	334	eP	43 26.20	2.1
TIA	12.08	297	P	43 28.00	0.7
WHN	13.81	271	eP	43 51.00	1.7
BJI	14.46	311	eP	43 58.00	0.5
	1.0s		0.09nm		2.1mb X
Z	24s		0.38um		
HOOJ	15.09	39	eP	44 05.40	0.1
ASAJ	16.01	34	P	44 14.50	-2.1
TIY	16.12	298	iPd	44 19.80	1.7
KUSJ	16.35	40	eP	44 15.30	-5.4X
HHC	17.93	307	Pc	44 41.60	2.2
XAN	18.29	284	Pc	44 41.60	-1.7
GYA	21.33	263	P	45 14.50	0.2
LZH	22.58	289	Pc	45 26.70	0.3
	1.5s		0.15nm		2.3mb X
			pP	45 34.20	27kmX
			sP	45 39.40	
CD2	22.81	276	eP	45 27.60	-1.0
GTA	26.13	296	Pc	45 58.70	-1.1
WMO	35.71	303	P	47 22.90	-0.6
WB5	51.04	175	eP	49 26.00	-0.5
GBA	51.54	262	P	49 30.30	-0.1
QIS	52.32	169	iPd	49 35.10	-1.0
	0.6s		18.00nm		5.0mb
CTA	53.32	161	iPd	49 43.10	-0.3
	0.9s		23.53nm		4.9mb
ASPA	54.77	176	iPd	49 53.60	-0.3
	0.4s		12.00nm		5.0mb

09d 10h

FORR	61.86	182	eP	50	42.00	-0.8
BRS	62.16	158	eP	50	45.00	0.0
DZM	63.33	142	iPd	50	53.20	0.3
INK	63.48	24	ePd	50	52.40	-0.8
			pP	51	31.00	163kmX
MBC	64.45	14	eP	50	58.00	-1.4
	0.7s	7.00nm			4.7mb	
			pP	51	38.00	169kmX
BWA	67.55	164	eP	51	21.00	1.4
CAN	68.55	164	eP	51	26.50	0.8
UPP	73.79	331	iP	51	55.30	-1.3
HFS	75.22	332	eP	52	02.90	-1.9
	0.5s	14.90nm			5.0mb	
NB2	75.61	334	P	52	05.40	-1.7
	0.5s	8.70nm			4.7mb	
VRI	76.79	316	eP	52	15.00	1.1
HRI	77.06	301	iPd	52	16.00	0.3
MLR	77.45	316	iPc	52	17.80	0.1
DSI	78.15	300	eP	52	22.00	0.4
PNT	78.48	39	eP	52	23.00	-0.1
EDM	79.30	33	ePd	52	28.00	0.5
MBH	79.41	298	eP	52	29.00	0.5
ELL	79.47	307	eP	52	28.80	0.0
FHC	80.69	48	eP	52	36.40	1.3
BRG	80.88	325	iP	52	35.70	-0.1
CLL	81.06	326	iPd	52	37.30	0.5
	0.9s	39.00nm			5.1mb	
PRU	81.14	324	P	52	38.50	1.3
WDC	81.72	47	eP	52	41.10	0.7
MOX	82.16	326	eP	52	43.00	0.5
KHC	82.17	324	eP	52	43.00	0.3
SES	82.21	35	ePd	52	42.70	-0.1
ORV	82.96	48	eP	52	47.00	0.1
BRK	83.43	50	eP	52	49.60	0.4
PCC	83.56	50	eP	52	50.00	0.1
GCC	84.08	50	e(P)	52	51.40	-1.1
MHC	84.14	50	eP	52	53.70	0.7
TOD	84.21	326	eP	52	53.30	0.3
TRI	84.26	321	eP	52	52.00	-1.2
CMB	84.55	49	ePd	52	55.70	0.8
			e	53	35.80	
ABH	84.61	327	eP	52	55.13	0.2
PRS	84.90	50	eP	52	57.30	0.6
RUP	84.96	327	eP	52	57.10	0.3
EKA	84.99	335	Pc	52	56.00	-0.7
	0.8s	5.50nm			4.4mb	
LLA	85.01	50	eP	52	58.00	0.8
PRI	85.47	50	ePd	53	00.90	1.2
FRI	85.60	49	ePd	53	00.80	0.7
CDF	85.76	326	eP	53	01.20	0.4
	0.9s	16.30nm			4.8mb	
FEL	85.77	325	eP	53	02.33	1.4
BSF	86.39	326	eP	53	03.70	-0.3
	0.9s	6.50nm			4.5mb	
LPG	88.05	324	eP	53	11.80	-0.4
	0.7s	13.20nm			5.0mb	
LOR	88.19	327	eP	53	11.60	-0.9
	0.4s	2.20nm			4.5mb	
LBF	88.34	327	eP	53	12.50	-0.8
	0.9s	8.80nm			4.7mb	
SSF	88.51	327	eP	53	13.50	-0.5
	0.6s	3.90nm			4.6mb	
SMF	88.65	326	eP	53	14.20	-0.5
	0.8s	19.80nm			5.1mb	
LDF	89.00	330	eP	53	15.80	-0.5
MAF	89.56	327	eP	53	18.40	-0.6
	0.9s	8.10nm			4.7mb	
TCF	89.68	327	eP	53	19.20	-0.4
	0.6s	4.50nm			4.6mb	
LPF	89.82	330	eP	53	19.80	-0.3
	0.8s	10.70nm			4.9mb	
LSF	90.02	327	eP	53	20.60	-0.5
	0.6s	6.30nm			4.8mb	
MFF	90.52	328	eP	53	23.30	-0.1
	0.8s	16.10nm			5.1mb	
RJF	90.74	327	eP	53	24.10	-0.3
	0.5s	2.90nm			4.6mb	
CAF	90.76	326	eP	53	24.30	-0.2
	0.8s	9.40nm			4.9mb	
LPO	91.36	326	eP	53	27.10	-0.1
LFF	91.37	327	eP	53	26.90	-0.4
	0.7s	17.60nm			5.3mb	
KIC	123.11	303	PKP	59	18.20	0.1
LIC	123.40	303	PKP	59	18.80	0.1
	S.D. = 0.9	on	96 of	97	obs.	

& OCT 09, 1989 11h 51m 24.80s
37.645 N 121.687 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).
Mo=3.4*10**13 Nm (BRK). Felt at Livermore.

MHC	0.30	173	iPd	51	31.10	0.0
			eS	51	36.10	
ARN	0.32	157	iPd	51	31.40	0.0
BKS	0.49	298	iPc	51	34.30	-0.4
			iS	51	42.10	
BRK	0.51	297	iPc	51	34.70	-0.3
ZSP	0.54	304	iPc	51	35.50	-0.2
PCC	0.57	256	iPc	51	35.90	-0.4
			eS	51	44.20	
GCC	0.66	202	ePd	51	37.40	-0.7
			i	51	46.10	
			iS	51	48.60	
SAO	0.90	168	ePc	51	41.80	-0.4
			id	51	42.68	
			i	51	42.70	
CMB	1.10	69	eP	51	44.20	-1.5
LLA	1.19	150	eP	51	47.10	0.0
NWRM	1.25	311	eP	51	46.30	-1.8
FRI	1.71	112	e(P)	51	54.50	-0.5
ORV	1.91	4	eP	51	56.70	-1.3
KVN	3.15	62	eP	52	14.70	-1.1
TNP	3.56	82	e(P)	52	19.40	-2.3
	15 obs. associated					

& OCT 09, 1989 12h 06m 03.10s
37.270 N 122.113 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.3 (BRK). Felt at Cupertino.

GCC	0.26	159	iPd	06	08.10	-0.3
			i	06	10.50	
			iS	06	11.90	
PCC	0.31	317	iPc	06	09.20	-0.3
			iS	06	13.80	
MHC	0.38	79	iPc	06	10.80	-0.1
			iS	06	16.80	
			i	06	21.55	
			i	06	21.80	
			i	06	21.85	
ARN	0.47	80	iPc	06	12.20	-0.4
BKS	0.61	351	ePc	06	14.85	-0.6
			eS	06	23.55	
BRK	0.61	349	eP	06	15.00	-0.4
			eS	06	24.20	
ZSP	0.68	350	eP	06	16.30	-0.5
			iS	06	26.50	
SAO	0.73	133	eP	06	16.10	-1.6
			eS	06	28.05	
PRS	1.11	147	ePc	06	23.60	-0.5
LLA	1.14	124	eP	06	23.00	-1.7
CMB	1.57	60	eP	06	29.80	-1.6
KVN	3.63	59	eP	07	00.30	-0.6
	12 obs. associated					

& OCT 09, 1989 12h 42m 03.70s
37.645 N 121.683 W
DEPTH = 6.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).
Mo=6.1*10**13 Nm (BRK). Felt at Livermore.

MHC	0.30	174	iPd	42	09.80	-0.1
			iS	42	15.00	
			i	42	17.85	
ARN	0.32	158	iPd	42	10.20	0.0
BKS	0.49	298	iPc	42	13.30	-0.3
			i	42	16.40	
			iS	42	21.20	
			i	42	24.60	
BRK	0.51	297	iPc	42	13.40	-0.6
ZSP	0.54	304	iPc	42	14.20	-0.4
PCC	0.57	256	ePd	42	14.50	-0.7
			iS	42	23.10	
GCC	0.66	202	eP	42	16.20	-0.8
			i	42	17.30	
			i	42	24.90	
			iS	42	27.50	
SAO	0.90	168	eP	42	20.60	-0.7
			i	42	21.50	
			e	42	21.52	
			i	42	21.70	
			i	42	22.05	
			i	42	23.62	
			eS	42	34.95	
CMB	1.10	69	eP	42	23.10	-1.6
			iS	42	38.60	
LLA	1.18	150	eP	42	24.80	-1.4
			i	42	26.90	
NWRM	1.25	311	eP	42	25.50	-1.8
FRI	1.70	112	e(P)	42	32.60	-1.5
ORV	1.91	4	eP	42	34.00	-3.1
KVN	3.15	62	eP	42	53.50	-1.4
	14 obs. associated					

OCT 09, 1989 15h 56m 31.58± 0.55s
13.702 N ±10.6km 51.774 E ± 6.0km
DEPTH = 10.0km (geophysicist)
4.6mb (4 obs.) 5.4Msz (2 obs.)
EASTERN GULF OF ADEN (415)

ARO	8.98	257	iPd	58	45.00	0.6
KMSA	9.61	315	eP	58	45.60	-7.5X
RYD	11.99	337	eP	59	18.00	-7.6X
BJA	12.28	355	(Pn)	59	23.50	-5.8X
			(Sn)	01	34.60	
BEE	12.31	355	(Pn)	59	23.10	-6.7X
			(Sn)	01	34.10	
AAE	13.57	251	eP	59	47.00	0.0
QASM	14.55	329	eP	59	54.70	-4.8X
SHI	15.88	2	eP	00	12.00	-5.0X
BHD	20.61	342	ePc	01	09.00	-4.6X
			ePcP	04	15.00	
			iS	05	03.00	
			eSS	06	37.00	
			iSSS	08	06.00	
			iLQ	09	59.00	
BOM	20.84	73	iPc	01	17.00	0.9
			eS	05	08.00	
KER	20.99	349	eP	01	18.00	0.3
NAI	21.01	226	eP	01	14.00	-4.2X
POO	21.74	74	iPd	01	27.20	1.9
HQL	21.91	318	eP	01	27.30	0.4
TEH	21.94	359	eP	01	30.00	2.7X
MBH	22.36	318	eP	01	32.00	0.7
SLY	22.52	347	ePd	01	34.00	1.1
			i	01	37.00	
			ePcP	05	33.00	
			eS	05	38.00	
			iLQ	09	49.00	
			iLR	10	42.00	
DSI	23.29	322	eP	01	43.00	2.5X
MAIO	23.54	16	eP	01	45.00	2.0
	0.6s	10.38nm			4.6mb	
			eS	06	04.00	
HRI	24.34	326	eP	01	52.00	1.2
TAB	24.75	350	e(P)	01	56.00	1.3
BHL	24.87	327	P	01	58.50	2.6X
			S	06	32.00	
			LR	09	36.00	
GBA	24.93	87	P	01	58.00	1.5
HYB	26.05	78	ePd	02	18.50	11.4X
	1.0s	50.00nm				
			e	02	28.00	
ELL	30.15	323	eP	02	54.00	9.8X
BBTK	30.94	331	eP	02	45.00	-6.1X
BCAO	34.05	257	iPd	03	19.20	0.8
	0.6s	5.00nm			4.6mb	
VRI	38.41	332	eP	03	55.00	0.1
MLR	38.50	331	eP	03	58.00	2.2X
KSP	46.86	330	ePc	05	03.20	-0.4
			e	05	12.00	
PRU	47.21	328	eP	05	05.50	-0.9
			e	05	15.00	
KHC	47.22	326	eP	05	15.50	9.0X
BRG	48.05	329	e(P)	05	11.20	-1.8
			e	05	20.60	
KMI	49.14	69	Pc	05	22.50	0.5
GTA	49.29	49	eP	05	21.10	-1.8
NUR	50.76	343	eP	05	30.00	-3.6X
	Z 21s	0.60um			4.6Msz	
			LR	27	40.00	
WLF	51.64	324	Pc	05	48.50	8.1X
SUF	52.21	345	eP	05	42.00	-2.6
DOU	52.73	324	P	05	36.70	-12.0X

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GYA     52.74  67 iPd    05 48.60   -0.7
HFS     54.08 338 eP     05 52.70   -5.7X
        0.5s      1.40nm          4.2mb
XAN     55.32  58 P      06 07.20   -0.8
NB2     55.60 337 P      06 08.10   -1.5
        0.9s      6.30nm          4.6mb
HHC     58.38  50 eP     06 30.40    0.7
WHN     59.65  63 iPc    06 38.30   -0.3
        0.9s      0.03nm          2.4mb X
     Z  20s     18.80um          6.2Msz
TIA     62.21  56 eP     06 54.10   -1.8
NJ2     63.53  61 Pc     07 04.80    0.1
SSE     65.53  62 Pd     07 17.60   -0.1
        1.0s      0.03nm          2.4mb X
CN2     68.89  48 eP     07 38.10   -0.6
                  pP     07 49.40   37kmX
MAT     79.15  55 (P)    08 38.00   -0.4
WB5     87.80 111 eP     09 22.00   -0.7
     S.D. = 1.2  on  31 of  51 obs.
-------------------------------------
*  OCT  09, 1989  15h 58m 08.28± 1.00s
    3.455 N ±10.8km  117.674 E ±11.5km
   DEPTH =  10.0km  (geophysicist)
   3.7mb (  2 obs.)
 KALIMANTAN                        (261)

TSM      0.86  27 eP     58 25.00    0.2
KKM      2.95 331 ePc    58 56.60    0.4
        0.4s    335.10nm
MNI      7.43 105 eP     00 03.50    4.1X
PSI     18.74 268 eP     02 30.00    0.6
                  e      06 00.00
CHG     23.84 311 eP     03 25.00    2.3X
CHTO    23.84 311 eP     03 21.50   -1.2
        0.7s      1.11nm          3.6mb
                  eS     07 13.00
WB5     28.40 145 eP     04 05.20    0.0
LZH     34.89 340 eP     05 06.30    4.0X
        1.8s     46.00nm          5.1mb X
                  pP     05 13.20   24kmX
BJI     36.44 358 eP     05 18.00    2.9X
                  e      07 53.00
GBA     40.98 287 Pc     05 58.70    5.4X
        0.2s      0.50nm          3.9mb
     S.D. = 1.0  on   5 of  10 obs.
-------------------------------------
*  OCT  09, 1989  16h 23m 34.37± 0.77s
    3.984 N ±10.4km   94.392 E ±11.4km
   DEPTH =  10.0km  (geophysicist)
   4.5mb (  4 obs.)
 OFF W COAST OF NORTHERN SUMATERA(705)

BSI      1.75  31 ePc    24 04.00   -0.9
TSI      4.19  96 eP     24 35.00   -4.8X
                  e(S)   25 20.00
PSI     4.70 106 ePd     24 47.70    0.6
                  e      29 20.00
PPI      7.45 126 eP     25 38.00   12.3X
CHG     15.40  16 iPd    27 14.00    0.6
        1.1s     24.68nm          4.4mb
CHTO    15.40  16 iPd    27 14.00    0.6
        0.7s     12.55nm          4.3mb
GBA     19.27 301 P      28 09.00    6.9X
                  S      31 21.00
HYB     20.48 312 eP     28 11.00   -4.2X
                  e      28 18.00
MAIO    45.44 320 iPc    31 57.00    1.5
WB5     45.88 123 eP     31 58.10   -1.0
ASPA    47.30 127 eP     32 11.00    0.7
BCAO    75.62 274 iPd    35 25.30    3.2X
        0.4s      5.00nm          4.9mb
SUF     76.61 334 eP     35 26.00   -0.6
SOD     77.89 339 iP     35 33.00   -0.7
KEV     78.57 341 eP     35 33.00   -4.3X
ZST     78.57 318 e(P)   35 38.50    0.7
HFS     81.93 330 eP     35 53.90   -1.5
        0.5s      2.30nm          4.5mb
     S.D. = 1.1  on  11 of  17 obs.
-------------------------------------
%  OCT  09, 1989  17h 25m 26.01± 1.00s
    43.461 N ± 7.2km     5.432 E ± 9.5km
   DEPTH =  10.0km  (geophysicist)
 NEAR SOUTH COAST OF FRANCE        (379)
      MD 2.6 (STR).

GELF     0.08 183 Pg     25 28.15   -0.3
TREF     0.17 348 Pg     25 28.15   -1.7
BERF     0.24 128 Pg     25 31.57    0.4
PRAF     0.39 331 Pg     25 35.33    1.3
TAVF     0.48  71 Pg     25 35.44   -0.4
GANF     0.64  33 Pg     25 39.54    0.7
     S.D. = 1.3  on   6 of   6 obs.
-------------------------------------
   OCT  09, 1989  18h 01m 07.87± 0.09s
   51.780 N ± 2.3km  171.869 E ± 1.7km
   DEPTH =  26.2km  (geophysicist)
   6.0mb ( 85 obs.)  5.3Msz ( 31 obs.)
 NEAR ISLANDS, ALEUTIAN ISLANDS  (  5)
      ML 5.4 (PMR). Ms 5.5 (BRK).
      Depth from broodbond
      displocement seismogroms.
      FAULT PLANE SOLUTION: P-Woves
       NP1:Strike=340 Dip=77 Slip= -90
       NP2:       160     13      -90
       Principal Axes:
        T              Plg=32  Azm= 70
        P                 58       250
      Comment: The focal mechonism is
        poorly controlled ond
        corresponds to normol
        foulting. The preferred foult
        plane is NP1.
      RADIATED ENERGY
       No. of sto:  10  Focol mech.  C
       Energy        7.9±1.8*10**12 Nm
      MOMENT TENSOR SOLUTION
      Dep  24           No. of sto: 20
      Moment Tensor;   Scole 10**17 Nm
        Mrr=-2.84       Mtt=-2.03
        Mff= 4.87       Mrt= 1.26
        Mrf=-2.19       Mtf= 2.00
       Principol oxes:
        T  Vol=  5.80  Plg=12  Azm=102
        N       -1.13     38        3
        P       -4.67     49      207
      Best Double Couple:Mo=5.2*10**17
       NP1:Strike=230 Dip=47 Slip= -32
       NP2:       343     67      -132
      CENTROID, MOMENT TENSOR     (HRV)
      Doto Used: GDSN
      L.P.B.: 18S, 39C
      Centroid Locotion:
      Origin Time        18:01:13.4 0.2
      Lat 51.61N 0.04 Lon 171.15E 0.04
      Dep  15.0 FIX Holf-duration  2.6
      Moment Tensor;   Scole 10**17 Nm
        Mrr=-3.19 0.08  Mtt=-0.48 0.10
        Mff= 3.67 0.09  Mrt= 1.13 0.26
        Mrf=-2.58 0.38  Mtf=-1.16 0.10
       Principol Axes:
        T  Vol=  4.93  Plg=19  Azm= 74
        N       -0.73      6      342
        P       -4.20     70      234
      Best Double Couple:Mo=4.6*10**17
       NP1:Strike=174 Dip=27 Slip= -76
       NP2:       339     64      -97

SMY      1.67  54 iPc    01 36.60    0.9
ADK      7.10  85 ePc    02 50.90   -1.7
     Z  19s     29.00um
SDN     16.75  67 ePc    04 59.60   -2.3
     Z  20s     10.00um
SVW     20.04  50 iPc    05 41.10   -0.4
KUSJ    20.22 255 P      05 41.40   -2.0
TTA     20.36  44 iPc    05 44.20   -0.6
ASAJ    20.92 260 eP     05 50.70    0.1
KDC     21.23  60 ePc    05 50.90   -2.7
HOOJ    21.49 255 P      05 55.70   -0.7
IMA     22.42  37 iPc    06 05.20   -0.4
MRRJ    22.81 258 P      06 09.80    0.4
PMR     23.21  50 ePc    06 11.30   -1.9
     Z  19s     5.90um          5.1Msz
COL     24.39  42 iPc    06 24.65    0.0
                  eS     10 41.14
FBA     24.39  42 ePc    06 24.40   -0.3
MID     24.46  55 eP     06 25.80    0.5
OFUJ    24.51 251 P      06 27.30    1.3
TOA     24.66  49 ePc    06 27.80    0.4
YAMJ    26.07 251 eP     06 41.30    0.6
NIIJ    27.30 251 P      06 52.30    0.3
KAKJ    27.33 248 P      06 51.40   -0.9
DWY     27.86  45 P      06 56.90    0.0
CHJJ    28.12 249 P      06 59.20   -0.3
MAJO    28.24 251 ePd    07 00.94    0.4
MAT     28.24 251 iPd    07 00.80    0.2
     Z  20s     4.96um          5.1Msz
                  eS     11 32.00
MTMJ    28.45 251 P      07 01.80   -0.7
MDJ     28.74 272 ePd    07 03.95   -1.0
     Z  20s     5.80um          5.2Msz
     N  16s     4.60um
                  eS     11 55.44
IIDJ    29.15 249 P      07 08.80    0.0
TSRJ    30.24 252 eP     07 16.80   -1.6
SIT     30.52  59 eP     07 21.10    0.5
     Z  20s    10.00um          5.5Msz
INK     30.55  37 iPc    07 20.20   -0.6
        0.8s   248.00nm          6.1mb
                  pP     07 32.50   47kmX
CN2     31.73 274 iPd    07 30.00   -1.4
        3.0s      0.70nm          3.0mb X
     Z  20s     7.80um          5.4Msz
     N  15s     3.40um
                  PP     08 42.00
                  iPcP   10 20.60
                  PcS    14 05.40
HIA     32.66 287 iPd    07 38.25   -1.3
                  epPc   07 46.20   27kmX
                  ePP    08 55.39
                  eS     12 52.11
SHK     32.89 254 eP     07 42.60    0.9
SNY     33.95 272 iPd    07 50.30   -0.5
     Z  23s     4.90um          5.2MszX
     N  14s     1.90um
     E  14s     1.50um
                  PP     09 11.00
                  S      13 14.00
SHNJ    34.11 255 eP     07 53.50    1.2
KUMJ    35.39 253 eP     08 04.30    1.1
MBC     35.45  23 ePc    08 03.00   -0.3
        0.9s   230.00nm          6.1mb
KAGJ    36.32 252 eP     08 12.00    0.9
DL2     36.86 270 P      08 15.40   -0.1
     Z  30s     2.30um          4.8MszX
     N  16s     3.20um
                  S      13 59.00
BJI     39.56 275 ePd    08 37.14   -1.0
        4.0s      0.40nm          2.5mb X
     Z  20s     7.80um          5.5Msz
     N  15s     3.40um
                  epPc   08 44.59   25kmX
                  iPcP   10 20.60
                  PcS    14 05.40
PGC     40.30  68 eP     08 44.50    0.4
MCW     40.64  68 eP     08 47.70    0.7
GMW     41.24  69 eP     08 52.60    0.7
TIA     41.33 270 Pd     08 53.10    0.3
     Z  28s     2.40um          4.9MszX
                  PP     10 32.00
                  S      15 03.00
RMW     41.85  69 eP     08 57.50    0.5
HHC     41.92 280 Pd     08 58.00    0.3
     Z  20s     3.20um          5.2Msz
     N  13s     1.90um
     E  14s     2.30um
                  sP     09 12.00
                  PP     10 43.00
PNT     42.15  65 iPc    08 59.70    0.4
        0.9s   146.00nm          5.7mb
                  pP     09 14.00   55kmX
LON     42.23  70 eP     09 00.20    0.1
                  epPc   09 08.15   27kmX
SSE     42.24 261 Pc     09 01.00    0.8
        1.1s      0.16nm          2.7mb X
     Z  20s     1.90um          5.0Msz
     N  15s     2.00um
                  pP     09 09.60   29kmX
                  sP     09 15.50
                  PcP    10 52.50
                  S      15 20.00
                  sS     15 40.00
                  SS     18 24.00
SHW     42.27  70 eP     09 01.50    0.9
NJ2     43.01 264 Pd     09 06.80    0.3
     Z  20s     2.30um          5.1Msz
BTO     43.02 280 iPd    09 07.50    0.8
     N  16s     2.40um
     E  16s     3.20um
                  pP     09 16.50   30kmX
                  S      15 27.00
                  eSS    18 30.00
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09d 18h

| | | |

09d 18h

KSP 75.68 344 ePd 12 51.70 -0.4
1.0s 185.00nm 6.1mb
id 12 52.20
e 15 40.30
CLL 75.74 346 iPd 12 52.10 -0.3
1.6s 290.00nm 6.1mb
KRA 75.77 342 iPd 12 53.00 0.4
1.1s 251.00nm 6.2mb
Z 18s 1.50um 5.3Msz
N 18s 1.80um
e 13 07.50
eS 22 38.00
WTS 75.83 351 iPd 12 52.90 0.0
1.0s 86.00nm 5.7mb
e 13 17.50
DBN 75.89 352 eP 12 52.00 -1.2
ETA 75.89 359 iPd 12 53.30 0.1
1.1s 464.00nm 6.4mb
BRG 76.03 346 iPd 12 53.70 -0.3
1.1s 190.00nm 6.0mb
i 13 11.60
i 15 34.60
e 17 26.50
ECB 76.22 359 iPd 12 55.20 0.1
1.0s 290.00nm 6.3mb
ECP 76.41 359 iPd 12 56.30 0.2
0.8s 221.00nm 6.2mb
KHI 76.43 308 iPd 12 57.00 0.1
SPC 76.54 341 iPd 12 58.50 1.3
MOX 76.59 347 iPd 12 57.00 -0.2
1.5s 225.00nm 6.0mb
VAL 76.64 1 iP 12 57.90 0.5
AFR 76.69 143 iP 12 58.90 0.8
1.2s 430.00nm 6.4mb
IAS 76.76 336 eP 13 00.00 1.8
PRU 76.79 345 iPd 12 58.70 0.3
0.6s 158.60nm 6.2mb
Z 18s 1.30um 5.3Msz
N 18s 0.80um
E 18s 0.50um
e 13 19.50
PP 15 49.00
PPT 76.80 142 iP 12 59.60 0.9
1.2s 190.00nm 6.0mb
Z 21s 2.00um 5.4Msz
PPN 76.82 142 iP 12 59.40 0.6
1.2s 75.00nm 5.6mb
HOF 76.87 347 iPd 12 58.60 -0.2
1.5s 176.00nm 5.9mb
PAE 76.88 142 iP 12 59.90 0.8
1.2s 135.00nm 5.9mb
TSI 76.96 259 eP 12 57.00 -2.7
KNA 76.97 222 eP 12 59.00 -0.7
TVO 77.12 142 iP 13 00.50 0.0
1.2s 90.00nm 5.7mb
UCC 77.25 352 P 13 01.10 0.3
MEM 77.29 351 iPd 13 01.05 0.0
OIS 77.36 211 iPd 13 00.70 -1.1
1.0s 93.00nm 5.8mb
PSI 77.37 258 ePc 13 01.20 -0.8
e 14 50.00
TNS 77.40 349 ePd 13 01.70 -0.1
SNF 77.54 352 iPd 13 02.19 -0.3
GRF 77.57 347 iPd 13 03.30 0.6
1.4s 311.00nm 6.1mb
Z 19s 0.30um 4.6Msz
KHC 77.78 346 iPd 13 04.50 0.6
1.2s 24.00nm 5.1mb
Z 18s 1.30um 5.3Msz
N 18s 0.50um
E 18s 0.50um
e 13 23.00
PSZ 77.82 341 iP 13 05.20 1.0
ABH 77.84 350 ePd 13 03.91 -0.3
TRT 77.84 241 iPd 13 03.70 -0.9
0.9s 322.00nm 6.4mb
WET 77.87 346 iPd 13 04.80 0.4
1.3s 308.00nm 6.2mb
DOU 77.93 352 Pd 13 04.30 -0.3
1.0s 152.80nm 6.0mb
TOD 77.97 349 ePd 13 04.73 -0.1
RUP 78.07 350 ePd 13 05.30 -0.2
ZST 78.09 343 iPd 13 07.00 1.5
i 13 23.50
i 16 02.50
VKA 78.16 344 iPd 13 06.70 0.7
2.0s 418.00nm 6.1mb

e 14 25.00
e 16 02.50
WLF 78.21 351 Pc 13 06.00 -0.1
VRI 78.21 336 eP 13 07.00 0.8
SRO 78.23 342 iPd 13 08.00 1.7
i 16 04.50
e 17 23.00
BRD 78.45 336 eP 13 06.00 -1.6
TEH 78.51 314 eP- 13 09.00 0.8
WB5 78.52 216 iPd 13 07.80 -0.4
HYB 78.53 283 iPd 13 08.00 -0.5
1.0s 430.00nm 6.4mb
eS 23 02.00
SOP 78.68 343 iPd 13 08.70 -0.1
TAB 78.69 319 iPd 13 10.00 0.8
GWF 78.73 349 P 13 08.85 -0.2
KMR 78.73 345 iP- 13 09.50 0.4
i 13 28.00
MLR 78.76 336 iPc 13 10.00 0.6
ISR 78.93 336 eP 13 11.00 0.7
TLB 79.06 335 eP 13 16.00 5.2X
FUR 79.06 347 iPd 13 11.40 0.5
1.6s 390.00nm 6.2mb
STR 79.10 349 P 13 11.59 0.6
CMP 79.19 337 iPc 13 12.00 0.4
BHG 79.26 346 iPd 13 12.60 0.6
WLS 79.31 350 P 13 12.21 -0.1
CDF 79.32 350 P 13 12.20 -0.2
ECH 79.53 350 P 13 13.25 -0.2
GZR 79.61 338 iPc 13 17.00 3.1X
FLN 79.62 355 eP 13 12.90 -1.0
1.2s 204.50nm 6.0mb
BZS 79.65 339 eP 13 14.00 -0.1
VITF 79.65 350 P 13 14.09 0.1
BUC 79.72 336 eP 13 14.00 -0.4
BUC1 79.80 336 eP 13 16.00 1.1
KBA 79.81 345 iPd 13 16.40 1.2
i 13 32.60
i 13 36.10
e 14 43.50
SLE 79.82 349 ePd 13 14.80 -0.2
HAU 79.82 350 eP 13 14.40 -0.6
1.2s 168.90nm 5.9mb
KVT 79.86 328 iP 13 16.40 1.1
MOF 79.89 350 P 13 15.19 -0.3
BSF 79.95 350 P 13 15.45 -0.3
GRR 80.02 355 eP 13 15.30 -0.7
ZLA 80.11 349 ePd 13 16.80 0.2
SAX 80.22 348 ePd 13 17.80 0.3
BBS 80.23 349 P 13 17.23 0.0
KAS 80.33 329 iPd 13 19.20 1.3
OGA 80.36 347 iPd 13 19.00 0.8
1.2s 147.00nm 5.9mb
FVI 80.37 346 P 13 17.90 0.0
LPF 80.38 355 eP 13 17.50 -0.4
1.3s 219.50nm 6.0mb
RBL 80.39 345 Pc 13 18.20 0.1
LOMF 80.42 350 P 13 18.28 0.0
POO 80.48 288 iPd 13 18.80 -0.2
PTJ 80.51 343 iPd 13 19.40 0.6
RMO 80.53 201 iPd 13 19.80 0.9
1.2s 206.00nm 6.0mb
BRS 80.60 197 iPc 13 20.20 1.0
1.3s 9.00nm 4.6mb X
i 13 36.00
e(S) 23 30.00
LJU 80.62 344 e(P) 13 19.50 0.2
LLS 80.64 348 ePd 13 20.20 0.6
BEO 80.66 340 i(P) 13 19.20 -0.3
OSS 80.66 347 ePd 13 20.50 0.8
VOY 80.74 345 e(P) 13 20.50 0.5
LOR 80.80 352 eP 13 19.80 -0.4
1.2s 185.90nm 6.0mb
BOM 80.81 289 eP 13 20.00 -0.6
eS 22 52.00
GRC 80.84 352 P 13 20.94 0.6
CEY 80.94 344 e(P) 13 21.00 0.0
VDL 80.95 348 ePd 13 22.10 0.8
VBY 81.02 344 iPd 13 22.10 0.7
SSF 81.03 352 eP 13 21.30 -0.1
PVL 81.04 336 iPd 13 23.00 1.5
LBF 81.07 352 eP 13 20.80 -0.9
1.3s 79.40nm 5.6mb
TRI 81.08 345 eP 13 19.20 -2.4

SLY 81.15 318 iPc 13 22.20 0.1
ePP 16 26.00
eS 23 31.00
AVF 81.32 352 eP 13 22.40 -0.5
RIY 81.33 344 iPd 13 22.70 -0.2
TMA 81.40 348 ePd 13 23.80 0.2
JMB 81.42 335 iPd 13 24.00 0.5
SMF 81.42 352 eP 13 23.00 -0.4
MSL 81.42 320 iPc 13 24.00 0.4
e 16 30.00
KER 81.54 317 ePd 13 24.00 -0.5
MMK 81.57 349 ePd 13 25.60 1.1
BGF 81.59 352 eP 13 23.90 -0.4
DIX 81.61 349 ePd 13 26.00 1.2
MDI 81.62 347 P 13 23.90 -0.5
VAI 81.65 348 Pd 13 24.70 0.1
SAL 81.67 347 P 13 25.00 0.3
EMS 81.67 349 ePd 13 25.90 0.9
MFF 81.76 354 eP 13 24.80 -0.4
TCF 81.91 353 eP 13 25.70 -0.3
MAF 81.95 353 eP 13 26.00 -0.2
PGB 81.96 336 iPd 13 27.00 0.6
LSF 82.00 353 eP 13 26.00 -0.5
ANTO 82.01 329 ePd 13 27.70 1.0
epP 13 36.14 27kmX
BBTK 82.04 329 iPd- 13 28.00 1.1
AGO 82.07 352 P 13 27.79 1.0
DIM 82.08 335 ePd 13 28.00 1.1
PLDF 82.11 352 P 13 27.98 0.9
VTS 82.15 337 iPd 13 28.00 0.5
GBA 82.16 282 P 13 28.00 0.3
ASPA 82.17 215 iPd 13 27.70 0.2
1.1s 160.00nm 6.0mb
Z 20s 1.88um 5.5Msz
eS 23 36.30
LR 47 41.00
GBZT 82.18 332 eP 13 27.00 -0.4
LSD 82.25 349 P 13 29.46 1.3
LPG 82.26 349 eP 13 28.80 0.6
1.0s 156.20nm 6.0mb
PYM 82.38 352 P 13 29.33 0.8
GPA 82.39 331 iP 13 29.00 0.4
KDZ 82.49 335 iP 13 30.00 0.9
RZN 82.63 336 iP 13 30.00 -0.1
BOB 82.64 347 Pd 13 31.00 1.1
BNI 82.71 349 Pd 13 31.60 1.3
RRL 82.82 349 P 13 32.54 1.5
KK8 82.87 337 iPd 13 32.00 0.9
LBL 82.87 352 P 13 31.95 1.0
RDO 82.93 335 eP 13 31.70 0.4
RJF 82.94 353 eP 13 30.90 -0.5
1.3s 118.40nm 5.8mb
PCP 82.98 348 P 13 31.72 0.0
KCT 82.99 333 iP 13 32.30 0.6
RSM 83.02 345 Pc 13 33.70 1.9
MME 83.03 346 P 13 33.80 1.6
EDC 83.04 333 iP 13 32.50 0.6
HVAR 83.05 342 iPd 13 31.40 -0.6
SHI 83.07 310 eP 13 32.00 -0.5
SFI 83.12 346 Pd 13 33.70 1.4
CKI 83.13 348 P 13 32.40 0.0
SKO 83.16 338 iPd 13 32.50 0.0
i 13 37.30
iS 23 54.00
iPS 24 37.00
BDI 83.17 347 Pd 13 32.80 0.1
PGD 83.19 346 Pc 13 34.70 1.8
CAF 83.27 353 eP 13 33.20 0.1
ROB 83.31 349 P 13 33.23 -0.1
FIN 83.35 348 P 13 32.92 -0.6
FIR 83.35 346 eP 13 35.50 2.0
LFF 83.36 354 eP 13 33.20 -0.3
ARV 83.36 345 Pd 13 33.10 -0.5
STV 83.43 349 P 13 32.95 -1.0
ENR 83.43 349 P 13 32.95 -1.1
PUK 83.44 339 eP 13 33.00 -0.9
SRS 83.45 336 ePd 13 34.20 0.1
DST 83.51 332 iP 13 33.90 -0.5
PII 83.52 347 Pd 13 33.90 -0.4
SDA 83.55 340 eP 13 27.50 -7.0X
KNT 83.58 337 iPd 13 35.40 0.7
LPO 83.58 353 eP 13 34.50 -0.2
BHD 83.62 318 iPc 13 34.50 -0.5
ePP 16 47.00
eS 23 55.00
SAOF 83.65 349 P 13 35.43 0.3
PHP 83.65 339 iPd 13 34.20 -0.8

09d 18h

AUTN 83.66 349 P 13 35.75 0.4
TOUF 83.66 349 P 13 36.04 0.7
IMI 83.69 348 P 13 35.08 -0.2
AURF 83.78 349 P 13 36.06 0.3
SBF 83.79 349 eP 13 35.30 -0.5
MVIF 83.79 349 P 13 36.25 0.3
COO 83.86 197 iP 13 38.00 1.9
1.0s 86.00nm 5.9mb
LACI 83.87 339 iPd 13 36.50 0.4
GRG 83.89 337 eP 13 36.60 0.3
REVF 83.92 349 P 13 36.37 -0.1
ALP 83.95 344 eP 13 37.59 0.8
CALN 83.96 349 P 13 37.62 0.8
OUR 84.09 336 ePd 13 37.50 0.2
TIR 84.11 339 eP 13 37.00 -0.4
OHR 84.12 338 iP 13 36.50 -1.0
1.6s 436.00nm 6.4mb
FRF 84.18 349 eP 13 37.60 -0.1
PLG 84.19 336 eP 13 37.50 -0.3
LRG 84.32 349 eP 13 38.70 0.3
1.1s 167.90nm 6.2mb
LMR 84.42 349 eP 13 38.90 0.0
KHL 84.43 331 iP 13 39.30 0.1
PRK 84.51 334 eP 13 39.20 -0.2
KBN 84.58 338 eP 13 37.50 -2.2
KZN 84.66 337 eP 13 40.00 -0.3
LIT 84.68 337 ePd 13 39.80 -0.5
BERA 84.70 339 eP 13 40.20 -0.1
CVF 84.88 347 P 13 40.80 -0.5
BCK 84.90 330 iP 13 41.40 -0.1
LSK 85.08 338 iPd 13 42.70 0.3
EMON 85.16 359 iPd 13 42.80 0.1
NEO 85.25 336 eP 13 42.70 -0.5
EPF 85.28 354 eP 13 42.60 -0.7
1.3s 169.20nm 6.1mb
MBL 85.67 228 iPd 13 44.60 -0.7
0.9s 74.00nm 5.9mb
STS 85.71 0 eP 13 45.90 0.5
ELL 85.77 330 eP 13 46.10 0.2
ETER 85.81 352 eP 13 47.20 1.3
YER 85.90 332 eP 13 46.80 0.3
CMS 86.01 202 iPd 13 48.00 1.3
1.2s 95.00nm 5.9mb
FAM 86.04 326 eP 13 48.20 1.1
ERUA 86.20 359 eP 13 48.80 1.0
CSS 86.30 327 eP 13 48.50 0.1
BHL 86.44 325 PKP 13 50.00 0.7
KSL 86.45 330 eP 13 48.90 -0.2
EZAM 86.45 0 eP 13 49.80 0.8
PPCY 86.70 328 eP 13 49.50 -0.8
HRI 86.98 324 iPd 13 52.50 0.6
BRF 87.00 310 (P) 13 53.60 1.7
1.0s 250.00nm 6.4mb
BJA 87.05 310 (P) 13 53.50 1.3
1.0s 233.00nm 6.4mb
BEE 87.08 310 (P) 13 53.70 1.4
WARB 87.17 220 eP 13 53.40 0.8
0.7s 38.00nm 5.8mb
PTO 87.46 0 eP 13 53.70 -0.2
EBR 87.47 353 eP 13 53.00 -1.0
EROO 87.48 354 eP 13 54.60 0.6
ETOR 87.63 355 eP 13 55.10 0.2
RKT 87.88 132 iP 13 57.90 1.9
1.2s 50.00nm 5.7mb
GUD 87.89 357 eP 13 56.20 0.0
BWA 88.27 199 iPd 13 58.80 1.1
NPS 88.42 333 eP 13 57.00 -1.7
EPLA 88.51 358 eP 13 59.20 0.1
DSI 88.64 324 eP 14 00.00 0.2
TOL 88.65 357 iPd 14 00.00 0.3
1.1s 126.58nm 6.2mb
VAM 88.67 334 eP 13 58.50 -1.4
ECHE 88.79 354 eP 14 01.40 0.9
NANU 88.89 230 eP 14 00.70 -0.1
CNB 88.94 198 eP 14 02.40 1.5
CAN 89.02 199 iPd 13 58.80 -2.5
KRP 89.39 177 iPd 14 03.80 1.0
1.5s 2240.00nm 7.2mb X
EVIA 89.83 356 eP 14 05.60 0.2
RYD 90.02 312 ePd 14 05.50 -1.0
EBAN 90.35 357 eP 14 08.80 1.1
MBH 90.45 324 iPd 14 08.00 -0.3
EHOR 90.74 358 eP 14 09.70 0.2
FORR 90.80 217 eP 14 09.70 0.2
HQL 90.84 323 ePd 14 13.30 3.2X
MEKA 90.98 226 iPc 14 10.60 0.1
0.9s 207.00nm 6.5mb

EVAL 91.00 359 eP 14 11.00 0.3
ADE 91.14 207 iPc 14 12.00 0.9
1.6s 320.00nm 6.4mb
ASMO 91.15 357 eP 14 11.70 0.1
AAPN 91.22 357 eP 14 12.00 0.1
AFC 91.25 356 eP 14 12.00 -0.1
ACHM 91.41 357 eP 14 10.50 -2.2
ALOJ 91.41 357 eP 14 13.40 0.6
APHE 91.56 356 eP 14 13.40 -0.1
EPRU 91.59 358 eP 14 14.00 0.5
ATEJ 91.61 357 eP 14 13.70 0.0
TOO 91.92 201 iPc 14 16.30 1.7
1.1s 108.00nm 6.2mb
EJIF 92.11 358 eP 14 16.90 1.1
COOL 93.56 222 eP 14 21.80 -0.5
UPA 94.26 70 eP 14 25.60 -0.4
1.2s 43.75nm 5.8mb
Z 22s 0.48um 4.9Msz
MRWA 94.35 227 iPd 14 26.00 0.0
KMSA 94.74 312 eP 14 28.00 -0.3
NWAO 96.98 224 ePDIF 14 36.55 -1.3
Z 20s 0.70um 5.1Msz
N 20s 0.40um
E 20s 0.40um
BCAO 119.56 329 ePKP 19 54.9B -1.9X
1.2s 49.00nm
ePP 21 13.69
ZOBO 121.10 76 PKP 20 00.00 -0.4
LPB 121.32 76 ePKP 20 14.00 13.4X
LPB 121.32 76 PKP 19 57.00 -3.6X
CNCB 121.61 77 PKPd 20 02.00 0.6
TIC 121.75 356 PKPd 19 59.96 -1.1
1.0s 29.00nm
LWI 121.78 315 iPKPc 20 01.90 0.5
KIC 122.02 356 PKP 20 00.38 -1.1
0.1s 33.00nm
LIC 122.16 356 PKPd 20 00.68 -1.1
1.0s 34.00nm
Z 20s 0.51um 5.2Msz
CCH 123.16 75 PKP 20 01.00 -3.0X
SBA 129.40 181 iPKPd 20 14.00 0.1
MZZ 129.59 310 iPKPc 20 16.00 -0.3
PTZ 131.05 305 iPKP 20 18.50 -0.4
1.0s 20.20nm
LSZ 133.49 308 iPKP 20 23.50 -0.1
PDCR 133.55 44 ePKP 20 11.10 -12.5X
e 20 22.60
PPD 135.45 65 ePKP 20 26.70 -0.3
e 20 34.00
BMA 139.87 57 ePKP 20 34.00 -1.3
e 20 43.30
SPA 141.59 180 e(PKP) 20 29.90 -7.2X
0.Bs 24.17nm
Z 20s 1.26um 5.7Msz
i 20 39.70
PRY 143.51 299 iPKPc 20 38.10 -3.6X
0.9s 19.23nm
SEK 144.52 297 iPKPd 20 42.00 -1.4
1.1s 424.05nm
BLF 145.92 298 iPKPc 20 46.00 0.3
1.0s 270.00nm
FRS 146.89 299 iPKPc 20 47.00 0.0
1.0s 330.00nm
HVD 147.45 297 iPKPc 20 47.50 -0.7
1.0s 140.00nm
GRM 148.87 293 iPKPd 20 54.90 4.7X
1.0s 300.00nm
S.D. = 0.8 on 456 of 475 obs.

OCT 09, 1989 18h 57m 16.51± 1.01s
6.074 S ± 7.2km 130.358 E ± 8.8km
DEPTH = 80.9 ± 14.1 km
4.6mb (5 obs.)
BANDA SEA (280)

AAI 3.20 318 ePc 58 05.10 -0.5
MTN 6.77 174 eP 58 56.00 0.7
MNI 9.28 323 ePc 59 30.00 0.3
KNA 9.74 189 iPc 59 35.60 -0.4
0.3s 94.00nm 6.3mb X
eS 01 19.00
WB5 14.27 165 eP 00 32.10 -3.9X
eS 03 01.50
OIS 16.96 149 eP 01 08.50 -1.7
eS 04 04.00
PMG 16.97 102 iPd 01 11.70 1.5
1.0s 60.00nm 4.8mb

ASPA 17.82 169 iPc 01 19.80 -1.0
0.6s 59.00nm 5.0mb
eS 04 25.90
MBL 18.14 213 iPc 01 25.10 0.5
WARB 20.31 190 eP 01 49.10 0.7
0.3s 6.00nm 4.4mb
eS 05 30.00
CTA 20.B0 134 iPc 01 54.00 0.6
1.0s 18.00nm 4.4mb
NANU 21.76 220 eP 02 04.00 1.0
FORR 24.74 185 eP 02 32.10 0.3
MRWA 26.72 209 eP 02 49.90 -0.3
BRS 30.06 137 iPc 03 19.20 -1.1
CHTO 39.63 309 iP 04 41.60 -0.5
0.9s 6.61nm 4.5mb
CNCB 150.92 142 PKP 17 03.20 6.2X
ZOBO 151.24 141 ePKP 17 03.00 5.5X
S.D. = 1.0 on 15 of 18 obs.

* OCT 09, 1989 19h 34m 24.58± 1.56s
52.966 N ±13.0km 2.343 E ±10.7km
DEPTH = 10.0km (geophysicist)
NORTH SEA (534)
ML 3.3 (LDG). MD 3.2 (UCC).

DOU 3.20 153 Pn 35 27.70 11.9X
i 35 31.10
iSn 35 57.70
MEM 3.28 135 Pn 35 21.20 4.2X
FLN 4.57 204 Pn 35 38.00 2.7X
Sn 36 27.40
LDF 4.65 201 Pn 35 37.20 0.7
GRR 5.01 205 Pn 35 41.90 0.3
Sn 36 38.60
ECP 5.37 265 eP 35 47.00 0.4
LPF 5.39 205 Pn 35 48.70 1.8
HAU 5.58 151 Pn 35 50.40 0.7
DMU 5.61 283 eP 35 49.50 -0.5
LOR 5.79 170 Pn 35 52.50 0.0
Sn 36 52 80
BSF 5.87 149 Pn 35 54.40 0.6
SSF 5.96 172 Pn 35 56.30 1.4
LBF 6.08 169 Pn 35 55.70 -1.0
SMF 6.40 171 Pn 36 01.30 0.1
BGF 6.42 177 Pn 36 01.70 0.2
Sn 37 13.00
Sg 37 57.30
MFF 6.57 195 Pn 36 03.40 -0.2
TCF 6.69 181 Pn 36 04.80 -0.5
LSF 6.74 185 Pn 36 06.00 -0.1
Sn 37 18.20
MAF 6.75 179 Pn 36 06.20 0.0
RJF 7.69 184 Pn 36 18.30 -1.0
CAF 8.05 181 Pn 36 22.70 -1.7
Sn 37 47.40
LFF 8.10 188 Pn 36 23.80 -1.2
LPO 8.33 186 Pn 36 28.20 0.0
S.D. = 0.9 on 20 of 23 obs.

* OCT 09, 1989 19h 43m 45.81± 2.02s
13.589 N ± 7.4km 59.452 W ±18.3km
DEPTH = 33.0km (normal)
WINDWARD ISLANDS (95)
MG 3.6 (FDF).

BDH 0.41 199 eP 43 55.00 0.0
eS 44 08.50
SLB 1.56 279 eP 44 11.03 -0.6
eS 44 39.07
SOA 1.66 263 eP 44 13.24 0.2
eS 44 41.06
MVM 1.70 305 eP 44 13.87 0.3
SSV 1.71 261 eP 44 13.97 0.1
eS 44 42.22
SVV 1.74 261 eP 44 14.25 0.1
eS 44 42.44
SVB 1.78 260 eP 44 14.79 0.0
eS 44 42.88
BIM 1.82 301 eP 44 15.50 0.1
S 44 44.50
CRM 1.83 309 eP 44 15.40 -0.1
FDF 2.00 305 eP 44 17.95 -0.1
0.1s 0.25nm
S 44 48.70
S.D. = 0.3 on 10 of 10 obs.

OCT 09, 1989 19h 50m 21.71± 0.84s

42.160 N ± 6.1km 15.639 E ± 8.7km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)

DUI	1.01	241	Pd	50 40.90	0.0
			eSg	50 54.50	
HVAR	1.18	30	iPg	50 44.70	1.0
			iSg	51 02.70	
SGO	1.62	189	Pc	50 50.10	-0.3
			eSn	51 12.20	
AQU	1.67	277	P	50 52.50	1.3
			eSn	51 13.20	
MGR	2.02	182	P	50 55.90	-0.3
			eSn	51 21.70	
MNS	2.21	277	P	50 59.50	0.5
			eSn	51 25.20	
ASS	2.38	293	P	51 01.80	0.4
ARV	2.39	305	Pc	51 01.30	-0.3
RIY	3.31	345	eP	51 16.50	2.0
			iSn	51 54.60	
VBY	3.35	355	e(Pn)	51 08.90	-6.3X
			iSn	51 55.40	
PTJ	3.75	3	ePn	51 32.30	11.4X
			eSn	52 20.00	
TRI	3.80	340	eP	51 32.00	10.5X
			i	51 36.70	
			i	52 05.40	
			i	52 22.80	
LJU	3.96	349	e(Pn)	51 29.00	5.2X
			eSn	52 12.00	
VOY	4.07	343	e(Pn)	51 09.00	-16.4X
			eSn	52 01.50	
BDI	4.15	299	Pc	51 25.90	-0.7
			eSn	52 13.00	
FVI	4.88	336	Pd	51 35.30	-1.5
BOB	5.20	302	Pc	51 41.10	-0.4
KHC	7.12	349	P	52 06.50	-1.9

S.D. = 1.2 on 13 of 18 obs.

OCT 09, 1989 20h 39m 40.15± 0.18s
4.230 S ± 3.7km 136.720 E ± 4.4km
DEPTH = 33.0km (normal)
5.2mb (21 obs.) 4.5Msz (3 obs.)
WEST IRIAN REGION (196)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 16S, 36C
Centroid Location:
Origin Time 20:39:42.2 0.8
Lat 4.39S 0.10 Lon 136.41E 0.12
Dep 16.6 6.7 Half-duration 1.5
Moment Tensor; Scale 10**16 Nm
Mrr= 3.25 0.67 Mtt=-3.63 0.38
Mff= 0.39 0.84 Mrt= 2.18 1.92
Mrf= 2.22 1.30 Mtf=-0.82 0.50
Principal Axes:

	Val=	Plg=	Azm=
T	4.75	63	295
N	-0.06	18	64
P	-4.69	20	161

Best Double Couple:Mo=4.7*10**16
NP1:Strike=279 Dip=30 Slip= 129
NP2: 56 67 70

JAY	4.33	67	ePd	40 44.50	-0.9
	1.0s	58.00nm			
			e	48 19.00	
MNDI	7.17	106	eP	41 28.00	2.4
			eS	43 24.00	
AAI	8.52	273	eP	41 39.00	-5.3X
			eS	43 13.10	
MTN	10.19	212	eP	42 04.00	-3.3X
LAT	10.51	104	eP	42 11.00	-0.7
PMG	11.56	117	eP	42 22.50	-3.5X
KNA	13.86	214	eP	42 53.50	-3.1X
	0.3s	239.00nm		6.4mb X	
			eS	45 21.00	
KUPT	14.27	245	eP	43 06.00	4.0X
			e(S)	45 46.00	
WB5	15.72	188	eP	43 14.00	-6.9X
			eS	46 00.00	
DAV	15.82	315	eP	43 23.10	1.0
QIS	16.47	170	ePd	43 23.50	-7.0X
MKS	17.22	266	iPd	43 46.00	6.1X
			e	45 27.50	
CTA	18.30	150	iPc	43 51.80	-1.5
	1.0s	169.00nm		5.2mb	
			iS	47 19.00	

GUMO	19.46	24	eP	44 10.00	2.7
	1.5s	423.42nm		5.5mb	
	Z 18s	0.62um		4.5Msz	
PJG	19.46	24	eP	44 10.50	3.2X
TSM	20.44	294	ePd	44 20.80	3.3X
KKM	22.88	296	ePc	44 43.00	0.8
	0.9s	81.40nm		5.2mb	
MBL	23.50	223	iPc	44 48.90	0.8
			eS	49 04.00	
HNR	23.63	104	eP	44 48.00	-1.4
WARB	23.87	203	eP	44 52.00	0.3
	0.3s	25.00nm		5.2mb	
			eS	49 13.00	
TRT	24.20	261	iPc	44 55.70	0.8
	0.5s	52.70nm		5.3mb	
QCP	24.33	321	eP	45 00.00	3.9X
RMQ	24.95	154	eP	45 04.00	1.9
			e	51 57.00	
BAG	25.99	322	eP	45 11.00	-1.1
NANU	27.44	226	eP	45 25.10	0.0
	0.5s	9.00nm		4.7mb	
			e	45 59.00	
			eS	50 43.00	
BRS	27.66	148	iPd	45 27.30	0.1
	0.5s	11.50nm		4.8mb	
			e	45 49.00	
			i	46 19.00	
			e	48 43.00	
			e(S)	50 36.00	
FORR	27.70	196	eP	45 26.10	-1.3
	0.4s	80.00nm		5.7mb	
			eS	50 46.00	
MEKA	28.25	216	eP	45 32.00	-0.5
CMS	28.43	163	e(P)	45 34.00	-0.1
			e	45 52.00	
			e	51 11.00	
COO	29.86	153	eP	45 48.50	1.5
			e	53 47.00	
			e	55 30.00	
COOL	30.30	207	eP	45 49.20	-1.7
ADE	30.64	177	iPc	45 51.60	-2.2
	0.9s	89.08nm		5.6mb	
BWA	31.95	162	eP	46 07.40	2.1
BAL	32.32	213	eP	46 07.00	-1.5
KLB	32.53	211	eP	46 10.00	-0.3
	0.3s	4.00nm		4.8mb	
CAN	32.96	161	eP	46 15.70	1.6
MUN	33.65	213	eP	46 19.70	-0.4
DZM	33.82	124	iPd	46 20.10	-1.7
NWAO	33.86	210	eP	46 21.00	-0.9
PPI	36.48	275	eP	46 45.60	1.2
	0.7s	172.70nm		6.1mb	
SSE	38.13	338	Pc	46 58.00	0.0
	1.2s	0.04nm		2.1mb X	
	Z 20s	0.70um		4.5Msz	
			sP	47 12.00	
			e	47 37.50	
PSI	38.39	280	ePd	47 00.60	0.1
			e	51 10.00	
TSI	38.89	281	eP	47 06.00	1.3
IIDJ	39.52	2	P	47 08.60	-1.0
TSRJ	39.56	359	P	47 09.90	0.0
NJ2	39.88	336	Pc	47 12.80	0.2
	Z 20s	0.60um		4.4Msz	
CHJJ	40.12	3	P	47 13.10	-1.5
KAKJ	40.35	4	P	47 15.30	-1.1
MAT	40.58	2	(P)	47 17.00	-1.4
	1.0s	30.00nm		5.0mb	
			eS	53 52.00	
MTMJ	40.61	1	iP+	47 17.70	-1.0
WHN	40.66	330	ePc	47 20.50	1.5
	1.5s	0.12nm		2.4mb X	
			pP	47 30.00	32kmX
NST	41.26	299	eP	47 24.80	0.6
NIIJ	41.31	3	P	47 24.00	-0.3
GYA	42.15	318	iPc	47 32.20	0.7
BDT	42.92	301	eP	47 35.70	-2.1
CHG	43.68	303	iPc	47 44.50	0.5
	1.1s	46.84nm		5.2mb	
CHTO	43.68	303	iP	47 44.20	0.2
	1.0s	44.00nm		5.2mb	
KMI	44.05	313	Pc	47 48.50	1.4
TIA	44.21	337	eP	47 46.40	-1.6
XAN	46.23	328	Pc	48 04.00	-0.2
CD2	47.02	320	P	48 09.60	-0.9
SNY	47.38	347	Pd	48 12.50	-0.5
TIY	47.44	334	eP	48 13.40	-0.4

	Z 17s	0.72um			4.7MszX
BJI	47.93	339	eP	48 16.50	-0.9
	1.5s	0.08nm			2.5mb X
	Z 20s	0.60um			4.6Msz
MSZ	48.70	151	P	48 23.00	-0.3
CN2	48.88	349	iPd	48 23.80	-0.9
			PcP	49 48.20	
MDJ	49.04	353	iPc	48 25.50	-0.4
HHC	50.43	335	P	48 36.20	-0.6
LZH	50.54	325	iPc	48 38.60	0.8
	1.5s	0.18nm			2.8mb X
BTO	50.88	334	eP	48 39.00	-1.2
GTA	55.15	325	eP	49 12.00	0.0
LSA	55.16	311	P	49 14.00	1.4
HYB	61.29	292	iPc	49 54.00	-1.2
GBA	61.43	288	P	49 56.00	-0.1
WMQ	64.99	323	iPc	50 19.00	-0.3
			sP	50 29.50	
			eS	59 01.50	
POO	65.90	292	iPc	50 24.30	-1.2
KSH	70.67	314	P	50 56.00	1.0
PMO	74.81	104	eP	51 17.00	-2.6
	1.2s	30.00nm			5.2mb
RUV	75.30	105	eP	51 20.00	-2.4
	1.2s	25.00nm			5.1mb
MAIO	82.24	307	iPc	52 01.00	1.0
	0.8s	11.71nm			5.0mb
SVW	83.10	27	ePc	52 05.40	1.6
KDC	83.45	31	eP	52 06.20	0.7
TTA	83.62	25	ePc	52 07.60	1.1
IMA	85.70	23	ePc	52 17.80	0.9
	1.1s	40.60nm			5.6mb
SPA	85.80	180	e(P)	52 16.90	-0.5
	1.0s	34.00nm			5.5mb
PMR	86.22	27	ePc	52 19.40	0.1
	0.8s	32.50nm			5.6mb
SHI	87.03	300	eP	52 24.00	-0.3
FBA	87.69	24	ePc	52 25.90	-0.5
TOA	87.71	27	ePc	52 28.00	1.3
INK	93.81	22	eP	52 54.00	-0.9
MBC	97.39	14	eP	53 10.50	-0.6
	1.0s	6.00nm			5.1mb
WDC	100.90	50	e(Pdif	53 29.60	1.9
ORV	101.76	51	ePdiff	53 33.40	1.8
CMB	102.75	52	ePdiff	53 36.10	0.0
FRI	103.37	53	e(Pdif	53 38.30	-0.4
HFS	109.60	334	ePdiff	54 04.70	-1.2
	0.5s	1.00nm			
BCAO	118.38	273	iPKPc	58 26.70	-0.4
	0.8s	16.00nm			
BSF	119.04	324	ePKP	58 27.10	-0.3
HAU	119.22	324	ePKP	58 27.40	-0.3
LPG	120.18	321	ePKP	58 29.80	-0.1
	0.9s	8.10nm			
LBF	121.12	324	ePKP	58 31.00	-0.3
	0.8s	6.70nm			
SSF	121.36	324	ePKP	58 31.70	0.0
SMF	121.38	324	ePKP	58 31.70	-0.1
AVF	121.59	324	ePKP	58 31.70	-0.4
BGF	122.01	324	ePKP	58 32.90	-0.1
TCF	122.52	324	ePKP	58 34.10	0.1
	0.8s	9.90nm			
LSF	122.94	324	ePKP	58 34.70	-0.1
CAF	123.33	323	ePKP	58 36.10	0.5
	0.8s	6.70nm			
LPF	123.36	327	ePKP	58 35.60	0.1
MFF	123.70	325	ePKP	58 35.90	-0.4
	0.8s	5.30nm			
LPO	123.99	323	ePKP	58 37.30	0.4
	0.8s	10.70nm			
LFF	124.12	323	ePKP	58 37.40	0.3
KIC	141.57	275	PKPc	59 04.78	-6.2X
TIC	141.84	275	PKP	59 05.70	-5.7X
LIC	141.86	275	PKP	59 05.88	-5.6X
UPA	143.69	81	ePKP	59 11.00	-3.5X
	1.0s	58.00nm			
ARE	145.35	127	ePKP	59 18.00	0.3
CNCB	147.86	131	PKPc	59 24.50	2.4X
LPB	147.94	131	PKP	59 39.00	17.0X
	1.2s	162.50nm			
LPB	147.94	131	PKP	59 22.00	0.0
	1.2s	162.50nm			
ZOBO	148.08	130	PKPc	59 24.00	1.5
	1.3s	61.91nm			
CCH	148.84	134	ePKP	59 25.00	1.7
			i	59 29.00	
ITB7	148.96	161	ePKP	59 26.70	3.7X

09d 20h

ITB	149.26	160	ePKP	59	28.10	4.7X
ITB1	149.33	160	ePKP	59	28.10	4.6X
PPD	152.74	164	ePKP	59	29.70	1.1
			e	59	36.60	
BAO	159.72	167	ePKP	59	39.50	1.7
PDCR	162.84	194	ePKP	59	42.00	1.2
			e	00	29.10	

S.D. = 1.1 on 108 of 128 obs.

& OCT 09, 1989 21h 10m 45.26s
59.838 N 152.165 W
DEPTH = 58.7km
SOUTHERN ALASKA (2)
<AGS-P>.

XLV	0.45	149	eP	10	55.87	-0.8
ILIM	0.47	302	iP	10	56.61	-0.3
			eS	11	06.07	
NNL	0.48	65	iP	10	57.75	0.7
			eS	11	06.79	
CNPM	0.57	123	iP	10	57.59	-0.4
			eS	11	07.46	
OPT	0.57	251	eP	10	57.49	-0.5
			eS	11	06.80	
BRLK	0.65	96	eP	10	58.72	-0.3
			eS	11	09.57	
RED	0.66	333	eP	10	58.76	-0.4
			eS	11	09.53	
RDT	0.75	351	iP	10	59.81	-0.4
			eS	11	11.75	
AUE	0.78	232	eP	11	00.03	-0.5
AUL	0.79	235	eP	11	00.41	-0.3
NKA	1.02	27	eP	11	05.01	1.4
SLKM	1.18	54	eP	11	05.18	-0.7
CDD	1.18	220	eP	11	04.65	-1.3
			eS	11	20.09	
SPU	1.35	2	eP	11	07.83	-0.4
			eS	11	26.29	
CRP	1.43	0	eP	11	09.43	-0.1
			eS	11	27.97	
SUA	1.78	23	iP	11	14.21	0.0
PMS	1.91	41	eP	11	15.70	-0.3
GHO	2.51	38	eP	11	22.90	-1.5
FID	2.98	70	eP	11	27.22	-3.8

19 obs. associated

? OCT 09, 1989 22h 10m 41.06± 1.23s
31.895 S ±11.8km 68.781 W ±16.2km
DEPTH = 33.0km (normal)
SAN JUAN PROVINCE, ARGENTINA (137)

ZON	0.36	14	iPd	10	49.80	0.1
			eS	11	02.00	
JACH	1.72	242	iPc	11	09.90	0.6
			iS	11	38.50	
FCH	1.91	221	iPc	11	14.50	2.2
			iS	11	46.00	
PEL	2.03	232	iPc	11	14.00	0.3
			iS	11	46.00	
ROCH	2.17	240	iPd	11	15.30	-0.5
			iS	11	46.00	
SAN	2.22	225	iPd	11	17.60	1.3
			iS	11	50.40	
PCH	2.26	220	iPc	11	17.70	0.8
			iS	11	52.10	
TACH	2.52	225	iPc	11	20.50	-0.2
			iS	11	56.10	
CHCH	2.57	217	iPc	11	21.60	0.3
			iS	11	59.00	
LCCH	2.83	235	iPc	11	23.10	-1.8
			iS	11	55.10	
RFA	2.88	175	iPc	11	25.10	-0.6
LNV	3.02	226	iPc	11	25.10	-2.5

S.D. = 1.4 on 12 of 12 obs.

? OCT 09, 1989 22h 36m 13.58± 8.99s
51.554 N ±47.4km 16.434 E ±58.5km
DEPTH = 10.0km (geophysicist)
POLAND (548)
ML 3.7 (VKA), 2.8 (KRA).

KSP	0.72	187	iPd	36	27.70	0.0
	0.3s	92.00nm				
			iS	36	35.50	
BRG	1.71	247	ePn	36	43.80	0.3
			iSg	36	45.10	
			iSg	37	05.80	
			eSg	57	18.00	
PRU	1.97	218	ePn	36	47.80	0.4
			Pg	36	49.30	
			Sn	37	06.00	
			Sg	37	11.20	
CLL	2.16	265	iPn	36	50.00	-0.1
			iPg	36	54.10	
			iSg	37	21.00	
			eSg	57	41.00	
KRA	2.68	123	eP	37	09.40	11.9X
			eS	37	43.90	
KHC	3.04	218	Pn	37	02.50	-0.1
			Pg	37	07.60	
			Sn	37	36.30	
			Sg	37	45.00	
MOX	3.17	255	ePg	37	13.00	8.6X
			iSg	37	53.00	
VKA	3.29	181	ePg	37	14.50	8.3X
			i	37	15.40	
			iSn	37	41.80	
			iSg	37	57.10	
			i	37	58.40	
WET	3.32	225	ePn	37	06.00	-0.6
GRF	3.81	243	ePn	37	13.50	0.0
			e(Pg)	37	27.10	
			e(Sg)	38	12.30	
KBA	4.91	205	eP	37	26.00	-3.4X
			e	38	47.00	

S.D. = 0.4 on 7 of 11 obs.

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* OCT 09, 1989 22h 47m 51.45± 0.92s
0.773 S ±14.1km 119.071 E ±11.8km
DEPTH = 33.0km (normal)
4.8mb (1 obs.)
MINAHASSA PENINSULA (265)

MNI	6.17	69	eP	49	22.80	0.0
MTN	16.93	136	eP	51	48.00	0.4
SNG	20.03	294	eP	52	24.70	0.1
WB5	24.18	143	eP	53	05.00	-1.1
WARB	26.30	164	eP	53	35.00	9.0X
ASPA	26.92	149	iPd	53	32.80	1.0
	0.5s	12.00nm			4.8mb	
MRWA	28.44	186	eP	54	02.70	17.3X
FORR	31.11	165	eP	54	16.30	7.1X
CAN	44.24	144	iPc	55	59.20	-0.5

S.D. = 0.9 on 6 of 9 obs.

OCT 09, 1989 23h 55m 39.54± 0.52s
36.112 N ± 5.7km 27.510 E ± 5.0km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
MD 3.8 (ATH).

KAP	0.62	206	ePg	55	52.40	0.3
YER	1.19	31	iPn	56	01.60	-0.3
CIN	1.56	17	ePn	56	06.00	-1.3
			iSg	56	29.00	
KSL	1.68	89	ePn	56	10.10	1.0
SMG	1.68	341	ePb	56	09.30	0.2
NPS	1.76	242	ePn	56	10.00	-0.3
APE	1.86	302	ePb	56	11.50	-0.2
ELL	2.04	71	ePn	56	16.60	2.2
IZM	2.29	355	ePn	56	22.00	4.0X
KHL	2.73	35	ePn	56	24.00	-0.3
VAM	2.78	256	ePg	56	34.50	9.5X
BCK	2.81	61	iPn	56	28.90	3.4X
DST	3.60	14	ePn	56	37.00	0.5
VLI	3.74	281	ePn	56	39.00	0.5
PPCY	4.13	106	eP	56	43.20	-0.8
CSS	4.88	102	eP	56	53.20	-1.6
SHMJ	7.61	114	Pc	57	33.10	0.0

S.D. = 1.0 on 14 of 17 obs.

& OCT 10, 1989 01h 36m 40.00s
40.763 N 124.633 W
DEPTH = 15.0km
NEAR COAST OF NORTHERN CALIF. (35)
<BRK>. ML 3.1 (BRK).

FHC	0.49	85	iPc	36	48.60	-1.3
			iS	36	56.20	
WDC	1.60	96	iPc	37	06.00	-1.8
			i	37	25.20	
LBFM	2.15	73	eP	37	15.00	-1.1
MIN	2.34	99	ePd	37	15.80	-2.9
			e	37	41.90	
ORV	2.69	116	eP	37	21.30	-2.1
KVN	5.31	107	eP	37	57.50	-3.3

6 obs. assaciated

OCT 10, 1989 02h 21m 09.63± 0.28s
40.225 N ± 3.4km 25.036 E ± 2.7km
DEPTH = 8.1 ± 2.1 km
3.8mb (1 obs.)
AEGEAN SEA (365)
ML 3.9 (ATH).

OUR	0.81	278	iPgd	21	25.40	-0.2
			eSg	21	36.30	
RDO	1.00	22	iPbc	21	29.00	0.3
EZN	1.07	112	iPg	21	29.20	-0.7
PAIG	1.08	254	ePgd	21	29.60	-0.6
PLG	1.23	277	iPnd	21	32.00	-0.6
PRK	1.36	135	ePn	21	35.00	0.1
SRS	1.41	310	ePbd	21	35.30	-0.4
KDZ	1.45	11	iPc	21	36.00	-0.2
RZN	1.48	351	iPc	21	37.00	0.3
THE	1.63	285	ePbc	21	38.10	-0.6
NEO	1.67	237	ePn	21	37.00	-2.3
MMB	1.69	324	iPc	21	40.00	0.5
DIM	1.86	11	ePc	21	43.00	1.0
KNT	1.88	301	ePbd	21	42.20	-0.1
PLD	1.90	352	iPc	21	44.00	1.5
LIT	1.96	267	ePbd	21	41.60	-1.8
EDC	2.17	86	iPn	21	46.50	0.0
KKB	2.21	319	iP	21	47.00	-0.1
PGB	2.41	345	iP	21	50.00	-0.1
ATH	2.47	205	ePb	21	57.00	6.2X
KZN	2.50	273	ePn	21	50.20	-1.1
IZM	2.51	136	iPn	21	50.80	-0.6
JMB	2.52	27	iPc	21	51.00	-0.5
KCT	2.54	88	iPn	21	51.20	-0.6
VTS	2.74	330	eP	21	56.00	1.2
CTT	2.74	69	iPn	21	54.20	-0.5
DST	2.83	101	iPn	21	55.80	-0.2
SMG	2.88	150	ePn	21	58.00	1.4
PVL	3.00	4	iPc	21	56.00	-2.2
ITU	3.15	72	ePn	22	07.00	6.5X
			iSg	22	52.00	
ISK	3.17	73	ePn	22	00.00	-0.8
APE	3.17	173	ePn	22	01.90	1.0
SKO	3.23	304	ePn	22	02.00	0.4
			i	22	10.20	
KBN	3.25	278	eP	22	05.00	3.2X
LSK	3.40	270	eP	22	02.60	-1.5
GBZT	3.41	79	ePn	22	13.50	9.4X
			iSg	23	02.50	
HRT	3.58	79	ePn	22	07.20	0.6
PHP	3.77	294	eP	22	17.50	8.2X
VLI	3.87	206	ePn	22	14.00	3.3X
BERA	3.91	279	eP	22	12.00	0.8
KKS	3.95	299	eP	22	14.20	2.4
KHL	3.97	117	ePn	22	10.10	-2.0
YER	4.00	140	iPn	22	12.40	-0.1
GPA	4.04	87	ePn	22	12.60	-0.5
TIR	4.08	288	e(P)	22	15.00	1.3
PSN	4.18	33	iPd	22	14.00	-1.0
LACI	4.27	291	eP	22	17.50	1.1
PUK	4.29	297	eP	22	16.00	-0.6
DRA	4.49	353	ePc	22	36.00	16.6X
TLB	4.89	26	eP	22	25.00	-0.2
KAP	4.96	159	ePn	22	27.50	1.3
ISR	5.03	12	eP	22	28.00	0.8
CMP	5.04	0	ePc	22	27.00	-0.3
BCK	5.14	121	iPn	22	29.10	0.3
ELL	5.16	131	ePn	22	31.00	1.8
SSR	5.23	333	eP	22	31.00	1.0
MLR	5.31	7	iPc	22	31.50	0.3
BEO	5.71	325	ePn	22	58.00	21.4X
			iSg	24	16.00	
VRI	5.78	12	eP	22	38.00	0.4
BBTK	5.94	91	eP	22	39.00	-1.1
			iS	23	25.00	
BZS	5.94	336	ePc	22	38.00	-2.0
CLI	6.53	14	iPd	22	48.00	-0.3
SLL	21.54	344	ePKP	25	58.30	-2.8
	0.5s	2.20nm			3.8mb	
SUF	22.54	1	eP	26	13.00	2.0

S.D. = 1.1 on 56 of 64 obs.

OCT 10, 1989 03h 08m 56.01± 0.56s
39.020 N ± 5.9km 35.627 E ± 6.7km
DEPTH = 10.0km (geophysicist)

4.2mb (10 obs.)
TURKEY (366)
Damoge in the Kayseri oreo.

KVT	2.08	9	iPn	09	32.00	0.6
GAZ	2.23	145	iPn	09	31.50	-2.0
BBTK	2.37	291	iPc+	09	36.50	0.9
			iS	10	11.00	
KAS	2.75	329	ePn	09	42.50	1.5
			iSg	10	25.00	
BCK	4.26	250	ePn	10	04.40	1.9
GPA	4.30	289	iPn	10	02.30	-0.6
CSS	4.45	205	eP	10	02.00	-3.0X
KHL	4.83	264	ePn	10	18.00	7.5X
PPCY	4.89	213	eP	10	12.00	0.7
HRT	4.92	293	ePn	10	11.20	-0.6
ELL	5.06	245	ePn	10	19.00	5.2X
GBZT	5.07	292	ePn	10	13.00	-0.9
BHL	5.11	180	P	10	22.00	7.6X
			S	11	50.00	
ISK	5.44	294	ePn	10	18.70	-0.4
DST	5.46	278	ePn	10	18.80	-0.7
ITU	5.48	294	eP	10	20.00	0.3
HRI	5.74	179	eP	10	26.00	2.6
KCT	5.75	285	ePn	10	22.00	-1.4
CTT	5.91	293	ePn	10	25.00	-0.8
YER	6.09	254	ePn	10	29.00	0.7
EDC	6.13	285	ePn	10	27.50	-1.4
SHMJ	6.28	179	Pc	10	32.10	1.1
MSL	6.52	111	ePc	10	39.50	5.2X
			e	10	56.50	
			eS	12	25.00	
EZN	7.25	279	iPn	10	43.20	-1.3
DSI	7.44	182	e(P)	10	55.00	7.9X
SLY	8.57	110	eP	11	34.00	31.0X
			eS	13	22.00	
BHD	9.11	126	eP	11	48.00	37.6X
			iS	13	58.00	
			iLQ	16	54.00	
VRI	9.49	319	eP	11	17.50	1.8
MLR	9.66	315	eP	11	20.00	1.9
CMP	10.04	312	eP	10	56.00	-27.2X
ZST	16.22	310	i(P)	12	52.00	6.6X
KSP	18.02	317	eP	13	08.50	0.5
PRU	18.55	313	eP	13	16.00	1.5
KHC	18.73	310	eP	13	18.50	1.7
MAIO	19.08	91	eP	13	20.00	-1.2
CLL	20.04	315	e(P)	13	32.00	0.2
FEL	21.82	303	eP	13	52.11	1.8
LPG	22.26	296	eP	13	58.40	3.6X
	0.7s		5.90nm			4.2mb
BSF	22.61	302	eP	13	57.70	-0.4
	0.8s		5.30nm			4.1mb
RUP	22.91	307	eP	14	02.49	1.5
HAU	22.94	303	eP	14	00.60	-0.6
	0.6s		3.60nm			4.1mb
LBF	24.35	299	eP	14	13.70	-1.3
	0.7s		8.80nm			4.5mb
SMF	24.40	299	eP	14	13.80	-1.6
	0.7s		4.40nm			4.2mb
LOR	24.47	300	eP	14	14.90	-1.2
	0.7s		6.60nm			4.4mb
SSF	24.68	299	eP	14	17.20	-0.9
	0.7s		4.40nm			4.2mb
AVF	24.75	299	eP	14	17.10	-1.7
MAF	25.24	297	eP	14	21.40	-2.0
	0.7s		3.70nm			4.2mb
HFS	25.24	334	eP	14	23.90	0.6
	0.5s		2.30nm			4.1mb
CAF	25.52	294	eP	14	25.60	-0.5
BCAO	37.76	209	ePc	16	13.80	-0.2
	0.5s		3.00nm			4.3mb
SES	86.26	339	eP	21	39.00	0.0

S.D. = 1.3 on 40 of 51 obs.

? OCT 10, 1989 03h 37m 58.27± 2.57s
21.711 S ±20.6km 68.846 W ±19.3km
DEPTH = 33.0km (normal)
CHILE-BOLIVIA BORDER REGION (124)

CNCB	4.94	10	iPc	39	13.20	0.5
CCH	5.00	31	P	39	13.00	-0.4
LPB	5.20	8	P	39	17.00	0.8
ZOBO	5.46	7	Pc	39	19.10	-0.9
ARE	5.79	334	iPc	39	24.30	-0.1
			eS	40	20.00	
PPD	16.28	94	eP	41	46.20	0.0

S.D. = 0.8 on 6 of 6 obs.

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* OCT 10, 1989 04h 11m 00.63± 1.40s
28.653 N ± 9.0km 87.481 E ± 7.6km
DEPTH = 75.7 ± 14.0 km
4.6mb (4 obs.)
TIBET (306)

LSA	3.37	71	Pn	11	52.10	-0.4
			Sn	12	37.00	
SHL	4.98	127	iP	12	07.00	-7.8X
			eS	13	05.50	
NDI	9.02	273	eP	13	07.00	-3.3X
			eS	14	46.00	
HYB	13.87	218	eP	14	08.50	-6.6X
			eS	16	32.00	
CHG	14.35	131	eP	14	22.10	0.8
	0.8s		11.57nm			4.2mb
CHTO	14.35	131	iP	14	22.10	0.8
KSH	14.37	322	eP	14	20.50	-1.2
WMQ	15.14	1	P	14	36.50	5.0X
BDT	15.53	135	eP	14	25.60	-10.9X
LZH	15.68	58	eP	14	32.50	-6.0X
	2.0s		0.05nm			1.3mb X
POO	16.03	234	eP	14	31.50	-11.4X
			iS	17	50.80	
BOM	16.55	237	eP	14	14.40	-34.9X
			eS	16	51.00	
GYA	17.15	93	P	14	52.00	-4.9X
GBA	17.65	214	P	14	58.00	-5.0X
			S	18	04.00	
BTO	21.98	51	eP	15	49.20	-0.4
TIY	22.70	60	eP	15	56.40	-0.3
HHC	23.15	52	eP	16	02.60	1.6
WHN	23.42	79	P	16	03.00	-0.6
MAIO	24.75	295	eP	16	17.00	0.4
BJI	26.16	57	eP	16	29.50	0.0
SSE	29.27	77	Pc	16	54.00	-3.7X
	1.0s		0.02nm			1.7mb X
			sP	17	20.00	
CN2	33.83	53	eP	17	37.50	0.0
SUF	51.85	329	eP	20	04.00	1.1
SLL	57.78	326	eP	20	46.70	0.8
	0.4s		1.50nm			4.5mb
WB5	66.17	131	eP	21	41.10	-1.3
ASPA	68.59	134	iPc	21	56.80	-0.8
	0.6s		6.00nm			4.7mb
BCAO	69.42	264	ePc	22	02.70	-0.3
	0.4s		4.00nm			4.7mb

S.D. = 0.9 on 16 of 27 obs.

OCT 10, 1989 04h 27m 55.78± 0.35s
12.666 N ± 6.7km 44.012 W ± 5.4km
DEPTH = 10.0km (geophysicist)
4.7mb (9 obs.) 4.2Msz (1 obs.)
NORTH ATLANTIC RIDGE (403)

MVM	16.52	278	eP	31	48.96	-0.3
CRM	16.55	279	eP	31	49.78	0.1
BIM	16.68	278	eP	31	50.74	-0.6
FDF	16.78	279	eP	31	51.70	-0.9
	0.3s		0.50nm			3.2mb X
PDCR	25.50	169	eP	33	24.30	-1.7
			e	33	29.00	
			e	33	32.30	
PPD	35.22	192	eP	34	54.60	2.2
CCH	37.00	217	P	35	08.00	0.1
ZOBO	37.35	220	Pc	35	10.50	-0.7
	1.1s		23.20nm			4.9mb
Z	22s		0.42um			4.2Msz
			LR	46	20.00	
LPB	37.53	220	P	35	13.00	0.5
EPF	48.71	43	eP	36	43.00	0.5
LPF	50.15	37	eP	36	53.20	-0.1
	1.0s		20.00nm			5.0mb
CAF	50.63	41	eP	36	57.10	0.0
	0.9s		8.80nm			4.7mb
TCF	51.30	40	eP	37	01.70	-0.5
	1.1s		10.70nm			4.7mb
LNO	51.87	306	eP	37	06.40	-0.1
TUL	51.87	306	ePc	37	07.30	0.6
	0.9s		12.00nm			4.8mb
AVF	52.23	40	eP	37	08.90	-0.3
SIO	52.25	306	e(P)	37	09.30	-0.2
LOR	52.74	39	eP	37	12.30	-0.8
	0.9s		5.50nm			4.5mb
KHC	59.48	40	P	38	01.00	-0.4
ALQ	60.32	303	eP	38	07.50	-0.1
	1.0s		2.25nm			4.3mb
KRA	63.72	40	eP	38	30.30	0.5
SES	65.72	320	eP	38	43.00	0.1
EDM	67.59	323	ePc	38	55.70	1.0
TNP	69.12	306	eP	39	05.50	0.7
	1.0s		2.25nm			4.3mb
PNT	71.12	318	eP	39	17.00	0.5
	0.8s		6.00nm			4.8mb

S.D. = 0.8 on 25 of 25 obs.

? OCT 10, 1989 05h 01m 04.50± 1.57s
49.827 N ±24.9km 28.374 W ±17.2km
DEPTH = 10.0km (geophysicist)
4.5mb (13 obs.)
NORTH ATLANTIC RIDGE (403)

LPF	18.02	85	eP	05	23.30	7.0X
	1.2s		23.80nm			4.2mb
MFF	19.04	89	eP	05	31.20	2.3
TOL	19.83	111	eP	05	38.00	-0.1
LPO	20.64	93	eP	05	45.10	-1.4
TCF	20.67	88	eP	05	46.50	-0.4
	1.4s		54.00nm			4.7mb
MAF	20.93	88	eP	05	49.00	-0.5
BGF	20.99	87	eP	05	49.70	-0.4
	0.7s		18.00nm			4.5mb
CAF	21.10	92	eP	05	49.90	-1.4
	1.3s		23.10nm			4.4mb
DOU	21.12	77	P	05	50.40	-1.0
AVF	21.24	86	eP	05	52.20	-0.4
	1.1s		12.20nm			4.2mb
SSF	21.24	85	eP	05	52.40	-0.3
	1.5s		36.50nm			4.5mb
LOR	21.40	84	eP	05	53.90	-0.4
	1.1s		22.90nm			4.5mb
LBF	21.57	85	eP	05	55.70	-0.4
	1.5s		57.40nm			4.8mb
SMF	21.60	86	eP	05	56.40	0.1
	1.4s		45.30nm			4.7mb
WLF	22.20	77	P	05	55.50	-6.7X
HAU	22.77	81	eP	06	07.60	-0.4
	1.1s		14.60nm			4.4mb
BSF	23.11	81	eP	06	10.90	-0.5
CDF	23.24	80	eP	06	13.00	0.3
GRF	25.38	75	e(P)	06	35.50	2.4
MOX	25.38	73	e(P)	06	38.00	4.9X
CLL	26.08	71	eP	06	41.00	1.4
	1.9s		31.00nm			4.7mb
BRG	26.76	71	e(P)	06	56.80	10.9X
KHC	27.01	75	eP	06	53.90	5.6X
FBA	56.40	334	eP	10	47.40	-0.4
	0.8s		0.90nm			3.9mb
BCAO	60.02	123	ePd	11	15.10	1.3
	0.6s		3.00nm			4.6mb
MAIO	62.06	66	eP	11	35.00	7.5X

S.D. = 1.1 on 20 of 26 obs.

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* OCT 10, 1989 06h 04m 45.04± 0.28s
70.333 S ±11.5km 114.992 W ± 9.5km
DEPTH = 10.0km (geophysicist)
5.3mb (6 obs.)
SOUTHERN PACIFIC OCEAN (692)

SPA	19.79	180	ePc	09	18.50	0.4
	1.0s		34.00nm			4.6mb
Z	20s		0.90um			
			e	10	07.30	
SBA	20.90	216	eP	09	33.00	3.7X
SNA	32.75	145	iPc	11	19.20	-0.2
	1.0s		74.00nm			5.6mb
MAW	42.31	179	eP	12	40.00	0.3
MSZ	44.50	263	P	13	01.50	3.7X
ARE	59.96	50	iPd	14	54.50	0.6
CCH	60.52	56	P	14	58.50	0.7
CNCB	60.56	54	P	14	58.50	0.2
PPD	60.65	73	eP	14	58.20	0.0
			i	15	09.00	
			e	15	13.00	
LPB	60.79	53	P	14	57.00	-2.7
ZOBO	61.03	53	P	15	02.00	0.4
			eLR	35	12.00	
BMA	62.38	80	eP	15	10.20	0.2
			e	15	21.20	
DZM	65.56	273	iPd	15	30.80	0 1
BAO	67.70	73	eP	15	44.20	-0.3
NWAO	70.45	225	eP	16	00.40	-0.7

10d 06h

MUN	71.60	224	iPd	16	08.00	-0.1
PDCR	73.53	81	eP	16	19.90	0.4
			e	16	30.90	
CTA	74.17	255	iPc	16	23.00	-0.2
	1.0s	38.00nm			5.4mb	
ASPA	74.70	242	iPc	16	25.30	-1.1
	1.2s	17.00nm			5.0mb	
			i	16	36.10	
QIS	75.87	249	iPc	16	32.90	-0.1
	1.0s	31.00nm			5.3mb	
WB5	78.13	244	iPc	16	45.00	-0.6
PMG	B3.85	259	iPc	17	17.00	1.2
	0.9s	42.02nm			5.7mb	
MTN	85.74	243	iPd	17	25.40	0.1
PNT	119.38	357	ePKP	23	36.00	1.2
EDM	123.25	1	ePKPc	23	41.20	-0.8
INK	138.95	350	ePKP	24	03.00	-8.4X
LSF	141.48	94	ePKP	24	13.80	-2.9X
TCF	141.75	95	ePKP	24	14.70	-2.5X
AVF	142.57	96	ePKP	24	14.60	-3.9X
	0.9s	8.10nm				
LPG	142.58	100	iPKPc	24	15.40	-3.6X
	0.8s	6.70nm				
SMF	142.61	96	ePKP	24	15.00	-3.6X
	1.0s	8.80nm				
LOR	143.16	96	ePKP	24	17.10	-2.5X
	1.1s	17.00nm				
MMK	143.47	101	ePKPc	24	17.10	-3.3X
TMA	143.82	102	ePKPc	24	18.20	-2.7X
VDL	144.35	102	ePKPc	24	20.30	-1.6
LLS	144.53	101	ePKPc	24	20.90	-1.2
BSF	144.63	98	PKP	24	20.66	-1.5
HAU	144.63	98	iPKPc	24	20.90	-1.2
	0.7s	17.60nm				
VITF	144.69	97	PKP	24	20.87	-1.2
OSS	144.75	103	ePKPc	24	21.40	-1.1
MOF	144.76	99	PKP	24	21.14	-1.2
DLE	144.77	81	ePKP	24	20.80	-1.2
ZLA	144.86	100	ePKPc	24	21.80	-0.7
SAX	144.98	101	ePKPc	24	22.60	-0.4
FEL	145.08	100	PKP	24	22.25	-0.7
ECH	145.09	98	PKP	24	22.31	-0.5
SLE	145.14	100	ePKPc	24	22.30	-0.6
DMU	145.15	80	ePKP	24	22.50	-0.2
OGA	145.20	104	iPKPc	24	23.10	-0.2
	1.2s	85.00nm				
CDF	145.30	98	PKP	24	23.02	-0.2
WLS	145.32	98	PKP	24	23.18	-0.1
MAIO	145.78	172	ePKP	24	25.00	0.5
DOU	145.84	94	PKP	24	24.90	0.9
			e	24	36.10	
GWF	145.90	98	PKP	24	25.09	0.9
WLF	146.00	96	PKPc	24	25.60	1.4
SNF	146.09	93	iPKPc	24	27.18	2.8X
RUP	146.33	97	ePKPc	24	26.31	1.4
MBC	146.39	358	iPKPc	24	26.10	2.0
	0.8s	62.00nm				
			pP	24	37.00	
FUR	146.41	103	iPKPc	24	26.90	1.9
	1.0s	98.00nm				
ABH	146.65	97	ePKP	24	27.32	2.0
MEM	146.75	95	iPKPc	24	27.45	2.1
TOD	146.84	99	ePKP	24	17.82	-7.8X
KVT	147.13	138	ePKP	24	27.00	0.6
TNS	147.25	98	ePKPc	24	29.40	3.1X
KMR	147.26	106	i(PKP)	24	28.50	2.2
EKA	147.58	82	PKPd	24	29.30	2.7X
	0.7s	13.30nm				
SOP	147.71	109	ePKP	24	27.80	0.7
GRF	147.72	101	iPKPc	24	30.30	3.2X
			e	24	40.90	
WET	147.79	103	iPKPc	24	30.00	2.8X
	0.8s	14.00nm				
KHC	148.01	104	iPKPc	24	30.50	2.9X
	1.0s	25.00nm				
			e	24	42.00	
WTS	148.19	94	ePKP	24	31.00	3.3X
ZST	148.34	109	iPKP	24	31.50	3.4X
			i	24	35.00	
MOX	148.66	101	ePKPc	24	32.50	4.0X
	1.4s	52.00nm				
PRU	149.07	104	PKPc	24	34.00	4.8X
	1.3s	30.70nm				
			i	24	45.00	
VRI	149.19	122	ePKP	24	32.50	3.0X
BRG	149.63	103	iPKPc	24	34.50	4.5X
	1.3s	38.00nm				

			i	24	46.00	
CLL	149.69	101	iPKPc	24	35.10	5.1X
	1.4s	51.00nm				
			ipP	24	45.90	
KSP	150.38	105	iPKPc	24	36.90	5.8X
	1.0s	37.00nm				
			ic	24	48.10	
KRA	150.87	110	ePKPc	24	37.80	6.0X
	0.8s	57.00nm				
			e	24	49.30	
NB2	156.83	86	PKP	24	38.10	-1.8
	0.9s	2.30nm				
	S.D. = 1.1		on	53	of 80	obs.

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* OCT 10, 1989 06h 17m 48.58± 1.02s
44.095 N ±13.1km 15.859 E ±24.6km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)

HVAR	1.01	155	iPg	18	07.70	0.0
			iSg	18	23.50	
VBY	1.47	343	ePn	18	15.50	0.4
			iSn	18	34.90	
RIY	1.63	320	eP	18	18.50	1.1
			iSn	18	41.00	
PTJ	1.81	2	eP	18	20.00	-0.1
TRI	2.20	318	iP	18	56.70	31.1X
VOY	2.39	325	e(Pn)	18	27.00	-1.4
S.D. = 1.3			on	5	of 6	obs.

OCT 10, 1989 06h 28m 23.72± 0.48s
35.528 N ± 4.8km 140.121 E ± 5.4km
DEPTH = 75.9 ± 3.5 km
5.0mb (11 obs.)
NEAR EAST COAST OF HONSHU, JAPAN(228)
Felt (III JMA) at Tokyo and Yokohama; (II JMA) at Toteyama, Mito, Utsunomiyo and on Oshima; (I JMA) at Kumogoyo and Ajiro.

TOK	0.34	298	iPd	28	36.00	0.1
			iS	28	45.20	
YOK	0.39	257	iPd	28	37.10	0.8
			iS	28	46.50	
TAT	0.58	201	iP+	28	39.10	1.1
			iS	28	50.10	
KAKJ	0.68	4	P	28	38.10	-0.9
			S	28	47.30	
KMG	0.86	316	iPd	28	40.80	-0.3
			iS	28	53.00	
MIT	0.90	18	iP+	28	41.10	-0.4
			iS	28	54.10	
AJI	0.97	240	iPd	28	42.20	-0.2
			iS	28	54.80	
OSH	0.98	219	iPd	28	42.40	-0.1
			S	28	55.20	
UTS	1.03	349	iP+	28	43.00	-0.2
			iS	28	55.10	
CHJJ	1.05	300	iPd	28	43.10	-0.4
			eS	28	56.70	
IIDJ	1.80	269	iPd	28	53.90	0.5
NIIJ	1.93	332	P	28	54.50	-0.6
			eS	29	17.70	
MTMJ	2.15	300	iPd	28	58.20	-0.1
YAMJ	2.64	359	iPd	29	05.10	0.2
TSRJ	3.37	271	iPd	29	15.00	-0.1
OFUJ	3.75	19	iPd	29	19.30	-1.1
			S	30	01.20	
WKYJ	3.94	252	P	29	22.90	-0.2
AOMJ	5.03	2	eP	29	40.10	1.9
TKSJ	5.23	255	iPd	29	40.90	-0.2
YONJ	5.45	268	P	29	43.50	-0.7
SHK	6.19	263	eP	29	53.40	-1.0
HOOJ	7.28	19	P	30	06.10	-3.3X
			S	31	25.40	
SHNJ	7.54	262	eP	30	13.10	0.0
KUMJ	8.27	251	P	30	24.10	1.0
KUSJ	8.35	24	P	30	20.70	-3.5X
			S	31	48.10	
ASAJ	8.80	12	P	30	27.70	-2.6
KAGJ	8.85	243	eP	30	31.40	0.3
MDJ	12.13	322	eP	31	14.60	-0.6
CN2	13.99	311	Pd	31	41.80	2.2
SNY	14.36	301	Pc	31	46.50	2.0
SSE	16.43	260	eP	32	13.50	2.7
	1.0s	0.01nm			1.0mb	X
TIA	18.65	279	eP	32	40.00	1.9

BJI	19.44	291	eP	32	44.00	-2.6
WHN	22.14	264	eP	33	14.50	0.3
GUMO	22.26	168	e(P)	33	03.50	-12.0X
PJG	22.26	168	e(P)	33	03.80	-11.7X
HHC	23.01	292	P	33	24.00	1.2
GYA	29.96	262	iPc	34	25.00	-2.0
CHTO	39.92	256	eP	35	50.50	-1.5
MTN	48.86	192	eP	37	03.00	-0.5
NDI	52.94	281	iPc	37	33.40	-1.0
WB5	55.37	187	iPc	37	51.00	-1.1
INK	56.20	27	eP	37	58.00	0.4
HYB	57.12	269	ePc	38	03.20	-1.7
	1.0s	40.00nm			5.5mb	
MBC	58.26	16	eP	38	12.00	-0.1
	0.8s	2.00nm			4.3mb	
ASPA	59.16	187	eP	38	17.60	-1.3
GBA	60.06	266	P	38	24.50	-0.7
POO	60.38	272	iPc	38	25.70	-1.8
WARB	62.69	194	eP	38	43.00	0.4
	0.6s	18.00nm			5.3mb	
KEV	64.48	339	eP	38	54.00	0.1
SOD	65.95	337	iP	39	02.60	-0.8
FORR	66.99	191	iPd	39	09.90	-0.4
	0.4s	19.00nm			5.4mb	
SUF	68.86	333	iP	39	20.80	-0.9
	0.8s	15.20nm			5.0mb	
PNT	69.98	43	eP	39	34.00	5.2X
NUR	70.78	332	iP	39	32.80	-0.6
	0.8s	19.10nm			5.1mb	
EDM	71.17	38	ePd	39	36.50	0.5
SES	73.98	39	eP	39	53.00	0.4
HFS	75.02	335	eP	39	57.00	-1.3
	1.1s	22.30nm			5.0mb	
NB2	75.17	337	P	39	58.80	-0.4
	0.8s	9.00nm			4.7mb	
FFC	75.53	32	iPc	40	01.80	0.5
	0.7s	9.00nm			4.8mb	
CMB	75.60	54	ePd	40	03.90	1.8
LRM	75.95	43	eP	40	05.40	1.2
VRI	79.19	319	eP	40	23.00	1.3
KRA	79.75	326	ePd	40	25.30	0.7
			e	40	45.80	
KSP	80.82	328	iPc	40	30.50	0.2
			e	40	51.00	
BRG	81.81	329	e(P)	40	35.40	0.0
	0.8s	10.00nm			4.8mb	
CLL	81.87	330	iPc	40	35.40	-0.3
	1.1s	20.00nm			5.0mb	
			e	41	01.00	
PRU	82.21	328	eP	40	38.00	0.5
KHC	83.27	328	iPd	40	43.90	0.8
PRNI	83.87	303	iPc	40	48.00	1.5
MBH	84.30	303	iPc	40	49.00	0.5
ZOBO	148.34	60	ePKP	48	02.00	1.6
LPB	148.54	60	PKP	48	01.00	0.5
CNCB	148.81	61	PKP	48	03.90	2.8X
			i	48	07.60	
CCH	150.49	59	PKP	48	10.50	7.2X
S.D. = 1.1			on	68	of 75	obs.

OCT 10, 1989 06h 45m 38.13± 1.19s
9.112 S ± 4.9km 113.201 E ± 6.5km
DEPTH = 49.4 ± 10.5 km
5.2mb (20 obs.) 4.2Msz (2 obs.)
SOUTH OF JAVA (282)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.8.: 14S, 28C
Centroid Location:
Origin Time 06:45:40.2 1.0
Lat 9.35S 0.09 Lon 113.17E 0.08
Dep 56.7 6.9 Half-durotion 1.7
Moment Tensor; Scale 10**16 Nm
Mrr=-2.58 0.41 Mtt=-5.60 0.42
Mff= 8.19 0.67 Mrt= 2.87 0.68
Mrf= 2.47 0.52 Mtf= 3.03 0.57
Principal Axes:

	Val=	Plg=	Azm=
T	9.59	14	284
N	-2.12	58	38
P	-7.46	28	186

Best Double Couple:Mo=8.5*10**16
NP1:Strike=328 Dip=60 Slip=-169
NP2: 233 81 -31

TRT	1.51	338	iPc	46	06.20	3.1
			iS	46	48.00	
KUG	10.30	97	eP	48	10.50	4.4X

			eS	49	52.00					i(PcP)	55	34.00			LLA	123.98	52	ePKPc	04	34.40	1.4
PCI	10.49	39	iPd	48	04.50	-4.3X	CAN	41.79	134	eP	53	05.00	-19.7X		CMB	124.02	50	ePKPc	04	34.00	0.9
NANU	13.56	171	iPc	48	43.40	-6.4X	COO	41.89	126	e(P)	53	26.00	0.5		PRI	124.32	52	ePKPc	04	35.50	1.7
			eS	51	01.00		CNB	42.05	134	eP	53	27.40	0.6		FRI	124.83	51	ePKPc	04	35.70	1.2
MBL	13.58	153	eP	48	42.00	-8.0X	GBA	42.07	302	P	53	25.50	-1.5		SES	125.01	33	ePKP	04	35.00	0.4
			eS	50	59.00		XAN	43.10	355	P	53	34.20	-1.1		LRM	126.53	38	ePKP	04	38.90	0.9
TSM	14.11	20	ePd	49	01.00	4.0X	HYB	43.21	308	iPc	53	35.20	-1.2					e	04	53.50	
KGM	14.80	318	eP	49	07.00	0.9		1.0s		100.00nm			5.5mb			FFC	126.61	25	ePKP	04	38.00	0.5
KKM	15.35	11	ePc	49	15.00	1.7	LSA	44.04	332	P	53	44.60	1.1				0.7s		9.00nm			
PPI	15.38	303	eP	49	10.50	-3.0X	TIA	45.23	4	eP	53	52.90	0.5		MWC	126.88	54	ePKP	04	40.00	1.1
KNA	16.56	115	eP	49	23.00	-5.7X	TIA	45.23	4	eP	54	04.40	12.0X		SBB	126.94	53	ePKP	04	40.00	1.1
MTN	17.99	104	eP	49	40.00	-6.4X		Z 14s		0.71um			4.8MszX		RVR	127.49	54	ePKP	04	40.00	0.2
			e	49	43.00		LZH	45.81	349	eP	53	57.50	0.3		GSC	127.57	52	ePKP	04	55.00	14.9X
			eS	52	51.00		LZH	45.81	349	P	53	59.00	1.8X		BAR	128.41	55	ePKP	04	44.00	2.3X
MEKA	18.13	164	eP	49	45.00	-3.1X		3.0s		260.00nm			5.6mb			TPC	128.51	53	ePKP	04	44.00	2.1X
			iS	52	52.00					pP	54	05.00	20kmX		DUG	128.79	45	PKP	04	44.30	2.0X
PSI	18.44	309	eP	49	49.90	-2.0				sP	54	09.00				0.6s		2.26nm			
			e	51	40.00		SVO	46.00	94	eP	54	05.00	6.2X		GLA	129.80	54	ePKP	04	42.00	-2.3X
TLE	19.69	81	ePc	49	58.30	-8.0X	BJI	48.98	3	eP	54	21.00	-0.6		MSU	129.93	47	PKP	04	46.40	1.8
	0.1s		5.00nm			4.8mb		Z 24s		0.32um			4.2MszX		GOL	134.09	42	PKP	04	52.10	-0.5
MRWA	20.17	173	eP	50	10.00	-1.3	BTO	49.55	357	eP	54	23.50	-2.7			0.7s		11.83nm			
	0.5s		24.00nm			4.8mb	HHC	49.73	358	P	54	27.00	-0.6		ALQ	135.59	49	PKP	04	58.00	2.5X
			eS	53	38.00		GTA	49.85	346	eP	54	28.50	-0.1		TUL	142.48	40	ePKP	05	05.30	-2.4X
SNG	20.47	322	eP	50	12.60	-1.8		Z 30s		0.50um			4.3MszX			1.0s		9.70nm			
			eS	53	14.50		IIDJ	50.11	26	eP	54	40.70	10.2X		LNO	142.48	40	ePKP	05	15.20	7.6X
WARB	21.24	145	eP	50	20.80	-1.4	CHJJ	51.07	27	eP	54	30.10	-7.6X		MIM	143.95	3	PKP	05	08.20	-1.7
	0.4s		17.00nm			4.8mb	NDI	51.17	318	iPc	54	35.50	-3.1X		FVM	144.23	33	PKP	05	08.10	-2.6X
			eS	54	05.00					eS	01	45.00			UYO	144.41	41	iPKPd	05	09.40	-1.7
BAL	21.63	172	eP	50	25.30	-0.8	SNY	51.58	10	Pc	54	40.00	-1.4		BNH	144.44	5	PKP	05	09.80	-1.0
			eS	54	11.00		DZM	52.63	111	iPc	54	50.10	0.2		HBVT	144.46	8	PKP	05	09.50	-1.4
KLB	22.77	170	eP	50	38.00	0.7	CN2	53.82	11	iPd	54	57.20	-0.9		EMM	144.50	1	PKP	05	09.70	-1.1
	0.3s		7.00nm			4.6mb				pP	55	03.60	21kmX		PDCR	145.09	232	ePKP	05	12.10	-0.6
			e	50	46.00		MDJ	55.49	14	eP	55	08.20	-2.1		POW	145.12	36	PKP	05	11.20	-1.0
			eS	54	44.00		WMQ	57.55	338	iPc	55	24.00	-1.1		ELC	145.38	32	PKP	05	12.20	-0.4
COOL	22.89	162	eP	50	37.60	-1.0		0.6s		0.10nm			3.1mb X		OLY	145.40	37	PKP	05	12.20	-0.5
	0.4s		47.00nm			5.3mb				pP	55	33.00	30kmX		PPD	145.52	206	ePKP	05	13.80	0.5
			i	50	47.70					eS	03	15.00						e	05	26.90	
			eS	54	39.00					ScS	05	06.50						e	05	42.20	
MUN	22.92	173	eP	50	38.80	-0.1	MSZ	58.85	137	P	55	35.00	0.9		BAO	149.15	217	ePKP	05	25.00	5.6X
	1.0s		160.00nm			5.4mb		0.9s		78.00nm			5.8mb		GBTN	149.16	28	PKP	05	23.20	4.4X
			eS	54	42.00		KSH	59.38	327	iPd	55	37.50	-0.5		NAV	149.20	22	PKP	05	22.80	4.0X
WB5	23.09	120	iPc	50	39.20	-1.4	MAW	67.24	199	eP	56	28.00	-1.2		TKL	149.37	28	PKP	05	24.00	4.9X
			i	50	54.50		MAIO	67.70	315	eP	56	31.00	-1.7		BLA	149.43	22	PKP	05	23.30	4.1X
			eS	54	49.50		SHI	69.90	306	eP	56	45.00	-1.6		NA2	149.47	17	PKP	05	24.30	5.2X
NWAO	23.99	172	iPd	50	49.90	0.7	NPA	72.27	257	iP	57	02.60	1.7		CBN	149.51	17	ePKP	05	26.00	6.8X
	Z 20s		0.70um			4.1Msz	RYD	73.06	299	eP	57	04.00	-1.4		PRM	151.32	28	PKP	05	28.90	6.8X
ASPA	24.52	129	iPc	50	53.80	-0.7	KMSA	73.62	294	eP	57	08.00	-0.7		JSC	151.65	26	PKP	05	29.40	6.9X
	0.6s		97.00nm			5.5mb	OASM	76.13	300	eP	57	22.70	-0.4		LHS	151.67	25	PKP	05	29.50	6.9X
	Z 21s		0.81um			4.2Msz	PTZ	79.98	257	iPd	57	46.20	1.8		CCH	153.67	181	PKP	05	29.00	2.8X
			ipP	51	06.80	53kmX	SPA	80.95	180	ePd	57	49.60	0.9		CNCB	154.22	177	PKP	05	31.00	3.7X
			iPcP	54	46.60			1.0s		18.50nm			5.0mb		LPB	154.49	177	PKP	05	39.00	11.5X
			eS	55	15.60		PRY	82.15	244	eP	57	55.90	0.2		ZOBO	154.75	177	ePKP	05	30.00	2.0X
			LR	00	18.50		GRM	82.26	238	e(P)	57	54.00	-2.1					i	05	53.20	
			iScS	01	52.80		MZZ	82.76	260	eP	58	00.00	0.9					eLR	00	16.00	
NNT	25.37	328	eP	51	02.50	0.0				ipP	58	11.50	37kmX			S.D. = 1.2 on 106 of 153 obs.					
FORR	25.71	149	eP	51	04.20	-1.3	BFS	82.77	244	eP	57	57.50	-1.4		----------						
	0.3s		59.00nm			5.6mb	KSR	82.78	245	eP	57	48.00	-11.1X		* OCT 10, 1989 07h 25m 37.34± 2.58s						
NST	27.82	332	iPc	51	26.00	1.1	LSZ	82.87	256	iP	58	01.30	1.7		23.121 N ±15.3km 121.823 E ±17.3km						
OIS	27.90	117	iPc	51	24.10	-1.6				ipP	58	14.40	44kmX		DEPTH = 10.0km (geophysicist)						
	0.5s		13.00nm			4.8mb				i	58	18.00			TAIWAN					(244)	
JAY	28.12	78	ePd	51	22.50	-5.3X	FRS	83.72	241	eP	57	45.50	-18.0X								
LOE	28.68	337	eP	51	32.00	-0.8	HQL	84.22	301	eP	58	06.30	0.2		TWF1	0.54	295	iPd	25	48.80	0.6
			e	18	01.00		SHMJ	84.47	304	Pd	58	09.50	2.3					eS	25	54.50	
BDT	29.71	332	eP	51	39.50	-2.5	MBH	84.49	301	iPc	58	09.00	1.7		TWG	0.75	247	iPd	25	52.40	0.3
	0.8s		39.50nm			5.2mb	DSI	84.50	303	ePc	58	09.00	1.6		TWD	0.98	348	iPd	25	55.60	-0.3
CHG	31.11	333	eP	51	54.20	-0.1	HRI	84.62	305	iPc	58	10.00	1.9		TWK	1.24	277	ePc	25	59.50	-0.9
CHTO	31.11	333	eP	51	54.10	-0.2	SNA	89.78	198	eP	58	34.00	1.7		TWC	1.48	1	iPc	26	04.20	0.2
	1.0s		8.25nm			4.4mb	VRI	94.02	316	eP	58	56.50	4.3X		ANP	2.07	352	eP	26	16.00	3.4X
PMG	33.50	93	eP	52	14.50	-0.8	BCAO	95.29	274	iPd	58	59.30	0.5			S.D. = 0.8 on 5 of 6 obs.						
CTA	33.73	113	iP	52	17.00	-0.2		0.7s		12.00nm			5.5mb		----------						
	0.8s		35.82nm			5.3mb				i	59	11.40			OCT 10, 1989 07h 36m 52.69± 0.39s						
ADE	34.74	142	eP	52	25.20	-0.6	SUF	96.67	332	eP	59	03.00	-1.0		51.206 N ± 8.1km 179.171 W ± 4.7km						
	1.0s		42.00nm			5.3mb	SOD	97.02	337	iP	59	23.00	17.5X		DEPTH = 33.0km (normal)						
KMI	35.52	344	Pd	52	35.00	2.3	NUR	97.14	330	eP	59	08.00	1.9		4.8mb (26 obs.)						
GYA	35.92	350	P	52	36.40	0.4	KEV	97.16	340	eP	59	24.00	17.9X		ANDREANOF ISLANDS, ALEUTIAN IS. (7)						
RMQ	37.83	122	iPd	52	53.00	1.1	HFS	102.58	330	ePdiff	59	30.30	-0.3		ML 4.2 (PMR).						
			e	54	25.00			0.5s		1.80nm			5.0mb									
SHL	40.23	329	iP	53	12.00	-0.1	NB2	103.72	331	Pdiff	59	37.80	2.0X		ADK	1.69	65	ePd	37	21.50	1.2
			iS	59	14.20			1.0s		2.70nm			5.0mb		SMY	4.43	293	eP	38	04.40	5.1X
TOO	40.64	139	eP	53	16.10	1.0	LON	120.24	41	PKP	04	26.20	0.7		SDN	11.91	62	eP	39	41.40	-1.6
SSE	40.70	11	P	53	16.40	0.8	PNT	120.63	37	ePKP	04	27.00	0.9		SVW	16.35	44	eP	40	45.20	4.2X
	Z 16s		0.60um			4.5MszX	WDC	121.69	48	ePKPc	04	28.60	0.2		KDC	16.75	57	eP	40	43.90	-2.2
			pP	53	27.00	37kmX	EDM	122.28	31	ePKPc	04	29.70	0.5		TTA	17.09	38	eP	40	53.40	3.0
			sP	53	31.00		MIN	122.44	48	ePKPc	04	30.50	0.4		PMR	19.42	46	eP	41	18.40	-0.3
CD2	40.81	348	eP	53	15.40	-1.2	ORV	122.75	49	ePKPc	04	30.50	0.0			0.5s		5.17nm			4.1mb
BRS	41.51	121	iPc	53	24.00	1.5	MHC	123.25	51	ePKPc	04	33.10	1.4		IMA	19.72	31	eP	41	22.30	0.2
			i	53	34.50		PRS	123.72	52	ePKPc	04	33.80	1.3			0.8s		14.60nm			4.3mb

10d 07h

TOA 20.91 46 eP 41 33.20 -1.2
FBA 21.22 38 eP 41 37.20 -0.3
INK 27.73 35 eP 42 39.00 -0.6
MBC 33.85 22 eP 43 34.00 0.4
0.8s 3.00nm 4.3mb
GMW 36.13 73 eP 43 54.50 1.2
BMW 36.36 75 eP 43 56.30 1.0
RMW 36.76 73 eP 43 59.50 0.8
LON 37.09 74 eP 44 02.00 0.6
PNT 37.21 69 eP 44 02.00 -0.4
0.7s 15.00nm 5.0mb
EDM 39.10 60 iPc 44 18.00 -0.2
0.6s 21.00nm 5.1mb
LBFM 39.86 81 eP 44 26.00 1.1
SES 41.65 63 eP 44 39.00 -0.2
LRM 43.15 70 eP 44 51.90 0.1
KVN 43.56 81 eP 44 55.50 0.4
TNP 44.69 82 eP 45 04.30 0.0
0.7s 4.26nm 4.4mb
PTI 44.84 73 eP 45 06.50 1.1
DUG 46.14 77 eP 45 16.00 0.4
0.5s 3.30nm 4.5mb
DAU 46.96 75 eP 45 23.00 0.7
MSU 47.55 78 eP 45 27.00 0.0
GOL 50.95 73 eP 45 52.50 -0.6
0.7s 21.97nm 5.2mb
GLD 51.01 72 eP 45 54.30 0.8
LNO 59.15 70 eP 46 51.40 -0.8
TUL 59.15 70 eP 46 51.60 -0.7
1.2s 10.50nm 4.8mb
FVM 60.84 65 eP 47 02.10 -1.8
ELC 62.01 65 eP 47 10.30 -1.5
SUF 64.67 347 iP 47 28.20 -0.7
0.3s 3.80nm 5.0mb
GBTN 65.99 63 eP 47 36.80 -1.0
NUR 67.00 347 iP 47 44.00 0.2
0.5s 12.60nm 5.3mb
NB2 67.80 355 P 47 48.30 -0.6
0.6s 1.80nm 4.3mb
HFS 68.53 353 eP 47 52.00 -1.4
0.5s 3.70nm 4.7mb
JSC 68.65 62 eP 47 53.80 -0.7
SGS 69.87 62 eP 48 02.20 0.2
FLN 80.41 1 eP 49 01.50 -0.4
0.6s 5.40nm 4.7mb
LDF 80.58 1 eP 49 02.40 -0.4
0.5s 4.90nm 4.8mb
CDF 80.61 356 eP 49 03.10 0.0
GRR 80.78 1 eP 49 03.70 -0.1
0.5s 5.80nm 4.8mb
HAU 81.06 356 eP 49 05.40 0.0
LPF 81.13 1 eP 49 05.80 0.1
0.6s 7.90nm 4.9mb
WB5 81.66 224 eP 49 08.00 -0.8
LOR 81.87 358 eP 49 09.80 0.2
0.7s 4.40nm 4.6mb
SSF 82.09 358 eP 49 11.10 0.4
0.7s 5.50nm 4.7mb
AVF 82.36 358 eP 49 12.50 0.4
SMF 82.50 358 eP 49 13.20 0.3
0.6s 2.70nm 4.5mb
MFF 82.57 1 eP 49 13.50 0.3
0.7s 8.80nm 4.9mb
TCF 82.88 359 eP 49 14.90 0.0
0.6s 2.70nm 4.5mb
LSF 82.92 360 eP 49 15.20 0.1
MAF 82.94 359 eP 49 15.10 -0.1
0.7s 4.40nm 4.7mb
LPG 83.54 356 eP 49 19.30 0.6
RJF 83.87 360 eP 49 20.40 0.5
HYB 84.06 290 eP 49 05.70 -15.6X
LFF 84.24 0 eP 49 22.30 0.5
0.4s 5.70nm 5.1mb
CAF 84.24 359 eP 49 22.40 0.5
LPO 84.49 360 eP 49 23.40 0.3
0.6s 9.70nm 5.2mb
ASPA 85.20 222 eP 49 27.00 0.2
EPF 86.14 0 eP 49 31.60 0.2
0.5s 3.60nm 4.9mb
GBA 87.71 289 P 49 40.00 0.7
MAW 146.20 217 ePKP 56 30.00 1.4X
KSR 147.82 312 ePKP 56 32.30 -0.4
BFS 148.75 311 ePKP 56 35.20 1.1X
S.D. = 0.8 on 62 of 67 obs.

? OCT 10, 1989 08h 23m 59.78± 4.06s
7.638 S ±28.1km 124.993 E ±33.6km
DEPTH = 33.0km (normal)
4.2mb (2 obs.)
BANDA SEA (280)

MTN 7.95 131 eP 25 56.00 0.0
eS 27 16.00
KNA 8.87 156 eP 26 08.00 -0.7
eS 27 36.00
WB5 15.19 144 eP 27 29.70 -3.9X
eS 30 05.90
ASPA 18.08 153 eP 28 09.60 -0.7
0.9s 12.00nm 4.0mb
Z 18s 0.23um 4.8MszX
eS 31 13.30
LR 35 39.50
WARB 18.51 175 eP 28 16.00 0.5
QIS 19.10 134 eP 28 24.00 1.3
eS 31 38.00
PMG 21.99 96 eP 28 52.50 -0.4
0.8s 104.48nm 5.3mb X
CTA 24.03 123 iPd 29 18.60 5.7X
1.0s 10.00nm 4.3mb
LPB 152.71 152 PKP 44 04.00 15.2X
CCH 152.81 156 ePKP 44 02.00 13.2X
ZOBO 152.93 151 ePKP 44 05.00 15.7X
S.D. = 1.0 on 6 of 11 obs.

% OCT 10, 1989 10h 46m 10.90± 1.06s
39.687 N ± 7.8km 29.364 E ±11.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

YLV 0.88 0 iPn 46 27.70 -0.1
KCT 0.96 306 iPn 46 30.10 1.0
HRT 1.16 11 ePn 46 32.60 0.0
EDC 1.33 300 ePn 46 34.50 -0.9
KHL 1.37 175 iPn 46 36.10 0.0
S.D. = 0.9 on 5 of 5 obs.

% OCT 10, 1989 11h 21m 32.98± 0.53s
60.630 N ± 4.4km 6.191 E ± 5.7km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.9 (BER).

ASK 0.51 254 eP 21 43.28 -0.1
eS 21 50.84
HYA 0.54 360 iP 21 43.27 -0.6
eS 21 52.18
ODD1 0.75 163 eP 21 47.16 -0.6
eS 21 55.44
SUE 0.82 302 iP 21 49.11 0.3
eS 22 00.40
8LS1 1.28 165 iP 21 56.80 -0.1
iS 22 13.57
KMY 1.50 199 eP 22 00.29 0.4
eS 22 20.61
MOL 2.05 18 eP 22 08.07 0.2
eS 22 32.60
NRA0 2.63 85 eP 22 16.70 0.4
iPg 22 18.90
iSg 22 53.10
S.D. = 0.5 on 8 of 8 obs.

& OCT 10, 1989 11h 53m 37.41s
63.566 N 150.805 W
DEPTH = 13.4km
CENTRAL ALASKA (1)
<AGS-P>. ML 4.1 (PMR).

KTH 0.05 256 iP 53 40.09 -0.1
HUR 0.79 138 iP 53 52.21 -0.3
MCK 0.85 78 eP 53 53.82 0.3
RND 0.89 100 iP 53 54.39 0.2
CUT 1.19 168 iP 53 59.15 -0.1
NEA 1.27 36 eP 53 59.96 -0.7
eS 54 18.76
WRH 1.50 52 eP 54 03.28 -0.7
SKT 1.63 192 eP 54 05.11 -0.7
eS 54 26.75
CCB 1.71 49 eP 54 06.04 -0.9
RDS 1.72 41 eP 54 06.39 -0.7
FBA 1.88 43 iPc 54 08.40 -1.0
HDA 1.90 62 eP 54 08.83 -0.8
PWA 1.97 167 ePd 54 09.80 -0.9
GHO 2.00 153 eP 54 10.46 -0.8
GLM 2.06 45 eP 54 11.30 -0.9
SUA 2.11 179 eP 54 12.39 -0.5
PME 2.11 156 eP 54 12.47 -0.3
PMR 2.13 158 iPd 54 12.50 -0.5
PLRM 2.13 158 eP 54 12.33 -0.7
eS 54 42.42
NCG 2.26 197 eP 54 13.81 -1.2
DMW 2.30 75 eP 54 14.70 -0.9
CRP 2.39 196 eP 54 16.83 -0.1
PMS 2.40 165 iPc 54 16.90 -0.1
NCA 2.42 129 eP 54 17.01 -0.2
KNK 2.42 152 eP 54 16.75 -0.5
TTA 2.44 257 ePc 54 14.70 -2.9
PAX 2.49 102 eP 54 19.30 1.1
TOA 2.58 123 iPd 54 20.20 0.6
SDG 2.61 111 eP 54 20.73 0.7
IMA 2.80 335 ePc 54 21.80 -0.9
NKA 2.84 184 eP 54 25.08 1.9
DOT 3.01 85 eP 54 27.16 1.5
KLU 3.07 130 eP 54 26.53 0.0
SLKM 3.08 175 eP 54 26.73 0.1
RDT 3.10 195 eP 54 26.32 -0.5
VZW 3.20 140 eP 54 28.57 0.2
GLI 3.21 146 eP 54 28.59 0.2
VLZ 3.21 138 eP 54 28.52 0.1
RED 3.29 197 eP 54 30.85 1.2
SVW 3.34 224 eP 54 27.90 -2.4
FID 3.48 142 eP 54 32.38 0.2
SEW 3.53 169 eP 54 33.74 0.8
NNL 3.54 184 eP 54 33.84 0.7
ILIM 3.64 197 eP 54 34.67 0.0
GLB 3.88 120 eP 54 38.89 0.9
CNPM 4.06 183 eP 54 40.25 -0.2
OPT 4.09 198 eP 54 42.42 1.5
XLV 4.15 186 eP 54 43.71 2.0
AUW 4.40 198 eP 54 49.03 3.7
BALM 4.69 119 eP 54 49.75 0.1
CDD 4.85 198 eP 54 52.74 1.0
DWY 5.06 79 P 54 53.10 -1.6
CTGM 5.14 116 eP 54 56.12 0.3
KDC 5.90 189 eP 55 04.00 -2.4
PCA 6.09 120 eP 55 08.55 -0.6
INK 8.49 48 eP 55 40.00 -2.8
SIT 10.06 123 eP 56 02.20 -2.1
EDM 21.85 101 eP 58 31.00 0.0
58 obs. associated

% OCT 10, 1989 13h 46m 38.17± 0.56s
60.479 N ± 4.9km 5.343 E ± 6.5km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 1.4 (BER).

ASK 0.07 273 iPgc 46 40.78 0.2
iSg 46 42.53
BER 0.10 183 ePg 46 39.96 -0.9
iSg 46 41.81
SUE 0.65 334 eP 46 51.26 0.2
eS 46 59.96
HYA 0.80 31 iP 46 53.12 -0.6
eS 47 04.43
ODD1 0.86 131 eP 46 54.59 -0.1
eS 47 05.36
KMY 1.27 182 iP 47 02.15 0.4
eS 47 14.90
MOL 2.35 26 eP 47 17.26 -0.1
eSg 47 47.40
NRA0 3.07 82 eP 47 28.30 0.8
iSg 48 12.00
S.D. = 0.6 on 8 of 8 obs.

OCT 10, 1989 14h 57m 42.19± 0.68s
33.458 N ± 7.9km 48.681 E ± 8.4km
DEPTH = 33.0km (normal)
4.5mb (3 obs.)
WESTERN IRAN (347)
Damage at Darb-e Astaneh.

TEH 3.19 44 eP 58 32.00 0.7
SLY 3.39 310 ePn 58 36.20 2.2
iP* 58 42.00
iPg 58 48.00
iSn 59 17.50
iS* 59 26.00
iSg 59 31.00
BHD 3.60 268 ePnc 58 38.00 1.0
iP* 58 48.00
iPg 59 03.00

			iSn	59 38.00		
			iS*	59 59.00		
			iSg	00 06.00		
TAB	4.98	338	eP	58 59.00	2.2	
SHI	5.02	138	eP	58 58.00	0.6	
MSL	5.40	304	ePnc	59 01.00	-1.5	
			e	59 20.00		
			eSn	00 28.50		
			e	00 42.50		
QASM	8.60	213	eP	59 46.70	-0.6	
RYD	8.89	192	eP	59 52.00	0.6	
MAIO	9.33	69	eP	59 57.00	-0.5	
			eS	02 55.00		
VRI	20.88	313	eP	02 23.00	-0.8	
NUR	31.28	337	eP	04 01.40	0.5	
SUF	32.56	341	eP	04 11.40	-0.7	
	0.9s		8.50nm		4.6mb	
HFS	35.13	330	eP	04 31.90	-2.4	
	0.5s		3.10nm		4.5mb	
NB2	36.65	330	P	04 45.90	-1.3	
	0.9s		2.50nm		4.1mb	
	S.D. = 1.5		on	14 of 14 obs.		

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* OCT 10, 1989 16h 06m 39.05± 1.66s
7.494 S ±10.5km 128.581 E ±10.9km
DEPTH = 118.9 ± 19.3 km
4.1mb (2 obs.)
BANDA SEA (280)

TLE	4.53	66	iPd	07 47.90	1.2	
			iS	08 32.90		
KUG	5.60	241	ePd	08 10.00	8.7X	
			eS	09 09.00		
MTN	5.88	155	eP	08 09.00	3.8X	
KNA	8.21	179	eP	08 35.50	-1.4	
	0.3s		32.00nm		5.5mb X	
			eS	10 04.00		
WB5	13.53	156	eP	09 46.00	-1.4	
			i	09 49.90		
			eS	12 07.20		
MBL	16.00	211	eP	10 20.00	1.3	
			eS	13 05.00		
OIS	16.81	142	eP	10 29.00	0.3	
			eS	13 28.50		
PMG	18.47	97	eP	10 47.00	-1.5	
WARB	18.68	185	eP	10 51.00	0.2	
	0.3s		4.00nm		4.2mb	
			eS	14 19.00		
NANU	19.55	219	eP	10 59.00	-0.9	
			eS	14 39.00		
CTA	21.21	128	eP	11 18.00	1.2	
FORR	23.24	181	eP	11 37.30	0.8	
COOL	24.29	196	eP	11 46.00	-0.7	
			e	12 20.00		
MRWA	24.65	207	eP	11 51.00	0.9	
			e	12 19.00		
			eS	16 33.00		
KLB	26.02	201	eP	12 03.00	0.3	
MUN	26.95	204	eP	12 12.00	0.8	
			e	12 40.50		
			eS	17 24.00		
CHTO	39.21	312	eP	13 56.30	-1.1	
	1.0s		2.25nm		3.9mb	
CNCB	150.82	146	PKPc	26 19.60	4.9X	
	S.D. = 1.2		on	15 of 18 obs.		

% OCT 10, 1989 16h 54m 06.83± 0.88s
60.573 N ± 5.2km 5.040 E ±10.0km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.5 (BER).

ASK	0.12	140	ePg	54 09.57	-0.2	
			iSg	54 11.52		
SUE	0.50	344	eP	54 16.82	-0.2	
			eS	54 24.73		
HYA	0.82	43	iP	54 22.60	0.0	
			iS	54 34.35		
ODD1	1.03	129	iP	54 26.23	-0.1	
			eS	54 40.62		
KMY	1.37	176	iP	54 32.14	0.2	
			eS	54 48.07		
MOL	2.34	30	iP	54 46.19	0.3	
			eS	55 10.89		
NRA0	3.21	84	eP	54 58.20	0.0	
			eS	55 35.00		
	S.D. = 0.3		on	7 of 7 obs.		

% OCT 10, 1989 16h 57m 43.09± 2.27s
43.078 N ±24.7km 0.549 W ±15.1km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.2 (STR).

ESCF	0.02	273	Pg	57 44.54	-0.5	
			Sg	57 45.44		
OGE	0.11	31	Pg	57 45.95	0.0	
ATE	0.11	274	Pg	57 45.75	-0.3	
			Sg	57 47.46		
ISSF	0.19	255	Pg	57 47.73	0.4	
MADF	0.21	289	Pg	57 47.54	-0.1	
			Sg	57 51.42		
	S.D. = 0.5		on	5 of 5 obs.		

% OCT 10, 1989 17h 00m 20.64± 0.82s
60.577 N ± 5.0km 5.083 E ± 9.5km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.4 (BER).

ASK	0.11	150	iPg	00 23.49	0.0	
			iSg	00 25.71		
SUE	0.51	342	iP	00 31.06	0.2	
			eS	00 39.10		
HYA	0.80	42	eP	00 35.97	-0.2	
			eS	00 48.23		
ODD1	1.02	130	iP	00 40.17	0.2	
			eS	00 54.25		
KMY	1.37	176	iP	00 45.54	-0.2	
			eS	01 03.02		
MOL	2.32	29	eP	00 59.42	0.0	
			eS	01 27.97		
NRA0	3.18	84	iPc	01 11.70	0.0	
			iSg	01 59.90		
	S.D. = 0.2		on	7 of 7 obs.		

% OCT 10, 1989 17h 05m 13.46± 1.09s
23.479 N ±14.3km 121.377 E ±21.7km
DEPTH = 33.0km (normal)
TAIWAN (244)

TWF1	0.15	210	iPc	05 17.70	-1.9	
TWD	0.63	18	eP	05 25.60	-0.3	
TWG	0.71	203	iPd	05 28.00	0.9	
TWK	0.84	256	iPc	05 29.00	0.0	
			eS	05 43.90		
TWC	1.21	21	iPd	05 34.30	0.3	
	S.D. = 1.5		on	5 of 5 obs.		

? OCT 10, 1989 17h 19m 37.00± 4.69s
44.400 N ±70.3km 152.990 E ±47.3km
DEPTH = 33.0km (normal)
4.4mb (3 obs.)
KURIL ISLANDS REGION (222)

KUSJ	6.14	261	P	21 06.20	-1.5	
			S	22 08.70		
HOOJ	7.35	257	P	21 25.90	1.2	
			S	22 43.90		
ASAJ	7.44	271	P	21 26.40	0.5	
MRRJ	8.90	261	eP	21 46.00	-0.2	
			eS	23 17.90		
KEV	59.53	341	eP	29 32.00	-6.9X	
SOD	61.41	339	eP	29 41.00	-10.8X	
SUF	65.12	336	eP	30 16.00	-0.2	
	0.5s		2.00nm		4.5mb	
NUR	67.30	335	eP	30 30.00	-0.1	
NB2	70.43	341	P	30 50.00	0.5	
	0.8s		2.80nm		4.4mb	
HFS	70.63	340	eP	30 50.40	-0.3	
	0.5s		1.90nm		4.4mb	
	S.D. = 0.9		on	8 of 10 obs.		

% OCT 10, 1989 17h 29m 04.69± 1.40s
45.503 N ±17.5km 5.994 E ± 7.0km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.7 (LDG).

LPL	0.52	88	Pg	29 15.30	0.0	
LPG	0.53	90	Pg	29 15.70	0.2	
			Sg	29 23.00		
SMF	1.88	308	Pn	29 33.50	-3.7X	
			Pg	29 37.40		
			Sg	29 53.98		
LBF	2.04	317	Pg	29 39.10	-0.4	
			Sg	30 03.00		
AVF	2.24	306	Pg	29 43.80	1.4	
			Sg	30 10.20		
LOR	2.30	321	Pg	29 43.70	0.4	
			Sn	30 04.80		
			Sg	30 09.70		
SSF	2.33	313	Pn	29 44.40	0.8	
			Sg	30 12.60		
BSF	2.39	13	Pg	29 43.80	-0.8	
			Sg	30 10.90		
BGF	2.43	297	Pn	29 43.30	-1.8	
			Pg	29 48.90		
			Sg	30 18.30		
HAU	2.52	5	Pg	29 46.50	0.2	
			Sg	30 14.20		
	S.D. = 1.1		on	9 of 10 obs.		

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* OCT 10, 1989 17h 37m 27.88± 1.03s
6.542 S ±18.1km 127.588 E ±13.2km
DEPTH = 378.6 ± 21.1 km
4.4mb (1 obs.)
BANDA SEA (280)

TLE	5.21	80	eP	38 51.50	-0.1	
KUG	5.35	227	eP	38 53.50	0.4	
			eS	39 49.50		
MTN	7.17	151	eP	39 10.00	-3.6X	
			eS	40 33.00		
KNA	9.22	173	eP	39 33.50	-4.1X	
			eS	41 14.00		
PCI	9.55	306	ePd	39 41.50	0.1	
WB5	14.80	154	iPc	40 40.90	-0.7	
			eS	43 15.00		
MBL	16.36	207	iPc	40 56.00	-1.8	
	0.3s		5.00nm		4.4mb	
OIS	18.16	141	iPd	41 19.00	2.9X	
			eS	44 24.50		
WARB	19.55	183	eP	41 31.00	1.2	
FORR	24.19	179	eP	42 14.40	1.0	
	S.D. = 1.5		on	7 of 10 obs.		

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* OCT 10, 1989 17h 38m 54.31± 2.58s
39.805 N ±21.6km 23.277 E ± 7.3km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

PAIG	0.33	68	ePgd	39 00.90	-0.3	
			eSg	39 07.70		
LIT	0.67	296	ePg	39 07.30	-0.4	
OUR	0.76	45	iPgd	39 09.60	0.5	
THE	0.86	344	ePg	39 11.30	0.5	
			eSg	39 26.10		
GRG	1.33	330	ePb	39 19.40	0.5	
SRS	1.33	10	ePb	39 18.40	-0.5	
KNT	1.39	348	ePbc	39 20.00	0.3	
			eSb	39 42.10		
MMB	1.81	11	ePd	39 25.00	-0.8	
KKB	2.06	356	eP	39 30.00	0.6	
RZN	2.18	30	iP	39 36.00	4.8X	
KDZ	2.46	41	eP	39 37.00	1.9	
VTS	2.78	359	iP	39 47.00	7.1X	
DIM	2.82	37	eP	39 49.00	8.8X	
PGB	2.82	13	eP	39 48.00	7.7X	
PVL	3.74	24	eP	39 51.00	-2.3	
	S.D. = 1.2		on	11 of 15 obs.		

% OCT 10, 1989 19h 02m 56.14± 0.99s
39.325 N ± 8.5km 27.695 E ± 9.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.77	69	iPg	03 10.50	-0.8	
			eSg	03 21.50		
IZM	0.99	200	ePg	03 15.00	0.1	
EDC	1.03	7	iPg	03 14.50	-1.1	
			eSg	03 26.50		
BNT	1.04	9	iPg	03 15.50	-0.3	
KCT	1.05	29	iPg	03 18.00	2.0	
			iSg	03 32.50		
EZN	1.17	296	ePg	03 18.00	0.0	
	S.D. = 1.4		on	6 of 6 obs.		

? OCT 10, 1989 19h 05m 52.81± 7.38s
31.871 S ±43.6km 72.247 W ±41.1km
DEPTH = 10.0km (geophysicist)

10d 19h

OFF COAST OF CENTRAL CHILE (134)

IHA	1.26	156	eP	06 16.00	-0.2
			iS	06 28.00	
ROCH	1.52	137	iPd	06 19.90	-0.3
JACH	1.62	120	iPc	06 21.30	-0.3
			iS	06 36.60	
LCCH	1.70	161	iPc	06 22.60	0.0
			iS	06 49.50	
PEL	1.83	134	iPd	06 24.50	-0.1
			iS	06 42.50	
SAN	2.07	140	iPc	06 28.10	0.1
TACH	2.09	149	iPc	06 29.00	0.6
			iS	06 51.00	
LNV	2.19	162	eP	06 29.50	-0.3
			iS	06 54.10	
FCH	2.20	132	iPc	06 30.40	0.2
			iS	06 52.90	
PCH	2.28	141	iPd	06 31.50	0.4
CHCH	2.46	147	iPd	06 19.90	-13.7X

S.D. = 0.4 on 10 of 11 obs.

& OCT 10, 1989 20h 08m 03.44s
59.355 N 153.176 W
DEPTH = 89.1km
SOUTHERN ALASKA (2)
<AGS-P>.

AUE	0.10	272	eP	08 15.48	0.8
			eS	08 25.10	
AUL	0.14	282	iP	08 15.68	0.9
AUW	0.15	276	iP	08 15.74	1.0
OPT	0.30	355	iP	08 16.45	-0.6
			eS	08 26.82	
CDD	0.49	210	eP	08 16.92	-1.4
ILIM	0.74	8	iP	08 19.88	-0.7
			eS	08 32.43	
XLV	0.75	82	eP	08 19.86	-0.8
			eS	08 32.66	
CNPM	1.01	79	eP	08 22.64	-0.8
			eS	08 37.84	
NNL	1.18	53	eP	08 26.08	0.6
RDT	1.28	17	iP	08 26.26	-0.6
			eS	08 43.66	
KDC	1.65	167	eP	08 29.46	-2.0
NKA	1.70	34	eP	08 33.47	1.4
SLKM	1.88	51	eP	08 34.18	-0.5
CKL	1.89	12	eP	08 34.65	-0.2
SEW	2.03	67	eP	08 35.63	-0.9
SUA	2.44	29	eP	08 41.36	-0.8

16 obs. associated

% OCT 10, 1989 20h 24m 48.09± 3.79s
22.706 N ±28.5km 121.354 E ±15.8km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWG	0.29	294	iPc	24 54.60	0.5
TWF1	0.65	355	iPd	25 00.90	-0.1
			eS	25 10.20	
TWM1	0.87	278	iPc	25 04.60	-0.2
			eS	25 17.00	
TWK	0.97	305	iPd	25 06.20	-0.4
TWC	1.95	13	iPc	25 21.50	0.0
TWZ	2.39	5	ePd	25 28.10	0.2

S.D. = 0.4 on 6 of 6 obs.

OCT 10, 1989 22h 23m 43.39± 0.78s
38.830 N ± 6.5km 27.795 E ±10.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.60	224	ePg	23 56.00	0.5
			eSg	24 05.50	
DST	1.01	40	iPn	24 02.50	0.0
CIN	1.25	169	ePn	24 06.00	-0.6
			iSg	26 31.00	
KHL	1.45	110	ePn	24 10.00	0.3
KCT	1.48	17	iPn	24 11.00	0.9
EDC	1.52	2	ePn	24 09.50	-1.1

S.D. = 0.9 on 6 of 6 obs.

OCT 10, 1989 22h 55m 32.11± 0.64s
33.615 S ± 7.0km 70.855 W ± 6.7km
DEPTH = 33 0km (normal)
CHILE-ARGENTINA BORDER REGION (127)

TACH	0.08	241	iPd	54 41.00	-56.8X
			iS	55 49.80	
SAN	0.23	45	iPd	55 40.60	1.5
			iS	55 50.00	
PCH	0.28	91	iPd	55 40.60	0.8
			iS	55 49.30	
CHCH	0.36	152	iPd	55 40.00	-0.7
			iS	55 50.00	
PEL	0.49	17	iPd	55 42.60	-0.1
			iS	55 53.80	
FCH	0.55	59	iPd	55 43.50	-0.3
			iS	55 54.50	
LNV	0.57	234	iPc	55 43.50	-0.3
			iS	55 53.70	
LCCH	0.61	283	iPc	55 44.50	0.2
			iS	55 56.50	
ROCH	0.65	348	iPd	55 45.00	-0.1
			iS	55 56.50	
IHA	0.88	312	eP	55 48.80	0.7
			iS	56 02.00	
JACH	0.96	13	iPd	55 47.50	-1.8
			iS	56 02.00	

S.D. = 1.0 on 10 of 11 obs.

% OCT 11, 1989 00h 39m 03.58± 2.87s
43.192 N ±23.1km 0.650 W ±12.8km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

ESCF	0.13	154	Pg	39 06.77	0.1
			Sg	39 09.29	
MADF	0.13	249	Pg	39 06.54	-0.2
			Sg	39 10.23	
ISSF	0.20	213	Pg	39 07.87	-0.1
			Sg	39 10.80	
ELYF	0.25	265	Pg	39 08.90	0.0
BOH	0.28	251	Pg	39 09.79	0.3

S.D. = 0.3 on 5 of 5 obs.

% OCT 11, 1989 01h 17m 58.57± 0.64s
37.292 N ± 8.3km 4.167 W ± 5.1km
DEPTH = 5.0km (geophysicist)
SPAIN (377)
mbLg 2.7 (MDD).

AFC	0.50	94	ePg	18 08.00	-0.6
			eSg	18 16.00	
EPRU	0.91	249	ePg	18 17.00	0.5
			eSg	18 30.60	
EBAN	0.92	19	ePg	18 17.60	0.9
			eSg	18 31.20	
EHOR	1.01	302	ePg	18 18.30	0.2
			eSg	18 33.00	
EJIF	1.34	232	ePn	18 24.20	0.4
			eSn	18 42.00	
ENIJ	1.59	101	ePn	18 28.00	0.5
			eSn	18 48.80	
EVIA	1.88	44	ePn	18 31.20	-0.5
EVAL	2.07	279	eP	18 32.90	-1.5
			eS	18 59.30	
GUD	3.35	0	ePg	19 05.00	12.3X
			eSg	19 45.00	

S.D. = 1.0 on 8 of 9 obs.

% OCT 11, 1989 02h 13m 58.29± 0.88s
36.869 N ± 7.2km 5.399 W ± 9.1km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)
mbLg 2.4 (MDD).

EPRU	0.17	54	iPgc	14 01.40	-0.7
			eSg	14 03.80	
EJIF	0.42	188	ePg	14 06.80	-0.1
			eSg	14 14.00	
EHOR	0.96	7	ePg	14 16.20	-0.3
			eSg	14 30.00	
EVAL	1.29	304	ePn	14 22.20	0.0
			eSn	14 40.00	
EBAN	1.82	44	ePn	14 31.00	1.1
			eSn	14 51.50	

S.D. = 0.9 on 5 of 5 obs.

% OCT 11, 1989 02h 20m 03.19± 0.84s
36.892 N ± 7.2km 5.410 W ± 7.9km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)
mbLg 2.5 (MDD).

EPRU	0.16	63	ePg	20 05.70	-1.2
			eSg	20 08.40	
EJIF	0.44	186	ePg	20 12.00	-0.2
EHOR	0.93	8	ePg	20 20.80	-0.2
			eSg	20 33.20	
EVAL	1.27	303	ePn	20 26.80	0.0
			eSn	20 44.00	
AFC	1.54	76	ePn	20 31.80	1.0
EBAN	1.81	45	ePn	20 35.30	0.6
			eSn	20 56.00	

S.D. = 1.0 on 6 of 6 obs.

% OCT 11, 1989 02h 26m 40.57± 0.83s
36.915 N ± 7.1km 5.412 W ± 7.6km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)
mbLg 2.5 (MDD).

EPRU	0.15	70	ePg	26 42.90	-1.3
			eSg	26 45.00	
EJIF	0.46	186	ePg	26 50.00	0.0
			eSg	26 57.00	
EHOR	0.91	8	ePg	26 58.00	0.0
			eSg	27 10.00	
EVAL	1.26	303	ePn	27 03.70	-0.2
			eSn	27 21.50	
AFC	1.53	77	ePn	27 09.00	0.9
EBAN	1.80	46	ePn	27 12.50	0.7
			eSn	27 33.00	

S.D. = 1.0 on 6 of 6 obs.

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* OCT 11, 1989 03h 48m 33.81± 1.17s
6.430 S ±10.5km 154.335 E ± 9.1km
DEPTH = 66.7 ± 12.6 km
4.4mb (2 obs.)
SOLOMON ISLANDS (193)

BGA	0.88	72	iPd	49 04.50	13.5X
			eS	49 14.00	
RAB	3.10	316	iPd	49 22.00	0.6
			iS	50 08.00	
SVO	6.06	117	eP	50 03.00	0.0
LAT	7.29	268	eP	50 19.00	-1.0
PMG	7.70	247	iPd	50 26.00	0.3
	0.8s		119.40nm		5.7mb X
CTA	15.68	209	iPd	52 17.30	5.1X
	0.8s		18.66nm		4.3mb
			i	52 30.10	
DZM	19.46	144	iPc	52 58.00	-0.1
QIS	20.03	224	eP	53 04.00	-0.1
RMQ	20.65	194	eP	53 10.00	-0.4
			e	53 25.00	
WB5	23.56	234	eP	53 39.80	0.6
QZH	46.72	313	Pd	56 58.00	-0.1
KMI	59.16	304	Pd	58 38.50	7.9X
CD2	60.95	311	P	58 40.60	-2.0
SHL	68.45	301	iP	59 31.40	0.0
GBA	78.87	285	P	00 34.00	2.1
	0.6s		3.20nm		4.4mb

S.D. = 1.1 on 12 of 15 obs.

& OCT 11, 1989 04h 01m 37.28s
60.959 N 146.989 W
DEPTH = 19.6km
SOUTHERN ALASKA (2)
<AGS-P>. ML 2.9 (PMR).

GLI	0.09	213	iP	01 41.21	0.0
VZW	0.23	64	iP	01 43.05	0.1
FID	0.33	130	iP	01 43.56	-0.8
			eS	01 48.80	
VLZ	0.36	61	iP	01 44.55	-0.4
			eS	01 50.29	
HIN	0.61	157	iP	01 48.20	-1.0
			iS	01 57.73	
CVA	0.74	124	eP	01 50.26	-1.0
			eS	02 02.54	
KLU	0.74	44	iP	01 50.26	-1.2
			eS	02 00.47	
KNK	0.84	303	iP	01 51.95	-1.2
SGAM	0.99	117	iP	01 54.21	-1.4
			iS	02 08.74	
MTU	1.03	199	eP	01 54.54	-1.7
NCA	1.04	4	eP	01 55.06	-1.5
			eS	02 08.63	

PME	1.19	305	eP	01	57.31
			eS	02	11.83
PLRM	1.21	302	eP	01	57.42
PMR	1.21	302	iPc	01	57.50
TOA	1.21	18	iPd	01	58.30
GHO	1.24	312	iP	01	58.03
RAGM	1.28	116	eP	01	59.13
			eS	02	17.52
PMS	1.28	284	iPc	01	58.60
SEW	1.49	236	eP	02	00.92
			eS	02	19.34
PWA	1.56	298	iPc	02	02.40
MID	1.57	168	eP	02	03.80
GLB	1.61	71	eP	02	03.58
SLKM	1.65	255	eP	02	03.63
			eS	02	24.11
SUA	1.89	287	eP	02	07.38
WAX	2.10	102	iP	02	09.83
			eS	02	36.33
CUT	2.13	314	eP	02	12.11
PAX	2.14	19	eP	02	12.13
SNH	2.19	109	eP	02	11.68
			eS	02	38.34
BALM	2.26	86	eP	02	12.09
			eS	02	38.81
NNL	2.32	249	eP	02	13.50
CYK	2.39	110	eP	02	17.02
			eS	02	44.47
SKT	2.41	297	eP	02	14.48
SPU	2.47	277	eP	02	14.51
RND	2.61	341	eP	02	18.56
CKL	2.61	278	eP	02	17.16
RDT	2.69	264	eP	02	17.59
CTGM	2.76	87	eP	02	19.55
ILIM	3.08	256	eP	02	22.63
FBA	3.97	355	eP	02	36.70
SVW	4.20	276	eP	02	37.60
KDC	4.28	224	eP	02	39.10

41 obs. associated

% OCT 11, 1989 04h 05m 58.27± 0.85s
36.904 N ± 7.2km 5.422 W ± 7.9km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)
mbLg 2.7 (MDD).

EPRU	0.16	68	ePg	06	01.00
			eSg	06	04.00
EJIF	0.45	185	ePg	06	07.20
			eSg	06	15.00
EHOR	0.92	9	ePg	06	15.50
			eSg	06	29.00
EVAL	1.26	303	ePn	06	21.80
			eSn	06	39.00
AFC	1.54	76	ePn	06	27.30
			eSn	06	46.50
EBAN	1.81	45	ePn	06	30.00
			eSn	06	54.60

S.D. = 1.0 on 6 of 6 obs.

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* OCT 11, 1989 05h 46m 44.41± 3.39s
17.053 N ±26.9km 61.268 W ±27.0km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 3.7 (FDF).

ANG	0.55	281	eP	46	55.89
			eS	47	05.03
BPA	0.56	269	eP	46	55.68
			eS	47	04.42
PAG	1.09	201	eP	47	03.60
			S	47	19.40
BBL	1.53	188	eP	47	09.80
			S	47	30.10
FDF	2.31	177	eP	47	20.61
	0.2s		0.60nm		
			S	47	48.20
CRM	2.31	172	eP	47	20.61
MVM	2.51	172	eP	47	24.07
BIM	2.53	176	eP	47	24.52

S.D. = 0.4 on 8 of 8 obs.

? OCT 11, 1989 06h 01m 27.27± 0.86s
16.784 S ±36.2km 69.692 W ±12.2km
DEPTH = 185.7 ± 11.6 km
PERU-BOLIVIA BORDER REGION (118)

LPB	1.55	81	P	02	01.30
ZOBO	1.59	71	iPd	02	01.50
CNCB	1.64	91	iPc	02	02.10
			eS	02	26.00
ARE	1.75	280	iPc	02	03.00
			iS	02	29.10
CCH	3.45	100	iPc	02	22.10
PT03	6.51	294	e(P)	03	02.00
			e(S)	04	11.60
NNA	8.41	304	eP	03	26.50
	0.3s		7.79nm		
			eS	04	57.00
PT10	8.46	303	e(P)	03	32.00
			eS	05	02.00
PPD	18.10	110	eP	05	26.10
BMA	24.73	108	eP	06	35.10

S.D. = 1.2 on 9 of 10 obs.

OCT 11, 1989 06h 05m 16.53± 0.46s
17.776 S ± 7.4km 178.863 W ± 5.8km
DEPTH = 546.2 ± 5.6 km
5.0mb (21 obs.)
FIJI ISLANDS REGION (181)

VUN	2.56	264	ePc	06	31.20
AFI	7.83	62	eP	07	11.00
DZM	14.46	250	iPd	08	21.10
KRP	20.67	193	eP	09	24.00
PGZ	23.15	189	P	09	41.70
	0.4s		15.00nm		
BRS	27.82	245	iPc	10	24.50
	0.8s		39.00nm		
			i(pP)	10	33.50
			i	10	37.00
MHZ	28.96	198	P	10	32.30
MSZ	29.02	200	P	10	34.50
COO	29.47	239	iPd	10	39.30
RMO	31.15	248	iPd	10	53.30
	0.7s		293.00nm		
			e	11	07.00
CTA	33.04	260	iPd	11	08.20
	0.8s		85.82nm		
CNB	33.17	232	iPc	11	10.80
CAN	33.44	232	iPd	11	12.70
BWA	33.55	234	iPd	11	11.30
PMG	34.01	280	iPd	11	17.70
	0.9s		58.82nm		
LAT	35.08	284	eP	11	27.00
TOO	36.92	230	iPd	11	42.00
	0.9s		162.00nm		
BFD	38.97	232	iPd	11	38.00
OIS	39.25	259	ePd	11	58.80
ADE	41.35	237	iPd	12	17.20
	0.7s		95.89nm		
WB5	44.21	260	iPd	12	38.10
ASPA	44.41	254	iPd	12	40.50
	0.6s		505.00nm		
			iS	18	33.00
			eScS	21	38.80
MTN	48.37	268	iPd	13	09.90
FORR	49.64	244	iPd	13	19.60
	0.4s		153.00nm		
KNA	50.06	264	iPd	13	22.60
	0.3s		36.00nm		
WARB	50.92	250	eP	13	29.00
COOL	55.62	244	iPd	14	01.70
	0.3s		15.00nm		
MBL	57.59	256	iPd	14	15.60
MEKA	58.15	249	iPd	14	19.40
KLB	58.50	243	iPd	14	21.70
	0.3s		15.00nm		
NWAO	58.89	242	eP	14	24.40
BAL	59.45	245	iPd	14	28.00
MUN	59.80	243	eP	14	30.70
MRWA	60.16	246	eP	14	32.80
NANU	61.35	254	iPd	14	41.30
	0.3s		12.00nm		
MAT	67.54	324	iPc	15	19.20
	0.7s		28.77nm		
ADK	69.39	1	eP	15	29.30
	0.6s		34.10nm		
SMY	70.47	355	eP	15	35.70
SYP	76.39	47	eP	16	12.00
GCC	76.42	44	ePc	16	11.60
PCC	76.43	43	eP	16	11.20
PRS	76.44	44	ePc	16	12.00
SAO	76.63	44	eP	16	12.50

BCH	76.67	46	P	16	12.70
BRK	76.73	43	eP	16	13.30
PRI	76.80	45	ePc	16	14.20
MHC	76.83	43	ePc	16	14.20
LLA	76.88	44	ePc	16	14.00
MWC	77.57	48	eP	16	18.00
MDJ	77.83	325	eP	16	19.30
FRI	77.91	45	ePc	16	19.40
RVR	77.93	48	eP	16	20.00
PLM	77.97	49	eP	16	21.00
SBB	77.98	47	eP	16	20.00
ISA	78.04	46	eP	16	21.00
CMB	78.04	43	ePc	16	20.00
WDC	78.12	40	ePc	16	20.60
ORV	78.18	42	ePc	16	20.70
KDC	78.37	14	ePc	16	20.90
MIN	78.57	41	eP	16	22.70
CLC	78.72	47	eP	16	24.00
TPC	78.94	49	eP	16	25.00
TNP	80.17	45	P	16	31.70
	0.7s		5.67nm		
TTA	82.42	10	ePc	16	42.10
PMR	82.58	14	ePc	16	42.00
	0.6s		17.10nm		
BJI	83.39	316	eP	16	47.50
TOA	83.72	15	ePc	16	48.60
MAW	83.84	200	eP	16	50.00
TIY	84.86	312	Pd	16	56.20
PNT	84.87	34	ePc	16	55.00
	0.7s		13.00nm		
NEW	85.66	36	P	16	57.30
	0.5s		7.46nm		
IMA	85.71	10	eP	16	57.70
FBA	85.77	13	iPc	16	57.10
XAN	85.84	308	P	17	01.00
ALQ	86.35	52	eP	17	02.20
	1.0s		5.75nm		
			epP	19	04.00
LRM	87.15	40	eP	17	06.00
GOL	89.09	48	P	17	14.90
GLD	89.22	48	P	17	16.80
	1.1s		27.00nm		
SES	90.17	36	iPc	17	19.60
RSSD	91.77	44	P	17	26.90
MBC	100.30	12	ePdiff	18	04.00
	0.9s		4.00nm		
EKA	142.37	4	PKP	23	44.00
	0.9s		5.10nm		
DMU	143.41	8	ePKP	23	47.30
KAS	143.49	317	iPKPc	23	32.70
DLE	144.06	8	ePKP	23	49.50
KRA	144.43	339	ePKPc	23	50.70
ETA	144.68	8	ePKP	23	51.80
	0.6s		40.00nm		
YRH	144.73	6	ePKP	23	51.50
WIT	144.77	354	ePKP	23	53.50
VRI	144.84	328	ePKP	23	52.80
KSP	144.86	343	iPKPc	23	53.20
	0.8s		45.00nm		
			e	26	42.00
ECB	144.93	8	ePKP	23	52.40
	0.8s		55.00nm		
ECP	145.16	8	ePKP	23	53.30
	0.7s		50.00nm		
CLL	145.24	347	iPKPc	23	53.90
	0.9s		51.00nm		
WTS	145.56	354	ePKP	23	55.00
	0.7s		24.00nm		
PRU	146.10	344	PKP	23	56.50
	0.8s		16.60nm		
			e	23	58.50
MOX	146.15	348	ePKP	23	56.50
	1.6s		37.00nm		
MEM	147.01	354	iPKPc	23	58.76
KHC	147.14	345	ePKP	24	00.00
GRF	147.14	348	iPKPc	23	59.80
			e	24	02.60
SNF	147.24	356	iPKPc	23	59.37
			i	24	02.61
DOU	147.64	356	iPKPc	24	00.50
	0.7s		22.20nm		
WLF	147.93	354	PKP	24	01.60
CDF	149.04	352	iPKPc	24	04.30
	0.6s		14.45nm		
FLN	149.06	2	iPKPc	24	04.10
	0.5s		16.05nm		
LDF	149.24	2	iPKPc	24	04.30

PME	1.19	305	eP	01	57.31
			eS	02	11.83
PLRM	1.21	302	eP	01	57.42
PMR	1.21	302	iPc	01	57.50
TOA	1.21	18	iPd	01	58.30
GHO	1.24	312	iP	01	58.03
RAGM	1.28	116	eP	01	59.13
			eS	02	17.52
PMS	1.28	284	iPc	01	58.60
SEW	1.49	236	eP	02	00.92
			eS	02	19.34
PWA	1.56	298	iPc	02	02.40
MID	1.57	168	eP	02	03.80
GLB	1.61	71	eP	02	03.58
SLKM	1.65	255	eP	02	03.63
			eS	02	24.11
SUA	1.89	287	eP	02	07.38
WAX	2.10	102	iP	02	09.83
			eS	02	36.33
CUT	2.13	314	eP	02	12.11
PAX	2.14	19	eP	02	12.13
SNH	2.19	109	eP	02	11.68
			eS	02	38.34
BALM	2.26	86	eP	02	12.09
			eS	02	38.81
NNL	2.32	249	eP	02	13.50
CYK	2.39	110	eP	02	17.02
			eS	02	44.47
SKT	2.41	297	eP	02	14.48
SPU	2.47	277	eP	02	14.51
RND	2.61	341	eP	02	18.56
CKL	2.61	278	eP	02	17.16
RDT	2.69	264	eP	02	17.59
CTGM	2.76	87	eP	02	19.55
ILIM	3.08	256	eP	02	22.63
FBA	3.97	355	eP	02	36.70
SVW	4.20	276	eP	02	37.60
KDC	4.28	224	eP	02	39.10

41 obs. associated

% OCT 11, 1989 04h 05m 58.27± 0.85s
36.904 N ± 7.2km 5.422 W ± 7.9km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)
mbLg 2.7 (MDD).

EPRU	0.16	68	ePg	06	01.00
			eSg	06	04.00
EJIF	0.45	185	ePg	06	07.20
			eSg	06	15.00
EHOR	0.92	9	ePg	06	15.50
			eSg	06	29.00
EVAL	1.26	303	ePn	06	21.80
			eSn	06	39.00
AFC	1.54	76	ePn	06	27.30
			eSn	06	46.50
EBAN	1.81	45	ePn	06	30.00
			eSn	06	54.60

S.D. = 1.0 on 6 of 6 obs.

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* OCT 11, 1989 05h 46m 44.41± 3.39s
17.053 N ±26.9km 61.268 W ±27.0km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 3.7 (FDF).

ANG	0.55	281	eP	46	55.89
			eS	47	05.03
BPA	0.56	269	eP	46	55.68
			eS	47	04.42
PAG	1.09	201	eP	47	03.60
			S	47	19.40
BBL	1.53	188	eP	47	09.80
			S	47	30.10
FDF	2.31	177	eP	47	20.61
	0.2s		0.60nm		
			S	47	48.20
CRM	2.31	172	eP	47	20.61
MVM	2.51	172	eP	47	24.07
BIM	2.53	176	eP	47	24.52

S.D. = 0.4 on 8 of 8 obs.

? OCT 11, 1989 06h 01m 27.27± 0.86s
16.784 S ±36.2km 69.692 W ±12.2km
DEPTH = 185.7 ± 11.6 km
PERU-BOLIVIA BORDER REGION (118)

LPB	1.55	81	P	02	01.30
ZOBO	1.59	71	iPd	02	01.50
CNCB	1.64	91	iPc	02	02.10
			eS	02	26.00
ARE	1.75	280	iPc	02	03.00
			iS	02	29.10
CCH	3.45	100	iPc	02	22.10
PT03	6.51	294	e(P)	03	02.00
			e(S)	04	11.60
NNA	8.41	304	eP	03	26.50
	0.3s		7.79nm		
			eS	04	57.00
PT10	8.46	303	e(P)	03	32.00
			eS	05	02.00
PPD	18.10	110	eP	05	26.10
BMA	24.73	108	eP	06	35.10

S.D. = 1.2 on 9 of 10 obs.

OCT 11, 1989 06h 05m 16.53± 0.46s
17.776 S ± 7.4km 178.863 W ± 5.8km
DEPTH = 546.2 ± 5.6 km
5.0mb (21 obs.)
FIJI ISLANDS REGION (181)

VUN	2.56	264	ePc	06	31.20
AFI	7.83	62	eP	07	11.00
DZM	14.46	250	iPd	08	21.10
KRP	20.67	193	eP	09	24.00
PGZ	23.15	189	P	09	41.70
	0.4s		15.00nm		
BRS	27.82	245	iPc	10	24.50
	0.8s		39.00nm		
			i(pP)	10	33.50
			i	10	37.00
MHZ	28.96	198	P	10	32.30
MSZ	29.02	200	P	10	34.50
COO	29.47	239	iPd	10	39.30
RMO	31.15	248	iPd	10	53.30
	0.7s		293.00nm		
			e	11	07.00
CTA	33.04	260	iPd	11	08.20
	0.8s		85.82nm		
CNB	33.17	232	iPc	11	10.80
CAN	33.44	232	iPd	11	12.70
BWA	33.55	234	iPd	11	11.30
PMG	34.01	280	iPd	11	17.70
	0.9s		58.82nm		
LAT	35.08	284	eP	11	27.00
TOO	36.92	230	iPd	11	42.00
	0.9s		162.00nm		
BFD	38.97	232	iPd	11	38.00
OIS	39.25	259	ePd	11	58.80
ADE	41.35	237	iPd	12	17.20
	0.7s		95.89nm		
WB5	44.21	260	iPd	12	38.10
ASPA	44.41	254	iPd	12	40.50
	0.6s		505.00nm		
			iS	18	33.00
			eScS	21	38.80
MTN	48.37	268	iPd	13	09.90
FORR	49.64	244	iPd	13	19.60
	0.4s		153.00nm		
KNA	50.06	264	iPd	13	22.60
	0.3s		36.00nm		
WARB	50.92	250	eP	13	29.00
COOL	55.62	244	iPd	14	01.70
	0.3s		15.00nm		
MBL	57.59	256	iPd	14	15.60
MEKA	58.15	249	iPd	14	19.40
KLB	58.50	243	iPd	14	21.70
	0.3s		15.00nm		
NWAO	58.89	242	eP	14	24.40
BAL	59.45	245	iPd	14	28.00
MUN	59.80	243	eP	14	30.70
MRWA	60.16	246	eP	14	32.80
NANU	61.35	254	iPd	14	41.30
	0.3s		12.00nm		
MAT	67.54	324	iPc	15	19.20
	0.7s		28.77nm		
ADK	69.39	1	eP	15	29.30
	0.6s		34.10nm		
SMY	70.47	355	eP	15	35.70
SYP	76.39	47	eP	16	12.00
GCC	76.42	44	ePc	16	11.60
PCC	76.43	43	eP	16	11.20
PRS	76.44	44	ePc	16	12.00
SAO	76.63	44	eP	16	12.50

BCH	76.67	46	P	16	12.70
BRK	76.73	43	eP	16	13.30
PRI	76.80	45	ePc	16	14.20
MHC	76.83	43	ePc	16	14.20
LLA	76.88	44	ePc	16	14.00
MWC	77.57	48	eP	16	18.00
MDJ	77.83	325	eP	16	19.30
FRI	77.91	45	ePc	16	19.40
RVR	77.93	48	eP	16	20.00
PLM	77.97	49	eP	16	21.00
SBB	77.98	47	eP	16	20.00
ISA	78.04	46	eP	16	21.00
CMB	78.04	43	ePc	16	20.00
WDC	78.12	40	ePc	16	20.60
ORV	78.18	42	ePc	16	20.70
KDC	78.37	14	ePc	16	20.90
MIN	78.57	41	eP	16	22.70
CLC	78.72	47	eP	16	24.00
TPC	78.94	49	eP	16	25.00
TNP	80.17	45	P	16	31.70
	0.7s		5.67nm		
TTA	82.42	10	ePc	16	42.10
PMR	82.58	14	ePc	16	42.00
	0.6s		17.10nm		
BJI	83.39	316	eP	16	47.50
TOA	83.72	15	ePc	16	48.60
MAW	83.84	200	eP	16	50.00
TIY	84.86	312	Pd	16	56.20
PNT	84.87	34	ePc	16	55.00
	0.7s		13.00nm		
NEW	85.66	36	P	16	57.30
	0.5s		7.46nm		
IMA	85.71	10	eP	16	57.70
FBA	85.77	13	iPc	16	57.10
XAN	85.84	308	P	17	01.00
ALQ	86.35	52	eP	17	02.20
	1.0s		5.75nm		
			epP	19	04.00
LRM	87.15	40	eP	17	06.00
GOL	89.09	48	P	17	14.90
GLD	89.22	48	P	17	16.80
	1.1s		27.00nm		
SES	90.17	36	iPc	17	19.60
RSSD	91.77	44	P	17	26.90
MBC	100.30	12	ePdiff	18	04.00
	0.9s		4.00nm		
EKA	142.37	4	PKP	23	44.00
	0.9s		5.10nm		
DMU	143.41	8	ePKP	23	47.30
KAS	143.49	317	iPKPc	23	32.70
DLE	144.06	8	ePKP	23	49.50
KRA	144.43	339	ePKPc	23	50.70
ETA	144.68	8	ePKP	23	51.80
	0.6s		40.00nm		
YRH	144.73	6	ePKP	23	51.50
WIT	144.77	354	ePKP	23	53.50
VRI	144.84	328	ePKP	23	52.80
KSP	144.86	343	iPKPc	23	53.20
	0.8s		45.00nm		
			e	26	42.00
ECB	144.93	8	ePKP	23	52.40
	0.8s		55.00nm		
ECP	145.16	8	ePKP	23	53.30
	0.7s		50.00nm		
CLL	145.24	347	iPKPc	23	53.90
	0.9s		51.00nm		
WTS	145.56	354	ePKP	23	55.00
	0.7s		24.00nm		
PRU	146.10	344	PKP	23	56.50
	0.8s		16.60nm		
			e	23	58.50
MOX	146.15	348	ePKP	23	56.50
	1.6s		37.00nm		
MEM	147.01	354	iPKPc	23	58.76
KHC	147.14	345	ePKP	24	00.00
GRF	147.14	348	iPKPc	23	59.80
			e	24	02.60
SNF	147.24	356	iPKPc	23	59.37
			i	24	02.61
DOU	147.64	356	iPKPc	24	00.50
	0.7s		22.20nm		
WLF	147.93	354	PKP	24	01.60
CDF	149.04	352	iPKPc	24	04.30
	0.6s		14.45nm		
FLN	149.06	2	iPKPc	24	04.10
	0.5s		16.05nm		
LDF	149.24	2	iPKPc	24	04.30

11d 06h

	0.4s	10.90nm				
GRR	149.42	3	iPKPc	24	04.80	4.9X
	0.4s	13.75nm				
HAU	149.55	353	iPKPc	24	05.40	5.3X
	0.5s	9.50nm				
BSF	149.67	352	iPKPc	24	05.70	5.3X
	0.6s	7.20nm				
LPF	149.77	3	iPKPc	24	04.90	4.5X
	0.4s	19.50nm				
OGA	149.86	346	ePKP	24	06.60	5.7X
VOY	149.90	342	iPKP	24	05.70	4.9X
VBY	149.95	340	iPKPc	24	06.60	5.8X
LOR	150.50	356	iPKPc	24	07.50	5.9X
	0.4s	15.45nm				
SSF	150.73	357	iPKPc	24	08.40	6.5X
	0.4s	13.20nm				
LBF	150.78	356	iPKPc	24	08.20	6.1X
	0.4s	6.85nm				
AVF	151.01	357	iPKPc	24	08.40	6.1X
	0.4s	2.60nm				
SMF	151.12	356	iPKPc	24	08.80	6.3X
	0.6s	3.60nm				
MFF	151.23	2	iPKPc	24	09.00	6.3X
	0.4s	9.15nm				
OHR	151.26	328	ePKP	24	08.50	5.5X
	0.6s	58.00nm				
BGF	151.26	358	iPKPc	24	09.50	6.8X
	0.6s	13.55nm				
TCF	151.55	358	iPKPc	24	09.80	6.6X
	0.6s	9.50nm				
LSF	151.60	359	iPKPc	24	09.60	6.4X
	0.6s	9.90nm				
MAF	151.61	358	iPKPc	24	10.50	7.3X
	0.6s	6.30nm				
LSD	151.95	351	PKP	24	23.22	19.1X
LPG	151.96	352	iPKPc	24	12.00	7.9X
	0.6s	5.40nm				
RJF	152.55	359	ePKP	24	12.00	7.4X
	0.6s	3.60nm				
LFF	152.92	1	ePKP	24	12.80	7.7X
CAF	152.92	359	ePKP	24	13.00	7.8X
	0.6s	3.60nm				
LPO	153.17	360	ePKP	24	13.40	7.9X
	0.4s	2.30nm				

S.D. = 0.9 on 92 of 130 obs.

% OCT 11, 1989 07h 40m 56.56± 0.94s
40.030 N ± 9.2km 27.459 E ± 8.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EDC	0.44	44	iPg	41	05.50	-0.1
			eSg	41	11.50	
BNT	0.48	47	iPg	41	05.90	-0.4
			iSg	41	10.90	
KCT	0.72	72	iPg	41	10.40	-0.4
EZN	0.90	257	ePg	41	13.60	-0.1
DST	1.00	115	iPg	41	13.40	-2.1
			eSg	41	24.40	
YLV	1.56	69	iPn	41	22.90	-1.5
IZM	1.64	185	iPn	41	24.80	-0.7
GBZT	1.70	63	ePn	41	27.00	0.7
			iSg	41	50.50	
HRT	1.86	64	ePn	41	29.90	1.1
GPA	2.20	82	ePn	41	35.00	1.3
KHL	2.34	136	ePn	41	38.00	2.2

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

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* OCT 11, 1989 07h 47m 53.58± 2.52s
40.243 N ± 8.8km 19.600 E ±22.5km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)

SRN	0.47	140	ePg	48	02.60	-0.6
BERA	0.53	30	iPgd	48	03.00	-1.3
LSK	0.77	97	iPgd	48	09.50	0.8
TIR	1.12	10	ePn	48	14.70	0.1
OHR	1.26	46	ePn	48	17.00	0.0
PHP	1.58	24	ePn	48	22.50	0.9
SKO	2.22	38	ePn	48	31.00	0.1

S.D. = 1.0 on 7 of 7 obs.

OCT 11, 1989 08h 50m 16.40± 0.31s
57.410 N ± 5.3km 136.533 W ± 4.3km
DEPTH = 10.0km (geophysicist)
4.3mb (4 obs.)
SOUTHEASTERN ALASKA (19)

Felt (IV) at Pelican and (III) at Sitka. Felt from Sitka to Juneau.

SIT	0.75	118	iPc	50	30.00	-1.0
ABF	1.40	45	eP	50	40.10	-1.8
WCBC	2.31	345	iPc	50	54.80	-0.3
YKU	2.73	323	eP	51	03.70	2.7
PCA	3.32	326	eP	51	09.53	0.0
WHC	3.42	12	eP	51	10.50	-0.3
HYT	3.46	352	P	51	11.40	-0.1
CTGM	4.34	327	eP	51	25.06	1.1
TGL	4.67	319	eP	51	28.14	-0.5
BALM	4.70	323	eP	51	29.55	0.4
GLB	5.49	320	eP	51	40.58	0.4
MID	5.54	296	eP	51	41.70	0.9
FID	6.12	307	eP	51	49.89	0.8
VLZ	6.26	311	eP	51	51.35	0.5
KLU	6.30	314	eP	51	50.57	-1.0
VZW	6.31	310	eP	51	52.01	0.3
GLI	6.45	307	eP	51	53.47	-0.2
TOA	6.77	318	eP	52	00.20	2.0
DWY	6.82	349	P	51	58.10	-0.7
NCA	6.94	316	eP	52	01.16	0.5
PAX	7.13	325	eP	52	03.97	0.6
BBB	7.15	134	eP	52	00.50	-2.9
SEW	7.24	297	eP	52	02.80	-1.9
DOT	7.27	332	eP	52	04.50	-0.8
KNK	7.28	308	eP	52	04.39	-1.0
GHO	7.65	310	eP	52	09.53	-1.1
PLRM	7.65	308	eP	52	10.50	0.0
PMR	7.65	308	eP	52	11.00	0.5
PMS	7.69	305	eP	52	11.00	-0.1
SLKM	7.73	299	eP	52	09.96	-1.6
DDM	7.87	328	eP	52	15.03	1.4
CNPM	7.99	292	eP	52	13.58	-1.8
CUT	8.52	312	iP	52	23.50	0.9
KDC	8.58	279	eP	52	22.20	-1.3
FBA	9.26	329	eP	52	32.10	-0.8
SVW	10.44	299	eP	52	47.70	-1.4
IMA	11.84	324	eP	53	08.40	0.1
	0.8s	19.60nm				5.5mb X
PNT	12.92	122	eP	53	25.00	2.3
SDN	13.42	271	eP	53	30.30	1.2
EDM	13.82	98	eP	53	35.00	0.5
LON	13.96	134	eP	53	36.50	0.1
SES	16.51	104	eP	54	10.00	0.6
LRM	18.81	118	eP	54	38.40	0.2
WDC	19.12	146	e(P)	54	42.80	1.1
FFC	19.35	83	eP	54	43.00	-1.5
	1.1s	20.00nm				4.3mb
MIN	19.62	144	ePc	54	48.00	0.1
MBC	19.91	12	eP	54	52.00	1.5
	0.8s	10.00nm				4.2mb
CMB	22.11	144	e(P)	55	14.00	0.6
BW06	22.46	119	eP	55	18.00	1.0
RSSD	24.20	109	eP	55	34.00	0.1
MSU	24.74	129	eP	55	39.50	0.3
RSON	25.58	86	eP	55	46.00	-0.8
	0.9s	11.62nm				4.6mb
GOL	26.84	118	eP	55	59.00	0.2
	0.8s	5.95nm				4.3mb

S.D. = 1.1 on 53 of 53 obs.

% OCT 11, 1989 09h 22m 48.29± 0.83s
37.268 N ± 9.9km 4.111 W ± 6.1km
DEPTH = 10.0km (geophysicist)
SPAIN (377)
mbLg 2.4 (MDD).

AFC	0.45	92	ePg	22	57.60	0.1
			eSg	23	05.00	
EBAN	0.93	16	ePg	23	06.80	0.7
			eSg	23	21.30	
EHOR	1.06	302	ePg	23	07.40	-0.8
			eSg	23	22.00	
EJIF	1.36	234	ePg	23	13.20	-0.1
			eSg	23	31.70	
EVIA	1.87	42	ePg	23	20.00	-0.6
			eSg	23	45.00	
EVAL	2.12	279	ePg	23	25.00	0.8

S.D. = 0.8 on 6 of 6 obs.

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* OCT 11, 1989 09h 44m 05.42± 0.98s
42.168 N ± 9.1km 15.597 E ± 9.4km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)

DUI	0.99	240	Pc	44	23.80	-0.4
			eSg	44	37.50	
HVAR	1.19	32	iPg	44	27.40	-0.2
			iSg	44	43.30	
SDI	1.41	251	P	44	30.20	-0.9
			eSn	44	50.00	
ALP	1.62	293	ePn	44	33.78	-0.4
			iSn	44	56.75	
AZI	1.62	264	P	44	34.20	0.2
			eSn	44	55.00	
SGO	1.62	188	P	44	34.50	0.4
			eSn	44	55.50	
CIO	2.08	300	ePn	44	44.00	3.2X
			iSn	45	13.67	
MNS	2.18	277	P	44	43.60	1.4
PTJ	3.74	4	eP	45	17.70	13.2X
VOY	4.05	343	e(Pn)	44	57.00	-11.9X
			eSn	45	55.10	

S.D. = 0.9 on 7 of 10 obs.

OCT 11, 1989 10h 54m 30.64± 0.55s
39.442 N ± 4.9km 28.478 E ± 6.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.20	35	iPg	54	35.30	0.2
KCT	0.81	353	iPg	54	47.40	1.0
BNT	1.01	335	iPg	54	50.90	1.2
			iSg	55	03.40	
EDC	1.02	333	iPg	54	51.00	1.1
			eSg	55	03.50	
KHL	1.38	144	iPn	54	56.40	0.4
IZM	1.41	223	iPn	54	55.00	-1.4
GBZT	1.54	29	ePn	54	58.00	-0.1
			iSg	55	22.00	
GPA	1.64	58	iPn	54	59.50	-0.2
HRT	1.65	33	ePn	54	59.80	0.0
ISK	1.68	15	ePn	54	57.50	-2.7
CTT	1.70	359	ePn	55	04.00	3.5X
EZN	1.71	284	ePn	55	00.60	0.0
CIN	1.86	190	eP	55	04.00	1.1
DMK	2.44	347	iPn	55	10.50	-0.6
BCK	2.58	139	iPn	55	13.50	0.3
KDZ	3.21	314	eP	55	16.00	-6.1X
BBTK	3.33	82	eP	55	34.00	10.1X
			iS	56	22.00	
DIM	3.43	320	eP	55	32.00	6.8X
RZN	3.64	309	iP	55	27.00	-1.4
MMB	4.21	302	iPc	55	31.00	-5.3X
PVL	4.45	329	eP	55	33.00	-6.7X
KAS	4.47	63	iPnc	55	53.70	13.6X
KKB	4.76	302	eP	55	33.00	-11.2X
VTS	5.08	310	eP	55	35.00	-13.7X
VRI	6.55	349	eP	56	10.50	1.1

S.D. = 1.2 on 16 of 25 obs.

OCT 11, 1989 10h 57m 44.44± 1.31s
9.312 N ± 4.9km 125.920 E ± 6.1km
DEPTH = 57.3 ± 13.2 km
5.1mb (8 obs.) 4.4Msz (8 obs.)
MINDANAO, PHILIPPINE ISLANDS (259)

DAV	2.24	189	eP	58	19.00	-0.7
BAG	8.77	324	eP	59	51.20	-0.2
PCI	11.82	211	e(P)c	00	36.30	3.6X
QIZ	18.32	304	eP	01	56.70	0.4
E	15s	1.27um				
JAY	18.84	128	ePd	02	02.70	0.0
GUMO	19.05	75	e(P)	02	05.20	0.2
PJG	19.05	75	e(P)	02	07.20	2.2
SSE	22.12	349	P	02	35.50	-1.0
	1.0s	0.04nm				1.8mb X
Z	20s	0.90um				4.2Msz
E	16s	1.00um				
			pP	02	41.80	23kmX
			S	06	32.00	
			sS	06	42.00	
MTN	22.61	167	eP	02	36.00	-5.5X
			e	02	45.00	
NJ2	23.56	345	Pd	02	51.00	0.5
WHN	23.72	335	eP	02	51.00	-1.1
Z	20s	0.88um				4.2Msz
N	15s	1.25um				
LOE	24.85	291	eP	03	03.50	0.3
KNA	25.06	174	eP	03	06.20	1.1
SNG	25.13	267	eP	03	08.20	2.4
SHK	25.86	13	eP	03	11.80	-0.6

NST		25.94	287	eP	03	15.00	1.6
KMI		27.08	308	Pd	03	24.50	0.4
	Z	16s		3.20um			5.0MszX
	E	16s		1.20um			
				eS	08	16.00	
BDT		27.33	290	eP	03	25.00	-1.1
PSI		27.63	258	ePc	03	29.50	0.7
CHG		27.78	293	eP	03	32.20	2.0
CHTO		27.78	293	eP	03	29.00	-1.2
		1.0s		3.25nm			3.9mb X
TIA		27.95	345	eP	03	29.90	-1.6
MAT		29.31	20	eP	03	42.00	-1.8
		1.3s		28.85nm			4.8mb
	Z	20s		0.71um			4.3Msz
WB5		30.18	164	eP	03	50.20	-1.4
TIY		30.79	339	eP	03	58.50	1.6
	Z	20s		1.00um			4.5Msz
	N	14s		0.58um			
BJI		31.81	346	eP	04	04.00	-1.7
	Z	20s		0.42um			4.1Msz
				epP	04	09.50	19kmX
				eS	09	11.00	
SNY		32.45	357	iPc	04	10.40	-0.9
	Z	20s		1.10um			4.5Msz
	N	22s		1.00um			
	E	17s		0.70um			
QIS		32.59	156	eP	04	11.00	-1.7
HHC		33.89	340	eP	04	24.00	0.0
	Z	20s		1.90um			4.8Msz
BTO		34.21	338	eP	04	29.00	2.3
	N	15s		0.70um			
	E	15s		0.50um			
CN2		34.36	359	eP	04	26.40	-1.4
	Z	16s		0.70um			4.5MszX
	N	10s		0.50um			
WARB		35.29	179	eP	04	36.00	0.1
		0.3s		10.00nm			5.2mb
MDJ		35.32	5	eP	04	36.00	0.0
CTA		35.41	146	eP	04	36.00	-1.1
				iS	10	21.00	
HOOJ		36.30	22	eP	04	46.00	1.7
KUSJ		37.45	23	eP	04	55.30	1.3
ASAJ		37.60	20	eP	04	56.10	0.9
GTA		37.98	326	eP	04	57.00	-1.6
	Z	14s		0.60um			4.6MszX
FORR		39.98	177	eP	05	14.00	-1.2
		0.4s		33.00nm			5.5mb
BRS		44.82	145	iP	05	53.50	-1.2
				i	06	04.00	
				i	06	09.00	
ADE		45.67	165	eP	06	01.30	-0.1
		0.6s		58.67nm			5.7mb
HYB		46.68	285	eP	06	09.00	-0.7
GBA		47.65	280	P	06	18.30	1.0
WMO		47.77	323	eP	06	18.00	0.1
	Z	21s		1.10um			4.8Msz
BWA		48.44	155	eP	06	24.00	0.8
BFD		48.80	162	eP	06	06.00	-19.8X
CAN		49.46	155	eP	06	32.00	1.0
TOO		50.11	160	eP	06	37.00	1.1
DZM		50.51	129	iPc	06	43.00	3.7X
MAIO		65.57	306	eP	08	22.00	-2.7
MSZ		65.75	148	P	08	29.00	3.6X
IMA		77.65	24	eP	09	36.80	0.6
		0.8s		3.90nm			4.5mb
PMR		79.47	29	eP	09	46.10	0.1
KEV		84.41	340	eP	10	16.00	4.4X
SOD		85.03	337	eP	10	20.00	5.3X
SUF		86.25	333	iP	10	20.80	0.0
		0.6s		6.30nm			5.0mb
MBH		86.34	299	eP	10	22.00	0.0
MBC		86.72	13	ePc	10	23.70	0.8
		1.0s		15.00nm			5.1mb
NUR		87.46	331	iP	10	26.60	-0.1
				e	10	42.00	
SLL		92.76	333	eP	10	50.50	-1.1
		0.4s		2.80nm			5.0mb
KIC		128.43	286	PKP	16	52.40	4.9X
UPA		148.81	55	iPKPd	17	33.50	9.4X
CNCB		164.55	120	PKP	17	47.00	2.8X
LPB		164.57	119	(PKP)	17	40.00	-4.1X
ZOBO		164.66	118	PKP	17	45.70	1.4
		S.D. = 1.2		on	54	of	65 obs.

% OCT 11, 1989 11h 06m 40.14± 0.74s
39.470 N ± 6.0km 28.501 E ± 7.6km
DEPTH = 10.0km (geophysicist)

TURKEY (366)

DST	0.17	36	iPg	06	43.30	-0.7
			eSg	06	46.30	
KCT	0.79	352	iPg	06	55.90	0.5
BNT	0.99	333	iPg	06	59.90	1.0
			iSg	07	12.90	
EDC	1.00	331	iPg	06	58.50	-0.6
YLV	1.28	31	iPn	07	02.90	-1.1
KHL	1.40	145	ePn	07	05.70	0.0
IZM	1.44	222	ePn	07	06.00	-0.3
GBZT	1.50	28	ePn	07	07.00	-0.1
			iSg	07	30.00	
GPA	1.61	59	ePn	07	10.20	1.4
	S.D. = 0.9		on	9	of	9 obs.

• OCT 11, 1989 11h 53m 52.55± 0.72s
31.032 S ±12.3km 69.439 W ±16.3km
DEPTH = 122.9 ± 24.8 km
SAN JUAN PROVINCE, ARGENTINA (137)

ZON	0.83	128	iPc	54	13.10	-0.5
ROCH	2.35	214	iPc	54	31.50	0.2
PEL	2.36	206	iPd	54	31.60	0.4
			iS	55	00.00	
FCH	2.40	197	iPd	54	33.90	1.9
			iS	55	05.50	
SAN	2.63	203	iPd	54	35.50	0.8
			iS	55	08.00	
IHA	2.73	223	eP	54	35.70	-0.3
			iS	55	05.00	
PCH	2.74	199	iPd	54	31.50	-4.7X
			iS	54	55.80	
TACH	2.90	206	iPd	54	38.00	-0.4
			iS	55	13.60	
LCCH	3.03	216	iPd	54	38.90	-1.1
CHCH	3.07	199	iPd	54	41.50	0.9
			iS	55	17.50	
LNV	3.36	209	iPc	54	42.70	-1.6
			iS	55	21.50	
RFA	3.82	168	iPc	54	50.00	-0.6
CNCB	14.22	6	P	57	11.00	0.9
ZOBO	14.75	5	P	57	16.00	-0.7
			eLR	16	16.00	
	S.D. = 1.1		on	13	of	14 obs.

OCT 11, 1989 12h 42m 29.48± 0.44s
34.879 N ± 5.9km 135.082 E ± 5.0km
DEPTH = 18.6 ± 7.1 km
NEAR S. COAST OF SOUTHERN HONSHU(233)
MG 4.0 (JMA). Felt (II JMA) at Himeji and Kobe.

KOB	0.21	157	iP+	42	34.70	0.1
			iS	42	38.60	
HIM	0.32	262	iPd	42	36.20	-0.1
			iS	42	40.80	
WKYJ	0.78	147	iP+	42	44.20	-0.1
			S	42	55.20	
TSRJ	0.99	48	P	42	47.70	0.0
			S	43	00.50	
TKSJ	1.24	224	iPd	42	51.50	-0.3
			S	43	08.10	
YONJ	1.36	284	iPd	42	53.10	-0.5
			S	43	10.60	
SHK	2.01	261	eP	43	03.80	0.9
IIDJ	2.39	75	P	43	08.20	-0.2
MTMJ	2.79	52	P	43	14.50	0.3
MAT	3.04	56	eP	43	17.00	-0.5
CHJJ	3.40	69	P	43	23.20	0.5
	S.D. = 0.5		on	11	of	11 obs.

• OCT 11, 1989 12h 51m 43.84± 0.65s
9.500 N ±11.7km 126.055 E ±19.7km
DEPTH = 33.0km (normal)
4.6mb (4 obs.)
MINDANAO, PHILIPPINE ISLANDS (259)

SSE	21.96	349	eP	56	35.50	-1.1
	1.0s		13.00nm			4.3mb
BJI	31.66	345	eP	58	06.00	-0.3
WARB	35.47	179	eP	58	39.50	0.1
	0.3s		2.00nm			4.5mb
FORR	40.17	177	eP	59	18.00	-0.6
	0.4s		28.00nm			5.4mb
BRS	44.89	145	iP	59	55.50	-1.8
HYB	46.76	285	eP	00	12.80	0.5
GBA	47.75	280	P	00	19.80	-0.3
BWA	48.56	155	eP	00	26.60	0.5
CAN	49.57	155	eP	00	35.20	1.3
MBC	86.50	13	eP	04	26.00	1.7
	1.0s		5.00nm			4.7mb
	S.D. = 1.2		on	10	of	10 obs.

% OCT 11, 1989 13h 24m 54.30± 0.70s
43.659 N ± 7.0km 12.203 E ± 5.6km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)

CRE	0.19	260	P	24	58.30	-0.2
			eSg	25	00.10	
RSM	0.32	34	P	25	01.20	0.2
			eSg	25	04.80	
SFI	0.36	316	P	25	01.10	-0.7
			eSg	25	06.70	
PGD	0.41	302	P	25	03.50	0.8
			eSg	25	09.00	
ARV	0.56	106	P	25	05.40	-0.3
			eSg	25	13.10	
ASS	0.68	150	P	25	08.00	0.2
	S.D. = 0.7		on	6	of	6 obs.

OCT 11, 1989 13h 29m 10.55± 0.50s
48.014 N ± 3.9km 7.093 E ± 5.5km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
MD 1.0 (STR).

MOF	0.16	171	Pg	29	14.37	0.0
			Sg	29	17.84	
ECH	0.21	12	Pg	29	15.07	0.0
			Sg	29	18.18	
BSF	0.27	228	Pg	29	16.14	-0.2
CDF	0.42	17	Pg	29	18.98	-0.1
WLS	0.44	23	Pg	29	19.55	0.1
FEL	0.63	102	Pg	29	23.30	-0.1
LOMF	0.69	195	Pg	29	24.42	0.2
VITF	0.77	286	Pg	29	25.62	0.1
			Sg	29	36.08	
	S.D. = 0.1		on	8	of	8 obs.

% OCT 11, 1989 14h 03m 11.42± 0.96s
39.600 N ± 8.7km 28.592 E ± 9.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.03	80	iPg	03	13.80	0.3
			eSg	03	16.30	
KCT	0.67	344	iPg	03	25.30	0.5
BNT	0.91	326	iPg	03	29.30	0.4
			iSg	03	43.30	
EDC	0.93	323	iPg	03	28.50	-0.7
			eSg	03	41.50	
YLV	1.14	32	iPn	03	32.30	-0.4
KHL	1.47	150	ePn	03	38.00	0.0
	S.D. = 0.6		on	6	of	6 obs.

& OCT 11, 1989 14h 14m 59.81s
58.529 N 143.593 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

CYK	1.66	20	eP	15	24.39	-4.6
			eS	15	43.59	
SNH	1.70	13	iP	15	25.07	-4.6
			eS	15	43.11	
RAGM	1.94	344	eP	15	28.36	-4.9
			eS	15	51.40	
WAX	1.96	11	eP	15	28.48	-5.1
			eS	15	48.46	
YAH	2.07	26	iP	15	30.19	-5.0
			eS	15	52.48	
SGAM	2.14	338	eP	15	31.48	-4.6
			eS	15	56.27	
CVA	2.30	332	eP	15	32.95	-5.4
			eS	15	58.85	
PCA	2.32	46	eP	15	33.70	-5.1
			eS	15	58.49	
HIN	2.39	323	eP	15	34.86	-4.8
			eS	16	02.19	
BCPM	2.49	53	eP	15	35.99	-5.0
			eS	16	03.86	
HON	2.61	67	eP	15	37.56	-5.2

11d 14h

eS 16 06.31
HYT 3.85 51 P 15 55.70 -4.8
12 obs. associated

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* OCT 11, 1989 14h 33m 35.24± 0.58s
19.783 N ±13.3km 45.861 W ± 6.3km
DEPTH = 10.0km (geophysicist)
4.8mb (11 obs.)
NORTH ATLANTIC RIDGE (403)

CAR 22.30 249 eP 38 36.00 1.3
BLA 34.74 307 e(P) 40 29.20 1.4
0.9s 5.88nm 4.5mb
TIC 41.72 103 P 41 26.40 0.1
LIC 41.88 103 P 41 27.60 0.1
KIC 42.09 103 P 41 24.60 -4.7X
EPF 45.03 48 eP 41 54.10 1.1
1.6s 39.80nm 5.1mb
MFF 45.81 44 eP 41 59.70 0.7
1.4s 20.90nm 4.9mb
LFF 45.86 46 eP 41 59.90 0.5
LPO 46.09 46 eP 42 01.80 0.6
LSF 46.79 44 eP 42 07.00 0.2
1.2s 14.80nm 4.9mb
TCF 47.25 45 eP 42 11.20 0.8
1.0s 6.00nm 4.6mb
AVF 48.15 44 eP 42 18.00 0.5
1.6s 33.50nm 5.2mb
SSF 48.33 44 eP 42 19.40 0.5
1.2s 8.90nm 4.7mb
SMF 48.44 45 eP 42 20.40 0.7
1.6s 18.60nm 4.9mb
LBF 48.62 44 eP 42 20.90 -0.2
1.0s 6.60nm 4.6mb
LOR 48.62 44 eP 42 21.10 0.0
MEO 48.66 299 e(P) 42 20.80 -0.8
ALO 55.13 299 eP 43 09.00 -1.5
PRU 56.14 43 eP 43 16.50 -0.7
e 43 22.50
ZST 57.56 45 e(P) 43 27.00 -0.4
KRA 59.60 43 eP 43 39.00 -2.6
e 43 47.50
EDM 60.95 321 eP 43 50.00 -0.8
VRI 64.05 48 eP 44 16.00 4.5X
BCAO 64.43 95 ePd 44 13.10 -1.4
1.2s 21.00nm 5.2mb
id 44 21.00
PNT 64.74 316 eP 44 16.00 0.0
CMB 66.12 304 eP 44 25.70 0.6
MIN 66.78 306 ePc 44 29.20 -0.3
MBC 67.00 346 eP 44 29.50 -0.5
FBA 77.22 335 eP 45 30.80 0.0
1.0s 1.70nm 4.1mb
MAIO 90.18 51 eP 46 46.00 8.4X
S.D. = 0.9 on 27 of 30 obs.

OCT 11, 1989 14h 42m 09.37± 0.63s
2.940 N ± 3 7km 73.635 W ± 3.4km
DEPTH = 32.9 ± 5.1 km
5.0mb (11 obs.) 4.5Msz (3 obs.)
COLOMBIA (103)
Felt strongly at Neiva, Bagota, Villavicencio and Pereira.

BOG 1.73 346 iPd 42 43.00 5.2X
iS 43 06.50
DIAC 2.58 278 iPd 42 50.15 0.2
PURC 2.79 257 iPc 42 52.50 -0.7
HOBC 2.86 299 ePd 42 54.64 0.8
HOOC 3.04 280 ePd 42 56.52 0.0
SALC 3.06 271 iPc 42 57.24 0.6
CLMC 3.07 288 iPd 42 56.62 -0.2
ANCC 3.28 280 eP 43 00.53 0.9
PSO 4.08 245 iPd 43 10.00 -1.4
BMG 4.14 8 eP 43 28.00 16.0X
CUMC 4.67 245 P 43 18.20 -1.7
QUR 5.79 238 ePn 43 37.80 2.2
eS 45 03.00
GGP 5.84 238 ePn 43 36.20 -0.4
eS 45 01.00
SDV 6.62 27 eP 43 48.20 1.1
0.4s 92.50nm 6.0mb
TOV 7.80 29 iPnc 44 04.00 0.4
0.5s 42.70nm 5.8mb
iSn 44 48 70
CEOS 8.02 41 eP 44 06.50 -0.2
UPA 8.39 316 iPd 44 11.10 -0.6
0.8s 32.84nm 5.5mb X
FISA 9.31 27 eP 44 24.00 -0.4
MORO 9.48 34 eP 44 27.00 0.1
eS 47 26.00
GUAC 9.58 41 eP 44 28.00 -0.3
OLLA 9.77 44 iPc 44 31.00 0.1
iS 47 32.00
CAR 10.04 41 eP 44 35.00 0.4
LLAV 10.10 42 eP 44 35.00 -0.3
GUAN 10.56 48 iPc 44 42.00 0.3
eS 47 55.00
TCE 14.09 56 eP 45 46.88 18.1X
TPP 14.14 58 eP 45 46.76 17.2X
TRN 14.35 57 eP 45 54.15 21.9X
TBH 14.55 58 eP 45 45.39 10.5X
PT08 15.08 191 eP 45 47.30 5.1X
eS 48 32.00
NNA 15.17 192 eP 45 45.00 2.0
0.6s 15.33nm 4.4mb
eS 48 25.50
BBL 17.31 43 eP 46 09.00 -1.3
PAG 17.54 41 eP 46 12.00 -1.2
BPA 18.18 39 eP 46 22.00 1.0
ARE 19.39 174 eP 46 36.00 -0.1
ZOBO 19.85 164 P 46 39.00 -2.3
Z 16s 0.94um
i 46 40.00
S 48 10.00
LR 52 30.00
LPB 20.11 164 P 46 44.00 0.2
CNCB 20.40 164 P 46 46.90 -0.2
PPD 33.05 140 eP 48 43.50 -0.7
RSCP 34.33 343 P 48 56.40 1.2
PDCR 37.57 115 eP 49 35.60 12.8X
e 49 43.40
FVM 38.12 338 P 49 27.00 -0.1
LNO 38.68 331 eP 49 30.50 -1.3
TUL 38.68 331 eP 49 31.60 -0.3
1.2s 17.70nm 4.7mb
Z 20s 1.05um 4.7Msz
LR 55 00.00
SIO 38.81 330 e(P) 49 32.30 -0.6
MEO 39.26 327 iPc 49 36.20 -0.6
ALQ 44.07 320 eP 50 16.80 0.4
0.9s 14.50nm 4.8mb
Z 20s 0.66um 4.5Msz
GOL 46.55 326 P 50 36.00 -0.2
0.9s 21.78nm 5.1mb
RSSD 49.02 331 P 50 55.60 0.2
MSU 49.88 320 P 51 02.60 0.6
DAU 50.44 323 P 51 06.50 0.1
RSON 50.66 344 P 51 06.00 -1.5
0.8s 15.02nm 5.0mb
TNP 52.97 317 P 51 25.60 0.2
0.8s 8.58nm 4.8mb
KVN 54.06 318 P 51 33.00 -0.3
MCMT 54.10 326 eP 51 41.50 7.9X
LON 60.33 324 P 52 17.00 -0.5
PNT 60.48 327 eP 52 24.00 5.6X
LIC 68.43 85 Pc 53 11.50 0.7
0.6s 8.50nm 5.0mb
Z 20s 0.13um 4.1Msz
TIC 68.43 84 Pc 53 11.60 0.8
KIC 68.71 84 Pc 53 13.30 0.7
1.0s 34.00nm 5.4mb
MBC 77.51 350 eP 54 04.00 1.1
1.0s 12.00nm 4.9mb
NB2 84.94 29 P 54 52.90 10.6X
0.8s 2.10nm
COO 128.99 232 ePKP 00 55.00 -21.2X
CMS 133.25 228 iPKPc 01 25.20 1.0
0.7s 20.00nm
RAB 134.27 267 e(Pdif 58 13.50 -12.7X
FORR 145.47 214 ePKP 01 51.00 4.7X
HYB 145.91 53 ePKP 01 54.50 7.0X
KNA 154.53 239 ePKP 02 13.90 13.5X
S.D. = 0.9 on 51 of 67 obs.

% OCT 11, 1989 14h 52m 37.27± 1.01s
37.932 N ±13.0km 14.646 E ± 8.6km
DEPTH = 10.0km (geophysicist)
SICILY (398)

GIB 0.49 277 P 52 47.40 0.1
eSg 52 57.00
MSI 0.77 69 P 52 52.80 0.6
eSg 53 04.40
FAI 1.01 230 P 52 56.30 -0.1
eSg 53 08.90
TDS 2.17 37 P 53 12.80 -1.2
SGO 2.67 11 Pd 53 21.70 0.6
eSn 53 53.80
S.D. = 1.0 on 5 of 5 obs.

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* OCT 11, 1989 14h 55m 52.60± 1.36s
8.848 S ± 6.8km 160.772 E ±12.1km
DEPTH = 67.6 ± 9.4 km
4.8mb (5 obs.)
SOLOMON ISLANDS (193)

SVO 0.99 252 eP 56 11.00 -0.1
eS 56 21.00
HNR 1.00 234 iP- 56 10.90 -0.3
iS 56 29.00
PAA 5.81 295 eP 57 38.00 19.7X
BGA 6.16 295 eP 57 41.00 17.8X
DZM 14.23 158 iPc 59 13.00 0.6
CTA 17.94 230 iPc 00 01.90 2.8
0.9s 52.94nm 4.7mb
BRS 19.93 201 iPd 00 21.30 -0.4
0.9s 9.00nm 4.1mb
i 00 23.80
i(pP) 00 28.50 27kmX
i(SP) 00 54.30
RMO 20.92 212 eP 00 32.60 0.7
JAY 20.93 286 ePd 00 30.70 -1.3
QIS 23.52 238 eP 00 58.00 0.5
BWA 27.87 202 eP 01 36.30 -1.7
CAN 28.47 200 eP 01 43.20 -0.2
ADE 32.92 215 iPc 02 22.10 -0.6
MSZ 36.22 171 P 02 50.00 -0.7
WARB 36.67 238 iPd 02 55.00 0.2
0.5s 20.00nm 5.3mb
COOL 42.91 234 eP 03 46.00 -0.4
MEKA 43.69 241 iPc 03 53.00 0.2
0.6s 56.00nm 5.5mb X
NANU 45.45 247 eP 04 07.00 0.1
BAL 46.40 236 eP 04 14.00 -0.3
MRWA 46.57 238 eP 04 15.50 -0.2
0.4s 15.00nm 5.3mb
NWAO 46.75 233 eP 04 16.00 -1.1
MUN 47.24 234 eP 04 20.60 -0.4
SSE 54.91 318 iPc 05 19.00 0.2
1.0s 0.02nm 2.2mb X
i 05 26.00
WHN 59.30 313 eP 05 47.00 -2.9
CN2 61.42 332 Pd 06 04.00 -0.1
BJI 63.75 323 eP 06 19.00 -0.6
TIY 64.66 319 Pd 06 26.20 0.5
XAN 65.05 314 P 06 28.50 0.2
CHG 66.86 295 eP 06 40.10 0.0
CHTO 66.86 295 eP 06 40.80 0.8
0.7s 2.70nm 4.3mb
CD2 67.40 309 eP 06 42.40 -0.9
BTO 67.85 320 eP 06 46.50 0.5
GTA 74.03 315 iPc 07 24.80 1.5
SHL 75.17 299 iP 07 30.20 0.0
WMQ 84.10 316 Pc 08 18.50 1.0
HYB 85.28 288 ePd 08 24.50 0.6
1.0s 20.00nm 5.1mb X
GBA 85.65 284 P 08 26.90 1.2
BUL 124.81 238 iPKPc 14 48.00 0.6
0.8s 6.72nm
BCAO 142.25 266 ePKPc 15 15.70 -4.5X
0.5s 4.00nm
PDCR 150.98 137 ePKP 15 39.40 5.2X
e 15 48.80
S.D. = 1.0 on 36 of 40 obs.

& OCT 11, 1989 15h 26m 17.25s
58.311 N 142.823 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

RAGM 2.29 336 eP 26 50.96 -4.7
SGAM 2.51 332 eP 26 54.12 -4.7
eS 27 24.64
CVA 2.70 328 eP 26 56.93 -4.5
HIN 2.82 320 eP 26 57.23 -5.9
4 obs. associated

% OCT 11, 1989 15h 51m 26.33± 0.59s
40.853 N ± 4.8km 22.907 E ± 5.5km

DEPTH = 10.0km (geophysicist)
GREECE (364)

THE	0.22	169	iPg	51 31.50	0.3
			iSg	51 34.90	
KNT	0.31	359	iPg	51 33.00	0.2
			iSg	51 37.40	
GRG	0.40	285	iPg	51 34.30	-0.2
			eSg	51 40.00	
SRS	0.58	63	ePg	51 38.00	-0.1
LIT	0.82	203	ePg	51 42.10	-0.1
			iSg	51 54.00	
OUR	0.97	122	ePg	51 44.60	-0.1
			eSg	51 58.30	
PAIG	1.10	147	ePb	51 46.80	-0.1

S.D. = 0.3 on 7 of 7 obs.

OCT 11, 1989 16h 02m 15.32± 0.95s
44.506 N ± 8.7km 7.325 E ± 7.9km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

DOI	0.06	268	P	02 18.50	0.9
			eSg	02 20.20	
PZZ	0.16	270	P	02 19.23	0.1
			S	02 21.43	
STV	0.26	180	P	02 20.56	-0.3
			S	02 23.59	
ENR	0.29	166	P	02 21.08	-0.3
			S	02 24.56	
ROB	0.44	118	P	02 24.82	0.4
			S	02 31.54	
RRL	0.57	317	P	02 26.20	-0.8
			S	02 34.46	

S.D. = 0.8 on 6 of 6 obs.

? OCT 11, 1989 17h 14m 19.29± 5.03s
34.976 N ±47.3km 3.808 W ±12.0km
DEPTH = 10.0km (geophysicist)
MOROCCO (395)
mbLg 3.0 (MDD).

EMEL	0.77	65	iPgd	14 33.80	-0.5
			eSg	14 44.50	
EJIF	2.00	318	ePn	14 53.20	-0.3
			eSn	15 19.00	
AFC	2.28	5	ePn	14 56.80	-1.0
EPRU	2.30	330	ePn	14 59.00	1.2
			eSn	15 26.00	
ENIJ	2.37	33	ePn	15 00.20	1.3
EHOR	3.07	338	ePn	15 07.80	-0.8
			eSn	15 43.00	

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

? OCT 11, 1989 17h 33m 46.56± 1.87s
34.580 N ±18.1km 22.904 E ±17.8km
DEPTH = 33.0km (normol)
3.8mb (2 obs.)
MEDITERRANEAN SEA (400)

YER	5.06	58	ePn	35 03.00	0.8
KHL	6.51	53	ePn	35 22.00	-0.6
DSI	10.89	103	eP	36 22.00	-1.1
			eS	38 13.00	
PRNI	11.05	109	e(P)	36 27.00	1.6
MBH	11.22	112	e(P)	36 27.00	-0.7
HFS	26.27	350	eP	39 19.20	-1.1
	0.5s		1.90nm	4.0mb	
NB2	27.53	348	P	39 33.00	1.1
	0.7s		1.00nm	3.6mb	

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

? OCT 11, 1989 18h 13m 15.15± 4.85s
31.305 S ±30.6km 71.781 W ±30.4km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

JACH	1.70	144	iPc	13 45.10	-0.1
			iS	14 10.50	
ROCH	1.79	159	iPd	13 46.50	0.0
PEL	2.06	153	iPc	13 50.50	0.3
			i	14 05.40	
			iS	14 17.00	
LCCH	2.17	175	eP	13 52.40	0.6
			iS	14 17.00	
SAN	2.34	156	iP	14 03.00	8.7X
			iS	14 25.50	
FCH	2.38	148	ePd	13 55.40	0.3
			iS	14 29.10	
TACH	2.45	163	iPc	13 56.10	0.3
			iS	14 27.80	
PCH	2.55	155	iPd	13 57.50	0.3
			iS	14 31.00	
LNV	2.66	173	eP	13 57.60	-1.2
ZON	2.66	96	eP	13 59.00	0.1
CHCH	2.79	160	iPc	14 01.00	0.3
			iS	14 36.00	
RFA	4.44	142	ePc	14 23.20	-0.9

S.D. = 0.6 on 11 of 12 obs.

OCT 11, 1989 19h 06m 43.62± 1.50s
14.415 S ± 7.2km 167.252 E ± 9.5km
DEPTH = 249.0 ± 12.6 km
4.7mb (14 obs.)
VANUATU ISLANDS (186)

DZM	7.65	186	iPc	08 31.90	-1.4
			iS	09 59.00	
SVO	8.97	305	eP	08 51.00	1.0
BRS	18.67	224	iPc	10 46.50	0.9
	0.9s		12.00nm	4.4mb	
			i	10 48.80	
			i	10 56.80	
PMG	20.28	282	eP	11 03.00	1.3
CTA	20.82	251	iPc	11 08.30	1.3
	0.9s		23.53nm	4.7mb	
RMQ	21.05	232	iPc	11 11.00	1.7
	0.8s		212.00nm	5.7mb	
COO	21.41	219	eP	11 15.00	2.3
CMS	25.95	225	iPc	11 55.90	0.6
	0.6s		30.00nm	5.1mb	
BWA	26.20	217	iPc	11 56.70	-0.8
TOO	30.09	216	iPc	12 32.90	0.8
	0.4s		11.00nm	4.8mb	
BFD	31.58	220	eP	12 25.00	-20.0X
WB5	31.85	256	iPc	12 46.10	-1.5
ASPA	32.77	249	iPc	12 54.00	-1.6
	0.4s		54.00nm	5.5mb	
MTN	35.12	268	eP	13 15.00	-0.5
FORR	39.43	239	iPc	13 51.30	0.1
	0.5s		136.00nm	5.7mb	
WARB	39.69	246	eP	13 53.70	0.2
COOL	45.26	241	eP	14 37.50	-0.9
	0.3s		6.00nm	4.4mb	
MBL	45.52	254	eP	14 40.40	0.0
MEKA	46.96	247	iPc	14 51.40	-0.3
	0.4s		17.00nm	4.7mb	
KLB	48.24	240	eP	15 00.00	-1.5
	0.3s		16.00nm	4.9mb	
NWAO	48.90	239	eP	15 05.80	-0.7
BAL	48.99	242	eP	15 06.30	-1.0
MRWA	49.44	244	iPc	15 10.10	-0.6
	0.3s		4.00nm	4.3mb	
MUN	49.60	240	eP	15 11.20	-0.7
MAT	57.62	332	iPc	16 07.90	-2.1
	1.3s		38.46nm	4.9mb	
WHN	67.72	312	eP	17 15.50	-0.9
CN2	69.37	329	P	17 25.70	-0.5
TIY	73.02	317	eP	17 48.20	0.1
CHTO	74.93	294	iP	18 00.20	0.8
	0.8s		4.21nm	4.2mb	
SPA	75.68	180	e(P)	18 03.20	0.2
	0.8s		7.50nm	4.5mb	
MAW	82.17	202	eP	18 38.00	0.5
GTA	82.44	314	Pc	18 40.20	0.6
SHL	83.40	298	iP	18 45.00	0.2
WMQ	92.50	315	eP	19 27.20	-0.4
GBA	93.14	283	P	19 32.00	1.0
NB2	130.32	345	PKP	25 26.00	0.6
	0.7s		1.80nm		
PRU	138.14	334	ePKP	25 43.00	2.5X
KHC	139.20	334	ePKP	25 44.50	2.0X
ARV	143.62	328	PKP	25 49.00	-1.4
VAI	143.78	334	PKP	25 48.60	-2.0
SFI	143.86	329	PKP	25 51.30	0.5
PGD	143.96	329	PKPc	25 50.50	-0.7
CRE	144.03	329	PKPc	25 50.50	-0.7
ASS	144.06	328	PKP	25 50.00	-1.3
TDS	144.18	320	PKPc	25 51.00	-0.5
MME	144.22	331	PKPc	25 51.30	-0.4
FIR	144.26	330	ePKP	25 51.50	0.1
SGO	144.26	322	PKP	25 50.50	-1.0
FLN	144.29	346	ePKP	25 50.20	-1.2
	0.6s		9.00nm		
ORO	144.31	335	PKPc	25 51.70	0.0
BOB	144.36	332	PKPc	25 51.10	-0.6
LDF	144.36	346	ePKP	25 50.50	-1.0
	0.6s		6.10nm		
BDI	144.37	331	PKP	25 50.00	-1.8
SDI	144.38	325	PKP	25 50.80	-1.0
AZI	144.40	326	PKP	25 51.00	-0.7
LOR	144.44	340	iPKPc	25 51.20	-0.5
	0.8s		10.75nm		
MNS	144.53	327	PKPc	25 50.90	-1.2
LBF	144.65	340	iPKPc	25 51.90	-0.2
	0.8s		14.80nm		
PII	144.66	330	PKP	25 51.00	-1.1
GRC	144.66	341	PKP	25 52.21	0.2
GRR	144.73	346	iPKPc	25 51.80	-0.3
	0.6s		25.25nm		
SSF	144.73	341	iPKPc	25 52.40	0.2
LSD	144.78	335	PKP	25 53.05	0.4
LPG	144.91	336	ePKP	25 53.60	0.7
	0.8s		37.60nm		
PCP	144.93	333	PKP	25 52.33	-0.4
RSP	144.99	335	PKP	25 52.23	-0.6
SMF	144.99	340	iPKPc	25 53.20	0.5
	0.8s		24.85nm		
AVF	145.02	341	iPKPc	25 53.20	0.5
	0.8s		22.85nm		
LPF	145.10	346	iPKPc	25 53.20	0.4
	0.4s		28.05nm		
CKI	145.14	333	PKPc	25 53.00	0.0
BNI	145.31	336	PKPc	25 54.50	1.1
FIN	145.35	333	PKP	25 53.15	-0.2
RRL	145.37	335	PKP	25 54.49	0.8
BGF	145.39	341	ePKP	25 54.30	1.0
	0.8s		26.85nm		
ROB	145.42	334	PKP	25 53.36	-0.2
DOI	145.52	334	PKP	25 53.00	-0.7
PZZ	145.58	335	PKP	25 53.05	-0.9
PLDF	145.66	340	PKP	25 55.44	1.6
ENR	145.67	334	PKP	25 53.67	-0.3
STV	145.70	334	PKP	25 53.46	-0.6
IMI	145.72	333	PKP	25 54.90	0.8
AGO	145.75	340	PKP	25 55.44	1.5
MAF	145.78	341	ePKP	25 55.70	1.7
	0.6s		9.00nm		
SAOF	145.81	334	PKP	25 55.30	1.2
TCF	145.83	341	iPKPc	25 55.80	1.7
	0.6s		8.10nm		
AUTN	145.85	334	PKP	25 55.71	1.2
TOUF	145.92	334	PKP	25 56.03	1.5
SBF	145.96	334	iPKPc	25 56.00	1.6
	0.7s		37.50nm		
AURF	145.98	334	PKP	25 55.41	0.9
MVIF	146.05	334	PKP	25 56.25	1.5
PYM	146.05	340	PKP	25 56.56	2.0X
LSF	146.07	342	iPKPc	25 56.20	1.7
	0.6s		15.35nm		
MFF	146.22	344	iPKPc	25 56.50	1.8X
	0.6s		19.85nm		
CALN	146.28	334	PKP	25 56.99	1.9X
CVF	146.32	331	iPKPc	25 57.00	2.0X
	1.0s		48.00nm		
LBL	146.43	339	PKP	25 58.06	3.1X
FRF	146.54	334	iPKPc	25 57.90	2.6X
	0.8s		48.35nm		
LRG	146.75	334	iPKPc	25 58.70	3.1X
	0.8s		29.55nm		
LMR	146.78	334	iPKPc	25 58.50	2.8X
	0.8s		24.20nm		
RJF	146.93	341	ePKP	25 59.20	3.3X
	0.6s		9.00nm		
CAF	147.09	340	iPKPc	25 59.80	3.6X
	1.0s		15.00nm		
LFF	147.49	342	iPKPc	26 00.70	4.0X
	0.6s		23.45nm		
LPO	147.59	341	iPKPc	26 01.00	4.1X
	0.8s		18.80nm		
BCAO	147.63	255	iPKPc	26 01.20	3.3X
	0.6s		60.00nm		
			id	26 04.60	
EPF	149.34	341	ePKP	26 05.30	5.5X
	0.6s		6.30nm		

S.D. = 1.0 on 88 of 105 obs.

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* OCT 11, 1989 20h 51m 45.85± 0.68s
20.301 N ± 7.1km 98.859 E ±11.1km
DEPTH = 10.0km (geophysicist)

11d 20h

BURMA (296)

CHG	1.48	177	ePn	51	11.20	-61.4X
			iSg	51	32.00	
CHTO	1.48	177	iPn	52	10.70	-1.9
BDT	3.04	177	ePn	52	01.00	-33.9X
			ePg	52	39.00	
			eSg	53	02.20	
LOE	3.96	136	ePn	52	48.00	0.0
			ePg	52	58.50	
			eSg	53	49.20	
NST	4.76	165	ePn	53	02.00	2.6X
			ePg	53	20.20	
			eSg	54	19.50	
KMI	5.99	36	Pgd	53	41.00	24.1X
			eSg	54	48.00	
NNT	7.71	174	ePn	53	42.60	1.7
			eSg	55	50.30	
SHL	8.29	310	iP	53	47.00	-2.2
			eS	56	47.50	
CD2	11.45	22	eP	54	31.60	-0.9
LSA	11.68	325	eP	54	37.40	1.4
LZH	16.32	15	P	55	37.50	0.6
GTA	19.06	2	eP	56	10.60	-0.4
E	10s	0.50um				
HY8	19.43	265	eP	56	16.00	0.5
GBA	21.53	255	P	56	42.00	4.6X
BTO	22.36	23	eP	56	48.00	2.3X
N	11s	0.20um				
E	11s	0.30um				
BJI	24.64	33	eP	57	07.50	-0.2
WMQ	25.24	341	eP	57	14.80	1.2

S.D. = 1.4 on 11 of 17 obs.

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* OCT 11, 1989 21h 23m 41.39± 2.13s
20.267 S ±18.8km 177.869 W ±10.7km
DEPTH = 622.8 ± 31.1 km
4.2mb (7 obs.)

FIJI ISLANDS REGION (181)

DZM	14.74	260	iPc	26	48.00	1.3
KRP	18.50	197	eP	27	22.00	0.1
BRS	27.73	250	iPd	28	42.80	-1.5
	0.8s	3.10nm			4.0mb	
			i	28	48.50	
CTA	33.63	264	iPd	29	34.00	-0.2
	0 6s	12.67nm			4.7mb	
TOO	36.13	234	eP	29	55.30	0.7
ASPA	44.69	256	iPd	31	02.80	-0.1
			eS	36	59.00	
WB5	44.74	262	eP	31	02.40	-0.8
FORR	49.46	246	iPd	31	38.40	-0.1
	0.4s	19.00nm			4.9mb	
WARB	51.02	252	eP	31	49.70	-0.3
MBL	57.93	257	eP	32	37.80	-0.5
MAT	70.09	324	eP	33	53.00	-1.3
	1.0s	13.00nm			4.4mb	
PRS	77.57	44	eP	34	36.20	0.2
SAO	77.78	43	e(P)	34	37.00	-0.1
FRI	79.03	44	e(P)	34	43.70	0.1
CMB	79.21	43	ePd	34	44.60	0.0
WDC	79.42	40	eP	34	45.90	0.3
ORV	79.42	41	eP	34	44.70	-1.0
MIN	79.84	40	eP	34	47.60	-0.4
TNP	81.28	44	eP	34	55.60	0.1
	1.0s	4.50nm			4.0mb	
BJI	85.81	315	eP	35	18.00	0.6
ALQ	87.16	51	eP	35	24.10	-0.2
	0.5s	1.23nm			3.9mb	
MCMT	87.70	40	eP	35	27.30	0.7
CHTO	90.28	290	eP	35	41.00	2.4
	0.6s	2.38nm			4.3mb	
HFS	139.33	351	ePKP	41	51.20	-8.9X
	0.5s	1.70nm				
EKA	144.76	5	PKP	42	10.00	0.4X
	1.3s	11.10nm				
KSP	147.50	343	iPKPd	42	18.70	4.5X
			e	42	22.50	
CLL	147.86	347	iPKP	42	19.80	5.0X
	0.7s	20.00nm				
CLL	147.86	347	iPKP	42	23.30	8.5X
PRU	148.74	344	iPKPd	42	22.00	5.8X
			e	42	27.00	
MOX	148.77	348	ePKP	42	22.00	5.8X
GRF	149.76	348	ePKP	42	24.20	6.5X
KHC	149.77	345	PKPd	42	26.00	8.2X
ABH	150.14	353	ePKP	42	25.20	6.9X
DOU	150.17	357	PKPc	42	25.20	6.9X
	0.7s	11.10nm				
TOD	150.25	351	ePKP	42	25.32	6.8X
RUP	150.37	354	ePKP	42	25.90	7.2X
WLF	150.49	355	PKP	42	26.60	7.9X
FLN	151.49	4	ePKP	42	27.80	7.5X
	0.6s	5.40nm				
CDF	151.62	353	ePKP	42	28.80	8.2X
LDF	151.68	3	ePKP	42	28.20	7.6X
	0.4s	2.20nm				
GRR	151.84	4	ePKP	42	28.60	7.8X
	0.6s	7.20nm				
HAU	152.12	354	ePKP	42	29.70	8.4X
LPF	152.18	5	ePKP	42	29.60	8.3X
	0.6s	9.00nm				

S.D. = 0.9 on 23 of 43 obs.

OCT 11, 1989 21h 45m 56.33± 0.49s
40.624 N ± 4.3km 22.365 E ± 4.2km
DEPTH = 10.0km (geophysicist)

GREECE (364)

MD 3.0 (ATH).

GRG	0.33	5	iPgc	46	03.20	0.0
THE	0.46	89	iPgc	46	05.40	-0.2
			eSg	46	12.60	
LIT	0.53	170	ePgc	46	07.40	0.3
			eSg	46	16.10	
KZN	0.55	235	ePb	46	07.50	-0.1
KNT	0.67	37	iPgd	46	09.60	-0.1
			eSg	46	18.80	
PLG	0.86	107	ePb	46	12.50	-0.4
			eSb	46	25.30	
SRS	1.05	62	ePg	46	15.50	-0.7
			eSg	46	33.60	
PAIG	1.22	124	ePb	46	20.00	0.9
			eSg	46	38.10	
OUR	1.27	103	ePb	46	21.00	1.2
			eSb	46	39.60	
OHR	1.28	293	ePn	46	20.20	0.0
NEO	1.47	153	ePb	46	21.60	-1.3
SKO	1.52	333	ePn	46	24.00	0.5

S.D. = 0.7 on 12 of 12 obs.

& OCT 11, 1989 21h 48m 37.80s
62.116 N 150.141 W
DEPTH = 47.8km

CENTRAL ALASKA (1)

<AGS-P>.

CUT	0.30	348	iP	48	46.37	-0.4
PWA	0.48	165	iP	48	48.52	-0.2
			eS	48	57.35	
SKT	0.67	259	iP	48	50.62	-0.6
			eS	49	00.99	
PMR	0.71	137	P	48	50.10	-1.6
SUA	0.71	204	iP	48	51.73	-0.2
			eS	49	02.15	
PME	0.72	132	iP	48	51.05	-0.7
			eS	49	04.02	
PMS	0.92	162	eP	48	53.97	-0.6
NCG	1.20	234	eP	48	57.50	-1.0
SPU	1.31	225	eP	48	58.64	-1.4
			eS	49	18.30	
RND	1.42	24	iP	49	00.31	-1.4
KTH	1.49	346	eP	49	01.62	-1.0
			eS	49	19.93	
NCA	1.57	93	eP	49	03.15	-0.5
			eS	49	24.36	
SLKM	1.61	181	eP	49	03.51	-0.8
RDT	1.89	216	eP	49	08.33	0.0
			eS	49	32.89	
GLI	1.92	129	eP	49	07.39	-1.2
KLU	2.10	105	eP	49	09.93	-1.3
FID	2.23	126	eP	49	11.32	-1.7
PAX	2.33	66	eP	49	13.71	-0.8
WRH	2.54	20	eP	49	15.41	-2.0
TTA	2.84	289	P	49	20.10	-1.7
	0.7s	5.09nm				
FBA	2.99	20	P	49	21.50	-2.3
IMA	4.26	340	P	49	40.50	-1.4
	0.3s	1.47nm				

22 obs. associated

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* OCT 12, 1989 02h 38m 51.20± 1.14s
5.531 S ±17.4km 151.185 E ±12.1km
DEPTH = 33.0km (normal)

NEW BRITAIN REGION (192)

RAB	1.65	36	eP	39	18.50	0.2
			iS	39	44.00	
BGA	4.02	99	eP	39	53.00	0.8
PAA	4.35	100	eP	39	56.00	-0.8
PMG	5.55	226	eP	40	15.00	1.3
			eS	41	25.00	
WB5	21.70	227	eP	43	40.00	-1.5

S.D. = 1.6 on 5 of 5 obs.

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* OCT 12, 1989 02h 42m 21.67± 0.73s
13.398 N ± 8.6km 144.599 E ±11.7km
DEPTH = 99.9 ± 5.5 km
4.8mb (4 obs.)

MARIANA ISLANDS (216)

GUMO	0.32	54	iPd	42	36.60	0.1
GUA	0.33	65	iPd	42	36.50	-0.1
			eS	42	44.20	
IIDJ	22.80	346	P	47	16.90	0.3
CHJJ	23.11	348	P	47	19.00	-0.5
TSRJ	23.37	342	eP	47	24.50	2.4
MAT	23.75	347	iPc	47	24.90	-0.9
	0.7s	32.88nm			4.8mb	
MTMJ	23.88	346	P	47	28.10	1.0
NIIJ	24.26	349	P	47	30.30	-0.4
WB5	34.57	197	eP	49	01.90	-0.9
BJI	36.43	322	eP	49	17.00	-1.4
WARB	43.05	204	iPd	50	13.90	0.7
	0.3s	2.00nm			4.4mb	
IMA	66.53	23	eP	53	05.00	2.2
FBA	68.51	25	eP	53	12.50	-2.5
MBC	78.52	14	eP	54	11.50	-1.4
	0.5s	7.00nm			4.7mb	
WDC	83.56	50	eP	54	40.30	0.2
PNT	83.69	41	eP	54	40.00	-0.6
	0.8s	13 00nm			4.9mb	
MIN	84.31	50	ePd	54	43.30	-0.7
ORV	84.56	51	eP	54	44.60	-0.5
ARN	85.02	53	eP	54	47.50	0.0
PRS	85.38	54	e(P)	54	51.30	2.0
LLA	85.65	54	e(P)	54	51.00	0.3
CM8	85.75	52	ePd	54	51.20	0.0
PRI	85.98	54	e(P)	54	52.70	0.3
FRI	86.52	53	ePd	54	54.80	-0.1
ISA	87.82	54	eP	55	01.00	-0.3
TNP	88.16	51	eP	55	02.80	-0.3
CLC	88.47	54	eP	55	04.00	-0.4
SBB	88.58	55	eP	55	05.00	0.0
RVR	89.13	55	eP	55	21.00	13.5X
GSC	89.23	54	eP	55	08.00	0.0
LRM	89.31	43	eP	55	07.90	-0.5
PLM	89.71	56	eP	55	10.00	-0.5
BAR	90.05	56	eP	55	12.00	0.2
TPC	90.16	55	eP	55	12.00	-0.3
GLA	91.43	56	eP	55	19.00	0.8
KIC	143.77	301	PKP	01	44.20	-3.5X
TIC	143.85	302	PKP	01	44.50	-3.3X
LIC	144.09	301	PKP	01	45.20	-3.0X
ARE	145.02	100	e(PKP)	01	49.00	-1.1
ZOBO	148.26	99	ePKP	01	57.00	1.3
			i	02	00.00	
LPB	148.28	100	PKP	01	57.00	1.5
CCH	150.12	102	PKP	02	04.50	6.3X

S.D. = 1.1 on 37 of 42 obs.

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* OCT 12, 1989 04h 03m 27.42± 0.90s
27.800 S ±12.3km 122.912 E ± 7.5km
DEPTH = 10.0km (geophysicist)

WESTERN AUSTRALIA (590)

COOL	3.44	206	eP	04	19.00	-3.1X
COOL	3.44	206	eP	04	24.30	2.2
			eS	05	09.00	
WARB	3.70	65	iPc	04	26.00	0.1
MEKA	4.07	286	iPd	04	32.20	1.1
			i	04	43.00	
FORR	5.45	125	eP	04	50.10	-0.6
	0.2s	47.00nm			5.8mb X	
			eS	06	05.00	
KLB	5.86	229	eP	04	56.00	-0.4
			eS	06	03.00	
BAL	6.10	241	eP	04	59.00	-0.8
			eS	05	07 00	
MRWA	6.25	255	eP	05	00.70	-1.2
	0.2s	6.00nm			5.1mb X	

			eS	06 11.00		
NWAO	7.08	222	eP	05 13.00	-0.6	
			eS	06 28.00		
MUN	7.16	233	eP	05 15.00	0.3	
			eS	06 31.00		
MBL	7.18	336	iPd	05 10.80	-4.2X	
			eS	06 27.00		
NANU	8.48	306	eP	05 29.70	-3.5X	
			eS	06 58.00		
ASPA	10.73	70	eP	05 59.00	-5.2X	
	0.7s	30.00nm			5.8mb X	
			eS	07 44.70		
WB5	13.11	55	eP	06 29.60	-6.7X	
			eS	08 49.10		
S.D. = 1.2 on 9 of 14 obs.						

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* OCT 12, 1989 06h 24m 33.30± 1.77s
38.941 N ± 7.9km 21.026 E ±21.5km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

VLS	0.84	204	ePb	24 49.50	0.1	
			eSb	25 02.60		
KEK	1.23	309	ePb	24 55.10	-1.0	
SRN	1.23	320	ePg	24 57.40	1.3	
LSK	1.25	345	ePg	24 56.40	-0.2	
BERA	1.95	335	ePn	25 11.70	5.0X	
OHR	2.18	355	ePn	25 10.00	-0.1	
S.D. = 1.2 on 5 of 6 obs.						

OCT 12, 1989 06h 29m 41.32± 0.77s
6.908 S ± 6.0km 127.755 E ± 7.1km
DEPTH = 277.3 ± 10.7 km
4.8mb (9 obs.)
BANDA SEA (280)

TLE	5.12	76	iPc	30 58.90	-1.1	
			iS	31 52.10		
MTN	6.77	151	iPc	31 21.20	1.0	
MNI	8.79	341	eP	31 51.00	5.6X	
KNA	8.84	174	eP	31 46.20	0.2	
			eS	33 20.00		
PCI	9.90	307	iPd	32 06.60	7.3X	
KHKI	12.13	262	ePc	32 27.00	0.0	
			eS	34 33.00		
			e	37 10.00		
WB5	14.40	154	iPc	32 53.90	-0.9	
			eS	35 40.00		
TRT	15.02	266	iPd	33 02.50	0.3	
	1.0s	228.50nm			5.5mb	
MBL	16.11	208	iPc	33 13.20	-1.3	
	0.4s	4.00nm			4.2mb	
KKM	17.27	318	ePd	33 29.00	2.1	
	1.0s	102.50nm			5.2mb	
			e	33 35.00		
ASPA	17.68	161	iPc	33 31.00	-0.1	
	0.6s	53.00nm			5.2mb X	
			eS	36 36.80		
			iScS	44 36.90		
QIS	17.78	141	eP	33 32.00	-0.1	
			e	36 45.00		
WARB	19.20	183	eP	33 47.10	0.5	
	0.3s	8.00nm			4.6mb	
PMG	19.36	99	eP	33 52.00	3.8X	
NANU	19.52	216	eP	33 49.60	-0.2	
	0.6s	24.00nm			4.8mb	
MEKA	21.47	203	eP	34 09.00	0.1	
CTA	22.22	128	iP	34 18.10	1.9	
			i	35 06.70		
FORR	23.82	179	eP	34 31.00	-0.1	
	0.5s	26.00nm			5.0mb	
RMQ	27.91	137	eP	35 50.00	41.7X	
BDT	37.19	311	eP	36 27.00	-1.1	
	0.9s	40.60nm			4.9mb	
CHG	38.21	312	ePc	36 37.90	1.3	
	1.0s	28.25nm			4.7mb	
MAT	44.32	12	iPd	37 25.50	-0.4	
	0.8s	27.61nm			4.6mb	
SHL	47.52	314	iP	37 51.00	-0.3	
			eS	42 42.50		
BJI	47.92	348	eP	37 54.00	0.1	
LZH	48.31	334	eP	37 56.50	-0.7	
GBA	53.95	292	P	38 38.10	-1.2	
MAIO	76.90	310	eP	41 05.00	0.1	
PPD	151.23	182	ePKP	49 05.80	8.1X	
CNCB	151.76	147	PKP	49 07.40	8.1X	
			e	50 27.00		
LPB	151.92	146	(PKP)	49 19.00	19.7X	
ZOBO	152.12	146	ePKP	49 05.00	5.2X	
			i	50 27.00		
CCH	152.23	151	PKP	49 07.90	8.3X	
S.D. = 1.0 on 23 of 32 obs.						

& OCT 12, 1989 06h 39m 12.56s
60.986 N 150.156 W
DEPTH = 37.4km
KENAI PENINSULA, ALASKA (14)
<AGS-P>.

PMS	0.39	48	iP	39 21.52	-0.3	
SLKM	0.48	184	iP	39 22.29	-0.7	
SUA	0.56	330	iP	39 23.69	-0.4	
			eS	39 32.93		
NKA	0.58	246	iP	39 25.63	1.3	
PWA	0.68	11	iP	39 25.16	-0.6	
PME	0.84	40	iP	39 27.32	-0.7	
			eS	39 39.79		
SPU	0.94	283	iP	39 29.03	-0.5	
SEW	0.95	158	eP	39 28.18	-1.4	
CGLM	0.95	291	iP	39 29.37	-0.3	
NNL	1.10	211	iP	39 31.88	0.2	
RDT	1.18	250	iP	39 32.18	-0.7	
BRLK	1.28	197	eP	39 33.70	-0.6	
CUT	1.42	358	eP	39 36.06	-0.2	
			eS	39 55.22		
GLI	1.50	93	iP	39 35.54	-1.8	
CNPM	1.56	201	iP	39 37.69	-0.6	
ILIM	1.66	238	eP	39 39.32	-0.4	
FID	1.81	96	eP	39 39.23	-2.7	
VLZ	1.87	84	eP	39 41.45	-1.2	
NCA	1.89	56	eP	39 42.87	-0.2	
HUR	2.01	7	eP	39 46.34	1.6	
OPT	2.03	230	eP	39 45.23	0.2	
KLU	2.11	74	eP	39 44.65	-1.6	
AUL	2.30	227	eP	39 48.97	0.2	
RND	2.50	14	eP	39 53.56	1.7	
24 obs. associated						

OCT 12, 1989 06h 39m 30.88± 0.58s
23.777 N ± 6.0km 120.968 E ± 6.8km
DEPTH = 33.0km (normol)
TAIWAN (244)
ML 4.4 (BJI).

TWQ	0.51	346	iPc	39 41.50	-0.2	
			eS	39 49.00		
TWF1	0.52	144	iPd	39 40.90	-0.9	
			eS	39 48.10		
TWD	0.65	62	iPd	39 42.80	-0.8	
TWK	0.67	221	iPc	39 43.70	-0.3	
			eS	39 54.00		
TWG	0.96	174	ePc	39 48.50	0.5	
TWC	1.15	44	ePc	39 51.30	0.6	
			eS	40 07.50		
TWZ	1.43	23	ePd	39 55.10	0.4	
ANP	1.49	20	iPd	39 56.10	0.5	
	0.9s	2218.49nm				
			eS	40 17.50		
QZH	2.46	299	Pn	40 08.00	-1.5	
			Pg	40 13.00		
			Sn	40 37.00		
SSE	7.29	1	Pc	41 14.00	-3.8X	
	1.0s	0.04nm			2.3mb X	
			pP	41 20.60		
			sP	41 26.20		
			S	42 27.50		
			sS	42 32.50		
NJ2	8.45	348	eP	41 30.00	-4.0X	
			S	43 00.00		
WHN	8.95	320	eP	41 37.00	-3.9X	
			pP	41 43.00		
			S	43 12.50		
GYA	13.23	285	P	42 38.60	-0.5	
LZH	19.22	314	Pc	44 07.50	12.3X	
	1.5s	27.00nm				
CHG	21.10	261	eP	44 17.20	2.2	
S.D. = 1.1 on 11 of 15 obs.						

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* OCT 12, 1989 07h 37m 01.62± 1.11s
49.702 N ±24.1km 29.098 W ±10.1km
DEPTH = 10.0km (geophysicist)
4.0mb (13 obs.)
NORTH ATLANTIC RIDGE (403)

EKA	16.71	60	Pc	40 56.20	-0.9	
	2.1s	43.60nm			4.2mb	
MFF	19.51	88	eP	41 31.00	-0.7	
	0.6s	3.60nm			3.8mb	
TCF	21.15	87	eP	41 48.60	-0.3	
	0.8s	5.30nm			4.0mb	
MAF	21.40	87	eP	41 51.20	-0.2	
	0.8s	5.30nm			4.0mb	
BGF	21.47	86	eP	41 51.70	-0.4	
	0.8s	5.30nm			4.0mb	
DOU	21.61	76	P	41 46.10	-7.3X	
	0.8s	20.00nm			4.6mb	
AVF	21.71	85	eP	41 54.30	-0.2	
	0.8s	5.30nm			4.0mb	
SSF	21.72	84	eP	41 54.20	-0.4	
	0.6s	1.80nm			3.7mb	
LOR	21.88	84	eP	41 56.60	0.3	
	0.8s	4.00nm			3.9mb	
LBF	22.05	84	eP	41 57.50	-0.5	
	0.8s	4.00nm			3.9mb	
SMF	22.08	85	eP	41 58.40	0.2	
MEM	22.39	74	P	42 01.80	0.6	
HAU	23.26	81	eP	42 11.00	1.2	
	0.8s	8.00nm			4.3mb	
BSF	23.59	81	eP	42 14.60	1.4	
	0.6s	3.60nm			4.1mb	
MBC	42.46	339	eP	44 58.00	0.3	
	1.0s	4.00nm			4.1mb	
KVN	60.92	297	eP	47 16.50	-0.5	
S.D. = 0.7 on 15 of 16 obs.						

OCT 12, 1989 07h 43m 45.46± 1.70s
3.230 N ± 6.8km 126.769 E ± 8.0km
DEPTH = 75.0 ± 17.2 km
4.9mb (5 obs.)
TALAUD ISLANDS (263)

MNI	2.62	227	ePd	44 28.50	2.1	
JAY	15.05	112	ePd	47 14.20	-1.2	
MTN	16.55	165	eP	47 31.00	-3.3X	
KNA	18.96	174	eP	48 02.00	-1.7	
GUMO	20.63	59	eP	48 20.50	-0.6	
GUA	20.64	59	eP	48 19.50	-1.8	
WB5	24.15	162	iPd	48 55.20	-0.6	
QIS	26.79	152	eP	49 20.00	-0.4	
ASPA	27.62	166	iPd	49 26.90	-1.1	
	0.7s	17.00nm			4.7mb	
			eS	54 02.40		
LOE	28.32	302	eP	49 33.00	-1.3	
WARB	29.24	180	iPd	49 43.70	1.2	
WHN	29.60	338	eP	49 45.50	-0.1	
CTA	30.05	141	eP	49 51.00	1.2	
BDT	30.60	299	eP	49 52.00	-2.6	
CHG	31.31	302	eP	50 01.00	0.0	
	0.8s	11.38nm			4.7mb	
FORR	33.91	178	eP	50 22.60	-0.7	
	0.4s	14.00nm			5.2mb	
TIA	34.01	346	Pd	50 24.20	0.0	
TIY	36.75	341	eP	50 47.00	-0.5	
BJI	37.88	347	eP	50 57.50	0.7	
	1.0s	0.06nm			2.5mb X	
LZH	38.95	330	eP	51 04.50	-1.6	
	2.0s	0.05nm			2.1mb X	
BRS	39.44	142	iPd	51 09.00	-1.1	
	1.0s	7.00nm			4.5mb	
			i	52 41.50		
HHC	39.88	342	P	51 14.20	0.5	
SHL	40.20	307	iP	51 16.10	-0.5	
			eS	57 18.50		
CN2	40.42	359	eP	51 20.00	2.2	
MDJ	41.29	3	eP	51 26.00	1.0	
BWA	42.64	153	eP	51 38.00	1.7	
GTA	43.54	329	eP	51 42.80	-0.8	
CAN	43.65	153	eP	51 45.70	1.3	
HYB	49.32	290	eP	52 29.50	0.1	
GBA	49.78	285	P	52 33.20	0.3	
WMQ	53.15	325	Pd	52 58.50	0.5	
			pP	53 15.00	63kmX	
NDI	53.43	304	iPd	52 58.60	-1.5	
	0.7s	27.40nm			5.4mb	
MAIO	69.84	307	iPc	54 51.00	0.6	
TTA	81.33	27	eP	55 56.00	1.1	
IMA	82.82	24	eP	56 05.00	2.3	
PMR	84.36	29	eP	56 11.80	1.4	
SOD	90.94	338	eP	56 51.00	9.0X	
SUF	92.01	333	eP	56 47.40	0.5	
	0.7s	5.40nm			5.1mb X	

12d 07h

NUR	93.16	331	eP	56	46.00	-6.2X				i	36	08.50				i	37	17.20	
VRI	94.68	316	ePd	57	04.30	4.7X				iSg	36	26.00		ASS	6.03	271	P	37	14.50	0.4
SLL	98.52	333	ePKP	57	16.20	-0.5				LQ	36	31.80		MNS	6.12	264	P	37	15.60	0.3
	0.6s		5.50nm			5.3mb X	PUK	1.47	211	iPnc	36	07.70	-1.5	CRE	6.52	276	P	37	24.20	3.0X
KIC	130.66	281	PKP	02	53.00	2.5X	NKY	1.48	251	iPgc	36	09.50	0.0	FVI	6.63	302	P	37	22.90	0.3
TIC	130.88	282	PKP	02	53.60	2.6X				eSg	36	28.00		CTI	7.14	296	P	37	28.50	-1.3
	S.D. = 1.3		on	37	of	43 obs.	TTG	1.50	234	ePg	36	09.30	-0.3	KHC	7.72	321	P	37	36.70	-1.2
										eSg	36	27.00					e	39	12.00	
OCT 12, 1989 08h 16m 33.35± 0.40s							BEO	1.54	348	iPn	36	10.40	0.1		S.D. = 0.9		on	53	of	67 obs.
24.898 S ±10.9km 179.829 W ± 7.3km										iPg	36	12.20								
DEPTH = 500.5km (2 depth phoses)										iSg	36	34.80		* OCT 12, 1989 09h 05m 37.48± 0.63s						
4.7mb (3 obs.)							PHP	1.66	192	iPnc	36	16.00	4.1X	0.939 N ± 9.6km 126.993 E ±10.6km						
SOUTH OF FIJI ISLANDS						(171)	SDA	1.66	219	ePn	36	14.40	2.5X	DEPTH = 33.0km (normal)						
							SSR	1.67	21	iPc	36	14.00	2.0	MOLUCCA PASSAGE						(266)
SVA	6.93	346	iPd	18	19.10	-0.8	BRY	1.78	257	ePg	36	14.60	0.8							
			S	19	43.60					eSg	36	38.50		MNI	2.21	283	iPc	06	13.00	0.4
VUN	7.04	347	iPd	18	19.10	-1.9	VTS	1.84	112	iPd	36	15.00	0.3				eS	06	38.50	
MBU	8.00	350	eP	18	31.70	0.7	BDV	1.84	237	iPgd	36	16.40	1.8				e	35	06.80	
DZM	12.91	280	iPc	19	24.90	2.3				eSg	36	40.20		GUMO	21.70	54	eP	10	28.70	0.9
MSZ	22.10	204	P	20	24.80	-27.1X	HCY	1.97	245	ePn	36	18.50	2.1	GUA	21.71	54	eP	10	27.80	-0.1
BRS	24.70	258	ePc	21	17.00	1.3				eSn	36	42.00		WB5	21.92	161	eP	10	29.20	-0.7
RMO	28.32	260	ePc	21	48.70	1.2	TIR	2.11	202	ePn	36	19.50	1.1				eS	14	27.80	
CAN	28.79	242	eP	21	52.00	0.4	KKB	2.16	131	iPd	36	20.00	0.7	QIS	24.68	151	eP	10	58.00	1.1
BWA	29.08	244	eP	21	52.20	-1.9	OHR	2.20	182	iPnc	36	19.50	-0.3	ASPA	25.36	165	iPc	11	04.00	0.6
CTA	31.65	272	iPc	22	16.90	0.6	VAY	2.34	148	iPn	36	21.40	-0.4				eS	15	30.60	
	0.8s		13.06nm			4.5mb	BZS	2.36	12	ePc	36	22.00	-0.1	BRS	37.53	141	iP	12	49.00	-1.4
ASPA	42.04	262	iPc	23	41.50	-0.3	GZR	2.48	32	ePd	36	25.00	1.2	BJI	40.15	347	eP	13	11.00	-1.0
	1.2s		24.00nm			4.6mb	PGB	2.51	107	iPd	36	25.00	0.7	IMA	84.81	24	eP	18	10.00	0.2
			eS	29	23.60		GRG	2.60	154	ePnc	36	25.40	-0.2		S.D. = 1.0		on	9	of	9 obs.
WB5	42.49	267	iPc	23	45.00	-0.4	KNT	2.61	145	ePn	36	25.00	-0.6							
			eS	29	31.30					eSn	37	10.60		? OCT 12, 1989 09h 45m 00.89± 2.12s						
FORR	46.08	250	eP	24	12.00	-1.1	KBN	2.69	181	ePn	36	28.30	1.6	48.961 N ±104.km 28.812 W ±13.8km						
	0.4s		22.00nm			5.0mb	BERA	2.70	196	ePn	36	27.90	1.0	DEPTH = 10.0km (geophysicist)						
WARB	48.03	256	eP	24	26.70	-1.4	MMB	2.71	129	iPc	36	27.00	-0.1	3.7mb (5 obs.)						
NANU	58.72	258	eP	25	44.00	-0.5	DRA	2.78	59	eP	36	29.00	1.0	NORTH ATLANTIC RIDGE						(403)
PRI	82.47	45	eP	28	04.40	0.5	SRS	2.97	137	ePn	36	30.90	0.2							
MHC	82.61	43	eP	28	04.90	0.4				eSn	37	18.50		TCF	21.01	86	eP	49	46.20	-0.5
PLM	83.32	49	eP	28	08.00	-0.2	BLY	3.04	299	ePn	37	00.00	28.2X		0.6s		1.80nm			3.6mb
RVR	83.34	48	eP	28	08.00	-0.1				eSn	37	33.50		MAF	21.26	85	eP	49	48.90	-0.4
SBB	83.45	47	eP	28	09.00	0.3	PLD	3.05	112	eP	36	32.00	0.2		0.8s		2.60nm			3.7mb
ISA	83.60	46	eP	28	10.00	0.6	LSK	3.17	184	ePn	36	33.80	0.2	AVF	21.60	84	eP	49	53.00	0.3
FRI	83.60	44	eP	28	09.50	0.2	PVL	3.24	90	iPc	36	33.00	-1.5		0.6s		1.80nm			3.7mb
CMB	83.82	43	eP	28	10.40	-0.1	RZN	3.25	119	eP	36	39.00	4.1X	DOU	21.62	74	P	49	51.10	-1.7
ORV	84.08	41	e(P)	28	11.40	-0.3	HVAR	3.26	269	i(Pn)	36	36.00	1.2		0.7s		6.70nm			4.2mb
WDC	84.12	40	ePc	28	12.20	0.4	LIT	3.42	159	ePnd	36	36.60	-0.6	SSF	21.62	83	eP	49	55.20	2.3
CLC	84.26	46	eP	28	13.00	0.3	SRN	3.49	191	ePn	36	44.90	6.8X		0.6s		2.70nm			3.8mb
TPC	84.30	48	eP	28	13.00	0.0	CMP	3.56	55	ePc	36	08.00	-31.1X	SMF	21.96	84	eP	49	56.00	-0.4
MIN	84.52	41	eP	28	13.60	-0.4	DIM	3.64	109	eP	36	45.00	4.8X	BSF	23.54	79	eP	50	13.20	1.3
GLA	84.55	50	eP	28	15.00	0.8	OUR	3.76	141	ePnc	36	41.20	-0.8	RDP	29.76	88	P	51	08.50	-1.0
TNP	85.84	45	eP	28	20.40	-0.1				eSn	37	38.20					iSg	51	09.50	
			epP	30	12.20	503km	MDB	3.76	40	iPd	37	00.00	18.0X	ALO	57.00	287	eP	54	49.00	-0.2
KVN	85.86	43	eP	28	20.30	-0.3	PAIG	3.97	147	ePnc	36	44.10	-0.8	KVN	61.43	298	eP	55	20.00	0.2
			epP	30	11.20	498km	ZAG	4.32	307	iPn	36	48.70	-1.2		S.D. = 1.3		on	10	of	10 obs.
LON	88.47	36	eP	28	32.30	-0.2	PTJ	4.38	308	ePn	36	51.00	0.2							
HFS	143.55	349	ePKP	35	07.80	-3.5X				eSn	37	39.60		* OCT 12, 1989 10h 34m 44.23± 1.28s						
	0.3s		5.70nm				ISR	4.45	64	eP	36	53.00	1.2	30.755 S ± 8.6km 71.722 W ±19.1km						
	S.D. = 0.9		on	31	of	33 obs.	ALN	4.52	120	ePn	36	52.10	-0.6	DEPTH = 68.6 ± 16.6 km						
							VBY	4.60	300	ePn	36	56.40	2.5X	NEAR COAST OF CENTRAL CHILE						(135)
* OCT 12, 1989 08h 33m 05.38± 1.41s										iPg	37	17.20								
43.717 N ±15.2km 19.201 E ±26.9km										iSn	37	56.80		JACH	2.15	154	iPd	35	08.60	-10.0X
DEPTH = 5.0km (geophysicist)										iSb	38	15.40					iS	35	45.00	
YUGOSLAVIA						(383)				iSg	38	26.80		ROCH	2.29	165	iPc	35	20.50	-0.2
ML 2.2 (TTG).							PSZ	4.66	352	eP	36	54.30	-0.5	PEL	2.54	160	iPd	35	23.90	-0.1
							SGO	5.00	239	P	37	02.00	2.5X				iS	35	56.90	
NKY	0.92	189	ePg	33	22.50	-0.9	DUI	5.04	253	P	37	05.50	5.3X	LCCH	2.71	177	iPd	35	25.60	-0.8
			eSg	33	37.50		CEY	5.23	300	eP	37	03.00	0.2				iS	36	05.20	
BRY	0.95	211	ePg	33	23.30	-0.7				e(Sg)	38	39.00		ZON	2.73	108	eP	35	26.00	-0.6
			eSg	33	40.50		LJU	5.30	303	eP	36	54.50	-9.3X	SAN	2.84	162	eP	35	30.00	1.9
TTG	1.29	178	ePg	33	30.00	0.3				e	37	04.00					iS	36	09.00	
			eSg	33	48.00					eSn	38	07.00		FCH	2.84	155	eP	35	30.40	2.0
HCY	1.37	202	ePg	33	32.50	1.4	TLB	5.30	74	ePc	37	03.50	-0.3				iS	36	06.00	
			eSg	33	55.00		PSN	5.31	84	iPc	37	03.00	-0.9	TACH	2.96	167	iPd	35	30.00	0.1
BEO	1.43	39	ePn	33	31.80	-0.1	SDI	5.48	255	P	37	06.50	0.1				iS	36	04.10	
			eSg	33	55.00		CFR	5.53	68	eP	37	13.00	5.9X	PCH	3.03	161	iP	35	32.00	1.0
BZS	2.56	41	ePc	33	52.00	3.7X	ZST	5.56	333	i(Pn)	37	07.40	-0.1	LNV	3.20	175	eP	35	32.00	-1.2
S.D. = 1.3		on	5	of	6 obs.					i	37	14.50		CHCH	3.30	164	eP	35	33.80	-0.8
										i	37	24.00					iS	36	13.00	
OCT 12, 1989 08h 35m 42.07± 0.22s										i	38	23.50		RFA	4.85	146	e(P)	35	55.00	-1.5
43.311 N ± 2.5km 20.904 E ± 2.3km							CLI	5.57	52	iPc	37	08.00	0.4	ANT	7.12	10	e(P)	36	36.00	8.1X
DEPTH = 5.0km (geophysicist)							TRI	5.64	298	eP	37	07.50	-1.1	CNCB	14.30	15	P	38	06.00	0.8
YUGOSLAVIA						(383)				e	38	09.50		ZOBO	14.79	14	P	38	11.00	-0.6
ML 3.2 (TTG).										i	38	52.10		TIC	73.76	72	P	46	13.60	0.5
										i	38	56.00		KIC	73.82	72	P	46	13.00	-0.5
PVY	0.99	224	ePg	36	00.20	-1.2	VOY	5.69	301	ePn	37	08.70	-0.7		S.D. = 1.2		on	15	of	17 obs
			eSg	36	11.50					eSn	38	13.20								
KKS	1.29	197	iPn	36	06.00	-0.4	ARV	5.80	275	P	37	11.00	0.1	& OCT 12, 1989 10h 36m 43.15s						
SKO	1 40	163	iPgd	36	07.30	-0.9	VKA	5.90	329	iP	37	10.80	-1.4	60.067 N 152.671 W						

DEPTH = 93.7km
SOUTHERN ALASKA (2)
<AGS-P>.

ILIM	0.15	275	iP	36	56.52	1.4
			eS	37	08.78	
RED	0.36	352	iP	36	57.38	-0.3
OPT	0.50	214	iP	36	57.99	-0.6
			eS	37	10.34	
RDT	0.53	14	iP	36	58.48	-0.3
			eS	37	11.52	
NNL	0.69	91	iP	37	00.81	0.7
XLV	0.78	142	eP	37	00.22	-0.8
AUL	0.79	210	eP	37	00.04	-1.1
AUE	0.79	207	eP	36	59.91	-1.2
AUW	0.81	210	iP	37	00.25	-1.0
CNPM	0.91	126	iP	37	01.91	-0.5
			eS	37	17.73	
BRLK	0.95	108	eP	37	02.35	-0.5
			eS	37	18.52	
NKA	0.98	46	iP	37	04.44	1.3
			eS	37	19.88	
CKL	1.15	8	iP	37	04.27	-0.9
SPU	1.16	15	eP	37	04.29	-1.0
			eS	37	22.07	
BGL	1.21	6	iP	37	05.14	-0.8
CRP	1.23	12	iP	37	05.42	-0.9
			eS	37	23.56	
CDD	1.24	204	eP	37	04.00	-2.3
			eS	37	20.51	
CGLM	1.29	14	iP	37	05.87	-1.0
SLKM	1.30	69	eP	37	06.18	-0.8
SEW	1.62	87	eP	37	09.35	-1.6
SVW	1.79	307	iP	37	10.52	-2.8
			eS	37	32.77	
PMS	1.93	51	eP	37	13.35	-1.8
SKT	2.00	16	iP	37	13.95	-2.1
PWA	2.10	39	eP	37	15.36	-1.9
KDC	2.33	178	eP	37	16.19	-4.2
PME	2.37	47	eP	37	17.80	-3.2
MTU	2.52	90	eP	37	21.61	-1.4
CUT	2.62	25	eP	37	21.75	-2.6
GLI	2.88	71	eP	37	24.42	-3.5
FID	3.15	75	eP	37	27.30	-4.3
MID	3.27	99	eP	37	30.78	-2.4
TTA	3.29	332	eP	37	29.29	-4.3
VLZ	3.30	68	eP	37	29.70	-4.0
NCA	3.44	53	eP	37	32.32	-3.3
KTH	3.60	13	eP	37	34.15	-3.7
KLU	3.61	64	iP	37	34.29	-3.7
RND	3.81	27	eP	37	37.68	-3.1
GLB	4.56	69	eP	37	47.18	-3.9
NEA	4.83	19	eP	37	49.53	-5.2
WRH	4.91	24	eP	37	51.16	-4.7
DDM	4.93	38	eP	37	53.44	-2.8

41 obs. ossociated

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* OCT 12, 1989 11h 15m 34.18± 0.89s
0.107 S ±14.1km 123.086 E ±11.2km
DEPTH = 168.5 ± 15.6 km
4.9mb (1 obs.)
MINAHASSA PENINSULA (265)

MNI	2.33	49	ePd	16	15.80	1.1
			eS	16	43.00	
PCI	3.34	256	iPc	16	26.80	-0.3
			iS	17	40.00	
TSM	6.60	311	ePd	17	09.90	0.0
TLE	11.10	120	ePc	18	06.30	-3.0
			iS	18	56.00	
MTN	14.96	148	eP	19	00.00	1.5
WB5	22.55	151	eP	20	21.80	1.0
			i	20	54.30	
ASPA	25.67	157	iPd	20	50.50	0.2
OIS	25.96	143	iPc	20	53.20	0.2
	0.7s		19.00nm			4.9mb
WARB	26.15	173	eP	20	54.50	-0.2
CHG	30.26	310	eP	21	31.00	-0.5
BWA	41.57	148	eP	23	10.10	3.2X
CAN	42.56	148	eP	23	17.00	2.1X

S.D. = 1.5 on 10 of 12 obs.

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* OCT 12, 1989 11h 19m 44.38± 0.89s
35.626 N ±12.8km 26.891 E ± 6.7km
DEPTH = 10.0km (geophysicist)
CRETE (370)
MD 3.9 (ATH).

KAP	0.24	108	ePg	19	50.70	1.1
NPS	1.10	251	ePb	20	04.70	-0.4
APE	1.81	323	ePb	20	17.50	1.6
YER	1.88	36	ePn	20	17.10	0.2
SMG	2.08	359	ePb	20	23.90	4.2X
VAM	2.21	265	ePn	20	21.50	-0.1
VLI	3.38	290	ePn	20	37.70	-0.5
KHL	3.42	37	ePn	20	42.00	3.1X
BCK	3.50	57	ePn	20	38.00	-1.9

S.D. = 1.4 on 7 of 9 obs.

OCT 12, 1989 11h 21m 17.95± 0.80s
39.348 N ± 6.2km 28.409 E ± 8.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.31	33	iPg	21	23.00	-1.4
			iSg	21	26.00	
KCT	0.90	357	iPg	21	35.50	0.3
			iSg	21	47.50	
BNT	1.07	340	iPg	21	39.00	0.8
			iSg	21	43.00	
EDC	1.08	337	iPg	21	38.50	0.2
			eSg	21	52.50	
IZM	1.30	224	ePn	21	41.00	-1.1
KHL	1.34	139	ePn	21	44.00	1.2
YLV	1.42	31	iPn	21	42.50	-1.4
GBZT	1.64	29	eP	21	49.00	2.0X
GPA	1.74	57	ePn	21	49.00	0.6
CTT	1.80	1	ePn	21	50.00	0.8

S.D. = 1.2 on 9 of 10 obs.

OCT 12, 1989 11h 45m 50.62± 0.75s
36.545 N ± 8.1km 142.663 E ± 7.9km
DEPTH = 33.0km (normol)
4.8mb (2 obs.) 4.2Msz (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ	2.04	261	P	46	22.30	-1.0
YAMJ	2.65	309	P	46	32.80	0.9
OFUJ	2.65	343	P	46	32.20	0.3
			S	47	03.60	
CHJJ	3.00	262	P	46	36.00	-1.0
NIIJ	3.02	284	P	46	37.70	0.5
MAT	3.59	271	eP	46	46.00	0.7
			eS	47	28.00	
MTMJ	3.91	272	P	46	50.60	0.6
IIDJ	4.00	256	P	46	51.00	-0.1
AOMJ	4.39	337	eP	46	57.60	0.9
TSRJ	5.51	261	P	47	12.90	0.5
HOOJ	5.85	5	eP	47	15.80	-1.5
			eS	48	19.80	
MRRJ	6.00	349	P	47	21.00	1.6
			S	48	25.60	
KUSJ	6.73	13	P	47	27.40	-2.2
			S	48	40.80	
ASAJ	7.56	360	P	47	40.00	-1.3
			S	49	04.20	
SHK	8.38	259	eP	47	52.40	-0.4
MDJ	12.78	313	eP	48	57.00	4.3X
Z	12s		0.90um			
E	12s		0.80um			
TIA	20.55	277	Pc	50	26.50	-2.5
BJI	21.05	288	eP	50	31.50	-2.5
Z	12s		0.42um			4.0MszX
N	14s		0.52um			
			esP	50	41.00	
			eS	54	36.00	
TIY	24.08	282	iPd	51	06.00	2.0
E	15s		1.20um			
WHN	24.30	264	eP	51	06.50	0.5
Z	18s		0.72um			4.2Msz
			sP	51	18.50	
HHC	24.58	290	P	51	14.60	5.7X
Z	14s		3.00um			4.9MszX
BTO	25.76	289	eP	51	20.00	0.0
N	12s		0.50um			
E	12s		0.60um			
XAN	27.58	275	P	51	36.00	-0.7
LZH	31.14	281	Pd	52	08.00	-0.6
	2.0s		0.05nm			2.0mb X
Z	16s		1.12um			4.6MszX
			pP	52	19.00	41kmX
GYA	32.14	262	P	52	16.40	-1.0
GTA	33.67	288	eP	52	31.20	0.6
Z	14s		0.50um			4.4MszX
WMQ	41.96	298	P	53	42.00	2.1
Z	14s		0.40um			4.4MszX
			sP	53	53.50	
IMA	46.60	30	eP	54	28.50	11.4X
FBA	48.98	32	eP	54	36.00	0.5
KSH	51.54	295	eP	55	02.50	7.0X
WB5	56.66	189	eP	55	33.90	0.8
GBA	62.18	267	Pc	56	10.70	-0.6
	1.1s		7.40nm			4.7mb
KEV	64.25	340	eP	56	34.00	9.8X
SOD	65.80	338	eP	56	35.00	0.8
SUF	68.87	334	eP	56	54.70	1.1
	0.6s		5.20nm			4.8mb
NUR	70.85	332	eP	57	05.00	-0.7
KVN	74.26	53	e(P)	57	27.50	1.0
KHC	83.48	329	eP	58	17.70	1.5
ZOBO	146.05	62	ePKP	05	28.00	-1.0
LPB	146.24	62	PKP	05	31.00	1.9X
CNCB	146.51	62	PKPc	05	33.90	4.2X

S.D. = 1.2 on 34 of 41 obs.

? OCT 12, 1989 13h 39m 25.52± 3.63s
3.199 S ±68.0km 137.419 E ±38.0km
DEPTH = 116.6 ± 42.0 km
4.6mb (1 obs.)
WEST IRIAN (201)

JAY	3.35	78	ePd	40	17.20	0.0
MTN	11.43	213	eP	42	06.00	-0.4
			e	44	06.00	
PMG	11.47	123	eP	42	41.00	34.0X
KNA	15.10	214	eP	42	54.30	0.3
WB5	16.84	190	eP	43	15.90	0.2
			eS	46	26.00	
CTA	18.87	153	eP	43	48.00	8.5X
ASPA	20.63	189	eP	44	01.30	3.6X
	0.8s		26.00nm			4.6mb
BRS	28.18	150	eP	45	09.00	-0.1

S.D. = 0.5 on 5 of 8 obs.

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* OCT 12, 1989 14h 03m 42.73± 0.69s
42.972 N ±13.9km 17.520 E ±10.7km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)
ML 2.5 (TTG).

BRY	0.76	95	ePg	03	50.00	-7.6X
			eSg	04	06.50	
HVAR	0.81	285	iPg	03	58.40	-0.1
			iSg	04	11.00	
HCY	0.89	126	ePg	03	59.50	-0.3
			eSg	04	14.00	
BDV	1.19	125	ePg	04	04.80	-0.1
			eSg	04	23.00	
TTG	1.39	112	ePg	04	08.60	0.4
			eSg	04	29.00	
PTJ	3.13	340	eP	04	32.70	-0.4
TRI	3.84	317	eP	05	24.70	41.6X
			i	05	40.80	
			i	05	44.90	
VOY	4.01	321	ePn	04	46.00	0.4
			eSn	05	50.70	

S.D. = 0.5 on 6 of 8 obs.

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* OCT 12, 1989 14h 24m 04.60± 0.86s
50.237 N ±20.5km 28.888 W ±10.2km
DEPTH = 10.0km (geophysicist)
4.1mb (11 obs.) 4.3Msz (2 obs.)
NORTH ATLANTIC RIDGE (403)

EKA	16.33	62	Pd	27	56.90	1.6
	1.6s		23.80nm			4.1mb
TOL	20.28	111	eP	28	42.00	-1.0
LSF	20.57	89	eP	28	46.20	0.3
	1.0s		10.80nm			4.2mb
RJF	20.94	92	eP	28	51.70	2.0
TCF	20.99	89	eP	28	49.50	-0.8
	1.0s		12.00nm			4.2mb
MAF	21.25	89	eP	28	52.00	-0.8
	1.0s		8.80nm			4.1mb
BGF	21.30	88	eP	28	52.70	-0.7
	0.8s		26.00nm			4.7mb
DOU	21.35	77	P	28	53.80	0.0
Z	18s		1.40um			4.4Msz
			S	33	03.00	
AVF	21.54	87	eP	28	55.30	-0.5
	1.0s		8.00nm			4.1mb
SSF	21.54	86	eP	28	55.40	-0.4

12d 14h

1.0s 6.00nm 4.0mb
LOR 21.70 85 eP 28 56.70 -0.7
1.2s 8.90nm 4.1mb
LBF 21.87 86 eP 28 58.70 -0.5
1.2s 5.90nm 3.9mb
SMF 21.91 87 eP 28 59.20 -0.3
1.0s 6.80nm 4.0mb
EBR 22.51 103 eP 29 08.00 2.6X
e 33 20.00
MBC 42.01 339 eP 32 00.50 3.6X
1.0s 5.00nm 4.2mb
BCAO 60.52 123 ePd 34 19.20 1.9
0.5s 13.00nm 5.3mb X
KVN 60.80 297 eP 34 18.50 -0.7
ZOBO 74.68 219 eP 35 47.00 0.4
Z 22s 0.14um 4.2Msz
LR 00 36.00
CCH 74.90 217 P 35 53.50 5.9X
S.D. = 1.1 on 16 of 19 obs.

% OCT 12, 1989 14h 28m 38.70± 1.00s
60.690 N ± 8.3km 5.595 E ± 9.5km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 2.0 (BER).

ASK 0.29 224 iPgc 28 44.89 0.2
eSg 28 48.69
BER 0.33 203 ePg 28 45.79 0.2
iSg 28 50.47
HYA 0.56 31 iP 28 49.68 -0.3
eS 28 57.39
ODD1 0.94 146 iP 28 56.92 0.3
iS 29 09.32
BLS1 1.44 154 eP 29 03.81 -1.2
iS 29 25.16
NRA0 2.92 87 iPc 29 26.80 0.7
iSg 30 08.50
S.D = 0.9 on 6 of 6 obs.

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* OCT 12, 1989 14h 37m 42.85± 0.97s
24.344 N ±21.6km 95.522 E ±24.1km
DEPTH = 33.0km (normol)
4.4mb (2 obs.)
BURMA (296)

SHL 3.52 291 iP 38 36.80 0.0
SHL 3.52 291 iP 38 46.20 9.4X
iS 39 10.50
CHG 6.36 149 eP 39 17.00 0.3
0.8s 19.22nm 4.9mb X
CHTO 6.36 149 eP 39 16.50 -0.2
BDT 7.78 155 eP 39 31.00 -5.6X
0.8s 41.50nm 5.5mb X
SUF 59.21 330 eP 47 43.80 1.0
0.6s 2.90nm 4.6mb
HFS 65.18 327 eP 48 21.70 -1.0
0.5s 1.20nm 4.2mb
S.D. = 1.0 on 5 of 7 obs.

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* OCT 12, 1989 15h 41m 16.99± 0.79s
6.892 S ±13.3km 127.537 E ±17.1km
DEPTH = 396.3 ± 16.6 km
4.7mb (2 obs.)
BANDA SEA (280)

TLE 5.33 77 iPd 42 42.50 -0.3
MTN 6.89 149 ePd 43 01.90 1.8
e 44 17.00
MNI 8.71 342 ePc 43 20.20 -0.7
KNA 8.89 172 eP 43 22.00 -1.0
PCI 9.71 307 ePd 43 33 30 0.7
WB5 14.51 153 iPd 44 25.00 -1.7
ASPA 17.77 161 iPd 44 59.30 -0.9
0.9s 33.00nm 4.7mb
eS 48 02.00
OIS 17.93 140 eP 45 02.00 0.2
WARB 19.20 182 eP 45 11.50 -2.9X
FORR 23.84 179 eP 45 54.30 -3.8X
0.4s 13.00nm 4.7mb
BWA 33.50 148 eP 47 24.10 1.3
CAN 34.49 148 eP 47 31.70 0.6
S.D. = 1.4 on 10 of 12 obs.

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* OCT 12, 1989 15h 55m 14.86± 4.15s
43.840 N ±29.5km 7.745 E ± 7.5km
DEPTH = 5.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
ML 1.8 (GEN).

IMI 0.13 56 P 55 17.83 0.3
S 55 21.26
ENR 0.45 329 P 55 23.72 -0.2
S 55 32.41
ROB 0.46 11 P 55 24.32 0.2
S 55 32.92
FIN 0.50 42 P 55 24.38 -0.5
S 55 32.34
STV 0.51 323 P 55 24.64 -0.4
S 55 32.74
DOI 0.75 332 P 55 30.50 0.4
S.D. = 0.5 on 6 of 6 obs.

OCT 12, 1989 16h 06m 40.97± 0.61s
43.420 N ± 5.0km 5.513 E ± 4.4km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 3.2 (STR).

GELF 0.07 240 Pg 06 43.16 -0.2
BERF 0.17 130 Pg 06 46.06 1.2
TREF 0.22 335 Pg 06 45.70 -0.1
TAVF 0.44 63 Pg 06 50.51 0.5
VILF 0.46 19 Pg 06 49.64 -0.6
PRAF 0.46 327 Pg 06 50.21 -0.1
GANF 0.64 26 Pg 06 54.26 0.3
CALN 1.05 71 Pg 07 01.09 0.1
MVIF 1.28 68 Pn 07 04.63 -0.2
Sg 07 24.31
REVF 1.39 76 Pn 07 05.63 -0.7
TOUF 1.39 64 Pn 07 06.30 -0.3
Sg 07 26.84
AURF 1.40 70 Pn 07 06.19 -0.4
AUTN 1.50 67 Pn 07 07.73 -0.5
Sg 07 30.50
SAOF 1.59 68 Pn 07 08.77 -0.4
DOI 1.65 49 P 07 10.20 0.0
eSn 07 34.60
BNI 1.83 27 Pc 07 15.00 2.1
eSn 07 39.80
CVF 2.61 108 Pn 07 23.18 -0.7
S.D. = 0.8 on 17 of 17 obs.

OCT 12, 1989 16h 17m 43.23± 0.47s
49.952 N ±12.9km 28.964 W ± 5.1km
DEPTH = 10.0km (geophysicist)
4.6mb (24 obs.) 4.2Msz (2 obs.)
NORTH ATLANTIC RIDGE (403)

STS 15.72 109 eP 21 24.70 -1.5
EMON 16.18 105 eP 21 31.00 -1.1
EKA 16.51 61 Pd 21 36.30 0.1
1.8s 106.60nm 4.7mb
LPF 18.38 85 eP 21 59.90 0.3
1.2s 23.80nm 4.2mb
GUD 19.70 109 eP 22 17.80 2.1
TOL 20.23 110 eP 22 23.00 2.0
eS 26 16.00
LSF 20.62 89 eP 22 23.90 -1.2
1.2s 32.70nm 4.6mb
LFF 20.63 93 eP 22 24.50 -0.6
1.0s 24.00nm 4.5mb
ETOR 20.89 106 eP 22 28.00 0.0
RJF 20.98 91 eP 22 27.90 -0.9
1.2s 29.70nm 4.5mb
LPO 21.02 93 eP 22 28.00 -1.2
1.2s 29.70nm 4.5mb
TCF 21.05 88 eP 22 28.40 -1.1
1.1s 35.10nm 4.6mb
UCC 21.17 75 P+ 22 29.00 -1.6
SNF 21.18 76 P 22 30.40 -0.3
MAF 21.30 88 eP 22 31.20 -0.9
1.2s 23.80nm 4.5mb
BGF 21.36 87 eP 22 31.90 -0.7
1.2s 26.70nm 4.5mb
DOU 21.46 77 Pc 22 32.60 -1.0
S 26 27.00
CAF 21.49 92 eP 22 33.10 -0.9
1.2s 17.80nm 4.3mb
AVF 21.61 86 eP 22 34.40 -0.7
1.3s 26.70nm 4.5mb
SSF 21.61 85 eP 22 34.60 -0.5
0.8s 10.70nm 4.3mb
LOR 21.77 84 eP 22 36.00 -0.8
1.0s 32.00nm 4.7mb
LBF 21.94 85 eP 22 38.00 -0.5
1.2s 59.50nm 4.9mb
SMF 21.97 86 eP 22 38.70 -0.1
1.3s 43.30nm 4.7mb
MEM 22.24 75 P 22 41.20 -0.1
WLF 22.54 77 Pc 22 46.50 2.2
RUP 23.11 77 eP 22 51.29 1.3
HAU 23.13 81 eP 22 51.10 0.9
1.3s 36.10nm 4.8mb
ABH 23.37 76 eP 22 53.53 1.1
BSF 23.47 81 eP 22 54.30 0.7
1.0s 20.00nm 4.6mb
VAI 25.44 85 P 23 15.10 2.7
MOX 25.71 73 eP 23 17.00 2.1
1.5s 28.00nm 4.7mb
Z 20s 0.90um 4.3Msz
HFS 26.02 51 eP 23 16.80 -0.9
0.4s 0.90nm 3.8mb
CLL 26.40 71 eP 23 20.00 -1.3
1.5s 17.00nm 4.5mb
e 23 27.00
BRG 27.08 71 eP 23 29.10 1.6
1.3s 11.00nm 4.4mb
CTI 27.21 82 P 23 31.00 2.1
KHC 27.35 75 P 23 30.50 0.4
Z 16s 0.70um 4.3MszX
N 16s 0.40um
E 16s 0.50um
PRU 27.69 73 eP 23 34.50 1.4
Z 20s 0.60um 4.2Msz
N 16s 0.30um
E 18s 0.50um
FVI 27.73 81 P 23 32 60 -0.8
KSP 28.52 71 e(P) 23 39 00 -1.6
SRO 30.76 75 e(P) 24 00.00 -0.6
KRA 30.98 71 eP 23 59.30 -3.2
SKO 35.35 83 eP 24 39.50 -1.0
Z 16s 1022.00um 7.7MszX
E 16s 681.00um
LR 40 05.00
VRI 36.82 74 ePd 24 55 50 2.6
MBC 42.26 339 eP 25 38 00 0.4
1.5s 19.00nm 4.6mb
SES 49.95 304 eP 26 38.00 -0.9
ALQ 56.62 286 eP 27 28.00 -0.8
1.3s 9.13nm 4.6mb
BCAO 60.41 122 iPc 27 55.40 0.2
0.8s 9.00nm 5.0mb
MAIO 62.36 66 eP 28 10.00 1.8
GSC 62.67 293 eP 28 10.00 -0.3
CLC 62.79 294 eP 28 11.00 0.0
CMB 62.89 298 eP 28 10.80 -0.8
GLA 63.03 290 eP 28 13.00 0.4
TPC 63.04 292 eP 28 13.00 0.3
SBB 63.70 293 eP 28 17.00 -0.1
SYP 65.09 294 eP 28 27.00 0.8
ZOBO 74.42 219 P 29 24.00 0.2
Z 24s 0.13um 4.1MszX
LR 53 08.00
BJI 85.28 26 eP 30 21.50 0.4
S.D. = 1.3 on 57 of 57 obs.

% OCT 12, 1989 17h 01m 16.45± 0.75s
60.638 N ± 6.7km 6.280 E ± 7.1km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.6 (BER).

HYA 0.53 355 iP 01 27.11 -0.1
eS 01 35.91
ASK 0.56 254 eP 01 27.60 -0.2
iS 01 35.11
ODD1 0.75 166 eP 01 31.16 0.0
eS 01 40.48
SUE 0.85 300 iP 01 33.08 0.2
iS 01 44.62
NRA0 2.59 86 eP 01 59.10 0.0
iSg 02 36.30
S.D. = 0.2 on 5 of 5 obs.

? OCT 12, 1989 17h 16m 37.30± 8.23s
11.817 N ±10.9km 62.245 W ±120.km
DEPTH = 150.0 ± 45.9 km
WINDWARD ISLANDS (95)
MD 3.6 (TRN).

GRW	0.67	59	eP	16	59.50	-0.4
			eS	17	15.00	
TCE	1.21	157	eP	17	04.58	0.3
			eS	17	22.10	
TRN	1.43	145	eP	17	06.63	0.3
			eS	17	26.62	
TPP	1.68	152	eP	17	08.73	-0.4
			eS	17	29.17	
SVB	1.74	34	eP	17	09.76	-0.1
			eS	17	35.00	
TBH	1.76	139	eP	17	13.64	3.6X
			eS	17	39.40	
SVV	1.80	34	eP	17	10.61	0.1
			eS	17	36.27	
SSV	1.82	34	eP	17	10.98	0.2
			eS	17	36.62	

S.D. = 0.4 on 7 of 8 obs.

OCT 12, 1989 17h 23m 42.55± 0.72s
38.844 N ± 6.6km 29.889 E ± 8.5km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

KHL	0.59	209	iPg	23	54.60	0.0
DST	1.24	308	iPn	24	05.00	-0.6
GPA	1.48	13	iPn	24	07.80	-1.4
BCK	1.49	158	ePn	24	09.10	-0.3
YLV	1.77	347	iPn	24	13.50	0.1
KCT	1.84	320	iPn	24	16.00	1.6
GBZT	1.97	350	ePn	24	19.50	3.2X
IZM	2.10	259	iPn	24	22.20	3.9X
YER	2.13	217	ePn	24	23.20	4.6X
EDC	2.17	314	ePn	24	19.00	-0.2
ISK	2.31	344	ePn	24	24.00	2.8X
BBTK	2.44	65	iPd	24	24.00	0.8
			iS	24	46.00	
CTT	2.56	334	ePn	24	30.00	5.3X
EZN	2.93	291	ePn	24	36.00	6.0X

S.D. = 1.1 on 8 of 14 obs.

OCT 12, 1989 18h 33m 08.48± 0.88s
2.120 S ± 4.4km 79.581 W ±11.0km
DEPTH = 102.9 ± 6.5 km
4.8mb (16 obs.)
NEAR COAST OF ECUADOR (105)

TUNG	1.33	58	iP+	33	34.20	0.6
RECU	1.79	35	iP+	33	41.90	2.5
GGP	2.17	27	iPd	33	45.30	0.8
QUR	2.20	29	iPd	33	45.50	0.7
			(S)	34	14.20	
CAYA	2.71	36	iP+	33	52.50	0.9
COTA	2.74	27	iP+	33	34.20	-17.8X
PSO	3.99	34	iPc	34	10.00	1.0
PURC	5.46	36	ePd	34	29.07	-0.3
SALC	5.82	30	eP	34	31.61	-2.5
ANCC	6.22	26	eP	34	35.24	-4.2X
HOOC	6.28	28	ePc	34	37.16	-3.4X
DIAC	6.35	32	eP	34	38.43	-2.9X
CLMC	6.68	27	eP	34	41.49	-4.4X
HOBC	7.30	28	eP	34	50.10	-4.1X
BOG	8.67	39	eP	35	15.00	1.8
			iS	37	18.00	
NNA	10.17	165	iPd	35	32.20	-1.0
	0.6s		46.67nm			5.6mb
			eS	37	19.20	
PT10	10.22	165	iPc	35	32.00	-1.8
			eS	37	21.00	
PT08	10.23	163	iPc	35	34.90	0.7
			eS	37	06.80	
BMG	11.20	35	eP	36	01.00	14.0X
PT03	12.37	163	e(P)	36	01.00	-1.3
			eS	38	12.10	
SDV	14.11	39	eP	36	24.40	-0.8
TOV	15.33	39	eP	36	40.50	-0.1
ARE	16.32	151	eP	36	48.00	-5.3X
FISA	16.75	37	eP	36	57.00	-1.4
OLLA	17.53	46	eP	37	07.00	-1.0
CAR	17.77	45	eP	37	09.00	-2.0
LLAV	17.84	45	eP	37	10.00	-1.7
ZOBO	18.03	142	P	37	13.30	-1.2
Z	20s		0.32um			
			LR	40	48.00	
LPB	18.24	142	P	37	18.00	1.0
GUAN	18.34	49	eP	37	16.50	-1.4
CNCB	18.53	143	P	37	21.50	1.0
CCH	20.11	140	P	37	38.30	1.5
PAG	25.26	44	eP	38	24.00	-2.9
IISM	27.32	321	eP	38	50.50	4.9X
PPM	28.18	319	(P)	38	58.00	4.0X
MEO	40.81	336	iPd	40	41.50	0.1
PDCR	41.37	107	eP	40	33.90	-12.4X
KVN	54.14	323	eP	42	24.50	-1.0
			e	42	54.80	
SCH	57.72	9	eP	42	49.00	-1.6
SES	58.85	337	eP	42	58.00	-0.5
EDM	61.96	338	iPd	43	18.10	-1.5
LIC	74.89	83	P	44	40.40	0.0
TIC	74.93	83	P	44	40.80	0.2
KIC	75.18	83	Pd	44	42.10	0.0
	0.6s		9.50nm			4.8mb
MBC	81.48	351	ePd	45	15.50	0.4
	0.9s		35.00nm			5.2mb
LPF	83.91	41	eP	45	28.80	0.7
	0.8s		5.30nm			4.5mb
EKA	84.04	34	P	45	29.00	0.4
	1.1s		13.50nm			4.8mb
EPF	84.07	47	eP	45	30.30	1.1
	0.8s		10.70nm			4.8mb
GRR	84.10	41	eP	45	29.40	0.3
	1.0s		17.60nm			4.9mb
MFF	84.28	43	eP	45	30.60	0.6
	0.8s		10.70nm			4.8mb
FLN	84.40	41	eP	45	31.30	0.7
	1.0s		12.00nm			4.8mb
LDF	84.61	41	eP	45	32.30	0.7
	0.8s		8.00nm			4.7mb
LFF	84.64	45	eP	45	32.70	0.9
	0.6s		6.10nm			4.7mb
LPO	84.92	45	eP	45	34.00	0.7
	0.8s		10.70nm			4.8mb
LSF	85.37	43	eP	45	35.80	0.3
	0.9s		8.10nm			4.7mb
TCF	85.84	43	eP	45	38.10	0.2
	0.8s		3.20nm			4.4mb
MAF	86.08	44	eP	45	39.40	0.4
	0.8s		3.20nm			4.4mb
BGF	86.31	43	eP	45	40.50	0.3
	0.8s		7.20nm			4.7mb
DOU	87.87	40	Pc	45	48.30	0.8
WLF	88.83	40	Pc	45	53.60	1.5
CDF	89.48	42	eP	45	55.90	0.5
GTA	142.88	1	ePKP	52	26.60	-5.6X
SSE	145.13	328	PKPd	52	35.00	-1.0
	1.0s		24.00nm			
NDI	145.55	38	iPKPd	52	37.00	0.2
LZH	146.05	355	PKPd	52	37.50	-0.2
	1.2s		42.00nm			
			epP	52	57.00	
			(PP)	53	22.00	
XAN	147.27	347	PKP	52	41.40	1.9

S.D. = 1.2 on 54 of 66 obs.

? OCT 12, 1989 18h 37m 44.07± 2.92s
7.315 S ±17.4km 128.636 E ±26.9km
DEPTH = 123.8 ± 38.7 km
4.4mb (2 obs.)
BANDA SEA (280)

TLE	4.41	68	ePd	38	50.10	-0.1
			eS	39	38.00	
MTN	6.02	156	eP	39	13.00	0.9
MNI	9.49	336	eP	39	18.00	-41.0X
WB5	13.67	157	eP	40	52.00	-2.0
			eS	43	13.20	
QIS	16.92	142	eP	41	35.00	0.2
			e	44	13.00	
ASPA	17.03	163	iPc	41	36.90	0.8
	0.7s		22.00nm			4.5mb
			eS	44	36.20	
WARB	18.86	186	eP	41	56.50	-0.8
	0.3s		4.00nm			4.2mb
NANU	19.73	218	eP	42	06.20	-0.1
FORR	23.42	181	eP	42	44.00	1.1

S.D. = 1.4 on 8 of 9 obs.

? OCT 12, 1989 18h 43m 44.51± 1.45s
49.797 N ±34.7km 28.983 W ±16.5km
DEPTH = 10.0km (geophysicist)
4.3mb (9 obs.)
NORTH ATLANTIC RIDGE (403)

TOL	20.19	110	eP	48	20.00	-1.9
LSF	20.64	88	eP	48	28.00	1.5
	1.2s		13.00nm			4.2mb
TCF	21.07	88	eP	48	30.40	-0.6
	1.2s		20.80nm			4.4mb
SNF	21.23	75	P	48	34.30	1.8
BGF	21.38	86	eP	48	34.00	-0.1
	0.6s		13.50nm			4.5mb
DOU	21.51	76	Pc	48	33.00	-2.4
AVF	21.63	86	eP	48	35.00	-1.6
	1.0s		10.00nm			4.2mb
SSF	21.64	85	eP	48	37.80	1.1
	1.2s		10.10nm			4.1mb
LOR	21.80	84	eP	48	38.50	0.2
	1.0s		8.00nm			4.1mb
LBF	21.97	85	eP	48	39.80	-0.3
	1.2s		14.80nm			4.3mb
SMF	22.00	86	eP	48	39.00	-1.3
	1.2s		20.80nm			4.4mb
MEM	22.29	74	Pc	48	46.90	3.8X
WLF	22.59	77	P	48	47.40	1.3
CLL	26.46	70	eP	49	30.00	6.9X
KHC	27.40	75	eP	49	32.50	0.7
BCAO	60.34	122	ePd	53	58.00	2.1
	0.8s		4.00nm			4.6mb
KVN	60.94	297	eP	53	59.50	-0.6

S.D. = 1.5 on 15 of 17 obs.

• OCT 12, 1989 19h 19m 17.49± 1.54s
7.106 S ± 9.2km 128.914 E ±14.1km
DEPTH = 131.9 ± 18.2 km
4.4mb (2 obs.)
BANDA SEA (280)

TLE	4.08	69	iPc	20	19.00	-0.2
MTN	6.11	159	iPc	20	48.20	1.5
KNA	8.59	181	iPd	21	20.60	0.3
			eS	22	48.00	
MNI	9.41	334	ePd	21	39.80	8.5X
PCI	10.95	304	ePd	22	07.20	15.6X
WB5	13.76	158	eP	22	26.00	-2.2
			eS	24	50.00	
QIS	16.91	143	iPd	23	07.90	0.2
			eS	26	04.00	
ASPA	17.15	164	iPd	23	10.40	-0.2
	0.9s		22.00nm			4.5mb
			eS	26	10.60	
PMG	18.20	98	eP	23	26.00	2.9X
WARB	19.10	186	eP	23	31.40	-1.2
			eS	26	56.00	
NANU	20.06	219	eP	23	42.50	0.0
			eS	27	22.00	
FORR	23.63	182	eP	24	18.20	0.6
BWA	32.60	149	eP	25	39.90	1.4
CAN	33.60	150	eP	25	47.00	-0.2
SHL	48.48	313	eP	27	48.50	-0.6
GBA	55.09	292	P	28	39.00	0.6
	0.6s		2.60nm			4.3mb
CNCB	150.95	145	ePKP	38	58.00	6.3X

S.D. = 1.1 on 13 of 17 obs.

OCT 12, 1989 21h 10m 43.48± 0.82s
37.761 N ± 7.4km 20.883 E ± 5.6km
DEPTH = 10.0km (geophysicist)
IONIAN SEA (399)
ML 3.6 (ATH).

VLS	0.48	331	ePg	10	53.50	0.3
SRN	2.23	342	ePn	11	25.80	4.9X
ATH	2.25	84	ePn	11	21.80	0.5
LSK	2.40	355	ePn	11	24.30	0.9
KZN	2.63	15	ePn	11	27.50	0.7
LIT	2.65	28	ePn	11	28.40	1.4
			eSn	12	14.60	
KBN	2.86	359	ePn	11	33.50	3.6X
BERA	3.03	346	ePn	11	33.10	0.9
PLG	3.28	37	ePn	11	35.80	-0.2
THE	3.29	29	ePn	11	36.30	0.2
OHR	3.35	359	iPn	11	37.30	0.4
LCI	3.44	319	Pc	11	36.80	-1.3
			eSn	12	20.60	
VAM	3.56	130	ePn	11	39.90	0.1
TIR	3.67	348	ePn	11	42.00	0.6
KNT	3.74	24	ePn	11	34.00	-8.5X
VAY	3.79	20	ePn	11	40.60	-2.5
LACI	3.98	347	ePn	11	46.40	0.7
TDS	4.03	299	Pc	11	50.20	3.7X
			eSn	12	38.60	
SKO	4.23	6	ePn	11	48.50	-0.9

12d 21h

PUK	4.34	350	ePn	11	50.60	-0.4
SDA	4.38	346	ePn	11	51.80	0.3
MMB	4.41	29	eP	11	52.00	0.0
MEU	4.78	264	Pd	11	56.90	-0.5
			eSn	12	53.90	
RZN	4.91	36	iP	11	58.00	-1.2
RDO	4.94	45	ePn	12	00.40	0.9
VTS	5.14	20	eP	12	06.00	3.5X
KDZ	5.23	41	eP	12	03.00	-0.5
SDI	6.72	308	Pd	12	26.70	2.0
VOY	9.77	330	ePn	13	04.90	-2.1
			eSn	14	51.00	

S.D. = 1.1 on 24 of 29 obs.

OCT 12, 1989 21h 33m 37.66± 0.66s
9.706 N ± 7.3km 69.761 W ± 7.0km
DEPTH = 10.0km (geophysicist)
VENEZUELA (101)
Felt at Tocuyo.

TOV	0.09	339	iPgc	33	40.30	0.0
	0.2s	804.20nm				
			iSg	33	43.80	
SDV	1.19	227	iPnc	33	59.30	-0.6
	0.2s	142.10nm				
			iSn	34	15.30	
CEOS	1.56	115	iPc	34	06.00	0.5
			eS	34	27.00	
FISA	1.60	15	iPd	34	07.00	0.8
			iS	34	31.00	
CAR	2.90	74	iP	34	25.50	0.6
			iS	35	07.00	
OLLA	2.93	84	eP	34	25.50	0.3
			eS	35	08.00	
LLAV	3.01	75	iPd	34	27.00	0.7
			iS	35	04.00	
GUAN	4.06	86	iPd	34	40.60	-0.7
			iS	35	47.00	
BMG	4.20	232	eP	34	58.00	14.8X
BOG	6.61	221	eP	35	22.00	4.3X
			eS	37	12.00	
SVB	9.06	66	eP	35	47.52	-4.0X
SVV	9.11	66	eP	35	48.11	-4.1X
SSV	9.13	66	eP	35	48.40	-4.2X
SLB	9.47	64	eP	35	54.89	-2.3
ZOBO	25.86	176	P	39	12.90	1.0
			eLR	47	38.00	
LPB	26.12	176	P	39	14.00	-0.2
CNCB	26.40	176	P	39	22.20	5.2X
CCH	27.15	172	P	39	27.40	3.9X

S.D. = 1.1 on 11 of 18 obs.

? OCT 12, 1989 22h 04m 55.63± 1.41s
50.536 N ±33.9km 28.961 W ±15.8km
DEPTH = 10.0km (geophysicist)
4.0mb (11 obs.)
NORTH ATLANTIC RIDGE (403)

EKA	16.23	63	P	08	47.00	1.9
	1.0s	9.90nm			3.9mb	
LSF	20.62	90	eP	09	37.60	0.2
	1.0s	6.00nm			3.9mb	
TCF	21.04	90	eP	09	40.00	-1.7
	1.0s	6.00nm			3.9mb	
MAF	21.29	89	eP	09	42.60	-1.7
	1.0s	8.00nm			4.1mb	
DOU	21.33	78	Pc	09	43.70	-1.0
BGF	21.34	88	eP	09	44.80	0.0
	0.6s	14.40nm			4.5mb	
SSF	21.57	87	eP	09	48.20	1.1
	0.8s	4.50nm			3.9mb	
AVF	21.57	87	eP	09	45.50	-1.6
	0.6s	3.60nm			4.0mb	
LOR	21.72	86	eP	09	49.60	1.0
	1.2s	11 90nm			4.2mb	
SMF	21.94	87	eP	09	50.00	-0.8
	1.0s	6.80nm			4.0mb	
WLF	22.42	79	Pc	10	03.80	8.3X
BSF	23.39	83	eP	10	05.90	0.7
GRF	25.57	76	eP	10	30 60	4.6X
	1.1s	7.20nm			4.3mb	
KVN	60.62	297	eP	15	08.50	-0.5
BCAO	60.73	123	ePc	15	12.00	2.3
	0.8s	4.00nm			4.6mb	

S.D. = 1.5 on 13 of 15 obs.

OCT 12, 1989 23h 50m 54.95± 0.29s
50.044 N ± 8.7km 29.004 W ± 3.3km
DEPTH = 10.0km (geophysicist)
4.6mb (33 obs.) 4.3Msz (5 obs.)
NORTH ATLANTIC RIDGE (403)

ECB	14.11	72	eP	54	25.20	8.3X
DMU	14.14	66	eP	54	15.10	-2.1
DLE	14.30	68	eP	54	17.50	-1.7
ECP	14.37	73	eP	54	26.90	6.7X
STS	15.78	109	eP	54	36.80	-1.8
EZAM	16.11	112	eP	54	41.00	-2.0
EMON	16.23	106	eP	54	42.50	-2.0
EKA	16.49	61	P	54	47.00	-0.6
	0.8s	17.10nm			4.2mb	
EPLA	18.95	113	e(P)	55	20.00	1.6
MFF	19.44	89	eP	55	22.20	-2.1
	0.6s	10.80nm			4.3mb	
GUD	19.76	109	eP	55	28.20	0.3
TOL	20.28	111	eP	55	33.50	0.2
LSF	20.65	89	eP	55	35.80	-1.3
	1.0s	24.00nm			4.5mb	
LFF	20.66	93	eP	55	36.10	-1.0
	0.8s	10.70nm			4.3mb	
ETOR	20.94	106	eP	55	40.00	-0.2
RJF	21.01	91	eP	55	39.90	-0.9
	0.8s	8.00nm			4.1mb	
LPO	21.06	93	eP	55	40.20	-1.0
	0.8s	8.00nm			4.1mb	
TCF	21.07	88	eP	55	40.00	-1.4
	1.0s	36.00nm			4.7mb	
UCC	21.17	75	P	55	42.10	-0.3
SNF	21.18	76	iP	55	42.14	-0.3
MAF	21.33	88	eP	55	42.60	-1.4
	0.8s	22.80nm			4.6mb	
BGF	21.38	87	eP	55	43.60	-1.0
DOU	21.47	77	P	55	43.90	-1.4
	0.7s	65.50nm			5.1mb	
CAF	21.52	92	eP	55	44.80	-1.2
	1.0s	16.00nm			4.4mb	
AVF	21.63	86	eP	55	45.80	-1.2
	0.8s	26.80nm			4.7mb	
SSF	21.63	85	eP	55	46.20	-0.9
	0.6s	9.90nm			4.4mb	
LOR	21.79	85	eP	55	47.60	-1.0
	0.8s	14.70nm			4.5mb	
LBF	21.96	85	eP	55	49.60	-0.8
	0.8s	18.80nm			4.6mb	
SMF	21.99	86	eP	55	50.30	-0.4
	1.0s	28.00nm			4.6mb	
MEM	22.24	75	iP	55	53.06	0.0
WTS	22.48	71	eP	55	56.50	1.1
WLF	22.55	77	P	55	56.60	0.5
VITF	22.84	81	P	55	58.26	-0.8
RUP	23.11	77	eP	56	02.06	0.3
HAU	23.14	81	eP	56	02.00	0.0
	0.8s	37.60nm			5.0mb	
ABH	23.37	76	eP	56	05.68	1.5
BSF	23.48	82	P	56	05.97	0.6
ECH	23.59	80	P	56	05.74	-0.7
CDF	23.61	80	P	56	07.41	0.8
WLS	23.66	80	P	56	06.37	-0.7
GWF	23.66	78	P	56	07.65	0.6
LOMF	23.66	83	P	56	06.89	-0.3
MOF	23.69	81	P	56	08.37	0.9
EMS	24.19	86	ePd	56	14.10	1.7
FEL	24.24	81	P	56	13 50	0.7
LPG	24.30	87	eP	56	13 40	-0.2
	0.8s	6.70nm			4.3mb	
DIX	24.50	85	ePd	56	18 20	2.7
SLE	24.59	81	ePd	56	17 10	1.1
ZLA	24.62	81	ePd	56	17 40	1.0
MMK	24.87	85	ePd	56	21 10	2.1
DOI	25.04	89	P	56	22 50	2.0
LLS	25.22	82	ePd	56	24 00	1.7
SAX	25.31	81	ePd	56	23 80	0.6
VAI	25.45	85	P	56	26 50	2.3
VDL	25.66	83	ePd	56	28.40	1.9
MOX	25.71	73	eP	56	28 00	1.4
	1.7s	41.00nm			4.8mb	
	Z 19s	0.60um			4.1Msz	
	E 19s	0.50um				
GRF	25.72	75	iPc	56	27 20	0.5
	1.3s	49.00nm			5.0mb	
	Z 18s	0.80um			4.3Msz	
HFS	25.98	51	eP	56	27 70	-1.4
	0.9s	4.80nm			4.2mb	
	Z 15s	0 55um			4.2MszX	
			LR	03	59.00	
OSS	26.02	82	ePd	56	31.50	1.7
MDI	26.09	84	P	56	31.50	1.3
CLL	26.39	71	iP	56	32.90	0.0
	1.6s	24.00nm			4.6mb	
BRG	27.08	72	eP	56	38.20	-1.0
CTI	27.23	83	P	56	41.00	0.2
KHC	27.35	75	P	56	42.00	0.2
	Z 15s	0.80um			4.4MszX	
	N 16s	0.40um				
	E 16s	0.50um				
		e		56	53.60	
PRU	27.69	73	eP	56	45.00	0.2
	Z 19s	0.70um			4.3Msz	
	N 18s	0.30um				
	E 20s	0.60um				
FVI	27.74	81	P	56	44.50	-0.7
KSP	28.52	71	ePd	56	52.00	-0.3
VOY	28.67	81	eP	56	53.50	-0.3
LJU	29.07	81	eP	56	56.50	-0.8
ZST	29.87	76	e(P)	57	08.00	3.6X
KRA	30.98	71	eP	57	14.80	0.6
SPC	31.46	72	eP	57	19.60	0.9
SKO	35.36	83	eP	57	53.00	0.6
	Z 16s	954.00um			7.6MszX	
	N 15s	752.00um				
	E 15s	612.00um				
			LR	13	07.00	
OHR	35.40	85	eP	57	51.00	-1.7
VRI	36.82	74	eP	58	05.00	0.4
MBC	42.16	339	eP	58	50.00	1.5
	1.1s	19.00nm			4.7mb	
FVM	44.59	279	P	59	09.50	0.8
KIC	48.06	147	P	59	39.30	2.9
TUL	49.26	280	eP	59	44.60	-0.9
	1.3s	15.10nm			4.8mb	
	Z 22s	1.38um			4.9Msz	
UYO	49.50	277	eP	59	47.40	0.0
SIO	49.69	280	eP	59	48.30	-0.5
SES	49.87	304	eP	59	51.00	0.9
MEO	51.74	281	e(P)	00	03.30	-1.1
GLD	52.75	290	P	00	10.10	-2.1
GOL	52.87	290	P	00	12.10	-1.1
	0.8s	11.90nm			4.9mb	
LRM	53.28	300	eP	00	15.20	-0.9
BW06	53.47	295	P	00	15.80	-1.8
NEW	54.35	305	P	00	22.30	-1.4
	0.7s	13.17nm			5.1mb	
FBA	56.02	333	P	00	32.00	-3.5X
	0.5s	4.55nm			4.8mb	
ALQ	56.57	286	eP	00	40.00	-0.2
	1.1s	10.13nm			4.8mb	
IMA	56.75	336	eP	00	40.50	-0.5
	0.9s	7.60nm			4.7mb	
PMR	58.90	331	eP	00	55.80	-0.1
TTA	59.86	335	eP	01	02.00	-0.6
BCAO	60.48	122	iPd	01	07.50	0.1
	0.8s	16.00nm			5.2mb	
		id		01	12.00	
KVN	60.82	297	P	01	09.10	-0.6
TNP	60.96	296	P	01	10.00	-0.7
	0.5s	2.38nm			4.6mb	
MAIO	62.34	66	eP	01	21.00	1.2
GSC	62.61	293	eP	01	24.00	2.4
CLC	62.73	294	eP	01	23.00	0.7
CMB	62.82	297	e(P)	01	22.40	-0.5
PDCR	62.94	191	eP	01	23.20	-0.5
GLA	62.97	290	P	01	23.00	-1.0
TPC	62.99	292	eP	01	27.00	3.0X
FRI	63.15	296	e(P)	01	24.70	-0.3
SBB	63.64	293	eP	01	31.00	2.6
PLM	63.99	291	P	01	30.00	-0.9
BAR	64.35	291	eP	01	35.00	2.0
ZOBO	74.48	219	P	02	36.00	0.1
	1.1s	10.15nm			4.8mb	
	Z 20s	0.18um			4.4Msz	
			LR	26	26.00	
LPB	74.71	219	(P)	02	33.00	-4.0X
CNCB	74.91	219	P	02	38.40	0.1
NDI	78.07	60	eP	02	58.00	2.7
LZH	84.66	37	(P)	03	31.50	1.4
	2.0s	28.00nm			5.1mb	
		pP		03	40.00	27kmX
BJI	85.21	26	eP	03	33.50	1.0
GBA	89.93	69	Pc	03	53.70	-2.0
	0.8s	1.60nm			4.3mb	
DZM	149.54	331	iPKPc	10	45.90	4.6X

ASPA 150.48 33 iPKPc 10 47.40 4.8X
S.D. = 1.2 on 108 of 116 obs.

& OCT 13, 1989 01h 37m 26.60s
40.848 N 124.530 W
DEPTH = 18.0km
NEAR COAST OF NORTHERN CALIF. (35)
<BRK>. ML 3.2 (BRK).

FHC	0.42	96	iPc	37 35.00	-0.2
			eS	37 40.50	
WDC	1.54	99	ePd	37 51.70	-1.5
			eS	38 09.80	
LBFM	2.06	75	eP	37 59.80	-1.2
MIN	2.28	102	eP	38 01.70	-2.5
			eS	38 28.70	
ORV	2.66	118	eP	38 06.30	-3.0
KVN	5.26	108	eP	38 43.30	-3.1

6 obs. associated

? OCT 13, 1989 01h 42m 01.61± 1.76s
52.580 N ±94.7km 28.233 W ±22.8km
DEPTH = 10.0km (geophysicist)
4.0mb (4 obs.)
NORTH ATLANTIC RIDGE (403)

DOU	20.56	84	P	46 42.20	-0.5
TCF	20.67	96	eP	46 43.20	-0.7
MAF	20.92	95	eP	46 45.80	-0.7
BGF	20.93	94	eP	46 46.50	-0.1
	0.9s		8.10nm		4.1mb
AVF	21.13	93	eP	46 48.80	0.2
	0.9s		6.50nm		4.0mb
LOR	21.22	92	eP	46 50.30	0.7
	1.1s		5.80nm		3.9mb
LBF	21.42	92	eP	46 52.30	0.7
	1.0s		6.00nm		3.9mb
SMF	21.49	93	eP	46 52.70	0.4
HAU	22.42	88	eP	47 04.70	3.1X
KVN	60.12	296	eP	52 11.50	0.0

S.D. = 0.7 on 9 of 10 obs.

? OCT 13, 1989 01h 55m 33.77± 2.48s
10.334 S ±46.8km 161.439 E ±44.8km
DEPTH = 70.4 ± 41.5 km
SOLOMON ISLANDS (193)

HNR	1.72	301	eP	56 02.00	-0.2
			eS	56 25.00	
SVO	1.99	306	eP	56 06.00	0.2
			eS	56 27.00	
DZM	12.62	158	iPd	58 32.20	0.0
			iS	00 49.90	
BRS	18.83	205	iPc	59 50.50	-0.3
RMQ	20.05	215	eP	00 04.40	0.6
WB5	27.77	247	eP	01 17.90	-0.2

S.D. = 0.5 on 6 of 6 obs.

OCT 13, 1989 03h 38m 28.78± 0.60s
44.558 N ± 5.5km 7.268 E ± 4.7km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.9 (GEN).

DOI	0.06	196	P	38 31.60	0.5
			iSg	38 32.70	
PZZ	0.13	246	Pc	38 32.04	0.0
			S	38 33.86	
STV	0.32	173	P	38 35.22	-0.2
			S	38 38.96	
ENR	0.35	162	P	38 35.88	-0.1
			S	38 40.09	
RRL	0.50	317	P	38 38.89	-0.1
			S	38 45.42	
ROB	0.51	121	P	38 39.23	0.2
			S	38 45.73	
FIN	0.76	117	P	38 43.68	0.0
			S	38 53.83	
IMI	0.79	145	P	38 43.82	-0.3
			S	38 54.04	
PCP	0.91	91	P	38 46.35	0.1

S.D. = 0.3 on 9 of 9 obs.

OCT 13, 1989 04h 10m 52.61± 0.63s
40.620 N ± 7.0km 29.824 E ± 5.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

Felt in the Iznik area.

HRT	0.23	330	ePg	10 56.80	-0.8
GBZT	0.33	300	iPg	10 58.80	-0.7
			iSg	11 04.70	
YLV	0.35	261	iPg	10 59.30	-0.5
GPA	0.50	132	iPg	11 00.00	-2.7
ISK	0.73	308	ePg	11 06.30	-0.7
			eSg	11 20.30	
KCT	1.18	252	iPn	11 15.30	0.7
DST	1.37	223	iPn	11 17.80	0.1
BNT	1.48	260	iPn	11 20.20	1.0
EDC	1.52	260	iPn	11 19.50	-0.3
DMK	1.97	308	iPn	11 27.30	1.0
KHL	2.31	186	ePn	11 32.00	0.7
BBTK	2.38	108	eP	11 34.00	1.6
			eS	12 11.00	
IZM	2.98	223	ePn	11 49.00	8.2X
KAS	3.08	75	ePn	11 43.00	0.8
			iSg	12 23.00	

S.D. = 1.2 on 13 of 14 obs.

? OCT 13, 1989 04h 35m 14.03± 2.37s
49.064 N ±98.3km 29.530 W ±15.9km
DEPTH = 10.0km (geophysicist)
4.1mb (4 obs.)
NORTH ATLANTIC RIDGE (403)

TCF	21.47	85	eP	40 04.20	-0.4
	1.3s		14.40nm		4.2mb
MAF	21.73	85	eP	40 07.90	0.8
SNF	21.78	73	P	40 07.70	0.2
BGF	21.80	84	eP	40 07.90	0.1
	0.7s		5.50nm		4.1mb
LOR	22.24	82	eP	40 11.80	-0.5
	1.2s		8.90nm		4.1mb
LBF	22.41	83	eP	40 13.40	-0.5
SMF	22.42	83	eP	40 14.30	0.3
	1.3s		10.80nm		4.2mb
KVN	60.96	297	eP	45 29.70	0.0

S.D. = 0.5 on 8 of 8 obs.

? OCT 13, 1989 05h 21m 52.39± 1.71s
49.726 N ±73.6km 29.046 W ±14.3km
DEPTH = 10.0km (geophysicist)
4.3mb (8 obs.)
NORTH ATLANTIC RIDGE (403)

LSF	20.68	88	eP	26 34.30	-0.6
TCF	21.11	87	eP	26 39.10	-0.2
	1.3s		21.60nm		4.4mb
MAF	21.37	87	eP	26 42.00	0.2
	1.0s		8.80nm		4.1mb
BGF	21.43	86	eP	26 42.20	-0.3
	0.6s		7.50nm		4.3mb
CAF	21.54	91	eP	26 44.20	0.6
	1.2s		13.00nm		4.2mb
DOU	21.57	76	Pc	26 44.00	0.2
			e	27 25.10	
AVF	21.68	85	eP	26 44.80	-0.1
	1.0s		6.80nm		4.0mb
LOR	21.85	84	eP	26 46.60	-0.1
	1.2s		19.00nm		4.4mb
LBF	22.02	84	eP	26 48.50	0.1
	1.3s		25.20nm		4.5mb
SMF	22.04	85	eP	26 48.90	0.3
	1.2s		22.00nm		4.5mb
CLL	26.52	70	e(P)	27 38.00	6.4X
KHC	27.46	75	eP	27 47.00	6.8X
KVN	60.94	297	eP	32 07.90	0.0

S.D. = 0.3 on 11 of 13 obs.

? OCT 13, 1989 05h 59m 56.68± 1.29s
49.884 N ±50.4km 29.048 W ±11.2km
DEPTH = 10.0km (geophysicist)
4.2mb (7 obs.)
NORTH ATLANTIC RIDGE (403)

LSF	20.68	88	eP	04 38.60	-0.5
TCF	21.11	88	eP	04 43.40	-0.1
	1.1s		12.20nm		4.2mb
MAF	21.36	88	eP	04 46.20	0.1
	0.9s		6.50nm		4.0mb
BGF	21.42	87	eP	04 46.70	0.0
	0.6s		14.40nm		4.5mb
DOU	21.53	76	P	04 47.80	0.1
CAF	21.54	91	eP	04 48.00	0.1
AVF	21.67	86	eP	04 49.10	0.0
	0.9s		4.90nm		3.9mb
SSF	21.67	85	eP	04 49.50	0.3
LOR	21.83	84	eP	04 50.60	-0.2
	1.1s		12.20nm		4.2mb
LBF	22.00	85	eP	04 52.70	0.1
	1.2s		16.00nm		4.3mb
SMF	22.03	86	eP	04 53.10	0.3
	1.2s		17.80nm		4.4mb
MEM	22.31	75	P	04 55.30	-0.1
KVN	60.87	297	eP	10 11.70	0.0

S.D. = 0.2 on 13 of 13 obs.

OCT 13, 1989 06h 01m 27.77± 0.83s
29.424 N ±10.0km 131.618 E ± 6.7km
DEPTH = 33.0km (normal)
4.6mb (2 obs.)
RYUKYU ISLANDS REGION (239)

KAGJ	1.87	340	iP+	01 58.70	0.7
			S	02 20.60	
KUMJ	3.17	348	P	02 17.30	0.8
			S	02 51.50	
SHNJ	4.71	355	P	02 38.10	-0.2
			S	03 29.70	
TKSJ	5.00	24	P	02 41.90	-0.5
			eS	03 35.00	
SHK	5.17	10	iPd	02 44.80	-0.1
	0.7s		205.48nm		5.7mb X
WKYJ	5.86	34	P	02 54.10	-0.5
			S	03 56.30	
YONJ	5.96	15	P	02 55.50	-0.5
			eS	03 57.40	
TSRJ	7.12	30	P	03 12.50	0.2
IIDJ	8.04	40	P	03 25.10	-0.2
MAT	9.00	36	(P)	03 38.00	-0.4
CHJJ	9.07	41	P	03 40.10	0.8
SSE	9.17	283	Pc	03 39.80	-1.0
	0.8s		0.02nm		2.4mb X
Z	16s		0.90um		
			pP	03 46.50	
			S	05 52.00	
BJI	16.51	314	eP	05 20.00	1.7
Z	16s		0.29um		
TIY	17.98	302	eP	05 38.00	1.2
Z	12s		0.60um		
XAN	19.83	289	P	05 55.50	-3.2X
BTO	20.86	308	P	06 07.70	-1.6
GYA	22.23	268	P	06 23.20	-0.1
GTA	27.94	299	eP	07 14.80	-2.4
GBA	52.36	265	P	10 40.00	0.9
IMA	57.31	28	eP	11 13.30	-1.3
MBC	66.02	14	eP	12 13.00	0.3
	0.7s		4.00nm		4.6mb
HFS	77.37	333	eP	13 20.00	-0.6
	0.5s		2.50nm		4.5mb
Z	15s		0.54um		5.0MszX
			LR	53 35.00	
VRI	78.87	317	ePc	13 33.50	4.3X
KHC	84.31	324	P	13 59.00	1.4
CMB	85.01	49	eP	14 02.20	0.9
KVN	85.92	47	eP	14 06.80	0.7

S.D. = 1.0 on 24 of 26 obs.

• OCT 13, 1989 06h 40m 17.92± 0.56s
49.869 N ±14.3km 28.781 W ± 6.0km
DEPTH = 10.0km (geophysicist)
4.6mb (21 obs.) 4.3Msz (1 obs.)
NORTH ATLANTIC RIDGE (403)

EKA	16.45	61	P	44 11.00	0.9
	1.6s		56.90nm		4.5mb
LPF	18.27	85	eP	44 33.70	0.8
	1.2s		29.70nm		4.3mb
GRR	18.30	84	eP	44 34.00	0.8
	1.2s		29.70nm		4.3mb
FLN	18.44	83	eP	44 34.80	-0.2
	1.3s		43.30nm		4.5mb
LDF	18.72	83	eP	44 38.30	-0.1
	1.1s		24.40nm		4.3mb
MFF	19.30	89	eP	44 44.70	-0.9
	1.2s		23.80nm		4.3mb
TOL	20.09	110	eP	44 55.00	0.7
			eS	48 45.00	
LFF	20.51	93	eP	44 57.90	-0 6
	1.3s		36.10nm		4.6mb
LSF	20.51	89	eP	44 57.90	-0.7

13d 06h

	1.2s	33.90nm		4.6mb	
TCF	20.93	88 eP	45 02.50	-0.5	
	1.6s	64.60nm		4.7mb	
SNF	21.09	76 P	45 03.70	-0.8	
MAF	21.19	88 eP	45 05.10	-0.5	
	1.3s	25.20nm		4.4mb	
BGF	21.25	87 eP	45 05.70	-0.5	
	0.6s	14.70nm		4.5mb	
DOU	21.37	77 P	45 07.00	-0.3	
CAF	21.37	92 eP	45 06.80	-0.6	
	1.2s	17.80nm		4.3mb	
AVF	21.50	86 eP	45 08.00	-0.6	
	1.5s	47.00nm		4.7mb	
SSF	21.50	85 eP	45 08.20	-0.5	
	1.3s	37.50nm		4.6mb	
LOR	21.66	84 eP	45 09.50	-0.9	
	1.4s	74.00nm		4.9mb	
LBF	21.83	85 eP	45 11.50	-0.6	
	1.4s	84.50nm		5.0mb	
SMF	21.86	86 eP	45 12.20	-0.1	
	1.5s	106.50nm		5.0mb	
MEM	22.15	75 P	45 16.30	1.2	
WLF	22.45	77 P	45 05.60	-12.5X	
HAU	23.03	81 eP	45 23.80	-0.1	
	1.1s	24.40nm		4.6mb	
BSF	23.37	81 eP	45 26.40	-0.9	
CDF	23.50	80 eP	45 29.10	0.6	
MOX	25.62	73 e(P)	45 52.00	3.2X	
Z	17s	0.50um		4.1MszX	
		iSg	56 07.00		
CLL	26.31	71 e(P)	45 56.00	0.8	
	2.4s	59.00nm		4.9mb	
		eSg	55 34.00		
KHC	27.26	75 P	46 05.20	1.3	
Z	16s	0.70um		4.3MszX	
MBC	42.38	339 eP	48 14.00	0.7	
	1.1s	7.00nm		4.3mb	
SES	50.09	304 eP	49 14.00	-0.7	
ALQ	56.76	286 eP	50 04.00	-0.5	
BCAO	60.27	122 ePc	50 28.50	-0.4	
	0.9s	23.00nm		5.3mb	
		id	50 30.30		
		id	50 34.90		
KVN	61.03	297 eP	50 32.00	-2.0	
MAIO	62.28	66 eP	50 45.00	2.6	
ZOBO	74.43	219 P	52 01.00	2.4	
Z	22s	0.18um		4.3Msz	
		LR	15 40.00		
S.D. = 1.0 on 33 of 35 obs.					

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* OCT 13, 1989 07h 04m 20.28± 1.09s
49.947 N ±22.7km 28.870 W ±11.6km
DEPTH = 10.0km (geophysicist)
4.1mb (7 obs.)
NORTH ATLANTIC RIDGE (403)

EKA	16.46	61 P	08 14.00	1.4	
	1.1s	9.70nm		3.8mb	
TCF	20.99	88 eP	09 05.60	-0.3	
	0.6s	3.90nm		4.0mb	
MAF	21.24	88 eP	09 07.70	-0.8	
	0.8s	5.30nm		4.0mb	
BGF	21.30	87 eP	09 08.60	-0.5	
	0.6s	9.00nm		4.3mb	
DOU	21.40	77 iP	09 10.20	0.2	
AVF	21.55	86 eP	09 11.10	-0.4	
LOR	21.71	84 eP	09 12.50	-0.7	
SMF	21.91	86 eP	09 14.90	-0.3	
	1.3s	15.80nm		4.3mb	
BSF	23.41	81 eP	09 29.60	-0.5	
MBC	42.29	339 eP	12 15.50	0.6	
	1.0s	4.00nm		4.1mb	
BCAO	60.36	122 ePc	14 34.10	2.3	
	0.6s	3.00nm		4.6mb	
KVN	60.94	297 eP	14 34.80	-1.0	
S.D. = 1.1 on 12 of 12 obs.					

? OCT 13, 1989 07h 11m 41.21± 3.76s
5.943 S ±27.0km 131.688 E ±47.1km
DEPTH = 33.0km (normal)
BANDA SEA (280)

AAI	4.14	303 eP	12 43.50	-0.2	
MTN	6.88	185 iPc	13 23.30	0.9	
		eS	14 39.00		
KNA	10.16	196 eP	14 06.60	-1.3	
		eS	15 54.00		
ASPA	17.75	173 eP	15 47.30	-0.3	
		eS	18 56.80		
NANU	22.72	222 eP	16 42.50	0.9	
S.D. = 1.3 on 5 of 5 obs.					

? OCT 13, 1989 07h 35m 35.24± 8.78s
45.773 N ±48.2km 16.019 E ±55.2km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
MD 3.3 (LJU). Felt (III) in the Zagreb area.

ZAG	0.05	330 iPg	35 37.50	0.1	
		iSg	35 38.50		
PTJ	0.13	342 iPgd	35 38.20	-0.3	
		eSg	35 40.00		
LJU	1.07	285 ePg	35 55.50	0.1	
		eSg	36 11.10		
		iSg	37 10.00		
CEY	1.12	269 e(Pg)	35 56.00	-0.2	
		eSg	36 11.50		
VOY	1.51	281 ePn	36 02.50	0.1	
		eSn	36 23.70		
S.D. = 0.3 on 5 of 5 obs.					

OCT 13, 1989 07h 39m 37.50± 0.60s
54.011 N ± 8.1km 162.499 W ± 6.6km
DEPTH = 33.0km (normal)
4.8mb (11 obs.)
ALASKA PENINSULA (12)
ML 4.8 (PMR).

SNKA	0.49	341 iPd	39 47.72	-0.3	
DRRA	0.92	8 ePd	39 53.63	-0.5	
BALA	1.20	352 ePd	39 59.16	1.2	
		eS	40 13.41		
PS4	1.39	15 ePd	40 01.62	0.8	
PVV	1.43	16 eP	40 01.79	0.5	
		eS	40 20.26		
SQF	1.65	42 eP	40 05.78	1.2	
		eS	40 25.79		
NGI	1.75	53 eP	40 06.66	0.7	
		eS	40 27.81		
SASA	1.77	40 ePd	40 07.65	1.4	
		eS	40 28.84		
SON	1.77	40 iPc	40 07.70	1.5	
CNBA	1.88	63 eP	40 08.41	0.5	
SGB	1.94	37 eP	40 09.94	1.2	
		eS	40 33.36		
IVF	2.55	41 ePc	40 18.51	1.1	
KDC	6.76	52 eP	41 14.50	-2.4	
SVW	8.01	25 ePc	41 34.10	-0.4	
ADK	8.83	262 eP	41 46.70	1.0	
TTA	9.56	18 eP	41 54.40	-1.5	
PMS	10.02	38 iPc	41 59.30	-2.9	
PMR	10.40	38 eP	42 04.10	-3.2X	
TOA	11.82	40 eP	42 23.10	-3.6X	
IMA	12.85	16 eP	42 40.90	0.4	
MBC	27.52	21 eP	45 21.50	-0.9	
	1.0s	5.00nm		4.1mb	
KVN	33.40	98 eP	46 15.00	0.0	
RSON	40.56	65 eP	47 15.20	0.2	
SUF	63.41	356 iP	50 03.60	-1.8	
	0.6s	6.20nm		4.9mb	
HFS	66.17	2 ePKP	50 20.50	-2.7	
	0.5s	6.60nm		5.0mb	
CLL	74.98	3 i(P)	51 16.60	-0.1	
	1.1s	14.00nm		4.9mb	
MOX	75.60	4 eP	51 21.00	0.7	
PRU	76.34	2 eP	51 20.40	-4.0X	
GRF	76.54	4 iPc	51 25.70	0.2	
	0.9s	10.00nm		4.8mb	
LPF	77.13	13 eP	51 28.80	0.0	
	0.7s	6.60nm		4.8mb	
KHC	77.18	3 Pc	51 29.20	0.0	
	1.0s	7.00nm		4.6mb	
LOR	78.43	9 eP	51 36.10	0.0	
	1.0s	8.00nm		4.7mb	
SSF	78.60	10 eP	51 37.20	0.2	
	0.9s	6.50nm		4.6mb	
MFF	78.65	12 eP	51 37.30	0.1	
	1.0s	12.00nm		4.9mb	
LBF	78.73	9 eP	51 37.50	-0.2	
AVF	78.86	10 eP	51 38.30	0.0	
	0.6s	2.70nm		4.4mb	
SMF	79.05	10 eP	51 39.50	0.1	
LSF	79.20	11 eP	51 40.20	0.0	
MAF	79.34	10 eP	51 41.00	0.0	
SKO	84.33	357 e(P)	52 07.50	0.4	
HYB	91.87	303 eP	52 44.00	0.4	
BUL	145.14	342 iPKPd	59 13.30	0.2	
	1.0s	10.50nm			
SLR	150.64	340 iPKPc	59 27.60	5.9X	
SWZ	152.58	345 iPKPd	59 34.50	10.0X	
	0.9s	8.40nm			
S.D. = 1.1 on 39 of 44 obs.					

? OCT 13, 1989 07h 42m 09.60± 1.69s
48.087 N ±40.6km 29.382 W ±13.3km
DEPTH = 10.0km (geophysicist)
4.5mb (9 obs.)
NORTH ATLANTIC RIDGE (403)

TOL	19.92	105 eP	46 55.00	10.8X	
LSF	21.03	83 eP	46 56.50	0.9	
TCF	21.47	83 eP	47 00.20	0.0	
	1.2s	26.70nm		4.5mb	
MAF	21.73	83 eP	47 02.60	-0.1	
	1.2s	14.80nm		4.3mb	
BGF	21.82	82 eP	47 03.70	0.1	
	0.5s	8.00nm		4.4mb	
AVF	22.09	81 eP	47 05.80	-0.5	
	1.0s	12.00nm		4.3mb	
SSF	22.12	80 eP	47 06.10	-0.5	
DOU	22.23	72 P	47 09.80	2.1	
LOR	22.30	80 eP	47 07.40	-1.1	
	1.2s	23.80nm		4.5mb	
LBF	22.45	80 eP	47 09.60	-0.4	
	1.3s	36.10nm		4.7mb	
SMF	22.46	81 eP	47 09.90	-0.1	
	1.3s	28.80nm		4.6mb	
MEM	23.06	70 P	47 22.00	6.2X	
HAU	23.76	77 eP	47 22.40	-0.3	
	1.0s	16.00nm		4.5mb	
MOX	26.58	69 e(P)	47 53.00	3.6X	
CLL	27.33	67 eP	47 56.00	-0.1	
KHC	28.15	72 P	48 11.30	7.6X	
M8C	43.91	340 eP	50 17.00	-0.4	
	1.0s	5.00nm		4.3mb	
ALQ	56.89	287 eP	52 06.00	8.9X	
KVN	61.50	298 eP	52 29.30	0.4	
S.D. = 0.8 on 14 of 19 obs.					

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* OCT 13, 1989 08h 40m 02.63± 0.71s
7.512 S ±20.9km 156.358 E ±14.8km
DEPTH = 158.6 ± 14.6 km
4.4mb (4 obs.)
SOLOMON ISLANDS (193)
Felt (III) at Arawa, Bougoinville.

PAA	1.48	324 iPd	40 33.20	0.2	
		eS	40 42.00		
BGA	1.79	319 iPd	40 36.20	-0.2	
		eS	40 51.00		
SVO	3.79	116 eP	41 01.00	0.0	
HNR	4.03	119 eP	41 11.00	6.8X	
		e(S)	42 09.00		
RAB	5.31	308 eP	41 16.00	-5.2X	
		iS	42 16.00		
PMG	9.30	258 eP	42 09.00	-5.3X	
	0.8s	58.21nm		5.2mb	
LAT	9.33	275 eP	42 05.00	-9.7X	
WB5	24.61	238 eP	45 10.00	0.1	
ASPA	26.87	231 iPc	45 30.30	-0.3	
	0.6s	7.00nm		4.5mb	
		i	45 40.10		
WARB	33.82	233 eP	46 32.00	0.2	
	0.3s	2.00nm		4.3mb	
GBA	81.09	285 Pc	52 01.90	0.0	
	0.6s	2.20nm		4.1mb	
S.D. = 0.3 on 7 of 11 obs.					

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* OCT 13, 1989 09h 00m 15.94± 0.51s
49.500 N ±13.5km 29.166 W ± 5.7km
DEPTH = 10.0km (geophysicist)
4.5mb (17 obs.)
NORTH ATLANTIC RIDGE (403)

EMON	16.19	104 eP	04 05.30	0.3	
EKA	16.85	60 P	04 11.00	-2.1	
	1.0s	19.50nm		4.2mb	
GUD	19.69	107 e(P)	04 50.40	2.2	
TOL	20.20	109 eP	04 53.00	-0.4	

LFF 20.74 91 eP 05 02.40 3.4X
1.2s 47.60nm 4.7mb
LSF 20.77 87 eP 04 58.90 -0.4
1.2s 32.70nm 4.6mb
ETOR 20.90 104 e(P) 05 05.00 4.2X
LPO 21.14 92 eP 05 08.00 4.9X
1.2s 24.90nm 4.5mb
TCF 21.20 87 eP 05 03.50 -0.2
1.0s 22.00nm 4.5mb
SNF 21.42 74 P 05 04.50 -1.4
MAF 21.46 87 eP 05 06.20 -0.1
1.0s 38.00nm 4.7mb
BGF 21.52 86 eP 05 06.80 -0.2
1.0s 40.00nm 4.8mb
DOU 21.70 75 P 05 07.50 -1.2
AVF 21.78 85 eP 05 09.10 -0.4
1.0s 14.00nm 4.3mb
SSF 21.79 84 eP 05 09.40 -0.2
1.0s 16.00nm 4.4mb
LOR 21.95 83 eP 05 10.70 -0.6
1.0s 12.00nm 4.3mb
LBF 22.12 84 eP 05 12.60 -0.4
1.2s 29.70nm 4.6mb
SMF 22.14 85 eP 05 13.40 0.2
1.2s 23.80nm 4.5mb
MEM 22.49 74 P 05 14.20 -2.3
WLF 22.78 76 P 05 19.50 0.2
HAU 23.33 80 eP 05 25.90 1.0
1.2s 23.80nm 4.6mb
BSF 23.67 80 eP 05 29.20 1.0
1.2s 17.80nm 4.5mb
MOX 25.97 72 eP 05 52.00 1.9
1.6s 28.00nm 4.7mb
KHC 27.60 74 eP 06 06.90 1.9
PRU 27.95 72 eP 06 11.50 3.3X
KSP 28.80 70 eP 06 17.00 1.2
e 29 30.00
MBC 42.64 339 ePc 08 13.00 -0.4
1.0s 6.00nm 4.3mb
EDM 49.79 308 eP 09 10.50 0.1
SES 50.09 304 ePc 09 13.40 0.6
LRM 53.46 300 eP 09 38.90 0.4
ALQ 56.62 286 eP 10 02.50 1.0
1.2s 3.91nm 4.3mb.
KVN 60.97 297 eP 10 31.60 -0.1
MAIO 62.66 65 eP 10 44.00 1.1
ZOBO 73.99 219 P 11 58.50 4.5X
Z 24s 0.08um 3.9MszX
LR 48 16.00
LPB 74.22 219 eP 11 54.00 -1.1
CNCB 74.42 219 eP 11 55.00 -1.5
WB5 147.64 30 ePKP 20 02.00 2.7X
S.D. = 1.1 on 31 of 37 obs.

? OCT 13, 1989 09h 02m 24.78± 2.19s
48.736 N ±51.5km 29.651 W ±17.6km
DEPTH = 10.0km (geophysicist)
4.4mb (8 obs.)
NORTH ATLANTIC RIDGE (403)

LSF 21.14 85 eP 07 14.50 2.5X
1.0s 16.00nm 4.4mb
TCF 21.58 84 eP 07 16.70 0.3
1.0s 20.00nm 4.5mb
MAF 21.83 84 eP 07 19.40 0.5
1.2s 23.80nm 4.5mb
BGF 21.91 83 eP 07 19.90 0.2
1.0s 18.00nm 4.5mb
AVF 22.18 83 eP 07 22.60 0.3
1.0s 14.80nm 4.4mb
DOU 22.21 73 P 07 19.60 -3.0
SMF 22.54 83 eP 07 26.00 0.0
1.2s 17.80nm 4.4mb
MEM 23.02 72 P 07 30.60 0.0
BSF 24.13 78 eP 07 42.80 1.3
1.0s 16.00nm 4.6mb
MBC 43.24 340 eP 10 27.00 -0.2
1.0s 5.00nm 4.2mb
DOT 56.73 331 eP 12 11.89 1.3
DDM 57.20 332 eP 12 03.92 -10.1X
KVN 61.04 297 eP 12 40.00 -1.0
S.D. = 1.3 on 11 of 13 obs.

& OCT 13, 1989 09h 11m 16.72s
66.228 N 149.887 W
DEPTH = 10.0km (geophysicist)
ALASKA (676)

<AGS-P>. ML 3.3 (PMR).

IMA 1.55 266 iPc 11 44.20 -0.3
RDS 1.58 152 eP 11 45.90 1.0
FBA 1.59 146 iPc 11 44.70 -0.3
GLM 1.62 139 eP 11 45.14 -0.3
NEA 1.69 168 eP 11 46.85 0.4
CCB 1.81 150 eP 11 47.41 -0.7
HDA 2.21 145 eP 11 52.83 -1.1
MCK 2.54 170 eP 11 58.38 -0.3
KTH 2.72 190 eP 12 00.44 -0.9
RND 2.87 171 eP 12 02.95 -0.4
TTA 4.23 221 eP 12 20.80 -2.0
TOA 4.45 157 eP 12 27.80 2.0
PWA 4.60 180 eP 12 27.90 0.1
PMR 4.67 176 eP 12 29.00 0.2
DWY 4.92 111 P 12 31.40 -1.0
SVW 5.74 209 eP 12 41.70 -2.3
HYT 7.74 129 P 13 10.90 -1.2
17 obs. associated

OCT 13, 1989 09h 59m 11.96± 0.21s
17.609 S ± 4.3km 122.404 E ± 4.8km
DEPTH = 10.0km (geophysicist)
5.4mb (10 obs.) 4.5Msz (3 obs.)
WESTERN AUSTRALIA (590)
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 14S, 31C
Centroid Locotion:
Origin Time 09:59:25.8 1.4
Lat 16.94S 0.09 Lon 122.57E 0.06
Dep 15.0 FIX Half-durotion 2.1
Moment Tensor; Scale 10**17 Nm
Mrr=-0.57 0.10 Mtt= 1.74 0.07
Mff=-1.17 0.16 Mrt=-0.33 0.37
Mrf=-0.89 0.25 Mtf= 1.08 0.08
Principol Axes:
T Vol= 2.23 Plg=13 Azm=159
N -0.27 57 49
P -1.95 30 257
Best Double Couple:Mo=2.1*10**17
NP1:Strike=294 Dip=59 Slip= -13
NP2: 31 79 -149

MBL 4.29 214 iPc 00 18.20 -0.5
KNA 6.37 74 iPd 00 46.30 -1.9
eS 01 52.00
KUPT 7.50 9 ePc 01 10.00 5.9X
e(S) 02 32.50
NANU 8.12 232 iPd 01 10.30 -2.5
MEKA 9.65 201 iPd 01 31.40 -2.5
MTN 9.66 62 iPc 01 31.60 -2.5
KHKI 11.32 323 eP 01 54.50 -2.4
eS 03 53.20
ASPA 12.33 121 iPd 02 07.10 -3.5X
0.6s 1566.00nm 7.4mb X
Z 19s 9.48um 4.2Msz
eS 04 15.60
LR 07 01.50
MKS 12.64 347 iPd 02 17.00 2.3
e 07 33.00
MRWA 12.96 206 eP 02 13.30 -5.6X
0.2s 71.00nm 6.5mb X
COOL 13.27 185 iPd 02 17.10 -5.9X
TRT 13.70 315 iPc 02 27.20 -1.5
0.6s 387.20nm 6.5mb X
BAL 13.94 201 iPd 02 27.10 -4.7X
FORR 14.16 160 iPd 02 28.00 -6.7X
KLB 14.55 196 iPd 02 35.50 -4.3X
AAI 14.95 23 eP 02 56.00 10.8X
MUN 15.37 200 eP 02 45.20 -5.3X
NWAO 15.95 196 iPd 02 53.40 -4.6X
eS 05 31.00
QIS 16.52 103 iPd 03 01.10 -4.3X
MNI 19.08 7 ePc 03 32.70 -4.6X
TSM 22.11 348 ePc 04 12.00 2.7
1.1s 544.00nm 5.9mb
ADE 22.58 143 eP 04 13.00 -0.9
CTA 22.70 100 iPd 04 15.90 0.7
2.0s 523.53nm 5.7mb
iS 08 22.00
JAY 23.40 52 ePd 04 23.10 1.0
e 07 53.50
MNDI 23.68 64 eP 04 36.00 11.0X
KSI 23.88 303 eP 04 29.00 2.4
0.8s 12.00nm 4.5mb

e 07 20.00
KKM 24.28 345 ePc 04 31.50 0.8
e 04 37.50
e 04 45.50
DAV 24.74 8 eP 04 35.00 0.0
CMS 25.32 127 iPd 04 41.00 0.5
e 04 59.00
e 09 17.00
PMG 25.38 75 eP 04 41.00 -0.1
RMO 25.93 115 ePd 04 47.20 1.0
e 09 22.00
BFD 26.35 142 eP 04 49.50 -0.5
e 09 24.00
KGM 27.10 314 ePc 05 07.80 10.8X
TOO 28.40 139 iPc 05 09.70 1.0
0.7s 46.00nm 5.4mb
eS 10 45.00
BWA 28.63 131 eP 05 12.90 2.1
e 06 00.90
CAN 29.49 132 eP 05 18.80 0.3
e 06 05.20
e 09 16.20
BRS 29.63 115 iPc 05 21.00 1.1
i 05 31.00
i 05 45.00
i 07 19.00
i 11 12.00
COO 29.75 121 eP 05 22.00 1.0
e 11 18.00
SNG 32.71 317 eP 05 55.20 8.2X
1.1s 101.27nm 5.7mb
BAG 33.85 357 eP 06 05.00 7.9X
HNR 37.34 82 eP 06 26.00 -0.6
NNT 37.44 322 iPd 06 28.20 0.9
NST 39.69 325 eP 06 56.00 9.8X
DZM 41.56 104 iPc 07 11.80 10.1X
BDT 41.60 325 eP 07 00.40 -1.4
QZH 42.46 355 P 07 08.50 -0.3
CHG 42.92 326 eP 07 12.50 -0.2
GYA 46.40 340 P 07 41.20 0.5
MSZ 46.57 135 P 07 43.00 1.3
NJ2 49.49 356 Pc 08 05.00 0.5
KUMJ 50.51 9 eP 07 58.00 -14.3X
CD2 51.46 339 eP 08 18.80 -0.9
SHL 52.19 325 iP 08 25.20 -0.3
eS 15 45.00
TIA 53.76 355 Pd 08 35.50 -1.1
GBA 54.14 302 P 08 40.00 0.2
HYB 55.45 307 eP 08 49.50 0.1
1.0s 160.00nm 6.0mb
e 08 59.00
eS 16 32.00
CHJJ 55.63 16 P 08 49.90 -0.5
TIY 55.82 350 Pd 08 51.20 -0.6
Z 24s 0.80um 4.7MszX
MTMJ 55.83 15 P 08 51.20 -0.7
LSA 55.86 327 P 08 53.60 0.9
S 16 37.50
MAT 55.89 15 (P) 08 51.00 -1.2
1.0s 15.00nm 5.0mb
eS 16 54.00
KAKJ 56.10 17 eP 08 53.00 -0.7
LZH 56.22 342 P 08 53.00 -1.8
1.5s 0.10nm 2.6mb X
Z 22s 0.84um 4.8Msz
sP 09 05.00
DL2 56.22 359 eP 08 54.00 -0.5
NIIJ 56.75 16 eP 08 59.90 1.5
BJI 57.64 354 eP 09 04.00 -0.6
Z 20s 0.30um 4.4Msz
HHC 59.02 350 P 09 15.00 0.6
BTO 59.04 349 eP 09 14.00 -0.6
sP 09 24.50
SNY 59.14 1 Pc 09 14.50 -0.5
E 24s 0.90um
eS 17 24.00
POO 59.74 305 iPc 09 19.40 -0.3
GTA 60.52 340 eP 09 25.20 0.4
CN2 61.17 3 eP 09 28.20 -0.7
MDJ 62.27 6 eP 09 36.50 0.2
MAW 62.42 202 eP 09 36.00 -1.1
NDI 63.45 316 eP 09 44.00 -0.4
eS 18 12.50
WMQ 68.90 334 Pc 10 19.80 0.7
1.0s 0.02nm 2.3mb X
Z 28s 0.50um 4.6MszX
sP 10 29.50

13d 10h

			S	19	22.00	
KSH	71.42	324	eP	10	36.50	1.9
SPA	72.50	180	e(P)	10	39.80	-0.9
	0.9s	15.45nm			5.1mb	
MAIO	80.00	313	eP	11	24.00	0.6
	1.3s	36.76nm			5.2mb	
SNA	84.33	196	eP	11	46.40	1.3
SLR	86.10	244	iPc	11	55.50	0.5
PTZ	86 77	256	iP	11	58.80	0.5
			i	12	04.50	
			i	12	17.40	
KSR	87.25	244	eP	11	53.80	-6.9X
BUL	87.50	250	eP	12	03.50	1.6
SWZ	88.17	242	eP	12	08.00	3.0X
	1.0s	15.00nm			5.3mb	
			e	14	31.00	
LSZ	89.37	254	iPd	12	11.50	0.7
			i	12	15.40	
			i	12	23.60	
			i	12	29.50	
MZZ	89.99	258	iP	12	15.00	1.2
			i	12	24.00	
LWI	92.77	267	iPd	12	27.60	0.9
BCAO	104.54	270	iPdiff	13	20.00	0.3
VRI	106.32	314	ePKPd	17	50.00	11.6X
MBC	113.57	13	ePKP	17	52.00	0.7
	0.8s	2.00nm				
HAU	120.27	316	ePKP	18	05.20	0.2
	0.8s	5.30nm				
LBF	122.00	315	ePKP	18	08.10	-0.2
	0.5s	2.10nm				
LOR	122.04	315	ePKP	18	08.40	0.1
	0.8s	3.20nm				
SSF	122.31	315	ePKP	18	09.00	0.2
	0.5s	5.80nm				
BGF	122.84	314	ePKP	18	10.20	0.4
	0.7s	13.20nm				
MAF	123 08	314	ePKP	18	10.50	0.2
	0.8s	4.00nm				
TCF	123.32	314	ePKP	18	11.20	0.4
	0.5s	2.10nm				
KVN	123.66	55	PKP	18	20.00	8.0X
LSF	123.79	314	ePKP	18	11.60	-0.1
EDM	124.26	37	ePKP	18	13.00	0.5
SES	126.48	40	ePKP	18	28.00	11.1X
LIC	127.50	264	PKP	18	20.80	1.0
TIC	127.61	265	PKP	18	21.20	1.1
RSSD	132.99	46	PKP	18	28.00	-1.7
GOL	133.30	52	PKP	18	35.00	4.5X
ALQ	133.38	58	ePKP	18	22.00	-8.7X
SIO	141.28	54	e(PKP)	18	43.70	-1.4
TUL	141.63	54	ePKP	18	44.50	-1.2
	0.8s	4.30nm				
	Z 23s	0.38um			5.1MszX	
			LR	06	54.00	
LNO	141.63	54	ePKP	18	42.80	-2.8
CNCB	144.30	163	PKP	18	51.00	-0.5
LPB	144.53	162	PKP	18	51.80	0.1
ZOBO	144.77	162	iPKPc	18	52.00	-0.3
	0.9s	49.31nm				
	Z 20s	0.08um			4.5Msz	
			S	42	26.00	
			eLR	47	30.00	
FVM	144.84	48	PKP	18	50.10	-1.0
PDCR	144.93	213	ePKP	18	30.80	-21.1X
			e	18	53.20	
			e	19	09.80	
			e	20	28.80	
NNA	144.98	146	ePKP	18	52.50	0.4
	0.8s	5.97nm				
POW	145.04	51	PKP	18	50.30	-1.2
OLY	145.08	53	PKP	18	54.00	2.4
BAO	145.64	197	ePKP	18	54.00	0.7
RSCP	149.38	49	PKP	19	02.00	3.4X
	S.D. = 1.2	on	92 of 120 abs.			

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* OCT 13, 1989 10h 32m 30.27± 1.36s
17.610 S ±21.6km 122.454 E ±15.2km
DEPTH = 10.0km (geaphysicist)
WESTERN AUSTRALIA (590)

MBL	4.31	215	eP	33	38.00	0.6
KNA	6.33	74	eP	34	06.50	0.6
	0.2s	7.00nm			5.2mb X	
			eS	35	13.00	
NANU	8.16	232	eP	34	30.60	-1.0
	0.2s	9.00nm			5.7mb X	
			eS	35	55.00	
MTN	9.62	62	eP	34	52.00	0.2
			eS	36	31.00	
MEKA	9.67	201	eP	34	53.10	0.6
			eS	36	33.00	
WB5	11.51	103	eP	35	16.80	-1.0
			eS	37	20.00	
MRWA	12.98	206	eP	35	34.70	-2.8X
	0.2s	2.00nm			5.0mb X	
			eS	37	46.00	
	S.D. = 1.0	on	6 of 7 obs.			

& OCT 13, 1989 10h 49m 01.16s
54.041 N 162.569 W
DEPTH = 18.8km
ALASKA PENINSULA (12)
<PAL>.

SNKA	0.45	344	iPd	49	09.89	-0.4
DRRA	0.90	11	ePd	49	15.95	-2.0
BALA	1.16	354	eP	49	21.39	-1.0
			eS	49	35.78	
PS4	1.38	17	iPd	49	23.95	-1.5
			eS	49	40.64	
PVV	1.41	18	ePd	49	24.26	-1.6
			eS	49	40.28	
SQF	1.66	44	eP	49	28.13	-1.4
			eS	49	48.14	
NGI	1.77	55	eP	49	28.94	-2.1
			eS	49	50.09	
SASA	1.77	42	ePd	49	29.99	-1.1
			S	49	50.19	
SGB	1.94	38	eP	49	32.18	-1.4
			eS	49	54.42	
IVF	2.55	42	eP	49	40.80	-1.6
			eS	50	10.24	
KDC	6.77	53	eP	50	36.50	-5.5
FBA	13.18	28	eP	52	00.50	-9.2
	12 obs. associated					

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* OCT 13, 1989 11h 00m 06.84± 0.90s
18.158 S ±22.6km 178.496 W ±14.6km
DEPTH = 598.7 ± 9.7 km
5.2mb (5 obs.)
FIJI ISLANDS REGION (181)

VUN	2.90	273	iPc	01	25.10	-0.6
DZM	14.67	252	iPc	03	12.70	0.9
BRS	27.98	246	iPd	05	13.50	0.5
RMQ	31.34	249	iPd	05	42.40	0.8
	0.7s	37.00nm			5.1mb	
			e	05	56.00	
CTA	33.32	261	iPd	05	58.00	-0.3
	0.9s	42.02nm			5.1mb	
CAN	33.49	233	eP	06	00.90	1.3
BWA	33.61	235	eP	06	00.30	-0.3
PMG	34.42	280	eP	06	09.00	1.6
	1.0s	92.00nm			5.4mb	
WB5	44.49	260	iPd	07	27.20	-1.0
ASPA	44.65	254	iPd	07	29.40	0.0
	0.7s	172.00nm			5.7mb	
FORR	49.79	245	iPd	08	07.60	-0.4
	0.4s	25.00nm			5.1mb	
KNA	50.36	264	eP	08	11.40	-1.0
MBL	57.84	256	iPd	09	04.00	-0.8
MEKA	58.34	250	eP	09	07.00	-1.2
MRWA	60.33	246	eP	09	20.70	-0.5
NANU	61.58	254	iPd	09	29.70	0.3
PRS	76.47	44	eP	10	58.10	0.5
FRI	77.94	44	eP	11	05.30	-0.1
CMB	78.08	43	eP	11	06.10	-0.1
WDC	78.19	40	eP	11	06.70	0.1
ORV	78.23	41	eP	11	06.80	-0.1
MIN	78.63	41	eP	11	08.90	-0.3
KVN	80 13	43	eP	11	17.00	-0.1
ALQ	86.31	52	eP	11	48.00	0.2
	1.0s	3.25nm			4.0mb X	
LRM	87.22	40	eP	11	52.30	0.4
	S.D. = 0.7	on	25 of 25 abs.			

& OCT 13, 1989 11h 59m 17.90s
36.573 N 118.020 W
DEPTH = 3.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK). Felt (III) at Lone Pine.

FRI	1.42	288	iPc	59	43.30	-1.3
			iS	00	02.20	
TNP	1.64	23	eP	59	47.00	-0.9
PKEM	1.76	254	eP	59	50.20	0.7
ABL	1.98	210	eP	59	51.40	-1.4
BCH	2.17	231	eP	59	54.40	-1.2
PRI	2.18	259	eP	59	56.30	0.6
CMB	2.38	308	eP	59	59.20	0.6
			eS	00	30.50	
KVN	2.47	359	eP	59	59.00	-1.0
SAO	2.76	275	eP	00	04.00	0.1
PEC	2.77	165	eP	00	01.50	-2.5
ARN	2.92	286	eP	00	06.00	-0.2
PLM	3.35	163	eP	00	10.00	-2.4
ORV	4.05	318	e(P)	00	22.40	0.3
	13 obs. associated					

? OCT 13, 1989 12h 24m 40.34± 2.84s
23.925 N ±18.3km 121.826 E ±25.2km
DEPTH = 33.0km (normal)
TAIWAN (244)

TWD	0.26	306	iPc	24	47.00	-0.6
TWC	0.68	2	iPc	24	53.50	0.0
			eS	25	03.60	
TWQ	0.97	291	iPc	24	58.10	0.4
TWZ	1.19	349	iPc	25	00.80	0.1
			eS	25	16.60	
TWK	1.39	242	iPd	25	03.70	0.0
	S.D. = 0.5	on	5 of 5 obs.			

OCT 13, 1989 12h 56m 08.35± 0.62s
37.998 N ± 6.4km 28.781 E ± 5.7km
DEPTH = 10.0km (geaphysicist)
TURKEY (366)
Felt in the Denizli area.

KHL	0.67	61	iPg	56	20.90	-0.8
YER	0.95	205	iPg	56	26.30	-0.2
IZM	1.26	289	iPn	56	31.80	0.0
BCK	1.53	110	ePn	56	36.50	0.7
SMG	1.57	260	ePb	56	36.10	-0.1
DST	1.61	356	iPn	56	36.70	-0.2
KSL	1.98	161	ePn	56	45.10	2.8X
BNT	2.45	344	ePn	56	50.00	1.0
EDC	2.45	343	ePn	56	51.50	2.5X
GPA	2.58	27	ePn	56	54.00	3.2X
YLV	2.61	10	iPn	56	57.20	5.9X
EZN	2.65	314	iPn	56	51.40	-0.4
KAP	2.76	208	ePn	56	55.70	2.2X
GBZT	2.83	10	ePn	57	03.00	8.5X
HRT	2.90	13	ePn	57	02.00	6.5X
ISK	3.07	4	ePn	57	03.00	5.3X
BBTK	3.61	58	eP	57	10.00	4.4X
			eS	57	20.00	
	S.D. = 0.7	on	8 of 17 obs.			

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* OCT 13, 1989 12h 58m 06.47± 1.65s
15.049 N ± 5.5km 60.418 W ±17.5km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 2.8 (FDF).

CRM	0.56	239	iPd	58	18.03	0.0
			S	58	25.00	
MVM	0.67	223	iPd	58	19.74	0.2
FDF	0.77	246	iPd	58	20.78	-0.2
	0.1s	1.20nm				
			S	58	30.40	
BIM	0.82	230	iPd	58	21.78	0.1
			S	58	31.90	
BBL	1.13	295	eP	58	25.99	0.0
			S	58	37.40	
SLB	1.36	206	eP	58	29.35	0.0
			eS	58	45.99	
PAG	1.56	309	eP	58	32.34	0.1
			S	58	50.40	
SSV	1.87	204	eP	58	37.12	0.3
			eS	58	58.93	
SVV	1.89	204	eP	58	37.32	0.3
			eS	58	59.30	
SVB	1.94	205	eP	58	37.02	-0.8
			eS	58	59.61	
BPA	2.42	325	eP	58	44.60	0.0
	S.D. = 0.3	on	11 of 11 obs.			

? OCT 13, 1989 13h 02m 33.59± 1.01s

1.639 N ±25.1km 122.860 E ±15.2km
DEPTH = 427.4 ± 17.3 km
3.9mb (1 obs.)
MINAHASSA PENINSULA (265)

MNI	1.99	96	ePd	03 32.60	0.2
	0.7s	345.40nm			
KKM	7.94	304	ePc	04 29.20	-0.2
	0.9s	91.10nm			5.1mb X
TRT	13.79	228	ePd	05 34.50	0.3
	0.5s	53.90nm			5.3mb X
MTN	16.57	151	eP	06 03.00	-0.1
KNA	18.24	162	eP	06 20.60	0.9
WB5	24.18	153	iPc	07 13.90	-1.9
ASPA	27.35	158	iPc	07 43.00	-1.1
			iS	11 50.10	
			iScS	17 36.90	
MRWA	31.38	192	eP	08 18.80	-0.2
BRS	40.77	137	iPc	09 36.50	-0.7
	0.9s	5.00nm			3.9mb
BWA	43.16	149	eP	09 58.10	1.9
CAN	44.15	149	iPc	10 04.90	0.9

S.D. = 1.2 on 11 of 11 obs.

? OCT 13, 1989 13h 05m 56.09± 2.45s
46.733 N ±22.3km 153.482 E ±25.1km
DEPTH = 213.6 ± 25.8 km
4.4mb (3 obs.)
KURIL ISLANDS (221)

KUSJ	7.21	243	eP	07 38.90	-0.9
			eS	08 56.60	
ASAJ	8.06	255	eP	07 52.60	1.6X
HOOJ	8.48	243	eP	07 57.30	0.9
			eS	09 29.90	
IMA	33.67	36	eP	12 17.80	-0.5
FBA	36.02	38	eP	12 38.50	0.6
LRM	61.00	53	eP	15 53.30	4.1X
KVN	61.95	62	eP	16 00.30	4.9X
NB2	68.33	341	P	16 35.00	-0.6
	0.6s	1.40nm			3.9mb
WB5	68.51	199	eP	16 36.90	-0.2
HFS	68.56	340	eP	16 35.90	-1.1
	0.3s	7.30nm			4.9mb
GRF	78.54	336	ePc	17 36.40	1.7
	0.9s	7.10nm			4.4mb
PPD	148.22	48	ePKP	25 21.10	6.7X

S.D. = 1.3 on 8 of 12 obs.

OCT 13, 1989 13h 27m 24.30± 0.67s
42.502 N ± 7.2km 24.263 E ± 8.9km
DEPTH = 10.0km (geophysicist)
BULGARIA (359)

SRS	1.47	200	iPbd	27 50.10	-0.8
			eSb	28 09.80	
KNT	1.68	218	iPbd	27 53.10	-0.8
			eSn	28 14.90	
VAY	1.73	228	ePn	27 53.30	-1.3
GRG	2.08	223	ePn	28 00.90	1.2
			eSn	28 26.00	
ALN	2.09	140	ePn	28 00.10	0.4
			eSn	28 27.10	
THE	2.11	208	ePn	27 58.90	-1.1
			eSn	28 27.70	
SKO	2.16	257	ePn	28 00.90	0.0
OUR	2.18	186	ePn	28 02.10	1.1
			eSn	28 29.60	
OHR	2.94	243	ePn	28 13.50	1.6
MLR	3.23	22	eP	28 16.00	-0.1
BZS	3.65	329	ePc	28 29.00	7.0X
VRI	3.80	27	ePc	28 24.00	-0.2

S.D. = 1.1 on 11 of 12 obs.

OCT 13, 1989 13h 56m 19.97± 0.43s
36.344 N ± 4.8km 30.676 E ± 5.5km
DEPTH = 85.6 ± 18.7 km
TURKEY (366)

KSL	0.91	256	ePn	56 38.20	-0.4
			eSn	56 53.80	
BCK	1.12	356	iPg	56 40.50	-0.6
PPCY	1.99	136	eP	56 46.00	-6.4X
YER	2.08	293	iPn	56 54.70	1.0
KHL	2.18	335	iPn	56 55.00	-0.1
CSS	2.56	122	eP	57 01.20	0.9
			eSn	57 42.50	
KAP	2.95	255	ePn	57 06.60	1.0
SMG	3.36	295	ePn	57 10.50	-0.7
IZM	3.40	308	iPn	57 10.60	-1.3
DST	3.64	334	iPn	57 14.00	-1.1
BBTK	3.86	25	eP	57 19.00	0.7
			eS	58 03.00	
GPA	3.95	356	ePn	57 20.00	0.6
NPS	4.25	257	ePn	57 24.20	0.5
YLV	4.34	347	iPn	57 25.70	0.8
HRI	5.17	125	eP	57 36.00	-0.6
			eS	58 33.00	
DSI	6.16	139	iPc	57 50.00	-0.1
			eS	58 58.00	
KOT	6.47	171	ePn	57 54.50	0.1
			eSn	59 05.50	
HLW	6.49	175	ePn	57 59.50	4.8X
			eSn	59 08.00	
MBH	7.44	151	eP	58 07.00	-0.8

S.D. = 0.9 on 17 of 19 obs.

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* OCT 13, 1989 14h 22m 41.57± 0.31s
58.863 S ± 8.3km 25.554 W ±11.1km
DEPTH = 33.0km (normal)
5.0mb (6 obs.) 4.5Msz (1 obs.)
SOUTH SANDWICH ISLANDS REGION (153)

SPA	31.31	180	e(P)	29 00.20	-0.4
	1.0s	29.50nm			5.1mb
	Z 20s	0.95um			4.5Msz
MAW	37.38	141	eP	29 51.00	-1.3
PPD	41.16	322	eP	30 24.00	-0.2
			e	30 33.30	
			e	30 47.50	
PDCR	47.35	342	eP	31 13.70	-0.3
			e	32 44.20	
CNCB	52.20	305	P	31 51.20	-0.6
LPB	52.49	305	P	31 56.50	2.6X
ZOBO	52.74	305	P	31 54.50	-1.4
			S	39 26.00	
			LR	49 42.00	
BUL	54.67	69	iPc	32 09.60	0.0
	1.0s	5.00nm			4.5mb
LIC	66.93	22	Pc	33 32.94	0.3
	0.7s	8.00nm			4.9mb
KIC	67.12	23	Pc	33 33.82	0.0
	0.9s	11.50nm			5.0mb
TIC	67.34	22	Pc	33 35.46	0.2
	0.8s	12.50nm			5.0mb
BCAO	72.15	47	ePc	34 04.90	0.2
	0.4s	14.00nm			5.3mb
MSZ	76.23	190	eP	34 28.00	0.2
CAN	86.06	176	eP	35 19.80	0.0
FORR	87.97	158	eP	35 29.60	0.5
HFS	122.57	22	ePKP	41 31.50	-2.1
	0.4s	1.40nm			
FRI	122.82	288	ePKP	41 35.90	1.1
NB2	122.94	20	PKP	41 34.20	-0.2
	0.8s	4.00nm			
KVN	123.65	291	ePKP	41 36.80	0.1
CMB	123.97	288	ePKP	41 37.60	0.4
MHC	124.05	287	ePKP	41 38.30	0.8
NUR	125.30	28	ePKP	41 38.60	-0.3
ORV	125.70	289	ePKP	41 41.80	1.4
LRM	126.23	300	ePKP	41 42.00	0.4
WDC	127.00	289	ePKP	41 42.50	-0.4
SUF	127.58	27	ePKP	41 43.00	-0.2
SOD	131.65	24	iPKP	41 50.40	-0.4
MBC	146.91	334	iPKPc	42 20.20	2.1
	0.5s	20.00nm			
BJI	149.39	111	ePKP	42 27.00	3.9X
FBA	153.00	307	ePKP	42 34.30	6.6X

S.D. = 0.9 on 27 of 30 obs.

% OCT 13, 1989 14h 51m 20.42± 0.79s
59.950 N ± 7.1km 6.230 E ± 7.1km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 2.4 (BER).

ODD1	0.20	101	iPc	51 24.69	-0.2
			iS	51 27.98	
KMY	0.89	214	eP	51 37.57	0.0
			eS	51 47.85	
HYA	1.22	359	eP	51 43.06	0.0
			eS	51 59.03	
SUE	1.33	327	iP	51 44.82	-0.1
			iS	52 02.99	
NRA0	2.76	71	eP	52 05.70	0.3
			iPg	52 09.20	
			iSg	52 45.40	

S.D. = 0.3 on 5 of 5 obs.

OCT 13, 1989 16h 07m 09.00± 0.45s
24.815 N ± 5.3km 122.698 E ± 7.2km
DEPTH = 33.0km (normal)
4.5mb (3 obs.) 4.6Msz (1 obs.)
TAIWAN REGION (243)

TWC	0.80	255	iPc	07 23.40	-0.4
			eS	07 32.20	
TWZ	1.05	286	ePc	07 27.60	0.1
ANP	1.13	289	iPc	07 29.10	0.4
	0.9s	2554.62nm			
			eS	07 48.00	
TWF1	1.94	222	ePc	07 41.10	0.8
QZH	3.73	273	eP	08 05.50	-0.2
N	10s	12.10um			
SSE	6.40	348	P	08 40.00	-3.4X
Z	20s	3.30um			
N	12s	5.80um			
E	13s	10.50um			
			i	08 56.50	
			S	09 40.00	
			Lg	10 16.00	
BAG	8.59	194	eP	09 10.00	-4.3X
WHN	9.34	310	eP	09 23.50	-0.9
Z	12s	3.62um			
TIA	12.33	338	eP	10 11.40	6.3X
Z	12s	3.72um			
E	11s	5.64um			
XAN	15.11	311	P	10 40.50	-1.2
N	11s	11.10um			
E	11s	5.10um			
TIY	15.55	328	eP	10 53.00	5.5X
N	11s	4.30um			
BJI	16.14	342	eP	10 55.50	0.6
	1.0s	0.32nm			2.4mb X
Z	10s	2.88um			
N	10s	2.72um			
			eS	14 00.00	
SNY	16.98	2	Pc	11 05.90	0.4
Z	10s	5.00um			
N	10s	3.20um			
E	11s	2.30um			
MAT	17.71	45	(P)	11 26.00	11.3X
			(S)	14 42.00	
CD2	17.81	294	eP	11 15.00	-1.0
Z	10s	4.20um			
DAV	17.84	171	eP	11 18.00	1.6
KMI	18.10	275	Pc	11 24.00	4.2X
Z	10s	5.40um			
N	10s	3.90um			
			eS	14 42.00	
			SS	15 05.00	
HHC	18.50	333	P	11 27.00	2.5
Z	12s	3.10um			
N	10s	3.10um			
BTO	18.98	329	P	11 31.50	1.1
N	12s	3.80um			
E	12s	5.00um			
			pP	11 41.50	
CN2	19.07	6	eP	11 31.20	-0.1
Z	15s	4.70um			
N	11s	2.30um			
E	11s	2.30um			
KKM	19.67	199	ePc	11 39.30	0.8
LZH	19.72	309	Pd	11 40.00	1.0
	1.5s	0.06nm			1.7mb X
Z	14s	3.60um			5.0MszX
N	12s	4.40um			
E	12s	2.90um			
			pP	11 44.00	16kmX
			sP	11 47.50	
			PP	12 01.50	
			S	15 32.00	
			sS	15 41.00	
MDJ	20.54	14	eP	11 47.00	-0.1
Z	20s	2.90um			4.6Msz
E	14s	4.40um			
LOE	20.89	253	eP	11 55.00	4.0X
TSM	20.95	193	ePd	11 51.90	0.3
CHG	22.83	260	eP	12 16.00	5.6X
MNI	23.33	175	e(P)	12 12.50	-2.7
GUMO	23.69	114	eP	12 23.50	4.8X

13d 16h

1.2s 305.56nm 5.7mb X
PJG 23.69 114 eP 12 23.50 4.8X
GTA 24.15 313 Pc 12 24.80 1.6
1.0s 0.10nm 2.3mb X
Z 14s 2.60um 4.9MszX
N 11s 5.80um
sS 17 02.00
SHL 27.87 278 iP 12 58.50 0.5
iS 17 47.00
TRT 33.78 198 ePd 13 56.00 6.0X
1.0s 62.30nm 5.5mb X
WMQ 34.23 312 Pc 13 54.00 0.1
Z 12s 1.80um 5.0MszX
N 13s 1.70um
pP 14 05.50 42kmX
HYB 41.69 269 eP 14 53.50 -3.0
KSH 41.71 302 eP 15 00.80 4.2X
N 12s 2.30um
POO 45.63 272 eP 15 19.00 -9.5X
WB5 45.85 165 eP 15 29.60 -0.4
ASPA 49.40 166 iPc 15 57.90 0.2
1.3s 24.00nm 5.1mb X
CTA 50.17 151 eP 16 05.00 1.3
1.3s 44.23nm 5.3mb X
WARB 50.84 175 eP 16 09.50 0.9
MAIO 54.76 298 eP 16 39.00 1.0
MBC 72.34 13 eP 18 31.00 -2.0
1.0s 6.00nm 4.5mb
HFS 77.69 331 (P) 19 02.10 -1.6
0.6s 1.20nm 4.1mb
NB2 78.31 332 P 19 05.60 -1.6
1.0s 11.20nm 4.8mb
KSP 80.79 322 eP 19 21.00 0.3
CLL 82.38 323 eP 19 32.00 3.1X
e 19 57.00
KHC 83.16 321 eP 19 46.30 13.2X
KVN 94.78 43 eP 20 29.00 0.0
ZOBO 166.78 52 ePKP 27 13.00 -0 5
S.D. = 1.3 on 34 of 49 obs.

OCT 13, 1989 16h 49m 36.89± 0.23s
32.766 S ± 5.5km 179.009 W ± 5.3km
DEPTH = 100.6km (5 depth phoses)
5.5mb (16 obs.)
SOUTH OF KERMADEC ISLANDS (179)
FAULT PLANE SOLUTION: P-Woves
NP1:Strike=210 Dip=85 Slip= -90
NP2. 30 5 -90
Principal Axes:
T Plg=40 Azm=300
P 50 120
Comment: The focol mechonism is poorly controlled ond corresponds to normol foulting The preferred foult plone is NP1.
MOMENT TENSOR SOLUTION
Dep 94 No. of sto: 7
Moment Tensor; Scole 10**17 Nm
Mrr= 0.21 Mtt=-0.39
Mff= 0.19 Mrt= 1.43
Mrf= 1.94 Mtf= 0.36
Principol oxes:
T Vol= 2.68 Plg=44 Azm=303
N -0.53 5 38
P -2.16 45 132
Best Double Couple:Mo=2.4*10**17
NP1:Strike=315 Dip= 5 Slip=-172
NP2: 218 89 -85
CENTROID, MOMENT TENSOR (HRV)
Dato Used: GDSN
L.P.B.: 17S, 38C
Centroid Location:
Origin Time 16:49:42.9 0.4
Lat 32.39S 0.04 Lon 179.38W 0.04
Dep 105.2 1.9 Holf-duration 2.5
Moment Tensor; Scole 10**17 Nm
Mrr= 0.03 0.06 Mtt=-0.69 0.11
Mff= 0.66 0.10 Mrt= 0.95 0.05
Mrf= 2.49 0.06 Mtf=-0.20 0.09
Principol Axes:
T Vol= 2.92 Plg=42 Azm=281
N -0.36 13 23
P -2.55 45 126
Best Double Couple:Mo=2.7*10**17
NP1:Strike=299 Dip=13 Slip=-174
NP2: 203 89 -77

HBZ 5.30 204 eP 50 58.00 3.0
0.1s 90.00nm 6.0mb
KRP 6.81 219 eP 51 22.70 6.9X
PGZ 8.70 204 P 51 40.80 -0.9
KIW 9.43 209 P 51 49.90 -1.7
MTW 9.46 206 P 51 49.10 -2.8
CAW 9.58 208 P 51 51.50 -2.0
WDW 9.74 208 eP 51 53.10 -2.6
MRW 9.83 209 eP 51 55.50 -1.4
eS 53 42.60
WEL 9.85 209 P 51 59.00 1.9
S 53 46.00
TCW 9.99 211 eP 51 56.60 -2.5
SVA 14.76 351 ePd 52 56.30 -5.5X
VUN 14.87 351 eP 52 57.00 -6.1X
MHZ 15.27 213 eP 53 05.30 -2.9X
MSZ 15.64 217 P 53 13.00 0.3
i 53 19.00
S 55 57.20
DZM 16.72 306 iPc 53 27.20 0.8
iS 56 57.00
ScP 01 37.90
PVC 18.82 320 iP 53 51.00 -0.5
COO 24.83 267 iPc 54 56.30 5.1X
RIV 24.92 259 eP 54 57.00 5.0X
BRS 24.96 275 iPd 54 51.50 -0.9
i 55 05.50 58kmX
e 55 26.00
e 58 30.00
e 59 15.00
CNB 26.28 256 iPd 55 09.20 4.6X
CAN 26.57 256 eP 55 11.20 3.9X
eScP 02 00.00
BWA 27.12 257 iPc 55 13.90 1.6
eScP 02 00.30
RMQ 28.64 274 iPc 55 29.20 3.2X
1.2s 809.00nm 6.2mb
TOO 29.30 251 iPd 55 36.00 4.1X
CMS 29.73 263 iPc 55 38.60 3.0X
0.4s 74.00nm 5.7mb
e 00 30.00
HNR 30.28 315 eP 55 38.00 -2.6
TVO 30.64 68 iP 55 42.50 -1.3
0.8s 35.00nm 5.1mb
PPN 30.64 68 iP 55 41.70 -2.0
0.8s 35.00nm 5.1mb
VAH 33.38 66 iP 56 05.70 -1.9
0.8s 30.00nm 5.2mb
CTA 33.42 283 iPc 56 09.30 1.3
1.4s 1046.51nm 6.5mb
iPP 57 20.10
iS 01 23.00
TPT 33.54 66 iP 56 07.10 -1.9
0.8s 35.00nm 5.2mb
ADE 34.99 254 eP 56 23.80 2.4
1.1s 88.61nm 5.6mb
QIS 38.70 278 iPc 56 53.70 1.0
0.5s 111.00nm 6.0mb
e 02 42.00
PMG 38.92 299 iPc 56 54.00 -0.5
RAB 39.16 310 eP 56 55.50 -1.0
RKT 39.83 88 iP 57 02.00 0.0
1.2s 80.00nm 5.4mb
LAT 40.89 302 eP 57 11.00 0.3
ASPA 42.19 270 iPc 57 22.60 1.2
1.3s 491.00nm 6.2mb X
eScP 03 14.40
iS 03 31.50
eScS 07 07.20
isScS 07 55.10
WB5 43.39 275 iPc 57 31.90 0.8
eScP 02 59.10
eS 03 51.50
FORR 44.60 258 iPc 57 42.10 1.4
0.4s 86.00nm 5.9mb
SBA 45.62 184 Pd 57 56.40 8.2X
WARB 47.34 263 eP 58 01.00 -1.5
0.3s 9.00nm 5.2mb
MTN 49.55 282 eP 58 19.00 -0.6
KNA 50.04 277 eP 58 23.30 0.0
0.4s 34.00nm 5.7mb
COOL 50.29 255 eP 58 25.00 -0.1
NWAO 52.79 251 eP 58 44.00 0.2
KLB 52.80 253 eP 58 44.00 0.1
MUN 53.92 252 eP 58 53.00 0.9
MEKA 53.93 259 eP 58 52.30 0.0
BAL 53.98 254 eP 58 52.00 -0.6

MRWA 55.05 255 eP 59 00.20 -0.2
MBL 55.06 266 eP 58 59.00 -1.6
GUA 57.52 317 e(P) 59 13.20 -4.9X
0.4s 61.02nm 6.0mb X
GUMO 57.59 317 e(P) 59 12.50 -6.0X
PJG 57.59 317 e(P) 59 11.70 -6.8X
NANU 58.07 262 eP 59 22.10 0.2
TRT 67.68 275 ePc 00 28.50 2.9
MAW 69.80 201 eP 00 41.00 3.2X
SNA 77.19 179 iPd 01 24.50 3.9X
1.1s 260.76nm 6.0mb X
MAT 79.71 326 (P) 01 33.00 -1.8
1.3s 48.08nm 5.2mb
LNV 84.97 127 eP 02 04.00 1.9
SAN 85.77 127 eP 02 08.00 1.8
PEL 85.94 127 iPd 02 09.60 2.5
BAR 87.68 48 eP 02 15.00 -0.3
BKS 87.94 41 ePc 02 17.40 1.1
0.7s 28.00nm 5.4mb
PLM 88.01 48 eP 02 17.00 -0.1
e 02 44.00 102km
RVR 88.12 47 eP 02 17.00 -0.3
e 02 44.00 102km
SBB 88.31 46 eP 02 18.00 -0.3
ISA 88.58 45 eP 02 20.00 0.4
FRI 88.76 44 eP 02 19.80 -0.5
e 02 57.60 148kmX
TPC 89.01 48 eP 02 22.00 0.3
e 02 49.00 101km
CMB 89.09 42 eP 02 21.40 -0.5
e 03 02.80 164kmX
GLA 89.10 49 eP 02 23.00 0.9
e 02 50.00 101km
CLC 89.21 46 eP 02 22.00 -0.5
e 02 48.00 97km
GSC 89.34 46 eP 02 23.00 -0.2
DL2 90.11 318 eP 02 26.50 0.0
TIA 90.96 313 Pd 02 30 70 0.2
SNY 91.07 321 Pd 02 30.40 -0.5
KVN 91.09 43 eP 02 30.20 -1.1
CN2 91.51 323 eP 02 31.00 -1.9
BJI 94.01 316 eP 02 44.00 -0.4
Z 28s 0.55um 4.9MszX
e 07 04.00
eSKS 13 05.00
eS 13 44.00
esS 14 28.00
TIY 94.81 312 eP 02 49.00 0.7
Z 16s 0.70um 5.2MszX
S 13 58.50
CNCB 97.75 116 P 03 05.80 3.0X
LPB 97.82 115 (P) 03 04.00 1 0
ZOBO 97.96 115 P 03 06.00 2.2
SKS 13 40.00
LR 35 10.00
HYB 109.48 279 ePKP 08 11.00 13.4X
WMQ 114.00 308 PKP 08 04.00 -1.6
MBC 114.90 13 ePKP 08 05.00 -1.3
0.5s 3.00nm
SWZ 116.05 204 iPKPd 08 13.80 3.7X
0.8s 7.46nm
SLR 116.28 207 ePKP 08 20.50 9.9X
KSH 120.65 300 ePKP 08 16.20 -2.3
PDCR 120.87 133 ePKP 08 19.80 0 4
BUL 121.13 211 ePKP 08 21.80 1.9
1.0s 15.50nm
PTZ 124.98 217 iPKPd 08 28.50 1.1
LSZ 125.61 213 iPKP 08 30.00 1.3
e 10 21.00
i 11 35.30
i 11 56 50
MAIO 132.30 291 ePKP 08 41.00 0.1
SOD 142.24 344 ePKP 08 52.00 -6.2X
TAB 142.96 291 ePKP 09 02.00 1 5
BHD 143.80 283 ePKPd 09 01.50 -0.3
AKU 145.08 14 iPKP 09 03.80 0.8
1.0s 40.00nm
MSL 145.30 288 ePKPc 09 04.50 0.2
SUF 146.04 339 iPKP 09 03.60 -1.1
0.6s 91.90nm
BCAO 147.39 214 iPKPd 09 09.30 0.9
0.5s 80.00nm
id 09 12.00
ic 09 48.70
id 10 31.10
id 12 41.20
NUR 148.20 338 iPKP 09 10.10 1.9

	0.6s	55.10nm				
UPP	150.74	343	iPKP	09	15.90	3.8X
KVT	150.92	297	ePKP	09	18.00	4.9X
HRI	150.94	281	e(PKP)	09	08.00	-5.4X
NB2	150.94	350	PKP	09	12.30	-0.2
MBH	150.95	273	e(PKP)	09	12.00	-1.4
BHL	151.10	282	PKPd	09	19.50	5.9X
HFS	151.36	347	ePKP	09	17.10	4.0X
	0.8s	58.60nm				
LIC	153.00	167	PKP	09	21.40	4.6X
KIC	153.19	167	PKP	09	22.26	5.2X
BBTK	153.54	295	ePKP	09	17.00	0.0
MLR	156.95	311	ePKP	09	20.00	-1.4
CMP	157.63	311	ePKPc	09	24.00	1.9
KRA	157.74	326	ePKP	09	22.40	0.4
			e	09	34.60	
KSP	158.71	333	ePKP	09	23.00	-0.1
			e	09	57.30	
CLL	159.48	338	ePKP	09	24.00	0.1
	1.3s	34.00nm				
			i	10	01.30	
ZST	160.37	326	i(PKP)	09	25.20	0.3
			e	10	07.00	
KHC	161.13	334	iPKPd	09	25.90	0.2
SKO	161.36	305	ePKP	09	25.80	-0.4
LJU	163.14	326	ePKP	09	27.50	-0.3
CEY	163.41	325	e(PKP)	09	28.50	0.4
VOY	163.45	327	ePKP	09	27.60	-0.6
LOR	165.35	352	ePKP	09	30.10	0.3
	1.0s	4.80nm				
SSF	165.59	353	ePKP	09	30.30	0.3
	1.0s	6.00nm				
LBF	165.62	352	ePKP	09	30.40	0.3
	1.2s	14.80nm				
MFF	166.15	3	ePKP	09	31.00	0.6
	1.0s	13.60nm				
TCF	166.46	356	ePKP	09	31.20	0.4
	1.0s	6.00nm				
CAF	167.83	356	ePKP	09	33.00	1.2
	1.0s	8.00nm				
EPF	169.74	3	ePKP	09	34.40	1.3
	1.2s	14.80nm				

S.D. = 1.3 on 103 of 132 obs.

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* OCT 13, 1989 16h 57m 58.05± 1.29s
38.625 N ± 8.1km 20.291 E ±15.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

VLS	0.50	152	iPgd	58	08.20	-0.1
KEK	1.15	341	ePb	58	20.20	0.6
KZN	2.03	34	ePn	58	33.40	0.6
NEO	2.39	72	ePn	58	38.10	0.3
OHR	2.51	9	iPn	58	39.20	-0.4
SKO	3.46	14	ePn	58	52.00	-1.0

S.D. = 0.8 on 6 of 6 obs.

OCT 13, 1989 17h 14m 18.71± 0.56s
10.840 S ± 7.3km 166.882 E ± 9.1km
DEPTH = 33.0km (normal)
4.4mb (1 obs.)
SANTA CRUZ ISLANDS (184)

HNR	6.97	281	eP	16	01.00	-0.2
SVO	7.16	283	eP	16	04.00	0.2
DZM	11.18	182	iPc	16	58.90	-0.5
BRS	21.15	217	iP	19	04.20	0.8
CTA	21.88	243	eP	19	11.00	0.2
	1.1s	18.99nm			4.4mb	
			iS	23	27.00	
RMO	23.13	225	eP	19	24.00	1.0
WB5	32.56	250	eP	20	48.00	-1.3
MAT	54.31	332	(P)	23	44.00	-0.3
	2.0s	94.12nm			5.5mb X	
MDJ	64.70	331	eP	24	55.50	-0.2
CN2	66.15	328	Pd	25	05.00	0.0
BJI	69.03	320	eP	25	23.00	-0.2
LZH	75.45	312	P	26	02.00	0.3
	2.0s	0.05nm			2.1mb X	
CMB	83.36	49	e(P)	26	53.60	9.5X
KVN	85.38	49	eP	26	55.50	1.0
WMO	89.74	315	P	27	15.70	0.5
PDCR	145.27	131	ePKP	33	54.50	-1.2
			e	34	01.10	

S.D. = 0.8 on 15 of 16 obs.

? OCT 13, 1989 18h 19m 25.05± 1.89s
49.931 N ±75.3km 29.029 W ±14.7km
DEPTH = 10.0km (geophysicist)
4.0mb (4 obs.)
NORTH ATLANTIC RIDGE (403)

TCF	21.09	88	eP	24	11.80	0.1
	1.0s	10.00nm			4.1mb	
MAF	21.35	88	eP	24	14.40	0.1
	1.0s	8.00nm			4.1mb	
BGF	21.41	87	eP	24	14.30	-0.6
	0.8s	5.30nm			4.0mb	
DOU	21.51	77	Pc	24	15.80	-0.1
AVF	21.65	86	eP	24	17.80	0.5
	0.8s	2.60nm			3.7mb	
MEM	22.28	75	P	24	23.60	0.0
KVN	60.86	297	e(P)	29	40.00	0.0

S.D. = 0.4 on 7 of 7 obs.

OCT 13, 1989 19h 33m 19.49± 0.30s
51.925 N ± 7.2km 176.003 E ± 4.2km
DEPTH = 33.0km (normal)
4.9mb (22 obs.) 4.5Msz (1 obs.)
RAT ISLANDS, ALEUTIAN ISLANDS (6)
ML 4.7 (PMR).

SMY	1.42	305	iPc	33	42.80	-0.3
ADK	4.53	88	eP	34	27.80	0.3
SDN	14.33	67	e(P)	36	45.80	4.0X
SVW	18.01	48	eP	37	32.40	3.8X
TTA	18.49	43	eP	37	36.70	2.2
KDC	18.94	60	eP	37	38.10	-1.8
IMA	20.78	35	eP	38	00.30	0.4
	1.2s	69.00nm			4.9mb	
PMS	20.89	50	eP	38	01.20	0.2
PMR	21.16	49	eP	38	04.00	0.3
FBA	22.58	41	eP	38	16.00	-1.8
TOA	22.63	49	eP	38	19.50	1.0
KUSJ	22.76	260	eP	38	19.60	-0.1
ASAJ	23.48	264	eP	38	29.10	2.4
KAKJ	29.79	252	eP	39	25.40	0.2
CHJJ	30.60	253	P	39	32.80	0.5
MAT	30.73	255	eP	39	34.00	0.5
	1.1s	37.97nm			5.1mb	
IIDJ	31.63	254	P	39	42.10	0.6
MBC	34.33	23	ePc	40	04.00	-0.4
	1.1s	36.00nm			5.2mb	
SNY	36.50	275	eP	40	23.20	0.0
DL2	39.42	273	eP	40	43.00	-4.7X
EDM	41.34	59	iP	41	04.00	0.6
	0.6s	15.00nm			4.9mb	
BJI	42.09	278	eP	41	09.00	-0.6
TIA	43.89	273	Pc	41	24.40	0.0
HHC	44.42	282	P	41	30.00	1.3
SSE	44.80	264	P	41	31.50	-0.2
	1.0s	0.02nm			2.0mb X	
BTO	45.50	283	P	41	36.80	-0.6
NJ2	45.58	267	Pc	41	37.40	-0.5
TIY	45.82	278	Pc	41	40.60	0.7
KVN	46.40	79	eP	41	45.00	0.4
			e	43	26.50	
TNP	47.55	79	eP	41	54.00	0.3
			e	43	30.50	
WHN	49.41	269	eP	42	08.50	0.7
XAN	50.38	277	P	42	14.50	-0.8
PLM	50.87	84	eP	42	19.50	0.2
LZH	52.11	282	P	42	28.00	-0.6
	2.0s	0.04nm			2.1mb X	
			pP	42	34.50	22kmX
GLA	52.33	83	eP	42	30.00	-0.1
GTA	52.34	288	Pd	42	29.20	-1.0
	1.0s	0.04nm			2.3mb X	
RSON	52.75	53	eP	42	31.50	-1.5
WMO	56.29	300	Pd	42	57.50	-1.5
Z	22s	0.40um			4.5Msz	
KEV	56.54	348	eP	43	11.00	10.6X
GYA	57.06	272	P	43	04.00	-0.8
SOD	58.82	347	iP	43	16.70	0.3
SCH	61.55	36	eP	43	34.00	-1.3
SUF	63.25	345	eP	43	45.00	-1.4
	0.6s	6.20nm			4.9mb	
KSH	65.57	303	eP	44	01.40	-0.6
NUR	65.58	345	eP	43	51.00	-10.5X
NB2	66.73	352	P	44	08.20	-0.8
	1.0s	18.40nm			5.1mb	
UPP	67.21	348	iP	44	17.00	5.1X
HFS	67.39	351	eP	44	10.80	-2.3
	0.4s	2.80nm			4.7mb	
CHG	67.48	272	eP	44	13.20	-1.0
MAIO	76.14	312	eP	45	08.00	2.3
KSP	76.18	347	eP	45	12.00	6.5X
CTA	76.28	209	iP	45	06.00	-0.4
	0.9s	30.25nm			5.3mb	
SPC	77.17	344	eP	45	18.30	7.0X
PRU	77.25	348	eP	45	11.50	0.0
			e	45	17.50	
MEM	77.49	353	P	45	11.90	-0.9
			e	45	19.50	
KHC	78.21	348	P	45	17.10	0.2
ZST	78.64	346	e(P)	45	22.00	2.8X
MLR	79.59	339	eP	45	29.00	4.4X
CMP	80.00	340	ePc	45	28.00	1.3
HAU	80.06	353	eP	45	26.40	-0.5
	0.8s	5.30nm			4.6mb	
WB5	80.20	219	eP	45	26.90	-1.0
FVI	80.81	348	P	45	43.00	12.2X
LOR	80.96	355	eP	45	31.10	-0.6
	0.8s	7.20nm			4.7mb	
GRC	80.97	355	P	45	31.60	-0.1
SSF	81.18	355	eP	45	32.60	-0.2
	1.0s	6.00nm			4.6mb	
LBF	81.23	354	eP	45	32.40	-0.7
	1.0s	12.00nm			4.9mb	
AVF	81.46	355	eP	45	34.00	-0.2
	1.0s	10.00nm			4.8mb	
CTI	81.48	349	P	45	40.00	5.5X
SMF	81.58	355	eP	45	34.60	-0.3
	1.0s	10.00nm			4.8mb	
MDI	81.96	350	P	45	43.00	6.2X
VAI	81.97	351	P	45	37.50	0.6
TCF	82.02	356	eP	45	36.90	-0.3
	1.0s	6.00nm			4.6mb	
MAF	82.07	355	eP	45	37.40	-0.1
	1.0s	8.00nm			4.7mb	
LSF	82.09	356	eP	45	37.40	-0.1
	1.2s	17.80nm			5.0mb	
AGO	82.21	355	P	45	38.78	0.6
PLDF	82.27	355	P	45	39.07	0.5
LPG	82.52	352	eP	45	40.40	0.2
	1.2s	24.90nm			5.2mb	
PYM	82.52	355	P	45	40.08	0.2
BNI	82.96	352	P	45	44.00	1.7
BOB	82.99	350	P	45	43.10	0.7
MME	83.42	349	P	45	46.70	1.9
BDI	83.56	349	P	45	52.50	7.2X
PGD	83.62	349	P	45	47.10	1.4
LPO	83.67	356	eP	45	45.60	-0.1
	0.8s	5.30nm			4.7mb	
ASPA	83.81	218	iPd	45	46.70	0.1
	0.8s	15.00nm			5.2mb	
			ipP	45	56.30	30kmX
GBA	84.62	285	Pd	45	49.50	-1.3
	0.9s	6.20nm			4.8mb	
CVF	85.23	350	eP	45	53.70	0.1
	1.0s	32.00nm			5.5mb	
AZI	85.25	347	P	45	56.00	2.4
WARB	88.98	223	iPc	46	12.40	0.5
MAW	144.93	218	iPKPd	52	52.00	-1.2
SWZ	146.90	307	iPKPc	53	01.80	3.9X
	0.6s	17.33nm				

S.D. = 1.0 on 76 of 91 obs.

? OCT 13, 1989 19h 52m 02.56± 3.93s
21.843 S ±32.2km 171.161 E ±29.9km
DEPTH = 116.0 ± 29.5 km
4.9mb (1 obs.)
LOYALTY ISLANDS REGION (189)

DZM	4.38	266	iPc	53	07.90	-0.4
			iS	53	58.50	
BRS	17.60	248	iP	56	02.50	0.5
COO	19.33	239	iPd	56	22.00	0.6
RMO	20.95	253	eP	56	40.00	2.1
			e	56	41.00	
CAN	23.58	230	eP	57	03.90	0.3
BWA	23.59	233	eP	57	01.70	-2.0
CMS	24.54	242	ePd	57	13.20	0.4
ASPA	34.35	260	iPc	58	39.90	-0.4
	0.8s	18.00nm			4.9mb	
WB5	34.39	266	eP	58	39.90	-0.7
WARB	40.75	255	eP	59	33.00	-0.7
KVN	89.63	47	eP	04	49.00	0.3

S.D. = 1.2 on 11 of 11 obs.

13d 20h

? OCT 13, 1989 20h 08m 32.46±14.07s
39.566 N ±110.km 28.667 E ±16.8km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.05	322	iPg	08	34.70	0.0
			iSg	08	35.70	
BNT	0.98	324	iPg	08	50.60	-0.4
			iSg	09	02.60	
EDC	0.99	322	iPg	08	51.50	0.2
YLV	1.14	28	iPn	08	53.60	-0.2
KHL	1.41	151	ePn	09	04.00	5.8X
CTT	1.59	354	ePn	09	01.10	0.4

S.D. = 0.4 on 5 of 6 obs.

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* OCT 13, 1989 20h 12m 36.24± 0.69s
30.433 S ±17.1km 177.919 W ±13.7km
DEPTH = 58.0km (2 depth phases)
5.4mb (5 obs.)
KERMADEC ISLANDS (178)
Felt (III) on Raoul Island.

RAO	1.18	0	iP	13	50.40	53.7X
			eS	14	00.20	
HBZ	7.81	203	eP	14	27.90	-1.7
DZM	16.30	297	iPc	16	28.10	5.3X
BRS	25.80	269	iPc	18	06.80	3.2X
	0.9s	20.50nm			4.7mb	
COO	25.98	262	eP	18	09.00	3.7X
CAN	28.13	251	iPc	18	26.90	2.1
BWA	28.61	253	iPc	18	29.00	-0.2
RMO	29.50	269	iPd	18	38.90	1.7
	0.5s	39.00nm			5.3mb	
CMS	31.02	259	ePd	18	52.40	1.9
CTA	33.87	279	iPd	19	16.00	0.5
	0.9s	107.56nm			5.8mb	
QIS	39.39	274	eP	20	02.00	-0.1
ASPA	43.18	267	iPc	20	32.30	-0.9
	0.5s	36.00nm			5.4mb	
WB5	44.17	272	eP	20	40.00	-1.2
FORR	46.05	255	eP	20	55.00	-1.0
	0.4s	22.00nm			5.4mb	
WARB	48.59	261	eP	21	13.50	-2.5
NANU	59.34	260	eP	22	33.20	-1.6
MAW	72.30	201	eP	23	58.00	1.0
SNA	79.49	178	e(P)	24	39.00	1.5
FRI	86.42	43	e(P)	25	13.20	-0.3
CMB	86.74	42	eP	25	24.60	9.5X
TNP	88.63	44	eP	25	23.50	-0.9
			pP	25	40.00	58km
KVN	88.75	42	eP	25	23.30	-1.6
			pP	25	40.00	58km
BUL	123.61	210	iPKPc	31	29.90	0.4
	1.0s	5.00nm				
SOD	140.24	345	ePKP	31	57.00	-2.3
SUF	144.16	341	ePKP	32	02.00	-4.3X
	0.5s	9.00nm				
NUR	146.37	340	iPKP	32	09.40	-0.7
	0.6s	18.20nm				
UPP	148.76	345	iPKP	32	15.60	1.7
			i	32	19.40	
NB2	148.79	351	PKP	32	16.50	2.5
	0.7s	7.00nm				
HFS	149.29	349	ePKP	32	16.30	1.6
	0.4s	5.20nm				
BCAO	149.84	214	iPKPc	32	21.70	4.7X
	0.4s	21.00nm				
			ic	32	42.20	
BHL	151.44	286	PKPc	32	25.50	6.6X
KHC	159.38	338	ePKP	32	52.20	23.5X

S.D. = 1.6 on 23 of 32 obs.

& OCT 13, 1989 20h 27m 24.19s
60.310 N 153.260 W
DEPTH = 164.3km
SOUTHERN ALASKA (2)
<AGS-P>.

RED	0.27	66	eP	27	45.80	0.7
ILIM	0.28	147	iP	27	45.91	0.8
			eS	28	03.74	
RDT	0.50	58	iP	27	46.68	-0.8
OPT	0.66	179	eP	27	47.63	-0.7
			eS	28	06.26	
CKL	1.00	27	iP	27	50.22	-0.5
NNL	1.02	104	eP	27	50.94	0.2
SPU	1.06	34	iP	27	50.29	-0.9
CNPM	1.29	127	eP	27	52.81	-0.3
			eS	28	15.16	
CDD	1.40	188	iP	27	52.77	-1.4
SLKM	1.52	81	eP	27	54.13	-1.3
			eS	28	18.16	
SUA	1.69	46	eP	27	56.12	-1.2
			eS	28	22.22	
SKT	1.87	26	eP	27	58.29	-0.9
			eS	28	24.21	
SEW	1.91	95	eP	27	58.99	-0.6
			eS	28	25.15	
PMS	2.04	61	eP	27	59.63	-1.5
			eS	28	29.41	
CUT	2.55	33	eP	28	05.61	-1.4
			eS	28	38.32	
MTU	2.82	94	eP	28	09.89	-0.5
FID	3.38	80	eP	28	14.91	-2.5
KLU	3.78	69	eP	28	20.65	-2.0
GLB	4.76	72	eP	28	34.04	-1.4

19 obs. associated

OCT 13, 1989 21h 19m 57.96± 0.20s
34.726 N ± 3.5km 139.531 E ± 3.1km
DEPTH = 25.5km (14 depth phases)
5.3mb (35 obs.) 4.8Msz (5 obs.)
NEAR S. COAST OF HONSHU, JAPAN (230)
Two people injured. Felt (IV JMA) at Yokohama and on Oshimo; (III JMA) at Toteyama, Ajiro, Kofu, Mishimo and Tokyo; (II JMA) at Kawaguchi-ko and Nagatsuro; (I JMA) at Shizuoka. Also felt (IV) at Yokosuka.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 11S, 23C
Centroid Location:
Origin Time 21:20: 1.6 0.8
Lat 34.68N 0.06 Lon 138.97E 0.08
Dep 21.9 4.0 Half-duration 1.9
Moment Tensor; Scale 10**17 Nm
Mrr= 0.36 0.05 Mtt= 0.79 0.05
Mff=-1.14 0.07 Mrt= 0.34 0.10
Mrf= 0.43 0.14 Mtf=-0.66 0.06
Principal Axes:
T Val= 1.06 Plg=19 Azm= 13
N 0.43 65 236
P -1.49 16 109
Best Double Couple:Mo=1.3*10**17
NP1:Strike=151 Dip=65 Slip= 2
NP2: 60 88 155

OSH	0.13	286	iP+	20	02.50	-0.4
			eS	20	05.00	
TAT	0.38	47	iP+	20	06.40	0.2
			iS	20	13.60	
AJI	0.48	312	iPd	20	06.50	-1.3
			iS	20	12.50	
NGT	0.58	258	eP	20	18.00	8.6X
MIS	0.63	308	iPd	20	09.00	-1.2
			iS	20	17.00	
YOK	0.72	8	iP+	20	11.50	-0.2
			iS	20	22.10	
SHZ	0.96	285	iPd	20	15.60	0.0
			S	20	28.70	
TOK	0.98	11	iP+	20	15.50	-0.4
			S	20	28.50	
FUN	1.00	321	eP	20	14.00	-2.3
KOF	1.23	320	iPd	20	18.50	-1.1
			iS	20	32.80	
CHJJ	1.39	342	P	20	21.00	-0.8
IIDJ	1.53	300	iPd	20	24.30	0.4
			iS	20	44.20	
KAKJ	1.57	19	iP+	20	22.80	-1.6
			eS	20	40.70	
MAT	2.11	330	iPd	20	32.70	0.4
			iS	20	58.90	
MTMJ	2.33	323	iPd	20	35.90	0.5
			S	21	06.10	
NIIJ	2.55	350	iP+	20	37.30	-1.2
			eS	21	08.50	
TSRJ	3.02	287	iPd	20	45.10	0.0
WKYJ	3.29	262	P	20	49.10	0.0
YAMJ	3.47	7	P	20	50.40	-1.1
TKSJ	4.59	262	iP+	21	08.00	0.4
			S	22	00.60	
OFUJ	4.67	21	eP	21	06.20	-2.4
			eS	21	58.60	
YONJ	5.00	277	P	21	12.60	-0.8
SHK	5.65	270	iP	21	21.50	-1.0
	0.6s	440.00nm			6.3mb X	
AOMJ	5.86	6	eP	21	24.90	-0.5
SHNJ	6.99	267	P	21	40.50	-0.7
			eS	22	59.10	
KUMJ	7.58	256	P	21	50.40	0.8
MRRJ	7.78	8	eP	21	49.00	-3.3X
KAGJ	8.07	246	P	21	57.20	0.7
HOOJ	8.19	20	P	21	53.00	-5.1X
			eS	23	22.90	
SAP	8.44	9	eP	21	58.00	-3.5X
KUSJ	9.28	24	eP	22	06.30	-6.8X
			S	23	44.30	
ASAJ	9.68	13	P	22	12.80	-5.9X
			eS	23	59.00	
MDJ	12.49	325	eP	22	57.00	0.2
Z	15s	4.40um				
E	22s	21.50um				
			S	25	23.00	
CN2	14.17	314	eP	23	19.40	0.4
	1.2s	0.08nm			2.3mb X	
Z	14s	3.10um				
N	12s	2.00um				
E	12s	1.20um				
			pP	23	24.00	
			S	26	02.00	
SNY	14.39	304	eP	23	22.90	1.1
	6.0s	1.19nm			2.6mb X	
Z	18s	3.30um				
N	12s	2.10um				
E	10s	1.90um				
			S	26	08.00	
DL2	14.93	291	eP	23	32.00	3.0
Z	12s	4.30um				
E	13s	4.20um				
SSE	15.82	262	P	23	46.50	5.9X
	1.0s	24.00nm			4.3mb	
Z	20s	2.30um				
N	16s	7.50um				
E	14s	4.20um				
			sP	23	56.00	
			S	26	40.00	
			sS	26	50.00	
NJ2	17.47	267	Pd	24	04.00	2.6
N	11s	1.50um				
E	10s	1.70um				
ANP	18.25	243	e(P)	24	12.00	0.8
TIA	18.31	281	Pd	24	12.80	1.0
Z	13s	4.50um				
			sP	24	20.00	
BJI	19.28	293	eP	24	21.00	-2.6
	1.5s	0.40nm			2.5mb X	
Z	14s	2.05um			4.5Msz	
N	13s	2.20um				
E	12s	1.86um				
			eS	28	00.00	
QZH	20.58	247	eP	24	37.90	0.4
Z	18s	2.40um			4.6Msz	
E	18s	3.90um				
			eS	28	28.00	
GUMO	21.59	166	eP	24	42.30	-5.6X
	1.2s	550.00nm			5.9mb	
PJG	21.59	166	eP	24	47.60	-0.3
WHN	21.59	266	eP	24	49.50	1.7
Z	16s	2.92um			4.8MszX	
N	14s	5.28um				
			pP	24	57.80	30km
			S	28	46.00	
GUA	21.65	166	eP	24	48.20	-0.3
	1.2s	437.50nm			5 8mb	
TIY	22.04	286	eP	24	52.00	-0.3
N	13s	2.30um				
			sP	25	06.50	
			S	28	54.00	
			sS	29	06.50	
HHC	22.88	294	eP	25	04.00	3.4X
Z	14s	2.60um			4.8MszX	
N	12s	1.20um				
E	11s	2.10um				
BTO	24.02	293	eP	25	08.50	-3.3X
N	15s	4.00um				
E	13s	2.30um				
			pP	25	15.50	25km
BAG	24.92	228	eP	25	22.00	1.4
XAN	25.23	277	P	25	22.00	-1.4

| | | |

13d 21h

STV	90.20	328	P	32 56.85	-0.7
IMI	90.21	327	P	32 57.26	-0.3
SBF	90.45	328	eP	32 59.50	0.8
	1.0s	16.00nm		5.3mb	
MAF	90.57	332	eP	32 58.10	-1.0
	1.0s	12.00nm		5.1mb	
FRF	91.04	328	eP	33 02.30	1.0
	1.0s	16.00nm		5.3mb	
LRG	91.25	328	eP	33 02.90	0.7
	1.0s	32.00nm		5.6mb	
LMR	91.28	328	eP	33 03.00	0.6
	1.0s	16.00nm		5.3mb	
TIC	126.97	314	PKP	39 03.40	1.5
KIC	127.03	313	PKP	39 03.40	1.4
LIC	127.31	314	PKP	39 04.00	1.5
SNA	138.85	199	e(PKP)	39 22.70	0.0
ARE	146.82	65	ePKP	39 37.00	-1.4
ZOBO	149.16	60	PKP	39 43.00	0.5
	1.1s	47.85nm			
	Z 22s	0.21um		4.9Msz	
		LR		30 18.00	
LPB	149.35	61	ePKP	39 45.00	2.4X
		i		39 48.00	
CNCB	149.62	61	PKP	39 46.50	3.3X
		i		39 49.20	
CCH	151.31	60	PKP	39 50.90	5.5X
PDCR	157.87	357	ePKP	40 12.20	18.3X
		e		40 33.60	
		e		40 48.10	

S.D. = 1.2 on 196 of 227 obs.

? OCT 13, 1989 21h 40m 17.58± 2.58s
16.010 S ±54.5km 173.328 W ±36.6km
DEPTH = 126.6 ± 23.1 km
5.4mb (2 obs.)
TONGA ISLANDS (173)

AFI	2.57	36	iPc	40 59.00	-0.2
			eS	41 25.00	
SVA	8.13	254	eP	42 15.20	1.0
DZM	20.04	249	iPc	44 41.10	-1.9
BRS	33.36	244	iP	46 45.00	-0.8
CTA	38.58	258	eP	47 30.00	0.1
CAN	38.72	233	eP	47 32.50	1.5
BWA	38.87	235	eP	47 30.30	-2.0
CMS	40.18	240	iPc	47 43.50	0.5
WB5	49.75	257	eP	48 38.70	-20.6X
ASPA	49.99	252	iPc	49 00.70	-0.4
	0.8s	108.00nm		5.8mb	
WARB	56.50	249	eP	49 48.40	-0.6
	0.4s	8.00nm		5.0mb	
MBL	63.17	254	iPd	50 35.00	0.4
MUN	65.31	242	eP	50 49.40	1.1
NANU	66.93	252	eP	51 00.00	1.3
MEM	145.48	1	PKP	00 10.50	28.5X
PRU	145.51	351	ePKP	59 45.50	3.4X
		e		00 08.50	
SNF	145.53	3	PKP	00 10.20	28.1X
DOU	145.96	2	PKP	00 11.20	28.4X
	1.1s	50.00nm			
GRF	146.20	355	iPKPc	00 10.80	27.5X
		e		00 13.50	
WLF	146.43	1	PKP	00 12.50	28.9X
KHC	146.49	352	iPKPd	59 48.00	4.2X
HAU	148.09	0	ePKP	59 53.80	7.4X
	0.8s	5.35nm			
LOR	148.74	4	ePKP	59 55.40	8.0X
	0.8s	4.05nm			
SSF	148.93	4	ePKP	59 56.20	8.5X
	1.0s	8.00nm			
LBF	149.03	4	ePKP	59 56.10	8.2X
	0.8s	5.35nm			
AVF	149.19	4	ePKP	59 56.40	8.3X
	0.8s	4.05nm			
BGF	149.38	5	ePKP	59 56.80	8.4X
	1.0s	8.00nm			
LSF	149.55	7	ePKP	59 57.20	8.5X
	1.0s	13.00nm			
MAF	149.68	6	ePKP	59 58.00	9.1X
	1.0s	8.00nm			
LPG	150.60	360	ePKP	00 01.20	10.5X
	0.8s	6.70nm			
LFF	150.73	9	ePKP	00 00.05	9.6X
	1.2s	17.85nm			
LPO	151.04	8	ePKP	00 01.00	10.0X
	1.0s	8.00nm			
BCAO	163.62	227	ePKPc	00 11.20	4.1X
	0.7s	9.00nm			
		id		01 03.30	

S.D. = 1.3 on 13 of 33 obs.

OCT 13, 1989 22h 00m 23.35± 0.54s
42.076 N ± 7.5km 142.525 E ± 9.9km
DEPTH = 74.7 ± 6.9 km
4.4mb (2 obs.)
HOKKAIDO, JAPAN REGION (224)
Felt (II JMA) at Hiroo and Urakawa.

URA	0.21	67	iP+	00 33.80	-0.8
			iS	00 42.00	
HOO	0.62	70	P	00 00.00	-37.9X
HOOJ	0.64	61	iP+	00 37.80	-0.3
			S	00 48.80	
MRRJ	1.13	288	P	00 43.90	-0.1
			S	00 59.00	
KUSJ	1.91	57	P	00 54.20	-0.2
			S	01 17.30	
ASAJ	2.04	2	P	00 57.80	1.6
			eS	01 23.40	
AOMJ	2.22	228	P	00 59.50	0.8
			S	01 25.80	
OFUJ	3.06	193	P	01 09.30	-1.1
			eS	01 43.90	
YAMJ	4.34	207	P	01 28.20	-0.1
NIIJ	5.54	211	eP	01 46.10	1.0
KAKJ	6.14	198	P	01 49.70	-3.7X
			eS	02 56.50	
MAT	6.46	213	(P)	01 57.00	-0.8
MTMJ	6.59	215	eP	02 01.70	2.0
CHJJ	6.62	206	eP	02 00.00	0.0
BJI	19.95	273	eP	04 49.00	-2.7
HYB	59.30	266	eP	10 20.00	0.2
WB5	62.10	189	eP	10 37.80	-0.7
GBA	62.55	264	P	10 43.00	1.3
HFS	69.86	335	eP	11 25.90	-1.6
	0.4s	2.30nm		4.5mb	
NB2	69.88	337	P	11 28.10	0.4
	0.7s	3.40nm		4.4mb	
KVN	71.07	54	eP	11 36.80	1.3

S.D. = 1.3 on 19 of 21 obs.

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* OCT 14, 1989 01h 06m 07.33± 3.34s
41.478 N ±25.7km 23.143 E ± 8.0km
DEPTH = 10.0km (geophysicist)
GREECE-BULGARIA BORDER REGION (363)
ML 1.4 (SKO).

KNT	0.37	210	iPg	06 14.90	0.0
			eSg	06 20.00	
VAY	0.46	250	iPg	06 16.70	0.0
			iSg	06 23.40	
SRS	0.49	137	ePg	06 16.60	-0.8
			eSg	06 23.50	
GRG	0.76	227	ePg	06 22.10	-0.2
			eSg	06 33.00	
THE	0.86	189	iPg	06 23.60	-0.2
			eSg	06 35.10	
OUR	1.31	151	ePb	06 32.50	1.0
			eSb	06 50.00	

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

? OCT 14, 1989 01h 30m 09.87± 2.52s
4.552 S ±33.6km 150.344 E ±20.1km
DEPTH = 63.3 ± 25.6 km
NEW BRITAIN REGION (192)

RAB	1.86	79	iPd	30 40.00	0.0
			iS	31 07.00	
PAA	5.41	109	eP	31 30.00	0.0
PMG	5.77	213	eP	31 35.00	0.0
			eS	32 39.00	
WB5	21.78	224	eP	34 58.00	-0.2
			i	35 00.80	
ASPA	24.75	218	eP	35 27.30	0.2
	0.4s	18.00nm		4.9mb	

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

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* OCT 14, 1989 01h 55m 45.33± 0.67s
3.359 S ± 8.0km 152.085 E ±10.0km
DEPTH = 400.4 ± 6.7 km
5.3mb (5 obs.)
NEW IRELAND REGION (190)

RAB	0.83	174	iPc	56 36.50	-1.0
			iS	57 12.00	
PAA	4.48	131	eP	57 23.00	20.3X
LAT	6.03	237	eP	57 20.00	1.1
PMG	7.75	219	iPc	57 39.00	0.7
KDB	7.80	219	eP	57 43.00	4.2X
MNDI	8.84	251	eP	58 01.00	9.9X
CTA	17.57	198	iPd	59 28.00	1.6
	0.5s	66.20nm		5.2mb	
		i		02 39.10	
QIS	20.98	214	iPd	00 00.10	0.4
	0.2s	32.00nm		5.4mb	
MTN	22.76	244	eP	00 16.00	-0.4
RMQ	23.22	188	eP	00 20.00	-0.6
DZM	23.24	144	iPc	00 21.20	0.3
WB5	23.84	225	iPd	00 26.10	-0.2
			eS	04 11.50	
BRS	23.91	178	iPc	00 26.20	-0.6
			e	00 42.00	
			e	01 34.00	
ASPA	26.77	219	iPd	00 51.70	-0.9
	0.4s	62.00nm		5.4mb	
			eS	04 55.60	
COO	27.07	180	iPc	00 55.70	0.4
CMS	28.59	191	iPd	01 08.20	-0.4
BWA	31.10	186	eP	01 30.00	-0.4
CAN	31.93	185	iPc	01 37.90	0.4
WARB	33.32	225	eP	01 48.80	-0.6
	0.3s	8.00nm		4.6mb	
FORR	35.50	217	iPd	02 07.00	-0.6
	0.4s	99.00nm		5.5mb	
TTA	76.70	22	eP	06 55.30	0.5
IMA	79.35	20	eP	07 09.40	0.4
FBA	80.82	22	eP	07 15.70	-0.8
INK	87.37	21	eP	07 36.00	-13.0X
KVN	91.95	51	eP	08 11.80	0.8
ZOBO	135.73	117	ePKP	14 19.00	-3.3X

S.D. = 0.8 on 21 of 26 obs.

? OCT 14, 1989 01h 59m 37.34± 2.21s
48.647 N ±78.9km 29.236 W ±14.1km
DEPTH = 10.0km (geophysicist)
4.0mb (4 obs.)
NORTH ATLANTIC RIDGE (403)

TCF	21.31	84	eP	04 27.10	0.8
	1.0s	6.00nm		3.9mb	
MAF	21.57	84	eP	04 27.80	-1.1
	1.0s	8.00nm		4.1mb	
SNF	21.71	72	P	04 30.40	0.2
AVF	21.92	83	eP	04 32.80	0.5
	1.0s	6.00nm		4.0mb	
DOU	21.97	73	Pc	04 31.80	-1.0
LOR	22.11	81	eP	04 34.20	-0.1
	1.0s	6.00nm		4.0mb	
MEM	22.79	72	P	04 41.50	0.7
KVN	61.33	297	eP	09 55.50	0.0

S.D. = 0.8 on 8 of 8 obs.

? OCT 14, 1989 02h 08m 40.21± 4.70s
23.998 N ±15.3km 122.639 E ±38.4km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWD	0.96	275	iPc	08 58.10	-0.3
			eS	09 11.20	
TWF1	1.39	243	iPd	09 05.00	-0.6
TWZ	1.46	319	iPc	09 06.50	-0.1
TWQ	1.67	280	ePc	09 10.00	0.3
TWK	2.10	250	iPc	09 16.60	0.6

S.D. = 0.7 on 5 of 5 obs.

OCT 14, 1989 02h 32m 01.27± 0.46s
24.256 S ± 4.7km 179.906 W ± 3.9km
DEPTH = 511.2 ± 5.9 km
5.4mb (19 obs.)
SOUTH OF FIJI ISLANDS (171)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 24C
Centroid Location:
Origin Time 02:32: 1.8 1.3
Lat 24.70S 0.09 Lon 179.62W 0.13
Dep 537.8 3.7 Half-duration 1.7
Moment Tensor; Scale 10**17 Nm
Mrr= 0.18 0.05 Mtt=-0.68 0.09
Mff= 0.50 0.09 Mrt=-0.77 0.08

Mrf=-1.05 0.08 Mtf=-0.30 0.08
Principal Axes:
T Val= 1.44 Plg=43 Azm=102
N 0.05 26 219
P -1.50 36 330
Best Double Couple:Mo=1.5*10**17
NP1:Strike=119 Dip=27 Slip= 171
NP2: 217 86 64

RAO	5.28	161	iP	33 34.00	1.8
			iS	34 49.00	
VUN	6.40	346	eP	33 42.30	-0.6
NDF	6.92	339	eP	33 48.00	0.0
MBU	7.36	350	iPd	33 53.80	1.3
DZM	12.74	277	iPc	34 50.80	2.2
			iS	37 11.00	
			ScP	42 28.00	
AFI	12.84	38	P	35 09.60	20.1X
			eS	37 18.00	
HBZ	13.39	186	eP	34 54.90	-0.1
KRP	14.17	195	iP	35 08.90	5.9X
PGZ	16.63	190	eP	35 26.50	-1.0
KIW	17.12	193	eP	35 31.10	-1.2
CAW	17.32	193	eP	35 34.50	0.2
WDW	17.49	193	P	35 35.70	-0.2
MRW	17.52	194	eP	35 35.20	-0.9
WEL	17.56	193	P	35 37.90	1.4
MOW	17.59	192	eP	35 36.80	-0.1
TCW	17.60	195	P	35 36.50	-0.4
BRS	24.77	257	iPc	36 44.50	0.8
			i	37 07.00	
			i	38 07.50	
COO	25.77	250	iPc	36 54.10	1.5
TBI	27.85	94	iP	37 10.70	0.0
	0.9s	110.00nm		5.4mb	
RMQ	28.37	259	iPd	37 16.70	1.4
	0.6s	33.00nm		5.1mb	
			e	38 43.00	
AFR	28.89	82	iP	37 18.90	-0.9
	1.0s	190.00nm		5.6mb	
PAE	29.03	83	iP	37 20.20	-0.8
	1.0s	90.00nm		5.3mb	
CAN	29.04	240	eP	37 22.20	1.1
PPT	29.06	83	iP	37 20.40	-1.0
	1.0s	180.00nm		5.6mb	
PPN	29.20	83	iP	37 21.60	-1.0
	1.0s	90.00nm		5.3mb	
TVO	29.29	83	iP	37 22.40	-1.0
	1.0s	180.00nm		5.6mb	
BWA	29.31	242	eP	37 22.30	-1.1
CMS	31.04	249	eP	37 38.00	-0.3
			e	39 09.00	
PMO	31.46	79	iP	37 41.10	-0.8
	1.0s	100.00nm		5.3mb	
CTA	31.56	271	iPd	37 43.00	0.2
	0.5s	83.10nm		5.5mb	
			iPP	39 11.10	
			iPcP	40 19.90	
			iS	42 15.00	
			iScP	43 17.00	
VAH	31.61	80	iP	37 42.20	-0.9
	1.0s	80.00nm		5.2mb	
TPT	31.71	79	iP	37 43.40	-0.6
	1.0s	180.00nm		5.6mb	
RUV	31.85	80	iP	37 44.50	-0.7
	1.0s	125.00nm		5.4mb	
PMG	34.69	290	eP	38 09.00	-0.1
QIS	37.52	267	eP	38 32.00	-0.4
ASPA	42.07	261	iPd	39 09.10	-0.1
	0.5s	34.00nm		5.1mb	
			ePP	40 42.70	
			iScP	43 54.90	
			iS	44 49.10	
			eScS	48 14.90	
WB5	42.46	267	iPd	39 11.60	-0.7
			ePcP	43 58.10	
			eS	44 54.30	
FORR	46.23	250	iPd	39 40.80	-0.7
	0.5s	136.00nm		5.7mb	
MTN	47.57	275	iPc	39 50.00	-1.9
WARB	48.11	256	iPd	39 54.70	-1.2
	0.3s	11.00nm		4.8mb	
KNA	48.75	270	iPd	40 00.20	-0.6
GUA	50.91	314	eP	40 15.20	-1.5
	1.0s	256.00nm		5.6mb	
GUMO	50.98	314	eP	40 15.70	-1.5
	1.3s	366.01nm		5.7mb	

PJG	50.98	314	eP	40 15.80	-1.4
SBA	54.03	183	P	40 42.00	3.5X
MBL	55.30	260	iPd	40 47.00	-1.2
MRWA	56.84	250	iPc	40 57.90	-0.9
	0.4s	7.00nm		4.3mb X	
NANU	58.79	257	eP	41 11.00	-1.1
MAT	72.24	326	iPd	42 34.10	-1.5
	1.7s	157.69nm		5.3mb	
MAW	77.45	200	eP	43 05.00	0.9
SYP	81.54	46	eP	43 27.00	0.8
PRS	81.74	44	eP	43 27.70	0.7
PCC	81.83	43	eP	43 27.80	0.4
PRI	82.07	45	eP	43 29.90	1.1
MHC	82.19	43	eP	43 30.20	0.8
MDJ	82.61	326	eP	43 31.00	-0.1
MWC	82.64	47	eP	43 33.00	1.2
BAR	82.70	49	eP	43 33.00	1.1
PLM	82.95	49	eP	43 33.00	-0.4
RVR	82.97	48	eP	43 33.00	-0.2
SBB	83.06	47	eP	43 33.00	-0.8
FRI	83.20	44	eP	43 34.50	0.3
ISA	83.21	46	eP	43 34.00	-0.4
WHN	83.28	308	eP	43 35.20	0.4
CMB	83.40	43	eP	43 35.50	0.2
			e	45 23.90	
ORV	83.65	41	eP	43 36.60	0.1
WDC	83.67	40	eP	43 37.10	0.5
CLC	83.87	46	eP	43 38.00	0.2
TPC	83.93	49	eP	43 39.00	0.9
MIN	84.08	41	eP	43 38.60	-0.2
GSC	84.10	47	eP	43 40.00	1.1
GLA	84.19	50	eP	43 41.00	1.6
CN2	84.22	324	Pd	43 39.00	-0.2
TNP	85.44	45	eP	43 45.50	0.0
KVN	85.44	44	eP	43 45.10	-0.4
			epP	45 25.00	441kmX
SNA	85.68	179	e(P)	43 32.30	-13.6X
	0.8s	21.64nm			
			i	43 47.00	
BJI	87.35	316	eP	43 54.50	0.2
TIY	88.49	313	iPd	44 00.50	0.7
HHC	90.73	315	P	44 11.20	1.1
ALQ	91.11	52	eP	44 12.00	-0.1
	1.0s	10.00nm		4.7mb	
LRM	92.71	40	eP	44 19.60	0.3
SLR	123.31	211	ePKP	50 02.50	0.8
SWZ	123.36	207	iPKPc	50 04.00	2.2
	1.0s	16.00nm			
BUL	127.86	215	iPKPc	50 11.40	0.8
	0.9s	8.40nm			
SOD	133.84	346	iPKP	50 09.00	-11.3X
SUF	137.77	342	ePKP	50 17.10	-10.8X
NUR	139.98	341	iPKP	50 30.70	-1.2
	0.6s	9.10nm			
UPP	142.36	346	iPKP	50 26.20	-9.9X
NB2	142.44	351	PKP	50 31.30	-5.0X
	1.1s	18.20nm			
HFS	142.91	349	ePKP	50 32.00	-5.1X
	0.9s	39.00nm			
KVT	145.69	308	ePKP	50 41.00	-1.4
KAS	147.21	310	iPKPd	50 47.80	2.9
BHL	147.61	295	PKPc	50 49.00	3.2X
HRI	147.61	294	e(PKP)	50 48.00	2.1
BBTK	148.46	307	ePKP	50 47.00	0.0
EKA	148.87	4	PKPc	50 50.50	3.6X
	0.8s	10.10nm			
VRI	149.58	322	ePKPc	50 52.50	4.2X
DMU	149.93	8	ePKP	50 53.00	4.4X
KRA	149.97	334	ePKP	50 53.50	4.7X
SPC	150.52	333	ePKP	50 55.80	5.9X
DLE	150.58	8	ePKP	50 55.00	5.4X
KSP	150.65	339	iPKP	50 55.50	5.7X
	1.0s	52.00nm			
			e	51 05.00	
			e	52 58.00	
			ic	53 01.50	
			e	53 06.50	
WIT	151.05	352	ePKP	50 57.00	6.7X
CLL	151.22	343	iPKP	50 56.30	5.7X
	0.9s	52.00nm			
BRG	151.35	342	iPKPd	50 56.90	6.1X
	1.4s	33.00nm			
			i	51 07.30	
			e	52 58.40	
			i	53 02.80	
KHL	151.35	306	iPKP	50 57.40	6.1X
WTS	151.83	351	iPKPc	50 58.20	6.8X

	0.8s	32.00nm			
			e	51 08.50	
			e	53 03.50	
PRU	151.95	340	PKPd	50 58.00	6.3X
			e	51 10.00	
MOX	152.18	344	ePKP	50 59.00	7.0X
			i	51 10.50	
			e	53 04.00	
BZS	152.49	326	ePKPc	50 48.00	-4.6X
ZST	152.57	335	ePKP	51 13.00	20.4X
KHC	153.00	340	ePKP	50 52.50	-0.8
			i	51 14.70	
BCAO	153.47	225	iPKPc	50 54.20	-0.7
	0.8s	14.00nm			
			ic	51 17.90	
			ic	53 12.30	
LJU	155.34	335	e(PKP)	50 56.00	-0.5
VOY	155.59	336	ePKP	50 55.50	-1.5
LIC	161.41	164	PKP	51 04.68	0.4
KIC	161.61	165	PKP	51 04.82	0.3
TIC	161.81	164	PKP	51 05.00	0.3

S.D. = 1.0 on 92 of 118 obs.

? OCT 14, 1989 03h 15m 47.15± 0.99s
14.015 N ±12.9km 60.952 W ±66.5km
DEPTH = 125.0km (geophysicist)
WINDWARD ISLANDS (95)

SLB	0.21	205	eP	16 05.04	-0.7
			eS	16 20.86	
MVM	0.54	6	iPd	16 06.47	0.3
			S	16 22.20	
SOA	0.67	197	eP	16 06.90	-0.1
			eS	16 23.22	
SSV	0.72	199	eP	16 07.75	0.2
			eS	16 24.26	
CRM	0.74	3	iPd	16 07.57	0.0
SVV	0.74	200	eP	16 07.79	0.2
			eS	16 24.60	
FDF	0.74	345	eP	16 07.51	-0.1
	0.1s	0.25nm			
			S	16 25.10	
SVB	0.79	202	eP	16 08.09	0.1
			eS	16 24.85	

S.D. = 0.4 on 8 of 8 obs.

OCT 14, 1989 03h 41m 41.95± 0.56s
42.383 N ± 5.2km 19.228 E ± 4.6km
DEPTH = 20.0 ± 9.9 km
YUGOSLAVIA (383)
MD 2.5 (TTG).

TTG	0.05	28	iPgc	41 45.20	-0.4
			iSg	41 48.20	
BDV	0.31	252	iPgd	41 48.30	-0.6
			iSg	41 54.50	
SDA	0.42	151	ePg	41 49.90	-0.7
ULC	0.42	178	ePg	41 49.50	-1.1
			eSg	41 56.20	
NKY	0.46	339	iPgc	41 51.30	-0.1
			eSg	41 58.50	
HCY	0.54	277	iPgc	41 52.50	-0.2
			iSg	42 01.50	
PVY	0.59	69	ePg	41 53.00	-0.6
			eSg	42 02.50	
PUK	0.60	124	ePg	41 53.00	-0.6
IVA	0.70	45	ePg	41 55.00	-0.3
			eSg	42 06.00	
BRY	0.72	316	ePg	41 56.10	0.3
			eSg	42 08.00	
LACI	0.83	154	iPnc	42 08.60	11.1X
PHP	1.14	127	ePg	42 03.50	0.8
TIR	1.14	155	ePg	42 07.00	4.2X
OHR	1.73	137	ePn	42 13.70	2.4
LSK	2.46	155	ePn	42 31.30	9.5X
VAY	2.71	112	ePn	42 34.40	9.1X
SDI	4.09	262	P	42 45.40	0.6
VOY	5.29	315	ePn	43 02.50	0.6
			eSn	43 29.70	

S.D. = 1.0 on 14 of 18 obs.

OCT 14, 1989 03h 42m 09.16± 0.51s
42.392 N ± 4.6km 19.224 E ± 4.5km
DEPTH = 18.2 ± 9.3 km
YUGOSLAVIA (383)
MD 3.0 (TTG).

14d 03h

TTG	0.05	36	iPg	42 12.30	-0.2
			iSg	42 15.20	
BDV	0.31	250	ePg	42 15.50	-0.5
			eSg	42 21.50	
SDA	0.43	151	iPgd	42 17.50	-0.4
ULC	0.43	177	iPgc	42 16.80	-1.2
			eSg	42 23.40	
NKY	0.45	338	ePg	42 18.50	0.1
			eSg	42 26.10	
HCY	0.54	276	ePg	42 20.10	0.3
			eSg	42 28.50	
PVY	0.59	70	ePg	42 20.10	-0.7
			eSg	42 30.00	
PUK	0.61	125	iPg	42 20.50	-0.4
IVA	0.69	46	ePg	42 22.10	-0.3
			eSg	42 35.00	
BRY	0.71	316	ePg	42 23.20	0.3
			eSg	42 36.40	
TIR	1.15	155	ePg	42 31.20	1.0
SKO	1.70	104	ePn	42 38.80	0.7
	0.5s	140.00nm			
			iSg	43 03.30	
			Lg	43 06.50	
OHR	1.74	137	iPn	42 40.10	1.3
LCI	2.27	205	P	42 43.80	-2.5X
			eSn	43 09.60	
	S.D. = 0.8		on 13 of 14 obs.		

OCT 14, 1989 04h 09m 48.35± 0.68s
13.236 S ±12.3km 74.816 W ± 7.2km
DEPTH = 33.0km (normal)
PERU (116)

PT03	1.21	232	iPd	10 09.20	0.1
			eS	10 25.50	
PT06	1.59	248	iPd	10 13.80	-0.7
			iS	10 32.70	
PT02	1.61	280	iPd	10 14.60	-0.2
			eS	10 34.90	
PT08	2.11	307	eP	10 23.30	0.9
NNA	2.34	302	iPd	10 25.70	0.4
	0.6s	100.00nm			
			iS	10 51.50	
PT10	2.40	299	iP	10 25.60	-0.6
			i(S)	10 58.70	
ARE	4.54	135	eP	10 59.00	2.1
			eS	11 49.00	
ZOBO	7.14	116	P	11 33.00	-0.8
LPB	7.27	118	(P)	11 34.00	-1.5
CNCB	7.50	119	P	11 39.00	0.2
	S.D. = 1.1		on 10 of 10 obs.		

OCT 14, 1989 04h 32m 08.76± 0.47s
47.553 N ± 4.2km 7.547 E ± 4.2km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 2.4 (LDG).

FEL	0.45	44	Pg	32 17.39	-0.6
			Sg	32 23.83	
LOMF	0.53	248	Pg	32 18.48	-1.0
			Sg	32 26.47	
BSF	0.58	299	Pg	32 19.91	-0.7
			Sg	32 29.90	
SLE	0.67	71	ePd	32 21.20	-1.0
ECH	0.71	339	Pg	32 23.54	0.7
			Sg	32 34.51	
WLS	0.87	351	Pg	32 25.67	0.1
			Sg	32 39.36	
CDF	0.88	348	Pg	32 26.28	0.6
			Sg	32 39.11	
HAU	0.93	300	Pn	32 26.50	0.0
			Pg	32 26.90	
			Sg	32 39.60	
LLS	1.20	124	ePc	32 32.00	0.7
VITF	1.24	303	Pg	32 32.31	0.5
DIX	1.48	184	ePc	32 36.10	0.5
EMS	1.54	196	ePd	32 36.70	0.2
VDL	1.69	128	ePd	32 39.90	1.2X
OSS	1.97	115	ePd	32 45.00	2.3X
	S.D. = 0.7		on 12 of 14 obs.		

? OCT 14, 1989 04h 42m 04.97± 8.80s
10.827 N ±35.2km 62.299 W ±95.1km
DEPTH = 86.8 ± 44.7 km
NEAR COAST OF VENEZUELA (97)

TCE	0.55	103	eP	42 20.35	0.4
TRN	0.90	101	eP	42 23.57	0.1
			eS	42 36.62	
TPP	0.98	121	eP	42 24.09	-0.3
			eS	42 38.13	
TBH	1.26	106	eP	42 37.24	9.4X
GRW	1.46	25	eP	42 29.95	-0.6
SVB	2.64	23	eP	42 46.87	0.6
			eS	43 20.13	
SVV	2.69	23	eP	42 46.76	-0.3
			eS	43 17.84	
SSV	2.71	23	eP	42 47.66	0.3
			eS	43 20.34	
	S.D. = 0.6		on 7 of 8 obs.		

? OCT 14, 1989 05h 32m 34.27± 6.79s
47.045 N ±14.4km 4.668 E ±44.9km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 1.8 (LDG).

LBF	0.48	263	Pg	32 44.10	0.1
			Sg	32 49.50	
LOR	0.60	292	Pg	32 46.30	0.0
			Sg	32 53.70	
SMF	0.69	235	Pg	32 47.90	-0.1
			Sg	32 56.20	
SSF	0.79	272	Pg	32 49.70	0.0
			Sg	32 59.30	
AVF	0.94	255	Pg	32 51.90	-0.2
			Sg	33 03.80	
BGF	1.34	249	Pg	32 59.30	0.3
			Sg	33 15.40	
	S.D. = 0.2		on 6 of 6 obs.		

OCT 14, 1989 06h 05m 54.11± 0.68s
34.180 N ±10.3km 135.164 E ± 6.4km
DEPTH = 10.0km (geophysicist)
NEAR S. COAST OF SOUTHERN HONSHU(233)
MG 3.7 (JMA). Felt (III JMA) at Wakayama.

WKY	0.05	3	iP+	05 54.90	-1.3
			iS	05 55.60	
WKYJ	0.36	83	iPd	05 59.90	-1.6
			S	06 04.80	
TKSJ	0.95	258	P	06 11.30	-0.8
			S	06 25.20	
TSRJ	1.51	26	P	06 21.80	0.6
			S	06 40.60	
YONJ	1.73	306	P	06 24.20	-0.1
			S	06 47.40	
IIDJ	2.61	59	eP	06 38.60	1.6
MTMJ	3.23	41	eP	06 48.30	2.4X
SHNJ	3.36	270	eP	06 51.80	4.1X
MAT	3.43	46	(P)	06 49.00	0.3
			eS	07 31.00	
CHJJ	3.65	58	eP	06 53.00	1.1
KUMJ	3.98	247	P	06 57.20	0.7
KAGJ	4.68	232	eP	07 06.90	0.4
KVN	80.50	49	eP	18 07.30	-0.8
	S.D. = 1.2		on 11 of 13 obs.		

OCT 14, 1989 06h 07m 39.06± 0.65s
37.984 N ± 6.2km 28.796 E ± 5.5km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
Felt in the Denizli area.

KHL	0.67	59	iPg	07 51.90	-0.5
YER	0.94	206	iPg	07 57.00	0.0
IZM	1.28	289	iPn	08 01.90	-0.9
BCK	1.51	110	iPn	08 06.90	0.6
DST	1.62	355	iPn	08 09.60	1.8
BNT	2.46	344	ePn	08 20.00	0.1
EDC	2.47	343	ePn	08 19.50	-0.5
GPA	2.59	27	ePn	08 20.00	-1.7
YLV	2.62	10	iPn	08 22.50	0.3
EZN	2.66	314	iPn	08 21.60	-1.2
HRT	2.91	13	ePn	08 30.00	3.7X
ISK	3.08	4	ePn	08 35.00	6.3X
BBTK	3.61	58	eP	08 50.00	13.7X
			eS	09 37.00	
KDZ	4.49	326	iPc	08 49.00	0.3
RZN	4.85	321	eP	08 54.00	0.0
MMB	5.31	314	eP	09 00.00	-0.4
PVL	5.85	334	eP	09 04.00	-3.9X

KKB	5.86	313	eP	09 09.00	1.0
VTS	6.28	319	eP	09 15.00	0.9
	S.D. = 1.0		on 15 of 19 obs.		

OCT 14, 1989 06h 08m 35.35± 1.49s
34.120 N ±16.8km 135.203 E ± 8.0km
DEPTH = 10.0km (geophysicist)
NEAR S. COAST OF SOUTHERN HONSHU(233)
MG 3.0 (JMA). Felt (II JMA) at Wakayama.

WKY	0.11	344	iP	08 37.20	-1.0
			iS	08 37.80	
WKYJ	0.34	73	iPd	08 41.90	-0.5
			S	08 46.60	
TKSJ	0.97	262	P	08 53.90	0.1
			eS	09 08.30	
TSRJ	1.55	24	eP	09 04.30	1.3
			eS	09 23.10	
YONJ	1.79	307	P	09 06.50	0.0
			S	09 29.10	
IIDJ	2.61	58	eP	09 26.10	7.8X
			eS	09 56.50	
	S.D. = 1.2		on 5 of 6 obs.		

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* OCT 14, 1989 06h 24m 50.03± 0.56s
15.649 S ±12.7km 166.927 E ±12.1km
DEPTH = 33.0km (normal)
4.6mb (2 obs.)
VANUATU ISLANDS (186)

PVC	2.47	148	iP	25 29.00	0.2
			iS	25 51.50	
DZM	6.40	184	iPc	26 18.30	-6.3X
			iS	27 28.00	
SVO	9.48	312	eP	27 01.00	-6.4X
BRS	17.58	226	iPc	28 54.90	0.6
RMQ	20.07	235	eP	29 23.70	0.1
CTA	20.16	254	iPc	29 25.10	0.6
	0.9s	16.81nm			4.4mb
BWA	25.04	218	eP	30 11.70	-1.1
ASPA	32.05	250	eP	31 14.10	-2.1
	1.0s	15.00nm			4.8mb
KVN	88.49	49	eP	37 38.30	-2.5
LOR	145.48	340	ePKP	44 26.40	0.0
	0.8s	4.00nm			
LBF	145.69	339	ePKP	44 27.20	0.4
	0.8s	5.30nm			
SSF	145.78	340	ePKP	44 26.90	0.0
	0.8s	5.30nm			
LPG	145.89	335	ePKP	44 28.80	1.2
	0.6s	4.50nm			
AVF	146.07	340	ePKP	44 26.50	-0.9
	1.0s	8.00nm			
MAF	146.83	340	ePKP	44 30.00	1.3
	0.8s	2.60nm			
TCF	146.89	340	ePKP	44 29.90	1.1
	0.8s	2.60nm			
BCAO	147.00	254	ePKPc	44 31.10	1.2
	0.7s	12.00nm			
			id	44 39.60	
MFF	147.31	343	ePKP	44 29.20	-0.2
	0.8s	10.70nm			
	S.D. = 1.2		on 16 of 18 obs.		

OCT 14, 1989 07h 14m 41.02± 0.39s
36.687 N ± 6.1km 25.319 E ± 4.2km
DEPTH = 171.2 ± 5.3 km
4.1mb (11 obs.)
DODECANESE ISLANDS (369)

APE	0.42	24	iPc	15 03.70	-1.0
NPS	1.44	170	eP	15 11.50	-0.5
VAM	1.57	216	eP	15 15.00	1.8
SMG	1.58	49	eP	15 12.50	-0.9
ATH	1.81	316	iPd	15 15.80	0.1
KAP	1.88	126	iPd	15 16.80	0.3
VLI	1.91	272	eP	15 16.50	-0.4
YER	2.42	78	iPn	15 23.70	1.0
NEO	3.10	328	eP	15 30.70	-0.3
KSL	3.49	98	iPd	15 36.20	0.3
KHL	3.72	63	iPn	15 39.90	0.9
LIT	4.07	328	ePn	15 44.50	1.1
			eSn	16 31.10	
ALN	4.24	7	ePn	15 44.80	-0.8
BCK	4.28	78	ePn	15 47.90	1.7
KZN	4.56	323	eP	15 50.50	0.7

SRS	4.62	344	ePn	15 49.40	-1.2
GRG	4.83	333	ePn	15 53.60	0.2
KNT	4.85	338	ePn	15 53.80	0.2
OHR	5.65	323	iPn	16 04.10	-0.1
PPCY	5.99	105	eP	16 08.00	-0.5
CSS	6.73	102	eP	16 16.50	-2.0
LCI	6.83	304	P	16 15.60	-4.1X
			eSn	17 24.70	
SOI	7.51	283	P	16 27.30	-1.4
			eSn	17 42.50	
TDS	7.67	295	P	16 29.60	-1.4
			eSn	17 46.40	
MEU	8.34	276	P	16 40.00	0.2
MNO	8.56	282	P	16 43.40	0.5
SGO	8.74	299	P	16 44.80	-0.2
			eSn	18 12.50	
HVAR	9.40	316	i(Pn)	16 49.40	-4.3X
DUI	9.78	304	P	16 58.20	-0.7
			eSn	18 34.90	
KHC	15.10	329	eP	18 07.50	0.8
PRU	15.41	333	iPd	18 12.90	2.4
CDF	17.67	317	eP	18 38.30	0.5
	0.6s	2.50nm		3.8mb	
HAU	17.96	315	eP	18 40.80	-0.1
	0.6s	7.20nm		4.2mb	
LBF	18.88	310	eP	18 50.60	0.0
	0.8s	5.30nm		4.0mb	
LOR	19.08	310	eP	18 51.60	-1.0
	0.6s	3.60nm		4.0mb	
AVF	19.19	309	eP	18 53.90	0.2
	0.8s	3.20nm		3.8mb	
SSF	19.21	309	eP	18 54.40	0.5
	0.7s	12.10nm		4.4mb	
MEM	19.64	321	P	19 06.00	7.8X
DOU	20.07	318	iPc	19 03.10	0.5
	0.7s	13.30nm		4.5mb	
LPF	22.42	309	eP	19 26.90	1.1
	0.6s	7.20nm		4.3mb	
GRR	22.44	310	eP	19 26.60	0.6
	0.4s	4.50nm		4.3mb	
HFS	24.63	346	(P)	19 45.20	-1.5
	0.4s	1.40nm		3.9mb	
NB2	25.96	344	P	19 57.60	-1.5
	0.5s	0.40nm		3.3mb	
S.D. = 1.0 on 40 of 43 obs.					

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* OCT 14, 1989 07h 15m 17.19± 1.01s
35.196 N ± 7.4km 139.184 E ±10.0km
DEPTH = 10.0km (geophysicist)
NEAR S. COAST OF HONSHU, JAPAN (230)
MG 3.0 (JMA). Felt (I JMA) at Ajiro.

AJI	0.17	205	iPd	15 21.10	0.1
			iS	15 23.50	
CHJJ	0.86	350	P	15 33.80	0.0
			S	15 45.50	
IIDJ	1.08	286	P	15 37.20	-0.3
KAKJ	1.29	38	P	15 40.90	-0.1
			S	15 59.50	
MAT	1.56	330	iPc	15 45.40	0.4
			iS	16 05.30	
S.D. = 0.4 on 5 of 5 obs.					

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* OCT 14, 1989 08h 00m 47.00± 1.97s
43.127 N ±20.1km 138.561 E ±24.2km
DEPTH = 239.1 ± 24.7 km
3.5mb (1 obs.)
EASTERN SEA OF JAPAN (223)

HOOJ	3.56	100	eP	01 46.50	1.0
			eS	02 30.60	
KUSJ	4.50	88	eP	01 55.80	-1.0
			eS	02 48.60	
OFUJ	4.67	149	P	01 58.70	-0.2
			S	02 51.50	
NIIJ	5.89	177	P	02 14.60	0.5
MTMJ	6.56	185	P	02 23.50	0.8
MAT	6.58	182	eP	02 23.00	0.1
	0.8s	25.37nm		4.3mb	X
KAKJ	7.02	169	P	02 25.90	-2.6X
			eS	03 43.10	
CHJJ	7.08	177	P	02 28.10	-1.1
			S	03 51.90	
IIDJ	7.65	184	P	02 36.40	-0.2
FBA	45.25	35	eP	08 42.00	0.2
INK	50.04	29	eP	09 19.00	0.3
NB2	67.74	335	P	11 19.80	-0.5
	0.5s	0.50nm		3.5mb	
KVN	72.79	52	eP	11 51.30	0.2
S.D. = 0.8 on 12 of 13 obs.					

OCT 14, 1989 08h 05m 15.18± 0.45s
34.361 N ± 7.1km 108.212 W ± 3.8km
DEPTH = 5.0km (geophysicist)
NEW MEXICO (496)
ML 3.0 (NEIS). MD 3.4 (SNM).

BMNM	0.79	96	P	05 30.70	-0.5
LAZ	0.89	87	P	05 32.20	-0.6
SBM	0.94	114	P	05 33.80	0.0
SNM	1.09	105	P	05 36.40	0.2
SMNM	1.15	120	P	05 37.80	0.6
CRNM	1.29	108	P	05 40.40	0.7
LPM	1.31	92	P	05 40.00	0.0
BNM	1.33	99	P	05 40.80	0.4
ALQ	1.56	68	iPc	05 44.20	0.4
			e(S)	06 03.00	
FLAG	2.94	287	P	06 05.00	1.4
WMZ	3.47	284	P	06 20.00	8.8X
CLN4	4.03	119	P	06 21.00	2.0X
CLN6	4.06	116	P	06 22.00	2.6X
CLN7	4.16	117	P	06 23.00	2.1X
CLNB	4.19	119	P	06 23.50	2.3X
MSU	5.23	324	eP	06 35.80	-0.4
GLA	5.67	259	eP	06 41.00	-1.1
GOL	5.79	22	eP	06 44.00	-0.1
DAU	6.51	339	e(P)	06 55.00	0.7
CLC	7.83	283	eP	07 42.00	29.5X
			e	09 25.00	
MEO	7.95	84	e(P)	07 13.00	-1.2
TNP	8.17	300	eP	07 17.50	0.0
KVN	9.21	303	eP	07 31.50	-0.4
S.D. = 0.7 on 17 of 23 obs.					

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* OCT 14, 1989 08h 46m 11.18± 1.53s
23.547 S ±12.8km 179.801 E ±10.2km
DEPTH = 619.1 ± 18.8 km
4.9mb (7 obs.)
SOUTH OF FIJI ISLANDS (171)

DZM	12.41	274	iPc	48 55.10	1.2
KRP	14.79	193	iP	49 17.00	0.3
PGZ	17.28	189	P	49 38.60	-1.8
COO	25.78	248	eP	50 58.00	0.8
CAN	29.16	239	iPc	51 26.70	0.2
BWA	29.40	241	eP	51 26.40	-2.1
CMS	31.06	248	iPc	51 42.90	0.5
CTA	31.29	270	iPc	51 45.00	0.5
	0.5s	82.39nm		5.6mb	
TOO	32.49	236	iPd	51 55.10	0.7
ASPA	41.92	260	iPc	53 11.60	0.4
	0.5s	58.00nm		5.3mb	
			eS	58 51.40	
WB5	42.24	266	iPc	53 13.70	-0.1
			eS	58 55.50	
FORR	46.22	249	iPc	53 44.00	-0.3
	0.5s	136.00nm		5.7mb	
MTN	47.25	274	iPd	53 51.70	-0.6
WARB	48.03	255	eP	53 58.00	-0.1
	0.3s	10.00nm		4.8mb	
KNA	48.48	269	iPc	54 01.60	0.1
COOL	52.17	248	eP	54 27.00	-1.3
KLB	54.95	247	eP	54 47.00	-0.8
BAL	55.99	248	eP	54 55.00	0.0
MUN	56.20	246	eP	54 56.00	-0.4
MRWA	56.84	250	iPc	55 00.80	0.1
	0.3s	8.00nm		4.4mb	
NANU	58.68	257	iPc	55 14.10	0.9
MAW	78.02	200	eP	57 09.00	1.1
FRI	82.88	45	eP	57 33.50	0.2
CMB	83.07	43	eP	57 34.60	0.3
WDC	83.31	40	eP	57 35.90	0.6
MIN	83.72	41	e(P)	57 37.60	0.0
KVN	85.12	44	eP	57 44.40	0.0
TNP	85.12	45	eP	57 44.50	0.0
SNA	86.39	179	iPd	57 50.40	0.6
	0.8s	11.94nm		4.7mb	
ALQ	90.88	52	eP	58 11.00	-0.4
	1.0s	3.25nm		4.3mb	
SOD	133.09	346	ePKP	04 16.00	-2.3
SUF	137.01	343	ePKP	04 26.30	0.4
NUR	139.22	341	ePKP	04 29.00	-0.9
NB2	141.71	351	PKP	04 31.40	-3.0
	0.7s	3.20nm			
HFS	142.17	349	ePKP	04 31.60	-3.5X
	0.3s	7.80nm			
EKA	148.18	3	PKP	04 50.00	4.8X
	1.0s	11.90nm			
KRA	149.21	334	ePKP	04 53.90	7.0X
KSP	149.89	339	iPKPc	04 55.30	7.4X
	1.0s	33.00nm			
			e	07 03.50	
CLL	150.46	343	iPKP	04 56.30	7.5X
	0.9s	30.00nm			
			e	07 05.00	
BRG	150.59	342	iPKPc	04 56.80	7.8X
	1.2s	24.00nm			
			i	07 05.00	
PRU	151.20	340	ePKP	04 58.50	8.6X
			e	07 06.80	
BCAO	153.77	226	iPKPd	04 56.20	1.6
	0.5s	5.00nm			
			id	05 21.00	
KIC	162.36	165	PKP	05 06.10	1.6
TIC	162.57	164	PKP	05 06.40	1.7
S.D. = 1.1 on 37 of 44 obs.					

% OCT 14, 1989 09h 03m 47.84± 0.75s
38.824 N ± 6.1km 27.575 E ±10.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.49	210	iPg	03 57.90	0.1
			iSg	04 06.90	
DST	1.13	46	iP	04 09.60	0.5
EDC	1.54	8	ePn	04 15.50	0.2
BNT	1.55	10	ePn	04 15.00	-0.6
KHL	1.61	108	ePn	04 16.00	-0.4
YER	1.78	161	ePn	04 19.00	0.1
YLV	2.23	38	ePn	04 30.00	4.6X
S.D. = 0.5 on 6 of 7 obs.					

? OCT 14, 1989 09h 31m 35.05± 4.95s
31.695 S ±31.8km 69.851 W ±16.1km
DEPTH = 132.8 ± 47.6 km
SAN JUAN PROVINCE, ARGENTINA (137)

ZON	1.01	82	iPd	31 58.70	0.0
			eS	32 16.00	
JACH	1.17	212	iPc	32 00.00	-0.2
			iS	32 18.00	
PEL	1.61	206	iPd	32 04.50	-0.5
			iS	32 26.60	
ROCH	1.61	217	iPd	32 04.60	-0.6
			iS	32 26.00	
FCH	1.67	193	iPd	32 06.90	0.9
			iS	32 29.90	
SAN	1.88	201	eP	32 08.00	-0.2
			iS	32 32.20	
PCH	2.00	196	iPd	32 10.00	0.3
			iS	32 35.70	
TACH	2.16	205	iPd	32 11.00	-0.6
			iS	32 37.00	
LCCH	2.29	219	eP	32 15.00	1.8
			iS	32 38.70	
CHCH	2.33	197	eP	32 14.50	0.7
			iS	32 43.50	
LNV	2.61	210	iPc	32 15.80	-1.4
			iS	32 45.70	
RFA	3.28	160	ePc	32 25.90	-0.2
S.D. = 1.0 on 12 of 12 obs.					

? OCT 14, 1989 10h 01m 29.87± 5.06s
2.649 S ±52.9km 129.876 E ±18.7km
DEPTH = 33.0km (normal)
CERAM (272)

AAI	1.97	238	ePd	02 01.60	0.0
			eS	02 28.80	
MTN	10.21	173	eP	03 58.00	0.8
			e	05 34.00	
WB5	17.68	166	eP	05 34.30	-1.1
			eS	08 43.00	
QIS	20.17	153	iPc	06 05.10	0.6
ASPA	21.25	170	iPc	06 15.40	-0.3
	0.7s	69.00nm		5.2mb	
			eS	10 15.10	
S.D. = 1.0 on 5 of 5 obs.					

? OCT 14, 1989 10h 24m 40.54±10.54s

14d 10h

32.127 S ±75.3km 71.654 W ±42.8km
DEPTH = 33.0km (normal)
NEAR COAST OF CENTRAL CHILE (135)

ROCH	1.00	147	iP	24	57.50	-1.0
			iS	25	10.40	
JACH	1.05	122	iPd	24	59.10	0.0
			iS	25	15.00	
PEL	1.30	141	iPd	25	02.50	-0.1
			iS	25	19.60	
LCCH	1.35	177	iPd	25	03.00	-0.2
			iS	25	17.60	
TACH	1.64	159	iPd	25	07.10	-0.3
			iS	25	28.50	
FCH	1.66	137	iPc	25	08.40	0.4
			iS	25	29.50	
PCH	1.77	148	ePd	25	09.80	0.4
			iS	25	32.20	
LNV	1.83	174	iPd	25	10.40	0.2
			iS	25	31.50	
CHCH	1.99	155	iP	25	13.30	0.8
			iS	25	37.70	

S.D. = 0.6 an 9 af 9 abs.

OCT 14, 1989 10h 25m 30.53± 0.33s
16.308 N ± 5.0km 86.839 W ± 5.5km
DEPTH = 10.0km (geophysicist)
4.9mb (12 obs.) 3.6Msz (1 abs.)
CARIBBEAN SEA (94)

TPX	5.41	256	iP	26	53.00	-0.2
			(S)	28	12.00	
SCX	5.57	275	iP	26	55.93	0.4
SRA	6.61	159	eP	27	08.00	-2.3
SJS	6.89	156	eP	27	11.00	-3.2
LIO	7.28	149	eP	27	22.00	2.5
OXX	9.50	276	iP	27	49.73	-1.0
			iS	29	30.00	
LVVM	9.76	292	iP	27	47.60	-6.4X
UPA	10.19	135	iPc	27	59.40	-0.5
	0.8s		38.81nm			5.9mb
Z	18s		1.10um			4.2Msz
IISM	10.39	286	iP	28	00.00	-2.7
IIT	11.26	286	(P)	28	16.50	1.6
PPM	11.56	285	eP	28	18.97	-0.3
SGS	17.76	18	P	29	40.00	0.6
PRM	18.15	12	P	29	43.00	-1.4
JSC	18.59	15	P	29	47.00	-2.7
PWLA	18.63	357	P	29	51.00	0.8
RSCP	19.25	3	P	29	57.00	-0.8
TKL	19.46	8	P	30	00.00	-0.4
TUL	21.09	339	eP	30	16.90	-0.6
	1.3s		55.80nm			4.8mb
Z	21s		0.29um			3.6Msz
			e	30	20.00	
			e	30	30.00	
			e	30	45.10	
			e	34	04.00	
			LR	36	00.00	
LNO	21.09	339	e(P)	30	16.40	-1.0
			e	30	19.50	
			e	30	29.50	
			e	34	10.80	
SIO	21.12	338	eP	30	11.70	-6.1X
MEO	21.20	332	iPd	30	18.30	-0.3
BLA	21.58	14	P	30	22.50	0.0
FVM	21.82	352	P	30	15.00	-9.9X
ALQ	25.55	320	eP	31	01.90	0.5
	1.0s		29.50nm			4.9mb
GOL	28.36	329	P	31	27.30	0.2
	0.9s		20.83nm			4.9mb
GLA	30.27	309	P	31	44.40	0.3
MSU	31.36	320	P	31	54.00	0.1
TPC	31.66	310	eP	31	57.00	0.7
			e	32	09.00	
PLM	31.94	308	eP	31	53.00	-6.0X
CLC	33.56	311	eP	32	21.00	8.1X
ISA	34.13	310	eP	32	19.00	1.1
TNP	34.40	315	P	32	21.00	0.7
	0.8s		6.37nm			4.6mb
KVN	35.49	316	P	32	30.00	0.4
FRI	35.61	312	eP	32	43.80	13.4X
LRM	36.39	329	ePd	32	38.00	0.8
CMB	36.56	313	eP	32	40.20	1.7
ZOBO	37.27	149	P	32	46.50	1.3
Z	24s		0.18um			3.8MszX
			LR	42	10.00	

CNCB	37.80	150	P	32	51.20	1.6
CCH	39.20	148	P	33	01.30	0.2
FFC	40.09	346	eP	33	07.00	-0.7
	0.7s		7.00nm			4.4mb
SCH	41.44	17	eP	33	19.00	0.2
LON	41.95	324	P	33	23.80	0.6
EDM	42.30	336	ePc	33	24.70	-1.2
INK	59.74	342	eP	35	31.00	-6.5X
MBC	62.31	352	ePc	35	54.40	-0.4
	0.9s		19.00nm			5.3mb
EKA	73.18	36	P	37	02.00	-1.2
	1.0s		13.10nm			5.0mb
NB2	79.73	29	P	37	41.30	1.3
	0.8s		5.20nm			4.6mb
KIC	80.68	86	P	37	47.10	1.2
HFS	81.16	30	eP	37	47.00	-0.5
	0.5s		2.00nm			4.4mb
KEV	82.73	19	eP	37	57.00	1.4
CLL	83.44	38	eP	38	10.00	10.5X
SOD	83.72	21	iP	38	01.30	0.6
KHC	84.47	40	P	38	05.70	0.8
SUF	85.71	25	eP	38	11.90	1.2
	0.8s		15.30nm			5.2mb
NUR	86.08	27	iP	38	13.50	0.9
	0.8s		16.10nm			5.2mb
			i	38	25.20	
WB5	140.74	258	ePKP	45	02.90	-0.3
BDT	146.17	350	ePKP	45	11.20	-1.3
GBA	146.46	28	PKP	45	12.00	-1.0

S.D. = 1.2 an 50 af 58 abs.

OCT 14, 1989 12h 51m 00.24± 0.62s
41.854 N ± 8.2km 20.078 E ± 5.2km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
ML 2.2 (TTG), 2.3 (SKO).

PHP	0.32	121	iPgc	51	05.70	-1.1
LACI	0.35	232	ePg	51	08.50	1.0
SDA	0.46	291	iPgd	51	10.00	0.4
TIR	0.53	197	ePg	51	15.00	4.0X
ULC	0.63	280	ePg	51	12.30	-0.6
			eSg	51	22.00	
TTG	0.84	314	ePg	51	16.00	-0.4
			eSg	51	29.00	
OHR	0.92	144	ePg	51	17.50	-0.3
			eSg	51	30.50	
SKO	1.02	83	ePn	51	21.00	1.4
			iSn	51	33.50	
BDV	1.03	295	ePg	51	19.30	-0.3
			eSg	51	36.00	
HCY	1.32	297	ePg	51	24.50	-0.1
			eSg	51	44.00	

S.D. = 0.9 on 9 af 10 abs.

OCT 14, 1989 12h 57m 19.05± 1.21s
34.987 N ±10.9km 138.502 E ± 9.3km
DEPTH = 10.0km (geophysicist)
NEAR S. COAST OF HONSHU, JAPAN (230)
MG 3.9 (JMA). Felt (II JMA) at Shizuoka.

SHZ	0.08	260	iPd	57	21.40	-0.1
			iS	57	23.60	
IIDJ	0.69	316	iPd	57	31.60	-1.1
			S	57	40.80	
CHJJ	1.13	21	iPd	57	39.50	-0.8
			S	57	54.50	
MAT	1.57	351	iPc	57	46.50	-0.5
			eS	58	08.00	
MTMJ	1.69	341	P	57	49.80	0.9
KAKJ	1.83	48	P	57	50.40	-0.3
			S	58	15.40	
TSRJ	2.13	286	P	57	56.10	0.9
NIIJ	2.28	10	P	57	58.70	1.3
WKYJ	2.52	253	P	58	00.00	-0.7
YAMJ	3.41	21	eP	58	18.10	4.7X
TKSJ	3.81	256	eP	58	19.60	0.5
YONJ	4.14	274	eP	58	23.40	-0.2

S.D. = 0.9 an 11 af 12 abs.

OCT 14, 1989 13h 49m 35.77± 0.52s
2.725 N ± 8.6km 98.933 E ± 8.6km
DEPTH = 163.8 ± 5.2 km
4.6mb (9 obs.)
NORTHERN SUMATERA (706)

PSI	0.03	197	iPd	49	58.40	-0.6
			iS	50	07.00	
			e	53	40.00	
TSI	0.85	334	ePc	50	05.00	4.0X
			eS	50	33.50	
KLM	2.73	82	eP	50	21.50	0.6
BSI	4.55	307	iPd	50	45.00	0.7
			iS	51	36.00	
SNG	4.73	21	ePn	50	46.50	-0.1
KSI	7.30	150	ePc	51	19.50	-1.3
			eS	52	44.50	
			e	53	50.00	
TRT	17.15	127	iPc	53	28.40	1.2
GBA	23.84	298	P	54	36.50	1.2
WB5	41.41	124	eP	57	00.20	-7.6X
			e	57	07.00	
ASPA	42.97	130	iPc	57	21.00	0.5
	0.4s		8.00nm			4.7mb
SUF	79.74	333	iP	01	25.90	-0.6
	0.7s		3.90nm			4.2mb
NUR	79.93	331	eP	01	26.70	-0.8
SOD	80.73	338	iP	01	31.40	-0.3
KEV	81.25	340	eP	01	33.00	-1.4
HFS	85.27	330	eP	01	54.80	-0.2
	0.4s		5.20nm			4.7mb
NB2	86.53	331	P	02	01.30	0.1
	0.7s		1.30nm			3.9mb
LPG	89.61	315	eP	02	16.60	0.1
	0.8s		7.20nm			4.7mb
HAU	89.73	318	eP	02	16.60	-0.1
	0.6s		3.60nm			4.6mb
LBF	91.41	317	eP	02	24.60	0.1
	0.8s		4.00nm			4.6mb
LOR	91.47	317	eP	02	24.80	0.1
	0.6s		3.60nm			4.7mb
SMF	91.54	317	eP	02	25.10	0.1
	0.6s		2.70nm			4.5mb
PPD	145.31	234	ePKP	08	57.10	0.7

S.D. = 0.8 on 20 af 22 abs.

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* OCT 14, 1989 16h 03m 44.57± 0.85s
35.898 N ± 8.0km 25.513 E ± 8.5km
DEPTH = 10.0km (geophysicist)
CRETE (370)
MD 3.4 (ATH).

NPS	0.64	173	ePg	03	56.90	-0.5
APE	1.17	1	ePb	04	06.70	0.3
VAM	1.18	246	ePg	04	07.50	1.0
KAP	1.40	104	ePb	04	10.30	0.2
SMG	2.10	30	ePg	04	24.70	4.6X
VLI	2.24	292	ePn	04	21.20	-1.0

S.D. = 1.1 an 5 af 6 abs.

OCT 14, 1989 16h 23m 42.18± 0.28s
9.390 S ± 4.6km 156.529 E ± 5.1km
DEPTH = 20.6km (5 depth phases)
5.0mb (4 obs.) 4.1Msz (1 abs.)
SOLOMON ISLANDS (193)

PAA	3.24	341	eP	24	52.00	19.0X
			eS	25	35.00	
SVO	3.25	86	eP	24	32.00	-1.1
HNR	3.37	91	ePc	24	33.00	-1.8
			eS	25	28.00	
CTA	14.55	222	iPc	27	08.00	-0.9
	1.6s		66.67nm			4.9mb
DZM	15.80	144	iPd	27	27.00	1.7
JAY	17.15	292	ePc	27	41.70	-0.7
BRS	18.25	191	eP	27	55.50	-0.6
RMQ	18.53	202	eP	27	59.00	-0.5
OIS	19.74	234	iPc	28	13.40	-0.5
			e	28	19.00	22km
WB5	23.81	242	eP	28	55.20	0.4
			i	29	01.20	21km
CMS	24.13	203	eP	28	58.00	0.3
MTN	25.15	260	eP	29	08.00	0.3
ASPA	25.87	234	iPc	29	13.30	-1.1
	1.3s		36.00nm			4.9mb
Z	22s		0.58um			4.1Msz
			eS	33	55.30	
			LR	38	29.80	
BWA	26.00	195	eP	29	16.20	0.6
			e	29	21.70	20km
MSZ	36.51	166	P	30	59.80	11.9X
KAKJ	47.90	342	P	32	20.90	0.0
IIDJ	47.97	339	P	32	22.40	0.8

```
CHJJ   48.12 341 P      32 22.50  -0.2
MAT    48.83 340 eP     32 27.00  -1.1
       1.0s     15.00nm          5.0mb
MTMJ   49.00 340 P      32 29.10  -0.5
CN2    59.99 334 Pc     33 49.80   0.2
GYA    60.11 308 eP     33 51.00   0.1
BJI    61.74 326 eP     34 01.00  -0.6
XAN    62.47 316 P      34 06.00  -0.7
KMI    62.61 305 Pc     34 0B.50   0.5
                e       34 09.00   2kmX
CHG    63.31 296 eP     34 12.20  -0.2
       1.1s     13.29nm          5.0mb
CD2    64.52 311 P      34 19.20  -1.0
HHC    64.91 324 eP     34 23.20   0.6
BTO    65.67 323 P      34 28.40   0.9
LZH    67.08 316 P      34 35.50  -1.2
       1.5s      0.04nm          2.3mb X
                epP     34 42.50  22km
                ePP     34 53.00
GTA    71.51 317 eP     35 04.60   0.7
HYB    81.49 289 eP     36 00.40   0.3
WMQ    81.60 317 P      36 01.50   1.3
GBA    81.74 285 P      36 02.00   0.7
FBA    84.79  21 eP     36 16.30   0.3
                e       36 22.00  18km
NDI    85.22 300 eP     36 18.50  -0.4
KVN    92.27  51 eP     36 54.20   1.7
ZOBO  128.98 120 PKP    42 53.00   1.1
CCH   130.14 122 (PKP)  42 30.00 -23.7X
BAO   145.24 135 ePKP   43 21.50   0.3
     S.D. = 0.9  on  37 of  40 obs.
-------------------------------------
& OCT 14, 1989  16h 47m 11.59s
   60.092 N          152.631 W
   DEPTH = 105.6km
 SOUTHERN ALASKA                (  2)
      <AGS-P>.

ILIM   0.17 266 iP      47 25.87   0.8
                eS      47 37.43
RED    0.34 348 iP      47 26.70  -0.6
                eS      47 38.63
RDT    0.50  13 iP      47 27.66  -0.6
OPT    0.53 215 iP      47 27.62  -0.9
                eS      47 40.44
NNL    0.67  94 iP      47 29.65   0.1
XLV    0.79 144 iP      47 29.54  -1.0
                eS      47 43.86
AUL    0.82 210 eP      47 30.22  -0.7
AUE    0.83 207 eP      47 29.99  -0.9
AUW    0.84 211 iP      47 30.24  -0.8
CNPM   0.91 128 iP      47 30.99  -0.8
                iS      47 46.28
BRLK   0.94 110 iP      47 31.32  -0.8
                eS      47 46.62
CKL    1.12   7 iP      47 33.72  -0.4
                eS      47 51.00
SPU    1.13  14 iP      47 33.76  -0.4
                iS      47 50.81
BGL    1.18   6 iP      47 34.61  -0.2
CRP    1.20  11 iP      47 34.90  -0.3
                iS      47 52.89
CGLM   1.26  14 iP      47 35.39  -0.3
SLKM   1.27  70 eP      47 34.64  -1.2
                iS      47 52.66
CDD    1.28 204 eP      47 34.46  -1.4
                eS      47 51.96
NCG    1.34  10 eP      47 36.21  -0.5
SHU    1.48 174 iP      47 36.69  -1.5
                eS      47 56.49
SEW    1.59  88 eP      47 38.29  -1.4
SUA    1.66  33 eP      47 40.29  -0.3
                eS      48 02.19
SVW    1.79 306 iP      47 41.00  -1.3
PMS    1.90  51 iP      47 42.84  -0.8
                eS      48 05.81
SKT    1.97  15 iP      47 43.59  -0.9
                eS      48 09.15
PWA    2.06  40 eP      47 46.65   1.0
KDC    2.35 178 iP      47 46.44  -3.0
                eS      48 14.12
FID    3.12  75 iP      47 56.22  -3.6
TTA    3.28 332 eP      48 00.24  -1.8
KLU    3.58  64 iP      48 03.58  -2.6
      30 obs. associated
-------------------------------------
& OCT 14, 1989  17h 09m 03.10s
   48.465 N          123.311 W
   DEPTH =  19.1km
 VANCOUVER ISLAND REGION          ( 25)
      <PGC>. ML 2.8 (PGC). Felt at
      Victoria and on southern
      Vancouver Island from Sidney to
      Sooke.

VGZ    0.05 190 iPd     09 06.23  -0.4
                Sg      09 08.60
PGC    0.21 333 iPd     09 07.99  -0.3
SNB    0.32  17 iPd     09 09.93  -0.2
MCW    0.38  56 iPc     09 10.31  -0.9
STW    0.40 217 iPc     09 10.74  -0.6
                eS      09 16.63
BLN    0.51 154 iPc     09 12.07  -1.2
OHW    0.54 105 eP      09 12.24  -1.5
                eS      09 19.86
OBC    0.67 230 eP      09 15.28  -0.7
                eS      09 24.91
OSD    0.70 202 iPc     09 15.81  -0.8
PF8    0.76 279 iPc     09 16.27  -1.2
OTR    0.79 241 iPc     09 17.43  -0.6
CMW    0.79  93 eP      09 16.67  -1.5
                eS      09 28.80
PGW    0.80 143 iPd     09 16.65  -1.5
HDW    0.84 168 iPd     09 17.17  -1.7
                eS      09 28.23
OFK    0.87 234 eP      09 19.09  -0.3
OSP    0.87 259 eP      09 18.35  -1.0
NAB    0.89 329 iPd     09 18.38  -1.3
OOW    0.94 219 eP      09 20.64   0.1
BI8    0.94   0 iPd     09 19.37  -1.2
                Sg      09 31.70
HNB    0.94  31 iPc     09 19.34  -1.3
                Sg      09 31.40
JCW    0.96 106 eP      09 19.23  -1.7
                eS      09 32.68
GMW    0.98 159 iPd     09 19.37  -2.0
MBW    0.99  71 eP      09 20.42  -1.1
BLH    1.06 126 eP      09 20.86  -1.8
SMW    1.15 181 eP      09 23.68  -0.4
SPW    1.16 141 eP      09 23.27  -0.9
RPW    1.20  90 eP      09 23.37  -1.5
OBH    1.20 198 eP      09 24.57  -0.3
HTW    1.23 122 eP      09 23.46  -1.8
MEW    1.34 160 eP      09 26.25  -0.5
RMW    1.43 134 eP      09 26.52  -1.6
CPW    1.50 175 eP      09 28.79  -0.3
GHW    1.59 153 eP      09 29.22  -1.1
GSM    1.62 140 eP      09 29.77  -1.3
BMW    1.99 178 eP      09 35.70  -0.6
LON    1.99 149 eP      09 35.40  -0.9
DPW    3.47  98 eP      09 55.40  -1.9
NEW    4.13  90 P       10 10.00   3.3
       38 obs. associated
-------------------------------------
   OCT  14, 1989  17h 55m 04.48± 0.32s
    9.405 S ± 5.0km  156.311 E ± 7.4km
   DEPTH =  33.0km  (normal)
   5.1mb (  6 obs.)  4.8Msz (  8 obs.)
 SOLOMON ISLANDS                 (193)
      CENTROID, MOMENT TENSOR    (HRV)
      Data Used: GDSN
      L.P.B.: 17S, 39C
      Centroid Location:
      Origin Time        17:55: 5.9 0.4
      Lat  9.67S 0.04 Lon 156.34E 0.03
      Dep  30.5 3.3 Half-duration  2.4
      Moment Tensor;   Scale 10**17 Nm
        Mrr= 0.43 0.05  Mtt=-1.39 0.06
        Mff= 0.96 0.08  Mrt=-0.54 0.12
        Mrf= 0.40 0.15  Mtf= 2.19 0.06
       Principal Axes:
        T  Val=  2.27  Plg= 2  Azm=301
        N         0.56       78      200
        P        -2.83       12       31
      Best Double Couple:Mo=2.5*10**17
       NP1:Strike= 75 Dip=80 Slip=  -7
       NP2:       166      83      -170

PAA    3.19 345 eP      56 12.00  18.5X
                eS      56 52.00
SVO    3.47  86 eP      55 54.00  -3.5
HNR    3.59  91 eP+     55 52.00  -7.2X
                eS      56 16.00
RAB    6.61 321 eP      56 40.00  -1.9

                iS      58 18.00
CTA   14.39 221 Pd-     58 26.20  -1.7
       1.5s    83.33nm          5.1mb
    Z  19s     8.47um
                iS      01 45.00
DZM   15.92 143 iPc     58 45.10  -2.7
JAY   16.96 293 ePd     59 00.50  -0.5
BRS   18.20 190 iPc+    59 15.50  -0.9
                i       02 34.00
                e(S)    02 42.00
RMQ   18.44 202 eP      59 18.00  -1.3
QIS   19.56 234 iPd     59 32.20  -0.5
COO   21.47 190 eP      59 51.00  -1.4
WB5   23.62 241 eP      00 13.80   0.2
CMS   24.04 202 eP      00 17.00  -0.5
                e       00 26.00
GUA   25.45 333 eP      00 33.50   2.3
       0.8s    65.67nm          5.3mb
GUMO  25.51 333 eP      00 33.50   1.7
    Z  22s     0.87um          4.2Msz
PJG   25.51 333 eP      00 32.80   1.0
ASPA  25.68 234 eP      00 35.10   1.7
       1.4s    54.00nm          5.0mb
    Z  22s     5.01um          5.0MszX
                eS      05 05.90
                LR      09 37.90
BWA   25.93 195 eP      00 35.70   0.1
CNB   26.56 193 iPc     00 44.00   2.6
CAN   26.65 193 eP      00 43.30   1.1
WARB  32.69 235 eP      01 35.00  -1.1
KRP   33.26 152 P       01 41.00   0.1
DAV   34.73 297 eP      01 48.00  -5.9X
MSZ   36.54 166 eP      02 11.50   2.6
QCP   42.32 304 eP      02 54.00  -3.2X
BAG   43.68 306 eP      03 07.60  -0.9
                eS      09 42.00
KAKJ  47.84 342 P       03 41.50   0.4
IIDJ  47.90 340 P       03 38.70  -3.0X
CHJJ  48.06 341 P       03 42.40  -0.4
MAT   48.77 341 eP      03 47.00  -1.3
       1.0s    19.00nm          5.1mb
                eS      10 49.00
MTMJ  48.94 340 P       03 49.50  -0.2
NIIJ  49.16 342 P       03 50.70  -0.5
YAMJ  49.71 343 eP      03 55.20  -0.3
SSE   52.49 322 P       04 16.50  -0.2
    Z  20s     0.90um          4.8Msz
    E  14s     0.40um
                S       11 45.00
                sS      11 50.00
NJ2   54.59 321 Pc      04 29.50  -2.6
    Z  22s     1.30um          5.0Msz
WHN   56.57 316 eP      04 45.00  -1.5
    Z  22s     0.92um          4.8Msz
                eS      12 40.00
SNG   57.88 285 eP      04 47.20  -8.8X
TIA   58.46 323 eP      04 58.80  -0.9
    Z  24s     1.20um          4.9MszX
    N  25s     0.90um
                S       13 04.00
MDJ   58.95 338 eP      05 03.60   0.7
    Z  15s     0.50um          4.8MszX
                S       13 08.00
SNY   59.17 332 eP      05 03.80  -0.7
    Z  21s     0.86um          4.9Msz
    N  26s     1.30um
    E  23s     0.88um
CN2   59.91 335 eP      05 09.80   0.2
    Z  22s     0.60um          4.7Msz
                pP      05 21.00  38kmX
                eS      13 20.00
GYA   59.95 308 eP      05 10.00  -0.3
BJI   61.63 326 (P)     05 21.50   0.1
    Z  24s     0.64um          4.7MszX
                eS      13 44.00
TIY   62.28 322 eP      05 27.00   1.1
    N  11s     0.40um
                S       13 54.00
                ScS     15 13.00
XAN   62.34 316 P       05 24.00  -2.3
KMI   62.44 305 Pd      05 28.50   1.1
CHG   63.13 297 eP      05 31.00  -0.7
CD2   64.36 311 eP      05 38.20  -1.5
HHC   64.79 324 eP      05 42.00  -0.4
    Z  26s     1.70um          5.1MszX
BTO   65.55 323 eP      05 46.50  -0.7
    N  15s     0.40um
```

14d 18h

```
      E  15s      0.30um                          |
                   pP     05 53.00   21kmX        |
                   eS     14 31.00                |
LZH     66.94 316 eP      05 56.00   -0.3          |
      Z  22s      1.10um          5.0Msz          |
                   i      06 19.50                |
                   sP     06 24.50                |
                   eS     14 36.00                |
                   eScS   15 39.00                |
                   SS     19 08.00                |
SBA     68.64 178 (P)     06 08.00    2.0          |
GTA     71.38 317 eP      06 23.40   -0.2          |
      Z  22s      0.60um          4.8Msz          |
SHL     71.64 301 iP      06 26.40    1.0          |
                   eS     15 47.60                |
HYB     81.29 289 eP      07 19.00   -0.5          |
WMO     81.47 317 P       07 22.00    2.0          |
      Z  28s      0.80um          4.9MszX         |
GBA     81.54 285 P       07 22.00    1.2          |
PMR     82.47  23 eP      07 25.90    1.2          |
        1.1s     21.90nm          5.1mb           |
MAW     82.69 203 eP      07 26.00    0.2          |
IMA     83.66  18 eP      07 32.00    1.0          |
FBA     84.88  21 eP      07 35.00   -1.9          |
NDI     85.04 300 eP      07 39.00    0.5          |
KSH     88.54 310 eP      08 01.00    5.5X         |
CMB     90.50  52 eP      08 05.30    0.7          |
FRI     90.83  53 eP      08 06.40    0.4          |
INK     91.50  20 eP      08 10.00    1.5          |
KVN     92.45  51 eP      08 14.00    0.2          |
MBC     97.72  14 eP      08 38.00    1.2          |
        1.0s     4.00nm          4.9mb           |
CNCB   129.04 121 PKP     14 14.00    1.6          |
ZOBO   129.16 120 PKP     14 13.90    1.3          |
        1.0s     3.75nm                          |
      Z  24s      0.29um          4.9MszX         |
                   LR     56 24.00                |
BCAO   137.82 266 ePKPc   14 28.30   -0.2          |
        0.4s     3.00nm                          |
TOL    144.96 333 ePKP    14 41.50    1.2          |
BAO    145.38 136 ePKP    14 40.50   -1.3          |
ASMO   146.84 330 ePKP    14 51.50    7.9X         |
AAPN   147.07 331 ePKP    14 45.50    1.5          |
APHE   147.13 330 ePKP    14 51.00    6.9X         |
ATEJ   147.33 330 ePKP    14 48.40    3.9X         |
PDCR   153.35 145 ePKP    14 44.90   -9.0X         |
     S.D. = 1.3  on  67 of  78 obs.                |
--------------------------------------------------|
*  OCT  14, 1989  18h 06m 52.72± 2.99s            |
   36.535 N ±17.4km  141.785 E ±24.9km            |
   DEPTH =  33.0km  (normal)                      |
 NEAR EAST COAST OF HONSHU, JAPAN(228)            |
                                                  |
KAKJ    1.34 256 iPd      07 15.20   -0.1          |
                   S      07 29.90                |
YAMJ    2.15 320 P        07 27.00    0.1          |
                   S      07 51.10                |
CHJJ    2.31 259 iPd      07 28.40   -0.8          |
                   S      07 52.50                |
NIIJ    2.34 288 P        07 29.60   -0.1          |
OFUJ    2.54 358 P        07 32.50    0.0          |
                   S      07 59.90                |
MAT     2.88 271 iPd      07 37.40    0.1          |
                   eS     08 09.00                |
MTMJ    3.20 272 iPd      07 42.20    0.2          |
IIDJ    3.31 253 P        07 44.10    0.6          |
     S.D. = 0.4  on   8 of   8 obs.                |
--------------------------------------------------|
?  OCT  14, 1989  20h 38m 38.96± 4.64s            |
   24.102 N ± 9.3km  122.510 E ±37.8km            |
   DEPTH =  10.0km  (geophysicist)                |
 TAIWAN REGION                        (243)       |
                                                  |
TWC     0.79 310 iPd      38 54.10   -0.1          |
                   eS     39 04.50                |
TWD     0.84 269 iPc      38 55.20    0.1          |
TWZ     1.30 320 ePc      39 03.20    0.1          |
TWQ     1.54 277 iPd      39 06.50    0.0          |
TWK     2.03 246 ePc      39 13.40   -0.3          |
TWM1    2.30 237 ePd      39 17.70    0.2          |
     S.D. = 0.2  on   6 of   6 obs.                |
--------------------------------------------------|
   OCT  14, 1989  20h 43m 45.81± 0.17s            |
   54.691 N ± 4.6km  159.500 E ± 3.4km            |
   DEPTH = 142.1km  (  9 depth phases)            |
   4.7mb ( 27 obs.)                               |
 NEAR EAST COAST OF KAMCHATKA         (218)       |
```

```
KUSJ    15.10 226 P       47 07.10   -5.6X        |
                   S      49 41.40                |
HOOJ    16.29 228 eP      47 23.10   -4.3X        |
                   S      50 12.50                |
SAP     16.62 233 eP      47 33.00    1.5          |
MRRJ    17.24 232 eP      47 37.90   -1.1          |
                   S      50 39.00                |
OFUJ    19.72 225 eP      48 06.00   -0.1          |
YAMJ    21.16 227 eP      48 24.20    3.5X         |
MDJ     21.67 255 eP      48 25.50   -0.1          |
                   S      52 12.00                |
NIIJ    22.39 227 P       48 33.50    0.9          |
KAKJ    22.79 224 P       48 37.10    0.6          |
MAT     23.32 228 iPc     48 42.30    0.6          |
        0.8s     70.90nm          5.2mb           |
                   eS     52 40.00                |
CHJJ    23.41 226 P       48 44.20    1.7          |
MTMJ    23.46 228 P       48 44.70    1.6          |
TTA     24.01  52 iPd     48 49.30    1.1          |
SVW     24.28  56 eP      48 51.90    1.1          |
SVW     24.28  56 eP      48 54.50    3.7X         |
IIDJ    24.35 227 P       48 51.70    0.1          |
CN2     24.51 258 Pc      48 51.80   -1.2          |
                   pP     49 23.50  157kmX         |
                   sP     49 38.00                |
IMA     25.12  44 eP      49 07.90    9.3X         |
IMA     25.12  44 eP      48 58.40   -0.2          |
        0.8s     15.20nm          4.6mb           |
TSRJ    25.14 230 P       49 00.30    1.4          |
KDC     26.42  64 eP      49 09.00   -1.4          |
KDC     26.42  64 e(P)    49 25.10   14.7X         |
SNY     26.83 256 Pc      49 13.20   -1.1          |
BJI     32.22 261 eP      50 00.50   -1.6          |
INK     32.83  39 eP      50 07.00   -0.1          |
TIA     34.33 255 eP      50 18.20   -2.2          |
     E  11s      0.40um                          |
BTO     35.41 267 eP      50 29.00   -0.6          |
     N  13s      0.40um                          |
     E  13s      0.40um                          |
MBC     35.71  24 eP      50 33.50    1.9          |
        0.5s     3.00nm          4.3mb           |
TIY     35.94 262 Pd      50 34.10    0.1          |
     N  10s      0.30um                          |
NJ2     36.48 248 Pc      50 38.00   -0.4          |
LZH     42.03 267 eP      51 21.00   -3.6X         |
      Z  16s      0.40um          4.4MszX         |
                   pP     51 23.50    8kmX         |
GTA     42.11 274 eP      51 24.40   -0.8          |
CD2     45.81 262 P       51 53.40   -1.3          |
WMO     46.13 287 P       51 57.00   -0.2          |
      Z  20s      0.40um          4.4Msz          |
                   eS     58 31.00                |
GYA     47.53 256 P       52 08.00   -0.4          |
                   S      58 50.40                |
EDM     48.09  54 iP      52 12.00   -0.4          |
        0.6s     29.00nm          5.2mb           |
FHC     50.75  72 P       52 33.90    1.1          |
        0.8s     35.29nm          5.2mb           |
SES     51.02  55 eP      52 34.00   -0.7          |
LBFM    51.53  71 P       52 39.40    0.5          |
WDC     51.70  72 eP      52 39.60   -0.3          |
FFC     52.17  47 iPc     52 43.70    0.4          |
        0.7s     10.00nm          4.7mb           |
ORV     52.98  72 eP      52 48.80   -0.6          |
GCC     54.49  74 eP      53 06.20    5.7X         |
ARN     54.52  74 P       53 01.00    0.2          |
CMB     54.67  72 eP      53 01.70   -0.2          |
                   ePcP   53 36.60                |
KVN     55.20  70 P       53 05.80   -0.1          |
                   pP     53 37.80  136km         |
PRS     55.34  75 eP      53 06.70    0.0          |
KSH     55.52 291 eP      53 05.00   -3.1X         |
FRI     55.79  73 e(P)    53 09.20   -0.7          |
FRB     56.18  23 eP      53 10.00   -2.3          |
TNP     56.38  70 P       53 14.30   -0.1          |
        0.8s     12.99nm          4.9mb           |
                   pP     53 47.10  139km         |
BW06    57.05  61 P       53 19.10    0.0          |
DUG     57.22  66 P       53 20.30    0.1          |
        0.9s     12.22nm          4.8mb           |
SUF     57.39 337 iP      53 19.80   -1.0          |
        0.4s      3.70nm          4.7mb           |
ISA     57.44  73 eP      53 21.00   -0.6          |
CLC     57.82  72 eP      53 24.00   -0.3          |
                   e      53 57.00  139km         |
DAU     57.89  64 P       53 25.60    0.6          |
SBB     58.52  73 eP      53 25.00   -4.2X         |
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GSC     58.63  72 eP      53 29.00   -1.0          |
MWC     58.73  74 eP      53 30.00   -0.8          |
MSU     58.79  66 P       53 31.70    0.5          |
RSSD    58.82  57 P       53 30.70   -0.6          |
                   pP     54 08.20  160kmX         |
NUR     59.67 336 eP      53 35.40   -1.3          |
TPC     59.93  73 eP      53 38.00   -0.9          |
PLM     60.04  74 eP      53 41.00    1.2          |
BAR     60.65  74 eP      53 44.00    0.3          |
GLA     61.40  73 eP      53 49.00    0.2          |
GOL     61.45  61 P       53 49.40    0.0          |
NB2     61.91 343 P       53 46.10   -5.7X         |
        0.9s     5.70nm          4.5mb           |
ALO     64.49  65 P       54 09.20   -0.1          |
        0.8s     7.32nm          4.7mb           |
SIO     69.04  58 e(P)    54 37.10   -0.5          |
LNO     69.16  57 e(P)    54 37.20   -1.0          |
TUL     69.16  57 eP      54 37.50   -0.8          |
        1.0s     16.30nm          4.8mb           |
      Z  22s      0.21um          4.3Msz          |
                   LR     22 49.00                |
EKA     69.42 350 P       54 41.00    1.4          |
        1.9s     58.80nm          5.1mb           |
CLL     70.73 338 ePKP    54 47.00   -0.6          |
        1.6s     29.00nm          4.9mb           |
                   e      55 24.00  152km         |
DMU     71.20 352 eP      54 50.00   -0.3          |
MTN     71.44 209 eP      54 52.00   -0.2          |
                   e      55 28.00  147km         |
PRU     71.64 337 eP      54 54.80    1.8          |
DLE     71.77 351 eP      54 54.00    0.3          |
GRF     72.64 339 eP      54 59.00    0.0          |
        1.2s     7.60nm          4.3mb           |
KHC     72.66 337 eP      54 59.50    0.4          |
                   e      55 35.80  148km         |
GBA     74.44 272 P       55 10.00    0.2          |
CTA     75.33 193 iPc     55 13.80   -0.9          |
        1.0s     20.00nm          4.8mb           |
                   i      55 48.00  137km         |
CTI     76.00 338 P       55 17.50   -0.9          |
LOR     76.35 343 eP      55 20.00   -0.2          |
        0.8s     5.30nm          4.3mb           |
SSF     76.61 343 eP      55 21.50   -0.1          |
        0.8s     2.60nm          4.0mb           |
DZM     76.68 173 iPc     55 22.90    0.6          |
MDI     76.68 339 P       55 22.00    0.0          |
VAI     76.79 339 P       55 22.40   -0.2          |
AVF     76.90 343 eP      55 22.90   -0.3          |
        1.2s     16.00nm          4.6mb           |
WB5     77.32 204 eP      55 25.20   -0.6          |
                   e      56 00.20  140km         |
LPG     77.54 341 eP      55 28.00    0.8          |
        0.8s     14.70nm          4.8mb           |
MAF     77.58 344 eP      55 27.00    0.0          |
        1.0s     12.00nm          4.6mb           |
BOB     77.70 339 P       55 28.60    0.8          |
MME     77.97 338 P       55 30.80    1.3          |
PGD     78.05 337 P       55 31.00    1.2          |
ARV     78.12 336 P       55 30.50    0.5          |
BDI     78.12 338 P       55 31.10    1.0          |
CKI     78.27 339 P       55 30.00   -0.8          |
CAF     78.92 344 eP      55 35.20    0.8          |
        0.8s     6.70nm          4.4mb           |
LPO     79.30 344 eP      55 36.90    0.5          |
        0.6s     7.20nm          4.6mb           |
LRG     79.58 340 eP      55 38.50    0.6          |
        0.6s     7.20nm          4.6mb           |
LMR     79.67 340 eP      55 38.70    0.3          |
        0.6s     3.60nm          4.3mb           |
ASPA    81.08 204 iPc     55 46.20    0.2          |
        0.8s     20.00nm          4.9mb           |
                   ipP    56 21.40  140km         |
BRS     81.95 186 iP      55 50.50    0.1          |
        1.1s     3.50nm          4.0mb           |
TOL     84.75 347 eP      56 06.00    1.3          |
     S.D. = 0.9  on  95 of 106 obs.                |
--------------------------------------------------|
&  OCT  14, 1989  20h 48m 14.15s                  |
   62.671 N          151.197 W                    |
   DEPTH =  89.3km                                |
 CENTRAL ALASKA                         (  1)     |
     <AGS-P>.                                     |
                                                  |
CUT     0.51 121 iP       48 29.14    0.1          |
SKT     0.71 193 iP       48 30.88   -0.1          |
HUR     0.78  66 iP       48 31.52   -0.2          |
                   iS     48 44.57                |
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KTH      0.89    8 iP     48 32.86   -0.1
                  eS     48 46.29
PWA      1.20  148 iPc    48 36.40    0.0
SUA      1.23  170 eP     48 36.74   -0.2
                  eS     48 54.06
RND      1.30   54 iP     48 37.43   -0.4
                  eS     48 54.69
NCG      1.35  200 iP     48 37.91   -0.6
                  eS     48 56.87
CGLM     1.42  196 eP     48 38.66   -0.7
PMR      1.45  137 ePc    48 39.10   -0.5
PME      1.46  135 iP     48 39.54   -0.2
MCK      1.48   43 iP     48 39.69   -0.3
                  eS     49 01.08
CRP      1.48  198 eP     48 39.74   -0.4
                  eS     49 01.48
BGL      1.52  202 eP     48 40.75    0.1
SPU      1.55  196 iP     48 40.53   -0.4
                  eS     49 01.92
CKL      1.58  201 iP     48 41.18   -0.2
                  eS     49 02.30
PMS      1.63  151 iPd    48 41.50   -0.5
NEA      2.14   25 iP     48 47.35   -1.3
NCA      2.15  106 iP     48 48.22   -0.7
                  eS     49 17.02
RDT      2.18  196 eP     48 49.18   -0.2
SLKM     2.22  167 eP     48 49.10   -0.8
TOA      2.41  101 iPc    48 52.10   -0.4
CCB      2.49   36 iP     48 52.37   -1.2
RDS      2.55   31 eP     48 53.36   -1.0
HDA      2.58   46 eP     48 53.49   -1.2
                  eS     49 23.10
SDG      2.62   91 eP     48 55.07   -0.2
                  eS     49 27.39
PAX      2.65   81 eP     48 55.66   -0.1
                  eS     49 27.29
GLI      2.65  131 iP     48 54.10   -1.6
DDM      2.66   63 eP     48 53.91   -2.0
FBA      2.70   33 iPd    48 55.40   -1.0
ILIM     2.74  199 iP     48 56.73   -0.2
                  eS     49 30.73
KLU      2.75  113 iP     48 55.31   -1.8
VLZ      2.77  122 eP     48 55.46   -1.9
GLM      2.87   34 iP     48 57.71   -1.1
CNPM     3.16  180 eP     49 02.67    0.0
OPT      3.18  199 eP     49 04.56    1.5
DOT      3.38   70 eP     49 04.79   -1.0
                  eS     49 45.37
GLB      3.69  106 eP     49 07.94   -2.1
TMW      3.80   76 eP     49 09.98   -1.5
YKU      6.38  114 e(P)   49 40.00   -7.2
        40 obs. associated
-----------------------------------------
   OCT  14, 1989  21h 06m 43.19± 0.80s
   45.600 N ± 8.8km   10.519 E ± 6.7km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN ITALY                    (545)

SAL      0.01   32 Pd     06 43.80   -0.4
                  eSg    06 46.90
MDI      0.59  288 P      06 54.70   -0.4
                  eSg    07 04.70
CTI      0.91   60 P      07 00.60   -0.5
                  eSg    07 13.50
BOB      1.13  223 P      07 05.10    0.3
                  eSg    07 22.30
OGA      1.32   15 ePg    07 08.60    0.5
SCE      1.66   29 eP     07 13.00   -0.2
FVI      1.86   57 P      07 16.40    0.5
                  eSn    07 38.80
      S.D. = 0.5   on   7 of   7 obs.
-----------------------------------------
?  OCT  14, 1989  21h 12m 02.06± 2.85s
   39.745 N ±31.4km   32.835 E ±11.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)
      Felt at Ankara.

BBTK     0.11  329 iPgc+  12 04.00   -1.1
                  iSg    12 05.50
KAS      1.77   23 iPnc   12 34.20    1.2
                  iSg    12 56.00
YLV      2.78  288 ePn    12 48.00    0.5
KVT      2.79   60 ePn    12 47.00   -0.6
KHL      2.94  242 ePn    12 57.00    7.2X
DST      3.25  269 ePn    13 03.50    9.4X
      S.D. = 1.8   on   4 of   6 obs.
-----------------------------------------
&  OCT  14, 1989  22h 03m 26.83s
   63.362 N          151.210 W
   DEPTH =   2.3km
 CENTRAL ALASKA                    (  1)
      <AGS-P>.

KTH      0.23   34 iP     03 31.10   -0.4
                  eS     03 34.21
HUR      0.81  118 eP     03 42.14   -0.9
                  eS     03 53.64
CUT      1.05  155 iP     03 46.90   -0.5
                  eS     04 01.13
RND      1.06   87 eP     03 46.13   -1.5
                  eS     04 00.98
MCK      1.08   69 eP     03 47.71   -0.2
                  eS     04 02.39
SKT      1.39  186 iP     03 52.64   -0.6
NEA      1.54   37 eP     03 54.86   -0.5
                  eS     04 14.42
PWA      1.83  160 eP     03 59.19   -0.2
SUA      1.92  173 eP     04 00.80   -0.1
                  eS     04 27.14
CCB      1.98   48 eP     04 01.85    0.2
RDS      1.99   41 eP     04 02.42    0.5
PME      2.01  149 eP     04 01.67   -0.5
NCG      2.01  193 eP     04 01.45   -0.8
                  eS     04 28.40
CGLM     2.10  191 eP     04 03.36   -0.1
CRP      2.15  192 eP     04 04.38    0.1
FBA      2.15   43 eP     04 06.05    1.9
HDA      2.16   59 eP     04 05.56    1.3
BGL      2.18  195 eP     04 04.83    0.2
TTA      2.22  261 eP     04 05.39    0.1
SPU      2.22  191 eP     04 04.43   -0.8
CKL      2.24  194 eP     04 06.33    0.8
PMS      2.26  159 eP     04 05.85    0.0
GLM      2.34   44 eP     04 06.35   -0.6
DDM      2.43   78 eP     04 09.26    1.0
NCA      2.45  122 eP     04 10.14    1.7
PAX      2.63   96 eP     04 10.14   -1.0
SLKM     2.90  170 eP     04 14.80   -0.1
KLU      3.09  125 iP     04 18.01    0.4
GLI      3.15  140 eP     04 18.26   -0.1
VZW      3.18  135 eP     04 18.73   -0.1
        30 obs. associated
-----------------------------------------
%  OCT  14, 1989  22h 16m 36.63± 0.82s
   46.068 N ± 7.0km    2.103 E ± 6.8km
   DEPTH =  10.0km  (geophysicist)
 FRANCE                            (538)
      ML 1.2 (LDG).

TCF      0.23   19 Pg     16 41.80    0.2
                  Sg     16 45.20
MAF      0.36   64 Pg     16 43.90   -0.1
                  Sg     16 48.60
LSF      0.44  295 Pg     16 45.50   -0.1
                  Sg     16 51.50
BGF      0.71   46 Pg     16 50.60    0.0
                  Sg     16 59.20
CAF      1.14  181 Pg     16 58.10    0.1
                  Sg     17 13.10
      S.D. = 0.2   on   5 of   5 obs.
-----------------------------------------
   OCT  14, 1989  22h 53m 24.14± 0.63s
   36.495 N ±11.4km  142.438 E ± 6.9km
   DEPTH =  40.1km  (  4 depth phases)
   4.6mb (  2 obs.)
 OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ     1.85  262 iP+    53 53.50   -0.4
OFUJ     2.65  347 P      54 03.30   -2.1
                  S      54 35.20
CHJJ     2.82  262 iP+    54 07.20   -0.6
                  eS     54 42.10
NIIJ     2.85  286 P      54 09.00    0.7
MAT      3.41  272 (P)    54 17.00    0.8
                  (S)    55 01.00
MTMJ     3.73  273 iP+    54 21.90    1.0
IIDJ     3.81  256 P      54 22.40    0.5
TSRJ     5.32  262 eP     54 44.90    1.7
SNY     15.56  296 eP     57 04.20    2.0
      Z  15s      2.50um
      N  13s      0.70um
      E  13s      1.10um
                  sP     57 16.70

TIA     20.38  277 eP     58 00.00    0.0
      E  12s      0.80um
BJI     20.90  288 eP     58 02.00   -3.3
      Z  12s      0.60um          4.2MszX
TIY     23.92  282 eP     58 34.50   -0.8
      E  15s      1.50um
WHN     24.11  264 eP     58 37.50    0.4
      Z  14s      1.19um          4.5MszX
      N  11s      0.51um
      E  11s      0.44um
                  pP     58 49.00   45km
HHC     24.43  290 eP     58 40.00   -0.2
      N  12s      0.40um
BTO     25.60  289 eP     58 49.00   -2.4
      N  14s      0.50um
      E  14s      0.50um
XAN     27.40  275 P      59 07.00   -0.9
LZH     30.97  281 P      59 39.00   -0.9
      1.2s      0.03nm          2.0mb X
      Z  16s      1.20um          4.7MszX
                  pP     59 50.00   41km
                  sP     59 55.00
                  eS     04 43.00
GYA     31.95  262 P      59 47.80   -0.8
GTA     33.51  288 Pc     00 02.00    0.0
      Z  12s      0.60um          4.5MszX
      N  10s      0.40um
KMI     35.70  263 Pd-    00 21.00   -0.1
      E  14s      0.80um
                  pP     00 31.00   34km
                  sP     00 43.00
                  eS     06 42.00
WMQ     41.82  298 P      01 14.50    2.9
                  pP     01 26.00   41km
IMA     46.74   30 eP     01 51.00    0.1
FBA     49.12   32 eP     02 10.50    1.2
KSH     51.39  295 eP     02 28.00    0.8
INK     54.49   27 eP     02 49.00   -0.6
WB5     56.58  189 eP     03 04.00   -1.2
MBC     56.81   16 eP     03 07.00    0.7
      1.0s      5.00nm          4.5mb
HYB     59.02  269 eP     03 22.00   -0.5
GBA     62.00  266 P      03 43.00    0.2
LRM     73.96   45 eP     04 58.10    0.8
KVN     74.43   53 eP     05 00.70    0.5
NB2     75.00  338 P      05 03.20    0.4
      1.4s     10.40nm          4.6mb
ZOBO   146.23   61 PKP    13 02.00    0.1
      1.2s     10.81nm
                  LR     26 32.00
LPB    146.43   62 PKP    13 04.00    2.0X
CNCB   146.70   62 PKP    13 05.00    2.4X
CCH    148.38   61 ePKP   13 05.00    0.0
      S.D. = 1.2   on   34 of   36 obs.
-----------------------------------------
&  OCT  14, 1989  22h 56m 51.30s
   36.090 N          118.052 W
   DEPTH =   1.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).

ABL      1.56  218 eP     57 20.30   -0.2
FRI      1.61  304 eP     57 19.60   -1.3
                  iS     57 39.90
PKEM     1.67  270 eP     57 21.70   -0.1
BCH      1.89  242 eP     57 24.80   -0.3
PHAM     1.92  263 eP     57 25.50    0.0
TNP      2.10   18 eP     57 28.00   -0.2
PRI      2.12  272 eP     57 28.10   -0.3
PEC      2.31  161 eP     57 35.00    3.8
CMB      2.69  317 eP     57 38.20    1.6
                  eS     58 11.90
PLM      2.90  160 eP     57 46.00    6.3
KVN      2.96  359 eP     57 44.50    4.0
        11 obs. associated
-----------------------------------------
   OCT  14, 1989  22h 57m 27.81± 0.44s
   45.573 N ± 3.8km   10.606 E ± 4.0km
   DEPTH =   5.0km  (geophysicist)
 NORTHERN ITALY                    (545)

SAL      0.07  302 P      57 28.80   -0.7
MDI      0.66  288 P      57 39.60   -1.4
                  eSg    57 49.60
CTI      0.87   57 P      57 43.50   -1.6
                  eSg    57 56.50
BOB      1.15  226 P      57 49.80    0.0
```

14d 22h

			eSg	58	07.00	
OSS	1.16	344	ePd	57	49.60	-0.5
VDL	1.21	320	ePd	57	50.80	-0.1
VAI	1.32	284	P	57	53.30	0.7
			eSn	58	10.60	
TMA	1.32	294	ePd	57	52.80	-0.1
OGA	1.33	13	ePg	57	53.50	0.6
MME	1.38	177	P	57	54.00	0.0
BDI	1.51	180	P	57	55.50	-0.1
SCE	1.65	27	iPgc	57	58.00	0.2
LLS	1.71	320	ePd	57	59.80	1.2
FVI	1.83	55	P	58	00.40	0.3
			eSn	58	22.60	
ORO	1.84	273	P	57	59.80	-0.7
PII	1.85	182	P	58	01.00	0.5
			eSn	58	25.20	
MMK	1.91	285	ePd	58	01.80	0.3
TRI	2.22	85	iP	58	30.70	24.9X
			i	58	39.30	
VOY	2.35	78	e(Pn)	58	11.90	4.2X
			eSn	58	41.40	
SLE	2.63	327	ePc	58	12.90	1.2

S.D. = 0.8 on 18 of 20 obs.

OCT 14, 1989 23h 10m 48.26± 0.23s
39.391 N ± 5.9km 72.876 E ± 3.8km
DEPTH = 33.0km (normal)
4.9mb (36 obs.) 4.2Msz (1 obs.)
KIRGHIZ SSR (716)

KSH	2.40	87	Pn	11	28.50	2.2
			Sn	12	02.00	
MAIO	11.02	258	eP	13	24.00	-2.8
	0.6s		7.30nm		5.1mb	
			eS	15	26.00	
NDI	11.27	160	iPc	13	28.80	-1.2
			eS	15	31.00	
WMO	11.94	63	P	13	36.00	-3.2X
Z	14s		1.70um			
LSA	17.86	117	eP	14	58.00	1.7
SHI	19.35	246	eP	15	14.00	0.0
TAB	20.73	275	e(P)	15	18.00	-10.6X
GTA	20.79	81	iPd	15	28.60	-0.6
Z	12s		0.60um		4.2MszX	
N	10s		0.40um			
POO	20.80	177	eP	15	29.50	0.2
SHL	21.09	125	iP	15	29.00	-3.3
LZH	24.65	88	P	16	08.50	1.2
Z	20s		0.70um		4.2Msz	
			pP	16	14.50	21kmX
			eS	20	27.00	
GBA	26.00	170	P	16	19.00	-0.9
			S	21	19.00	
CD2	26.53	99	eP	16	24.60	-0.2
XAN	29.25	89	P	16	49.00	-0.4
KAS	29.69	287	eP	16	54.50	1.2
TIY	30.82	80	eP	17	04.00	0.8
GYA	30.97	104	P	17	10.40	5.6X
VRI	34.18	296	ePc	17	33.50	1.1
MLR	34.77	296	ePd	17	39.50	1.9
TIA	34.85	81	eP	17	37.90	-0.3
WHN	34.86	92	eP	17	40.00	1.6
RZN	36.30	290	iP	17	52.00	1.3
SUF	36.32	325	iP	17	50.70	0.3
	0.6s		21.90nm		5.2mb	
NUR	36.42	322	iP	17	50.80	-0.4
	0.6s		15.60nm		5.1mb	
KKB	37.45	290	iP	18	01.00	0.9
SOD	37.80	333	iP	18	02.80	0.1
VAY	37.95	290	eP	18	05.00	0.7
KRA	38.35	304	iPd	18	07.80	0.2
	0.7s		59.00nm		5.5mb	
			e	18	10.10	
			e	18	14.10	
SKO	38.62	291	eP	18	10.50	0.6
KEV	38.71	336	eP	18	09.00	-1.3
UPP	39.77	320	iP	18	19.10	-0.2
KSP	40.59	306	eP	18	26.00	-0.2
			e	19	51.00	
HFS	41.76	320	eP	18	34.80	-0.8
	0.5s		7.90nm		4.7mb	
Z	15s		0.18um		4.1MszX	
			LR	35	46.00	
PRU	41.81	305	iPd	18	37.00	0.8
BRG	42.06	306	iPd	18	38.70	0.5
	1.0s		21.00nm		4.8mb	
			i	18	49.00	
VBY	42.17	298	e(P)	18	40.30	1.2
LJU	42.54	299	eP	18	43.00	0.8
KHC	42.57	303	iPd	18	43.10	0.6
	0.8s		10.50nm		4.6mb	
			e	20	28.00	
CLL	42.59	307	iPd	18	42.90	0.3
	0.8s		22.00nm		4.9mb	
			e	19	08.00	
CEY	42.68	298	eP	18	44.00	0.6
VOY	42.98	299	eP	18	45.80	-0.1
NB2	43.02	321	P	18	45.30	-0.7
	0.8s		19.90nm		4.9mb	
WET	43.02	304	iPc	18	47.10	1.0
	1.0s		22.00nm		4.8mb	
TRI	43.14	298	iPd	18	47.50	0.4
SGO	43.45	291	Pc	18	50.90	1.3
MOX	43.56	306	iPc	18	51.00	0.5
FVI	43.60	300	Pc	18	50.70	-0.1
GRF	43.98	305	eP	18	55.00	1.1
	0.8s		27.00nm		5.1mb	
			e	19	00.50	
FUR	44.25	302	iPc	18	57.50	1.4
ARV	44.27	296	P	18	57.60	1.3
CTI	44.49	299	P	18	58.60	0.4
MNS	44.78	294	P	19	00.50	0.1
PGD	45.02	296	Pc	19	04.00	1.5
OSS	45.34	301	ePd	19	04.90	-0.2
SAX	45.73	302	ePd	19	08.00	-0.3
BDI	45.74	297	P	19	08.70	0.6
VDL	45.84	301	ePd	19	08.70	-0.4
PII	45.89	297	P	19	09.00	-0.2
LLS	46.06	301	ePd	19	10.20	-0.6
SLE	46.17	303	ePd	19	12.30	0.9
BOB	46.33	298	P	19	13.80	1.1
TMA	46.34	300	ePd	19	12.20	-0.8
VAI	46.48	300	Pc	19	12.80	-1.0
CDF	46.79	304	eP	19	17.00	0.6
	0.8s		5.30nm		4.6mb	
PCP	47.01	298	P	19	18.61	0.5
BSF	47.26	303	eP	19	20.40	0.3
	1.0s		12.00nm		4.9mb	
DIX	47.33	301	ePd	19	20.50	-0.4
FIN	47.34	298	P	19	19.64	-1.1
HAU	47.50	303	eP	19	22.00	0.1
	1.0s		12.00nm		4.9mb	
IMI	47.65	298	P	19	23.53	0.3
EMS	47.65	301	ePd	19	22.90	-0.4
LSD	47.68	300	P	19	23.33	-0.3
RSP	47.70	299	P	19	21.07	-2.6
DOI	47.91	299	P	19	24.30	-0.9
LPG	47.94	300	eP	19	25.80	0.1
	0.8s		16.10nm		5.1mb	
SBF	47.98	298	eP	19	25.90	0.1
	0.8s		18.80nm		5.2mb	
PZZ	48.01	299	P	19	23.74	-2.3
RRL	48.09	299	P	19	26.20	-0.6
BNI	48.13	299	P	19	26.50	-0.5
LOR	49.32	303	eP	19	35.20	-0.8
	0.8s		9.40nm		4.9mb	
LBF	49.33	303	eP	19	35.40	-0.7
	0.8s		5.30nm		4.6mb	
SMF	49.52	302	eP	19	37.10	-0.4
	0.9s		4.90nm		4.5mb	
SSF	49.61	303	eP	19	37.80	-0.4
	0.8s		6.70nm		4.7mb	
AVF	49.80	303	eP	19	39.10	-0.5
	0.8s		20.10nm		5.2mb	
BGF	50.20	302	eP	19	42.20	-0.5
	0.8s		6.70nm		4.7mb	
MAF	50.49	302	eP	19	45.00	0.0
	0.8s		16.60nm		5.1mb	
TCF	50.71	302	eP	19	46.50	-0.1
	0.8s		6.70nm		4.7mb	
LSF	51.16	302	eP	19	49.40	-0.6
	0.8s		10.70nm		4.9mb	
CAF	51.26	301	eP	19	50.40	-0.4
	0.8s		7.20nm		4.7mb	
EKA	51.28	315	P	19	50.00	-0.7
	1.2s		17.90nm		4.9mb	
LPO	51.93	301	eP	19	55.90	0.0
	0.8s		5.30nm		4.6mb	
GRR	51.99	306	eP	19	55.20	-1.0
	0.8s		14.50nm		5.0mb	
LFF	52.14	301	eP	19	56.70	-0.7
	1.0s		16.00nm		4.9mb	
BCAO	60.07	249	iPc	20	53.70	-0.9
	0.8s		9.00nm		5.0mb	
			ic	21	18.50	
MBC	64.38	3	ePd	21	21.90	-0.7
	0.9s		29.00nm		5.4mb	
IMA	68.92	19	eP	21	50.10	-1.6
	1.2s		12.20nm		4.8mb	
INK	70.81	10	iPd	22	02.20	-0.7
FBA	71.28	17	eP	22	05.00	-0.9
BUL	72.24	224	iPc	22	13.90	1.6
	1.0s		6.00nm		4.5mb	
PWA	73.51	20	e(P)	22	17.70	-1.3
SWZ	79.70	222	eP	22	57.00	2.7
	0.9s		10.08nm		4.8mb	
WB5	82.27	123	eP	23	06.80	-1.0
FFC	86.15	357	eP	23	27.00	0.0
	1.3s		38.00nm		5.5mb	
EDM	87.60	4	eP	23	34.50	0.4
ZOBO	138.97	293	ePKP	30	15.00	0.8

S.D. = 1.0 on 102 of 105 obs.

& OCT 14, 1989 23h 27m 16.47s
57.680 N 142.965 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

CYK	2.42	6	eP	27	51.67	-5.0
			eS	28	18.19	
SNH	2.51	1	eP	27	52.22	-5.8
			eS	28	19.44	
YAH	2.76	13	iP	27	56.67	-5.2
			eS	28	26.58	
WAX	2.78	1	iP	27	56.28	-5.6
			eS	28	25.79	
HQN	2.78	49	eP	27	56.26	-5.6
			eS	28	24.83	
PCA	2.80	29	eP	27	56.90	-5.3
			eS	28	29.23	
RAGM	2.86	343	eP	27	56.73	-6.2
			eS	28	27.79	
BCPM	2.86	36	iP	27	57.57	-5.4
			eS	28	28.56	
SGAM	3.06	339	eP	28	00.72	-5.0
			eS	28	35.03	
CVA	3.21	335	eP	28	02.18	-5.7
			eS	28	36.72	
HIN	3.28	328	eP	28	02.93	-6.0
			eS	28	36.55	
HYT	4.22	39	P	28	17.20	-5.2

12 obs. associated

& OCT 14, 1989 23h 35m 08.15s
57.744 N 142.929 W
DEPTH = 10.0km (geophysicist)
4.0mb (1 obs.)
GULF OF ALASKA (15)
<AGS-P>. ML 4.4 (PMR).

CYK	2.36	5	eP	35	42.89	-4.6
			eS	36	08.48	
SNH	2.44	1	eP	35	43.98	-4.8
			eS	36	10.11	
MID	2.46	315	iPd	35	43.60	-5.3
YKU	2.47	41	iP	35	44.60	-4.4
YAH	2.70	13	iP	35	47.59	-5.0
			eS	36	17.98	
WAX	2.71	1	eP	35	47.11	-5.6
			eS	36	18.35	
HQN	2.73	49	eP	35	47.26	-5.5
			eS	36	16.02	
PCA	2.74	29	eP	35	47.62	-5.4
			eS	36	17.57	
BCPM	2.80	36	iP	35	48.54	-5.3
			eS	36	18.84	
RAGM	2.80	342	eP	35	48.54	-5.3
			eS	36	16.20	
SGAM	3.00	338	iP	35	51.72	-4.9
			eS	36	26.11	
TGL	3.02	1	eP	35	51.46	-5.5
			eS	36	23.71	
CVA	3.16	334	eP	35	53.14	-5.7
			eS	36	27.75	
HIN	3.24	327	eP	35	54.64	-5.4
			eS	36	32.48	
BALM	3.32	5	eP	35	55.16	-6.1
			eS	36	31.94	
FID	3.52	330	eP	35	58.28	-5.7
GLB	3.74	353	eP	36	01.18	-6.0

			eS	36 41.29		
GLI	3.80	328	eP	36 01.49	-6.5	
VZW	3.81	332	iP	36 01.86	-6.3	
			eS	36 43.33		
VLZ	3.82	334	eP	36 01.34	-6.8	
			eS	36 43.31		
KLU	4.06	339	eP	36 05.46	-6.2	
			iS	36 50.38		
SEW	4.13	308	eP	36 06.50	-6.0	
			eS	36 51.61		
HYT	4.16	40	P	36 08.00	-5.1	
SIT	4.17	96	iP	36 05.40	-7.8	
SLKM	4.67	309	eP	36 14.11	-6.2	
TOA	4.67	341	eP	36 14.80	-5.6	
CNPM	4.69	296	eP	36 14.76	-5.9	
PMS	4.87	319	eP	36 16.80	-6.4	
KDC	5.12	274	eP	36 21.20	-5.5	
ILIM	5.70	298	eP	36 28.75	-6.2	
OPT	5.70	294	eP	36 29.75	-5.2	
CDD	5.77	286	iP	36 30.91	-4.9	
SVW	7.30	303	eP	36 51.10	-6.3	
FBA	7.55	344	eP	36 54.80	-6.0	
TTA	8.31	314	eP	37 05.60	-5.9	
IMA	9.75	333	eP	37 25.00	-6.5	
SDN	9.99	264	eP	37 29.80	-4.9	
EDM	17.28	92	iP	39 06.00	-4.8	
SES	19.96	98	eP	39 38.00	-5.0	
MBC	20.42	16	eP	39 43.00	-4.5	
	1.0s		7.00nm		4.0mb	
LBFM	21.20	132	eP	39 54.00	-2.1	
LRM	22.10	109	eP	40 02.40	-2.7	
KVN	24.69	128	eP	40 29.00	-1.4	
	43 obs. associated					

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* OCT 15, 1989 01h 46m 20.22± 1.05s
45.718 N ±14.1km 150.739 E ± 6.5km
DEPTH = 105.0 ± 11.6 km
4.8mb (26 obs.)
KURIL ISLANDS (221)

KUSJ	5.05	241	P	47 33.80	-1.1	
			S	48 26.90		
ASAJ	5.97	257	eP	47 49.70	2.1	
HOOJ	6.32	241	eP	47 53.20	0.9	
			eS	48 59.10		
MDJ	14.96	273	eP	49 47.20	0.0	
CN2	18.04	273	Pc	50 23.00	-2.4	
SNY	19.96	268	eP	50 45.00	-1.1	
HHC	28.73	274	P	52 09.60	0.1	
TIY	29.47	268	eP	52 16.20	0.1	
TTA	34.28	41	eP	52 57.20	-0.7	
IMA	35.61	35	eP	53 08.50	-0.6	
LZH	36.27	272	Pc	53 14.50	-0.6	
	1.4s		0.04nm		2.2mb X	
GTA	37.50	279	iPc	53 25.80	0.5	
	0.8s		0.05nm		2.4mb X	
FBA	37.99	38	eP	53 29.10	0.1	
CD2	39.15	265	P	53 38.20	-0.8	
GYA	39.88	257	P	53 45.40	0.2	
INK	43.40	32	eP	54 15.00	1.7	
MBC	46.12	19	eP	54 36.00	1.1	
	0.8s		2.00nm		4.0mb	
CHG	50.27	255	eP	55 08.10	0.4	
EDM	58.21	45	iPc	56 04.80	-0.5	
NDI	58.98	281	eP	56 10.50	-0.4	
SES	61.04	46	iPd	56 23.60	-1.2	
FFC	62.58	39	eP	56 34.00	-0.9	
	0.6s		8.00nm		4.9mb	
LRM	63.13	51	eP	56 39.00	0.0	
CMB	63.34	62	eP	56 40.10	-0.1	
KVN	64.11	60	eP	56 45.20	-0.2	
TNP	65.26	60	eP	56 52.50	-0.3	
UPP	68.01	337	iP	57 07.20	-2.4	
NB2	68.66	340	P	57 12.50	-1.1	
	0.6s		9.40nm		4.8mb	
HFS	68.83	339	eP	57 12.40	-2.2	
	0.5s		8.40nm		4.8mb	
KRA	75.50	330	ePd	57 54.00	-0.1	
KSP	76.07	332	iP	57 56.50	-0.9	
SPC	76.11	329	eP	57 58.40	0.5	
CLL	76.70	334	iP	58 00.40	-0.5	
	0.7s		15.00nm		4.9mb	
PRU	77.37	333	iP	58 04.50	-0.1	
MOX	77.70	335	eP	58 06.00	-0.4	
ZST	78.06	330	iP	58 09.50	1.1	
KHC	78.43	333	iPc	58 10.40	-0.1	
	0.9s		9.00nm		4.6mb	
GRF	78.67	335	iPc	58 12.00	0.3	
	0.9s		15.00nm		4.8mb	
JMB	79.11	321	eP	58 15.00	0.8	
MEM	79.31	338	P	58 15.20	0.1	
RZN	80.55	322	iP	58 23.00	0.8	
CDF	80.96	336	eP	58 23.90	-0.2	
KKB	81.10	323	iP	58 26.00	1.2	
HAU	81.59	337	eP	58 27.10	-0.2	
BSF	81.63	336	eP	58 27.60	0.0	
FLN	82.61	341	eP	58 32.50	0.0	
	1.0s		16.00nm		4.9mb	
OHR	82.67	324	eP	58 32.50	-0.6	
LOR	82.94	338	eP	58 34.40	0.1	
	0.6s		8.10nm		4.8mb	
GRR	83.04	341	eP	58 34.90	0.1	
	0.6s		10.80nm		4.9mb	
LBF	83.17	338	eP	58 35.40	-0.1	
	0.6s		4.50nm		4.6mb	
SSF	83.22	338	eP	58 36.20	0.5	
	0.8s		5.30nm		4.5mb	
LPF	83.42	341	eP	58 37.20	0.5	
	0.8s		10.70nm		4.8mb	
AVF	83.52	338	eP	58 37.50	0.3	
	0.7s		7.70nm		4.7mb	
SMF	83.52	338	eP	58 37.70	0.4	
	1.2s		26.70nm		5.0mb	
LPG	83.76	335	eP	58 39.00	0.1	
	0.8s		5.90nm		4.6mb	
BGF	83.86	338	eP	58 39.30	0.3	
	0.8s		7.20nm		4.6mb	
MAF	84.25	338	eP	58 41.50	0.6	
	0.6s		10.80nm		4.9mb	
TCF	84.28	339	eP	58 41.80	0.7	
	0.6s		2.70nm		4.3mb	
LSF	84.48	339	eP	58 42.90	0.8	
	0.8s		12.00nm		4.9mb	
MFF	84.56	340	eP	58 42.50	0.0	
	0.8s		14.50nm		4.9mb	
SBF	85.05	334	eP	58 45.10	0.1	
	0.8s		16.10nm		5.0mb	
CAF	85.58	338	eP	58 48.50	0.8	
	0.8s		9.40nm		4.8mb	
LFF	85.91	339	eP	58 50.10	0.9	
	0.6s		12.60nm		5.1mb	
LPO	86.03	339	eP	58 50.60	0.7	
	0.8s		11.80nm		4.9mb	
EPF	87.80	339	eP	58 59.50	1.0	
	0.8s		5.30nm		4.6mb	
PPD	150.30	45	e(PKP)	06 02.00	7.0X	
			e	06 11.90		
S.D. = 0.9 on 65 of 66 obs.						

? OCT 15, 1989 03h 30m 42.27± 4.36s
40.661 N ±12.9km 29.989 E ±31.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

HRT	0.29	304	ePg	30 48.50	0.1	
GBZT	0.43	287	iPgc	30 52.80	1.7	
			iSg	30 58.20		
YLV	0.48	259	iPg	30 51.00	-1.0	
			iSg	30 56.00		
ISK	0.81	300	iPg	30 56.80	-1.2	
			eSg	31 06.00		
DST	1.48	225	iPn	31 09.50	0.5	
BNT	1.61	260	ePn	31 10.50	-0.3	
EDC	1.65	260	ePn	31 11.60	0.2	
S.D. = 1.2 on 7 of 7 obs.						

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* OCT 15, 1989 03h 55m 37.57± 1.13s
38.077 N ±11.8km 20.820 E ± 9.2km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 3.4 (ATH).

VLS	0.21	299	iPgc	55 41.30	-0.8	
KEK	1.82	334	ePn	56 09.60	0.5	
VLI	2.16	128	ePb	56 15.00	0.8	
NEO	2.25	56	ePn	56 14.00	-1.4	
ATH	2.29	92	ePn	56 15.40	-0.6	
KZN	2.35	18	ePb	56 18.00	1.2	
OHR	3.03	360	ePn	56 26.70	0.2	
VAY	3.51	22	ePn	56 41.30	8.1X	
SKO	3.92	7	ePn	56 50.20	11.1X	
S.D. = 1.1 on 7 of 9 obs.						

OCT 15, 1989 05h 51m 40.98± 0.62s
43.988 N ± 6.0km 7.551 E ± 4.1km
DEPTH = 5.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 1.0 (STR).

SAOF	0.00	112	Pg	51 41.86	-0.1	
			Sg	51 42.60		
AUTN	0.09	275	Pg	51 43.14	0.0	
			Sg	51 44.79		
TOUF	0.22	277	Pg	51 45.76	0.2	
			Sg	51 48.58		
IMI	0.26	107	P	51 46.15	0.0	
			S	51 50.04		
ENR	0.26	339	P	51 46.25	0.0	
			S	51 50.04		
STV	0.30	328	P	51 47.17	0.0	
			S	51 51.27		
ROB	0.38	37	P	51 48.92	0.2	
			S	51 54.56		
PZZ	0.61	328	P	51 52.81	-0.4	
			S	52 00.91		
S.D. = 0.2 on 8 of 8 obs.						

OCT 15, 1989 06h 57m 08.94± 0.35s
32.313 N ± 5.4km 129.624 E ± 3.9km
DEPTH = 5.0km (geophysicist)
4.7mb (2 obs.)
KYUSHU, JAPAN (235)
Felt (I JMA) at Fukue, Fukuoka, Kogoshimo, Kumamoto and Nagasaki.

NGS	0.47	26	iP+	57 17.90	-0.4	
			S	57 23.00		
FKJ	0.77	300	iP+	57 25.40	1.0	
			iS	57 36.00		
KUM	1.04	61	P	57 28.20	-0.9	
			S	57 41.80		
KUMJ	1.04	77	iPd	57 27.80	-1.3	
			S	57 40.80		
KAG	1.08	133	iP+	57 30.50	0.8	
			S	57 47.00		
FKK	1.41	27	iP+	57 34.90	-0.4	
			iS	57 53.40		
KAGJ	1.56	136	iP+	57 36.60	-0.7	
			S	58 00.20		
SHNJ	2.19	34	P	57 46.20	-0.3	
			S	58 16.20		
SHK	3.38	48	eP	58 03.50	0.1	
TKSJ	4.07	65	P	58 14.70	1.5	
YONJ	4.30	47	iP+	58 16.60	0.1	
WKYJ	5.35	68	P	58 30.70	-0.8	
TSRJ	6.19	57	eP	58 42.70	-0.5	
SSE	7.29	263	P	58 58.00	-0.7	
Z	12s		3.40um			
N	10s		2.60um			
E	18s		1.90um			
			eS	00 15.00		
MTMJ	7.99	56	eP	59 10.20	1.6	
CHJJ	8.61	62	eP	59 17.00	-0.2	
NJ2	9.13	271	Pd	59 23.00	-1.3	
Z	11s		1.60um			
E	10s		1.40um			
ANP	10.05	227	e(P)	00 20.00	42.9X	
SNY	10.65	335	eP	59 49.40	4.2X	
			S	01 53.00		
TIA	11.05	294	eP	59 55.50	4.8X	
Z	11s		2.10um			
N	13s		3.60um			
E	12s		1.70um			
CN2	11.93	345	eP	00 06.70	4.1X	
Z	12s		3.90um			
			sP	00 08.70		
			eS	02 19.00		
QZH	12.15	236	eP	00 06.50	0.9	
Z	10s		0.90um			
N	11s		1.50um			
MDJ	12.28	360	eP	00 08.00	0.6	
E	14s		1.10um			
WHN	13.16	266	Pc	00 16.00	-3.2X	
Z	12s		2.55um			
E	11s		2.29um			
BJI	13.31	309	eP	00 24.50	3.4X	
	2.0s		0.05nm		2.3mb X	
Z	14s		1.76um		4.8MszX	
N	16s		3.13um			
TIY	15.08	296	iPd	00 49.60	5.2X	

15d 07h

	N	13s	2.10um				
			SS	03	53.00		
HHC		16.80	306 P	01	10.60	4.0X	
	Z	14s	1.20um				
	N	12s	1.00um				
	E	13s	1.10um				
XAN		17.42	281 P	01	15.00	0.7	
	N	15s	3.30um				
BAG		17.83	210 eP	01	20.00	0.3	
GYA		20.82	260 Pc	01	58.00	4.0X	
LZH		21.63	287 eP	02	01.00	-1.2	
	Z	12s	1.60um			4.6MszX	
	N	10s	0.60um				
	E	11s	1.10um				
			pP	02	04.00	11kmX	
			eS	05	55.50		
CD2		22.06	273 P	02	07.00	0.6	
	Z	12s	1.20um			4.5MszX	
	N	11s	4.30um				
GUMO		23.28	140 eP	02	20.30	1.8	
KMI		24.60	260 Pc	02	31.50	0.0	
	Z	12s	1.60um			4.7MszX	
			eS	07	02.00		
GTA		25.10	295 eP	02	35.40	-0.7	
	Z	10s	1.00um			4.6MszX	
	N	10s	1.10um				
WMQ		34.61	302 P	04	01.50	0.5	
	Z	16s	0.60um			4.4MszX	
GBA		51.02	261 P	06	14.00	-0.1	
WB5		52.09	174 eP	06	20.00	-2.2	
CTA		54.48	161 iPc	06	43.00	3.2X	
		1.3s	30.77nm			5.2mb X	
TTA		54.73	33 eP	06	43.50	2.1	
IMA		55.59	29 eP	06	50.00	2.4	
MAIO		56.90	295 iPd	06	58.60	1.2	
FBA		58.15	30 eP	07	09.50	3.9X	
INK		62.85	25 eP	07	44.00	6.3X	
MBC		63.65	14 eP	07	40.00	-2.9	
		1.0s	5.00nm			4.7mb	
UPP		72.59	331 iP	08	40.50	1.7	
NB2		74.42	334 P	08	48.00	-1.5	
		1.2s	12.00nm			4.8mb	
KSP		78.53	324 eP	09	11.00	-1.7	
CLL		79.86	325 eP	09	06.00	-13.9X	
			e	09	23.00		
PRU		79.94	324 eP	09	24.20	3.8X	
KHC		80.97	323 eP	09	26.00	0.1	
GRF		81.78	325 iPc	09	30.40	0.3	
		1.8s	23.00nm			5.0mb X	
LRM		84.09	38 eP	09	42.00	-0.4	
CMB		84.39	48 eP	09	46.70	2.9X	
KVN		85.19	46 eP	09	47.50	-0.4	
	S.D. = 1.2		on 40 of 55 obs.				

OCT 15, 1989 07h 07m 45.20± 0.30s
17.561 S ±12.0km 178.234 W ± 4.8km
DEPTH = 545.1km (2 depth phases)
5.0mb (19 obs.)
FIJI ISLANDS REGION (181)

AFI		7.20	61 iP	09	35.00	-0.8	
DZM		15.10	250 iPd	10	56.50	1.0	
			iS	13	37.00		
AFR		27.12	94 iP	12	46.20	-0.3	
		0.8s	25.00nm			4.9mb	
PAE		27.30	95 iP	12	47.80	-0.3	
		0.8s	20.00nm			4.8mb	
PPT		27.31	94 iP	12	48.00	-0.2	
		0.8s	35.00nm			5.0mb	
PPN		27.45	94 iP	12	49.00	-0.4	
		0.8s	10.00nm			4.5mb	
TBI		27.54	107 iP	12	50.40	0.3	
		0.7s	30.00nm			5.0mb	
TVO		27.60	95 iP	12	51.20	0.4	
		0.8s	35.00nm			5.0mb	
BRS		28.46	245 iPc	12	59.00	0.8	
		0.8s	21.50nm			4.8mb	
			i	13	12.00		
			e	14	28.00		
MSZ		29.42	200 P	13	06.50	0.2	
COO		30.09	239 iPd	13	13.20	0.9	
CTA		33.67	260 iPd	13	43.00	0.5	
		0.9s	47.90nm			5.1mb	
			i	15	19.00		
CAN		34.05	232 iPd	13	46.10	0.6	
BWA		34.16	234 iPd	13	45.10	-1.4	
CMS		35.34	240 iPd	13	57.30	1.0	
		0.6s	91.00nm			5.6mb	
TOO		37.52	231 iPd	14	15.10	1.0	
		0.5s	65.00nm			5.5mb	
BFD		39.58	232 eP	14	31.50	0.6	
OIS		39.88	259 iPd	14	33.40	-0.1	
ADE		41.96	237 eP	14	50.00	0.0	
		1.0s	74.00nm			5.2mb	
WB5		44.84	259 iPd	15	12.30	-0.3	
			eS	21	12.00		
MTN		48.98	268 ePd	15	43.40	-0.8	
		0.7s	72.00nm			5.3mb	
FORR		50.27	244 iPd	15	53.00	-0.5	
		0.5s	118.00nm			5.6mb	
KNA		50.67	264 iPd	15	56.70	0.1	
		0.4s	27.00nm			5.1mb	
WARB		51.56	250 iPd	16	02.90	-0.1	
		0.5s	43.00nm			5.1mb	
COOL		56.25	244 iPd	16	35.00	-1.2	
		0.3s	16.00nm			4.8mb	
MBL		58.23	256 iPd	16	49.10	-0.6	
		0.7s	23.00nm			4.6mb	
MEKA		58.78	249 eP	16	52.80	-0.6	
KLB		59.13	243 eP	16	55.00	-0.7	
		0.3s	7.00nm			4.5mb	
NWAO		59.52	242 eP	16	57.60	-0.6	
BAL		60.08	244 iPd	17	01.00	-1.0	
MUN		60.43	243 iPc	17	04.10	-0.1	
MRWA		60.80	246 eP	17	06.10	-0.6	
NANU		61.98	253 iPd	17	14.90	0.5	
		0.5s	37.00nm			5.1mb	
KVN		79.53	43 eP	18	58.00	1.2	
			epP	20	55.50	546km	
TNP		79.59	45 eP	18	58.70	1.5	
			epP	20	56.00	545km	
CDF		148.90	353 ePKP	26	33.70	5.7X	
HAU		149.41	354 ePKP	26	34.80	6.1X	
LPF		149.52	4 ePKP	26	34.80	6.0X	
LOR		150.32	357 ePKP	26	36.60	6.5X	
SSF		150.55	358 ePKP	26	37.60	7.2X	
LBF		150.60	357 ePKP	26	37.50	6.9X	
BGF		151.07	358 ePKP	26	39.10	7.9X	
	S.D. = 0.7		on 35 of 42 obs.				

OCT 15, 1989 08h 06m 17.73± 0.19s
55.566 N ± 4.7km 164.311 E ± 3.2km
DEPTH = 33.0km (normal)
4.9mb (29 obs.) 5.0Msz (5 obs.)
KOMANDORSKY ISLANDS REGION (4)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 14S, 27C
Centroid Location:
Origin Time 08:06:21.3 0.7
Lat 55.97N 0.10 Lon 164.00E 0.11
Dep 33.0 FIX Half-duration 1.5
Moment Tensor; Scale 10**16 Nm
Mrr=-1.05 0.31 Mtt=+5.44 0.46
Mff= 6.49 0.33 Mrt= 1.06 0.83
Mrf=-0.84 1.13 Mtf= 0.78 0.60
Principal Axes:
T Val= 6.62 Plg= 6 Azm= 93
N -0.87 76 339
P -5.76 13 185
Best Double Couple:Mo=6.2*10**16
NP1:Strike=228 Dip=77 Slip= -5
NP2: 319 85 -167

SMY		6.42	112 eP	07	52.40	0.1	
ADK		11.84	100 P	09	06.70	-0.3	
KUSJ		17.78	234 P	10	16.70	-7.3X	
ASAJ		17.98	239 eP	10	26.10	-0.5	
HOOJ		18.99	235 eP	10	31.30	-7.5X	
SAP		19.41	239 eP	10	42.00	-1.7	
SDN		19.83	76 eP	10	49.50	1.3	
MRRJ		20.01	239 P	10	49.20	-0.9	
TTA		21.28	54 eP	11	04.50	1.3	
AOMJ		21.78	236 eP	11	10.90	2.6	
OFUJ		22.37	232 P	11	15.10	1.0	
IMA		22.54	45 eP	11	15.40	-0.4	
		1.0s	35.00nm			4.8mb	
KDC		23.55	67 e(P)	11	24.00	-1.5	
PMR		24.55	57 eP	11	35.00	-0.2	
MDJ		24.56	258 eP	11	33.30	-2.1	
	Z	20s	2.00um			4.6Msz	
	E	18s	2.00um				
			esP	11	47.20		
FBA		24.93	49 eP	11	37.70	-1.1	
NIIJ		25.08	234 P	11	41.70	1.3	
KAKJ		25.41	230 P	11	44.50	1.0	
CHJJ		26.06	232 P	11	50.80	1.1	
MTMJ		26.16	235 eP	11	51.70	1.0	
IIDJ		27.02	233 eP	11	59.30	0.8	
TSRJ		27.87	236 P	12	07.10	1.0	
WKYJ		29.13	235 eP	12	18.90	1.3	
YONJ		29.36	239 eP	12	20.00	0.5	
TKSJ		30.05	237 eP	12	26.90	1.2	
SHK		30.27	239 iPc	12	28.30	0.7	
		0.9s	168.07nm			5.8mb	
INK		30.39	41 eP	12	27.00	-1.4	
			pP	12	37.00	35kmX	
MBC		33.78	25 eP	12	57.00	-0.9	
		0.5s	9.00nm			4.9mb	
			pP	13	09.00	45kmX	
BJI		35.08	264 eP	13	06.50	-2.9	
		1.0s	0.01nm			1.8mb X	
	Z	16s	1.46um			4.8MszX	
	N	14s	1.29um				
HHC		37.15	269 P	13	25.00	-2.0	
	Z	18s	2.10um			5.0Msz	
TIA		37.22	259 eP	13	24.50	-3.1X	
BTO		38.19	270 P	13	34.00	-1.8	
	N	14s	1.60um				
	E	14s	1.00um				
			eS	19	22.50		
TIY		38.79	265 iPd	13	39.70	-1.1	
	N	14s	1.50um				
WHN		42.99	256 eP	14	13.60	-1.7	
			sP	14	26.00		
XAN		43.41	264 Pc	14	16.30	-2.4	
BMW		44.51	70 P	14	27.90	0.4	
RMW		44.64	68 P	14	28.60	0.0	
GTA		44.78	277 eP	14	28.20	-1.7	
	Z	18s	1.50um			5.0Msz	
	N	14s	1.00um				
LZH		44.81	270 Pc	14	28.00	-2.2	
		1.2s	0.05nm			2.3mb X	
	Z	18s	1.80um			5.0Msz	
	N	16s	2.10um				
	E	16s	1.50um				
LON		45.09	69 P	14	31.90	-0.3	
EDM		45.32	57 iP	14	33.00	-0.9	
		0.7s	26.00nm			5.2mb	
SES		48.22	59 eP	14	55.00	-1.8	
WMQ		48.47	290 Pc	14	58.50	-0.3	
	Z	16s	1.50um			5.1MszX	
	N	17s	2.90um				
	E	17s	1.80um				
			sP	15	10.00		
			eS	21	57.50		
LBFM		48.63	74 P	15	00.20	0.0	
CD2		48.65	266 eP	15	01.20	0.9	
WDC		48.80	76 eP	15	01.40	0.1	
MIN		49.48	75 eP	15	06.20	-0.5	
FFC		49.53	50 eP	15	06.00	-0.7	
		0.8s	11.00nm			4.9mb	
ORV		50.08	76 eP	15	10.60	-0.6	
GYA		50.42	259 iPd	15	13.00	-1.0	
	N	20s	1.20um				
	E	20s	1.20um				
LRM		50.57	64 eP	15	14.20	-0.9	
KEV		51.23	342 eP	15	31.00	11.6X	
BAG		51.32	238 eP	15	21.00	0.1	
ARN		51.63	78 P	15	22.90	-0.1	
CMB		51.77	76 eP	15	24.00	-0.1	
KVN		52.31	74 P	15	28.20	-0.1	
FRI		52.90	77 eP	15	31.50	-0.9	
SOD		53.39	341 iP	15	46.00	10.3X	
TNP		53.48	74 P	15	36.90	-0.1	
		0.8s	15.93nm			5.1mb	
KMI		53.66	262 Pc	15	37.50	-0.9	
BW06		54.19	65 P	15	41.40	-0.8	
FRB		54.23	26 eP	15	39.00	-2.8X	
DUG		54.34	69 P	15	48.00	4.8X	
ISA		54.55	77 eP	15	46.00	1.3	
			e	15	55.00		
QIZ		54.62	251 P	15	47.00	1.8	
CLC		54.92	76 eP	15	47.00	-0.4	
SBB		55.62	77 eP	15	52.00	-0.5	
			e	15	57.00		
GSC		55.73	76 eP	15	58.00	4.7X	
			e	16	04.00		
PAS		55.83	78 eP	15	53.00	-0.9	
MWC		55.84	78 eP	15	56.00	1.8	
			e	16	03.00		

MSU		55.90	70	P	15	55.80	1.2			0.8s	8.00nm		4.8mb	WMQ		52.99	296	eP	32 29.80 -2.5
RSSD		56.00	60	P	15	54.20	-1.1	LDF		75.39	349	eP	17 58.10 -1.2	GYA		54.24	267	P	32 41.80 0.1
RVR		56.39	78	eP	15	58.00	0.1			0.8s	8.00nm		4.8mb	SOD		56.46	344	eP	32 55.00 -2.1
LSA		56.71	275	iPc	16	01.00	0.1	FVI		75.43	340	P	18 06.50 7.0X	NUR		63.14	342	eP	33 55.00 12.0X
TPC		57.04	77	eP	16	07.00	4.4X	GRR		75.67	350	eP	18 00.00 -0.9	NB2		64.59	349	P	33 51.70 -0.9
				e	16	13.00				1.0s	16.00nm		5.0mb			0.8s	1.80nm		4.2mb
PLM		57.15	78	eP	16	03.00	-0.6	OSS		75.82	342	ePd	18 02.00 0.0	CHG		64.65	268	eP	33 53.90 0.4
				e	16	13.00		LLS		75.84	343	ePd	18 02.70 0.5	HFS		65.18	348	eP	33 54.80 -1.5
SUF		57.63	339	eP	16	05.10	-1.2	LPF		76.04	350	eP	18 02.60 -0.4			0.4s	1.80nm		4.5mb
		0.8s	16.20nm			5.1mb				1.0s	8.00nm		4.7mb	KHC		75.90	345	P	35 02.70 1.3
KSH		57.74	294	eP	16	06.00	-1.6	VDL		76.13	342	ePd	18 04.40 0.6					e	35 10.30
	E	14s	1.50um					CTI		76.17	341	P	18 04.50 0.6	HYB		77.80	283	eP	35 13.00 0.7
BAR		57.76	78	eP	16	12.00	4.4X	LOR		76.23	346	eP	18 03.50 -0.6	G8A		81.47	281	P	35 33.00 1.0
GLA		58.50	77	P	16	12.80	-0.1			0.8s	2.60nm		4.3mb		S.D. = 1.4 on 23 of 24 obs.				
GLA		58.50	77	eP	16	16.00	3.1X	BBTK		76.40	324	eP	18 05.00 -0.3	----------					
GOL		58.59	65	P	16	15.80	2.1	SSF		76.48	347	eP	18 05.40 0.0	OCT 15, 1989 08h 27m 04.00± 0.78s					
NUR		59.94	338	iP	16	21.00	-1.4	TMA		76.60	343	ePd	18 06.80 0.4	37.193 N ± 7.6km 28.583 E ± 7.4km					
		0.8s	17.60nm			5.2mb		AVF		76.76	347	eP	18 06.80 -0.2	DEPTH = 10.0km (geophysicist)					
LOE		60.37	257	iPc	16	25.50	-0.3	MMK		76.81	343	ePd	18 08.40 0.8	TURKEY					(366)
CHG		60.79	261	iPc	16	28.90	0.2	VAI		76.85	343	Pc	18 07.70 0.2						
		0.9s	118.49nm			6.0mb	X	DIX		76.87	344	ePd	18 08.90 0.9	YER		0.25	256	iPg	27 09.40 0.1
ALQ		61.61	69	P	16	34.10	-0.3	CTA		76.90	197	iPc	18 08.70 0.7					iSg	27 13.30
NB2		61.81	346	P	16	34.30	-0.9			0.8s	11.19nm		4.9mb	KSL		1.34	143	ePb	27 28.00 -0.7
		0.7s	11.40nm			5.1mb		GBA		77.15	275	P	18 09.10 -0.5	KHL		1.35	33	ePn	27 29.50 0.6
UPP		61.91	342	iP	16	34.20	-1.5	SHI		77.20	304	eP	18 09.00 -1.0	SMG		1.48	291	ePb	27 30.10 -0.6
BDT		62.02	259	eP	16	34.80	-2.1	DZM		77.34	178	iPc	18 07.30 -3.2X	IZM		1.59	319	iPn	27 32.00 -0.3
		0.9s	40.60nm			5.6mb		MFF		77.37	349	eP	18 09.70 -0.7	BCK		1.62	80	iPn	27 34.90 2.1X
HFS		62.30	344	eP	16	36.60	-1.8			1.0s	12.00nm		4.9mb	KAP		1.99	215	ePn	27 39.00 0.9
		0.6s	10.40nm			5.1mb		MAF		77.42	347	eP	18 11.00 0.3		S.D. = 0.8 on 6 of 7 obs.				
NST		62.66	257	eP	16	42.80	1.6			0.8s	5.30nm		4.6mb	----------					
NDI		65.28	285	iPc	16	57.00	-1.2	LPG		77.54	344	eP	18 12.50 0.8	OCT 15, 1989 08h 59m 09.40± 0.56s					
LNO		66.34	61	e(P)	17	04.50	-0.3			1.0s	14.00nm		4.9mb	66.931 N ± 4.4km 156.024 W ± 5.4km					
TUL		66.34	61	e(P)	17	03.40	-1.6	BOB		77.80	342	Pc	18 14.60 1.7	DEPTH = 5.0km (geophysicist)					
		1.0s	9.30nm			4.8mb		SKO		77.84	333	eP	18 15.60 2.6	ALASKA					(676)
	Z	19s	0.85um			5.0Msz		BNI		77.99	344	P	18 15.00 1.0	ML 3.9 (PMR).					
			e		17	33.30		MME		78.13	341	Pc	18 16.60 1.7						
			LR		40	00.00		VAY		78.15	332	eP	18 15.40 0.7	IMA		1.28	132	iPc	59 34.50 0.8
UYO		68.39	61	e(P)	17	21.50	3.6X	PGD		78.25	340	Pc	18 17.40 1.9	NEA		3.71	126	iP	00 09.15 0.5
MAIO		68.42	303	iPc	17	18.00	-0.2	BDI		78.28	341	Pc	18 17.20 1.7					eS	00 51.32
EKA		68.99	352	Pc	17	21.40	0.2	ARV		78.37	339	Pc	18 17.10 1.2	RDS		3.86	120	iP	00 11.23 0.5
		0.8s	6.70nm			4.8mb		CRE		78.44	340	P	18 17.60 1.2					eS	00 51.36
SNG		69.39	252	eP	17	25.40	1.2	CAF		78.76	347	eP	18 18.80 0.7	FBA		3.94	117	iPd	00 12.20 0.4
QUE		69.59	294	eP	17	24.50	-1.1			1.0s	4.80nm		4.5mb	KTH		4.01	145	iP	00 12.94 0.0
KRA		70.63	337	eP	17	31.90	0.6	OHR		78.82	333	eP	18 18.50 0.0	TTA		4.02	180	iPc	00 12.10 -0.9
			e		17	35.60		LFF		78.91	348	eP	18 19.30 0.5	GLM		4.04	115	iP	00 13.53 0.3
DMU		70.66	355	eP	17	35.60	4.2X			0.8s	5.30nm		4.6mb	CCB		4.09	120	iP	00 14.11 0.2
KSP		70.67	339	eP	17	31.00	-0.6	LPO		79.11	348	eP	18 20.40 0.4	MCK		4.37	134	iP	00 18.20 0.2
			i		17	42.00				1.0s	9.60nm		4.8mb	BRW		4.40	357	eP	00 17.30 -1.0
CLL		70.86	341	iPd	17	32.40	-0.3	WB5		79.34	209	eP	18 20.80 -0.6	ANM		4.53	243	e(P)	00 21.70 1.6
		1.5s	17.00nm			4.9mb		MNS		79.49	339	P	18 22.00 -0.1					e	00 29.00
			e		17	42.00		AZI		79.71	338	P	18 24.50 1.3	HDA		4.53	120	eP	00 19.81 -0.3
BRG		71.10	341	e(P)	17	44.00	9.8X	SDI		79.90	338	P	18 25.00 0.6	RND		4.65	136	eP	00 21.92 -0.1
DLE		71.25	354	eP	17	39.10	4.1X	ASPA		83.07	208	eP	18 38.90 -2.1	CUT		5.17	149	eP	00 29.15 -0.1
SPC		71.38	336	eP	17	36.80	0.7	BRS		83.21	190	eP	18 42.50 0.9	SKT		5.34	157	eP	00 30.85 -0.8
			e		17	47.60		BCAO		113.90	322	ePKPc	25 12.20 17.4X	NCG		5.80	161	iP	00 37.71 -0.5
MOX		71.74	342	eP	17	38.00	0.0			0.8s	7.00nm			SVW		5.85	178	iPc	00 37.80 -1.1
			i		17	49.00					ic	25	46.00	CGLM		5.91	161	iP	00 39.43 -0.4
PRU		71.83	340	P	17	39.00	0.4	ZOBO		124.18	67	ePKP	25 19.00 3.9X	PWA		5.94	150	iPc	00 40.80 0.8
			e		17	49.50		CNCB		124.70	67	ePKP	25 20.00 4.0X	DOT		6.00	118	eP	00 40.11 -0.8
MEM		72.66	346	P	17	43.60	0.2	CCH		126.14	66	ePKP	25 28.00 9.5X	PME		6.13	147	eP	00 42.33 -0.4
UCC		72.70	347	P	17	46.00	2.4	SPA		145.39	180	ePKPd	25 51.60 -0.7	PMR		6.14	148	eP	00 42.80 -0.1
GRF		72.73	342	iPc	17	44.30	0.4			1.0s	21.00nm			TOA		6.44	134	eP	00 48.90 1.7
		1.3s	21.00nm			5.0mb					e	26	07.90	DWY		7.47	105	P	01 00.80 -0.8
			e		17	48.00			S.D. = 1.1 on 152 of 174 obs.					INK		8.68	71	eP	01 18.00 -0.4
			e		17	55.70		----------						MBC		14.53	35	eP	02 38.00 0.8
VRI		72.80	330	ePd	17	47.00	2.7	* OCT 15, 1989 08h 23m 16.80± 0.58s							S.D. = 0.8 on 26 of 26 obs.				
KHC		72.84	340	iP	17	45.00	0.4	53.628 N ±13.8km 171.340 E ± 7.0km						----------					
		1.3s	18.00nm			4.9mb		DEPTH = 33.0km (normal)						* OCT 15, 1989 09h 09m 52.02± 3.22s					
ZST		73.01	338	iPd	17	46.50	1.0	4.4mb (3 obs.)						44.224 N ±15.6km 129.089 W ±21.7km					
VKA		73.12	338	eP	17	31.00	-15.2X	NEAR ISLANDS, ALEUTIAN ISLANDS (5)						DEPTH = 10.0km (geophysicist)					
			e		17	34.50		ML 4.0 (PMR).						4.5mb (1 obs.)					
			i		18	31.90								OFF COAST OF OREGON					(30)
DOU		73.36	347	Pc	17	47.60	0.1	SMY		1.89	117	eP	23 47.00 -0.3						
MLR		73.36	331	ePc	17	49.50	1.7	ADK		7.48	99	eP	25 03.20 -3.0	ONR		4.58	53	eP	11 03.15 0.2
HYB		73.44	277	iPc	17	47.50	-1.0	TTA		19.32	48	eP	27 42.00 0.3	BMW		4.70	59	eP	11 04.44 -0.3
		1.0s	50.00nm			5.5mb		KDC		20.63	64	P	27 56.40 0.8	OBH		4.79	48	eP	11 05.93 0.0
WLF		73.56	345	P	17	49.50	0.8	IMA		21.18	40	eP	28 01.20 -0.1	PGO		4.88	73	eP	11 07.38 0.2
MTN		73.63	214	eP	17	51.00	1.6	FBA		23.27	45	eP	28 22.80 1.0	RVW		4.88	65	eP	11 06.73 -0.5
CMP		73.82	331	ePc	17	53.00	2.7	CN2		31.33	271	Pc	29 34.80 -1.2	OOW		4.90	42	eP	11 07.43 0.0
PSI		74.05	251	iPd	17	51.80	-0.2	MBC		33.87	24	eP	29 58.00 0.2	CPW		5.00	55	eP	11 08.83 -0.1
			e		19	50.00				0.6s	3.00nm		4.4mb	LVP		5.07	66	eP	11 10.26 0.3
CDF		74.62	344	eP	17	54.70	-0.3	EDM		42.89	59	iP	31 14.50 1.1	SMW		5.07	50	eP	11 09.42 -0.5
KBA		74.85	340	eP	17	57.00	0.5	LBFM		45.13	77	eP	31 33.00 1.2	OTR		5.08	39	eP	11 09.88 -0.1
			e		18	14.00		WHN		46.68	264	Pc	31 46.00 2.1	OSP		5.12	36	eP	11 11.20 0.7
SLE		75.05	343	ePd	17	57.20	-0.2	KVN		48.82	77	eP	32 01.50 0.7	CZM		5.14	62	eP	11 10.27 -0.6
HAU		75.16	345	eP	17	57.50	-0.5	GTA		49.15	284	P	32 03.20 0.0	APW		5.14	60	eP	11 10.70 -0.2
FLN		75.27	350	eP	17	57.80	-0.8	TNP		49.99	78	eP	32 10.40 0.6	OBC		5.16	41	eP	11 11.24 0.0

15d 09h

VLMM	5.18	73	eP	11	11.12	-0.4
MTMW	5.19	67	eP	11	11.49	-0.1
OSD	5.20	44	eP	11	11.64	-0.2
STD	5.25	65	eP	11	12.86	0.3
YEL	5.26	65	eP	11	13.21	0.4
TDL	5.30	64	eP	11	13.17	0.0
CDFW	5.33	67	eP	11	13.68	0.1
KOSW	5.35	63	eP	11	13.53	-0.4
LMW	5.37	61	eP	11	14.53	0.3
VLL	5.41	74	eP	11	15.36	0.5
VBEM	5.42	79	eP	11	15.13	0.2
HDW	5.43	49	eP	11	15.39	0.4
STW	5.44	42	eP	11	14.78	-0.3
GMW	5.51	51	eP	11	15.93	-0.2
VFP	5.54	76	eP	11	16.94	0.3
ASR	5.64	67	eP	11	17.83	-0.2
RVC	5.69	59	eP	11	18.92	0.3
BLN	5.69	46	eP	11	19.35	0.7
LON	5.71	61	eP	11	18.50	-0.4
WPW	5.85	62	eP	11	21.06	0.1
FMW	5.87	60	eP	11	21.21	-0.1
FFC	20.38	49	eP	14	31.00	-0.3
	1.2s	26.00nm			4.5mb	
	S.D. = 0.3 on 36 of 36 obs.					

? OCT 15, 1989 09h 17m 58.25± 0.99s
38.384 N ±10.5km 22.810 E ±11.0km
DEPTH = 33.0km (normal)
GREECE (364)

ATH	0.82	120	eP	18	12.60	-0.8
NEO	0.98	19	eP	18	16.10	0.4
VLI	1.67	176	eP	18	26.40	0.9
VLS	1.76	264	eP	18	26.40	-0.5
	S.D = 1.4 on 4 of 4 obs.					

OCT 15, 1989 10h 05m 04.78± 0.35s
60.320 S ± 6.0km 150.091 E ± 8.9km
DEPTH = 10.0km (geophysicist)
5.2mb (5 obs.) 5.8Msz (9 obs.)
WEST OF MACQUARIE ISLAND (701)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 19S, 45C
Centroid Locotion:
Origin Time 10:05:17.3 0.3
Lat 59.95S 0.03 Lon 149.42E 0.05
Dep 15.0 FIX Half-duration 3.8
Moment Tensor; Scale 10**17 Nm
Mrr=-0.67 0.22 Mtt= 6.89 0.24
Mff=-6.21 0.25 Mrt= 0.00 0.00
Mrf= 0.00 0.00 Mtf=-8.83 0.27
Principal Axes:

	Val=	Plg=	Azm=
T	11.33	0	207
N	-0.67	90	180
P	-10.65	0	117

Best Double Couple:Mo=1.1*10**18
NP1:Strike=252 Dip=90 Slip=-180
NP2: 342 90 0

DRV	7.79	211	eP	07	01.00	0.2
SBA	18.44	169	eP	09	17.00	-4.5X
MSZ	18.96	42	P	09	28.60	0.5
TOO	22.96	351	eP	10	16.00	6.0X
WEL	24.37	50	P+	10	24.00	0.4
			S	14	48.00	
CAN	25.02	358	eP	10	31.40	1.3
			i	10	35.10	
CNB	25.03	359	iPd	10	35.80	5.7X
BWA	25.93	357	eP	10	39.00	0.4
			i	10	44.70	
COO	29.77	3	eP	11	18.00	4.5X
SPA	29.85	180	e(P)	11	13.90	-0.2
Z	20s	16.85um			5.7Msz	
FORR	32.92	324	eP	11	41.00	0.0
BRS	32.97	4	iP	11	35.00	-6.6X
			i	12	46.50	
			e(S)	16	58.00	
RMO	33.83	358	eP	11	48.00	-1.0
MAW	35.87	221	eP	12	07.00	1.0
MUN	36.07	306	eP	12	09.00	0.8
Z	20s	26.90um			6.0Msz	
N	20s	16.20um				
E	20s	9.00um				
BAL	37.09	308	eP	12	16.50	-0.2
WARB	37.73	324	eP	12	21.50	-0.6
ASPA	38.33	336	iPc	12	26.30	-0.9
	0.9s	45.00nm			5.2mb	
Z	21s	14.52um			5.8Msz	
		eS		18	27.20	
		LR		25	20.20	
MRWA	38.60	308	eP	12	30.00	0.6
DZM	39.91	24	iPc	12	39.30	-1.2
MEKA	39.99	313	eP	12	41.60	0.6
CTA	40.28	354	iPc	12	43.00	-0.4
	1.0s	82.00nm			5.4mb	
Z	22s	12.22um			5.7Msz	
		iS		18	45.00	
OIS	40.42	345	eP	12	43.00	-1.5
WB5	41.92	338	eP	12	55.60	-1.3
MBL	44.56	318	iPc	13	18.20	-0.1
	0.7s	20.00nm			5.1mb	
MTN	49.41	335	eP	13	55.00	-1.4
HNR	51.32	12	eP	14	12.00	1.0
		e(S)		21	36.00	
		eLR		28	58.00	
RAB	56.01	3	eP	14	48.00	2.4
		iS		22	36.00	
GUMO	73.77	355	eP	16	36.50	-4.2X
SNG	77.69	309	eP	16	52.80	-10.1X
		eS		26	55.00	
BAG	80.09	331	eP	17	15.00	-1.1
PRY	81.30	230	eP	17	19.00	-3.6X
BFS	81.59	229	eP	17	22.50	-1.5
SWZ	81.88	228	eP	17	30.00	4.5X
SLR	82.07	231	eP	17	28.00	1.4
KSR	82.48	230	eP	17	29.50	0.7
	0.9s	7.69nm			4.8mb	
OIZ	85.51	322	Pc	17	47.50	3.8X
N	22s	3.25um				
E	22s	4.00um				
		eS		28	18.00	
BUL	86.98	233	iPc	17	57.10	5.7X
	1.1s	15.19nm			5.1mb	
BDT	87.53	312	eP	17	53.00	-0.6
OZH	88.77	332	eP	18	01.50	2.1
Z	25s	2.00um			5.4MszX	
		eSKS		28	30.00	
		SS		34	38.00	
CHG	88.99	312	eP	18	02.30	1.7
GBA	93.35	292	P	18	24.00	3.2X
GYA	93.46	322	P	18	25.00	3.7X
N	22s	3.60um				
		SKS		28	59.00	
KMI	93.47	318	eP	18	25.00	3.5X
Z	20s	3.30um			5.8Msz	
E	20s	2.60um				
		e		18	26.00	
		SKS		29	00.00	
		S		29	35.00	
		iS		29	37.00	
		sS		30	51.00	
CNCB	97.24	143	eP	18	38.00	-1.5
LPB	97.46	143	eP	18	40.00	-0.4
Z	22s	2.96um			5.7Msz	
		LR		51	14.00	
ZOBO	97.71	143	eP	18	28.00	-13.7X
	1.5s	8.06nm				
Z	24s	2.00um			5.5MszX	
		e		18	41.00	
		LR		51	20.00	
SIO	131.80	89	e(PKP)	24	14.80	-4.2X
TUL	132.19	90	ePKP	24	19.40	-0.3
	1.3s	10.10nm				
Z	19s	2.71um			6.0Msz	
		LR		07	17.00	
LNO	132.19	90	e(PKP)	24	19.30	-0.2
SES	135.69	65	ePKP	24	27.00	1.1
EDM	136.65	60	ePKP	24	25.00	-2.7X
INK	139.61	34	ePKP	24	34.00	1.4
VAY	143.02	263	ePKP	24	39.60	0.1
CBN	143.06	105	ePKP	24	37.00	-2.6X
OHR	143.73	261	ePKP	24	40.20	-0.6
	2.1s	0.20nm				
ISR	143.84	271	ePKPc	24	44.00	3.2X
SKO	144.07	263	iPKP	24	40.00	-1.2
	2.0s	124.00nm				
		i		24	59.00	
		i		25	33.60	
VRI	144.27	272	ePKPc	24	41.00	-0.5
MLR	144.39	271	ePKPc	24	40.50	-1.4
MCT	144.46	250	PKP	24	46.20	3.9X
CMP	144.68	270	ePKPc	24	44.00	1.8X
TDS	144.79	255	PKPc	24	46.60	4.1X
SGO	145.98	255	PKP	24	46.50	2.0X
BZS	146.63	267	ePKP	24	28.50	-16.9X
BEO	146.64	265	ePKP	24	49.00	3.6X
TIO	146.96	217	iPKP	24	50.00	3.4X
MBC	147.49	26	ePKP	24	48.50	2.6X
	1.1s	26.00nm				
AZI	147.98	255	PKP	24	55.00	7.3X
MNS	148.65	255	PKP	24	52.50	3.7X
IFR	148.67	222	iPKP	24	57.00	7.7X
BUD	149.22	268	ePKP	24	55.00	5.5X
ARV	149.36	256	PKP	24	56.50	6.6X
ZAG	149.57	262	ePKP	24	53.50	3.5X
PTJ	149.64	263	ePKP	24	54.10	3.8X
SPC	149.75	271	ePKP	24	58.60	8.1X
SRO	149.79	268	i(PKP)	25	05.50	15.2X
FIR	150.38	255	ePKP	25	10.00	18.7X
LJU	150.44	261	e(PKP)	24	52.00	0.6
KRA	150.46	272	ePKP	24	58.70	7.5X
			e	25	00.40	
			e	25	10.80	
SOP	150.58	266	ePKP	24	57.10	5.6X
ZST	150.65	267	ePKP	25	05.00	13.4X
VOY	150.75	261	ePKP	24	50.00	-2.0X
BDI	150.91	254	PKP	24	55.60	3.4X
APHE	151.26	227	ePKP	25	06.00	12.9X
FVI	151.69	260	PKPc	25	02.80	9.6X
AAPN	151.73	227	ePKP	25	03.00	9.3X
CTI	151.86	258	PKP	24	59.80	6.2X
KSP	152.77	271	ePKP	24	57.50	2.9X
			e	25	05.50	
KHC	153.02	265	PKP	25	04.80	9.7X
Z	18s	1.40um			5.8Msz	
N	18s	1.00um				
E	18s	0.70um				
			e	25	13.50	
PRU	153.10	268	ePKP	25	02.50	7.4X
Z	20s	1.40um			5.8Msz	
N	20s	1.40um				
E	20s	0.70um				
			e	25	06.00	
CLL	154.69	268	(PKP)	25	09.00	11.8X
	2.0s	56.00nm				
			e	25	25.00	
SOD	154.96	310	ePKP	25	09.00	11.9X
	S.D. = 1.1 on 42 of 93 obs.					

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* OCT 15, 1989 10h 18m 07.74± 0.96s
52.641 S ±16.3km 160.406 E ±14.7km
DEPTH = 10.0km (geophysicist)
4.9mb (3 obs.)
MACQUARIE ISLANDS REGION (167)

CBZ	5.34	93	iPc	19	30.00	0.7
			eS	20	29.00	
MSZ	9.39	35	P	20	34.40	8.4X
TOO	18.32	319	eP	22	23.00	-0.5
CNB	19.02	331	eP	22	32.00	0.0
CAN	19.12	330	eP	22	35.10	1.9
			i	22	37.10	
			eTT	39	17.00	
BWA	20.13	330	eP	22	43.70	-0.8
			eTT	40	00.00	
DZM	30.87	11	iPc	24	31.00	4.7X
CTA	34.30	336	iPd	24	53.70	-2.5
	1.5s	55.56nm			5.3mb	
ASPA	35.26	315	eP	25	03.60	-0.9
	1.1s	13.00nm			4.7mb	
COOL	35.84	292	eP	25	10.50	1.2
WARB	36.57	303	eP	25	17.00	1.6
SPA	37.55	180	e(P)	25	22.80	-0.7
	1.0s	19.50nm			4.8mb	
MUN	37.89	285	eP	25	28.60	2.1X
WB5	38.43	318	eP	25	33.90	2.8X
	S.D. = 1.5 on 10 of 14 obs.					

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* OCT 15, 1989 10h 31m 59.93± 4.74s
67.067 N ±31.9km 156.518 W ±23.6km
DEPTH = 5.0km (geophysicist)
ALASKA (676)
ML 3.1 (PMR).

IMA	1.52	130	iPc	32	28.00	0.1
NEA	3.95	126	eP	33	02.68	0.2
RDS	4.10	119	eP	33	05.01	0.4
TTA	4.16	177	eP	33	05.50	0.0
FBA	4.18	117	ePd	33	05.70	0.0
KTH	4.24	144	eP	33	06.28	-0.3

GLM	4.27	115	eP	33	07.01	-0.1
CCB	4.32	120	eP	33	07.57	-0.2
MCK	4.61	133	eP	33	11.59	-0.3
HDA	4.76	120	eP	33	13.86	-0.2
CUT	5.39	147	eP	33	23.42	0.5
SKT	5.54	155	eP	33	24.15	-0.9
NCG	5.99	159	eP	33	31.46	0.0
SVW	6.00	176	eP	33	31.30	-0.2
BGL	6.10	161	eP	33	33.29	0.3
CGLM	6.11	159	eP	33	32.99	-0.1
PWA	6.15	149	eP	33	33.80	0.2
CKL	6.17	161	eP	33	34.78	0.8
SPU	6.22	160	eP	33	34.33	-0.3
PME	6.35	146	eP	33	36.62	0.2
PMR	6.36	146	eP	33	36.50	-0.1

S.D. = 0.4 on 21 of 21 obs.

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* OCT 15, 1989 11h 37m 03.74± 1.19s
32.383 S ±21.1km 138.603 E ± 9.9km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF AUSTRALIA (600)

STK	2.58	80	eP	37	48.00	1.7
			eS	38	18.00	
BFD	5.78	147	e(P)	38	24.00	-7.5X
			eS	39	39.00	
CMS	6.21	84	eP	38	37.00	-0.6
			eS	39	44.00	
BWA	8.46	107	eP	39	12.80	3.6X
			eS	40	47.30	
FORR	9.09	277	eP	39	18.40	0.6
	0.3s	10.00nm			5.7mb	X
			eS	40	55.00	
CAN	9.13	112	eP	39	17.60	-0.9
			i	39	19.40	
			eS	41	01.20	
ASPA	9.62	333	iPd	39	24.60	-0.7
	0.4s	20.00nm			5.9mb	X
WARB	12.13	298	eP	39	56.60	-2.9X
			eS	42	03.00	

S.D. = 1.6 on 5 of 8 obs.

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* OCT 15, 1989 11h 58m 11.77± 2.53s
37.328 N ±29.7km 35.808 E ±11.8km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
ML 3.7 (BHL).

GAZ	1.13	98	iPn	58	32.90	0.0
FAM	2.75	213	eP	58	56.00	-0.7
CSS	3.10	221	eP	59	02.00	0.4
BHL	3.42	182	Pn	59	06.50	0.2
			Sn	59	48.00	
BBTK	3.46	317	ePgd	59	28.00	21.1X
			iSg	00	19.00	
PPCY	3.72	230	eP	59	10.50	0.1
KVT	3.75	3	ePn	59	29.00	18.0X
SHMJ	4.59	180	Pd	59	20.50	-2.3X
MSL	5.96	97	ePnc	00	03.00	20.8X
			eSn	01	12.00	
			eS*	01	26.00	

S.D. = 0.6 on 5 of 9 obs.

? OCT 15, 1989 12h 33m 25.87± 1.03s
40.451 N ± 8.6km 21.782 E ± 9.8km
DEPTH = 5.0km (geophysicist)
GREECE (364)

KZN	0.14	183	iPgc	33	28.40	-0.5
			eSg	33	30.30	
OHR	1.00	312	ePn	33	45.80	0.5
VAY	1.06	34	ePn	33	45.20	-1.0
PLG	1.27	93	ePb	33	50.90	0.9
SKO	1.54	350	eP	34	07.00	13.0X
NEO	1.59	135	ePg	33	57.90	3.1X

S.D. = 1.6 on 4 of 6 obs.

OCT 15, 1989 13h 15m 56.84± 0.74s
37.005 N ± 7.1km 35.951 E ± 9.2km
DEPTH = 33.0km (normal)
TURKEY (366)
ML 3.9 (BHL).

GAZ	1.02	80	iPn	16	14.90	0.0
FAM	2.55	219	eP	16	36.00	-0.8
BHL	3.10	185	Pn	16	46.00	1.3
			Sn	17	28.00	
PPCY	3.61	235	eP	16	55.15	3.3X
HRI	3.73	183	eP	16	52.00	-1.6
BBTK	3.78	319	eP	16	55.00	0.7
			eS	18	00.00	
KVT	4.07	1	ePn	17	12.00	13.6X
BCK	4.30	278	ePn	17	04.20	2.5X
KAS	4.68	339	eP	17	13.25	6.2X
BURJ	4.75	182	Pc	17	09.00	0.9
DSI	5.44	185	eP	17	20.00	2.3X
MSL	5.82	94	ePnc	17	41.50	18.4X
			eSn	18	57.00	
YER	6.13	274	ePn	17	28.30	0.7
DST	6.32	296	iPn	17	37.50	7.3X
IZM	7.03	284	ePg	17	36.00	-4.1X
MBH	7.27	187	eP	17	40.00	-3.4X
SLY	7.84	97	ePn	18	31.00	39.6X
			eSn	20	12.50	
			iS*	20	40.50	
BHD	7.85	116	eP	18	38.00	46.5X
			e	20	11.00	
			e	20	40.00	
PRU	20.15	317	P	20	30.70	-0.2
KHC	20.26	314	P	20	31.00	-1.1

S.D. = 1.1 on 9 of 20 obs.

& OCT 15, 1989 13h 20m 35.18s
61.998 N 149.248 W
DEPTH = 41.4km
SOUTHERN ALASKA (2)
<AGS-P>.

PME	0.38	164	eP	20	43.76	-0.8
			eS	20	50.96	
PWA	0.46	221	iP	20	45.07	-0.4
			eS	20	52.85	
CUT	0.63	311	iP	20	46.82	-0.9
			eS	20	56.22	
PMS	0.77	191	iP	20	49.13	-0.6
			eS	21	00.37	
SUA	0.89	234	iP	20	51.06	-0.5
			eS	21	04.97	
HUR	1.00	350	eP	20	52.24	-0.7
			eS	21	05.90	
SKT	1.08	270	iP	20	52.96	-1.1
			iS	21	07.65	
NCA	1.14	89	eP	20	54.27	-0.7
			eS	21	09.11	
CGLM	1.49	243	iP	20	59.98	0.0
			eS	21	19.19	
NCG	1.51	248	eP	20	59.64	-0.6
			eS	21	19.42	
GLI	1.53	136	eP	20	58.90	-1.5
SLKM	1.57	198	eP	21	01.21	0.2
			eS	21	21.13	
SPU	1.57	240	eP	21	01.06	0.0
			eS	21	21.78	
VZW	1.60	125	eP	21	00.74	-0.7
VLZ	1.64	121	eP	21	01.08	-0.9
			eS	21	21.96	
KLU	1.66	106	eP	21	01.67	-0.7
			eS	21	22.29	
BGL	1.67	245	eP	21	02.89	0.3
CKL	1.68	243	eP	21	02.69	0.0
KTH	1.74	334	eP	21	03.03	-0.5
PAX	2.01	59	iP	21	07.48	0.1
RDT	2.09	228	eP	21	07.89	-0.7

21 obs. assocloted

? OCT 15, 1989 13h 41m 18.14± 7.20s
44.249 N ±30.4km 6.610 E ±38.7km
DEPTH = 5.0km (geophysicist)
FRANCE (538)
ML 2.0 (GEN).

PZZ	0.44	54	P	41	26.89	0.0
			S	41	31.50	
STV	0.51	90	P	41	28.63	0.2
			S	41	34.88	
ENR	0.58	92	P	41	29.65	-0.2
			S	41	36.53	
RRL	0.68	10	P	41	31.81	0.0
			S	41	40.11	

S.D. = 0.3 on 4 of 4 obs.

OCT 15, 1989 14h 03m 51.53± 0.65s
40.839 N ± 5.3km 22.928 E ± 6.2km
DEPTH = 10.0km (geophysicist)

GREECE						(364)
ML 2.2 (SKO).						
THE	0.21	172	iPg	03	56.90	0.8
			eSg	04	00.20	
KNT	0.32	356	iPg	03	58.40	0.2
			eSg	04	02.70	
GRG	0.42	287	ePg	03	59.80	-0.2
			eSg	04	05.50	
VAY	0.55	331	iPg	04	09.00	6.3X
			iSg	05	08.60	
SRS	0.57	61	ePg	04	03.20	0.0
			eSg	04	11.00	
LIT	0.81	205	ePg	04	07.30	0.1
			eSg	04	20.00	
OUR	0.95	122	ePg	04	09.90	0.3
			eSg	04	25.10	
PAIG	1.08	148	ePg	04	10.60	-1.2
			eSg	04	26.60	

S.D. = 0.8 on 7 of 8 obs.

OCT 15, 1989 14h 36m 03.66± 0.46s
21.995 N ± 5.7km 101.718 E ±10.7km
DEPTH = 10.0km (geophysicist)
BURMA-CHINA BORDER REGION (297)
ML 4.5 (BJI).

KMI	3.25	17	ePn	36	54.00	-1.9
E	10s	5.70um				
			Pg	37	06.50	
			Sn	37	40.50	
			e	37	44.00	
			Sg	37	56.00	
CHG	4.10	220	ePn	37	06.80	-0.9
			ePg	37	19.00	
			iSg	38	13.50	
LOE	4.56	180	ePn	37	15.00	0.6
			ePg	37	30.00	
			eSn	38	05.00	
			eSg	38	34.00	
BDT	5.37	209	ePn	37	22.00	-3.8X
			ePg	37	40.00	
			eSg	38	15.20	
GYA	6.33	44	Pn	37	40.00	0.5
			Sn	38	52.40	
			Sg	39	31.60	
NST	6.46	194	ePn	37	41.10	-0.1
			ePg	38	18.00	
			eSg	39	29.20	
CD2	9.06	11	eP	38	17.60	0.1
Z	11s	1.13um				
E	10s	1.74um				
NNT	9.54	192	eP	38	24.00	-0.1
XAN	13.57	26	P	39	18.00	-0.7
WHN	14.16	50	Pc	39	30.20	3.7X
GTA	17.44	355	eP	40	10.80	2.1
TIY	18.19	28	eP	40	17.60	-0.4
N	12s	0.73um				
E	12s	0.72um				
PSI	19.38	188	ePc	40	33.50	0.9
			e	42	20.00	
BTO	19.84	19	eP	40	36.10	-1.5
N	12s	0.80um				
E	13s	0.50um				
			epP	40	43.00	27kmX
HHC	20.56	22	eP	40	45.00	-0.2
BJI	21.79	31	eP	40	58.50	0.9
HYB	22.27	262	eP	41	02.00	-0.6
GBA	24.55	254	P	41	24.00	-0.8
WMQ	24.68	335	eP	41	28.20	2.3
WB5	52.44	140	eP	45	19.00	0.1

S.D. = 1.2 on 18 of 20 obs.

OCT 15, 1989 14h 49m 34.75± 0.48s
44.368 N ± 3.7km 7.311 E ± 4.4km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.3 (GEN).

STV	0.12	175	P	49	38.08	0.2
			S	49	40.13	
DOI	0.14	341	P	49	38.40	0.2
			eSg	49	40.50	
ENR	0.16	151	P	49	38.70	0.2
			S	49	41.26	
PZZ	0.20	313	P	49	38.90	-0.4
			S	49	41.67	

15d 14h

ROB	0.41	100	P	49	43.31	0.2
			S	49	49.57	
SAOF	0.42	155	Pg	49	42.90	-0.4
			Sg	49	48.90	
AURF	0.48	179	Pg	49	44.40	-0.1
			Sg	49	51.27	
MVIF	0.48	194	Pg	49	44.81	0.2
			Sg	49	50.81	
IMI	0.62	137	P	49	46.80	-0.5
			S	49	55.52	
FIN	0.66	103	P	49	47.93	-0.1
			S	49	57.08	
PCP	0.90	78	P	49	51.93	-0.1
			S	50	04.02	

S.D. = 0.3 on 11 of 11 obs.

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* OCT 15, 1989 16h 00m 27.29± 1.47s
36.862 N ± 7.1km 9.851 W ±13.6km
DEPTH = 33.0km (normal)
4.5mb (1 obs.)
WEST OF GIBRALTAR (384)
mbLg 4.1 (MDD). MD 4.3 (RBA).

LIS	1.93	17	iPc	00	59.20	0.8
			iS	01	20.40	
EVAL	2.58	73	iPnc	01	08.00	0.3
			eSn	01	35.00	
CNIL	3.10	98	iP	01	16.00	1.1
EJIF	3.55	95	iPnc	01	22.60	1.2
			eSn	02	01.70	
OJEN	3.56	101	iP	01	20.00	-1.6
EPRU	3.70	87	ePn	01	24.20	0.6
			eSn	02	04.00	
EHOR	3.79	74	iPnc	01	24.90	0.1
			eSn	02	04.80	
AVE	4.08	150	iPn	01	29.50	0.6
			iSn	02	13.00	
EPLA	4.36	42	iPnc	01	32.20	-0.7
			eSn	02	18.00	
EBAN	4.99	73	iPn	01	41.20	-0.8
			eSn	02	33.00	
AFC	5.06	84	iPn	01	42.90	-0.1
			eSn	02	37.00	
IFR	5.11	129	iPnd	01	42.60	-1.1
			iSn	02	37.00	
EZAM	5.36	9	iPn	01	46.00	-1.0
			eSn	02	41.00	
TOL	5.47	55	iPnd	01	48.00	-0.6
			iSn	02	45.20	
			iSb	02	57.50	
GUD	5.84	48	iPn	01	52.20	-1.7X
			eSn	02	53.50	
ERUA	5.91	20	ePn	01	53.00	-1.8X
			eSn	02	56.00	
EVIA	6.09	71	ePn	01	55.50	-1.9X
			eSn	03	00.50	
STS	6.10	9	ePn	01	56.00	-1.5X
			eSn	02	58.50	
TIO	6.30	159	iPnc	01	59.50	-0.9X
			i	02	54.00	
			iSn	03	07.40	
EMON	6.84	16	iPn	02	06.00	-1.9X
			eSn	03	17.00	
ETOR	7.25	55	ePn	02	11.60	-2.2X
			eSn	03	27.00	
EBR	8.99	61	eP	02	46.50	8.8X
			e	04	11.00	
			e	04	19.00	
EPF	9.95	49	Pn	02	48.80	-2.3X
			Sn	04	30.80	
LFF	11.36	41	Pn	03	07.50	-2.8X
LPO	11.44	44	Pn	03	08.80	-2.5X
RJF	12.02	42	Pn	03	15.70	-3.4X
CAF	12.08	44	Pn	03	16.50	-3.5X
MFF	12.12	34	Pn	03	17.30	-3.2X
LSF	12.66	39	Pn	03	25.10	-2.6X
			Sn	05	36.60	
LPF	12.91	27	Pn	03	28.60	-2.3X
TCF	13.03	40	Pn	03	29.30	-3.4X
MAF	13.17	41	Pn	03	30.90	-3.6X
GRR	13.27	27	Pn	03	33.40	-2.4X
BGF	13.54	40	Pn	03	36.00	-3.3X
			Sn	05	55.40	
LDF	13.72	28	Pn	03	39.20	-2.4X
FLN	13.72	27	Pn	03	39.40	-2.3X
SSF	14.21	40	Pn	03	45.50	-2.7X
DOU	16.84	34	Pc	04	21.40	-0.5
	0.4s		15.70nm			4.5mb
			S	07	20.30	
WLF	17.26	37	P	04	27.50	0.3
MEM	17.84	35	P	04	35.80	1.5

S.D. = 1.0 on 17 of 40 obs.

? OCT 15, 1989 16h 02m 36.32± 5.77s
43.006 N ±33.3km 1.032 W ±27.1km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

BOH	0.10	9	Pg	02	39.35	0.2
			Sg	02	40.03	
ELYF	0.17	10	Pg	02	39.87	-0.3
			Sg	02	40.69	
ISSF	0.17	83	Pg	02	40.19	-0.2
			Sg	02	42.99	
MADF	0.21	48	Pg	02	41.06	0.2
			Sg	02	41.78	
ATE	0.25	71	Pg	02	41.79	0.1

S.D. = 0.3 on 5 of 5 obs.

? OCT 15, 1989 16h 33m 21.26± 7.06s
6.150 S ±50.2km 149.371 E ±41.4km
DEPTH = 55.8 ± 31.4 km
4.1mb (2 obs.)
NEW BRITAIN REGION (192)

LAT	2.41	258	eP	33	59.00	0.0
KDB	3.96	213	iPd	34	21.00	0.0
			eS	35	04.00	
WB5	19.97	226	eP	37	51.00	-0.8
			e	38	03.00	
BRS	21.37	172	iPc	38	06.00	-0.1
	1.0s		5.50nm			3.9mb
ASPA	22.91	219	iPc	38	22.20	0.9
	0.7s		10.00nm			4.4mb

S.D. = 1.2 on 5 of 5 obs.

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* OCT 15, 1989 16h 38m 48.43± 1.13s
34.085 N ±11.1km 26.508 E ± 9.8km
DEPTH = 33.0km (normal)
CRETE (370)
MD 3.8 (ATH).

NPS	1.39	328	ePn	39	11.30	-0.4
KAP	1.56	20	ePn	39	14.40	0.2
VAM	2.31	305	ePb	39	31.10	6.1X
APE	3.08	345	ePn	39	37.60	1.6
KSL	3.24	50	ePn	39	37.50	-0.6
YER	3.37	25	eP	39	38.90	-1.2
SMG	3.63	4	ePb	39	52.10	8.5X
VLI	3.93	313	ePn	39	47.40	-0.5
CSS	5.70	79	eP	40	14.00	1.0
PRNI	8.10	115	eP	40	46.00	-0.7
MBH	8.31	119	eP	40	50.00	0.4

S.D. = 1.0 on 9 of 11 obs.

OCT 15, 1989 16h 44m 33.93± 0.60s
12.797 S ± 9.0km 76.691 W ±11.8km
DEPTH = 71.5 ± 5.1 km
5.0mb (1 obs.)
NEAR COAST OF PERU (115)
Felt (III) at Lima.

PT02	0.29	120	iPd	44	44.90	-0.5
PT10	0.77	339	iPc	44	50.50	0.6
NNA	0.82	350	iPc	44	50.90	0.3
	0.6s		193.33nm			
			eS	45	02.50	
PT08	0.84	10	eP	44	51.00	-0.2
PT06	1.08	161	iPd	44	54.40	0.6
PT03	1.47	144	iPd	44	58.60	-0.4
ARE	6.21	127	eP	46	05.00	-0.4
			iS	47	26.50	
ZOBO	8.98	114	P	46	43.00	-0.9
			S	49	28.00	
LPB	9.11	115	eP	46	46.00	0.6
CNCB	9.32	116	P	46	48.30	-0.2
PPD	25.86	114	eP	50	02.40	1.6
KVN	64.43	325	eP	55	05.00	-0.2
SES	69.74	337	ePc	55	37.50	-0.7
EDM	72.86	338	iP	55	56.00	-0.9
MBC	92.41	351	eP	57	38.00	0.7
	0.7s		4.00nm			5.0mb

S.D. = 0.8 on 15 of 15 obs.

? OCT 15, 1989 16h 55m 11.13± 2.50s
39.840 N ±35.6km 32.843 E ±11.9km
DEPTH = 5.0km (geophysicist)
TURKEY (366)
Felt at Ankara.

BBTK	0.06	272	iPgc+	55	11.50	-1.4
KAS	1.68	24	ePn	55	40.50	-0.9
			iSg	56	03.00	
GPA	2.00	284	ePn	55	46.00	0.1
KVT	2.74	62	ePn	55	57.00	0.4
YLV	2.76	286	ePn	55	59.00	2.1X
KHL	2.99	241	ePn	56	05.00	4.8X
DST	3.26	267	ePn	56	11.50	7.5X
CTT	3.61	293	ePn	56	10.00	1.1

S.D. = 1.4 on 5 of 8 obs.

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* OCT 15, 1989 17h 25m 54.42± 1.10s
43.714 N ±11.3km 13.136 E ± 8.6km
DEPTH = 33.0km (normal)
CENTRAL ITALY (381)

ARV	0.26	213	Pc	26	01.50	-0.2
			eSg	26	05.10	
AOI	0.38	116	iPg	26	03.18	-0.1
			iSg	26	07.82	
CIO	0.52	179	iPgc	26	05.14	-0.3
			iSg	26	13.34	
CRE	0.86	265	P	26	09.50	-0.8
			eSg	26	19.60	
SFI	0.95	283	P	26	11.50	0.1
			eSg	26	24.50	
PGD	1.04	279	P	26	13.30	0.5
			eSg	26	27.40	
MNS	1.37	194	P	26	18.00	0.5

S.D. = 0.6 on 7 of 7 obs.

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* OCT 15, 1989 18h 10m 55.07± 1.63s
42.757 N ±23.4km 17.184 E ±12.1km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)
ML 2.3 (TTG).

HVAR	0.68	308	iPg	11	08.50	-0.1
			iSg	11	19.50	
BRY	1.01	81	ePg	11	13.00	-1.3
			eSg	11	27.00	
HCY	1.02	107	ePg	11	15.40	1.1
			eSg	11	31.00	
BDV	1.30	111	ePg	11	18.50	-0.7
			eSg	11	39.00	
NKY	1.34	87	ePg	11	19.70	-0.1
			eSg	11	38.00	
PLE	1.72	70	ePg	11	26.50	1.2
			eSg	11	48.00	
VOY	4.03	325	e(Pn)	11	48.00	-10.3X
			eSn	13	05.00	

S.D. = 1.3 on 6 of 7 obs.

& OCT 15, 1989 18h 58m 45.00s
62.881 N 148.189 W
DEPTH = 57.0km
CENTRAL ALASKA (1)
<AGS-P>.

RND	0.61	331	iP	58	58.04	-0.1
			iS	59	08.08	
HUR	0.67	279	iP	58	58.77	-0.1
			iS	59	09.47	
MCK	0.92	339	iP	59	02.06	0.0
			eS	59	14.33	
CUT	1.07	244	iP	59	03.91	-0.1
			iS	59	18.04	
NCA	1.09	144	eP	59	04.15	-0.2
			eS	59	21.07	
PAX	1.25	85	iP	59	06.15	-0.4
			eS	59	21.75	
SDG	1.27	105	iP	59	06.91	0.1
			eS	59	22.69	
PME	1.32	198	eP	59	07.27	-0.2
			eS	59	24.04	
PLRM	1.37	199	eP	59	07.93	-0.2
PMR	1.37	199	eP	59	07.70	-0.4
DDM	1.39	48	eP	59	09.27	0.8
			eS	59	28.24	
KTH	1.41	300	iP	59	08.95	0.2

			eS	59	26.87	
PWA	1.47	213	eP	59	09.88	0.4
HDA	1.63	19	iP	59	11.28	-0.5
NEA	1.75	347	eP	59	12.17	-1.3
			eS	59	30.97	
KLU	1.75	142	iP	59	13.36	-0.2
PMS	1.76	202	iP	59	14.68	1.0
CCB	1.78	5	eP	59	12.67	-1.2
SKT	1.80	241	iP	59	14.32	0.2
SUA	1.86	221	eP	59	15.65	0.5
			eS	59	41.72	
RDS	1.95	1	eP	59	15.20	-1.1
			eS	59	37.36	
VLZ	1.96	153	eP	59	15.59	-0.8
DOT	2.02	66	eP	59	16.72	-0.5
FBA	2.03	5	eP	59	16.20	-1.2
GLM	2.14	9	eP	59	17.85	-1.2
TTA	3.58	274	eP	59	37.52	-1.8
IMA	3.98	326	eP	59	43.20	-1.9

27 obs. assaciated

? OCT 15, 1989 20h 06m 36.70± 3.75s
12.897 N ±26.4km 89.721 W ±20.2km
DEPTH = 33.0km (normal)
OFF COAST OF CENTRAL AMERICA (76)

MYT	1.19	344	iP	06	57.00	-0.2
YUP	1.30	357	iPd	06	59.00	0.2
IXG	1.46	331	iPc	07	00.10	-1.0
PSG2	1.49	315	eP	07	05.00	3.5X
TER	1.68	326	ePd	07	04.00	-0.3
REC	1.72	333	iPd	07	04.40	-0.5
PCG	1.73	329	ePc	07	04.10	-1.1
GCG	1.85	335	ePc	07	07.00	0.1
			S	07	27.80	
MMG	1.88	330	iPd	07	07.50	0.2
FUG	1.89	325	ePd	07	07.00	-0.4
SLP	1.91	344	iPd	07	08.00	0.3
BVA	1.97	333	ePd	07	08.90	0.2
			S	07	31.40	
LHG	2.09	317	ePc	07	09.40	-0.8
RDG	2.22	341	ePd	07	12.60	0.5
OC2	2.91	305	ePc	07	22.00	0.3
KKG	3.05	313	ePd	07	23.50	-0.4
			S	07	54.00	
SBG	3.17	315	ePd	07	26.00	0.2
			S	08	00.00	
TPX	3.17	309	eP	07	54.00	28.5X
			iS	08	05.00	
SCX	4.74	324	eP	07	50.50	2.8
OXX	7.94	302	(P)	08	42.00	9.0X
IISM	9.53	310	(P)	08	55.00	0.3
PPM	10.53	307	iP	09	12.50	3.5X
KVN	36.18	321	eP	13	38.20	-0.2

S.D. = 0.9 on 19 of 23 obs.

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* OCT 15, 1989 21h 00m 36.90± 0.70s
29.633 N ± 9.6km 141.283 E ±15.4km
DEPTH = 61.1km (2 depth phases)
SOUTH OF HONSHU, JAPAN (211)

IIDJ	6.49	335	eP	02	14.00	2.0
KAKJ	6.62	352	P	02	11.30	-2.4
			eS	02	22.50	
CHJJ	6.68	344	P	02	13.40	-1.2
			eS	03	26.20	
MTMJ	7.52	338	P	02	27.00	0.6
NIIJ	7.82	347	eP	02	26.20	-4.2X
CHG	39.89	264	eP	08	07.00	0.4
WB5	49.67	189	eP	09	23.20	-1.4
BRS	57.76	168	eP	10	24.00	0.1
ORV	76.85	52	eP	12	24.00	0.0
CMB	78.33	53	ePc	12	32.90	0.7
FRI	79.31	54	ePc	12	38.00	0.5
KVN	79.41	51	eP	12	38.50	0.2
			epP	12	55.40	61km
LRM	79.57	43	eP	12	39.50	0.5
			e	12	56.60	62km
NB2	80.97	338	P	13	06.60	20.7X
	0.9s		3.10nm			

S.D. = 1.3 on 12 of 14 obs.

OCT 15, 1989 21h 12m 04.10± 0.17s
19.151 N ± 2.9km 121.197 E ± 3.8km
DEPTH = 33.0km (normal)
5.2mb (31 obs.) 4.6Msz (3 obs.)
PHILIPPINE ISLANDS REGION (248)

CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 21C
Centroid Location:
Origin Time 21:12: 6.4 0.5
Lat 19.14N 0.08 Lon 120.67E 0.09
Dep 53.8 5.9 Half-duration 1.9
Moment Tensor; Scale 10**16 Nm
Mrr= 8.23 0.84 Mtt=-1.11 0.78
Mff=-7.12 1.34 Mrt=-3.57 1.17
Mrf=-2.34 0.74 Mtf=-3.98 0.98
Principal Axes:
T Val= 9.50 Plg=72 Azm=168
N 0.37 13 32
P -9.87 12 299
Best Double Couple:Mo=9.7*10**16
NP1:Strike= 12 Dip=35 Slip= 67
NP2: 220 58 105

BAG	2.79	192	eP	12	50.00	2.5
TWK	4.15	351	ePc	13	05.30	-1.5
			eS	13	23.70	
OCP	4.49	181	eP	13	50.00	38.4X
TWD	4.92	4	eP	13	17.80	0.2
TWO	5.11	356	ePc	13	19.20	-1.2
TWC	5.47	6	ePc	13	26.10	0.8
ANP	6.01	3	e(P)	13	40.00	6.8X
OZH	6.25	338	P	13	32.30	-4.1X
Z	18s		4.60um			
N	10s		1.90um			
			S	14	38.50	
HKC	7.28	297	iP	13	47.00	-4.0X
			iS	15	04.80	
MCO	7.74	294	iP	13	53.40	-4.0X
GZH	8.31	299	iPd	13	59.20	-6.1X
N	14s		2.70um			
E	15s		4.70um			
SSE	11.89	360	eP	14	55.00	0.7
Z	22s		2.40um			
			eLg	17	41.00	
DAV	12.72	160	eP	15	10.00	4.4X
WHN	12.93	333	iPc	15	04.00	-4.1X
Z	18s		3.16um			
N	14s		2.29um			
			eS	17	31.00	
NJ2	13.02	351	Pd	15	05.60	-3.7X
Z	18s		2.40um			
N	14s		1.20um			
E	13s		1.60um			
KKM	13.90	201	ePd	15	30.50	9.3X
KAGJ	14.84	34	eP	15	32.20	-1.1
TSM	15.15	192	eP	15	36.80	-0.6
GYA	15.24	301	P	15	36.00	-2.7
Z	16s		2.10um			
N	12s		2.10um			
E	12s		3.10um			
			pP	15	45.00	
KUMJ	15.89	31	eP	15	47.60	0.8
TIA	17.37	349	eP	16	07.70	2.1
Z	15s		2.00um			
E	14s		1.30um			
KMI	18.09	292	P-	16	14.00	-0.9
Z	14s		9.80um			
E	14s		3.50um			
			e	16	15.50	
			pP	16	31.00	
			S	19	41.00	
			iS	19	48.00	
XAN	18.42	326	Pd	16	18.00	-0.7
N	15s		2.20um			
E	12s		0.50um			
LOE	18.57	268	iPd	16	21.00	0.5
CD2	19.64	310	iPd	16	31.40	-1.7
Z	16s		2.50um			
E	13s		2.72um			
			S	20	07.00	
TIY	20.02	339	eP	16	37.00	0.0
Z	17s		3.96um			4.8MszX
N	16s		2.71um			
			sP	16	48.50	
			S	20	19.00	
NST	20.39	264	eP	16	42.00	1.0
TSRJ	20.91	36	P	16	47.40	1.2
CHG	21.05	273	iPd	16	48.10	0.4
	1.0s		53.25nm			4.9mb
BDT	21.17	268	eP	16	47.30	-1.6
BJI	21.26	349	Pd	16	50.00	0.3

15d 18h

	1.0s		0.10nm			2.2mb X
Z	16s		2.04um			4.6MszX
N	16s		1.45um			
			eS	20	42.00	
NNT	21.64	256	iPc	16	55.60	1.9
IIDJ	21.97	39	P	16	57.30	0.3
MTMJ	22.68	37	P	17	04.20	0.1
SNY	22.70	5	Pc	17	04.20	0.2
Z	15s		1.50um			4.6MszX
E	18s		1.80um			
			S	21	07.00	
LZH	22.76	321	Pd	17	05.50	0.6
	1.0s		0.10nm			2.3mb X
Z	17s		3.10um			4.8MszX
N	16s		2.00um			
E	16s		1.40um			
			PP	17	34.00	
			S	21	12.00	
CHJJ	23.00	39	P	17	07.00	-0.1
HHC	23.15	341	P	17	10.00	1.4
Z	18s		3.80um			4.9Msz
N	16s		3.20um			
E	18s		1.70um			
			sP	17	22.00	
			PP	17	44.00	
SNG	23.27	242	eP	17	07.50	-2.3
			eS	21	22.90	
GUMO	23.36	100	e(P)	17	11.20	0.5
			TT	40	17.50	
GUA	23.42	100	e(P)	17	08.60	-2.7X
BTO	23.43	338	eP	17	12.20	0.9
Z	16s		1.30um			4.5MszX
N	16s		1.70um			
E	16s		1.40um			
			sP	17	20.00	
			S	21	24.00	
			sS	21	31.00	
KAKJ	23.82	41	eP	17	12.20	-2.8
NIIJ	23.82	37	P	17	14.10	-0.9
KGM	24.42	228	eP	17	19.50	-1.5
CN2	24.84	7	eP	17	24.60	-0.1
Z	18s		1.60um			4.6Msz
E	13s		1.00um			
			eS	21	50.00	
YAMJ	25.06	37	eP	17	27.10	0.1
MDJ	26.34	14	eP	17	38.00	-0.8
Z	22s		1.10um			4.4Msz
E	20s		2.20um			
OFUJ	26.61	37	eP	17	40.00	-1.4
AOMJ	26.94	34	eP	17	45.20	0.9
PSI	27.24	236	ePc	17	48.40	1.1
GTA	27.36	322	eP	17	48.20	-0.2
Z	16s		1.30um			4.6MszX
N	14s		0.60um			
			S	22	22.00	
KHKI	27.89	192	iPd	17	55.90	2.8
			e	19	54.00	
TRT	27.99	198	ePc	17	55.00	1.0
KLI	28.78	216	eP	18	13.50	12.3X
LSA	29.22	297	P	18	06.70	1.0
WMO	37.29	319	P	19	16.50	1.6
Z	16s		1.70um			4.9MszX
N	14s		0.90um			
E	15s		1.20um			
			pP	19	25.00	29kmX
			sP	19	28.50	
			PcP	21	32.50	
MBL	40.08	182	eP	19	37.50	-0.8
HYB	40.46	275	iPd	19	42.00	0.5
WB5	40.88	161	eP	19	43.00	-1.9
			i	21	46.00	
NANU	41.83	188	iPc	19	52.70	0.2
	0.5s		11.00nm			4.8mb
GBA	42.26	269	P	19	57.00	0.7
OIS	43.39	154	eP	20	03.50	-1.9
KSH	43.78	307	eP	20	11.00	2.4
Z	16s		1.80um			5.1MszX
E	12s		1.50um			
			eS	26	44.00	
ASPA	44.32	163	iPc	20	11.70	-1.3
	0.6s		25.00nm			5.2mb
WARB	45.37	173	eP	20	21.40	0.1
	0.4s		14.00nm			5.2mb
MEKA	45.56	183	iPc	20	22.40	-0.4
	0.3s		11.00nm			5.3mb
CTA	46.09	146	iPd	20	27.10	0.1
	1.0s		14.50nm			4.9mb

15d 21h

MRWA	48.35	186	eP	20 45.10	0.5
	0 5s	44.00nm		5.7mb	
BAL	49.66	185	eP	20 54.00	-0.7
COOL	49.75	180	eP	20 54.20	-1.2
OUE	50.10	294	eP	20 59.34	0.8
FORR	50.15	172	iPd	20 58.00	-0.4
	0.5s	25.00nm		5.5mb	
KLB	50.56	184	eP	21 01.00	-0.6
	0.4s	7.00nm		5.0mb	
MUN	51.06	185	eP	21 04.80	-0.6
NWAO	51.92	184	iPc	21 11.50	-0.4
	0.5s	26.00nm		5.4mb	
BRS	55.47	146	iPc	21 37.50	-0.7
			i	21 52.00	
MAIO	56.34	301	eP	21 45.00	0.4
	0.7s	6.35nm		4.8mb	
			e	21 51.00	
BWA	59.24	154	eP	22 05.90	1.2
CAN	60.25	154	eP	22 12.80	1.1
DZM	60.29	131	iPc	22 12.10	-0.1
SHI	62.63	294	eP	22 27.00	-1.1
TAB	66.74	304	eP	22 55.00	0.4
SDN	67.85	37	eP	22 58.90	-2.1
TTA	69.87	29	iPc	23 13.50	0.0
SVW	70.15	31	iPc	23 15.60	0.4
IMA	70.70	26	ePc	23 18.70	0.1
	1.2s	16.30nm		5.0mb	
PMR	73.20	30	iPc	23 32.20	-1.1
KEV	73.64	339	iP	23 35.60	-0.2
	0.7s	26.70nm		5.3mb	
			i	23 42.60	
KVT	74.11	308	eP	23 39.40	0.3
SOD	74.24	336	iP	23 39.20	-0.1
			i	23 46.00	
TOA	74.49	29	eP	23 41.30	0.4
SUF	75.46	332	iP	23 45.80	-0.5
	0.8s	15.20nm		5.0mb	
NUR	76.70	330	iP	23 53.60	0.3
	1.0s	30.00nm		5.3mb	
			i	24 05.80	
DSI	76.78	299	eP	23 52.00	-2.4
PRNI	77.40	298	eP	23 56.00	-2.0
MBH	77.65	297	eP	23 57.00	-2.2
INK	77.87	22	eP	23 59.00	-0.7
VRI	79.53	315	ePd	24 10.50	1.3
KHL	79.65	307	eP	24 09.00	-1.2
MLR	80.16	315	iPc	24 14.00	1.2
UPP	80.24	330	iP	24 12.30	-0.3
SIT	81.22	33	eP	24 18.70	0.8
PVL	81.26	313	iPd	24 20.00	1.5
DIM	81.48	311	eP	24 20.00	0.4
RZN	82.18	311	iP	24 23.00	-0.5
PGB	82.29	312	iP	24 24.00	0.1
KRA	82.51	320	iPd	24 25.30	0.5
			e	24 32.00	
NB2	82.67	333	P	24 25.20	-0.3
	0.9s	10.20nm		4.9mb	
VTS	82.94	313	iPc	24 23.00	-4.4X
KKB	83.27	312	iP	24 28.00	-1.0
VAY	83.82	311	iP	24 31.00	-0.7
			i	24 38.00	
KSP	84.37	322	iPc	24 34.50	0.2
	1.0s	40.00nm		5.6mb	
			i	24 41.50	
SKO	84.39	312	iPd	24 34.50	-0.1
			i	24 40.50	
ZST	84.93	319	eP	24 45.00	7.8X
NAI	85.12	267	iP	24 42.00	3 0X
	1.0s	20.00nm		5.3mb	
OHR	85.14	312	eP	24 44.00	5.6X
BRG	85.72	323	iP	24 40.60	-0.4
	1.3s	34.00nm		5.4mb	
			i	24 48.40	
PRU	85.75	322	Pc	24 42.20	1.0
			e	24 47.70	
CLL	86.07	323	iPd	24 43.10	0.4
	1.8s	40.00nm		5.3mb	
			i	24 49.80	
KHC	86.68	321	P	24 45.00	-0.9
GRF	87.81	322	iPc	24 51.70	0.4
	1.0s	5.60nm		4.8mb	
			e	24 59.10	
FIR	90.50	317	eP	25 06.00	2.0
WLF	90.70	324	Pc	25 05.20	0.4
LPG	92.48	320	eP	25 13.90	0.3
	0.8s	12.60nm		5.4mb	
SBF	92.89	318	eP	25 14.50	-0.7
	1.0s	17.60nm		5.4mb	
LOR	93.26	323	eP	25 16.30	-0.5
	1.0s	4.00nm		4.8mb	
FRF	93.53	319	eP	25 17.30	-0.7
	1.0s	12.00nm		5.3mb	
LRG	93.77	319	eP	25 18.40	-0.7
	1.0s	12.00nm		5.3mb	
AVF	93.81	322	eP	25 18.70	-0.5
	1.0s	4.00nm		4.8mb	
EDM	93.97	29	iPc	25 21.00	1.1
	0.9s	28.00nm		5.7mb	
MAF	94.58	322	eP	25 22.80	0.0
	1.0s	6.00nm		5.0mb	
TCF	94.75	323	eP	25 23.60	0.0
	1.0s	4.80nm		4.9mb	
WDC	96.16	43	ePc	25 30.50	0.3
SES	96.89	31	ePc	25 33.20	-0.1
ORV	97.38	44	ePc	25 35.80	0.1
FFC	97.72	24	eP	25 36.50	-0.4
	0.9s	15.00nm		5.5mb	
BRK	97.76	46	ePc	25 37.60	0.2
CMB	98.93	45	ePc	25 43.30	0.5
LRM	99.13	35	eP	25 44.10	0.3
KVN	99.86	43	eP	25 47.50	0.3
FRI	99.94	45	e(P)	25 48.80	1.4
TUL	115.00	33	e(PKP)	30 36.70	-7.0X
	1.0s	33.30nm			
KIC	121.04	290	PKPd	30 55.50	-0.3
	0.8s	9.50nm			
TIC	121.16	291	PKP	30 55.70	-0.4
LIC	121.35	290	PKP	30 56.20	-0.2
PPM	125.51	48	iPdiff	27 32.00	-10.2X
UPA	145.37	38	iPKPc	31 40.00	-1.1
	1.2s	328.13nm			
FISA	148.04	20	ePKP	31 46.90	1.3
MORO	148.73	18	ePKP	31 47.50	0.8
TOV	149.27	22	ePKP	31 49.00	1.5
CAR	149.46	16	ePKP	31 48.60	0.7
LLAV	149.52	16	ePKP	31 48.10	0.2
SDV	149.80	24	ePKP	31 49.50	1.0
GUAN	150.30	14	ePKP	31 50.00	0.9
BMG	150.39	30	ePKP	32 04.00	14.7X
CEOS	150.46	19	ePKP	31 49.40	0.1
BOG	152.00	34	e(PKP)	32 00.00	8.0X
ZOBO	170.67	74	PKPc	32 13.00	1.9X
	1.5s	17.74nm			
LPB	170.77	75	PKP	32 14.00	3.0X
CNCB	170.96	77	PKP	32 13.50	2.3X
PPD	172.42	247	ePKP	32 12.40	1.4
			e	32 28.60	

S.D. = 1.1 on 139 of 162 obs.

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* OCT 15, 1989 22h 46m 11.42± 2.42s
6.972 S ±10.8km 147.102 E ±18.5km
DEPTH = 74.3 ± 23.4 km
4.4mb (3 obs.)
EAST PAPUA NEW GUINEA REGION (207)

MNDI	3.52	283	eP	47 05.00	0.0
CTA	13.06	184	eP	49 16.00	0.5
OIS	15.33	208	iPc	49 45.20	0.2
WB5	17.81	223	eP	50 15.30	-0.7
			eS	53 26.40	
RMO	19.47	176	ePd	50 35.40	0.2
ASPA	20.89	216	eP	50 50.30	0.5
	0.5s	19.00nm		4.7mb	
			eS	54 41.40	
BRS	21.01	166	ePc	50 50.00	-1.0
	0.5s	3.50nm		3.9mb	
SPA	83.07	180	e(P)	58 30.20	0.1
	0.8s	3.75nm		4.4mb	
KVN	98.07	52	eP	59 41.50	0.2

S.D. = 0.7 on 9 of 9 obs.

% OCT 15, 1989 23h 15m 09.99± 0.68s
40.415 N ± 6.0km 27.447 E ± 5.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EDC	0.33	102	iPg	15 10.00	-6.7X
			eSg	15 19.60	
BNT	0.37	99	iPg	15 16.70	-0.8
MFT	0.39	341	iPg	15 18.20	0.2
EZN	1.04	236	iPg	15 29.70	0.1
CTT	1.05	45	iPg	15 29.80	0.1
DST	1.22	131	iPn	15 32.50	-0.1
ISK	1.39	62	ePn	15 35.10	-0.2
DMK	1.42	9	iPn	15 35.10	-0.8
YLV	1.48	83	iPn	15 37.20	0.5
HRT	1.74	76	ePn	15 41.60	1.1

S.D. = 0.7 on 9 of 10 obs.

% OCT 15, 1989 23h 23m 03.43± 0.56s
59.903 N ± 5.4km 6.436 E ± 5.7km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 1.9 (BER).

ODD1	0.10	84	iP	23 06.36	0.2
			eSg	23 07.38	
BLS1	0.55	159	eP	23 14.40	-0.3
			iS	23 21.24	
BER	0.73	312	eP	23 16.97	-0.8
			iS	23 27.55	
ASK	0.85	314	iP	23 19.76	0.0
			iS	23 31.32	
KMY	0.92	222	iPc	23 21.31	0.3
			iS	23 33.27	
HYA	1.27	355	eP	23 27.12	0.1
			eS	23 43.11	
SUE	1.42	325	iP	23 29.98	0.7
			eS	23 46.67	
NRA0	2.67	70	iPd	23 47.10	-0.2
			iSg	24 24.40	

S.D. = 0.5 on 8 of 8 obs.

OCT 15, 1989 23h 40m 35.47± 0.31s
0.310 S ± 6.8km 82.457 E ± 4.3km
DEPTH = 10.0km (geophysicist)
5.1mb (28 obs.)
SOUTH INDIAN OCEAN (425)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 9S, 20C
Centroid Location:
Origin Time 23:40:35.0 0.8
Lat 0.29S 0.05 Lon 81.81E 0.06
Dep 15.0 FIX Half-duration 1.6
Moment Tensor; Scale 10**16 Nm
Mrr=-1.52 0.45 Mtt=-6.71 0.44
Mff= 8.23 0.70 Mrt= 0.00 0.00
Mrf= 0.00 0.00 Mtf=-4.59 0.37
Principal Axes:

	Val=	Plg=	Azm=
T	9.53	0	254
N	-1.52	90	180
P	-8.01	0	164

Best Double Couple:Mo=8.8*10**16
NP1:Strike=299 Dip=90 Slip=-180
NP2: 29 90 0

BSI	14.06	66	ePd	43 55.00	-1.9
			eS	44 51.00	
GBA	14.69	340	Pd	43 58.10	-7.2X
	0.5s	96.00nm		5.6mb	
HYB	18.03	348	eP	44 42.00	-6.0X
	0.8s	384.60nm		5.6mb	
			i	44 44.50	
			eS	47 51.50	
SNG	19.58	67	iPc	45 06.30	-0.5
	1.5s	800.00nm		5.8mb	
			eS	48 46.10	
KGM	20.99	84	ePd	45 23.50	2.0
NNT	21.40	53	iPc	45 26.00	0.3
NST	23.60	47	eP	45 49.80	2.3
BDT	23.87	42	eP	45 48.00	-2.1
CHG	24.97	40	eP	46 01.60	0.8
LOE	25.89	46	iPc	46 09.00	-0.4
NDI	29.26	351	iPd	46 40.00	0.0
			eS	52 22.00	
TRT	30.97	104	ePd	46 55.50	0.2
LSA	30.97	15	P	46 58.00	2.3
KMI	32.00	36	Pd	47 05.50	0.9
OIZ	33.04	53	eP	47 13.00	-0.5
QUE	33.73	335	eP	47 20.20	0.6
KHKI	33.98	105	ePd	47 20.20	-1.5
			e	48 20.00	
GYA	35.39	39	P	47 33.60	-0.2
			S	53 07.00	
CD2	37.06	31	P	47 46.60	-1.1
			eS	53 29.50	
KSH	40.02	352	eP	48 13.60	1.2
	E 12s	1.10um			
LZH	41.32	27	Pd	48 23.00	-0.2
	1.4s	18.00nm		4.6mb	

			pP	48	36.00	49kmX
KUPT	42.07	105	eP	48	33.70	4.3X
MAIO	42.21	332	iPd	48	30.80	0.4
			eS	54	56.00	
GTA	42.61	20	eP	48	33.80	0.1
WMO	44.18	5	iPd	48	47.00	0.6
			PP	50	29.00	
			ScS	58	42.50	
TIY	46.87	33	eP	49	07.50	-0.3
Z	14s		0.71um			4.8MszX
N	16s		0.54um			
			S	55	53.00	
BTO	47.81	28	eP	49	14.50	-0.8
KNA	48.20	111	eP	49	18.00	-0.5
HHC	48.75	29	eP	49	21.00	-1.6
WARB	49.71	125	eP	49	30.40	0.3
MTN	49.82	107	iPc	49	31.00	0.0
	0.5s		45.00nm			5.7mb
BJI	50.57	33	eP	49	37.00	0.7
TAB	50.64	323	eP	49	37.00	-0.1
MBH	54.28	308	eP	50	02.00	-2.2
WB5	54.38	114	eP	50	05.00	-0.2
DSI	54.66	310	eP	50	05.00	-2.0
ASPA	55.00	119	iPc	50	10.40	0.6
	1.1s		25.00nm			5.2mb
HRI	55.15	312	eP	50	09.00	-1.8
OIS	59.32	114	eP	50	40.00	-0.4
BCAO	64.03	275	iPc	51	12.50	0.2
	0.5s		7.00nm			5.1mb
			id	51	25.00	
CTA	65.36	112	iPd	51	21.00	0.3
	1.2s		39.06nm			5.5mb
VRI	67.07	321	ePc	51	31.00	-0.2
MLR	67.40	321	ePd	51	33.50	0.0
BRS	72.43	119	iP	52	04.50	0.1
KRA	72.94	323	eP	52	07.20	0.3
NUR	74.99	334	eP	52	17.00	-1.6
KSP	75.40	323	iPc	52	21.50	0.3
	1.2s		25.00nm			5.1mb
SUF	75.47	337	eP	52	21.10	-0.2
	0.7s		22.10nm			5.3mb
KHC	76.55	321	iPc	52	27.50	-0.3
	1.0s		14.00nm			5.0mb
BHG	76.61	319	iPc	52	27.30	-0.8
	0.8s		16.00nm			5.2mb
BRG	76.82	323	iP	52	29.40	0.2
	1.2s		15.00nm			5.0mb
			e	52	43.70	
WET	76.99	321	iPc	52	29.80	-0.4
CLL	77.52	323	iPd	52	32.90	-0.1
	1.2s		41.00nm			5.4mb
			i	52	46.80	
SOD	77.74	341	iP	52	34.00	0.1
OSS	78.16	318	ePc	52	36.40	-0.5
GRF	78.18	321	eP	52	36.80	0.1
	0.9s		22.00nm			5.2mb
MOX	78.18	322	iPc	52	37.00	0.3
SAX	78.82	318	ePc	52	40.70	0.1
TMA	78.89	317	ePc	52	40.00	-0.9
SLE	79.49	319	ePc	52	43.70	-0.3
DIX	79.88	317	ePc	52	46.10	-0.3
EMS	80.20	317	ePc	52	47.20	-0.8
LPG	80.22	316	eP	52	47.60	-0.7
	1.0s		6.00nm			4.5mb
NB2	81.27	332	P	52	52.60	-0.5
	1.1s		8.80nm			4.7mb
L8F	82.37	317	eP	52	59.40	0.2
	0.8s		3.20nm			4.5mb
LOR	82.49	318	eP	53	00.40	0.6
	0.8s		9.40nm			5.0mb
SSF	82.70	317	eP	53	01.80	1 0
	1.0s		6.00nm			4.7mb
BGF	83.08	317	eP	53	03.60	0.8
	0.8s		12.00nm			5.1mb
MAF	83.22	317	eP	53	04.20	0.6
	1.2s		8.90nm			4.8mb
LSF	83.94	316	eP	53	08.00	0.8
	0.8s		5.30nm			4.8mb
MFF	85.13	317	eP	53	14.00	0.9
	0.8s		8.00nm			5.0mb
LDF	85.31	319	eP	53	14.80	0.8
	0.8s		14.50nm			5.2mb
FLN	85.57	319	eP	53	16.20	1.0
	0.8s		8.00nm			5.0mb
GRR	85.78	318	eP	53	17.30	1.0
	1.0s		20.00nm			5.3mb
LPF	85.87	318	eP	53	18.10	1.3

	1.0s		21.60nm			5.3mb
EDM	125.65	12	ePKP	59	23.80	-15.1X
CCH	144.43	239	PKP	00	10.50	-4.6X
MEO	145.69	2	iPKPc	00	17.50	1.1
CNCB	146.26	238	PKP	00	21.50	3.0X
LPB	146.49	239	PKP	00	22.00	3.3X
ZOBO	146.63	239	ePKP	00	14.00	-5.1X
			e	00	21.00	

S.D. = 1.0 on 73 of 81 obs.

& OCT 16, 1989 00h 30m 15.68s
63.177 N 149.334 W
DEPTH = 87.0km
CENTRAL ALASKA (1)
<AGS-P>.

HUR	0.24	215	eP	30	28.28	-0.4
			eS	30	37.37	
RND	0.32	43	eP	30	28.96	-0.2
			eS	30	38.98	
KTH	0.81	299	iP	30	33.17	-0.2
			eS	30	46.65	
CUT	0.89	209	eP	30	33.58	-0.5
			eS	30	46.89	
PWA	1.55	190	eP	30	42.64	0.3
PME	1.56	175	eP	30	42.61	0.2
SKT	1.57	221	eP	30	41.73	-0.9
			iS	31	01.67	
PLRM	1.59	177	eP	30	42.92	0.1
			eS	31	03.89	
CCB	1.62	24	eP	30	42.39	-0.9
			eS	31	02.16	
HDA	1.62	40	eP	30	43.02	-0.3
NCA	1.66	135	eP	30	44.07	0.2
RDS	1.74	17	eP	30	44.32	-0.5
			eS	31	05.09	
PAX	1.77	95	eP	30	45.93	0.6
			eS	31	09.17	
SUA	1.84	202	eP	30	46.45	0.1
FBA	1.86	21	eP	30	45.74	-0.7
PMS	1.94	183	eP	30	48.53	0.9
GLM	2.01	24	eP	30	47.65	-0.8
NCG	2.22	218	eP	30	50.72	-0.6
KLU	2.32	135	eP	30	51.76	-1.0
DOT	2.42	76	eP	30	54.12	0.1
GLI	2.54	154	eP	30	54.02	-1.6
FID	2.78	150	eP	30	57.60	-1.4

22 obs. associated

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* OCT 16, 1989 01h 06m 12.89± 0.88s
38.424 N ± 9.7km 21.816 E ±10.0km
DEPTH = 33.0km (normal)
3.7mb (1 obs.)
GREECE (364)
ML 3.2 (ATH).

VLS	1.00	256	ePb	06	30.00	-0.6
			eSg	06	47.50	
NEO	1.41	51	ePb	06	35.80	-0.7
ATH	1.56	106	ePg	06	38.00	-0.7
KZN	1.88	359	ePn	06	45.00	1.6
VLI	1.92	152	ePb	06	45.00	1.1
OHR	2.80	344	iPnd	07	00.30	4.0X
VAY	2.95	11	ePn	07	09.00	10.5X
SKO	3.56	355	iPnd	07	10.40	3.3X
HFS	22.33	349	eP	11	08.10	-0.8
	0.5s		1.40nm			3.7mb

S.D. = 1.4 on 6 of 9 obs.

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* OCT 16, 1989 03h 13m 24.98± 1.96s
32.761 S ±14.2km 71.500 W ±13.8km
DEPTH = 33.0km (normal)
NEAR COAST OF CENTRAL CHILE (135)

IHA	0.29	204	eP	13	31.60	-1.0
			iS	13	38.20	
ROCH	0.46	117	iPd	13	34.20	-1.1
			iS	13	42.00	
LCCH	0.71	185	iPc	13	38.40	-0.2
			iS	13	49.00	
JACH	0.77	84	iPd	13	37.00	-2.5
			iS	13	47.80	
PEL	0.78	119	iPd	13	39.10	-0.5
			iS	13	52.60	
SAN	0.99	135	iP	13	42.00	-0.5
			iS	13	57.20	
TACH	1.01	152	iPd	13	43.50	0.7

			iS	13	58.40	
FCH	1.16	119	iPd	13	45.20	-0.1
			iS	14	02.00	
PCH	1.19	136	iPc	13	45.90	0.4
			iS	14	03.30	
LNV	1.19	176	iPd	13	46.00	0.6
			iS	14	03.00	
CHCH	1.37	149	ePc	13	48.50	0.5
			iS	14	08.80	
ZON	2.68	64	eP	14	09.00	2.2
RFA	3.23	129	e(P)	14	16.00	1.4

S.D. = 1.3 on 13 of 13 obs.

OCT 16, 1989 03h 16m 08.23± 0.63s
38.475 N ± 4.3km 6.301 W ± 7.8km
DEPTH = 10.0km (geophysicist)
SPAIN (377)
MD 4.0 (RBA). mbLg 3.6 (MDD).
Felt (IV) in the Zofro oreo.

EVAL	0.96	202	iPg	16	27.20	0.8
			iSg	16	40.00	
EHOR	1.06	128	iPg	16	28.80	0.6
			eSg	16	43.70	
EPLA	1.60	6	ePn	16	37.30	0.7
			eSn	16	59.00	
EPRU	1.73	150	ePn	16	38.30	-0.2
			eSn	17	00.30	
EBAN	2.00	98	iPn	16	42.70	0.2
			eSn	17	06.00	
CNIL	2.11	175	iP	16	50.00	6.0X
EJIF	2.13	162	ePn	16	44.20	-0.1
			eSn	17	11.00	
TOL	2.24	51	iPg	16	53.00	7.0X
			eSn	17	10.00	
			iSb	17	14.00	
			iSg	17	21.50	
LIS	2.24	277	eP	16	53.70	7.7X
			iS	17	19.70	
AFC	2.50	118	ePn	16	50.00	0.3
GUD	2.73	37	iPn	16	53.00	0.0
			eSn	17	26.00	
PTO	3.20	327	ePn	17	20.70	21.3X
			e	17	32.60	
			iSg	17	47.00	
ERUA	3.97	351	ePn	17	10.00	-0.4
ETOR	4.03	53	ePn	17	10.80	-0.6
IFR	5.04	169	iPn	17	24.50	-1.3
			i	17	27.00	
			i	18	12.50	
			iSn	18	16.00	
AVE	5.24	190	ePn	17	27.00	-1.5X
			iSn	18	23.00	
			i	18	25.00	
TIO	7.57	186	iPn	17	59.50	-1.9X
			iSn	19	18.40	

S.D. = 0.7 on 11 of 17 obs.

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* OCT 16, 1989 04h 28m 42.10± 0.72s
13.525 S ±16.1km 74.682 W ± 8.5km
DEPTH = 33.0km (normal)
PERU (116)

PT03	1.18	247	iPd	29	02.80	0.4
			iS	29	18.70	
PT06	1.63	259	iPd	29	08.20	-0.7
			iS	29	26.20	
PT02	1.80	288	iPc	29	11.90	0.5
			eS	29	34.20	
PT08	2.40	310	iP	29	20.90	0.7
			e(S)	29	50.80	
NNA	2.60	306	iPd	29	22.50	-0.3
	0.5s		9.15nm			
			eS	29	52.50	
PT10	2.66	303	eP	29	23.00	-0.5
			eS	29	57.50	
ZOBO	6.90	114	P	30	23.00	-1.2
LPB	7.03	116	(P)	30	28.00	2.2
			e	30	51.00	
CNCB	7.25	118	P	30	30.20	1.2
CCH	9.08	116	P	30	52.00	-2.3

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

OCT 16, 1989 04h 34m 37.41± 0.81s
45.141 N ± 2.8km 6.635 E ± 8.1km
DEPTH = 10.0km (geophysicist)
FRANCE (538)

16d 04h

ML 2.6 (GEN), 2.7 (LDG).

BNI	0.09	162	P	34 39.70	-0.5
			eSg	34 41.60	
RRL	0.24	154	P	34 42.92	0.2
			S	34 46.78	
LPG	0.37	13	Pg	34 45.20	0.2
			Sg	34 51.10	
LPL	0.38	10	Pg	34 45.50	0.2
RSP	0.44	88	P	34 46.30	-0.1
			S	34 53.34	
LSD	0.49	49	P	34 46.72	-0.6
			S	34 54.16	
PZZ	0.72	152	P	34 51.48	-0.2
			S	35 01.44	
DOI	0.77	145	P	34 52.50	0.0
			eSg	35 01.60	
STV	1.02	151	P	34 56.83	0.0
			S	35 10.79	
ORO	1.06	62	P	34 57.60	0.1
			eSg	35 11.30	
ROB	1.22	133	P	35 00.66	0.5
			S	35 16.93	
SBF	1.40	156	Pg	35 05.50	2.5X
			Sg	35 24.00	
FIN	1.46	129	P	35 03.63	-0.2
			S	35 20.73	
PCP	1.49	113	P	35 04.77	0.6
			S	35 22.69	
IMI	1.52	143	P	35 04.64	-0.1
			S	35 22.30	
FRF	1.58	180	Pg	35 09.10	3.6X
			Sg	35 30.80	
LRG	1.70	187	Pg	35 11.50	4.3X
LMR	1.81	183	Pg	35 13.40	4.6X
SMF	2.46	309	Pg	35 25.60	7.3X
			Sg	35 57.60	
AVF	2.82	307	Pg	35 31.80	8.4X
			Sg	36 08.90	
HAU	2.87	356	Pg	35 32.60	8.5X
BGF	3.00	299	Pn	35 27.90	2.0X
			Pg	35 35.20	
			Sg	36 14.60	

S.D. = 0.3 on 14 of 22 obs.

OCT 16, 1989 05h 10m 15.82± 0.72s
43.579 N ± 8.9km 12.609 E ± 7.7km
DEPTH = 33.0km (normal)
CENTRAL ITALY (381)

ARV	0.26	108	P	10 23.00	-0.1
			eSg	10 29.80	
RSM	0.37	342	P	10 24.60	0.2
			eSg	10 31.30	
CRE	0.48	276	Pc	10 26.80	0.6
			eSg	10 35.50	
SFI	0.65	302	P	10 28.70	0.2
			eSg	10 39.50	
PGD	0.71	295	Pd	10 29.80	0.3
			eSg	10 40.80	
MNS	1.20	177	P	10 36.40	0.1
			eSg	10 53.30	
PII	1.52	276	P	10 41.00	0.0
BDI	1.53	289	P	10 40.00	-1.3
			eSn	10 59.30	

S.D. = 0.6 on 8 of 8 obs.

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* OCT 16, 1989 05h 14m 10.98± 0.69s
43.615 N ±17.0km 12.676 E ± 8.5km
DEPTH = 33.0km (normal)
CENTRAL ITALY (381)

ARV	0.23	121	P	14 18.40	0.5
			eSg	14 24.80	
CRE	0.53	272	P	14 22.00	-0.1
			eSg	14 31.50	
CIO	0.54	141	iPg	14 22.10	-0.2
			iSg	14 31.70	
SFI	0.67	297	P	14 24.00	0.0
AOI	0.68	95	e(Pg)	14 23.85	-0.3
			iSg	14 35.77	
PGD	0.74	291	Pd	14 25.10	0.0
			eSg	14 35.00	

S.D. = 0.3 on 6 of 6 obs.

OCT 16, 1989 05h 42m 36.95± 0.50s
43.543 N ± 3.8km 0.648 W ± 6.8km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
ML 3.2 (LDG).

OGE	0.40	161	Pg	42 45.04	0.0
			Sg	42 50.79	
MADF	0.42	197	Pg	42 45.48	0.0
			Sg	42 51.91	
ELYF	0.45	214	Pg	42 46.22	0.1
			Sg	42 53.49	
ATE	0.46	185	Pg	42 46.22	-0.1
			Sg	42 52.56	
ESCF	0.47	173	Pg	42 46.18	-0.3
			Sg	42 51.93	
BOH	0.51	211	Pg	42 47.37	0.0
			Sg	42 54.62	
ISSF	0.53	192	Pg	42 47.62	0.0
			Sg	42 54.94	
EPF	0.89	125	Pg	42 54.50	0.5
			Sg	43 06.80	
LFF	1.72	35	Pg	43 12.50	5.5X
			Sg	43 36.40	
LPO	1.75	49	Pg	43 12.60	5.1X
			Sg	43 36.60	
RJF	2.35	41	Pg	43 23.70	7.5X
			Sg	43 54.80	
CAF	2.39	54	Pn	43 17.70	0.9
			Pg	43 24.20	
			Sg	43 55.60	
MFF	3.08	6	Pn	43 27.40	0.9
			Pg	43 37.50	
			Sg	44 18.50	
LSF	3.12	29	Pg	43 37.50	10.5X
			Sn	44 04.50	
			Sg	44 21.30	
TCF	3.41	36	Pn	43 31.00	-0.3
			Pg	43 45.20	
			Sg	44 29.90	
MAF	3.52	39	Pn	43 32.00	-0.8
			Sg	44 31.00	
BGF	3.90	38	Pn	43 37.30	-0.9
			Pg	43 52.60	
			Sg	44 43.50	

S.D. = 0.6 on 13 of 17 obs.

% OCT 16, 1989 07h 26m 54.56± 0.71s
43.448 N ± 5.0km 5.471 E ± 6.2km
DEPTH = 5.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 2.5 (STR).

GELF	0.07	206	Pg	26 56.17	-0.2
TREF	0.19	340	Pg	26 58.74	0.3
BERF	0.21	130	Pg	26 59.18	0.3
PRAF	0.42	329	Pg	27 02.86	-0.1
VILF	0.44	24	Pg	27 03.34	-0.1
TAVF	0.46	68	Pg	27 03.53	-0.2

S.D. = 0.3 on 6 of 6 obs.

OCT 16, 1989 08h 09m 53.47± 0.44s
38.581 N ± 4.0km 26.916 E ± 5.4km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
MD 3.4 (ATH).

IZM	0.33	124	iPg	10 00.00	-0.3
PRK	0.83	323	ePg	10 10.10	0.6
SMG	0.87	184	ePg	10 09.50	-0.7
CIN	1.35	136	ePg	10 06.00	-12.2X
			iSg	10 21.00	
DST	1.68	52	iPn	10 22.50	-0.6
YER	1.80	143	ePn	10 25.00	0.1
APE	1.87	216	ePn	10 27.00	1.2
EDC	1.91	22	ePn	10 26.70	0.4
BNT	1.94	23	iPn	10 26.50	-0.2
KHL	2.06	96	iPn	10 30.60	1.9X
MFT	2.22	7	ePn	10 32.00	1.1
RDO	2.77	338	ePn	10 38.50	-0.2
ISK	2.98	33	ePn	10 46.00	4.4X
HRT	3.08	43	ePn	10 44.00	0.9
GPA	3.13	56	ePn	10 51.00	7.2X
KDZ	3.27	340	iP	10 45.00	-0.8
DMK	3.30	11	ePn	10 46.00	-0.2
RZN	3.53	332	iP	10 50.00	0.4
DIM	3.62	343	eP	10 54.00	3.3X
MMB	3.87	322	eP	10 55.00	0.6
KKB	4.40	319	iP	11 00.00	-1.8
PVL	4.78	346	eP	11 07.00	-0.2

S.D. = 0.8 on 17 of 22 obs.

OCT 16, 1989 08h 14m 56.65± 0.40s
34.856 S ± 6.4km 179.786 W ± 8.2km
DEPTH = 56.8km (5 depth phases)
5.1mb (2 obs.)
SOUTH OF KERMADEC ISLANDS (179)

HBZ	3.14	209	P	15 50.10	5.3X
KRP	4.86	230	iP	16 15.10	6.1X
			e	17 19.50	
WHH	5.01	215	P	16 14.30	3.2X
HATZ	5.21	218	P	16 18.60	4.7X
HITZ	5.25	222	P	16 18.70	4.3X
PGZ	6.54	207	P	16 33.90	1.4
MTW	7.31	209	P	16 43.10	-0.1
KIW	7.32	213	P	16 43.40	0.1
CAW	7.45	212	P	16 44.70	-0.4
BLW	7.50	208	P	16 46.30	0.5
WDW	7.61	211	P	16 46.90	-0.5
MOW	7.63	209	P	16 47.70	0.0
MRW	7.71	213	P	16 47.90	-0.8
WEL	7.72	212	P	16 49.70	0.8
MSZ	13.61	220	eP	18 07.00	-1.3
			e(S)	20 46.00	
DZM	17.55	313	iPc	18 59.00	0.1
BWA	26.11	262	eP	20 28.80	1.9
RMQ	28.23	279	eP	20 48.00	1.8
CTA	33.34	287	iPd	21 31.50	0.1
	0.9s		11.76nm		4.8mb
			i	21 43.90	47km
ASPA	41.59	273	iPc	22 41.00	0.3
	0.5s		32.00nm		5.3mb X
			eS	28 48.50	
WB5	42.99	278	eP	22 51.40	-0.7
FORR	43.56	260	iPc	22 57.40	0.8
	0.5s		33.00nm		5.3mb X
COOL	49.16	257	eP	23 40.00	-0.8
NWAO	51.54	253	eP	23 58.00	-0.9
KLB	51.60	255	eP	23 58.00	-1.4
MUN	52.69	254	iPc	24 06.70	-0.8
MRWA	53.92	257	eP	24 15.00	-1.6
SPA	55.33	180	ePd	24 32.20	5.5X
	1.0s		39.50nm		5.4mb
NANU	57.17	264	eP	24 39.10	-1.1
MAW	67.62	202	eP	25 51.60	2.5
PRS	89.30	43	eP	27 45.80	-2.0
GCC	89.45	43	e(P)	27 47.50	-0.9
PRI	89.57	44	e(P)	27 47.60	-1.6
FRI	90.71	44	eP	27 55.10	0.8
			e	28 12.00	59km
CMB	91.06	43	ePd	27 56.80	0.8
			e	28 13.40	58km
WDC	91.70	40	ePd	27 59.80	1.0
TNP	92.89	45	eP	28 05.70	1.1
			epP	28 22.70	59km
KVN	93.05	43	eP	28 05.70	0.4
			epP	28 23.00	61km
ZOBO	97.65	116	eP	28 26.00	-1.4
SOD	144.06	343	ePKP	34 28.00	1.6
			e	34 39.00	
BCAO	145.29	213	iPKPd	34 30.00	-0.2
	0.7s		28.00nm		
			id	34 44.00	
SUF	147.75	338	ePKP	34 33.00	0.4
	0.5s		8.50nm		
NUR	149.87	336	ePKP	34 36.00	0.0
	0.7s		17.40nm		
			i	34 40.70	
WEGH	150.88	179	ePKP	34 47.00	8.1X
LIC	151.10	169	PKPc	34 47.48	8.2X
KIC	151.28	170	PKPc	34 47.88	8.3X
KOGH	151.37	179	ePKP	34 48.00	8.3X
KUK	151.47	179	ePKP	34 48.00	8.2X
TIC	151.51	169	PKP	34 48.66	8.7X
HFS	153.23	345	ePKP	34 46.20	5.3X
	0.5s		1.50nm		

S.D. = 1.1 on 37 of 50 obs.

? OCT 16, 1989 08h 19m 27.78± 5.48s
15.619 S ±80.8km 74.882 W ±54.2km
DEPTH = 33.0km (normal)
NEAR COAST OF PERU (115)

PT03	1.84	331	eP	19 56.70	-1.0
			e(S)	20 19.70	

PT06	2.26	322	iPc	20	04.30	0.6
			iS	20	38.30	
PT02	3.06	330	eP	20	13.80	-1.2
			eS	20	53.50	
PT08	3.98	336	eP	20	29.90	1.5
			iS	21	16.70	
PT10	4.06	330	eP	20	32.00	2.8X
			e(S)	21	23.00	
NNA	4.08	332	iPc	20	32.70	3.2X
	0.6s		25.33nm			
			eS	21	20.50	
ZOBO	6.53	97	P	21	03.90	-0.8
LPB	6.58	99	P	21	06.00	0.7
CNCB	6.74	101	P	21	04.00	-3.5X
	S.D. = 1.4		on	6 of	9 obs.	

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* OCT 16, 1989 09h 25m 12.51± 1.06s
35.778 N ±11.4km 103.747 E ±14.4km
DEPTH = 10.0km (geophysicist)
4.7mb (2 obs.)
GANSU PROVINCE, CHINA (322)

LZH	0.32	14	Pg	25	19.50	0.3
			Sg	25	22.00	
XAN	4.59	111	Pn	26	28.30	4.7X
			Pg	26	42.30	
			Sg	27	44.00	
GTA	4.79	320	iPnc	26	26.80	0.3
			Pg	26	42.00	
			Sn	27	20.00	
			Sg	27	42.00	
CD2	4.85	180	ePn	26	38.60	11.2X
			Pg	26	52.40	
			Sg	27	58.40	
BTO	6.89	44	Pg	27	21.10	24.9X
			Sg	28	49.40	
TIY	7.24	72	ePn	27	05.50	4.5X
			Pg	27	25.50	
			Sg	28	57.20	
HHC	7.96	48	ePn	27	14.00	2.9X
			Pg	27	38.90	
			Sg	29	24.60	
GYA	9.62	164	eP	27	46.40	12.3X
WMQ	14.71	308	P	28	43.40	1.0
KEV	52.37	335	eP	34	19.00	-7.4X
SOD	52.64	332	iP	34	28.10	-0.4
SUF	53.34	326	iP	34	33.30	-0.4
	0.4s		4.20nm		4.8mb	
NUR	54.41	323	eP	34	37.00	-4.6X
HFS	59.77	325	eP	35	18.10	-1.5
	0.4s		2.00nm		4.6mb	
WB5	62.50	147	eP	35	39.20	0.7
	S.D. = 1.0		on	7 of	15 obs.	

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* OCT 16, 1989 09h 44m 35.00± 0.90s
19.863 S ± 8.3km 69.832 W ±16.6km
DEPTH = 33.0km (normal)
NORTHERN CHILE (123)

CNCB	3.51	30	P	45	29.00	-0.1
			i	45	30.00	
LPB	3.70	27	P	45	32.00	0.4
ARE	3.73	335	eP	45	32.00	0.0
			eS	46	28.00	
ANT	3.86	188	e(P)	45	33.50	0.0
ZOBO	3.93	25	Pd	45	34.80	-0.2
CCH	4.28	55	P	45	51.00	11.2X
	S.D. = 0.3		on	5 of	6 obs.	

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* OCT 16, 1989 09h 51m 13.30± 0.82s
15.970 N ±12.6km 92.640 W ±16.1km
DEPTH = 33.0km (normal)
MEXICO-GUATEMALA BORDER REGION (62)

SCX	0.76	0	iP	51	27.00	-0.5
			iS	51	38.00	
SBG	1.01	146	ePd	51	30.30	-1.2
TPX	1.12	161	iP	51	32.50	-0.2
			iS	51	48.00	
KKG	1.15	149	iP	51	32.40	-0.8
LHG	2.07	137	ePc	51	48.70	2.2
			S	52	20.20	
BVA	2.33	124	eP	51	56.00	5.7X
			S	52	29.70	
MMG	2.37	127	eP	51	57.20	6.3X
OXX	4.07	286	iP	52	20.00	5.0X
			(S)	53	02.00	
IISM	5.43	304	eP	52	35.00	1.0
PPM	6.49	299	eP	52	49.00	-0.5
	S.D. = 1.5		on	7 of	10 obs.	

OCT 16, 1989 09h 53m 10.90± 0.75s
27.359 S ± 6.7km 117.615 E ±10.5km
DEPTH = 10.0km (geophysicist)
WESTERN AUSTRALIA (590)

MEKA	1.11	48	iPd	53	32.20	0.5
			eS	53	46.00	
MRWA	2.34	217	iPd	53	49.20	-0.8
			iS	54	17.70	
BAL	3.33	194	eP	54	05.00	0.9
KLB	4.22	178	eP	54	17.00	0.3
			eS	55	03.00	
COOL	4.68	140	eP	54	22.10	-1.1
			eS	55	12.00	
MUN	4.76	195	eP	54	25.00	0.6
			eS	55	17.00	
NANU	5.14	338	iPd	54	29.40	-0.3
			eS	55	23.00	
WARB	8.15	84	eP	55	19.50	7.3X
			eS	56	38.00	
	S.D. = 0.9		on	7 of	8 obs.	

& OCT 16, 1989 10h 11m 11.30s
41.132 N 127.688 W
DEPTH = 6.0km
4.6mb (5 obs.)
OFF COAST OF NORTHERN CALIFORNIA(34)
<BRK>. ML 4.0 (BRK).

FHC	2.82	96	ePc	11	55.20	-2.6
			eS	12	26.70	
WDC	3.94	96	ePc	12	09.80	-3.9
			e(S)	12	54.10	
LTCM	4.33	100	eP	12	16.50	-2.7
LBFM	4.38	85	eP	12	17.50	-2.6
NWRM	4.56	124	eP	12	20.00	-2.4
MIN	4.69	98	ePc	12	19.10	-5.3
			eS	13	13.50	
ORV	4.98	106	ePc	12	26.20	-2.2
			eS	13	19.70	
PCC	5.48	130	ePc	12	31.60	-3.9
MHC	6.03	127	ePc	12	39.30	-4.0
GCC	6.03	131	ePc	12	39.10	-4.1
ARN	6.09	126	eP	12	40.50	-3.6
BMW	6.24	30	eP	12	44.00	-2.2
SHW	6.42	36	eP	12	47.00	-1.8
CMB	6.43	116	e(P)	12	47.20	-1.8
SAO	6.53	130	iPc	12	46.00	-4.3
PRS	6.88	132	e(P)	12	51.00	-4.2
LLA	6.93	128	e(P)	12	52.80	-3.1
LON	7.04	35	eP	12	55.50	-1.9
GMW	7.31	27	eP	12	59.00	-2.2
PRI	7.42	130	ePc	13	00.80	-2.0
FRI	7.46	121	ePc	13	01.40	-1.8
KVN	7.64	103	eP	13	02.20	-3.8
LRM	12.02	62	eP	14	03.20	-3.1
MSU	12.21	97	eP	14	06.00	-3.0
DAU	12.48	88	eP	14	11.00	-1.6
BW06	13.60	77	P	14	24.90	-2.5
EDM	15.50	34	eP	14	50.50	-1.4
GOL	17.05	87	eP	15	10.00	-2.1
	0.8s		38.10nm		4.6mb	
GLD	17.16	87	eP	15	11.50	-1.8
	1.0s		58.00nm		4.7mb	
ALO	17.81	103	eP	15	19.00	-2.6
	1.5s		11.82nm		3.8mb	
FFC	21.79	43	eP	16	04.00	-1.6
	0.8s		18.00nm		4.5mb	
MEO	23.74	96	iPd	16	25.50	0.5
SIO	25.08	92	e(P)	16	36.90	-1.1
TUL	25.41	91	eP	16	43.50	2.5
	1.2s		41.40nm		5.0mb	
	Z 19s		0.03um		2.8MszX	
			LR	24	36.00	
LNO	25.41	91	eP	16	42.20	1.3
	35 obs. ossociated					

OCT 16, 1989 10h 14m 01.12± 0.35s
42.719 N ± 2.7km 111.334 W ± 3.6km
DEPTH = 5.0km (geophysicist)
EASTERN IDAHO (457)
ML 3.4 (NEIS).

ALPW	0.50	30	ePc	14	10.82	-0.3
CHOI	0.60	8	eP	14	13.27	0.1
			eS	14	21.41	
RRI2	0.64	1	P	14	13.80	-0.3
TMI	0.73	324	P	14	15.70	0.0
REDW	0.73	29	iPc	14	15.29	-0.5
PTI	0.78	282	eP	14	16.80	0.0
			eS	14	27.00	
PINI	0.79	359	P	14	16.79	-0.3
			eS	14	28.17	
TPAW	0.82	20	eP	14	16.57	-1.1
SNOW	0.86	29	eP	14	17.68	-0.6
MUDI	0.92	12	eP	14	19.29	0.0
LOHW	1.04	31	eP	14	20.82	-0.6
MOOW	1.12	22	eP	14	22.39	-0.3
TRXW	1.17	28	eP	14	23.33	-0.4
IMW	1.21	14	P	14	24.30	-0.1
BW06	1.31	87	P	14	26.10	0.1
COLW	1.32	20	eP	14	26.01	-0.1
PACW	1.34	27	eP	14	26.36	0.0
CBTI	1.34	301	P	14	25.60	-0.8
LTMT	1.89	343	ePn	14	35.80	1.2
DAU	2.31	179	eP	14	41.20	0.5
MCMT	2.38	333	ePn	14	42.90	1.3
BGMT	2.57	349	ePn	14	44.60	0.4
DUG	2.76	204	eP	14	46.60	-0.3
MEMT	2.90	5	ePn	14	51.00	2.1
LCCM	3.14	353	ePn	14	56.60	4.2X
LRM	3.20	346	ePn	14	57.20	3.9X
HRY	4.01	355	ePn	15	09.00	4.4X
MSU	4.25	189	eP	15	06.60	-1.6
GOL	5.41	122	eP	15	26.00	1.3
GLD	5.48	121	e(P)	15	26.00	0.4
KVN	6.30	237	eP	15	37.00	-0.2
	S.D. = 0.8		on	28 of	31 obs.	

? OCT 16, 1989 10h 57m 43.05± 1.98s
3.344 S ±21.3km 129.948 E ±22.6km
DEPTH = 33.0km (normal)
4.6mb (2 obs.)
CERAM (272)

AAI	1.78	259	e(P)d	58	11.80	-0.2
MTN	9.51	173	eP	00	02.00	1.1
			eS	01	49.00	
WB5	16.99	166	eP	01	38.30	-1.7
			i	01	44.80	
			eS	04	44.10	
ASPA	20.56	170	iPc	02	22.40	0.6
	0.6s		45.00nm		5.0mb	
			e	05	54.80	
CTA	23.02	138	iPd	02	53.00	6.6X
	0.7s		6.51nm		4.2mb	
CHG	37.63	307	eP	04	57.10	0.1
	S.D. = 1.5		on	5 of	6 obs.	

? OCT 16, 1989 11h 03m 10.79±23.44s
43.654 N ±130.km 7.416 E ±49.1km
DEPTH = 5.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 1.6 (STR).

REVF	0.09	338	Pg	03	11.91	-1.0
AURF	0.24	345	Pg	03	15.31	-0.4
			Sg	03	19.37	
MVIF	0.31	322	Pg	03	17.11	0.1
AUTN	0.34	1	Pg	03	17.87	0.2
TOUF	0.38	341	Pg	03	17.87	-0.6
	S.D. = 0.7		on	5 of	5 obs.	

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* OCT 16, 1989 12h 02m 40.31± 2.02s
21.270 S ±24.8km 179.400 W ±14.6km
DEPTH = 630.8 ± 25.6 km
4.6mb (7 obs.)
FIJI ISLANDS REGION (181)

DZM	13.19	264	iPd	05	31.30	0.8
CTA	32.12	266	iPd	08	20.30	0.3
	0.5s		6.34nm		4.5mb	
ASPA	43.07	258	iPd	09	48.50	-0.3
			eS	15	29.70	
			eScS	18	40.90	
WB5	43.19	263	eP	09	49.00	-0.7
			eS	15	34.20	
FORR	47.75	247	eP	10	23.60	-0.7
	0.4s		15.00nm		4.8mb	
WARB	49.35	253	eP	10	35.60	-0.6

16d 12h

NANU	59.93	256	iPc	11	49.90	0.1	MTW	19.12	171	P	49	55.10	-1.0	KVN	89.75	47	ePc	58	27.50	0.0
MAT	70.06	325	iPd	12	52.20	-0.2	WDW	19.15	172	P	49	56.00	-0.5				epP	58	51.50	89km
	0.6s		9.33nm			4.4mb	COO	19.33	241	eP	50	00.00	1.5	TNP	89.88	48	eP	58	28.10	0.0
PLM	80.64	49	P	13	51.00	0.4	MOW	19.34	171	P	49	57.50	-1.0				epP	58	52.00	88km
FRI	80.75	44	eP	13	50 90	0.1	RMQ	21.06	254	eP	50	18.00	1.7	GTA	90.70	313	eP	58	31.60	-0.2
CMB	80.92	43	ePd	13	51 90	0.2	PAA	22.13	314	eP	50	37.00	9.9X	LON	91.29	39	P	58	33.50	-0.7
WDC	81.10	40	ePd	13	53.10	0.6	MSZ	22.50	187	P	50	34.10	3.7X	ALQ	96.35	55	eP	58	57.00	-0.9
ORV	81.12	42	eP	13	52.90	0.3	CNB	23.22	231	iPc	50	40.80	3.2X		1.0s		3.25nm			4.8mb
MIN	81.53	41	eP	13	54.70	-0.2		1.0s		128.00nm			5.3mb	GBA	98.68	281	P	59	08.00	-0.4
GLA	81.92	50	P	13	58.00	1.2	CAN	23.49	232	eP	50	42.80	2.7	BUL	124.34	223	iPKPd	04	27.20	-1.4
KVN	82.96	43	P	14	02.10	0.0	BWA	23.52	234	iPd	50	40.20	-0.2		0.9s		8.40nm			
TNP	82.99	45	P	14	02.40	0.1	CTA	23.57	271	iPc	50	41.80	0.8	VRI	142.94	318	ePKPd	04	58.00	-4.4X
	0.7s		2.98nm			4 0mb		1.5s		148.61nm			5.2mb	MLR	143.60	318	ePKPd	05	00.50	-3.2X
GMW	85.27	35	P	14	13.30	0.4				iS	54	50.00		MDB	144.24	320	iPKP	05	04.00	-0.6
LON	85.30	36	P	14	13.00	-0.2	CMS	24.55	243	eP	50	52.00	1.6	KRA	144.39	328	ePKP	05	02.80	-1.9
RMW	85.74	35	P	14	14.30	-1.0				e	51	07.00	64kmX	JMB	144.49	313	iPKPc	05	04.00	-1.2
TTA	85.93	10	P	14	15.80	-0.1	QLP	25.10	255	iPd	50	55.10	-0.5	SPC	144.79	327	ePKP	05	04.70	-1.0
	0.6s		4.31nm			4.3mb	PMG	26.58	295	eP	51	09.00	-0.3	PVL	145.02	315	iPKPd	05	05.00	-1.0
PMR	86.07	14	P	14	15.40	-1.0	TOO	27.03	230	eP	51	15.00	1.7	KSP	145.53	332	iPKP	05	06.00	-0.7
	0.5s		8.26nm			4.7mb	QIS	29.65	267	eP	51	35.70	-1.3		1.2s		75.00nm			
DPW	87.94	36	P	14	25.70	0.1	ASPA	34.52	260	iPc	52	18.20	-1.2				e	05	30.50	
ALQ	88.90	52	P	14	29.80	-0.7		0.9s		66.00nm			5.5mb	RZN	146.08	313	iPKPc	05	08.00	-0.1
FBA	89.28	13	P	14	30.20	-1.1				ePcP	54	50.00		PGB	146.08	314	iPKPc	05	08.00	0.1
	0.6s		11.39nm			4.9mb				eS	57	11.70		CLL	146.54	335	iPKPc	05	08.60	0.3
CHG	89.28	290	eP	14	34.10	1.8	WB5	34.61	267	eP	52	16.20	-4.0X		1.3s		41.00nm			
GOL	91.80	48	P	14	43.00	-0.8				eS	57	44.30		SRO	146.66	326	iPKP	05	10.50	1.9X
NB2	139.57	352	PKP	20	50.60	-8.1X	MTN	39.45	277	iPd	52	59.70	-1.1	VTS	146.69	315	iPKP	05	10.00	1.0
	0.7s		2.10nm				FORR	39.48	248	eP	53	00.30	-0.6	EKA	146.76	354	PKP	05	09.00	0.5
EKA	145.87	4	PKP	21	11.00	1.4	WARB	40.87	255	eP	53	12.20	-0.3		1.0s		13.70nm			
	0.8s		7.70nm					0.4s		5.00nm			4.7mb	MMB	146.79	313	ePKP	05	10.00	0.9
KSP	148.02	341	ePKP	21	17.00	3.8X	MRWA	50.02	250	eP	54	23.00	-2.1	PRU	146.92	332	ePKPc	05	10.00	1.0
			ic	21	23.00		MNI	51.19	291	ePc	54	33.00	-1.1		1.0s		26.00nm			
CLL	148.49	345	iPKP	21	18.50	4.6X	TRT	58.28	275	ePd	55	24.50	-1.1	KKB	147.11	314	iPKPc	05	11.00	1.5
	1.1s		17.00nm				KKM	60.92	291	ePc	55	43.00	-0.8	VKA	147.35	329	i(PKP)	05	11.30	1.6
PRU	149.29	342	ePKP	21	20.60	5.5X	MAT	66.40	331	iPc	56	17.40	-1.8	MOX	147.60	336	ePKPc	05	11.00	1.0
			e	21	27.50			1.0s		35.00nm			5.2mb	VAY	147.69	313	ePKP	05	11.40	0.9
MOX	149.43	346	ePKPc	21	21.00	5.7X	KLI	66.51	274	eP	56	19.50	-0.8	HOF	147.76	335	iPKPc	05	12.10	1.8X
KHC	150.33	343	PKP	21	23.40	6.6X				e	56	58.00	161kmX	KHC	147.98	332	iPKPc	05	13.20	2.5X
CDF	152.39	350	ePKP	21	41.00	21.1X	SPA	67.84	180	ePc	56	27.90	-0.2		1.0s		25.00nm			
FLN	152.56	2	ePKP	21	40.60	20.7X		1.0s		22.00nm			5.0mb				e	05	42.50	
	0.7s		5.20nm							e	56	49.40	83km	SKO	148.14	315	iPKPc	05	13.60	2.4X
LDF	152.73	1	ePKP	21	41.10	20.9X	PSI	74.90	279	iPc	57	09.00	-1.9		1.1s		103.00nm			
	0.6s		3.60nm					0.6s		15.00nm			5.0mb				i	05	18.20	
HAU	152.93	352	ePKP	21	42.90	22.4X				e	58	50.00	462kmX	BCAO	148.32	240	iPKPd	05	11.40	-0.9
	0.6s		3.60nm				SNG	75.22	284	eP	57	12.60	-0.1		0.4s		39.00nm			
LPF	153.27	2	ePKP	21	43.60	22.7X	WHN	75.91	312	eP	57	15.50	-0.8				ic	05	15.00	
	S.D. = 0.8		on	28	of	39 obs.	MAW	76.38	202	eP	57	18.00	-0.4				id	05	40.10	
							CN2	78.12	328	Pc	57	27.70	-0.6	GRF	148.52	335	iPKPc	05	14.50	2.9X
OCT 16, 1989 12h 41m 01.50± 0.71s							NNT	78.33	289	iPc	57	30.80	0.8	OHR	148.98	314	ePKP	05	12.00	-0.6
42.032 N ± 7.4km 19.270 E ± 5.8km							LOE	78.78	294	eP	57	32.00	-0.4		1.2s		0.17nm			
DEPTH = 10.0km (geophysicist)							GYA	79.24	304	iPc	57	34.60	-0.3	PTJ	149.14	326	ePKP	05	16.10	3.4X
YUGOSLAVIA (383)							NST	79.35	292	eP	57	37.00	1.5	BHG	149.35	331	iPKPc	05	16.10	3.2X
ML 2.2 (TTG).							BJI	80.59	320	eP	57	41.50	-0.1		1.0s		31.00nm			
							TIY	81.46	317	Pc	57	46.00	-0.3	MEM	149.52	342	PKP	05	16.70	3.7X
ULC	0.07	192	iPgc	41	04.00	0.1	KMI	81.62	301	Pc	57	48.00	0.4	VBY	149.77	326	iPKPc	05	17.90	4.3X
			eSg	41	06.00		CHG	81.78	294	ePc	57	49.09	0.8	LJU	149.77	327	ePKP	05	12.00	-1.6
SDA	0.17	95	iPgd	41	06.20	0.8		1.1s		27.22nm			5.0mb				i	05	17.50	
TTG	0.40	359	iPgd	41	10.20	0.6	HHC	83.86	319	eP	57	59.00	0.3	CEY	150.03	327	e(PKP)	05	18.00	4.0X
			iSg	41	17.20		BTO	84.67	318	eP	58	03.00	0.3	VOY	150.10	328	ePKP	05	14.20	0.0
BDV	0.41	307	ePg	41	09.90	-0.1	GCC	86.07	47	ePc	58	09.30	-0.3				i	05	17.80	
			eSg	41	17.50		PRS	86.14	48	ePc	58	10.90	0.9				e	05	48.00	
PUK	0.46	89	iPgc	41	09.60	-1.3	SYP	86.20	50	eP	58	11.00	0.5	DOU	150.39	343	PKPc	05	18.60	4.3X
HCY	0.71	306	ePg	41	15 00	-0.5	SAO	86.31	48	eP	58	11.10	0.3	OGA	150.82	332	ePKP	05	20.30	4.9X
			eSg	41	27.00		BRK	86.34	47	ePc	58	11.40	0.5	CDF	151.03	338	ePKP	05	20.10	4.6X
TIR	0.82	147	ePg	41	22.50	5.2X	BCH	86.45	50	P	58	12.60	0.9		1.2s		23.80nm			
PHP	0.94	111	ePg	41	19.70	0.3	MHC	86.48	47	ePc	58	12.70	0.9	BSF	151.70	338	ePKP	05	21.60	5.0X
OHR	1.47	128	e(Pn)	41	30.50	2.4X	PRI	86.53	49	ePc	58	12.90	0.8		1.2s		17.80nm			
	S.D. = 0.9		on	7	of	9 obs.	LLA	86.58	48	ePc	58	12.60	0.4	HAU	151.70	339	ePKP	05	21.70	5.3X
							MWC	87.43	51	eP	58	17.00	0.5		1.1s		14.60nm			
OCT 16, 1989 14h 45m 37.51± 0.17s							SNA	87.54	182	iPc	58	15.50	-0.7	LOR	153.15	341	ePKP	05	22.00	3.5X
22.297 S ± 4.4km 171.432 E ± 4.0km								0.8s		50.75nm			5.6mb		1.0s		6.00nm			
DEPTH = 88.5km (5 depth phases)							WDC	87.58	44	iPc	58	17.00	0.1	SSF	153.44	341	ePKP	05	24.80	5.9X
5.1mb (11 obs.)										epP	58	41.80	92km		1.0s		8.00nm			
LOYALTY ISLANDS REGION (189)							FRI	87.63	48	ePc	58	17.50	0.4		S.D. = 1.0		on	98	of	124 obs.
							CMB	87.69	47	ePc	58	17.80	0.3							
DZM	4.63	272	iPd	46	47.10	0.6				epP	58	42.30	91km	* OCT 16, 1989 14h 52m 16.60± 1.35s						
			iS	47	37.00		ORV	87.72	45	ePc	58	17.90	0.3	50.427 N ± 6.2km 6.150 E ±13.1km						
PVC	5.40	327	iPd	47	01.00	3.8X	RVR	87.81	52	eP	58	18.00	-0.1	DEPTH = 10.0km (geophysicist)						
KRP	15.97	168	P	49	23.00	4.8X	SBB	87.82	51	eP	58	19.00	0.7	GERMANY (543)						
HNR	16.89	317	eP	49	30.00	0.2				e	58	47.00	106kmX	MD 2.0 (UCC).						
SVO	17.19	318	eP	49	40.00	6.5X	ISA	87.83	50	eP	58	19.00	0.7							
BRS	17.67	250	iPd	49	41.90	2.5	PLM	87.89	53	eP	58	19.00	0.3	MEM	0.20	333	iPc	52	20.92	-0.1
	0.9s		12.00nm			4.1mb	MIN	88.07	45	eP	58	19.20	-0.2	ENN	0.37	337	iPgc	52	24.30	0.1
PGZ	18.72	168	P	49	51.30	-0.6	CLC	88.53	50	eP	58	21.00	-0.6		0.5s		34.00nm			
CAW	19.01	172	P	49	54.60	-0.3	TPC	88.84	52	eP	58	23.00	-0.1				e	52	25.00	
TCW	19.01	173	P	49	55.60	0.6	GSC	88.85	51	eP	58	24.00	0.8				iSg	52	29.60	
MRW	19.08	172	P	49	55.60	-0.1	GLA	89.26	54	eP	58	26.00	0.9	WLF	0.76	180	iP	52	31.50	0.0

DOU	1.05	252	iP	52 36.30	-0.1
SNF	1.20	275	P	52 39.00	0.1

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

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* OCT 16, 1989 14h 53m 27.60± 0.90s
18.883 N ± 7.6km 145.281 E ±15.8km
DEPTH = 247.8 ± 9.2 km
4.7mb (3 obs.)
MARIANA ISLANDS (216)

GUMO	5.28	184	eP	54 48.00	0.7
PJG	5.28	184	eP	54 47.80	0.5
GUA	5.33	184	eP	54 47.10	-0.8
	0.5s		56.34nm		4.8mb
			eS	55 45.20	
MAT	18.66	342	(P)	57 29.00	-0.4
WB5	39.98	196	eP	00 40.00	0.1
ASPA	43.72	195	iPc	01 09.80	-0.5
DZM	45.66	152	iPd	01 24.80	-0.9
WARB	48.32	203	eP	01 47.00	0.8
FORR	52.13	199	eP	02 14.00	-0.8
MBC	73.07	14	eP	04 31.50	-0.4
	1.0s		5.00nm		4.2mb
CMB	81.90	53	ePc	05 20.60	-0.3
FRI	82.73	54	eP	05 25.10	0.0
KVN	83.29	51	eP	05 28.30	0.1
TNP	84.26	52	eP	05 33.20	0.1
			e	06 20.50	
LRM	84.88	43	eP	05 36.20	0.1
FFC	87.15	32	eP	05 47.00	0.4
	0.9s		15.00nm		4.8mb
ZOBO	148.07	91	PKP	12 43.00	-0.3
LPB	148.14	91	ePKP	12 47.00	3.8X
CNCB	148.30	92	PKP	12 45.00	1.4

S.D. = 0.7 on 18 of 19 obs.

? OCT 16, 1989 15h 12m 34.92± 3.29s
28.986 N ±23.9km 128.581 W ±18.7km
DEPTH = 10.0km (geophysicist)
4.4mb (1 obs.)
NORTH PACIFIC OCEAN (611)

BLP	8.91	49	eP	14 46.00	-0.6
SYP	9.17	51	eP	14 51.00	0.6
BCH	9.49	47	eP	14 58.50	3.7X
PRS	9.51	38	ePc	14 54.30	-0.7
PHAM	9.72	43	eP	14 57.40	-0.4
GCC	9.74	33	ePc	14 56.80	-1.2
PRI	9.77	41	eP	14 58.50	-0.1
SAO	9.80	36	eP	14 57.90	-1.1
ABL	9.87	51	eP	14 59.60	-0.5
PCC	9.95	30	ePc	15 00.50	-0.4
LLA	9.96	38	e(P)	15 00.50	-0.6
MHC	10.16	33	ePc	15 03.80	-0.1
ARN	10.22	33	eP	15 04.20	-0.5
MWC	10.38	57	eP	15 08.00	0.9
SBB	10.77	55	eP	15 13.00	0.8
RVR	10.79	60	eP	15 16.00	3.5X
ISA	10.83	50	eP	15 16.00	2.9X
BAR	10.88	67	eP	15 13.80	0.1
PEC	10.91	60	eP	15 14.30	0.1
FRI	10.91	41	e(P)	15 14.90	0.7
PLM	10.94	64	eP	15 15.00	0.3
CMB	11.32	35	ePc	15 21.20	1.5
CLC	11.51	51	eP	15 27.00	4.7X
TPC	11.84	61	eP	15 26.00	-0.9
ORV	12.05	27	eP	15 32.80	3.1X
FHC	12.37	16	ePc	15 34.60	0.6
WDC	12.58	22	iPc	15 38.60	1.9
TNP	13.11	43	eP	15 48.00	4.0X
KVN	13.27	38	eP	15 49.80	3.7X
LBFM	13.49	22	eP	15 51.80	2.9X
MSU	16.61	51	eP	16 33.70	4.1X
LON	18.51	15	eP	16 53.50	0.5
BW06	20.60	43	eP	17 17.50	0.5
LRM	21.07	33	eP	17 21.80	0.1
NEW	21.18	22	P	17 21.00	-1.7
	1.0s		16.00nm		4.4mb
GOL	21.88	55	eP	17 42.80	12.7X

S.D. = 0.9 on 26 of 36 obs.

? OCT 16, 1989 16h 25m 39.75± 3.97s
35.120 S ±23.9km 72.512 W ±24.8km
DEPTH = 33.0km (normal)
NEAR COAST OF CENTRAL CHILE (135)

LNV	1.47	38	iPc	26 03.10	-1.1
			iS	26 24.80	
LCCH	1.82	26	iPc	26 08.70	-0.5
			iS	26 33.50	
CHCH	1.94	53	iPd	26 11.40	0.4
			iS	26 37.40	
TACH	1.96	42	iPd	26 11.00	-0.3
			iS	26 37.50	
IHA	2.21	19	eP	26 15.00	0.2
			iS	26 20.70	
PCH	2.23	48	iPc	26 15.00	-0.2
			iS	26 44.50	
SAN	2.26	43	iPd	26 16.00	0.4
			iS	26 46.40	
ROCH	2.48	31	iPc	26 19.60	0.7
PEL	2.49	38	iPd	26 19.50	0.6
			iS	26 53.80	
FCH	2.57	46	iPc	26 20.00	-0.2
			iS	26 54.00	
JACH	2.91	34	iPc	26 25.00	0.1
			iS	27 04.00	
RFA	3.34	85	ePd	26 31.00	0.0
			S	27 17.00	
CNCB	18.68	14	P	30 00.00	2.0X
LPB	18.93	13	P	30 03.00	2.1X
ZOBO	19.18	13	P	30 04.00	-0.1

S.D. = 0.5 on 13 of 15 obs.

OCT 16, 1989 18h 13m 46.21± 0.41s
7.974 S ± 5.6km 118.969 E ± 7.0km
DEPTH = 33.0km (normal)
5.0mb (12 obs.)
FLORES SEA (279)

MKS	2.78	10	iPd	14 28.50	-0.9
KHKI	3.35	263	ePc	14 36.20	-1.3
			eS	15 10.80	
			e	20 15.50	
KUG	5.05	116	ePc	15 52.40	50.7X
TRT	6.28	272	ePc	15 19.20	0.2
			eS	16 26.00	
PCI	7.08	7	ePd	15 31.00	0.9
KNA	12.31	130	eP	16 37.50	-4.6X
			eS	18 47.00	
MTN	12.90	113	iPd	16 46.00	-4.0X
			eS	18 57.00	
MBL	13.14	176	eP	16 51.00	-2.1
			eS	19 08.00	
NANU	14.88	192	eP	17 14.50	-1.5
	0.3s		4.00nm		4.3mb
			eS	19 46.00	
MEKA	18.54	181	eP	18 03.60	1.3
	0.4s		20.00nm		4.7mb
			eS	21 13.00	
WB5	19.04	130	iPc	18 06.30	-2.1
			eS	21 26.90	
WARB	19.53	159	eP	18 14.00	0.0
			eS	21 44.00	
ASPA	21.18	139	iPc	18 30.30	-0.9
	0.6s		53.00nm		5.1mb
			eS	22 20.40	
MRWA	21.32	187	iPd	18 31.90	-0.6
	0.4s		15.00nm		4.8mb
			eS	22 19.00	
BAL	22.62	185	iPd	18 46.30	0.8
	0.4s		20.00nm		4.9mb
			eS	22 52.00	
PSI	22.63	297	iPc	18 47.50	1.8
			e	20 40.00	
COOL	22.88	175	eP	18 48.00	-0.1
	0.4s		5.00nm		4.4mb
KLB	23.53	183	eP	18 55.20	0.9
			eS	23 12.00	
QIS	23.55	124	iPc	18 54.40	-0.3
	0.8s		68.00nm		5.2mb
MUN	24.02	186	eP	18 59.00	-0.1
			eS	23 22.00	
FORR	24.31	161	eP	19 01.60	-0.3
	0.4s		22.00nm		5.1mb
NWAO	24.88	183	iPc	19 08.80	1.4
	0.6s		29.00nm		5.0mb
			eS	23 42.00	
CTA	29.02	117	iPd	19 45.00	-0.6
	1.2s		45.31nm		5.0mb
BRS	37.36	125	iPd	20 58.50	0.7
	0.8s		25.00nm		5.1mb
			i	21 09.50	
BWA	37.77	138	eP	21 03.40	2.3
COO	38.11	131	iPd	21 06.30	2.2
CAN	38.69	139	eP	21 09.70	0.8
TIY	45.86	353	eP	22 11.60	4.4X
LSA	46.03	326	P	22 09.40	0.2
DZM	47.74	113	iPc	22 21.50	-0.9
GTA	50.38	341	eP	22 41.60	-0.9
WMO	58.82	334	P	23 42.50	-1.5
MAW	70.18	200	eP	24 58.00	0.6
MAIO	71.02	313	eP	25 13.00	9.8X
BUL	87.63	250	iPd	26 33.40	0.1
	0.9s		8.40nm		5.0mb
PDCR	150.18	227	ePKP	33 34.80	3.8X
			e	33 48.70	

S.D. = 1.2 on 30 of 36 obs.

? OCT 16, 1989 18h 22m 56.24± 1.49s
8.598 N ±24.0km 103.123 W ±38.6km
DEPTH = 33.0km (normal)
5.0mb (4 obs.) 3.4Msz (1 obs.)
OFF COAST OF MEXICO (63)

MEO	26.39	8	iPc	28 32.30	0.7
ALQ	26.40	354	eP	28 34.00	2.2
SIO	27.73	12	e(P)	28 34.70	-9.1X
TUL	28.00	13	eP	28 44.30	-1.9
	1.5s		72.70nm		5.2mb
Z	21s		0.10um		3.4Msz
			LR	37 00.00	
KVN	33.17	338	eP	29 31.20	-0.9
BW06	34.51	352	eP	29 43.00	-0.8
LRM	37.95	349	eP	30 12.70	-0.1
LON	41.24	340	eP	30 39.00	-0.8
ZOBO	42.55	125	P	30 50.80	-0.7
	1.5s		40.32nm		4.9mb
			LR	44 52.00	
LPB	42.71	126	P	30 53.00	0.3
CNCB	42.96	126	P	30 55.20	0.4
EDM	45.26	351	eP	31 13.00	0.6
FFC	46.01	1	eP	31 22.00	3.8X
	1.2s		25.00nm		5.0mb
MBC	68.19	356	eP	33 56.00	0.9
	1.5s		16.00nm		4.9mb

S.D. = 1.2 on 12 of 14 obs.

? OCT 16, 1989 20h 40m 37.45±10.30s
30.695 S ±63.5km 72.300 W ±60.1km
DEPTH = 33.0km (normal)
OFF COAST OF CENTRAL CHILE (134)

IHA	2.39	167	eP	41 19.80	4.7X
			iS	41 49.00	
JACH	2.46	144	iPc	41 15.50	-0.7
			iS	41 45.00	
ROCH	2.52	155	iPd	41 17.00	-0.2
PEL	2.80	151	iPc	41 29.00	8.1X
			iS	41 53.50	
LCCH	2.84	168	iPc	41 22.00	0.5
			iS	41 52.00	
SAN	3.08	154	ePd	41 26.40	1.4
			iS	42 03.00	
FCH	3.13	147	iPc	41 27.00	1.1
			iS	42 03.00	
TACH	3.17	159	iPd	41 26.50	0.4
			iS	42 03.00	
ZON	3.22	106	eP	41 27.00	0.1
PCH	3.29	153	iPc	41 28.00	0.1
			iS	42 04.50	
LNV	3.34	167	eP	41 27.00	-1.5
			iS	42 15.00	
CHCH	3.52	157	iPd	41 30.60	-0.6
			iS	42 08.90	
RFA	5.19	143	ePc	41 53.50	-1.4

S.D. = 1.1 on 11 of 13 obs.

? OCT 16, 1989 23h 54m 03.30± 4.43s
25.115 S ±42.1km 179.709 E ±31.0km
DEPTH = 546.8 ± 48.9 km
4.7mb (2 obs.)
SOUTH OF FIJI ISLANDS (171)

DZM	12.53	281	iPc	56 47.90	0.0
BWA	28.61	244	eP	59 17.10	-0.3
CTA	31.24	272	iPd	59 40.00	0.0
	0.6s		33.33nm		5.1mb
ASPA	41.59	262	iPd	01 05.30	0.2
NANU	58.26	258	iPd	03 07.90	0.1
	0.3s		4.00nm		4.2mb

17d 00h

PLM	83.78	49	eP	05	36.70	0.4
GLA	85.01	50	eP	05	43.00	0.8
TNP	86.29	45	eP	05	48.00	-0.4
KVN	86.30	44	eP	05	48.20	-0.3
LON	88.89	36	eP	05	59.60	-0.6
HFS	143.68	348	ePKP	12	33.90	-2.9X
	0.5s		1.80nm			
	S.D. = 0.5		on 10 of 11 obs.			

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* OCT 17, 1989 00h 58m 27.88± 0.43s
0.503 N ±13.6km 24.986 W ± 7.6km
DEPTH = 10.0km (geophysicist)
4.8mb (5 obs.) 4.2Msz (2 obs.)
CENTRAL MID-ATLANTIC RIDGE (406)

PDCR	19.09	227	eP	02	53.20	-0.2
			e	02	57.80	
LIC	20.71	74	P	03	10.28	-0.8
	Z 20s		0.35um		3.7Msz	
TIC	20.83	73	P	03	13.30	0.9
KIC	21.02	73	P	03	12.68	-1.6
	1.1s		21.50nm		4.4mb	
BCAO	43.65	84	iPc	06	35.50	0.7
	0.8s		11.00nm		4.7mb	
			id	06	42.10	
CCH	44.25	244	eP	06	36.00	-3.9X
ZOBO	45.70	247	P	06	51.10	-0.8
	0.9s		8.65nm		4.7mb	
	Z 20s		0.85um		4.7Msz	
			LR	20	44.00	
CNCB	45.73	246	P	06	52.60	0.5
LPB	45.76	246	P	06	53.00	0.9
RSCP	66.10	309	eP	09	17.30	-0.4
FVM	70.50	310	eP	09	44.00	-1.0
TUL	74.22	307	e(P)	10	06.40	-0.7
	1.0s		25.70nm		5.2mb	
RSSD	81.79	314	eP	10	48.90	0.1
ALQ	82.72	305	eP	10	54.50	0.7
MAIO	85.25	54	eP	11	08.00	1.5
EDM	88.62	323	ePc	11	22.50	0.0
MBC	90.56	346	eP	11	32.00	0.9
	1.0s		6.00nm		4.8mb	
CAN	144.91	171	ePKP	18	06.90	-0.6
ASPA	149.18	140	iPKPd	18	18.00	3.2X
	0.9s		11.00nm			
WB5	152.08	135	ePKP	18	25.00	5.9X
	S.D. = 0.9		on 17 of 20 obs.			

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* OCT 17, 1989 01h 08m 29.17± 1.43s
36.154 N ±13.9km 26.648 E ± 8.9km
DEPTH = 102.7 ± 29.0 km
DODECANESE ISLANDS (369)

KAP	0.74	144	eP	08	47.10	-0.3
NPS	1.23	224	eP	08	53.00	0.4
YER	1.64	53	iPn	08	58.30	0.5
CIN	1.85	38	eP	09	00.00	-0.3
VAM	2.13	250	eP	09	03.80	-0.2
KSL	2.38	90	eP	09	07.30	0.0
KHL	3.15	46	iPn	09	17.80	-0.1
BCK	3.42	66	ePn	09	21.60	0.0
	S.D. = 0.4		on 8 of 8 obs.			

OCT 17, 1989 02h 26m 11.24± 0.60s
35.501 N ± 5.3km 5.756 W ±12.8km
DEPTH = 76.8 ± 15.5 km
STRAIT OF GIBRALTAR (385)
MD 2.7 (RBA).

OJEN	0.62	17	iP	26	25.00	-1.1
CNIL	0.90	345	iP	26	29.00	-0.1
EJIF	0.98	14	iPd	26	31.10	1.0
EPRU	1.52	16	eP	26	38.00	0.8
IFR	2.05	165	iPg	26	44.50	0.1
			i	26	49.00	
			iSg	27	07.00	
EHOR	2.35	10	eP	26	48.40	0.0
			eS	27	13.80	
AVE	2.59	212	iPnc	26	52.00	0.3
			iSn	27	22.00	
			i	27	24.00	
EBAN	3.09	30	eP	26	59.00	0.3
			eS	27	31.00	
EVIA	4.07	39	eP	27	12.20	-0.3
			eS	27	54.00	
EPLA	4.57	357	eP	27	19.20	-0.2
TIO	4.73	196	iPn	27	21.60	-0.2
			iSn	28	12.00	
GUD	5.29	13	eP	27	29.00	-0.5
			eS	28	23.00	
	S.D. = 0.7		on 12 of 12 obs.			

% OCT 17, 1989 02h 37m 08.50± 1.53s
40.201 N ±23.7km 27.091 E ±11.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EDC	0.61	76	iPg	37	19.70	-1.1
			eSg	37	27.20	
BNT	0.65	76	iPg	37	21.50	0.0
			iSg	37	29.00	
EZN	0.70	238	iPg	37	22.30	0.0
			iSg	37	35.80	
KCT	0.97	87	iPg	37	28.50	1.5
			iSg	37	41.00	
DST	1.32	116	iPn	37	32.50	-0.5
	S.D. = 1.4		on 5 of 5 obs.			

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* OCT 17, 1989 03h 48m 19.24± 1.54s
6.159 S ±19.9km 125.349 E ±14.1km
DEPTH = 33.0km (normol)
4.7mb (2 obs.)
BANDA SEA (280)

MTN	8.75	140	eP	50	26.00	-0.6
			eS	53	18.00	
KNA	10.10	161	eP	50	44.60	-0.6
WB5	16.21	148	eP	52	04.20	-2.1
			eS	54	53.00	
			iPcP	57	55.10	
NANU	18.86	209	eP	52	39.00	-0.2
ASPA	19.25	156	iPd	52	44.80	0.8
	0.5s		39.00nm		4.9mb	
QIS	19.90	137	eP	52	51.00	-0.1
			e	55	41.00	
MEKA	21.35	197	eP	53	06.00	0.0
CTA	24.57	126	iPd	53	38.80	1.1
	1.0s		12.00nm		4.4mb	
FORR	24.70	174	eP	53	41.00	2.3
PSI	27.81	288	eP	54	07.00	-0.7
			e	55	30.00	
	S.D. = 1.4		on 10 of 10 obs.			

? OCT 17, 1989 04h 16m 42.59± 4.01s
23.223 S ±30.2km 67.393 W ±33.3km
DEPTH = 33.0km (normol)
CHILE-ARGENTINA BORDER REGION (127)

ANT	2.82	260	iPc	17	26.30	0.0
			iS	18	05.30	
CCH	5.93	12	P	18	10.40	-0.3
CNCB	6.40	355	P	18	18.80	1.1
LPB	6.69	354	eP	18	16.00	-5.5X
	Z 22s		1.48um			
			LR	32	30.00	
ZOBO	6.95	354	P	18	24.80	-0.5
	Z 20s		0.41um			
			LR	32	46.00	
ARE	7.75	329	e(P)	18	36.00	-0.3
	S.D. = 1.0		on 5 of 6 obs.			

? OCT 17, 1989 05h 07m 20.02± 4.76s
40.654 N ±37.2km 23.170 E ±16.8km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 2.2 (SKO).

VAY	0.81	326	iPg	07	34.80	-0.8
			iSg	08	34.80	
MMB	1.02	24	iPgd	07	38.00	-1.4
KKB	1.21	357	iPgc	07	43.00	0.4
RZN	1.56	48	eP	07	49.00	1.0
VTS	1.94	1	iP	07	55.00	1.6
KDZ	1.97	59	eP	07	53.00	-0.8
	S.D. = 1.5		on 6 of 6 obs.			

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* OCT 17, 1989 08h 21m 24.96± 1.77s
24.305 S ±18.4km 68.545 W ±11.6km
DEPTH = 33.0km (normol)
CHILE-ARGENTINA BORDER REGION (127)

ANT	1.81	289	iPc	21	54.00	-0.3
			iS	22	09.50	
CCH	7.24	19	P	23	11.30	-0.2
CNCB	7.48	4	P	23	09.00	-6.0X
LPB	7.74	3	eP	23	18.00	-0.6
ZOBO	8.00	3	P	23	16.00	-6.4X
ARE	8.28	340	eP	23	27.00	1.0
PDCR	30.20	72	e(P)	27	35.00	0.2
	S.D. = 0.9		on 5 of 7 obs.			

OCT 17, 1989 11h 35m 13.01± 0.79s
24.330 N ± 7.7km 123.477 E ± 6.6km
DEPTH = 27.1 ± 6.0 km
5.1mb (2 obs.)
SOUTHWESTERN RYUKYU ISLANDS (246)
Felt (III JMA) on Iriomote-shimo and (I JMA) on Ishigaki-shimo.

ISI	0.63	90	eP	35	25.00	-0.4
			iS	35	34.60	
TWC	1.51	281	ePc	35	36.30	-2.2
			eS	35	54.70	
TWD	1.74	262	ePc	35	40.90	-0.9
ANP	1.97	296	eP	35	50.00	4.7X
TWF1	2.22	244	ePc	35	49.20	0.4
TWG	2.67	236	eP	35	56.20	1.1
QZH	4.49	279	ePn	36	23.00	2.0
			Sn	37	06.00	
SSE	7.04	344	eP	36	51.60	-5.3X
NJ2	8.70	333	Pc	37	23.60	3.5X
			S	38	56.00	
TIY	16.34	327	iPc	39	02.60	0.5
BJI	16.83	340	eP	39	11.00	2.8
SNY	17.45	0	eP	39	21.00	5.0X
	Z 13s		0.90um			
	N 12s		0.90um			
CD2	18.65	295	eP	39	28.80	-2.2
CN2	19.49	4	eP	39	42.00	1.1
	Z 12s		1.10um			
BTO	19.76	328	eP	39	42.50	-1.4
LZH	20.58	309	eP	39	58.00	5.4X
	2.0s		0.05nm		1.5mb X	
	Z 14s		0.50um		4.0MszX	
LOE	21.44	255	eP	40	01.00	-0.3
CHG	23.45	261	eP	40	21.80	0.6
CHTO	23.45	261	eP	40	21.60	0.4
GTA	24.99	313	eP	40	32.60	-3.5X
WB5	45.20	165	eP	43	29.00	-0.7
ASPA	48.77	167	iPd	43	57.80	0.1
	0.6s		11.00nm		5.1mb	
WARB	50.31	176	iPd	44	09.10	-0.3
BWA	63.05	157	eP	45	41.50	1.4
CAN	64.06	157	eP	45	47.10	0.3
INK	72.30	22	eP	46	37.00	-0.7
EDM	88.44	30	eP	48	03.50	-0.5
FFC	92.15	24	eP	48	20.00	-1.2
	0.6s		6.00nm		5.2mb	
KVN	94.65	43	eP	48	33.30	0.0
	S.D. = 1.3		on 23 of 29 obs.			

OCT 17, 1989 11h 53m 14.39± 0.82s
32.184 N ± 5.5km 137.921 E ± 6.7km
DEPTH = 373.5 ± 8.0 km
4.7mb (22 obs.)
SOUTH OF HONSHU, JAPAN (211)

SHK	4.97	300	iPc	54	36.30	1.0
	0.8s		626.87nm			
SNY	14.95	314	iPd	56	29.00	-0.6
CN2	15.18	323	Pd	56	30.80	-1.3
BJI	19.21	300	eP	57	12.50	-0.5
			e	58	10.50	
			eS	00	28.00	
GUMO	19.57	159	eP	57	16.70	0.0
	0.6s		53.87nm		5.1mb	
GUA	19.63	159	eP	57	17.30	0.0
	0.5s		56.34nm		5.2mb	
WHN	20.19	272	eP	57	24.00	1.4
TIY	21.58	292	iPd	57	36.60	0.5
	0.8s		0.08nm		2.1mb X	
HHC	22.82	300	Pd	57	47.80	0.1
BTO	23.91	298	P	57	57.70	0.0
XAN	24.33	282	Pd	58	01.00	-0.5
LZH	28.39	287	eP	58	36.50	-1.4
	1.5s		0.03nm		1.4mb X	
	Z 16s		0.70um		4.4MszX	
GTA	31.56	294	iPd	59	04.60	-0.9
	1.0s		0.03nm		1.6mb X	
CHG	37.41	259	ePc	59	55.00	0.3
	1.0s		19.00nm		4.4mb	

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WMO    40.68 301 P      00 21.80   0.5
KSH    49.89 297 eP     01 34.50   1.1
NDI    51.85 283 iPd    01 47.00  -0.9
WB5    51.88 184 eP     01 46.80  -1.2
HYB    55.24 270 iPc    02 12.20  -0.3
       0.8s    38.50nm          4.8mb
GBA    57.99 266 Pd     02 30.70  -0.9
       1.0s    32.60nm          4.7mb
INK    60.00  25 eP     02 43.50  -1.0
DZM    60.46 149 iPc    02 48.30   0.1
BRS    60.91 165 eP     02 51.50   0.5
MBC    61.97  15 ePd    02 57.10  -0.4
       0.5s     7.00nm          4.4mb
SOD    68.31 337 iP     03 37.40  -0.2
HFS    77.28 335 eP     04 28.50  -0.9
       0.8s    20.20nm          5.0mb
NB2    77.50 336 P      04 30.60  -0.1
       0.7s    11.90nm          4.8mb
VRI    80.50 319 ePd    04 47.50   0.7
KSP    82.65 327 iPd    04 58.50   0.8
CLL    83.80 329 iPd    05 03.70   0.2
       0.9s    19.00nm          4.9mb
PRU    84.05 327 P      05 05.40   0.6
KHC    85.10 327 eP     05 10.50   0.4
CDF    88.44 330 eP     05 26.30   0.1
LPG    90.91 328 eP     05 37.90   0.0
       0.5s     3.60nm          4.6mb
SSF    91.08 331 eP     05 38.30   0.0
       0.8s     3.20nm          4.3mb
FLN    91.27 334 eP     05 39.00  -0.1
       0.8s     6.40nm          4.6mb
LDF    91.28 334 eP     05 39.00  -0.1
       0.6s     3.60nm          4.5mb
AVF    91.36 331 eP     05 39.60   0.1
       0.6s     4.50nm          4.6mb
GRR    91.72 334 eP     05 41.30   0.1
       0.8s    17.10nm          5.1mb
LPF    92.09 334 eP     05 43.10   0.2
       0.8s    16.10nm          5.1mb
MAF    92.14 331 eP     05 43.60   0.4
       0.4s     2.20nm          4.5mb
TCF    92.24 331 eP     05 43.80   0.2
       0.6s     3.60nm          4.5mb
LSF    92.55 331 eP     05 45.00   0.0
       0.6s    10.80nm          5.0mb
MFF    92.93 333 eP     05 46.90   0.1
       0.6s     6.10nm          4.8mb
RJF    93.32 331 eP     05 49.20   0.6
CAF    93.39 330 eP     05 49.70   0.7
       0.6s     1.80nm          4.3mb
LFF    93.93 331 eP     05 52.00   0.6
       0.8s     6.40nm          4.8mb
ZOBO  151.56  62 PKP    12 25.00   4.5X
      S.D. = 0.7  on  47 of  48 obs.
-----------------------------------------
?  OCT  17, 1989  12h 06m 30.98± 3.34s
   24.018 N ±14.2km  122.469 E ±28.3km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN REGION                    (243)

TWD    0.80 275 iPc    06 46.80   0.3
                eS     06 57.20
TWC    0.82 316 iPd    06 47.00   0.2
                eS     06 58.20
TWF1   1.26 239 ePc    06 55.10   0.7
TWZ    1.35 323 ePc    06 56.90   1.1
ANP    1.45 323 iPd    06 58.50   1.2
TWK    1.96 248 eP     07 06.10   1.4
SSE    7.14 351 Pd     08 14.80  -3.2X
    Z  16s     0.80um
                eS     09 31.00
GYA   14.51 283 P      09 56.80  -1.7
TIY   16.13 330 eP     10 22.30   3.0X
BJI   16.83 343 eP     10 29.00   0.8
CD2   17.96 297 eP     10 40.00  -2.4
GTA   24.54 314 eP     11 50.40  -1.6
      S.D. = 1.6  on  10 of  12 obs.
-----------------------------------------
%  OCT  17, 1989  12h 21m 52.92± 0.99s
   39.632 N ± 9.6km   27.959 E ± 8.3km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                           (366)

DST    0.52  93 iPg    22 02.50  -0.9
                iSg    22 10.50
EDC    0.72 354 iPg    22 06.80  -0.2
                eSg    22 17.80

BNT    0.72 358 iPg    22 08.00   0.8
EZN    1.27 279 ePn    22 16.00  -0.6
KHL    1.79 136 ePn    22 25.00   0.9
      S.D. = 1.2  on   5 of   5 obs.
-----------------------------------------
   OCT  17, 1989  13h 48m 59.02± 0.57s
   60.478 N ± 5.1km    5.429 E ± 6.1km
   DEPTH =  10.0km  (geophysicist)
 SOUTHERN NORWAY                  (535)
      ML 1.5 (BER).

BER    0.11 207 iPg    49 01.46  -0.3
                iSg    49 02.97
ASK    0.12 273 iPgc   49 01.99   0.1
                iSg    49 03.69
SUE    0.67 331 iP     49 12.33   0.1
                eS     49 21.86
HYA    0.78  28 eP     49 14.38   0.1
                eS     49 25.84
ODD1   0.82 133 eP     49 15.34   0.3
                eS     49 26.42
KMY    1.27 184 eP     49 22.78   0.2
                eSg    49 38.64
NRA0   3.03  82 eP     49 47.40  -0.4
                iSg    50 31.60
      S.D. = 0.3  on   7 of   7 obs.
-----------------------------------------
   OCT  17, 1989  14h 33m 13.29± 0.54s
   40.166 N ± 7.4km   25.078 E ± 4.3km
   DEPTH =  10.0km  (geophysicist)
 AEGEAN SEA                       (365)

OUR    0.86 282 iPg    33 29.60  -0.2
                eSg    33 41.70
EZN    1.02 109 iPg    33 32.20  -0.3
                iSg    33 46.20
ALN    1.04  45 ePg    33 32.90   0.0
                eSg    33 46.40
RDO    1.04  20 ePb    33 32.00  -0.9
PLG    1.27 280 ePb    33 35.70  -1.1
PRK    1.30 135 ePb    33 36.80  -0.6
SRS    1.48 311 ePb    33 41.10   1.2
                eSb    34 00.80
KNT    1.93 302 ePb    33 46.10  -0.4
                eSn    34 14.70
LIT    1.99 269 ePn    33 47.50   0.2
GRG    2.19 292 ePn    33 51.10   0.9
                eSn    34 19.90
VAY    2.23 302 e(Pn)  33 55.40   4.6X
DST    2.79 100 ePn    34 00.00   1.2
      S.D. = 0.9  on  11 of  12 obs.
-----------------------------------------
?  OCT  17, 1989  14h 35m 16.05± 3.70s
   33.646 S ±10.5km   71.782 W ±30.9km
   DEPTH =  24.0 ±  7.5 km
 NEAR COAST OF CENTRAL CHILE      (135)

LCCH   0.25  46 iPd    35 22.00  -0.2
                iS     35 27.50
LNV    0.44 135 iPd    35 25.50   0.4
                iS     35 33.80
TACH   0.70  91 iPd    35 29.60   0.0
SAN    0.96  79 iPd    35 34.00   0.2
                iS     35 50.00
CHCH   0.98 107 iPc    35 33.50  -0.8
                iS     35 52.00
PEL    1.05  62 iPd    35 35.40   0.2
                iS     35 52.00
PCH    1.06  89 iPd    35 35.50   0.0
FCH    1.29  76 iPc    35 39.20   0.3
      S.D. = 0.5  on   8 of   8 obs.
-----------------------------------------
?  OCT  17, 1989  15h 02m 54.61± 5.86s
   5.532 S ±40.3km   38.259 W ±53.9km
   DEPTH =  33.0km  (normal)
 BRAZIL                           (528)
      ML 4.2 (VAO). Felt in the
      Polhono oreo. Also felt ot
      Fortolezo.

PDCR   7.01 187 eP     04 37.90   0.3
                eS     06 01.50
BAO   13.86 223 eP     06 11.40   0.2
PPD   20.70 216 eP     07 33.90  -0.8
                e      07 43.60
                e      11 28.60
                e      11 47.00

ZOBO  31.16 248 eP     09 14.00   0.4
                e      17 39.00
CNCB  31.19 247 eP     09 19.00   5.2X
                e      17 47.00
LPB   31.21 247 (P)    09 18.00   4.1X
                e      19 16.00
GBA  116.23  78 Pdiffc 17 39.70 -11.2X
       0.4s     0.90nm
      S.D. = 1.0  on   4 of   7 obs.
-----------------------------------------
*  OCT  17, 1989  16h 20m 05.16± 1.87s
   32.234 S ± 9.7km   72.254 W ±21.2km
   DEPTH =  30.1 ±  7.1 km
 OFF COAST OF CENTRAL CHILE       (134)

IHA    0.94 147 eP     20 22.10  -0.2
                iS     20 33.70
ROCH   1.28 125 iPc    20 25.60  -1.7
JACH   1.47 108 iPd    20 23.00  -7.0X
                iS     20 43.00
PEL    1.60 125 iPd    20 31.00  -0.8
TACH   1.80 142 iPd    20 35.00   0.4
                iS     20 56.00
SAN    1.81 133 iPc    20 34.40  -0.4
                iS     20 54.50
LNV    1.86 158 iPc    20 36.00   0.6
                iS     20 59.00
FCH    1.98 124 iPc    20 36.80  -0.8
                iS     20 59.00
PCH    2.01 134 iPd    20 38.00   0.2
                iS     21 04.50
CHCH   2.16 142 iPc    20 41.30   1.4
                iS     21 06.00
ZON    3.12  78 eP     20 55.00   1.5
RFA    4.05 130 eP     21 07.40   0.7
ZOBO  16.33  14 eP     23 54.00  -0.5
      S.D. = 1.1  on  12 of  13 obs.
-----------------------------------------
   OCT  17, 1989  16h 27m 52.92± 0.19s
   4.035 S ± 3.5km   152.407 E ± 4.6km
   DEPTH =  25.7km  (  5 depth phases)
   5.6mb ( 13 obs.)  5.8Msz ( 25 obs.)
 NEW BRITAIN REGION               (192)
      Felt (IV) at Rabaul.
      FAULT PLANE SOLUTION: P-Waves
       NP1:Strike=297 Dip=81 Slip=  13
       NP2:       205     77      171
       Principal Axes:
        T                Plg=16  Azm=161
        P                   3        71
      Comment: The focal mechonism is
        poorly controlled and
        corresponds to strike-slip
        faulting with a small reverse
        component. The preferred fault
        plone is not determined.
      RADIATED ENERGY
       No. of sto:   6  Focal mech.  C
       Energy        1.7±0.5*10**13 Nm
      MOMENT TENSOR SOLUTION
      Dep  48            No. of sto:  9
      Moment Tensor;   Scale 10**18 Nm
        Mrr=-0.01        Mtt= 3.11
        Mff=-3.10        Mrt= 0.13
        Mrf= 0.15        Mtf=-0.44
       Principal oxes:
        T  Val=  3.14  Plg= 2  Azm=  4
        N        0.00      86      236
        P       -3.14       3       94
      Best Double Couple:Mo=3.1*10**18
       NP1:Strike=139 Dip=86 Slip=   0
       NP2:       229     90      -176
      CENTROID, MOMENT TENSOR    (HRV)
      Data Used: GDSN
      L.P.B.: 19S, 54C  M.W.: 10S, 19C
      Centroid Locotion:
      Origin Time        16:27:59.6 0.2
      Lot  3.97S 0.02 Lon 152.21E 0.02
      Dep  15.0 FIX Half-duration  4.0
      Moment Tensor;   Scale 10**18 Nm
        Mrr= 0.08 0.02   Mtt= 1.16 0.02
        Mff=-1.24 0.02   Mrt= 0.71 0.06
        Mrf= 0.03 0.06   Mtf=-0.07 0.02
       Principal Axes:
        T  Val=  1.52  Plg=26  Azm=  1
        N       -0.27      64      188
        P       -1.24       3       93
```

17d 16h

Best Double Couple:Mo=1.4*10**18
NP1:Strike=140 Dip=70 Slip= 17
NP2: 44 74 159

RAB	0.28	237	iPc+	28	00.20	0.4
PAA	3.81	126	iPc	29	11.00	19.6X
			eS	29	59.00	
LAT	5.98	244	eP	29	25.50	3.4X
PMG	7.46	224	eP	29	45.50	2.6
			eS	31	14.00	
SVO	8.94	125	eP	30	04.00	0.5
			eS	31	58.00	
MNDI	8.97	256	eP	30	12.00	7.9X
HNR	9.21	126	eP	30	06.00	-1.2
			eS	31	46.00	
			eLR	32	20.00	
JAY	11.78	277	ePd	30	43.20	0.7
CTA	17.05	200	iPc+	31	53.10	1.9
	2.2s	1800.00nm				5.8mb
			i	32	13.00	
			iS	35	07.00	
GUA	18.98	337	eP	32	15.40	0.2
	1.3s	692.31nm				5.7mb
GUMO	19.04	337	eP	32	15.00	-0.9
	1.6s	1448.82nm				6.0mb
PJG	19.04	337	eP	32	15.60	-0.3
QIS	20.62	216	iPc	32	31.70	-1.4
			e	32	36.00	
PVC	20.69	132	iPc	32	42.20	8.4X
DZM	22.51	144	iPc	32	53.00	0.8
RMQ	22.60	189	eP	32	53.00	0.0
			e	33	03.00	
MTN	22.78	246	eP	32	55.00	0.2
			e	33	09.00	
BRS	23.23	179	iPd-	33	01.00	1.8
	1.5s	3.00nm				3.6mb X
			ipP	33	08.00	25km
			i	33	14.50	
			i	34	19.00	
			eS	37	00.00	
			e	37	16.00	
WB5	23.61	227	eP	33	02.20	-0.7
			eS	37	16.20	
KNA	26.00	242	eP	33	25.60	-0.1
COO	26.41	181	eP	33	27.00	-2.4
			e	33	38.00	
CMS	28.00	192	iPc	33	42.50	-1.4
DAV	28.97	292	eP	33	54.00	1.2
BWA	30.46	187	eP	34	07.70	1.7
CNB	31.25	185	eP	34	14.00	1.1
CAN	31.29	185	eP	34	14.60	1.4
WARB	33.08	226	eP	34	28.00	-0.9
	0.6s	32.00nm				5.4mb
ADE	33.29	201	eP	34	30.70	0.0
	1.0s	40.00nm				5.3mb
TOO	33.97	190	eP	34	36.00	-0.6
BFD	34.20	194	ePd	34	38.70	0.2
FORR	35 16	218	iPc	34	44.90	-1.9
TSM	35.27	283	ePd	34	49.70	1.7
MBL	35.93	239	eP	34	52.00	-1.5
AFI	36.66	108	eP	35	00.00	0.3
			eS	40	28.00	
			eLR	43	40.00	
BAG	37.45	304	eP	35	06.00	-0.5
	1.3s	688.46nm				6.3mb X
			eS	40	54.00	
MEKA	39.41	232	eP	35	21.00	-1.6
COOL	39.75	224	eP	35	23.50	-1.9
KRP	39.80	151	Pd	35	31.10	5.4X
			e	36	27.50	
			e	37	39.50	
NANU	40.16	239	eP	35	26.00	-2.8
KAGJ	40.60	331	eP	35	33.90	1.6
KUMJ	41.74	332	eP	35	41.60	0.0
TCW	41.90	155	P	35	44.30	1.5
WEL	42.17	155	P	35	46.00	1.0
			PP	37	42.00	
			S	42	06.00	
PGZ	42.29	153	P	35	46.10	0.1
MTW	42.38	154	P	35	47.20	0.4
KLB	42.54	226	eP	35	46.00	-2.3
MRWA	42.63	230	eP	35	47.20	-1.9
MSZ	42.71	164	P	35	51.90	2.5
			e	35	54.20	
			i	35	57.00	
BAL	42.79	228	eP	35	48.50	-1.8
SHNJ	42.95	334	eP	35	50.20	-1.3

QZH	43.69	313	eP	35	58.50	0.8
Z	20s		6.90um			5.6Msz
			S	42	28.00	
HKC	45.63	307	P	36	21.00	7.7X
			S	43	00.00	
SSE	45.90	322	P	36	15.80	0.5
	1.5s		0.15nm			2.7mb X
Z	20s		5.10um			5.5Msz
N	11s		1.37um			
E	12s		2.10um			
			i	36	32.50	
			S	42	59.00	
			sS	43	56.00	
			SS	46	32.00	
GZH	46.69	307	P	36	24.00	2.4
Z	23s		9.70um			5.7MszX
N	12s		1.90um			
E	16s		7.00um			
			S	43	12.00	
HOOJ	46.94	351	eP	36	23.50	0.2
MRRJ	47.37	349	eP	36	25.60	-1.1
KUSJ	47.43	352	eP	36	27.00	-0.2
QIZ	47.75	300	Pc	36	33.00	2.9X
N	23s		11.20um			
E	21s		8.90um			
			PP	38	20.00	
			S	43	29.50	
NJ2	48.01	321	Pd	36	33.50	1.6
Z	20s		7.90um			5.7Msz
			S	43	30.00	
ASAJ	48.73	351	eP	36	37.00	-0.3
KGM	49.42	276	eP	36	46.00	2.8X
WHN	50.04	316	Pd	36	48.80	1.3
	7.0s		1.37nm			3.1mb X
Z	22s		7.80um			5.7Msz
N	15s		5.80um			
E	13s		3.63um			
			pP	36	55.50	22km
			eS	43	50.00	
DL2	51.32	329	eP	36	58.00	0.8
Z	22s		6.00um			5.6Msz
E	17s		5.40um			
			S	44	14.00	
TIA	51.87	324	eP	37	00.50	-0.9
Z	34s		7.90um			5.5MszX
			S	44	23.00	
IPM	52.04	279	ePc	37	03.90	0.8
	1.2s		51.80nm			5.3mb
MDJ	52.57	340	eP	37	06.50	-0.1
Z	25s		6.60um			5.6MszX
			S	44	32.00	
SNY	52.65	333	iPc	37	06.00	-1.1
	6.0s		1.20nm			3.0mb X
Z	26s		10.20um			5.8MszX
N	17s		5.80um			
E	12s		1.10um			
			iS	44	33.00	
SNG	52.87	282	iPc	37	10.40	1.1
			eS	44	38.40	
CN2	53.44	336	Pc	37	11.60	-1.4
	1.4s		0.10nm			2.6mb X
Z	20s		9.70um			5.9Msz
N	16s		5.40um			
			PcP	38	21.20	
			S	44	40.00	
			iSS	48	23.00	
GYA	53.62	307	P	37	14.80	0.0
	4.0s		0.70nm			3.0mb X
Z	20s		5.20um			5.6Msz
N	20s		5.30um			
E	20s		8.10um			
PSI	53.86	276	eP	37	17.00	0.4
			e	41	30.00	
LOE	54.35	295	eP	37	20.00	-0.1
HON	54.71	60	P	37	33.00	10.3X
Z	20s		5.32um			5.6Msz
OPA	54.84	60	P	37	23.00	-0.7
NNT	54.87	288	eP	37	25.00	1.0
BJI	55.04	326	eP	37	24.50	-0.3
	2.0s		0.17nm			2.7mb X
Z	24s		10.50um			5.8MszX
N	18s		4.00um			
			eS	45	06.00	
			eSS	48	48.00	
NST	55.30	292	eP	37	29.20	2.1
TIY	55.69	322	eP	37	30.20	0.6
N	17s		6.40um			

			S	45	16.50	
XAN	55.80	316	P	37	29.00	-1.5
KMI	56.24	304	Pc	37	34.50	0.5
Z	20s		13.00um			6.0Msz
N	17s		4.80um			
			e	37	35.00	
			pP	37	42.00	25km
			sP	37	46.00	
			PcP	39	29.00	
			S	45	28.00	
			sS	45	40.00	
			PP	49	43.00	
BDT	56.79	294	eP	37	36.20	-1.5
CHG	57.31	295	eP	37	41.20	-0.2
	1.3s	115.38nm				5.7mb
			eS	45	42.00	
CHTO	57.31	295	eP	37	41.50	0.1
CD2	57.95	310	eP	37	44.00	-1.8
Z	20s		5.80um			5.7Msz
N	18s		7.56um			
			S	45	45.00	
HHC	58.20	324	Pc	37	48.20	0.8
Z	28s		11.60um			5.8MszX
N	15s		3.20um			
E	18s		3.00um			
			S	45	52.00	
BTO	58.95	323	P	37	52.00	-0.7
N	17s		2.90um			
E	17s		3.90um			
			pP	37	59.00	23km
			iS	46	02.00	
			sS	46	10.00	
SMY	59.46	15	P	38	05.00	9.2X
Z	20s		16.00um			6.1Msz
LZH	60.41	316	eP	38	02.50	-0.4
	1.5s		0.31nm			3.2mb X
Z	20s		7.10um			5.8Msz
E	19s		5.80um			
			pP	38	23.00	80kmX
			PcP	38	41.00	
			PcS	42	50.00	
			eS	46	18.00	
			sS	46	55.00	
ADK	61.60	21	P	38	10.70	0.3
	0.9s	75.00nm				5.8mb
GTA	64.83	317	P	38	32.00	-0.2
	1.4s		0.20nm			3.1mb X
Z	20s		4.50um			5.7Msz
N	16s		3.40um			
			pP	38	42.50	34km
			S	47	15.00	
LSA	67.49	304	iPc	38	51.60	1.8
			sP	39	03.00	
			iS	47	50.00	
SBA	74.16	177	eP	39	30.20	1.7
WMQ	74.92	317	P	39	34.50	0.8
	4.0s		1.00nm			3.2mb X
Z	22s		4.70um			5.7Msz
N	22s		4.80um			
			ePP	42	29.00	
			S	49	12.00	
			SKS	49	39.00	
			ScS	49	44.00	
HYB	75.87	289	ePc	39	40.00	0.5
GBA	76.40	285	P	39	42.00	-0.4
NDI	79.01	300	eP	40	08.00	11.3X
PMR	79.16	25	P	40	06.00	9.2X
Z	20s		8.00um			6.1Msz
IMA	79.87	20	P	39	59.90	-0.9
	2.0s		55.73nm			5.2mb
FBA	81.33	22	P	40	06.20	-2.1
KSH	82.13	311	P	40	17.00	3.9X
Z	24s		6.20um			5.9MszX
E	20s		5.50um			
SIT	83.83	32	P	40	31.00	9.7X
Z	20s		15.00um			6.4Msz
SPA	85.99	180	e(P)	40	31.40	-0.8
	0.9s		30.91nm			5.5mb
Z	19s		4.81um			5.9Msz
			e	40	38.60	
MAW	86.12	203	eP	40	32.00	-0.6
	1.1s		50.00nm			5.7mb
INK	87.89	21	eP	40	46.00	4.9X
	1.4s		70.00nm			5.8mb
QUE	88.08	300	ePc	40	43.50	0.3
WDC	88.84	49	e(P)	40	52.30	6.0X
LON	90.02	43	P	41	01.00	9.2X

CMB	90.26	52	e(P)	40	55.30	2.2
ISA	91.61	55	eP	41	11.00	11.6X
			e	44	38.00	
MWC	91.86	56	eP	41	01.00	0.3
KVN	92.12	51	P	40	59.90	-1.9
CLC	92.33	54	eP	41	11.00	8.3X
			e	44	37.00	
RVR	92.41	56	eP	41	01.00	-2.0
TNP	92.76	52	P	41	05.60	0.8
PLM	92.80	57	eP	41	05.00	-0.1
			e	44	51.00	
BAR	92.93	58	eP	41	20.00	14.5X
MBC	93.47	14	eP	41	15.00	8.0X
	1.6s	31.00nm			5.5mb	
TPC	93.52	56	eP	41	23.00	14.8X
GLA	94.50	57	eP	41	28.00	15.3X
MAIO	94.71	306	eP	41	14.00	0.3
			eS	52	30.00	
EDM	95.75	37	eP	41	20.50	2.5
ALQ	101.43	55	e(Pdif	41	55.00	10.7X
	Z 20s	4.26um			6.0Msz	
GOL	101.97	50	Pdiff	41	56.00	9.3X
GLD	102.08	50	Pdiff	41	56.00	8.9X
	Z 20s	3.00um			5.8Msz	
SLY	106.08	306	ePKPc	46	31.50	14.7X
			e	56	33.50	
MSL	107.87	307	ePKPc	46	25.00	4.8X
RSON	108.07	38	Pdiff	42	22.00	8.8X
	Z 20s	4.52um			6.0Msz	
KRA	119.18	327	ePKP	46	47.40	6.1X
			e	47	51.90	
			e	48	07.40	
			e	00	06.00	
			e	04	30.00	
SPC	119.48	326	ePKP	46	48.40	6.2X
ZST	121.76	326	iPKP	46	47.10	0.8
CLL	122.00	331	ePKP	46	46.00	-0.6
	Z 20s	4.00um			6.1Msz	
PRU	122.07	329	ePKP	46	53.50	6.7X
	Z 21s	2.60um			5.9Msz	
	N 19s	2.40um				
	E 19s	1.40um				
			e	48	31.00	
SKO	122.30	318	iPKP	46	47.00	-0.6
KHC	123.09	329	PKP	46	49.00	0.1
	Z 18s	2.50um			5.9Msz	
	N 18s	1.50um				
	E 18s	1.10um				
			e	46	56.70	
MOX	123.09	331	ePKP	46	49.00	0.2
	Z 20s	3.40um			6.0Msz	
	N 24s	3.30um				
	E 23s	3.10um				
OHR	123.11	318	iPKP	46	49.00	-0.2
VBY	124.33	325	e(PKP)	46	52.90	1.5
LJU	124.44	325	e(PKP)	46	50.00	-1.6
VOY	124.80	326	e(PKP)	46	51.00	-1.4
MEM	125.68	334	PKP	46	54.20	0.4
OGA	125.85	328	ePKP	46	54.80	0.2
WLF	126.31	333	PKP	46	57.40	2.3
			e	47	02.20	
DOU	126.67	335	PKPc	46	56.80	1.0
BSF	127.33	331	ePKP	46	57.00	-0.3
HAU	127.41	332	ePKP	46	57.10	-0.2
	1.2s	14.20nm				
UPA	128.20	82	ePKPc	46	59.10	-0.6
	Z 20s	3.79um			6.1Msz	
LPG	128.98	329	ePKP	47	00.60	-0.1
	1.3s	10.80nm				
LOR	129.10	333	ePKP	47	00.20	-0.3
	1.2s	14.80nm				
LBF	129.26	332	ePKP	47	01.00	0.1
	1.2s	8.90nm				
SSF	129.42	333	ePKP	47	01.40	0.3
	1.3s	28.80nm				
SMF	129.57	332	ePKP	47	01.60	0.2
	1.0s	8.00nm				
AVF	129.69	333	ePKP	47	01.50	-0.1
SBF	129.73	327	ePKP	47	01.60	-0.3
	1.3s	36.10nm				
CVF	129.78	325	ePKP	47	01.70	-0.3
	1.2s	38.00nm				
BGF	130.10	333	ePKP	47	02.60	0.2
	1.2s	20.80nm				
FRF	130.35	328	ePKP	47	02.80	-0.2
	1.2s	29.70nm				
MAF	130.48	333	ePKP	47	03.40	0.2
	1.3s	18.00nm				
LRG	130.58	328	ePKP	47	03.80	0.4
	1.2s	29.70nm				
LMR	130.58	327	ePKP	47	03.40	0.0
	1.3s	21.60nm				
TCF	130.59	333	ePKP	47	03.40	0.0
	1.0s	8.80nm				
BCAO	134.00	272	iPKPc	47	11.40	0.6
	0.7s	12.00nm				
			id	47	18.30	
CNCB	135.05	119	ePKP	47	03.00	-10.4X
			i	47	17.00	
LPB	135.05	118	(PKP)	47	11.00	-2.2
			(PKS)	50	47.00	
			LR	31	16.00	
ZOBO	135.13	118	ePKP	47	09.00	-4.6X
	Z 24s	1.36um			5.6MszX	
			i	47	14.00	
			LR	31	38.00	
CCH	136.40	120	PKP	47	15.50	-0.1
SDV	136.98	81	ePKP	47	16.40	-0.3
TOV	137.75	80	ePKP	47	19.00	1.0
TOL	138.45	332	e(PKP)	47	28.00	9.5X
			ePP	50	55.00	
			ePP	58	58.00	
			eSS	09	18.00	
			eSSS	13	20.00	
IFR	143.96	327	iPKP	47	28.00	-0.6
PPD	145.22	139	ePKP	47	29.00	-1.8
			i	47	31.30	
			i	47	36.80	
AVE	145.32	329	ePKP	47	29.00	-1.7
			i	47	37.50	
			i	47	49.00	
			i	48	12.00	
TIO	147.10	327	iPKP	47	36.00	2.1
			i	48	07.90	
BAO	151.90	135	ePKP	47	48.20	6.6X
KIC	157.13	277	PKP	47	58.40	9.8X
PDCR	159.95	145	ePKP	47	46.90	-4.9X
			e	48	30.80	

S.D. = 1.2 on 137 of 175 obs.

? OCT 17, 1989 18h 43m 29.42± 2.98s
66.977 N ±12.0km 21.089 E ±32.9km
DEPTH = 10.0km (geophysicist)
SWEDEN (536)
ML 2.1 (BER).

TRO	2.79	344	iP	44	15.04	0.2
			eS	44	48.87	
LOF	3.12	295	iP	44	18.94	-0.5
			eS	44	56.80	
NSS	4.49	241	iP	44	39.89	0.9
			eS	45	28.59	
NRA0	7.54	218	eP	45	21.40	-0.6
			iSg	47	32.90	

S.D. = 1.2 on 4 of 4 obs.

? OCT 17, 1989 18h 58m 28.23± 1.10s
39.448 N ± 8.7km 28.297 E ±10.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.30	58	iPg	58	34.50	0.0
			iSg	58	40.50	
BNT	0.95	342	ePn	58	47.00	0.6
EDC	0.96	340	iPg	58	45.80	-0.6
			eSg	58	57.80	
IZM	1.32	218	iPn	58	52.70	0.0
KHL	1.48	139	ePn	59	01.00	6.1X

S.D. = 0.9 on 4 of 5 obs.

? OCT 17, 1989 20h 15m 56.37± 8.83s
41.667 N ±68.3km 12.745 E ±26.5km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

RDP	0.09	347	Pc	15	58.50	-0.6
			eSg	16	01.10	
RMP	0.15	347	Pc	15	59.50	-0.3
			eSg	16	01.70	
AZI	0.61	58	Pc	16	08.40	-0.2
			iSg	16	18.80	
MNS	0.72	356	Pd	16	09.90	-0.6
			eSg	16	20.60	
ASS	1.40	357	P	16	23.00	1.0
			eSn	16	39.50	
ARV	1.84	4	P	16	28.50	0.3

S.D. = 0.8 on 6 of 6 obs.

? OCT 17, 1989 20h 23m 08.38± 4.03s
41.662 N ±25.6km 12.670 E ±21.9km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

RDP	0.10	20	Pd	23	10.50	-0.7
			eSg	23	12.90	
RMP	0.15	9	P	23	11.40	-0.5
			eSg	23	14.30	
AZI	0.66	60	Pc	23	20.20	-1.3
			eSg	23	30.60	
MNS	0.72	1	P	23	21.80	-0.8
			eSg	23	33.10	
ALP	1.30	31	ePnc	23	34.24	1.6
DUI	1.34	89	P	23	33.50	0.4
ASS	1.41	360	P	23	34.20	0.1
			eSn	23	53.90	
CIO	1.57	13	ePn	23	37.38	0.9
			iSn	24	00.53	
ARV	1.85	6	Pd	23	40.60	0.2
			eSn	24	03.60	

S.D. = 1.1 on 9 of 9 obs.

• OCT 17, 1989 20h 42m 01.87± 1.54s
65.186 N ± 8.5km 7.561 E ±15.8km
DEPTH = 10.0km (geophysicist)
NORWEGIAN SEA (642)
ML 2.8 (BER).

NSS	1.99	107	iP	42	37.23	1.3
			eS	43	02.44	
RGS	2.51	149	eP	42	43.80	0.4
			eS	43	14.00	
LOF	3.80	36	eP	43	00.78	-0.8
			iS	43	42.51	
HYA	4.08	189	eP	43	05.50	-0.1
			eS	43	50.80	
NRA0	4.82	156	iPd	43	16.30	0.1
			iSg	44	24.20	
SOD	7.98	66	eP	44	01.00	0.4
			eS	45	26.00	
			iSg	46	16.00	
SUF	8.54	98	eP	44	07.00	-1.3
KEV	8.73	50	eP	44	12.00	1.0
			iS	45	45.00	
NUR	9.10	113	eP	44	15.00	-1.0
			eS	45	51.00	
			iSg	46	50.50	

S.D. = 1.0 on 9 of 9 obs.

? OCT 17, 1989 21h 28m 10.59± 7.55s
7.331 S ±70.8km 127.863 E ±17.1km
DEPTH = 242.1 ± 30.9 km
4.8mb (3 obs.)
BANDA SEA (280)

MTN	6.35	150	iPd	29	44.20	0.5
KNA	8.41	174	iPc	30	09.90	-0.1
	0.3s	68.00nm			5.2mb	
WB5	13.98	154	eP	31	05.40	-14.6X
WB5	13.98	154	eP	31	18.90	-1.1
			eS	33	55.10	
QIS	17.38	140	iPc	31	59.80	0.2
			eS	35	06.00	
WARB	18.78	183	eP	32	15.00	0.8
NANU	19.25	217	iPc	32	18.30	-0.5
	0.3s	11.00nm			4.9mb	
MEKA	21.13	204	eP	32	38.20	0.7
FORR	23.40	179	eP	32	59.20	-0.1
MRWA	24.48	206	iPc	33	08.90	-0.5
	0.3s	4.00nm			4.4mb	

S.D. = 0.8 on 9 of 10 obs.

% OCT 17, 1989 21h 38m 21.59± 0.79s
44.889 N ± 5.1km 7.182 E ± 9.9km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

RSP	0.27	11	P	38	27.25	-0.1
			S	38	31.57	
RRL	0.28	276	P	38	27.74	0.1
			S	38	32.32	

17d 21h

PZZ	0.39	189	P	38	29.25	-0.3
			S	38	34.85	
LSD	0.57	358	P	38	33.31	0.0
			S	38	40.99	
STV	0.65	171	P	38	35.03	0.4
			S	38	42.65	

S.D. = 0.4 on 5 of 5 obs.

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* OCT 17, 1989 22h 51m 59.27± 0.55s
52.051 S ± 9.8km 138.792 E ±17.1km
DEPTH = 10.0km (geophysicist)
4.8mb (1 obs.) 5.0Msz (1 obs.)
WEST OF MACQUARIE ISLAND (701)

ADE	17.08	360	eP	55	49.50	-10.0X
CAN	18.25	28	eP	56	15.00	0.9
BWA	18.93	25	eP	56	23.80	1.3
MSZ	20.61	81	P	56	41.00	0.1
			S	56	57.00	
RMQ	26.62	20	eP	57	39.00	-0.5
SBA	27.84	168	e(P)	57	50.00	-0.2
QIS	31.44	1	eP	58	21.00	-1.8
WB5	32.29	352	eP	58	29.10	-1.2
SPA	38.14	180	e(P)	59	18.40	-1.6
	0.9s		17.27nm			4.8mb
Z	20s		2.52um			5.0Msz
			e	00	40.00	
MAW	38.37	217	eP	59	23.00	1.4
CHG	78.64	322	eP	04	07.30	4.6X
CHTO	78.64	322	eP	04	07.20	4.5X
SUF	143.86	314	ePKP	11	33.70	-1.3
NUR	143.95	310	ePKP	11	44.00	8.9X
SFI	144.28	278	PKP	11	31.50	-4.7X
SOD	144.63	322	iPKP	11	35.80	-0.3
			i	11	46.00	
FFC	144.65	61	ePKP	11	36.00	-0.6
	1.0s		15.00nm			
KEV	144.80	326	ePKP	11	39.00	2.6X
KSP	144.95	291	ePKP	11	38.50	1.3
FVI	145.08	283	PKP	11	38.20	0.7
PRU	145.60	289	ePKP	11	40.00	1.7
			e	11	43.50	
KHC	145.79	287	PKP	11	43.90	5.1X
BOB	146.19	278	PKP	11	43.00	3.4X
MDI	146.54	280	PKP	11	47.50	7.5X
CLL	147.03	291	ePKP	11	44.00	3.4X
			e	11	52.00	
VAI	147.16	279	PKP	11	45.00	4.1X
GRF	147.42	287	ePKP	11	45.20	3.9X
LPG	148.21	277	ePKP	11	47.00	3.9X
	1.0s		8.00nm			
HAU	149.62	282	ePKP	11	49.90	5.0X
	1.0s		8.00nm			
LBF	150.61	278	ePKP	11	52.60	6.2X
	1.0s		14.00nm			
CAF	150.81	273	ePKP	11	53.40	6.7X
	1.0s		12.00nm			
LOR	150.81	279	ePKP	11	53.00	6.4X
	0.8s		2.60nm			
EPF	150.89	269	ePKP	11	53.30	6.3X
	1.0s		12.00nm			
AVF	150.90	278	ePKP	11	53.10	6.3X
	1.0s		6.00nm			
SSF	150.93	278	ePKP	11	53.60	6.8X
	1.2s		11.90nm			
BGF	151.11	277	ePKP	11	54.00	6.9X
	1.0s		12.80nm			
DOU	151.52	284	PKP	12	01.90	14.3X
TOL	151.77	259	ePKP	11	59.50	11.2X

S.D. = 1.3 on 15 of 38 obs.

% OCT 17, 1989 23h 26m 59.95± 1.35s
43.076 N ± 8.2km 0.490 W ±10.3km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

ESCF	0.06	272	Pg	27	01.87	-0.4
			Sg	27	03.02	
OGE	0.09	8	Pg	27	02.52	-0.1
			Sg	27	04.22	
ATE	0.16	274	Pg	27	03.41	-0.2
			Sg	27	05.60	
LHE	0.19	211	Pg	27	04.22	0.0
ISSF	0.23	258	Pg	27	05.01	0.1
			Sg	27	08.53	
MADF	0.25	286	Pg	27	05.25	-0.1

S.D. = 0.2 on 6 of 6 obs.

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* OCT 17, 1989 23h 56m 29.39± 1.44s
51.332 N ±12.4km 130.632 W ±17.1km
DEPTH = 10.0km (geophysicist)
3.9mb (1 obs.)
QUEEN CHARLOTTE ISLANDS REGION (22)

SJB	0.65	339	Pgd	56	42.20	-0.2
			Sg	56	50.50	
BBB	1.78	60	Pn	57	01.00	0.6
			Sn	57	24.00	
PHC	2.12	106	Pn	57	03.50	-1.7
EDB	2.67	122	Pnc	57	11.55	-1.7
ETB	3.27	125	Pn	57	20.71	-1.0
GDR	3.31	116	Pn	57	21.20	-1.0
STW	5.52	123	eP	57	54.59	1.0
MCW	5.69	115	eP	57	56.56	0.6
OSD	5.71	125	eP	57	58.22	1.7
HDW	6.16	124	eP	58	02.90	0.3
MBW	6.17	111	eP	58	03.77	0.8
CMW	6.22	115	eP	58	03.66	0.1
JCW	6.45	116	eP	58	06.36	-0.4
RPW	6.56	113	eP	58	08.32	0.0
BLH	6.59	119	eP	58	09.24	0.5
HTW	6.76	118	eP	58	11.32	0.2
PNT	7.34	102	eP	58	24.00	4.9X
LON	7.39	125	eP	58	20.00	0.1
EDM	10.76	73	eP	59	22.50	16.0X
LRM	13.23	108	eP	59	51.40	11.4X
FFC	17.51	68	eP	00	40.00	5.1X
	0.5s		5.00nm			3.9mb
			pP	05	44.00	

S.D. = 1.0 on 17 of 21 obs.

& OCT 18, 1989 00h 04m 15.24s
37.036 N 121.883 W
DEPTH = 18.5km
6.5mb (88 obs.) 7.1Msz (21 obs.)
CENTRAL CALIFORNIA (39)
<GS>. ML 7.0 (BRK).
Mo=4.0*10**19 Nm (PPT). Sixty two people killed, 3,757 injured and damage estimated at 5.6 billion dollars. Maximum intensity IX in parts of Oakland and San Francisco. Numerous landslides occurred in the epicentral area and liquefaction occurred in some areas of Oakland and San Francisco. Felt from Eureka to Los Angeles and east as far as Fallon, Nevada. Also felt in high-rise buildings in San Diego. A small tsunami with maximum wave height (peak-to-trough) of 40 cm. was recorded at Monterey. Three events about 1.5 and 3.0 seconds apart, respectively. Depth 15.9 kilometers from broadband displacement seismograms, based on second event.
FAULT PLANE SOLUTION: P-Waves
NP1:Strike=120 Dip=80 Slip= 134
NP2: 220 45 14
Principal Axes:
T Plg=39 Azm= 69
P 22 178
Comment: The focal mechanism is moderately well controlled and corresponds to reverse faulting with a large strike-slip component. The preferred fault plane is NP1.
RADIATED ENERGY
No. of sta: 12 Focal mech. M
Energy 5.4±1.1*10**14 Nm
MOMENT TENSOR SOLUTION
Dep 8 No. of sta: 15
Moment Tensor; Scale 10**19 Nm
Mrr= 1.45 Mtt=-2.08
Mff= 0.63 Mrt=-0.35
Mrf=-1.00 Mtf= 0.91
Principal axes:
T Val= 2.28 Plg=52 Azm=108
N 0.09 38 286
P -2.36 1 17
Best Double Couple:Mo=2.3*10**19
NP1:Strike=139 Dip=56 Slip= 138
NP2: 255 57 43
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 3S, 9C M.W.: 14S, 39C
Centroid Location:
Origin Time 00:04:21.3 0.3
Lat 37.06N 0.01 Lon 121.63W 0.02
Dep 19.0 FIX Half-duration 11.0
Moment Tensor; Scale 10**19 Nm
Mrr= 1.21 0.02 Mtt=-2.37 0.02
Mff= 1.16 0.02 Mrt= 1.17 0.15
Mrf=-0.99 0.16 Mtf= 0.10 0.02
Principal Axes:
T Val= 2.31 Plg=49 Azm= 74
N 0.45 36 289
P -2.76 18 186
Best Double Couple:Mo=2.5*10**19
NP1:Strike=235 Dip=41 Slip= 29
NP2: 123 71 128
GEOSCOPE MOMENT TENSOR (PAR)
Dep 9.0 Half-Duration 21.0
Best Double Couple:Mo=7.0*10**19
NP1:Strike=142 Dip=81 Slip= 110
NP2: 255 22 25

GCC	0.09	266	iPc	04	18.50	-0.4
CBO	0.17	64	P	04	20.00	0.1
MHC	0.36	32	iPd	04	23.10	0.1
ARN	0.42	42	iPd	04	24.20	0.3
SAO	0.44	127	iPd	04	23.60	-0.7
PCC	0.61	319	iPc	04	26.90	-0.2
BJOM	0.61	132	P	04	27.00	-0.2
PRS	0.81	149	iPd	04	30.10	-0.5
LLA	0.86	119	iPc	04	30.80	-0.6
BKS	0.88	342	iPd	04	31.30	-0.5
BRK	0.89	340	ePd	04	30.80	-1.0
PRI	1.33	132	iPc	04	38.10	-0.8
PSMM	1.42	133	P	04	39.70	-0.5
PHCM	1.47	156	P	04	39.80	-1.1
CMB	1.55	50	eP	04	41.37	-0.7
NWRM	1.63	331	ePd	04	41.20	-1.9
PHAM	1.69	135	eP	04	43.00	-1.1
PKEM	1.73	124	eP	04	44.00	-0.6
FRI	1.74	91	iPc	04	43.60	-1.2
ORV	2.53	7	ePd	04	54.80	-1.4
ABL	3.07	134	eP	05	02.00	-2.0
LTCM	3.17	357	eP	05	03.30	-1.9
PPK	3.20	82	iPc	05	06.02	0.2
MIN	3.31	4	e(P)c	05	07.20	-0.1
SVP	3.32	77	ePc	05	07.76	0.1
WDC	3.58	352	ePd	05	08.00	-3.0
TMO	3.59	92	ePc	05	10.71	-0.8
GVN	3.63	89	ePc	05	11.59	-0.3
MZP	3.65	78	iPc	05	11.97	-0.3
GMN	3.70	85	iPc	05	12.69	-0.3
MCA	3.71	95	ePc	05	12.09	-0.8
SGV	3.88	89	ePc	05	14.90	-0.6
PANV	3.90	98	ePc	05	14.48	-1.2
FHC	4.10	337	ePd	05	17.10	-1.3
PAS	4.18	133	eP	05	19.09	-0.4
QSM	4.18	103	ePc	05	18.09	-1.5
MWC	4.19	131	P	05	17.30	-2.6
BMTN	4.20	85	ePc	05	19.10	-0.9
GWY	4.28	100	ePc	05	19.49	-1.6
YMT1	4.29	91	ePc	05	20.81	-0.4
YMT5	4.35	90	ePc	05	21.63	-0.5
YMT4	4.36	91	iPc	05	21.71	-0.4
AMR	4.39	97	ePc	05	21.34	-1.2
YMT6	4.39	91	ePc	05	22.19	-0.5
TMBR	4.40	88	ePc	05	21.98	-0.8
CDH1	4.46	91	ePc	05	23.09	-0.6
BG8	4.52	88	ePc	05	24.19	-0.4
NOP	4.70	99	iPc	05	25.45	-1.6
CBX	6.38	136	P	05	48.90	-1.8
ENX	6.71	139	P	05	53.10	-2.2
PBX	6.79	140	P	05	54.40	-2.0
RDX	7.07	134	P	05	59.00	-1.4
EMX	7.44	131	P	06	04.90	-0.6
DUG	7.77	63	iPc	06	10.00	-0.3
MSU	7.83	76	iPc	06	11.00	-0.2
ECBX	7.92	132	P	06	10.10	-2.1
SPX	8.00	136	P	06	13.60	-0.1
DAU	8.96	65	iPc	06	28.50	1.5
PTI	9.34	48	eP	06	33.50	1.4

BMW	9.48	354	eP	06	34.00	0.1
LON	9.71	0	iPc+	06	38.00	1.0
MCMT	10.35	38	ePc	06	47.70	1.6
LTMT	10.52	42	eP	06	50.30	1.9
GMW	10.53	357	eP	06	48.80	0.6
BGMT	11.04	39	ePc	06	58.00	2.5
BW06	11.06	55	iPc	06	56.00	0.2
BUT	11.36	35	ePc	07	00.00	0.3
LCCM	11.55	37	ePc	07	04.50	2.2
MCW	11.66	357	iPc	07	04.00	0.4
PGC	11.66	355	eP	07	04.50	0.9
	1.0s	1058.00nm			7.1mb	
SXM	12.10	38	eP	07	12.00	2.2
PNT	12.39	7	eP	07	15.00	1.6
ALQ	12.67	95	iPc+	07	17.00	-0.4
	1.1s	632.91nm			6.7mb	
ANMO	12.67	95	eP	07	18.76	1.3
GOL	13.23	73	iPc	07	26.00	1.1
GLD	13.35	73	iPc+	07	28.00	1.6
RSSD	15.28	57	eP	07	51.50	-0.3
SES	15.46	27	ePc	07	53.70	-0.1
EDM	17.25	18	ePc	08	15.50	-1.0
EDM	17.25	18	iPd	08	17.00	0.5
ACO	18.19	84	iPd	08	29.20	0.8
MEO	19.00	90	iPc	08	38.40	0.1
MZX	19.17	132	iPd	08	42.00	1.7
TUL	20.99	85	iPc+	08	59.40	-0.5
	1.0s	38.50nm			4.8mb X	
Z	22s	62.33um			5.9MszX	
			i	09	03.30	
			i	09	06.50	
			eS	13	35.00	
LNO	21.00	85	P	08	59.50	-0.3
			i	09	03.30	
			i	09	06.00	
			i	09	11.30	
SIT	21.95	340	iPc	09	10.60	1.4
Z	18s	414.00um			6.9Msz	
FFC	22.34	31	iPc	09	12.80	-0.4
	1.4s	1015.00nm			6.1mb	
AGX	22.71	126	eP	09	22.00	4.9
RSON	24.36	47	eP	09	32.40	-0.6
OLY	24.52	84	ePc	09	35.00	0.3
POW	24.61	83	ePc	09	36.00	0.4
FVM	24.92	78	ePc	09	38.20	-0.3
MRX	25.00	128	iPd	09	43.00	3.7
LST	25.70	81	ePc	09	47.00	1.2
ELC	25.96	79	ePc	09	48.00	-0.2
CRX	26.19	126	iPc	09	54.50	3.7
UNM	26.56	125	eP	09	57.00	2.7
PPM	27.12	125	iPd	10	01.00	1.4
PWLA	27.36	84	ePc	10	00.80	-0.3
IIT	27.36	125	eP	10	04.00	2.5
ACX	27.96	130	eP	09	56.00	-10.7
IISM	28.00	123	eP	09	57.00	-10.0
LVVM	28.11	121	iP	10	09.00	1.0
KDC	28.89	326	ePc	10	13.50	-1.2
RSCP	29.17	82	iPd	10	16.50	-1.0
TOA	29.27	337	eP	10	20.30	2.1
EVV	29.74	121	eP	10	26.50	3.8
OXX	29.79	125	iPc	10	25.50	2.0
PMR	29.90	334	iPc	10	25.00	1.3
Z	21s	267.00um			6.9Msz	
GBTN	30.25	81	ePc	10	26.00	-1.1
TKL	30.59	81	ePc	10	29.80	-0.3
DLA	31.22	67	P	10	34.70	-0.9
CLE	31.35	69	iP	10	36.20	-0.6
ELF	31.40	66	P	10	35.36	-1.8
LDN	31.50	66	P	10	35.90	-2.1
COL	31.85	339	ePc	10	43.24	2.4
			ec	10	46.55	
			eS	16	05.36	
FBA	31.85	339	ePc	10	41.20	0.3
SDN	31.85	317	eP	10	45.10	4.2
Z	22s	301.00um			6.9Msz	
INK	31.99	352	iPc	10	41.70	-0.3
	1.2s	497.00nm			6.3mb	
SVW	32.07	329	eP	10	43.30	0.4
PRM	32.13	83	eP	10	43.20	-0.4
NAV	32.56	77	iPc	10	47.00	-0.4
SCX	32.79	120	eP	10	45.50	-4.0
BLA	32.87	77	iPd	10	49.90	-0.2
JSC	32.95	82	ePc	10	50.00	-0.8
LHS	33.25	82	ePc	10	52.50	-0.9
KPO	33.66	248	eP	11	03.00	6.0
SGS	33.87	84	ePc	10	58.50	-0.3
HBF	34.06	84	ePc	11	00.00	-0.4
MLH	34.06	248	eP	11	04.20	3.3
SCP	34.19	70	ePc	10	59.56	-1.9
			ec	11	00.89	
			ec	11	03.87	
			eS	16	32.43	
CVL	34.23	75	ePc	11	01.50	-0.3
TPX	34.33	122	iPc	11	04.50	1.6
IMA	34.41	338	ePc	11	04.10	0.8
NA2	34.75	74	eP	11	06.30	0.0
HON	34.97	254	eP	11	13.52	5.2
Z	20s	235.00um			6.9Msz	
			ed	11	15.83	
CBN	35.02	74	iPd	11	08.90	0.3
			e	12	36.00	
PTN	35.88	63	ePc	11	14.60	-1.3
PRIN	36.62	70	ePc	11	20.30	-1.8
TBR	36.86	69	iPc	11	21.00	-3.1
LPS	36.89	119	iPc	11	23.00	-1.8
			ePP	12	55.00	
			eS	17	08.00	
PNJ	36.95	69	eP	11	25.10	0.3
HBVT	37.27	63	ePc	11	26.00	-1.5
SSS	37.29	120	eP	11	29.50	1.4
BNH	38.53	62	ePc	11	37.70	-0.5
HRV	38.60	66	ePc	11	40.23	1.5
			ec	11	43.38	
			ePP	13	12.52	
			eS	17	43.05	
BRW	38.79	343	ePc	11	52.00	12.0
MBC	39.32	1	ePc	11	45.60	1.3
	1.0s	454.00nm			6.1mb	
MIM	40.01	61	eP	11	50.00	-0.4
CBM	40.45	58	ePc	11	52.50	-1.5
ADK	40.84	309	eP	11	57.70	0.6
Z	22s	168.00um			6.9Msz	
SCH	41.06	46	ePc	11	58.60	-0.3
	1.4s	2025.00nm			6.7mb	
EMM	41.17	62	ePc	12	00.00	0.1
FRB	41.44	33	eP	12	02.00	0.1
	1.3s	910.00nm			6.3mb	
SRA	43.11	119	ePd	12	18.20	1.9
SJS	43.49	119	eP	12	22.00	2.6
LCR2	43.66	119	ePd	12	22.20	1.3
ILT	43.87	333	P	12	23.00	1.3
SMY	46.43	311	eP+	12	44.00	1.8
Z	20s	134.00um			6.9Msz	
UPA	47.37	115	iPc+	12	49.90	-0.3
	2.2s	723.08nm			6.3mb	
			iS	19	46.00	
MGP	51.44	96	P	13	21.50	0.0
LRS	51.48	96	P	13	21.50	-0.3
SJG	52.13	95	iP	13	26.40	-0.4
CPD	52.36	95	P	13	28.00	-0.5
HOBC	52.98	117	iPc	13	32.50	-0.8
BMG	53.39	111	eP	13	50.00	13.8
FISA	53.58	105	eP	13	37.50	0.0
DIAC	53.68	118	iPc	13	39.50	1.1
SDV	54.06	108	eP	13	40.80	-0.4
	1.0s	862.00nm			6.7mb	
TOV	54.13	106	eP	13	42.10	0.5
BOG	54.29	115	iPd	13	44.00	0.9
			e(S)	21	12.00	
COTA	54.30	122	eP	13	44.30	0.9
PSO	54.38	120	eP	13	44.50	0.7
MORO	54.61	104	iPc	13	45.00	-0.1
CAYA	54.73	122	P	13	47.90	1.3
RECU	54.86	123	eP	13	49.00	1.5
SKI	55.28	94	eP	14	00.96	11.0
PET	55.51	314	P	13	52.00	0.9
TUNG	55.52	124	eP	13	54.10	2.0
GUAC	55.83	104	iPc	13	54.00	-0.1
CAR	55.91	104	iP	13	54.00	-0.6
			iS	21	45.00	
LLAV	56.02	103	eP	13	54.50	-0.9
ANG	56.10	94	eP	14	00.64	4.8
TPT	57.14	210	iP	14	07.30	4.2
	1.3s	270.00nm			6.1mb	
RUV	57.24	210	iP	14	08.70	4.9
	1.3s	550.00nm			6.4mb	
PMO	57.27	210	iP	14	08.40	4.4
	1.3s	235.00nm			6.1mb	
VAH	57.38	210	iP	14	09.10	4.3
	1.3s	440.00nm			6.3mb	
MGD	57.47	324	P	14	05.70	0.7
CRM	58.17	95	eP	14	08.95	-1.5
BIM	58.18	96	eP	14	08.67	-1.9
MVM	58.29	96	eP	14	09.41	-2.0
SVB	58.74	97	eP	14	13.92	-0.6
SVV	58.74	97	eP	14	14.96	0.4
SSV	58.76	97	eP	14	14.24	-0.5
TRN	60.15	100	eP	14	21.44	-2.8
PPN	60.17	211	iP	14	28.40	4.2
	1.3s	205.00nm			6.1mb	
PPT	60.27	211	eP-	14	29.20	4.4
Z	20s	70.00um			6.8MszX	
			iS	22	50.00	
			eScS	24	23.00	
			eSS	26	42.00	
			eLQ	29	00.00	
			eLR	31	50.00	
TPP	60.31	100	eP	14	24.00	-1.3
AFR	60.32	211	iP	14	29.50	4.3
	1.3s	400.00nm			6.4mb	
TVO	60.33	210	iP	14	29.80	4.5
	1.3s	415.00nm			6.4mb	
PAE	60.35	211	iP	14	29.70	4.3
	1.3s	525.00nm			6.5mb	
TBH	60.52	99	eP	14	23.58	-3.1
TIK	60.98	340	P	14	28.00	-1.1
RKT	61.09	194	iP	14	31.60	1.3
	1.4s	405.00nm			6.4mb	
KBS	61.23	9	iP	14	31.50	0.7
REY	61.43	29	eP	14	38.30	6.0
AKU	62.16	27	iP	14	38.20	1.0
	1.5s	633.33nm			6.6mb	
KUR	65.05	309	P	15	02.00	5.6
TBI	65.45	208	eP	15	03.00	3.9
	1.6s	810.00nm			6.6mb	
YAK	65.82	331	P	15	00.00	-1.0
YSS	67.31	312	P	15	17.00	6.2
RAR	68.07	218	P	15	20.00	4.2
			S	24	20.00	
KUSJ	68.07	308	eP	15	13.60	-2.1
ASAJ	68.84	310	eP	15	20.60	0.2
AFI	69.06	233	ePd	15	28.76	6.6
			eS	24	40.71	
			e(SS)	28	52.00	
			e(LQ)	32	20.00	
			eLR	36	32.00	
HOOJ	69.34	308	eP	15	22.10	-1.4
TRO	69.84	14	iP	15	25.70	-0.4
LOF	69.97	16	ePd	15	26.43	-0.5
SAP	70.20	309	eP	15	32.00	3.2
MRRJ	70.71	309	eP	15	30.90	-0.9
KEV	71.11	11	ePc	15	34.49	0.6
	1.3s	347.90nm			6.3mb	
			ec	15	37.14	
			ed	15	40.78	
			ePP	18	15.06	
			ePPP	19	57.55	
			eS	24	49.47	
			e	25	32.18	
ARE	71.30	129	iPc	15	37.40	1.3
NRI	71.60	349	P	15	37.00	0.2
OFUJ	72.15	306	eP	15	37.80	-2.8
NSS	72.48	19	ePd	15	41.75	-0.3
PDA	72.73	56	iP+	15	44.80	0.8
Z	20s	134.75um			7.2Msz	
			iS	25	28.00	
SUE	73.04	24	eP	15	50.40	5.0
SOD	73.21	12	iP	15	46.20	-0.1
			i	15	52.20	
ZOBO	73.30	126	Pc	15	47.90	-0.3
	1.8s	506.73nm			6.3mb	
HYA	73.42	23	eP	15	50.00	2.4
LPB	73.51	126	Pc	15	49.60	0.3
	2.0s	1435.29nm			6.7mb	
			S	25	22.00	
			eLR	42	54.00	
DMU	73.53	34	eP	15	49.80	1.4
YAMJ	73.71	306	eP	15	49.30	-0.5
BER	73.73	24	eP	15	49.50	0.1
CNCB	73.79	126	P	15	51.20	0.1
APA	74.06	10	P	15	54.50	3.3
DLE	74.10	34	iPc	15	51.60	-0.1
	1.6s	670.00nm			6.4mb	
ESK	74.18	31	ePd	15	52.96	0.8
			ed	15	55.94	
			epPc	15	59.91	22kmX
			esP	16	01.07	
			eS	25	26.32	
			eSKS	26	05.39	
EKA	74.19	31	P	15	52.00	-0.2
	1.6s	219.70nm			5.9mb	

18d 00h

ODD1		74.52	24	eP	15	57.00	2.9	SHK		80.65	306	ePc	16	27.80	-0.6	LPO		83.75	37	iPc	16	45.60	1.3
ETA		74.64	35	eP	15	54.40	-0.4	WTS		80.67	29	ePc	16	29.00	0.9			1.1s	438.80nm				6.6mb
		1.2s	680.00nm				6.6mb			1.3s	200.00nm				6.0mb	ECH		83.76	32	P	16	44.75	0.4
KAKJ		74.74	304	P	15	55.10	-0.6					i(PcP)	16	33.40		ELYF		83.78	39	P	16	45.08	0.5
ECP		74.91	35	eP	15	55.20	-1.2					ePP	16	35.00		PYM		83.82	35	P	16	45.17	0.4
		1.3s	574.00nm				6.4mb	SNF		80.79	31	iPd	16	30.15	1.4	BOH		83.82	39	P	16	45.66	0.8
NIIJ		74.92	305	P	15	59.50	2.8	PUL		80.85	14	P	16	30.00	1.1	MADF		83.89	39	P	16	45.48	0.4
CCH		75.40	125	P	16	00.40	0.3	ERUA		81.10	43	iPd	16	32.00	1.4	BSF		83.90	32	P	16	45.94	0.8
CHJJ		75.61	304	P	16	00.40	-0.3	PTO		81.13	45	iPc	16	31.50	0.7	KAGJ		83.92	305	eP	16	46.00	0.6
KONO		75.67	23	ePc	16	02.90	2.2					iS	26	42.00		GUD		83.93	43	iPc	16	46.80	1.3
				ec	16	04.89		DOU		81.23	32	Pc+	16	32.30	1.1	PLDF		83.94	35	P	16	45.73	0.4
				esPd	16	11.01						i	16	35.00		HOF		83.95	28	iPc	16	45.70	0.5
MAJO		75.84	305	ePc	16	02.48	0.4					PP	19	31.00				1.6s	900.00nm				6.7mb
				ec	16	06.12						e	19	42.00						eS	27	18.80	
				epPd	16	08.27	19kmX					S	26	46.00		ISSF		83.99	39	P	16	47.04	1.3
MAT		75.84	305	eP	16	02.00	-0.1	SNY		81.37	317	iPc	16	33.00	1.0	ATE		83.99	39	P	16	46.27	0.7
		2.1s	433.33nm				6.1mb			1.1s	0.30nm				3.2mb X	CAF		83.99	36	iPc	16	46.50	0.9
				eS	25	47.00			Z	19s	53.70um				6.9Msz			1.3s	1071.80nm				6.9mb
MTMJ		76.08	305	P	16	04.70	1.2		N	20s	34.60um					MOF		84.03	32	P	16	46.67	0.9
MDJ		76.22	316	ePc	16	05.34	1.3		E	14s	34.40um					OGE		84.05	39	P	16	46.73	0.9
	Z	24s	58.90um				6.8MszX					PP	19	38.00		ESCF		84.06	39	P	16	47.06	1.1
	N	17s	41.90um									iS	26	43.00		LHE		84.16	39	P	16	47.94	1.4
				ec	16	08.65						SS	32	03.00		GRFO		84.20	28	ePc	16	48.88	2.4
				ePP	19	12.06		MEM		81.43	31	iPc	16	33.18	1.1					ec	16	51.69	
				eS	25	48.48		KLL		81.52	30	ePc	16	33.60	0.9					e	16	53.51	
HFS		76.52	21	eP	16	06.00	0.6	BNS		81.62	30	iPc	16	34.40	1.3					e	16	56.66	
		1.0s	228.20nm				6.2mb		Z	27s	147.00um				7.2MszX	GRF		84.21	28	iPc	16	48.30	1.8
	Z	16s	124.33um				7.3MszX					iPP	19	45.80				1.6s	1221.00nm				6.9mb
				LR	49	11.00						eS	27	11.20			Z	18s	160.00um				7.4Msz
IIDJ		76.65	304	P	16	07.00	0.3	MFF		81.71	36	iPc	16	34.70	1.0					e	16	56.10	
SUF		77.32	14	iP	16	10.10	0.3			1.0s	428.10nm				6.5mb					ePP	20	06.90	
ANT		77.46	133	iPd-	16	12.80	1.7	SHNJ		81.91	307	eP	16	33.90	-1.1					eSKS	27	19.40	
				iS	26	12.00		WLF		82.21	31	Pc	16	37.60	1.4					e	28	17.70	
				iSS	31	24.00						i	16	43.80		JACH		84.28	139	eP	16	48.50	1.4
				e	37	04.00		IRK		82.37	333	P	16	38.00	0.9	ZAK		84.29	333	P	16	48.10	1.2
				e	41	32.00		LIS		82.44	47	eP	16	39.00	1.4	LOMF		84.29	32	P	16	47.98	0.9
UPP		77.84	20	iP	16	11.30	-1.4					iS	26	52.40		LBL		84.32	36	P	16	48.14	1.0
		1.3s	1100.00nm				6.8mb	GRC		82.69	34	P	16	39.78	1.0	FEL		84.38	31	P	16	48.06	0.5
				iS	26	06.00		BRN		82.70	26	iPc	16	40.40	1.7	LCCH		84.38	140	eP	16	49.50	2.1
TSRJ		77.89	305	P	16	13.50	0.1					iPP	19	54.00		ZON		84.43	137	iPd	16	50.00	2.2
HIA		78.23	324	ePc	16	16.43	1.3	LSF		82.76	36	iPc	16	40.00	0.8					eS	27	00.00	
				ec	16	19.91				1.3s	620.50nm				6.6mb	DL2		84.45	315	P	16	49.00	1.1
				epPd	16	22.56	20kmX	TCF		83.05	35	iPc	16	41.50	0.8		N	17s	25.20um				
				ePP	19	15.30				1.2s	790.30nm				6.7mb		E	15s	33.50um				
				eS	26	11.78		SSF		83.06	34	iPc	16	42.00	1.3					S	27	12.00	
WKYJ		78.93	304	P	16	20.10	0.8			1.6s	1117.50nm				6.8mb	GUA		84.49	283	eP+	16	47.30	-1.2
NUR		79.00	16	iPc	16	19.80	0.8	LOR		83.06	34	iPc	16	42.00	1.2			1.2s	625.00nm				6.7mb
		1.2s	601.30nm				6.5mb			1.4s	1048.40nm				6.8mb		Z	22s	33.33um				6.7MszX
				i	16	28.90		KUMJ		83.10	306	eP	16	42.00	0.8					eS	27	16.00	
				e	19	24.00		BGF		83.14	35	iPc	16	41.90	0.7					ePS	28	13.00	
				e	21	10.00				1.4s	953.00nm				6.8mb					LQ	39	42.00	
				e	26	16.00		AVF		83.19	34	iPc	16	42.10	0.7					LR	42	20.00	
CN2		79.03	317	Pc	16	20.00	0.5			1.5s	873.30nm				6.7mb	BBS		84.49	32	P	16	48.86	0.8
		2.0s	0.70nm				3.3mb X	VITF		83.26	32	P	16	42.82	1.1	GUMO		84.50	283	ePc	16	46.14	-2.3
	Z	20s	55.20um				6.9Msz	MAF		83.26	35	iPc	16	42.70	0.9			1.2s	600.00nm				6.7mb
	N	17s	37.10um							1.1s	801.30nm				6.8mb					ec	16	48.46	
	E	17s	38.40um					EPLA		83.27	44	iPc	16	43.00	1.0					ec	16	51.60	
				iPP	19	18.00		TBT		83.30	59	iP	16	46.00	3.7					ed	16	53.42	
				iS	26	20.00						ePP	20	14.50		TOL		84.52	43	ePc	16	49.67	1.4
				iSS	31	29.00		LBF		83.33	34	iPc	16	43.10	0.9					ec	16	51.32	
YONJ		79.73	306	eP	16	25.50	2.0			1.6s	777.40nm				6.6mb					ec	16	54.14	
DBN		79.95	30	iP+	16	27.00	2.7	LFF		83.35	37	iPc	16	43.60	1.4					e	16	55.63	
	Z	20s	125.00um				7.3Msz			1.3s	620.50nm				6.6mb					e	16	57.61	
				iPP	19	30.00		GWF		83.35	31	P	16	43.29	1.1					ePP	20	05.08	
				eS	26	34.00		RJF		83.45	36	iPc	16	43.80	1.0					iPPP	22	09.00	
				eSS	31	55.00				1.4s	1068.70nm				6.8mb					eS	27	21.40	
				eSSS	35	10.00		SMF		83.52	34	iPc	16	43.80	0.7					iPS	28	05.00	
WIT		79.99	29	ePc	16	26.50	2.0			1.3s	507.70nm				6.6mb					iSS	32	25.00	
				i(PcP)	16	33.00		CLL		83.55	27	iPc	16	43.60	0.5					eSSS	35	40.00	
				ePP	19	30.00				1.9s	1050.00nm				6.7mb	EPF		84.55	39	iPc	16	49.50	1.0
FLN		79.99	35	iPc	16	25.70	1.1		Z	18s	250.00um				7.6Msz			1.1s	419.70nm				6.6mb
		0.9s	189.40nm				6.1mb					i	16	49.00		CTFE		84.56	58	iP	16	54.10	5.4
STS		80.00	43	iPd	16	25.60	0.8					ePP	20	00.00						iPP	20	09.00	
GRR		80.09	35	iPc	16	26.30	1.2					eSKS	27	10.00						eS	27	27.00	
		1.2s	660.10nm				6.5mb					P'P'	43	03.00		PEL		84.59	139	iPc	16	50.00	1.4
TKSJ		80.09	305	eP	16	26.60	1.1	HAU		83.58	32	iPc	16	44.60	1.2			2.0s	1158.82nm				6.8mb
LPF		80.26	36	iPc	16	27.30	1.3			1.1s	610.50nm				6.7mb		Z	20s	18.44um				6.5MszX
		1.3s	772.80nm				6.6mb	MOX		83.58	28	iPc+	16	44.00	0.6	EVAL		84.60	46	iPc	16	49.80	1.1
LDF		80.28	35	iPc	16	27.10	0.9			2.6s	1939.00nm				6.8mb	SLE		84.67	31	ePc	16	49.90	1.0
		1.4s	748.80nm				6.5mb		Z	16s	144.20um				7.4MszX	LNV		84.84	140	eP	16	51.00	1.3
EMON		80.29	42	iPd	16	27.10	0.7		N	18s	214.40um					ZLA		84.85	31	ePc	16	51.10	1.3
EZAM		80.41	44	iPd	16	29.70	2.7		E	18s	171.00um					TACH		84.85	139	iPd	16	53.00	3.2
UCC		80.60	31	Pd+	16	29.00	1.2					e	27	12.00		ETOR		84.93	41	iPc	16	51.50	1.1
				i	16	37.00		AGO		83.65	35	P	16	44.20	0.4	FCH		84.94	139	ePc	16	53.00	2.3
				PP	19	36.00		CDF		83.65	31	P	16	44.91	1.0	PCH		85.05	139	iP	16	53.10	2.2
				iS	26	41.00		WLS		83.68	31	P	16	44.97	1.0	KSP		85.08	25	iPc	16	52.00	1.1
				e	26	47.00		STR		83.72	31	P	16	45.62	1.6			1.2s	385.00nm				6.5mb

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18d 00h

	1.9s	374.40nm		6.5mb		SOI	95.77	32 P	17 41.00	-0.4		MSL	105.64	13 ePdiff	18 28.50	2.9							
RFI	92.20	32 P	17 26.76	1.8		LZH	95.78	324 ePc	17 42.76	1.0					ePP	22 33.00							
	1.8s	712.10nm		6.8mb			2.5s	0.61nm		3.6mb X					eSKS	29 01.00							
CLI	92.30	21 ePd	17 28.00	2.6			N 20s	112.00um							ePS	31 43.00							
KIS	92.31	20 P	17 13.00	-12.4				ec	17 44.41			BHL	106.38	19 Pdiff	18 34.00	4.9							
PLE	92.61	27 eP	17 28.50	1.5				ec	17 46.90			SLY	106.79	11 ePdiff	18 33.00	2.3							
BRY	92.66	28 eP	17 28.00	0.7				ed	17 50.87						ePP	22 53.00							
VRI	92.76	21 ePd	17 28.00	0.5				ePP	21 32.52						iPPP	25 16.00							
CMP	92.80	23 ePc	17 28.00	0.3				SKS	28 07.00						eSKS	29 05.00							
MLR	92.88	22 ePd	17 29.50	1.3				sS	29 04.00						eS	30 25.00							
NKY	92.91	28 eP	17 29.20	0.8				SS	34 38.00						ePS	32 01.00							
DRA	93.08	23 eP	17 34.00	5.0		LSK	95.82	28 eP	17 42.40	0.6					ePPS	33 08.00							
BDV	93.30	28 eP	17 31.50	1.5		SRN	95.82	29 eP	17 46.90	5.3					e	35 45.50							
TTG	93.34	28 iPc	17 31.00	0.9		KZN	96.11	27 eP	17 45.00	1.9		MAIO	107.02	359 ePdiff	18 35.00	3.1							
		eS	28 12.00			QZH	96.11	307 Pc	17 48.00	4.8					e	21 21.00							
SGO	93.37	31 P	17 31.10	0.8			8.0s	3.50nm		3.9mb X		RIV	107.28	241 ePdiff	18 40.00	7.1							
	1.8s	209.20nm		6.3mb			Z 20s	33.10um		6.8MszX			Z 20s	13.62um		6.5MszX							
PVY	93.46	27 eP	17 33.50	2.6			N 16s	10.80um							e	21 44.00							
SDA	93.78	28 iPd	17 36.00	3.8			E 16s	10.60um							ePP	23 07.00							
CFR	93.80	21 eP	17 33.00	0.8				sS	29 08.00						e	29 16.00							
BRT	93.87	30 P	17 35.54	2.8		PMG	96.35	263 eP	17 45.00	0.7					eSP	32 32.00							
	1.5s	1422.40nm		7.2mb		PLG	96.65	26 eP	17 48.00	2.5		HLW	108.88	24 ePdiff	18 44.00	3.9							
BUC	93.90	22 ePc	17 33.00	0.3		RDO	96.67	24 eP	17 48.00	2.5					ePPP	23 00.00							
BUC1	93.94	22 ePc	17 34.00	1.1		WEL	97.11	223 Pd	17 54.00	6.9					eS	29 30.00							
ANP	94.06	306 eP+	17 37.00	3.1			Z 18s	81.10um		7.3Msz		BHD	108.89	12 ePdiff	18 45.00	4.9							
		eS	28 18.00				N 18s	21.99um				AIA	111.32	158 e(Pdif	18 53.00	2.9							
KKS	94.07	27 eP	17 34.60	1.1			E 19s	61.11um				LOE	112.02	315 e(PKP)	23 10.00	18.7							
PHP	94.42	27 eP	17 35.20	0.1				PP	21 52.00			NDI	112.21	342 e(Pdif	19 02.00	7.0							
TIR	94.50	28 eP	17 37.50	1.9				SKS	28 26.00			WB5	112.44	262 ePdiff	19 09.30	13.1							
		iS	28 15.00					S	29 28.00			WB5	112.44	262 ePKP	22 52.00	-0.1							
SKO	94.53	27 iP	17 36.00	0.3				PS	30 44.00						e	22 55.80							
	1.9s	363.00nm		6.5mb				SS	36 06.00						ePP	23 42.30							
	Z 17s	145.60um		7.5MszX		VLS	97.53	29 eP	17 50.00	0.6					ePKKP	33 44.00							
	N 17s	128.38um				ITU	97.79	22 iPc	17 52.00	1.5					e	33 52.10							
	E 17s	90.66um				EZN	98.12	24 iP	17 53.20	1.2		WARB	121.76	260 ePKP	23 11.00	1.2							
		i	17 36.10			PYA	98.16	11 P	17 54.00	1.8		SBA	122.14	194 e(PKP)	23 11.70	2.8							
		i	17 41.80			AAA	98.26	346 P	17 53.50	0.8		HYB	122.51	337 ePdiff	19 49.00	7.9							
		iPP	21 20.00			PRZ	98.72	345 P	17 57.00	2.0		HYB	122.51	337 ePKPc	23 11.10	-0.3							
		iPPP	23 26.00			KAS	98.85	18 eP	18 07.00	11.6			1.2s	64.30nm									
		i	24 58.00			ATH	98.88	27 P	17 57.00	1.5		BCAO	124.67	51 ePKP	23 14.90	-0.8							
		iSKS	28 08.00					e	22 00.00				1.0s	95.00nm									
		iSKKS	28 20.00					e	26 00.00					id	23 17.20								
		iS	28 45.00					e	30 56.00					ic	25 00.40								
		iPS	30 10.00					e	35 12.00					ePP	25 02.67								
		iSS	34 58.00			DST	99.05	23 eP	17 57.00	0.7				ic	32 59.20								
		eSSS	39 35.00			FRU	99.10	348 P	17 56.00	-0.5		GBA	126.45	336 PKP	23 19.00	-0.1							
		LR	04 07.00			GRO	99.20	9 P	17 59.50	2.7		KLI	126.65	295 ePKP	23 18.00	-1.5							
TDS	94.56	31 P	17 37.79	1.9		KVT	99.67	17 eP	17 59.00	-0.2		SPA	126.85	180 iPKPd	23 21.40	2.9							
	1.8s	222.70nm		6.3mb		ANTO	100.01	20 ePdiff	18 03.19	2.6			1.0s	48.00nm									
WHN	94.62	314 eP	17 36.50	0.3				ec	18 05.67				Z 21s	38.63um		7.1Msz							
	7.0s	7.19nm		4.2mb X		BBTK	100.02	20 iPdiff	18 05.00	4.3		ARO	129.61	20 iPKP+	23 28.00	2.8							
	Z 20s	33.30um		6.8MszX		CD2	100.04	321 ePdiff	18 02.00	1.1		AAE	130.71	26 iPdiff	20 24.00	5.9							
	N 15s	19.20um					Z 22s	62.60um		7.1Msz		BAL	131.56	260 ePKP	23 28.00	-0.4							
	E 16s	28.50um					E 18s	62.40um				NWAO	132.06	256 ePKPc	23 30.18	0.9							
		PP	21 30.00					SKS	28 38.00						ePP	25 57.35							
LCI	94.64	30 P	17 39.00	2.8		NRN	100.21	346 Pdiff	18 02.50	0.7		MUN	132.50	258 PKP	23 30.00	-0.2							
GTA	94.80	329 eP	17 37.60	0.4		KHL	100.50	23 ePdiff	18 01.00	-1.8			Z 20s	48.23um		7.2Msz							
	Z 21s	70.00um		7.1Msz		BAG	100.76	300 ePdiff	18 08.00	3.5			N 20s	22.69um									
	E 16s	50.40um				HKC	100.81	309 Pdiff	18 06.00	1.7			E 20s	19.86um									
		SKS	28 11.00					S	28 55.00			SNA	134.27	156 e(PKP)	23 26.00	-6.3							
		S	28 39.00			TAS	101.35	351 Pdiff	18 06.00	-0.4			1.1s	69.62nm									
XAN	94.92	320 P	17 37.60	-0.1		BCK	101.62	22 ePdiff	18 10.00	2.2		WIN	141.90	79 iPKPd	23 42.40	-5.8							
LPI	94.94	33 P	17 38.70	1.0		GYA	102.07	317 iPdiff	18 05.00	-5.1			1.2s	132.81nm									
OHR	95.05	27 iPc	17 38.00	-0.2			Z 30s	51.20um		6.9MszX			Z 18s	71.13um		7.5Msz							
	1.4s	0.46nm		3.7mb X			N 20s	50.30um				CER	148.21	95 iPKPc	24 01.00	2.8							
MCT	95.09	34 P	17 42.00	3.5			E 20s	23.00um					1.0s	600.00nm									
BERA	95.09	28 eP	17 38.40	0.2				SKS	28 40.00			MAW	149.26	184 ePKP	24 00.00	1.3							
VLO	95.12	29 eP	17 30.70	-7.7		KSH	102.13	346 Pdiff	18 12.00	1.9			1.3s	530.00nm									
WMO	95.16	339 ePc	17 39.70	1.0			Z 60s	123.00um		6.9MszX		KSR	151.25	76 iPKPd	24 03.40	0.2							
	8.0s	10.10nm		4.3mb X			N 18s	30.20um					1.0s	255.00nm									
	Z 28s	54.10um		6.9MszX				S	29 54.00					i	24 17.50								
	E 18s	77.70um				ERE	102.14	11 Pdiff	18 14.00	3.9		BFS	151.67	78 iPKPd	24 03.90	0.1							
		ec	17 41.69			SAM	103.23	353 Pdiff	18 08.00	-6.9			1.1s	936.71nm									
		ec	17 44.34			CTA	103.25	255 iPdiff	18 24.00	8.7				i	24 17.00								
		ed	17 46.16			DAV	103.35	290 ePdiff	18 24.00	8.1		PRY	152.23	78 ePKP	24 07.20	2.6							
		ePP	21 34.52			DSH	104.14	351 iPdiff	18 22.00	3.0			0.7s	57.50nm									
		SKS	28 12.00					eS	30 16.00					i	24 27.50								
		S	28 52.00			TAB	104.48	10 ePdiff	18 22.00	1.4		HVD	152.24	86 iPKPd	24 04.50	0.0							
GRI	95.30	31 P	17 39.61	0.3		KHO	104.82	349 Pdiff	18 18.00	-4.2		SLR	152.26	75 ePKPd	24 06.28	1.6							
	1.3s	149.80nm		6.3mb		KMI	105.25	319 ePdiff	18 32.62	8.2			1.0s	385.00nm									
MNO	95.31	33 P	17 50.50	10.9			E 19s	57.00um						e	24 08.76								
FAI	95.40	34 P	17 43.00	3.3				eSKS	29 09.07					e	27 55.96								
ATN	95.45	32 P	17 40.00	0.0				eSKKS	29 52.11				600 obs. associated										
VAY	95.50	26 iP	17 39.70	-0.5				eS	30 20.91														
	1.3s	0.34nm		3.6mb X				PS	32 08.00			& OCT 18, 1989 00h 23m 37.40s											
		i	17 41.00					SS	37 45.00			36.998 N 121.823 W											
SIM	95.56	17 P	17 41.00	0.6		VAN	105.39	0 Pdiff	18 26.00	1.6		DEPTH = 5.0km											

CENTRAL CALIFORNIA (39)
<BRK>. ML 3.9 (BRK).

PCC	0.67	319	iPd	23 50.00	-0.8
PRS	0.76	151	iPc	23 52.00	-0.6
BRK	0.94	338	iPd	23 55.10	-0.7
CMB	1.54	47	iPc	24 04.10	-1.5
PHAM	1.63	135	e(P)	24 06.00	-0.9
PKEM	1.67	124	eP	24 07.50	0.1
FRI	1.69	90	iPc	24 05.60	-2.1
ABL	3.01	135	eP	24 26.50	-0.3
LTCM	3.21	356	e(P)	24 31.00	1.5
LBFM	4.34	359	eP	24 45.50	-0.3

10 obs. associated

& OCT 18, 1989 00h 25m 04.90s
37.043 N 121.807 W
DEPTH = 5.0km (geophysicist)
5.0mb (18 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.8 (BRK).

PCC	0.65	315	iPc	25 17.10	-0.7
PRS	0.79	154	iPd	25 19.50	-1.3
LLA	0.81	121	eP	25 19.70	-1.5
PRI	1.29	134	eP	25 29.00	-0.3
PHAM	1.66	136	eP	25 33.00	-1.7
PKEM	1.68	125	eP	25 33.60	-1.5
BCH	2.32	143	eP	25 41.50	-3.0
ABL	3.03	135	eP	25 52.30	-2.3
LTCM	3.17	356	eP	25 57.20	0.8
LBFM	4.30	359	eP	26 11.70	-0.9
LON	9.70	360	eP	27 28.50	0.3
PNT	12.37	7	eP	28 05.00	0.5
EDM	17.22	17	iPc	29 08.20	0.5
	1.0s	97.00nm		4.9mb	
TUL	20.93	85	eP	29 49.90	-1.0
	1.4s	51.90nm		4.7mb	
PMR	29.92	334	eP	31 15.00	-0.6
GRR	80.05	35	eP	37 15.80	-1.0
	1.1s	14.60nm		4.8mb	
TCF	83.01	35	eP	37 31.30	-1.1
	1.0s	6.80nm		4.8mb	
SSF	83.02	34	eP	37 31.90	-0.5
LOR	83.02	34	eP	37 31.80	-0.7
	1.2s	13.00nm		5.0mb	
BGF	83.10	35	eP	37 31.60	-1.3
	1.1s	14.60nm		5.1mb	
AVF	83.15	34	eP	37 31.90	-1.2
MAF	83.22	35	iPc	37 32.30	-1.2
	1.1s	15.60nm		5.1mb	
LBF	83.29	34	eP	37 32.90	-1.0
LFF	83.31	37	eP	37 33.30	-0.6
	1.1s	16.60nm		5.2mb	
RJF	83.41	36	eP	37 33.60	-0.9
	1.1s	11.70nm		5.0mb	
SMF	83.48	34	eP	37 33.70	-1.1
CLL	83.51	27	i(P)	37 33.60	-1.3
	1.4s	22.00nm		5.2mb	
HAU	83.54	32	eP	37 34.30	-0.8
	1.0s	13.60nm		5.1mb	
MOX	83.55	28	eP	37 35.00	-0.1
CDF	83.62	31	eP	37 34.80	-0.8
	1.0s	8.00nm		4.9mb	
LPO	83.71	37	eP	37 35.20	-0.8
	1.1s	11.70nm		5.0mb	
BSF	83.86	32	eP	37 35.90	-1.0
	1.0s	9.60nm		5.0mb	
CAF	83.95	36	eP	37 36.20	-1.1
	1.0s	8.80nm		4.9mb	
GRF	84.17	29	iPc	37 38.30	0.0
	1.3s	22.00nm		5.2mb	
EPF	84.51	39	eP	37 39.20	-1.0
	1.1s	8.30nm		4.9mb	
KSP	85.05	25	eP	37 41.80	-0.8
		e		43 00.00	
PRU	85.16	27	eP	37 42.50	-0.7
KHC	85.52	28	iPd	37 46.00	0.9
	1.2s	8.00nm		4.8mb	
KSR	151.19	76	ePKP	44 55.50	0.4

39 obs. associated

& OCT 18, 1989 00h 29m 54.90s
37.195 N 121.943 W
DEPTH = 4.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

ARN	0.36	65	eP	30 03.00	0.8
PCC	0.46	311	iPd	30 03.80	-0.4
BRK	0.72	340	iPc	30 09.00	-0.3
			iS	30 20.00	
PRS	0.98	152	iPd	30 13.00	-1.0
LLA	0.99	125	iPc	30 13.20	-1.0
PRI	1.47	135	iPd	30 15.30	-7.0

6 obs. associated

& OCT 18, 1989 00h 30m 41.40s
37.123 N 121.963 W
DEPTH = 5.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.2 (BRK).

ARN	0.41	57	eP	30 49.00	-0.7
PCC	0.50	319	eP	30 51.00	-0.5
PRS	0.92	149	eP	30 58.50	-1.0
LLA	0.96	121	eP	30 59.10	-1.1
PRI	1.43	133	eP	31 06.60	-1.6
PHAM	1.80	135	eP	31 10.50	-2.8
PKEM	1.83	125	eP	31 11.60	-2.2
BCH	2.46	141	eP	31 20.00	-2.9
ABL	3.18	135	eP	31 39.50	6.3

9 obs. associated

& OCT 18, 1989 00h 33m 36.20s
37.210 N 121.892 W
DEPTH = 2.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

ARN	0.32	64	eP	33 43.50	0.9
PCC	0.49	307	iPc	33 45.70	-0.2
BRK	0.72	336	iPc	33 50.30	-0.3
			iS	34 01.60	
LLA	0.96	128	iPc	33 54.50	-0.8
PRS	0.97	154	iPc	33 54.30	-1.1

5 obs. associated

& OCT 18, 1989 00h 35m 26.10s
37.217 N 122.027 W
DEPTH = 5.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.8 (BRK). Foreshock
15 seconds earlier. (BRK).

MHC	0.33	68	iP	35 28.50	-4.3
			i	35 30.80	
PCC	0.40	315	iPc	35 33.70	-0.4
ARN	0.42	71	eP	35 33.70	-0.8
BRK	0.68	344	iPd	35 39.40	-0.3
			iS	35 49.10	
PRS	1.03	149	iPd	35 44.90	-1.1
PRI	1.53	134	ePc	35 52.50	-1.8
CMB	1.54	57	eP	35 54.60	0.3
FRI	1.87	96	eP	35 56.40	-2.6

8 obs. associated

& OCT 18, 1989 00h 37m 14.00s
37.088 N 121.843 W
DEPTH = 14.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

ARN	0.36	43	eP	37 21.80	0.2
PCC	0.59	314	iPc	37 24.20	-1.4
			iS	37 34.30	
PRS	0.85	153	ePc	37 29.00	-0.9
			iS	37 40.80	
BRK	0.85	337	ePc	37 29.50	-0.5
			iS	37 41.10	
LLA	0.86	123	e(P)	37 29.90	-0.3

5 obs. associated

& OCT 18, 1989 00h 38m 28.80s
37.150 N 122.053 W
DEPTH = 20.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.3 (BRK).

PCC	0.44	323	iPc	38 37.00	-0.7
ARN	0.46	64	eP	38 36.50	-1.7
BRK	0.74	347	iPd	38 42.10	-0.8
			eS	38 54.00	
PRS	0.98	146	iPc	38 45.60	-1.4
LLA	1.04	121	iPc	38 46.30	-1.6
PRI	1.50	132	iPd	38 54.10	-0.8
CMB	1.59	56	iPd	38 54.70	-1.4
PHAM	1.87	134	eP	38 58.30	-1.8
FRI	1.88	94	iPc	38 58.50	-1.7
PKEM	1.90	124	eP	38 59.00	-1.6
LTCM	3.05	359	eP	39 21.70	4.8
ABL	3.25	134	eP	39 17.30	-2.6
LBFM	4.19	2	eP	39 33.00	-0.4

13 obs. associated

& OCT 18, 1989 00h 40m 58.50s
37.172 N 121.995 W
DEPTH = 18.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

ARN	0.41	64	eP	41 05.80	-1.2
PCC	0.45	317	eP	41 06.90	-0.7
BRK	0.73	343	iPc	41 11.90	-0.5
			iS	41 22.20	
PRS	0.98	149	iPd	41 15.20	-1.4
LLA	1.01	123	iPd	41 15.70	-1.5

5 obs. associated

& OCT 18, 1989 00h 41m 24.70s
37.198 N 122.105 W
DEPTH = 19.0km
4.8mb (19 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 5.1 (BRK). Mild
foreshock about 29 seconds
earlier. (BRK).

PCC	0.37	324	iPc	41 31.80	-0.7
MHC	0.40	69	eP	41 32.80	-0.2
BKS	0.69	351	iPc	41 37.60	-0.2
			eS	41 46.90	
BRK	0.69	350	iPc	41 37.30	-0.5
PRS	1.05	145	iP	41 42.30	-1.7
			i	41 43.00	
LLA	1.10	122	iPd	41 40.80	-4.1
PRI	1.57	132	iPd	41 50.20	-1.6
CMB	1.60	58	iPc	41 50.70	-1.5
PHAM	1.93	134	eP	41 54.40	-2.6
PKEM	1.97	125	eP	41 55.50	-2.0
BCH	2.59	140	eP	42 03.10	-3.4
ABL	3.31	134	eP	42 13.20	-3.6
LBFM	4.15	2	eP	42 28.30	-0.4
LON	9.55	1	eP	43 44.40	0.2
PGC	11.49	356	eP	44 11.00	0.4
PNT	12.25	8	eP	44 27.00	6.1
	0.7s	21.00nm		5.5mb	
EDM	17.15	18	iPc	45 23.30	-1.4
	1.0s	204.00nm		5.2mb	
TUL	21.16	86	eP	46 09.90	-1.1
	1.0s	17.70nm		4.4mb	
FFC	22.29	32	eP	46 21.00	-1.1
	0.8s	32.00nm		4.8mb	
RSON	24.38	47	eP	46 41.70	-0.9
	1.0s	13.50nm		4.5mb	
RSCP	29.33	82	eP	47 26.70	-1.6
PMR	29.67	334	eP	47 31.80	0.7
	0.8s	13.79nm		4.8mb	
FBA	31.63	339	eP	47 50.00	1.6
	0.8s	8.10nm		4.7mb	
PRM	32.29	83	eP	47 52.70	-1.7
JSC	33.10	83	eP	47 59.70	-1.8
IMA	34.19	338	eP	48 11.00	0.2
	0.7s	10.17nm		4.9mb	
MBC	39.16	1	eP	48 53.50	1.1
	1.0s	24.00nm		4.9mb	
ARE	71.54	129	iPd	52 45.00	-1.9
MAT	75.60	305	eP	53 13.00	2.9
	0.9s	15.97nm		5.1mb	
FLN	79.96	35	eP	53 33.70	-0.1
GRR	80.06	35	eP	53 34.50	0.1
	0.8s	10.70nm		4.9mb	
LDF	80.25	35	eP	53 35.30	-0.1
MFF	81.69	36	eP	53 43.10	0.1
TCF	83.02	35	eP	53 49.90	-0.1
	0.9s	5.50nm		4.7mb	
LOR	83.02	34	eP	53 50.10	0.1
	0.9s	7.20nm		4.8mb	
SSF	83.02	34	eP	53 50.20	0.3
BGF	83.11	35	eP	53 50.10	-0.3
	1.0s	8.00nm		4.8mb	
MAF	83.23	35	eP	53 50.90	-0.1

18d 00h

	0.9s	8.80nm			4.9mb	
LBF	83.29	34	eP	53	51.30	-0.1
LFF	83.33	37	eP	53	51.90	0.4
	0.8s	8.00nm			4.9mb	
RJF	83.43	36	eP	53	52.00	-0.1
CLL	83.48	26	e(P)	53	57.00	4.8
SMF	83.49	34	eP	53	52.00	-0.4
HAU	83.54	32	eP	53	52.80	0.2
	0.8s	6.40nm			4.9mb	
CDF	83.61	31	eP	53	53.30	0.3
LPO	83.73	37	eP	53	53.70	0.1
BSF	83.86	32	eP	53	54.30	0.0
	0.8s	5.30nm			4.8mb	
CAF	83.97	36	eP	53	54.70	-0.1
	0 7s	4.80nm			4.8mb	
EPF	84.54	38	eP	53	57.90	0.1
KSP	85.01	25	eP	54	04.50	4.6
PRU	85.12	26	eP	53	59.00	-1.5
		e		54	01.40	
KHC	85.49	27	eP	54	04.50	2.1
	52 obs. associated					

& OCT 18, 1989 00h 45m 39.60s
36.913 N 121.710 W
DEPTH = 27.0km (geophysicist)
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.0 (BRK).

PRS	0.64	155	iP	45	50.90	-1.3
LLA	0.68	115	iPc	45	51.80	-1.1
PCC	0.79	318	iPc	45	53.30	-1.4
BRK	1.05	336	eP	45	56.90	-1.7
PHAM	1.51	135	eP	46	05.00	-0.1
PKEM	1.54	123	eP	46	06.00	0.4
BCH	2.17	142	eP	46	13.50	-1.2
ABL	2.88	135	eP	46	23.80	-1.2
LBFM	4.43	358	e(P)	46	47.50	0.6
	9 obs. associated					

& OCT 18, 1989 00h 58m 56.90s
37.128 N 121.997 W
DEPTH = 19.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.9 (BRK).

ARN	0.43	59	eP	59	04.50	-1.3
PCC	0.48	321	iPc	59	05.80	-0.8
BRK	0.77	344	iPc	59	10.20	-1.3
			iS	59	21.50	
PRS	0.94	147	iPc	59	13.00	-1.4
LLA	0.99	121	iP	59	13.70	-1.5
PRI	1.45	132	ePc	59	21.90	-0.5
CMB	1.57	54	iPc	59	22.40	-1.6
FRI	1.84	94	e(P)	59	25.90	-1.9
	8 obs. associated					

& OCT 18, 1989 01h 01m 27.20s
36.958 N 121.712 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

ARN	0.42	20	eP	01	35.50	-0.1
PRS	0.68	156	iPd	01	40.20	-0.7
LLA	0.70	119	iPd	01	40.70	-0.6
PCC	0.76	316	iPd	01	41.40	-0.9
BRK	1.01	335	e(P)	01	44.90	-1.7
PRI	1.17	134	iPd	01	49.00	-0.5
CMB	1.51	44	iPc	01	52.80	-1.9
	7 obs. associated					

& OCT 18, 1989 01h 03m 59.40s
37.127 N 121.852 W
DEPTH = 5.0km (geophysicist)
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.7 (BRK).

ARN	0.34	49	iP	04	06.60	0.4
PCC	0.56	312	iPc	04	10.30	-0.4
BRK	0.81	337	iPc	04	14.80	-0.8
PRS	0.88	154	iPc	04	15.70	-1.1
LLA	0.89	125	eP	04	15.00	-1.9
PRI	1.37	135	eP	04	23.90	-1.4
FRI	1.72	94	iPc	04	28.30	-1.8
	7 obs. associated					

& OCT 18, 1989 01h 05m 38.40s
37.128 N 121.890 W
DEPTH = 5.0km (geophysicist)
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK). Second event, ML 3.2, in codo 17 seconds later. (BRK).

ARN	0.36	52	eP	05	44.00	-1.7
PCC	0.54	314	eP	05	48.30	-0.9
BRK	0.80	339	ePc	05	54.10	-0.3
			eS	06	03.80	
PRS	0.90	152	eP	05	55.60	-0.5
LLA	0.91	124	eP	05	55.10	-1.3
	5 obs. associated					

& OCT 18, 1989 01h 08m 09.90s
37.228 N 122.037 W
DEPTH = 15.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.6 (BRK).

MHC	0.34	70	iPd	08	16.80	-0.3
PCC	0.39	315	iPc	08	17.10	-0.8
ARN	0.42	73	eP	08	17.50	-1.0
BRK	0.67	345	ePc	08	22.50	-0.2
			i	08	22.90	
			iS	08	32.10	
PRS	1.04	149	iPd	08	27.80	-1.3
LLA	1.07	125	iPd	08	28.20	-1.4
	6 obs. associated					

& OCT 18, 1989 01h 16m 20.10s
37.185 N 121.997 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.5 (BRK).

MHC	0.32	61	iP	16	26.80	-0.1
ARN	0.41	66	iPc	16	28.00	-0.4
PCC	0.44	316	eP	16	28.30	-0.8
BRK	0.72	343	iPd	16	33.70	-0.4
			iS	16	43.00	
PRS	0.99	149	iPc	16	37.70	-1.1
LLA	1.02	124	iPc	16	38.00	-1.3
PRI	1.49	134	eP	16	45.40	-1.6
CMB	1.54	56	ePc	16	46.50	-1.0
FRI	1.84	95	eP	16	50.20	-1.6
	9 obs. associated					

& OCT 18, 1989 01h 21m 19.10s
36.957 N 121.713 W
DEPTH = 16.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.9 (BRK).

MHC	0.39	8	iPd	21	27.00	-0.2
ARN	0.42	20	iP	21	27.50	-0.2
PRS	0.68	156	iP	21	31.60	-0.6
LLA	0.71	119	iPc	21	32.10	-0.5
PCC	0.76	316	iPd	21	32.70	-0.8
BRK	1.01	335	ePd	21	36.00	-1.8
			iS	21	50.30	
PRI	1.17	134	ePc	21	39.60	-1.0
CMB	1.51	44	iPc	21	44.60	-0.9
FRI	1.61	88	iPc	21	45.30	-1.6
	9 obs. associated					

& OCT 18, 1989 01h 22m 45.50s
37.117 N 121.928 W
DEPTH = 12.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.3 (BRK).

MHC	0.32	45	iP	22	52.20	-0.1
ARN	0.39	54	eP	22	53.00	-0.6
PCC	0.53	317	iPd	22	55.20	-1.0
BRK	0.80	341	ePd	23	00.70	-0.1
			iS	23	11.50	
PRS	0.90	150	iPd	23	01.80	-0.8
LLA	0.93	122	iPd	23	02.10	-1.1
	6 obs. associated					

& OCT 18, 1989 01h 24m 59.10s
36.787 N 121.575 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.6 (BRK).

PRS	0.48	160	iPd	25	08.40	-0.5
LLA	0.54	108	iPd	25	09.30	-0.6
MHC	0.56	355	iP	25	10.20	-0.1
ARN	0.56	3	eP	25	09.30	-1.1
PCC	0.96	318	ePc	25	16.20	-1.3
PRI	0.98	131	iPc	25	17.30	-0.6
BRK	1.21	333	eP	25	20.30	-1.6
			i	25	22.30	
FRI	1.51	82	ePc	25	24.60	-1.8
CMB	1.57	37	ePd	25	25.60	-1.7
	9 obs. associated					

& OCT 18, 1989 01h 31m 00.10s
37.067 N 121.922 W
DEPTH = 17.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

MHC	0.35	39	iPd	31	07.50	-0.2
ARN	0.42	48	eP	31	07.40	-1.3
PCC	0.57	320	iPc	31	10.40	-0.8
BKS	0.85	343	eP	31	15.20	-0.7
			eS	31	27.30	
BRK	0.85	342	eP	31	15.30	-0.7
			e	31	25.50	
			i	31	27.70	
PRS	0.86	149	iP	31	15.30	-0.9
LLA	0.90	119	iPc	31	15.70	-1.3
PRI	1.37	132	ePd	31	23.70	-0.8
CMB	1.56	51	ePc	31	26.00	-1.2
	9 obs. associated					

& OCT 18, 1989 01h 34m 46.90s
37.072 N 121.935 W
DEPTH = 17.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

MHC	0.36	41	iPd	34	54.10	-0.4
ARN	0.42	49	iPd	34	55.00	-0.6
PCC	0.56	320	iPc	34	57.00	-0.8
BRK	0.84	342	eP	35	02.20	-0.4
			eS	35	13.20	
PRS	0.87	148	iPc	35	02.10	-1.0
			iS	35	13.70	
LLA	0.92	119	iPc	35	02.50	-1.5
PRI	1.38	132	ePd	35	10.30	-1.2
CMB	1.56	52	eP	35	12.60	-1.4
	8 obs. associated					

& OCT 18, 1989 01h 43m 38.50s
37.172 N 121.955 W
DEPTH = 17.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.8 (BRK).

MHC	0.30	56	iPd	43	45.00	-0.2
ARN	0.38	62	eP	43	46.00	-0.5
PCC	0.47	314	ePd	43	47.30	-0.7
BRK	0.74	341	ePc	43	52.20	-0.3
			iS	44	02.70	
PRS	0.96	151	iPd	43	55.10	-1.2
			iS	44	08.70	
LLA	0.98	124	iPd	43	55.50	-1.2
PRI	1.46	134	ePd	44	03.70	-0.5
CMB	1.52	55	ePc	44	04.30	-0.6
			eS	44	23.70	
	8 obs. associated					

% OCT 18, 1989 01h 44m 26.87± 0.81s
36.987 N ± 9.9km 5.099 W ± 8.1km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)
mbLg 2.8 (MDD).

EPRU	0.11	259	iPgd	44	28.80	-0.9
			eSg	44	32.00	
EJIF	0.61	209	ePg	44	39.20	0.0
AFC	1.27	77	ePn	44	51.00	0.4
			eSn	45	09.00	
EVAL	1.44	295	ePn	44	54.40	1.4
			eSn	45	14.80	
EBAN	1.57	41	ePn	44	54.80	-0.1
			eSn	45	15.50	
EVIA	2.63	50	eP	45	18.00	7.7X
			eS	45	49.00	
GUD	3.72	11	eP	45	25.00	-0.8

```
                eS    46 06.00
     S.D. = 1.1  on   6 of   7 obs.
-----------------------------------------
&  OCT  18, 1989  01h 45m 57.70s
   37.017 N          121.800 W
   DEPTH =  14.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.5 (BRK), 3.2 (PAS).

MHC     0.35  21 iPd   46 04.90  -0.2
ARN     0.39  33 iPd   46 05.60  -0.4
PCC     0.67 316 iPd   46 10.00  -0.6
PRS     0.77 153 iPc   46 11.70  -0.6
LLA     0.80 120 iPc   46 12.30  -0.5
BKS     0.93 338 eP    46 13.20  -1.8
                eS    46 27.20
BRK     0.93 337 iPc   46 14.80  -0.3
                iS    46 27.20
PRI     1.26 133 ePc   46 19.70  -1.2
CMB     1.52  47 ePc   46 23.40  -1.0
FRI     1.67  90 iPc   46 25.10  -1.6
ISA     3.01 116 eP    46 44.40  -1.4
       11 obs. associated
-----------------------------------------
&  OCT  18, 1989  01h 49m 17.10s
   37.183 N          121.987 W
   DEPTH =  17.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.5 (BRK).

MHC     0.32  60 iPd   49 23.70  -0.4
                iS    49 28.80
ARN     0.40  65 eP    49 24.80  -0.6
PCC     0.45 315 ePc   49 25.40  -0.7
BRK     0.72 343 eP    49 30.50  -0.3
                eS    49 40.70
PRS     0.98 150 ePc   49 33.90  -1.4
LLA     1.01 124 ePc   49 34.50  -1.3
       6 obs. associated
-----------------------------------------
&  OCT  18, 1989  01h 51m 00.70s
   36.972 N          121.707 W
   DEPTH =  13.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.4 (BRK).

MHC     0.37   8 iPd   51 08.30  -0.3
ARN     0.40  20 iPc   51 09.00  -0.1
PRS     0.69 157 ePc   51 13.50  -0.7
LLA     0.71 120 iPd   51 13.90  -0.5
PCC     0.75 315 iPc   51 14.40  -0.7
BRK     1.00 334 ePc   51 18.50  -0.9
                iS    51 32.00
PRI     1.18 134 e(P)  51 23.50   1.0
FRI     1.60  89 iP    51 29.60   0.9
       8 obs. associated
-----------------------------------------
&  OCT  18, 1989  01h 58m 16.20s
   36.907 N          121.667 W
   DEPTH =   8.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.3 (BRK).

MHC     0.43   3 iPd   58 24.90  -0.1
ARN     0.45  14 iPd   58 25.20  -0.2
PRS     0.62 157 iPd   58 27.90  -0.8
LLA     0.65 116 iPd   58 28.70  -0.5
PCC     0.82 316 eP    58 31.50  -0.8
                iS    58 42.30
BKS     1.07 335 ePc   58 35.40  -1.1
BRK     1.07 334 eP    58 35.30  -1.3
                eS    58 48.50
PRI     1.11 133 ePc   58 36.60  -0.7
CMB     1.52  42 ePd   58 43.10  -0.6
FRI     1.57  86 ePd   58 42.80  -1.6
       10 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 08m 53.40s
   36.922 N          121.813 W
   DEPTH =   4.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.5 (BRK).

MHC     0.44  18 iP    09 02.40   0.2
ARN     0.48  28 eP    09 02.80  -0.2
PRS     0.69 149 iPd   09 06.70  -0.5
PCC     0.73 322 iPd   09 07.40  -0.7
LLA     0.76 113 iPd   09 08.20  -0.5
BKS     1.01 341 eP    09 11.30  -1.8
                eS    09 26.40
BRK     1.01 340 iPc   09 12.50  -0.6
                iS    09 26.90
PRI     1.21 130 ePc   09 15.30  -1.3
CMB     1.59  45 ePd   09 21.50  -0.9
FRI     1.69  87 ePd   09 22.40  -1.4
       10 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 12m 33.80s
   37.005 N          121.757 W
   DEPTH =  10.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.2 (BRK).

MHC     0.35  15 iPd   12 40.90  -0.1
ARN     0.39  27 iPd   12 41.50  -0.3
PCC     0.70 315 iPc   12 46.90  -0.7
PRS     0.74 155 iPc   12 47.50  -0.8
LLA     0.76 120 iPc   12 48.20  -0.5
BKS     0.95 337 iPc   12 51.50  -0.4
                eS    13 05.00
BRK     0.95 335 ePc   12 51.20  -0.8
                iS    13 04.50
PRI     1.23 134 ePd   12 56.00  -0.8
CMB     1.50  46 eP    12 59.80  -1.0
FRI     1.64  90 ePc   13 01.10  -1.7
       10 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 13m 39.70s
   37.143 N          121.805 W
   DEPTH =  12.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.5 (BRK).

MHC     0.24  33 iPc   13 44.90  -0.1
ARN     0.30  46 eP    13 45.70  -0.4
PCC     0.58 308 ePd   13 50.40  -0.9
BRK     0.81 334 ePc   13 55.00  -0.3
                eS    14 05.90
LLA     0.87 127 e(P)  13 55.40  -0.8
PRS     0.88 157 iPc   13 55.50  -1.0
       6 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 15m 44.30s
   36.802 N          121.618 W
   DEPTH =   2.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.5 (BRK).

PRS     0.51 157 iPd   15 54.50   0.0
MHC     0.54 358 iPd   15 55.40   0.3
LLA     0.57 109 iPc   15 55.40  -0.3
PCC     0.93 319 ePd   16 01.60  -1.1
PRI     1.01 130 ePd   16 03.60  -0.7
BKS     1.18 336 iPd   16 07.20   0.1
                iS    16 21.70
BRK     1.19 335 ePc   16 07.10   0.0
PHAM    1.38 134 eP    16 09.00  -1.5
PKEM    1.42 121 eP    16 11.00  -0.2
FRI     1.54  82 e(P)  16 11.20  -1.7
CMB     1.57  38 ePc   16 12.50  -0.9
       11 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 15m 49.90s
   36.995 N          121.763 W
   DEPTH =   4.0km
   4.4mb (  3 obs.)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.5 (BRK). ML 2.5
      event 6 seconds earlier, 18
      kilometers southeast of
      Watsonville, confuses some
      readings. (BRK).

MHC     0.36  16 iP    15 57.30   0.2
ARN     0.40  27 iPd   15 55.30  -2.6
PCC     0.71 316 iPc   16 03.40  -0.6
PRS     0.73 154 iP    16 03.90  -0.7
LLA     0.76 120 i(P)  16 04.60  -0.5
BRK     0.96 336 iPc   16 08.00  -0.7
PRI     1.23 134 iPd   16 12.90  -0.5
CMB     1.51  46 iPc   16 16.20  -1.6
PHAM    1.60 136 eP    16 17.30  -1.7
PKEM    1.63 124 eP    16 18.20  -1.2
FRI     1.65  90 iPc   16 17.70  -2.0
NWRM    1.71 329 eP    16 19.00  -1.6
BCH     2.26 143 e(P)  16 26.00  -2.7
ABL     2.97 135 eP    16 36.10  -2.8
LBFM    4.35 359 eP    16 58.00  -0.5
MSU     7.75  76 eP    17 45.80  -0.6
LON     9.75 360 eP    18 14.90   1.0
PNT    12.41   7 eP    18 53.00   2.8
        0.4s     2.00nm          4.7mb
EDM    17.26  17 iP    19 54.00   0.8
TUL    20.90  85 eP    20 34.00  -1.7
        0.8s     8.60nm          4.1mb
LNO    20.90  85 eP    20 33.70  -1.9
FFC    22.32  31 eP    20 47.00  -2.8
        0.7s    11.00nm          4.4mb
       22 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 26m 06.70s
   37.028 N          121.780 W
   DEPTH =  12.0km
   4.1mb (  2 obs.)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.2 (BRK). Small
      foreshock about 2.5 seconds
      earlier. P and S phase readings
      are for this event. Phases
      listed as "i" are for ML 4.2
      event and were used for the
      hypocenter calculation. (BRK).

MHC     0.33  19 iPd   26 10.60  -3.1
                i     26 13.60
ARN     0.38  32 e(P)  26 13.70  -0.8
PCC     0.67 315 ePc   26 16.50  -3.4
                i     26 19.00
PRS     0.77 155 ePd   26 18.40  -3.1
                i     26 21.00
LLA     0.79 121 iPc   26 17.80  -4.0
                i     26 21.10
BKS     0.92 337 iP    26 23.20  -0.9
                i(S)  26 36.30
BRK     0.93 336 ePc   26 21.50  -2.7
                i     26 23.80
PRI     1.26 134 ePc   26 26.00  -4.0
                i     26 29.60
CMB     1.50  47 ePc   26 29.30  -4.1
                i     26 32.70
PHAM    1.63 136 eP    26 33.60  -1.7
PKEM    1.66 125 eP    26 35.20  -0.5
FRI     1.66  91 ePc   26 30.90  -4.8
NWRM    1.68 329 P     26 34.00  -1.9
BCH     2.30 143 eP    26 42.50  -2.5
ABL     3.01 136 eP    26 52.70  -2.5
LBFM    4.31 359 eP    27 13.40  -0.4
LON     9.71 360 eP    28 30.00   0.7
TUL    20.91  85 eP    30 50.20  -1.2
        0.9s     3.70nm          3.8mb
FFC    22.30  31 eP    31 04.00  -1.2
        0.8s    12.00nm          4.4mb
       19 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 30m 30.20s
   37.200 N          122.007 W
   DEPTH =  12.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.3 (BRK).

MHC     0.32  64 iPd   30 36.90  -0.2
ARN     0.41  68 iPd   30 38.10  -0.5
PCC     0.42 315 iPc   30 38.10  -0.8
BKS     0.70 345 eP    30 43.70  -0.1
                eS    30 53.60
BRK     0.70 343 eP    30 43.70  -0.1
                eS    30 53.60
PRS     1.01 149 ePc   30 47.80  -1.3
LLA     1.03 124 iPd   30 48.20  -1.3
CMB     1.53  57 ePc   30 56.40  -1.0
       8 obs. associated
-----------------------------------------
&  OCT  18, 1989  02h 33m 18.90s
   37.013 N          121.815 W
   DEPTH =   5.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK).

MHC     0.36  23 iPd   33 26.20   0.1
ARN     0.40  34 eP    33 26.80  -0.2
PCC     0.66 317 ePc   33 31.50  -0.7
```

18d 02h

PRS 0.77 152 ePc 33 33.60 -0.7
i 33 34.30
LLA 0.80 119 iPc 33 34.10 -0.9
BRK 0.93 338 ePc 33 36.40 -0.7
i 33 37.20
eS 33 49.90
CMB 1.53 48 ePc 33 45.20 -1.7
7 obs. ossocioted

& OCT 18, 1989 02h 34m 04.40s
37.050 N 121.843 W
DEPTH = 6.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK). Double event. (BRK).

MHC 0.33 29 iPd 34 11.40 0.2
ARN 0.39 40 eP 34 12.00 -0.2
PCC 0.62 316 ePc 34 16.00 -0.8
PRS 0.81 152 ePc 34 19.90 -0.6
LLA 0.84 121 e(P) 34 20.00 -1.1
BRK 0.89 338 ePc 34 21.20 -0.6
i 34 29.70
6 obs. ossocioted

& OCT 18, 1989 02h 36m 02.50s
37.178 N 121.992 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

ARN 0.40 65 iPd 36 10.40 -0.5
PCC 0.45 316 iPc 36 11.00 -0.7
BKS 0.72 345 ePd 36 16.70 0.3
iS 36 26.70
BRK 0.73 343 ePc 36 16.20 -0.3
iS 36 26.30
PRS 0.98 149 iPd 36 19.60 -1.3
LLA 1.01 123 iP 36 19.90 -1.5
PRI 1.49 134 e(P) 36 27.60 -1.4
CMB 1.54 56 ePc 36 28.50 -1.2
FRI 1.84 95 e(P) 36 32.20 -1.7
9 obs. ossocioted

& OCT 18, 1989 02h 48m 27.90s
37.068 N 121.932 W
DEPTH = 17.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

MHC 0.36 40 iPd 48 35.40 -0.1
ARN 0.42 49 iPd 48 36.30 -0.3
PCC 0.56 320 iPc 48 38.10 -0.8
BKS 0.84 343 iPc 48 42.80 -0.9
eS 48 55.20
BRK 0.85 342 iPc 48 43.30 -0.4
iS 48 54.80
PRS 0.86 148 iPc 48 43.30 -0.8
LLA 0.91 119 iPc 48 43.50 -1.4
PRI 1.38 132 iPd 48 51.80 -0.6
CMB 1.56 51 ePc 48 56.10 1.1
9 obs. ossocioted

% OCT 18, 1989 02h 52m 53.60± 0.51s
46.211 N ± 5.6km 2.768 E ± 4.7km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.0 (LDG).

MAF 0.14 274 Pg 52 57.10 0.2
Sg 52 59.70
BGF 0.35 9 Pg 53 01.10 0.3
Sg 53 06.30
TCF 0.39 281 Pg 53 01.70 0.0
Sg 53 07.00
AVF 0.71 35 Pg 53 06.60 -0.9
Sg 53 16.60
SMF 0.86 59 Pg 53 10.20 0.0
Sg 53 21.40
LSF 0.86 273 Pg 53 09.90 -0.3
Sg 53 20.90
SSF 0.99 31 Pg 53 12.70 0.3
Sg 53 25.80
LBF 1.14 47 Pg 53 15.10 0.2
Sg 53 29.70
RJF 1.26 224 Pg 53 17.10 0.1
LOR 1.30 35 Pg 53 17.80 0.2
Sg 53 34.60
CAF 1.38 201 Pg 53 18.90 0.0
Sg 53 36.20
S.D. = 0.4 on 11 of 11 obs.

& OCT 18, 1989 03h 02m 43.80s
37.115 N 121.880 W
DEPTH = 12.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.7 (BRK).

MHC 0.30 40 iPc 02 50.00 -0.2
ARN 0.36 50 iPd 02 51.00 -0.4
PCC 0.55 314 iPc 02 54.10 -0.8
BKS 0.81 340 iPc 02 59.00 -0.3
iS 03 10.30
BRK 0.82 338 iPc 02 58.90 -0.5
iS 03 10.30
PRS 0.88 152 ePd 02 59.50 -1.1
PRI 1.38 134 ePc 03 08.30 -0.6
CMB 1.50 52 iPc 03 10.00 -0.6
FRI 1.74 93 ePc 03 12.80 -1.2
9 obs. ossocioted

& OCT 18, 1989 03h 09m 58.50s
37.062 N 121.923 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

MHC 0.36 39 iPc 10 05.90 -0.2
ARN 0.42 47 iPc 10 06.80 -0.5
PCC 0.57 320 iPd 10 09.00 -0.8
BKS 0.85 343 iPd 10 14.30 -0.3
iS 10 26.10
BRK 0.85 342 ePc 10 13.70 -0.9
iS 10 26.10
PRS 0.85 148 iPd 10 14.00 -0.7
LLA 0.90 119 ePd 10 14.50 -1.0
PRI 1.37 132 eP 10 23.20 -0.1
CMB 1.56 51 eP 10 24.50 -1.5
9 obs. ossocioted

OCT 18, 1989 03h 10m 40.79± 1.07s
32.695 N ± 6.9km 93.915 E ± 6.0km
DEPTH = 45.3 ± 12.1 km
4.5mb (9 obs.)
TIBET (306)

LSA 3.81 219 Pn 11 40.60 1.7
Pg 11 43.00
Sg 12 36.60
GTA 8.23 34 eP 12 40.40 -0.1
CD2 8.56 99 eP 12 45.60 0.5
LZH 8.88 65 eP 12 48.50 -1.0
4.0s 820.00nm 6.1mb X
Z 20s 1.50um 3.4Msz
sP 13 27.00
KMI 10.80 132 eP 13 14.50 -1.4
N 14s 2.20um
eS 15 00.00
WMQ 12.13 338 eP 13 32.50 -1.2
XAN 12.62 80 P 13 38.50 -1.7
BTO 15.13 54 eP 14 14.20 1.1
TIY 15.94 67 eP 14 24.60 1.1
Z 17s 2.40um
HHC 16.30 55 eP 14 29.00 0.9
BJI 19.34 61 eP 15 06.00 0.8
TIA 19.45 73 Pd 15 06.60 0.1
HYB 20.58 226 eP 15 17.00 -1.4
SSE 23.19 87 P 15 45.00 0.7
0.8s 0.02nm 1.6mb X
GBA 24.24 222 Pd 15 55.40 0.8
0.7s 3.60nm 4.0mb
SUF 51.38 327 iPc 19 41.80 -0.9
0.6s 4.50nm 4.7mb
SUF 51.38 327 eP 19 43.50 0.8X
0.5s 2.50nm 4.5mb
SOD 51.56 333 eP 19 44.00 0.0
NUR 52.06 324 ePc 19 38.50 -9.3X
0.5s 3.30nm 4.6mb
UPP 55.60 324 iP 20 14.30 0.5
i 20 17.00
HFS 57.51 324 eP 20 26.90 -0.6
0.5s 2.30nm 4.5mb
WB5 65.03 138 eP 21 18.00 -0.7
LPG 65.70 310 eP 21 23.20 0.1
0.7s 5.50nm 4.7mb
LBF 66.89 312 eP 21 29.70 -0.7
0.8s 2.60nm 4.3mb
SMF 67.11 312 eP 21 31.30 -0.5
SSF 67.16 312 eP 21 31.70 -0.3
0.6s 1.80nm 4.3mb
AVF 67.36 312 eP 21 33.00 -0.3
EKA 67.55 322 P 21 37.00 2.7
0.7s 171.80nm 6.2mb X
TCF 68.29 312 eP 21 39.20 0.0
0.9s 3.20nm 4.3mb
PPD 147.47 280 ePKP 30 22.50 3.3X
e 30 25.30
S.D. = 1.1 on 27 of 30 obs.

& OCT 18, 1989 03h 16m 19.90s
37.108 N 121.860 W
DEPTH = 3.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.7 (BRK).

MHC 0.29 37 iPd 16 26.00 0.2
ARN 0.36 47 iPc 16 27.00 0.0
PCC 0.57 313 ePc 16 31.00 -0.3
BKS 0.82 339 iPd 16 36.20 -0.1
e(S) 16 48.20
BRK 0.83 338 iPd 16 36.00 -0.4
iS 16 48.40
PRS 0.87 153 iPc 16 36.30 -0.9
LLA 0.88 123 iPc 16 37.00 -0.5
PRI 1.36 135 ePd 16 44.80 -1.0
CMB 1.49 51 ePc 16 46.20 -1.5
FRI 1.73 93 ePd 16 50.20 -0.8
10 obs. ossocioted

& OCT 18, 1989 03h 21m 47.90s
37.093 N 121.853 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.9 (BRK).

MHC 0.30 34 iPd 21 54.20 0.1
ARN 0.36 45 iPd 21 55.40 0.1
PCC 0.59 314 iPc 21 59.00 -0.7
BKS 0.84 339 iPc 22 03.50 -0.8
iS 22 16.00
BRK 0.84 338 ePc 22 03.40 -0.9
iS 22 16.00
PRS 0.85 153 iPc 22 03.70 -0.8
LLA 0.87 123 ePc 22 04.10 -0.7
PRI 1.35 134 ePd 22 12.20 -0.8
CMB 1.50 51 iPc 22 14.40 -0.7
FRI 1.72 93 iPc 22 16.90 -1.4
EDM 17.19 18 eP 25 50.50 0.7
11 obs. ossocioted

& OCT 18, 1989 03h 23m 57.00s
37.163 N 121.995 W
DEPTH = 22.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.0 (BRK).

MHC 0.33 58 iPd 24 04.20 -0.3
ARN 0.41 63 iP 24 05.30 -0.4
PCC 0.46 318 iPc 24 05.50 -0.8
BKS 0.74 345 iPc 24 10.00 -1.1
iS 24 22.40
BRK 0.74 344 ePc 24 10.20 -0.9
PRS 0.97 149 iPc 24 13.40 -1.6
LLA 1.00 123 iP 24 13.80 -1.8
7 obs. ossocioted

& OCT 18, 1989 03h 27m 46.60s
36.942 N 121.723 W
DEPTH = 14.0km
CENTRAL CALIFDRNIA (39)
<BRK>. ML 2.9 (BRK).

MHC 0.40 9 iPd 27 54.80 -0.3
ARN 0.43 20 iPd 27 55.20 -0.4
PRS 0.67 155 iPd 27 59.10 -0.5
LLA 0.71 117 iPd 27 59.60 -0.6
PCC 0.77 317 iPd 28 00.30 -0.9
iS 28 10.00
BRK 1.02 335 ePc 28 03.80 -1.8
eS 28 18.70
PRI 1.17 133 ePc 28 07.70 -0.4

```
CMB      1.52  44 ePc    28 11.50  -1.9
FRI      1.61  88 eP     28 12.50  -2.2
        9 obs. associated
-----------------------------------------
&  OCT  18, 1989  03h 28m 47.80s
   36.937 N          121.703 W
   DEPTH =  12.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK).

MHC      0.41   7 iP     28 56.00  -0.3
ARN      0.43  18 iPd    28 56.30  -0.4
PRS      0.66 156 iPd    29 00.10  -0.7
LLA      0.69 117 iPc    29 00.80  -0.5
PCC      0.78 316 eP     29 02.10  -0.7
                  iS     29 15.80
BRK      1.03 335 ePc    29 06.00  -1.1
                  i      29 21.80
PRI      1.15 133 e(P)   29 08.70  -0.6
CMB      1.52  43 e(P)   29 14.30  -0.5
FRI      1.60  87 ePc    29 15.40  -0.5
        9 obs. assaciated
-----------------------------------------
&  OCT  18, 1989  03h 30m 35.70s
   37.307 N          122.060 W
   DEPTH =   8.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.5 (BRK).

PCC      0.32 307 ePd    30 41.80  -0.5
                  eS     30 46.70
MHC      0.34  84 iPd    30 42.60   0.0
ARN      0.42  84 eP     30 43.70  -0.6
BKS      0.59 346 iPd    30 47.00  -0.5
                  eS     30 56.00
BRK      0.59 344 ePd    30 47.20  -0.3
                  eS     30 55.70
PRS      1.12 150 ePd    30 55.50  -1.4
LLA      1.13 127 ePc    30 55.40  -1.7
        7 obs. associated
-----------------------------------------
&  OCT  18, 1989  03h 35m 44.90s
   37.083 N          121.932 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.8 (BRK).

MHC      0.35  42 iPd    35 52.10   0.2
ARN      0.42  50 iPd    35 53.10  -0.2
PCC      0.55 319 iPc    35 55.30  -0.6
BKS      0.83 343 iPc    36 02.00   0.7
                  eS     36 13.70
BRK      0.83 342 iPc    36 00.80  -0.5
PRS      0.88 149 ePd    36 01.40  -0.7
LLA      0.92 120 iPd    36 01.90  -1.0
PRI      1.39 132 ePc    36 10.20  -0.7
CMB      1.55  52 iPc    36 12.10  -1.1
FRI      1.78  92 ePc    36 14.90  -1.5
EDM     17.21  18 ePd    39 48.50   1.1
       11 abs. associated
-----------------------------------------
%  OCT  18, 1989  03h 36m 07.06± 0.71s
   43.117 N ± 8.0km     0.659 W ± 5.0km
   DEPTH =  10.0km  (geophysicist)
 PYRENEES                          (378)
      MD 1.0 (STR).

ATE      0.04 226 Pg     36 09.27   0.1
                  Sg     36 11.21
ESCF     0.07 122 Pg     36 09.61   0.1
                  Sg     36 11.79
MADF     0.12 284 Pg     36 10.21   0.1
                  Sg     36 12.70
ISSF     0.13 228 Pg     36 10.62   0.2
                  Sg     36 13.37
OGE      0.15  69 Pg     36 10.38  -0.1
LHE      0.21 172 Pg     36 11.41  -0.2
BOH      0.26 267 Pg     36 12.34  -0.3
     S.D. = 0.2   on    7 af    7 obs.
-----------------------------------------
&  OCT  18, 1989  03h 46m 29.60s
   37.025 N          121.800 W
   DEPTH =   8.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.7 (BRK).

MHC      0.34  22 iPd    46 36.60   0.0
ARN      0.39  33 iPd    46 37.20  -0.3
PCC      0.66 316 iPc    46 42.00  -0.9
PRS      0.77 153 iPc    46 44.00  -0.9
LLA      0.80 120 iPc    46 44.50  -0.8
BKS      0.92 338 eP     46 46.20  -1.1
                  eS     47 00.00
BRK      0.92 337 ePd    46 46.40  -1.0
                  iS     46 59.80
PRI      1.27 134 ePc    46 52.00  -1.4
CMB      1.51  48 iPc    46 55.70  -1.3
FRI      1.67  91 iPc    46 57.50  -1.8
EDM     17.24  17 eP     50 33.00   0.9
       11 obs. associated
-----------------------------------------
&  OCT  18, 1989  03h 52m 59.00s
   37.108 N          121.847 W
   DEPTH =   4.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).

MHC      0.29  35 iPd    53 05.00   0.2
ARN      0.35  46 iPd    53 06.00   0.0
PCC      0.58 313 ePd    53 10.20  -0.4
BKS      0.83 338 eP     53 15.30  -0.2
                  eS     53 27.20
BRK      0.83 337 eP     53 15.00  -0.6
                  eS     53 27.50
PRS      0.86 154 iPc    53 15.30  -0.9
                  iS     53 27.80
LLA      0.88 124 e(P)   53 15.00  -1.4
CMB      1.49  51 iPc    53 25.20  -1.4
FRI      1.71  93 eP     53 27.90  -1.9
        9 obs. associated
-----------------------------------------
&  OCT  18, 1989  04h 00m 59.80s
   37.207 N          121.958 W
   DEPTH =  11.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.5 (BRK).

MHC      0.29  62 iPd    01 05.80  -0.1
ARN      0.37  67 iPd    01 07.50   0.1
PCC      0.45 311 iPc    01 08.20  -0.7
BRK      0.71 340 ePc    01 13.60   0.0
                  iS     01 23.30
PRS      0.99 151 iPd    01 17.30  -1.2
LLA      1.00 126 eP     01 17.70  -1.0
PRI      1.49 135 ePc    01 25.50  -1.1
CMB      1.50  56 iPd    01 26.20  -0.4
                  iS     01 45.00
FRI      1.81  96 iPc    01 30.00  -1.1
        9 obs. associated
-----------------------------------------
&  OCT  18, 1989  04h 14m 48.70s
   37.140 N          121.988 W
   DEPTH =  15.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.5 (BRK).

MHC      0.34  54 iPd    14 55.80  -0.2
ARN      0.42  60 iPd    14 56.90  -0.4
PCC      0.48 319 iPc    14 57.50  -0.7
BKS      0.76 345 iPc    15 02.20  -0.9
                  eS     15 14.40
BRK      0.76 344 iPc    15 02.80  -0.3
                  iS     15 13.70
PRS      0.95 148 iPc    15 05.30  -1.0
LLA      0.99 122 iPc    15 05.70  -1.3
PRI      1.46 133 eP     15 13.10  -1.4
CMB      1.56  54 ePd    15 14.20  -1.7
FRI      1.83  94 iPd    15 17.90  -1.9
       10 obs. associated
-----------------------------------------
&  OCT  18, 1989  04h 16m 33.00s
   37.062 N          121.908 W
   DEPTH =  16.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.1 (BRK).

MHC      0.35  37 iPc    16 40.15  -0.4
ARN      0.41  46 iPd    16 41.10  -0.4
PCC      0.58 319 iPd    16 43.60  -0.7
PRS      0.85 149 iPd    16 48.10  -0.8
BKS      0.85 342 iPc    16 48.10  -0.9
                  eS     17 00.20
BRK      0.86 341 iPc    16 48.80  -0.2
                  iS     16 59.40
LLA      0.89 120 iPd    16 48.60  -1.1
PRI      1.36 132 eP     16 56.60  -0.8
CMB      1.55  51 eP     16 59.20  -0.9
PHAM     1.73 135 eP     17 01.10  -1.5
FRI      1.76  92 iPc    17 01.80  -1.2
BCH      2.39 141 eP     17 09.80  -2.3
LTCM     3.15 357 eP     17 19.40  -3.4
LBFM     4.28   0 e(P)   17 40.00   0.9
EDM     17.23  18 eP     20 35.00   0.7
       15 abs. associated
-----------------------------------------
&  OCT  18, 1989  04h 17m 35.00s
   37.067 N          121.917 W
   DEPTH =  16.0km  (geaphysicist)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK). Hypocenter
      assumed fram 04:16. (BRK).

MHC      0.35  39 i(P)d 17 42.30  -0.2
ARN      0.42  47 eP     17 43.20  -0.4
PCC      0.57 320 e(P)   17 45.80  -0.3
BRK      0.85 341 e(P)   17 50.10  -0.8
                  i(S)   18 01.20
        4 obs. associated
-----------------------------------------
&  OCT  18, 1989  04h 18m 16.80s
   37.198 N          122.075 W
   DEPTH =  16.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.1 (BRK).

MHC      0.37  67 iPd    18 24.30  -0.4
                  iS     18 30.30
PCC      0.39 321 ePc    18 24.30  -0.5
                  iS     18 30.00
ARN      0.46  71 iP     18 25.60  -0.5
BRK      0.69 348 e(P)   18 29.50  -0.5
                  iS     18 39.70
PRS      1.03 147 iPc    18 34.50  -1.4
                  iS     18 48.20
LLA      1.08 122 e(P)   18 35.00  -1.6
        6 obs. associated
-----------------------------------------
&  OCT  18, 19B9  04h 25m 12.00s
   37.183 N          122.002 W
   DEPTH =  16.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.4 (BRK).

MHC      0.33  61 iPd    25 18.90  -0.2
ARN      0.41  66 iPd    25 19.80  -0.6
PCC      0.44 316 ePc    25 20.20  -0.7
BKS      0.72 345 iPd    25 25.60   0.0
                  eS     25 35.70
BRK      0.72 344 ePd    25 25.30  -0.4
                  e(S)   25 35.50
PRS      0.99 149 ePc    25 29.20  -1.1
                  iS     25 43.60
LLA      1.02 123 ePc    25 29.50  -1.3
PRI      1.50 134 e(P)   25 37.10  -1.2
CMB      1.54  56 ePd    25 37.80  -1.1
FRI      1.84  95 eP     25 42.00  -1.2
       10 abs. associated
-----------------------------------------
&  OCT  18, 1989  04h 25m 46.90s
   37.027 N          121.788 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.7 (BRK).

MHC      0.34  20 iPd    25 53.80   0.0
ARN      0.38  32 eP     25 55.00   0.3
PCC      0.67 315 iPd    25 59.20  -1.0
PRS      0.77 154 iPd    26 01.30  -0.7
LLA      0.79 121 iPd    26 01.60  -0.8
BRK      0.92 336 iPd    26 04.00  -0.6
                  iS     26 16.90
        6 abs. associated
-----------------------------------------
&  OCT  18, 1989  04h 26m 37.20s
   36.997 N          121.765 W
   DEPTH =  13.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.2 (BRK).

MHC      0.36  16 iPd    26 44.60  -0.2
ARN      0.40  28 e(P)   26 46.50   1.0
```

18d 04h

PCC 0.70 316 iPc 26 50.00 -0.8
iS 27 01.40
PRS 0.74 154 iPd 26 50.80 -0.6
LLA 0.76 120 iPd 26 51.20 -0.6
BRK 0.96 336 e(P) 26 54.30 -0.9
iS 27 07.30
6 obs. associated

& OCT 18, 1989 04h 28m 15.00s
36.960 N 121.767 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.5 (BRK).

MHC 0.39 15 iPd 28 23.00 -0.3
ARN 0.43 26 eP 28 22.40 -1.5
PRS 0.70 153 iPd 28 28.10 -0.5
PCC 0.73 318 iPd 28 28.20 -0.8
LLA 0.74 117 iPc 28 28.60 -0.7
BKS 0.99 338 eP 28 31.60 -1.9
eS 28 46.00
BRK 0.99 337 iPc 28 32.80 -0.7
iS 28 48.00
PRI 1.21 132 iPc 28 37.40 0.1
CMB 1.54 45 iPc 28 40.50 -1.6
iS 28 59.20
FRI 1.65 88 iPc 28 41.70 -2.0
10 obs. associated

& OCT 18, 1989 04h 50m 27.70s
37.193 N 122.017 W
DEPTH = 14.0km
4.6mb (2 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.3 (BRK).

MHC 0.33 64 iPd 50 34.50 -0.4
ARN 0.42 68 eP 50 35.50 -0.9
PCC 0.42 317 iPc 50 35.60 -0.8
BKS 0.70 346 eP 50 40.50 -0.7
eS 50 51.00
BRK 0.71 344 iPd 50 41.00 -0.2
PRS 1.00 149 eP 50 45.10 -1.3
LLA 1.04 123 eP 50 45.60 -1.3
PRI 1.51 134 eP 50 52.30 -2.1
CMB 1.54 57 iPd 50 53.90 -0.9
FRI 1.86 96 iPc 50 57.60 -1.7
PHAM 1.88 136 eP 50 57.20 -2.5
PKEM 1.91 126 eP 50 58.00 -2.0
BCH 2.54 141 eP 51 05.40 -3.9
ABL 3.26 135 eP 51 16.00 -3.5
LBFM 4.15 1 eP 51 32.00 -0.2
MSU 7.90 77 eP 52 24.80 -0.3
LON 9.55 1 eP 52 48.80 1.1
PNT 12.24 7 eP 53 30.00 5.6
0.6s 4.00nm 4.8mb
EDM 17.13 18 ePc 54 29.40 1.4
FFC 22.26 32 eP 55 25.00 -0.5
0.7s 8.00nm 4.3mb
20 obs. associated

& OCT 18, 1989 05h 09m 33.00s
36.997 N 121.873 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

MHC 0.39 28 iPd 09 41.10 0.2
iS 09 45.70
ARN 0.44 38 iPd 09 41.80 -0.2
PCC 0.65 321 iPd 09 45.10 -0.8
PRS 0.78 149 eP 09 47.80 -0.6
i 09 49.00
iS 10 00.10
LLA 0.84 117 eP 09 48.60 -0.9
BKS 0.92 342 iPd 09 51.20 0.3
eS 10 03.30
BRK 0.93 341 eP 09 50.90 -0.1
eS 10 03.60
PRI 1.29 131 eP 09 57.20 -0.1
CMB 1.57 48 ePc 09 59.70 -1.7
FRI 1.73 90 ePd 10 01.70 -2.0
10 obs. associated

& OCT 18, 1989 05h 18m 34.10s
36.980 N 121.847 W
DEPTH = 11.0km
4.5mb (1 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.2 (BRK).

MHC 0.40 24 iPd 18 42.20 -0.1
ARN 0.45 34 iPd 18 42.90 -0.3
PCC 0.67 321 iPc 18 46.40 -0.9
PRS 0.75 149 iPd 18 48.20 -0.5
LLA 0.81 116 iPd 18 48.90 -0.8
BKS 0.95 341 iP 18 50.00 -2.0
BKS 0.95 341 eP 18 51.50 -0.5
eS 19 04.30
BRK 0.95 340 eP 18 50.10 -2.0
BRK 0.95 340 iPc 18 51.20 -0.9
NWRM 1.69 331 e(P) 19 02.50 -1.1
LTCM 3.23 356 eP 19 23.80 -1.9
LBFM 4.36 360 eP 19 43.00 1.0
MSU 7.82 76 eP 20 30.00 -0.7
LON 9.76 0 eP 20 57.50 0.1
EDM 17.29 17 eP 22 36.50 -0.4
FFC 22.37 31 eP 23 31.00 -2.4
1.0s 18.00nm 4.5mb
16 obs. associated

OCT 18, 1989 05h 23m 21.34± 0.50s
43.112 N ± 6.5km 0.731 W ± 3.8km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

ATE 0.03 142 Pg 23 23.70 0.3
Sg 23 25.88
MADF 0.07 297 Pg 23 24.21 0.4
Sg 23 26.43
ISSF 0.10 209 Pg 23 24.46 0.3
Sg 23 27.02
ESCF 0.12 106 Pg 23 24.47 0.1
Sg 23 27.01
OGE 0.20 73 Pg 23 25.71 0.0
Sg 23 29.38
ELYF 0.20 287 Pg 23 25.38 -0.4
BOH 0.21 267 Pg 23 25.72 -0.2
Sg 23 29.03
LHE 0.21 158 Pg 23 25.66 -0.4
EPF 0.79 96 Pg 23 36.50 -0.2
Sg 23 47.60
S.D. = 0.4 on 9 of 9 obs.

& OCT 18, 1989 05h 38m 02.70s
37.145 N 122.058 W
DEPTH = 16.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

MHC 0.39 59 iPd 38 10.60 -0.2
iS 38 15.30
PCC 0.44 324 iPc 38 10.90 -0.7
iS 38 17.50
ARN 0.47 64 iPd 38 11.50 -0.6
BRK 0.74 348 eP 38 16.50 -0.3
iS 38 27.00
PRS 0.98 146 iPc 38 19.70 -1.2
LLA 1.04 120 e(P) 38 20.40 -1.4
PRI 1.50 131 eP 38 28.20 -0.9
CMB 1.60 56 ePc 38 28.50 -1.9
FRI 1.89 94 ePd 38 32.50 -2.0
9 obs. associated

& OCT 18, 1989 05h 57m 46.80s
31.420 N 116.930 W
DEPTH = 6.0km (geophysicist)
BAJA CALIFORNIA (48)
<PAS-P>. ML 3.1 (PAS).

BAR 1.28 10 eP 58 09.50 -1.3
iS 58 26.90
IKP 1.41 29 eP 58 12.10 -1.0
eS 58 30.10
CPE 1.46 354 eP 58 13.30 -0.4
eS 58 30.60
3 obs. associated

? OCT 18, 1989 06h 04m 14.46± 2.43s
11.076 N ±11.1km 61.895 W ±43.6km
DEPTH = 33.0km (normal)
WINDWARD ISLANDS (95)
TCE 0.40 160 eP 04 23.23 -0.4
eS 04 31.65
TRN 0.64 131 eP 04 26.84 -0.2
eS 04 37.31
TPP 0.87 150 eP 04 30.95 0.6
eS 04 42.14
GRW 1.10 12 eP 04 33.69 0.0
eS 04 51.20
S.D. = 0.8 on 4 of 4 obs.

? OCT 18, 1989 06h 16m 31.25± 4.63s
27.499 N ±40.5km 34.608 E ±13.6km
DEPTH = 10.0km (geophysicist)
RED SEA (554)

BADA 1.08 19 iPc 16 51.80 0.3
iS 17 05.30
SRFA 1.52 20 iPc 16 58.10 -0.3
iS 17 17.70
HOL 1.81 12 iPc 17 02.40 -0.2
iS 17 27.00
AYN 1.84 42 iPc 17 03.20 0.1
iS 17 26.00
KOT 3.44 315 eP 17 26.00 0.1
S.D. = 0.4 on 5 of 5 obs.

& OCT 18, 1989 06h 27m 10.60s
36.855 N 121.630 W
DEPTH = 10.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK). Small event 1 second earlier confuses some readings. (BRK).

MHC 0.49 359 iP 27 18.80 -1.7
MHC 0.49 359 iPd 27 20.20 -0.3
ARN 0.50 9 iPd 27 20.20 -0.5
PRS 0.56 158 iPd 27 21.20 -0.8
LLA 0.60 113 iPd 27 22.10 -0.7
PCC 0.88 317 ePc 27 26.30 -1.2
PRI 1.05 132 ePc 27 30.40 -0.2
BKS 1.13 335 eP 27 37.40 5.7
iS 27 47.20
BRK 1.13 334 eP 27 30.60 -1.2
e 27 31.60
CMB 1.54 40 eP 27 37.00 -1.2
iS 27 56.00
FRI 1.55 84 e(P) 27 36.90 -1.3
e 27 37.90
11 obs. associated

& OCT 18, 1989 06h 29m 25.00s
37.108 N 121.882 W
DEPTH = 6.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

MHC 0.30 39 iPd 29 31.30 0.1
ARN 0.37 49 iPd 29 32.70 0.3
PCC 0.56 315 ePc 29 35.60 -0.6
BKS 0.82 340 iPd 29 40.50 -0.7
iS 29 52.70
BRK 0.82 339 ePd 29 40.50 -0.8
eS 29 52.30
PRS 0.88 152 iPd 29 41.50 -0.7
LLA 0.90 123 ePd 29 41.60 -1.0
PRI 1.37 134 eP 29 50.60 -0.2
CMB 1.51 52 eP 29 51.20 -1.4
iS 30 10.50
FRI 1.74 93 e(P) 29 53.60 -2.3
10 obs. associated

& OCT 18, 1989 06h 34m 06.18s
59.881 N 150.707 W
DEPTH = 29.3km
KENAI PENINSULA, ALASKA (14)
<AGS-P>.

BRLK 0.15 218 iP 34 11.98 0.1
eS 34 17.07
NNL 0.34 299 eP 34 14.71 0.6
CNPM 0.45 217 eP 34 14.77 -1.0
iS 34 22.09
SEW 0.67 70 iP 34 17.62 -1.7
eS 34 27.72
SLKM 0.67 21 eP 34 18.58 -0.9
eS 34 28.59

```
RDT     1.10 310 eP     34 24.49  -1.2
RED     1.17 298 eP     34 25.38  -1.3
                 eS     34 40.73
OPT     1.30 261 eP     34 27.52  -0.9
                 eS     34 43.77
AUE     1.45 250 iP     34 29.99  -0.6
PMS     1.48  22 eP     34 30.94  -0.2
CKL     1.55 329 eP     34 31.34  -0.8
                 eS     34 51.33
CDD     1.78 239 iP     34 34.94  -0.5
PME     1.94  24 eP     34 36.43  -1.2
GLI     2.06  59 eP     34 36.19  -3.2
SKT     2.14 350 eP     34 40.89   0.2
FID     2.28  66 eP     34 39.76  -2.8
VLZ     2.50  58 eP     34 43.08  -2.6
KLU     2.86  53 eP     34 48.23  -2.6
       18 obs. associated
-------------------------------------
&  OCT  18, 1989  06h 34m 49.00s
   36.890 N          121.680 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.0 (BRK).

MHC     0.45   4 iPd    34 58.20   0.1
ARN     0.47  14 iPd    34 58.30  -0.2
PRS     0.61 156 iPd    35 00.80  -0.4
LLA     0.65 115 iPd    35 01.50  -0.6
PCC     0.83 318 iPc    35 04.30  -1.1
BKS     1.08 336 eP     35 08.00  -1.7
                 eS     35 24.90
BRK     1.08 335 e(P)   35 08.70  -1.0
                 iS     35 23.80
PRI     1.11 132 ePd    35 09.00  -1.2
CMB     1.54  42 ePd    35 15.30  -1.8
                 iS     35 34.30
FRI     1.58  86 eP     35 15.70  -1.9
       10 obs. associated
-------------------------------------
&  OCT  18, 1989  06h 39m 10.10s
   36.932 N          121.712 W
   DEPTH =  12.0km
   4.6mb (  2 obs.)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.3 (BRK).

MHC     0.41   8 iPd    39 18.40  -0.3
ARN     0.44  19 iPd    39 18.80  -0.4
PRS     0.66 155 iPd    39 22.40  -0.7
LLA     0.69 117 iPd    39 23.00  -0.6
PCC     0.78 317 iPc    39 24.30  -0.8
BKS     1.03 336 iPc    39 28.20  -1.2
                 eS     39 44.40
BRK     1.04 335 ePc    39 28.10  -1.4
PRI     1.15 133 iPd    39 30.70  -0.9
CMB     1.53  43 ePc    39 36.20  -1.0
FRI     1.61  87 iPc    39 36.70  -1.6
PNT    12.47   6 eP     42 12.00   1.9
       0.6s      4.00nm          4.8mb
EDM    17.31  17 eP     43 12.50  -0.4
FFC    22.35  31 eP     44 10.00   0.9
       0.9s     13.00nm          4.4mb
       13 obs. associated
-------------------------------------
&  OCT  18, 1989  06h 44m 56.90s
   37.182 N          121.997 W
   DEPTH =  12.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.6 (BRK).

MHC     0.33  61 iPc    45 03.60  -0.2
ARN     0.41  66 iPc    45 04.80  -0.5
PCC     0.44 316 iPc    45 05.10  -0.9
BKS     0.72 345 iPd    45 10.60  -0.3
                 iS     45 20.90
BRK     0.72 343 iPd    45 10.50  -0.4
                 iS     45 20.70
PRS     0.99 149 iPc    45 14.30  -1.1
LLA     1.02 123 iPc    45 14.70  -1.3
PRI     1.49 134 ePc    45 21.70  -1.9
CMB     1.54  56 eP     45 22.80  -1.4
FRI     1.84  95 ePc    45 26.70  -1.8
       10 obs. associated
-------------------------------------
   OCT  18, 1989  06h 46m 15.79± 0.33s
   43.910 N ± 2.8km    7.454 E ± 3.0km
   DEPTH =  10.0km  (geophysicist)

  NEAR SOUTH COAST OF FRANCE       (379)
       ML 2.5 (GEN).

SBF     0.05 197 Pg     46 17.50  -0.5
AUTN    0.09 347 Pg     46 17.98  -0.6
AURF    0.09 256 Pg     46 18.04  -0.5
                 Sg     46 20.04
SAOF    0.11  44 Pg     46 18.43  -0.2
                 Sg     46 20.47
REVF    0.18 200 Pg     46 21.23   1.3
                 Sg     46 23.89
TOUF    0.18 305 Pg     46 19.54  -0.4
                 Sg     46 22.51
MVIF    0.22 266 Pg     46 20.47  -0.1
                 Sg     46 23.57
IMI     0.31  90 P      46 22.94   0.6
                 S      46 27.77
ENR     0.32 356 P      46 22.23  -0.2
                 S      46 26.43
STV     0.35 344 P      46 22.64  -0.3
                 S      46 27.15
CALN    0.44 249 Pg     46 24.91   0.1
ROB     0.49  38 P      46 25.81   0.1
                 S      46 32.89
DOI     0.61 346 Pc     46 27.40  -0.8
                 eSg    46 35.90
FIN     0.62  61 P      46 28.17  -0.1
                 S      46 36.68
PZZ     0.65 337 P      46 28.07  -0.8
                 S      46 36.48
FRF     0.68 239 Pg     46 29.40   0.1
                 Sg     46 38.10
CKI     0.79  49 P      46 31.10   0.0
                 eSg    46 42.40
LMR     0.90 230 Pg     46 33.00   0.0
                 Sg     46 45.70
LRG     0.92 241 Pg     46 33.60   0.3
                 Sg     46 46.10
PCP     1.01  51 P      46 35.46   0.6
                 S      46 48.99
RRL     1.12 335 P      46 36.59  -0.3
                 S      46 51.15
BNI     1.27 334 P      46 39.80   0.3
                 eSg    46 56.00
LPG     1.66 343 Pg     46 46.90   1.5
LPL     1.69 342 Pg     46 47.20   1.5
CVF     1.69 142 Pn     46 43.80  -1.8
     S.D. = 0.8   on  25 of  25 obs.
-------------------------------------
&  OCT  18, 1989  06h 46m 44.50s
   37.017 N          121.803 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.1 (BRK).

MHC     0.35  22 ePd    46 51.80   0.2
ARN     0.40  33 iPd    46 52.60   0.1
PCC     0.67 316 ePd    46 57.10  -0.8
PRS     0.77 153 iPd    46 59.20  -0.6
LLA     0.80 120 e(P)   46 59.60  -0.8
BKS     0.92 338 eP     47 02.00  -0.5
                 eS     47 15.30
BRK     0.93 337 eP     47 01.60  -1.0
                 iS     47 15.20
PRI     1.27 133 ePc    47 07.90  -0.6
CMB     1.52  48 iPc    47 11.30  -1.0
                 iS     47 29.90
FRI     1.68  90 e(P)   47 13.50  -1.0
       10 obs. associated
-------------------------------------
*  OCT  18, 1989  06h 51m 04.22± 0.66s
   57.333 S ±13.5km   26.841 W ±14.7km
   DEPTH =  33.0km  (normal)
   4.6mb (  2 obs.)
 SOUTH SANDWICH ISLANDS REGION     (153)

SPA    32.84 180 e(P)   57 37.50   0.9
       0.5s     4.63nm          4.6mb
PPD    39.53 323 iPd    58 34.80   1.4
                 i      58 36.30
PDCR   45.69 343 eP     59 24.50   1.0
CNCB   50.75 306 P      00 02.50  -1.0
ZOBO   51.29 306 P      00 07.20  -0.5
BUL    54.79  71 iPd    00 32.90  -0.2
       0.9s     4.20nm          4.5mb
LIC    65.79  24 Pc     01 48.00   0.0
KIC    65.98  24 P      01 49.20  -0.1

TIC    66.20  24 P      01 50.80   0.2
MBC   145.23 335 ePKPd  10 36.50  -1.6
       0.6s     8.00nm
INK   146.91 319 ePKP   10 41.00   0.0
     S.D. = 1.0  on  11 of  11 obs.
-------------------------------------
&  OCT  18, 1989  07h 39m 24.80s
   37.102 N          121.920 W
   DEPTH =  12.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.1 (BRK).

MHC     0.33  43 iPc    39 31.60  -0.1
ARN     0.40  51 iPc    39 33.00   0.0
PCC     0.54 317 iPd    39 34.90  -0.8
                 iS     39 44.40
BKS     0.81 342 ePc    39 40.80   0.4
                 eS     39 51.50
BRK     0.82 341 ePd    39 40.30  -0.1
                 iS     39 51.20
PRS     0.89 150 ePd    39 40.70  -0.9
LLA     0.92 121 iPd    39 41.30  -0.9
PRI     1.39 133 eP     39 49.00  -1.1
CMB     1.53  52 ePc    39 51.10  -1.0
FRI     1.77  93 ePd    39 53.80  -1.6
       10 obs. associated
-------------------------------------
&  OCT  18, 1989  07h 44m 00.60s
   36.933 N          121.770 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK).

MHC     0.42  14 iPd    44 09.20   0.1
ARN     0.46  24 iPd    44 09.70  -0.1
PRS     0.68 152 iPd    44 13.70  -0.5
                 iS     44 24.20
LLA     0.74 115 e(P)   44 14.50  -0.8
PCC     0.75 319 iPc    44 14.50  -1.0
                 eS     44 24.50
BKS     1.01 339 e(P)   44 18.40  -1.7
                 eS     44 33.50
BRK     1.02 338 e(P)   44 18.00  -2.2
PRI     1.19 131 ePc    44 22.10  -1.1
CMB     1.56  45 ePc    44 26.10  -2.8
FRI     1.65  87 eP     44 28.90  -1.3
       10 obs. associated
-------------------------------------
&  OCT  18, 1989  07h 52m 32.20s
   37.210 N          122.068 W
   DEPTH =  13.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK).

MHC     0.36  69 iPd    52 39.70  -0.2
PCC     0.38 319 iPc    52 39.40  -0.8
ARN     0.45  72 iPd    52 40.90  -0.5
BKS     0.68 349 ePd    52 45.10  -0.3
                 eS     52 55.00
BRK     0.68 347 iPd    52 45.10  -0.3
                 iS     52 54.50
PRS     1.04 147 ePd    52 50.40  -1.2
LLA     1.08 123 ePd    52 50.80  -1.4
PRI     1.55 133 e(P)   52 58.40  -1.2
CMB     1.57  58 e(P)   52 59.30  -0.5
       9 obs. associated
-------------------------------------
&  OCT  18, 1989  08h 41m 03.50s
   37.015 N          121.818 W
   DEPTH =   9.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.0 (BRK).

MHC     0.36  23 iPc    41 10.90   0.1
ARN     0.40  34 iPd    41 11.60  -0.1
PCC     0.66 317 iPd    41 15.80  -0.9
                 iS     41 25.30
PRS     0.77 152 iPc    41 18.10  -0.5
LLA     0.81 119 iPc    41 18.50  -0.8
BKS     0.92 339 eP     41 20.50  -0.7
                 eS     41 33.70
BRK     0.93 338 eP     41 20.50  -0.8
                 eS     41 32.70
PRI     1.27 133 eP     41 26.60  -0.7
CMB     1.53  48 iPc    41 29.40  -1.6
FRI     1.69  90 e(P)   41 31.50  -1.8
       10 obs. associated
```

& OCT 18, 1989 09h 33m 42.00s
37.193 N 122.000 W
DEPTH = 9.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.4 (BRK).

MHC	0.32	62	iPc	33	48 60	-0.1
ARN	0.40	67	iPc	33	50.00	-0.2
PCC	0.43	315	iPd	33	50.10	-0.7
BKS	0.71	345	iPd	33	55.60	-0.4
			eS	34	05.90	
BRK	0.71	343	iPd	33	55.60	-0.5
			iS	34	05.80	
PRS	1.00	149	iPd	33	59.70	-1.3
LLA	1.02	124	iPd	34	00.40	-1.1
PRI	1.50	134	ePd	34	07.20	-2.0
CMB	1.53	56	iPc	34	08.30	-1.3
FRI	1.84	96	ePc	34	12.00	-2.0

10 obs. associated

& OCT 18, 1989 09h 45m 36.20s
36.985 N 121.773 W
DEPTH = 12.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

MHC	0.37	16	iPd	45	43.70	-0.3
ARN	0.41	28	iPd	45	44.30	-0.4
PCC	0.71	317	iPc	45	49.20	-0.7
PRS	0.73	153	iPd	45	49.60	-0.7
LLA	0.76	119	ePd	45	50.40	-0.5
BKS	0.96	338	iPd	45	53.10	-1.2
			iS	46	07.10	
BRK	0.97	337	e(P)	45	52.80	-1.6
			iS	46	06.90	
PRI	1.23	133	ePc	45	58.30	-0.6
CMB	1.52	46	ePc	46	02.10	-1.2
FRI	1.65	89	eP	46	04.90	-0.2

10 obs. associated

& OCT 18, 1989 09h 50m 09.40s
37.085 N 121.888 W
DEPTH = 6.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

MHC	0.32	37	iPd	50	16.10	0.1
ARN	0.39	47	iPd	50	17.00	-0.2
PCC	0.57	317	ePc	50	20.20	-0.7
BKS	0.84	341	eP	50	24.00	-2.0
			i	50	25.80	
			eS	50	38.30	
BRK	0.84	340	e(P)	50	24.90	-1.1
			e	50	26.30	
			eS	50	37.80	
PRS	0.86	151	ePc	50	25.50	-0.8
			i	50	26.60	
LLA	0.89	121	ePc	50	26.00	-0.9
PRI	1.36	133	e(P)	50	34.30	-0.7
CMB	1.53	51	ePc	50	36.10	-1.2
			iS	50	55.60	
FRI	1.75	92	ePc	50	38.80	-1.6

10 obs. associated

& OCT 18, 1989 10h 22m 04.80s
37.015 N 121.803 W
DEPTH = 7.0km
4.3mb (4 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.4 (BRK).

MHC	0.35	22	iPd	22	12.10	0.2
			e(S)	22	17.35	
ARN	0.40	33	iPd	22	12.80	0.0
PCC	0.67	317	iPd	22	17.30	-0.9
PRS	0.77	153	iPd	22	19.20	-0.8
BKS	0.93	338	iPc	22	22.00	-0.8
			iS	22	35.30	
BRK	0.93	337	iPc	22	22.00	-0.8
PRI	1.26	133	ePc	22	26.70	-1.9
			i	22	28.10	
CMB	1.52	47	iPd	22	30.80	-1.7
PHAM	1.63	136	eP	22	31 80	-2.3
PKEM	1.66	124	eP	22	33.10	-1.4
FRI	1.68	90	iPc	22	32.50	-2.2
NWRM	1.68	329	eP	22	32.40	-2.2
BCH	2.30	142	ePc	22	40.80	-3.0
ORV	2.55	5	ePd	22	44.90	-2.3
BLP	2.70	155	eP	22	46.50	-2.9
ABL	3.01	135	eP	22	50.80	-3.2
LTCM	3.20	356	eP	22	55.10	-1.3
MIN	3.33	3	ePc	22	59.00	0.5
KVN	3.56	54	iPc	22	59.70	-2.1
TNP	3.80	72	iPc	23	03.60	-1.6
FHC	4.15	336	eP	23	08.50	-1.4
LBFM	4.33	359	eP	23	12.40	-0.3
PEC	4.91	128	eP	23	17.20	-3.6
PLM	5.45	131	eP	23	24.50	-4.1
MSU	7.77	76	eP	24	00.30	-1.0
LON	9.73	360	eP	24	29.20	1.0
PNT	12.40	7	eP	25	08.00	3.5
	0.5s	2.00nm			4.6mb	
EDM	17.25	17	iPd	26	08.10	0.5
ACO	18.13	84	e(P)	26	19.00	0.3
MEO	18.94	90	iPd	26	27.40	-1.2
TUL	20.93	85	eP	26	49.00	-1.5
	1.1s	10.30nm			4.1mb	
LNO	20.94	85	eP	26	48.50	-1.9
FFC	22.32	31	eP	27	03.00	-1.3
	0.8s	14.00nm			4.5mb	
PMR	29.94	334	P	28	11.00	-4.4
	0.8s	2.59nm			4.1mb	

34 obs. associated

OCT 18, 1989 10h 40m 58.55± 0.30s
14.644 N ± 7.8km 45.204 W ± 4.3km
DEPTH = 10.0km (geophysicist)
5.0mb (21 obs.)
NORTH ATLANTIC RIDGE (403)

MVM	15.19	272	eP	44	34.30	-0.6
BIM	15.36	272	eP	44	36.00	-1.1
FDF	15.43	272	eP	44	38.17	0.1
SVB	15.64	267	eP	44	39.96	-0.7
PDCR	27.66	167	eP	46	44.90	-3.8X
			e	47	31.70	
PSO	34.43	250	eP	47	49.00	-0.1
PPD	36.94	189	e(P)	48	18.00	8.3X
			e	48	57.60	
ZOBO	38.16	217	P	48	22.00	1.3
			S	54	26.00	
LPB	38.35	217	P	48	36.60	14.5X
Z	24s	3.49um			5.1MszX	
			eLR	00	32.00	
CNCB	38.50	217	eP	48	24.00	0.4
			i	48	27.60	
LIS	39.77	46	eP	48	33.00	-0.3
IFR	40.81	55	iP	48	43.00	0.8
			i	49	31.00	
EPF	48.09	45	eP	49	40.90	0.4
LFF	49.09	42	eP	49	48.00	0.0
	1.2s	35.70nm			5.3mb	
DLE	49.10	30	eP	49	47.60	-0.4
MFF	49.20	40	eP	49	48.90	0.0
	1.2s	35.70nm			5.3mb	
LPO	49.28	43	eP	49	49.50	0.0
	1.4s	38.30nm			5.2mb	
LPF	49.29	38	eP	49	49.40	-0.1
	1.0s	33.60nm			5.3mb	
DMU	49.30	29	eP	49	48.70	-0.8
GRR	49.56	38	eP	49	51.50	-0.1
	1.1s	19.50nm			5.0mb	
RJF	49.74	42	eP	49	52.50	-0.5
FLN	49.95	37	eP	49	54.40	-0.2
	1.2s	32.10nm			5.2mb	
CAF	49.95	43	eP	49	54.30	-0.4
	1.1s	17.00nm			4.9mb	
LDF	50.09	38	eP	49	55.40	-0.2
LSF	50.11	41	eP	49	55.70	-0.2
TCF	50.56	41	eP	49	59.30	-0.1
	1.3s	43.30nm			5.2mb	
MAF	50.77	42	eP	50	00.80	-0.1
	1.4s	32.20nm			5.1mb	
BGF	51.07	41	eP	50	02.90	-0.3
	1.2s	24.90nm			5.0mb	
AVF	51.48	41	eP	50	05.90	-0.4
	1.2s	19.00nm			4.9mb	
SSF	51.68	41	eP	50	07.50	-0.3
	1.1s	12.20nm			4.7mb	
SMF	51.74	42	eP	50	07.90	-0.4
	1.3s	21.60nm			4.9mb	
MEO	51.84	303	e(P)	50	09.90	0.7
EKA	51.91	29	Pc	50	09.90	0.5
	1.1s	18.50nm			4.9mb	
LBF	51.95	41	eP	50	09.30	-0.6
	1.1s	12.20nm			4.7mb	
LOR	51.98	41	eP	50	09.60	-0.5
	1.1s	14.60nm			4.8mb	
SBF	53.25	46	eP	50	18.90	-0.8
	1.1s	14.60nm			4.8mb	
LPG	53.26	44	eP	50	20.20	0.2
DOI	53.30	45	P	50	21.00	0.9
			e	51	06.50	
DOU	53.52	38	Pc	50	22.00	0.6
			e	51	07.90	
HAU	53.82	41	eP	50	22.70	-1.0
BSF	54.04	41	eP	50	24.30	-1.2
WLF	54.29	39	Pc	50	27.60	0.6
			e	51	14.60	
CDF	54.54	40	eP	50	28.10	-1.0
MEM	54.55	38	Pc	50	29.80	0.8
			e	51	15.30	
VAI	54.73	44	P	50	30.50	0.2
			e	51	16.50	
BOB	54.89	45	P	50	34.50	2.8
MDI	55.33	44	P	50	35.00	0.2
FVI	57.60	44	P	50	50.50	-0.5
			e	51	36.00	
VOY	58.23	45	eP	50	55.50	0.0
			e	51	42.50	
SGO	58.28	51	P	50	55.50	-0.4
			e	51	41.50	
LJU	58.67	45	eP	50	58.20	-0.3
			e	51	44.00	
KHC	58.74	41	P	50	59.00	0.0
			i	51	45.70	
CLL	58.96	39	iPc	51	00.60	0.2
	2.0s	28.00nm			5.0mb	
VBY	59.06	46	e(P)	51	02.00	0.8
			e	51	46.80	
PRU	59.56	40	eP	51	04.80	0.2
			e	51	51.40	
ZST	60.81	43	iP	51	13.50	0.3
			i	52	00.00	
KSP	60.85	40	eP	51	13.50	0.1
			e	51	57.50	
			e	04	01.00	
HFS	62.11	29	eP	51	20.80	-1.0
	0.6s	1.40nm			4.3mb	
Z	17s	0.28um			4.5MszX	
			LR	11	31.00	
BEO	62.59	47	eP	51	26.00	0.8
KRA	62.98	41	eP	51	28.20	0.5
			e	52	15.40	
SPC	63.03	42	eP	51	29.20	0.9
			e	52	15.60	
SES	63.47	319	eP	51	31.00	-0.1
BZS	63.49	46	eP	51	30.50	-0.7
BCAO	63.49	92	iPd	51	30.10	-1.6
	0.5s	4.00nm			4.9mb	
			id	52	16.10	
EDM	65.33	322	eP	51	43.00	-0.1
PLM	66.89	300	eP	51	53.00	-0.7
SBB	67.63	302	eP	52	03.00	4.9X
ISA	68.12	303	eP	51	54.00	-7.2X
PNT	68.89	317	eP	52	07.00	1.4
SOD	69.61	23	iP	52	16.50	6.9X
MBC	72.11	346	eP	52	26.50	1.8
	1.0s	6.00nm			4.6mb	
INK	75.89	337	eP	52	47.00	0.3
SNA	89.77	167	eP	53	57.70	-0.3
MAIO	92.88	51	eP	54	26.00	12.6X

S.D. = 0.7 on 67 of 74 obs.

* OCT 18, 1989 10h 41m 43.66± 1.09s
14.504 N ±10.8km 45.225 W ±20.5km
DEPTH = 10.0km (geophysicist)
5.2mb (27 obs.)
NORTH ATLANTIC RIDGE (403)

PDCR	27.53	167	eP	47	31.70	-1.0
TIC	40.23	97	P	49	26.80	4.2X
LIC	40.33	98	P	49	24.60	1.3
KIC	40.57	97	P	49	26.00	0.7
IFR	40.91	55	eP	49	31.00	2.9
TOL	43.95	47	eP	49	55.20	2.5
EPF	48.21	45	eP	50	26.50	0.0
	1.5s	57.40nm			5.4mb	
ECP	48.66	31	eP	50	29.50	-0.2
ETA	49.04	30	eP	50	32.60	0.0

```
                e      02 33.00
LFF    49.21   42 eP   50 33.50  -0.5
DLE    49.23   30 eP   50 34.50   0.4
MFF    49.32   40 eP   50 34.40  -0.5
       1.3s    75.00nm          5.5mb
LPO    49.40   43 eP   50 35.20  -0.3
       1.4s    81.90nm          5.5mb
LPF    49.41   38 eP   50 35.00  -0.5
       1.0s    40.00nm          5.4mb
DMU    49.43   29 eP   50 36.30   0.7
GRR    49.68   38 eP   50 37.00  -0.6
       1.1s    24.40nm          5.1mb
RJF    49.85   42 eP   50 38.20  -0.8
       1.1s    19.50nm          5.0mb
CAF    50.07   43 eP   50 40.00  -0.7
       1.3s    59.20nm          5.4mb
FLN    50.07   37 eP   50 40.00  -0.6
       1.1s    29.30nm          5.2mb
LDF    50.21   38 eP   50 40.90  -0.8
       1.3s    50.50nm          5.3mb
LSF    50.23   41 eP   50 41.30  -0.6
       1.5s    90.80nm          5.5mb
TCF    50.68   41 eP   50 44.80  -0.6
       1.3s    83.00nm          5.5mb
MAF    50.88   42 eP   50 46.30  -0.6
       1.4s    58.30nm          5.3mb
BGF    51.19   41 eP   50 48.30  -0.9
       1.2s    54.70nm          5.4mb
AVF    51.60   41 eP   50 51.30  -1.0
       1.3s    39.70nm          5.2mb
SSF    51.80   41 eP   50 53.10  -0.7
       1.3s    43.30nm          5.2mb
SMF    51.86   41 eP   50 53.40  -0.9
       1.2s    32.70nm          5.1mb
LBF    52.07   41 eP   50 54.70  -1.2
       1.3s    30.30nm          5.1mb
LOR    52.10   41 eP   50 55.10  -1.0
       1.3s    36.10nm          5.1mb
SBF    53.36   46 eP   51 04.50  -1.1
       1.1s    24.40nm          5.1mb
LPG    53.38   44 eP   51 06.10   0.1
       1.5s    31.30nm          5.1mb
DOI    53.41   45 eP   51 06.50   0.5
DOU    53.64   38 eP   51 07.90   0.5
HAU    53.94   41 eP   51 08.30  -1.4
       1.2s    20.20nm          5.0mb
BSF    54.16   41 eP   51 09.90  -1.5
       1.4s    29.60nm          5.1mb
WLF    54.41   39 eP   51 14.60   1.6
CDF    54.66   40 eP   51 13.70  -1.4
       1.5s    25.00nm          5.0mb
MEM    54.67   38 eP   51 15.30   0.3
VAI    54.84   44 eP   51 16.50   0.2
PII    55.48   47 P    51 22.00   1.0
WTS    55.67   36 eP   51 23.00   0.8
       1.0s    34.00nm          5.3mb
                e      51 28.00
WIT    55.90   35 eP   51 27.00   3.1X
PGD    56.36   47 P    51 26.00  -1.6
MNS    56.74   49 P    51 31.50   1.3
ASS    56.86   48 P    51 31.50   0.4
ARV    57.15   47 P    51 33.50   0.4
SDI    57.45   50 P    51 35.50   0.3
FVI    57.72   44 eP   51 36.00  -0.9
DUI    57.92   50 P    51 39.50   1.0
VOY    58.34   45 eP   51 42.50   1.1
SGO    58.39   51 eP   51 41.50  -0.2
LJU    58.78   45 eP   51 44.00  -0.4
KHC    58.86   41 eP   51 45.70   0.8
CLL    59.08   38 i(P)d 51 47.40  1.0
       1.7s    57.00nm          5.4mb
                eSg    00 14.00
PRU    59.68   40 eP   51 51.40   0.9
ZST    60.93   43 eP   52 00.00   0.9
KSP    60.97   40 eP   51 57.50  -1.8
HFS    62.24   29 eP   52 07.50  -0.3
       1.2s    61.60nm          5.7mb
KRA    63.10   41 eP   52 15.40   1.8
SPC    63.15   42 eP   52 15.60   1.4
BCAO   63.51   92 eP   52 16.10  -0.8
VAY    63.93   51 eP   52 19.00  -0.3
VRI    67.19   46 ePd  52 41.00   0.9
NUR    67.59   30 eP   52 42.00  -0.4
KHL    69.26   54 eP   52 52.00  -1.3
MBC    72.24  346 eP   53 12.50   2.0
       1.2s    18.00nm          5.0mb
     S.D. = 1.1  on  64 of  66 obs.
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-------------------------------------
&  OCT  18, 1989  10h 48m 14.50s
    37.105 N          121.887 W
    DEPTH =   3.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.9 (BRK).

MHC      0.31  40 iPd   48 20.90   0.2
ARN      0.37  49 iPd   48 21.90  -0.1
PCC      0.56 315 ePc   48 25.30  -0.3
BKS      0.82 340 e(P)  48 28.80  -2.0
                  i     48 30.60
                  eS    48 42.70
BRK      0.82 339 ePd   48 30.60  -0.3
                  eS    48 42.00
PRS      0.88 152 iPc   48 31.20  -0.8
PRI      1.38 134 ePc   48 39.80  -0.8
CMB      1.51  52 iPc   48 40.80  -1.8
FRI      1.75  93 ePc   48 43.50  -2.4
       9 obs. associated
-------------------------------------
    OCT  18, 1989  10h 53m 48.23± 0.35s
    14.583 N ± 7.0km   44.928 W ± 7.2km
    DEPTH =  10.0km  (geophysicist)
    5.1mb ( 16 obs.)  5.1Msz (  3 obs.)
 NORTH ATLANTIC RIDGE              (403)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.: 10S, 14C
      Centroid Locotion:
      Origin Time        10:53:55.5 0.8
      Lat 14.91N 0.12 Lon  44.61W 0.13
      Dep  15.0 FIX Half-duration  2.0
      Moment Tensor;   Scale 10**17 Nm
        Mrr=-1.52 0.13  Mtt=-0.17 0.16
        Mff= 1.68 0.21  Mrt=-0.59 0.43
        Mrf= 0.53 0.53  Mtf= 0.53 0.12
       Principol Axes:
        T  Val=  1.87  Plg= 7  Azm=283
        N        0.01      24      190
        P       -1.87      65       27
      Best Double Couple:Mo=1.9*10**17
       NP1:Strike= 37 Dip=44 Slip= -54
       NP2:       172     56     -119

PDCR    27.55 168 eP    59 32.50  -4.8X
PPD     36.92 190 eP    00 59.40   0.1
                  e     01 09.60
ZOBO    38.27 218 P     01 11.00  -0.3
        1.3s    53.63nm          5.1mb
      Z 22s     2.87um           5.0Msz
                  LR    12 20.00
LPB     38.46 217 P     01 13.00   0.2
        1.1s    75.95nm          5.3mb
      Z 20s     4.26um           5.3Msz
                  LR    12 50.00
CNCB    38.61 217 P     01 14.70   0.5
LIS     39.62  46 eP    01 24.00   2.3
TIC     39.96  97 P     01 26.00   1.1
LIC     40.06  98 P     01 26.80   1.1
KIC     40.30  97 P     01 29.00   1.4
EPF     47.95  45 eP    02 29.50   0.5
LFF     48.95  42 eP    02 36.30  -0.3
DLE     49.02  30 eP    02 37.40   0.4
MFF     49.08  40 eP    02 37.10  -0.5
LPO     49.15  43 eP    02 37.80  -0.4
LPF     49.17  38 eP    02 37.90  -0.3
        0.8s    14.50nm          5.0mb
DMU     49.23  29 eP    02 39.50   0.9
GRR     49.44  38 eP    02 39.80  -0.6
RJF     49.60  42 eP    02 41.00  -0.7
CAF     49.82  43 eP    02 42.70  -0.7
        1.5s    49.00nm          5.3mb
FLN     49.84  37 eP    02 42.50  -0.9
LDF     49.97  38 eP    02 43.70  -0.7
LSF     49.98  41 eP    02 43.90  -0.7
TUL     50.05 305 eP    02 46.50   1.3
        1.0s     6.30nm          4.5mb
TCF     50.43  41 eP    02 47.40  -0.6
        1.2s    27.90nm          5.1mb
MAF     50.64  41 eP    02 49.20  -0.4
        1.5s    31.30nm          5.0mb
BGF     50.94  41 eP    02 51.20  -0.7
        1.6s    74.60nm          5.4mb
AVF     51.35  41 eP    02 54.20  -0.8
        1.5s    26.10nm          4.9mb
SSF     51.55  41 eP    02 55.60  -0.9
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SMF     51.61  41 eP    02 56.20  -0.8
LBF     51.82  41 eP    02 57.50  -1.1
        1.1s    14.60nm          4.8mb
LOR     51.86  41 eP    02 57.60  -1.2
        1.5s    26.10nm          4.9mb
MEO     52.09 303 eP    02 59.70  -1.1
BNI     52.93  44 P     03 09.00   1.9
LPG     53.12  44 eP    03 08.70   0.0
DOI     53.16  45 P     03 10.50   1.8
SNF     53.39  37 Pc    03 10.80   0.7
DOU     53.40  38 P     03 09.90  -0.4
UCC     53.55  37 P     03 12.00   0.7
HAU     53.69  41 eP    03 11.20  -1.3
BSF     53.91  41 eP    03 12.70  -1.5
WLF     54.17  39 P     03 16.20   0.4
CDF     54.42  40 eP    03 16.70  -1.2
MEM     54.44  37 Pc    03 18.10   0.3
VAI     54.58  44 P     03 19.50   0.5
BOB     54.74  45 P     03 22.00   1.7
MNS     56.47  49 P     03 33.00   0.2
ASS     56.60  48 P     03 33.00  -0.8
ARV     56.89  47 P     03 37.00   1.2
SDI     57.18  50 P     03 37.50  -0.4
FVI     57.46  44 P     03 39.00  -0.7
VOY     58.08  45 eP    03 44.10  -0.1
SGO     58.11  51 P     03 45.00   0.7
CEY     58.38  45 e(P)  03 47.00   0.7
LJU     58.52  45 e(P)  03 48.00   0.8
KHC     58.61  41 P     03 46.00  -1.8
KMR     58.70  42 iP    03 48.80   0.4
CLL     58.84  38 iPc   03 49.30   0.0
        2.1s    50.00nm          5.3mb
VBY     58.91  45 e(P)  03 50.00   0.1
PRU     59.43  40 eP    03 33.00 -20.4X
                  e     03 44.00
ZST     60.68  43 e(P)  04 02.00   0.1
NB2     61.24  27 P     04 05.40  -0.3
        1.4s    29.20nm          5.2mb
HFS     62.04  29 eP    04 10.70  -0.3
        0.6s     7.20nm          5.0mb
      Z 17s     0.28um           4.5MszX
                  LR    23 22.00
KRA     62.85  41 eP    04 17.80   1.3
      Z 20s     1.00um           5.0Msz
SPC     62.90  42 eP    04 17.60   0.5
BCAO    63.22  92 iPc   04 19.50  -0.1
        1.0s    30.00nm          5.4mb
                  ic    04 25.10
SES     63.69 319 eP    04 22.00  -0.2
EDM     65.54 322 ePc   04 33.00  -1.1
PNT     69.12 318 eP    04 58.00   1.3
MBC     72.23 346 eP    05 16.00   0.9
        1.1s    15.00nm          5.0mb
MSL     79.98  55 ePd   06 01.00   1.5
BUL     80.09 114 eP    06 00.00  -0.5
KSR     80.59 120 eP    06 01.00  -2.1
BFS     80.87 121 iPc   06 01.90  -2.6
HVD     81.20 125 eP    05 59.50  -6.7X
BHD     81.59  58 ePd   06 07.00  -1.0
MAIO    92.71  52 eP    07 05.00   2.8
     S.D. = 1.0  on  73 of  76 obs.
-------------------------------------
&  OCT  18, 1989  11h 01m 09.30s
    37.095 N          121.893 W
    DEPTH =   2.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 3.2 (BRK).

MHC      0.32  39 iPd   01 16.00   0.3
ARN      0.38  48 iPd   01 16.70  -0.3
PCC      0.56 316 iPc   01 20.20  -0.3
BKS      0.83 341 iP    01 25.60  -0.2
                  iS    01 38.20
BRK      0.83 340 iPc   01 25.40  -0.5
                  eS    01 38.10
PRS      0.87 151 iPc   01 26.00  -0.7
PRI      1.37 134 ePc   01 35.50   0.1
CMB      1.52  51 iPc   01 35.70  -1.9
FRI      1.75  93 ePd   01 38.60  -2.3
       9 obs. associated
-------------------------------------
&  OCT  18, 1989  11h 03m 37.20s
    37.200 N          121.998 W
    DEPTH =  11.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.8 (BRK).
```

18d 11h

MHC	0.32	63	iPd	03	43.80	-0.1
ARN	0.40	68	eP	03	45.00	-0.4
PCC	0.43	315	iPc	03	45.20	-0.8
BKS	0.70	344	iPd	03	50.60	-0.4
			e(S)	04	00.90	
BRK	0.70	343	ePd	03	50.50	-0.5
			eS	04	00.70	
PRS	1.00	150	ePc	03	54.90	-1.2
CMB	1.53	56	e(P)	04	03.40	-1.1
	7 obs. associoted					

& OCT 18, 1989 11h 14m 50.40s
36.838 N 121.643 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

MHC	0.50	0	iPd	15	00.50	0.0
ARN	0.52	10	iPd	15	00.50	-0.3
PRS	0.55	156	iPd	15	01.00	-0.5
PCC	0.89	318	ePc	15	06.70	-1.0
PRI	1.05	131	ePd	15	09.70	-0.9
BKS	1.14	336	e(P)	15	10.50	-1.5
			e	15	11.00	
			i	15	12.40	
BRK	1.14	335	ePc	15	10.40	-1.7
			eS	15	28.00	
FRI	1.56	84	ePc	15	16.90	-1.6
CMB	1.56	40	ePd	15	16.70	-1.9
	9 obs. associated					

& OCT 18, 1989 11h 30m 49.80s
36.997 N 121.828 W
DEPTH = 15.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

MHC	0.37	23	iPd	30	57.50	-0.2
ARN	0.42	34	iPd	30	58.10	-0.4
PCC	0.67	319	ePc	31	02.10	-0.5
PRS	0.76	151	iPc	31	03.60	-0.6
			iS	31	13.50	
BKS	0.94	340	ePd	31	06.10	-1.1
			eS	31	19.20	
BRK	0.94	339	eP	31	06.30	-0.9
			iS	31	19.80	
PRI	1.27	132	e(P)	31	12.00	-0.9
CMB	1.55	47	ePc	31	15.30	-1.5
			iS	31	33.80	
FRI	1.70	90	ePd	31	16.60	-2.4
	9 obs. associoted					

& OCT 18, 1989 11h 33m 48.20s
36.948 N 121.598 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.4 (BRK).

MHC	0.39	355	iPd	33	56.30	0.1
ARN	0.40	7	iPd	33	56.50	0.1
PRS	0.64	163	iPd	34	00.50	-0.6
PCC	0.83	312	ePd	34	03.70	-0.9
BKS	1.06	332	e(P)	34	07.00	-1.4
			eS	34	23.30	
BRK	1.06	330	ePc	34	07.40	-1.1
PRI	1.10	137	eP	34	09.10	-0.1
CMB	1.45	41	iPc	34	13.70	-1.2
FRI	1.51	88	ePc	34	14.00	-1.7
	9 obs. associoted					

OCT 18, 1989 11h 40m 50.22± 0.11s
10.155 S ± 3.1km 161.063 E ± 3.0km
DEPTH = 45.4km (geophysicist)
6.1mb (51 obs.) 5.7Msz (13 obs.)
SOLOMON ISLANDS (193)
Two events about 2 seconds opart. Depth from broadbond displacement seismogroms, based on first event.
FAULT PLANE SOLUTION: P-Waves
NP1:Strike=320 Dip=45 Slip= 90
NP2: 140 45 90
Principal Axes:
T Plg=90 Azm= 0
P 0 50
Comment: The focol mechanism is poorly controlled ond corresponds to reverse foulting. The preferred fault plane is not determined.
RADIATED ENERGY
No. of sto: 8 Focal mech. F
Energy 2.8±0.7*10**13 Nm
MOMENT TENSOR SOLUTION
Dep 44 No. of sta: 15
Moment Tensor; Scale 10**18 Nm
Mrr= 0.77 Mtt=-0.89
Mff= 0.12 Mrt= 0.09
Mrf= 0.82 Mtf= 0.82
Principal axes:

	Val=	Plg=	Azm=
T	1.46	49	292
N	-0.05	39	131
P	-1.41	10	33

Best Double Couple:Mo=1.4*10**18
NP1:Strike= 86 Dip=49 Slip= 33
NP2: 333 66 134
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 31C
Centroid Location:
Origin Time 11:40:58.8 0.3
Lat 9.95S 0.03 Lon 160.52E 0.03
Dep 53.8 2.0 Half-duration 3.7
Moment Tensor; Scale 10**17 Nm
Mrr= 8.72 0.21 Mtt=-7.10 0.36
Mff=-1.62 0.42 Mrt=-0.52 0.32
Mrf= 3.81 0.30 Mtf= 5.83 0.25
Principal Axes:

	Vol=	Plg=	Azm=
T	10.09	69	284
N	1.03	20	127
P	-11.12	7	34

Best Double Couple:Mo=1.1*10**18
NP1:Strike=103 Dip=41 Slip= 59
NP2: 321 55 114

HNR	1.31	303	ePd	41	18.00	5.6X
			eS	41	41.00	
SVO	1.59	309	ePc	41	22.00	5.7X
			e(S)	41	45.00	
PAA	6.71	304	eP	42	54.00	25.1X
			eS	44	09.00	
PVC	10.31	138	iPc	43	17.40	-1.1
RAB	10.63	303	e(P)	43	26.00	3.1X
			iS	45	40.00	
DZM	12.92	157	iPc	43	54.00	0.2
			iS	46	09.10	
PMG	13.73	272	iPc	44	10.50	6.2X
	1.0s	550.00nm			6.3mb	
LAT	14.34	283	eP	44	18.00	5.7X
CTA	17.36	234	iPd-	44	55.00	4.0X
	1.8s	1627.27nm			5.9mb	
Z	22s	18.89um			5.0Msz	
			iS	48	00.00	
			i	48	42.50	
			i	49	15.20	
MNDI	17.68	282	eP	45	05.00	9.8X
SVA	18.62	117	eP	45	03.90	-2.6
BRS	18.84	203	iPc+	45	10.40	1.2
	1.2s	44.00nm			4.5mb X	
			ipP	45	18.00	
			i(sP)	45	24.00	
			e	46	02.00	
			eS	48	04.00	
			i	48	41.00	
			eScP	53	06.50	
RMO	19.98	214	iPc	45	23.90	2.1
			e	45	37.00	
JAY	21.60	289	ePc	45	38.00	-0.4
	1.0s	249.30nm			5.6mb	
COO	22.04	201	iPc	45	44.00	1.3
OLP	22.80	222	iPc	45	41.30	-8.9X
			e	46	09.00	
QIS	23.10	241	iPc	45	55.20	2.0
	1.2s	417.00nm			5.8mb	
RIV	25.26	200	eP	46	16.00	2.3
			e	50	48.00	
CMS	25.50	211	iPc	46	17.10	1.0
BWA	26.79	204	iPc	46	27.70	-0.3
			e	48	02.00	
AFI	26.82	101	eP	46	28.00	-0.5
			eS	51	00.00	
			eLR	53	40.00	
CNB	27.22	201	ePd	46	32.80	0.8
			e	46	45.00	
CAN	27.36	202	iPc	46	33.50	0.3
			i	46	55.70	
			e	48	06.70	
WB5	27.50	246	iPc	46	35.50	0.9
			iPcP	49	51.50	
			eScP	53	31.00	
			eSKKS	19	04.20	
STK	28.15	217	iPc	46	41.80	1.5
			e	46	48.00	
			e	47	05.00	
GUA	28.48	325	eP	46	43.10	-0.3
	1.2s	700.00nm			6.2mb	
GUMO	28.54	325	eP	46	43.30	-0.7
	1.7s	1493.90nm			6.4mb	
PJG	28.54	325	eP	46	43.60	-0.4
ASPA	29.18	239	iPc	46	49.40	-0.4
	1.0s	110.00nm			5.5mb	
Z	22s	41.23um			6.0MszX	
			e	46	54.80	
			ePcP	49	54.90	
			e	53	36.90	
			LR	57	12.30	
MTN	29.45	262	ePc	46	53.20	1.0
			e	47	10.00	
KRP	30.56	157	P	47	03.00	1.2
TOO	30.69	205	iPc	47	03.80	0.8
BFD	31.67	209	iPc	47	12.20	0.6
KNA	31.94	257	iPc	47	14.20	0.1
	0.7s	398.00nm			6.4mb	
ADE	32.03	216	iPc	47	15.50	0.7
	1.0s	290.00nm			6.1mb	
TCW	33.06	162	P	47	23.10	-0.5
MRW	33.21	161	P	47	24.60	-0.3
CAW	33.22	161	P	47	23.60	-1.4
AAI	33.23	279	ePc	47	14.50	-11.0X
	0.7s	3.50nm				
SNZO	33.28	161	P	47	28.00	2.5
			S	52	28.00	
MSZ	34.89	171	P	47	39.20	-0.2
			i	47	43.20	
			e	48	07.50	
WARB	36.23	239	iPc	47	51.00	0.0
	0.6s	92.00nm			5.9mb	
FORR	36.89	231	eP	47	56.00	-0.4
MNI	37.85	286	ePd	48	05.00	0.3
DAV	39.27	294	eP	48	15.00	-1.6
MBL	41.06	249	iPc	48	32.10	0.8
	0.8s	123.00nm			5.7mb	
MKS	41.49	274	iPc	48	37.00	2.2
COOL	42.38	235	iPc	48	42.50	0.4
	0.5s	32.00nm			5.3mb	
MEKA	43.32	242	iPc	48	51.30	1.6
	0.4s	64.00nm			5.7mb	
KHKI	44.87	268	iPc	49	01.40	-1.0
			e	53	55.20	
TSM	45.14	286	iPd	49	07.00	2.5
NANU	45.23	248	iPc	49	06.50	1.4
	0.5s	79.00nm			5.8mb	
KLB	45.35	235	eP	49	06.30	0.3
	0.3s	7.00nm			5.0mb	
BAL	45.92	237	iPc	49	11.10	0.6
	0.6s	150.00nm			6.1mb	
MRWA	46.14	239	iPc	49	13.20	1.0
	0.4s	52.00nm			5.8mb	
NWAO	46.20	234	iPc	49	13.20	0.5
	0.7s	117.00nm			5.9mb	
			eS	56	04.00	
KKM	47.48	288	ePc	49	23.00	-0.1
	1.5s	506.30nm			6.3mb	
BAG	47.97	303	eP	49	27.00	0.0
	1.6s	533.33nm			6.3mb	
AFR	48.18	104	iP	49	28.30	-0.1
	1.4s	370.00nm			6.2mb	
PAE	48.38	105	iP	49	29.70	-0.2
	1.4s	320.00nm			6.2mb	
PPT	48.38	104	iP	49	29.80	-0.2
	1.4s	270.00nm			6.1mb	
PPN	48.51	104	iP	49	31.00	0.0
	1.4s	150.00nm			5.8mb	
TVO	48.69	105	iP	49	32.50	0.0
	1.4s	555.00nm			6.4mb	
PMO	49.96	101	iP	49	42.60	0.5
	1.4s	940.00nm			6.6mb	
KAKJ	50.14	338	P	49	43.70	0.6
VAH	50.22	101	iP	49	44.20	0.1
	1.4s	540.00nm			6.4mb	
TPT	50.23	101	iP	49	44.40	0.2

		1.4s	940.00nm			6.6mb	
	KAGJ	50.27	326	iP+	49	45.40	1.2
	WKYJ	50.32	332	iP+	49	45.40	0.7
	IIDJ	50.39	335	P	49	45.60	0.5
	CHJJ	50.45	337	P	49	45.70	0.2
	RUV	50.46	101	iP	49	46.10	0.2
		1.4s	805.00nm			6.6mb	
	TKSJ	50.85	331	iP+	49	49.50	0.9
	OPA	51.14	51	P	49	51.50	0.5
	MAT	51.19	336	iPc	49	50.80	-0.4
		1.4s	976.74nm			6.6mb	
Z		20s	3.90um			5.4Msz	
			eS	57	00.00		
	TSRJ	51.25	334	P	49	52.60	1.0
	KUMJ	51.34	327	iP+	49	53.20	0.9
	MTMJ	51.38	336	P	49	52.90	0.1
	NIIJ	51.49	337	P	49	53.90	0.5
	YAMJ	51.94	339	iP+	49	57.70	0.9
	SHK	51.96	330	iPc	49	57.40	0.4
		0.9s	759.66nm			6.7mb	
	UWE	52.08	56	iP	49	57.50	-0.9
				LR	04	25.00	
	YONJ	52.11	331	iP+	49	58.60	0.5
	ANP	52.14	313	e(P)	50	08.00	9.4X
	OFUJ	52.20	341	iP+	49	59.20	0.4
	SHNJ	52.42	328	iP+	50	00.70	0.2
	AOMJ	53.97	341	eP	50	13.10	1.4
	OZH	54.14	311	eP	50	12.00	-1.3
		3.0s	1.40nm			3.5mb X	
Z		16s	4.30um			5.6MszX	
			sP	50	32.00		
			S	57	48.00		
	HOOJ	54.76	344	P	50	18.60	1.0
	KUSJ	55.06	345	eP	50	19.60	-0.1
	MRRJ	55.44	342	eP	50	23.00	0.5
	KLI	55.92	271	eP	50	25.00	-1.5
	SSE	56.07	318	Pc	50	27.00	-0.2
		1.5s	1.04nm			3.6mb X	
Z		20s	1.90um			5.2Msz	
N		20s	2.70um				
			pP	50	40.00	46kmX	
			sP	50	48.00		
			PcP	51	25.50		
			S	58	06.00		
			sS	58	34.00		
			eScS	00	10.00		
			SS	01	39.00		
	HKC	56.15	306	iP	50	29.50	1.5
	ASAJ	56.55	344	P	50	31.60	1.1
	NJ2	58.21	318	iPc	50	42.00	-0.4
		5.0s	1.80nm			3.4mb X	
			S	58	41.00		
	QIZ	58.22	300	P	50	42.40	-0.3
E		24s	5.30um				
			eS	58	44.50		
	KGM	58.73	279	ePd	50	46.90	0.6
	WHN	60.41	314	Pc	50	57.50	0.0
		4.0s	1.83nm			3.6mb X	
Z		22s	1.96um			5.2Msz	
			sP	51	15.00		
			eS	59	04.00		
	DL2	61.07	326	P	51	02.00	0.1
Z		36s	3.30um			5.2MszX	
			S	59	08.00		
	PPI	61.07	275	eP	51	02.00	-0.4
		0.8s	13.00nm			5.1mb	
			e	55	20.00		
	MDJ	61.50	335	iPc	51	05.60	0.8
Z		25s	3.80um			5.5MszX	
			S	59	20.00		
	IPM	61.56	281	ePc	51	05.10	-0.6
		1.2s	159.60nm			6.0mb	
			e	51	18.00		
	TIA	61.94	321	Pc	51	07.10	-0.8
Z		26s	2.40um			5.2MszX	
	SNY	62.13	329	iPc	51	08.80	-0.2
		1.2s	0.30nm			3.3mb X	
Z		29s	5.00um			5.5MszX	
N		30s	4.50um				
E		28s	4.30um				
			PP	53	28.00		
			S	59	30.00		
	RKT	62.21	111	iP	51	08.80	-1.1
		1.2s	130.00nm			5.9mb	
	SNG	62.61	284	eP	51	11.30	-1.3
		1.7s	461.54nm			6.3mb	
			eS	59	36.00		

	CN2	62.70	332	iPc	51	13.00	0.3
Z		23s	4.60um			5.6MszX	
N		13s	1.10um				
			ipP	51	26.00	46kmX	
			iPcP	51	49.40		
			S	59	38.00		
			iSS	03	46.00		
	PSI	63.17	278	ePc	51	15.00	-1.4
		0.7s	53.80nm			5.8mb	
	SMY	63.62	9	eP	51	19.20	0.5
	GYA	64.14	306	iPc	51	22.60	-0.1
		1.6s	0.16nm			2.8mb X	
Z		28s	1.80um			5.1MszX	
N		18s	1.10um				
E		18s	1.50um				
			S	59	57.00		
	LOE	64.70	295	iPc	51	26.00	-0.3
	ADK	64.70	15	ePc	51	25.90	0.2
	BJI	64.96	323	iPc	51	27.50	-0.1
		1.5s	0.39nm			3.2mb X	
Z		36s	4.20um			5.4MszX	
N		18s	1.60um				
			sP	51	44.00		
			eS	00	06.00		
			sS	00	32.00		
	NNT	64.96	289	iPd	51	29.00	1.0
	NST	65.56	292	iP	51	33.40	1.6
	TIY	65.84	319	iPc	51	33.50	0.1
		1.6s	0.30nm			3.1mb X	
N		16s	1.50um				
			pP	51	47.00	47kmX	
			S	00	17.00		
	XAN	66.16	314	P	51	34.20	-1.3
	KMI	66.75	303	Pc	51	40.00	0.3
		3.0s	1.80nm			3.6mb X	
			pP	51	50.00	32kmX	
			sP	51	59.00		
			PcP	52	09.00		
			S	00	28.00		
			sS	00	50.00		
			PS	00	57.00		
			ScS	01	29.00		
	BDT	67.09	294	eP	51	39.00	-2.6
		1.0s	62.10nm			5.6mb	
	CHG	67.67	295	iPc	51	45.20	-0.1
		1.5s	381.94nm			6.2mb	
			eS	00	40.40		
			e	20	01.20		
	CHTO	67.67	295	iPc	51	45.00	-0.3
			epP	51	58.50	47kmX	
	SBA	67.75	179	iP	51	45.40	0.6
	HHC	68.23	322	Pc	51	49.00	0.5
	CD2	68.44	309	Pc	51	49.20	-0.7
		4.5s	1.30nm			3.2mb X	
Z		32s	2.50um			5.2MszX	
			sP	52	06.50		
	BTO	69.04	321	iPc	51	54.00	0.5
N		17s	1.20um				
E		17s	1.10um				
			sP	52	08.00		
			S	00	58.50		
	LZH	70.79	314	Pc	52	04.50	0.1
		1.5s	0.81nm			3.5mb X	
Z		20s	3.70um			5.6Msz	
			sP	52	21.00		
			e	52	31.50		
			eS	01	16.00		
	SDN	72.74	22	ePc	52	14.80	-0.6
	GTA	75.16	315	iPc	52	30.60	0.6
		2.0s	1.70nm			3.6mb X	
Z		28s	2.10um			5.3MszX	
			PcP	52	42.40		
			S	02	03.00		
			SKS	02	30.00		
	KDC	77.53	23	ePc	52	43.30	0.7
	LSA	78.00	303	iPc	52	50.00	3.5X
		4.0s	1.00nm			3.2mb X	
			sP	53	01.00		
			S	02	38.00		
	SVW	78.77	20	iPc	52	51.00	1.5
	SPA	79.91	180	iPc	52	56.00	0.2
		1.0s	295.00nm			6.2mb	
			i	53	09.90		
	PMR	81.37	22	ePc	53	03.80	0.6
		1.2s	488.30nm			6.4mb	
	TOA	82.78	22	ePc	53	12.30	1.6
	IMA	82.95	17	ePc	53	12.50	0.9

		1.2s	320.30nm			6.2mb	
	MAW	83.80	202	iPc+	53	16.10	0.4
		1.2s	385.00nm			6.3mb	
	FBA	83.97	20	ePc	53	16.60	0.0
	WMQ	85.23	316	iPc	53	23.50	0.0
		4.0s	1.40nm			3.5mb X	
Z		28s	2.30um			5.4MszX	
			eSKS	03	40.00		
			S	03	48.00		
	FHC	85.41	47	ePc	53	26.20	1.8
	PCC	85.65	51	eP	53	26.30	0.8
	8RK	85.84	51	ePc	53	27.70	1.2
	HYB	85.96	288	iPc	53	27.40	-0.1
		1.8s	395.80nm			6.3mb	
	PRS	86.11	52	ePc	53	29.50	1.6
	GBA	86.25	284	P	53	31.30	2.4
	ARN	86.26	51	P	53	29.90	1.2
	PRI	86.61	53	ePc	53	32.30	1.8
	SYP	86.74	54	iP+	53	32.50	1.3
	SYP	86.74	54	eP	53	33.00	1.8X
	ORV	86.88	49	ePc	53	32.50	0.9
	MIN	87.02	48	eP	53	32.90	0.5
	CM8	87.32	51	iPc	53	34.70	0.9
	FRI	87.57	52	iPc	53	36.10	1.2
	PAS	88.10	55	eP	53	38.00	0.4
	PGC	88.14	40	eP	53	38.00	0.7
	MWC	88.21	55	iP+	53	39.50	1.2
	MWC	88.21	55	eP	53	39.80	1.5X
	ISA	88.21	53	iP+	53	39.50	1.3
	ISA	88.21	53	eP	53	39.60	1.4X
	SBB	88.50	55	iP	53	40.50	0.9
	SBB	88.50	55	eP	53	41.10	1.5X
	LON	88.64	42	P	53	40.00	0.0
	CPE	88.68	56	eP	53	42.00	1.6
	RVR	88.71	55	iP	53	41.50	1.0
	RVR	88.71	55	eP	53	41.80	1.3X
	PEC	88.86	55	P	53	41.50	0.2
	CLC	88.94	53	iP+	53	43.00	1.3
	CLC	88.94	53	eP	53	43.20	1.5X
	PLM	88.98	56	iP	53	43.00	0.9
	PLM	88.98	56	eP	53	43.60	1.5X
	BAR	88.99	57	iP	53	43.00	1.1
	BAR	88.99	57	eP	53	43.30	1.4X
	KVN	89.30	50	P	53	44.20	0.7
	IKP	89.45	57	eP	53	46.00	1.9
	GSC	89.46	54	eP	53	45.00	0.9
	GSC	89.46	54	eP	53	45.60	1.5X
	NDI	89.48	299	eP	53	43.00	-1.3
	TPC	89.81	55	iP+	53	46.50	0.8
	TPC	89.81	55	eP	53	47.20	1.5X
	POO	90.57	289	iPc	53	49.00	-0.5
				iS	05	08.00	
	GLA	90.59	57	iP+	53	51.00	1.6
	INK	90.59	20	eP	53	48.00	-0.5
		1.1s	108.00nm			6.1mb	
	PNT	90.75	40	iPc	53	50.30	0.6
		1.1s	232.00nm			6.5mb	
	KSH	92.61	309	P	54	00.00	1.4
				eS	04	52.00	
	MSU	93.73	52	P	54	05.00	1.1
	EDM	95.42	37	iPc	54	11.00	-0.1
		1.3s	224.00nm			6.5mb	
	SES	96.40	40	ePc	54	15.50	-0.2
	MBC	97.32	14	ePc	54	19.50	0.2
		1.5s	62.00nm			5.9mb	
	ALQ	97.75	56	ePc	54	22.50	0.2
		1.0s	43.75nm			5.9mb	
Z		22s	3.30um			5.8Msz	
	QUE	98.56	299	eP	54	25.50	-0.5
	SNA	98.91	186	iPc	54	25.80	-0.8
		1.1s	25.32nm			5.7mb	
	GOL	99.13	51	P	54	28.80	0.3
	FFC	102.23	36	ePdiff	54	41.00	-0.8
		1.6s	68.00nm			6.1mb	
	ACO	103.82	55	e(Pdif	54	50.20	0.9
	MEO	104.19	57	ePdiff	54	51.40	0.4
	MAIO	105.23	305	ePdiff	54	56.00	0.3
	TUL	106.50	56	ePdiff	55	02.00	0.8
		1.1s	8.80nm			5.7mb	
	LNO	106.50	56	ePdiff	55	02.00	0.9
	SHI	111.02	298	e(PKP)	59	20.00	-1.2
	SOD	115.36	342	iPKP	59	26.80	-1.3
	TAB	115.64	307	ePKP	59	29.00	-0.8
	BHD	117.77	302	ePKPd	59	31.50	-2.2
				e	00	47.00	
	MSL	118.39	306	ePKPd	59	34.00	-0.8
				e	00	47.00	

18d 11h

SUF	118.41	338	iPKP	59	32.60	-1.4		2.3s	378.00nm					ORX	137.80	332	PKP	00	02.69	-9.1X
	0.7s	13.10nm							ePP	02	19.00			ORO	137.80	332	PKP	00	10.50	-1.3
UPA	120.31	85	ePKP	59	35.80	-3.3X	KNT	131.97	317 ePKP	00	00.10	-0.6		PII	137.92	328	PKP	00	08.00	-3.9X
Z	22s	0.89um			5.4Msz		PAIG	132.00	316 ePKP	00	00.10	-0.7		RDP	138.01	324	PKP	00	11.00	-1.2
NUR	120.34	337	ePKP	59	37.00	-0.7	VAY	132.11	318 ePKP	59	58.00	-2.9X		SOI	138.09	317	PKP	00	09.00	-3.4X
	1.1s	62.40nm					SOP	132.13	328 ePKP	59	55.40	-5.4X		LOR	138.28	337	ePKP	00	01.90	-10.6X
Z	20s	3.90um			6.0Msz		GRG	132.40	317 ePKP	00	00.80	-0.8			1.4s	91.40nm				
		LR	51	12.00			SKO	132.53	319 ePKP	00	01.00	-0.8		LSD	138.31	332	PKP	00	04.02	-8.9X
HVD	121.16	225	ePKP	59	32.00	-8.5X		1.4s	167.00nm					PCP	138.33	330	PKP	00	01.97	-10.8X
SCH	121.69	30	ePKP	59	39.00	-1.6	Z	21s	0.88um		5.4Msz			ATN	138.43	318	PKP	00	10.00	-3.1X
PRY	121.81	230	iPKPc	59	40.70	-1.1	N	21s	0.73um					LPG	138.46	333	ePKP	00	03.60	-9.7X
	1.2s	30.00nm					E	21s	0.89um						1.3s	68.50nm				
BFS	122.34	229	iPKPd	59	39.00	-3.8X			i	02	26.00			LBF	138.47	336	ePKP	00	02.50	-10.4X
	0.8s	52.24nm							i	03	25.00				1.3s	43.30nm				
HBVT	122.40	44	PKP	59	41.00	-1.2	HOF	132.57	334 ePKP	00	01.20	-0.4		RSP	138.50	332	PKP	00	04.33	-8.8X
TBR	122.57	47	PKP	59	41.00	-1.6	KHC	132.64	331 ePKP	59	48.60	-13.2X		FLN	138.53	342	ePKP	00	02.70	-10.1X
KVT	122.80	313	ePKP	59	42.00	-1.1	Z	22s	2.50um		5.9Msz				1.1s	55.60nm				
KSR	122.82	230	iPKPd	59	40.70	-3.1X	N	24s	1.50um					CKI	138.55	330	PKP	00	03.00	-10.0X
	1.2s	40.00nm					E	22s	0.90um					LDF	138.56	341	ePKP	00	02.80	-10.1X
NAI	123.38	262	iPKP	59	45.60	0.3			e	00	00.00				1.3s	57.70nm				
UPP	123.39	339	iPKP	59	42.30	-1.3	WIT	132.70	339 ePKP	00	03.00	1.3		SSF	138.59	337	ePKP	00	03.30	-9.7X
		i	01	25.10					e	00	16.50				1.2s	80.30nm				
KAS	124.36	314	ePKP	59	46.00	-0.2			e	02	27.00			FIN	138.74	330	PKP	00	00.94	-12.5X
BUL	124.36	237	iPKPd	59	46.00	-1.0	KMR	133.11	330 ePKP-	59	57.50	-5.2X		SMF	138.80	336	ePKP	00	03.20	-10.2X
	1.0s	55.00nm							ic	00	01.60				1.3s	50.50nm				
HFS	124.52	341	ePKP	59	44.20	-1.6			i	02	31.50			BNI	138.84	332	PKPd	00	13.10	-0.6
	1.2s	67.10nm					EKA	133.25	348 PKP	00	03.00	0.3		ROB	138.84	331	PKP	00	02.99	-10.7X
Z	19s	1.39um			5.6Msz			1.3s	27.40nm					AVF	138.87	337	ePKP	00	03.10	-10.4X
		LR	52	50.00			WTS	133.31	338 ePKP	00	03.00	0.1			1.3s	25.20nm				
AKU	124.54	360	iPKP	59	46.70	1.0		1.0s	39.00nm					RRL	138.89	332	PKP	00	01.87	-12.1X
	1.2s	75.00nm							e	02	30.00			GRR	138.98	342	ePKP	00	03.80	-9.9X
CNCB	124.60	119	PKP	59	48.00	0.0	GRF	133.32	333 iPKPc	00	02.60	-0.4		DOI	138.99	331	PKP	00	07.50	-6.5X
LPB	124.61	118	PKP	59	45.00	-2.8	Z	22s	3.30um		6.0Msz			PZZ	139.06	331	PKP	00	02.07	-12.1X
CBM	124.65	39	PKP	59	44.40	-2.1			e	00	04.50			ENR	139.11	331	PKP	00	03.30	-10.9X
ZOBO	124.70	118	PKPc	59	47.00	-1.2	PTJ	133.57	327 ePKP	00	03.50	-0.2		IMI	139.12	330	PKP	00	02.17	-12.0X
	1.4s	59.85nm					ZAG	133.61	326 iPKP	00	04.00	0.4		STV	139.15	331	PKP	00	02.79	-11.4X
		LR	39	44.00			KBA	134.17	329 (PKP)	00	03.00	-1.9		BGF	139.26	337	ePKP	00	04.70	-9.6X
DSI	125.55	302	iPKPc	59	47.00	-1.7			e	02	35.50				1.3s	43.30nm				
BBTK	125.56	312	iPKPc	59	48.00	-0.7	VBY	134.21	327 e(PKP)	59	52.00	-12.8X		LPF	139.35	342	ePKP	00	04.50	-9.8X
CCH	125.92	120	PKP	59	49.80	-0.5	LJU	134.25	328 ePKP	59	53.00	-11.9X			1.1s	58.60nm				
REY	126.06	2	iPKP	59	49.40	0.7			e	00	04.00			SBF	139.37	330	ePKP	00	04.50	-10.1X
PRNI	126.09	300	iPKPc	59	48.00	-1.9	CEY	134.50	327 ePKP	00	04.50	-0.9			1.3s	103.90nm				
MBH	126.29	299	iPKP	59	48.50	-1.7	VOY	134.59	328 ePKP	59	54.70	-11.0X		CVF	139.59	328	ePKP	00	04.70	-10.3X
GPA	127.19	313	ePKP	59	51.00	-0.7			e	00	04.20				1.3s	129.90nm				
VRI	127.31	321	ePKPc	59	50.50	-1.2			e	02	36.40			MAF	139.65	337	ePKP	00	06.50	-8.5X
MLR	127.97	321	ePKPc	59	52.50	-0.7	MEM	134.73	338 PKP	59	51.40	-14.2X			1.2s	30.90nm				
MDB	128.61	322	ePKP	59	54.00	-0.2			e	00	07.00			TCF	139.73	337	ePKP	00	06.10	-9.0X
CMP	128.64	321	ePKPc	59	56.00	1.7	FVI	134.78	329 PKP	00	04.50	-1.3			1.2s	41.60nm				
KOT	128.87	300	ePKP	59	54.00	-1.1	TRI	134.87	328 ePKP	00	05.30	-0.7		FRF	139.98	331	ePKP	00	05.50	-10.1X
KRA	128.90	329	iPKPd	59	54.20	-0.4			e	02	33.70				1.4s	90.60nm				
	1.5s	117.00nm					PPD	134.93	135 ePKP	00	05.40	-1.5		LSF	140.02	338	ePKP	00	06.40	-9.2X
Z	20s	1.80um			5.8Msz		UCC	135.17	339 PKP-	00	07.00	0.6			1.2s	47.60nm				
		e	02	02.80			DMU	135.32	350 ePKP	00	06.00	-0.6		FAI	140.10	318	PKP	00	16.00	0.0
JMB	128.92	317	iPKP	59	55.00	0.1	SNF	135.44	339 PKP	00	05.80	-1.2		LRG	140.20	331	ePKP	00	06.20	-9.8X
SPC	129.26	328	ePKP	59	55.00	-0.6	WLF	135.44	337 PKP	00	02.60	-4.4X			1.3s	89.50nm				
		e	02	05.60			DOU	135.67	338 PKP	00	04.10	-3.3X		LMR	140.22	331	ePKP	00	06.30	-9.8X
HLW	129.30	300	ePKP	59	55.00	-1.0	DLE	135.84	349 ePKP	00	07.10	-0.5			1.3s	86.60nm				
GZR	129.95	322	ePKPc	59	57.50	0.7	CDF	135.98	335 ePKP	59	56.40	-11.8X		MFF	140.31	340	ePKP	00	07.40	-8.7X
KSP	130.19	331	iPKPd	59	57.10	0.1		1.1s	21.40nm						1.1s	63.40nm				
	1.4s	74.00nm					FEL	136.08	334 PKP	59	58.72	-9.8X		RJF	140.82	337	ePKP	00	08.60	-8.5X
		e	01	45.50			ECH	136.19	335 PKP	00	01.08	-7.5X			1.5s	114.90nm				
		ic	02	10.50			ETA	136.34	349 ePKP	00	08.40	-0.2		CAF	140.92	336	ePKP	00	09.10	-8.2X
		i	03	16.00			MOF	136.48	335 PKP	00	02.04	-7.2X			1.4s	56.60nm				
PSZ	130.20	326	ePKP	59	56.00	-1.2	SAL	136.59	330 PKP	00	09.50	0.2		LFF	141.42	337	ePKP	00	11.10	-7.1X
PLD	130.33	318	ePKP	59	55.00	-2.5	BSF	136.64	335 ePKP	59	57.60	-11.9X			1.3s	115.50nm				
RZN	130.51	317	iPKPd	59	57.00	-1.2		1.3s	75.00nm					LPO	141.46	337	ePKP	00	11.30	-7.0X
BZS	130.53	323	ePKP	59	55.00	-2.8	BSF	136.64	335 PKP	00	02.37	-7.1X			1.1s	45.90nm				
VTS	131.09	319	iPKP	59	58.00	-1.2	VITF	136.67	336 PKP	00	02.52	-6.8X		BCAO	142.42	264	iPKPc	00	15.50	-5.4X
CLL	131.36	334	iPKP	59	58.40	-0.8	HAU	136.69	335 ePKP	59	57.80	-11.7X			0.8s	119.00nm				
	1.9s	145.00nm						1.3s	75.00nm							ic	00	23.10		
Z	23s	2.00um			5.8MszX		ARV	136.76	326 PKP	00	07.30	-2.5				ic	01	04.80		
		iSKP	03	20.70			ECP	136.86	349 ePKP	00	09.00	-0.6				ic	03	26.10		
		iPKS	03	24.20				1.2s	173.00nm					ETER	142.72	333	ePKP	00	16.40	-4.1X
KKB	131.51	318	iPKPc	00	00.00	0.2	MDI	136.87	331 PKP	00	08.50	-1.3		EPF	143.18	336	ePKP	00	16.50	-4.9X
ZST	131.52	328	iPKP	59	59.00	-0.6	TDS	137.04	319 PKP	00	09.60	-0.8		ESCF	143.50	337	PKP	00	18.54	-3.4X
		e	01	04.80			DUI	137.05	323 PKP	00	11.10	0.6		MADF	143.54	337	PKP	00	18.43	-3.5X
		e	02	12.00			SFI	137.08	327 PKPc	00	09.10	-1.2		ATE	143.54	337	PKP	00	18.95	-3.0X
		i	03	22.00			SGO	137.18	321 PKPc	00	09.80	-0.8		ELYF	143.58	338	PKP	00	18.52	-3.5X
SRS	131.52	317	ePKP	59	58.50	-1.4	ASS	137.20	326 PKP	00	06.30	-4.4X		ISSF	143.63	337	PKP	00	19.82	-2.4
PRU	131.59	332	PKPc	59	59.00	-0.7	CRE	137.22	327 PKP	00	10.00	-0.7		BOH	143.65	338	PKP	00	18.95	-3.3X
Z	22s	3.10um			6.0Msz		VAI	137.25	331 PKP	59	57.70	-12.8X		ESEL	144.69	330	iPKPc	00	23.00	-1.0
N	22s	1.90um					SDI	137.40	323 PKP	00	08.50	-2.6		EBR	144.96	334	iPKPd	00	24.00	-0.3
E	22s	1.10um					FIR	137.49	327 ePKP	00	07.00	-4.1X				e	01	40.00		
		e	02	18.50					i	03	07.00			EROO	144.99	334	iPKPc	00	23.60	-0.8
OUR	131.61	316	ePKP	59	59.70	-0.3			i	03	44.00			EMON	145.34	345	iPKPc	00	24.80	-0.2
BEO	131.65	323	ePKP	59	59.00	-0.9	BDI	137.64	328 PKP	00	06.00	-5.5X		ETOR	146.00	337	ePKP	00	26.20	-0.1
VKA	131.88	329	ePKPc	59	59.00	-1.3	BOB	137.73	330 PKP	00	00.40	-11.2X		STS	146.16	346	iPKP	00	28.50	2.2

ERUA	146.26	344	ePKP	00	26.80	0.2
ECHE	146.60	334	iPKP	00	29.40	2.2
EZAM	146.89	346	ePKP	00	29.80	2.2
GUD	146.93	339	iPKPc	00	30.00	2.1
ACU	147.25	333	ePKP	00	30.60	2.3
TOL	147.57	338	(PKP)	00	20.00	-8.7X
			PKKPc	00	31.50	
			ePP	03	58.00	
EVIA	148.05	335	iPKPc	00	32.00	2.3
EPLA	148.09	341	ePKP	00	33.00	3.4X
EALH	148.24	333	iPKPd	00	33.40	3.6X
EBAN	148.97	336	iPKPc	00	35.20	4.2X
ENIJ	149.32	333	ePKP	00	35.20	3.6X
AFC	149.65	335	ePKP	00	35.80	3.5X
EHOR	149.83	338	iPKPc	00	37.40	5.1X
PDCR	149.83	138	ePKP	00	31.10	-1.8
			e	00	35.30	
			i	01	10.70	
LIS	150.24	344	iPKPd	00	38.30	5.5X
EVAL	150.56	340	iPKPc	00	39.00	5.6X
EPRU	150.57	337	iPKPc	00	39.40	5.9X
EJIF	151.12	337	iPKPd	00	41.00	6.7X
IFR	153.51	333	iPKPd	00	39.00	1.0
			i	00	46.50	
			i	00	59.00	
AVE	154.64	337	iPKP	00	39.00	-0.3
			i	01	03.50	
			i	01	53.00	
			i	04	24.00	
TIO	156.66	334	iPKPc	00	42.40	0.1
			i	01	12.90	
			i	04	50.20	
LEGH	160.89	258	ePKP	00	46.00	-1.3
KOGH	161.06	259	ePKP	00	47.00	-0.5
KUK	161.21	259	ePKP	00	47.00	-0.6
KIC	165.46	256	PKPc	00	51.50	-0.2
	1.5s		165.00nm			
LIC	165.69	255	PKPc	00	51.00	-0.8
TIC	165.80	257	PKPc	00	51.20	-0.8

S.D. = 1.1 on 287 of 395 obs.

& OCT 18, 1989 11h 51m 04.40s
36.995 N 121.777 W
DEPTH = 4.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

MHC	0.36	17	iPd	51	11.90	0.2
ARN	0.40	29	iPd	51	12.50	0.0
PCC	0.70	316	iPc	51	17.70	-0.6
PRS	0.74	154	iPc	51	18.60	-0.6
BKS	0.95	338	e(P)	51	22.60	-0.5
			e(S)	51	36.30	
BRK	0.96	336	ePc	51	22.40	-0.8
			eS	51	35.50	
PRI	1.24	133	ePc	51	27.50	-0.5
			i	51	32.70	
CMB	1.52	46	ePc	51	30.70	-1.7
FRI	1.66	89	ePc	51	32.30	-2.0

9 obs. ossocioted

% OCT 18, 1989 11h 53m 31.86± 1.03s
37.185 N ± 9.4km 3.933 W ± 8.5km
DEPTH = 10.0km (geophysicist)
SPAIN (377)

ACHM	0.11	134	eP	53	36.50	1.7
AAPN	0.19	309	eP	53	36.20	0.0
CRT	0.27	89	eP	53	37.00	-0.5
ATEJ	0.28	194	eP	53	37.40	-0.3
APHE	0.30	140	eP	53	37.50	-0.7

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

& OCT 18, 1989 12h 10m 03.90s
37.285 N 121.988 W
DEPTH = 14.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.5 (BRK).

MHC	0.28	78	iPd	10	10.00	-0.2
ARN	0.37	80	iPd	10	11.10	-0.6
PCC	0.38	305	ePd	10	10.80	-1.1
BRK	0.63	340	eP	10	16.00	-0.1
			eS	10	26.30	
PRS	1.07	152	eP	10	22.50	-1.2

5 obs. associoted

& OCT 18, 1989 12h 24m 24.60s
37.098 N 121.913 W
DEPTH = 10.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

MHC	0.33	42	eP	24	31.20	-0.2
PCC	0.55	317	ePd	24	34.80	-0.9
BKS	0.82	342	ePd	24	40.00	-0.4
			e(S)	24	52.30	
BRK	0.82	340	eP	24	40.10	-0.4
			iS	24	51.80	
PRS	0.88	150	eP	24	40.30	-1.2
PRI	1.39	133	eP	24	48.80	-1.3
CMB	1.53	52	eP	24	50.30	-1.8

7 obs. associated

& OCT 18, 1989 12h 34m 20.20s
37.100 N 121.907 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.4 (BRK).

MHC	0.32	41	iPd	34	26.70	-0.1
PCC	0.55	317	iPc	34	30.90	-0.4
BKS	0.82	342	ePc	34	35.70	-0.5
			iS	34	48.00	
BRK	0.82	340	ePc	34	35.50	-0.8
			eS	34	47.70	
PRS	0.88	150	eP	34	36.10	-1.2
PRI	1.38	133	eP	34	44.60	-1.3
CMB	1.53	52	iPd	34	46.60	-1.3
FRI	1.76	93	eP	34	49.20	-2.0

8 obs. associated

OCT 18, 1989 12h 35m 16.96± 0.72s
10.183 S ± 3.1km 161.113 E ± 3.4km
DEPTH = 69.2 ± 6.5 km
5.4mb (24 obs.)
SOLOMON ISLANDS (193)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 7S, 22C
Centroid Locotion:
Origin Time 12:35:23.6 0.7
Lat 9.30S 0.11 Lon 161.32E 0.09
Dep 15.0 FIX Half-duration 2.6
Moment Tensor; Scale 10**17 Nm
Mrr=-0.76 0.13 Mtt= 0.08 0.21
Mff= 0.68 0.21 Mrt= 2.56 0.27
Mrf=-3.09 0.29 Mtf=-0.87 0.13
Principol Axes:
T Vol= 4.41 Plg=38 Azm= 52
N -0.53 2 320
P -3.88 52 228
Best Double Couple:Mo=4.2*10**17
NP1:Strike=155 Dip= 7 Slip= -75
NP2: 320 83 -92

HNR	1.37	303	eP	35	41.00	0.5
			eS	36	01.00	
SVO	1.64	309	eP	35	46.00	1.8
PAA	6.77	304	eP	37	16.00	20.0X
PVC	10.26	138	iPc	37	41.00	-2.8
DZM	12.88	157	iPc	38	17.40	-1.5
			iS	40	34.90	
PMG	13.78	272	eP	38	40.00	9.4X
LAT	14.39	283	eP	38	50.00	11.4X
CTA	17.38	234	iPd-	39	18.40	1.8
	1.0s	282.00nm			5.4mb	
			iS	42	36.00	
MNDI	17.73	282	eP	39	25.00	3.9X
BRS	18.84	204	iPc	39	34.50	0.3
	1.0s	23.00nm			4.4mb X	
			i	39	41.50	
RMO	19.99	214	iPd	39	47.60	1.1
	1.2s	912.00nm			6.0mb	
			e	39	57.00	
JAY	21.65	289	ePd	40	02.30	-1.2
			e	42	36.00	
COO	22.03	202	iPd	40	07.70	0.5
QLP	22.81	222	iPd	40	15.30	0.5
QIS	23.13	241	iPd	40	18.80	0.8
	1.4s	250.00nm			5.5mb	
CMS	25.50	212	ePd	40	40.80	0.3
			i	40	42.80	
AFI	26.76	101	eP	40	52.00	-0.4
BWA	26.78	204	iPd	40	51.20	-1.2
CNB	27.21	201	eP	40	56.80	0.5
CAN	27.35	202	iPd	40	57.40	-0.1
WB5	27.53	246	iPd	40	59.10	-0.2
			i	45	38.50	
STK	28.15	217	ePd	41	06.00	1.2
GUA	28.53	325	eP	41	07.50	-0.8
GUMO	28.60	325	eP	41	08.20	-0.6
PJG	28.60	325	eP	41	08.00	-0.8
ASPA	29.21	239	iPd	41	12.90	-1.5
	1.0s	40.00nm			5.0mb	
Z	22s	6.82um			5.2MszX	
			e	48	00.20	
			LR	51	39.10	
MTN	29.49	262	iPc	41	16.90	-0.1
TOO	30.69	205	eP	41	27.80	0.5
BFD	31.67	209	eP	41	36.00	0.1
KNA	31.98	257	iPd	41	38.90	0.1
ADE	32.04	216	iPd	41	39.50	0.3
	1.1s	174.68nm			5.8mb	
PGZ	33.15	159	eP	41	47.30	-1.5
MSZ	34.86	171	P	42	03.80	0.4
WARB	36.26	239	iPd	42	15.10	-0.5
	0.6s	47.00nm			5.6mb	
FORR	36.91	231	eP	42	20.50	-0.4
MBL	41.10	250	iPd	42	56.00	0.2
	0.7s	36.00nm			5.3mb	
PCI	42.05	280	ePc	43	07.50	3.7X
COOL	42.41	235	eP	43	06.30	-0.2
	0.4s	14.00nm			5.1mb	
MEKA	43.35	242	iPd	43	15.10	0.9
KHKI	44.92	268	ePd	43	25.20	-1.8
			e	46	30.00	
NANU	45.26	248	iPd	43	30.30	0.7
	0.4s	14.00nm			5.2mb	
KLB	45.38	235	eP	43	32.00	1.6
BAL	45.95	237	eP	43	35.00	0.1
	0.6s	46.00nm			5.6mb	
MRWA	46.17	239	eP	43	36.90	0.2
	0.3s	11.00nm			5.3mb	
NWAO	46.23	234	eP	43	37.00	-0.1
	0.6s	19.00nm			5.2mb	
Z	20s	3.50um			5.3Msz	
N	20s	0.80um				
E	20s	2.40um				
PMO	49.91	101	iP	44	05.90	0.0
	1.4s	235.00nm			6.0mb	
VAH	50.16	101	iP	44	07.60	-0.2
	1.4s	125.00nm			5.8mb	
TPT	50.18	101	iP	44	07.80	-0.2
	1.4s	225.00nm			6.0mb	
KAKJ	50.18	338	P	44	07.60	0.0
RUV	50.40	101	iP	44	09.70	0.0
	1.4s	195.00nm			5.9mb	
IIDJ	50.43	335	P	44	09.30	-0.3
CHJJ	50.49	337	P	44	09.50	-0.5
MAT	51.23	336	iPc	44	14.20	-1.5
	1.0s	27.00nm			5.2mb	
KUMJ	51.39	327	eP	44	16.90	0.0
MTMJ	51.43	336	P	44	16.40	-0.9
NIIJ	51.53	337	P	44	17.60	-0.3
MLH	52.02	55	eP	44	22.00	-0.2
OZH	54.20	311	eP	44	38.30	0.5
SSE	56.13	318	eP	44	50.00	-1.7
	1.1s	0.03nm			2.2mb X	
Z	16s	0.40um			4.6MszX	
			pP	45	09.70	77kmX
			e(S)	52	14.00	
			e(sS)	52	38.00	
NJ2	58.27	318	Pc	45	06.50	-0.3
			pP	45	27.00	81kmX
WHN	60.46	314	eP	45	21.50	-0.5
MDJ	61.55	335	eP	45	29.00	-0.1
IPM	61.61	281	ePc	45	29.10	-1.0
SNY	62.18	329	eP	45	33.90	0.6
CN2	62.74	332	Pc	45	36.50	-0.6
GYA	64.20	306	P	45	47.00	-0.1
ADK	64.71	15	eP	45	50.00	0.2
	0.8s	94.10nm			5.8mb	
BJI	65.01	323	eP	45	51.50	-0.4
NST	65.61	292	eP	45	57.00	0.8
TIY	65.89	319	eP	45	57.00	-0.7
XAN	66.22	314	Pc	45	59.00	-0.9
KMI	66.81	303	Pc	46	04.50	0.4
SBA	67.72	179	iP	46	09.70	1.1
CHG	67.73	295	eP	46	09.40	-0.3
HHC	68.28	322	P	46	13.00	0.1

18d 12h

CD2	68.49	309	Pc	46	14.00	-0.3
LZH	70.84	314	eP	46	28.50	-0.2
	2.0s		0.05nm			2.1mb X
Z	16s		0.50um			4.9MszX
			pP	46	49.00	77kmX
GTA	75.21	315	Pd	46	54.00	-0.2
KDC	77.54	23	eP	47	06.60	0.0
SVW	78.78	20	eP	47	14.40	0.9
SPA	79.88	180	ePd	47	19.30	-0.2
	1.0s		64.00nm			5.5mb
PMR	81.38	22	eP	47	27 20	0.0
	0.8s		31.30nm			5.3mb
IMA	82.96	17	eP	47	36.00	0.5
MAW	83.79	202	eP	47	40.00	0.4
FBA	83.98	19	eP	47	40.00	-0.6
WMQ	85.29	316	eP	47	46.00	-1.6
HYB	86.02	288	eP	48	04.50	12.8X
PRS	86.09	52	eP	47	53.00	1.3
MHC	86.15	51	eP	47	53.20	1.1
GBA	86.31	284	Pd	47	52.60	-0.5
	0.8s		3.20nm			4.5mb
LTCM	86.58	48	P	47	54.50	0.5
PRI	86.59	53	eP	47	55.60	1.3
ORV	86.86	49	eP	47	55.90	0.5
MIN	87.00	48	eP	47	56.40	0.2
CMB	87.29	51	iPc	47	58.10	0.5
FRI	87.55	52	eP	47	59.20	0.5
BMW	87.62	42	P	47	59.10	0.2
PAS	88.07	55	eP	48	02.00	0.7
MWC	88.18	55	eP	48	03.00	0.9
ISA	88.19	53	eP	48	02.00	0.1
SHW	88.19	43	P	48	03.50	1.7
GMW	88.22	41	P	48	02.20	0.5
SBB	88.48	55	eP	48	04.00	0.7
MCW	88.53	40	P	48	02.40	-0.8
LON	88.63	42	P	48	03.80	0.0
RVR	88.68	55	eP	48	05.00	0.8
			e	48	22 00	
CLC	88.92	53	iP+	48	06.00	0.6
PLM	88.96	56	eP	48	07.00	1.2
BAR	88.96	57	eP	48	06.00	0.3
KVN	89.28	50	P	48	07.00	-0.2
GSC	89.43	54	eP	48	08.00	0.1
TNP	89.73	51	P	48	09.80	0.4
	0.8s		14.41nm			5.3mb
TPC	89.78	55	eP	48	10.00	0.5
GLA	90.56	57	eP	48	14.00	0.9
PNT	90.74	40	eP	48	13.00	-0.5
	0.9s		25.00nm			5.5mb
DPW	91.29	42	P	48	16.10	0.0
EDM	95.41	37	eP	48	34.50	-0.4
BW06	96.34	48	P	48	39 80	0.1
ALQ	97.73	56	eP	48	45.00	-1.0
	0.9s		6.93nm			5.2mb
Z	20s		0.85um			5.2Msz
RSSD	100.47	47	Pdiff	48	58.90	0.5
CNCB	124.54	119	ePKP	54	10.00	-1.6
LPB	124.55	118	(PKP)	54	09.00	-2.4
ZOBO	124.64	118	PKP	54	11.00	-0.8
CLL	131.41	334	e(PKP)	54	42 00	19.0X
KHC	132.69	331	PKP	54	26.00	0.4
BCAO	142.47	264	iPKPc	54	39.60	-5.1X
	0.6s		25.00nm			
			ic	55	06.40	
			ic	55	32.40	
EBR	145.00	334	ePKP	54	51.50	3.4X
EMON	145.38	345	ePKP	54	49.00	0.2
ETOR	146.05	337	ePKP	54	51 00	0.9
STS	146.19	346	e(PKP)	54	51.50	1.4
GUD	146.98	339	ePKP	54	54.00	2.4
TOL	147.61	338	ePKP	54	58.00	5.5X
EVIA	148.09	335	ePKP	54	56.80	3.4X
ASMO	149.69	336	ePKP	55	00 00	4.0X
PDCR	149.78	138	ePKP	54	54.00	-2.5
AAPN	149.89	336	ePKP	55	00.70	4.4X
ACHM	149.94	336	ePKP	55	00.60	4.3X
APHE	150.02	335	ePKP	55	01.40	4.9X
ALOJ	150.05	336	ePKP	55	01.40	4.8X
ATEJ	150.18	336	ePKP	55	01.00	4.2X
EPRU	150.62	337	e(PKP)	55	03.80	6.5X
IFR	153.56	333	ePKP	54	59.00	-2.8X
			i	55	25.00	

S.D. = 0.9 on 123 of 142 obs.

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* OCT 18, 1989 12h 55m 38.20± 2.48s
43.255 N ±12.7km 5.236 E ±15.3km
DEPTH = 10.0km (geophysicist)

NEAR SOUTH COAST OF FRANCE (379)
MD 2.6 (STR).

GELF	0.19	47	Pg	55	43.81	1.4
BERF	0.34	80	Pg	55	46.65	1.4
TREF	0.38	16	Pg	55	46.22	0.1
PRAF	0.55	355	Pg	55	50.37	0.9
VILF	0.69	30	Pg	55	50.39	-1.5
TAVF	0.70	59	Pg	55	51.20	-0.9
GANF	0.89	33	Pg	55	55.25	0.0
CALN	1.30	67	Pg	56	02.01	-0.4
MVIF	1.53	65	Pn	56	05.41	-0.4
			Sg	56	24.68	
AURF	1.65	67	Pn	56	06.89	-0.5
			Sg	56	27.00	
TOUF	1.65	62	Pn	56	07.50	0.0
			Sg	56	28.23	
AUTN	1.76	64	Pn	56	09.32	0.3
			Sg	56	31.40	
SAOF	1.84	66	Pn	56	09.45	-0.6
CVF	2.76	103	Pn	56	23.38	0.1

S.D. = 0.9 on 14 of 14 obs.

OCT 18, 1989 13h 01m 02.29± 0.59s
49.913 N ± 7.6km 18.441 E ± 4.7km
DEPTH = 10.0km (geophysicist)

CZECHOSLOVAKIA (547)
ML 3.0 (KRA).

KRA	0.98	81	ePg	01	20.80	0.0
			iSg	01	34.10	
SPC	1.38	121	iPn	01	27.70	0.0
			i(Sg)	01	48.80	
			e	17	23.00	
KSP	1.66	305	iPn	01	32.20	0.6
			iPg	01	35.50	
			iS	01	56.60	
ZST	1.93	208	iPn	01	35.90	0.4
			i	01	45.90	
			i(Sn)	02	00.00	
			i	02	32.00	
PSZ	2.21	154	eP	01	39.40	-0.3
PRU	2.52	273	Pn	01	43.50	-0.4
			Pg	01	50.00	
			Sn	02	17.50	
			Sg	02	23.50	
SOP	2.56	210	eP	01	44.80	0.4
KHC	3.26	258	Pn	01	54.10	-0.4
			Pg	02	01.80	
			Sg	02	46.10	
WET	3.70	260	eP	02	00.50	-0.3
CLL	3.74	294	ePg	02	14.00	12.8X
			eSg	03	03.00	
BHG	4.28	241	eP	02	27.70	18.8X

S.D. = 0.5 on 9 of 11 obs.

OCT 18, 1989 13h 04m 02.37± 0.35s
40.620 N ± 3.7km 24.134 E ± 3.1km
DEPTH = 11.5 ± 2.7 km

AEGEAN SEA (365)
ML 3.8 (ATH).

OUR	0.31	202	iPgc	04	08.40	-0.5
PLG	0.58	245	iPgc	04	13.00	-1.0
SRS	0.64	321	ePg	04	14.40	-0.7
			eSg	04	24.40	
PAIG	0.77	207	ePgc	04	16.50	-0.8
			eSg	04	27.10	
THE	0.89	271	ePg	04	18.90	-0.4
			eSg	04	31.50	
MMB	1.02	343	iPc	04	20.00	-1.5
KNT	1.08	300	iPd	04	22.90	0.3
RZN	1.15	22	iPc	04	24.00	0.1
RDO	1.19	63	ePb	04	23.50	-0.8
GRG	1.36	285	ePbc	04	26.90	-0.3
			eSb	04	46.50	
LIT	1.36	248	ePb	04	25.70	-1.5
			eSb	04	44.00	
VAY	1.38	301	iPn	04	26.40	-1.0
			iSn	04	46.00	
KDZ	1.41	43	iPd	04	26.00	-1.9
KKB	1.48	328	iP	04	28.00	-0.8
ALN	1.48	79	eP	04	27.80	-1.0
			eS	04	50.90	
NEO	1.49	208	iPbc	04	27.20	-1.8
PLD	1.54	16	iP	04	31.00	1.3
DIM	1.78	36	iP	04	35.00	1.9
KZN	1.83	261	iPbd	04	32.80	-1.2
EZN	1.86	115	ePn	04	35.50	1.2
PGB	1.93	1	iPc	04	37.00	1.6
VTS	2.09	341	iP	04	38.00	0.2
SKO	2.44	305	iPn	04	41.80	-0.9
			iSn	05	11.50	
			iSg	05	20.00	
			LQ	05	40.50	
OHR	2.58	282	iPn	04	44.00	-0.7
JMB	2.60	44	iP	04	50.00	5.0X
ATH	2.66	187	ePg	04	51.70	5.8X
LSK	2.74	261	iPnc	04	47.10	0.0
PVL	2.74	19	eP	04	45.00	-2.0
EDC	2.86	94	ePn	04	50.00	1.4
BNT	2.90	94	iPn	04	49.20	0.0
DMK	2.98	65	iPn	04	54.60	4.2X
KKS	3.16	299	ePn	04	53.40	0.6
BERA	3.18	273	ePn	04	54.10	0.9
KCT	3.24	95	ePn	04	55.70	1.6
SRN	3.25	258	ePn	04	54.80	0.6
IZM	3.28	132	ePn	04	55.00	0.3
TIR	3.31	284	ePn	04	57.00	1.9
KEK	3.44	256	ePn	04	57.00	0.1
LACI	3.49	288	ePn	04	58.80	1.2
DST	3.59	105	ePn	04	57.50	-1.6
VLS	3.67	230	ePn	05	01.00	0.7
SDA	3.76	293	iPnc	05	03.50	2.1
ISK	3.76	82	ePn	05	15.00	13.5X
ULC	3.92	292	e(P)	05	05.00	1.3
VLI	4.01	194	ePn	05	07.30	2.4
DRA	4.06	1	eP	05	17.00	11.4X
TTG	4.08	298	e(P)	05	07.00	1.1
PSN	4.29	43	eP	05	14.00	5.0X
CIN	4.31	133	eP	05	08.00	-1.2
CMP	4.69	8	ePc	05	09.00	-5.7X
KHL	4.76	117	eP	05	20.00	4.3X
ISR	4.85	21	eP	05	30.00	13.1X
BEO	5.00	328	ePn	05	32.00	13.1X
			eSg	06	44.50	
MLR	5.05	15	ePc	05	20.00	0.2
BZS	5.32	341	eP	05	21.00	-2.6
DEV	5.34	351	eP	05	02.50	-21.3X
CFR	5.43	32	eP	05	26.00	0.9
CFR	5.43	32	eP	05	43.00	17.9X
MDB	5.52	2	eP	05	56.00	29.6X
VRI	5.58	19	ePc	05	27.50	0.3
			ec	17	43.00	

S.D. = 1.3 on 47 of 60 obs.

OCT 18, 1989 13h 06m 47.80± 0.22s
14.603 N ± 5.1km 45.068 W ± 3.1km
DEPTH = 10.0km (geophysicist)
5.2mb (46 obs.) 5.2Msz (5 obs.)

NORTH ATLANTIC RIDGE (403)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 16S, 32C
Centroid Location:
Origin Time 13:06:55.9 0.4
Lat 14.27N 0.05 Lon 44.86W 0.03
Dep 15.0 FIX Half-duration 3.0
Moment Tensor; Scale 10**17 Nm
Mrr=-2.92 0.13 Mtt=-0.73 0.18
Mff= 3.66 0.15 Mrt= 0.00 0.00
Mrf= 0.00 0.00 Mtf=-0.19 0.14
Principal Axes:
T Val= 3.66 Plg= 0 Azm=268
N -0.74 0 178
P -2.92 90 180
Best Double Couple:Mo=3.3*10**17
NP1:Strike=358 Dip=45 Slip= -90
NP2: 178 45 -90

SSV	15.70	267	eP	10	30.63	-0.3
SVV	15.73	267	eP	10	30.50	-0.6
SVB	15.77	267	eP	10	29.65	-2.0
TRN	16.42	258	eP	10	39.82	-0.1
TCE	16.74	259	eP	10	44.30	0.3
PDCR	27.59	167	eP	12	36.00	-1.4
BOG	30.22	254	e(P)	13	07.00	5.5X
PSO	34.54	250	eP	13	40.00	0.7
SGS	37.07	306	P	14	07.70	7.7X
NAZ	37.19	315	P	14	00.00	-0.9
CVL	37.60	315	P	14	04.80	0.4
CCH	37.98	214	P	14	07.50	-0.6
JSC	38.05	308	P	14	09.40	1.1
ZOBO	38.21	217	P	14	10.50	0.1

		1.7s	94.48nm		5.3mb		BSF	53.99	41 eP	16 13.10	-1.2		SBB	67.77	302 eP	17 48.00	-0.2
			LR	25 12.00				1.1s	21.40nm		5.1mb		KVN	67.84	306 ePc	17 47.10	-1.7
	LPB	38.40	217 P	14 13.50	1.7		ORO	54.06	44 P	16 16.00	1.1		ISA	68.25	303 eP	17 53.00	1.8
	Z	19s	10.42um		5.7Msz		MMK	54.18	43 ePd	16 16.90	1.0		PNT	69.01	318 eP	17 55.00	-0.6
			LR	25 20.00			WLF	54.24	39 P	16 16.00	0.1		SOD	69.59	23 iP	17 57.60	-1.2
	CNCB	38.55	217 P	14 13.00	-0.2		CDF	54.49	40 eP	16 16.70	-1.3		CMB	69.67	305 eP	18 00.20	0.3
	BLA	38.63	312 P	14 14.00	0.9			1.3s	17.30nm		4.9mb		ORV	70.46	307 e(P)	18 05.80	1.2
		0.9s	22.73nm		4.9mb		MEM	54.50	38 P	16 18.50	0.6		MIN	70.50	308 eP	18 04.50	-0.6
	PRM	38.84	307 eP	14 15.00	0.1		VAI	54.66	44 P	16 19.50	0.4		MBC	72.18	346 eP	18 15.50	1.2
	LIS	39.70	46 iPc	14 23.90	1.9		TMA	54.80	43 ePd	16 20.40	0.0			1.0s	19.00nm		5.1mb
	TIC	40.09	97 P	14 25.40	-0.2		BOB	54.82	45 P	16 21.00	0.5		MBH	74.29	63 e(P)	18 25.00	-2.5
	LIC	40.19	98 P	14 25.60	-0.8		SLE	55.05	41 ePd	16 21.80	-0.3		DSI	74.48	61 eP	18 29.00	0.5
	KIC	40.43	97 P	14 28.20	-0.1		LLS	55.10	43 ePd	16 23.10	0.4		INK	75.98	337 eP	18 40.00	3.6X
	IFR	40.73	55 iP	14 32.50	1.7		MDI	55.27	44 P	16 24.00	0.4		MSL	80.08	55 ePd	19 01.00	1.4
	SCH	43.54	342 eP	14 54.00	0.7		VDL	55.31	43 ePd	16 25.10	1.0				e	19 20.00	
	FVM	46.28	309 eP	15 15.80	0.4		BDI	55.44	46 P	16 25.00	0.0		BUL	80.22	114 eP	19 03.00	2.2
	EPF	48.03	45 eP	15 29.80	0.6		WTS	55.50	36 eP	16 24.50	-0.6		KSR	80.71	120 iPc	19 01.60	-1.8
		1.4s	65.30nm		5.5mb			0.8s	14.00nm		5.0mb			1.1s	20.27nm		5.0mb
	ECP	48.50	31 eP	15 38.00	5.4X				e	16 31.50			BFS	80.99	121 eP	19 01.00	-3.8X
	ETA	48.88	30 eP	15 37.30	1.8		WIT	55.74	35 eP	16 28.00	1.2		HVD	81.32	125 eP	19 09.00	2.6
		0.9s	162.00nm		6.1mb		OSS	55.81	43 ePd	16 27.50	-0.2		PRY	81.58	121 eP	19 08.70	0.9
	LFF	49.03	42 iPc	15 36.90	0.1		PGD	56.19	47 P	16 29.00	-1.5		BHD	81.69	58 ePd	19 09.00	0.9
		1.0s	40.00nm		5.4mb		SFI	56.29	47 P	16 23.00	-7.9X		FBA	82.20	335 eP	19 09.80	-0.4
	DLE	49.07	30 eP	15 38.30	1.3		MNS	56.56	49 P	16 31.50	-1.5		IMA	84.11	337 P	19 11.20	-8.9X
	MFF	49.15	40 iPc	15 37.30	-0.4		ASS	56.68	48 P	16 34.00	0.1			1.2s	16.00nm		5.1mb
		1.2s	79.70nm		5.6mb		ARV	56.97	47 P	16 36.00	0.1		SNA	89.70	167 iPc	19 46.00	-0.9
	LPO	49.22	43 iPc	15 38.30	0.0		SDI	57.27	50 P	16 38.50	0.4			0.8s	20.90nm		5.4mb
		1.4s	78.40nm		5.5mb		FVI	57.54	44 P	16 39.00	-0.8		MAIO	92.81	52 eP	20 05.00	2.8
	LPF	49.24	38 iPc	15 38.00	-0.3		RSSD	57.77	313 P	16 42.00	0.2		DZM	149.22	251 iPKPc	26 36.00	1.3
		0.9s	45.80nm		5.5mb		BHG	57.88	43 eP	16 41.30	-0.9			S.D. = 1.0	on 141 of 150 obs.		
	DMU	49.27	29 eP	15 39.30	0.8		HOF	57.94	39 iPd	16 42.20	-0.4		---				
	GRR	49.51	38 eP	15 40.10	-0.3			1.4s	49.00nm		5.3mb		&	OCT 18, 1989	13h 43m 20.80s		
		1.1s	29.30nm		5.2mb		TRI	58.01	45 eP	16 43.20	0.1			37.283 N	122.072 W		
	RJF	49.68	42 iPc	15 41.30	-0.5		GOL	58.03	308 P	16 43.20	-0.6			DEPTH = 2.0km			
		1.1s	24.40nm		5.1mb			0.8s	8.93nm		4.9mb			CENTRAL CALIFORNIA			(39)
	CAF	49.89	43 iPc	15 43.10	-0.4		VOY	58.16	45 eP	16 43.50	-0.8			<BRK>. ML 2.6 (BRK).			
		1.2s	48.70nm		5.4mb		SGO	58.21	51 P	16 44.50	-0.1						
	FLN	49.90	37 eP	15 42.90	-0.6		ALO	58.42	302 eP	16 46.00	-0.5		PCC	0.33	311 ePc	43 27.20	-0.2
		1.0s	25.60nm		5.2mb			2.0s	38.24nm		5.1mb		MHC	0.35	80 ePd	43 28.10	0.3
	LNO	49.92	305 eP	15 43.20	-0.5		Z	22s	5.19um		5.6Msz		ARN	0.44	81 eP	43 29.50	0.0
	TUL	49.92	305 eP	15 44.90	1.1		CEY	58.47	45 eP	16 47.00	0.6		BKS	0.61	348 ePd	43 32.90	0.0
		1.0s	7.70nm		4.6mb		KHC	58.68	41 iPc	16 46.00	-1.9				eS	43 41.70	
	LDF	50.04	38 eP	15 43.90	-0.6			1.2s	15.00nm		5.0mb		BRK	0.61	346 eP	43 32.80	-0.1
		1.0s	32.00nm		5.2mb		KMR	58.78	42 iP+	16 48.60	0.1				e(S)	43 43.80	
	LSF	50.06	41 iPc	15 44.40	-0.3		TDS	58.87	52 P	16 52.50	3.2X		PRS	1.10	149 eP	43 41.10	-1.2
		1.2s	54.70nm		5.4mb		CLL	58.91	38 iP	16 48.70	-0.6		LLA	1.12	126 eP	43 41.20	-1.4
	TCF	50.51	41 iPc	15 47.80	-0.4			1.6s	52.00nm		5.4mb		CMB	1.53	60 eP	43 47.60	-1.7
		1.2s	69.60nm		5.5mb		Z	18s	1.00um		5.0Msz			8 obs. ossocioted			
	MAF	50.71	42 iPc	15 49.60	-0.1				i	16 55.30			---				
		1.3s	46.90nm		5.3mb		VBY	58.99	45 eP	16 51.00	1.0		*	OCT 18, 1989	14h 01m 27.27± 1.11s		
	BGF	51.02	41 iPc	15 51.50	-0.5		PRU	59.50	40 eP	16 52.00	-1.5			35.450 N ±20.3km	24.785 E ± 8.8km		
		1.1s	49.80nm		5.4mb		Z	26s	1.60um		5.0MszX			DEPTH = 33.0km	(normal)		
	AVF	51.43	41 eP	15 54.60	-0.5		N	18s	1.30um					4.0mb (1 obs.)			
		1.1s	35.10nm		5.2mb		E	18s	0.80um					CRETE			(370)
	SSF	51.63	41 eP	15 56.10	-0.5		VKA	60.25	43 ePc	16 58.00	-0.7			MD 3.9 (ATH).			
		1.2s	26.70nm		5.0mb			3.0s	336.00nm		5.9mb						
	SMF	51.69	41 eP	15 56.70	-0.4		Z	17s	1.40um		5.2MszX		VAM	0.48	265 ePb	01 37.00	-0.6
		1.3s	44.70nm		5.2mb				LR	41 07.00			NPS	0.70	105 ePg	01 42.20	1.5
	EKA	51.88	29 Pd	15 59.40	1.0		SOP	60.29	43 eP	16 57.40	-1.5		KAP	1.95	86 ePn	01 59.10	0.4
		1.4s	53.30nm		5.3mb		ZST	60.75	43 iP	17 03.00	1.0		VLI	1.96	311 ePn	01 58.70	-0.1
	LBF	51.90	41 eP	15 57.80	-1.0		KSP	60.80	40 ePc	17 02.50	0.2		YER	3.29	58 iPn	02 21.20	3.5X
		1.1s	26.80nm		5.1mb		BW06	61.54	311 P	17 06.70	-1.1		KSL	3.96	79 ePn	02 25.00	-2.2
	LOR	51.93	41 eP	15 58.10	-0.8		HFS	62.08	29 eP	17 09.50	-1.4		KHC	15.96	332 P	05 11.90	1.0
		1.2s	38.60nm		5.2mb			1.3s	113.60nm		5.9mb		HFS	25.73	347 (P)	06 52.70	-3.3X
	MEO	51.97	303 iPd	15 58.70	-0.8		Z	18s	0.58um		4.8Msz			0.5s	2.00nm		4.0mb
	LRG	52.32	46 eP	16 01.70	-0.2				LR	37 06.00				S.D. = 1.7	on 6 of 8 obs.		
		1.3s	24.50nm		5.0mb		OHR	62.41	51 eP	17 13.00	-0.4		---				
	LMR	52.39	46 eP	16 01.70	-0.7		DAU	62.60	308 P	17 14.40	-0.7			OCT 18, 1989	14h 57m 22.47± 0.19s		
		1.0s	13.60nm		4.8mb		KRA	62.92	41 eP	17 16.00	-0.6			39.893 N ± 3.7km	113.884 E ± 3.2km		
	FRF	52.55	46 eP	16 03.10	-0.6				e	17 18.40				DEPTH = 10.0km	(4 depth phases)		
		1.2s	23.80nm		5.0mb		SKO	62.95	50 iP	17 16.80	-0.2			5.1mb (30 obs.)	5.3Msz (7 obs.)		
	ACO	52.73	305 e(P)	16 05.40	0.2		Z	18s	0.83um		5.0Msz			NORTHEASTERN CHINA			(658)
	BNI	53.01	44 P	16 09.50	2.2		E	18s	0.83um					At leost 29 people killed, 150			
	SBF	53.18	46 eP	16 07.70	-0.7				LR	47 30.00				injured and about 27,500 houses			
		1.0s	13.60nm		4.9mb		MSU	63.20	306 P	17 19.20	0.2			domaged in the Dotong-Yongyuon			
	LPG	53.20	44 eP	16 09.10	0.3		BCAO	63.36	92 iPc	17 18.60	-1.5			oreo. Felt at Beijing.			
		1.3s	26.70nm		5.0mb			0.5s	18.00nm		5.5mb			CENTROID, MOMENT TENSOR			(HRV)
	DOI	53.24	45 P	16 09.50	0.6				ic	17 25.10				Doto Used: GDSN			
	DOU	53.47	38 Pc	16 11.90	1.6		SES	63.59	319 eP	17 20.00	-1.1			L.P.B.: 9S, 18C			
			S	23 47.00			VAY	63.75	51 eP	17 22.30	0.1			Centroid Location:			
	EMS	53.50	43 ePd	16 11.50	0.6		GLA	65.34	300 eP	17 15.00	-17.8X			Origin Time	14:57:27.1 0.4		
	HAU	53.76	41 eP	16 11.40	-1.2		EDM	65.44	322 ePd	17 32.50	-0.6			Lot 39.83N 0.07 Lon 113.61E 0.12			
		1.1s	21.40nm		5.1mb		TPC	66.32	301 eP	17 40.00	0.9			Dep 15.0 FIX Hoff-durotion 1.9			
	DIX	53.82	43 ePd	16 14.50	1.2		MLR	66.44	47 ePc	17 40.00	0.3			Moment Tensor; Scole 10**17 Nm			
	CVF	53.85	48 eP	16 12.10	-1.2		BAR	66.90	300 eP	17 44.00	1.2			Mrr=-0.28 0.13 Mtt= 1.16 0.07			
		1.1s	19.50nm		5.0mb		PLM	67.03	300 eP	17 44.00	0.2			Mff=-0.88 0.12 Mrt=-0.29 0.30			
	CKI	53.92	45 P	16 14.50	0.7		TNP	67.17	305 ePc	17 44.60	0.0			Mrf= 0.12 0.17 Mtf= 0.92 0.13			

18d 14h

Principal Axes:
T Vol= 1.54 Plg= 7 Azm=160
N -0.26 76 278
P -1.29 12 68
Best Double Couple:Mo=1.4*10**17
NP1:Strike=204 Dip=76 Slip=-176
NP2: 113 86 -14

| | | |

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     Z  18s      0.60um          5.1Msz
ZOBO  156.40   5 ePKP  17 12.00  -7.6X
     Z  20s      0.47um          5.3Msz
                e       17 20.00
                LR      51 08.00
LPB   156.66   5 (PKP) 17 25.00   5.2X
CNCB  156.94   5 PKP   17 23.00   2.7
     S.D. = 1.3  on 125 of 146 obs.
-----------------------------------------
?  OCT  18, 1989  15h 15m 28.98± 1.04s
   39.860 N ±13.3km  114.100 E ± 8.6km
   DEPTH =  10.0km  (geophysicist)
 NORTHEASTERN CHINA                (658)
      ML 3.7 (BJI).

BJI     1.61  83 Pn     15 57.60   0.2
                 Pg     15 59.00
                 Sg     16 23.00
TIY     2.51 212 Pg     16 10.80   0.3
                 Sn     16 40.20
                 Sg     16 43.20
BTO     3.21 285 iPgc   16 20.40  -0.1
                 Sg     16 58.60
TIA     4.35 146 ePn    16 36.40  -0.3
                 ePg    16 51.40
                 Sg     17 44.60
     S.D. = 0.5  on   4 of   4 obs.
-----------------------------------------
*  OCT  18, 1989  15h 32m 19.00± 0.72s
   7.752 N ±15.4km   50.844 W ±17.1km
   DEPTH =  10.0km  (geophysicist)
   4.6mb (  7 obs.) 3.9Msz (  1 obs.)
 NORTH ATLANTIC OCEAN              (402)

BAO    23.41 173 eP    37 29.10  -0.2
UPA    28.41 275 (P)   38 16.00   0.0
     Z  20s      0.32um          3.9Msz
                e       42 43.80
EPF    56.87  43 eP    42 05.20  -1.3
LFF    57.88  41 eP    42 12.40  -1.1
MFF    58.00  39 eP    42 13.00  -1.3
LPF    58.09  37 eP    42 13.60  -1.2
       0.7s     6.60nm          4.8mb
CAF    58.74  42 eP    42 18.70  -0.9
TCF    59.36  40 eP    42 23.50  -0.3
       1.1s    14.60nm          5.0mb
MAF    59.57  40 eP    42 25.20   0.0
BGF    59.87  40 eP    42 27.20  -0.1
       0.9s     9.80nm          4.9mb
AVF    60.28  40 eP    42 30.20   0.1
       0.7s     2.60nm          4.5mb
SSF    60.48  40 eP    42 31.60   0.1
SMF    60.54  40 eP    42 32.30   0.4
       0.7s     2.60nm          4.5mb
LBF    60.75  40 eP    42 33.50   0.1
       0.7s     3.30nm          4.6mb
LOR    60.79  40 eP    42 33.40  -0.1
DOI    62.07  43 P     42 44.50   2.1
BSF    62.84  40 eP    42 48.60   1.1
VAI    63.51  42 P     42 54.00   2.3
FVI    66.38  42 P     43 14.00   3.7X
KHC    67.54  40 iPc   43 22.00   4.3X
CLL    67.76  37 iP    43 31.40  12.4X
       1.1s    14.00nm
ZST    69.60  41 e(P)  43 35.00   4.6X
HFS    70.78  29 eP    43 45.50   8.2X
       0.5s     2.10nm          4.5mb
     S.D. = 1.1  on  18 of  23 obs.
-----------------------------------------
&  OCT  18, 1989  15h 33m 15.10s
   36.797 N          121.578 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 2.7 (BRK).

PRS     0.49 160 iPd    33 24.60  -0.4
LLA     0.54 109 iPc    33 25.60  -0.4
                iS      33 33.50
MHC     0.55 355 iPd    33 26.30   0.2
                iS      33 34.20
ARN     0.55   4 iPd    33 26.00  -0.2
PCC     0.95 318 eP     33 32.40  -1.2
PRI     0.98 131 eP     33 33.70  -0.5
BRK     1.20 333 eP     33 37.90   0.0
CMB     1.56  37 eP     33 43.00  -0.4
       8 obs. associated
-----------------------------------------
%  OCT  18, 1989  15h 41m 39.75± 1.15s
   39.851 N ±13.1km  113.862 E ±10.4km
   DEPTH =  10.0km  (geophysicist)
 NORTHEASTERN CHINA                (658)
      ML 3.6 (BJI).

BJI     1.79  83 Pn     42 10.00  -0.8
                 Pg     42 11.30
                 Sg     42 35.00
HHC     2.02 300 Pg     42 15.00   0.6
                 eSg    42 42.40
TIY     2.41 208 Pnc    42 20.60   0.7
                 Pg     42 23.50
                 Sg     42 56.10
BTO     3.04 285 ePg    42 33.00   4.2X
                 Sg     43 10.80
TIA     4.45 144 ePn    42 50.10   1.2
                 ePg    43 03.50
                 Sg     43 57.80
XAN     7.02 216 Pn     43 23.40  -1.7
     S.D. = 1.8  on   5 of   6 obs.
-----------------------------------------
   OCT  18, 1989  16h 19m 02.83± 0.29s
   18.016 S ± 9.4km  176.328 W ± 8.1km
   DEPTH = 208.3km  (  2 depth phases)
   5.4mb ( 22 obs.)
 FIJI ISLANDS REGION               (181)
      CENTROID, MOMENT TENSOR      (HRV)
      Data Used: GDSN
      L.P.B.:  8S, 13C
      Centroid Locotion:
      Origin Time        16:19:10.6 2.0
      Lat 18.31S 0.17 Lon 176.44W 0.18
      Dep 348.5 8.3 Half-duration  1.5
      Moment Tensor;   Scole 10**16 Nm
        Mrr= 1.62 0.71   Mtt=-6.52 1.13
        Mff= 4.90 0.99   Mrt=-1.33 1.12
        Mrf= 7.95 1.04   Mtf= 1.91 0.93
       Principol Axes:
        T  Val= 11.40   Plg=39   Azm=273
        N       -3.31        41       139
        P       -8.09        25        25
      Best Double Couple:Mo=9.7*10**16
       NP1:Strike= 65 Dip=42 Slip=  12
       NP2:       326      82       131

SVA     4.96 268 iPd    20 29.60  12.0X
                 eS     24 46.90
AFI     5.99  48 iPc    20 10.00 -20.8X
                 eS     21 08.00
PVC    14.63 269 iPc    22 32.20  10.8X
DZM    16.68 253 iPc    22 51.00   4.5X
KRP    21.08 198 (P)    23 29.00  -2.7
                 i      23 32.00
PGZ    23.41 194 P      23 47.90  -6.4X
MTW    24.11 195 P      23 54.70  -6.2X
CAW    24.17 196 P      23 53.50  -8.0X
TCW    24.49 197 P      23 59.30  -5.1X
MSZ    29.68 203 P      24 46.50  -4.5X
BRS    29.92 246 iPc    24 55.50   2.0
       1.0s    52.00nm          5.2mb
                 i      24 59.00
                 i      25 05.00
COO    31.43 241 iPc    25 08.10   1.4
RMQ    33.31 249 iPd    25 25.20   2.2
       0.5s   124.00nm          5.8mb
                 i      25 39.20
CNB    34.94 234 iPd    25 37.20   0.4
       0.9s    68.00nm          5.3mb
CAN    35.22 234 iPd    25 38.70  -0.4
BWA    35.38 235 iPd    25 38.10  -2.4
CTA    35.38 261 iPd    25 42.20   1.6
       1.0s   114.00nm          5.4mb
                 i      26 27.30
PMG    36.44 279 eP     25 54.00   4.6X
CMS    36.70 241 ePd    25 52.50   1.0
QLP    37.35 250 iPd    25 57.70   0.7
LAT    37.48 283 eP     26 03.00   4.8X
TOO    38.65 232 iPd    26 07.50  -0.3
       0.6s    36.00nm          5.2mb
STK    40.32 242 ePd    26 23.70   2.2
BFD    40.76 234 eP     26 24.00  -1.0
QIS    41.58 259 iPc    26 32.80   0.8
ADE    43.25 238 iPd    26 45 00  -0.4
       0.8s    83.58nm          5.3mb
WB5    46.54 259 iPd    27 12.00   0.4
ASPA   46.67 254 iPd    27 13.50   0.9
       0.6s  1087.00nm          6.4mb X
                iPcP    29 45.00
                eS      33 51.60
GUA    49.45 307 eP     27 35.20   1.2
       0.7s   136.99nm          5.5mb
GUMO   49.51 307 eP     27 36.10   1.7
       0.8s   112.74nm          5.4mb
MTN    50.78 268 iPd    27 44.60   0.5
FORR   51.72 245 iPd    27 50.20  -0.8
KNA    52.43 264 iPd    27 56.90   0.5
       0.4s    78.00nm          5.7mb
WARB   53.11 250 iPd    28 01.00  -0.3
       0.3s    28.00nm          5.3mb
AAI    56.09 278 ePd    28 23.50   0.5
COOL   57.70 244 iPd    28 32.20  -1.9
       0.5s    20.00nm          5.1mb
MBL    59.87 256 iPd    28 57.30   8.2X
MEKA   60.32 249 iPc    28 51.10  -1.1
       0.4s    25.00nm          5.3mb
KLB    60.55 243 eP     28 51.60  -2.0
       0.3s     8.00nm          4.9mb
NWAO   60.91 242 eP     28 54.00  -2.1
BAL    61.53 245 iPd    28 58.50  -1.7
       0.4s    27.00nm          5.4mb
MRWA   62.27 246 iPc    29 03.90  -1.2
NANU   63.59 253 eP     29 13.50  -0.3
PCI    64.89 278 ePd    29 26.90   4.6X
       1.1s    15.00nm          4.7mb
KHKI   66.66 269 ePd    29 32.60  -1.0
KAKJ   67.82 323 P      29 38.50  -1.8
CHJJ   68.39 322 P      29 42.60  -1.3
IIDJ   68.64 321 P      29 44.10  -1.4
MAT    69.19 322 iPd    29 47.10  -1.7
       0.8s    63.43nm          5.4mb
NIIJ   69.22 323 P      29 47.50  -1.4
MTMJ   69.46 322 P      29 49.20  -1.3
TSRJ   69.84 320 P      29 51.90  -0.9
KAGJ   70.44 314 P      29 56.30  -0.2
KUMJ   71.28 315 P      30 01.00  -0.5
SHNJ   72.05 316 P      30 04.50  -1.5
SPA    72.10 180 e(P)   29 59.70  -6.3X
       1.0s    16.50nm          4.7mb
QZH    76.40 302 eP     30 31.50   0.4
SSE    77.34 309 P      30 36.00  -0.1
       0.8s     0.01nm          1.7mb X
KVN    78.62  42 eP     30 33.90  -9.4X
                pP     31 23.60 206km
MDJ    79.42 324 eP     30 45.00  -2.2
NJ2    79.54 309 Pd     30 47.90  -0.2
DL2    81.04 316 eP     30 58.00   2.2
WHN    82.27 305 eP     31 02.50   0.1
TIA    82.79 312 eP     31 04.60  -0.3
MAW    84.42 199 eP     31 07.50  -5.1X
IPM    84.43 277 ePd    31 14.20   0.6
       0.8s   242.30nm          6.0mb
ALQ    84.62  51 eP     31 04.10 -10.3X
                pP     31 55.60 211km
BJI    85.26 315 Pd     31 16.00  -1.2
FBA    85.49  12 eP     31 10.80  -7.0X
SNG    85.64 279 eP     31 21.20   1.6
       1.1s   329.11nm          6.0mb
PSI    85.83 274 ePd    31 20.50  -0.1
       0.8s   159.30nm          5.9mb
GYA    86.82 299 eP     31 25.40   0.1
TIY    86.82 311 Pd     31 25.00   0.0
XAN    87.90 307 P      31 30.00  -0.2
LOE    87.94 289 eP     31 31.00   0.4
NNT    88.19 284 iPd    31 33.00   1.1
NST    88.82 287 eP     31 37.00   2.2
KMI    89.65 296 Pd     31 39.50   0.7
                e      31 40.00
BDT    90.35 288 iPd    31 40.00  -1.8
       1.0s    54.50nm          5.5mb
CHG    90.90 289 iPc    31 45.00   0.6
       0.8s    26.12nm          5.3mb
CHTO   90.90 289 ePd    31 44.70   0.3
INK    91.48  15 eP     31 39.00  -7.0X
GTA    96.63 309 eP     32 09.40  -1.0
SOD   128.50 349 ePKP   37 40.00  -5.7X
SUF   132.69 346 iPKP   37 47.30  -6.5X
       0.6s     4.70nm
BUL   134.87 214 iPKPc  37 53.90  -5.5X
       1.0s     4.50nm
NUR   134.97 345 ePKP   37 52.00  -6.1X
APO   136.90 353 ePKP   37 44.30 -17.5X
       0.4s     1.80nm
KVT   143.98 317 ePKP   38 11.40  -3.7X
```

18d 16h

KAS	145.29	318	iPKPd	38	16.60	-0.8
KRA	145.47	341	ePKPd	38	13.00	-4.3X
KSP	145.74	346	ePKP	38	12.60	-5.1X
	0.7s		65.00nm			
			id	38	13.80	
			ic	39	09.40	
CLL	145.96	350	iPKP	38	13.70	-4.4X
	1.4s		95.00nm			
			e	39	10.00	
WTS	146.00	357	ePKP	38	13.50	-4.6X
	0.8s		31.00nm			
			e	39	11.50	
SPC	146.14	340	iPKP	38	15.90	-2.8X
VRI	146.27	330	ePKPd	38	16.50	-2.3
MLR	146.92	331	iPKPc	38	18.00	-2.0
PRU	146.93	347	iPKPd	38	17.00	-2.7
	1.0s		21.70nm			
			i	38	19.50	
HOF	147.11	350	iPKPd	38	17.40	-2.6
	1.2s		35.00nm			
BHL	147.35	305	PKP	38	21.00	0.0
MEM	147.43	357	PKP	38	17.80	-2.6
SNF	147.58	359	PKP	38	18.00	-2.7
KHC	147.94	348	iPKPc	38	16.40	-5.0X
			i	38	19.90	
ZST	147.97	343	iPKP	38	20.00	-1.4
			e	39	16.00	
DOU	147.99	359	PKP	38	19.30	-2.1
GPA	148.06	320	ePKP	38	21.00	-0.9
WET	148.07	349	ePKP	38	20.10	-1.5
VKA	148.11	344	iPKPd	38	20.70	-1.0
	0.6s		21.60nm			
DSI	148.34	301	ePKP	38	21.00	-1.5
WLF	148.37	357	PKPd	38	20.60	-1.3
LFK	148.42	309	iPKP	38	23.00	0.4
AYN	148.53	296	iPKPd	38	24.00	1.1
WAJH	148.53	291	ePKPd	38	24.00	1.0
KMR	148.84	346	iPKP-	38	22.30	-0.5
GWF	148.95	355	PKP	38	21.92	-1.1
PRNI	149.01	299	iPKPd	38	23.00	-0.7
FLN	149.15	5	ePKP	38	21.00	-2.2
	1.1s		58.60nm			
HOL	149.24	297	iPKPd	38	25.30	1.3
FUR	149.29	350	iPKPc	38	23.50	0.0
LDF	149.34	5	ePKP	38	21.50	-2.0
	1.1s		29.30nm			
BHG	149.43	348	iPKPd	38	23.20	-0.5
	1.0s		28.00nm			
BADA	149.46	296	iPKPd	38	26.00	1.7
GRR	149.48	6	ePKP	38	22.00	-1.7
	0.9s		29.50nm			
WLS	149.53	355	PKP	38	23.08	-0.8
CDF	149.54	355	ePKP	38	22.90	-1.1
	0.7s		18.75nm			
KHL	149.70	317	ePKP	38	25.50	1.0
ECH	149.74	355	PKP	38	23.17	-1.0
LPF	149.82	6	ePKP	38	22.80	-1.4
	0.9s		31.10nm			
VITF	149.82	357	PKP	38	23.55	-0.7
FEL	150.01	354	PKP	38	24.13	-0.6
HAU	150.01	356	ePKP	38	23.90	-0.7
	0.7s		23.15nm			
SLE	150.07	353	ePKPd	38	24.30	-0.4
BSF	150.15	356	ePKP	38	24.10	-0.8
	0.8s		12.10nm			
RZN	150.33	327	iPKPd	38	27.00	1.5
ZLA	150.36	354	ePKPd	38	25.10	-0.1
PTJ	150.38	343	e(PKP)	38	25.60	0.3
SAX	150.47	352	ePKPd	38	25.80	0.1
FVI	150.52	347	PKP	38	25.10	-0.2
OGA	150.59	350	iPKPd	38	25.80	0.0
LOMF	150.63	356	PKP	38	25.72	0.1
LJU	150.63	344	e(PKP)	38	20.00	-5.6X
			i	38	26.00	
VOY	150.80	345	ePKP	38	20.00	-6.0X
			i	38	26.00	
LOR	150.83	360	ePKP	38	25.50	-0.3
	1.0s		31.00nm			
LLS	150.89	352	ePKPd	38	26.60	0.4
OSS	150.91	351	ePKPd	38	27.00	0.8
VBY	150.94	343	ePKP	38	21.10	-4.9X
			i	38	27.40	
CEY	150.94	344	ePKP	38	27.00	0.9
KKB	151.02	329	iPKP	38	28.00	1.7
SSF	151.03	0	ePKP	38	26.20	0.1
	0.9s		29.50nm			
LBF	151.11	360	ePKP	38	26.30	0.0
	0.7s		20.40nm			
TRI	151.14	345	iPKPd	38	26.80	0.5
VDL	151.21	352	ePKPd	38	27.40	0.7
AVF	151.30	0	ePKP	38	26.40	-0.1
	0.9s		11.45nm			
MFF	151.32	5	ePKP	38	26.10	-0.5
	0.8s		13.45nm			
SMF	151.45	360	ePKP	38	26.70	-0.1
BGF	151.53	1	ePKP	38	27.10	0.2
	0.6s		25.25nm			
TMA	151.66	352	ePKPd	38	28.30	1.0
SKO	151.71	331	iPKP	38	29.00	1.7
			i	38	40.30	
TCF	151.78	2	ePKP	38	27.40	0.1
	0.6s		10.80nm			
LSF	151.79	3	ePKP	38	27.30	0.0
	0.7s		22.05nm			
MMK	151.82	354	ePKPd	38	29.30	1.6
DIX	151.84	354	ePKPd	38	29.40	1.7
MAF	151.86	2	ePKP	38	27.90	0.5
	0.7s		19.85nm			
EMS	151.89	355	ePKPd	38	29.40	1.7
VAI	151.91	352	PKPd	38	28.40	1.0
GRG	152.04	329	ePKP	38	29.30	1.4
PAIG	152.14	326	ePKP	38	41.30	13.3X
ORX	152.23	354	PKP	38	28.41	0.3
LPG	152.48	355	ePKP	38	30.50	1.8
	0.6s		7.20nm			
LSD	152.48	355	PKP	38	30.67	2.0
LIT	152.64	327	ePKP	38	30.50	1.8
OHR	152.69	331	ePKP	38	30.80	2.0
	1.1s		0.06nm			
RJF	152.73	3	ePKP	38	29.50	0.8
RSP	152.78	354	PKP	38	30.15	1.3
BOB	152.89	351	PKPd	38	31.00	2.0
BNI	152.93	355	PKPc	38	32.20	3.1X
LFF	153.04	5	ePKP	38	30.20	1.1
RRL	153.05	355	PKP	38	31.79	2.4
CAF	153.14	3	ePKP	38	30.70	1.4
PCP	153.24	352	PKP	38	31.90	2.4
LPO	153.33	4	ePKP	38	31.30	1.8
	0.5s		5.10nm			
PGD	153.34	347	PKP	38	33.50	3.7X
ARV	153.41	345	PKP	38	46.50	16.8X
PZZ	153.43	355	PKP	38	30.97	1.1
ROB	153.56	353	PKP	38	31.38	1.5
FIN	153.61	353	PKP	38	31.28	1.3
STV	153.67	354	PKP	38	30.87	0.8
ENR	153.68	354	PKP	38	30.67	0.5
ASS	153.89	345	PKP	38	45.00	14.6X
IMI	153.94	353	PKP	38	32.62	2.2
SDI	154.84	342	PKP	38	46.50	14.8X
SGO	155.40	338	PKP	38	37.50	5.1X
BCAO	160.16	229	iPKPd	38	33.10	-5.8X
	0.5s		4.00nm			
			ic	39	17.20	
LIC	165.53	143	PKP	38	36.60	-7.4X
KIC	165.80	144	PKP	38	37.00	-7.2X
TIC	165.87	142	PKP	38	37.00	-7.3X

S.D. = 1.3 on 151 of 196 obs.

OCT 18, 1989 16h 35m 46.40± 0.84s
43.151 N ± 7.5km 12.920 E ± 7.1km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.5 (SSO).

CIO	0.17	75	iPg	35	50.37	0.1
			iSg	35	54.54	
ASS	0.21	247	Pc	35	50.00	-0.9
			eSg	35	53.50	
ARV	0.35	3	Pc	35	53.90	0.3
			eSg	36	00.70	
SSO	0.39	69	e(Pg)	35	54.58	0.1
ALP	0.61	127	e(Pg)	35	57.72	-1.0
			eSg	36	08.65	
MNS	0.79	193	P	36	03.20	1.5
			eSg	36	16.00	

S.D. = 1.2 on 6 of 6 obs.

& OCT 18, 1989 16h 51m 18.00s
37.052 N 121.765 W
DEPTH = 10.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

MHC	0.31	19	iPd	51	24.60	0.2
ARN	0.35	32	iPd	51	25.10	-0.1
PCC	0.66	312	eP	51	30.30	-0.9
LLA	0.79	123	iPc	51	32.20	-1.2
BKS	0.90	336	iPc	51	34.60	-0.7
			iS	51	48.90	
BRK	0.91	334	eP	51	34.30	-1.1
			eS	51	47.70	
PRI	1.27	135	eP	51	40.40	-1.2
CMB	1.47	48	ePc	51	43.40	-1.2
	8 obs. associated					

% OCT 18, 1989 16h 52m 55.55± 0.87s
39.900 N ±12.5km 113.876 E ± 7.3km
DEPTH = 10.0km (geophysicist)
NORTHEASTERN CHINA (658)
ML 4.2 (BJI).

BJI	1.77	85	Pnd-	53	28.00	1.6
			Pg	53	29.50	
			Sg	53	53.50	
TIY	2.46	208	Pnc	53	38.00	1.6
			Pg	53	40.40	
			Sg	54	12.80	
BTO	3.03	285	Pn	53	45.60	1.0
			Pg	53	48.60	
			Sg	54	25.90	
TIA	4.49	144	ePn	54	04.30	-0.8
			Pg	54	16.30	
			Sg	55	15.10	
XAN	7.07	216	Pn	54	40.70	-0.9
			Sg	56	38.00	
SNY	7.60	72	iPnc	54	47.80	-1.2
			ePg	55	16.00	
			Sg	56	53.90	
LZH	8.79	247	eP	55	05.50	-0.2
NJ2	8.81	151	eP	55	12.20	6.4X
GTA	10.86	272	eP	55	33.00	-1.1
WMO	19.86	290	eP	57	34.00	4.4X

S.D. = 1.4 on 8 of 10 obs.

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* OCT 18, 1989 16h 56m 15.85± 1.01s
60.421 N ± 6.5km 5.149 E ±11.5km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
ML 1.3 (BER).

ASK	0.07	20	iPg	56	18.47	0.3
			iSg	56	20.32	
BER	0.10	112	ePg	56	19.20	0.7
			eSg	56	21.46	
SUE	0.67	344	iP	56	28.84	-0.2
			eS	56	38.83	
HYA	0.90	34	eP	56	33.57	0.4
			eS	56	47.02	
KMY	1.21	178	iP	56	38.38	0.0
			eS	56	53.70	
NRA0	3.17	82	eP	57	05.60	-1.1
			iSg	57	58.20	

S.D. = 0.8 on 6 of 6 obs.

OCT 18, 1989 16h 56m 27.80± 0.71s
7.375 N ± 6.9km 127.055 E ± 9.3km
DEPTH = 75.6 ± 6.2 km
4.8mb (5 obs.)
PHILIPPINE ISLANDS REGION (248)

DAV	1.50	259	ePc	56	52.00	-1.3
	1.0s		3184.00nm			
MNI	6.29	201	eP	58	01.20	1.2
TSM	9.47	251	ePc	58	46.10	2.4
PCI	10.93	221	ePd	59	07.50	4.0X
BAG	10.99	325	eP	59	08.00	3.5X
QIZ	20.35	306	eP	00	58.30	-2.2
MTN	20.49	169	eP	01	01.00	-1.0
KNA	23.04	176	eP	01	27.70	0.4
KLI	25.27	242	eP	01	50.50	1.8
			e	03	17.50	
LOE	26.63	294	eP	02	03.00	1.6
NST	27.61	290	eP	02	15.00	4.8X
WB5	28.02	165	eP	02	12.30	-1.6
MBL	29.23	194	eP	02	23.00	-1.7
QIS	30.38	156	iPc	02	33.80	-1.1
			e	08	34.00	
MAT	30.77	18	(P)	02	36.00	-2.2
	0.8s		8.21nm			4.5mb
ASPA	31.57	168	iPc	02	44.10	-1.3
			eS	07	47.00	

CTA	33.19	146	iPc	03	00.30	0.7
	0.8s	10.07nm			4.7mb	
WARB	33.36	181	eP	03	00.30	-0.6
MEKA	34.78	193	eP	03	12.50	-0.7
MDJ	37.16	3	eP	03	34.00	1.0
MRWA	37.91	196	eP	03	39.00	-0.5
FORR	38.02	179	eP	03	40.00	-0.3
BAL	39.05	194	eP	03	48.30	-0.7
KLB	39.75	192	eP	03	54.30	-0.5
	0.3s	4.00nm			4.8mb	
GTA	40.20	327	eP	04	11.40	12.8X
Z	10s	42.20um			6.6MszX	
N	10s	378.00um				
MUN	40.48	194	iPd	04	00.90	0.1
NWAO	41.15	193	eP	04	06.50	0.2
	0.5s	13.00nm			5.0mb	
STK	41.43	161	eP	04	09.00	0.4
BWA	46.23	155	eP	04	49.20	1.9
CAN	47.24	155	eP	04	56.40	1.1
HYB	48.29	287	eP	05	01.50	-2.2
GBA	49.11	282	P	05	09.00	-1.0
WMQ	49.98	323	P	05	15.80	-0.6
MAIO	67.60	306	eP	07	18.00	-0.9
KVT	85.97	311	eP	09	02.50	1.3
MBC	88.35	13	eP	09	13.50	1.5
	0.6s	5.00nm			4.9mb	
		pP		09	25.50	39kmX
TNP	105.16	47	ePKP	14	32.30	-11.4X
CLC	105.71	50	ePKP	14	41.00	-3.6X
MWC	105.93	51	ePKP	14	49.00	3.7X
SBB	105.95	51	ePKP	14	44.00	-1.1
GSC	106.50	50	ePKP	14	49.00	2.8X
RVR	106.54	51	ePKP	14	48.00	1.8
TPC	107.53	51	ePKP	14	54.00	5.9X
BAR	107.56	52	ePKP	14	53.00	4.8X
BCAO	107.72	277	iPKPc	14	44.70	-4.3X
	0.6s	6.00nm				
GOL	112.67	42	ePKP	14	51.50	-6.4X
ALQ	114.32	46	e(PKP)	15	10.00	8.7X
Z	18s	1.55um			5.7Msz	
KIC	130.02	285	PKPd	15	32.70	1.1
TIC	130.21	285	PKP	15	32.80	0.9
LIC	130.33	285	PKP	15	33.00	0.9
Z	22s	0.80um			5.4Msz	
ZOBO	162.72	122	ePKP	16	25.00	1.5
S.D. = 1.4 on 38 of 51 obs.						

& OCT 18, 1989 16h 58m 01.80s
37.010 N 121.830 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.5 (BRK).

MHC	0.36	24	iPd	58	09.20	0.0
ARN	0.41	35	iPd	58	09.70	-0.5
PCC	0.66	318	eP	58	14.50	-0.5
PRS	0.77	151	iPd	58	16.20	-0.9
LLA	0.81	119	iPc	58	16.80	-1.1
BKS	0.92	340	iPd	58	18.60	-1.1
			iS	58	32.60	
BRK	0.93	338	eP	58	18.60	-1.2
			iS	58	32.30	
PRI	1.28	132	eP	58	24.70	-1.1
CMB	1.54	48	iPc	58	28.10	-1.6
FRI	1.70	90	eP	58	30.20	-1.8
10 obs. ossocioted						

OCT 18, 1989 17h 01m 34.98± 0.17s
39.985 N ± 3.7km 113.990 E ± 3.0km
DEPTH = 10.5km (6 depth phases)
5.2mb (56 obs.) 5.6Msz (6 obs.)
NORTHEASTERN CHINA (658)
Felt in the Datong oreo.
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 11S, 50C
Centroid Location:
Origin Time 17:01:39.4 0.1
Lot 39.77N 0.03 Lon 113.49E 0.04
Dep 15.0 FIX Holf-duration 2.4
Moment Tensor; Scole 10**17 Nm
Mrr=-0.64 0.10 Mtt= 2.39 0.07
Mff=-1.74 0.11 Mrt=-0.70 0.30
Mrf= 0.34 0.20 Mtf= 2.49 0.11
Principol Axes:

	Vol=	Plg=	Azm=
T	3.61	7	155
N	-0.55	74	270
P	-3.07	14	64

Best Double Couple:Mo=3.3*10**17
NP1:Strike=200 Dip=75 Slip=-175
NP2: 109 85 -15

BJI	1.68	87	Pgd-	02	05.50	1.1
			Sg	02	29.50	
HHC	2.04	296	Pn	02	09.00	-0.9
			Pg	02	10.20	
			Sg	02	36.50	
TIY	2.57	209	Pnc	02	16.20	-1.2
			Pg	02	18.70	
			Sg	02	47.20	
BTO	3.10	283	Pn	02	23.00	-1.8
			Pg	02	28.00	
			Sg	03	05.00	
TIA	4.51	146	Pnd	02	42.80	-2.0
N	13s	118.00um				
			Pg	02	56.60	
			Sg	03	53.50	
DL2	6.01	98	Pnc	03	06.00	0.0
			Sg	04	49.60	
XAN	7.19	216	Pn	03	19.00	-3.6X
			Pg	03	43.50	
			Sg	05	12.00	
SNY	7.49	73	iPnd	03	26.60	-0.2
Z	13s	40.40um				
E	10s	27.50um				
			Pg	03	54.00	
			Sg	05	34.40	
NJ2	8.84	152	eP	03	43.50	-2.1
N	12s	23.10um				
E	11s	27.10um				
			S	05	18.60	
LZH	8.90	247	eP	03	42.50	-4.1X
Z	10s	40.50um				
			Lg	06	11.00	
CN2	9.36	62	eP	03	52.00	-0.8
CN2	9.36	62	eP	04	29.40	36.6X
			eS	06	53.50	
WHN	9.42	178	eP	03	50.00	-3.7X
Z	12s	18.10um				
E	12s	27.60um				
			pP	03	55.50	
SSE	10.63	144	P+	04	12.00	1.8
	6.0s	0.90nm			3.3mb X	
Z	16s	20.90um			4.5Msz	
N	11s	16.90um				
E	12s	11.90um				
			pP	04	15.00	
			i	04	49.50	
			eS	06	16.00	
			Lg	07	32.00	
MDJ	12.44	63	eP	04	34.00	-0.8
GYA	14.81	207	iPd	05	04.50	-1.8
Z	16s	20.60um				
N	12s	51.10um				
E	12s	45.20um				
			pP	05	11.00	
			sP	05	15.00	
			S	07	55.00	
QZH	15.49	164	eP	05	15.50	0.5
Z	12s	22.30um				
E	12s	2.39um				
ANP	16.05	155	eP	05	26.00	3.6X
			eS	10	39.00	
YONJ	16.16	101	eP	05	30.60	7.0X
TKSJ	17.10	104	eP	05	37.10	1.6
KMI	17.57	216	Pd	05	39.50	-2.2
N	12s	42.10um				
E	12s	58.90um				
			eS	08	52.00	
			sS	09	00.00	
HKC	17.63	179	iP	05	46.10	3.9X
			S	09	08.00	
TSRJ	17.94	97	P	05	49.30	3.4X
WKYJ	18.15	102	eP	05	52.10	3.4X
MTMJ	18.99	93	P	06	00.90	1.9
MAT	19.31	93	eP	06	03.00	0.1
	1.8s	281.82nm			5.2mb	
Z	20s	6.74um			5.2MszX	
			eS	09	42.00	
IIDJ	19.43	96	P	06	05.40	1.1
NIIJ	19.72	90	P	06	06.10	-1.4
WMQ	19.91	290	eP	06	08.00	-1.5
	5.0s	2.90nm			2.9mb X	
Z	10s	14.00um			6.0MszX	
N	10s	14.70um				
			S	09	52.00	
CHJJ	20.07	93	P	06	14.70	3.6X
AOMJ	20.12	80	eP	06	15.60	4.0X
YAMJ	20.28	87	eP	06	13.00	-0.4
KAKJ	20.92	92	P	06	19.00	-1.0
QIZ	21.19	191	eP	06	21.90	-0.9
N	11s	15.30um				
E	11s	40.80um				
			eS	10	12.50	
LSA	21.32	248	iPc	06	23.80	-0.7
			sP	06	32.00	
			S	10	20.00	
OFUJ	21.34	83	eP	06	22.30	-1.9
ASAJ	21.62	70	eP	06	29.30	2.3
HOOJ	22.13	74	eP	06	32.70	0.6
KUSJ	23.14	72	eP	06	42.70	0.7
BAG	24.18	164	eP	06	54.30	1.8
			e	11	18.00	
CHG	24.77	216	eP	06	57.00	-1.1
	1.5s	159.72nm			5.5mb	
CHTO	24.77	216	eP	06	57.00	-1.0
			epP	07	00.00	11km
BDT	26.13	214	eP	07	10.00	-0.8
	0.9s	36.30nm			5.1mb	
NST	27.07	210	eP	07	22.00	2.5
KSH	29.10	281	eP	07	39.50	1.7
Z	20s	13.10um			5.5Msz	
N	12s	18.30um				
NNT	30.05	209	eP	07	48.00	1.7
NDI	32.18	261	eP	08	06.00	1.0
SNG	34.80	204	eP	08	28.70	0.9
			eS	13	04.00	
			e	21	07.40	
IPM	37.14	202	ePc	08	50.90	3.3X
GUMO	37.75	125	e(P)	08	53.20	0.4
	1.1s	96.58nm			5.5mb	
GUA	37.82	125	e(P)	08	48.50	-4.8X
	0.8s	29.85nm			5.1mb	
HYB	37.99	244	eP	08	54.50	-0.3
	1.2s	71.40nm			5.3mb	
			eS	14	48.00	
QUE	39.32	271	eP	09	07.00	0.9
POO	40.58	250	iPd	09	17.20	0.9
			eS	15	20.00	
GBA	41.44	241	Pc	09	25.30	2.0
	0.9s	12.70nm			4.6mb	
SMY	42.19	52	P	09	30.30	1.2
	0.8s	105.75nm			5.6mb	
MAIO	42.46	283	eP	09	33.00	1.3
			eS	15	48.00	
TAB	51.43	291	eP	10	42.00	-0.3
KEV	52.11	334	eP	10	50.00	3.2X
			e	18	12.00	
			e	21	48.00	
SOD	52.85	331	iP	10	52.10	-0.3
SLY	53.09	289	ePd	10	55.00	0.4
			eS	18	31.00	
MSL	54.45	290	eP	11	03.00	-1.5
			eS	18	45.00	
SUF	54.45	326	eP	11	05.20	1.0
	0.9s	20.40nm			5.2mb	
BHD	54.98	287	ePc	11	08.50	0.0
			eS	18	53.00	
IMA	55.14	30	P	11	07.60	-1.8
	0.9s	11.98nm			4.9mb	
NUR	55.90	323	eP	11	16.00	1.2
	1.0s	28.00nm			5.2mb	
Z	18s	14.40um			6.1Msz	
			e	19	04.00	
			e	22	56.00	
			LR	37	20.00	
SVW	56.15	36	eP	11	16.90	0.2
FBA	57.86	30	eP	11	27.80	-0.8
PMR	58.80	34	eP	11	34.00	-1.2
	0.7s	30.20nm			5.5mb	
KDC	59.01	39	eP	11	36.00	-0.7
MBC	59.23	13	eP	11	37.00	-1.1
	0.9s	48.00nm			5.6mb	
UPP	59.36	324	iP	11	41.70	2.5
			iS	19	48.00	
TOA	59.80	32	eP	11	42.30	0.0
HFS	60.96	326	eP	11	48.10	-2.0
	1.1s	25.40nm			5.3mb	
Z	17s	2.87um			5.5MszX	
			LR	38	09.00	
INK	61.00	23	eP	11	48.00	-2.2

18d 17h

		0.8s	65.00nm			5.8mb	
VRI		61.08	307	ePd	11	50.50	-0.7
WB5		62.52	158	eP	11	59.80	-1.2
				i	12	02.10	7km
KRA		62.98	314	eP	12	03.80	0.0
	Z	18s	4.20um			5.7Msz	
	N	18s	16.40um				
				e	20	38.00	
SPC		63.25	313	eP	12	05.20	-0.6
RZN		64.45	304	iP	12	14.00	0.2
KSP		64.55	316	eP	12	13.80	-0.3
QIS		64.80	153	eP	12	13.00	-2.9
VTS		64.92	305	iPd	12	16.00	-0.9
KKB		65.39	305	iP	12	22.00	2.3
ZST		65.54	313	eP	12	21.00	0.5
VKA		65.94	314	e(P)	12	22.00	-1.1
		3.0s	157.00nm			5.7mb	
	Z	12s	3.60um			5.8MszX	
				LR	43	11.00	
PRU		65.96	316	eP	12	22.50	-0.6
		1.5s	22.30nm			5.1mb	
	Z	14s	7.30um			6.0MszX	
	N	17s	7.70um				
	E	18s	5.80um				
				e	12	26.00	11km
ASPA		65.99	160	eP	12	24.00	0.4
		0.8s	13.00nm			5.2mb	
CLL		66.02	318	eP	12	24.00	0.5
		1.2s	31.00nm			5.4mb	
				eS	21	16.00	
SKO		66.36	306	iP	12	25.00	-0.9
	Z	16s	1.77um			5.4MszX	
	N	19s	5.73um				
	E	17s	6.32um				
				iS	21	21.00	
				LR	38	45.00	
CTA		66.91	147	iPc	12	31.90	2.4
		1.0s	18.00nm			5.2mb	
KHC		66.96	315	iPd	12	29.00	-0.6
		1.2s	15.00nm			5.1mb	
	Z	14s	7.00um			6.0MszX	
	N	14s	7.50um				
	E	14s	4.50um				
HOF		67.18	317	eP	12	30.30	-0.7
		1.3s	38.00nm			5.4mb	
OHR		67.24	305	eP	12	33.00	1.5
KMR		67.27	314	e(P)	12	33.00	1.4
GRF		67.89	317	iPc	12	35.00	-0.4
	Z	19s	3.90um			5.7Msz	
				e	12	38.80	12km
VBY		68.10	311	e(P)	12	38.00	1.2
BHG		68.15	314	eP	12	38.20	1.1
VOY		68.57	313	eP	12	41.30	1.4
WTS		68.73	321	eP	12	42.00	1.4
		1.0s	17.00nm			5.2mb	
TRI		68.83	312	eP	12	40.00	-1.3
FVI		68.87	314	P	12	41.50	0.0
MEM		69.99	320	P	12	51.70	3.4X
WLF		70.51	319	P	12	55.70	4.2X
CDF		70.73	317	eP	12	53.00	0.0
		1.1s	39.00nm			5.4mb	
DUI		70.82	309	P	12	56.50	2.8X
TDS		70.86	306	P	12	52.80	-1.0
SNF		70.90	320	P	12	57.30	3.5X
SGO		70.96	307	P	12	54.50	0.1
SFI		70.99	312	P	12	59.00	4.5X
DOU		71.02	320	P	12	55.80	1.2
				S	22	20.00	
EKA		71.04	327	P	12	54.00	-0.6
		0.7s	3.10nm			4.5mb	
ASS		71.04	311	P	12	58.00	3.1X
MDI		71.06	314	P	12	56.50	1.6
PGD		71.10	312	P	12	57.10	1.7
SDI		71.18	309	P	12	54.00	-1.8
BSF		71.34	317	eP	12	56.30	-0.5
		1.2s	23.80nm			5.2mb	
FIR		71.42	312	e(P)	13	02.00	4.9X
MNS		71.44	310	P	12	57.50	0.1
HAU		71.47	318	eP	12	57.20	-0.2
		1.0s	16.00nm			5.1mb	
MME		71.48	312	P	12	58.90	1.1
VAI		71.52	315	P	12	56.50	-1.2
BDI		71.62	312	P	12	57.50	-1.0
BOB		71.83	313	P	13	00.00	0.3
ORX		72.10	315	P	13	03.38	2.1
PCP		72.48	314	P	13	08.40	4.9X
LSD		72.66	315	P	13	05.33	0.5
CKI		72.70	314	P	13	04.50	-0.2
RSP		72.80	315	P	13	05.53	0.1
LPG		72.85	315	eP	13	05.90	-0.1
		1.2s	42.80nm			5.4mb	
FIN		72.87	314	P	13	07.28	1.5
ROB		73.01	314	P	13	08.81	2.2
BNI		73.18	315	P	13	11.50	3.8X
RRL		73.20	315	P	13	07.58	-0.4
DOI		73.22	314	P	13	06.00	-1.9
LOR		73.23	318	eP	13	06.90	-0.9
		1.1s	15.60nm			5.0mb	
IMI		73.24	314	P	13	07.89	-0.1
LBF		73.35	318	eP	13	07.70	-0.9
		1.1s	12.20nm			4.9mb	
SBF		73.52	314	eP	13	08.90	-0.7
		1.2s	32.10nm			5.3mb	
CVF		73.54	312	eP	13	09.30	-0.4
		1.3s	21.60nm			5.0mb	
SSF		73.54	318	eP	13	09.40	-0.2
		1.4s	21.70nm			5.0mb	
SMF		73.65	318	eP	13	09.90	-0.3
		1.3s	50.50nm			5.4mb	
AVF		73.80	318	eP	13	10.90	-0.2
		1.3s	30.30nm			5.2mb	
FRF		74.16	314	eP	13	12.70	-0.5
LDF		74.32	321	eP	13	13.90	-0.2
		1.0s	20.00nm			5.1mb	
FLN		74.38	321	eP	13	14.30	-0.1
		1.3s	38.90nm			5.3mb	
LMR		74.38	314	eP	13	14.20	-0.3
		1.3s	31.70nm			5.2mb	
LRG		74.38	314	eP	13	14.40	-0.1
		1.4s	43.50nm			5.3mb	
MAF		74.59	318	eP	13	15.90	0.2
		1.3s	39.70nm			5.3mb	
TCF		74.73	318	eP	13	16.50	0.0
		1.1s	12.20nm			4.8mb	
GRR		74.82	321	eP	13	16.80	-0.1
		1.1s	36.10nm			5.3mb	
LSF		75.10	318	eP	13	18.30	-0.3
		1.3s	25.20nm			5.1mb	
LPF		75.15	321	eP	13	19.00	0.1
		1.1s	26.30nm			5.2mb	
MFF		75.70	320	eP	13	22.40	0.4
		1.1s	26.30nm			5.2mb	
CAF		75.72	317	eP	13	22.70	0.5
		1.1s	14.60nm			5.0mb	
RJF		75.75	318	eP	13	22.90	0.6
		1.2s	23.80nm			5.1mb	
LPO		76.34	317	eP	13	26.20	0.5
		1.2s	23.80nm			5.2mb	
LFF		76.40	318	eP	13	26.80	0.8
		1.2s	41.60nm			5.4mb	
EPF		77.93	317	eP	13	34.20	-0.4
		1.1s	9.70nm			4.8mb	
EDM		78.56	27	iPc	13	36.90	-0.9
		0.7s	26.00nm			5.4mb	
DZM		78.74	131	iPc	13	39.90	0.6
RMW		79.80	35	P	13	45.00	0.2
LON		80.34	35	P	13	47.50	-0.1
FFC		80.76	20	eP	13	48.00	-1.6
		0.8s	21.00nm			5.2mb	
NAI		81.01	261	iP	13	54.50	2.7
		1.0s	16.00nm			5.0mb	
TOL		82.48	317	iPc	14	03.50	4.6X
		1.3s	76.92nm			5.7mb	
				eS	24	24.00	
				eSS	29	42.00	
				eSSS	33	18.00	
SCH		85.57	0	ePd	14	14.00	-0.2
		0.9s	53.00nm			5.7mb	
ORV		86.02	40	eP	14	16.20	-0.6
RSON		86.34	17	P	14	15.00	-3.1X
		1.0s	23.59nm			5.3mb	
CMB		87.75	40	eP	14	26.00	0.7
KVN		88.05	38	eP	14	27.80	0.9
				pP	14	31.20	11km
FRI		88.90	40	eP	14	30.80	0.1
RSSD		89.54	26	eP	14	33.80	-0.1
				pP	14	37.40	11km
ISA		90.56	40	eP	14	43.00	4.4X
SYP		90.69	42	eP	14	38.00	-1.3
GLD		92.94	29	P	14	55.00	5.3X
	Z	20s	1.80um			5.5Msz	
RSNY		95.50	6	P	15	00.00	-1.1
	Z	20s	2.82um			5.7Msz	
PDCR		143.82	312	e(PKP)	21	12.00	-0.3
ZOBO		156.30	5	ePKP	21	30.00	-1.9
				i	21	36.00	
				eLR	16	00.00	
LPB		156.56	5	ePKP	21	35.00	2.9X
CNCB		156.84	5	ePKP	21	35.00	2.4

S.D. = 1.2 on 153 of 181 obs.

OCT 18, 1989 17h 11m 20.80± 0.46s
39.922 N ± 9.9km 113.872 E ± 7.0km
DEPTH = 11.8km (2 depth phases)
4.7mb (5 obs.)
NORTHEASTERN CHINA (658)
ML 4.7 (BJI).

BJI		1.77	85	Pg	11	53.50	2.0
				Sg	12	17.50	
HHC		1.99	298	Pg	11	59.80	5.0X
				Sg	12	26.60	
TIY		2.48	207	Pnc	12	02.50	0.9
				Pg	12	05.00	
				Sg	12	36.70	
BTO		3.02	284	ePg	12	16.00	6.5X
				Sg	12	53.00	
TIA		4.51	144	ePg	12	45.50	15.1X
				Sg	13	39.20	
DL2		6.09	97	Pn	12	53.00	0.2
				Pg	13	14.60	
SNY		7.60	72	iPnd	13	13.20	-0.8
				ePg	13	41.00	
				Sg	15	19.20	
LZH		8.79	247	eP	13	30.00	-0.8
GTA		10.85	272	eP	13	59.00	-0.1
CD2		12.19	226	eP	14	15.00	-2.2
GYA		14.71	206	P	14	56.00	5.4X
MAT		19.40	92	eP	15	49.00	-0.6
		1.3s	32.69nm			4.4mb	
HYB		37.89	244	eP	18	42.00	2.5
GBA		41.33	241	P	19	10.00	2.0
MAIO		42.39	283	eP	19	08.00	-8.7X
KEV		52.13	334	eP	20	45.00	12.4X
SOD		52.86	331	eP	20	48.00	9.9X
SUF		54.45	326	iP	20	53.20	3.4X
		0.7s	5.30nm			4.7mb	
NUR		55.90	323	iP	21	00.30	-0.1
FBA		57.96	30	ePd	21	14.50	-0.4
				pP	21	18.20	12km
MBC		59.31	13	eP	21	23.50	-0.7
		0.9s	10.00nm			4.9mb	
HFS		60.96	326	ePKP	21	33.70	-2.0
		0.8s	3.10nm			4.5mb	
INK		61.09	23	eP	21	35.00	-1.5
WB5		62.49	158	eP	21	45.00	-1.4
ASPA		65.96	160	eP	22	08.00	-1.0
CLL		66.01	318	eP	22	12.00	3.0
		1.2s	9.00nm			4.8mb	
KHC		66.94	315	P	22	14.80	-0.3
SCH		85.63	0	eP	24	00.00	-0.1
CMB		87.85	40	eP	24	11.90	0.5
KVN		88.16	38	eP	24	14.10	1.1
				pP	24	17.80	12km
FRI		89.00	40	eP	24	17.30	0.5
RSSD		89.63	26	eP	24	19.40	-0.6

S.D. = 1.4 on 24 of 32 obs.

& OCT 18, 1989 17h 14m 06.90s
37.148 N 121.975 W
DEPTH = 6.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.7 (BRK).

MHC		0.33	54	iPd	14	13.80	0.2
ARN		0.41	60	iPd	14	15.00	-0.1
PCC		0.48	317	eP	14	15.90	-0.6
BKS		0.76	344	iPc	14	22.00	0.0
				eS	14	32.80	
BRK		0.76	343	eP	14	21.60	-0.4
				eS	14	32.90	
PRS		0.95	149	eP	14	24.70	-0.7
LLA		0.98	122	eP	14	24.60	-1.3
		7 obs. associated					

% OCT 18, 1989 17h 26m 26.11± 0.88s
39.914 N ±10.9km 113.849 E ± 7.6km
DEPTH = 10.0km (geophysicist)
NORTHEASTERN CHINA (658)
ML 4.5 (BJI).

EDR No. 10-89
Part 2 of 2
P. 157-313

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.

BJI	1.79	85	Pg	26	58.50	1.2
			Sg	27	22.50	
HHC	1.98	299	Pnc	27	01.70	1.6
			Pg	27	03.20	
			Sg	27	30.40	
TIY	2.46	207	Pnc	27	08.70	1.7
			Pg	27	11.30	
			Sg	27	43.20	
BTO	3.01	284	iPgc	27	20.80	6.0X
			Sg	27	58.00	
TIA	4.51	144	ePn	27	35.30	-0.7
			ePg	27	47.90	
			Sg	28	45.00	
XAN	7.07	215	Pn	28	11.00	-1.1
			Sg	30	02.70	
SNY	7.62	72	ePn	28	18.60	-1.2
			ePg	28	44.30	
			Sg	30	27.80	
LZH	8.77	247	eP	28	34.50	-1.6
WHN	9.36	177	eP	28	44.00	0.0
CN2	9.48	62	eP	28	49.80	4.1X
GTA	10.83	272	eP	29	03.00	-1.4
CD2	12.18	226	eP	29	24.00	1.4

S.D. = 1.5 on 10 of 12 obs.

OCT 18, 1989 17h 30m 12.47± 0.28s
51.259 N ± 8.9km 179.082 E ± 3.9km
DEPTH = 33.0km (normal)
4.9mb (15 obs.)
RAT ISLANDS, ALEUTIAN ISLANDS (6)

ADK	2.71	75	ePc	30	56.80	2.1
SMY	3.41	298	eP	31	06.00	1.4
KDC	17.65	57	eP	34	16.50	-0.5
PMR	20.18	47	eP	34	45.20	-1.3
IMA	20.26	33	P	34	48.10	0.6
	0.8s		17.80nm			4.5mb
TOA	21.67	47	eP	35	02.10	0.3
FBA	21.86	39	eP	35	04.40	0.7
KUSJ	24.56	264	eP	35	30.00	-0.2
ASAJ	25.35	268	eP	35	39.00	1.3
HOOJ	25.83	264	eP	35	41.80	-0.4
INK	28.32	35	eP	36	04.00	-0.7
MAT	32.45	259	eP	36	41.00	-0.6
	1.2s		45.31nm			5.2mb
MBC	34.21	22	ePc	36	57.00	0.6
	0.7s		20.00nm			5.2mb
BMW	37.41	74	eP	37	25.00	1.1
LON	38.13	73	eP	37	30.70	0.8
PNT	38.22	68	eP	37	31.00	0.4
	0.6s		7.00nm			4.7mb
EDM	40.03	60	iPd	37	45.00	-0.6
	0.5s		20.00nm			5.1mb
LBFM	40.94	80	eP	37	55.00	1.6
CMB	43.83	83	eP	38	17.50	0.6
KVN	44.63	80	eP	38	24.00	0.4
FRI	44.90	84	eP	38	25.70	0.2
TNP	45.77	81	eP	38	33.00	0.3
	0.9s		14.19nm			4.9mb
PTI	45.87	72	eP	38	34.50	1.2
SSE	46.66	267	P	38	40.50	1.0
	1.0s		0.03nm			2.2mb X
DUG	47.19	76	eP	38	44.20	0.4
BW06	47.60	71	eP	38	46.70	-0.4
	0.9s		8.85nm			4.8mb
DAU	48.00	74	eP	38	50.70	0.3
MSU	48.61	77	eP	38	55.40	0.4
PLM	49.02	86	eP	38	58.20	0.1
WHN	51.34	272	Pc	39	15.50	0.0
RSON	51.61	54	eP	39	15.50	-1.9
	0.5s		8.51nm			5.0mb
GOL	51.98	71	eP	39	20.70	0.0
	0.8s		37.20nm			5.4mb
XAN	52.37	280	P	39	23.00	-0.4
GTA	54.37	291	iPc	39	38.20	0.0
ALQ	54.42	77	eP	39	38.10	-0.6
	0.9s		2.94nm			4.3mb
WMQ	58.28	302	P	40	06.00	-0.1
GYA	59.01	275	eP	40	10.00	-1.4
SCH	60.94	37	eP	40	22.00	-2.2
FVM	61.80	64	eP	40	29.00	-1.2
OLY	62.95	66	eP	40	36.00	-1.8
ELC	62.97	64	eP	40	37.30	-0.6
PWLA	65.28	65	eP	40	51.50	-1.5
KSH	67.54	305	P	41	08.40	0.9
HFS	68.34	352	eP	41	10.10	-1.9
	0.6s		2.60nm			4.5mb
NNT	73.63	270	eP	41	44.00	-0.4
EKA	73.76	1	Pd	41	44.70	0.1
	0.9s		6.00nm			4.6mb
CTA	76.66	212	iPd	42	01.60	0.1
	1.0s		15.50nm			5.0mb
MAIO	78.00	314	iPc	42	10.00	1.0
WB5	80.95	222	iPc	42	24.10	-0.8
FVI	81.82	351	P	42	36.00	7.0X
HYB	83.00	289	iPc	42	37.10	1.4
	1.0s		40.00nm			5.5mb
ASPA	84.51	221	iPc	42	43.20	0.1
	0.8s		12.00nm			5.1mb
PGD	84.61	351	P	42	45.50	1.8
GBA	86.65	287	P	42	54.00	0.1
BCAO	122.07	337	ePKPc	49	04.50	-0.8
	0.4s		4.00nm			
SPA	141.07	180	e(PKP)	49	34.00	-5.8X
	0.4s		6.58nm			
SPA	141.07	180	ePKP	49	43.00	3.2X
MAW	145.58	217	ePKP	49	47.00	-0.3
KSR	146.96	310	ePKP	49	50.00	-1.1
	0.9s		11.54nm			
PRY	147.56	308	iPKPc	49	55.00	3.0X
BFS	147.87	309	iPKPc	49	52.80	0.3
	0.7s		54.79nm			
HVD	151.56	306	e(PKP)	50	06.00	7.9X

S.D. = 1.0 on 57 of 62 obs.

& OCT 18, 1989 18h 01m 02.90s
36.913 N 121.723 W
DEPTH = 2.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.8 (BRK).

MHC	0.43	9	iPd	01	12.10	0.5
ARN	0.46	19	iPd	01	12.40	0.3
PRS	0.65	154	iPd	01	15.80	0.0
LLA	0.69	115	iPc	01	16.50	-0.2
PCC	0.79	318	iPc	01	18.00	-0.6
BKS	1.04	337	iPd	01	22.40	-0.9
			eS	01	37.90	
BRK	1.05	336	eP	01	21.80	-1.6
PRI	1.15	132	iPd	01	24.30	-0.9
PHAM	1.52	135	eP	01	29.50	-1.6
CMB	1.55	43	eP	01	30.00	-1.6
PKEM	1.55	123	eP	01	30.80	-0.8
FRI	1.62	87	iPc	01	30.50	-2.0
BCH	2.18	142	eP	01	38.40	-2.4
ORV	2.64	4	eP	01	45.50	-1.8
ABL	2.89	135	eP	01	48.50	-2.6

15 obs. associated

& OCT 18, 1989 18h 06m 57.60s
36.913 N 121.702 W
DEPTH = 2.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.5 (BRK).

MHC	0.43	6	iPd	07	06.70	0.5
ARN	0.46	17	iPd	07	07.00	0.3
PRS	0.64	155	iPc	07	10.30	-0.1
LLA	0.68	116	iPd	07	11.10	0.0
PCC	0.80	317	iPc	07	12.80	-0.7
BKS	1.05	336	iPc	07	16.60	-1.6
			eS	07	32.70	
BRK	1.06	335	eP	07	16.50	-1.7
PRI	1.14	132	eP	07	18.70	-1.0
FRI	1.60	87	eP	07	24.80	-2.1

9 obs. associated

OCT 18, 1989 18h 20m 47.61± 0.15s
40.046 N ± 3.4km 113.927 E ± 2.9km
DEPTH = 10.7km (4 depth phases)
5.4mb (50 obs.) 5.2Msz (2 obs.)
NORTHEASTERN CHINA (658)
ML 5.6 (BJI).
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 9S, 18C
Centroid Locotian:
Origin Time 18:20:49.8 0.5
Lat 39.63N 0.06 Lon 113.84E 0.11
Dep 15.0 FIX Half-duration 1.9
Moment Tensor; Scale 10**16 Nm
Mrr=-9.05 1.00 Mtt= 9.65 0.67
Mff=-0.60 1.06 Mrt= 0.28 3.01
Mrf= 8.45 2.44 Mtf= 7.14 0.99
Principal Axes:

	T	Val=	14.15	Plg=11	Azm=328
	N		0.68	33	231
	P		-14.83	54	75

Best Double Couple:Mo=1.4*10**17
NP1:Strike= 92 Dip=44 Slip= -39
NP2: 212 64 -127

BJI	1.73	89	Pgd-	21	19.50	1.8
			Sg	21	43.50	
HHC	1.97	295	Pgc	21	22.40	0.9
			Sg	21	50.40	
TIY	2.60	207	Pnc	21	28.80	-1.7
			Pg	21	31.40	
			Sg	22	02.40	
BTO	3.04	282	Pn	21	36.00	-0.6
			Pg	21	40.00	
			Sg	22	17.00	
TIA	4.58	146	Pnc	21	50.80	-7.7X
N	10s		36.30um			
			Pg	22	09.00	
DL2	6.07	98	Pnd	22	19.00	-0.4
N	10s		23.70um			
E	10s		18.80um			
			Sg	24	03.60	
XAN	7.21	215	Pn	22	30.80	-4.7X
			Pg	22	54.00	
			Sg	24	25.00	
SNY	7.52	73	iPnc	22	39.80	0.0
Z	10s		17.10um			
N	10s		19.60um			
E	12s		27.40um			
			Pg	23	05.50	
			Sg	24	40.60	
LZH	8.88	247	eP	22	57.00	-1.9
Z	10s		18.10um			
			Lg	25	16.00	
			e	25	27.00	
NJ2	8.92	152	Pd	22	57.00	-2.3
N	11s		15.50um			
E	10s		15.70um			
CN2	9.37	63	eP	23	05.20	-0.4
WHN	9.49	178	eP	23	04.00	-3.2X
Z	10s		8.92um			
			pP	23	09.50	
SSE	10.71	144	eP	23	26.00	2.1
			Lg	26	42.00	
GTA	10.89	271	eP	23	22.00	-4.6X
Z	10s		23.60um			
N	10s		22.00um			
CD2	12.31	225	eP	23	42.00	-3.8X
Z	10s		12.90um			
			eS	26	07.50	
MDJ	12.46	63	eP	23	48.50	0.9
			S	26	06.00	
GYA	14.84	206	P	24	18.00	-1.3
Z	16s		10.20um			
N	12s		19.60um			
E	12s		20.70um			
			S	27	07.00	
SHNJ	14.92	108	eP	24	19.90	-0.3
KUMJ	15.54	114	eP	24	29.80	1.6
QZH	15.56	164	eP	24	27.00	-1.5
Z	11s		8.50um			
N	10s		7.10um			
ANP	16.13	154	eP	24	41.00	5.0X
			eS	29	52.00	
KAGJ	16.36	117	eP	24	44.60	5.8X
GZH	16.92	182	P	24	47.40	1.6
Z	12s		8.40um			
HKC	17.69	179	P	24	55.50	0.0
			S	28	25.00	
TSRJ	17.99	97	P	25	02.60	3.4X
MTMJ	19.04	93	P	25	13.10	0.9
MAT	19.36	93	eP	25	15.00	-1.1
	1.6s		483.33nm			5.5mb
Z	20s		2.13um			5.2MszX
			eS	28	54.00	
IIDJ	19.48	96	P	25	15.70	-1.8
NIIJ	19.77	90	P	25	18.60	-1.9
WMQ	19.85	290	Pc	25	20.50	-0.9
			S	29	05.00	
CHJJ	20.12	93	P	25	22.30	-2.0
AOMJ	20.16	80	eP	25	28.40	3.8X
YAMJ	20.33	87	eP	25	24.00	-2.4
MRRJ	20.52	74	eP	25	30.30	1.9
QIZ	21.24	191	Pd	25	37.60	1.7

18d 18h

	E	13s	20.20um								iS	54	04.00			FIR	71.35	312	eP	32	10.00	0.8
			eS	29	27.00			RZN	64.37	304	iP	31	25.00	-0.9		MNS	71.37	310	P	32	08.80	-0.7
LSA		21.29	248 iPc	25	39.00	2.1		KSP	64.47	316	eP	31	25.50	-0.7		HAU	71.39	318	eP	32	08.70	-0.8
	Z	11s	11.90um			5.5MszX		VTS	64.85	305	iPd	31	18.00	-11.0X			1.0s		20.00nm			5.2mb
			S	29	30.00			OIS	64.87	153	eP	31	26.00	-3.0X		MME	71.41	312	P	32	10.20	0.2
			sS	29	39.80			KKB	65.31	305	iP	31	32.00	0.2		VITF	71.44	318	P	32	11.94	2.2
OFUJ		21.38	84 eP	25	34.10	-3.1X		ZST	65.46	313	iP	31	33.00	0.4		VAI	71.45	315	P	32	08.50	-1.3
ASAJ		21.65	70 eP	25	40.00	0.1					i	31	36.50	11km		BDI	71.55	312	P	32	11.50	0.9
HOOJ		22.16	74 eP	25	43.70	-1.3					i	32	08.00			LOMF	71.55	317	P	32	12.78	2.2
KUSJ		23.17	72 eP	25	54.40	-0.5		KOT	65.81	290	eP	31	34.00	-1.0		MUN	71.69	178	eP	32	12.20	1.0
BAG		24.25	164 eP	26	05.00	-0.8		VKA	65.87	313	ePc	31	37.50	2.3		RDP	71.73	309	P	32	13.00	1.3
			e	30	34.00				2.0s		164.00nm			5.9mb		BOB	71.76	313	P	32	11.40	-0.4
CHG		24.79	216 eP	26	09 10	-1.8			Z	12s	1.30um			5.4MszX		MMK	71.77	315	ePd	32	12.20	0.1
		0.9s	144.96nm			5.6mb					LR	02	25.00			PII	71.80	312	P	32	12.50	0.5
			eS	30	44.00			PRU	65.88	316	eP	31	35.00	-0.2		ORX	72.02	315	P	32	12.98	-0.5
CHTO		24.79	216 eP	26	09.20	-1.6			Z	16s	2.60um			5.5MszX		ORO	72.03	315	P	32	16.00	2.5
			epP	26	13.10	14km			N	12s	2.80um					DIX	72.05	315	ePd	32	13.50	-0.3
LOE		24.91	209 iPc	26	12.00	-0.1			E	17s	2.00um					EMS	72.31	316	ePd	32	14.90	-0.4
BDT		26.15	214 eP	26	20.00	-3.6X					e	31	38.00	10km		PCP	72.40	314	P	32	14.21	-1.4
		1.0s	95.20nm			5.4mb		VAY	65.93	304	eP	31	37.40	1.7		LSD	72.58	315	P	32	16.78	-0.2
NST		27.10	210 iPc	26	34.00	1.6		CLL	65.95	318	iP	31	34.90	-0.7		CKI	72.62	314	P	32	17.50	0.6
KSH		29.04	281 eP	26	51.00	1.1			1.7s		60.00nm			5.5mb		NWAO	72.67	177	eP	32	1B.00	1.0
	Z	10s	4.40um			5.4MszX		SOP	66.05	313	eP	31	36.30	-0.1		RSP	72.72	315	P	32	15.96	-1.6
	N	12s	7.60um					ASPA	66.06	160	eP	31	34.20	-2.4		LPG	72.78	315	eP	32	17.60	-0.5
NNT		30.08	209 eP	27	00.00	0.8			1.0s		27.00nm			5.4mb			1.0s		52.00nm			5.6mb
NDI		32.14	261 eP	27	16.00	-1.3		HLW	66.20	290	eP	31	36.00	-1.6		FIN	72.80	314	P	32	16.37	-1.6
DAV		34.44	159 eP	27	40.20	2.9X		SKO	66.29	306	iP	31	39.00	1.0		ROB	72.93	314	P	32	17.19	-1.6
IPM		37.18	202 ePd	28	02.60	2.1			N	20s	1.97um					BNI	73.10	315	P	32	21.50	1.7
		0.9s	54.70nm			5.3mb			E	17s	2.06um					RRL	73.13	315	P	32	19.24	-0.9
PJG		37.83	125 e(P)	28	04.70	-1.3		KHC	66.88	315	iPd	31	41.50	-0.2		DOI	73.14	314	P	32	20.50	0.5
GUMO		37.83	125 e(P)	28	04.20	-1.8			1.2s		21.00nm			5.2mb		LOR	73.15	318	eP	32	18.60	-1.3
		1.3s	212.42nm			5.8mb			Z	14s	3.00um			5.7MszX			0.9s		18.60nm			5.2mb
GUA		37.90	125 e(P)	27	58.10	-8.5X			N	14s	2.00um					IMI	73.16	313	P	32	19.54	-0.6
		0.8s	59.70nm			5.4mb			E	14s	1.60um					PZZ	73.22	314	P	32	18.72	-1.8
HYB		37.98	244 eP	28	05.80	-1.5		CTA	66.99	147	iPd	31	44.10	1.5		ENR	73.22	314	P	32	18.62	-1.9
		1.0s	65.00nm			5.4mb			1.2s		34.38nm			5.4mb		STV	73.26	314	P	32	19.44	-1.3
			eS	34	08.00			OHR	67.16	305	eP	31	45.00	1.3		LBF	73.27	318	eP	32	19.50	-1.2
QUE		39.27	270 eP	28	18.50	0.2		KMR	67.19	314	eP	31	44.00	0.3			1.2s		29.70nm			5.2mb
PSI		39.59	204 ePc	28	21.50	0.8		WET	67.25	316	iPc	31	44.50	0.5		SBF	73.45	314	eP	32	20.40	-1.4
		0.8s	81.60nm			5.5mb		PTJ	67.39	311	eP	31	44.00	-1.1			0.9s		60.20nm			5.7mb
POO		40.56	250 iPc	28	26.50	-2.2		GRF	67.81	317	iP	31	47.70	0.1		CVF	73.46	312	eP	32	20.80	-1.1
POO		40.56	250 iPc	28	44.50	15.8X			Z	14s	2.40um			5.6MszX			0.8s		13.40nm			5.1mb
PCI		41.11	171 ePc	28	35.00	1.8					e	31	50.30	8km		SSF	73.47	318	eP	32	20.60	-1.1
GBA		41.42	241 P	28	35.00	-0.8		VBY	68.02	311	eP	31	50.90	2.0			1.2s		20.80nm			5.1mb
MAIO		42.40	283 iPd	28	44 60	0.8		BHG	68.08	314	eP	31	49.50	0.3		DMU	73.52	328	eP	32	24.50	2.6
			e	30	17.00	497kmX		WIT	68.22	321	eP	31	54.00	4.0X		SMF	73.57	318	eP	32	21.40	-1.0
KLI		45.46	193 eP	29	10.50	2.0		AKU	68.25	341	iP	31	51.90	1.9			1.3s		77.20nm			5.6mb
SHI		50.56	278 eP	29	48 00	-0.4			1.0s		36.00nm			5.5mb		AVF	73.72	318	eP	32	22.20	-1.0
TAB		51.36	291 eP	29	55.00	0.6		CEY	68.36	312	e(P)	31	53.00	1.9			1.2s		45.80nm			5.4mb
KER		52.41	286 eP	30	05.00	2.6		VOY	68.50	312	eP	31	50.00	-2.0		DLE	73.81	327	eP	32	23.80	0.2
SOD		52.78	331 iP	30	04.70	0.3		WTS	68.65	321	eP	31	53.50	0.8		FRF	74.08	314	eP	32	24.00	-1.4
SLY		53.03	288 ePd	30	08.50	1.8			0.9s		20.00nm			5.3mb			1.2s		26.10nm			5.1mb
SUF		54.37	325 iP	30	15.90	-0.3		TRI	68.76	312	eP	31	51.20	-2.3		BGF	74.14	318	eP	32	24.80	-0.9
		1.3s	65.00nm			5.5mb		FVI	68.79	313	P	31	52.50	-1.1		LDF	74.24	321	eP	32	25.20	-1.0
MSL		54.38	290 ePc	30	16.00	-0.6		OGA	69.60	314	iPd	31	57.90	-1.0			1.3s		46.20nm			5.4mb
BHD		54.92	286 eP	30	20.50	-0.1		MEM	69 91	320	P	32	02.70	2.3		FLN	74.30	321	eP	32	25.50	-1.0
NUR		55.83	323 iP	30	26.40	-0.4		GWF	70.12	318	P	32	04.72	3.0X			1.3s		38.90nm			5.3mb
		1.0s	36.00nm			5.4mb		OSS	70.19	315	ePd	32	02.20	-0.2		LMR	74.30	314	eP	32	25.60	-1.0
SVW		56.13	36 ePd	30	29.70	0.6		SAX	70.28	316	ePd	32	03.00	-0.1			0.9s		37.30nm			5.4mb
KVT		57.22	298 eP	30	38.00	0.8		BAL	70.34	177	eP	32	04.00	0.9		LRG	74.31	314	eP	32	25.80	-0.8
FBA		57.83	30 ePd	30	40.80	-0.2		SLE	70.41	316	ePd	32	03.40	-0.2			0.9s		20.90nm			5.2mb
PMR		58.77	34 ePd	30	46.80	-0.8		WLF	70.44	319	P	32	05.70	2.1		MAF	74.51	318	eP	32	27.30	-0.5
		1.4s	167.70nm			6.0mb		ARV	70.54	311	P	32	07.50	3.0X			1.5s		73.10nm			5.5mb
KDC		58.99	39 eP	30	48.80	-0.4		FEL	70.60	317	P	32	06.44	1.6		TCF	74.65	318	eP	32	28.10	-0.5
MBC		59.18	13 eP	30	50.00	-0.3		WLS	70.61	317	P	32	04.83	0.0			1.5s		41.70nm			5.2mb
		1.0s	57.00nm			5.7mb		ZLA	70.64	316	ePd	32	04.80	-0.3		GRR	74.74	321	eP	32	28.20	-0.9
TOA		59.77	32 ePd	30	55.00	0.3		CDF	70.65	317	P	32	04.64	-0.5			1.2s		29.70nm			5.2mb
HFS		60.88	326 eP	31	00.50	-1.7		VDL	70.68	315	ePd	32	05.20	-0.3		LSF	75.02	318	eP	32	30.10	-0.7
		1.2s	32.30nm			5.3mb		LLS	70.70	315	ePd	32	05.10	-0.5		LPF	75.07	321	eP	32	30.50	-0.5
	Z	15s	1.00um			5.1MszX		DUI	70.75	308	P	32	07.90	2.1			1.3s		53.40nm			5.4mb
			LR	58	26.00			TDS	70.79	306	P	32	05.50	-0.5		MFF	75.62	319	eP	32	34.00	-0.2
VRI		61.01	307 ePd	31	03.00	-0.3		SNF	70.82	320	P	32	10.00	4.0X			1.3s		72.20nm			5.6mb
MBL		61.14	174 eP	31	04.50	0.3		ECH	70.83	317	P	32	06.26	0.1		CAF	75.64	317	eP	32	34.30	-0.1
HRI		61.21	291 e(P)	31	02.00	-2.9X		SGO	70.89	307	P	32	05.50	-1.0			1.0s		24.00nm			5.2mb
MLR		61.67	307 eP	31	05.00	-3.0X		COOL	70.89	173	eP	32	07.00	0.5		RJF	75.67	318	eP	32	34.50	0.0
DSI		62.36	289 eP	31	11.00	-1.5		SFI	70.92	312	P	32	10.00	3.4X			1.2s		35.70nm			5.3mb
WB5		62.59	158 eP	31	10.90	-3.1X		DOU	70.94	320	P	32	09.80	3.1X		BRS	76.21	145	eP	32	42.00	4.3X
JMB		62.78	304 eP	31	15.00	-0.2		EKA	70.96	327	Pc	32	07.00	0.3		LPO	76.27	317	eP	32	37.70	-0.2
KRA		62.90	314 eP	31	15.80	0.0			0.9s		13.10nm			5.1mb			1.1s		31.20nm			5.3mb
	Z	16s	2.40um			5.5MszX		ASS	70 96	311	P	32	08.10	1.0		LFF	76.32	318	eP	32	38.30	0.2
	N	16s	6.40um					MDI	70.98	314	P	32	05.50	-1.5			1.1s		41.00nm			5.4mb
SPC		63.17	313 eP	31	17.60	-0.3		PGD	71.02	312	P	32	08.50	1.0		EPF	77.85	317	eP	32	45.80	-0.9
DIM		63.66	304 eP	31	24.00	3.0X		CRE	71.04	311	P	32	10.00	2.4			1.1s		19.50nm			5.1mb
MBH		63.68	288 iPd	31	19.00	-2.2		MOF	71.08	317	P	32	08.06	0.3		EDM	78.53	27	iPd	32	49.30	-1.0
KDZ		63.94	303 eP	31	26.00	3.1X		SDI	71.10	309	P	32	09.50	1.6		DZM	78.82	131	iPc	32	52.80	0.5
BZS		64.23	309 eP	31	24.50	-0.2		TMA	71.24	315	ePd	32	07.90	-0.9		PNT	79.28	32	eP	32	54.00	-0.4
PGB		64.27	305 iP	31	28.00	2.9X		BSF	71.27	317	P	32	10.37	1.5		LON	80.32	35	P	32	59.50	-0.6

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BWA    80.65 152 eP    33 05.20   3.4X
FFC    80.72  20 eP    32 58.00  -4.0X
       0.7s     8.00nm          4.8mb
NAI    80.97 261 eP    33 05.00   0.8
CAN    81.67 152 eP    33 12.50   5.4X
SES    81.67  27 eP    33 06.00  -1.1
TOL    82.40 317 iPd   33 15.00   3.9X
       1.2s    93.75nm          5.8mb
                eS     43 44.00
ASMO   84.08 315 eP    33 23.60   3.8X
AAPN   84.32 315 eP    33 22.20   1.2
APHE   84.34 314 eP    33 24.00   2.8X
ALOJ   84.46 315 eP    33 23.70   1.9
ATEJ   84.55 315 eP    33 24.50   2.3
SCH    85.51   0 eP    33 26.00  -0.5
ORV    86.00  40 eP    33 29.00  -0.3
BRK    86.92  41 eP    33 34.20   0.4
MHC    87.64  41 eP    33 38.10   0.6
CMB    87.73  40 eP    33 38.40   0.6
NPA    88.27 249 iP    33 42.90   2.5
LLA    88.56  41 eP    33 42.50   0.8
PRS    88.56  42 eP    33 42.40   0.7
FRI    88.88  40 eP    33 43.60   0.4
PRI    89.07  41 eP    33 55.40  11.1X
RSSD   89.50  26 ePd   33 46.20  -0.2
BCH    90.11  42 P     33 49.80   0.6
ISA    90.54  40 eP    33 52.00   0.9
CLC    90.85  40 eP    33 54.00   1.5
BCAO   91.30 277 iPc   33 56.00   1.2
       0.7s    10.00nm          5.3mb
                ic     37 46.30
SBB    91.64  40 eP    33 57.00   0.8
GSC    91.65  39 eP    33 57.00   0.8
MWC    91.89  41 eP    33 58.00   0.5
GOL    92.90  29 P     34 00.90  -1.3
       1.4s    45.69nm          5.7mb
GLD    92.91  29 P     34 02.00  -0.1
TPC    92.98  40 eP    34 03.00   0.7
PLM    93.18  41 eP    34 05.00   1.5
BAR    93.82  41 eP    34 07.00   0.8
RSNY   95.45   6 P     34 15.00   1.5
     Z 20s     1.13um          5.3Msz
ALQ    96.60  32 eP    34 19.00  -0.2
       1.4s     7.56nm          5.0mb
     Z 18s     0.57um          5.1Msz
BUL    99.23 252 eP    34 32.50   1.6
BLA   102.00  12 Pdiff 34 50.00   7.0X
PDCR  143.74 312 e(PKP)40 23.00  -1.8
ZOBO  156.24   5 ePKP  40 44.00  -0.4
LPB   156.51   5 PKP   40 49.00   4.4X
CNCB  156.79   5 PKP   40 44.00  -1.1
      S.D. = 1.2  on 224 of 262 obs.
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   OCT 18, 1989  18h 41m 24.33± 0.88s
    2.086 N ± 3.4km  126.579 E ± 4.6km
   DEPTH =  53.4 ±  8.3 km
   5.2mb ( 23 obs.)  4.8Msz (  6 obs.)
 MOLUCCA PASSAGE                 (266)
      CENTROID, MOMENT TENSOR    (HRV)
      Doto Used: GDSN
      L.P.B.: 13S, 23C
      Centroid Locotion:
      Origin Time        18:41:27.4 0.8
      Lat  2.57N 0.07 Lon 126.60E 0.07
      Dep  42.3 5.2 Half-duration  2.1
      Moment Tensor;   Scole 10**17 Nm
        Mrr= 2.21 0.22  Mtt= 0.42 0.16
        Mff=-2.63 0.33  Mrt=-0.84 0.25
        Mrf=-0.88 0.22  Mtf=-0.52 0.20
       Principol Axes:
        T  Val=  2.62  Plg=70  Azm=159
        N        0.30      17       15
        P       -2.92      11      282
      Best Double Couple:Mo=2.8*10**17
       NP1:Strike=351 Dip=37 Slip=  61
       NP2:       206     59      110

MNI    1.85 250 iPd   41 55.00   0.8
DAV    5.07 349 eP    42 40.80   1.1
AAI    5.96 164 ePc   42 53.50   1.4
PCI    7.37 246 ePd   43 13.60   1.7
                eS     43 53.50
TSM    8.76 284 ePc   43 32.00   1.0
       0.5s   380.50nm          6.6mb X
KKM   11.06 291 ePc   44 03.00   0.3
       0.8s   244.90nm          6.4mb X
KHKI  15.08 226 ePd   45 02.20   6.5X

                e      48 21.50
MTN   15.51 163 iPc    44 59.20  -2.0
                e      45 04.00
KNA   17.85 173 eP     45 29.00  -1.6
       0.7s   201.00nm          5.4mb
MNDI  18.92 116 eP     45 44.00   0.1
GUMO  21.39  57 eP     46 10.30   0.7
       0.6s    48.26nm          5.0mb
                e      46 13.80
PJG   21.39  57 eP     46 10.50   0.9
GUA   21.41  57 eP     46 09.40  -0.4
       0.8s    53.73nm          5.0mb
LAT   22.16 113 eP     46 19.00   1.7
KLI   22.77 252 eP     46 20.20  -3.1X
WB5   23.13 161 iPc    46 25.80  -1.0
                eS     50 35.20
KGM   23.25 270 eP     46 30.50   2.6
PMG   23.46 119 eP     46 31.00   1.0
QIZ   23.50 317 Pd     46 30.50   0.2
     E 10s     0.70um
QZH   24.00 342 eP     46 33.00  -2.1
MBL   24.03 196 iPd    46 35.40  -0.1
GZH   24.51 329 P      46 37.00  -3.1X
     Z 30s     1.80um          4.4MszX
IPM   25.63 276 ePd    46 51.20   0.4
       0.9s    24.30nm          4.7mb
QIS   25.87 151 iPc    46 51.30  -1.7
ASPA  26.57 165 iPc    46 58.00  -1.4
       0.8s   154.00nm          5.6mb
                eS     51 31.80
                eScS   57 51.80
NANU  26.77 203 eP     47 01.00  -0.1
PSI   27.64 272 ePc    47 08.50  -0.7
       0.8s    73.80nm          5.4mb
WARB  28.10 180 eP     47 13.60   0.3
       0.3s    20.00nm          5.2mb
NNT   28.56 293 eP     47 27.00   9.5X
LOE   28.77 304 iPd    47 18.00  -1.4
CTA   29.30 140 iPc    47 23.20  -0.9
       1.0s    14.00nm          4.6mb
SSE   29.30 351 P      47 24.60   0.6
       0.8s    29.00nm          5.0mb
     Z 20s     1.00um          4.4Msz
NST   29.35 299 eP     47 25.30   0.7
MEKA  29.57 195 eP     47 26.40  -0.1
       0.3s    23.00nm          5.3mb
KUMJ  30.55   7 eP     47 34.00  -1.0
WHN   30.58 339 eP     47 34.50  -0.8
NJ2   30.68 347 eP     47 35.00  -1.2
GYA   30.87 323 P      47 38.60   0.5
BDT   31.00 301 eP     47 36.10  -3.1X
       0.9s     6.90nm          4.4mb
CHG   31.77 303 eP     47 45.00  -1.0
       0.8s    29.66nm          5.1mb
CHTO  31.77 303 eP     47 45.00  -0.9
MRWA  32.74 197 eP     47 54.20   0.0
FORR  32.78 178 iPd    47 53.60  -1.0
COOL  33.19 189 eP     47 57.00  -1.2
OLP   33.21 150 eP     47 56.00  -2.4
BAL   33.85 195 eP     48 03.40  -0.5
TSRJ  34.41  14 P      48 08.10  -0.5
KLB   34.53 193 eP     48 09.80   0.1
       0.3s    16.00nm          5.4mb
IIDJ  34.85  16 P      48 11.40  -1.1
MUN   35.28 195 eP     48 16.20   0.1
RMO   35.58 144 eP     48 17.00  -1.7
                e      49 45.00
                e      50 48.00
CHJJ  35.70  17 P      48 17.50  -2.1
XAN   35.82 335 P      48 17.20  -3.5X
MTMJ  35.86  16 P      48 20.20  -0.9
CD2   35.89 325 eP     48 19.60  -1.8
NWAO  35.93 193 eP     48 21.80   0.2
       0.6s    25.00nm          5.3mb
KAKJ  36.21  19 P      48 20.20  -3.7X
STK   36.66 158 eP     48 28.00   0.2
NIIJ  36.81  17 P      48 27.30  -1.6
YAMJ  37.98  17 eP     48 38.80   0.0
CMS   38.07 153 eP     48 39.00  -0.6
                e      50 10.00
ADE   38.57 164 iPc    48 44.20   0.3
       0.8s    67.16nm          5.6mb
BRS   38.67 141 iPd    48 43.70  -1.1
       0.9s    24.00nm          5.1mb
OFUJ  39.31  19 P      48 50.40   0.5
SNY   39.66 356 iPc    48 54.20   1.5
LZH   39.84 331 Pc     48 54.50  -0.1

       2.5s     0.17nm          2.4mb X
     Z 22s      2.40um          5.0Msz
     N 10s      0.50um
                pP     49 06.00  41kmX
COO   40.46 145 eP     49 00.00   0.4
CN2   41.55 359 eP     49 09.60   1.4
     Z 18s      1.40um          4.9Msz
BWA   41.71 152 iPc    49 10.90   1.1
                e      50 51.30
BFD   41.78 161 ePd    49 10.20   0.0
MRRJ  42.21  16 eP     49 18.00   4.4X
MDJ   42.43   3 eP     49 14.50  -1.0
CAN   42.72 153 eP     49 18.10   0.1
HOOJ  42.82  18 eP     49 20.10   1.4
TOO   43.18 158 eP     49 23.00   1.3
                e      51 04.00
LSA   43.42 313 iPc    49 26.00   1.7
KUSJ  43.92  19 eP     49 28.30   0.7
ASAJ  44.21  17 eP     49 30.80   0.9
GTA   44.43 330 P      49 30.40  -1.5
     Z 22s      1.20um          4.8Msz
DZM   45.73 124 iPc    49 41.70  -0.8
HYB   49.55 291 eP     50 10.00  -2.3
       0.8s    65.40nm          5.7mb
                e      50 35.00
GBA   49.90 286 P      50 13.00  -2.0
NDI   53.91 304 eP     50 42.50  -2.3
WMQ   53.98 326 P      50 45.00  -0.2
     Z 26s      1.40um          4.9MszX
                eS     58 20.00
KSH   59.07 316 eP     51 22.50   0.8
QUE   62.90 303 eP     51 46.50  -1.3
MAIO  70.39 308 eP     52 34.00  -1.1
SHI   75.12 300 eP     53 02.00  -1.2
SDN   78.62  34 eP     53 22.70   0.8
TAB   81.04 308 eP     53 36.00   0.5
MAW   82.17 200 eP     53 41.00   0.5
SVW   82.29  29 eP     53 44.00   2.6
BHD   82.33 303 ePd    53 42.00  -0.1
                eS     04 01.00
SBA   82.74 172 eP     53 44.80   1.5
MSL   83.48 306 eP     53 47.00  -0.9
IMA   83.94  24 eP     53 51.60   1.7
PMR   85.45  29 eP     53 58.40   1.1
       0.7s    39.80nm          5.7mb
FBA   86.26  25 eP     54 01.20  -0.1
NPA   87.96 255 iP     54 12.00   1.6
KVT   89.05 311 eP     54 16.70   1.5
NAI   89.82 269 iP     54 22.00   2.4
PRNI  90.33 300 iP     54 21.00  -0.4
MBH   90.45 300 iPc    54 21.00  -0.9
KAS   90.75 311 eP     54 26.00   2.8X
KEV   91.37 340 eP     54 24.00  -1.4
                e      56 52.00
INK   91.74  21 eP     54 27.00  -0.1
SOD   91.92 338 iP     54 27.50  -0.4
SPA   92.07 180 ePc    54 29.90   1.1
       1.0s    10.50nm          5.2mb
SUF   92.94 333 iP     54 31.90  -0.8
       0.5s     4.70nm          5.2mb
MBC   93.58  13 eP     54 36.00   0.6
       1.0s     6.00nm          5.0mb
NUR   94.06 331 iP     54 37.50  -0.3
       0.6s     7.80nm          5.3mb
                i      54 42.10
CFR   94.47 315 iPc    54 20.50 -19.6X
VRI   95.37 316 ePc    54 35.50  -8.8X
MLR   95.97 316 eP     54 32.00 -15.2X
UPP   97.62 331 iP     54 53.30  -0.8
                i      55 02.50
VTS   98.41 313 iP     54 40.00 -18.3X
KKB   98.64 313 iP     54 47.00 -12.1X
BZS   98.94 317 ePc    55 09.00   8.7X
VAY   99.12 312 eP     55 01.00  -0.3
HFS   99.39 332 eP     55 00.80  -1.3
       0.6s     2.20nm          4.9mb
     Z 20s      0.27um          4.7Msz
                LR     38 26.00
SKO   99.82 313 eP     54 57.00  -7.5X
OHR  100.47 312 ePdiff55 07.50   0.0
KSP  101.05 323 ePdiff55 10.30   0.5
KHC  103.25 322 ePdiff55 25.00   5.3X
KVN  108.07  48 ePKP   59 33.90 -14.6X
AIA  116.49 175 ePKP   00 07.40   4.0X
SCH  122.23   9 ePKP   00 15.00   0.3
KIC  130.68 280 PKP    00 34.40   2.2
TIC  130.91 281 PKP    00 34.90   2.3
```

18d 19h

LIC 130.98 280 PKP 00 35.00 2.3
PCH 144.78 155 ePKP 00 58.00 0.4
PEL 145.12 154 ePKP 00 58.50 0.4
1.1s 44.30nm
UPA 151.75 67 iPKPd 01 15.80 6.9X
0.6s 29.33nm
Z 20s 0.25um 5.0Msz
CNCB 159.53 136 PKP 01 22.00 2.4
LPB 159.64 136 ePKP 01 19.00 -0.6
ZOBO 159.80 135 PKPc 01 22.00 2.0
1.0s 8.00nm
S.D. = 1.2 on 116 of 136 obs.

? OCT 18, 1989 19h 13m 56.27± 9.50s
18.958 N ±58.1km 67.101 W ±39.6km
DEPTH = 10.0km (geophysicist)
MONA PASSAGE (89)

LRS 0.70 160 P 14 10.40 0.2
MGP 0.95 179 P 14 14.00 -0.3
SJG 1.23 133 iP 14 19.10 -0.1
LPR 1.33 119 P 14 20.50 -0.4
CPD 1.45 129 P 14 22.90 0.3
S.D. = 0.5 on 5 of 5 obs.

% OCT 18, 1989 19h 17m 39.89± 0.86s
44.320 N ± 8.8km 7.289 E ± 8.6km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

STV 0.08 162 P 17 42.69 0.2
S 17 44.44
ENR 0.13 135 P 17 43.31 0.2
S 17 45.46
PZZ 0.23 324 P 17 44.85 0.0
S 17 48.03
ROB 0.42 93 P 17 48.64 0.2
S 17 54.69
IMI 0.60 133 P 17 51.51 -0.5
S 17 59.31
FIN 0.67 99 P 17 53.15 -0.1
S 18 01.87
S.D. = 0.3 on 6 of 6 obs.

? OCT 18, 1989 19h 37m 51.14± 1.11s
39.955 N ±13.4km 113.912 E ±10.5km
DEPTH = 10.0km (geophysicist)
NORTHEASTERN CHINA (658)
ML 3.4 (BJI).

BJI 1.74 86 Pn 38 21.50 0.0
Pg 38 23.00
Sg 38 47.00
HHC 2.00 297 iPgc 38 25.60 0.1
Sg 38 53.40
TIY 2.52 208 Pnc 38 33.80 1.0
Pg 38 36.30
Sg 39 07.50
BTO 3.05 283 Pg 38 44.50 4.1X
Sg 39 21.90
TIA 4.52 145 ePg 39 11.80 10.7X
Sg 40 09.40
XAN 7.13 216 Pn 39 37.00 -1.0
Pg 40 02.00
Sg 41 33.50
S.D. = 1.4 on 4 of 6 obs.

• OCT 18, 1989 19h 47m 12.15± 0.97s
37.624 N ±10.4km 21.703 E ± 7.8km
DEPTH = 33.0km (normal)
3.9mb (1 obs.)
SOUTHERN GREECE (368)
ML 3.3 (ATH).

VLS 1.04 302 ePg 47 29.50 -1.0
VLI 1.34 132 ePb 47 34.50 -0.2
ATH 1.63 77 ePb 47 39.50 0.6
eSb 48 01.00
NEO 2.06 35 ePn 47 43.20 -2.0
KEK 2.56 325 ePn 47 52.70 0.4
SRN 2.62 330 ePn 48 01.70 8.7X
LSK 2.67 341 ePn 47 51.80 -2.0
KZN 2.68 1 ePn 47 55.30 1.3
PLG 3.06 26 ePn 47 58.60 -0.8
APE 3.10 99 ePn 48 00.50 0.6
BERA 3.36 337 ePn 48 04.30 0.7
OHR 3.55 349 iPn 48 07.00 0.6
VAY 3.75 10 ePn 48 11.30 2.2
TIR 3.98 340 e(Pn) 48 22.00 9.6X
TDS 4.67 297 P 48 22.00 -0.1
eSn 49 38.50
SGO 5.77 302 P 48 39.00 1.3
eSn 49 53.00
HFS 23.10 350 eP 52 13.80 -1.9
0.5s 2.00nm 3.9mb
S.D. = 1.4 on 15 of 17 obs.

& OCT 18, 1989 19h 47m 39.90s
37.163 N 121.908 W
DEPTH = 15.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

MHC 0.28 50 iPc 47 46.00 -0.1
ARN 0.35 58 iPc 47 47.00 -0.4
PCC 0.51 312 iPd 47 49.20 -0.7
BKS 0.76 340 iPd 47 53.90 -0.4
iS 48 05.70
BRK 0.76 339 eP 47 54.00 -0.3
eS 48 04.90
PRS 0.94 152 eP 47 56.30 -1.0
LLA 0.95 125 eP 47 56.10 -1.4
PRI 1.43 135 eP 48 04.40 -0.9
CMB 1.49 54 eP 48 05.40 -0.7
FRI 1.77 95 eP 48 08.50 -1.6
10 obs. associated

? OCT 18, 1989 19h 58m 38.18± 2.02s
10.340 N ±29.9km 126.057 E ±23.5km
DEPTH = 33.0km (normal)
4.8mb (4 obs.)
PHILIPPINE ISLANDS REGION (248)

MTN 23.58 168 iPd 03 47.90 1.0
WB5 31.12 165 eP 04 54.00 -2.1
OIS 33.47 157 iPd 05 15.20 -1.4
e 06 22.00
ASPA 34.66 167 iPd 05 25.60 -1.3
0.4s 8.00nm 5.0mb
eS 10 55.00
WARB 36.31 179 eP 05 41.30 0.5
0.3s 5.00nm 4.9mb
MRWA 40.51 194 eP 06 16.00 0.2
0.3s 4.00nm 4.6mb
FORR 41.00 177 iPd 06 19.50 -0.3
COOL 41.26 186 eP 06 21.20 -0.8
BAL 41.69 192 eP 06 25.00 -0.5
KLB 42.44 191 iPc 06 32.10 0.4
0.3s 5.00nm 4.7mb
MUN 43.12 192 iPd 06 37.60 0.4
NWAO 43.84 191 eP 06 44.10 1.1
BRS 45.58 146 iP 06 56.50 -0.6
i 15 05.00
GBA 47.62 279 P 07 13.00 -0.3
BWA 49.32 155 eP 07 27.90 1.6
CAN 50.33 156 eP 07 36.20 2.2
S.D. = 1.2 on 16 of 16 obs.

? OCT 18, 1989 20h 15m 40.87± 3.60s
15.011 S ±89.6km 70.808 W ±13.2km
DEPTH = 191.5 ± 40.6 km
4.7mb (1 obs.)
SOUTHERN PERU (117)

ARE 1.59 204 iPc 16 15.20 -0.1
iS 16 39.90
ZOBO 2.87 116 iPd 16 29.70 0.1
LPB 3.02 120 P 16 31.00 -0.2
1.0s 700.00nm
CNCB 3.26 124 iPd 16 34.20 0.0
CCH 5.06 118 iPd 16 57.30 0.4
PDCR 30.86 89 eP 21 40.50 -0.9
LIC 68.51 77 P 26 25.50 0.6
KIC 68.82 77 P 26 26.90 0.1
0.6s 10.00nm 4.7mb
WB5 137.40 216 ePdiff 32 00.00 7.8X
GBA 149.21 89 PKPc 35 11.40 7.0X
0.5s 3.60nm
S.D. = 0.6 on 8 of 10 obs.

% OCT 18, 1989 20h 29m 50.36± 0.88s
39.548 N ± 7.3km 28.936 E ± 9.1km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST 0.25 284 iPg 29 55.50 -0.1
iSg 30 01.50
KCT 0.83 328 iPn 30 06.50 0.1
YLV 1.07 18 iPn 30 10.50 -0.1
BNT 1.12 316 iPn 30 11.50 0.1
KHL 1.31 159 ePn 30 14.60 0.0
S.D. = 0.1 on 5 of 5 obs.

& OCT 18, 1989 20h 37m 13.00s
36.998 N 121.733 W
DEPTH = 7.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.3 (BRK).

MHC 0.35 12 iPd 37 20.20 0.1
ARN 0.39 24 iPd 37 20.70 -0.1
PCC 0.72 314 eP 37 26.40 -1.0
PRS 0.73 156 e(P) 37 26.50 -1.0
LLA 0.74 121 iPc 37 26.80 -1.0
BKS 0.96 336 ePd 37 30.70 -0.9
iS 37 45.20
BRK 0.97 335 eP 37 31.00 -0.7
eS 37 44.40
PRI 1.21 135 eP 37 35.10 -0.8
FRI 1.62 90 eP 37 40.20 -1.8
9 obs. associated

• OCT 18, 1989 20h 58m 40.77± 0.82s
40.495 N ± 6.2km 22.946 E ± 9.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)

THE 0.14 6 ePg 58 44.60 0.6
eSg 58 47.30
LIT 0.53 222 ePg 58 51.30 -0.1
GRG 0.62 318 ePg 58 53.60 0.3
eSg 59 01.50
KNT 0.67 357 ePg 58 53.20 -0.8
eSg 59 03.60
PAIG 0.80 135 ePg 58 56.30 0.0
eSg 59 08.00
S.D. = 0.8 on 5 of 5 obs.

• OCT 18, 1989 21h 02m 02.94± 0.66s
39.905 N ±12.4km 113.852 E ± 7.1km
DEPTH = 10.0km (geophysicist)
4.5mb (1 obs.)
NORTHEASTERN CHINA (658)
ML 4.4 (BJI).

BJI 1.79 85 Pgd- 02 34.50 0.4
Sg 02 58.50
TIY 2.45 207 Pnc 02 45.20 1.5
Pg 02 48.40
Sg 03 20.80
BTO 3.01 285 ePn 02 53.80 2.1
iPg 02 58.40
Sg 03 35.70
TIA 4.50 144 Pn 03 04.80 -7.9X
Pg 03 24.70
Sg 04 23.10
DL2 6.11 97 Pnd 03 35.00 -0.3
Sg 05 18.00
XAN 7.06 216 Pn 03 48.30 -0.6
Pg 04 12.00
Sg 05 46.70
SNY 7.62 72 Pnc 03 54.30 -2.3
Pg 04 20.00
Sg 06 01.00
LZH 8.77 247 eP 04 11.00 -1.9
Z 16s 0.70um
Lg 06 37.50
e 06 45.00
WHN 9.35 177 eP 04 25.50 4.8X
CN2 9.49 62 eP 04 17.60 -5.0X
GTA 10.84 272 eP 04 39.40 -1.9
GYA 14.69 206 P 05 38.20 5.5X
N 12s 1.30um
MAT 19.41 92 (P) 06 34.00 1.8
WMO 19.84 290 P 06 37.50 0.7
GBA 41.30 241 P 09 55.00 4.8X
FBA 57.98 30 eP 11 56.80 -0.7
pP 11 59.70 10kmX
MBC 59.33 13 eP 12 08.00 1.2
0.5s 2.00nm 4.5mb

```
INK     61.11   23 eP     12 19.00  -0.1
      S.D. =  1.6  on  13 of  18 obs.
-------------------------------------------
    OCT  18, 1989  21h 27m 20.00± 1.08s
    39.820 N ± 5.8km     8.762 W ±11.4km
    DEPTH =  10.0km  (geophysicist)
 PORTUGAL                              (376)
       mbLg 3.8 (MDD).

LIS      1.14  195 iPd    27 41.30  -0.1
                   iS     27 54.80
EPLA     2.08   82 ePn    27 57.00   1.6
EZAM     2.33    1 ePn    28 02.20   3.3X
                   eSn    28 27.80
EVAL     2.73  144 ePn    28 05.60   0.9
                   eSn    28 36.00
ERUA     2.85   25 iPnd   28 08.40   2.1
                   eSn    28 41.00
STS      3.07    3 ePn    28 11.40   2.0
                   eSn    28 47.00
EHOR     3.40  125 ePn    28 13.80  -0.3
                   eSn    28 52.40
GUD      3.62   75 ePn    28 18.60   1.1
TOL      3.63   88 iPnc   28 18.70   1.3
                   eSn    29 00.00
                   eSg    29 19.00
EMON     3.77   16 ePn    28 20.80   1.4
                   eSn    29 03.00
EPRU     3.98  135 ePn    28 23.50   1.1
                   eSn    29 06.50
EBAN     4.22  112 ePn    28 25.50  -0.3
                   eSn    29 12.00
EJIF     4.25  141 ePn    28 27.20   1.0
                   eSn    29 14.20
EVIA     5.00  102 ePn    28 37.60   0.6
ETOR     5.22   77 ePn    28 40.60   0.5
ECHE     6.01   90 ePn    28 50.80  -0.4
EPF      7.55   62 Pn     29 12.80  -0.1
LFF      8.69   51 Pn     29 27.50  -1.2
TIO      8.96  172 iPn    29 29.80  -2.7
                   iSn    31 04.60
MFF      9.24   40 Pn     29 34.40  -1.8
CAF      9.50   54 Pn     29 37.80  -2.0
TCF     10.30   48 Pn     29 49.00  -1.9
MAF     10.47   49 Pn     29 51.40  -1.8
BGF     10.82   48 Pn     29 56.60  -1.3
      S.D. =  1.5  on  23 of  24 obs.
-------------------------------------------
&  OCT  18, 1989  21h 51m 55.10s
    37.103 N          121.922 W
    DEPTH =  14.0km
 CENTRAL CALIFORNIA                    ( 39)
      <BRK>. ML 3.1 (BRK).

MHC      0.33   43 iPc    52 01.90  -0.3
ARN      0.40   52 iPc    52 02.90  -0.5
PCC      0.54  317 iPd    52 04.70  -1.1
BKS      0.81  342 iPd    52 10.30  -0.2
                   iS     52 21.60
BRK      0.81  341 eP     52 10.30  -0.2
                   eS     52 21.20
PRS      0.89  150 iPc    52 10.90  -0.9
LLA      0.92  121 iPd    52 11.20  -1.2
FRI      1.77   93 eP     52 23.70  -1.8
       8 obs. ossocioted
-------------------------------------------
&  OCT  18, 1989  21h 52m 52.90s
    36.285 N          120.347 W
    DEPTH =   9.0km
 CENTRAL CALIFORNIA                    ( 39)
      <BRK>. ML 2.9 (BRK).

PRI      0.29  241 iPd    52 59.20   0.2
PKEM     0.29  139 iPc    53 01.20   2.2
PHAM     0.45  185 eP     53 02.90   0.9
LLA      0.58  305 eP     53 04.10  -0.6
PRS      0.83  274 eP     53 08.30  -0.7
FRI      0.87   36 iPd    53 09.20  -0.5
                   eS     53 21.00
BCH      1.12  169 eP     53 13.80  -0.2
MHC      1.48  316 e(P)   53 21.30   1.5
ISA      1.64  112 iPc    53 22.10   0.0
ABL      1.70  147 eP     53 21.80  -1.3
CMB      1.75  359 eP     53 23.30  -0.3
TNP      3.08   53 e(P)   53 47.60   4.9
KVN      3.29   32 e(P)   53 51.00   5.2
       13 obs. ossociated
-------------------------------------------
&  OCT  18, 1989  22h 01m 42.08s
    59.761 N          153.768 W
    DEPTH = 154.4km
 SOUTHERN ALASKA                       (  2)
      <AGS-P>.

OPT      0.29  111 iP     02 02.56   0.7
AUL      0.42  156 iP     02 02.95   0.7
AUW      0.42  159 iP     02 02.98   0.7
AUE      0.45  153 iP     02 03.00  -0.9
RED      0.83   37 iP     02 05.28  -1.0
                   eS     02 23.28
CDD      0.84  176 iP     02 05.11  -1.2
RDT      1.06   39 iP     02 07.30  -0.9
                   eS     02 27.52
XLV      1.08  106 eP     02 07.59  -0.7
                   eS     02 26.61
NNL      1.28   76 iP     02 10.22   0.2
CNPM     1.31   99 eP     02 09.37  -1.0
                   eS     02 29.84
BRLK     1.46   89 eP     02 11.34  -0.6
                   eS     02 32.69
CKL      1.61   26 iP     02 13.09  -0.5
SVW      1.63  327 iP     02 12.59  -1.2
CRP      1.71   27 eP     02 14.44  -0.3
                   eS     02 39.26
SLKM     1.93   66 eP     02 16.28  -0.8
KDC      2.13  161 eP     02 18.08  -1.2
SEW      2.20   79 eP     02 19.47  -0.7
SUA      2.27   40 eP     02 20.78  -0.4
SKT      2.48   25 eP     02 23.18  -0.5
PMS      2.56   53 eP     02 23.68  -0.9
PWA      2.69   44 eP     02 26.40   0.2
PLRM     2.93   49 eP     02 27.66  -1.5
KNK      3.10   55 eP     02 29.85  -1.6
GHO      3.12   48 eP     02 29.91  -1.8
GLI      3.50   68 eP     02 35.61  -1.0
FID      3.77   72 eP     02 38.21  -1.8
KLU      4.24   62 eP     02 44.91  -1.4
       27 obs. ossocioted
-------------------------------------------
&  OCT  18, 1989  22h 19m 24.40s
    37.027 N          121.808 W
    DEPTH =   4.0km
 CENTRAL CALIFORNIA                    ( 39)
      <BRK>. ML 2.9 (BRK).

MHC      0.34   23 iPd    19 31.50   0.2
ARN      0.39   34 iPd    19 32.20   0.0
PCC      0.66  316 iPd    19 37.00  -0.5
PRS      0.78  153 iPd    19 39.20  -0.8
LLA      0.81  120 eP     19 39.40  -1.1
BKS      0.91  338 iP     19 41.80  -0.6
                   iS     19 55.40
BRK      0.92  337 eP     19 41.90  -0.6
                   iS     19 55.20
PRI      1.28  134 eP     19 47.80  -0.9
CMB      1.51   48 eP     19 50.70  -1.7
       9 obs. ossocioted
-------------------------------------------
?  OCT  18, 1989  22h 21m 00.85± 4.91s
    15.512 N ±44.1km    98.238 W ±12.0km
    DEPTH =  33.0km  (normal)
 OFF COAST OF GUERRERO, MEXICO         ( 65)

ACX      2.06  311 iP     21 34.00   0.2
                   iS     21 56.50
OXX      2.13   43 iP     21 35.00  -0.1
                   iS     22 04.50
III      3.08  338 iP     21 48.00  -0.5
                   iS     22 24.00
IISM     3.55   13 iP     21 55.00   0.0
                   iS     22 43.00
PPM      3.55  354 iP     21 56.00   0.5
                   iS     22 39.50
CRX      4.11  341 iP     22 08.00   4.8X
      S.D. =  0.5  on   5 of   6 obs.
-------------------------------------------
?  OCT  18, 1989  22h 36m 18.36± 1.15s
    28.460 S ±22.5km    62.840 E ±18.9km
    DEPTH =  10.0km  (geophysicist)
     4.8mb (  3 obs.)
 ATLANTIC-INDIAN RISE                  (428)

GBA     44.14   21 Pd     44 28.70  -0.1
        0.7s      4.70nm          4.4mb
-------------------------------------------
HYB     48.07   20 eP     45 00.30   0.1
BCAO    53.71  300 iPc    45 43.00   0.0
        1.2s     14.00nm          4.8mb
ASPA    63.18  104 iPd    46 49.10   0.0
        0.5s     10.00nm          5.3mb
WB5     64.99  100 eP     47 01.00   0.0
      S.D. =  0.1  on   5 of   5 obs.
-------------------------------------------
    OCT  18, 1989  22h 51m 47.63± 0.53s
    40.958 N ± 4.6km    22.698 E ± 4.8km
    DEPTH =  10.0km  (geophysicist)
 GREECE                                (364)
       ML 2.5 (SKO).

GRG      0.22  270 iPgd   51 52.90   0.4
                   eSg    51 56.60
KNT      0.25   36 iPgc   51 52.90  -0.1
                   eSg    51 55.40
VAY      0.38  345 iPg    51 55.00  -0.3
                   eSg    52 00.50
THE      0.38  148 ePg    51 55.10  -0.4
                   eSg    52 00.30
SRS      0.69   76 iPgd   52 00.40  -1.0
                   eSg    52 10.30
LIT      0.87  191 ePg    52 04.30  -0.1
                   eSg    52 17.70
KKB      0.95   18 iPd    52 05.00  -0.8
                   iSg    52 19.00
MMB      1.00   51 ePgd   52 06.00  -0.6
OUR      1.16  122 ePg    52 09.70   0.4
                   eSg    52 26.30
OHR      1.44  277 ePn    52 13.50  -0.4
VTS      1.68   13 iP     52 21.00   3.7X
                   iS     52 42.00
PGB      1.93   34 eP     52 23.00   2.1
KDZ      2.16   70 eP     52 25.00   0.8
      S.D. =  0.9  on  12 of  13 obs.
-------------------------------------------
?  OCT  18, 1989  22h 52m 07.43± 7.75s
     2.658 N ±29.1km    80.149 W ±66.7km
    DEPTH =  10.0km  (geophysicist)
 SOUTH OF PANAMA                       ( 83)

COTA     2.93  142 P      52 54.00  -1.4
                   S      53 22.90
OUR      3.24  150 iPd    52 59.00  -0.8
                   S      53 31.30
CAYA     3.35  140 eP     53 01.00  -0.4
ANCC     3.39   75 eP     53 01.49   0.0
SALC     3.46   85 eP     53 01.85  -0.8
HOQC     3.60   77 eP     53 04.09  -0.6
RECU     3.64  154 P      53 07.00   1.5
                   eS     53 40.60
CLMC     3.78   71 eP     53 06.90  -0.3
PURC     3.80   95 eP     53 09.28   1.5
DIAC     4.00   81 eP     53 10.21   0.0
      S.D. =  1.1  on  10 of  10 obs.
-------------------------------------------
?  OCT  18, 1989  23h 01m 00.13± 3.69s
     5.502 S ±43.8km   149.657 E ±18.2km
    DEPTH = 137.0 ± 19.0 km
     4.4mb (  2 obs.)
 NEW BRITAIN REGION                    (192)

LAT      2.88  246 eP     01 46.00   0.0
                   eS     02 20.00
PMG      4.61  212 eP     02 09.00   0.0
CTA     14.87  193 iPd    04 28.40   3.6X
        1.0s     24.00nm          4.5mb
WB5     20.63  225 eP     05 30.80   0.3
BRS     21.97  173 iPd    05 33.80 -10.0X
        0.8s     10.00nm
DZM     23.13  137 iPd    05 55.20   0.0
ASPA    23.59  218 eP     05 59.30  -0.3
        0.4s      5.00nm          4.3mb
      S.D. =  0.4  on   5 of   7 obs.
-------------------------------------------
&  OCT  18, 1989  23h 13m 10.10s
    59.754 N          153.092 W
    DEPTH = 108.8km
 SOUTHERN ALASKA                       (  2)
      <AGS-P>.

OPT      0.12  215 iP     13 24.73   0.9
                   eS     13 35.15
AUL      0.41  205 eP     13 25.92  -0.6
                   eS     13 38.30
```

18d 23h

AUE	0.42	200	eP	13	25.75	-0.8
RED	0.69	13	iP	13	27.75	-0.8
			eS	13	40.78	
XLV	0.76	113	eP	13	28.71	-0.4
			eS	13	43.07	
CDD	0.87	199	iP	13	29.08	-1.2
RDT	0.89	22	iP	13	29.57	-0.9
NNL	0.95	72	iP	13	31.33	0.4
CNPM	0.97	103	iP	13	30.46	-0.7
BRLK	1.12	89	eP	13	32.17	-0.6
SPU	1.52	19	eP	13	36.45	-1.1
BGL	1.55	13	iP	13	37.29	-0.7
SUA	2.07	33	eP	13	43.84	-0.7
PMS	2.30	48	eP	13	46.42	-1.1
SKT	2.36	18	eP	13	47.04	-1.2
PWA	2.47	38	iP	13	48.49	-1.2
KNK	2.83	52	eP	13	52.64	-1.9
GHO	2.88	43	eP	13	53.00	-2.2
GLI	3.19	67	eP	13	57.09	-2.3
FID	3.44	70	eP	13	59.55	-3.3

20 obs. associated

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* OCT 18, 1989 23h 23m 51.68± 1.29s
10.627 S ±17.8km 124.887 E ±14.1km
DEPTH = 33.0km (normal)
4.0mb (1 obs.)
TIMOR (289)

KNA	6.34	144	eP	25	27.00	1.7
			eS	26	45.00	
MTN	6.50	110	eP	25	28.00	0.5
			eS	26	45.00	
ASPA	15.56	148	eP	27	28.30	-2.0
	0.6s		6.00nm			4.0mb
			eS	30	27.20	
WARB	15.56	174	eP	27	30.50	0.1
			eS	30	24.00	
KLI	20.65	285	eP	28	31.50	0.2
			e	28	53.50	
HNR	34.53	91	eP	30	39.00	-0.4

S.D. = 1.6 on 6 of 6 obs.

& OCT 18, 1989 23h 24m 57.50s
37.165 N 121.998 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

MHC	0.33	58	iPc	25	04.50	0.0
ARN	0.41	63	iPc	25	05.60	-0.4
PCC	0.45	318	iPd	25	06.10	-0.7
BKS	0.73	345	eP	25	11.30	-0.5
			eS	25	22.40	
BRK	0.74	344	eP	25	11.10	-0.7
			eS	25	22.40	
PRS	0.97	149	e(P)	25	15.20	-0.7
LLA	1.01	123	eP	25	15.50	-1.0
PRI	1.48	133	eP	25	21.60	-2.6
CMB	1.55	55	eP	25	23.70	-1.4
FRI	1.84	95	eP	25	27.40	-1.8

10 obs. associated

OCT 18, 1989 23h 30m 11.13± 0.28s
56.712 N ± 3.4km 151.906 W ± 4.4km
DEPTH = 33.0km (normal)
4.8mb (31 obs.)
KODIAK ISLAND REGION (13)
ML 4.5 (PMR).

KDC	1.09	343	iPc	30	30.70	0.7
CDD	2.41	338	eP	30	50.15	1.0
XLV	2.75	2	iP	30	55.15	1.3
AUL	2.80	344	eP	30	56.08	1.6
CNPM	2.84	7	iP	30	55.92	0.7
OPT	3.03	347	iP	30	59.14	1.2
SEW	3.64	20	eP	31	05.52	-0.9
PMS	4.71	14	eP	31	21.04	-0.6
NCG	4.71	359	eP	31	21.13	-0.6
SVW	4.81	338	ePc	31	22.20	-0.9
GLI	4.87	29	eP	31	22.60	-1.4
FID	4.94	33	iP	31	23.40	-1.5
			eS	32	17.45	
SDN	5.01	258	ePc	31	19.40	-6.5X
PMR	5.10	15	eP	31	26.10	-1.1
TOA	6.15	26	eP	31	42.00	-0.1
BALM	6.58	45	eP	31	46.88	-1.3
FBA	8.46	12	eP	32	12.60	-1.6
HYT	8.54	55	P	32	14.60	-0.9
DWY	9.59	35	P	32	30.00	0.1
INK	14.31	28	eP	33	33.00	-0.1
	1.1s		57.00nm			5.1mb
BMW	20.40	108	eP	34	47.50	-0.2
RMW	20.53	104	eP	34	48.50	-0.6
PNT	20.63	97	eP	34	50.00	0.0
LON	20.97	106	eP	34	53.50	-0.1
EDM	22.20	83	eP	35	06.50	0.7
MBC	22.89	19	eP	35	14.00	1.6
	0.6s		62.00nm			5.3mb
LBFM	24.70	116	eP	35	31.30	0.8
SES	24.79	87	eP	35	32.00	1.0
CMB	27.99	118	eP	36	00.60	-0.1
KVN	28.33	114	eP	36	04.00	0.1
FRI	29.14	119	eP	36	10.60	-0.4
TNP	29.52	114	eP	36	14.00	-0.6
CLC	31.11	118	eP	36	28.00	-0.5
MSU	31.79	108	eP	36	35.30	0.7
SBB	31.90	119	eP	36	35.00	-0.5
MWC	32.17	120	eP	36	23.00	-14.9X
RVR	32.68	119	eP	36	42.00	-0.2
TPC	33.23	118	eP	36	47.00	-0.1
PLM	33.45	119	eP	36	48.00	-1.1
BAR	34.09	120	eP	36	55.00	0.5
GOL	34.57	99	e(P)	37	00.50	1.7
GLA	34.68	117	eP	37	03.00	3.4X
CN2	51.21	293	P	39	10.50	-2.5
			pP	39	16.40	20kmX
SNY	53.58	292	Pc	39	28.80	-2.0
KEV	53.83	0	eP	39	48.00	15.8X
SOD	56.23	1	iP	39	49.50	-0.2
HHC	60.27	300	P	40	17.00	-1.4
SUF	60.89	1	eP	40	21.90	-0.3
	0.5s		6.90nm			5.0mb
HFS	62.94	8	eP	40	35.10	-0.9
	0.5s		11.60nm			5.3mb
NUR	63.09	2	iP	40	36.80	-0.1
	0.7s		20.00nm			5.4mb
EKA	65.46	19	P	40	52.00	-0.4
	1.0s		6.90nm			4.7mb
WMO	68.06	318	P	41	08.50	-0.7
WTS	70.25	14	eP	41	23.00	0.7
	0.8s		8.00nm			4.8mb
MEM	71.50	15	P	41	30.30	0.4
CLL	71.63	10	iP	41	30.30	-0.4
	1.1s		12.00nm			4.8mb
DOU	71.79	16	P	41	31.90	0.2
FLN	72.24	19	eP	41	34.20	-0.2
	0.9s		14.40nm			5.0mb
KSP	72.37	8	ePc	41	35.40	0.3
LDF	72.47	19	eP	41	35.50	-0.2
	1.0s		12.00nm			4.8mb
GRR	72.53	20	eP	41	36.10	0.0
	1.0s		16.00nm			5.0mb
LPF	72.84	20	eP	41	38.10	0.2
	0.8s		6.40nm			4.7mb
GRF	73.04	11	iPc	41	40.10	1.0
	1.0s		7.50nm			4.6mb
			e	41	45.70	
PRU	73.08	9	eP	41	40.10	0.8
KRA	73.39	5	eP	41	41.70	0.7
			e	41	46.70	
CDF	73.82	14	eP	41	44.20	0.5
	0.9s		6.50nm			4.6mb
KHC	73.84	10	iPc	41	44.80	1.0
HAU	74.09	15	eP	41	45.40	0.2
	0.8s		6.40nm			4.7mb
SPC	74.27	5	eP	41	47.10	0.7
BSF	74.32	15	eP	41	46.90	0.2
	0.9s		6.50nm			4.6mb
MFF	74.38	20	eP	41	47.10	0.2
	0.9s		13.10nm			4.9mb
LOR	74.43	17	eP	41	47.10	-0.1
	0.9s		13.10nm			4.9mb
SSF	74.57	17	eP	41	48.20	0.2
	0.9s		18.00nm			5.1mb
LBF	74.73	17	eP	41	48.60	-0.3
	0.9s		8.80nm			4.8mb
AVF	74.81	17	eP	41	49.30	-0.1
	0.9s		12.10nm			4.9mb
BGF	74.95	18	eP	41	50.30	0.1
	0.8s		9.40nm			4.8mb
LSF	75.03	19	eP	41	50.50	-0.1
	0.7s		9.90nm			4.9mb
SMF	75.03	17	eP	41	50.60	-0.1
	0.9s		6.50nm			4.6mb
ZST	75.06	8	iP	41	51.50	0.7
TCF	75.11	18	eP	41	51.00	-0.1
	0.8s		2.60nm			4.3mb
MAF	75.23	18	eP	41	51.90	0.1
	0.7s		4.80nm			4.6mb
RJF	75.94	19	eP	41	56.10	0.3
LFF	76.15	20	eP	41	57.60	0.6
	0.8s		9.10nm			4.8mb
CAF	76.40	19	eP	41	58.70	0.2
	0.8s		5.30nm			4.6mb
LPO	76.48	19	eP	41	59.20	0.3
	0.7s		7.40nm			4.8mb
LPG	76.60	15	eP	42	00.30	0.4
EPF	77.91	20	eP	42	06.70	-0.2
	0.8s		3.20nm			4.4mb
SBF	78.30	15	eP	42	09.40	0.4
	0.8s		6.40nm			4.7mb
SKO	81.53	5	iP	42	27.00	0.8
OHR	82.35	6	eP	42	31.20	0.6
AAPN	82.45	25	eP	42	33.40	2.2X
ASMO	82.49	25	eP	42	33.50	2.1X
ALOJ	82.64	25	eP	42	34.40	2.1X
ACHM	82.71	25	eP	42	35.00	2.5X
ATEJ	82.85	25	eP	42	35.50	2.1X
APHE	82.89	25	eP	42	35.70	2.1X
KIC	111.64	35	PKP	48	55.00	11.2X
PDCR	112.85	78	ePKP	48	51.20	5.2X
SPA	146.53	180	e(PKP)	49	47.50	-0.1
	1.0s		5.00nm			
SPA	146.53	180	ePKP	49	52.00	4.4X
PRY	150.23	1	iPKPd	50	03.90	9.2X
	0.7s		12.50nm			
HVD	153.84	5	iPKPd	49	43.00	-16.8X

S.D. = 0.8 on 86 of 101 obs.

OCT 18, 1989 23h 43m 01.24± 0.30s
21.089 S ± 6.7km 11.529 W ± 6.8km
DEPTH = 10.0km (geophysicist)
4.8mb (11 obs.) 4.6Msz (1 obs.)
SOUTH ATLANTIC RIDGE (410)

BAO	34.97	273	eP	49	56.00	-0.1
BUL	37.52	96	Pc	50	17.60	0.1
	1.2s		32.03nm			5.0mb X
BCAO	38.89	53	iPd	50	28.30	-0.6
	0.8s		14.00nm			4.7mb
			ic	50	35.30	
SNA	49.54	176	iPc	51	53.60	-0.2
	1.0s		30.00nm			5.2mb
CCH	51.49	264	P	52	11.00	1.2
CNCB	53.34	264	P	52	23.90	0.0
LPB	53.51	265	P	52	25.00	0.0
ZOBO	53.60	265	P	52	24.00	-1.9
Z	18s		0.52um			4.6Msz
			LR	09	08.00	
ARE	56.68	264	eP	52	49.00	1.0
MAW	64.75	156	eP	53	41.00	-0.6
SGO	66.22	22	P	53	51.50	0.1
LPO	66.47	10	eP	53	52.80	-0.2
LFF	66.65	9	eP	53	54.00	-0.1
	0.7s		7.40nm			5.0mb X
SDI	66.74	20	P	53	55.00	0.2
CAF	66.86	10	eP	53	54.80	-0.6
	0.8s		3.20nm			4.6mb
SBF	66.93	15	eP	53	56.00	0.0
	0.8s		5.30nm			4.8mb
MNS	67.00	19	P	53	56.00	-0.4
ASS	67.62	19	P	54	05.50	5.2X
BDI	67.93	17	P	54	01.00	-1.3
LSF	68.06	10	eP	54	03.10	0.2
	0.7s		7.00nm			5.0mb X
TCF	68.20	10	eP	54	04.00	0.1
BOB	68.28	16	P	54	11.50	7.0X
LPG	68.32	14	eP	54	05.20	0.2
	0.9s		6.50nm			4.8mb
OHR	68.78	26	eP	54	09.50	1.9
AVF	68.89	11	eP	54	08.00	-0.1
	0.8s		3.20nm			4.6mb
SPA	69.04	180	e(P)	54	09.20	0.1
	1.0s		30.00nm			5.4mb
SSF	69.17	11	eP	54	09.90	0.1
MDI	69.29	16	P	54	10.50	0.0
LOR	69.44	11	eP	54	11.00	-0.5
LPF	69.44	7	eP	54	11.60	0.2
	0.8s		8.00nm			4.9mb
SKO	69.76	26	iP	54	13.20	-0.3
TRI	70.34	19	P	54	18.50	1.5

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VOY     70.67   18 e(P)   54 15.50   -3.6X
FVI     70.86   17 P      54 20.50    0.4
LJU     70.87   19 e(P)   54 20.50    0.2
GRF     73.31   15 iPc    54 34.60    0.0
        1.3s     17.00nm          5.0mb
                 e         54 40.70
KHC     73.40   17 P      54 34.90   -0.3
PRU     74.44   17 eP     54 41.00   -0.2
CLL     75.24   16 eP     54 44.00   -1.8
        1.8s     16.00nm          4.8mb
KRA     76.12   20 eP     54 50.20   -0.6
EKA     76.45    5 P      54 53.00    0.5
        1.1s     10.10nm          4.8mb
MAIO    88.03   50 eP     55 54.00    0.8
HYB     96.18   74 eP     56 32.00    0.8
      S.D. = 0.8   on  40 of  43 obs.
-------------------------------------
   OCT  19, 1989  01h 11m 01.41± 0.95s
    1.210 N ± 7.8km    99.473 E ± 9.5km
    DEPTH =  45.4 ±  9.4 km
 NORTHERN SUMATERA                (706)

PSI     1.57 340 iPc    11 27.80    0.5
                 e      17 00.09
PPI     1.90 151 eP     11 31.50   -0.4
                 eS     11 55.00
                 e      18 00.00
TSI     2.45 338 ePd    11 38.00   -1.8
                 eS     12 23.00
KLM     2.87   49 eP     11 53.50    7.7X
        0.4s    578.30nm
                 e      12 35.00
IPM     3.69   25 ePd    11 57.20   -0.2
        0.4s     75.30nm
                 e      12 13.50
                 e      13 25.10
KGM     3.93   78 ePd    12 01.30    0.5
                 e      12 13.00
                 e      13 03.40
BSI     5.96 316 eP     12 30.50    1.1
SNG     6.04   11 eP     12 30.00   -0.5
NNT    11.31    1 eP     13 42.90   -0.4
BDT    15.94 358 eP     14 40.00   -4.2X
CHG    17.50 358 eP     15 05.60    1.7
                 e      20 19.50
GBA    25.05 300 P      16 24.00    0.9
HYB    26.13 309 eP     16 33.50    0.2
MAIO   50.86 318 eP     19 59.00   -1.0
MBH    67.46 302 iPd    21 53.50   -1.5
PRNI   67.48 302 eP     21 54.00   -1.2
BUL    72.49 249 eP     22 27.00    0.9
VRI    77.16 317 ePc    22 52.50    0.3
OHR    80.67 311 e(P)   23 09.80   -1.6
KSP    84.75 321 eP     23 32.50    0.4
LJU    85.61 316 e(P)   23 37.50    1.0
VOY    86.06 316 e(P)   23 38.50   -0.3
HFS    86.85 330 eP     23 42.30    0.1
        0.7s      7.30nm          5.0mb X
CLL    86.85 321 e(P)   23 43.00    0.6
LPG    91.06 315 eP     24 03.40    0.6
        0.8s      4.50nm          4.9mb X
      S.D. = 1.0   on  23 of  25 obs.
-------------------------------------
&  OCT  19, 1989  01h 37m 39.40s
    37.052 N          121.895 W
    DEPTH =  13.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.4 (BRK).

GCC     0.08 255 iPd    37 41.80   -0.5
MHC     0.35  35 iPd    37 46.70   -0.2
ARN     0.41  44 iPd    37 47.60   -0.4
PCC     0.59 319 eP     37 50.20   -0.9
PRS     0.83 149 iPc    37 54.50   -0.7
BKS     0.87 342 iPc    37 55.60   -0.2
                 eS     38 08.10
BRK     0.87 341 eP     37 55.50   -0.3
                 eS     38 07.20
LLA     0.88 119 iPc    37 55.00   -1.0
PRI     1.34 132 eP     38 03.10   -0.8
CMB     1.55  50 iPd    38 05.50   -1.3
FRI     1.75  91 eP     38 07.90   -1.7
       11 obs. associated
-------------------------------------
&  OCT  19, 1989  01h 51m 25.70s
    37.142 N          121.998 W
    DEPTH =  13.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.0 (BRK).

ARN     0.43  61 iP     51 34.00   -0.5
PCC     0.47 320 iPc    51 34.40   -0.9
BKS     0.76 346 ePd    51 39.70   -0.5
                 iS     51 50.20
BRK     0.76 344 eP     51 40.00   -0.2
                 eS     51 50.70
PRS     0.95 148 eP     51 42.70   -0.9
LLA     1.00 121 eP     51 42.90   -1.4
PRI     1.46 133 eP     51 51.10   -0.8
FRI     1.84  94 eP     51 55.20   -2.0
        8 obs. associated
-------------------------------------
?  OCT  19, 1989  02h 39m 50.11± 7.26s
    15.348 N ±65.0km    98.270 W ±14.6km
    DEPTH =  33.0km  (normal)
 OFF COAST OF GUERRERO, MEXICO    ( 65)

ACX     2.15 315 iP     40 24.50    0.1
                 iS     40 47.00
OXX     2.28  41 iP     40 26.00   -0.3
                 iS     40 55.00
III     3.22 339 iP     40 38.00   -1.8
                 iS     41 17.50
PPM     3.71 355 iP     40 42.00   -5.0X
                 iS     41 29.00
IISM    3.72  13 iP     40 47.00    0.4
                 iS     41 31.00
CRX     4.25 342 (P)    40 55.50    1.0
                 (S)    41 47.00
      S.D. = 1.5   on   5 of   6 obs.
-------------------------------------
?  OCT  19, 1989  02h 41m 15.48± 7.88s
    15.179 N ±70.8km    98.440 W ±13.8km
    DEPTH =  33.0km  (normal)
 OFF COAST OF GUERRERO, MEXICO    ( 65)

ACX     2.16 321 (P)    41 50.00    0.1
                 iS     42 16.00
OXX     2.51  41 iP     41 55.00   -0.1
                 iS     42 21.00
III     3.33 343 iP     42 06.50   -0.2
                 iS     42 40.00
IISM    3.92  15 iP     42 15.00    0.1
                 iS     43 00.00
      S.D. = 0.2   on   4 of   4 obs.
-------------------------------------
&  OCT  19, 1989  02h 55m 08.60s
    37.030 N          121.800 W
    DEPTH =   7.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 2.8 (BRK).

GCC     0.16 270 iPc    55 11.80   -0.2
MHC     0.34  22 iPd    55 15.60    0.1
ARN     0.38  34 iPd    55 16.30   -0.1
PCC     0.66 315 eP     55 20.70   -1.2
PRS     0.78 153 ePc    55 23.20   -0.8
LLA     0.80 121 iPc    55 23.80   -0.7
BKS     0.91 338 iPd    55 25.70   -0.6
                 iS     55 39.30
BRK     0.92 337 eP     55 25.60   -0.8
                 eS     55 39.20
PRI     1.27 134 eP     55 32.20   -0.4
CMB     1.51  48 iPc    55 35.00   -1.1
FRI     1.67  91 eP     55 36.80   -1.6
       11 obs. associated
-------------------------------------
   OCT  19, 1989  03h 04m 20.04± 0.77s
    42.796 N ± 6.4km    13.204 E ± 7.4km
    DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                    (381)
      MD 2.5 (SSO).

ALP     0.27  93 iPgc   04 24.97   -0.9
                 iSg    04 28.79
CIO     0.40 354 iPg    04 28.24    0.0
                 iSg    04 35.32
ASS     0.48 305 P      04 29.90    0.0
                 eSg    04 36.30
MNS     0.56 223 Pc     04 30.60   -0.9
                 eSg    04 38.50
ARV     0.73 345 P      04 34.90    0.5
                 eSg    04 46.60
SDI     1.18 157 P      04 43.40    1.3
                 eSg    05 00.50
      S.D. = 1.1   on   6 of   6 obs.
-------------------------------------
&  OCT  19, 1989  03h 20m 27.30s
    37.100 N          121.910 W
    DEPTH =  12.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.2 (BRK).

GCC     0.10 225 iPc    20 29.80   -0.4
MHC     0.32  42 iPc    20 34.00   -0.2
ARN     0.39  50 iPc    20 35.00   -0.4
PCC     0.55 317 iPd    20 37.40   -1.0
BKS     0.82 342 ePd    20 42.60   -0.3
                 iS     20 53.70
BRK     0.82 340 ePd    20 42.40   -0.6
                 eS     20 54.10
PRS     0.88 150 ePd    20 43.10   -0.9
LLA     0.91 122 ePd    20 43.60   -1.0
PRI     1.38 133 e(P)   20 52.00   -0.5
CMB     1.53  52 eP     20 53.70   -0.8
FRI     1.76  93 eP     20 56.30   -1.5
       11 obs. associated
-------------------------------------
&  OCT  19, 1989  03h 55m 00.70s
    36.990 N          121.808 W
    DEPTH =  19.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 4.0 (BRK).

GCC     0.16 285 iPc    55 04.50   -0.7
MHC     0.38  21 iPd    55 08.60   -0.1
ARN     0.42  31 iPd    55 09.20   -0.2
PCC     0.68 318 iPc    55 13.20   -0.6
PRS     0.75 152 iPc    55 14.10   -0.8
LLA     0.79 118 iPc    55 14.50   -1.1
BKS     0.95 339 iPd    55 17.00   -1.3
                 iS     55 31.70
BRK     0.95 338 eP     55 16.80   -1.6
PRI     1.25 132 eP     55 21.00   -2.3
CMB     1.54  47 eP     55 26.40   -0.9
FRI     1.68  89 iPc    55 27.60   -1.7
       11 obs. associated
-------------------------------------
&  OCT  19, 1989  04h 12m 43.80s
    36.910 N          121.680 W
    DEPTH =   9.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.6 (BRK).

GCC     0.28 295 iPc    12 49.20   -0.4
MHC     0.43   4 iPd    12 52.50   -0.1
ARN     0.45  15 iPd    12 52.60   -0.4
PRS     0.63 157 iPd    12 55.60   -0.8
LLA     0.66 116 iPd    12 56.30   -0.7
PCC     0.81 317 iPc    12 58.60   -1.0
BKS     1.06 336 iPc    13 02.90   -1.0
                 iS     13 18.90
BRK     1.07 335 eP     13 02.30   -1.7
                 eS     13 17.70
PRI     1.12 133 eP     13 04.10   -0.9
CMB     1.52  42 eP     13 10.20   -1.1
FRI     1.58  86 eP     13 10.20   -1.8
TNP     3.74  70 eP     13 38.50   -4.6
       12 obs. associated
-------------------------------------
&  OCT  19, 1989  05h 16m 17.50s
    36.938 N          121.703 W
    DEPTH =  10.0km
 CENTRAL CALIFORNIA               ( 39)
      <BRK>. ML 3.0 (BRK).

GCC     0.25 291 iPc    16 22.50   -0.4
MHC     0.41   7 iPd    16 25.70   -0.1
ARN     0.43  18 iPd    16 26.10   -0.2
PRS     0.66 156 iPd    16 29.90   -0.8
LLA     0.69 118 iPd    16 30.50   -0.7
PCC     0.78 316 ePc    16 31.50   -1.2
BKS     1.03 336 iPd    16 35.90   -1.0
                 eS     16 51.80
BRK     1.03 335 eP     16 36.10   -0.9
PRI     1.15 133 ePd    16 38.10   -1.1
CMB     1.52  43 eP     16 43.90   -0.8
FRI     1.60  87 eP     16 44.30   -1.6
       11 obs. associated
-------------------------------------
?  OCT  19, 1989  05h 20m 47.47± 5.04s
```

19d 05h

41.374 N ±11.9km 140.178 E ±42.4km
DEPTH = 175.6 ± 44.9 km
HOKKAIDO, JAPAN REGION (224)

AOMJ	0.83	170	P	21	13.80	0.1
MRRJ	1.24	32	P	21	16.60	-0.3
			S	21	38.00	
HOOJ	2.53	65	iPd	21	31.30	0.6
			eS	22	01.30	
OFUJ	2.56	153	P	21	31.00	0.0
			S	22	02.30	
ASAJ	3.29	33	P	21	40.30	0.4
			eS	22	17.90	
KUSJ	3.78	61	P	21	45.50	-0.7
			S	22	26.10	

S.D. = 0.8 on 6 of 6 obs.

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* OCT 19, 1989 06h 06m 10.07± 0.58s
49.350 S ±14.5km 126.176 E ±17.5km
DEPTH = 10.0km (geophysicist)
5.1mb (5 obs.) 4.9Msz (1 obs.)
SOUTH OF AUSTRALIA (437)

ADE	17.08	37	iPc	10	19.20	8.8X
CAN	21.82	59	eP	11	03.00	-1.2
			e	11	23.20	
BWA	22.17	56	eP	11	06.00	-1.7
			e	11	26.70	
ASPA	26.35	16	iPd	11	48.70	0.8
	1.2s		22.00nm		4.7mb	
	Z 22s		5.02um		5.0MszX	
			LR	20	15.80	
WB5	30.13	15	eP	12	22.80	0.7
CTA	33.32	36	iPd	12	57.00	6.9X
	1.3s		34.62nm		5.1mb	
	Z 19s		2.33um		4.9Msz	
MAW	35.77	216	eP	13	10.00	-0.6
PAA	49.51	40	eP	14	58.00	-4.8X
SNA	54.98	199	iPc	15	44.20	1.1
	1.2s		48.44nm		5.4mb	
GUMO	64.80	20	eP	16	47.50	-3.5X
CHG	72.04	333	eP	17	34.60	-1.4
CHTO	72.04	333	eP	17	34.70	-1.3
KMI	77.03	338	Pc	18	08.00	3.1X
BUL	79.74	251	iPd	18	18.00	-1.9
	0.9s		4.20nm		4.4mb	
MAT	86.18	10	(P)	18	54.00	1.7
LZH	87.34	342	Pc	18	59.50	1.4
	2.5s		67.00nm		5.5mb	
			pP	19	07.50	25kmX
BJI	89.45	352	eP	19	08.50	0.7
GOL	142.66	85	ePKP	25	45.80	0.9
			e	25	54.90	
GLD	142.79	85	ePKP	25	45.30	0.3
			e	25	54.00	
MBC	143.07	21	ePKP	25	43.00	-1.2
	1.0s		5.00nm			
EDM	143.50	61	ePKPd	25	48.30	2.7X
SES	143.89	66	ePKP	25	48.00	1.6
MEO	144.27	97	iPKPd	25	50.90	3.4X
ACO	145.06	94	iPKPd	25	53.80	5.0X
RSSD	145.72	79	e(PKP)	25	50.20	0.3
TUL	146.77	98	ePKP	25	58.80	7.2X
	1.1s		30.50nm			
			e	26	06.40	
LNO	146.77	98	ePKP	25	58.60	7.1X
			e	26	06.50	
EKA	149.06	301	PKPd	25	57.70	3.1X
	0.7s		5.50nm			

S.D. = 1.3 on 17 of 28 obs.

OCT 19, 1989 06h 40m 01.27± 1.30s
45.428 N ± 5.4km 6.625 E ±10.9km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.5 (GEN).

LPG	0.11	52	Pg	40	04.60	0.2
			Sg	40	06.60	
LPL	0.12	41	Pg	40	04.40	0.0
LSD	0.38	85	P	40	08.89	-0.2
			S	40	14.41	
BNI	0.38	175	Pc	40	08.90	-0.2
			eSg	40	14.30	
RRL	0.52	167	P	40	11.84	0.0
			S	40	19.28	
RSP	0.53	122	P	40	12.10	0.2
			S	40	19.41	
ORX	0.98	77	P	40	19.79	-0.1
			S	40	32.19	
PZZ	0.98	160	P	40	20.17	0.1
			S	40	32.74	
STV	1.28	157	P	40	25.19	0.0

S.D. = 0.2 on 9 of 9 obs.

? OCT 19, 1989 07h 06m 25.27± 1.51s
38.397 N ±12.1km 27.256 E ±16.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.00	83	iPg	06	26.40	-0.8
			eSg	06	28.00	
CIN	1.03	140	ePg	06	45.00	0.3
			iSg	06	59.00	
YER	1.50	147	ePn	06	56.00	3.7X
EZN	1.60	333	ePn	06	54.00	0.4
KCT	2.04	24	ePn	06	59.80	-0.2

S.D. = 0.9 on 4 of 5 obs.

? OCT 19, 1989 07h 17m 40.19±13.24s
33.745 S ±25.6km 72.327 W ±105.km
DEPTH = 33.0km (normal)
OFF COAST OF CENTRAL CHILE (134)

LCCH	0.69	67	eP	18	04.00	10.6X
			iS	18	28.00	
LNV	0.79	106	iPc	17	55.00	0.1
			iS	18	09.00	
TACH	1.16	86	iPd	17	59.60	-0.6
			iS	18	21.10	
SAN	1.42	79	eP	18	04.00	0.1
			iS	18	28.00	
PEL	1.50	67	iP	18	05.40	0.3
			i	18	28.40	
			i	18	30.00	
PCH	1.52	86	iPc	18	05.40	0.0
			iS	18	31.30	
FCH	1.75	77	iPc	18	09.30	0.3
JACH	1.80	54	iPc	18	09.30	-0.2
RFA	3.36	109	e(P)	18	36.00	4.3X

S.D. = 0.4 on 7 of 9 obs.

? OCT 19, 1989 08h 00m 59.04±15.55s
15.896 N ±73.5km 60.377 W ±128.km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 2.6 (FDF).

CRM	1.25	205	eP	01	20.22	0.0
			S	01	34.00	
PAG	1.26	276	eP	01	20.50	0.0
			S	01	36.00	
FDF	1.38	213	eP	01	22.11	0.0
	0.1s		0.30nm			
			S	01	38.50	
MVM	1.42	201	eP	01	22.81	0.0
			S	01	39.70	
BIM	1.53	206	eP	01	24.46	0.1
			S	01	41.70	

S.D. = 0.1 on 5 of 5 obs.

OCT 19, 1989 08h 19m 52.58± 0.34s
39.965 N ± 3.3km 23.713 E ± 2.8km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
ML 3.5 (ATH).

PAIG	0.05	214	iPgd	19	55.00	0.3
OUR	0.42	29	ePg	20	02.40	1.2
			eSg	20	12.90	
PLG	0.46	333	ePb	20	01.00	-0.9
NEO	0.76	210	ePn	20	06.80	-0.6
THE	0.88	320	ePg	20	08.40	-1.0
			eSg	20	21.40	
LIT	0.95	279	ePg	20	09.80	-0.9
			eSg	20	23.20	
SRS	1.15	355	ePgc	20	14.30	0.1
			eSg	20	31.50	
KNT	1.35	333	ePgd	20	17.20	-0.2
			eSg	20	35.10	
GRG	1.41	315	ePb	20	17.90	-0.4
			eSb	20	37.80	
KZN	1.53	284	ePn	20	18.80	-1.2
VAY	1.61	328	iPn	20	21.80	0.7
			iSn	20	44.00	
MMB	1.62	0	iPc	20	21.00	-0.3
RDO	1.82	49	ePn	20	23.80	-0.4
RZN	1.88	24	iPc	20	25.00	-0.2
ATH	1.99	180	ePn	20	26.50	-0.1
EZN	2.01	93	iPn	20	26.90	-0.1
KDZ	2.12	37	iPc	20	28.00	-0.6
PLD	2.27	19	iP	20	32.00	1.4
LSK	2.40	275	iPnd	20	32.10	-0.5
DIM	2.50	33	eP	20	34.00	0.1
OHR	2.50	298	ePn	20	33.80	-0.2
PGB	2.61	7	iPd	20	35.00	-0.5
SKO	2.64	320	iPn	20	35.60	-0.4
			iPg	20	38.60	
			iSn	21	06.10	
			iSg	21	14.00	
VTS	2.65	352	iPc	20	36.00	-0.3
SRN	2.86	269	ePn	20	40.10	1.1
BERA	2.97	286	ePn	20	41.40	0.8
PHP	3.02	306	ePn	20	41.10	-0.2
KEK	3.02	266	ePb	20	45.60	4.2X
EDC	3.20	82	ePn	20	50.00	6.1X
TIR	3.24	296	ePn	20	44.00	-0.4
BNT	3.25	82	ePn	20	49.00	4.4X
KKS	3.27	311	ePn	20	47.00	2.2
LACI	3.47	300	ePn	20	48.00	0.4
PVL	3.47	20	iPd	20	46.00	-1.6
KCT	3.57	84	iPn	20	48.80	-0.4
CTT	3.78	70	ePn	20	52.00	-0.2
SDA	3.79	304	ePn	20	54.20	1.9
DST	3.80	94	ePn	20	53.50	1.0
YLV	4.37	80	iP	21	15.00	14.4X
CMP	5.39	10	ePc	21	16.00	1.0
ISR	5.58	21	eP	21	17.00	-0.6
MLR	5.76	16	iPc	21	20.00	-0.3
BZS	5.86	345	eP	21	05.00	-16.4X
DEV	5.95	355	ePc	21	49.00	26.3X
VRI	6.30	20	iPd	21	28.80	1.0
CLI	7.08	20	eP	21	38.00	-0.7

S.D. = 0.9 on 40 of 46 obs.

& OCT 19, 1989 08h 45m 49.90s
36.963 N 121.853 W
DEPTH = 12.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.0 (BRK).

GCC	0.13	300	iPc	45	52.80	-0.5
MHC	0.41	24	iPd	45	58.20	-0.3
			iS	46	04.55	
ARN	0.46	33	iPd	45	58.80	-0.6
PCC	0.68	322	iPc	46	02.40	-0.8
PRS	0.74	148	iPc	46	03.80	-0.4
LLA	0.81	115	iPc	46	04.50	-0.9
BKS	0.96	342	iPc	46	07.00	-1.0
			i	46	07.50	
			iS	46	20.45	
BRK	0.96	340	eP	46	06.90	-1.1
PRI	1.26	130	iPc	46	11.90	-1.3
CMB	1.58	47	iPd	46	16.80	-1.1
PHAM	1.63	133	eP	46	16.70	-1.7
PKEM	1.67	122	eP	46	18.00	-1.0
NWRM	1.70	331	eP	46	17.00	-2.5
FRI	1.72	88	eP	46	17.90	-1.8
BCH	2.28	141	eP	46	25.80	-2.2
ORV	2.60	6	eP	46	30.30	-2.2
KVN	3.62	54	eP	46	45.50	-1.7
TNP	3.85	72	eP	46	49.00	-1.4
FHC	4.18	337	eP	46	53.00	-1.9
LRM	11.31	36	eP	48	41.30	6.7
EDM	17.31	17	eP	49	53.50	0.7

21 obs. associated

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* OCT 19, 1989 09h 01m 31.20± 1.21s
2.520 N ±14.8km 127.079 E ±16.3km
DEPTH = 33.0km (normal)
4.6mb (1 obs.)
MOLUCCA PASSAGE (266)

MNI	2.48	244	ePd	02	10.90	0.7
			eS	02	38.90	
MTN	15.79	165	eP	05	12.00	-0.8
KNA	18.23	175	eP	05	42.50	-1.0
QIS	26.02	152	eP	07	05.00	1.8
ASPA	26.86	166	eP	07	11.00	0.0
	0.8s		12.00nm		4.6mb	
			e	11	03.40	

WARB 28.54 181 eP 07 26.00 -0.1
LOE 28.95 302 eP 07 29.50 -0.5
CHG 31.95 302 eP 07 56.30 -0.2
S.D. = 1.1 on 8 of 8 obs.

& OCT 19, 1989 09h 40m 05.77s
61.489 N 150.063 W
DEPTH = 45.8km
SOUTHERN ALASKA (2)
<AGS-P>. ML 3.9 (PMR). Felt (IV) at Big Lake, Eagle River, Palmer and Wasilla. Also felt at Anchorage.

PWA 0.18 28 iPd 40 13.50 -0.1
SUA 0.33 266 iP 40 15.02 0.0
PMS 0.34 135 iP 40 15.10 0.0
PMR 0.46 77 iPc 40 15.70 -0.6
PME 0.51 74 iP 40 16.46 -0.5
SKT 0.85 306 iP 40 20.70 -0.9
eS 40 32.65
CUT 0.92 354 eP 40 21.65 -0.9
NKA 0.94 218 iP 40 23.73 1.0
CGLM 0.95 260 iP 40 22.60 -0.4
SLKM 0.99 185 iP 40 22.52 -0.9
SPU 1.01 253 iP 40 23.17 -0.6
NCG 1.01 266 iP 40 23.40 -0.4
eS 40 38.00
SEW 1.42 168 eP 40 27.97 -1.5
RDT 1.46 232 iP 40 29.13 -1.1
eS 40 48.37
HUR 1.51 7 eP 40 29.73 -1.0
GLI 1.56 112 iP 40 29.78 -1.8
NNL 1.57 203 eP 40 31.55 -0.1
NCA 1.62 70 iP 40 31.34 -1.1
VZW 1.75 103 iP 40 32.63 -1.6
eS 40 55.00
VLZ 1.84 100 iP 40 33.56 -1.8
FID 1.89 112 eP 40 33.64 -2.5
TOA 1.95 70 iPc 40 36.50 -0.6
KLU 1.99 88 iP 40 35.81 -1.8
RND 2.01 16 eP 40 36.46 -1.4
CNPM 2.05 197 eP 40 37.23 -1.3
SDG 2.37 62 eP 40 42.01 -1.0
OPT 2.42 222 eP 40 42.82 -0.9
PAX 2.62 53 eP 40 45.73 -0.9
SVW 2.71 264 iPc 40 45.80 -2.1
GLB 3.00 88 eP 40 49.47 -2.6
DDM 3.01 38 eP 40 53.02 0.8
FBA 3.58 16 eP 40 58.20 -1.9
KDC 3.95 199 eP 41 05.00 -0.4
IMA 4.87 342 eP 41 14.00 -4.4
DWY 5.52 58 P 41 24.30 -3.2
HYT 6.12 91 P 41 32.80 -3.2
INK 9.77 39 eP 42 29.00 2.5
37 obs. associated

OCT 19, 1989 09h 49m 57.28± 0.09s
49.937 N ± 2.4km 78.972 E ± 1.6km
DEPTH = 0.0km (geophysicist)
6.0mb (108 obs.) 4.5Msz (1 obs.)
EASTERN KAZAKH SSR (329)

WMO 8.55 132 iPc 52 05.00 -0.3
Z 13s 6.50um
S 53 40.00
KSH 10.69 193 eP 52 32.90 -2.0
Z 10s 9.50um
GTA 18.12 118 iPd 54 11.60 -0.4
Z 12s 1.80um
MAIO 19.62 233 eP 54 27.00 -3.2X
0.7s 85.77nm 5.1mb
eS 58 20.00
NDI 21.27 184 iPc 54 46.40 -1.0
0.5s 654.93nm 6.2mb
eS 58 51.32
QUE 21.71 209 iPc 54 51.00 -1.1
LSA 22.22 151 P 54 59.20 1.8
LZH 22.72 118 iPc 55 02.50 0.4
1.5s 0.58nm 2.9mb X
Z 18s 1.50um 4.5Msz
pP 55 07.00 16kmX
eS 59 03.00
HHC 24.46 99 eP 55 20.00 1.1
TEH 24.53 245 ePc 55 22.50 2.8X
TAB 26.10 255 eP 55 37.00 2.6
CD2 26.58 126 iPc 55 39.90 1.1
Z 12s 0.80um 4.5MszX
N 10s 1.00um
TIY 26.82 104 eP 55 42.00 0.9
0.9s 0.10nm 2.5mb X
N 11s 1.50um
E 10s 1.20um
XAN 27.11 115 Pc 55 44.00 0.3
BJI 27.85 96 iPc 55 51.00 0.7
1.0s 0.10nm 2.6mb X
Z 12s 3.32um 5.1MszX
N 12s 0.78um
E 11s 0.97um
SLY 28.17 252 ePd 55 55.00 1.8
SHI 28.45 234 eP 55 56.00 0.0
MSL 29.13 256 eP 56 03.00 1.2
BHD 30.41 250 ePd 56 12.00 -1.3
TIA 30.70 102 Pc 56 16.50 0.6
KMI 30.87 135 Pc 56 17.00 -0.7
pP 56 23.00 21kmX
KVT 30.99 270 eP 56 19.30 0.9
SUF 30.99 315 iP 56 17.60 -0.5
0.5s 97.90nm 6.0mb
SOD 31.07 324 iP 56 18.00 -0.8
KEV 31.34 328 iPc 56 20.20 -0.9
0.7s 136.10nm 6.0mb
BOM 31.36 191 eP 56 20.50 -1.2
eS 00 37.00
GYA 31.67 127 iPc 56 25.00 0.4
PcP 59 16.00
S 01 30.40
PcS 03 00.00
SNY 31.69 87 iPc 56 24.00 -0.5
NUR 31.82 310 iP 56 24.70 -0.7
CN2 31.94 83 iPc 56 26.60 -0.1
0.8s 0.10nm 2.8mb X
Z 12s 2.50um 5.1MszX
pP 56 31.80 18kmX
iPcP 59 15.80
eS 01 36.00
KAS 32.31 272 iPc 56 31.10 1.1
BRF 32.34 233 (P) 56 30.50 0.2
BEE 32.42 233 iP 56 29.30 -1.7
0.3s 87.00nm 6.2mb
HYB 32.44 181 iPc 56 30.40 -0.9
0.9s 304.10nm 6.2mb
iPcP 59 17.50
WHN 32.81 113 iPc 56 34.90 0.5
0.6s 0.07nm 2.8mb X
IAS 33.59 286 eP 56 42.00 1.1
BBTK 33.77 271 iPc+ 56 44.00 1.2
PPE 33.96 284 iPd 56 43.80 -0.4
CLI 34.03 285 iPc 56 46.50 1.7
CFR 34.08 282 iPc 56 46.00 0.8
TRO 34.12 327 iP 56 44.54 -0.8
MDJ 34.21 79 Pc 56 46.00 -0.4
PTT 34.43 286 eP 56 47.50 -0.7
NJ2 34.50 106 Pd 56 49.20 0.2
0.8s 0.20nm 3.0mb X
VRI 34.67 284 iPc 56 51.50 1.1
CHG 34.92 146 iPc 56 52.90 0.1
0.7s 179.79nm 6.0mb
e 59 25.00
GPA 35.11 273 eP 56 52.00 -2.2
ISR 35.11 283 iPc 56 56.20 2.0
HRT 35.24 274 eP 56 56.00 0.7
MLR 35.33 284 iPc 56 57.00 0.8
UPP 35.39 310 iPc 56 55.60 -0.7
0.9s 1500.00nm 6.8mb
ISK 35.50 275 eP 56 58.00 0.5
YLV 35.57 274 iP 56 58.00 -0.1
HRI 35.79 259 iP 57 00.00 -0.2
CTT 35.87 276 eP 57 01.00 0.4
LFK 35.93 263 iP 57 02.20 1.0
CMP 36.00 284 ePc 57 04.00 2.3
LOF 36.07 325 eP 57 00.65 -1.3
GBA 36.25 183 P 57 03.30 -0.7
CSS 36.25 263 eP 57 05.00 1.1
BDT 36.39 147 iPc 57 03.00 -2.1
0.6s 185.80nm 6.1mb
KCT 36.39 274 iP 57 05.80 0.8
BCK 36.51 269 iP 57 06.10 -0.1
DST 36.57 273 iP 57 06.50 -0.1
SSE 36.61 105 Pd 57 07.30 0.4
1.0s 0.07nm 2.4mb X
Z 12s 0.90um 4.8MszX
N 12s 0.50um
i 57 27.00
i 59 28.00
BNT 36.61 275 iP 57 07.80 0.9
EDC 36.66 275 iP 57 07.80 0.6
KHL 36.71 271 eP 57 06.00 -1.8
PPCY 36.93 264 eP 57 07.00 -2.6
KRA 37.08 294 iPc 57 10.90 0.3
0.7s 353.00nm 6.2mb
i 57 14.70
KBS 37.11 343 eP 57 11.00 0.4
NSS 37.13 319 eP 57 09.70 -1.2
DSI 37.15 257 iPc 57 11.00 -0.4
SPC 37.25 292 iPc 57 13.60 1.3
i 58 27.60
i 58 36.80
HFS 37.25 311 iPc 57 11.50 -0.5
0.5s 1108.20nm 6.8mb
Z 16s 0.46um 4.4MszX
LR 11 44.00
LOE 37.27 142 iPc 57 12.00 -0.5
RDO 37.72 278 eP 57 16.60 0.4
EZN 37.93 275 iP 57 18.40 0.5
KSL 37.96 268 eP 57 17.80 -0.4
IZM 38.12 273 iP 57 19.50 -0.1
YER 38.19 270 eP 57 20.30 0.0
NST 38.25 146 iPc 57 22.80 2.1
e 59 36.70
PRK 38.28 274 eP 57 21.80 0.9
MBH 38.69 255 iPc 57 24.00 -0.4
SMG 38.79 272 eP 57 26.10 0.9
KSP 38.90 296 iPc 57 25.90 -0.1
0.9s 182.00nm 5.7mb
SRS 38.98 279 iPc 57 27.50 0.7
SRO 39.00 291 iPc 57 28.50 1.7
BEO 39.08 286 eP 57 27.20 -0.3
e 58 56.00
OUR 39.16 277 iPc 57 29.20 1.0
COP 39.22 305 iPc 57 29.00 0.5
0.8s 313.43nm 6.0mb
i 57 38.00
i 58 55.00
KNT 39.40 279 ePc 57 31.40 1.1
OIZ 39.46 130 Pc 57 31.90 1.0
QZH 39.47 114 eP 57 30.50 -0.5
PLG 39.48 278 eP 57 31.50 0.6
MOL 39.49 316 iP 57 30.71 0.0
VAY 39.53 280 iPc 57 32.20 0.9
0.9s 0.32nm 2.9mb X
ZST 39.55 292 iPc 57 33.20 1.8
i 58 05.10
e 58 55.00
KBR 39.57 148 eP 57 33.50 1.7
PAIG 39.57 277 iPc 57 32.60 0.9
GRG 39.83 279 eP 57 34.30 0.5
KAP 39.86 269 eP 57 34.00 -0.1
SKO 39.90 281 iP 57 37.00 2.6
0.6s 39.00nm 5.2mb
N 10s 0.52um
LR 15 23.00
VKA 39.99 293 iPc 57 36.40 1.4
1.0s 201.00nm 5.7mb
Z 11s 1.40um 5.1MszX
LR 14 38.00
APE 40.01 272 eP 57 35.80 0.4
BRN 40.03 300 eP 57 36.00 0.8
SOP 40.11 292 iP 57 36.90 0.9
NEO 40.21 277 eP 57 37.20 0.2
LIT 40.24 278 eP 57 37.60 0.4
PRU 40.28 296 iPc 57 38.30 0.9
1.0s 92.50nm 5.4mb
Z 14s 1.60um 5.0MszX
N 14s 0.80um
E 14s 1.30um
e 59 12.70
IVA 40.40 283 ePn 57 39.50 0.9
eSn 59 12.00
PLE 40.48 284 ePn 57 40.00 0.7
eSn 59 13.00
KKS 40.50 282 iP 57 42.50 3.3X
PVY 40.50 283 ePn 57 40.50 1.1
eSn 59 12.00
KOT 40.50 258 eP 57 39.50 0.1
HYA 40.52 315 iP 57 38.90 -0.2
KZN 40.59 279 eP 57 40.50 0.4
CLL 40.60 298 iPc 57 40.30 0.3
1.1s 390.00nm 6.0mb
ATH 40.65 275 eP 57 40.80 0.2
PHP 40.68 281 iPc 57 40.70 0.0

19d 09h

ODD1	40.71	313	iP	57	41.50	0.6	KUSJ	44.43	73	eP	58	09.70	-1.7		0.8s	132.50nm		6.1mb					
OHR	40.77	281	iPc	57	41.80	0.2	CIO	44.44	288	ePc	58	11.41	-0.1	STV	47.40	292	P	58	33.18	-1.9			
	1.1s	0.17nm				2.7mb X	DUI	44.46	285	P	58	12.22	0.5	CVF	47.40	289	P	58	35.12	0.1			
BLS2	40.78	312	iP+	57	41.80	0.3		0.1s	12.50nm				5.7mb	SAOF	47.40	292	P	58	35.12	0.1			
HLW	40.86	259	eP	57	44.00	1.7	RSM	44.47	289	P	58	12.23	0.6	AUTN	47.48	292	P	58	36.14	0.3			
SHNJ	40.96	92	eP	57	43.80	0.7	IIDJ	44.51	86	P	58	11.70	-0.5	SBF	47.54	292	iPc	58	36.10	-0.1			
NNT	40.96	148	iPc	57	43.80	0.5	SGO	44.54	283	Pc	58	13.10	0.8		1.0s	256.20nm		6.3mb					
			e	59	43.80		GWF	44.74	298	P	58	13.95	0.1	TOUF	47.57	292	P	58	36.64	0.1			
NKY	41.00	284	ePn	57	44.00	0.5	SAL	44.75	292	P	58	13.50	-0.4	AURF	47.60	292	P	58	36.42	-0.2			
			eSn	59	18.00		OFUJ	44.78	79	P	58	13.40	-0.8	REVF	47.65	291	P	58	36.62	-0.4			
TTG	41.03	283	iPnc	57	44.10	0.5	ASS	44.80	288	Pc	58	14.90	0.4	MVIF	47.70	292	P	58	37.22	-0.2			
			eSn	59	22.00		ENN	44.83	301	iPc	58	14.80	0.3	LOR	47.79	297	iPc	58	37.20	-0.8			
NPS	41.04	270	eP	57	43.40	-0.5		1.0s	139.00nm				5.8mb		0.6s	56.30nm		5.9mb					
SDA	41.10	282	eP	57	45.10	0.9				e	59	49.00		OBO	47.85	230	P	58	39.56	0.8			
BER	41.17	314	iP	57	44.70	0.2				e	00	01.00		LBF	47.87	297	iPc	58	37.60	-1.1			
LACI	41.17	282	iPc	57	44.10	-0.7	SDI	44.84	285	Pc	58	14.80	0.1		0.9s	57.50nm		5.7mb					
ASK	41.20	314	iP+	57	45.20	0.5	SFI	44.84	289	P	58	15.85	1.2	CALN	47.93	292	P	58	39.00	-0.3			
KHC	41.22	295	iPc	57	46.00	0.8		0.8s	852.40nm				6.7mb	SSF	48.10	297	iPc	58	39.80	-0.6			
	1.0s	107.00nm				5.5mb	MEM	44.86	300	iPc	58	14.82	0.1		0.6s	45.70nm		5.8mb					
			e	58	53.00		CHJJ	44.86	84	P	58	14.10	-0.9	SMF	48.13	297	iPc	58	39.80	-0.9			
TIR	41.23	281	iPc	57	45.70	0.4	CRE	44.93	289	P	58	16.50	0.9		0.8s	86.00nm		5.9mb					
BRY	41.24	284	ePn	57	45.00	-0.5	PGD	44.94	289	Pc	58	16.80	1.1	FRF	48.19	292	iPc	58	40.90	-0.2			
			eSn	59	20.00		RFI	44.96	285	P	58	15.18	-0.4		0.8s	209.80nm		6.3mb					
PTJ	41.32	290	iPc	57	46.20	0.1		0.1s	10.30nm				5.7mb	TDD	48.20	231	iP+	58	42.70	1.2			
ZAG	41.34	289	iPc	57	46.50	0.4	LLS	45.01	294	iPc	58	16.30	0.1	GRC	48.22	298	P	58	40.74	-0.6			
KMR	41.39	293	iP+	57	47.50	1.0	ZLA	45.05	295	iPc	58	16.80	0.4	AVF	48.34	297	iPc	58	41.50	-0.7			
LSK	41.42	279	iPd	57	47.50	0.6	FEL	45.07	296	P	58	16.07	-0.6		0.8s	89.50nm		5.9mb					
BERA	41.53	281	eP	57	47.10	-0.6	MDI	45.15	293	P	58	16.02	-1.0	ATA	48.35	230	eP+	58	43.71	1.1			
KMY	41.61	312	iP	57	48.50	0.3		0.7s	41.00nm				5.5mb	LMR	48.40	291	iPc	58	42.60	-0.1			
WET	41.62	295	iPc	57	49.30	0.9	MNS	45.16	287	P	58	17.23	-0.1		0.8s	107.00nm		6.0mb					
	1.0s	240.00nm				5.9mb		0.1s	29.90nm				6.2mb	LRG	48.42	292	iPc	58	42.70	-0.2			
HOF	41.67	297	iPc	57	49.40	0.6	WLS	45.18	297	P	58	17.07	-0.3		0.8s	125.90nm		6.1mb					
	0.9s	187.00nm				5.8mb	CDF	45.22	297	P	58	17.41	-0.4	DAF	48.56	231	ePd	58	45.61	1.4			
KUMJ	41.79	95	P	57	50.10	0.1	WLF	45.24	299	Pc	58	18.20	0.5	AKU	48.57	327	iP	58	45.30	1.6			
VAM	41.87	271	eP	57	49.80	-0.8	FIR	45.28	289	eP	58	19.00	0.9		0.8s	170.15nm		6.2mb					
VLI	41.89	274	eP	57	48.60	-2.2	ECH	45.39	297	P	58	18.68	-0.4	PLDF	48.63	296	P	58	44.16	-0.4			
VBY	41.94	289	iPc	57	51.70	0.6	RDP	45.49	286	P	58	20.00	0.1	SGH	48.65	231	ePd	58	46.24	1.2			
SRN	41.95	279	iP	57	51.10	-0.1	SOI	45.50	280	Pc	58	20.40	0.4	BGF	48.75	297	iPc	58	44.80	-0.6			
LJU	42.11	290	ePc	57	52.50	0.0	BDI	45.53	290	P	58	20.36	0.1		0.8s	62.90nm		5.7mb					
			e(S)	58	27.00			0.7s	502.80nm				6.6mb	AGO	48.87	296	P	58	46.09	-0.3			
KEK	42.17	279	eP	57	52.20	-0.8	KAKJ	45.53	83	P	58	19.00	-1.2	IPM	48.89	150	ePc	58	47.30	0.5			
BHG	42.29	293	iPc	57	55.00	1.1	BBS	45.57	296	P	58	20.49	0.0		1.0s	249.30nm		6.2mb					
	1.1s	312.00nm				6.0mb	GMB	45.57	280	P	58	21.20	0.5				e	00	11.50				
KBA	42.32	292	iPc	57	55.30	0.9	MOF	45.59	296	P	58	20.27	-0.4	GBR	48.98	231	ePc	58	48.60	1.1			
			i	57	57.50		VAI	45.66	293	Pc	58	20.10	-1.0	CGL	49.00	286	P	58	47.08	-0.4			
			e	59	42.00		UCC	45.68	301	P+	58	21.70	0.5		0.1s	10.70nm		5.8mb					
CEY	42.33	290	ePc	57	54.50	0.2	PII	45.76	290	P	58	21.89	0.0	MAF	49.10	297	iPc	58	47.90	-0.2			
GRF	42.33	297	iPc	57	55.40	1.1		0.8s	308.10nm				6.4mb		0.8s	131.10nm		6.0mb					
	1.3s	295.00nm				5.9mb	BSF	45.80	297	P	58	21.91	-0.5	PYM	49.11	296	P	58	48.29	0.0			
Z	14s	0.60um				4.6MszX	ATN	45.83	280	P	58	22.28	-0.3	LBL	49.26	295	P	58	49.33	0.0			
HVAR	42.40	286	iPc	57	53.40	-1.5		0.8s	78.90nm				5.8mb	TCF	49.27	297	iPc	58	49.10	-0.4			
VOY	42.51	291	iPc	57	55.10	-0.7	BOB	45.84	292	Pc	58	22.90	0.2		0.8s	68.20nm		5.7mb					
MRRJ	42.54	75	eP	57	55.80	-0.1	SNF	45.87	301	iPc	58	22.96	0.3	LDF	49.32	301	iPc	58	49.40	-0.3			
VLS	42.55	277	eP	57	54.80	-1.3	DOU	45.90	300	iPc	58	23.20	0.2		0.6s	136.60nm		6.1mb					
RIY	42.55	290	iPc	57	56.10	0.1		1.0s	202.80nm				6.1mb	FLN	49.42	301	iPc	58	50.20	-0.3			
ASAJ	42.62	72	eP	57	56.60	0.0				PcP	00	01.10			0.8s	344.20nm		6.4mb					
KAGJ	42.71	96	P	57	58.00	0.5	HAU	45.97	297	iPc	58	23.60	0.0	LSF	49.68	297	iPc	58	51.80	-0.8			
TRI	42.75	290	ePc	57	57.40	-0.2		0.7s	103.30nm				6.0mb		0.8s	62.90nm		5.6mb					
FVI	42.90	292	P	57	58.95	0.1	LOMF	46.03	296	P	58	24.21	0.1	GRR	49.84	301	iPc	58	53.20	-0.5			
	0.6s	29.50nm				5.2mb	MMK	46.04	294	iPc	58	24.10	-0.4		0.8s	167.90nm		6.0mb					
LCI	43.00	281	Pc	57	58.90	-0.9	VITF	46.07	297	P	58	24.16	-0.1	DMU	50.01	310	iPc	58	54.50	-0.5			
FUR	43.02	295	iPc	58	01.20	1.3	ORX	46.25	293	P	58	24.15	-1.8	PSI	50.03	154	ePc	58	54.00	-1.5			
	1.0s	347.00nm				6.0mb	ORO	46.26	293	P	58	25.26	-0.8		0.7s	31.50nm		5.4mb					
BRT	43.17	282	Pc	58	01.50	0.3		0.1s	5.40nm				5.6mb				e	04	50.00				
TSRJ	43.24	87	P	58	01.70	-0.1	SNG	46.32	150	ePc	58	27.00	0.4	CAF	50.12	296	iPc	58	56.40	0.4			
WIT	43.47	303	ePc	58	04.50	1.1		1.0s	150.00nm				6.0mb		0.8s	138.50nm		5.9mb					
			ePP	59	44.00		DIX	46.35	294	iPc	58	27.00	0.0	LPF	50.14	301	iPc	58	55.50	-0.5			
			e	59	47.00		MNO	46.45	281	Pc	58	28.20	0.4		0.6s	112.70nm		6.0mb					
WTS	43.76	302	iPc	58	06.50	0.7	PCP	46.50	292	P	58	27.13	-0.8	DLE	50.16	309	iPc	58	55.40	-0.7			
	1.0s	161.00nm				5.8mb	EMS	46.64	294	iPc	58	28.90	-0.2		0.7s	273.00nm		6.3mb					
			ePP	59	48.50		CKI	46.73	292	P	58	28.84	-0.8	RJF	50.23	296	iPc	58	56.90	0.1			
			iPcP	59	53.90			0.5s	55.30nm				5.9mb		0.8s	99.60nm		5.8mb					
MTMJ	43.78	85	P	58	05.10	-1.2	MEU	46.80	280	Pc	58	31.10	0.7	ETA	50.31	308	iPc	58	56.70	-0.6			
OGA	43.81	293	iPc	58	07.00	0.5	LSD	46.84	294	P	58	30.61	-0.2		0.6s	105.00nm		5.9mb					
	0.8s	161.00nm				5.9mb	GIB	46.84	281	Pc	58	29.40	-1.3	MFF	50.44	299	iPc	58	57.70	-0.7			
CTI	43.85	292	P	58	06.32	-0.4	FIN	46.89	292	P	58	29.59	-1.3		0.6s	98.60nm		5.9mb					
	0.6s	55.50nm				5.6mb	RSP	46.94	293	P	58	28.87	-2.6	ECP	50.68	308	eP	58	58.30	-1.8			
HOOJ	43.94	74	P	58	07.10	-0.2	ROB	47.04	292	P	58	30.92	-1.3		0.7s	213.00nm		6.2mb					
AOI	43.96	288	ePc	58	07.48	-0.1	LPG	47.05	294	iPc	58	33.10	0.6	LPO	50.78	296	iPc	59	01.00	0.1			
MAT	44.06	84	eP	58	07.00	-1.5		0.8s	503.70nm				6.7mb		0.8s	256.00nm		6.2mb					
	1.1s	40.51nm				5.2mb	IMI	47.25	291	P	58	33.18	-0.6	LFF	50.89	296	iPc	59	02.00	0.2			
NIIJ	44.15	83	P	58	07.70	-1.5	DOI	47.30	292	Pd	58	32.00	-2.3		0.6s	103.50nm		5.9mb					
YAMJ	44.26	81	eP	58	09.10	-1.0	BNI	47.34	293	Pc	58	34.80	0.2	ETER	51.19	292	eP	59	04.00	-0.1			
ARV	44.40	288	P	58	11.34	0.2	RRL	47.35	293	P	58	34.92	0.1	KGM	52.05	148	ePd	59	11.50	0.6			
	0.8s	50.70nm				5.4mb	ENR	47.35	292	P	58	32.97	-1.7	EPF	52.24	295	iPc	59	11.10	-1.1			
TDS	44.40	282	Pc	58	12.30	1.1	PZZ	47.39	292	P	58	32.66	-2.4		0.8s	176.30nm		6.0mb					
OSS	44.42	293	iPc	58	12.10	0.6	EKA	47.40	310	Pc	58	34.20	-0.6	OGE	52.64	295	P	59	13.86	-1.2			

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ESEL   52.69 290 eP     59 15.80   0.3
ESCF   52.75 295 P      59 14.80  -1.2
ATE    52.82 295 P      59 14.89  -1.6
MADF   52.85 295 P      59 13.87  -2.9
LHE    52.88 295 P      59 16.81  -0.2
ISSF   52.91 295 P      59 16.25  -1.0
BOH    52.99 295 P      59 16.90  -0.9
PPI    53.46 153 ePd    59 20.00  -1.3
       0.8s    10.00nm          4.8mb X
                e       02 00.00
EROQ   53.54 292 iPc    59 21.20  -0.6
MBC    53.54   5 iPc    59 21.10  -0.2
       1.0s   625.00nm          6.6mb
KKM    53.74 132 ePd    59 24.00   0.4
       0.9s   106.90nm          5.8mb
ETOR   55.01 294 iPc    59 31.80  -0.9
ECHE   55.14 292 iPc    59 33.20  -0.4
GDH    56.12 342 iPd    59 39.00  -1.1
       0.9s   100.84nm          5.8mb
TSM    56.22 131 iPd    59 40.50  -1.0
       0.9s   646.50nm          6.7mb
GUD    56.36 295 iPc    59 42.20  -0.3
EMON   56.41 299 iPc    59 42.20  -0.5
EVIA   56.66 292 iPc    59 44.40  -0.2
TOL    56.78 294 iPc    59 44.80  -0.6
       1.0s   160.00nm          6.0mb
ERUA   56.97 298 iPc    59 46.70   0.0
STS    57.45 299 iPd    59 50.00   0.0
IMA    57.53  23 ePc    59 50.00  -0.5
ENIJ   57.57 290 eP     59 50.20  -0.8
EBAN   57.73 292 iPc    59 51.80  -0.3
EPLA   57.85 295 iPc    59 52.80  -0.1
EZAM   58.01 299 eP     59 54.00   0.0
AFC    58.18 291 iP     59 54.20  -1.2
ASMO   58.24 292 iPc    59 54.50  -1.2
CRT    58.26 291 iP     59 55.00  -0.8
ACHM   58.45 291 iPc    59 56.20  -1.0
APHE   58.47 291 iPc    59 56.20  -1.2
AAPN   58.50 292 iPc    59 56.50  -1.1
ALOJ   58.62 292 iPd    59 57.00  -1.5
ATEJ   58.69 291 iPd    59 57.50  -1.5
EHOR   58.83 293 iPc    59 59.40  -0.3
EPRU   59.39 292 iPc    00 03.00  -0.7
INK    59.61  13 iPc    00 03.60  -1.2
       0.9s    56.00nm          5.7mb
EJIF   59.87 292 iPc    00 05.60  -1.4
EVAL   59.88 294 iPc    00 07.00   0.0
FBA    59.90  21 ePc    00 06.70  -0.1
ADK    60.02  44 eP     00 07.50  -0.3
SVW    60.97  27 ePc    00 14.60   0.4
PMR    62.36  24 eP     00 22.30  -1.2
       0.8s   102.70nm          6.1mb
NAI    62.49 229 eP     00 16.00  -9.1X
TOA    62.67  22 ePc    00 25.30  -0.3
AVE    63.18 291 iPc    00 28.50  -0.8
                i       00 51.00
FRB    63.82 345 ePc    00 31.90  -1.2
       0.8s   131.00nm          6.2mb
TRT    64.44 142 iPc    00 37.20  -0.4
       0.5s   111.40nm          6.3mb
KDC    64.64  28 ePc    00 38.00  -0.4
BCAO   67.88 249 iPc    00 58.30  -1.5
       0.8s   427.00nm          6.7mb
                ic      02 24.40
                ic      07 37.90
CFTV   70.67 291 iPd    01 17.00   0.2
SCH    71.75 340 ePc    01 22.00  -0.8
       0.9s    96.00nm          5.9mb
GGC    71.82 292 eP     01 24.10   0.4
CTFE   71.93 293 iP     01 24.90   0.6
TLE    72.21 123 ePc    01 24.00  -2.0
TBT    72.77 294 iP     01 29.70   0.5
NPA    73.58 220 iP     01 34.30   0.3
       1.0s   420.00nm          6.5mb
FFC    75.71   1 iPc    01 45.70  -0.1
       0.7s   109.00nm          6.1mb
EDM    76.69   8 iPc    01 51.60   0.1
       0.8s   137.00nm          6.1mb
MTN    77.41 128 iPd    01 54.80  -1.0
       0.6s    37.00nm          5.7mb
KNA    78.71 131 eP     02 03.00   0.1
NANU   79.13 146 iPd    02 05.60   0.5
       0.5s    70.00nm          5.9mb
CBM    79.40 338 P      02 06.20  -0.1
MBL    79.50 142 iPc    02 06.80  -0.3
       0.8s   131.00nm          6.0mb
SES    79.68   6 iPc    02 08.00   0.1

       0.8s    19.00nm          5.1mb
PNT    79.85  12 ePc    02 09.00   0.2
       0.9s     3.00nm          4.2mb X
PGC    79.91  15 eP     02 10.00   0.9
TIC    81.09 270 Pc     02 16.10   0.2
KIC    81.12 269 Pc     02 16.30   0.2
       0.6s    90.00nm          6.0mb
NEW    81.20  11 P      02 16.00   0.0
LIC    81.41 269 Pc     02 17.70   0.2
LON    82.03  14 P      02 20.50   0.1
BUL    82.76 227 iPd    02 25.10   0.6
       1.0s   130.50nm          6.1mb
RSNY   83.10 341 P      02 25.90   0.0
       0.8s   125.00nm          6.2mb
PMG    83.51 113 eP     02 29.00   0.7
MEKA   83.92 145 eP     02 30.10   0.0
LRM    84.11   8 eP     02 31.30  -0.1
MRWA   85.39 148 iPd    02 37.50   0.1
       0.3s    6.00nm          5.3mb
RSSD   86.29   2 P      02 42.10  -0.1
WARB   86.79 138 iPc    02 44.20  -0.2
BAL    86.91 148 iPd    02 44.60  -0.3
CLE    87.36 345 iP     02 48.10   0.9
FHC    87.42  17 eP     02 49.30   1.8
ASPA   87.95 131 iPc    02 50.20   0.1
       0.8s   107.00nm          6.2mb
MUN    88.00 149 iPc    02 39.70 -10.4X
       0.9s   113.00nm
QIS    88.25 125 iPc    02 50.80  -0.8
       0.7s    32.00nm          5.7mb
MIN    88.29  16 eP     02 52.20   0.3
KSR    88.47 225 iPc    02 50.60  -2.1
       0.7s    20.00nm          5.5mb
COOL   88.74 145 iPc    02 53.40  -0.3
       0.7s    71.00nm          6.0mb
ORV    89.08  16 eP     02 55.70   0.2
NWAO   89.21 149 iPc    02 55.80   0.0
       0.9s    71.00nm          5.9mb
BFS    89.41 225 iPc    02 56.00  -1.1
       0.7s    89.04nm          6.1mb
KVN    90.12  13 P      03 01.00   0.3
BRK    90.58  17 eP     03 03.90   1.4
GLD    90.62   3 P      03 03.50   0.6
GOL    90.66   3 P      03 03.00  -0.2
       0.7s    67.23nm          6.0mb
CMB    90.75  15 eP     03 04.30   0.9
TNP    91.20  13 P      03 05.90   0.2
MHC    91.21  16 eP     03 07.00   1.4
BLA    91.34 344 P      03 06.00  -0.1
FORR   91.48 139 eP     03 06.20  -0.2
       0.5s    50.00nm          6.1mb
CTA    91.49 120 iPd    03 07.00   0.2
       0.9s    39.50nm          5.7mb
FRI    91.88  15 eP     03 09.70   1.2
FVM    91.96 352 P      03 08.80  -0.1
LLA    92.04  16 eP     03 10.90   1.6
PRS    92.24  16 eP     03 11.60   1.4
HVD    93.15 224 iPc    03 06.50  -7.9X
CLC    93.37  13 eP     03 16.00   0.5
BCH    93.58  16 P      03 17.50   1.0
GSC    93.99  13 eP     03 20.00   1.6
SYP    94.24  16 eP     03 21.00   1.4
LNO    94.40 356 iPc    03 20.40   0.4
TUL    94.40 356 iPc    03 20.60   0.5
       1.0s    33.70nm          5.7mb
                e       03 25.50
                e       03 27.00
                e       03 30.90
                e       03 33.70
                e       03 37.90
                e       03 39.90
SBB    94.44  14 eP     03 22.00   1.6
OLY    94.51 352 P      03 19.80  -0.9
PRM    94.73 345 P      03 20.80  -0.9
MWC    94.86  14 eP     03 23.00   0.5
PAS    94.91  14 eP     03 24.00   1.5
RVR    95.19  14 eP     03 24.00   0.2
TPC    95.27  12 eP     03 26.00   1.7
ALQ    95.36   4 iPc    03 26.00   1.2
       1.0s    11.00nm          5.3mb
PLM    95.89  13 eP     03 28.00   0.7
GLA    96.47  12 eP     03 32.00   2.2
BAR    96.58  13 eP     03 31.00   0.8
PDCR  117.49 284 e(PKP)08 29.00 -17.7X
MAW   117.84 187 ePKP   08 46.00   0.2
KRP   121.70 113 PKP    08 53.00  -1.1
SNA   133.23 207 e(PKP)09 02.00 -13.2X

       0.8s    34.33nm
                i       09 15.00
CCH   137.12 307 PKP    09 25.50   1.0
ZOBO  137.18 310 PKP    09 14.00 -11.0X
       1.0s    10.00nm
                i       09 25.00
LPB   137.40 310 PKP    09 26.00   0.8
CNCB  137.57 309 ePKP   09 17.00  -8.8X
                i       09 27.00
SPA   139.75 180 e(PKP)09 17.10 -10.6X
       1.0s    16.50nm
                e       09 27.10
PEL   152.03 295 ePKP   09 56.50   7.7X
       0.6s    26.67nm
SAN   152.23 295 ePKP   09 56.50   7.4X
PCH   152.27 294 ePKP   09 50.50   1.3
LNV   153.03 295 ePKP   09 50.50   0.4
     S.D. = 0.9  on 428 of 441 obs.
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&  OCT  19, 1989  09h 53m 50.40s
   36.932 N          121.690 W
   DEPTH =  12.0km
   4.3mb (  4 obs.)  3.6Msz (  1 obs.)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.5 (BRK). Felt in the
      S anto Cruz area.

GCC     0.26 292 iPc    53 55.70  -0.4
MHC     0.41   5 iPd    53 58.75  -0.2
                eS      54 04.00
ARN     0.44  17 iPd    53 59.00  -0.4
PRS     0.65 157 iPd    54 02.50  -0.7
LLA     0.68 117 iPd    54 03.10  -0.6
PCC     0.79 316 iPc    54 04.60  -1.0
BKS     1.04 335 iPc    54 08.50  -1.3
                iS      54 23.15
BRK     1.04 334 iPc    54 08.50  -1.4
PRI     1.14 133 iPd    54 10.90  -0.8
PHAM    1.51 136 eP     54 15.70  -1.6
CM8     1.51  43 iPd    54 16.60  -0.7
PKEM    1.54 124 eP     54 17.00  -0.7
FRI     1.59  87 iPc    54 16.80  -1.6
NWRM    1.79 328 eP     54 18.30  -3.0
BCH     2.18 143 eP     54 24.60  -2.4
ORV     2.62   3 eP     54 31.40  -1.9
KVN     3.54  52 eP     54 44.80  -1.6
TNP     3.74  71 eP     54 48.50  -0.8
FHC     4.26 336 eP     54 55.00  -1.5
MSU     7.71  75 eP     55 45.00  -0.3
LON     9.81 360 eP     56 15.00   0.7
LRM    11.26  35 eP     56 41.50   7.1
PGC    11.78 354 eP     56 41.00  -0.1
PNT    12.47   6 eP     56 52.00   1.6
       0.5s     2.00nm          4.6mb
GOL    13.11  73 eP     57 01.00   1.7
GLD    13.23  73 eP     57 03.00   2.2
RSSD   15.21  56 eP     57 26.00  -0.7
SES    15.48  26 eP     57 30.00  -0.1
EDM    17.30  17 iP     57 54.00   0.8
       0.6s    17.00nm          4.4mb
MEO    18.85  90 iPd    58 11.90  -0.5
TUL    20.85  85 eP     58 37.00   2.5
       1.0s     7.30nm          4.0mb
     Z  22s     0.26um          3.6Msz
                LR      05 52.00
FFC    22.34  31 eP     58 49.00  -0.3
       0.6s     6.00nm          4.2mb
       32 obs. associated
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&  OCT  19, 1989  10h 14m 35.10s
   36.963 N          121.843 W
   DEPTH =  13.0km
   4.6mb (  6 obs.)  4.2Msz (  1 obs.)
 CENTRAL CALIFORNIA                ( 39)
      <BRK>. ML 4.6 (BRK). Slight
      damoge at Watsonville. Felt in
      the Sonto Cruz area.

GCC     0.14 299 iPc    14 38.20  -0.5
MHC     0.41  23 iPd    14 43.48  -0.2
                eS      14 49.55
ARN     0.46  33 iPd    14 44.10  -0.4
PCC     0.69 321 iPc    14 47.60  -0.8
PRS     0.74 149 iPc    14 48.80  -0.5
LLA     0.80 115 iPc    14 49.60  -0.8
BKS     0.96 341 iPc    14 52.15  -1.0
                iS      15 05.75
```

19d 10h

BRK	0.97	340	iPc	14	52.00	-1.2
PRI	1.25	130	iPc	14	57.00	-1.2
CMB	1.58	47	iPd	15	01.80	-1.1
PHAM	1.62	134	eP	15	01.80	-1.6
PKEM	1.66	122	eP	15	03.10	-0.9
NWRM	1.71	331	eP	15	02.30	-2.3
FRI	1.71	88	iPc	15	03.00	-1.7
BCH	2.28	141	iPc	15	10.80	-2.2
ORV	2.60	6	eP	15	15.50	-2.1
KVN	3.62	54	iPc	15	30.80	-1.4
TNP	3.84	72	eP	15	34.20	-1.2
FHC	4.18	337	eP	15	38.60	-1.4
MSU	7.82	76	eP	16	31.00	-0.4
LON	9.78	0	eP	16	59.10	0.7
LRM	11.31	36	eP	17	26.40	6.8
PNT	12.45	7	eP	17	37.00	2.2
	0.6s	3.00nm			4.7mb	
SES	15.51	27	eP	18	16.00	1.0
EDM	17.31	17	eP	18	38.50	0.7
	0.8s	29.00nm			4.5mb	
TUL	20.97	85	eP	19	19.00	-1.2
	0.7s	25.10nm			4.7mb	
Z	19s	0.90um			4.2Msz	
		LR		27	00.00	
LNO	20.97	85	eP	19	18.50	-1.6
FFC	22.38	31	eP	19	33.00	-1.2
	0.8s	16.00nm			4.5mb	
PMR	29.98	334	P	20	45.50	0.5
	1.2s	13.26nm			4.6mb	
INK	32.07	352	eP	21	06.00	2.7
MBC	39.39	1	eP	22	06.00	0.5
	1.0s	7.00nm			4.3mb	
ZOBO	73.23	126	P	26	06.00	-2.6

32 obs. associated

& OCT 19, 1989 10h 19m 42.00s
36.958 N 121.823 W
DEPTH = 10.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

GCC	0.16	297	iPc	19	45.20	-0.4
MHC	0.41	21	iPd	19	50.30	-0.1
ARN	0.45	31	iPd	19	51.00	-0.3
PCC	0.70	321	eP	19	54.60	-1.2
PRS	0.72	150	iPc	19	55.60	-0.6
LLA	0.78	115	iPc	19	56.40	-0.9
BKS	0.97	340	e(P)	20	00.00	-0.5
			iS	20	13.00	
BRK	0.98	339	eP	19	59.80	-0.7
			eS	20	13.30	
PRI	1.24	131	eP	20	04.60	-0.5
CMB	1.57	46	eP	20	09.00	-1.0

10 obs. associated

& OCT 19, 1989 10h 20m 20.10s
36.917 N 121.833 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

GCC	0.17	311	eP	20	23.50	-0.6
MHC	0.45	20	eP	20	29.30	-0.1
ARN	0.49	29	eP	20	30.50	0.3
PRS	0.69	147	iPc	20	33.30	-0.4
PCC	0.73	323	eP	20	33.50	-0.8
LLA	0.77	112	eP	20	34.20	-0.9
BKS	1.01	342	eP	20	38.80	-0.3
			e(S)	20	51.90	
BRK	1.01	341	eP	20	38.40	-0.8
			eS	20	52.00	

8 obs. associated

OCT 19, 1989 10h 29m 03.74± 0.36s
39.927 N ± 6.1km 113.906 E ± 4.7km
DEPTH = 10.0km (geophysicist)
4.6mb (3 obs.)
NORTHEASTERN CHINA (658)
ML 5.0 (BJI).

BJI	1.75	86	Pg	29	36.00	1.8
			Sg	30	00.00	
HHC	2.01	298	iPgc	29	39.60	1.4
			Sg	30	08.20	
TIY	2.49	208	Pnc	29	46.60	1.6
			Pg	29	49.20	
			Sg	30	21.80	
BTO	3.05	284	ePn	29	54.00	1.0
			Pg	29	58.00	
			Sg	30	35.50	
TIA	4.50	145	Pn	30	13.00	-0.4
			ePg	30	27.20	
			Sg	31	22.40	
DL2	6.07	97	Pn	30	35.60	0.0
			Sg	32	18.50	
XAN	7.10	216	Pn	30	49.20	-1.1
			Pg	31	14.50	
			Sg	32	47.60	
SNY	7.57	72	iPnc	30	55.50	-1.3
Z	14s	7.20um				
			Pg	31	21.00	
			Sg	33	01.00	
LZH	8.82	247	eP	31	13.00	-1.3
Z	16s	3.60um				
E	10s	4.00um				
			Lg	33	36.00	
			Lg	33	43.00	
NJ2	8.82	151	Pd	31	18.00	3.8X
WHN	9.37	178	eP	31	20.50	-1.2
E	10s	1.03um				
CN2	9.44	62	eP	31	22.00	-0.7
Z	10s	7.20um			4.5MszX	
GTA	10.88	272	eP	31	40.40	-2.2
Z	13s	4.10um				
N	10s	3.90um				
CD2	12.22	226	eP	31	59.00	-1.7
Z	10s	2.40um				
E	11s	8.50um				
MDJ	12.52	63	eP	32	04.00	-0.8
Z	13s	3.60um				
GYA	14.73	206	P	32	34.60	0.6
N	12s	4.30um				
E	12s	6.50um				
			S	35	25.00	
KMI	17.48	216	eP	33	10.00	0.5
N	12s	4.60um				
E	12s	6.30um				
			sP	33	18.00	
			S	36	33.00	
TSRJ	17.99	97	P	33	19.80	4.3X
MTMJ	19.05	92	P	33	30.60	2.0
MAT	19.37	92	(P)	33	32.00	-0.5
	1.2s	37.50nm			4.5mb	
Z	20s	0.71um				
			eS	37	18.00	
IIDJ	19.49	96	eP	33	42.20	8.4X
NIIJ	19.79	90	eP	33	32.70	-4.3X
WMQ	19.87	290	P	33	39.00	1.1
Z	11s	1.40um				
N	10s	1.30um				
CHJJ	20.13	93	eP	33	31.80	-8.8X
LSA	21.23	248	P	33	54.80	2.2
CHG	24.68	216	eP	34	27.10	1.0
FBA	57.94	30	eP	38	57.90	-0.2
MBC	59.30	13	eP	39	07.00	-0.4
	1.0s	11.00nm			4.9mb	
HFS	60.97	326	eP	39	17.20	-1.9
	0.5s	1.90nm			4.5mb	
INK	61.07	23	iPc	39	18.20	-1.4
ASPA	65.96	160	iPc	39	51.70	-0.5
KHC	66.95	315	P	40	02.40	3.9X
EDM	78.64	27	iPc	41	06.50	-0.6
PNT	79.39	32	eP	41	13.00	1.8
LRM	85.08	31	eP	41	40.80	-0.3
ORV	86.11	40	eP	41	46.40	0.4
CM8	87.83	40	eP	41	55.70	1.2
KVN	88.14	38	eP	41	57.10	0.9
RSSD	89.62	26	eP	42	02.30	-0.9

S.D. = 1.3 on 33 of 39 obs.

& OCT 19, 1989 10h 59m 57.90s
36.945 N 121.845 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.6 (BRK). Felt at
Castle Air Force Base.

GCC	0.15	305	iPc	00	01.20	-0.4
MHC	0.43	22	iPd	00	06.60	-0.2
ARN	0.47	32	iPd	00	07.00	-0.6
PCC	0.70	322	iPd	00	10.60	-0.8
PRS	0.72	148	iPc	00	11.40	-0.4
LLA	0.79	114	iPc	00	12.20	-0.9
BKS	0.98	342	iPd	00	15.10	-1.1
			eS	00	31.10	
BRK	0.98	340	eP	00	14.90	-1.4
			eS	00	29.20	
PRI	1.24	130	iPd	00	19.70	-1.1
CMB	1.59	46	iPc	00	24.60	-1.2
PKEM	1.65	122	eP	00	25.80	-0.9
FRI	1.71	88	ePc	00	25.70	-1.8
NWRM	1.72	332	eP	00	25.30	-2.3
BCH	2.26	140	eP	00	33.50	-2.2
ORV	2.62	6	eP	00	38.20	-2.4
KVN	3.63	53	eP	00	53.00	-2.1
TNP	3.85	71	eP	00	56.80	-1.5

17 obs. associated

& OCT 19, 1989 11h 15m 22.80s
36.940 N 121.863 W
DEPTH = 14.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.6 (BRK), 3.2 (PAS).

GCC	0.14	310	iPc	15	26.00	-0.5
MHC	0.44	24	iPd	15	31.70	-0.2
ARN	0.49	33	iPd	15	31.90	-0.7
PCC	0.70	324	iPd	15	35.50	-0.7
PRS	0.73	147	iPc	15	36.30	-0.4
LLA	0.81	113	iPc	15	37.20	-0.9
BKS	0.98	343	iPd	15	39.90	-1.1
			iS	15	54.30	
BRK	0.98	341	eP	15	39.90	-1.2
			eS	15	53.80	
PRI	1.25	129	ePc	15	44.60	-1.2
CMB	1.61	47	ePc	15	49.50	-1.3
PHAM	1.62	133	eP	15	49.50	-1.5
PKEM	1.66	121	eP	15	50.20	-1.4
NWRM	1.72	332	eP	15	50.00	-2.4
FRI	1.73	88	ePc	15	50.50	-2.0
BCH	2.27	140	eP	15	58.30	-2.2
ORV	2.63	6	eP	16	03.00	-2.5
SYP	2.85	147	eP	16	07.00	-1.8
KVN	3.64	54	eP	16	18.40	-1.7
TNP	3.87	71	eP	16	22.00	-1.3
FHC	4.20	337	eP	16	26.00	-1.8

20 obs. associated

& OCT 19, 1989 11h 29m 27.00s
36.953 N 121.830 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

GCC	0.15	300	iPc	29	30.20	-0.5
MHC	0.42	21	iPd	29	35.50	-0.1
ARN	0.46	31	iPd	29	36.00	-0.4
PCC	0.70	321	ePd	29	39.70	-1.0
PRS	0.72	149	iPc	29	40.60	-0.5
LLA	0.79	115	iPc	29	41.40	-0.8
BKS	0.98	341	iPd	29	44.70	-0.8
			iS	29	58.60	
BRK	0.98	340	eP	29	44.70	-0.8
			eS	29	58.10	
PRI	1.24	130	eP	29	49.30	-0.7
CMB	1.58	46	eP	29	53.80	-1.2
PHAM	1.61	134	eP	29	53.80	-1.6
PKEM	1.65	122	eP	29	55.50	-0.5
FRI	1.70	88	eP	29	54.80	-1.9
NWRM	1.72	331	eP	29	53.50	-3.5
BCH	2.26	141	eP	30	02.40	-2.6
ORV	2.61	6	eP	30	07.50	-2.3
KVN	3.61	53	eP	30	22.70	-1.6
TNP	3.84	72	e(P)	30	27.00	-0.4

18 obs. associated

? OCT 19, 1989 11h 29m 34.25± 1.78s
43.868 N ±15.0km 12.973 E ±10.2km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)

ARV	0.37	183	Pd	29	42.00	0.1
			eSg	29	48.40	
AOI	0.56	125	iPgc	29	45.61	0.0
			iSg	29	54.18	
CIO	0.68	169	ePg	29	47.69	-0.2
			iSg	29	56.68	
PGD	0.91	271	P	29	51.70	0.0
			eSg	30	05.50	

S.D. = 0.2 on 4 of 4 obs.

& OCT 19, 1989 11h 35m 37.30s
36.773 N 121.593 W
DEPTH = 5.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

GCC	0.41	309	eP	35 45.10	-0.5
PRS	0.48	158	iPd	35 46.90	0.1
LLA	0.54	106	iPd	35 47.70	-0.5
MHC	0.57	356	ePc	35 48.60	-0.1
			eS	35 57.60	
ARN	0.58	5	eP	35 48.40	-0.5
PCC	0.96	319	ePd	35 55.00	-1.0
PRI	0.98	130	eP	35 55.60	-0.8
BKS	1.21	335	iPd	35 58.80	-1.6
			iS	36 18.30	
BRK	1.22	334	eP	35 58.40	-2.0
FRI	1.53	81	eP	36 04.10	-1.2
CMB	1.59	37	eP	36 04.20	-1.9

11 obs. associated

& OCT 19, 1989 11h 50m 26.10s
36.922 N 121.692 W
DEPTH = 9.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

GCC	0.27	294	iPc	50 31.40	-0.3
MHC	0.42	5	iPd	50 34.70	0.0
ARN	0.45	17	iPd	50 34.90	-0.2
PRS	0.64	156	iPd	50 38.20	-0.8
LLA	0.67	117	iPd	50 38.90	-0.7
PCC	0.80	317	iPc	50 40.70	-1.0
BKS	1.05	336	e(P)	50 44.50	-1.4
			iS	51 00.80	
BRK	1.05	335	eP	50 44.30	-1.7
			eS	50 49.90	
PRI	1.14	133	eP	50 46.80	-0.7
PHAM	1.50	136	eP	50 51.50	-1.8
CMB	1.52	43	eP	50 52.00	-1.5
PKEM	1.54	123	eP	50 51.50	-2.2
FRI	1.59	87	eP	50 52.90	-1.6
NWRM	1.80	329	eP	50 58.50	1.0
ORV	2.63	3	eP	51 08.70	-0.8
KVN	3.55	52	eP	51 21.50	-1.1

16 obs. associated

OCT 19, 1989 12h 14m 06.70± 0.39s
21.172 S ± 7.5km 11.462 W ± 7.2km
DEPTH = 10.0km (geophysicist)
5.0mb (17 obs.)
SOUTH ATLANTIC RIDGE (410)

PDCR	27.80	284	eP	19 58.40	0.3
LIC	27.95	14	P	19 59.20	-0.2
KIC	28.14	14	P	20 01.00	-0.2
BFS	35.30	107	iPd	21 03.80	-0.4
	0.7s		27.40nm		5.2mb
KSR	35.40	105	iPd	21 03.40	-1.7
	1.1s		33.78nm		5.1mb
PRY	35.91	107	iPd	21 09.90	0.4
SLR	36.65	105	iPd	21 15.50	-0.1
BUL	37.45	96	iPc	21 22.90	0.5
	1.0s		16.00nm		4.7mb
BCAO	38.89	53	iPd	21 34.80	0.4
	0.8s		16.00nm		4.8mb
			ic	21 41.40	
CNCB	53.39	264	P	23 30.00	0.2
LPB	53.57	265	eP	23 26.00	-4.9X
ZOBO	53.66	265	P	23 30.00	-1.7
Z	24s		0.26um		4.2MszX
			LR	39 48.00	
EPF	64.80	10	eP	24 47.80	0.0
	1.0s		10.00nm		5.0mb
LPO	66.55	10	eP	24 58.90	0.0
	0.9s		9.80nm		5.0mb
LFF	66.73	9	eP	25 00.10	0.1
	0.8s		17.10nm		5.3mb
CAF	66.93	10	eP	25 01.10	-0.2
	0.9s		9.80nm		5.0mb
LSF	68.13	10	eP	25 08.80	0.0
TCF	68.27	10	eP	25 10.00	0.2
	1.0s		8.80nm		4.9mb
LPG	68.39	14	eP	25 11.10	0.2
	0.8s		9.40nm		5.0mb
BGF	68.64	11	eP	25 11.90	-0.1
	0.8s		8.00nm		5.0mb
SMF	68.90	11	eP	25 13.70	0.0
AVF	68.95	11	eP	25 14.10	0.2
	0.8s		5.90nm		4.8mb
SPA	68.96	180	e(P)	25 15.70	1.7
	1.1s		17.26nm		5.2mb
			e	25 28.50	
SSF	69.24	11	eP	25 15.90	0.2
	0.9s		9.80nm		5.0mb
LBF	69.25	11	eP	25 15.60	-0.2
	0.8s		6.70nm		4.9mb
LOR	69.51	11	eP	25 17.00	-0.4
LPF	69.52	7	eP	25 17.50	0.2
	0.8s		10.70nm		5.1mb
SKO	69.81	26	iP	25 19.00	-0.3
GRR	69.89	8	eP	25 19.50	-0.1
VBY	70.67	20	e(P)	25 25.00	0.5
HAU	70.69	13	eP	25 24.10	-0.5
	0.8s		6.40nm		4.8mb
VOY	70.73	18	e(P)	25 25.50	0.5
LJU	70.93	19	e(P)	25 26.50	0.4
KHC	73.46	17	P	25 47.80	6.8X
PRU	74.50	17	eP	25 49.00	2.0
			e	25 54.00	
MLR	74.56	26	eP	25 45.00	-2.6
CFR	75.25	28	eP	25 48.00	-3.4X
SPC	75.52	21	eP	25 54.00	0.8
TNP	114.87	303	e(PKP)	32 38.50	-11.4X
MAT	149.50	53	ePKP	33 53.00	-0.4

S.D. = 0.8 on 36 of 40 obs.

& OCT 19, 1989 12h 25m 33.70s
36.925 N 121.695 W
DEPTH = 14.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.8 (BRK).

GCC	0.26	294	iPc	25 38.90	-0.6
MHC	0.42	6	iPd	25 42.10	-0.3
ARN	0.44	17	iPd	25 42.30	-0.5
PRS	0.65	156	iPd	25 45.50	-0.8
LLA	0.68	117	iPd	25 46.20	-0.6
PCC	0.79	317	iPc	25 48.10	-0.6
BKS	1.04	336	iPd	25 51.60	-1.4
			iS	26 08.60	
BRK	1.05	335	eP	25 51.50	-1.6
PRI	1.14	133	ePd	25 53.90	-0.8
PHAM	1.51	136	eP	25 58.70	-1.6
CMB	1.52	43	eP	25 59.70	-0.8
PKEM	1.54	124	eP	26 00.00	-0.7
FRI	1.59	87	eP	26 00.20	-1.3
NWRM	1.80	329	eP	26 01.60	-2.8
BCH	2.17	143	eP	26 07.70	-2.3
ORV	2.63	3	eP	26 15.00	-1.4
ABL	2.88	135	eP	26 17.70	-2.5
KVN	3.55	52	eP	26 28.40	-1.2
TNP	3.74	71	eP	26 31.00	-1.5
FHC	4.26	336	eP	26 38.50	-1.1
LON	9.82	360	eP	27 59.00	1.6

21 obs. associated

& OCT 19, 1989 12h 31m 40.30s
36.937 N 121.810 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

GCC	0.18	302	iPc	31 43.90	-0.4
MHC	0.43	18	iPd	31 49.00	-0.1
ARN	0.47	28	iPd	31 49.50	-0.4
PRS	0.70	150	iPc	31 53.60	-0.4
PCC	0.72	321	eP	31 53.30	-1.1
LLA	0.77	114	iPc	31 54.40	-0.8
BRK	1.00	339	eP	31 58.20	-0.9
			eS	32 12.30	
CMB	1.58	46	eP	32 06.40	-1.9
PHAM	1.58	134	eP	32 06.80	-1.5
PKEM	1.63	122	eP	32 09.00	0.1
FRI	1.68	88	eP	32 07.90	-1.9
NWRM	1.74	331	eP	32 08.50	-2.1
BCH	2.24	141	eP	32 15.80	-2.2
KVN	3.61	53	eP	32 35.80	-1.7

14 obs. associated

% OCT 19, 1989 12h 32m 16.84± 0.94s
39.833 N ±11.6km 113.845 E ± 8.1km
DEPTH = 10.0km (geophysicist)
NORTHEASTERN CHINA (658)
ML 3.9 (BJI).

BJI	1.80	83	Pn	32 48.00	-0.2
			Pg	32 49.00	
			Sg	33 13.00	
HHC	2.02	301	Pnc	32 51.20	-0.2
			ePg	32 52.00	
			Sg	33 19.60	
TIY	2.39	208	Pnc	32 58.20	1.5
			Pg	33 00.20	
			Sn	33 28.00	
			Sg	33 32.00	
BTO	3.03	286	Pg	33 10.00	4.2X
			Sg	33 47.40	
TIA	4.45	143	ePn	33 24.80	-1.1
			Pg	33 36.10	
			Sg	34 33.60	
DL2	6.10	96	ePn	33 50.00	0.8
			Sg	35 32.40	
XAN	7.00	216	Pn	34 01.00	-0.9
			Pg	34 23.70	
LZH	8.74	248	eP	34 52.00	25.7X
	1.5s		38.00nm		
CN2	9.53	62	eP	34 29.80	-7.2X

S.D. = 1.3 on 6 of 9 obs.

OCT 19, 1989 13h 15m 05.53± 0.98s
36.943 N ± 7.0km 121.569 W ±10.7km
DEPTH = 15.0km (geophysicist)
CENTRAL CALIFORNIA (39)
ML 2.9 (NEIS).

ARN	0.41	4	iPc	15 13.90	0.0
CMB	1.44	40	eP	15 31.00	-0.1
PHAM	1.45	139	eP	15 32.00	0.8
NWRM	1.84	326	eP	15 36.70	0.0
BCH	2.13	145	eP	15 40.40	-0.7
KVN	3.46	51	eP	16 00.50	0.5
TNP	3.64	70	eP	16 02.20	-0.5

S.D. = 0.6 on 7 of 7 obs.

& OCT 19, 1989 14h 23m 28.70s
37.158 N 122.008 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

GCC	0.13	176	iPd	23 31.40	-0.7
MHC	0.35	58	iPd	23 35.80	-0.2
ARN	0.42	63	iPd	23 36.90	-0.6
PCC	0.45	319	eP	23 37.30	-0.7
SAO	0.60	131	eP	23 34.10	-6.4
BKS	0.74	346	iPd	23 42.70	-0.2
			eS	23 54.10	
BRK	0.74	344	ePd	23 42.70	-0.2
			eS	23 52.80	
PRS	0.97	148	eP	23 45.70	-1.2
LLA	1.01	122	eP	23 46.40	-1.2
PRI	1.48	133	eP	23 54.30	-0.8
CMB	1.56	55	eP	23 56.20	0.0
PHAM	1.85	135	eP	23 57.90	-2.5
BCH	2.51	141	eP	24 06.00	-3.9
KVN	3.62	57	eP	24 25.30	-0.4

14 obs. associated

OCT 19, 1989 14h 28m 26.35± 0.18s
51.710 N ± 5.5km 176.019 W ± 2.6km
DEPTH = 49.3km (2 depth phases)
4.9mb (27 obs.) 4.8Msz (5 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)
Felt on Adak.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 14S, 29C
Centroid Locotion:
Origin Time 14:28:24.2 1.6
Lat 51.54N 0.10 Lon 175.38W 0.15
Dep 53.0 4.6 Half-durotion 1.5
Moment Tensor; Scole 10**16 Nm
Mrr= 5.31 0.30 Mtt=-4.24 0.42
Mff=-1.07 0.39 Mrt= 1.40 0.58
Mrf= 2.60 0.52 Mtf=-3.51 0.50
Principal Axes:

	Vol=	6.24	Plg=71	Azm=274
T				
N		0.82	15	52
P		-7.06	12	145

Best Double Couple:Mo=6.7*10**16

19d 14h

NP1:Strike=254 Dip=35 Slip= 116
NP2: 43 59 73

ADK	0.45	293	iPd	28	38.20	1.2
SMY	6.16	283	eP	29	56.60	-0.3
KDC	14.83	57	eP	31	51.30	-3.0
PMR	17.65	45	eP	32	31.30	1.4
IMA	18.28	30	eP	32	40.00	2.2
TOA	19.15	46	eP	32	48.60	0.5
FBA	19.63	37	eP	32	52.30	-0.9
INK	26.20	35	eP	33	57.00	-0.6
MBC	32.65	22	eP	34	56.50	1.4
	0.8s	10.00nm			4.7mb	
GMW	34.09	76	eP	35	09.00	1.1
BMW	34.33	77	eP	35	10.40	0.4
NIIJ	34.62	263	P	35	12.30	-0.2
LON	35.05	76	eP	35	16.80	0.6
PNT	35.19	71	eP	35	18.00	0.7
	0.6s	22.00nm			5.3mb	
CHJJ	35.38	262	P	35	19.00	-0.1
MAT	35.55	263	iPc	35	20.30	-0.2
	1.3s	34.62nm			5.1mb	
		eS		40	53.00	
IIDJ	36.42	262	P	35	28.30	0.4
EDM	37.13	62	iP	35	34.00	0.4
	0.5s	29.00nm			5.5mb	
LBFM	37.84	84	eP	35	41.00	1.0
ORV	39.13	86	eP	36	00.10	9.6X
CN2	39.18	282	Pc	35	50.00	-0.9
Z	20s	1.90um			4.9Msz	
E	20s	1.40um				
ARN	40.45	89	eP	36	00.00	-1.5
CMB	40.74	87	e(P)	36	04.50	0.7
	0.5s	8.39nm			4.7mb	
LRM	41.12	72	ePc	36	07.70	0.6
SNY	41.43	281	iPc	36	10.00	0.7
	1.2s	0.20nm			2.7mb X	
Z	24s	1.30um			4.7MszX	
N	26s	1.10um				
E	26s	0.70um				
		pP		36	23.00	49km
		PP		37	53.00	
		eS		42	25.00	
KVN	41.54	84	eP	36	09.70	-0.8
FRI	41.81	88	eP	36	13.80	1.3
FFC	42.53	56	eP	36	18.00	-0.2
	0.4s	5.00nm			4.6mb	
TNP	42.68	85	eP	36	19.00	-0.9
	0.5s	5.51nm			4.5mb	
PTI	42.80	76	eP	36	21.80	1.0
ISA	43.42	88	eP	36	25.00	-0.8
CLC	43.87	88	eP	36	30.00	0.6
		e		38	15.00	
DUG	44.10	79	eP	36	31.00	-0.4
	0.5s	8.33nm			4.7mb	
DL2	44.36	279	P	36	33.80	0.5
SBB	44.46	89	eP	36	35.00	0.8
MWC	44.62	90	eP	36	36.00	0.3
GSC	44.70	88	eP	36	37.00	0.8
DAU	44.92	78	eP	36	38.80	0.6
MSU	45.52	81	eP	36	43.00	0.2
PLM	45.94	90	eP	36	46.00	-0.2
BAR	46.51	90	eP	36	51.00	0.5
		e		38	26.00	
BJI	46.99	284	eP	36	54.00	-0.1
Z	24s	1.40um			4.8MszX	
		eS		43	36.00	
TIA	48.84	279	Pc	37	08.20	-0.3
GOL	48.92	75	eP	37	09.80	0.3
GLD	48.98	75	eP	37	10.50	0.7
HHC	49.26	287	Pd	37	13.00	1.1
SSE	49.73	271	P	37	15.50	0.0
	1.2s	0.05nm			2.4mb X	
		pP		37	29.00	50km
BTO	50.33	288	eP	37	20.00	-0.1
TIY	50.72	284	Pc	37	24.00	1.0
	1.0s	35.00nm			5.3mb	
E	10s	0.30um				
ALQ	51.33	80	ePc	37	27.30	-0.5
	1.0s	9.50nm			4.8mb	
FRB	51.82	33	eP	37	30.00	-0.9
WHN	54.36	276	P	37	49.00	-1.1
XAN	55.29	283	Pc	37	56.00	-1.0
LZH	56.95	288	Pd	38	08.50	-0.5
	1.5s	0.08nm			2.5mb X	
		PcP		39	02.50	
GTA	57.04	293	eP	38	08.20	-1.4
Z	20s	0.90um			4.9Msz	
TUL	57.12	72	eP	38	09.50	-0.5
	0.8s	15.40nm			5.1mb	
Z	21s	0.61um			4.7Msz	
		LR		56	42.00	
SCH	58.69	40	eP	38	20.00	-0.7
FVM	58.83	67	eP	38	20.50	-1.4
ELC	60.00	67	eP	38	28.80	-1.2
SOD	60.02	350	eP	38	31.00	1.3
CD2	60.60	284	Pc	38	33.50	-0.7
WMQ	60.60	304	eP	38	33.50	-0.6
Z	20s	0.70um			4.8Msz	
GYA	62.01	278	iPd	38	43.60	-0.3
PWLA	62.29	68	eP	38	44.30	-1.2
GBTN	64.00	65	eP	38	55.60	-1.1
TKL	64.25	65	eP	38	57.20	-1.2
SUF	64.58	349	iP	39	00.30	0.2
BLA	64.98	61	eP	39	03.30	0.2
KMI	65.39	280	Pc+	39	05.50	-0.6
CVL	65.48	59	eP	39	06.50	0.3
JSC	66.66	64	eP	39	13.80	0.0
NUR	66.91	349	eP	39	14.00	-1.0
	0.7s	9.30nm			4.9mb	
HFS	68.24	355	eP	39	21.70	-1.6
	0.5s	8.10nm			5.0mb	
Z	16s	0.19um			4.4MszX	
		LR		02	51.00	
UPP	68.24	353	iP	39	24.70	1.4
LSA	68.95	291	P	39	30.60	1.8
KSH	69.72	308	eP	39	34.90	2.0
CHG	72.43	278	eP	39	49.80	0.4
	1.0s	12.25nm			4.8mb	
NNT	76.68	273	eP	40	14.00	0.2
CTA	78.74	216	iPc	40	24.00	-0.9
	0.9s	10.08nm			4.8mb	
MTN	78.84	232	iPd	40	25.30	-0.3
KHC	79.21	354	P	40	27.20	0.0
FLN	79.83	3	eP	40	31.10	0.6
	1.0s	17.60nm			4.9mb	
LDF	80.01	3	eP	40	31.10	-0.4
	1.0s	17.60nm			4.9mb	
GRR	80.20	3	eP	40	32.40	-0.1
	0.8s	14.50nm			5.0mb	
SNG	80.30	269	eP	40	34.00	0.5
LPF	80.55	3	eP	40	34.40	0.1
LOR	81.40	0	eP	40	38.50	-0.4
SSF	81.61	0	eP	40	39.20	-0.7
	0.6s	4.50nm			4.6mb	
LBF	81.69	0	eP	40	39.80	-0.6
	0.5s	2.90nm			4.5mb	
AVF	81.88	0	eP	40	41.30	0.0
	0.8s	6.70nm			4.7mb	
MFF	82.00	3	eP	40	42.00	0.0
	1.0s	20.00nm			5.1mb	
SMF	82.03	0	eP	40	41.40	-0.7
	1.1s	9.70nm			4.7mb	
PSI	84.83	268	ePd	40	57.00	0.2
	0.7s	12.00nm			5.1mb	
		e		42	50.00	
SKO	85.47	347	eP	40	55.00	-4.7X
HYB	85.71	293	iPc	41	01.00	-0.3
	1.0s	60.00nm			5.7mb	
OHR	86.40	347	eP	41	04.00	-0.4
ASPA	86.93	225	iPc	41	06.80	-0.2
	0.7s	11.00nm			5.2mb	
GBA	89.39	291	P	41	18.40	-0.6
STK	91.17	215	iPd	41	30.30	3.6X
BWA	91.27	209	eP	41	27.50	0.3
MBL	91.59	237	eP	41	28.60	-0.3
CAN	91.93	208	eP	41	31.00	0.8
WARB	92.40	229	iPd	41	33.10	0.5
	0.4s	4.00nm			5.2mb	
TIC	121.37	10	PKPd	47	15.90	0.2
KIC	121.68	10	PKPd	47	16.20	0.0
	0.6s	11.00nm				
LIC	121.78	11	PKPd	47	16.50	0.1
Z	20s	0.13um			4.6Msz	
BCAO	122.71	343	iPKPc	47	18.00	-0.2
	0.6s	22.00nm				
SPA	141.52	180	e(PKP)	47	46.50	-5.9X
	0.7s	3.52nm				
		e		47	51.90	
BUL	143.07	319	iPKPc	47	53.90	-2.6X
	1.0s	9.50nm				
MAW	147.81	218	ePKP	48	05.00	2.3X
SLR	148.16	315	iPKPc	48	08.50	3.7X
	1.0s	15.00nm				
KSR	148.87	317	iPKPc	48	08.40	2.4X
	0.8s	21.88nm				
PRY	149.55	315	iPKPd	48	11.40	4.5X
BFS	149.83	316	iPKPc	48	11.70	4.4X
	0.7s	356.16nm				
HVD	153.59	315	ePKP	48	14.00	1.3

S.D. = 0.9 on 105 of 115 obs.

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* OCT 19, 1989 14h 36m 16.26± 0.89s
51.680 N ±11.6km 6.549 E ±20.7km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
MD 2.5 (UCC).

WTS	0.36	27	iPgd	36	23.40	-0.2
	0.5s	125.00nm				
ENN	1.00	204	iPg	36	34.50	-0.6
	0.5s	58.00nm				
		iSg		36	50.30	
MEM	1.13	198	iPc	36	36.42	-0.9
SNF	1.85	232	iP	36	48.67	0.5
DOU	2.01	219	iPc	36	50.60	0.0
		i		36	56.10	
		iS		37	19.00	
WLF	2.03	187	iP	36	52.10	1.2
		iS		37	18.50	

S.D. = 1.0 on 6 of 6 obs.

& OCT 19, 1989 14h 39m 10.90s
36.887 N 121.682 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK). Small foreshock, ML 1.6, 17.2 seconds eorlier. (BRK).

GCC	0.29	300	iPc	39	16.50	-0.6
MHC	0.45	4	iPd	39	20.00	-0.3
ARN	0.48	14	iPd	39	19.80	-0.9
PRS	0.61	156	eP	39	22.30	-0.6
LLA	0.65	114	iPc	39	23.10	-0.5
PCC	0.83	318	iPc	39	25.80	-0.8
BKS	1.08	336	iPc	39	29.40	-1.6
		iS		39	53.00	
BRK	1.09	335	e(P)	39	28.60	-2.4
		eS		39	44.60	
PRI	1.11	132	eP	39	31.90	0.4
PKEM	1.51	123	eP	39	37.30	-0.4
CMB	1.54	42	eP	39	36.80	-1.3
BCH	2.14	142	eP	39	44.80	-2.0
KVN	3.56	52	eP	40	07.00	-0.1

13 obs. associated

& OCT 19, 1989 15h 25m 34.55s
62.990 N 150.958 W
DEPTH = 122.5km
CENTRAL ALASKA (1)
<AGS-P>.

KTH	0.57	2	eP	25	53.28	-0.3
		eS		26	06.72	
HUR	0.60	91	eP	25	53.31	-0.4
		eS		26	07.35	
CUT	0.67	151	iP	25	53.91	-0.2
RND	1.04	65	iP	25	57.08	-0.5
SKT	1.05	195	iP	25	57.05	-0.5
		eS		26	14.24	
MCK	1.18	50	eP	25	58.50	-0.4
PWA	1.44	159	eP	26	01.59	-0.1
		eS		26	22.22	
SUA	1.54	176	eP	26	02.61	-0.4
PME	1.64	146	eP	26	03.37	-0.7
CGLM	1.76	197	eP	26	05.20	-0.5
NCA	2.16	116	eP	26	09.77	-0.9
CCB	2.17	39	iP	26	09.82	-0.9
HDA	2.28	50	eP	26	10.93	-1.2
PAX	2.51	88	iP	26	14.55	-0.6
		eS		26	44.25	
SLKM	2.52	172	eP	26	14.39	-0.8
RDT	2.52	196	eP	26	14.64	-0.7
KLU	2.80	120	eP	26	17.08	-1.9
GLI	2.80	138	eP	26	17.39	-1.5
		eS		26	50.80	
VLZ	2.87	129	eP	26	17.56	-2.2
DOT	3.18	75	eP	26	22.53	-1.5
CNPM	3.48	182	eP	26	27.00	-1.0

21 obs. associated

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*  OCT  19, 1989  15h 27m 00.58± 1.20s
   21.149 S ±15.0km  179.252 W ±14.2km
   DEPTH = 649.2 ± 11.1 km
   4.8mb ( 11 obs.)
 FIJI ISLANDS REGION                (181)

SVA      3.71 324 iPc    28 27.80   -0.3
DZM     13.34 263 iPc    29 53.70    1.5
BRS     26.21 251 iPd    31 50.10    0.9
        0.6s      6.00nm          4.4mb
RMQ     29.70 253 iPd    32 20.20    1.1
CTA     32.27 266 iPd    32 41.20    0.5
        0.7s     43.84nm          5.2mb
PMG     34.36 285 eP     32 58.00   -0.1
STK     36.46 245 iPd    33 19.20    4.1X
QIS     38.38 263 iPd    33 30.70   -0.2
        0.4s      6.00nm          4.5mb
ASPA    43.24 258 iPd    34 09.40    0.1
        0.5s     53.00nm          5.2mb
                  eS     39 51.20
                  eScS   42 59.30
FORR    47.93 247 iPd    34 44.30   -0.5
        0.4s     38.00nm          5.2mb
MTN     48.00 272 iPc    34 44.60   -1.0
TLE     48.96 281 ePd    34 50.00   -2.5
KNA     49.43 267 iPd    34 55.80   -0.2
        0.4s     26.00nm          5.0mb
WARB    49.52 253 iPd    34 56.10   -0.5
        0.3s     12.00nm          4.8mb
MBL     56.48 258 iPd    35 45.00   -0.8
        0.5s     41.00nm          4.9mb
MEKA    56.68 251 eP     35 46.00   -1.1
MUN     57.99 245 iPc    35 55.60   -0.3
MRWA    58.52 248 iPd    35 58.70   -0.7
NANU    60.10 255 eP     36 10.00    0.1
SPA     68.98 180 ePc    37 04.60   -0.1
        0.9s     12.27nm          4.3mb
MAT     70.05 325 eP     37 11.00   -0.1
        1.0s     23.00nm          4.6mb
CN2     82.10 323 eP     38 16.00   -0.2
PSI     83.35 275 ePc    38 23.50    0.4
                  e     39 30.00
BJI     85.53 316 eP     38 33.50    0.4
TIY     86.84 312 eP     38 40.50    1.0
PNT     87.85  34 eP     38 43.00   -0.8
CHG     89.37 290 ePd    38 53.10    1.7
        0.9s     12.18nm          4.8mb
HFS    139.98 350 ePKP   45 09.00   -8.9X
        0.4s      2.80nm
EKA    145.74   4 PKP    45 28.00    0.1
        0.7s      9.40nm
HRI    146.77 299 iPKP   45 31.50    1.1
KRA    147.40 337 ePKP   45 34.00    3.3X
PRNI   147.92 294 iPKPd  45 34.00    1.7
KSP    147.95 341 iPKP   45 35.00    3.4X
                  i     45 40.50
SPC    148.00 336 ePKP   45 35.80    3.8X
MBH    148.10 293 iPKPd  45 35.00    2.5X
CLL    148.41 345 iPKP   45 36.40    4.1X
        1.2s     27.00nm
                  i     45 42.20
WTS    148.85 353 ePKP   45 37.50    4.6X
        0.8s     19.00nm
PRU    149.22 342 PKPd   45 38.30    4.8X
        1.0s     14.50nm
ZST    149.98 338 i(PKP) 45 33.30   -1.4
                  i     45 40.80
                  i     45 49.90
ENN    150.16 353 ePKP   45 40.50    5.6X
        0.8s     12.00nm
                  e     45 49.00
KHC    150.26 343 iPKPd  45 41.00    5.8X
                  i     45 50.60
MEM    150.31 353 PKPc   45 40.80    5.7X
DOU    150.95 355 PKPc   45 42.30    6.2X
        0.8s     20.00nm
WLF    151.22 353 PKP    45 43.60    7.1X
CDF    152.30 351 ePKP   45 58.30   20.0X
LDF    152.61   1 iPKPc  45 58.60   20.0X
HAU    152.83 352 iPKPc  46 00.50   21.6X
        0.7s      7.40nm
OHR    153.84 324 ePKP   45 48.00    7.5X
      S.D. = 1.0  on  30 of  48 obs.
---------------------------------------
?  OCT  19, 1989  15h 27m 36.55± 4.83s
   45.345 N ±27.1km   14.462 E ±29.1km
   DEPTH =  10.0km  (geophysicist)
 YUGOSLAVIA                         (383)
      MD 2.1 (TRI). Felt (III) in the
      Rijeko oreo.

RIY      0.05 269 iPgd   27 38.20   -0.5
                  iSg    27 39.30
RIY      0.05 269 i(Pg)  27 54.00   15.3X
                  iSg    27 55.10
CEY      0.39 356 e(Pg)  27 44.10   -0.5
                  eSg    27 50.50
TRI      0.61 307 e(Pg)  27 48.60   -0.3
                  iSg    27 57.10
LJU      0.70   4 ePg    27 50.60    0.2
                  eSg    28 02.00
VOY      0.79 330 ePg     27 51.00   -1.0
                  eSg    28 03.40
PTJ      1.19  62 ePg     28 01.90    3.1X
                  eSn    28 19.70
FVI      1.71 317 P       28 08.70    2.2
                  eSn    28 30.70
      S.D. = 1.5  on   6 of   8 obs.
---------------------------------------
&  OCT  19, 1989  15h 59m 12.20s
   37.017 N          121.798 W
   DEPTH =   6.0km
 CENTRAL CALIFORNIA                 ( 39)
      <BRK>. ML 2.7 (BRK).

GCC      0.16 275 iPd    59 15.30   -0.3
MHC      0.35  21 iPd    59 19.40    0.1
SAO      0.38 132 eP     59 19.60   -0.2
ARN      0.39  32 iPd    59 20.00   -0.1
PCC      0.67 316 eP     59 24.70   -0.9
PRS      0.77 153 eP     59 26.60   -0.9
LLA      0.79 120 iPd    59 27.30   -0.7
BKS      0.93 338 ePc    59 29.50   -0.7
                  iS     59 43.60
BRK      0.93 337 eP     59 29.50   -0.8
                  eS     59 43.10
PRI      1.26 133 eP     59 35.00   -1.1
CMB      1.51  47 eP     59 38.70   -1.2
      11 obs. assocíated
---------------------------------------
&  OCT  19, 1989  16h 30m 47.50s
   36.947 N          121.720 W
   DEPTH =  10.0km
 CENTRAL CALIFORNIA                 ( 39)
      <BRK>. ML 3.1 (BRK).

GCC      0.24 291 iPd    30 52.10   -0.4
SAO      0.29 129 iPd    30 53.10   -0.4
MHC      0.40   9 iPd    30 55.70    0.0
ARN      0.43  20 iPd    30 56.00   -0.3
PRS      0.68 155 iPd    31 00.20   -0.7
LLA      0.71 118 iPd    31 00.70   -0.7
PCC      0.76 316 ePd    31 01.40   -1.0
BKS      1.01 336 eP     31 06.00   -0.7
                  iS     31 20.20
BRK      1.02 335 eP     31 06.00   -0.8
                  eS     31 19.50
PRI      1.17 133 eP     31 08.60   -0.8
CMB      1.52  44 eP     31 12.80   -2.0
PHAM     1.54 136 P      31 12.80   -2.2
PKEM     1.57 124 P      31 12.80   -2.7
BCH      2.20 143 eP     31 22.20   -2.5
ORV      2.61   4 e(P)   31 31.50    1.1
      15 obs. assocíated
---------------------------------------
   OCT  19, 1989  16h 47m 06.95± 1.23s
    8.045 N ± 4.6km  126.781 E ± 7.1km
   DEPTH =  74.1 ± 11.6 km
   5.1mb ( 14 obs.)
 MINDANAO, PHILIPPINE ISLANDS       (259)
      CENTROID, MOMENT TENSOR       (HRV)
      Dotо Used: GDSN
      L.P.B.: 11S, 20C
      Centroid Locotion:
      Origin Time          16:47: 8.1 0.8
      Lot  7.99N 0.11 Lon 127.55E 0.11
      Dep  24.4 6.7 Half-durotion  1.6
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 7.61 1.20   Mtt= 0.54 0.84
        Mff=-8.15 1.40   Mrt=-2.43 1.57
        Mrf= 1.70 1.83   Mtf=-1.99 1.11
      Principol Axes:
        T  Vol=  8.66   Plg=70   Azm=203
         N        0.01       19        10
         P       -8.67        4       101
      Best Double Couple:Mo=8.7*10**16
       NP1:Strike=211 Dip=44 Slip= 119
       NP2:        354     52        65

DAV      1.53 232 eP     47 33.00    0.2
MNI      6.84 197 ePd    48 46.70    0.0
TSM      9.45 247 ePc    49 27.50    4.8X
KKM     10.67 260 ePd    49 44.00    4.7X
AAI     11.74 173 eP     50 02.00    8.5X
TLE     14.84 156 ePc    50 30.40   -3.8X
MKS     15.06 209 ePc    50 39.00    2.0
                  e     52 24.00
ANP     17.77 344 eP     51 13.00    2.0
OZH     18.53 336 eP     51 12.00   -8.2X
      Z  18s      1.80um
GUMO    18.59  71 eP     51 19.30   -1.7
        0.9s     57.97nm          4.8mb
HKC     18.66 321 e(P)   51 22.00    0.3
QIZ     19.74 305 Pd     51 32.50   -1.0
      N  15s      2.90um
GZH     19.75 321 P      51 30.00   -3.6X
      Z  20s      3.10um
TRT     21.06 222 ePd    51 52.80    5.7X
MTN     21.20 168 eP     51 46.00   -2.5
SSE     23.52 348 eP     52 10.70   -0.4
      N  15s      0.80um
      E  13s      0.60um
                  pP     52 23.00   49kmX
                  sS     56 42.00
KNA     23.72 175 eP     52 13.00   -0.2
        0.6s     69.00nm          5.3mb
NJ2     25.00 344 eP     52 27.00    1.6
IPM     25.83 264 ePc    52 37.70    4.4X
        0.9s     30.40nm          4.8mb
SNG     25.95 270 ePc    52 38.80    4.5X
                  eS     57 18.00
LOE     26.12 293 eP     52 36.00    0.1
NNT     26.98 282 eP     52 46.50    2.7
NST     27.13 289 eP     52 46.80    1.6
PSI     28.23 261 ePc    52 57.00    1.9
                  e     55 00.00
KMI     28.54 309 eP     52 58.50    0.4
      E  18s      2.50um
BDT     28.57 291 eP     52 56.00   -2.1
CHG     29.07 294 eP     53 02.00   -0.7
CHTO    29.07 294 eP     53 02.00   -0.7
MBL     29.81 193 eP     53 08.50   -0.7
MAT     30.22  18 (P)    53 17.00    4.3X
      Z  20s      0.71um          4.3Msz
XAN     30.66 330 Pd     53 13.60   -3.1X
DL2     31.07 352 eP     53 19.00   -1.1
QIS     31.10 156 iPd    53 18.70   -1.8
                  e     53 29.00
CD2     31.30 320 eP     53 21.00   -1.4
      Z  18s      1.80um          4.8Msz
      N  15s      2.00um
ASPA    32.28 168 eP     53 30.10   -0.8
        0.6s     14.00nm          5.0mb
                  eS     58 35.50
NANU    32.35 200 eP     53 31.00   -0.5
        0.6s     20.00nm          5.1mb
BJI     33.24 345 eP     53 37.00   -2.0
      Z  20s      0.90um          4.5Msz
                  eS     58 56.00
SNY     33.76 356 Pc     53 43.30   -0.2
      Z  22s      1.20um          4.6Msz
      N  20s      1.30um
      E  24s      0.60um
                  pP     53 53.40   35kmX
                  S      59 05.00
CTA     33.89 146 iPc    53 44.40   -0.5
        1.3s     55.77nm          5.3mb
                  iS     59 05.20
                  i      59 23.90
WARB    34.02 180 eP     53 45.90   -0.1
        0.4s     12.00nm          5.2mb
LZH     34.89 327 eP     53 52.00   -1.5
        1.5s      0.04nm          2.1mb X
      Z  18s      2.50um          5.0Msz
      N  14s      1.50um
HHC     35.36 340 P      53 56.80   -0.6
      Z  20s      1.60um          4.8Msz
      N  12s      0.60um
      E  15s      0.80um
MEKA    35.37 193 eP     53 57.00   -0.5
```

19d 16h

CN2 35.64 358 eP 54 00.00 0.5
Z 17s 1.50um 4.8MszX
N 15s 0.70um
BTO 35.69 338 eP 53 56.00 -4.2X
N 18s 1.30um
E 16s 1.10um
MDJ 36.51 3 Pc 54 07.50 0.6
epP 54 17.00 32kmX
ePP 55 30.00
MRWA 38.48 195 eP 54 24.00 0.4
0.4s 6.00nm 4.9mb
FORR 38.69 178 eP 54 24.40 -0.9
i 54 56.50
COOL 39.08 188 eP 54 28.00 -0.6
GTA 39.49 326 eP 54 30.40 -1.7
Z 16s 1.50um 4.9MszX
N 13s 0.70um
BAL 39.63 194 eP 54 33.00 -0.1
LSA 39.75 308 eP 54 36.00 1.3
eS 00 38.00
MUN 41.06 194 iPd 54 45.10 0.3
0.8s 42.00nm 5.3mb
STK 42.15 161 eP 54 56.00 2.2
RKG 42.90 192 eP 55 05.40 5.6X
0.6s 31.00nm 5.3mb
BRS 43.30 145 iPc 55 02.50 -0.7
i 55 08.00
i 55 15.00
ADE 44.24 166 eP 55 13.30 2.5
BWA 46.95 155 eP 55 33.20 0.9
e 55 40.80
HYB 47.84 286 eP 55 39.20 -0.3
CAN 47.96 155 eP 55 45.20 5.0X
PVC 48.36 122 iPc 55 28.60 -14.9X
GBA 48.71 281 P 55 46.20 0.0
e 57 11.00
DZM 49.07 128 iPc 55 48.90 -0.1
NDI 50.90 300 eP 56 01.50 -1.3
QUE 59.97 300 eP 57 07.30 -1.2
MSZ 64.23 149 eP 57 45.00 8.7X
SHI 72.40 298 eP 58 26.00 -1.6
SVW 77.01 29 eP 58 55.30 2.1
IMA 78.45 24 eP 59 02.70 1.5
BHD 79.30 302 ePd 59 12.00 5.7X
PMR 80.16 29 eP 59 11.60 1.3
0.8s 29.10nm 5.3mb
FBA 80.83 26 eP 59 15.20 1.4
KVT 85.33 311 eP 59 38.00 0.6
KEV 85.88 340 eP 59 40.00 0.5
SOD 86.52 338 iP 59 42.20 -0.5
PRNI 87.52 300 eP 59 42.00 -6.3X
MBH 87.70 300 eP 59 48.00 -1.1
SUF 87.75 333 iP 59 48.20 -0.4
0.6s 6.70nm 5.0mb
MBC 87.76 13 eP 59 50.00 1.5
1.0s 13.00nm 5.0mb
NUR 88.98 331 eP 59 54.30 -0.2
HFS 94.24 333 eP 00 17.80 -1.1
0.9s 11.70nm 5.3mb
Z 17s 0.32um 4.9MszX
LR 41 42.00
KRA 94.51 322 eP 00 21.40 1.1
VAY 95.26 313 eP 00 23.00 -0.9
LIC 129.89 285 PKP 06 11.80 1.2
UPA 148.80 58 ePKPd 06 43.80 -0.7
CNCB 163.17 123 ePKP 07 07.00 3.7X
ZOBO 163.30 121 PKP 07 05.00 1.6
S.D. = 1.3 on 68 of 87 obs.

? OCT 19, 1989 17h 01m 57.87± 5.85s
37.067 N ±12.1km 122.881 W ±49.3km
DEPTH = 15.0km (geophysicist)
CENTRAL CALIFORNIA (39)
ML 3.3 (NEIS).

ARN 1.11 75 iPc 02 18.00 -0.3
CMB 2.21 63 eP 02 34.00 -0.5
PHAM 2.35 121 eP 02 35.80 -0.7
PKEM 2.45 113 eP 02 38.50 0.7
BCH 2.94 129 eP 02 45.00 0.0
KVN 4.26 61 eP 03 04.00 0.2
TNP 4.61 76 e(P) 03 09.50 0.7
S.D. = 0.7 on 7 of 7 obs.

& OCT 19, 1989 17h 15m 05.70s
36.908 N 121.660 W
DEPTH = 9.0km
CENTRAL CALIFORNIA (39)
<8RK>. ML 3.9 (BRK).

SAO 0.22 130 iPd 15 09.90 -0.6
GCC 0.30 294 iPc 15 11.50 -0.3
MHC 0.43 2 iPd 15 14.60 0.1
ARN 0.45 13 iPd 15 14.70 -0.2
PRS 0.62 158 iPd 15 17.50 -0.7
LLA 0.64 117 iPd 15 18.20 -0.4
PCC 0.83 316 iPc 15 20.80 -0.9
BKS 1.07 335 iPc 15 24.50 -1.4
iS 15 40.70
BRK 1.08 334 iPd 15 24.50 -1.5
PRI 1.11 133 ePd 15 26.00 -0.7
PHAM 1.48 136 eP 15 31.00 -1.5
PKEM 1.51 124 eP 15 31.00 -1.9
CMB 1.51 42 ePd 15 32.00 -1.0
FRI 1.57 86 eP 15 32.00 -1.7
NWRM 1.83 328 eP 15 37.80 0.3
BCH 2.14 143 eP 15 39.50 -2.7
ORV 2.65 3 eP 15 47.50 -1.8
ABL 2.85 135 eP 15 51.40 -1.0
KVN 3.53 52 eP 16 00.60 -1.5
TNP 3.72 70 eP 16 03.00 -1.8
FHC 4.29 336 eP 16 13.00 0.3
LON 9.84 359 eP 17 30.00 -0.3
22 obs. associated

& OCT 19, 1989 17h 26m 18.60s
36.900 N 121.653 W
DEPTH = 4.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.7 (BRK).

SAO 0.21 129 iPd 26 22.90 0.0
GCC 0.30 295 iP 26 24.40 -0.3
MHC 0.44 1 iPd 26 27.60 0.2
ARN 0.46 12 iPd 26 27.70 -0.1
PRS 0.61 158 iPd 26 30.40 -0.4
LLA 0.64 116 iPd 26 31.20 -0.1
PCC 0.83 316 iPc 26 34.70 -0.5
BKS 1.08 335 iPc 26 37.40 -2.1
iS 26 53.90
BRK 1.09 334 eP 26 37.90 -1.6
eS 26 54.10
PRI 1.10 133 eP 26 39.10 -0.8
PHAM 1.47 136 eP 26 43.20 -2.7
PKEM 1.50 123 eP 26 45.20 -1.1
CMB 1.52 41 eP 26 44.90 -1.7
FRI 1.56 86 eP 26 45.10 -2.1
BCH 2.13 143 eP 26 53.10 -2.5
ORV 2.65 3 eP 27 00.00 -2.9
KVN 3.53 52 eP 27 14.00 -1.6
TNP 3.72 70 e(P) 27 18.00 -0.3
18 obs. associated

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* OCT 19, 1989 17h 53m 01.95± 0.86s
43.192 N ±14.4km 17.199 E ± 8.4km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.4 (TTG).

HVAR 0.55 269 iPgc 53 12.50 -0.6
iSg 53 23.00
BRY 1.03 106 ePg 53 18.90 -2.6
eSg 53 35.40
HCY 1.21 127 ePg 53 25.30 0.8
eSg 53 43.60
NKY 1.37 105 ePg 53 26.90 -0.3
eSg 53 46.50
BDV 1.50 127 ePg 53 29.50 0.5
eSg 53 52.00
TTG 1.70 116 ePn 53 32.40 0.7
eSn 53 57.00
PVY 2.12 105 ePn 53 39.00 0.9
eSn 54 09.50
PTJ 2.85 342 eP 53 48.90 0.5
S.D. = 1.4 on 8 of 8 obs.

% OCT 19, 1989 17h 56m 49.88± 0.67s
39.919 N ± 9.4km 114.017 E ± 6.2km
DEPTH = 10.0km (geophysicist)
NORTHEASTERN CHINA (658)
ML 4.3 (BJI).

BJI 1.66 85 Pg 57 20.50 1.3
Sg 57 44.50
HHC 2.09 297 Pgc 57 25.80 0.3
Sg 57 53.40
TIY 2.53 210 Pnd 57 31.70 0.0
iPg 57 35.00
Sn 58 03.40
BTO 3.13 284 Pn 57 42.60 2.3
Pg 57 44.00
Sg 58 22.00
TIA 4.44 146 ePn 57 58.80 0.0
Pg 58 11.00
Sg 59 07.80
DL2 5.98 97 Pn 58 20.10 -0.4
Sg 00 04.00
XAN 7.14 216 Pn 58 36.40 -0.6
Pg 58 58.00
Sg 00 26.40
SNY 7.49 72 Pnc 58 40.60 -1.2
Pg 59 06.30
Sg 00 48.10
LZH 8.89 248 ePg 59 26.50 25.0X
Sg 01 23.50
WHN 9.36 178 eP 59 08.50 0.8
GTA 10.96 272 eP 59 27.80 -2.1
WMQ 19.95 290 eP 01 24.60 -0.4
S.D. = 1.3 on 11 of 12 obs.

& OCT 19, 1989 18h 30m 27.30s
33.010 N 117.860 W
DEPTH = 6.0km
SOUTHERN CALIFORNIA (43)
<PAS-P>. ML 3.1 (PAS).

SCI 0.58 267 eP 30 38.40 -0.5
CIS 0.60 311 ePd 30 38.30 -1.1
CPE 0.65 101 iPc 30 39.20 -1.2
PLM 0.90 67 eP 30 43.30 -1.8
BAR 1.05 108 ePc 30 45.80 -1.7
PEC 1.06 33 iPd 30 46.00 -1.6
ABL 2.16 329 e(P) 31 03.50 -1.0
GLA 2.55 88 eP 31 10.30 0.4
BCH 2.85 320 eP 31 12.00 -2.3
9 obs. associated

? OCT 19, 1989 18h 36m 41.35± 0.87s
54.701 S ±23.3km 129.439 W ±16.5km
DEPTH = 10.0km (geophysicist)
5.0mb (4 obs.) 5.3Msz (3 obs.)
SOUTH PACIFIC CORDILLERA (691)

SPA 35.48 180 e(P) 43 40.70 1.0
1.0s 13.50nm 4.8mb
Z 18s 6.27um 5.4Msz
e 43 51.00
SNA 49.65 159 iPd 45 33.50 -0.8
0.5s 10.56nm 5.1mb
CAN 57.43 254 eP 46 35.30 2.9X
BWA 58.41 254 eP 46 33.90 -5.3X
CNC8 60.02 76 P 46 53.00 1.8
LP8 60.18 76 P 46 51.00 -1.1
ZOBO 60.38 76 P 46 53.00 -0.6
1.1s 21.75nm 5.2mb
Z 20s 0.47um 4.6Msz
LR 55 26.00
CCH 60.60 78 P 46 57.90 3.1X
CTA 70.60 263 eP 48 00.00 1.3
iS 57 17.00
ASPA 74.73 251 eP 48 21.50 -1.5
1.1s 15.00nm 4.9mb
Z 19s 1.88um 5.4Msz
LR 16 37.30
MTN 85.00 255 eP 49 18.00 -0.1
BCAO 123.59 141 ePKPc 55 44.20 3.6X
0.4s 4.00nm
ic 55 50.70
EPF 145.69 89 ePKP 56 25.20 4.4X
1.0s 12.00nm
RJF 147.72 86 ePKP 56 29.50 5.6X
1.0s 8.00nm
GRR 148.03 80 ePKP 56 28.90 4.6X
1.0s 20.00nm
FLN 148.43 79 ePKP 56 29.70 4.8X
1.2s 49.90nm
FRF 149.67 93 ePKP 56 34.70 7.7X
1.2s 26.10nm
EKA 149.83 66 PKPd 56 38.10 11.2X
0.8s 10.50nm
SSF 149.84 85 ePKP 56 36.10 8.9X

1.0s 6.00nm
LBF 150.07 85 ePKP 56 36.70 9.1X
1.0s 12.00nm
SBF 150.31 93 ePKP 56 35.50 7.4X
1.2s 17.80nm
LPG 150.86 90 ePKP 56 37.50 8.3X
0.8s 6.70nm
KOT 151.81 144 ePKP 56 40.00 9.4X
HAU 151.98 85 ePKP 56 42.00 11.6X
1.0s 8.00nm
DOU 151.98 80 PKP 56 50.90 20.6X
BSF 152.15 86 ePKP 56 42.80 12.1X
0.9s 14.40nm
QUE 152.82 212 ePKP 56 45.00 12.7X
MEM 153.02 80 PKP 56 47.70 16.0X
OHR 156.08 112 ePKP 56 43.70 7.4X
KHC 156.72 88 ePKP 56 48.50 11.7X
SKO 157.02 112 ePKP 56 58.00 20.6X
CLL 157.33 83 ePKP 56 52.00 14.5X
S.D. = 1.5 on 8 of 32 obs.

& OCT 19, 1989 19h 07m 25.00s
62.970 N 149.633 W
DEPTH = 87.4km
CENTRAL ALASKA (1)
<AGS-P>.

HUR 0.01 349 eP 07 37.26 1.5
eS 07 46.64
RND 0.56 39 iP 07 39.89 -0.4
CUT 0.64 208 iP 07 40.61 -0.3
KTH 0.83 316 eP 07 42.57 -0.3
MCK 0.83 22 iP 07 42.64 -0.2
SKT 1.33 222 eP 07 48.26 -0.6
PWA 1.33 185 eP 07 49.00 0.2
PME 1.38 168 eP 07 49.36 0.0
eS 08 07.78
SUA 1.60 199 eP 07 52.67 0.2
NCA 1.63 126 eP 07 52.98 0.2
PMS 1.73 179 eP 07 54.92 0.8
CCB 1.87 25 eP 07 54.75 -1.1
HDA 1.87 38 eP 07 55.05 -0.9
DDM 1.89 63 eP 07 56.19 0.0
PAX 1.90 88 eP 07 56.38 -0.1
iS 08 20.43
NCG 1.97 218 eP 07 56.92 -0.4
eS 08 21.37
GLM 2.25 25 eP 08 00.80 -0.3
KLU 2.28 129 eP 08 01.23 -0.4
VZW 2.41 142 eP 08 02.00 -1.2
GLI 2.42 149 eP 08 02.08 -1.2
RDT 2.74 210 eP 08 08.59 0.8
21 obs. associated

& OCT 19, 1989 19h 29m 07.49s
62.955 N 149.768 W
DEPTH = 84.5km
CENTRAL ALASKA (1)
<AGS-P>.

HUR 0.06 69 iP 29 19.37 1.5
eS 29 27.90
CUT 0.60 203 eP 29 22.58 -0.1
RND 0.61 42 eP 29 22.71 -0.3
eS 29 33.77
KTH 0.80 320 eP 29 24.77 -0.1
MCK 0.87 25 eP 29 25.47 -0.1
SKT 1.28 221 eP 29 30.14 -0.4
PWA 1.31 182 iPd 29 31.00 0.1
PME 1.38 165 eP 29 32.35 0.6
PMR 1.40 167 ePc 29 32.40 0.4
SUA 1.57 197 eP 29 34.32 0.0
NEA 1.66 10 eP 29 34.61 -0.8
NCA 1.67 124 eP 29 36.36 0.6
PMS 1.72 177 ePc 29 36.50 0.2
TOA 1.87 116 eP 29 39.40 1.0
CCB 1.91 26 eP 29 38.03 -0.8
eS 29 59.97
NCG 1.92 217 eP 29 38.82 -0.2
HDA 1.92 39 eP 29 38.41 -0.6
eS 30 00.75
DDM 1.95 63 eP 29 39.46 0.0
CGLM 1.96 213 eP 29 39.49 -0.1
PAX 1.96 88 eP 29 40.01 0.3
eS 30 04.43
SDG 1.99 101 eP 29 40.53 0.6
DMW 2.12 57 eP 29 41.04 -0.6
FBA 2.14 23 eP 29 41.30 -0.6
GLM 2.29 26 eP 29 43.41 -0.7
KLU 2.32 127 eP 29 44.04 -0.5
NKA 2.33 198 eP 29 47.85 3.4
GLI 2.44 148 eP 29 44.92 -1.1
SLKM 2.47 185 eP 29 47.53 1.1
DOT 2.67 72 eP 29 48.85 -0.4
RDT 2.70 209 eP 29 50.11 0.4
FID 2.71 143 eP 29 48.79 -0.9
SEW 2.87 177 eP 29 52.34 0.5
NNL 3.01 195 eP 29 55.65 1.7
TMW 3.10 80 eP 29 54.25 -0.8
GLB 3.18 116 eP 29 55.72 -0.5
ILIM 3.26 209 eP 29 58.03 0.6
SVW 3.32 239 iPd 29 57.50 -0.8
CNPM 3.51 192 eP 30 00.42 -0.5
IMA 3.55 333 eP 30 00.50 -1.0
TGL 3.96 121 eP 30 05.67 -1.5
BALM 4.00 115 eP 30 06.17 -1.5
DWY 4.76 72 P 30 16.90 -1.3
INK 8.58 44 eP 31 10.00 -0.8
43 obs. associated

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* OCT 19, 1989 20h 44m 26.87± 0.75s
1.103 S ±15.1km 15.773 W ±12.2km
DEPTH = 10.0km (geophysicist)
4.5mb (9 obs.)
NORTH OF ASCENSION ISLAND (407)

LIC 12.96 56 P 47 35.00 1.1
1.3s 74.00nm 5.7mb X
Z 22s 0.47um 5.4Msz
TIC 13.21 54 P 47 38.00 0.8
KIC 13.28 56 P 47 39.20 1.1
S 49 57.00
eTT 58 06.00
BCAO 34.72 81 iPc 51 19.30 -0.2
0.6s 4.00nm 4.5mb
LSF 49.56 16 eP 53 19.60 -0.4
MAF 49.82 17 eP 53 22.00 0.0
0.8s 5.90nm 4.6mb
BGF 50.21 17 eP 53 24.90 0.0
0.8s 6.70nm 4.7mb
LPG 50.51 20 eP 53 27.60 0.0
0.8s 4.00nm 4.4mb
SSF 50.86 17 eP 53 29.60 -0.2
0.8s 2.60nm 4.2mb
LBF 50.93 17 eP 53 29.80 -0.6
0.8s 4.00nm 4.4mb
LOR 51.15 17 eP 53 31.20 -0.9
0.8s 4.50nm 4.5mb
ZOBO 53.71 251 eP 53 55.00 2.6
Z 24s 0.20um 4.1MszX
LR 11 08.00
LPB 53.73 250 (P) 54 02.00 9.6X
SKO 54.48 34 eP 53 56.20 -0.7
i 54 03.90
MLR 59.25 33 ePd 54 30.70 -0.3
VRI 59.91 33 ePc 54 41.50 6.1X
MAIO 78.81 53 iPd 56 31.00 -1.0
SPA 88.90 180 e(P) 57 21.10 -1.6
1.0s 10.00nm 5.0mb
MBC 94.29 347 eP 57 47.50 0.2
1.5s 13.00nm 5.1mb
WB5 144.06 127 ePKP 04 00.20 -5.2X
S.D. = 1.1 on 17 of 20 obs.

& OCT 19, 1989 21h 15m 34.60s
37.110 N 122.007 W
DEPTH = 16.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

GCC 0.08 174 iPc 15 37.20 -0.7
MHC 0.37 51 iPc 15 42.20 -0.3
ARN 0.45 58 iPc 15 43.20 -0.5
PCC 0.49 323 iPd 15 43.70 -0.7
SAO 0.57 127 iPd 15 44.40 -1.3
BKS 0.79 347 iPc 15 48.40 -1.0
iS 16 00.30
BRK 0.79 345 eP 15 49.10 -0.3
iS 15 59.80
PRS 0.93 146 eP 15 51.40 -0.5
LLA 0.98 120 eP 15 51.60 -1.2
PRI 1.45 131 eP 15 59.60 -0.6
CMB 1.59 54 eP 16 00.40 -1.7
FRI 1.84 93 eP 16 04.00 -1.8
12 obs. associated

? OCT 19, 1989 21h 33m 11.80± 2.97s
32.826 S ±17.5km 70.323 W ±27.5km
DEPTH = 33.0km (normal)
CHILE-ARGENTINA BORDER REGION (127)

JACH 0.27 302 iPc 33 18.70 -0.6
PEL 0.44 224 iP 33 24.50 2.9X
iS 34 06.00
FCH 0.50 177 eP 33 23.40 0.7
iS 34 01.50
ROCH 0.60 256 eP 33 24.90 0.9
PCH 0.81 191 eP 33 26.50 -0.3
iS 34 08.50
TACH 0.97 212 eP 33 27.00 -2.2
LNV 1.45 219 eP 33 36.50 0.6
ZON 1.89 48 iPd 32 43.00 -59.4X
eS 32 53.00
S.D. = 1.5 on 6 of 8 obs.

? OCT 19, 1989 21h 45m 14.61± 1.29s
1.447 S ±28.7km 16.060 W ±24.3km
DEPTH = 10.0km (geophysicist)
NORTH OF ASCENSION ISLAND (407)

LIC 13.39 55 P 48 27.20 -0.2
1.4s 80.00nm 5.6mb
Z 20s 0.51um 5.4Msz
TIC 13.64 54 P 48 30.00 -0.6
KIC 13.71 55 P 48 31.20 -0.3
1.4s 89.50nm 5.5mb
S 50 48.00
BCAO 35.06 80 ePd 52 11.00 0.9
1.6s 59.00nm 5.2mb
ic 52 19.10
CNCB 53.29 250 eP 55 27.00 50.0X
ZOBO 53.33 251 eP 55 24.00 46.7X
Z 24s 0.20um 4.1MszX
LR 06 16.00
LPB 53.35 250 eP 55 24.00 46.7X
SKO 54.92 34 eP 54 48.20 0.3
i 54 55.80
MLR 59.69 33 eP 55 22.00 0.2
VRI 60.35 33 ePc 55 14.50 -11.7X
MAIO 79.24 53 iPd 57 23.00 0.9
WB5 144.08 128 ePKP 04 52.00 -1.2
S.D. = 0.9 on 8 of 12 obs.

? OCT 19, 1989 22h 11m 12.60± 1.98s
56.764 N ±18.3km 151.885 W ±21.0km
DEPTH = 33.0km (normal)
4.2mb (2 obs.)
KODIAK ISLAND REGION (13)

SVW 4.77 338 eP 12 23.00 -1.0
PMR 5.05 15 eP 12 28.20 0.3
TOA 6.10 26 eP 12 42.80 0.0
INK 14.26 28 eP 14 41.00 7.2X
PNT 20.63 97 ePc 15 51.00 -0.5
0.6s 4.00nm 4.0mb
M8C 22.84 19 eP 16 17.50 4.2X
0.7s 10.00nm 4.4mb
SES 24.77 87 eP 16 32.00 -0.3
KHC 73.78 10 P 22 46.40 1.5
S.D. = 1.1 on 6 of 8 obs.

% OCT 19, 1989 23h 27m 08.01± 1.02s
24.576 N ± 9.7km 121.421 E ±12.2km
DEPTH = 33.0km (normal)
TAIWAN (244)

TWC 0.39 85 iPc 27 16.60 -0.4
eS 27 22.90
TWD 0.52 162 iPd 27 18.00 -0.9
eS 27 25.00
TWZ 0.54 15 iPc 27 19.60 0.4
eS 27 28.10
TWQ 0.61 241 iPc 27 19.40 -0.8
eS 27 27.50
TWF1 1.22 185 iPd 27 30.60 1.7
S.D. = 1.5 on 5 of 5 obs.

OCT 19, 1989 23h 33m 25.72± 0.53s
41.742 N ± 5.4km 12.623 E ± 3.4km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

19d 23h

MD 3.8 (ROM). Slight damage (VII) in the Albani Hills area. Felt at Rome.

RDP	0.07	77	Pc	33 27.60	-0.6
			eSg	33 29.30	
RMP	0.09	41	Pc	33 28.60	0.3
			eSg	33 30.10	
MNS	0.64	4	Pc	33 38.20	-0.4
AZI	0.66	68	Pc	33 37.40	-1.4
			eSg	33 46.50	
AQU	0.84	43	Pc	33 41.50	-0.5
			eSg	33 52.40	
SDI	0.89	92	Pc	33 41.00	-1.9
			eSg	33 53.00	
RFI	1.11	113	P	33 45.59	-1.0
ALP	1.26	34	ePnd	33 47.39	-1.8
			iSn	34 10.30	
ASS	1.33	1	Pd	33 50.30	0.0
			eSg	34 10.00	
DUI	1.38	93	P	33 51.00	0.0
			eSg	34 10.00	
CIO	1.50	15	iPnd	33 52.64	-0.1
			iSn	34 17.05	
ARV	1.77	8	Pd	33 57.70	1.1
AOI	1.95	21	iPn	34 00.55	1.4
			iSn	34 33.87	
CRE	1.95	346	P	34 00.20	0.9
PGD	2.23	343	P	34 04.40	1.0
SFI	2.25	346	P	34 06.48	3.0X
FIR	2.27	334	ePn	34 06.50	2.7
			iPg	34 20.00	
			iSn	34 38.00	
			iSg	34 49.00	
PII	2.51	323	P	34 07.80	0.6
BDI	2.76	328	P	34 10.00	-0.8
MME	2.83	331	P	34 13.90	1.9
CVF	2.91	288	Pn	34 12.80	-0.1
			Sn	34 47.80	
HVAR	3.17	62	i(Pn)	34 17.50	0.9
TDS	3.51	125	P	34 21.50	0.1
BOB	3.81	324	P	34 26.00	0.2
RIY	3.82	19	eP	34 25.40	-0.4
TRI	4.05	11	P	34 27.70	-1.3
CEY	4.20	18	eP	34 30.50	-0.8
			e(Sn)	35 19.00	
VBY	4.22	26	eP	34 39.00	7.5X
			i(Sn)	35 19.60	
CTI	4.36	351	P	34 33.10	-0.5
SBF	4.37	301	Pn	34 33.30	-0.4
			Sn	35 24.00	
VOY	4.39	12	ePn	34 32.30	-1.6
			eSn	35 28.50	
LJU	4.52	17	e(Pn)	34 26.50	-9.2X
			e	34 38.00	
			eSn	35 27.00	
MDI	4.55	333	P	34 37.27	1.1
ZAG	4.74	30	eP	34 41.50	2.6
FRF	4.77	294	Pn	34 38.00	-1.3
			Sn	35 32.00	
LMR	4.79	291	Pn	34 38.20	-1.4
			Sn	35 32.40	
DOI	4.81	307	P	34 40.54	0.6
PTJ	4.81	29	eP	34 40.40	0.5
FVI	4.85	1	P	34 39.60	-0.8
LRG	4.93	292	Pn	34 40.80	-0.8
SDA	5.14	85	eP	34 45.00	0.5
KBA	5.36	5	eP	34 47.00	-0.8
			i	35 09.90	
			e	35 47.00	
			i	35 52.70	
TIR	5.45	92	eP	34 53.00	4.0X
BCI	5.58	81	eP	34 52.40	1.7
LPG	5.68	313	Pn	34 53.80	1.4
KKS	5.82	84	eP	35 03.50	9.4X
PHP	5.85	88	eP	34 55.20	0.7
BHG	5.98	2	ePn	34 56.70	0.3
OHR	6.18	93	ePn	35 00.40	1.2
LSK	6.25	102	eP	35 00.90	0.7
SKO	6.59	85	ePn	35 06.50	1.5
VKA	7.03	21	e(Pn)	35 10.50	-0.6
			i	36 31.00	
KHC	7.42	5	eP	35 13.20	-3.4X
			e	35 22.30	
BZS	7.58	56	eP	35 18.00	-0.9
CAF	8.33	296	Pn	35 28.00	-1.4
PRU	8.36	9	eP	35 27.50	-2.2

			e	36 06.00	
CFR	11.80	68	eP	35 57.00	-19.9X
HYT	74.92	345	P	45 04.00	-4.3X

S.D. = 1.2 on 50 of 58 abs.

% OCT 19, 1989 23h 47m 40.32± 2.61s
41.715 N ±23.6km 12.755 E ±13.1km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

RDP	0.05	326	Pd	47 42.50	-0.1
			iSg	47 44.50	
RMP	0.10	338	Pc	47 43.30	0.2
			eSg	47 44.90	
AZI	0.58	62	P	47 52.10	0.1
			eSg	48 01.10	
MNS	0.67	355	P	47 53.50	-0.2
			eSg	48 04.10	
SDI	0.79	90	P	47 55.70	-0.1
			eSg	48 08.40	

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

& OCT 20, 1989 00h 18m 20.80s
37.093 N 121.942 W
DEPTH = 12.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.3 (BRK). Felt at Santa Cruz.

GCC	0.08	215	iPc	18 22.95	-0.5
MHC	0.35	44	iPd	18 27.90	-0.2
			iS	18 33.25	
ARN	0.42	52	iPc	18 28.90	-0.5
SAO	0.52	129	iPd	18 29.70	-1.6
PCC	0.54	319	iPc	18 30.80	-0.9
BKS	0.82	343	iPc	18 35.80	-0.6
			iS	18 47.70	
BRK	0.82	342	iPc	18 35.70	-0.8
PRS	0.89	149	iPd	18 36.80	-0.9
LLA	0.93	120	iPc	18 37.30	-1.1
PRI	1.40	132	ePd	18 44.50	-1.7
CMB	1.55	52	iPc	18 47.00	-1.3
PHAM	1.77	135	eP	18 49.20	-2.2
FRI	1.79	93	ePd	18 50.00	-1.7
BCH	2.43	141	eP	18 58.30	-2.7
ORV	2.48	8	eP	18 59.90	-1.8
BLP	2.82	153	eP	19 02.00	-4.5
ABL	3.14	135	eP	19 08.30	-2.9
KVN	3.61	56	ePc	19 16.30	-1.5
TNP	3.88	74	eP	19 21.20	-0.5
MSU	7.86	77	e(P)	20 18.00	0.1
LON	9.65	1	e(P)	20 43.00	0.5

21 obs. associated

? OCT 20, 1989 01h 36m 19.16±11.58s
15.626 N ±93.0km 98.318 W ±35.4km
DEPTH = 33.0km (normal)
OFF COAST OF GUERRERO, MEXICO (65)

ACX	1.93	310	iP	36 50.50	0.2
			iS	37 11.00	
III	2.95	338	eP	37 04.00	-0.9
			(S)	37 39.00	
IIT	3.38	0	(P)	37 12.00	0.9
			(S)	37 54.00	
PPM	3.43	355	iP	37 12.50	0.3
			iS	37 54.00	
IISM	3.46	15	eP	37 11.50	-0.5
			iS	37 58.00	
MRX	4.89	326	(P)	37 43.00	10.7X

S.D. = 1.0 on 5 of 6 obs.

OCT 20, 1989 01h 46m 10.01± 0.88s
38.099 N ± 8.0km 22.050 E ± 7.0km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 3.2 (ATH).

VLS	1.15	274	ePb	46 29.10	-2.5
ATH	1.32	95	ePb	46 35.70	1.3
NEO	1.52	37	ePb	46 37.20	0.0
VLI	1.55	153	ePb	46 38.00	0.3
LIT	2.03	10	ePn	46 44.50	-0.1
			eSn	47 14.90	
KZN	2.22	354	ePb	46 48.50	1.1
PAIG	2.22	34	ePn	46 45.90	-1.5
			eSn	47 14.00	

LSK	2.34	332	iPnc	46 50.40	1.2
KEK	2.38	313	ePb	46 50.00	0.3
SRN	2.39	319	ePn	46 50.90	1.1
THE	2.63	15	ePn	46 51.70	-1.5
OUR	2.69	33	ePn	46 53.40	-0.7
BERA	3.07	329	ePn	47 04.00	4.7X
KNT	3.13	12	ePn	46 59.50	-0.8
			eSn	47 38.40	
OHR	3.16	343	ePn	47 02.50	1.7
SRS	3.24	21	ePn	47 00.20	-1.7
VAY	3.24	7	ePn	47 03.00	1.1
TIR	3.65	333	ePn	47 12.10	4.3X
PHP	3.79	341	ePn	47 17.20	7.5X
SKO	3.90	353	ePn	47 11.50	0.3
BCI	4.52	341	ePn	47 24.40	4.4X

S.D. = 1.3 on 17 of 21 obs.

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* OCT 20, 1989 01h 57m 35.63± 0.86s
42.773 N ± 6.5km 13.119 E ± 6.9km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.2 (SSO).

ALP	0.34	89	e(Pg)	57 42.88	0.2
			eSg	57 48.34	
CIO	0.42	2	iPgc	57 43.94	-0.3
			iSg	57 50.92	
ASS	0.45	312	P	57 45.30	0.5
			eSg	57 51.70	
MNS	0.51	220	P	57 45.70	-0.2
			eSg	57 53.50	
ARV	0.74	350	P	57 49.90	-0.2
			eSg	58 01.50	

S.D. = 0.5 on 5 of 5 obs.

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* OCT 20, 1989 02h 52m 15.79± 0.67s
52.160 N ±11.4km 173.851 E ± 9.9km
DEPTH = 33.0km (normal)
4.5mb (5 obs.)
NEAR ISLANDS, ALEUTIAN ISLANDS (5)

SMY	0.59	15	iP	52 28.50	0.8
ADK	5.85	89	e(P)	53 42.50	0.1
IMA	21.38	37	eP	57 02.00	-0.3
	1.0s		15.00nm		4.4mb
PWA	21.68	50	e(P)	57 06.20	1.0
FBA	23.29	42	eP	57 21.50	0.5
INK	29.51	37	eP	58 19.00	0.3
MBC	34.62	23	eP	59 03.00	-0.2
	0.6s		3.00nm		4.4mb
PNT	40.87	67	ePd	59 55.00	-0.9
	0.6s		5.00nm		4.4mb
LON	40.94	71	eP	59 57.00	0.5
SCH	62.13	35	eP	02 34.00	-1.5
SUF	62.67	344	iP	02 38.50	-0.4
	0.5s		4.00nm		4.8mb
NUR	64.99	344	eP	02 36.50	-17.6X
HFS	66.92	349	eP	03 04.90	-1.5
	0.4s		3.50nm		4.8mb
WB5	79.56	217	eP	04 21.00	0.2
GBA	83.27	283	P	04 42.00	1.7
MAW	144.30	218	ePKP	11 48.00	-0.4

S.D. = 0.9 on 15 of 16 obs.

? OCT 20, 1989 03h 35m 56.35± 3.14s
4.223 S ±17.6km 152.869 E ±21.6km
DEPTH = 36.3 ± 27.6 km
3.9mb (1 obs.)
NEW BRITAIN REGION (192)

RAB	0.70	273	iPd	36 09.50	-0.3
PAA	3.33	128	eP	37 09.00	21.6X
PMG	7.66	227	eP	37 49.00	0.6
CTA	17.04	202	iPc	39 54.20	0.6
	1.0s		10.00nm		3.9mb
DZM	22.09	145	iPc	40 49.50	-0.8
WB5	23.82	228	iPd	41 06.00	-1.1
CNCB	134.55	118	PKP	55 15.00	0.7
LPB	134.56	118	ePKP	55 11.00	-3.2X
ZOBO	134.64	118	PKP	55 14.80	0.3
CCH	135.91	120	ePKP	55 06.00	-10.6X

S.D. = 1.0 on 7 of 10 obs.

OCT 20, 1989 03h 43m 13.16± 0.69s
0.573 N ± 3.9km 121.435 E ± 4.8km
DEPTH = 102.6 ± 6.7 km
5.4mb (22 abs.)

MINAHASSA PENINSULA (265)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 15S, 24C
Centroid Locotion:
Origin Time 03:43:13.8 0.4
Lat 0.65N 0.04 Lon 121.14E 0.05
Dep 100.2 2.6 Half-duration 2.0
Moment Tensor; Scale 10**17 Nm
Mrr=-0.78 0.06 Mtt=-1.38 0.08
Mff= 2.17 0.12 Mrt= 0.79 0.05
Mrf= 0.10 0.06 Mtf= 0.25 0.09
Principal Axes:
T Val= 2.19 Plg= 3 Azm=275
N -0.26 56 9
P -1.93 34 183
Best Double Couple:Mo=2.1*10**17
NP1:Strike=324 Dip=64 Slip=-156
NP2: 223 69 -28

MNI	3.51	76	ePc	44	04.30	-2.4
			eS	44	09.50	
TSM	4.94	317	eP	44	27.00	0.6
			S	45	20.00	
MKS	6.08	199	iPd	44	44.00	1.9
			e	49	51.00	
KKM	7.53	316	ePd	45	01.00	-1.1
	0.8s	385.60nm			6.0mb	
			e	46	18.00	
DAV	7.68	32	eP	45	04.00	0.0
AAI	7.97	122	ePc	45	08.90	0.9
			eS	46	23.60	
KNA	17.76	156	eP	47	15.60	0.2
	0.6s	157.00nm			5.4mb	
KGM	18.17	275	ePd	47	20.70	0.4
IPM	20.77	281	ePc	47	47.40	-0.5
	1.0s	280.50nm			5.6mb	
MBL	21.66	184	iPd	47	56.80	0.1
SNG	21.77	288	eP	47	58.60	0.7
	1.3s	211.54nm			5.3mb	
			eS	51	51.60	
PSI	22.60	276	ePc	48	06.00	0.0
			e	53	58.09	
NANU	23.70	194	eP	48	17.30	0.6
	0.4s	32.00nm			5.1mb	
WB5	23.96	149	iPd	48	19.50	0.3
NNT	24.61	300	P	48	26.00	0.6
LOE	25.61	312	eP	48	33.60	-1.1
NST	25.83	307	iPc	48	38.00	1.3
LAT	26.50	106	eP	48	44.00	1.0
WARB	27.07	170	iPd	48	48.00	-0.1
	0.3s	15.00nm			5.0mb	
MEKA	27.17	186	eP	48	48.60	-0.4
PMG	27.46	112	eP	48	51.00	-0.7
OIS	27.52	141	iPd	48	51.10	-1.1
	0.8s	136.00nm			5.6mb	
CHG	28.56	311	ePc	49	01.70	0.1
	1.1s	36.39nm			4.9mb	
			eS	53	46.00	
MRWA	30.08	190	iPd	49	14.70	-0.2
	0.4s	30.00nm			5.4mb	
KMI	30.37	325	Pc	49	17.50	-0.3
WHN	30.56	348	eP	49	17.40	-1.7
			eS	54	10.00	
COOL	31.28	180	iPc	49	24.20	-1.3
BAL	31.33	188	iPd	49	25.00	-0.9
CTA	31.83	132	iPd	49	30.00	-0.4
	1.0s	100.00nm			5.5mb	
			iS	55	08.00	
FORR	31.89	169	eP	49	29.60	-1.1
KLB	32.18	186	iPd	49	32.80	-0.5
MUN	32.75	188	iPd	49	37.30	-1.0
NWAO	33.55	186	iPd	49	44.90	-0.4
CD2	34.52	333	eP	49	55.20	1.6
RKG	34.71	186	eP	50	00.30	5.2X
	0.7s	103.00nm			5.8mb	
QLP	34.81	143	iPd	49	56.00	-0.1
XAN	35.30	342	P	50	01.00	0.8
STK	37.50	151	iPd	50	18.90	0.2
	0.8s	154.00nm			6.0mb	
RMO	37.65	138	iPd	50	19.70	-0.3
TIY	37.88	348	eP	50	21.00	-0.9
	Z 22s	0.80um			4.5Msz	
			S	56	06.00	
ADE	38.87	157	iPd	50	30.80	0.6
	0.8s	186.57nm			6.0mb	
LZH	38.93	337	eP	50	30.00	-0.8
	Z 40s	1.10um			4.4MszX	
			pP	50	55.00	109kmX
CMS	39.39	146	iPd	50	35.00	0.5
	1.0s	130.00nm			5.7mb	
BJI	39.57	354	eP	50	36.00	0.2
			pP	51	05.00	129kmX
			e	54	00.00	
			eS	56	28.00	
LSA	40.87	318	iPc	50	49.00	1.8
			eS	56	53.00	
BRS	40.99	135	iPc	50	46.50	-1.2
	1.0s	10.50nm			4.6mb	
			i	52	17.50	
HHC	41.08	349	eP	50	50.00	1.6
SNY	41.11	2	eP	50	51.00	2.6
	N 36s	1.50um				
	E 24s	0.60um				
			eS	56	54.00	
BTO	41.17	347	eP	50	51.00	1.9
	N 15s	0.50um				
	E 16s	1.20um				
COO	42.41	140	eP	51	02.00	2.7X
BWA	43.03	147	iPd	51	06.20	1.9
GTA	43.41	335	iPc	51	07.80	0.4
TOO	43.99	152	iPd	51	13.40	1.4
	0.7s	41.00nm			5.4mb	
CAN	44.01	147	iPd	51	13.10	0.8
CNB	44.21	147	eP	51	15.00	1.1
MDJ	44.45	8	eP	51	20.70	5.1X
HYB	45.37	294	iPc	51	23.30	0.0
	1.0s	45.00nm			5.2mb	
			i	52	00.00	
GBA	45.43	289	P	51	23.00	-0.8
DZM	49.30	120	iPd	51	54.10	0.0
POO	49.98	294	iPc	52	03.80	4.6X
			iS	59	40.00	
NDI	50.62	308	iPc	52	02.20	-1.7
			eS	59	08.00	
BOM	51.02	294	iPd	52	10.80	3.8X
			eS	59	15.30	
WMQ	52.50	330	P	52	18.00	0.1
			ScS	01	55.00	
KSH	56.68	319	eP	52	45.50	-2.9X
MSZ	61.03	144	P	53	18.00	-0.2
KRP	62.77	134	P	53	30.30	0.4
	1.0s	111.00nm			5.8mb	
PGZ	64.41	136	P	53	39.30	-1.3
HBZ	64.65	133	P	53	42.00	-0.2
MAIO	67.30	309	iPc	53	59.70	0.3
			e	54	24.00	
			eS	02	52.00	
SHI	71.45	301	eP	54	24.00	-1.0
MAW	79.01	199	eP	55	06.00	-0.9
MSL	80.23	307	eP	55	13.50	-0.6
SBA	82.00	171	(P)	55	23.90	1.4
KVT	86.14	311	eP	55	45.00	0.8
PRNI	86.63	300	eP	55	45.00	-1.9
MBH	86.72	300	eP	55	46.00	-1.2
SPA	90.57	180	e(P)	56	04.20	-0.7
	1.0s	12.50nm			5.0mb	
KEV	91.01	340	eP	56	26.00	19.4X
SOD	91.33	337	eP	56	08.00	-0.2
SUF	91.93	333	iP	56	09.90	-1.1
	0.3s	1.30nm			4.7mb	
BUL	92.85	250	iPd	56	15.90	-0.3
	0.9s	4.20nm			4.8mb	
NUR	92.86	331	eP	56	08.00	-7.2X
VRI	92.88	316	ePd	56	18.50	2.8X
MLR	93.45	315	eP	56	22.50	3.9X
SLL	98.36	332	eP	56	38.40	-2.0
	1.2s	12.00nm			5.3mb	
KVN	112.86	47	ePKP	01	40.50	0.2
TNP	113.85	47	iPKP	01	42.00	-0.3
	1.0s	2.00nm				
ALQ	123.04	47	iPKP	02	00.00	0.2
KIC	125.84	278	PKP	02	05.10	-0.5
TIC	126.09	279	PKP	02	06.60	0.5
LIC	126.14	278	PKP	02	05.70	-0.5
FVM	131.68	34	ePKP	02	15.50	-0.6
LNV	144.68	161	ePKP	02	38.00	-1.9
SAN	145.37	162	ePKP	02	40.50	-0.7
PEL	145.65	162	iPKPd	02	41.90	0.2
CNCB	161.39	151	PKP	03	06.00	1.8
LPB	161.57	150	PKP	03	06.20	2.0
	1.0s	40.00nm				
CCH	161.71	156	PKP	03	06.00	1.9
ZOBO	161.78	149	PKPd	03	05.80	1.2
	1.1s	23.20nm				
	S.D. = 1.1 on 89 of 99 obs.					

OCT 20, 1989 04h 03m 29.62± 1.26s
12.494 N ± 7.1km 141.883 E ± 6.5km
DEPTH = 38.9 ± 11.7 km
5.3mb (8 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.10	69	eP	04	17.50	0.2
PJG	3.10	69	eP	04	17.30	0.0
			TT	06	54.00	
GUA	3.13	70	eP	04	17.80	0.1
			eS	04	57.50	
PMG	22.38	166	eP	08	26.00	-0.1
WHN	31.15	310	Pc	09	47.50	0.4
CTA	32.66	172	iPc	10	01.00	0.6
	1.6s	50.00nm			5.1mb	X
			iS	15	20.00	
QIS	32.92	184	eP	10	01.00	-1.6
WB5	33.01	193	eP	10	01.30	-2.1
BJI	35.58	325	eP	10	24.00	-1.3
	Z 28s	1.38um			4.6MszX	
			eS	15	56.00	
GYA	35.86	298	P	10	29.80	1.7
KMI	38.98	295	Pd	10	55.50	1.1
LOE	39.05	282	eP	10	55.00	0.2
BTO	39.56	321	eP	10	59.50	0.6
CD2	39.63	304	eP	10	59.00	-0.5
SNG	40.97	267	eP	11	12.20	1.5
LZH	41.49	311	eP	11	15.00	0.1
	2.0s	0.07nm			2.0mb	X
	Z 26s	0.80um			4.5MszX	
CHG	41.74	284	eP	11	16.80	-0.2
	1.0s	15.25nm			4.7mb	X
DZM	41.96	145	iPc	11	20.30	1.6
GTA	45.77	314	P	11	49.00	-0.4
ADK	51.50	32	e(P)	12	33.00	-0.4
	1.4s	127.90nm			5.7mb	
WMQ	55.81	315	P	13	05.00	-0.5
GBA	62.62	279	Pc	13	50.60	-2.3
	1.1s	10.00nm			4.9mb	
KSH	63.59	308	eP	14	00.70	1.6
POO	65.51	285	eP	14	11.80	0.1
SVW	65.99	28	eP	14	13.60	-0.5
IMA	68.40	23	eP	14	29.00	-0.4
	1.2s	24.40nm			5.1mb	
PMR	69.13	29	eP	14	31.90	-1.8
	0.9s	28.60nm			5.3mb	
FBA	70.45	25	eP	14	40.00	-1.8
INK	76.48	22	iPc	15	17.30	0.4
MAIO	76.63	305	eP	15	19.00	0.5
MBC	80.03	14	eP	15	36.00	-0.2
	1.3s	26.00nm			5.0mb	
PNT	86.10	40	eP	16	08.00	0.2
KEV	86.65	342	iP	16	10.60	0.5
SOD	87.88	339	eP	16	19.00	2.9X
CMB	88.39	52	eP	16	20.00	0.8
EDM	88.74	36	eP	16	20.50	0.0
FRI	89.17	52	eP	16	23.50	0.6
KVN	89.85	50	iP	16	27.00	0.7
SUF	90.26	335	eP	16	25.50	-1.9
	0.9s	29.10nm			5.6mb	
TNP	90.78	51	eP	16	31.50	0.9
	1.0s	3.00nm			4.6mb	
NUR	91.97	334	iP	16	35.00	-0.3
	0.8s	22.00nm			5.6mb	
PLM	92.40	55	eP	16	43.00	4.9X
BCAO	121.25	283	ePKPc	22	21.30	0.1
	0.4s	3.00nm				
ZOBO	150.71	101	PKP	23	17.00	1.9
	1.0s	17.50nm				
			LR	59	16.00	
LPB	150.71	102	PKP	23	20.00	5.1X
CNCB	150.81	102	PKP	23	18.00	2.8X
CCH	152.50	104	PKP	23	25.30	7.9X
	S.D. = 1.1 on 42 of 47 obs.					

• OCT 20, 1989 04h 48m 51.49± 1.02s
38.021 N ± 9.6km 21.965 E ± 9.9km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.4 (ATH).

VLS	1.10	279	ePb	49	10.30	-1.8
VLI	1.51	149	ePb	49	19.40	0.8
NEO	1.62	37	ePb	49	18.50	-1.7

20d 04h

KZN	2.29	356	ePb	49 29.70	-0.2
LSK	2.38	334	iPnc	49 32.40	1.2
KEK	2.39	316	ePb	49 31.20	-0.1
SRN	2.41	321	ePn	49 32.40	0.9
BERA	3.10	330	ePn	49 50.50	9.2X
OHR	3.22	344	ePn	49 44.50	1.5
VAY	3.33	8	ePn	49 44.00	-0.6
TIR	3.69	335	e(Pn)	50 01.20	11.4X
SKO	3.97	354	ePn	49 38.00	-15.7X

S.D. = 1.4 on 9 of 12 obs.

OCT 20, 1989 04h 53m 22.08± 0.96s
12.472 N ± 4.8km 141.873 E ± 4.9km
DEPTH = 40.8 ± 9.1 km
5.1mb (8 obs.) 4.8Msz (2 obs.)
SOUTH OF MARIANA ISLANDS (210)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 14S, 26C
Centroid Location:
Origin Time 04:53:23.8 0.8
Lat 12.66N 0.08 Lon 141.31E 0.12
Dep 15.0 FIX Half-duration 1.7
Moment Tensor; Scale 10**16 Nm
Mrr=-6.43 0.52 Mtt= 6.30 0.63
Mff= 0.12 0.77 Mrt=-2.78 2.76
Mrf=-1.00 1.78 Mtf= 2.84 0.54
Principal Axes:

T	Val= 8.02	Plg=12	Azm=159
N	-0.98	0	69
P	-7.03	78	339

Best Double Couple:Mo=7.5*10**16
NP1:Strike=249 Dip=33 Slip= -90
NP2: 69 57 -90

GUMO	3.12	69	eP	54 10.20	0.1
			TT	56 48.30	
PJG	3.12	69	eP	54 10.20	0.1
GUA	3.15	70	eP	54 10.30	-0.1
			eS	54 47.50	
DAV	16.92	253	eP	57 20.00	2.4
AAI	21.04	221	eP	58 04.00	-0.9
PMG	22.36	166	eP	58 18.00	-0.2
MTN	27.32	203	eP	59 04.00	-1.2
WHN	31.15	310	eP	59 35.00	-4.4X
Z	28s	1.51um			4.5MszX
CTA	32.64	172	iPc	59 53.00	0.5
	0.9s	30.25nm			5.2mb X
			iS	05 10.00	
QIS	32.90	184	eP	59 53.00	-1.7
WB5	32.99	193	eP	59 54.30	-1.2
CN2	34.28	339	eP	00 04.00	-2.5
Z	20s	2.20um			4.9Msz
N	17s	1.30um			
			eS	05 28.00	
BJI	35.59	325	eP	00 16.50	-1.2
	2.0s	0.05nm			2.1mb X
Z	24s	1.91um			4.8MszX
N	20s	23.00um			
			e	05 40.00	
GYA	35.86	298	P	00 20.00	-0.3
TIY	36.36	319	eP	00 23.00	-1.4
E	13s	0.90um			
			S	06 00.00	
HHC	38.79	322	P	00 46.00	1.2
Z	16s	1.20um			4.8MszX
KMI	38.98	295	Pd	00 47.50	0.8
			sP	01 01.50	
LOE	39.04	282	eP	00 47.00	0.0
BTO	39.57	321	P	00 52.00	0.7
N	15s	0.80um			
E	15s	0.40um			
CD2	39.63	304	P	00 51.60	-0.2
SNG	40.96	267	eP	00 45.10	-17.7X
BRS	41.01	165	e(P)	01 01.50	-1.6
WARB	41.18	201	eP	01 05.20	0.7
LZH	41.50	311	Pc	01 08.00	0.8
	2.5s	0.14nm			2.2mb X
Z	26s	1.60um			4.8MszX
E	14s	0.70um			
			eS	07 20.00	
CHG	41.74	284	ePd	01 09.30	0.1
	1.0s	14.25nm			4.7mb
DZM	41.94	145	iPc	01 12.30	1.4
NANU	43.35	217	eP	01 23.10	0.9
PSI	43.60	261	ePd	01 29.80	5.3X
			e	02 50.00	

FORR	45.06	197	eP	01 35.80	-0.1
GTA	45.78	314	Pd	01 41.60	-0.1
Z	22s	0.90um			4.7Msz
LSA	49.93	298	P	02 16.00	1.3
ADK	51.52	32	eP	02 25.80	0.0
	1.5s	180.60nm			5.8mb
NDI	61.98	296	eP	03 39.00	-1.7
GBA	62.62	279	P	03 44.70	-0.4
KSH	63.60	308	eP	03 51.50	0.1
POO	65.51	285	eP	04 04.50	0.5
SVW	66.01	28	eP	04 06.50	0.0
IMA	68.42	23	eP	04 21.60	-0.2
	1.7s	75.20nm			5.5mb
PMR	69.15	29	eP	04 24.80	-1.3
	1.2s	53.60nm			5.4mb
FBA	70.47	25	eP	04 33.00	-1.1
INK	76.51	22	eP	05 09.00	-0.3
MAIO	76.64	305	iPd	05 11.00	0.2
MBC	80.05	14	eP	05 29.00	0.4
	1.0s	13.00nm			4.9mb
PNT	86.12	40	eP	06 01.00	0.8
	0.6s	3.00nm			4.7mb
WDC	86.18	49	eP	06 00.90	0.3
KEV	86.66	342	eP	05 58.00	-4.4X
SOD	87.90	339	iP	06 08.00	-0.4
CMB	88.41	52	eP	06 11.50	0.0
EDM	88.76	36	ePc	06 13.50	0.6
FRI	89.19	52	eP	06 15.10	-0.1
KVN	89.87	50	iP	06 20.00	1.4
SUF	90.28	335	eP	06 18.50	-1.2
	0.8s	16.70nm			5.4mb
TNP	90.81	51	eP	06 23.50	0.5
	1.1s	4.87nm			4.8mb
SES	91.08	38	eP	06 24.00	0.3
NUR	91.98	334	eP	06 28.30	0.7
SLL	96.61	337	eP	06 49.10	0.2
	0.7s	4.40nm			5.1mb X
ZOBO	150.71	101	PKP	13 08.20	0.9
LPB	150.72	102	PKP	13 08.00	0.8
CNCB	150.81	102	PKP	13 08.50	1.0
CCH	152.51	104	PKP	13 17.80	8.2X

S.D. = 1.0 on 55 of 60 obs.

? OCT 20, 1989 05h 06m 10.56± 0.92s
42.780 N ± 7.2km 13.092 E ± 7.2km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.2 (SSO).

ALP	0.36	90	e(Pg)	06 18.04	0.1
			iSg	06 23.72	
CIO	0.42	5	ePg	06 18.92	-0.2
			iSg	06 25.58	
ASS	0.43	313	P	06 19.50	0.2
			eSg	06 26.50	
MNS	0.50	218	P	06 20.60	-0.1
			e$g	06 28.40	

S.D. = 0.3 on 4 of 4 obs.

& OCT 20, 1989 05h 07m 52.53s
63.455 N 150.295 W
DEPTH = 136.2km
CENTRAL ALASKA (1)
<AGS-P>.

KTH	0	30	290 iP	08 11.38	1.4
			eS	08 25.42	
HUR	0.56	148	eP	08 12.09	-0.8
			eS	08 27.31	
RND	0.65	94	eP	08 13.06	-0.5
MCK	0.67	65	iP	08 13.39	-0.2
CUT	1.05	179	eP	08 15.76	-1.0
NEA	1.25	25	iP	08 18.01	-0.7
SKT	1.59	202	eP	08 20.78	-1.6
CCB	1.62	41	iP	08 22.16	-0.6
RDS	1.67	33	iP	08 22.88	-0.5
HDA	1.76	56	eP	08 23.59	-0.8
			eS	08 47.75	
FBA	1.82	36	iPd	08 24.70	-0.4
PME	1.92	162	eP	08 24.90	-1.4
PLRM	1.95	163	eP	08 24.82	-1.7
PMR	1.95	163	eP	08 25.00	-1.6
GLM	2.00	38	iP	08 26.76	-0.5
DDM	2.01	78	eP	08 26.99	-0.4
SUA	2.01	186	eP	08 26.30	-1.2
DMW	2.12	71	eP	08 27.87	-0.8
NCA	2.17	131	eP	08 27.98	-1.4

NCG	2.23	204	eP	08 28.72	-1.5
PAX	2.24	100	eP	08 29.47	-0.8
PMS	2.24	171	eP	08 29.00	-1.3
TTA	2.64	261	iPc	08 33.70	-1.7
DOT	2.80	83	eP	08 35.97	-1.4
KLU	2.83	132	eP	08 35.53	-2.3
SLKM	2.96	179	eP	08 37.86	-1.6
VLZ	2.98	140	eP	08 36.74	-2.9
GLI	2.99	148	eP	08 37.26	-2.5
IMA	3.00	333	eP	08 39.20	-0.8
RDT	3.06	200	eP	08 38.69	-2.1
FID	3.25	145	eP	08 40.78	-2.5
SVW	3.43	229	eP	08 43.70	-1.9

32 obs. associated

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* OCT 20, 1989 05h 30m 32.62± 2.25s
12.389 N ± 9.8km 141.909 E ±18.4km
DEPTH = 55.9 ± 22.0 km
4.5mb (3 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.12	67	eP	31 20.90	0.4
PJG	3.12	67	eP	31 20.50	0.0
			TT	33 56.00	
GUA	3.14	68	eP	31 20.30	-0.5
			eS	31 49.50	
CTA	32.55	172	iPc	37 01.30	0.6
QIS	32.82	184	iPd	37 03.00	0.0
WB5	32.91	193	eP	37 03.20	-0.7
CHTO	41.79	284	eP	38 19.00	0.4
	1.0s	2.75nm			4.0mb
MBC	80.13	14	eP	42 38.00	0.3
	1.0s	5.00nm			4.4mb
SOD	87.99	340	eP	43 17.00	-0.5
SUF	90.37	335	eP	43 27.40	-1.5
	0.9s	9.80nm			5.2mb
NUR	92.07	334	eP	43 38.00	1.3
ZOBO	150.66	101	ePKP	50 16.00	0.1
LPB	150.67	102	PKP	50 23.00	7.3X
CNCB	150.76	102	PKP	50 24.00	8.0X

S.D. = 0.8 on 12 of 14 obs.

& OCT 20, 1989 05h 43m 45.90s
52.231 N 115.232 W
DEPTH = 5.0km (geophysicist)
ALBERTA PROVINCE, CANADA (24)
<PGC>. ML 4.1 (PGC). Felt in the Rocky Mountain House area.

EDM	1.51	48	Pn	44 12.40	-1.3
			Pg	44 13.20	
			Sn	44 32.50	
			Lg	44 33.70	
MNB	1.94	270	Pn	44 20.40	0.3
TMDA	2.71	168	Pn	44 30.34	-0.6
ORGA	2.77	165	Pn	44 31.95	0.0
SES	3.21	123	eP	44 35.00	-3.0
PNT	4.03	225	eP	44 47.90	-1.7
WHB	5.29	250	Pg	45 21.63	14.0X
			Lg	46 28.73	
VDB	5.42	236	Pn	45 06.54	-2.8
			Pg	45 24.38	
			Lg	46 34.42	
HNB	5.52	240	Pn	45 08.42	-2.3
			Pg	45 25.52	
			Lg	46 35.75	
DMMT	5.62	162	ePd	45 10.30	-2.0
WPB	5.66	246	Pg	45 28.34	15.6X
			Lg	46 39.77	
HRY	5.95	157	ePd	45 13.60	-3.3X
PGC	6.36	239	eP	45 42.00	19.5X
SXM	6.63	155	ePd	45 22.80	-3.8X
LRM	6.67	163	ePd	45 23.30	-3.9X
LCCM	6.77	160	eP	45 24.80	-3.7X
LON	6.96	221	e(P)	45 34.00	3.0X
			eS	47 02.00	
MEMT	7.20	155	eP	45 30.50	-4.1X
BGMT	7.31	162	eP	45 32.30	-3.9X
MCMT	7.58	167	ePd	45 35.80	-4.1
LTMT	7.99	164	eP	45 42.10	-3.5X
FFC	8.29	67	eP	45 43.00	-6.6X

22 obs. associated

& OCT 20, 1989 05h 51m 22.98s
66.876 N 156.104 W
DEPTH = 9.0km
ALASKA (676)

<AGS-P>.

IMA	1.27	129	iPc	51 46.90	0.2
			e(S)	52 04.00	
NEA	3.71	125	eP	52 21.49	-0.1
RDS	3.86	118	eP	52 23.43	-0.4
FBA	3.94	116	eP	52 24.49	-0.5
TTA	3.96	179	eP	52 22.63	-2.7
KTH	3.99	144	eP	52 25.22	-0.4
GLM	4.04	114	eP	52 25.84	-0.5
CCB	4.09	119	eP	52 26.40	-0.5
MCK	4.36	133	eP	52 30.39	-0.5
HDA	4.53	119	eP	52 31.87	-1.3
RND	4.64	135	eP	52 34.41	-0.4
SKT	5.30	156	eP	52 43.76	-0.4
NCG	5.76	161	eP	52 50.32	-0.4
DWY	7.49	104	P	53 11.00	-3.9

14 obs. associated

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* OCT 20, 1989 05h 56m 02.05± 1.05s
26.144 N ±12.3km 110.342 W ±10.2km
DEPTH = 10.0km (geophysicist)
4.9mb (6 obs.)
GULF OF CALIFORNIA (49)

GLA	7.91	332	eP	57 57.20	-2.7
BAR	8.54	321	eP	58 14.00	5.4X
PLM	9.15	323	eP	58 17.00	-0.2
TPC	9.35	329	eP	58 23.00	3.2X
ALQ	9.39	20	eP	58 19.00	-1.5
	1.1s	16.46nm		5.3mb X	
SBB	10.68	325	eP	58 41.00	2.8
CLC	11.47	329	eP	58 50.00	1.0
BCH	12.30	319	eP	59 00.00	-0.3
MSU	12.43	353	eP	59 01.50	-0.6
TNP	13.25	336	eP	59 14.00	1.1
MEO	13.29	47	iPc	59 13.50	0.1
FRI	13.43	326	eP	59 14.80	-0.4
PRS	13.85	320	e(P)	59 28.20	7.5X
GOL	14.14	16	eP	59 26.30	1.5
ACO	14.20	39	eP	59 31.80	6.5X
GLD	14.23	16	eP	59 28.00	2.2
KVN	14.43	335	eP	59 29.00	0.6
CMB	14.58	327	e(P)	59 30.70	0.4
SIO	15.37	48	e(P)	59 46.50	5.9X
			eLg	04 15.30	
TUL	15.80	48	eP	59 51.20	5.0X
	1.4s	28.10nm		4.3mb	
	Z 18s	4.17um			
			LR	04 00.00	
			eLg	04 27.00	
LNO	15.81	48	eP	59 50.30	4.1X
			eLg	04 27.10	
MIN	16.99	329	eP	00 04.00	2.6
WDC	17.61	328	e(P)	00 09.80	0.8
LRM	19.71	356	eP	00 32.80	-2.0
FVM	20.55	50	eP	00 43.50	0.1
LON	22.49	339	eP	01 02.00	-1.0
SES	24.22	359	ePc	01 20.60	0.8
	1.8s	175.00nm		5.4mb	
PNT	24.23	345	eP	01 23.00	3.1X
EDM	27.14	356	ePc	01 46.20	-0.9
PMR	43.95	334	eP	04 11.00	0.4
	1.3s	14.15nm		4.6mb	
INK	44.44	348	eP	04 13.00	-1.5
FBA	45.51	339	eP	04 22.20	-1.0
	1.2s	18.94nm		4.9mb	
TTA	47.39	334	eP	04 36.00	-2.1
IMA	48.18	338	eP	04 42.70	-1.6
	1.2s	13.26nm		4.9mb	
MBC	50.36	357	eP	05 01.00	0.3
	1.2s	25.00nm		5.0mb	
ZOBO	58.84	131	eP	06 09.00	4.9X
	Z 24s	0.15um		4.0MszX	
			LR	23 42.00	
LPB	59.05	131	(P)	06 07.00	1.7
CNCB	59.32	131	eP	06 07.00	-0.4

S.D. = 1.5 on 29 of 38 obs.

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* OCT 20, 1989 06h 19m 37.64± 2.44s
12.438 N ± 9.5km 141.891 E ±19.2km
DEPTH = 60.1 ± 25.3 km
4.7mb (2 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.12	68	eP	20 25.30	-0.1
PJG	3.12	68	eP	20 25.80	0.4
			TT	23 02.30	
GUA	3.14	69	eP	20 25.50	-0.3
			e(S)	20 58.00	
CTA	32.61	172	eP	26 05.00	-0.8
WB5	32.96	193	eP	26 08.10	-0.7
BRS	40.98	165	eP	27 17.00	0.7
WARB	41.16	201	eP	27 18.70	0.9
CHG	41.76	284	eP	27 23.00	0.0
MAIO	76.67	305	eP	31 25.00	0.8
MBC	80.08	14	eP	31 43.00	1.0
	1.0s	6.00nm		4.5mb	
SOD	87.94	340	eP	32 21.00	-0.8
SUF	90.32	335	iP	32 32.00	-1.1
	0.8s	6.40nm		5.0mb	
NUR	92.02	334	eP	32 31.00	-10.0X
ZOBO	150.69	101	PKP	39 27.00	6.6X
LPB	150.70	102	PKP	39 24.00	3.8X
CNCB	150.79	102	PKP	39 28.90	8.4X
CCH	152.48	104	PKP	39 32.30	9.6X

S.D. = 0.9 on 12 of 17 obs.

% OCT 20, 1989 06h 46m 24.14± 1.80s
10.994 N ± 7.7km 61.995 W ±22.4km
DEPTH = 33.0km (normal)
TRINIDAD (98)
MD 3.7 (TRN).

TCE	0.38	141	eP	46 32.79	-0.2
			eS	46 39.32	
TRN	0.68	121	eP	46 36.53	-0.7
			eS	46 47.30	
TPP	0.86	141	eP	46 40.31	0.5
			eS	46 53.23	
GRW	1.20	16	eP	46 45.25	0.4
			eS	46 59.85	
BOT	1.26	82	eP	46 45.93	0.3
			eS	47 03.41	
SVB	2.38	18	eP	47 01.71	0.0
			eS	47 29.80	
SVV	2.43	18	eP	47 02.04	-0.4
			eS	47 31.66	
SSV	2.45	19	eP	47 02.52	-0.2
			eS	47 32.10	

S.D. = 0.5 on 8 of 8 obs.

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* OCT 20, 1989 07h 21m 11.20± 0.68s
13.218 N ±12.7km 125.450 E ±12.0km
DEPTH = 33.0km (normal)
PHILIPPINE ISLANDS REGION (248)

OCP	4.47	289	eP	22 32.00	13.5X
BAG	5.68	305	eP	22 35.00	-0.7
DAV	6.09	179	eP	23 10.00	28.6X
GUMO	18.89	87	eP	25 31.00	-0.6
	2.0s	744.19nm		5.6mb	
WB5	34.04	165	eP	27 52.80	-1.8
OIS	36.34	157	eP	28 13.00	-1.1
WARB	39.18	178	iPc	28 38.10	0.2
GBA	46.65	276	P	29 39.00	0.3
STK	47.44	161	eP	29 45.00	0.3
BRS	48.29	147	eP	29 52.50	1.0
ADE	49.54	166	eP	30 02.50	1.5
	0.8s	25.37nm		5.3mb	
INK	81.86	22	eP	33 29.00	0.8

S.D. = 1.2 on 10 of 12 obs.

OCT 20, 1989 07h 43m 34.51± 0.18s
0.024 S ± 3.4km 123.156 E ± 4.6km
DEPTH = 153.4km (3 depth phases)
5.4mb (25 obs.)
MINAHASSA PENINSULA (265)
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 13S, 22C
Centroid Location:
Origin Time 07:43:33.6 0.9
Lot 0.24S 0.09 Lon 123.24E 0.14
Dep 140.0 3.8 Half-durotion 1.5
Moment Tensor; Scale 10**16 Nm
Mrr= 3.88 0.63 Mtt=-3.16 0.82
Mff=-0.72 1.06 Mrt= 2.65 0.52
Mrf= 0.52 0.65 Mtf=-2.97 0.59
Principol Axes:
T Vol= 4.81 Plg=69 Azm= 15
N 0.99 15 242
P -5.80 15 148
Best Double Couple:Mo=5.3*10**16
NP1:Strike=218 Dip=33 Slip= 62
NP2: 71 62 107

MNI	2.23	49	ePd	44 14.50	1.6
			eS	44 40.00	
AAI	6.21	126	ePc	45 06.00	1.0
			eS	46 09.10	
MKS	6.34	215	iPd	45 08.50	1.8
			e	49 49.00	
TSM	6.60	310	ePc	45 12.30	2.0
	0.2s	620.30nm		6.6mb X	
DAV	7.47	19	eP	45 27.00	5.1X
	1.7s	5507.69nm		6.8mb X	
KKM	9.18	311	ePd	45 46.00	1.1
	0.6s	365.70nm		6.2mb	
			i	46 07.00	
			i	47 32.00	
KHKI	11.19	222	ePc	46 12.10	1.0
			e	07 10.10	
TRT	12.97	234	iPc	46 42.10	7.8X
	0.7s	1504.40nm		6.5mb X	
MTN	14.99	148	iPd	46 59.10	-0.8
			e	55 18.00	
BAG	16.53	351	eP	47 20.50	1.4
	1.2s	140.63nm		5.2mb	
KNA	16.58	161	eP	47 18.70	-0.8
	0.6s	222.00nm		5.7mb	
KGM	19.94	276	eP	47 57.50	0.9
MBL	21.26	189	iPd	48 09.30	-0.5
IPM	22.57	282	ePc	48 24.20	1.5
	0.7s	147.10nm		5.5mb	
WB5	22.58	152	iPd	48 22.70	-0.1
			iS	52 17.00	
			iScP	55 35.70	
PPI	22.76	269	ePd	48 26.00	1.5
QIZ	23.01	326	Pd	48 29.30	2.4
SNG	23.59	288	eP	48 34.50	1.9
	0.9s	321.01nm		5.8mb	
			eS	52 48.00	
NANU	23.60	198	eP	48 32.40	-0.2
	0.5s	72.00nm		5.4mb	
PSI	24.37	277	ePd	48 40.30	0.3
			e	52 15.40	
			e	55 38.50	
			e	56 20.00	
LAT	24.68	106	eP	48 45.00	2.1
OZH	25.21	350	eP	48 48.30	0.6
PMG	25.64	112	eP	48 52.50	0.7
QIS	25.99	143	iPd	48 54.50	-0.4
	0.4s	112.00nm		5.9mb	
WARB	26.22	173	iPd	48 56.70	-0.3
	0.4s	12.00nm		4.9mb	
MEKA	26.81	189	eP	49 01.60	-0.7
LOE	27.29	310	eP	49 07.00	0.2
NST	27.57	306	Pd	49 11.50	2.3
BDT	29.33	307	eP	49 23.50	-1.5
	0.8s	269.40nm		6.0mb	
MRWA	29.82	193	iPd	49 28.00	-1.2
	0.4s	35.00nm		5.4mb	
CTA	30.15	133	iPd	49 32.20	-0.1
	0.9s	33.61nm		5.1mb	
			iS	54 20.30	
			iScP	55 58.20	
			iScS	59 55.20	
CHG	30.26	310	iPc	49 33.90	0.7
	1.0s	153.75nm		5.7mb	
			e	52 30.10	
			e	55 57.10	
COOL	30.75	183	eP	49 36.00	-1.4
GYA	30.75	330	iPd	49 38.60	1.0
			PcP	52 31.20	
			S	54 30.00	
			ScP	55 58.20	
SSE	31.01	357	P	49 39.30	-0.3
	1.0s	0.01nm		1.6mb X	
			sP	50 36.00	
BAL	31.02	191	iPd	49 38.30	-1.5
	0.4s	49.00nm		5.6mb	
WHN	31.53	345	P	49 45.20	1.0
	1.5s	0.15nm		2.5mb X	
KLB	31.81	189	eP	49 45.00	-1.6
KMI	31.86	323	Pd	49 49.50	2.1
			eS	54 10.00	
NJ2	32.16	353	Pd	49 50.40	0.8
			pP	50 22.50	150km
MUN	32.45	191	eP	49 50.00	-2.2
NWAO	33.20	189	iPc	49 52.90	-5.8X

20d 07h

QLP	33.31	144	eP	50	00.00	0.3	FBA	89.62	25	eP	56	14.50	-1.2				ic	03	42.80										
CD2	35.86	331	eP	50	21.00	-0.3	SPA	89.98	180	ePd	56	18.20	0.7	FBA	21.19	38	eP	03	44.00	-0.4								
RMQ	36.06	139	iPc	50	23.30	0.3		1.0s		8.50nm			4.7mb	INK	27.70	35	eP	04	45.50	-1.0								
			e	51	41.00	400kmX				e	57	12.90	223kmX	MBC	33.82	22	eP	05	40.50	0.0								
STK	36.17	153	iP	50	24.00	0.1	TOA	90.34	28	eP	56	19.60	0.4		0.9s		9.00nm			4.7mb								
	0.6s		50.00nm			5.4mb	KEV	92.16	340	iP	56	25.40	-1.9	MDJ	34.41	279	eP	05	44.60	-1.3								
			e	51	48.00	441kmX		0.6s		11.70nm			5.2mb	GMW	36.08	73	eP	06	01.00	0.8								
			e	52	46.00		SOD	92.54	337	iP	56	27.80	-1.3	RMW	36.71	73	eP	06	06.50	1.0								
			e	56	19.00		SUF	93.24	333	iP	56	30.30	-2.1	LON	37.05	74	eP	06	09.00	0.7								
XAN	36.42	340	P	50	25.00	-1.0		0.5s		6.40nm			5.1mb	PNT	37.17	69	iPc	06	09.50	0.2								
TIA	36.49	352	eP	50	25.60	-0.9	NUR	94.22	331	eP	56	34.00	-2.9X		0.6s		13.00nm			5.0mb								
TSRJ	37.35	17	P	50	33.80	0.1	BUL	94.26	250	iPd	56	39.90	1.8	CN2	37.39	281	Pc	06	10.00	-1.1								
ADE	37.68	159	iPd	50	37.20	0.6		1.0s		55.00nm			5.8mb				pP	06	17.00	24kmX								
	0.8s		58.21nm			5.4mb	SLR	94.38	244	iPc	56	38.50	-0.1	EDM	39.06	60	iPc	06	24.00	-1.1								
IIDJ	37.91	20	P	50	38.00	-0.5		0.5s		16.20nm			5.5mb		0.6s		22.00nm			5.1mb								
CMS	37.95	148	eP	50	39.00	0.1	INK	94.94	21	eP	56	39.50	-0.6	SNY	39.61	279	iPc	06	30.40	0.7								
			e	51	29.00	241kmX	PRY	95.06	243	eP	56	35.00	-6.8X	LBFM	39.82	81	eP	06	30.00	-1.8								
			e	52	08.00		MBC	96.37	12	eP	56	46.50	0.0	SES	41.60	63	ePd	06	45.50	-0.6								
			e	56	25.00			1.0s		7.00nm			5.0mb	ARN	42.40	86	eP	06	53.00	0.2								
CHJJ	38.80	21	P	50	44.40	-1.4	HFS	99.62	331	eP	56	58.60	-2.9X	LRM	43.11	70	eP	06	58.30	-0.4								
TIY	38.83	346	eP	50	47.00	0.8		0.4s		6.50nm			5.5mb	KVN	43.52	82	eP	07	02.40	0.4								
MTMJ	38.88	19	P	50	46.00	-0.6	EDM	109.40	32	ePKPc	01	47.60	-0.5	TNP	44.65	82	eP	07	12.20	1.0								
BRS	39.36	136	iPd	50	51.00	0.3	KVN	112.01	47	iPKP	01	54.10	0.4	PTI	44.79	73	eP	07	13.00	0.7								
	0.6s		13.50nm			4.8mb	TNP	112.98	48	iPKP	01	56.00	0.4	BJI	45.22	282	eP	07	15.50	0.1								
			i	51	04.00	49kmX	LRM	113.29	39	ePKP	01	56.30	0.3	DUG	46.09	77	eP	07	22.60	0.0								
			i(PcP)	52	24.50		ASMO	118.60	313	ePKP	02	05.00	-1.3	DAU	46.91	76	eP	07	29.50	0.2								
			e(S)	56	32.00		APHE	118.73	313	ePKP	02	06.00	-0.6	MSU	47.51	78	eP	07	34.00	0.1								
KAKJ	39.36	22	P	50	48.10	-2.4	AAPN	118.89	314	ePKP	02	05.50	-1.3	PLM	47.89	87	eP	07	36.50	-0.4								
NIIJ	39.87	20	P	50	53.80	-0.8	ALOJ	118.96	313	ePKP	02	06.00	-1.0	BTO	48.63	287	eP	07	42.50	0.1								
LZH	40.17	335	eP	50	58.00	0.7	GOL	120.74	42	iPKP	02	10.50	0.0	TIY	48.95	282	eP	07	45.50	0.7								
	1.5s		0.19nm			2.6mb X	ALQ	122.18	48	iPKP	02	14.00	0.7	GOL	50.91	73	eP	08	00.00	0.0								
BJI	40.38	352	eP	50	58.00	-0.8	SCH	124.78	7	ePKP	02	17.00	-0.4	GLD	50.97	72	eP	08	00.30	-0.1								
	1.5s		0.03nm			1.7mb X	SIO	128.92	42	ePKP	02	27.00	1.0	FRB	53.26	31	eP	08	16.00	-1.0								
			pP	51	32.00	154km	TUL	129.17	41	ePKP	02	27.40	1.0	ALQ	53.32	78	eP	08	17.00	-1.1								
COO	40.85	141	eP	51	05.00	2.2		1.1s		18.30nm					1.0s		5.00nm			4.5mb								
YAMJ	41.07	20	P	51	04.70	0.2	LNO	129.17	41	ePKP	02	27.20	0.9	LZH	55.24	286	Pc	08	32.00	-0.1								
BWA	41.60	148	iPd	51	11.70	2.8X	FVM	131.19	36	ePKP	02	30.00	-0.2		1.5s		0.04nm			2.2mb X								
			eScP	56	40.30		LNV	143.54	159	ePKP	02	51.00	-2.0	GTA	55.44	292	iPc	08	33.00	-0.5								
SNY	41.66	0	iPc	51	08.00	-1.2	PCH	144.15	160	ePKPd	02	53.10	-1.1	KEV	57.84	350	eP	08	51.00	1.0								
HHC	42.02	347	P	51	13.20	0.8	SAN	144.25	160	ePKP	02	53.00	-1.3	WMQ	59.26	303	eP	09	00.00	-0.4								
BTO	42.16	345	eP	51	10.00	-3.5X	PEL	144.53	160	iPKPc	02	54.00	-0.8	GYA	60.15	276	P	09	05.60	-1.1								
OFUJ	42.46	21	P	51	16.00	0.2	PDCR	158.44	234	ePKP	03	14.40	-1.1	SOD	60.15	349	iP	09	05.70	-0.3								
LSA	42.47	317	iPc	51	19.00	2.4	CNCB	159.99	147	PKP	03	20.00	2.2	SCH	60.28	38	eP	09	04.00	-3.1X								
			S	57	30.00		LPB	160.15	147	PKP	03	20.30	2.5X	SUF	64.66	347	iP	09	35.30	-0.8								
CAN	42.59	148	iPd	51	18.20	1.2	ZOBO	160.35	146	PKP	03	20.00	1.8		0.6s		8.30nm			5.0mb								
			ePcP	53	07.20			1.0s		12.50nm				NUR	66.99	347	iP	09	50.10	-0.9								
			eScP	56	43.70		CCH	160.43	153	PKP	03	20.20	2.3		0.7s		21.40nm			5.4mb								
TOO	42.67	154	eP	51	19.00	1.4				e	04	02.00		KSH	68.48	306	eP	10	01.10	0.3								
CN2	43.68	2	Pc	51	23.40	-2.2		S.D. = 1.2 on 124 of 135 obs.						HFS	68.52	353	eP	09	59.20	-1.4								
GTA	44.68	334	Pc	51	34.00	0.1	----------								0.5s		4.60nm			4.8mb								
	1.0s		0.12nm			2.5mb X	&	OCT 20, 1989 07h 52m 49.20s						CHG	70.57	276	eP	10	17.00	3.3X								
			pP	52	08.80	156km		37.083 N			121.808 W			CTA	77.24	213	eP	10	52.00	-0.2								
			sP	52	25.60			DEPTH = 10.0km						CLL	77.33	352	iPd	10	51.90	-0.5								
			PcP	53	13.60			CENTRAL CALIFORNIA					(39)	PRU	78.50	351	eP	10	58.00	-0.8								
			ScP	56	50.40			<AGS-P>. ML 3.4 (BRK).						SPC	78.61	347	eP	11	00.50	0.8								
MDJ	44.81	7	eP	51	34.00	-0.7											e	39	55.00										
MRRJ	45.23	19	eP	51	38.10	0.1	GCC	0.16	251	iPd	52	52.40	-0.5	MAIO	78.84	315	eP	11	01.00	0.0								
HOOJ	45.94	21	eP	51	44.60	1.0	MHC	0.29	27	iPd	52	55.40	0.1	GRF	79.08	353	iPc	11	02.10	0.1								
KUSJ	47.08	22	eP	51	52.70	0.1	ARN	0.34	40	iPd	52	56.40	0.1		1.1s		15.00nm			4.9mb								
GBA	47.26	289	P	51	52.80	-1.5	SAO	0.43	137	iPc	52	56.90	-1.1	KHC	79.44	352	iPc	11	04.00	0.0								
ASAJ	47.26	19	P	51	53.90	-0.1	PCC	0.62	312	eP	53	00.60	-1.0		1.0s		7.00nm			4.6mb								
DZM	47.52	120	iPc	51	57.50	1.0	PRS	0.83	155	iPd	53	04.80	-0.4	ZST	79.99	349	iP	11	08.00	1.1								
POO	51.79	294	iPd	52	27.50	-1.6	LLA	0.84	124	eP	53	04.30	-1.1	FLN	80.39	1	eP	11	08.70	-0.3								
NDI	52.35	307	iPc	52	32.00	-1.0	BKS	0.86	337	iPd	53	05.60	-0.2	LDF	80.56	1	eP	11	09.30	-0.6								
	0.8s	141	.79nm			5.8mb				eS	53	18.40			0.8s		18.80nm			5.1mb								
			iS	59	44.00		BRK	0.87	336	eP	53	05.50	-0.4	CDF	80.59	356	eP	11	10.00	-0.3								
WMQ	53.89	329	eP	52	43.50	-0.7				eS	53	17.60		GRR	80.76	1	eP	11	10.80	-0.2								
			ScP	57	29.00		PRI	1.31	135	eP	53	12.60	-1.0		0.8s		24.10nm			5.2mb								
KSH	58.26	318	eP	53	15.40	0.0	FRI	1.68	92	eP	53	17.00	-1.8	LPF	81.11	1	eP	11	12.90	0.1								
MSZ	59.54	144	P	53	25.00	1.1		11 obs. ossocioted							0.6s		16.20nm			5.2mb								
KRP	61.12	134	P	53	36.00	1.2	----------							CFR	81.12	341	iPc	11	14.00	1.1								
QUE	61.22	305	P	53	34.00	-1.9		OCT 20, 1989 07h 58m 59.94± 0.22s						BSF	81.20	356	eP	11	13.00	-0.5								
MAIO	69.01	309	iPd	54	25.00	-0.6		51.223 N ± 5.4km 179.108 W ± 2.7km							1.0s		9.60nm			4.8mb								
ADK	72.06	34	eP	54	43.40	-0.1		DEPTH = 33.0km (normal)						MLR	81.26	342	iPc	11	14.00	0.1								
	0.9s		0.50nm			3.2mb X		5.1mb (29 obs.)						WB5	81.70	224	eP	11	15.80	-0.4								
SHI	73.23	301	eP	54	49.00	-2.1		ANDREANOF ISLANDS, ALEUTIAN IS. (7)						LOR	81.86	358	eP	11	16.70	-0.1								
MAW	79.03	200	eP	55	23.00	0.4		ML 5.4 (PMR).							1.0s		10.80nm			4.8mb								
TAB	79.65	309	eP	55	13.00	-13.8X								FVI	82.03	352	P	11	17.50	-0.1								
BHD	80.62	304	ePd	55	29.00	-2.7X	ADK	1.65	65	iPc	59	28.20	1.2	SSF	82.07	358	eP	11	17.80	-0.1								
MSL	81.97	307	ePd	55	37.00	-1.7	SMY	4.46	292	eP	00	08.80	1.8		1.0s		12.00nm			4.9mb								
SDN	82.27	34	eP	55	40.00	0.2	SDN	11.87	62	eP	01	49.80	0.1	LBF	82.14	358	eP	11	18.00	-0.3								
NPA	84.10	255	iP	55	49.40	-0.5	SVW	16.31	44	eP	02	51.80	4.0X		0.8s		9.40nm			4.9mb								
			i	56	53.40	268kmX	TTA	17.06	38	eP	02	59.50	2.3	AVF	82.35	358	eP	11	19.30	0.0								
IMA	87.24	24	iPc	56	05.10	0.5	PMR	19.38	46	eP	03	24.20	-1.3		1.0s		14.00nm			5.0mb								
	1.2s		31.70nm			5.1mb	IMA	19.68	31	eP	03	28.70	-0.3	SMF	82.48	358	eP	11	19.90	-0.1								
PRNI	88.42	300	iPc	56	08.00	-2.9		0.9s		59.20nm			4.9mb		1.0s		26.00nm			5.2mb								
PMR	88.93	29	eP	56	11.60	-0.9	TOA	20.87	46	eP	03	40.50	-0.8	MFF	82.55	1	eP	11	20.30	-0.1								

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CTI     82.67 352 P      11 20.50   -0.7
TCF     82.86 359 eP     11 21.90   -0.2
PSI     82.87 265 ePd    11 22.40   -0.1
                  e      13 20.00
LSF     82.91 360 eP     11 22.10   -0.2
        0.8s     22.80nm          5.3mb
MAF     82.93 359 eP     11 22.50    0.1
        1.0s     22.00nm          5.2mb
VAI     83.05 354 P      11 22.50   -0.5
LPG     83.53 356 eP     11 26.60    0.8
BNI     83.98 356 Pd     11 28.50    0.6
BOB     84.11 354 Pc     11 29.10    0.6
LFF     84.22   0 eP     11 29.20    0.3
        0.8s     21.40nm          5.4mb
CAF     84.23 359 eP     11 29.30    0.3
        0.8s     12.00nm          5.1mb
LPO     84.48 360 eP     11 30.30    0.1
        0.8s     29.50nm          5.5mb
SFI     84.76 352 P      11 33.00    1.4
PGD     84.82 352 P      11 32.90    0.7
CRE     85.04 352 P      11 34.50    1.3
PII     85.07 353 P      11 32.50   -0.7
ARV     85.08 351 P      11 34.00    0.7
SBF     85.13 355 eP     11 33.40   -0.2
        0.8s     29.50nm          5.5mb
FRF     85.47 356 eP     11 35.30    0.1
        0.6s     11.50nm          5.3mb
ASS     85.53 351 Pd     11 35.80    0.2
LRG     85.58 356 eP     11 36.30    0.5
        1.0s     26.00nm          5.4mb
LMR     85.70 356 eP     11 36.50    0.1
        0.9s     22.20nm          5.4mb
POO     85.94 295 iPc    11 38.80    0.8
MNS     86.21 351 P      11 38.50   -0.5
CVF     86.33 354 eP     11 39.40   -0.2
        0.8s     34.90nm          5.6mb
GBA     87.74 289 P      11 46.30   -0.4
STK     89.69 213 iPd    11 56.70    1.2
LPB    115.86  84 (Pdiff14 07.00   12.8X
CNCB   116.14  84 Pdiff  14 14.00   18.4X
TIC    122.14   7 PKP    17 52.40   -0.4
LIC    122.56   7 PKP    17 52.80   -0.8
SPA    141.03 180 e(PKP) 18 28.00    0.8
        0.6s     2.44nm
MAW    146.24 217 ePKP   18 36.00    0.1
SLR    147.07 310 iPKPd  18 41.00    2.3X
        1.2s     46.88nm
PRY    148.47 310 ePKP   18 42.70    1.8X
      S.D. = 0.7  on 101 of 108 obs.
-----------------------------------------
&  OCT  20, 1989  08h 12m 54.20s
   37.183 N          122.080 W
   DEPTH =  16.0km
 CENTRAL CALIFORNIA                 ( 39)
      <BRK>. ML 4.0 (BRK). Felt in the
      San Francisco Bay area.

GCC     0.17 156 iPd    12 57.80   -0.8
MHC     0.38  66 iPd    13 02.15   -0.1
MHC     0.38  66 iP     13 02.20   -0.1
                  iS     13 07.90
PCC     0.40 323 iPc    13 02.00   -0.4
ARN     0.47  69 iPd    13 03.30   -0.3
SAO     0.66 129 iPd    13 05.60   -1.3
BKS     0.70 350 iPd    13 07.40   -0.2
                  iS     13 17.45
BRK     0.70 348 iPd    13 07.20   -0.4
                  iS     13 17.40
PRS     1.02 146 ePc    13 11.60   -1.5
LLA     1.07 121 iPc    13 12.90   -1.0
NWRM    1.42 334 eP     13 17.10   -2.2
PRI     1.54 132 ePc    13 20.20   -1.0
CMB     1.59  57 ePd    13 20.50   -1.3
FRI     1.91  95 iPc    13 24.50   -1.8
PHAM    1.91 134 eP     13 24.50   -1.9
PKEM    1.94 125 eP     13 25.70   -1.1
ORV     2.41  11 eP     13 31.40   -2.2
BCH     2.57 140 ePc    13 33.20   -2.7
KVN     3.65  58 eP     13 50.00   -1.4
TNP     3.96  75 e(P)   13 57.00    1.2
      20 obs. associated
-----------------------------------------
?  OCT  20, 1989  08h 35m 17.41± 0.94s
   42.763 N ± 7.5km   13.120 E ± 7.3km
   DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)
      MD 2.2 (SSO).

ALP     0.34  87 ePg    35 24.57    0.1
                  iSg    35 30.14
CIO     0.43   2 ePg    35 25.92   -0.3
                  iSg    35 32.60
ASS     0.46 313 P       35 27.00    0.3
                  eSg    35 33.00
MNS     0.50 221 P       35 27.40   -0.1
                  eSg    35 35.30
      S.D. = 0.5  on   4 of   4 obs.
-----------------------------------------
?  OCT  20, 1989  08h 36m 31.49± 1.83s
     0.868 N ±27.6km  126.988 E ±19.7km
    DEPTH =  33.0km  (normal)
    4.3mb (  1 obs.)
 MOLUCCA PASSAGE                    (266)

MNI     2.22 285 ePd     37 06.80    0.1
                  eS     37 33.00
WB5    21.85 161 eP      41 23.00   -0.3
                  eS     45 22.90
MBL    22.98 197 eP      41 34.00   -0.4
        0.4s      4.00nm          4.3mb
QIS    24.62 151 eP      41 51.00    0.7
WARB   26.90 181 eP      42 12.00    0.5
BRS    37.47 141 eP      43 43.50   -0.5
      S.D. = 0.6  on   6 of   6 obs.
-----------------------------------------
?  OCT  20, 1989  09h 04m 29.73± 1.32s
   40.448 N ±10.2km   21.871 E ± 9.4km
    DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)

LIT     0.59 126 ePg     04 41.50   -0.1
                  eSg    04 56.10
GRG     0.65  38 ePg     04 42.80    0.1
                  eSg    05 02.50
VAY     1.02  31 ePn     04 48.00   -1.0
OHR     1.05 309 ePn     04 49.70    0.1
KNT     1.06  47 ePb     04 50.60    1.0
                  eSb    05 15.10
SKO     1.56 348 ePn     05 10.50   13.0X
      S.D. = 1.0  on   5 of   6 obs.
-----------------------------------------
?  OCT  20, 1989  09h 54m 43.64± 1.08s
   43.035 N ± 9.2km   12.931 E ± 7.4km
    DEPTH =  10.0km  (geophysicist)
 CENTRAL ITALY                      (381)
      MD 2.0 (SSO).

ASS     0.20 280 P       54 48.20    0.1
                  eSg    54 51.40
CIO     0.22  44 ePgc    54 48.90    0.4
                  iSg    54 52.36
ARV     0.46   1 P       54 52.70   -0.4
                  eSg    55 00.00
ALP     0.54 118 ePg     54 54.41   -0.2
                  eSg    55 02.91
      S.D. = 0.6  on   4 of   4 obs.
-----------------------------------------
%  OCT  20, 1989  10h 33m 36.81± 0.57s
   44.245 N ± 6.0km   7.413 E ± 4.9km
    DEPTH =  10.0km  (geophysicist)
 NORTHERN ITALY                     (545)
      ML 1.8 (GEN).

ENR     0.02 165 P       33 38.51   -0.3
                  S      33 39.54
STV     0.06 269 P       33 39.44    0.2
                  S      33 41.39
DOI     0.28 335 P       33 42.50   -0.3
                  eSg    33 47.00
ROB     0.33  81 P       33 43.85    0.1
                  S      33 49.43
PZZ     0.34 319 P       33 44.05    0.1
                  S      33 49.18
IMI     0.48 134 P       33 46.82    0.2
                  S      33 52.05
FIN     0.57  93 P       33 47.74   -0.7
                  S      33 56.46
PCP     0.86  70 P       33 54.00    0.5
                  S      34 04.87
      S.D. = 0.5  on   8 of   8 obs.
-----------------------------------------
   OCT  20, 1989  10h 51m 03.42± 0.91s
   40.879 N ± 7.4km   25.030 E ± 7.5km
    DEPTH =   5.0km  (geophysicist)
 AEGEAN SEA                         (365)

RDO     0.47  55 iPc     51 11.14   -1.7
ALN     0.77  88 ePg     51 21.60    2.8X
KDZ     0.82  21 iPc     51 19.00   -0.9
RZN     0.84 344 iPc     51 19.00   -1.3
OUR     0.97 236 iPgc    51 23.20    1.0
                  eSg    51 37.30
SRS     1.11 283 ePg     51 23.90   -0.9
                  eSg    51 38.40
MM8     1.21 306 iPgd    51 25.00   -1.5
DIM     1.23  18 iP      51 28.00    1.3
PLD     1.25 349 iPc     51 27.00   -0.1
PLG     1.31 248 eP      51 27.20   -0.9
                  S      51 45.00
EZN     1.44 136 ePn     51 34.40    4.2X
THE     1.59 262 ePb     51 32.40    0.2
                  eSb    51 53.70
KNT     1.64 281 ePb     51 32.00   -1.0
                  eSb    51 54.00
PGB     1.79 339 iPc     51 35.00   -0.2
VAY     1.91 284 ePn     51 36.00   -0.9
GRG     1.99 273 ePn     51 40.30    2.1
                  eSn    52 07.20
LIT     2.09 249 ePn     51 40.20    0.7
NEO     2.09 222 eP      51 39.00   -0.6
VTS     2.19 322 iP      51 43.00    1.9
DMK     2.26  64 ePn     51 45.00    3.0X
PVL     2.35   5 iPd     51 44.00    0.8
KZN     2.55 258 eP      51 49.00    2.9X
CTT     2.59  83 ePn     51 51.00    4.4X
KCT     2.61 103 iPn     51 57.30   10.3X
MLR     4.66   8 iPd     52 16.70    0.5
CFR     4.87  27 eP      52 16.00   -3.1X
VRI     5.14  13 ePd     52 24.50    1.6
      S.D. = 1.2  on  20 of  27 obs.
-----------------------------------------
   OCT  20, 1989  11h 26m 17.61± 0.98s
   40.077 N ± 6.9km   51.813 E ± 4.0km
   DEPTH =  52.4 ± 10.9 km
   4.7mb ( 18 obs.)
 CASPIAN SEA                        (338)

TEH     4.35 185 ePc     27 23.50    0.6
TAB     4.72 247 eP      27 28.00   -0.1
SLY     6.70 230 ePd     27 56.50    0.7
                  e      29 20.50
MAIO    7.13 120 ePn     28 01.00   -0.9
        0.7s      6.35nm          4.5mb
                  eSn    29 11.00
MSL     7.75 244 ePd     28 09.50   -0.9
                  e      29 48.00
                  eS     30 37.00
BHD     9.03 224 ePd     28 29.00    0.9
                  eS     31 05.00
SHI    10.42 177 eP      28 47.00   -0.3
BBTK   14.62 275 eP      29 46.00    3.0X
KHL    17.36 271 eP      30 16.00   -1.8
CFR    18.12 294 eP      30 45.00   18.1X
KSH    18.58  84 eP      30 32.20   -0.6
KOT    19.21 244 eP      30 38.00   -2.1
VRI    19.21 296 ePd     30 40.50    0.5
ISR    19.24 294 ePd     30 40.70    0.3
HLW    19.59 245 eP      30 38.00   -6.2X
MLR    19.70 294 iPd     30 46.00    0.5
CMP    20.31 294 ePd     30 54.00    2.3
DEV    21.86 295 ePc     30 50.00  -17.3X
VAY    22.16 283 eP      31 11.30    1.0
BZS    22.74 294 eP      31 17.00    1.0
SKO    22.94 285 eP      31 19.00    1.0
OHR    23.52 283 eP      31 20.50   -3.1X
        1.1s     59.00nm          5.0mb
SPC    24.09 303 eP      31 31.00    1.7
KRA    24.45 305 eP      31 32.50    0.0
                  e      31 39.70
ZST    26.02 300 i(P)    31 47.50    0.2
                  i      32 01.00
                  i(Sg)  44 53.00
WMQ    26.82  70 eP      31 55.00    0.3
                  S      36 28.50
KSP    26.89 305 eP      31 55.00   -0.2
PRU    27.88 303 eP      32 09.00    4.8X
                  e      32 19.50
DUI    28.15 286 P       32 19.00   12.1X
KHC    28.43 301 iPc     32 09.10   -0.1
FVI    28.90 296 P       32 18.50    5.1X
ARV    29.01 290 P       32 25.50   11.1X
CLL    29.01 306 eP      32 14.00   -0.4
        1.5s     27.00nm          4.7mb
```

20d 11h

			i	32	25.70	
			e	32	39.00	
UPP	29.08	324	iP	32	25.30	10.5X
ASS	29.26	289	P	32	32.50	15.7X
CTI	29.71	295	P	32	31.50	10.7X
HFS	30.98	323	eP	32	29.80	-1.9
	0.7s	25.10nm				5.1mb
VAI	31.72	295	P	32	38.00	-0.4
CDF	32.58	300	eP	32	45.40	-0.6
BSF	32.93	299	eP	32	49.10	0.0
LPG	33.17	294	eP	32	51.80	0.4
	1.0s	10.00nm				4.6mb
HAU	33.22	299	eP	32	51.00	-0.5
	1.0s	16.00nm				4.8mb
BNI	33.28	294	P	32	52.50	0.4
FRF	33.53	291	eP	32	53.50	-0.6
	0.8s	8.00nm				4.7mb
GBA	34.66	132	P	33	05.80	1.7
LBF	34.91	298	eP	33	05.80	-0.3
	1.0s	10.00nm				4.7mb
LOR	34.96	298	eP	33	05.80	-0.6
	0.8s	8.00nm				4.7mb
SMF	35.04	297	eP	33	07.20	0.1
SSF	35.22	298	eP	33	08.50	-0.2
	1.2s	8.90nm				4.6mb
AVF	35.36	297	eP	33	10.10	0.3
	1.0s	16.00nm				4.9mb
MAF	35.97	296	eP	33	14.60	-0.4
	1.0s	10.00nm				4.7mb
TCF	36.21	297	eP	33	16.60	-0.4
	1.0s	8.00nm				4.6mb
GTA	36.56	75	P	33	20.80	0.6
FLN	37.69	301	eP	33	29.90	0.5
	1.2s	41.60nm				5.2mb
GRR	37.98	301	eP	33	32.30	0.4
CHTO	45.57	104	eP	34	34.00	-0.2
BCAO	46.46	229	iP	34	41.20	-0.1
	0.9s	13.00nm				4.9mb
			epP	34	55.50	54kmX
SSE	55.84	76	P	35	47.50	-4.5X
KIC	60.60	252	Pc	36	24.90	-0.5
TIC	60.61	253	Pc	36	24.90	-0.6
LIC	60.90	252	Pc	36	26.80	-0.6
MBC	63.82	358	eP	36	45.00	-1.1
	0.5s	2.00nm				4.4mb
FBA	74.24	9	eP	37	51.00	0.8
	0.9s	11.67nm				4.8mb
FFC	82.94	345	eP	38	37.00	-0.8
	0.6s	9.00nm				5.0mb
S.D. = 0.9 on 51 of 64 obs.						

? OCT 20, 1989 11h 34m 36.41± 0.92s
42.770 N ± 7.2km 13.077 E ± 7.3km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.0 (SSO).

ALP	0.37	88	ePg	34	44.09	0.1
			iSg	34	49.09	
CIO	0.43	7	iPg	34	45.02	-0.1
			iSg	34	51.87	
ASS	0.43	315	P	34	45.30	0.1
			eSg	34	52.20	
MNS	0.48	217	P	34	46.20	-0.1
			eSg	34	54.10	
S.D. = 0.2 on 4 of 4 obs.						

% OCT 20, 1989 11h 41m 42.90± 1.10s
40.057 N ±15.9km 113.844 E ± 9.1km
DEPTH = 33.0km (normal)
NORTHEASTERN CHINA (658)
ML 4.4 (BJI).

BJI	1.79	90	Pg	42	13.50	1.6
			Sg	42	37.50	
HHC	1.91	295	Pgc	42	19.40	5.5X
			Sg	42	47.00	
TIY	2.59	206	Pgc	42	28.50	5.1X
BTO	2.97	282	iPn	42	37.40	8.4X
			Pg	42	39.70	
			Sg	43	16.40	
TIA	4.63	145	Pn	42	52.00	-0.3
			ePg	43	07.10	
			Sg	44	04.30.	
XAN	7.18	215	Pn	43	28.20	-0.1
			Pg	43	52.20	
SNY	7.58	73	ePn	43	32.50	-1.3
			ePg	43	58.80	
			eSg	45	39.40	
LZH	8.82	246	ePg	44	25.00	33.7X
			Sn	46	10.00	
			Sg	46	20.00	
GTA	10.83	271	eP	44	19.00	0.2
S.D. = 1.5 on 5 of 9 obs.						

? OCT 20, 1989 11h 52m 21.57± 0.97s
38.523 N ±15.3km 81.868 E ± 9.1km
DEPTH = 33.0km (normal)
SOUTHERN XINJIANG, CHINA (321)

KSH	4.68	283	ePn	53	31.70	-0.2
			e	53	42.00	
			eSn	54	22.50	
NDI	10.55	203	eP	54	53.50	0.0
			eS	56	43.00	
GTA	14.00	81	eP	55	39.80	0.0
MAIO	17.91	270	eP	56	30.00	0.2
TIY	24.01	82	eP	57	41.80	7.5X
S.D. = 0.3 on 4 of 5 obs.						

& OCT 20, 1989 12h 18m 15.05s
60.026 N 152.714 W
DEPTH = 91.3km
SOUTHERN ALASKA (2)
<AGS-P>. Felt (II) at Homer.

ILIM	0.13	294	iP	18	27.71	1.0
			eS	18	38.26	
RED	0.40	356	iP	18	29.10	-0.4
OPT	0.46	215	eP	18	29.41	-0.4
			eS	18	39.85	
RDT	0.57	15	iP	18	30.29	-0.5
			eS	18	42.26	
NNL	0.71	88	iP	18	32.42	0.4
AUL	0.74	210	eP	18	31.89	-0.4
			eS	18	44.43	
XLV	0.76	138	eP	18	31.81	-0.7
CNPM	0.90	123	iP	18	33.42	-0.6
			eS	18	47.83	
BRLK	0.96	105	eP	18	33.83	-0.9
			eS	18	49.81	
NKA	1.03	45	eP	18	36.63	1.2
CDD	1.20	204	eP	18	36.21	-1.3
SPU	1.20	15	iP	18	37.04	-0.6
SLKM	1.33	68	eP	18	38.01	-1.2
SEW	1.64	86	eP	18	41.62	-1.4
SUA	1.74	33	eP	18	43.97	-0.5
			eS	19	06.58	
SVW	1.80	308	iPd	18	43.70	-1.5
PMS	1.98	50	iPc	18	46.70	-0.9
SKT	2.04	16	iP	18	47.47	-1.0
PWA	2.14	39	eP	18	49.00	-0.7
PLRM	2.36	47	eP	18	50.96	-1.6
PMR	2.36	47	iPc	18	50.90	-1.7
MTU	2.54	89	eP	18	53.75	-1.4
GLI	2.91	70	eP	18	56.60	-3.6
FID	3.18	74	eP	19	00.03	-3.9
VZW	3.22	69	eP	19	01.53	-2.9
MID	3.28	98	iPd	19	03.70	-1.6
HUR	3.31	25	eP	19	05.37	-0.3
TTA	3.32	333	ePd	19	04.00	-1.8
NCA	3.48	53	eP	19	05.86	-2.2
KLU	3.64	63	iP	19	07.59	-2.8
TOA	3.80	54	ePd	19	10.90	-1.6
RND	3.86	27	eP	19	11.71	-1.6
PAX	4.56	46	eP	19	21.08	-1.9
NEA	4.87	19	eP	19	25.11	-2.2
TGL	4.96	77	eP	19	26.04	-2.6
DDM	4.97	38	eP	19	28.25	-0.5
HDA	5.15	29	eP	19	28.99	-2.2
CCB	5.17	24	eP	19	28.80	-2.6
BALM	5.22	74	eP	19	28.73	-3.5
FBA	5.40	23	ePc	19	32.20	-2.4
DOT	5.48	45	eP	19	33.64	-2.1
GLM	5.56	24	eP	19	34.37	-2.5
IMA	6.08	356	iPc	19	42.40	-1.8
YKU	6.57	89	e(P)	19	49.10	-1.7
HYT	7.57	77	P	20	02.30	-2.3
SIT	9.56	101	eP	20	27.60	-4.0
PGC	20.32	111	eP	22	54.00	8.5
47 obs. assaciated						

? OCT 20, 1989 13h 32m 07.92± 1.96s
12.779 N ±27.1km 51.056 E ±18.8km
DEPTH = 33.0km (normal)
4.2mb (3 obs.)
EASTERN GULF OF ADEN (415)

SHI	16.84	4	eP	36	03.00	0.0
BHD	21.29	344	ePd	36	52.00	-1.9
			ePP	37	17.00	
			eS	40	11.00	
			eLR	43	51.00	
			eScP	44	45.00	
POO	22.67	72	eP	37	06.50	-1.4
QUE	22.73	38	eP	37	10.00	1.5
SLY	23.27	348	iPc	37	20.00	6.5X
			eS	41	25.00	
			e	47	37.00	
MSL	24.55	345	ePd	37	31.00	5.0X
MAIO	24.62	17	eP	37	30.00	3.3X
			eS	41	56.00	
GBA	25.69	85	eP	37	38.00	1.1
BBTK	31.42	332	eP	38	32.00	3.6X
WMQ	44.09	38	P	40	15.50	0.7
			pP	40	23.50	27kmX
CHTO	46.36	76	eP	40	33.00	-0.1
	0.9s	1.49nm				3.9mb
NUR	51.44	344	eP	41	24.00	12.2X
SUF	52.93	346	eP	41	24.00	1.0
HFS	54.67	338	eP	41	35.70	-0.1
	0.5s	1.40nm				4.2mb
NB2	56 18	338	P	41	47.70	0.9
	1.0s	4.00nm				4.4mb
XAN	56.40	58	P	41	47.70	-1.1
SOD	56.88	349	eP	41	46.00	-5.6X
TIY	59.70	54	eP	42	11.40	-0.5
CN2	70.02	48	eP	43	23.20	4.7X
S.D. = 1.2 on 12 of 19 obs.						

? OCT 20, 1989 13h 50m 57.22± 4.05s
7.244 S ±27.1km 131.568 E ±20.7km
DEPTH = 144.1 ± 40.6 km
TANIMBAR ISLANDS REGION (281)

MTN	5.58	184	eP	52	19.00	-0.3
			eS	53	25.00	
KNA	8.89	198	eP	52	57.70	-6.0X
	0.2s	22.00nm				5.5mb X
			eS	54	32.00	
WB5	12.85	168	eP	53	56.70	0.9
			eS	56	20.00	
QIS	15.35	150	eP	54	34.00	6.4X
			eS	57	23.00	
PMG	15.57	99	eP	54	30.00	-0.3
WARB	19.41	193	eP	55	14.00	-0.7
SHI	84.11	301	eP	03	14.00	0.3
S.D. = 1.2 on 5 of 7 obs.						

OCT 20, 1989 13h 58m 01.84± 0.38s
51.817 N ± 9.2km 170.463 W ± 4.6km
DEPTH = 33.0km (normal)
4.9mb (23 obs.) 4.7Msz (5 obs.)
FOX ISLANDS, ALEUTIAN ISLANDS (9)

ADK	3.86	273	eP	59	00.30	0.0
SMY	9.51	282	eP	00	19.60	0.2
TTA	13.55	29	eP	01	17.50	3.5X
PMR	15.19	42	eP	01	35.50	0.2
IMA	16.62	24	eP	01	58.20	4.6X
FBA	17.55	33	eP	02	04.00	-1.2
INK	24.18	33	eP	03	15.00	-0.6
	0.5s	30.00nm				5.1mb
MBC	31.29	21	ePc	04	20.00	-0.4
	0.5s	9.00nm				4.9mb
PNT	31.86	74	eP	04	38.00	12.3X
EDM	33.99	65	eP	04	44.00	-0.2
SES	36.44	68	eP	05	05.00	0.0
LRM	37.78	76	eP	05	21.40	4.8X
KVN	38.09	88	eP	05	20.00	0.8
FFC	39.59	58	eP	05	32.00	0.7
	0.5s	6.00nm				4.6mb
IIDJ	39.87	267	P	05	34.70	0.8
DUG	40.67	83	eP	05	39.00	-1.6
DAU	41.50	82	eP	05	48.00	0.4
MSU	42.08	85	eP	05	52.00	-0.3
CN2	42.51	285	Pd	05	54.60	-0.8
Z	20s	0.90um				4.7Msz
			sP	06	08.00	
SNY	44.77	284	Pc	06	13.40	-0.4
Z	21s	0.80um				4.6Msz

	N 22s	0.70um				
	E 22s	0.50um				
GOL	45.53	79 eP	06	19.00	-1.2	
	1.1s	22.44nm			5.0mb	
ALQ	47.89	84 eP	06	38.50	-0.3	
	1.3s	15.32nm			4.9mb	
FRB	49.82	35 eP	06	52.00	-0.9	
	0.7s	34.00nm			5.5mb	
BJI	50.30	287 eP	06	56.00	-0.9	
	Z 20s	0.60um			4.6Msz	
TIA	52.21	283 P	07	11.00	-0.5	
SSE	53.18	275 Pc	07	18.50	-0.2	
	1.0s	0.03nm			2.3mb X	
BTO	53.54	291 eP	07	22.00	0.6	
NJ2	53.96	278 Pd	07	24.80	0.4	
TIY	54.02	287 eP	07	25.00	0.1	
	Z 20s	0.90um			4.8Msz	
WHN	57.77	280 Pd	07	51.50	-0.3	
	1.0s	0.04nm			2.4mb X	
KEV	58.07	353 iP	07	52.30	-1.2	
	0.8s	19.10nm			5.2mb	
XAN	58.61	286 P	07	57.00	-0.8	
GTA	60.13	297 P	08	07.40	-0.9	
	Z 14s	0.88um			5.1MszX	
LZH	60.16	291 eP	08	08.00	-0.7	
	2.0s	0.07nm			2.4mb X	
	Z 18s	0.70um			4.8Msz	
		pP	08	17.00	29kmX	
SOD	60.44	352 iP	08	08.80	-1.1	
WMO	63.34	308 P	08	29.00	-0.7	
CD2	63.90	287 Pd	08	33.40	-0.1	
SUF	65.06	352 eP	08	39.50	-1.0	
	0.6s	10.30nm			5.1mb	
GYA	65.39	282 iPd	08	43.60	0.3	
NUR	67.37	352 eP	08	53.00	-2.3	
	0.8s	29.30nm			5.4mb	
NB2	67.49	359 P	08	55.30	-0.8	
	0.8s	8.70nm			4.9mb	
HFS	68.35	358 eP	09	00.20	-1.2	
	0.5s	10.20nm			5.2mb	
KMI	68.75	284 Pc	09	04.50	-0.2	
KSH	72.29	312 eP	09	26.20	0.4	
LOE	75.18	279 eP	09	42.50	-0.2	
CHG	75.80	282 eP	09	46.20	-0.1	
BDT	76.97	281 eP	09	50.30	-2.5	
CLL	77.21	358 iP	09	54.10	0.5	
	1.8s	26.00nm			5.0mb	
KRA	78.12	353 eP	09	59.40	0.8	
		e	10	05.60		
PRU	78.48	357 eP	10	01.00	0.4	
GRF	78.86	359 iPc	10	03.80	1.1	
	1.6s	35.00nm			5.1mb	
SPC	78.96	353 eP	10	04.30	0.8	
KHC	79.37	357 iPc	10	06.50	0.9	
	1.4s	22.00nm			5.0mb	
CDF	80.13	2 eP	10	08.20	-1.5	
ZST	80.16	355 iP	10	11.50	1.8	
HAU	80.52	2 eP	10	10.90	-0.8	
BSF	80.70	2 eP	10	12.10	-0.7	
LOR	81.18	4 eP	10	14.20	-0.9	
SSF	81.37	4 eP	10	15.60	-0.5	
	0.5s	5.80nm			4.8mb	
LBF	81.46	4 eP	10	15.60	-1.1	
	0.5s	3.90nm			4.7mb	
AVF	81.63	4 eP	10	16.70	-0.8	
	1.0s	18.00nm			5.0mb	
SMF	81.80	4 eP	10	17.70	-0.7	
	0.7s	8.10nm			4.9mb	
BGF	81.84	5 eP	10	17.80	-0.8	
FVI	81.93	358 P	10	20.50	1.5	
MAIO	81.98	321 eP	10	20.00	0.4	
LSF	82.07	6 eP	10	19.10	-0.7	
	0.7s	11.00nm			5.0mb	
TCF	82.07	5 eP	10	19.00	-0.8	
	0.7s	4.40nm			4.6mb	
MAF	82.16	5 eP	10	19.70	-0.6	
	0.7s	4.80nm			4.6mb	
CTI	82.50	359 P	10	24.00	1.8	
VAI	82.70	1 P	10	24.50	1.5	
LFF	83.33	6 eP	10	27.70	1.4	
	0.7s	4.80nm			4.7mb	
BNI	83.48	2 P	10	29.50	2.2	
BOB	83.80	0 Pd	10	30.70	1.9	
KVT	84.65	340 eP	10	35.00	1.9	
PGD	84.67	358 Pc	10	35.50	2.2	
ASS	85.45	358 P	10	39.50	2.4	
SKO	86.02	351 iP	10	41.00	1.1	
WB5	86.06	231 eP	10	40.20	-0.1	
MNS	86.14	358 P	10	41.50	1.0	
VAY	86.55	350 eP	10	43.70	1.2	
OHR	86.93	352 eP	10	44.50	0.0	
PSI	88.28	272 ePd	10	51.80	0.6	
		e	12	35.00		
GBA	92.51	296 Pd	11	10.70	-0.2	
	0.5s	2.10nm			4.8mb	
ZOBO	110.22	91 ePKP	16	13.00	-19.6X	
CNCB	110.72	91 PKP	16	12.50	-21.0X	
BCAO	123.44	349 ePKPc	16	57.90	0.7	
		id	18	35.20		
SPA	141.63	180 e(PKP)	17	29.90	-0.2	
	1.0s	5.00nm				
		e	17	43.00		
BUL	145.05	328 iPKPd	17	38.00	0.6	
	1.0s	54.50nm				
MAW	150.02	218 ePKP	17	49.00	5.3X	
SLR	150.31	324 iPKPc	17	51.20	5.5X	
	1.0s	30.00nm				
KSR	150.92	326 iPKPd	17	50.90	4.3X	
	1.2s	30.00nm				
PRY	151.69	325 ePKP	17	54.30	6.6X	

S.D. = 1.0 on 82 of 92 obs.

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* OCT 20, 1989 14h 00m 16.74± 1.66s
38.982 N ± 9.5km 19.915 E ±18.1km
DEPTH = 10.0km (geophysicist)
IONIAN SEA (399)
MD 3.3 (ATH).

KEK	0.74	353 ePg	00	31.00	-0.2	
SRN	0.90	4 iPg	00	34.30	0.4	
VLS	0.96	146 ePg	00	34.10	-1.0	
		eSg	00	47.00		
LSK	1.28	24 iPgd	00	41.70	1.2	
BERA	1.72	1 ePn	00	48.70	1.9	
KZN	1.95	47 ePn	00	51.00	0.7	
OHR	2.23	17 iPn	00	53.70	-0.7	
TIR	2.36	359 ePn	00	54.00	-2.1	
NEO	2.59	82 ePn	00	59.70	0.2	
PHP	2.73	8 ePn	01	05.50	4.1X	
SDA	3.05	354 ePn	01	11.20	5.4X	
PLG	3.06	62 ePn	01	04.00	-2.0	
VAY	3.10	40 ePn	01	11.50	5.0X	
SKO	3.21	21 ePn	01	14.00	5.9X	
VLI	3.29	132 ePn	01	11.00	1.6	

S.D. = 1.5 on 11 of 15 obs.

% OCT 20, 1989 14h 08m 22.27± 0.71s
41.070 N ± 7.6km 28.508 E ± 6.9km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

CTT	0.10	322 iPg	08	24.60	-0.4	
ISK	0.42	90 ePg	08	31.00	0.2	
YLV	0.83	127 iPg	08	37.60	-0.7	
KCT	0.83	188 iPg	08	38.60	0.3	
HRT	0.91	105 ePg	08	40.10	0.3	
		eSg	08	52.10		
DMK	0.94	323 ePg	08	40.40	0.2	

S.D. = 0.6 on 6 of 6 obs.

& OCT 20, 1989 14h 15m 30.30s
37.027 N 122.053 W
DEPTH = 6.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.3 (BRK).

GCC	0.05	86 iPd	15	31.30	-0.5	
PCC	0.54	331 eP	15	40.60	-0.5	
SAO	0.55	118 eP	15	40.80	-0.6	
BKS	0.86	350 iPc	15	46.70	-0.5	
		i(S)	15	57.60		
BRK	0.86	349 eP	15	46.30	-0.9	
		eS	15	59.40		
PRS	0.88	141 iPc	15	47.80	0.1	
LLA	0.98	114 iPc	15	48.30	-1.0	
PRI	1.42	128 eP	15	56.20	-0.6	
CMB	1.66	52 eP	15	58.00	-2.2	
FRI	1.88	90 eP	16	01.30	-1.9	
TNP	3.98	73 eP	16	31.00	-2.4	

11 obs. associated

OCT 20, 1989 14h 37m 11.26± 1.00s
12.458 N ± 6.4km 141.911 E ± 5.4km
DEPTH = 45.5 ± 9.8 km

4.4Msz (2 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.09	68 eP	37	59.00	0.2	
		TT	40	29.20		
PJG	3.09	68 eP	37	59.00	0.2	
GUA	3.12	70 eP	37	59.00	-0.2	
		eS	38	38.50		
DAV	16.96	253 eP	41	08.00	1.1	
BAG	21.02	283 eP	41	52.90	-0.9	
PMG	22.34	166 eP	42	06.00	-0.7	
SSE	26.64	317 eP	42	50.00	2.4	
	Z 20s	0.90um			4.3Msz	
		eS	47	16.00		
		esS	47	28.00		
WHN	31.19	310 eP	43	28.50	0.0	
CTA	32.62	172 eP	43	41.00	0.0	
	1.8s	86.36nm			5.3mb X	
		iS	49	00.00		
OIS	32.89	184 iPd	43	42.20	-1.1	
WB5	32.98	193 eP	43	42.80	-1.4	
BJI	35.63	325 eP	44	06.00	-0.7	
	1.5s	0.03nm			2.0mb X	
	Z 24s	0.96um			4.5MszX	
GYA	35.90	298 P	44	10.20	0.8	
TIY	36.40	319 eP	44	08.00	-5.4X	
	N 12s	0.50um				
XAN	36.89	311 eP	44	16.00	-1.5	
KMI	39.02	295 Pc	44	36.00	0.3	
		pP	44	44.50	29kmX	
BTO	39.61	321 eP	44	40.00	-0.3	
CD2	39.67	304 eP	44	40.00	-0.8	
NST	40.61	280 eP	44	50.00	1.4	
SNG	40.99	267 eP	44	51.50	-0.3	
LZH	41.53	311 eP	44	56.50	0.3	
	2.0s	0.05nm			1.9mb X	
	Z 26s	0.80um			4.5MszX	
CHG	41.78	284 eP	44	58.00	-0.2	
DZM	41.91	145 iPc	45	00.70	1.4	
GTA	45.81	314 Pd	45	30.00	-0.7	
LSA	49.97	298 P	46	04.00	0.4	
		S	53	12.00		
ADK	51.51	32 eP	46	14.20	-0.3	
	1.4s	209.30nm			6.0mb X	
WMO	55.85	315 P	46	46.30	-0.4	
	Z 22s	0.50um			4.6Msz	
		pP	46	54.00	25kmX	
		eS	54	36.00		
NDI	62.02	296 eP	47	28.50	-1.1	
SVW	66.01	28 eP	47	55.20	0.1	
IMA	68.42	23 eP	48	10.30	-0.1	
	1.3s	36.90nm			5.2mb X	
PMR	69.15	29 eP	48	13.00	-1.7	
	1.2s	46.00nm			5.3mb X	
FBA	70.47	25 eP	48	21.50	-1.3	
TOA	70.62	28 eP	48	24.00	0.2	
QUE	70.93	298 eP	48	37.00	10.5X	
INK	76.51	22 eP	48	57.50	-0.4	
MAIO	76.68	305 iPc	49	00.20	0.6	
MBC	80.06	14 eP	49	17.00	-0.2	
	1.3s	28.00nm			5.1mb X	
PNT	86.11	40 eP	49	50.00	1.3	
KEV	86.69	342 eP	49	51.00	-0.2	
SOD	87.92	340 iP	49	59.20	2.0	
KVN	89.85	50 eP	50	07.10	0.0	
SUF	90.31	335 eP	50	07.20	-1.3	
	1.0s	23.60nm			5.5mb X	
NUR	92.01	334 eP	50	07.00	-9.3X	
ZOBO	150.67	101 PKP	56	57.00	1.1	
	1.2s	22.30nm				
LPB	150.68	102 ePKP	56	59.00	3.3X	
CNCB	150.77	102 PKP	56	58.00	2.0	

S.D. = 1.0 on 42 of 46 obs.

? OCT 20, 1989 14h 47m 17.36±16.45s
39.675 N ±106.km 23.886 E ±75.9km
DEPTH = 5.0km (geophysicist)
AEGEAN SEA (365)

OUR	0.66	6 ePg	47	30.30	-0.3	
		eSg	47	40.90		
LIT	1.16	292 ePg	47	39.10	-0.3	
		eSg	47	54.90		
SRS	1.46	351 ePb	47	44.20	-0.2	
		eSb	48	03.90		
KNT	1.67	333 ePb	47	48.10	0.8	
		eSb	48	10.60		

20d 14h

S.D. = 0.9 on 4 of 4 obs.

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* OCT 20, 1989 14h 57m 45.83± 1.56s
16.214 N ± 9.9km 61.216 W ±19.8km
DEPTH = 98.0 ± 14.8 km
LEEWARD ISLANDS (92)

SFG	0.04	26	ePd	58 00.41	-0.2
PAG	0.48	248	iPd	58 01.31	-0.2
			S	00 01.00	
BBL	0.73	200	ePc	58 03.62	0.0
			S	58 15.40	
DTMT	0.98	188	eP	58 06.73	0.5
			eS	58 24.12	
BPA	1.03	323	ePc	58 06.91	0.2
FDF	1.47	178	iPc	58 12.04	0.0
	0.1s		9.50nm		
			S	58 30.60	
CRM	1.48	169	iPc	58 12.10	0.0
			S	58 30.80	
MVM	1.68	169	iPc	58 14.71	0.0
			S	58 35.60	
BIM	1.69	175	iPc	58 15.13	0.3
			S	58 36.10	
SSV	2.87	180	eP	58 30.43	-0.2
			eS	59 06.16	
SVV	2.88	180	eP	58 30.63	-0.1
			eS	59 05.70	
SVB	2.93	181	eP	58 31.20	-0.1
			eS	59 08.27	

S.D. = 0.2 on 12 of 12 obs.

OCT 20, 1989 15h 07m 32.95± 1.06s
12.425 N ± 5.0km 141.887 E ± 6.0km
DEPTH = 56.1 ± 10.6 km
4.8mb (14 obs.) 4.4Msz (2 obs.)
SOUTH OF MARIANA ISLANDS (210)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 15S, 29C
Centroid Locotion:
Origin Time 15:07:31.4 1.0
Lat 12.22N 0.11 Lon 141.42E 0.13
Dep 15.0 FIX Half-durotion 1.6
Moment Tensor; Scole 10**16 Nm
Mrr=-3.80 0.49 Mtt= 3.05 0.55
Mff= 0.74 0.62 Mrt= 8.94 1.92
Mrf= 1.97 1.34 Mtf= 1.38 0.50
Principal Axes:
T Val= 9.76 Plg=34 Azm=343
N 0.25 4 76
P -10.01 56 172
Best Double Couple:Mo=9.9*10**16
NP1:Strike= 56 Dip=12 Slip=-111
NP2: 257 79 -86

GUMO	3.13	68	eP	08 20.70	-0.2
			TT	10 50.20	
PJG	3.13	68	eP	08 20.80	-0.1
GUA	3.15	69	eP	08 21.00	-0.2
			eS	09 01.80	
BAG	21.01	283	eP	12 14.50	0.2
PMG	22.31	166	eP	12 27.00	-0.1
SSE	26.65	317	eP	13 10.70	2.4
Z	20s		0.90um	4.3Msz	
			i	13 28.00	
			eS	17 41.00	
			esS	17 48.00	
MTN	27.28	203	eP	13 14.00	-0.2
			i	14 08.20	
CTA	32.59	172	iPd	14 01.20	-0.2
	0.8s		14.93nm	4.9mb	
			S	19 26.00	
OIS	32.85	184	iPd	14 03.20	-0.4
	0.7s		25.00nm	5.2mb	
			e	15 40.00	
WB5	32.94	193	iPd	14 03.50	-0.9
BJI	35.64	325	eP	14 26.50	-0.9
Z	28s		1.04um	4.4MszX	
			eS	20 05.00	
GYA	35.89	298	eP	14 30.60	0.7
TIY	36.41	319	eP	14 33.80	-0.2
N	13s		0.30um		
CD2	39.67	304	eP	15 00.40	-1 0
NST	40.59	280	eP	15 11.00	2.0
BRS	40.96	165	iPc	15 12.00	0.0
	1.0s		6.20nm	4.3mb	
			i	17 29.00	
SNG	40.97	267	eP	15 03.90	-8.3X
WARB	41.14	201	eP	15 14.00	0.6
LZH	41.54	311	eP	15 16.50	-0.3
Z	22s		0.70um	4.5Msz	
CHG	41.76	284	eP	15 19.00	0.3
	0.9s		10.50nm	4.6mb	
CHTO	41.76	284	eP	15 19.00	0.3
	1.0s		10.00nm	4.5mb	
DZM	41.90	145	iPc	15 22.00	2.2
STK	44.05	180	eP	15 37.00	0.0
GTA	45.82	314	Pd	15 51.00	-0.3
MRWA	48.36	211	eP	16 10.10	-1.1
LSA	49.96	298	P	16 25.00	0.9
ADK	51.56	32	e(P)	16 36.70	1.4
	1.0s		45.00nm	5.5mb	
WMQ	55.86	315	P	17 07.00	-0.3
NDI	62.01	296	eP	17 48.00	-2.1
POO	65.53	285	eP	18 13.00	-0.2
SVW	66.05	28	eP	18 16.20	0.4
IMA	68.46	23	eP	18 31.10	0.0
	0.7s		6.00nm	4.7mb	
PMR	69.19	29	eP	18 34.40	-1.0
	0.8s		20.10nm	5.1mb	
FBA	70.51	25	eP	18 42.50	-0.9
INK	76.55	22	eP	19 18.00	-0.5
MAIO	76.67	305	iPd	19 20.50	0.5
MBC	80.10	14	eP	19 38.00	0.2
	1.0s		7.00nm	4.5mb	
PNT	86.15	40	eP	20 10.00	0.7
	0.6s		6.00nm	5.0mb	
KEV	86.71	342	eP	20 07.00	-4.7X
SOD	87.95	340	iP	20 17.00	-0.7
KVN	89.89	50	eP	20 31.00	3.3X
SUF	90.33	335	iP	20 27.80	-1.2
	0.7s		7.90nm	5.2mb	
TNP	90.83	51	eP	20 33.20	1.2
	1.0s		2.00nm	4.5mb	
NUR	92.03	334	iP	20 36.60	-0.2
	0.7s		12.00nm	5.4mb	
HFS	96.73	337	eP	20 58.00	-0.4
	0.6s		1.90nm	4.8mb	
ZOBO	150.69	101	ePKP	27 19.00	2.8X
	0.9s		15.79nm		
			i	27 23.00	
LPB	150.70	102	PKP	27 23.00	7.0X
CNCB	150.79	102	PKP	27 24.20	7.9X
CCH	152.48	104	ePKP	27 23.00	4.5X

S.D. = 0.9 on 42 of 49 obs.

? OCT 20, 1989 15h 27m 24.29± 5.27s
58.699 N ±41.6km 5.895 E ±13.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.8 (BER).

KMY	0.61	327	eP	27 36.50	-0.2
			eS	27 44.00	
BLS2	0.80	41	eP	27 39.29	-0.6
			eS	27 47.32	
ODD1	1.27	17	eP	27 48.39	0.4
			eS	28 03.00	
ASK	1.83	349	eP	27 58.45	2.5X
			eS	28 19.13	
HYA	2.48	3	eP	28 07.90	2.6X
			eS	28 33.80	
NRA0	3.51	52	iPd	28 20.30	0.3
			iSg	29 09.00	

S.D. = 0.8 on 4 of 6 obs.

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* OCT 20, 1989 15h 27m 38.34± 0.52s
12.878 N ± 9.8km 141.758 E ± 8.5km
DEPTH = 33.0km (normol)
4.7mb (2 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.11	77	eP	28 26.70	0.5
PJG	3.11	77	eP	28 26.30	0.1
GUA	3.14	78	eP	28 26.20	-0.5
			eS	29 11.50	
PMG	22.78	166	eP	32 38.00	-1.3
CTA	33.06	172	eP	34 15.00	1.8
WB5	33.35	193	eP	34 10.40	-5.4X
BRS	41.43	165	e(P)	35 23.00	-0.6
INK	76.18	22	eP	39 25 00	0.4
MAIO	76.32	305	iPd	39 27.70	1.5
MBC	79.69	14	eP	39 44.50	0.7
	1.1s		7.00nm	4.6mb	
KEV	86.25	342	eP	40 17.00	-0.6
SOD	87.48	339	eP	40 23.00	-0.6
SUF	89.87	335	eP	40 34.30	-0.7
	0.8s		5.30nm	4.9mb	
NUR	91.57	334	eP	40 42.00	-0.9
ZOBO	150.90	100	ePKP	47 25.00	0.1
LPB	150.91	101	(PKP)	47 29.00	4.3X
CNCB	151.00	101	PKP	47 30.00	5.0X

S.D. = 1.0 on 14 of 17 obs.

OCT 20, 1989 16h 40m 52.72± 0.67s
38.081 N ± 6.0km 22.027 E ± 7.5km
DEPTH = 9.4 ± 4.4 km
GREECE (364)
ML 3.0 (ATH).

VLS	1.14	275	ePb	41 12.00	-2.1
			eSg	41 29.50	
ATH	1.34	94	ePb	41 18.20	0.8
			eSb	41 37.90	
NEO	1.54	37	ePb	41 20.00	-0.3
VLI	1.54	152	ePb	41 20.90	0.6
			eSb	41 44.50	
LIT	2.05	10	ePn	41 27.20	-0.5
			eSn	41 59.30	
KZN	2.23	355	ePb	41 31.00	0.6
LSK	2.35	332	ePn	41 34.90	2.9X
KEK	2.38	314	ePn	41 33.00	0.5
SRN	2.39	319	ePn	41 33.80	1.2
PLG	2.54	25	ePn	41 33.90	-0.8
OUR	2.71	33	ePn	41 36.30	-0.9
			eSn	42 11.40	
GRG	2.89	6	ePn	41 39.50	-0.2
BERA	3.07	329	ePn	41 52.00	9.8X
KNT	3.15	12	ePn	41 42.50	-0.8
			eSn	42 21.00	
OHR	3.17	343	iPn	41 45.20	1.5
VAM	3.19	146	ePn	41 43.60	-0.3
VAY	3.26	7	ePn	41 46.00	1.0
SRS	3.26	21	ePn	41 43.70	-1.3
			eSn	42 26.50	
TIR	3.66	334	e(Pn)	42 02.50	11.8X
SKO	3.91	354	ePn	41 47.00	-7.2X

S.D. = 1.1 on 16 of 20 obs.

& OCT 20, 1989 18h 31m 29.20s
36.807 N 121.585 W
DEPTH = 2.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

SAO	0.12	110	iPd	31 31.40	-0.2
GCC	0.40	304	iPc	31 37.00	-0.2
MHC	0.54	355	iPc	31 40.20	0.3
ARN	0.54	4	iPd	31 40.30	0.3
LLA	0.55	110	iPd	31 40.20	0.0
PCC	0.94	318	ePd	31 46.60	-1.3
PRI	1.00	132	ePd	31 48.30	-0.6
			iS	32 06.50	
BKS	1.19	334	iPc	31 50.70	-1.4
			iS	32 08.60	
BRK	1.19	333	ePc	31 50.30	-1.9
			i	31 52.00	
			eS	32 09.50	
PHAM	1.36	135	eP	31 53.50	-1.6
PKEM	1.40	122	eP	31 55.80	0.0
FRI	1.52	82	ePc	31 55.30	-2.1
			eS	32 15.50	
CMB	1.55	38	ePd	31 56.20	-1.8
			eS	32 15.50	
BCH	2.03	143	eP	32 02.40	-2.5
ORV	2.74	1	eP	32 14.30	-0.8
KVN	3.55	50	eP	32 25.30	-1.4

16 obs. associated

? OCT 20, 1989 19h 08m 25.21±15.79s
39.573 N ±118.km 28.628 E ±15.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.03	0	iPg	08 26.50	-0.8
			eSg	08 28.50	
KCT	0.71	343	iPg	08 38.00	-1.2
BNT	0.95	325	ePg	08 44.00	0.6
YLV	1.15	30	iPn	08 46.50	-0.2
CTT	1.58	355	iPn	08 54.10	0.8

S.D. = 1.2 on 5 of 5 obs.

OCT 20, 1989 19h 51m 16.87± 0.55s
41.947 N ± 5.3km 14.049 E ± 5.7km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

SDI	0.30	216	Pc	51 22.50	-0.6
			eSg	51 26.10	
DUI	0.42	133	P	51 25.00	-0.4
			eSg	51 30.60	
ALP	0.90	337	ePn	51 32.61	-1.7
RDP	1.01	260	Pc	51 36.00	-0.1
			eSg	51 51.10	
RMP	1.01	263	P	51 36.20	0.1
			eSg	51 50.10	
MNS	1.11	294	P	51 37.40	-0.3
			eSg	51 56.40	
CIO	1.42	332	ePn	51 41.95	-0.8
SSO	1.42	341	e(Pn)	51 42.35	-0.4
ASS	1.52	318	P	51 45.50	1.3
			eSn	52 05.60	
AOI	1.64	349	ePn	51 47.83	2.0
SGO	1.68	145	P	51 47.50	1.1
ARV	1.75	333	P	51 49.00	1.5
			eSn	52 11.90	
HVAR	2.16	54	iPn	51 53.90	0.5
PGD	2.58	319	P	52 00.90	1.4
BRT	2.60	113	P	51 59.10	-0.6
VBY	3.66	13	ePn	52 35.10	20.4X
			eSn	53 28.60	
TRI	3.77	357	eP	52 25.30	9.1X
VOY	4.09	358	e(Pn)	52 25.60	4.8X
			eSn	53 14.30	
PTJ	4.19	19	eP	52 40.10	17.9X
CTI	4.45	338	P	52 24.70	-1.3
FVI	4.73	349	P	52 28.00	-1.9

S.D. = 1.2 on 17 of 21 obs.

& OCT 20, 1989 19h 55m 41.90s
40.453 N 124.785 W
DEPTH = 5.0km
NEAR COAST OF NORTHERN CALIF. (35)
<BRK>. ML 3.4 (BRK).

FHC	0.70	60	iPc	55 55.70	-0.2
			iS	56 05.30	
WDC	1.72	85	iPd	56 10.30	-2.3
LBFM	2.37	67	eP	56 20.60	-1.7
MIN	2.43	92	iPd	56 20.30	-2.8
ORV	2.68	108	ePc	56 23.70	-2.8

5 obs. associated

OCT 20, 1989 22h 01m 55.59± 0.51s
45.528 N ± 5.1km 9.870 E ± 4.1km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.4 (LDG).

MDI	0.27	336	P	02 01.30	0.0
			eSg	02 06.70	
SAL	0.47	80	P	02 05.50	0.4
			eSg	02 14.50	
BOB	0.82	202	P	02 10.50	-1.0
			eSg	02 21.10	
VAI	0.84	294	P	02 12.60	0.8
			eSg	02 26.20	
ORO	1.33	275	P	02 20.30	0.1
			eSg	02 38.60	
CTI	1.35	67	P	02 20.50	0.0
			eSn	02 38.80	
MMK	1.43	292	ePc	02 22.20	0.4
CKI	1.58	226	P	02 24.50	0.8
			eSn	02 42.50	
LPG	2.19	270	Pn	02 32.80	-0.1
			Sn	03 01.50	
BSF	3.13	319	Pn	02 45.60	-0.4
			Sn	03 22.40	
CDF	3.39	329	Pn	02 49.10	-0.6
HAU	3.46	317	Pn	02 50.20	-0.5
			Sn	03 30.60	

S.D. = 0.6 on 12 of 12 obs.

? OCT 20, 1989 22h 50m 34.51± 2.88s
7.740 S ±26.9km 158.674 E ±13.0km
DEPTH = 68.5 ± 19.9 km
4.5mb (3 obs.)

SOLOMON ISLANDS (193)

SVO	1.80	141	eP	51 04.00	0.1
			eS	51 25.00	
HNR	2.10	143	eP	51 08.00	-0.1
			eS	51 31.00	
DZM	16.10	153	iPc	54 23.70	5.6X
BRS	20.33	195	e(P)	55 08.00	0.3
RMQ	20.90	206	eP	55 13.00	-0.4
OIS	22.42	233	iPc	55 29.40	0.7
WB5	26.46	240	iPc	56 07.00	-0.2
WARB	35.55	235	eP	57 27.00	-0.2
	0.4s		5.00nm		4.8mb
MRWA	45.42	236	iPd	58 48.20	-0.3
	0.3s		2.00nm		4.5mb
SPA	82.31	180	e(P)	02 49.90	0.0
	0.8s		3.75nm		4.4mb
BAO	144.83	131	ePKP	10 06.50	0.1

S.D. = 0.4 on 10 of 11 obs.

? OCT 21, 1989 00h 07m 26.51± 2.15s
1.408 N ±12.4km 84.999 W ±21.9km
DEPTH = 33.0km (normal)
4.4mb (1 obs.)
OFF COAST OF ECUADOR (104)

COTA	6.75	99	eP	09 06.00	-0.3
RECU	6.75	108	eP	09 08.00	1.7
TUNG	7.13	113	eP	09 09.70	-1.8
CAYA	7.14	101	eP	09 12.30	0.5
UPA	9.28	36	iPc	09 40.80	-0.4
	1.4s		106.98nm		5.8mb X
NNA	15.58	149	eP	11 04.50	-1.0
ZOBO	24.21	137	P	12 42.00	-0.1
	1.0s		12.50nm		4.4mb
Z	24s		0.20um		3.5MszX
			S	16 48.00	
			LR	21 16.00	
LPB	24.42	138	P	12 45.00	1.1
CNCB	24.69	138	P	12 47.00	0.3

S.D. = 1.2 on 9 of 9 obs.

OCT 21, 1989 00h 22m 21.95± 0.78s
38.650 N ± 5.9km 20.473 E ± 7.1km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.4 (ATH).

VLS	0.48	169	ePg	22 31.80	0.1
KEK	1.18	334	ePg	22 44.00	0.0
SRN	1.28	344	ePn	22 46.30	0.6
AGG	1.50	75	ePb	22 47.70	-1.2
LSK	1.50	4	iPnd	22 49.50	0.5
KZN	1.94	31	ePn	22 56.50	1.2
BERA	2.09	349	ePn	22 57.10	-0.3
LIT	2.13	47	ePn	22 58.50	0.4
NEO	2.24	72	ePb	23 01.30	1.6
OHR	2.47	6	iPn	23 03.30	0.4
TIR	2.73	350	ePn	23 06.70	0.1
GRG	2.74	32	ePn	23 05.60	-1.2
VLI	2.75	134	ePg	23 16.60	9.8X
PLG	2.87	52	ePn	23 07.00	-1.7
LACI	3.04	349	ePn	23 09.80	-1.1
VAY	3.12	30	ePn	23 13.40	1.4
KNT	3.13	36	ePnd	23 11.30	-0.9
			eSn	23 49.20	
OUR	3.19	57	ePn	23 13.60	0.5
SKO	3.40	12	ePn	23 15.50	-0.6
KKS	3.42	359	ePn	23 17.00	0.6
BCI	3.73	355	ePn	23 20.30	-0.4

S.D. = 1.0 on 20 of 21 obs.

& OCT 21, 1989 00h 49m 43.70s
37.047 N 121.877 W
DEPTH = 14.0km
4.4mb (3 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.6 (BRK).
Mo=5.3*10**15 Nm (BRK). Felt throughout the San Francisco Bay area.

GCC	0.10	260	iPc	49 46.40	-0.5
MHC	0.35	33	iPd	49 50.80	-0.4
ARN	0.41	42	iPc	49 51.60	-0.6
SAO	0.45	129	iPd	49 51.30	-1.5
			eS	49 57.60	
PCC	0.61	318	iPd	49 54.70	-0.8
PRS	0.82	150	iPd	49 58.50	-0.7
BKS	0.88	341	iPc	49 59.10	-1.1
			eS	50 11.70	
BRK	0.88	340	iPc	49 58.90	-1.3
			i	50 00.20	
ZSP	0.95	341	iPc	50 00.50	-0.8
PRI	1.33	132	iPd	50 06.20	-1.7
CMB	1.54	50	iPc	50 09.40	-1.4
PHAM	1.70	135	eP	50 11.00	-2.0
PKEM	1.73	124	eP	50 12.20	-1.3
FRI	1.74	91	iPd	50 11.80	-1.8
BCH	2.36	141	eP	50 20.00	-2.7
ORV	2.52	7	ePd	50 22.90	-2.0
ABL	3.07	135	eP	50 30.00	-2.9
KVN	3.59	55	iPc	50 38.50	-1.8
TNP	3.84	73	eP	50 42.00	-1.9
FHC	4.09	337	ePd	50 45.80	-1.4
RSSD	15.27	57	eP	53 24.30	3.7
EDM	17.23	18	iPd	53 45.70	0.3
FFC	22.32	31	eP	54 40.00	-2.1
	0.7s		19.00nm		4.7mb
IMA	34.40	338	eP	56 30.90	-1.4
	0.8s		3.45nm		4.3mb
MBC	39.31	1	eP	57 13.50	0.2
	1.0s		6.00nm		4.2mb

25 obs. associated

OCT 21, 1989 00h 51m 28.74± 1.10s
35.449 N ±20.5km 26.619 E ± 7.9km
DEPTH = 33.0km (normal)
CRETE (370)

KAP	0.47	77	eP	51 38.90	0.0
NPS	0.84	258	eP	51 44.50	0.3
VAM	1.98	269	eP	52 00.00	-0.5
YER	2.15	38	ePn	52 03.00	-0.1
VLI	3.24	294	eP	52 18.70	0.3

S.D. = 0.5 on 5 of 5 obs.

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* OCT 21, 1989 02h 10m 02.58± 0.90s
42.713 N ± 6.6km 13.052 E ± 7.2km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 1.9 (SSO).

ALP	0.39	80	ePg	10 10.84	0.2
			iSg	10 17.18	
MNS	0.43	220	Pc	10 11.20	-0.1
			eSg	10 17.30	
ASS	0.46	321	P	10 12.20	0.3
			eSg	10 18.00	
CIO	0.49	8	ePg	10 11.89	-0.6
			iSg	10 19.45	
ARV	0.79	354	P	10 18.20	0.3
			eSg	10 29.50	

S.D. = 0.5 on 5 of 5 obs.

? OCT 21, 1989 02h 16m 44.72± 5.95s
44.427 N ±11.3km 6.995 E ±45.2km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 1.8 (GEN).

PZZ	0.11	44	P	16 47.74	0.1
			S	16 49.69	
DOI	0.19	67	P	16 49.00	-0.1
			eSg	16 52.00	
STV	0.30	128	P	16 50.71	-0.3
			S	16 54.81	
ENR	0.37	123	P	16 52.58	0.3
			S	16 56.66	

S.D. = 0.4 on 4 of 4 obs.

OCT 21, 1989 02h 19m 51.05± 0.21s
27.898 N ± 3.9km 140.891 E ± 4.8km
DEPTH = 140.8km (10 depth phases)
5.0mb (27 obs.)
BONIN ISLANDS REGION (212)
Felt (I JMA) on Chichi-shima.

CBI	1.40	125	iPd	20 16.10	-3.0
			iS	20 35.50	
WKYJ	7.77	326	eP	21 44.00	1.3
TKSJ	8.44	318	P	21 54.10	2.5X
MAT	8.91	346	(P)	21 55.00	-2.9X
			(S)	23 28.00	

21d 02h

KAGJ	9.31	293	P	22	07.50	4.4X
YONJ	9.64	321	P	22	10.40	2.9X
SHK	9.65	315	eP	22	08.40	0.7
KUMJ	9.85	300	eP	22	15.40	5.0X
SHNJ	10.43	309	P	22	20.70	2.7X
MRRJ	14.49	1	P	23	06.00	-4.5X
HOOJ	14.58	7	eP	23	09.40	-2.2
			S	25	39.90	
GUA	14.77	164	eP	23	12.50	-1.7
	0.8s	131.34nm			5.3mb	
KUSJ	15.48	11	eP	23	20.80	-2.1
ASAJ	16.25	5	eP	23	30.20	-2.2
SSE	17.45	285	P	23	48.00	0.9
	0.5s	0.02nm			1.7mb	X
			sP	24	11.20	
			eS	27	09.00	
			sS	27	36.00	
MDJ	18.98	335	eP	24	02.00	-1.9
NJ2	19.53	288	Pd	24	11.40	1.7
SNY	19.82	319	eP	24	11.60	-1.0
CN2	20.16	326	Pc	24	17.60	1.5
TIA	21.74	298	Pd	24	32.00	0.0
WHN	23.30	283	eP	24	49.00	1.9
TIY	25.76	300	iPc	25	10.00	-0.3
			S	29	35.00	
XAN	28.01	291	P	25	30.80	0.0
GYA	30.43	275	eP	25	52.20	-0.2
			S	30	42.00	
LZH	32.31	294	eP	26	08.00	-0.8
	1.5s	0.07nm			2.3mb	X
			PP	27	26.60	
CD2	32.39	284	iPc	26	10.00	0.6
GTA	35.79	299	eP	26	36.20	-2.3
PMG	37.58	170	eP	26	53.00	-0.4
CHG	39.40	266	eP	27	10.00	1.3
BDT	39.93	264	eP	27	11.50	-1.5
MTN	41.59	194	iPc	27	26.80	0.2
SHL	43.60	279	eP	27	43.20	0.0
IPM	44.43	246	ePc	27	51.50	1.8
			e	29	33.00	561kmX
KNA	44.95	197	eP	27	54.00	0.4
PSI	47.23	246	ePd	28	13.30	1.5
	0.7s	9.50nm			4.6mb	
WB5	47.91	188	iPc	28	16.80	-0.1
			iPcP	33	22.80	
CTA	47.98	173	iPc	28	17.10	-0.4
	0.9s	39.08nm			5.2mb	
			i	28	49.60	142km
QIS	48.19	182	iPc	28	18.70	-0.3
ASPA	51.71	188	iPc	28	45.20	-0.6
	0.7s	40.00nm			5.3mb	
			eS	35	51.00	
			eScS	38	22.10	
MBL	52.85	205	eP	28	54.20	0.0
QLP	54.26	176	iPd	29	04.70	0.1
RMQ	54.60	171	iPd	29	06.50	-0.5
DZM	55.47	151	iPc	29	14.00	0.5
WARB	55.49	196	eP	29	14.00	0.5
	0.3s	16.00nm			5.4mb	
NANU	55.82	209	eP	29	16.40	0.5
	0.5s	18.00nm			5.3mb	
BRS	56.14	167	iPd	29	17.00	-1.2
	0.5s	15.00nm			5.2mb	
			i	29	52.00	150km
FBA	57.19	29	eP	29	26.00	0.9
	1.0s	1.90nm			4.0mb	
			e	29	33.10	23kmX
STK	59.45	179	iPd	29	40.40	-0.7
	0.8s	25.00nm			5.2mb	
FORR	59.68	193	iPd	29	42.00	-0.6
	0.4s	75.00nm			6.0mb	X
GBA	60.44	270	P	29	49.00	0.8
MRWA	61.59	205	iPd	29	55.80	0.1
	0.3s	6.00nm			5.0mb	
BWA	62.39	173	iPc	30	01.10	0.2
			i	30	36.30	147km
INK	62.78	25	eP	30	03.00	-0.1
CAN	63.34	173	iPd	30	07.20	0.0
			e	30	44.00	155kmX
MUN	64.01	203	eP	30	10.50	-1.1
MBC	65.42	15	eP	30	20.50	0.4
	0.7s	13.00nm			5.0mb	
			pP	30	53.50	136km
RKG	65.65	202	eP	30	25.00	2.9X
KEV	71.85	340	iP	30	59.80	0.0
	0.6s	15.60nm			4.9mb	
SOD	73.24	338	iP	31	07.40	-0.5
LON	74.89	45	eP	31	18.70	0.7
PNT	75.14	42	eP	31	20.00	0.7
	0.8s	16.00nm			4.8mb	
SUF	75.97	334	iP	31	23.40	-0.2
	0.6s	11.80nm			4.8mb	
EDM	76.86	36	iP	31	29.50	0.7
MIN	77.77	51	ePc	31	34.80	0.5
			epP	32	08.80	136km
NUR	77.83	333	iP	31	33.20	-0.7
	0.5s	7.00nm			4.7mb	
SES	79.52	38	eP	31	44.00	0.6
CMB	79.66	53	eP	31	45.50	1.1
	0.9s	3.90nm			4.2mb	
			pP	32	20.70	140km
KVN	80.77	51	iPd	31	51.80	1.4
			pP	32	26.10	136km
UPP	80.98	335	iP	31	50.30	-0.5
BCH	81.18	55	eP	31	54.00	1.4
FFC	81.66	31	iPc	31	55.20	0.7
	1.0s	24.00nm			4.9mb	
HFS	82.23	336	eP	31	56.20	-1.2
	0.5s	7.80nm			4.7mb	
NB2	82.44	338	P	31	57.60	-0.9
	0.5s	4.40nm			4.5mb	
CLC	82.67	53	eP	32	01.00	0.8
SBB	83.05	54	eP	32	03.00	0.8
GSC	83.48	54	eP	32	06.00	1.6
PLM	84.40	55	eP	32	10.00	0.8
BW06	84.44	44	iP	32	10.10	0.8
	1.0s	20.00nm			4.9mb	
			pP	32	45.70	140km
TPC	84.62	54	eP	32	10.00	-0.1
BAR	84.87	56	eP	32	13.00	1.7
GLA	86.03	55	eP	32	18.00	0.9
RSSD	86.98	41	eP	32	22.60	0.9
			pP	32	58.10	139km
RSON	87.99	31	eP	32	26.60	0.4
	0.9s	22.30nm			5.2mb	
GOL	88.78	45	eP	32	32.00	1.5
	0.9s	10.98nm			4.9mb	
GLD	88.85	45	eP	32	33.10	2.4X
	1.0s	20.00nm			5.1mb	
KHC	90.08	329	eP	32	35.30	-0.8
ALQ	90.84	49	eP	32	41.60	1.5
	1.1s	11.39nm			4.9mb	
			pP	33	17.80	141km
CDF	93.42	331	eP	32	49.90	-1.7
HAU	94.13	331	eP	32	53.30	-1.4
LOR	95.75	332	eP	33	01.70	-0.5
	0.7s	2.20nm			4.7mb	
LPG	95.89	330	eP	33	02.00	-1.2
	0.6s	5.70nm			5.2mb	
SMF	96.26	332	eP	33	03.50	-1.0
AVF	96.34	332	eP	33	03.20	-1.6
	0.7s	3.30nm			4.9mb	
SPA	117.74	180	e(PKP)	38	21.60	0.2
	0.8s	7.92nm				
ARE	148.02	76	ePKP	39	24.00	5.0X
	1.0s	21.00nm				
LPB	150.95	73	PKP	39	26.00	2.4X
PEL	152.36	109	iPKPc	39	33.00	8.2X
SAN	152.37	109	ePKP	39	32.50	7.7X
PCH	152.48	110	iPKPd	39	33.50	8.5X

S.D. = 1.1 on 85 of 99 obs.

OCT 21, 1989 02h 20m 32.75± 1.07s
36.152 N ± 9.6km 139.857 E ± 7.1km
DEPTH = 53.5 ± 13.9 km
HONSHU, JAPAN (227)
MG 3.8 (JMA). Felt (I JMA) ot
Kumagoyo, Mito ond Utsunomiya.

KAKJ	0.26	78	iPd	20	41.70	-0.2
			S	20	48.50	
KMG	0.38	269	iPd	20	43.40	0.4
			iS	20	51.50	
UTS	0.39	2	eP	20	43.00	-0.1
			S	20	51.00	
MIT	0.55	65	iPd	20	45.40	0.6
			iS	20	54.70	
CHJJ	0.71	262	iP+	20	46.00	-0.8
			S	20	56.20	
NIIJ	1.28	328	P	20	54.70	0.0
			S	21	13.00	
MAT	1.39	287	(P)	20	56.00	-0.1
			(S)	21	13.00	
MTMJ	1.71	285	P	21	00.90	0.2
IIDJ	1.72	248	iPd	21	00.80	0.0
			S	21	25.10	
YAMJ	2.02	4	iPd	21	05.60	0.6
			S	21	35.00	
TSRJ	3.21	260	P	21	22.20	0.4
OFUJ	3.26	26	P	21	21.70	-0.8
			eS	21	59.60	

S.D. = 0.6 on 12 of 12 obs.

OCT 21, 1989 03h 17m 47.74± 0.48s
39.358 N ± 4.6km 20.439 E ± 3.5km
DEPTH = 6.4 ± 2.6 km
GREECE-ALBANIA BORDER REGION (392)
MD 3.4 (ATH).

KEK	0.61	306	eP	18	00.20	0.2
SRN	0.62	327	iPg	18	00.30	0.1
LSK	0.80	9	iPgd	18	02.70	-1.0
VLS	1.18	174	eP	18	10.10	-0.1
			eS	18	28.80	
BERA	1.40	345	iPnd	18	16.70	3.1X
KZN	1.40	47	eP	18	12.00	-1.8
AGG	1.51	102	ePb	18	15.70	0.4
LIT	1.75	64	ePn	18	18.30	-0.4
			eSn	18	43.40	
OHR	1.77	9	iPn	18	20.70	1.6
TIR	2.03	348	ePn	18	24.00	1.1
LCI	2.15	298	P	18	23.20	-1.3
			eSn	18	56.50	
NEO	2.16	90	eP	18	25.80	1.1
GRG	2.19	43	ePnd	18	25.40	0.2
			eSn	18	56.00	
THE	2.32	56	ePn	18	27.50	0.5
			eSn	18	56.60	
PHP	2.33	0	ePn	18	27.40	0.3
LACI	2.34	346	ePn	18	27.50	0.2
PLG	2.53	65	eP	18	30.00	0.0
VAY	2.55	39	ePn	18	30.00	-0.2
KNT	2.61	45	ePn	18	31.20	0.1
			eSn	19	04.70	
PUK	2.71	351	ePn	18	32.50	-0.1
KKS	2.72	360	ePn	18	35.50	2.9X
SKO	2.72	16	iPn	18	32.50	-0.2
			iSn	19	05.90	
			iSg	19	13.00	
SDA	2.75	345	ePn	18	33.50	0.4
OUR	2.90	69	ePn	18	34.60	-0.6
SRS	2.99	53	ePn	18	35.60	-0.9
			eSn	19	12.50	
BCI	3.02	355	ePn	18	38.30	1.4
VLI	3.29	142	eP	18	47.00	6.2X
SOI	3.66	251	P	18	47.00	1.0
			eSn	19	28.50	
SDI	5.56	297	P	19	12.80	-0.3
ALP	6.21	306	eP	19	20.63	-1.6

S.D. = 0.9 on 27 of 30 obs.

OCT 21, 1989 03h 29m 34.04± 0.22s
5.272 S ± 5.0km 68.542 E ± 4.1km
DEPTH = 10.0km (geophysicist)
5.1mb (37 obs.) 5.2Msz (10 obs.)
CHAGOS ARCHIPELAGO REGION (426)
CENTROID, MOMENT TENSOR (HRV)
Dota Used: GDSN
L.P.B.: 16S, 29C
Centroid Locotion:
Origin Time 03:29:38.8 1.0
Lot 5.72S 0.10 Lon 68.46E 0.08
Dep 15.0 FIX Half-durotion 2.1
Moment Tensor; Scole 10**17 Nm
Mrr=-1.14 0.08 Mtt= 0.48 0.11
Mff= 0.66 0.14 Mrt= 1.93 0.27
Mrf=-1.81 0.26 Mtf=-0.64 0.07
Principol Axes:

	Vol=	Plg=	Azm=
T	2.92	33	46
N	-0.06	2	314
P	-2.86	57	221

Best Double Couple:Mo=2.9*10**17
NP1:Strike=145 Dip=12 Slip= -79
NP2: 314 78 -92

GBA	20.73	25	Pd	34	16.30	-1.1
	1.2s	39.30nm			4.6mb	
POO	24.23	12	iPd	34	53.50	1.4
BOM	24.38	10	eP	34	55.50	1.9
			eS	39	14.00	
HYB	24.62	23	iPc	34	56.00	0.1

1.0s 75.00nm 5.3mb
e 35 03.30
NDI 34.78 13 iPc 36 27.00 0.1
QUE 35.29 358 eP 36 32.50 1.0
eS 42 10.00
SHL 38.13 35 iP 36 56.00 0.6
iS 42 44.50
CHG 38.34 51 ePc 36 57.20 0.1
1.0s 30.25nm 5.0mb
LSA 40.99 31 P 37 21.50 2.1
N 15s 3.30um
PP 39 03.00
S 43 35.00
MAIO 42.21 349 eP 37 31.00 2.0
eS 43 55.00
SLR 43.54 238 iPd 37 40.00 -0.1
1.0s 60.00nm 5.3mb
Z 18s 10.65um 5.8Msz
i 37 43.00
PRY 44.65 237 eP 37 49.00 -0.1
0.7s 5.00nm 4.5mb
i 37 56.20
BHD 44.65 331 ePd 37 49.00 0.3
eS 44 22.00
KSH 45.03 8 eP 37 53.60 1.7
Z 18s 3.00um 5.3Msz
N 12s 1.70um
eS 44 31.00
SLY 46.06 334 eP 38 01.50 1.7
eS 44 48.00
MBH 47.50 319 eP 38 10.00 -1.4
HVD 47.65 233 eP 38 04.00 -8.8X
MSL 47.77 332 ePd 38 15.50 2.1
PRNI 47.81 320 e(P) 38 14.00 0.1
TAB 47.81 336 eP 38 16.00 2.1
GYA 48.56 48 P 38 20.00 0.1
CD2 49.26 41 Pd 38 24.40 -0.7
HRI 49.35 323 e(P) 38 25.00 -0.8
BHL 49.85 324 P 38 29.00 -0.6
S 45 47.00
HLW 49.92 317 eP 38 33.00 2.9
BCAO 50.87 280 iPd 38 37.10 -0.5
0.5s 13.00nm 5.1mb
id 39 54.20
id 40 01.70
WMO 51.83 18 P 38 44.40 -0.2
Z 18s 3.40um 5.4Msz
N 18s 2.20um
eS 46 03.00
LZH 52.79 36 Pc 38 51.00 -1.0
1.2s 0.06nm 2.4mb X
Z 24s 3.20um 5.3MszX
E 12s 0.70um
sP 39 22.50
PcP 39 56.00
S 46 20.00
sS 46 56.00
GTA 53.01 30 Pc 38 52.60 -0.9
Z 19s 2.60um 5.3Msz
E 15s 1.40um
sP 39 05.00
S 46 22.00
XAN 54.61 41 P 39 09.10 3.8X
KVT 54.89 330 eP 39 07.00 -0.2
BCK 55.28 323 eP 39 09.50 -0.6
BBTK 55.68 327 iP 39 13.00 0.0
WHN 56.45 48 eP 39 19.20 0.7
Z 16s 1.19um 5.1MszX
YER 56.46 322 eP 39 19.00 0.4
KHL 56.48 324 eP 39 16.00 -2.8
TIY 59.10 40 eP 39 36.00 -1.2
N 18s 1.90um
S 47 41.50
EZN 59.35 323 iP 39 37.70 -1.1
BTO 59.41 36 eP 39 40.00 0.7
N 15s 1.00um
E 14s 0.30um
HHC 60.47 37 P 39 46.80 0.2
Z 24s 2.20um 5.2MszX
S 48 06.00
TIA 61.37 44 eP 39 51.50 -1.2
Z 34s 1.30um 4.9MszX
N 28s 0.90um
eS 48 16.00
CFR 61.84 329 eP 40 04.00 8.3X
SSE 61.87 51 P 39 55.50 -0.6
1.0s 0.02nm 2.2mb X

Z 20s 1.40um 5.1Msz
E 14s 1.10um
eS 48 28.00
eSS 52 32.00
MAW 62.35 182 eP 39 58.00 -0.7
BJI 62.83 40 eP 40 02.00 -0.3
Z 18s 1.12um 5.1Msz
N 14s 0.69um
eS 48 31.00
VRI 63.05 328 ePc 40 04.00 0.3
LSK 63.08 320 eP 40 04.10 0.0
MLR 63.21 328 ePc 40 05.00 0.1
OHR 63.50 321 eP 40 05.30 -1.5
SKO 63.60 322 iP 40 06.00 -1.4
1.4s ******nm 8.6mb X
i 40 14.00
i 40 23.00
PHP 64.05 322 iPc 40 08.90 -1.4
TIR 64.21 321 eP 40 11.50 0.1
KKS 64.28 322 eP 40 11.50 -0.4
PUK 64.58 322 eP 40 12.50 -1.3
BCI 64.66 322 eP 40 12.80 -1.5
SDA 64.81 322 eP 40 14.80 -0.5
ASPA 65.35 114 iPd 40 18.20 -1.0
0.9s 14.00nm 5.2mb
WB5 65.50 109 eP 40 19.50 -0.7
SPC 68.54 328 eP 40 39.50 0.3
SRO 68.78 326 iP 40 40.00 -0.4
RDP 69.02 318 P 40 50.50 8.4X
KRA 69.23 329 eP 40 43.40 0.3
e 40 49.70
MNS 69.34 319 P 40 43.50 -0.5
ZST 69.67 326 i(P) 40 45.40 -0.4
ASS 69.68 320 P 40 45.00 -1.1
LJU 69.99 323 e(P) 40 47.00 -0.9
VOY 70.37 323 e(P) 40 49.50 -0.8
QIS 70.45 110 ePd 40 50.60 -0.5
CN2 70.69 40 eP 40 51.00 -1.1
Z 20s 1.20um 5.1Msz
E 13s 0.50um
pP 40 57.50 21kmX
FVI 71.32 323 P 40 55.50 -0.4
PII 71.36 320 P 40 54.50 -1.7
MME 71.47 320 Pc 40 56.80 -0.4
BDI 71.47 320 P 40 55.70 -1.3
KSP 71.58 328 eP 40 57.30 -0.1
CTI 71.74 322 Pc 40 58.60 0.0
BHG 71.82 324 iPc 40 58.40 -0.5
0.6s 9.00nm 5.0mb
KHC 72.14 326 P 41 00.70 -0.1
SAL 72.23 321 P 40 57.50 -3.8X
OGA 72.51 323 eP 41 03.00 -0.3
0.8s 15.00nm 5.1mb
BOB 72.52 320 Pc 41 03.20 0.0
MDI 72.81 321 P 41 04.00 -0.7
FUR 72.98 324 eP 41 05.40 -0.4
0.8s 33.00nm 5.5mb
PCP 73.00 320 P 41 06.26 0.2
FIN 73.08 319 P 41 06.67 0.2
CKI 73.13 319 Pc 41 06.40 -0.3
IMI 73.16 319 P 41 06.97 0.0
ROB 73.34 319 P 41 08.31 0.3
VAI 73.44 321 P 41 08.50 0.1
SBF 73.44 319 eP 41 08.10 -0.5
0.7s 9.70nm 5.0mb
CLL 73.58 327 iP 41 08.50 -0.7
2.2s 99.00nm 5.5mb
i 41 26.20
ENR 73.60 319 P 41 09.64 0.1
STV 73.67 319 P 41 11.18 1.2
HOF 73.69 326 iPc 41 10.40 0.5
1.2s 24.00nm 5.1mb
MDJ 73.72 41 eP 41 10.00 -0.1
Z 20s 1.00um 5.1Msz
S 50 42.00
LLS 73.74 322 ePd 41 09.80 -0.7
GRF 73.75 325 iPd 41 10.30 0.1
0.8s 37.00nm 5.5mb
e 41 17.40
e 41 26.60
FRF 73.84 318 eP 41 10.50 -0.3
0.7s 6.60nm 4.8mb
LRG 73.99 318 eP 41 11.70 0.0
NUR 73.99 339 iP 41 11.20 -0.1
0.6s 9.10nm 5.0mb
MMK 74.03 321 ePd 41 11.80 -0.4
KIC 74.06 278 Pd 41 12.60 -0.1

0.7s 20.50nm 5.3mb
RSP 74.09 320 P 41 09.74 -2.7
LSD 74.29 320 P 41 13.43 -0.3
RRL 74.30 319 P 41 12.82 -1.0
LIC 74.32 278 Pd 41 14.00 -0.2
0.8s 20.00nm 5.2mb
Z 22s 0.29um 4.5Msz
TIC 74.37 278 Pd 41 14.50 0.0
0.7s 16.50nm 5.2mb
DIX 74.39 321 ePd 41 14.20 -0.1
BNI 74.43 320 P 41 14.00 -0.4
LPG 74.56 320 eP 41 14.30 -1.1
0.8s 9.90nm 4.9mb
EMS 74.69 321 ePd 41 15.30 -0.6
SUF 75.05 341 iP 41 17.70 0.2
0.6s 30.30nm 5.5mb
CDF 75.47 323 eP 41 19.70 -0.6
0.8s 6.40nm 4.7mb
BSF 75.51 322 eP 41 19.70 -0.9
0.8s 9.10nm 4.9mb
HAU 75.86 322 eP 41 21.70 -0.7
UPP 76.23 336 iP 41 24.40 0.2
CTA 76.68 109 iPd 41 27.00 -0.6
1.2s 46.88nm 5.5mb
SMF 76.88 320 eP 41 27.80 -0.3
LBF 76.92 321 eP 41 28.30 -0.1
MAT 77.02 51 (P) 41 28.00 -1.2
Z 20s 1.06um 5.2Msz
eS 51 20.00
LOR 77.10 321 eP 41 29.40 0.0
0.9s 7.20nm 4.8mb
EROO 77.17 314 eP 41 31.60 1.7
SSF 77.25 321 eP 41 30.40 0.2
0.8s 13.40nm 5.1mb
BGF 77.48 320 eP 41 31.70 0.2
0.8s 26.80nm 5.4mb
MAF 77.54 319 eP 41 32.00 0.2
TCF 77.79 319 eP 41 33.80 0.6
ECHE 77.80 312 eP 41 35.50 2.1
RJF 77.90 318 eP 41 34.50 0.7
0.9s 19.60nm 5.2mb
LPO 77.90 318 eP 41 34.60 0.8
0.7s 11.00nm 5.1mb
PMG 77.95 98 eP 41 34.00 -0.6
HFS 78.00 335 eP 41 34.10 0.1
0.7s 40.60nm 5.6mb
Z 16s 0.32um 4.7MszX
LR 16 39.00
LSF 78.22 319 eP 41 35.90 0.4
1.1s 31.70nm 5.3mb
LFF 78.29 318 eP 41 36.90 1.0
0.7s 14.10nm 5.1mb
SOD 78.31 345 iP 41 36.00 0.4
i 41 43.00
EVIA 78.66 311 eP 41 40.00 1.7
SNA 78.67 199 iPd 41 39.00 1.4
1.1s 26.58nm 5.2mb
ETOR 78.95 313 eP 41 41.20 1.4
AFC 79.08 309 eP 41 41.00 0.3
MFF 79.43 319 eP 41 42.50 0.4
NB2 79.52 335 P 41 42.30 -0.1
1.1s 15.40nm 4.9mb
KEV 79.98 346 eP 41 45.00 0.4
1.0s 26.00nm 5.2mb
i 41 52.20
LDF 80.08 321 eP 41 45.70 0.1
1.0s 16.00nm 4.9mb
TOL 80.15 312 eP 41 57.00 10.8X
FLN 80.36 321 eP 41 47.40 0.3
LPF 80.47 320 eP 41 48.30 0.6
GRR 80.47 321 eP 41 48.20 0.5
AVE 81.23 305 iP 41 45.00 -7.0X
SPA 84.76 180 ePd 42 10.90 1.2
1.0s 19.00nm 5.3mb
SBA 86.61 168 (P) 42 21.80 3.3X
IMA 112.59 17 PKP 48 12.00 -0.1
CNCB 131.75 242 PKP 48 52.60 1.8
PKS 52 20.00
LPB 131.96 242 PKP 48 52.70 1.7
LR 32 20.00
ZOBO 132.09 243 PKP 48 52.30 0.9
1.2s 10.14nm
Z 24s 0.98um 5.4MszX
LR 32 38.00
EDM 132.18 2 ePKP 48 50.00 0.1
FVM 142.22 332 ePKP 49 10.00 1.1
BW06 142.61 358 PKP 49 09.00 -0.8

21d 03h

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MIN    143.91   13 ePKP   49 10.90   -1.0
OLY    144.72  331 PKP    49 12.50   -0.7
DAU    145.01  360 PKP    49 14.20    0.2
DUG    145.21    2 PKP    49 14.00   -0.2
GLD    145.22  352 PKP    49 14.00   -0.2
GOL    145.29  352 PKP    49 14.00   -0.5
KVN    145.84    9 PKP    49 16.00    0.7
LNO    146.27  337 ePKP   49 16.20    0.5
                   e      49 25.50
                   e      49 27.40
TUL    146.27  337 iPKP   49 16.80    0.9
        1.2s     67.70nm
                   e      49 28.00
CMB    146.39   13 PKP    49 17.20    1.1
SIO    146.62  337 iPKP   49 18.90    2.5X
ACO    146.75  342 iPKPc  49 19.50    2.9X
ARN    146.77   15 PKP    49 19.00    2.3X
TNP    146.92    8 PKP    49 17.60    0.5
SAO    147.35   15 ePKP   49 20.60    3.0X
UPA    148.12  278 iPKPc  49 23.60    4.2X
        0.9s     50.42nm
MEO    148.31  340 e(PKP) 49 19.80    0.6
CWC    148.39   10 ePKP   49 23.00    3.5X
CLC    149.08   10 ePKP   49 26.00    5.6X
GSC    149.71    9 ePKP   49 27.00    5.6X
SYP    149.84   14 ePKP   49 28.00    6.3X
ALQ    150.12  352 PKP    49 22.50    0.3
SBB    150.14   11 ePKP   49 23.00    0.9
MWC    150.55   11 ePKP   49 29.00    6.1X
RVR    150.90   10 ePKP   49 24.00    0.9
TPC    151.00    8 ePKP   49 30.00    6.7X
PLM    151.61   10 ePKP   49 30.00    5.5X
GLA    152.18    6 ePKP   49 33.00    7.9X
BAR    152.30    9 ePKP   49 33.00    7.7X
      S.D. = 0.9  on 162 of 184 obs.
-------------------------------------
*  OCT 21, 1989  04h 40m 01.87± 0.44s
   12.242 N ±22.0km   87.397 W ±16.6km
   DEPTH =  91.9 ± 13.9 km
   4.5mb (  5 obs.)
 NEAR COAST OF NICARAGUA          ( 74)

RIN3   2.45 126 eP     40 41.30    0.5
                  S    41 10.00
JUD    2.75 139 eP     40 43.80   -1.2
                  S    41 14.50
YUP    3.05 310 ePd    40 49.00   -0.1
MYT    3.16 305 ePc    40 50.40   -0.2
                  S    41 27.40
CAO    3.38 138 eP     40 52.90   -0.7
                  S    41 30.40
IXG    3.54 303 eP     40 55.50   -0.4
EPA    3.55 129 eP     40 55.50   -0.3
                  S    41 36.20
REC    3.74 306 eP     41 00.50    1.8
QPS    4.27 131 eP     41 05.80    0.0
LHG    4.29 301 iPd    41 04.00   -2.1
CDM    4.46 126 eP     41 09.50    0.7
TIG    5.14 128 eP     41 18.10    0.2
SBG    5.36 303 eP     41 22.00    0 7
                  S    42 20.00
CTCR   5.64 126 eP     41 25.40    0.3
PBC    5.73 131 eP     41 25.30   -0.8
UPA    8.38 112 eP     42 04.00    1.5
MEO   24.63 337 iPc    45 15.30    0.1
TUL   24.76 344 eP     45 16.20   -0.1
       0.8s     25.30nm          4.7mb
                  e    45 42.40
LNO   24.76 344 eP     45 15.90   -0.3
                  i    45 17.90
                  e    45 39.80
RSSD  34.84 339 eP     46 47.00    0.8
BW06  35.99 332 iP     46 54.00   -1.9
       0.8s      2.68nm          4.2mb
TNP   37.00 319 eP     47 06.00    1.6
       0.8s      1.03nm          3.8mb
KVN   38.12 320 iP     47 15.50    1.6
FFC   43.91 348 eP     48 00.00   -0.9
       0.7s     10.00nm          4.8mb
SCH   45.46  17 eP     48 12.00   -1.3
PNT   45.53 331 eP     48 14.00    0.1
       0.7s      8.00nm          4.7mb
      S.D. = 1.1  on 26 of 26 obs.
-------------------------------------
?  OCT 21, 1989  04h 54m 40.23±10.74s
   8.321 S ±101.km  129.749 E ±27.0km
   DEPTH = 217.6 ± 47.9 km
```

```
 TIMOR SEA                          (290)

MTN     4.70 163 iP     55 51.90    0.0
                 eS     56 54.00
KNA     7.45 187 iPc    56 26.80   -0.3
       0.2s     19.00nm          4.9mb X
                 eS     57 55.00
WB5    12.33 159 eP     57 30.00    0.1
                 i      57 32.80
                 eS     59 31.20
ASPA   15.77 166 eP     58 16.60    4.2X
                 eS     01 06.90
MBL    15.95 216 eP     58 15.00    0.4
NANU   19.68 222 eP     58 54.40   -0.3
      S.D. = 0.6  on  5 of  6 obs.
-------------------------------------
%  OCT 21, 1989  05h 24m 57.13± 0.79s
   37.137 N ± 8.3km    3.477 W ± 6.4km
   DEPTH =  10.0km  (geophysicist)
 SPAIN                              (377)
      mbLg 3.1 (MDD). Felt (IV) in the
      Monochil area.

AFC     0.13 336 iPg    24 59.70   -0.7
ENIJ    1.02  99 iPg    25 16.00   -0.5
                 iSg    25 30.90
EBAN    1.05 347 iPg    25 17.10    0.1
                 iSg    25 31.20
EPRU    1.41 264 iPn    25 23.00    0.1
EHOR    1.56 296 iPn    25 24.60   -0.4
                 iSn    25 45.10
EVIA    1.68  27 iPn    25 27.80    1.0
                 iSn    25 49.70
EJIF    1.74 247 iPn    25 28.00    0.5
TOL     2.78 351 ePg    25 50.00    7.5X
                 eSn    26 12.00
                 iSg    26 27.00
      S.D  = 0.7  on  7 of  8 obs.
-------------------------------------
*  OCT 21, 1989  05h 43m 33.51± 0.98s
   38.092 N ± 8.8km   21.921 E ±10.3km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      MD 3.2 (ATH).

AGG     0.98  19 ePc    43 51.90   -0.3
                 eS     44 07.10
VLS     1.05 275 ePb    43 53.00   -0.4
                 eSb    44 12.00
VLI     1.59 149 ePb    44 02.00    0.2
                 eSb    44 27.00
LIT     2.05  12 ePd    44 12.50    4.0X
KZN     2.21 357 ePb    44 12.20    1.3
KEK     2.32 315 ePg    44 20.00    7.7X
PLG     2.57  27 ePn    44 15.00   -0.9
OHR     3.14 344 ePn    44 29.20    5.3X
      S.D. = 1.2  on  5 of  8 obs.
-------------------------------------
?  OCT 21, 1989  05h 47m 30.92± 4.16s
    2.849 S ±51.7km  150.123 E ±12.3km
   DEPTH =  33.0km  (normal)
   4.5mb (  1 obs.)
 NEW IRELAND REGION                 (190)

RAB     2.44 123 iPc    48 08.20   -1.1
                 iS     48 27.50
PAA     6.35 123 eP     49 06.00    1.2
PMG     7.15 204 eP     49 16.00    0.0
                 eS     50 23.00
WB5    22.87 221 eP     52 33.70    0.9
ASPA   25.97 216 eP     53 01.50   -1.0
       0.4s      6.00nm          4.5mb
      S.D. = 1.5  on  5 of  5 obs.
-------------------------------------
   OCT 21, 1989  06h 14m 50.65± 0.82s
   26.082 S ± 5.7km  179.884 W ± 4.6km
   DEPTH = 444.3 ±  9.6 km
   5.2mb ( 27 obs.)
 SOUTH OF FIJI ISLANDS              (171)
      CENTROID, MOMENT TENSOR       (HRV)
      Data Used: GDSN
      L.P.B.:  9S, 14C
      Centroid Location:
      Origin Time        06:15: 0.9 1.5
      Lat 25.77S 0.15 Lon 179 43E 0.15
      Dep 462.2 7.9 Half-duration  1.7
      Moment Tensor;   Scale 10**16 Nm
```

```
       Mrr=-2.52 0.65  Mtt= 2.43 1.08
       Mff= 0.10 1.09  Mrt= 0.01 1.25
       Mrf=-7.99 1.10  Mtf=-5.99 0.94
      Principal Axes:
       T  Val=  9.97  Plg=27  Azm= 52
       N        0.61       37      163
       P      -10.58       42      295
Best Double Couple:Mo=1.0*10**17
      NP1:Strike= 92 Dip=38 Slip=-165
      NP2:        350      81      -53

RAO     3.61 152 iP     15 05.70 -57.0X
                 eS     17 05.80
SVA     8.07 349 ePc    16 47.80   -0.2
                 S      18 24.20
HBZ    11.59 187 eP     17 28.60    1.7
       0.3s     292.00nm          6.2mb X
KRP    12.43 197 Pc     17 40.00    4.0X
       1.0s     451.00nm          5.9mb
                 eS     20 11.00
DZM    13.11 285 iPd    17 45.60    2.1
                 iS     20 09.90
                 ScP    25 30.00
WHH    13.12 193 P      17 43.00   -0.6
MOH    13.25 190 eP     17 45.50    0.7
AFI    14.30  34 iPd    17 51.10   -5.0X
                 eS     17 58.00
PGZ    14.85 191 P      18 00.50   -1.0
       0.4s     173.00nm          5.9mb
KIW    15.36 195 P      18 07.10    0.2
WDW    15.73 194 P      18 09.30   -1.3
MRW    15.76 195 P      18 10.60   -0.3
                 eS     20 53.20
WEL    15.80 195 P      18 11.20   -0.1
MOW    15.82 194 P      18 11.80    0.2
TCW    15.85 196 P      18 10.00   -1.8
MSZ    21.00 205 P      19 06.00    3.8X
                 S      22 29.80
BRS    24.44 261 iPc    19 35.50    1.6
       0.7s     66.50nm          5.3mb
                 i      19 39.00
COO    25.21 253 iPc    19 43.10    2.2
TBI    27.74  91 iP     20 03.60    0.3
       0.9s     95.00nm          5.2mb
RMQ    28.09 262 iPd    20 08.10    1.7
       0.7s    318.00nm          5.8mb
CAN    28.20 243 eP     20 09.20    1.9
BWA    28.53 245 iPd    20 09.90   -0.3
AFR    29.16  79 iP     20 15.10   -0.6
       0.7s     50.00nm          5.0mb
PAE    29.29  80 iP     20 16.30   -0.5
       0.7s     15.00nm          4.5mb
PPT    29.33  79 iP     20 16.30   -0.9
       0.7s     50.00nm          5.0mb
TVO    29.54  80 iP     20 18.40   -0.7
       0.7s    115.00nm          5.4mb
CMS    30.45 252 eP     20 27.00    0.1
TOO    31.40 240 iPd    20 37.00    2.0
CTA    31.66 274 iPd    20 37.20   -0.1
       1.0s     340.00nm          5.7mb
                 iS     25 15.00
                 iScP   26 17.00
QLP    32.10 261 eP     20 42.00    1.0
STK    34.07 251 iPd    20 58.70    1.2
                 i      23 23.80
PMG    35.36 292 eP     21 08.00   -0.5
ADE    36.54 246 iPd    21 19.00    0.8
       0.5s     56.34nm          5.2mb
QIS    37.50 270 iPc    21 25.70   -0.5
       0.3s     22.00nm          5.1mb
                 i      26 38.20
                 e      27 33.00
ASPA   41.83 263 iPd    22 01.00   -0.5
       0.4s     292.00nm          6.1mb
                 iPcP   23 47.30
                 eScP   26 54.00
                 eS     27 36.10
                 i      27 44.40
                 eScS   31 11.10
WB5    42.40 269 iPd    22 05.00   -1.0
                 eS     27 52.00
FORR   45.64 251 iPc    22 30.30   -1.0
       0.4s     114.00nm          5.6mb
WARB   47.71 257 iPd    22 46.20   -1.1
       0.3s      13.00nm          4.8mb
MTN    47.76 276 eP     22 46.00   -1.7
KNA    48.79 272 eP     22 54.80   -0.7
```

0.7s 204.00nm 5.7mb
COOL 51.55 250 iPd 23 14.40 -1.5
KLB 54.26 249 iPd 23 33.80 -1.7
MBL 55.04 262 eP 23 39.20 -1.9
0.6s 18.00nm 4.6mb
BAL 55.35 250 iPd 23 41.80 -1.3
0.3s 21.00nm 4.9mb
MUN 55.49 248 iPd 23 43.00 -1.0
MRWA 56.25 251 iPd 23 48.20 -1.3
0.3s 11.00nm 4.7mb
NANU 58.43 259 eP 24 03.00 -1.4
0.6s 86.00nm 5.4mb
SPA 64.07 180 e(P) 24 42.30 1.1
1.0s 59.00nm 5.2mb
e 25 11.10
TRT 66.45 273 e(P)d 24 54.70 -2.0
0.7s 104.40nm 5.6mb
MAT 73.75 326 eP 25 38.00 -1.6
1.1s 48.10nm 5.0mb
MAW 75.75 201 iPd 25 51.10 0.8
BCH 83.12 45 eP 26 30.10 0.4
SNG 83.78 281 eP 26 34.20 1.0
MWC 83.86 47 eP 26 18.00 -15.5X
SNA 83.86 179 iPd 26 33.30 0.6
0.9s 15.97nm 4.7mb
BAR 83.87 49 eP 26 34.00 0.7
PLM 84.13 49 eP 26 35.00 0.1
RVR 84.17 48 eP 26 35.00 0.2
SBB 84.29 47 eP 26 35.00 -0.5
CMB 84.71 43 eP 26 38.10 0.6
1.1s 3.00nm 3.9mb X
CLC 85.11 46 eP 26 39.00 -0.5
TPC 85.12 48 eP 26 40.00 0.4
CWC 85.18 46 eP 26 39.00 -0.9
GSC 85.33 47 eP 26 41.00 0.4
GLA 85.35 50 eP 26 42.00 1.4
CN2 85.70 324 Pd 26 41.60 -0.4
TIA 85.81 314 P 26 42.50 -0.2
TNP 86.71 45 iP 26 48.00 0.7
1.0s 22.50nm 4.9mb
KVN 86.75 43 iP 26 47.30 -0.1
pP 28 32.30 465kmX
GYA 87.95 301 P 26 53.40 0.1
BJI 88.68 316 eP 26 56.50 0.3
1.5s 0.05nm 2.1mb X
TIY 89.74 313 eP 27 01.60 0.3
CHG 90.54 291 ePd 27 06.00 0.7
1.0s 37.50nm 5.3mb
ALO 92.21 52 eP 27 13.20 0.3
1.0s 3.00nm 4.3mb
pP 29 00.80 474kmX
CD2 92.36 303 iPc 27 14.40 0.9
BUL 126.36 214 iPKPd 33 04.10 0.1
1.0s 15.00nm
KEV 133.56 347 ePKP 33 13.00 -3.0X
SUF 139.50 342 ePKP 33 16.60 -10.7X
NUR 141.70 341 ePKP 33 23.00 -8.3X
0.5s 12.60nm
i 33 32.80
UPP 144.13 345 iPKP 33 32.00 -3.4X
NB2 144.24 351 PKP 33 32.80 -2.9X
0.7s 44.40nm
HFS 144.70 348 ePKP 33 33.50 -2.9X
0.5s 32.10nm
HRI 148.34 292 ePKP 33 45.00 1.7
DSI 148.71 288 ePKP 33 46.00 2.3
MBH 149.13 285 ePKP 33 47.00 2.6X
BBTK 149.55 305 ePKP 33 44.00 -1.0
LFK 149.95 296 iPKP 33 49.70 4.1X
CFR 150.52 318 ePKP 33 53.00 7.0X
EKA 150.68 4 PKP 33 50.00 4.0X
0.6s 7.80nm
KRA 151.60 333 iPKPd 33 52.60 5.1X
MLR 151.67 320 ePKPc 33 54.00 6.0X
KSP 152.34 338 ePKP 33 49.00 0.4
0.7s 38.00nm
i 33 55.00
ic 34 07.50
e 35 50.00
CLL 152.96 342 iPKPd 33 56.50 7.1X
1.0s 35.00nm
i 34 09.30
e 35 50.00
PRU 153.66 339 ePKP 33 49.50 -0.9
e 33 57.80
KHC 154.72 339 iPKPc 33 51.50 -0.4
i 34 18.00

LIC 159.65 165 PKPc 33 59.10 0.3
KIC 159.85 166 PKPc 33 59.20 0.1
TIC 160.06 165 PKPc 33 59.60 0.3
S.D. = 1.1 on 80 of 98 obs.

% OCT 21, 1989 06h 56m 09.16± 2.16s
33.926 N ±24.5km 134.507 E ± 8.0km
DEPTH = 10.0km (geophysicist)
SHIKOKU, JAPAN (236)
MG 3.3 (JMA). Felt (I JMA) at
Tokushima.

TKS 0.15 23 eP 56 12.00 -0.6
iS 56 12.80
TKSJ 0.39 279 iPd 56 17.20 0.1
S 56 23.30
WKYJ 0.95 72 P 56 26.60 -0.7
S 56 40.50
YONJ 1.53 326 P 56 36.00 -0.5
S 56 54.10
TSRJ 2.01 37 P 56 45.10 1.5
S 57 09.60
S.D. = 1.3 on 5 of 5 obs.

? OCT 21, 1989 07h 22m 09.22± 8.40s
18.449 N ±27.5km 67.448 W ±57.5km
DEPTH = 10.0km (geophysicist)
MONA PASSAGE (89)

MGP 0.56 142 P 22 20.50 0.0
PORP 0.86 117 P 22 26.30 0.4
S 22 37.00
SJG 1.28 105 iP 22 32.60 -0.4
LPR 1.51 95 P 22 36.80 0.5
S 23 05.80
CPD 1.51 105 P 22 35.80 -0.6
S.D. = 0.7 on 5 of 5 obs.

% OCT 21, 1989 07h 26m 01.74± 0.75s
44.235 N ± 8.5km 7.423 E ± 5.8km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.1 (GEN).

ENR 0.01 193 P 26 03.72 0.0
S 26 05.05
STV 0.07 277 P 26 04.23 0.0
S 26 06.90
ROB 0.33 79 P 26 08.34 -0.2
S 26 13.67
PZZ 0.36 320 P 26 09.05 -0.1
S 26 15.41
PCP 0.86 69 P 26 18.59 0.2
S 26 28.54
S.D. = 0.2 on 5 of 5 obs.

• OCT 21, 1989 08h 04m 11.55± 1.23s
28.546 S ± 8.2km 71.451 W ±27.2km
DEPTH = 33.0km (normal)
NEAR COAST OF CENTRAL CHILE (135)

ZON 3.84 142 eP 05 10.00 0.2
JACH 4.19 170 iPc 05 15.20 0.4
iS 06 03.30
ROCH 4.43 175 iPc 05 18.10 -0.3
PEL 4.63 172 iPc 05 21.00 -0.1
i 05 22.60
iS 06 17.50
FCH 4.87 168 eP 05 26.50 1.8
iS 06 22.00
ANT 4.91 11 e(P) 05 25.00 0.0
iS 06 47.50
i 06 49.20
LCCH 4.91 181 iPd 05 24.00 -1.0
iS 06 15.50
SAN 4.94 172 eP 05 25.00 -0.4
e 06 18.00
TACH 5.11 175 iPc 05 29.40 1.6
iS 06 21.40
PCH 5.12 171 iPd 05 29.00 0.9
iS 06 22.00
LNV 5.39 180 eP 05 30.50 -1.2
iS 06 32.50
CHCH 5.41 173 eP 05 32.50 0.4
iS 06 36.50
RFA 6.71 158 ePc 05 48.10 -2.3
ARE 12.03 360 eP 07 41.00 37.1X

CNCB 12.11 16 P 07 10.00 4.7X
LPB 12.35 15 (P) 07 18.00 9.6X
ZOBO 12.60 15 P 07 20.00 8.2X
S.D. = 1.2 on 13 of 17 obs.

? OCT 21, 1989 08h 11m 02.20± 5.24s
39.538 N ±41.4km 28.511 E ±12.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST 0.11 53 iPg 11 04.50 -0.6
iSg 11 06.50
KCT 0.72 351 iPg 11 15.80 -0.6
iSg 11 24.30
BNT 0.94 331 ePg 11 20.30 0.3
iSg 11 33.30
EDC 0.95 329 ePg 11 20.00 -0.3
eSg 11 32.10
YLV 1.22 32 iPn 11 24.50 -0.5
KHL 1.45 147 ePn 11 39.00 10.5X
HRT 1.56 34 ePn 11 31.00 1.0
ISK 1.58 15 ePn 11 31.00 0.7
S.D. = 0.8 on 7 of 8 obs.

& OCT 21, 1989 08h 32m 19.90s
37.128 N 122.002 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

GCC 0.10 177 ePd 32 22.50 -0.5
iS 32 24.50
MHC 0.36 53 iPd 32 27.30 -0.2
iS 32 32.70
ARN 0.43 59 iPd 32 28.40 -0.5
PCC 0.48 321 iPc 32 28.80 -0.8
SAO 0.57 129 iPd 32 29.80 -1.5
BKS 0.77 346 iPc 32 34.20 -0.4
iS 32 45.20
BRK 0.77 345 ePc 32 34.20 -0.5
eS 32 44.80
ZSP 0.84 346 iPc 32 35.80 0.0
iS 32 47.50
PRS 0.94 147 iPc 32 36.70 -0.9
LLA 0.99 121 ePc 32 37.00 -1.4
PRI 1.46 132 ePc 32 45.30 -0.7
CMB 1.57 54 ePd 32 45.20 -2.4
i 32 48.50
FRI 1.84 94 iPc 32 49.50 -1.9
e 32 52.60
eS 33 15.50
13 obs. associated

? OCT 21, 1989 09h 00m 21.95± 8.61s
18.889 N ±75.2km 66.598 W ±19.5km
DEPTH = 33.0km (normal)
PUERTO RICO REGION (90)

PORP 0.83 183 P 00 37.80 0.6
S 00 51.70
SJG 0.88 151 iP 00 38.20 0.2
LPR 0.90 130 P 00 39.00 0.7
S 00 53.20
MGP 0.99 208 P 00 39.30 -0.3
CPD 1.06 142 P 00 39.40 -1.2
S 00 52.90
S.D. = 1.1 on 5 of 5 obs.

OCT 21, 1989 09h 23m 53.72± 0.56s
21.729 S ± 5.0km 178.861 W ± 6.0km
DEPTH = 555.0 ± 6.9 km
4.7mb (14 obs.)
FIJI ISLANDS REGION (181)

SVA 4.39 324 ePc 25 20.00 0.5
S 26 30.00
MBU 5.25 334 eP 25 26.20 -0.5
AFI 10.29 42 iP 26 11.00 -4.6X
DZM 13.65 266 iPd 26 51.00 1.6
iS 29 22.00
KRP 16.85 195 P 27 24.00 3.4X
1.3s 861.00nm 6.2mb X
WHH 17.56 192 eP 27 27.70 0.1
PGZ 19.28 191 eP 27 43.30 -0.5
KIW 19.79 194 eP 27 48.10 -0.5
MTW 19.95 193 eP 27 49.30 -0.8
CAW 19.99 194 P 27 50.30 -0.2

21d 09h

BLW	20.16	192	eP	27	52.30	0.3
WDW	20.16	194	P	27	51.10	-0.9
MRW	20.19	194	P	27	51.50	-0.8
WEL	20.23	194	eP	27	52.00	-0.6
MOW	20.25	193	eP	27	52.50	-0.4
TCW	20.27	195	eP	27	53.90	0.9
BRS	26.37	252	iPc	28	49.00	1.0
	0.7s		5.50nm			4.3mb
CAN	31.17	237	iPd	29	30.90	1.6
BWA	31.38	239	iPd	29	30.30	-0.8
CTA	32.59	266	iPd	29	41.70	0.4
	0.5s		31.69nm			5.2mb
CMS	32.91	245	eP	29	45.00	1.1
PMG	34.86	285	eP	30	00.00	-0.4
STK	36.54	245	iPc	30	15.20	1.2
QIS	38.67	264	iPd	30	31.40	-0.2
ASPA	43.47	258	iPc	31	09.70	-0.2
	0.7s		40.00nm			5.1mb
			iPcP	32	45.10	
			iS	36	57.00	
			eScS	40	08.90	
WB5	43.63	264	iP	31	10.00	-1.2
			ePcP	32	47.00	
			eS	36	58.70	
FORR	48.04	248	eP	31	44.30	-0.4
	0.4s		40.00nm			5.3mb
KNA	49.77	267	eP	31	56.90	-0.8
	0.3s		27.00nm			5.3mb
COOL	54.00	247	eP	32	27.00	-1.2
MBL	56.72	258	eP	32	46.40	-0.8
	0.3s		13.00nm			4.7mb
MUN	58.08	245	eP	32	56.00	-0.3
MRWA	58.64	248	eP	33	00.00	-0.2
NANU	60.31	256	eP	33	11.00	-0.2
	0.4s		32.00nm			5.0mb
SPA	68.40	180	e(P)	34	04.20	2.5
	0.9s		13.64nm			4.5mb
MAT	70.73	324	eP	34	14.00	-1.6
	1.0s		13.00nm			4.4mb
BAR	80.33	49	eP	35	10.00	1.5
PLM	80.56	49	eP	35	10.00	0.1
RVR	80.56	48	eP	35	09.00	-0.7
SBB	80.65	47	eP	35	11.00	0.8
CMB	80.91	43	eP	35	11.00	-0.4
CLC	81.44	46	eP	35	14.00	-0.2
TPC	81.54	48	eP	35	15.00	0.2
GLA	81.83	50	eP	35	17.00	0.8
CN2	82.78	323	Pc	35	21.00	0.3
KVN	82.95	43	iP	35	22.20	0.3
TNP	82.97	44	iP	35	21.80	-0.2
	1.2s		12.10nm			4.3mb
SNG	83.90	280	eP	35	28.20	1.4
BJI	86.20	316	eP	35	38.00	0.6
PNT	88.12	34	eP	35	46.00	-0.3
ALQ	88.79	52	eP	35	50.30	0.3
	1.2s		7.03nm			4.4mb
FBA	89.61	13	eP	35	51.80	-1.0
	1.0s		2.70nm			4.1mb
CHTO	89.91	290	iP	35	55.00	-0.1
	1.0s		16.25nm			4.9mb
BW06	90.41	44	eP	35	56.20	-1.1
	1.0s		7.25nm			4.6mb
SUF	135.64	344	ePKP	42	11.10	-0.9
NUR	137.88	343	ePKP	42	14.00	-2.3
NB2	140.09	352	PKP	42	21.30	1.0
	0.4s		1.00nm			
HFS	140.61	350	ePKP	42	13.40	-7.8X
	0.4s		6.30nm			
KVT	144.82	311	ePKP	42	29.00	-0.1
EKA	146.29	4	PKPc	42	32.30	1.3
	1.2s		26.90nm			
CFR	147.78	323	ePKP	42	39.00	5.3X
MML	147.80	297	ePKP	42	37.00	2.8X
DSI	147.98	295	iPKP	42	37.00	2.6X
KRA	148.08	337	ePKP	42	37.70	3.7X
			e	42	42.50	
PRNI	148.48	293	iPKPd	42	38.00	2.7X
KSP	148.61	341	iPKP	42	39.20	4.4X
	1.2s		43.00nm			
			i	42	45.10	
SPC	148.67	336	ePKP	42	40.30	5.1X
MLR	148.79	325	ePKPc	42	40.00	4.5X
CLL	149.06	345	iPKP	42	40.00	4.5X
	1.3s		19.00nm			
			e	42	46.00	
			epPKP	44	51.00	
PRU	149.88	343	PKPd	42	42.20	5.4X

	1.1s		29.10nm			
			e	42	49.50	
DEV	150.06	329	ePKPd	42	25.00	-12.2X
KHL	150.54	311	ePKP	42	43.80	5.5X
ZST	150.65	338	iPKP	42	43.40	5.4X
KHC	150.92	343	iPKPc	42	38.40	0.0
			i	42	45.00	
			i	42	54.60	
MEM	150.92	354	PKP	42	34.30	-4.0X
GRF	150.97	346	ePKP	42	44 70	6.2X
			e	42	45.30	
			e	42	56.00	
DOU	151.56	355	PKP	42	35.80	-3.4X
WLF	151.84	353	iPKPd	42	46.70	7.1X
LIC	163.47	158	PKP	42	54.80	0.4
KIC	163.70	159	PKP	42	54.70	0.1
TIC	163.87	157	PKP	42	55.20	0.4
	S.D. = 0.9		on	60	of	80 obs.

% OCT 21, 1989 09h 52m 54.54± 0.97s
39.204 N ± 8.4km 27.536 E ± 9.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.83	195	iPg	53	10.50	-0.2
			iSg	53	22.50	
DST	0.94	64	iPg	53	12.50	0.1
			eSg	53	25.00	
EZN	1.12	304	ePn	53	16.00	0.4
EDC	1.17	12	ePn	53	15.00	-1.4
KCT	1.22	31	iPn	53	18.30	1.0
	S.D. = 1.3		on	5	of	5 obs.

? OCT 21, 1989 10h 01m 55.23± 0.96s
39.076 N ± 8.9km 27.677 E ± 9.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.75	206	ePg	02	10.00	0.0
			iSg	02	22.50	
DST	0.91	54	ePn	02	12.50	-0.1
KCT	1.28	24	iPn	02	19.20	0.2
EZN	1.29	306	iPn	02	19.00	-0.1
	S.D. = 0.2		on	4	of	4 obs.

% OCT 21, 1989 11h 58m 51.11± 1.00s
39.676 N ± 7.6km 29.236 E ± 9.5km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.47	262	iPg	59	01.50	0.7
			eSg	59	12.00	
KCT	0.89	311	iPn	59	07.20	-0.9
YLV	0.90	7	iPn	59	08.20	-0.1
HRT	1.19	16	ePn	59	14.00	0.6
KHL	1 37	171	ePn	59	16.00	-0.3
	S.D. = 1.0		on	5	of	5 obs.

OCT 21, 1989 12h 44m 59.77± 0.17s
5.443 S ± 2.7km 131.055 E ± 4.2km
DEPTH = 33.0km (normal)
5.3mb (17 obs.)
BANDA SEA (280)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 10S, 22C
Centroid Location:
Origin Time 12:45: 5.0 1.2
Lat 5.32S 0.07 Lon 131 16E 0.13
Dep 69.0 8.3 Half-duration 1.6
Moment Tensor: Scale 10**16 Nm
Mrr= 4.26 0.69 Mtt=-3.33 0.65
Mff=-0.93 1.22 Mrt= 2.50 0.65
Mrf= 1.29 0.45 Mtf= 0.16 0.69
Principal Axes:
T Val= 5.28 Plg=70 Azm=324
N -1.18 10 83
P -4.09 17 176
Best Double Couple:Mo=4.7*10**16
NP1:Strike=281 Dip=29 Slip= 111
NP2: 77 63 79

AAI	3.34	301	ePc	46	24.50	33.5X
			eS	47	05.50	
MTN	7.36	179	eP	46	48.00	0.3
			eS	47	58.00	
KUPT	8.74	237	ePc	47	17.50	10.6X

			eS	48	58.00	
JAY	10.06	74	ePc	47	25.20	0.1
			e	51	50.10	
KNA	10.49	192	eP	47	29.20	-1.7
	0.3s		201.00nm			6.8mb X
			iS	49	20.80	
DAV	13.60	336	eP	48	14.50	1.7
WB5	14.71	168	eP	48	21.50	-5.9X
			i	48	24.10	
TSM	16.14	306	ePc	48	50.90	5.1X
PMG	16.44	105	eP	48	50.00	0.3
QIS	17.17	152	iPd	48	55.00	-3.9X
			e	48	59.00	
			e	51	53.00	
ASPA	18.32	172	iPd	49	10.80	-2.5
			eS	52	18.40	
			isS	52	53.30	
			iScS	00	50.40	
TRT	18.44	262	ePc	49	15.00	0.4
	1.0s		193.90nm			5.2mb
KKM	18.70	307	ePc	49	19.00	1.1
	0.6s		132.70nm			5.3mb
MBL	19.04	214	iPd	49	22.40	0.5
CTA	20.74	136	iPd	49	40.60	0.2
	1.0s		130.00nm			5.3mb
			i	50	00.00	
			iS	53	26.00	
WARB	21.05	191	eP	49	44.30	0.8
	0.3s		15.00nm			4.9mb
			eS	55	32.00	
QCP	22.27	334	eP	49	52.50	-3.2X
NANU	22.69	220	eP	50	00.70	0.9
GUMO	23.36	36	eP	50	22.20	15.9X
PJG	23.36	36	eP	50	22.30	16.0X
BAG	24.06	335	eP	50	14.00	0.6
	1.1s		227.85nm			5.6mb
			eS	54	22.00	
MEKA	24.21	208	eP	50	08.00	-6.6X
OLP	24.50	151	eP	50	19.00	1.6
			e	50	29.00	
			e	54	42.00	
FORR	25.43	186	eP	50	25.00	-1.1
	0.4s		45.00nm			5.4mb
RMO	26.90	143	eP	50	39.00	-0.8
			e	55	51.00	
MRWA	27.61	209	eP	50	46.30	0.1
	0.3s		8.00nm			4.9mb
			eS	56	04.00	
STK	28.09	161	iPd	50	50.60	0.0
			e	56	13.00	
BAL	28.44	207	eP	50	54.00	0.2
KLB	28.85	204	iPc	50	57.60	0.2
CMS	29.38	154	eP	51	02.00	-0.2
			e	51	29.00	
MUN	29.83	206	eP	51	06.00	-0.3
BRS	30.06	139	iPd	51	07.50	-0.9
			e	51	27.30	
			e	56	21.00	
			e	58	42.00	
ADE	30.22	167	eP	51	10.00	0.3
	1.4s		69.77nm			5.3mb
NWAO	30.23	204	eP	51	10.00	0.2
IPM	31.60	288	ePd	51	21.90	-0.1
	0.7s		28.00nm			5.2mb
SNG	32.86	292	eP	51	28.20	-4.8X
BWA	33.02	153	iPd	51	35.80	1.6
CAN	34.03	153	iPd	51	43.40	0.4
TOO	34.59	160	ePd	51	49.20	1.4
LOE	36.80	309	iPd	52	06.80	0.1
			i	54	29.00	
NST	37.12	305	eP	52	10.60	1.3
SSE	37.54	346	Pd	52	13.00	0.4
	0.8s		0.06nm			2.5mb X
			PcP	54	30.50	
DZM	38.00	119	iPc	52	18.30	1.5
BDT	38.87	306	iPc	52	22.00	-2.0
	1.0s		117.30nm			5.6mb
NJ2	39.06	343	Pc	52	26.50	1.1
WHN	39.19	337	iPc	52	28.00	1.4
	1.0s		0.10nm			2.5mb X
TKSJ	39.31	4	eP	52	27.50	0.0
GYA	39.55	324	iPc	52	30.20	0.4
			PcP	54	37.80	
WKYJ	39.68	6	eP	52	30.60	0.0
CHG	39.78	308	iPc	52	32.10	0.5
	1.0s		115.25nm			5.6mb
SHK	39.79	2	iPc	52	31.90	0.4

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      0.9s   100.84nm          5.6mb
 YONJ 40.48   3 eP     52 37.30   0.2
 TSRJ 41.02   6 P      52 42.20   0.6
 IIDJ 41.21   9 P      52 43.30   0.1
 CHJJ 41.94  10 P      52 48.10  -1.0
 MTMJ 42.28   8 P      52 51.70  -0.3
 MAT  42.30   9 iPc    52 51.10  -1.0
      0.8s   79.85nm          5.5mb
 KAKJ 42.30  11 P      52 51.30  -0.7
 NIIJ 43.10   9 P      52 57.60  -1.0
 TIA  43.44 344 P      53 01.40   0.0
                PcP    54 49.60
 XAN  44.50 333 iPc    53 09.60  -0.4
 CD2  44.58 326 eP     53 10.60  -0.2
 TIY  46.31 339 eP     53 24.50   0.1
    Z  12s      0.60um          4.8MszX
 BJI  47.29 344 Pc     53 32.00   0.0
      1.0s      0.09nm          2.7mb X
    Z  32s      0.70um          4.4MszX
                sP     54 27.00
                PcP    55 02.00
                eS     59 07.00
 SNY  47.54 352 Pc     53 33.60  -0.3
 LZH  48.55 330 iPc    53 42.70   0.6
      2.0s      0.13nm          2.6mb X
                pP     54 02.70  81kmX
 CN2  49.28 355 Pc     53 46.70  -0.6
    E  25s      0.60um
                PcP    55 09.40
                ScP    58 58.00
 HHC  49.42 341 Pc     53 49.00   0.3
 BTO  49.72 339 P      53 50.40  -0.6
 LSA  51.83 315 iP     54 08.80   1.2
 GTA  53.14 330 iPc    54 16.80  -0.1
      1.0s      0.04nm          2.3mb X
 GBA  56.49 290 P      54 39.90  -1.5
 HYB  56.60 295 iPc    54 40.90  -1.3
      1.2s     71.40nm          5.6mb
 POO  61.19 294 eP     55 13.00  -1.1
 NDI  61.89 306 iPc    55 17.00  -1.7
 WMQ  62.68 326 iPc    55 24.00   0.2
                pP     55 33.50  31kmX
                PP     57 37.20
 KSH  67.57 317 eP     55 56.20   0.7
 QUE  70.77 304 eP     56 15.50   0.0
 MAW  76.77 201 eP     56 50.00   0.6
 MAIO 78.53 309 iPc    57 00.50   0.7
      0.7s     11.12nm          5.0mb
 SPA  84.59 180 e(P)   57 30.80  -0.2
      0.7s      7.42nm          5.0mb
                e      58 13.90
 FBA  91.14  25 eP     58 02.00  -0.3
 INK  97.03  22 eP     58 28.00  -1.2
 MBC  99.87  13 eP     58 41.50  -0.4
      0.9s      5.00nm          5.0mb
 KEV  99.93 340 eP     58 42.00  -0.3
 SOD 100.54 338 iPdiff58 44.00  -1.0
 SUF 101.63 333 ePdiff58 49.10  -0.9
 NUR 102.77 331 ePdiff58 50.00  -5.1X
 KHC 111.89 321 ePKP   03 33.80   0.6
 BCAO 112.79 273 iPKPd 03 35.40  -0.6
      0.6s      7.00nm
 SIO 127.11  49 e(PKP)04 02.80   0.0
 TUL 127.43  48 e(PKP)04 02.50  -0.9
      1.0s     10.00nm
 LNO 127.43  48 e(PKP)04 03.30   0.0
 KIC 136.03 274 PKP    04 12.00  -8.4X
 ARE 148.84 135 ePKP   04 48.00   5.1X
 CNCB 150.96 140 PKP   04 48.00   1.5
                i      04 53.70
 LPB 151.09 139 ePKP   04 50.00   3.5X
                i      04 54.00
 ZOBO 151.27 139 PKP   04 46.50  -0.4
      1.1s     31.32nm
                i      04 54.10
                LR     57 44.00
 CCH 151.66 143 PKP    04 55.50   8.3X
 PDCR 159.65 209 e(PKP)05 02.00   4.8X
     S.D. = 0.9  on  84 of 100 obs.
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& OCT 21, 1989  12h 54m 39.90s
  37.145 N          121.938 W
  DEPTH =   8.0km
 CENTRAL CALIFORNIA                ( 39)
     <BRK>. ML 3.4 (BRK).

GCC    0.12 202 iPd   54 42.40  -0.3
MHC    0.31  50 iPd   54 46.30   0.0
ARN    0.38  58 iPc   54 47.30  -0.4
PCC    0.50 315 iPd   54 49.30  -0.7
SAO    0.55 134 iP    54 49.90  -1.0
BKS    0.77 342 iPc   54 54.00  -1.1
                iS    55 05.40
BRK    0.77 341 ePc   54 54.00  -1.1
                i     55 04.90
                iS    55 05.90
ZSP    0.84 342 iPd   54 56.00  -0.2
                i     55 00.20
                iS    55 08.70
PRS    0.93 150 ePc   54 56.90  -1.0
                iS    55 10.90
LLA    0.96 123 iPc   54 57.30  -1.0
PRI    1.43 134 ePc   55 06.10  -0.2
CMB    1.52  54 iPc   55 06.30  -1.1
                iS    55 25.70
FRI    1.79  94 ePc   55 09.70  -1.6
        13 obs. associoted
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    OCT 21, 1989  13h 16m 30.12± 0.19s
    40.317 N ± 2.2km   27.077 E ± 1.8km
    DEPTH =  10.4 ±  1.5 km
 TURKEY                            (366)
       MD 3.6 (ATH).

EDC    0.60  87 iPg   16 42.10  -0.2
                eSg   16 50.10
BNT    0.65  86 iPg   16 42.60  -0.4
EZN    0.76 230 iPn   16 45.00   0.1
KCT    0.98  94 iPn   16 47.10  -1.6
PRK    1.24 210 ePn   16 54.20   1.1
CTT    1.32  51 iPg   16 53.50  -1.0
DST    1.39 120 iPn   16 55.50   0.0
RDO    1.43 306 iPnd  16 56.50   0.4
DMK    1.59  19 iPn   16 57.70  -0.6
ITU    1.67  61 ePn   17 02.00   2.5X
                iSg   17 24.00
ISK    1.68  63 ePn   17 00.00   0.3
YLV    1.77  81 iPn   17 00.60  -0.4
KDZ    1.83 317 iPd   17 02.00   0.2
                iS    17 24.00
GBZT   1.87  75 ePn   17 09.00   6.7X
                iSg   17 34.70
IZM    1.92 176 iPn   17 03.60   0.4
HRT    2.04  75 ePn   17 05.10   0.2
DIM    2.09 327 iPc   17 06.00   0.5
                eS    17 32.00
JMB    2.18 350 eP    17 10.00   3.1X
RZN    2.25 308 iPd   17 08.00  -0.1
OUR    2.37 271 iPgd  17 09.10  -0.4
                eSg   17 17.30
GPA    2.47  90 ePn   17 12.00   0.9
PLD    2.53 316 iPd   17 12.00   0.2
SMG    2.61 184 ePn   17 13.00   0.0
KHL    2.75 136 iPn   17 16.20   1.1
SRS    2.77 288 iPgd  17 14.80  -0.5
                eSg   17 26.10
PLG    2.78 272 ePn   17 14.90  -0.5
CIN    2.82 163 eP    17 16.00  -0.1
MMB    2.84 298 iPd   17 16.00  -0.3
PGB    3.12 317 iPd   17 20.00  -0.3
NEO    3.13 252 ePn   17 19.00  -1.5
THE    3.15 277 ePb   17 21.20   0.5
PVL    3.18 336 iPc   17 21.00   0.0
KNT    3.29 286 ePbd  17 22.40  -0.2
                eSb   18 00.40
YER    3.31 163 iPn   17 23.10   0.0
APE    3.46 201 ePn   17 24.70  -0.4
LIT    3.52 268 ePn   17 26.10   0.2
VAY    3.56 288 ePn   17 26.30  -0.2
GRG    3.61 282 ePn   17 27.30   0.0
                eSn   17 49.20
VTS    3.69 309 iPc   17 29.00   0.5
BCK    3.95 135 ePn   17 32.50   0.3
KZN    4.06 272 ePn   17 35.80   2.2X
BBTK   4.39  94 eP    17 54.00  15.7X
                eS    18 54.00
SKO    4.57 293 ePn   17 35.00  -5.8X
KAP    4.76 179 ePn   17 43.30  -0.3
DRA    4.83 335 eP    17 02.00 -42.5X
OHR    4.84 281 ePn   17 44.20  -0.5
VLI    4.84 223 ePn   17 44.30  -0.4
CFR    4.93   9 eP    17 51.00   5.1X
MLR    5.24 351 ePd   17 51.50   1.1
VRI    5.56 357 ePd   17 55.50   0.7
BZS    6.64 325 eP    18 07.00  -3.0X
     S.D. = 0.6  on  42 of  51 obs.
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% OCT 21, 1989  13h 39m 57.48± 0.92s
   39.424 N ± 8.0km   27.961 E ± 7.9km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                            (366)

DST    0.55  70 iPg   40 07.50  -1.1
                eSg   40 17.50
KCT    0.88  20 iPg   40 13.60  -0.8
                iSg   40 27.10
EDC    0.92 355 ePg   40 15.10   0.0
                eSg   40 25.10
BNT    0.93 358 ePn   40 16.00   0.7
IZM    1.16 208 iPg   40 19.60   0.4
                iSg   40 33.60
EZN    1.33 288 iPn   40 21.00  -0.9
YLV    1.57  43 iPn   40 27.10   1.5
     S.D. = 1.2  on   7 of   7 obs.
-------------------------------------
    OCT 21, 1989  14h 04m 52.95± 0.51s
    41.975 N ± 4.6km   14.045 E ± 5.6km
    DEPTH =  10.0km  (geophysicist)
 SOUTHERN ITALY                    (390)

SDI    0.32 213 Pc    04 58.50  -1.1
                eSg   05 01.30
DUI    0.44 135 P     05 01.20  -0.7
                eSg   05 09.50
ALP    0.88 337 iPg   05 08.23  -1.7
                iSg   05 24.53
RDP    1.02 258 P     05 12.00  -0.2
                eSn   05 26.50
RMP    1.02 261 P     05 12.30   0.1
                eSn   05 26.40
MNS    1.09 292 P     05 13.20  -0.3
                eSn   05 32.40
CIO    1.39 332 iPn   05 17.16  -1.3
ASS    1.50 317 P     05 20.40   0.5
                eSn   05 41.50
AOI    1.61 348 ePn   05 21.11  -0.4
SGO    1.71 146 P     05 23.60   0.8
ARV    1.73 332 P     05 25.00   1.8
                eSn   05 49.00
CRE    2.26 318 P     05 33.10   2.1
SFI    2.53 321 P     05 35.30   0.7
PGD    2.55 319 P     05 36.20   1.0
BRT    2.62 114 P     05 37.00   1.0
VBY    3.64  14 e(Pn) 06 33.70  43.3X
TRI    3.74 357 e(P)  05 51.20  -0.7
CEY    3.77   4 eP    06 16.00  23.6X
                e(Sn) 06 47.00
VOY    4.06 359 ePn   05 55.90  -0.6
                eSn   06 45.00
LJU    4.08   5 eP    06 10.00  13.3X
                e     06 16.00
                e(Sn) 06 50.00
PTJ    4.16  19 eP    06 12.60  14.7X
CTI    4.42 338 P     06 01.50  -0.2
FVI    4.71 349 Pc    06 04.70  -0.9
     S.D. = 1.1  on  19 of  23 obs.
-------------------------------------
% OCT 21, 1989  14h 07m 43.65± 0.92s
   38.081 N ± 8.0km   23.704 E ±17.0km
   DEPTH =  10.0km  (geophysicist)
 GREECE                            (364)
      ML 2.3 (ATH).

ATH    0.11 175 ePg   07 45.00  -1.5
                eSg   07 46.50
NEO    1.28 343 ePb   08 06.50  -0.9
                eSb   08 25.00
VLI    1.49 204 ePg   08 11.50   1.0
APE    1.77 124 ePb   08 15.00   0.5
                eSb   08 38.20
PLG    2.30 355 ePn   08 23.00   0.8
                eSn   08 48.00
     S.D. = 1.6  on   5 of   5 obs.
-------------------------------------
    OCT 21, 1989  14h 16m 26.25± 0.69s
    38.062 S ± 8.3km  175.807 E ±14.1km
    DEPTH = 289.4 ±  7.9 km
    4.6mb (  1 obs.)
 NORTH ISLAND, NEW ZEALAND         (159)

KRP    0.25 303 Pc    17 03.30   0.0
```

21d 14h

0.8s 347.00nm

HITZ	0.65	183	P	17 04.60	0.4
RATZ	0.81	182	iPd	17 05.00	0.2
HATZ	0.86	165	iPc	17 05.00	0.0
WHH	0.98	147	Pd	17 05.40	-0.4
KETZ	1.04	187	P	17 06.30	0.2
MOH	1.50	136	P	17 09.20	0.6
TTH	1.68	152	P	17 10.80	0.9
NEZ	1.80	227	P	17 12.60	1.6
			S	17 49.00	
H8Z	2.03	78	P	17 11.40	-1.2
PGZ	2.58	172	iPd	17 17.90	0.4
KIW	2.88	194	iPc	17 20 50	0.0
CAW	3.10	190	Pc	17 22.60	0.0
MTW	3.10	184	Pc	17 22.30	-0.4
WDW	3.26	191	Pd	17 23.90	-0.4
MRW	3.28	195	P	17 24.20	-0.3
			S	18 09.00	
BLW	3.31	184	iPc	17 24.70	-0.2
WEL	3.32	194	P	17 24.50	-0.4
			S	18 10.00	
TCW	3.36	200	Pc	17 25.30	-0.1
MOW	3.38	187	iPc	17 25.30	-0.3
CCW	3.88	198	P	17 31.30	0.3
MHZ	8.53	213	P	18 23.60	-3.5
DNZ	8.74	205	P	18 30.30	0.8
DZM	17.86	331	iPc	20 15.30	-1.8
BRS	22.05	292	iPc	21 00.80	2.4
			e	24 31.00	
			e	31 09.00	
WB5	40.14	285	eP	23 35.40	-0.6
MEKA	49.03	266	eP	24 25.30	-21.0X
SPA	52.13	180	e(P)	25 10.60	1.5
	0.9s		22.27nm		4.6mb
KIC	148.44	179	PKP	35 40.90	4.4X

S.D. = 1.2 on 27 of 29 obs.

? OCT 21, 1989 14h 42m 14.70± 4.56s
6.354 S ±41.7km 147.542 E ±39.8km
DEPTH = 91.1 ± 14.5 km
EAST PAPUA NEW GUINEA REGION (207)

LAT	0.62	241	iPc	42 30.00	-0.7
PMG	3.06	187	iPd	43 02.50	0.6
			eS	43 44.00	
MNDI	3.87	273	eP	43 14.00	0.7
BRS	21.51	167	eP	46 58.00	0.2
ASPA	21.64	216	eP	46 58 30	-0.9
			eS	50 58.60	

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

? OCT 21, 1989 14h 42m 44.58± 0.92s
38.168 N ± 9.1km 21.894 E ± 9.1km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 2.9 (ATH).

AGG	0.92	22	eP	43 02.30	0.1
			eS	43 28.00	
VLS	1.03	271	ePb	43 04.00	0.0
			eSb	43 21.60	
NEO	1.54	42	ePb	43 12.00	-0.1
VLI	1.67	150	ePb	43 14.00	0.0
KZN	2.14	357	ePg	43 25.50	4.6X
KEK	2.25	314	ePg	43 28.70	6.3X

S.D. = 0.2 on 4 of 6 obs.

OCT 21, 1989 14h 49m 17.64± 0.78s
38.126 N ± 8.0km 21.893 E ± 7.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.2 (ATH).

AGG	0.96	21	eP	49 36.30	0.4
			eS	49 51.90	
VLS	1.03	273	ePb	49 37.70	0.6
ATH	1.45	96	ePb	49 43.50	-0.4
VLI	1.63	149	ePb	49 46.50	0.0
LIT	2.03	13	ePc	49 53.10	0.9
			eS	50 27.30	
KZN	2.18	358	ePb	49 57.00	2.5X
LSK	2.26	334	ePn	49 54.10	-1.5
KEK	2.28	315	ePb	49 55.80	0.0
SRN	2.29	320	ePn	49 59.70	3.7X
BERA	2.98	330	ePn	50 17.50	11.7X
OHR	3.10	345	ePn	50 13.00	5.5X

S.D. = 1.0 on 7 of 11 obs.

& OCT 21, 1989 15h 58m 46.00s
37.112 N 121.873 W
DEPTH = 5.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.7 (BRK).

GCC	0.13	230	iPd	58 48.40	-0.3
			iS	58 51.40	
MHC	0.29	39	iPd	58 52.20	0.2
			iS	58 57.70	
ARN	0.36	49	eP	58 52.80	-0.5
SAO	0.49	135	iPc	58 54.60	-1.2
PCC	0.56	314	ePd	58 56.70	-0.5
BKS	0.82	339	iPd	59 01.90	-0.4
			iS	59 14.00	
BRK	0.82	338	ePc	59 01.50	-0.8
			eS	59 13.00	
PRS	0.88	152	iPd	59 02.50	-0.8
ZSP	0.89	340	ePc	59 03.00	-0.4
			iS	59 16.70	
LLA	0.89	123	ePc	59 02.10	-1.5
PRI	1.37	135	e(P)	59 11.50	-0.4
CMB	1.50	52	ePc	59 12.10	-1.5
FRI	1.74	93	e(P)	59 15.20	-1.8
			e(S)	59 37.30	

13 obs. associated

% OCT 21, 1989 16h 46m 46.61± 0.92s
38.869 N ± 7.8km 27.451 E ± 9.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.49	197	ePg	46 56.00	-0.6
			eSg	47 03.60	
DST	1.17	51	iPn	47 07.50	-1.1
EZN	1.29	318	iPn	47 11.10	0.5
KCT	1.55	27	iPn	47 14.10	-0.1
KHL	1.71	108	ePn	47 18.00	1.3
YLV	2.25	41	ePn	47 28.00	3.5X

S.D. = 1.3 on 5 of 6 obs.

? OCT 21, 1989 18h 03m 54.24± 2.15s
6.979 S ±40.6km 120.488 E ±14.1km
DEPTH = 441.4 ± 19.2 km
4.4mb (2 obs.)
FLORES SEA (279)

KUPT	4.41	136	eP	05 13.50	0.2
			eS	06 02.00	
TRT	7.82	264	ePc	05 48.90	0.1
KNA	11.91	138	eP	06 30.80	-3.3X
MTN	11.99	120	eP	06 34.00	-1.1
			eS	08 47.00	
WB5	18.60	135	eP	07 43.50	0.4
			eS	11 25.90	
MEKA	19.62	185	eP	07 52.30	-0.7
	0.3s		3.00nm		4.3mb
WAR8	19.98	164	eP	07 56.40	-0.1
ASPA	21.01	144	iPc	08 07.50	1.1
	0.7s		11.00nm		4.5mb

S.D. = 1.0 on 7 of 8 obs.

? OCT 21, 1989 18h 27m 50.66± 0.98s
43.400 N ± 8 7km 12.562 E ± 7.9km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)

ARV	0.29	70	Pc	27 57.00	0.2
			eSg	28 02.90	
ASS	0.34	168	P	27 57.80	0.1
			eSg	28 03.30	
CIO	0.47	116	ePg	28 00.00	-0.3
			iSg	28 03.37	
PGD	0.77	308	P	28 05.80	-0.1
			eSg	28 16 20	

S.D. = 0.4 on 4 of 4 obs.

? OCT 21, 1989 19h 16m 39.67± 0.94s
38.107 N ± 9.1km 21.924 E ± 9.3km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 2.8 (ATH).

AGG	0.97	19	eP	16 58.40	0 3
			eS	17 12.90	
VLS	1.05	274	ePb	16 59.50	-0.1
			eSg	17 17.00	
NEO	1.57	40	ePb	17 07.30	-0.4
VLI	1.60	149	ePb	17 08.20	0.1
			eSb	17 33.00	
KZN	2.20	357	ePg	17 23.90	7.1X

S.D. = 0.5 on 4 of 5 obs.

% OCT 21, 1989 19h 45m 56.61± 0.81s
46.412 N ± 8.2km 1.427 E ± 6.4km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.3 (LDG).

LSF	0.18	156	Pg	46 00.30	-0.3
TCF	0.56	103	Pg	46 07.00	-0.9
			Sg	46 14.40	
MAF	0.81	103	Pg	46 11.80	-0.6
			Sg	46 22.40	
BGF	0.99	81	Pg	46 14.70	-0.7
			Sg	46 27.80	
MFF	1.10	281	Pg	46 16.70	-0.6
			Sg	46 29.90	
AVF	1.38	73	Pg	46 21.80	-0.1
			Sg	46 39.00	
CAF	1.55	163	Pg	46 25.60	1.3
			Sg	46 45.60	
LBF	1.85	71	Pg	46 29.60	1.0
			Sg	46 53.00	
LOR	1.88	62	Pg	46 30.00	1.0
			Sg	46 53.60	

S.D. = 1.0 on 9 of 9 obs.

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* OCT 21, 1989 19h 56m 14.72± 1.03s
40.900 N ± 9.8km 21.292 E ± 7.2km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 2.3 (SKO).

OHR	0.43	300	iPgc	56 23.50	0.0
			iSg	56 31.40	
VAY	1.05	66	ePg	56 34.40	-0.2
			i	56 38.00	
SKO	1.08	6	ePg	56 35.00	0.0
			eSg	56 50.00	
LIT	1.21	131	ePd	56 37.30	0.0
KNT	1.24	77	ePd	56 38.00	0.2

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

OCT 21, 1989 20h 00m 38.74± 0.49s
42.019 N ± 5.4km 142.523 E ± 7.9km
DEPTH = 78.2 ± 5.8 km
4.5mb (4 obs.)
HOKKAIDO, JAPAN REGION (224)
Felt (I JMA) at Tomakomoi and Urakowa.

URA	0.24	54	iP+	00 49.60	-1.0
			iS	00 58.20	
HOOJ	0.67	57	P	00 53.80	-0.3
			eS	01 05.00	
TMR	0.93	312	eP	00 00.00	-57.0X
MRRJ	1.15	291	P	00 59.00	-0.8
			S	01 13.60	
SAP	1.36	320	iP	01 02.50	0.0
			iS	01 19.40	
KUSJ	1.94	56	eP	01 11.00	0.7
			eS	01 35.40	
ASAJ	2.10	2	P	01 13.30	0.8
			eS	01 41.30	
AOMJ	2.18	229	P	01 14.20	0.6
			S	01 40.40	
OFUJ	3.01	193	P	01 24.40	-0.6
			eS	02 02.20	
YAMJ	4.29	207	P	01 43.00	0.0
NIIJ	5.49	211	P	02 01.20	1.5
KAKJ	6.09	198	P	02 04.40	-3.6X
			eS	03 12.60	
MAT	6.41	213	eP	02 13.00	0.5
	0.7s		6.85nm		4.2mb
			(S)	03 37.00	
MTMJ	6.54	216	P	02 14.90	0.5
CHJJ	6.56	206	P	02 12.90	-1.7
			eS	03 26.30	
IIDJ	7.46	210	P	02 28.10	1.2
CN2	12.65	284	Pc	03 38.80	1.8
8J1	19.95	273	eP	05 04.50	-2.3
	1.0s		0.02nm		1.4mb X

```
TIA     20.51 262 eP     05 10.10  -2.5
XAN     27.51 264 P      06 20.70   1.0
GTA     32.23 280 eP     07 01.40  -0.3
WMQ     39.57 292 eP     08 04.50   0.8
HYB     59.30 266 eP     10 35.00   0.3
WB5     62.05 189 eP     10 52.80  -0.3
GBA     62.54 264 Pd     10 56.90   0.3
         0.7s      4.80nm          4.7mb
SUF     63.94 333 eP     11 05.00  -0.2
HFS     69.91 335 eP     11 43.00   0.2
         0.4s      2.20nm          4.4mb
NB2     69.93 337 P      11 43.00   0.0
         1.0s      8.60nm          4.6mb
      S.D. = 1.1  on  26 of  28 obs.
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?  OCT  21, 1989  20h 49m 33.66± 1.01s
   22.229 S ± 9.4km   68.889 W ±29.4km
   DEPTH = 149.1 ± 40.1 km
 NORTHERN CHILE                  (123)

ANT      2.03 223 iPc    50 09.50   0.0
                 iS      50 35.20
CNCB     5.46   9 P      50 54.00  -0.6
CCH      5.47  29 P      50 58.00   3.5X
LPB      5.71   8 eP     50 59.00   1.1
ZOBO     5.97   7 P      51 01.00  -0.5
ITB1    13.53 103 eP     52 40.70   0.0
BAO     20.81  75 eP     54 05.00   0.0
      S.D. = 1.0  on   6 of   7 obs.
-------------------------------------
?  OCT  21, 1989  21h 09m 03.45± 2.96s
   25.458 N ±30.5km  110.236 W ±12.3km
   DEPTH =  10.0km  (geophysicist)
   4.8mb (  8 obs.)
 GULF OF CALIFORNIA              ( 49)

MZX      4.14 122 eP     10 38.00  29.9X
GLA      8.56 333 eP     11 04.00  -6.4X
PLM      9.76 325 eP     11 24.50  -2.5
TPC      9.99 331 eP     11 30.00   0.0
ALQ     10.00  18 eP     11 29.50  -0.9
         1.3s     14.42nm          5.3mb
RVR     10.52 326 eP     11 26.00 -11.4X
SBB     11.30 326 eP     11 46.00  -2.1
CLC     12.11 330 eP     12 02.00   3.0X
BCH     12.89 321 eP     12 11.10   1.6
MSU     13.12 353 eP     12 12.20  -0.5
MEO     13.70  45 iPc    12 22.00   1.8
TNP     13.91 336 eP     12 24.30   1.2
         1.3s     41.33nm          5.1mb
ACO     14.68  38 e(P)   12 36.00   3.0X
GOL     14.78  15 eP     12 35.30   0.8
         1.2s     56.56nm          5.0mb
GLD     14.86  15 eP     12 36.50   1.0
         1.7s    117.39nm          5.1mb
KVN     15.09 336 eP     12 38.50   0.0
SIO     15.76  46 eP     12 37.70  -9.4X
TUL     16.20  47 eP     13 00.70   8.0X
         0.7s      7.60nm          3.9mb
      Z  21s      0.34um          5.8Msz
                  LR     17 34.00
                  (Lg)   17 36.20
LNO     16.20  47 e(P)   13 00.30   7.7X
BW06    17.29   2 eP     13 04.50  -2.2
         1.2s     26.37nm          4.2mb
RSSD    19.29  14 eP     13 32.50   1.1
FVM     20.92  49 eP     13 46.50  -2.1
LON     23.17 339 eP     14 11.90   0.9
RSCP    23.46  59 eP     14 12.50  -1.4
TKL     24.88  60 eP     14 34.00   6.3X
SES     24.91 359 eP     14 29.00   1.2
EDM     27.83 356 eP     15 02.00   7.2X
FBA     46.18 339 eP     17 32.00   2.1
         0.8s      4.31nm          4.5mb
MBC     51.05 357 eP     18 12.00   4.7X
         1.5s     19.00nm          4.8mb
MAIO   117.82   9 ePKP   28 03.00  10.9X
BUL    141.81  91 iPKPd  28 33.90  -4.1X
         1.0s     10.00nm
      S.D. = 1.6  on  18 of  31 obs.
-------------------------------------
   OCT  21, 1989  21h 17m 23.76± 0.50s
   14.817 S ± 8.5km  101.756 E ± 9.2km
   DEPTH =  10.0km  (geophysicist)
   4.9mb ( 11 obs.)  4.4Msz (  1 obs.)
 SOUTH INDIAN OCEAN              (425)

KSI     11.14   4 ePc    19 59.50  -6.7X
TRT     12.79  58 ePc    20 25.50  -3.0X
                 eS      22 32.20
NANU    15.14 123 eP     20 54.30  -5.2X
         0.3s     25.00nm          5.1mb
                 eS      23 20.00
PSI     17.62 351 ePc    21 31.40   0.3
                 e       25 20.00
MBL     18.31 113 eP     21 38.50  -1.1
                 eS      24 37.00
IPM     19.28 358 ePc    21 51.00  -0.7X
MRWA    19.46 140 eP     21 53.20  -0.4
         0.3s      7.00nm          4.4mb
                 eS      25 16.00
MEKA    19.57 130 eP     21 55.00   0.0
                 eS      25 17.00
BAL     20.87 141 eP     22 11.00   2.5X
                 eS      25 53.00
MUN     21.59 145 eP     22 22.00   6.2X
                 eS      26 07.00
SNG     21.88 357 eP     22 09.80  -9.0X
NWAO    22.87 145 eP     22 34.00   5.5X
                 eS      26 38.00
COOL    23.92 135 eP     22 41.50   2.7X
                 eS      27 00.00
TSM     24.89  42 ePc    22 47.00  -1.2
WARB    25.86 120 eP     22 57.20  -0.2
WB5     31.50 104 iPd    23 47.80  -0.5
                 e       24 00.50
ASPA    31.54 111 iP     23 48.00  -0.6
         0.6s     46.00nm          5.6mb
      Z  17s      0.40um          4.1MszX
                 e       24 32.10
                 eS      29 57.00
                 LR      38 19.10
CHG     33.53 355 ePc    24 09.80   3.9X
         1.0s     12.50nm          4.8mb
OIS     36.45 105 iPd    24 30.60  -0.3
                 e       25 11.00
GBA     37.10 318 Pc     24 47.30  10.9X
         0.8s      3.00nm
HYB     39.37 324 eP     24 54.50  -0.9
CTA     42.68 104 iPd    25 23.10   0.4
         1.1s     24.05nm          4.8mb
PMG     44.65  88 eP     25 40.00   1.3
BWA     46.24 124 iPd    25 54.00   2.9X
CAN     46.90 125 iPd    25 57.50   1.1
BRS     48.91 113 iPc    26 12.80   0.7
         1.0s      4.00nm          4.4mb
                 e       27 56.00
SSE     49.32  22 eP     26 06.60  -8.5X
         0.7s      9.00nm          4.9mb
                 pP      26 19.20  46kmX
LZH     50.66   2 Pd     26 29.80   4.3X
         1.5s     54.00nm          5.3mb
      Z  22s      0.40um          4.4Msz
BJI     56.20  13 eP     27 07.50   1.3
SPA     75.28 180 e(P)   29 08.40  -0.3
         1.0s     25.00nm          5.2mb
SNA     80.83 199 iPd    29 39.40   0.5
         0.9s      6.72nm          4.7mb
BCAO    84.59 276 iPc    29 58.00  -1.3
         0.7s      9.00nm          5.1mb
MLR     90.80 317 eP     30 26.00  -2.7X
CNCB   146.98 198 PKP    37 09.00   1.2
LPB    147.28 198 PKP    37 11.00   2.9X
ZOBO   147.54 198 PKP    37 11.90   3.2X
                 eLR     40 18.00
      S.D. = 0.9  on  19 of  36 obs.
-------------------------------------
?  OCT  21, 1989  21h 34m 21.21±22.25s
   40.738 N ±18.1km   27.367 E ±170.km
   DEPTH =  10.0km  (geophysicist)
 TURKEY                          (366)

EDC      0.54 136 iPg    34 32.20   0.0
                 eSg     34 39.20
BNT      0.57 132 iPg    34 32.90   0.2
                 iSg     34 39.90
KCT      0.90 123 iPg    34 38.40   0.0
CTT      0.90  63 ePg    34 38.50   0.0
                 eSg     34 52.90
      S.D. = 0.2  on   4 of   4 obs.
-------------------------------------
&  OCT  21, 1989  22h 14m 57.00s
   37.057 N          121.905 W
   DEPTH =  13.0km

   4.5mb (  4 obs.)
 CENTRAL CALIFORNIA              ( 39)
      <BRK>. ML 4.9 (BRK).
      Mo=1.2*10**16 Nm (BRK). Felt in
      the San Francisco Bay area.

GCC      0.08 250 iPc    14 59.40  -0.5
MHC      0.35  36 iPc    15 04.30  -0.2
ARN      0.42  45 iPc    15 05.10  -0.5
SAO      0.47 128 iPd    15 05.35  -1.3
                 eS      15 14.45
PCC      0.58 319 iPd    15 07.60  -0.9
PRS      0.84 149 iPd    15 12.30  -0.7
BKS      0.86 342 iPc    15 12.72  -0.5
BRK      0.86 341 iPd    15 11.80  -1.5
LLA      0.89 119 iPd    15 17.00   3.2
PRI      1.35 132 iPc    15 20.00  -1.6
CMB      1.55  51 iPc    15 22.80  -1.6
NWRM     1.60 331 eP     15 22.30  -2.7
PHAM     1.72 135 eP     15 24.70  -2.1
PKEM     1.75 124 eP     15 25.30  -2.0
FRI      1.76  91 iP     15 25.40  -1.9
BCH      2.38 141 eP     15 33.70  -2.7
ORV      2.51   7 eP     15 35.20  -3.0
BLP      2.78 153 eP     15 39.00  -2.9
ABL      3.10 135 eP     15 43.80  -2.8
KVN      3.60  55 iPc    15 51.90  -2.0
TNP      3.86  73 eP     15 56.00  -1.5
FHC      4.08 337 eP     15 58.60  -1.7
DUG      7.78  63 eP     16 52.70   0.0
MSU      7.84  76 eP     16 53.60  -0.1
DAU      8.97  65 eP     17 10.30   0.8
LON      9.69   0 eP     17 18.50  -0.5
ALQ     12.69  95 eP     18 00.00  -0.1
GOL     13.24  73 eP     18 06.50  -0.9
SES     15.45  27 eP     18 35.00  -1.1
EDM     17.23  18 iPd    18 59.50   0.7
MEO     19.02  90 e(P)   19 20.50  -0.5
TUL     21.01  85 eP     19 45.00   2.4
         0.8s      6.80nm          4.1mb
LNO     21.01  85 eP     19 44.80   2.3
FFC     22.33  31 eP     19 53.00  -2.6
         0.9s     24.00nm          4.7mb
PMR     29.87 334 eP     21 05.00  -1.0
         1.2s     18.94nm          4.8mb
INK     31.97 352 eP     21 23.00  -1.4
IMA     34.39 338 eP     21 44.60  -1.0
         1.0s      5.00nm          4.4mb
      37 obs. associated
-------------------------------------
?  OCT  22, 1989  00h 19m 56.31± 1.12s
   40.880 N ±11.1km   21.298 E ± 8.9km
   DEPTH =  10.0km  (geophysicist)
 GREECE                          (364)
      ML 2.2 (SKO).

OHR      0.44 302 iPgc   20 05.30  -0.1
                 iSg     20 13.30
SKO      1.10   6 ePg    20 17.00   0.1
                 eSg     20 32.00
LIT      1.20 130 ePc    20 18.70   0.1
KNT      1.24  76 eP     20 19.30  -0.1
      S.D. = 0.2  on   4 of   4 obs.
-------------------------------------
   OCT  22, 1989  01h 42m 05.63± 0.54s
   26.280 N ± 7.2km  110.328 W ± 6.3km
   DEPTH =  10.0km  (geophysicist)
   5.1mb ( 19 obs.)  4.9Msz (  4 obs.)
 GULF OF CALIFORNIA              ( 49)

MZX      4.69 130 eP     43 22.50   4.4X
GLA      7.80 331 eP     43 58.00  -3.9X
                 e       46 31.00
BAR      8.44 321 eP     44 10.00  -0.9
                 e       46 29.00
AGX      8.54 119 eP     44 42.00  29.7X
PLM      9.05 323 eP     44 19.00  -0.4
TPC      9.23 329 eP     44 21.00  -0.9
ALQ      9.25  20 eP     44 22.30   0.0
PEC      9.62 324 eP     44 28.50   1.3
RVR      9.81 323 eP     44 30.00   0.2
MWC     10.36 322 eP     44 38.00   0.5
PAS     10.36 321 eP     44 38.00   0.6
GSC     10.57 330 eP     44 43.00   2.7X
                 e       47 56.00
SBB     10.58 324 eP     44 40.00  -0.4
MRX     10.66 126 eP     44 51.00   9.6X
```

22d 01h

ISA	11.67	325	eP	44 54.00	-1.3
CWC	12.09	329	eP	45 01.00	-0.1
BCH	12.21	319	eP	45 01.30	-1.3
MSU	12.30	353	eP	45 04.70	0.8
III	12.76	126	eP	45 15.00	4.9X
PPM	12.96	121	eP	45 15.00	1.9
TNP	13.13	335	eP	45 15.30	0.4
MEO	13.19	47	iPd	45 15.00	-0.6
IIT	13.24	121	eP	45 25.00	8.5X
ACX	13.50	132	eP	45 07.00	-12.8X
IISM	13.98	119	eP	45 15.00	-11.0X
GOL	14.01	16	eP	45 27.00	0.4
	0.8s	31.25nm		5.1mb	
ACO	14.09	40	iPd	45 28.50	1.1
DAU	14.12	357	eP	45 30.00	1.9
KVN	14.31	335	eP	45 30.50	0.0
OCO	14.36	47	ePc	45 24.50	-6.5X
CMB	14.47	327	eP	45 34.00	1.5
	1.4s	55.45nm		5.0mb	
SIO	15.27	48	eP	45 27.90	-14.9X
OXX	15.60	123	eP	45 56.00	8.6X
TUL	15.71	49	eP	45 46.80	-1.7
	1.4s	66.00nm		4.7mb	
	Z 22s	3.40um		4.8Msz	
		eLR	50 22.00		
		eLg	50 29.00		
LNO	15.71	49	eP	45 47.40	-1.1
UYO	15.80	56	e(P)	45 54.60	4.9X
EVV	15.88	116	eP	45 50.00	-0.9
BW06	16.47	2	eP	45 56.80	-1.7
LBFM	17.81	330	eP	46 17.00	1.7
FHC	18.39	325	eP	46 22.00	-0.3
	1.4s	157.89nm		5.0mb	
LON	22.37	339	eP	47 04.80	-0.6
NEW	22.58	348	eP	47 05.90	-1 5
	1.2s	61.90nm		5.0mb	
RSCP	23.12	60	eP	47 12.00	-0.8
	1.3s	253.38nm		5.6mb	
SES	24.08	359	eP	47 21.00	-1.0
	1.5s	246.00nm		5 6mb	
PNT	24.10	345	eP	47 24.00	1.8
EDM	27.00	356	eP	47 46.50	-3.0
	1.2s	72.00nm		5.2mb	
RSON	27.64	23	eP	47 55.00	-0.3
	1.2s	16.40nm		4.7mb	
FFC	29.07	10	eP	48 09.00	0.9
	1.8s	110.00nm		5.3mb	
UPA	33.88	115	(P)	48 50.50	-0.3
	Z 19s	2.19um		4.9Msz	
		e	49 56.00		
SCH	42.63	36	eP	50 05.00	1.4
PMR	43.83	334	eP	50 13.00	-0.2
	1.1s	23.44nm		4.9mb	
INK	44.31	348	eP	50 10.00	-7.0X
FBA	45.39	339	eP	50 25.40	-0.4
IMA	48.06	338	eP	50 45.30	-1.7
	1.4s	40.70nm		5.3mb	
MBC	50.22	357	eP	51 02.50	-0.8
	1.0s	27.00nm		5.2mb	
ZOBO	58.92	131	eP	52 04.00	-4.2X
	1.5s	21.51nm		5.0mb	
	Z 20s	0.61um		4.7Msz	
		i	52 07.00		
		LR	07 28.00		
LPB	59.13	131	P	52 09.00	-0.5
	Z 20s	1.06um		5.0Msz	
		LR	12 04.00		
CNCB	59.40	131	P	52 09.00	-2.5
CCH	61.05	130	P	52 21.50	-1.0
PDCR	79.19	110	eP	54 14.10	1.3
KEV	79.45	14	eP	54 24.00	10.7X
SOD	81.25	16	iP	54 23.40	0.5
DOU	84.65	36	Pc	54 47.70	7.1X
	0.8s	6.70nm		4.9mb	
SUF	84.79	19	eP	54 42.40	1.3
LSF	85.12	40	eP	54 45.10	2.0
TCF	85.49	40	eP	54 45.80	0.8
BGF	85.70	40	eP	54 46.80	0.8
	1.2s	23.80nm		5.3mb	
SSF	85.79	39	eP	54 47.60	1.1
	1.1s	9.70nm		4.9mb	
LOR	85.87	39	eP	54 47.70	0.8
	1.2s	16.00nm		5.1mb	
LBF	86.10	39	eP	54 48.80	0.7
	1.1s	9.70nm		4.9mb	
MAT	90.20	311	eP	55 22.00	14.1X
	Z 20s	0.71um		5.1Msz	

		eS	06 04.00		
WB5	120.67	262	ePKP	01 04.50	4.5X
	S.D. = 1.2	on	53 of	72 obs.	

? OCT 22, 1989 01h 50m 33.61± 1.81s
26.112 N ±32.0km 110.347 W ±36.2km
DEPTH = 10.0km (geophysicist)
4.2mb (2 obs.)
GULF OF CALIFORNIA (49)

MZX	4.60	128	eP	52 06.50	21.8X
GLA	7.94	332	e(P)	52 28.70	-3.2
PLM	9.17	323	eP	52 50.00	0.9
PEC	9.74	324	e(P)	53 01.50	4.6X
MRX	10.57	125	eP	53 23.00	14.8X
BCH	12.32	320	eP	53 31.40	-0.7
PPM	12.89	121	eP	53 56.00	15.8X
TNP	13.27	336	eP	53 45.50	0.7
GLD	14.26	16	e(P)	54 00.00	2.2X
	1.0s	54.00nm		5.2mb X	
KVN	14.45	335	eP	53 59.80	-0.5
CMB	14.61	327	eP	54 04.00	1.8
	1.2s	1.80nm		3.5mb	
TUL	15.83	48	e(P)	54 37.70	19.6X
	0.9s	19.70nm			
	Z 18s	3.25um			
		LR	59 23.00		
BW06	16.64	2	e(P)	54 31.50	2.9X
LON	22.52	339	eP	55 35.50	0.7
SES	24.25	359	eP	55 51.00	-0.6
EDM	27.17	356	eP	56 22.50	3.5X
INK	44.47	348	eP	59 09.00	22.7X
MBC	50.39	357	eP	59 34.00	1.5
	1.5s	23.00nm		4.9mb	
ZOBO	58.83	131	eP	00 35.00	-0.5
LPB	59.03	131	P	00 45.00	8.2X
CNCB	59.31	131	P	00 44.00	5.2X
	S.D. = 1.6	on	10 of	21 obs.	

? OCT 22, 1989 01h 51m 40.13± 3.69s
25.868 N ±36.8km 110.313 W ±15.2km
DEPTH = 10.0km (geophysicist)
4.8mb (3 obs.)
GULF OF CALIFORNIA (49)

GLA	8.17	332	e(P)	53 37.00	-4.6X
AGX	8.34	117	eP	55 08.00	84.1X
PLM	9.38	324	e(P)	54 00.00	1.4
ALO	9.64	19	eP	54 01.70	-0.4
	0.9s	6.30nm		5.0mb X	
BCH	12.53	320	e(P)	54 41.00	-0.4
TNP	13.51	336	e(P)	54 54.00	-0.4
GOL	14.40	16	P	55 16.00	9.7X
	0.8s	17.26nm		4.8mb	
GLD	14.49	16	eP	55 14.00	6.7X
	1.8s	143.59nm		5.3mb	
KVN	14.69	335	e(P)	55 09.00	-0.9
BW06	16.88	2	e(P)	55 39.00	0.8
LON	22.76	339	eP	56 43.00	-0.7
SES	24.50	359	eP	57 01.00	0.5
MBC	50.63	357	eP	00 41.00	0.1
	1.0s	6.00nm		4.5mb	
	S.D. = 0.9	on	9 of	13 obs.	

OCT 22, 1989 02h 10m 57.50± 0.64s
26.304 N ± 7.6km 110.377 W ± 7.2km
DEPTH = 10.0km (geophysicist)
5.3mb (11 obs.)
GULF OF CALIFORNIA (49)
CENTROID, MOMENT TENSOR (HRV)
Dota Used: GDSN
L.P.B.: 11S, 17C
Centroid Locotion:
Origin Time 02:10:51.3 3.1
Lat 25.52N 0 24 Lon 109.99W 0.21
Dep 15.0 FIX Holf-durotion 1.7
Moment Tensor; Scole 10**17 Nm
Mrr= 0.13 0.11 Mtt=-1.01 0.13
Mff= 0.88 0.18 Mrt= 0.00 0.00
Mrf= 0.00 0.00 Mtf= 0.18 0.12
Principol Axes:
T Val= 0.89 Plg= 0 Azm= 96
N 0.13 90 180
P -1.03 0 6
Best Double Couple:Mo=1.0*10**17
NP1:Strike=141 Dip=90 Slip=-180
NP2: 231 90 0

MZX	4.74	130	eP	12 20.00	9.3X
GLA	7.76	331	eP	12 50.00	-3.2
		e	14 46.00		
BAR	8.39	321	eP	13 02.00	-0.1
		e	15 21.00		
AGX	8.59	119	eP	13 41.50	36.7X
PLM	9.00	323	eP	13 11.00	0.4
TPC	9.19	329	eP	13 12.00	-1.1
ALO	9.25	20	eP	13 14.70	0.6
RVR	9.76	323	eP	13 21.00	0.0
MWC	10.31	322	eP	13 26.00	-2.7
SBB	10.54	324	eP	13 33.00	1.3
MRX	10.71	126	eP	13 44.00	10.1X
ISA	11.63	325	eP	13 47.00	0.5
CRX	12.01	123	eP	13 54.00	2.0
BCH	12.16	319	eP	13 53.50	-0.3
MSU	12.27	353	eP	13 56.50	1.1
PPM	13.01	121	eP	14 07.50	1.8
TNP	13.09	335	eP	14 07.50	1.2
ACX	13.55	132	eP	14 13.00	0.7
GOL	14.00	16	eP	14 19.40	1.0
	1.5s	168.24nm		5.6mb	
DUG	14.00	352	eP	14 20.50	2.2
IISM	14.03	119	eP	14 03.00	-15.5X
GLD	14.09	17	eP	14 21.00	1.6
	1.5s	292.19nm		5.8mb	
DAU	14.09	357	P	14 21.10	1.5
ACO	14.10	40	iPd	14 19.90	0.5
KVN	14.27	335	eP	14 23.00	1.2
CMB	14.43	327	eP	14 24.40	0.6
SIO	15.28	49	eP	14 33.80	-1.1
OXX	15.65	123	eP	14 46.00	6.1X
TUL	15.72	49	eP	14 38.80	-1.8
	1.2s	247.70nm		5.3mb	
	Z 18s	0.22um		6.0MszX	
		LR	19 07.00		
		eLg	19 22.20		
LNO	15.73	49	eP	14 38.60	-2.0
UYO	15.82	57	iPc	14 46.30	4.4X
EVV	15.93	116	eP	14 48.00	4.6X
BW06	16.45	2	eP	14 49.50	-0.6
PTI	16.61	355	eP	14 54.50	2.4
LBFM	17.77	330	eP	15 08.00	1.3
LON	22.33	339	iP	15 57.10	0.3
NEW	22.55	348	eP	15 58.00	-1.0
	1.1s	13.75nm		4.4mb	
RSCP	23.14	60	eP	16 04.50	-0.4
	1.3s	233.11nm		5.6mb	
SES	24.06	359	ePd	16 13.60	-0.1
	1.6s	281.00nm		5.6mb	
PNT	24.07	345	eP	16 15.00	1.3
EDM	26.98	356	iPc	16 40.00	-1.1
	1.2s	104.00nm		5.4mb	
RSON	27.64	23	eP	16 45.50	-1.6
	0.9s	8.13nm		4.5mb	
FFC	29.06	10	eP	16 58.00	-1.8
	1.7s	78.00nm		5.2mb	
SCH	42.63	36	eP	18 55.00	-0.5
PMR	43.79	334	eP	19 04.50	-0.3
	1.2s	22.73nm		4.9mb	
INK	44.27	348	eP	19 08.00	-0.6
FBA	45.35	339	eP	19 17.50	0.2
IMA	48.02	338	eP	19 37.70	-0.8
MBC	50.20	357	eP	19 54.50	-0.4
	1.3s	43.00nm		5.3mb	
ZOBO	58.97	131	P	21 00.00	-0.4
LPB	59.18	131	eP	21 02.00	0.3
CNCB	59.45	131	P	21 01.70	-2.0
CCH	61.10	130	P	21 07.50	-7.2X
	S.D. = 1.4	on	45 of	53 obs.	

? OCT 22, 1989 02h 42m 57.27± 8.28s
8.915 S ±72.4km 128.016 E ±17.9km
DEPTH = 127.6 ± 37.6 km
TIMOR SEA (290)

MTN	4.96	142	iPc	44 11.50	0.7
		eS	45 10.00		
KNA	6.83	174	iPc	44 36.00	-0.4
	0.2s	18.00nm		5.2mb X	
		eS	45 54.00		
WB5	12.51	151	eP	45 50.70	-1.3
		eS	48 09.00		
MBL	14.51	212	eP	46 17.50	-0.2
		eS	48 57.00		
ASPA	15.71	160	eP	46 33.80	0.9
		eS	49 29.60		

OIS	16.10	137	eP	46 37.50	-0.2
			eS	49 34.00	
WARB	17.22	184	eP	46 52.00	0.5
CNCB	149.94	148	PKP	02 45.00	14.5X
LPB	150.11	148	PKP	02 48.00	17.5X
ZOBO	150.31	147	PKP	02 46.00	14.9X

S.D. = 1.1 on 7 of 10 obs.

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* OCT 22, 1989 03h 04m 30.75± 0.88s
22.851 S ±11.0km 66.652 W ±13.2km
DEPTH = 316.0 ± 25.0 km
JUJUY PROVINCE, ARGENTINA (128)

ANT	3.56	255	iPc	05 33.50	-0.1
			iS	06 20.30	
CCH	5.46	5	P	05 53.50	-1.6
			S	06 52.00	
CNCB	6.14	348	iPc	06 04.00	0.6
			S	07 14.00	
LPB	6.43	348	P	06 08.00	1.3
			S	07 21.90	
ZOBO	6.69	348	P	06 10.00	0.0
			S	07 25.70	
ARE	7.82	323	eP	06 23.00	-0.4
			iS	07 51.50	
ITB1	11.37	101	eP	07 07.20	0.7
ITB	11.55	102	e(P)	07 08.70	0.0
ITB7	11.63	104	eP	07 09.50	-0.2
BMA	20.75	94	e(P)	08 48.10	-0.4

S.D. = 1.0 on 10 of 10 obs.

OCT 22, 1989 05h 52m 18.30± 0.55s
12.383 N ±10.3km 141.656 E ± 6.8km
DEPTH = 33.0km (normal)
4.7mb (2 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.35	69	eP	53 10.60	1.0
PJG	3.35	69	eP	53 10.50	0.9
			TT	55 52.20	
GUA	3.38	70	eP	53 10.00	0.0
			e(S)	53 50.50	
BAG	20.80	284	eP	57 00.50	0.9
PMG	22.33	166	eP	57 15.00	0.2
WB5	32.85	193	eP	58 50.80	-0.6
BJI	35.54	325	eP	59 13.50	-0.8
GYA	35.71	298	P	59 18.00	1.9
TIY	36.29	319	eP	59 21.00	0.2
BTO	39.51	321	eP	59 48.00	0.2
GTA	45.68	314	eP	00 38.20	0.1
WMQ	55.73	315	P	01 54.50	0.3
FBA	70.64	25	eP	03 31.00	-1.3
	0.8s		3.10nm		4.4mb
INK	76.67	22	eP	04 06.00	-1.3
SUF	90.27	335	eP	05 15.30	-1.6
	0.8s		6.80nm		5.0mb
NUR	91.97	334	eP	05 07.20	-17.5X
ZOBO	150.90	101	ePKP	12 08.00	3.1X
LPB	150.91	102	ePKP	12 17.00	12.3X
CNCB	151.00	102	PKP	12 12.00	7.0X

S.D. = 1.0 on 15 of 19 obs.

& OCT 22, 1989 05h 53m 24.93s
59.879 N 150.722 W
DEPTH = 28.6km
KENAI PENINSULA, ALASKA (14)
<AGS-P>.

BRLK	0.14	216	iP	53 30.57	0.1
NNL	0.33	300	iP	53 33.39	0.7
CNPM	0.44	217	iP	53 33.27	-1.1
			eS	53 40.12	
SEW	0.68	70	eP	53 36.77	-1.4
SLKM	0.68	21	eP	53 37.59	-0.6
			eS	53 47.62	
NKA	0.90	344	eP	53 42.55	1.0
RDT	1.09	310	iP	53 43.17	-1.2
RED	1.16	299	iP	53 44.11	-1.3
OPT	1.29	261	eP	53 46.14	-1.0
AUE	1.44	250	iP	53 48.78	-0.5
SPU	1.46	334	eP	53 48.83	-0.9
			eS	54 08.36	
PMS	1.49	22	eP	53 49.57	-0.4
			eS	54 07.90	
CDD	1.77	239	eP	53 53.89	-0.2
PWA	1.83	13	eP	53 55.90	1.1

14 obs. associated

? OCT 22, 1989 06h 16m 33.90± 5.54s
16.580 S ±112.km 72.763 W ±41.1km
DEPTH = 33.0km (normal)
NEAR COAST OF PERU (115)

ARE	1.23	85	iPc	16 54.60	-0.5
			iS	17 10.60	
PT03	3.90	311	iPc	17 33.00	0.0
			eS	18 17.00	
ZOBO	4.46	87	P	17 42.00	0.4
LPB	4.47	90	P	17 42.00	0.4
CNCB	4.59	94	P	17 43.00	-0.3
			S	18 57.50	
PT08	5.88	321	eP	18 06.70	5.3X
			iS	19 08.50	
NNA	6.04	319	eP	18 09.70	6.3X
			eS	19 13.00	

S.D. = 0.6 on 5 of 7 obs.

OCT 22, 1989 07h 17m 42.56± 0.43s
45.555 N ± 2.8km 6.658 E ± 4.4km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.6 (GEN), 2.5 (LDG).

LPL	0.07	127	Pg	17 45.00	-0.1
LPG	0.09	131	Pg	17 45.30	-0.1
			Sg	17 47.30	
LSD	0.36	105	P	17 49.74	-0.4
			S	17 55.05	
BNI	0.50	179	Pc	17 52.20	-0.6
			eSg	17 59.40	
EMS	0.55	20	iPc	17 53.00	-0.7
RSP	0.58	133	P	17 54.04	-0.4
			S	18 02.13	
RRL	0.64	172	P	17 55.07	-0.5
			S	18 03.95	
DIX	0.74	45	iPd	17 57.00	-0.3
ORX	0.93	85	P	18 01.05	0.6
			S	18 13.61	
MMK	1.04	61	ePc	18 03.00	0.6
PZZ	1.10	163	P	18 03.19	-0.1
			S	18 17.82	
DOI	1.13	158	P	18 04.00	0.2
STV	1.39	160	P	18 08.16	0.0
ENR	1.43	158	P	18 08.72	0.0
ROB	1.53	145	P	18 10.09	0.1
PCP	1.68	126	P	18 12.54	0.4
FIN	1.74	140	P	18 12.82	-0.2
IMI	1.86	151	P	18 14.39	-0.5
FRF	1.99	180	Pn	18 18.40	1.7
			Sg	18 46.00	
SMF	2.24	300	Pg	18 26.00	5.7X
			Sg	18 52.80	
L8F	2.35	309	Pg	18 28.00	6.2X
			Sg	18 57.60	
HAU	2.46	355	Pn	18 23.90	0.5
			Pg	18 29.60	
			Sg	19 01.60	
LOR	2.59	313	Pg	18 31.60	6.4X
			Sg	19 04.40	
BGF	2.84	292	Pn	18 28.40	-0.3
			Pg	18 36.20	
			Sg	19 13.00	

S.D. = 0.6 on 21 of 24 obs.

& OCT 22, 1989 09h 44m 58.60s
36.908 N 121.678 W
DEPTH = 9.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.7 (BRK).

ARN	0.46	15	iPd	45 07.60	-0.2
PHAM	1.49	136	eP	45 24.00	-1.5
PKEM	1.52	123	eP	45 25.00	-1.0
CMB	1.52	42	eP	45 24.90	-1.2
NWRM	1.82	329	eP	45 27.20	-3.1
BCH	2.15	143	eP	45 32.80	-2.4
ORV	2.65	3	eP	45 41.00	-1.2
KVN	3.55	52	eP	45 53.50	-1.6
TNP	3.74	70	eP	45 57.20	-0.7

9 obs. associated

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* OCT 22, 1989 10h 08m 35.38± 2.70s
43.054 N ±14.0km 1.423 W ±16.0km
DEPTH = 10.0km (geophysicist)

PYRENEES (378)
ML 3.1 (LDG).

BOH	0.31	81	Pg	08 41.65	-0.1
ELYF	0.34	70	Pg	08 42.56	0.2
MADF	0.45	78	Pg	08 44.54	0.0
			Sg	08 47.54	
ISSF	0.46	93	Pg	08 44.84	0.1
			Sg	08 48.61	
ATE	0.53	86	Pg	08 45.92	-0.2
			Sg	08 50.17	
LHE	0.61	103	Pg	08 47.69	0.0
			Sg	08 53.40	
ESCF	0.62	87	Pg	08 47.47	-0.5
			Sg	08 53.25	
OGE	0.70	80	Pg	08 48.90	-0.4
EPF	1.29	90	Pg	08 59.80	0.4
			Sg	09 14.40	
LFF	2.45	39	Pg	09 22.80	6.8X
			Sg	09 52.40	
LPO	2.49	48	Pn	09 17.60	1.0
			Pg	09 23.20	
			Sg	09 53.30	
RJF	3.09	42	Pg	09 33.50	8.4X
			Sg	10 11.00	
CAF	3.14	52	Pn	09 26.30	0.5
			Sg	10 11.60	
LSF	3.83	32	Pn	09 35.20	-0.4
			Sn	10 15.40	
MAF	4.26	41	Pn	09 41.60	-0.1
			Pg	09 57.00	
			Sg	10 49.00	
BGF	4.64	39	Pn	09 46.50	-0.6
			Pg	10 25.00	
			Sg	10 59.40	

S.D. = 0.5 on 14 of 16 obs.

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* OCT 22, 1989 10h 19m 49.92± 0.38s
18.215 S ±11.7km 173.204 W ±10.5km
DEPTH = 33.0km (normal)
5.0mb (5 obs.)
TONGA ISLANDS (173)

AFI	4.50	18	eP	20 58.00	0.4
			S	21 45.00	
			e	25 37.00	
			e	25 50.00	
DZM	19.49	255	iPc	24 18.20	0.8
KRP	21.97	204	P	24 42.90	0.2
BRS	32.58	248	iPc	26 20.00	-0.6
CTA	38.28	260	iPc	27 09.30	0.1
	0.6s		34.67nm		5.4mb
WB5	49.42	259	iPc	28 38.20	-0.8
ASPA	49.48	254	iPd	28 38.80	-0.6
	0.8s		18.00nm		5.2mb
			iPcP	30 01.20	
			eS	35 41.00	
PLM	74.28	46	P	31 25.50	-0.6
TNP	76.78	42	eP	31 40.20	-0.1
	1.0s		6.75nm		4.6mb
KVN	76.79	41	eP	31 40.00	-0.3
RMW	79.97	33	P	31 57.50	0.1
MSU	80.30	44	P	32 00.00	0.5
PNT	82.28	32	eP	32 10.00	0.6
ALQ	82.46	50	P	32 10.50	-0.4
	1.0s		3.75nm		4.4mb
BW06	84.24	42	P	32 19.00	-0.8
FBA	85.11	11	P	32 23.50	0.1
	0.7s		9.45nm		5.1mb
GOL	85.47	46	P	32 26.50	0.4
BJI	87.53	314	eP	32 39.00	3.2X
EDM	87.78	31	eP	32 36.00	-0.7
SNG	88.61	278	eP	32 35.60	-5.9X
NAI	144.69	240	iPKPd	39 28.00	1.8
KRA	146.53	345	ePKP	39 30.90	3.1X
KSP	146.58	349	ePKPc	39 30.50	2.6X
CLL	146.61	353	iPKP	39 30.60	2.7X
PRU	147.70	351	ePKP	39 34.00	4.3X
MLR	148.48	334	ePKP	39 36.00	4.7X
KHC	148.68	351	iPKPc	39 36.50	5.1X
FLN	148.96	9	ePKP	39 36.20	4.4X
	0.8s		10.70nm		
LDF	149.18	9	ePKP	39 36.70	4.6X
	0.9s		13.10nm		
HAU	150.29	1	ePKP	39 40.10	6.2X
	0.8s		8.00nm		
LOR	150.92	4	ePKP	39 41.30	6.5X

22d 10h

0.9s 5.50nm
SSF 151.10 5 ePKP 39 42.00 6.9X
1.0s 16.80nm
LBF 151.22 4 ePKP 39 41.90 6.6X
AVF 151.36 5 ePKP 39 43.00 7.6X
BCAO 162.13 221 ePKPd 39 49.50 -0.3
0.8s 9.00nm
i 40 35.30
S.D. = 0.7 on 20 of 35 obs.

? OCT 22, 1989 10h 33m 01.02± 0.93s
39.096 N ± 8.6km 27.614 E ± 9.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM 0.75 202 iPg 33 15.70 0.0
iSg 33 27.70
DST 0.94 57 iPn 33 19.00 0.1
EZN 1.24 307 ePn 33 24.00 0.0
KCT 1.29 26 iPn 33 24.80 -0.1
S.D. = 0.1 on 4 of 4 obs.

? OCT 22, 1989 10h 45m 38.40± 3.41s
62.337 N ±23.6km 5.593 E ±24.5km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 2.4 (BER).

MOL 0.94 75 eP 45 56.47 0.2
eS 46 11.26
HYA 1.21 166 iP 46 01.20 0.3
iS 46 20.00
SUE 1.34 198 eP 46 03.00 -0.1
iS 46 21.00
NRA0 3.27 117 iPc 46 30.30 -0.4
eS 47 09.20
iSg 47 22.40
S.D. = 0.6 on 4 of 4 obs.

% OCT 22, 1989 11h 02m 25.28± 0.80s
36.160 N ± 8.0km 23.876 E ± 8.6km
DEPTH = 29.0 ± 8.4 km
SOUTHERN GREECE (368)
ML 3.2 (ATH).

VAM 0.80 161 ePn 02 40.50 0.1
eSn 02 52.50
VLI 0.94 307 iPnc 02 42.20 -0.2
eSn 02 54.40
APE 1.61 55 ePn 02 51.90 -0.2
NPS 1.67 122 ePn 02 53.00 0.0
ATH 1.81 356 ePn 02 55.40 0.4
KAP 2.75 102 ePn 03 08.40 0.1
SMG 2.83 56 ePn 03 09.40 -0.1
S.D. = 0.3 on 7 of 7 obs.

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* OCT 22, 1989 11h 13m 19.51± 2.04s
23.711 N ±13.4km 121.713 E ±23.0km
DEPTH = 27.1 ± 8.5 km
TAIWAN (244)

TWD 0.38 344 iPc 13 27.70 -0.2
eS 13 33.70
TWF1 0.52 227 iPc 13 30.00 -0.2
eS 13 38.30
TWC 0.90 8 iPc 13 36.00 -0.3
eS 13 48.10
TWQ 0.98 305 iPd 13 37.20 -0.2
eS 13 50.10
TWK 1.21 249 ePc 13 41.00 0.3
TWZ 1.39 355 ePc 13 42.40 -0.8
ANP 1.48 353 eP 13 46.00 1.4
SSE 7.37 356 eP 15 08.00 0.0
eLg 17 21.00
S.D. = 0.8 on 8 of 8 obs.

OCT 22, 1989 11h 41m 27.95± 0.45s
43.154 N ± 3.9km 12.885 E ± 4.5km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 3.0 (SSO).

ASS 0.18 243 Pc 41 32.00 -0.1
eSg 41 35.10
CIO 0.19 78 iPgd 41 31.84 -0.5
iSg 41 35.45
ARV 0.35 7 Pc 41 33.60 -1.5
eSg 41 38.60
SSO 0.42 70 ePg 41 36.45 0.0
eSg 41 43.86
ALP 0.63 126 iPg 41 39.58 -1.1
iSg 41 49.95
MNS 0.78 191 Pd 41 42.80 -0.4
eSg 41 56.50
CRE 0.83 305 P 41 44.40 0.4
eSg 41 54.80
RSM 0.83 338 P 41 44.40 0.4
eSg 41 55.80
SFI 1.07 316 P 41 48.00 -0.1
eSg 42 04.00
PGD 1.11 311 P 41 48.40 -0.5
eSg 42 05.00
RDP 1.40 185 P 41 54.00 0.4
SDI 1.60 154 P 41 57.40 1.0
eSn 42 19.50
RIY 2.44 26 e(Pn) 42 10.20 1.8
TRI 2.63 14 eP 42 16.00 4.9X
e 42 41.50
CEY 2.81 23 eP 42 22.50 8.7X
eSn 42 48.50
VBY 2.90 35 eP 42 25.80 10.8X
VOY 2.97 14 ePn 42 17.50 1.5
eSn 42 51.30
CTI 3.02 343 P 42 16.50 -0.3
LJU 3.12 22 e(Pn) 42 26.00 7.9X
eSn 42 56.00
FVI 3.44 359 P 42 21.70 -0.9
PTJ 3.52 38 eP 42 39.90 16.1X
S.D. = 1.0 on 16 of 21 obs.

& OCT 22, 1989 11h 45m 38.91s
63.366 N 151.964 W
DEPTH = 19.9km
CENTRAL ALASKA (1)
<AGS-P>. ML 3.4 (PMR).

KTH 0.50 68 iP 45 49.05 0.0
HUR 1.13 109 iP 45 59.26 -0.3
eS 46 13.00
CUT 1.24 140 eP 46 00.83 -0.3
eS 46 15.37
RND 1.40 87 eP 46 03.31 -0.2
eS 46 22.28
MCK 1.41 73 eP 46 03.95 0.5
SKT 1.41 172 iP 46 02.80 -0.7
eS 46 19.70
NEA 1.76 45 eP 46 08.10 -0.5
TTA 1.89 258 eP 46 09.20 -1.4
NCG 1.97 183 eP 46 09.17 -2.6
PWA 1.97 150 eP 46 11.30 -0.4
SUA 1.99 163 eP 46 12.00 -0.1
PME 2.21 141 eP 46 14.91 -0.2
PLRM 2.21 142 eP 46 13.02 -2.1
PMR 2.21 142 iPc 46 14.80 -0.3
RDS 2.23 47 eP 46 16.19 0.8
CCB 2.24 53 eP 46 14.57 -0.9
FBA 2.39 48 eP 46 18.20 0.6
PMS 2.41 151 eP 46 17.90 0.0
HDA 2.45 63 eP 46 18.27 -0.2
GLM 2.58 49 eP 46 20.86 0.4
NCA 2.74 118 eP 46 22.66 0.0
DDM 2.76 78 eP 46 23.40 0.4
RDT 2.81 184 eP 46 23.97 0.3
IMA 2.81 346 eP 46 24.50 0.7
SVW 2.84 219 eP 46 21.90 -2.2
DMW 2.86 73 eP 46 26.23 1.9
TOA 2.95 113 eP 46 26.00 0.4
PAX 2.97 95 eP 46 26.71 0.7
SLKM 2.98 163 eP 46 26.29 0.2
KLU 3.38 121 eP 46 31.84 0.1
GLI 3.38 135 eP 46 32.58 0.8
VLZ 3.46 128 eP 46 32.90 0.1
DOT 3.55 82 eP 46 34.34 0.1
FID 3.68 133 eP 46 35.64 -0.4
CNPM 3.87 174 eP 46 38.73 0.1
35 obs. associated

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* OCT 22, 1989 11h 47m 14.82± 0.93s
43.229 N ± 7.3km 12.893 E ± 8.3km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.7 (SSO).

CIO 0.19 100 iPg 47 18.74 -0.3
iS 47 22.70
ASS 0.23 227 Pc 47 19.00 -0.8
eSg 47 22.20
ARV 0.27 8 Pc 47 20.80 0.2
eSg 47 25.60
ALP 0.67 132 e(Pg) 47 28.06 -0.2
iSg 47 38.00
MNS 0.86 191 P 47 32.50 1.1
eSg 47 43.00
S.D. = 1.0 on 5 of 5 obs.

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* OCT 22, 1989 11h 59m 21.55± 1.02s
22.254 S ± 6.9km 70.453 W ±12.8km
DEPTH = 66.8 ± 13.0 km
4.8mb (1 obs.)
NEAR COAST OF NORTHERN CHILE (122)

ARE 5.84 350 iPd 00 47.60 -0.3
eS 01 57.00
CNCB 5.90 24 P 00 49.60 0.7
LPB 6.11 22 P 00 52.00 0.3
1.0s 278.00nm 5.6mb X
CCH 6.32 41 P 00 54.00 -0.6
ZOBO 6.35 21 P 00 55.00 -0.2
S 03 00.00
PEL 10.85 181 eP 01 56.50 0.0
NNA 11.89 328 eP 02 10.50 0.0
e(S) 04 31.00
TUL 62.62 337 e(P) 09 41.70 0.6
0.8s 7.10nm 4.8mb
e 09 54.80
LNO 62.62 337 e(P) 09 40.80 -0.2
e 09 54.00
EDM 83.84 336 ePc 11 44.50 -0.4
S.D. = 0.5 on 10 of 10 obs.

% OCT 22, 1989 12h 35m 27.85± 1.05s
39 271 N ± 7.3km 27.659 E ±12.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST 0.82 66 iPg 35 42.90 -0.9
eSg 35 52.90
IZM 0.93 200 ePg 35 45.30 -0.3
eSg 35 59.80
EDC 1.09 8 ePn 35 48.20 0.0
KCT 1.11 29 iPn 35 49.30 0.5
KHL 1.74 122 ePn 35 59.00 0.7
S.D. = 0.9 on 5 of 5 obs.

OCT 22, 1989 13h 24m 15.06± 0.44s
4 675 S ± 2.6km 153.240 E ± 3.0km
DEPTH = 67.4 ± 3.7 km
5.4mb (33 obs.)
NEW IRELAND REGION (190)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 27C
Centroid Location:
Origin Time 13:24:19.6 1.2
Lat 4.23S 0.08 Lon 153.60E 0.12
Dep 33.0 FIX Half-duration 1.9
Moment Tensor; Scale 10**17 Nm
Mrr= 0.13 0.05 Mtt=-0.54 0.08
Mff= 0.41 0.07 Mrt= 1.25 0.12
Mrf= 0.20 0.10 Mtf=-0.59 0.06
Principal Axes:
T Val= 1.16 Plg=45 Azm= 26
N 0.51 25 269
P -1.67 35 160
Best Double Couple:Mo=1.4*10**17
NP1:Strike=194 Dip=25 Slip= 13
NP2: 91 84 115

RAB 1.17 294 iPc+ 24 38.00 2.1
PAA 2.76 126 iPd 25 18.80 20.8X
iS 25 52.00
LAT 6.51 252 eP 25 52.00 1.6
PMG 7.65 232 eP 26 06.00 -0.3
1.0s 144.00nm 5.7mb
eS 26 30.00
SVO 7.90 125 eP 26 09.00 -0.6
eS 27 50.00
HNR 8.16 126 eP 26 14.00 0.7
eS 27 42.00
JAY 12.69 279 iPd 27 22.00 7.4X
e 30 45.00

22d 13h

CTA	16.76	203	iPd-	28	07.80	0.8		Z	20s	0.60um		4.5Msz	RVR	92.07	56	eP	37	18.00	-0.3
	1.6s	366.67nm			5.3mb		MUN	44.04	227	eP	32	17.20	-0.8	TNP	92.49	52	eP	37	20.90	0.5
			i	28	25.60					e	32	23.00			0.9s	1.37nm			4.4mb	
			iS	31	18.00		YAMJ	44.36	345	eP	32	20.70	0.2	TPC	93.18	56	eP	37	31.00	7.5X
			iScP	36	25.00		RKG	44.56	224	eP	32	24.40	2.2	MBC	93.89	14	eP	37	26.00	0.2
GUA	19.89	336	eP	28	45.40	1.6	QZH	44.73	313	Pd	32	24.00	0.4		1.0s	7.00nm			5.0mb	
	1.0s	536.00nm			5.8mb		OFUJ	44.83	347	P	32	23.80	-0.4	EDM	95.76	37	eP	37	34.50	-0.4
GUMO	19.96	335	eP	28	46.00	1.5	SSE	46.92	321	P	32	41.00	0.2	BW06	98.44	48	e(P)	37	46.20	-1.3
	1.2s	700.00nm			5.9mb			1.2s	0.05nm			2.3mb X			1.2s	3.08nm			4.7mb	
PJG	19.96	335	eP	28	46.10	1.6	E	10s	0.30um				KEV	106.32	343	ePKP	42	49.00	16.1X
QIS	20.62	219	iPd	28	50.20	-1.1				pP	32	55.00 53kmX	KEV	106.32	343	ePdiff	38	42.00	20.2X
			e	28	54.00					PcP	34	13.00	SOD	107.74	341	ePKP	42	48.00	12.3X
DZM	21.51	145	iPc	29	00.10	-0.3	NJ2	49.02	321	Pc	32	57.50 0.3	SUF	110.42	337	iPdiff	38	39.40	-0.8
RMQ	22.11	191	ePd	29	06.50	0.3	WHN	51.07	316	Pd	33	13.60 0.8		0.6s	4.20nm				
	0.5s	56.00nm			5.2mb					pP	33	27.80 53kmX	SUF	110.42	337	ePKP	42	40.30	-0.5
			e	33	04.00		TIA	52.87	323	Pc	33	25.40 -0.9		0.7s	6.30nm				
BRS	22.60	181	iPc	29	11.50	0.5	IPM	52.96	279	ePd	33	26.50 -0.8	NUR	112.21	335	ePdiff	38	37.00	-11.2X
	1.0s	46.00nm			4.9mb		MDJ	53.46	339	eP	33	29.50 -0.9	NUR	112.21	335	ePKP	42	44.70	0.4
			i	29	19.80		SNY	53.59	333	Pc	33	30.40 -1.0	HFS	116.72	339	ePKP	42	52.00	-1.0
			i	29	25.00		SNG	53.82	282	eP	33	33.20 -0.4		0.4s	2.70nm				
			i	29	32.80		CN2	54.37	335	Pc	33	36.20 -0.9	NB2	116.94	340	PKP	42	53.40	-0.1
			i(PcP)	33	04.30					sP	34	01.00		0.6s	4.90nm				
			eS	33	18.00		GYA	54.67	307	P	33	40.40 0.6	CFR	117.54	319	ePKPd	43	03.00	8.0X
			ePcS	36	38.00					pP	33	54.00 49kmX	SLR	118.69	237	iPKPc	42	58.00	0.0
			eScS	40	24.00		LOE	55.37	295	eP	33	44.00 -0.9	MLR	118.84	320	ePKPc	42	57.50	-0.2
MTN	23.29	248	iPc	29	17.80	0.0	NNT	55.86	289	eP	33	47.30 -1.1	KHL	119.02	312	ePKP	42	58.00	-0.2
			e	33	28.00		BJI	56.03	326	eP	33	48.00 -1.2	KRA	120.17	327	ePKP	43	00.40	0.5
WB5	23.80	229	iPd	29	23.20	0.5		Z 28s	0.69um			4.6MszX	SPC	120.47	326	ePKP	43	01.70	1.0
			eS	33	40.10		NST	56.31	292	eP	33	53.00 1.4	BZS	121.49	322	ePKP	43	03.00	0.5
			iScP	36	41.00		TIY	56.70	322	eP	33	54.00 -0.2	KSP	121.63	329	iPKPc	43	03.20	0.6
AAI	25.00	271	eP	29	33.50	-0.8		Z 26s	1.00um			4.8MszX		0.8s	20.00nm				
COO	25.80	183	iPc	29	42.50	0.9				eS	41	44.50	SRO	122.29	326	iPKPd	43	04.60	0.6
			e	30	02.00		XAN	56.83	316	P	33	54.60 -0.6	ZST	122.75	327	iPKPc	43	06.20	1.4
			e	33	11.50		AFR	57.15	108	iP	33	57.60 0.0	VAY	122.86	317	ePKP	43	04.60	-0.6
KNA	26.44	244	eP	29	47.00	-0.6		0.9s	35.00nm			5.5mb	CLL	122.95	331	iPKPc	43	05.50	0.4
	0.4s	85.00nm			5.6mb		PPT	57.35	108	iP	33	59.00 0.0		0.8s	48.00nm				
ASPA	26.54	223	iPd	29	47.70	-0.8		0.9s	35.00nm			5.5mb	PRU	123.04	329	PKP	43	05.70	0.4
	0.9s	90.00nm			5.3mb		PPN	57.48	108	iP	33	59.90 0.0		0.9s	16.80nm				
	Z 22s	0.94um			4.3MszX			0.9s	35.00nm			5.5mb				e	43	21.00	
			ePcP	33	12.50		TVO	57.67	108	iP	34	01.40 0.1	SKO	123.32	318	iPKP	43	06.00	-0.2
			eS	34	28.30			0.9s	60.00nm			5.7mb		1.0s	********	nm			
			LR	39	37.90		BDT	57.80	294	eP	33	59.80 -2.3	KHC	124.06	329	iPKPc	43	08.10	0.6
			iScS	40	39.30		CHG	58.33	295	iPc	34	06.00 0.1		1.0s	24.00nm				
CMS	27.57	194	iPd	29	57.10	-0.6		1.0s	12.25nm			5.0mb				e	43	23.10	
STK	29.19	201	iPd	30	11.40	-0.9	PMO	58.74	105	iP	34	08.50 -0.2	HOF	124.14	331	ePKP	43	07.70	0.1
	0.8s	38.00nm			5.1mb			0.9s	35.00nm			5.5mb	OHR	124.14	318	ePKP	43	07.30	-0.6
			e	30	26.00		CD2	58.99	310	iPc	34	10.20 -0.1		1.2s	122.00nm				
			e	31	22.00		VAH	59.01	105	iP	34	10.00 -0.6	WET	124.41	329	ePKP	43	08.20	0.1
			e	33	20.00			0.9s	25.00nm			5.3mb	PTJ	124.70	325	ePKP	43	09.00	0.2
BWA	29.94	188	eP	30	18.10	-1.0	HHC	59.20	324	eP	34	11.40 -0.3	GRF	124.87	331	iPKPc	43	09.60	0.6
			iPcP	33	20.50		RUV	59.25	105	iP	34	11.90 -0.3	BHG	125.31	328	iPKPd	43	10.30	0.4
			eScP	37	00.90			0.9s	30.00nm			5.4mb		1.0s	38.00nm				
CAN	30.75	187	eP	30	25.70	-0.5	BTO	59.96	323	P	34	16.50 -0.4	VBY	125.33	325	ePKP	43	10.70	0.7
ADE	33.01	202	iPd	30	45.50	-0.4	LZH	61.45	316	Pc	34	28.00 0.8	LJU	125.43	326	ePKP	43	10.50	0.3
	0.9s	124.37nm			5.7mb			2.0s	0.16nm			2.8mb X	KBA	125.46	327	ePKP	43	10.00	-0.4
WARB	33.24	227	iPc	30	47.80	-0.3		Z 30s	0.60um			4.6MszX	CEY	125.67	325	ePKP	43	11.00	0.3
	0.3s	15.00nm			5.3mb					sP	34	53.00	VOY	125.80	326	iPKPc	43	10.80	-0.2
FORR	35.18	219	iPd	31	03.70	-0.9	GTA	65.86	317	iPc	34	56.50 0.5	RIY	125.92	325	iPKPd	43	10.90	-0.2
	0.4s	28.00nm			5.5mb			1.0s	0.10nm			2.7mb X	EKA	126.04	344	PKP	43	12.00	0.9
MBL	36.32	240	iPc	31	13.60	-0.8	LSA	68.53	304	P	35	14.80 1.4		0.7s	6.50nm				
KKM	38.47	286	ePd	31	32.00	-0.6	SBA	73.48	177	iPd	35	43.70 2.1	TRI	126.06	326	iPKPd	43	11.40	0.0
BAG	38.50	304	eP	31	33.20	0.3	WMQ	75.95	317	iPc	35	57.50 0.9	FVI	126.06	327	PKP	43	11.00	-0.3
	1.2s	128.13nm			5.7mb					eS	45	30.00	MEM	126.61	335	iPKPd	43	13.09	0.8
KRP	38.85	151	P	31	54.60	19.3X				ScS	46	02.50	OGA	126.83	328	iPKPc	43	13.50	0.4
COOL	39.89	225	eP	31	43.20	-0.9	HYB	76.87	289	iPc	36	01.90 -0.2	CTI	127.02	327	PKPd	43	13.40	0.0
	0.3s	10.00nm			5.3mb			0.8s	73.10nm			5.7mb	WLF	127.25	334	PKP	43	15.00	1.5
			e	31	49.00					e	36	17.50	SNF	127.41	336	iPKPd	43	14.66	0.9
NANU	40.56	240	eP	31	49.00	-0.7	GBA	77.36	285	P	36	05.00 0.2	DOU	127.60	335	iPKPc	43	15.50	1.3
	0.4s	12.00nm			5.1mb		TTA	77.49	21	eP	36	04.80 0.0	CDF	127.64	332	ePKP	43	14.30	-0.2
PGZ	41.35	153	P	31	55.40	-0.5	PMR	79.39	24	ePc	36	14.00 -1.0		1.1s	17.10nm				
KAKJ	42.47	344	P	32	04.10	-1.0		0.1s	5.40nm			5.4mb	ZLA	127.75	330	ePKPd	43	14.80	0.1
CHJJ	42.65	343	P	32	04.10	-2.5	NDI	80.05	300	ePd	36	19.00 -0.3	ARV	127.85	324	PKPc	43	15.20	0.3
KLB	42.71	227	eP	32	06.10	-1.1	IMA	80.19	19	eP	36	19.60 0.1	LLS	127.87	329	ePKPd	43	15.60	0.5
	0.3s	16.00nm			5.4mb			0.9s	9.40nm			4.7mb	SAL	127.90	327	PKP	43	15.50	0.6
			i	32	10.70		TOA	80.86	25	eP	36	23.20 0.2	DUI	127.98	321	PKP	43	15.00	-0.3
MRWA	42.87	231	eP	32	08.10	-0.4	POO	81.46	289	iPc	36	26.80 -0.1	SGO	128.04	320	PKPd	43	15.00	-0.3
	0.3s	18.00nm			5.3mb		FBA	81.61	22	eP	36	25.40 -1.3	SFI	128.23	325	PKP	43	16.00	0.5
			e	32	12.00		KSH	83.17	310	P	36	38.20 2.7X	MDI	128.23	328	PKP	43	15.00	-0.5
BAL	42.99	229	eP	32	09.00	-0.5	SPA	85.36	180	iPd	36	46.80 0.8	ASS	128.27	324	PKP	43	15.00	-0.8
			e	32	13.00			1.0s	75.50nm			5.7mb	BSF	128.28	332	ePKP	43	15.80	0.1
TSRJ	43.16	339	P	32	09.90	-0.8				i	37	08.10		0.9s	32.75nm				
MAT	43.34	342	eP	32	10.00	-2.3	MAW	85.85	203	eP	36	48.70 0.5	DMU	128.32	345	ePKP	43	16.30	0.9
	1.2s	25.00nm			4.9mb		QUE	89.12	300	eP	37	04.00 -1.0	PGD	128.33	325	PKP	43	17.20	1.2
MTMJ	43.51	342	P	32	12.30	-1.4	MWC	91.53	56	eP	37	16.00 -0.1	CRE	128.35	325	PKP	43	16.50	0.5
SHK	43.55	335	eP	32	13.00	-0.9	CWC	91.68	54	eP	37	16.00 -0.7	SDI	128.36	322	PKPd	43	16.50	0.5
NIIJ	43.76	344	P	32	14.70	-0.9	SBB	91.75	56	eP	37	16.00 -0.9	HAU	128.36	332	ePKP	43	15.90	0.1
NWAO	43.79	226	eP	32	15.00	-0.9	KVN	91.87	51	eP	37	17.30 -0.3		0.7s	24.25nm				

22d 13h

MNS	128.66	323	PKP	43	15.90	-0.6
VAI	128.66	329	PKPd	43	16.20	-0.1
DLE	128.78	345	ePKP	43	16.70	0.4
SOI	128.81	316	PKP	43	17.50	0.7
BDI	128.85	326	PKP	43	16.30	-0.6
MMK	128.95	329	ePKPd	43	18.20	1.0
RDP	129.00	322	PKP	43	17.50	0.3
BOB	129.03	327	PKP	43	17.50	0.3
PII	129.10	326	PKP	43	17.00	-0.2
DIX	129.21	330	ePKPd	43	18.60	0.8
ORX	129.23	329	PKP	43	17.49	-0.1
EMS	129.46	330	ePKPd	43	18.60	0.5
PCP	129.66	328	PKP	43	17.69	-0.7
LSD	129.77	329	PKP	43	19.34	0.5
CKI	129.88	328	PKP	43	18.00	-0.7
RSP	129.93	329	PKP	43	18.31	-0.6
LPG	129.94	330	ePKP	43	19.30	0.1
	0.7s		16.55nm			
LOR	130.05	333	ePKP	43	19.00	0.0
	0.7s		16.00nm			
FIN	130.06	327	PKP	43	18.62	-0.5
ROB	130.19	328	PKP	43	18.72	-0.7
LBF	130.21	333	ePKP	43	19.20	-0.1
BNI	130.29	329	PKP	43	20.50	0.8
RRL	130.33	329	PKP	43	19.95	0.1
SSF	130.36	333	ePKP	43	19.80	0.2
	1.0s		32.00nm			
GRC	130.38	334	PKP	43	20.51	1.0
IMI	130.43	327	PKP	43	19.34	-0.5
PZZ	130.45	328	PKP	43	20.36	0.4
SMF	130.52	333	ePKP	43	19.90	0.0
	0.9s		22.95nm			
AVF	130.64	333	ePKP	43	19.80	-0.3
	0.9s		10.65nm			
LDF	130.69	337	ePKP	43	19.90	-0.2
	1.0s		28.00nm			
FLN	130.70	337	ePKP	43	20.10	0.0
	0.7s		22.05nm			
SBF	130.71	328	ePKP	43	19.80	-0.6
	0.9s		27.85nm			
CVF	130.77	325	ePKP	43	20.00	-0.5
	0.9s		42.60nm			
BGF	131.04	333	ePKP	43	20.30	-0.6
	0 7s		18.20nm			
PLDF	131.13	332	PKP	43	21.98	0.8
GRR	131.15	337	ePKP	43	20.90	-0.1
	0.6s		14.45nm			
AGO	131.29	332	PKP	43	22.72	1.3
FRF	131.33	328	ePKP	43	21.30	-0.2
	0.9s		29.50nm			
MAF	131.42	333	ePKP	43	21.10	-0.5
	0.7s		4.95nm			
LPF	131.51	337	ePKP	43	21.90	0.2
	0.6s		27.95nm			
TCF	131.53	333	ePKP	43	22.00	0.2
	0.8s		25.50nm			
LRG	131.56	328	ePKP	43	22.00	0.1
	0.9s		52.40nm			
LMR	131.56	328	ePKP	43	21.70	-0.2
	0.9s		34.40nm			
PYM	131.58	332	PKP	43	23.56	1.5
LBL	131.85	332	PKP	43	23.52	1.1
LSF	131.86	334	ePKP	43	22.50	0.1
	0.9s		16.40nm			
MFF	132.30	335	ePKP	43	23.10	-0.1
	0.6s		10.80nm			
CAF	132.63	332	ePKP	43	23.80	-0.2
LPO	133.22	333	ePKP	43	25.10	0.0
LFF	133.23	333	ePKP	43	25.10	0.1
	0.7s		12.15nm			
CNCB	134.01	119	PKP	43	26.00	-2.1
LPB	134.02	118	PKP	43	25.00	-2.9X
ZOBO	134.10	118	ePKP	43	07.00	-21.3X
			i	43	26.00	
BCAO	134.85	272	iPKPd	43	22.40	-6.7X
	0.8s		18.00nm			
			i	43	29.90	
			i	46	55.90	
EPF	134.88	332	ePKP	43	28.30	-0.1
	0.8s		10.05nm			
CCH	135.37	120	(PKP)	43	29.00	-1.3
ETOR	137.73	332	e(PKP)	43	35.80	1.9
GUD	138.83	334	e(PKP)	43	37.50	1.6
EVIA	139.64	330	e(PKP)	43	38.00	0.6
ASMO	141.25	330	ePKP	43	33.50	-6.9X
AAPN	141.48	330	ePKP	43	33.90	-6.9X
APHE	141.54	330	ePKP	43	34.70	-6.3X
ALOJ	141.63	330	ePKP	43	34.50	-6.6X
ATEJ	141.73	330	ePKP	43	34.90	-6.4X
EJIF	142.81	331	e(PKP)	43	39.20	-3.8X
IFR	144.94	328	iPKPc	43	47.50	0.6
AVE	146.29	330	iPKPc	43	51.00	2.0
			i	44	13.50	
			i	44	29.50	
			i	44	52.00	
BMA	147.92	149	ePKP	43	54.70	2.8X
TIO	148.08	327	iPKP	43	52.60	0.5
BAO	150.86	134	ePKP	43	59.40	2.7X
KOGH	153.56	274	ePKP	44	09.00	8.4X
KUK	153.69	274	ePKP	44	09.00	8.3X
KIC	158.02	275	PKP	44	07.00	0.7
TIC	158.28	276	PKP	44	07.20	0.6
LIC	158.31	275	PKP	44	07.20	0.6
PDCR	158.95	144	e(PKP)	44	04.00	-3.3X

S.D. = 0.8 on 220 of 244 obs.

% OCT 22, 1989 13h 46m 22.88± 1.35s
44.998 N ±10.9km 7.961 E ±10.3km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)

PCP	0.62	137	P	46	35.94	0.6
ROB	0.71	185	P	46	37.69	0.8
LSD	0.73	309	P	46	37.38	0.0
PZZ	0.79	231	P	46	38.51	0.2
FIN	0.81	167	P	46	37.17	-1.4
RRL	0.84	265	P	46	39.12	-0.1
IMI	1.09	183	P	46	38.81	-4.6X

S.D. = 1.0 on 6 of 7 obs.

OCT 22, 1989 14h 11m 01.98± 0.28s
52.389 N ± 7.6km 170.617 W ± 3.5km
DEPTH = 33.0km (normal)
4.9mb (35 obs.) 4.4Msz (1 obs.)
FOX ISLANDS, ALEUTIAN ISLANDS (9)

ADK	3.77	265	eP	12	02.50	3.3
TTA	13.10	31	eP	14	13.00	4.8X
PMR	14.83	43	e(P)	14	32.00	1.3
IMA	16.13	25	eP	14	52.00	4.3X
FBA	17.13	34	P	14	59.00	-1.1
INK	23.75	34	eP	16	12.00	0.4
MBC	30.79	21	eP	17	17.00	0.9
	0.5s		2.00nm			4.2mb
RMW	31.32	79	eP	17	21.50	0.3
LON	31.65	80	eP	17	24.00	-0.1
PNT	31.80	75	eP	17	26.00	0.7
	0.7s		5.00nm			4.5mb
EDM	33.84	65	iPc	17	43.00	0.0
	0.7s		20.00nm			5.2mb
SES	36.31	69	eP	18	04.00	-0.1
NIIJ	38.00	267	P	18	17.70	-0.6
KVN	38.17	89	eP	18	21.00	1.0
CHJJ	38.77	265	P	18	25.90	1.0
MAT	38.93	267	(P)	18	27.00	0.8
	1.0s		28.00nm			5.0mb
MTMJ	39.15	267	P	18	29.10	0.9
TNP	39.31	90	eP	18	30.00	0.4
	1.0s		3.33nm			4.1mb
FFC	39.36	58	eP	18	30.00	0.4
	0.5s		6.00nm			4.6mb
IIDJ	39.81	266	P	18	34.60	1.0
DUG	40.70	84	eP	18	42.00	1.0
BW06	41.15	78	P	18	44.80	0.1
	1.0s		5.31nm			4.2mb
DAU	41.52	82	eP	18	49.00	1.1
MSU	42.13	85	eP	18	53.50	0.7
CN2	42.27	285	Pd	18	52.40	-1.1
			sP	19	10.00	
PLM	42.63	95	eP	18	58.00	1.1
RSSD	43.65	73	eP	19	04.70	-0.4
GLA	44.08	93	eP	19	09.10	0.6
SNY	44.54	284	Pd	19	12.70	0.7
GOL	45.52	79	P	19	20.00	-0.2
	0.7s		10.32nm			4.9mb
GLD	45.57	79	eP	19	21.10	0.6
	1.0s		22.00nm			5.0mb
RSON	45.64	60	P	19	20.90	0.2
	1.0s		11.93nm			4.8mb
ALQ	47.93	85	P	19	39.00	-0.2
FRB	49.40	35	eP	19	52.00	2.1
BJI	50.04	286	eP	19	54.00	-1.1
HHC	52.20	290	eP	20	12.00	0.4
SSE	53.03	275	P	20	18.00	0.2
	1.2s		0.05nm			2.4mb X
			sP	20	33.50	
BTO	53.25	291	eP	20	19.40	0.0
LNO	53.73	76	e(P)	20	20.80	-1.9
TUL	53.73	76	eP	20	20.40	-2.4
	0.9s		8.30nm			4.7mb
			e	20	40.60	
			e	21	21.90	
TIY	53.77	287	eP	20	23.70	0.5
WHN	57.58	279	P	20	50.50	-0.2
	1.0s		0.02nm			2.1mb X
XAN	58.36	286	P	20	54.50	-1.7
GTA	59.79	296	Pc	21	04.20	-1.9
LZH	59.87	291	eP	21	06.00	-0.8
	1.5s		0.04nm			2.3mb X
Z	20s		0.30um			4.4Msz
			PcP	21	52.50	
BLA	61.70	65	eP	21	17.50	-1.5
CVL	62.22	63	eP	21	21.50	-1.0
JSC	63.34	68	eP	21	28.00	-1.9
CD2	63.64	287	eP	21	31.50	-0.4
NB2	66.91	359	P	21	51.20	-1.4
	0.7s		7.10nm			4.9mb
HFS	67.78	358	ePKP	21	56.20	-1.8
	0.5s		14.20nm			5.3mb
LSA	71.75	295	P	22	24.70	1.4
CHG	75.59	282	eP	22	45.50	0.3
	1.0s		12.50nm			4.9mb
CLL	76.63	358	iP	22	50.80	0.3
	1.1s		10.00nm			4.7mb
BDT	76.77	281	eP	22	49.00	-2.7
KSP	76.98	356	eP	22	52.00	-0.5
NST	77.30	279	eP	22	58.00	3.3X
MEM	77.34	2	P	22	55.60	1.2
DOU	77.81	3	P	22	51.70	-5.3X
PRU	77.91	357	eP	22	58.00	0.4
GRF	78.28	359	iPc	23	00.30	0.6
			e	23	01.40	
KHC	78.79	357	iP	23	03.00	0.5
LDF	79.07	6	eP	23	03.20	-0.8
GRR	79.22	7	eP	23	04.20	-0.6
CDF	79.56	1	eP	23	06.70	-0.1
ZST	79.58	355	iP	23	08.50	1.8
NNT	79.93	277	iPd	23	09.00	-0.1
HAU	79.95	2	eP	23	08.70	-0.1
	0.7s		6.60nm			4.7mb
BSF	80.13	2	eP	23	09.70	-0.2
	0.7s		5.20nm			4.6mb
LOR	80.61	4	eP	23	11.90	-0.4
	0.7s		8.10nm			4.8mb
SSF	80.80	4	eP	23	13.20	-0.1
	0.8s		16.10nm			5.1mb
KBA	80.85	357	i(P)	23	14.70	0.9
LBF	80.90	4	eP	23	13.30	-0.6
	0.6s		6.60nm			4.8mb
MFF	81.05	7	eP	23	14.50	-0.1
	0.7s		9.70nm			4.9mb
AVF	81.06	4	eP	23	14.40	-0.2
	0.7s		7.00nm			4.8mb
SMF	81.23	4	eP	23	15.30	-0.3
	0.7s		12.10nm			5.0mb
BGF	81.27	5	eP	23	15.50	-0.3
	0.7s		6.60nm			4.8mb
LSF	81.51	6	eP	23	16.80	-0.2
	0.8s		12.00nm			5.0mb
TCF	81.51	5	eP	23	16.70	-0.3
	0.8s		8.50nm			4.8mb
MAF	81.60	5	eP	23	17.50	0.0
	0.8s		11.20nm			4.9mb
MTN	81.96	237	iPc	23	19.40	-0.2
LPG	82.47	2	eP	23	23.20	0.8
	0.7s		3.30nm			4.5mb
LFF	82.77	6	eP	23	23.90	0.4
	0.7s		8.80nm			5.0mb
CAF	82.86	5	eP	23	24.40	0.3
	1.0s		12.80nm			5.0mb
KVT	84.08	340	eP	23	32.00	1.6
SBF	84.11	1	eP	23	30.70	0.2
	0.8s		6.40nm			4.8mb
FRF	84.40	2	eP	23	32.10	0.2
	0.8s		11.80nm			5.1mb
LMR	84.62	2	eP	23	33.40	0.4
EPF	84.64	7	eP	23	32.70	-0.5
	0.9s		8.10nm			4.9mb
CVF	85.42	0	eP	23	37.00	-0.1
	0.9s		24.20nm			5.4mb
WB5	86.35	231	eP	23	40.50	-1.3

HYB 88.45 297 eP 23 51.00 -1.2
ASPA 89.83 229 iPc 23 57.80 -0.6
1.0s 9.00nm 5.0mb
GBA 92.18 296 P 24 09.00 -0.5
SLR 149.79 325 iPKPc 30 50.00 5.0X
0.9s 25.21nm
KSR 150.39 327 ePKP 30 42.70 -3.2X
MAW 150.41 219 ePKP 30 49.00 4.6X
S.D. = 1.0 on 90 of 97 obs.

& OCT 22, 1989 14h 24m 37.20s
36.980 N 121.802 W
DEPTH = 15.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.1 (BRK).

ARN 0.43 30 iPd 24 45.70 -0.2
CMB 1.54 47 eP 25 02.80 -1.4
PHAM 1.61 135 eP 25 03.40 -1.7
PKEM 1.64 123 eP 25 04.70 -0.9
NWRM 1.71 330 eP 25 03.00 -3.5
BCH 2.27 142 eP 25 12.40 -2.4
ORV 2.58 5 eP 25 16.30 -2.8
BLP 2.67 154 eP 25 18.00 -2.4
ABL 2.98 135 eP 25 22.40 -2.6
KVN 3.58 54 eP 25 32.00 -1.5
TNP 3.81 72 eP 25 35.30 -1.4
11 obs. assaciated

% OCT 22, 1989 14h 42m 49.15± 1.38s
42.619 N ± 8.2km 12.260 E ±15.5km
DEPTH = 10.0km (geaphysicist)
CENTRAL ITALY (381)

MNS 0.39 127 Pc 42 55.90 -1.2
eSg 43 04.00
ASS 0.54 33 P 43 02.00 1.9
eSg 43 09.50
RDP 0.92 158 P 43 08.00 1.1
ARV 1.01 29 P 43 07.00 -1.3
eSg 43 21.50
CRE 1.03 347 P 43 08.50 -0.2
eSg 43 21.50
PGD 1.32 343 P 43 13.30 -0.3
S.D. = 1.7 an 6 af 6 obs.

OCT 22, 1989 15h 12m 10.73± 0.27s
40.262 N ± 5.1km 51.569 E ± 3.9km
DEPTH = 46.8km (8 depth phases)
4.6mb (20 obs.) 3.7Msz (1 obs.)
CASPIAN SEA (338)

TEH 4.52 182 iPc 13 19.50 1.0
TA8 4.63 243 eP 13 21.00 0.9
KER 6.89 212 eP 13 25.00 -26.8X
MAIO 7.38 120 iPnc 13 57.00 -1.7
0.7s 9.85nm 4.7mb
eSn 15 10.00
MSL 7.67 242 eP 14 05.00 2.4
KHI 8.31 135 iPd 14 10.00 -1.6
SHI 10.62 175 eP 14 42.00 -1.4
BBTK 14.42 274 eP 15 41.00 7.2X
DSI 15.71 242 eP 15 50.00 -0.3
QUE 16.07 124 eP 15 58.50 3.3X
PRNI 16.74 239 eP 16 02.00 -1.4
MBH 17.19 238 e(P) 16 07.00 -2.0
CFR 17.87 294 eP 16 40.00 22.6X
CLI 18.69 298 eP 16 26.00 -1.5
KSH 18.75 85 eP 16 27.20 -1.1
VRI 18.96 295 ePd 16 33.00 2.2
ISR 19.00 293 eP 16 32.00 0.8
MLR 19.46 294 eP 16 38.00 1.6
CMP 20.07 293 ePd 16 49.00 6.2X
DEV 21.62 295 ePd 16 40.50 -18.0X
VAY 21.94 282 eP 17 04.00 2.2
BZS 22.50 294 eP 17 11.00 3.8X
SKO 22.71 284 iP 17 23.00 13.6X
0.9s ********nm
OHR 23.29 282 eP 17 14.00 -1.1
1.0s 54.00nm 5.0mb
SPC 23.84 302 eP 17 21.80 1.3
i 17 33.20 44km
NDI 24.01 111 eP 17 24.00 2.0
KRA 24.20 304 eP 17 32.40 8.7X
e 17 36.40 14kmX
SRO 24.93 299 iP 17 40.40 9.7X
ZST 25.77 299 e(P) 17 42.00 3.4X
i 17 53.00 42km
SOP 26.10 298 eP 17 56.10 14.4X
NUR 26.23 330 iP 17 40.00 -2.7
0.6s 26.10nm 5.0mb
i 17 45.20 18kmX
HVAR 26.26 288 iP 17 44.70 1.5
VKA 26.30 299 eP 17 56.00 12.5X
1.0s 149.00nm
i 17 58.50 9kmX
PTJ 26.46 294 e(P) 17 45.30 0.1
KSP 26.63 305 eP 17 46.50 -0.1
i 17 59.00 49km
e 24 11.00
WMQ 26.93 70 P 17 50.00 0.6
VBY 26.96 293 e(P) 18 03.40 13.8X
SUF 27.15 334 iP 17 50.90 -0.2
0.6s 11.70nm 4.7mb
LJU 27.45 294 eP 17 59.00 4.9X
e 18 07.50 30kmX
CEY 27.54 294 e(P) 17 56.50 1.6
e 18 09.00 49km
PRU 27.62 303 eP 17 55.00 -0.6
e 18 08.20 53km
VOY 27.90 294 eP 17 58.30 0.1
e 18 10.40 47km
TRI 28.00 294 eP 18 11.20 12.2X
KHC 28.17 301 P 18 02.90 2.3X
i 18 13.40 39km
CLL 28.75 306 iPc 18 18.10 12.4X
1.5s 48.00nm
i 18 58.30 198kmX
GRF 29.74 302 iPc 18 27.20 12.5X
1.0s 14.00nm
Z 21s 0.20um 3.7Msz
SOD 30.45 341 iP 18 20.00 -0.6
HFS 30.72 323 eP 18 21.70 -1.5
0.5s 9.10nm 4.8mb
PCP 31.78 292 P 18 43.77 11.0X
FIN 32.07 292 P 18 45.92 10.7X
GWF 32.08 301 P 18 47.02 11.8X
NB2 32.20 324 P 18 34.40 -1.8
0.7s 4.60nm 4.4mb
KEV 32.25 344 iP 18 36.20 -0.2
0.6s 10.40nm 4.9mb
WLS 32.28 300 P 18 46.53 9.5X
CDF 32.33 300 eP 18 36.50 -1.0
IMI 32.34 291 P 18 48.69 11.1X
ECH 32.42 299 P 18 49.37 11.2X
MOF 32.45 299 P 18 50.11 11.6X
RSP 32.61 293 P 18 48.59 8.6X
ENR 32.63 292 P 18 51.67 11.6X
LSD 32.65 294 P 18 51.97 11.5X
BSF 32.68 298 eP 18 39.50 -1.1
STV 32.69 292 P 18 51.87 11.2X
PZZ 32.81 292 P 18 52.49 10.7X
LPG 32.92 294 eP 18 42.40 -0.5
0.7s 2.60nm 4.2mb
HAU 32.97 299 eP 18 42.30 -0.7
0.7s 11.00nm 4.8mb
RRL 32.98 293 P 18 54.64 11.3X
WLF 33.03 302 P 18 57.40 14.0X
MEM 33.12 304 P 18 57.50 13.3X
VITF 33.20 299 P 18 55.55 10.7X
FRF 33.29 291 eP 18 45.30 -0.4
0.5s 4.30nm 4.6mb
DOU 34.03 303 Pc 19 06.20 14.1X
1.0s 472.00nm
LBF 34.66 297 eP 18 56.90 -0.7
0.7s 4.80nm 4.5mb
LOR 34.71 298 eP 18 57.10 -0.9
0.6s 2.70nm 4.4mb
SMF 34.79 297 eP 18 58.40 -0.3
GBA 34.92 132 P 19 02.00 2.0
SSF 34.97 297 eP 18 59.80 -0.4
AVF 35.11 297 eP 19 01.10 -0.3
0.7s 5.50nm 4.6mb
BGF 35.48 297 eP 19 04.50 -0.1
MAF 35.72 296 eP 19 06.90 0.3
TCF 35.96 296 eP 19 08.80 0.2
CAF 36.28 294 eP 19 11.60 0.2
LSF 36.43 296 eP 19 12.60 0.0
0.8s 6.70nm 4.6mb
RJF 36.60 295 eP 19 14.90 0.9
GTA 36.69 75 eP 19 15.20 0.2
LPO 36.94 294 eP 19 18.00 1.1
LFF 37.21 294 eP 19 19.50 0.4
0.4s 4.50nm 4.7mb
LDF 37.22 301 eP 19 19.30 0.2
FLN 37.43 301 eP 19 21.00 0.1
MFF 37.52 297 eP 19 21.80 0.1
GRR 37.73 300 eP 19 23.70 0.3
LPF 37.90 300 eP 19 25.30 0.5
EKA 38.67 312 P 19 31.00 -0.2
0.7s 4.60nm 4.4mb
LZH 40.82 79 e(P) 19 51.40 2.0
BTO 43.76 70 eP 20 15.20 1.8
HHC 44.79 69 eP 20 23.40 1.8
XAN 45.45 79 eP 20 27.40 0.5
CHTO 45.79 104 eP 20 28.00 -1.7
BCAO 46.44 229 iPd 20 35.00 0.2
0.9s 59.00nm 5.5mb
i 20 48.50 50km
TIY 46.56 73 eP 20 42.00 6.4X
CN2 53.28 60 Pc 21 27.20 0.3
PSI 56.78 119 eP 21 50.30 -2.2X
e 26 00.00
KIC 60.48 252 Pc 22 18.00 -0.3
TIC 60.49 252 Pc 22 18.00 -0.4
LIC 60.78 252 Pc 22 20.00 -0.3
MBC 63.63 358 eP 22 38.00 -0.6
0.5s 2.00nm 4.4mb
SLR 69.15 202 iPc 23 15.50 1.2
KSR 69.68 204 iPc 23 15.70 -1.9
INK 71.69 2 eP 23 28.00 -1.0
FBA 74.08 8 eP 23 44.00 0.9
1.0s 4.00nm 4.3mb
FFC 82.71 345 eP 24 31.00 0.6
0.7s 6.00nm 4.7mb
RSSD 93.17 343 eP 25 33.00 11.7X
KVN 100.50 352 ePdiff 25 53.00 -1.5
S.D. = 1.2 an 74 of 113 obs.

? OCT 22, 1989 17h 16m 28.15± 2.50s
39.723 N ±13.3km 141.581 E ±26.5km
DEPTH = 33.0km (normal)
HONSHU, JAPAN (227)
MG 3.2 (JMA). Felt (I JMA) at
Ofunato and Miyako.

OFUJ 0.65 174 iP+ 16 41.90 1.1
iS 16 53.10
AOMJ 1.25 312 P 16 49.20 -0.1
S 17 06.80
YAMJ 1.96 218 P 17 00.20 0.5
S 17 25.50
NIIJ 3.20 220 P 17 17.90 0.6
KAKJ 3.68 198 P 17 21.60 -2.5
MAT 4.14 221 eP 17 31.00 0.3
CHJJ 4.20 210 P 17 31.60 0.1
S.D. = 1.4 on 7 af 7 obs.

OCT 22, 1989 17h 29m 50.28± 0.56s
20.665 S ± 7.2km 70.813 W ± 8.8km
DEPTH = 33.0km (normal)
4.9mb (4 obs.) 4.1Msz (1 obs.)
NEAR COAST OF NORTHERN CHILE (122)

ANT 3.05 173 iPd 30 36.70 -0.6
i 31 24.30
iS 31 26.20
ARE 4.23 351 eP 30 54.00 -0.3
eS 31 42.00
CNCB 4.68 35 P 31 02.20 1.2
LPB 4.85 33 eP 31 06.00 2.7X
1.1s 435.44nm
i 31 09.50
LR 32 12.00
ZOBO 5.06 31 eP 31 05.00 -1.5
i 31 11.70
LR 32 37.00
CCH 5.49 54 P 31 16.00 3.7X
PT03 8.16 324 eP 31 49.50 0.0
PT08 10.26 327 iP 32 18.40 -0.3
e(S) 34 10.60
NNA 10.39 325 eP 32 21.00 0.8
e 32 32.00
eS 34 16.00
PEL 12.43 180 eP 32 59.50 11.7X
ITB1 15.67 108 e(P) 33 30.50 0.2
BAO 22.25 81 eP 34 59.00 12.9X
LNO 61.04 337 e(P) 40 01.30 -1.6
TUL 61.04 337 iP 40 02.80 -0.3
1.3s 16.20nm 5.0mb
Z 22s 0.16um 4.1Msz

22d 17h

		e	40 09.30			
		LR	03 00.00			
ALQ	64.84	328	eP	40 30.00	1.5	
	2.0s	31.65nm			5.1mb	
SPA	69.46	180	e(P)	41 03.80	6.5X	
	1.0s	10.00nm			4.8mb	
TNP	72.90	323	eP	41 18.00	-0.3	
	1.0s	2.00nm			4.1mb	
KVN	74.07	323	eP	41 25.00	-0.1	
EDM	82.26	336	ePc	42 09.70	0.2	
GBA	148.90	98	PKP	49 36.00	3.1X	
HYB	150.88	91	ePKP	49 37.00	1.1	
	S.D. = 1.0	on	15 of	21 obs.		

? OCT 22, 1989 19h 01m 40.77± 1.17s
B.471 S ±11.4km 129.093 E ±24.7km
DEPTH = 119.9 ± 35.1 km
4.5mb (1 obs.)
TIMOR SEA (290)

MTN	4.79	155	iPc	02 52.80	0.9	
			e	02 59.00		
			eS	03 42.00		
AAI	4.84	349	eP	02 52.50	-0.1	
KNA	7.24	182	eP	03 25.00	-0.5	
	0.3s	16.00nm			5.1mb X	
			eS	04 46.00		
WB5	12.44	156	eP	04 33.20	-1.6	
			eS	06 46.20		
QIS	15.73	141	ePd	05 17.70	0.7	
			eS	08 00.00		
ASPA	15.80	164	iPc	05 17.50	-0.3	
	0.5s	13.00nm			4.5mb	
			i	05 27.20		
			eS	07 59.20		
WARB	17.77	187	eP	05 43.00	0.9	
CTA	20.22	127	eP	06 17.00	8.5X	
FORR	22.28	182	eP	06 36.00	7.1X	
BWA	31.35	148	eP	08 02.90	10.8X	
CAN	32.34	149	eP	08 10.20	9.5X	
	S.D. = 1.3	on	7 of	11 obs.		

% OCT 22, 1989 19h 04m 26.48± 0.80s
39.019 N ± 6.6km 0.597 W ± 9.2km
DEPTH = 10.0km (geophysicist)
SPAIN (377)
mbLg 3.1 (MDD). Felt (IV) in the Jativa area.

ACU	0.53	164	iPg	04 37.50	0.3	
			eSg	04 45.50		
ECHE	0.64	333	iPgd	04 40.00	0.7	
			eSg	04 51.00		
EVIA	1.54	256	iPn	04 54.50	0.4	
			eSn	05 16.00		
EROO	1.96	23	iPn	04 59.00	-1.1	
			eSn	05 22.50		
EBR	1.98	25	ePn	05 01.00	0.6	
			eSg	05 37.00		
EBAN	2.64	252	iPn	05 09.00	-0.9	
			eSn	05 40.30		
TOL	2.81	289	ePb	05 18.00	5.7X	
			ePg	05 23.00		
			eSn	05 44.00		
			iSg	05 58.50		
GUD	3.18	302	ePg	05 29.40	11.7X	
			eSg	06 07.40		
	S.D. = 1.0	on	6 of	8 obs.		

& OCT 22, 1989 19h 30m 42.69s
59.495 N 153.237 W
DEPTH = 109.6km
SOUTHERN ALASKA (2)
<AGS-P>.

AUL	0.15	222	eP	30 57.41	0.8	
OPT	0.16	1	iP	30 57.49	0.9	
			eS	31 08.40		
AUW	0.17	224	iP	30 57.34	0.7	
			eS	31 09.44		
XLV	0.77	92	eP	31 01.17	-0.8	
CNPM	1.02	87	iP	31 03.54	-0.8	
			eS	31 20.29		
NNL	1.13	60	eP	31 05.75	0.3	
RDT	1.16	21	iP	31 05.20	-0.8	
			eS	31 22.60		
BRLK	1.22	76	iP	31 05.73	-0.9	
			eS	31 23.68		
NKA	1.60	38	eP	31 12.12	1.0	
SPU	1.79	19	iP	31 12.61	-0.9	
			eS	31 36.13		
SLKM	1.82	55	eP	31 12.59	-1.3	
SVW	2.01	325	iPd	31 14.50	-1.8	
SEW	2.01	71	eP	31 14.85	-1.4	
SUA	2.33	31	eP	31 19.90	-0.7	
PMS	2.53	45	iPd	31 22.10	-1.1	
SKT	2.63	18	eP	31 23.13	-1.3	
PWA	2.73	36	iPd	31 24.30	-1.4	
MTU	2.87	78	eP	31 26.31	-1.3	
PLRM	2.92	42	eP	31 25.92	-2.4	
PMR	2.92	42	iPd	31 26.20	-2.1	
PME	2.98	42	eP	31 27.23	-1.9	
CUT	3.26	25	eP	31 31.37	-1.5	
GLI	3.37	63	eP	31 31.49	-2.9	
MID	3.52	88	eP	31 34.40	-2.0	
FID	3.61	67	eP	31 34.72	-2.9	
VZW	3.68	62	eP	31 36.29	-2.4	
TTA	3.70	340	eP	31 36.70	-2.3	
NCA	4.02	49	eP	31 41.10	-2.2	
KLU	4.14	58	eP	31 42.76	-2.2	
TOA	4.34	50	ePd	31 45.90	-1.8	
FBA	5.99	23	eP	32 07.30	-3.0	
IMA	6.60	358	eP	32 16.70	-2.1	
YKU	6.87	84	e(P)	32 22.40	0.1	
DWY	7.97	49	P	32 35.80	-1.6	
SIT	9.74	97	eP	32 57.80	-3.4	
INK	12.32	36	eP	33 33.00	-2.2	
	36 obs. associated					

OCT 22, 1989 20h 35m 40.87± 0.11s
7.358 S ± 2.9km 128.598 E ± 3.9km
DEPTH = 155.7km (12 depth phases)
5.4mb (29 obs.)
BANDA SEA (280)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 16S, 31C
Centroid Location:
Origin Time 20:35:49.2 0.5
Lat 7.20S 0.04 Lon 128.24E 0.05
Dep 163.0 1.2 Half-duration 2.4
Moment Tensor; Scale 10**17 Nm
Mrr= 2.97 0.10 Mtt=-0.59 0.13
Mff=-2.37 0.16 Mrt= 1.31 0.09
Mrf=-0.41 0.12 Mtf= 1.24 0.13
Principal Axes:

	Val=	Plg=	Azm=
T	3.39	72	0
N	-0.23	15	147
P	-3.17	9	240

Best Double Couple:Mo=3.3*10**17
NP1:Strike=348 Dip=38 Slip= 116
NP2: 137 56 71

AAI	3.67	354	iPd	36 41.50	3.9X	
			eS	37 45.70		
MTN	6.00	156	iP	37 06.90	-1.6	
KNA	8.34	179	iPd	37 37.10	-2.8	
			eS	38 57.00		
MNI	9.51	337	e(P)	38 01.00	5.6X	
	1.3s	5238.80nm			7.0mb X	
KHKI	12.91	265	eP	38 38.10	-1.7	
			eS	40 53.50		
			e	48 37.00		
JAY	12.98	69	ePc	38 38.00	-2.8	
			e	44 53.00		
WB5	13.65	156	iPd	38 45.00	-4.3X	
DAV	14.66	348	ePc+	39 04.10	2.1	
MNDI	15.00	86	eP	39 08.00	1.5X	
TSM	15.58	317	ePd	39 20.50	7.1X	
QIS	16.91	142	eP	39 28.00	-1.7	
			eS	42 21.00		
ASPA	17.00	163	iPc	39 28.30	-2.6	
	0.7s	504.00nm			6.0mb	
Z	19s	2.20um			4.5MszX	
			eS	42 26.70		
			LR	46 40.80		
KKM	18.16	317	ePc	39 45.00	0.6	
	1.4s	510.20nm			5.7mb	
			e	39 52.20		
LAT	18.28	89	eP	39 46.00	0.5	
PMG	18.47	98	eP	39 46.00	-1.6	
WARB	18.81	185	iPd	39 51.00	-0.2	
NANU	19.67	218	iPd	39 59.30	-0.7	
CTA	21.28	128	iPc	40 17.10	0.8	
	0.9s	37.82nm			4.8mb	
			i	40 46.40	155km	
			i	41 25.70		
			iS	44 02.00		
MEKA	21.41	205	eP	40 17.50	0.1	
			eS	44 12.70		
OCP	23.09	341	eP	40 41.00	7.2X	
FORR	23.38	181	eP	40 36.40	-0.1	
RAB	23.66	84	e(P)	40 40.00	0.6	
			eS	44 42.00		
COOL	24.42	196	iPc	40 46.20	-0.3	
	0.4s	41.00nm			5.3mb	
			eS	45 22.00		
MRWA	24.78	207	eP	40 49.00	-0.8	
	0.4s	74.00nm			5.6mb	
			eS	45 26.00		
BAG	24.91	341	ePc+	40 50.80	-0.5	
	1.5s	1900.00nm			6.4mb X	
BAL	25.67	204	eP	40 57.00	-1.1	
	0.4s	30.00nm			5.3mb	
			e	41 28.00	151km	
			eS	45 50.00		
GUA	26.33	38	e(P)	41 01.30	-2.9X	
	0.7s	126.03nm			5.7mb	
GUMO	26.34	38	eP	41 02.30	-2.0	
	0.9s	136.40nm			5.6mb	
PJG	26.34	38	eP	41 02.50	-1.8	
PAA	26.72	89	eP	41 27.00	19.1X	
KGM	26.89	289	ePd	41 10.80	1.5	
RMQ	27.01	137	ePc	41 11.00	0.7	
			i	41 18.10	25kmX	
			e	41 42.00		
			e	46 33.00		
MUN	27.08	204	eP	41 10.10	-0.8	
			e	41 45.00	170kmX	
			eS	46 23.00		
STK	27.24	155	iPc	41 12.20	-0.1	
	0.5s	62.00nm			5.5mb	
			e	41 45.00	158km	
			e	46 27.00		
NWAO	27.54	201	iPd	41 14.10	-0.9	
	0.4s	32.00nm			5.4mb	
Z	20s	2.20um			4.7Msz	
			e	41 48.00	164km	
			eS	45 50.00		
RKG	28.66	200	eP	41 29.90	4.9X	
CMS	28.90	148	iPc	41 27.10	-0.1	
			e	42 01.00	163km	
			e	47 46.60		
ADE	29.01	163	iPc	41 28.50	0.3	
	1.0s	136.00nm			5.6mb	
IPM	29.96	292	ePc	41 36.00	-0.8	
	0.6s	36.20nm			5.3mb	
			e	44 36.50		
BRS	30.37	134	iPc	41 39.80	-0.5	
	0.9s	16.00nm			4.7mb	
			i	41 43.50	13kmX	
			i	42 22.30		
			iS	48 05.00		
			i	49 09.00		
			e	51 58.00		
PSI	31.25	288	iPc	41 47.00	-1.1	
SNG	31.42	297	eP	41 52.00	2.5X	
			e	42 18.90	123kmX	
			eS	46 47.00		
COO	31.78	140	iPd	41 53.30	0.7	
			e	48 35.00		
QIZ	32.08	325	Pc	41 55.60	0.4	
BWA	32.55	149	iPc	42 01.00	1.8	
			e	42 32.80	148km	
			e	48 45.10		
ANP	33.07	348	e(P)	42 12.00	8.2X	
CAN	33.54	149	eP	42 08.80	1.0	
			e	42 40.80	148km	
QZH	33.55	343	iPd	42 07.30	-0.6	
	0.7s	0.08nm			2.5mb X	
CNB	33.73	149	eP	42 10.00	0.6	
			e	42 43.00	153km	
			e	49 02.00		
GZH	33.74	334	Pc	42 08.70	-0.8	
			eS	47 20.00		
TOO	33.76	155	iPc	42 11.50	1.8	
	0.7s	63.00nm			5.4mb	
			e	49 07.00		
NNT	34.87	304	iPc	42 18.80	-0.4	
BSI	35.60	290	eP	42 27.00	1.6	
			e	45 10.00		

LOE	36.20	313	iPc	42	31.00	0.6	SNY	49.16	355	iPc	44	14.00	-0.7				ed	53	38.00										
			e	44	53.00			9.0s		0.67nm			2.3mb X				ed	53	38.00										
			e	48	24.00			Z 22s		0.70um			4.6Msz	BZS	107.09	315	ePKP	53	45.50	-4.4X										
NST	36.31	309	iPc	42	33.50	2.1		N 20s		0.70um				SKO	107.64	312	ePKP	53	51.00	-0.1										
			i	44	56.00			E 16s		0.50um				OHR	108.21	311	ePKP	53	52.00	-0.3										
BDT	38.12	310	eP	42	44.20	-2.3				sP	45	05.00		NB2	109.46	333	Pdiff	49	50.30	-1.0										
	1.0s	138.00nm			5.6mb					S	51	07.00			0.9s	1.90nm													
SSE	38.89	350	iPd	42	53.00	0.3	HHC	50.47	343	iPc	44	25.00	0.2	KSP	109.70	321	ePKP	53	55.20	0.5										
	1.0s	0.10nm			2.5mb X		BTO	50.70	342	P	44	26.00	-0.6				e	54	19.00											
	Z 22s	0.60um			4.4Msz			N 12s		0.30um				PNT	109.70	40	ePKP	53	55.00	0.2										
	E 14s	0.70um						E 12s		0.30um				BCAO	110.43	272	iPKPd	53	57.20	0.0										
		pP	43	26.70	153km		MRRJ	50.83	12	eP	44	27.00	-0.4		0.6s	11.00nm													
		sP	43	40.00			CN2	51.00	357	Pc	44	27.60	-1.0	PTJ	110.96	316	e(PKP)	53	57.60	0.2										
		ScP	48	33.50				3.0s		0.50nm			2.7mb X	PRU	110.99	321	ePKP	53	57.50	0.3										
		eS	48	40.00			HOOJ	51.29	14	eP	44	40.00	9.2X				e	54	35.00											
		sS	49	36.00			LSA	51.51	317	iP	44	35.20	1.9	CMB	111.04	52	PKP	53	57.00	-0.7										
CHG	39.13	312	iPc	42	56.00	1.0		4.0s		0.64nm			2.7mb X	VBY	111.52	316	ePKP	53	59.30	1.0										
	1.0s	101.25nm			5.5mb					pP	45	07.00	137kmX	CLL	111.59	322	e(PKP)	53	59.00	0.7										
DZM	39.28	116	iPc	42	56.90	0.6				S	51	41.00					e	54	45.00											
GYA	39.79	328	iPc	43	01.20	0.8	MDJ	51.74	1	eP	44	34.00	-0.2	TDS	111.77	310	PKP	53	59.50	0.5										
	1.0s	0.10nm			2.5mb X		KRP	52.16	133	P	44	38.50	0.9	KHC	111.81	320	PKP	53	56.50	-2.3										
		sP	43	55.00			KUSJ	52.31	15	eP	44	38.00	-0.5	LJU	111.90	317	ePKP	53	59.50	0.5										
		PcP	45	04.40			ASAJ	52.79	13	P	44	41.80	-0.2	SOI	112.22	308	PKP	53	58.50	-1.4										
		ScP	48	38.80			GTA	53.63	332	iPc	44	49.00	0.6	VOY	112.34	317	iPKPc	53	59.60	-0.4										
		S	48	52.00				2.0s		1.30nm			3.4mb X				e	54	50.90											
		sS	49	54.00				Z 16s		0.60um			4.7MszX	EDM	112.47	35	ePKPc	54	00.00	0.1										
WHN	40.09	341	iPc	43	04.00	1.4				ScP	49	35.40		TRI	112.50	317	ePKPd	54	00.20	0.0										
	1.0s	0.54nm			3.2mb X					S	52	02.00		BHG	112.61	319	iPKPd	54	00.40	0.0										
	E 12s	0.98um					PGZ	53.78	136	eP	44	48.00	-1.4		0.8s	24.00nm													
		pP	43	39.50	162km			0.5s		38.00nm			5.5mb	KVN	112.66	51	PKP	54	01.20	0.2										
		ScP	48	40.00			HBZ	54.07	132	P	44	52.00	0.4	FVI	112.96	318	PKP	54	01.50	0.5										
NJ2	40.28	347	iPc	43	05.00	0.9		0.5s		91.00nm			5.8mb	GRF	113.14	321	iPKPc	54	01.50	0.2										
		sP	43	55.00			GBA	54.90	292	P	44	56.00	-1.8	SDI	113.31	312	PKP	54	00.50	-1.5										
		ScP	48	40.60			HYB	55.23	297	eP	44	58.00	-2.3	TNP	113.50	52	PKP	54	02.80	0.1										
KMI	40.94	323	iPc+	43	12.00	2.0		1.2s		78.60nm			5.4mb	FUR	113.53	320	ePKP	54	02.40	0.2										
	1.5s	0.60nm			3.0mb X					e	45	38.00	175kmX		0.8s	37.00nm													
	Z 18s	1.50um			4.9Msz		POO	59.80	296	iPd	45	30.00	-2.3	ARV	113.56	314	PKP	54	02.60	0.2										
		pP	43	46.00	154km		NDI	61.11	308	iPc	45	38.90	-2.1	CTI	113.85	317	PKP	54	02.80	-0.2										
		sP	44	05.00				0.5s		98.59nm			6.0mb	ASS	113.86	314	PKP	54	02.50	-0.5										
		PP	44	55.00						eS	53	40.00		MNS	113.99	313	PKP	54	02.80	-0.5										
		S	49	11.00			WMO	62.94	328	iPc	45	53.50	0.5	OGA	114.05	318	iPKPd	54	03.90	0.4										
		sS	50	08.00				Z 24s		0.45um			4.6MszX	CRE	114.24	315	PKP	54	04.50	0.7										
SHK	41.84	5	eP	43	16.60	-0.3				S	54	10.00		SFI	114.24	315	PKP	54	04.50	0.9										
TSRJ	43.23	9	P	43	28.40	0.2	KSH	67.31	318	eP	46	22.50	1.3	PGD	114.34	315	PKP	54	04.50	0.4										
IIDJ	43.50	11	P	43	30.00	-0.5				PcP	46	48.00		SES	114.75	37	ePKP	54	03.00	-1.5										
CHJJ	44.27	12	P	43	35.30	-1.3				S	55	07.00		MME	114.97	315	PKP	54	04.60	-0.8										
MTMJ	44.56	11	P	43	38.20	-0.8	QUE	69.87	306	eP	46	36.00	-1.2	BDI	115.08	315	PKPc	54	03.90	-1.5										
MAT	44.59	11	iPc	43	37.90	-1.2	SBA	73.17	172	Pc	46	57.20	1.5	PII	115.22	315	PKP	54	04.50	-1.0										
	0.8s	82.09nm			5.4mb		MAW	74.11	201	eP	47	02.00	0.7	LLS	115.39	319	ePKPd	54	06.00	0.0										
		eS	51	00.00			KHI	77.83	307	eP	47	23.00	0.0	ZLA	115.59	319	ePKPd	54	05.60	-0.6										
TIA	44.66	347	Pc	43	39.20	-0.5	MAIO	77.83	309	iPc+	47	23.40	0.5	BOB	115.69	316	PKPd	54	06.10	-0.4										
N 11s		0.20um						0.9s		14.92nm			4.7mb	VAI	115.83	318	PKPc	54	06.00	-0.6										
E 11s		0.50um								e	47	59.00	143kmX	CDF	116.00	321	ePKP	54	06.20	-0.8										
		sP	44	28.00						eS	57	32.00		MEM	116.01	323	iPKPc	54	07.04	0.3										
KAKJ	44.68	13	P	43	38.50	-1.3	PPT	80.06	107	eP	47	38.00	2.9	GLA	116.21	57	PKP	54	09.10	1.3										
CD2	44.88	329	iPc	43	41.60	0.1		1.0s		60.00nm			5.3mb	MMK	116.31	318	ePKPd	54	08.20	0.3										
		S	50	03.00			PPN	80.20	107	eP	47	39.00	3.2X	PCP	116.37	316	PKP	54	06.83	-0.9										
XAN	45.20	337	iPc	43	43.60	-0.4		1.0s		30.00nm			5.0mb	ORX	116.43	318	PKP	54	07.24	-0.7										
NIIJ	45.42	12	P	43	44.70	-0.9	SHI	81.65	301	eP	47	43.00	-0.5	BSF	116.50	320	ePKP	54	07.50	-0.5										
DL2	46.48	352	Pc	43	54.00	0.0	PMO	81.89	104	eP	47	46.00	1.4		0.7s	27.30nm													
	3.0s	0.77nm			2.8mb X			1.0s		30.00nm			5.0mb	CKI	116.58	316	PKP	54	07.50	-0.6										
		esP	44	42.00			TPT	82.15	104	eP	47	49.00	3.0X	DIX	116.67	318	ePKPd	54	08.90	0.3										
		eS	50	26.00				1.0s		40.00nm			5.1mb	CVF	116.69	314	iPKPc	54	08.10	-0.3										
TIY	47.31	343	iPc	44	00.00	-0.6	SPA	82.69	180	iPc	47	48.30	0.2		0.8s	21.40nm													
	0.8s	0.20nm			2.8mb X			1.0s		41.50nm			5.2mb	FIN	116.69	316	PKP	54	07.44	-0.9										
E 11s		0.40um								i	48	31.90	176kmX	HAU	116.72	321	ePKP	54	08.00	-0.3										
		pP	44	36.00	160km		SDN	85.36	33	eP	48	01.70	0.3		0.7s	16.30nm													
		sP	44	50.00			KER	87.14	305	eP	48	01.00	-9.8X	ROB	116.90	316	PKP	54	07.96	-0.8										
		PP	45	55.00			NPA	87.49	255	iP	48	14.00	1.4	EMS	116.99	318	ePKPd	54	09.20	0.1										
		sS	51	45.00						i	48	57.00	172kmX	IMI	117.00	316	PKP	54	06.93	-2.1										
BJI	48.54	347	Pc	44	10.00	0.1	TAB	88.44	309	eP	48	17.00	0.0	LSD	117.03	318	PKP	54	08.88	-0.4										
	1.0s	0.17nm			2.7mb X		TTA	89.92	26	ePc	48	24.00	0.7	DOU	117.04	323	PKP	54	09.70	0.9										
		epP	44	50.00	179kmX		IMA	91.73	24	eP	48	31.80	0.2	SNF	117.06	324	iPKPc	54	09.18	0.4										
		eScP	49	13.00			PMR	92.75	28	eP	48	35.80	-0.3	RSP	117.06	317	PKP	54	07.75	-1.4										
		eS	50	48.00				0.9s		28.10nm			5.5mb	ENR	117.23	316	PKP	54	07.55	-1.9										
		esS	51	52.00			FBA	93.90	25	eP	48	40.40	-1.0	DOI	117.27	317	PKP	54	08.00	-1.5										
LZH	49.08	333	iPc	44	15.40	1.0	TOA	94.21	28	eP	48	43.80	0.8	LPG	117.29	318	iPKPc	54	09.80	0.0										
	2.0s	1.08nm			3.2mb X		SNA	95.77	195	eP	48	51.50	1.5		0.6s	16.50nm													
Z 28s		0.90um			4.6MszX		INK	99.71	22	eP	49	07.00	-0.8	STV	117.29	316	PKP	54	08.06	-1.5										
N 15s		0.80um								pP	49	51.00	175kmX				S	59	08.40										
E 16s		0.80um					KEV	100.87	340	ePdiff	49	14.00	1.1	SBF	117.33	316	ePKP	54	09.20	-0.4										
		sP	44	50.00			SOD	101.36	337	iPdiff	49	15.00	-0.1		0.6s	12.60nm													
		sP	45	05.20			SUF	102.21	333	ePdiff	49	18.00	-1.0	PZZ	117.37	317	PKP	54	08.67	-1.1										
		PP	46	09.00			MBC	102.28	13	ePdiff	49	19.00	0.0	RRL	117.45	317	PKP	54	09.49	-0.6										
		ScP	49	16.40				0.8s		4.00nm			5.2mb	BNI	117.48	317	PKPc	54	09.90	-0.1										
		eS	51	05.00			NUR	103.23	330	ePdiff	49	38.00	14.5X	FRF	117.97	316	iPKPc	54	10.70	-0.1										
		sS	52	08.00			VRI	103.51	315	ePdiff	49	26.00	0.8		0.7s	8.80nm													
														FFC	117.97	30	iPKPc	54	10.40	0.0										

22d 20h

	1.0s	16.00nm			
BW06	118.13	45 PKP	54	11.00	-0.4
LMR	118.13	315 ePKP	54	10.90	-0.2
	0.9s	6.50nm			
LRG	118.20	316 iPKPc	54	11.40	0.2
	0.9s	13.10nm			
LOR	118.56	320 ePKP	54	11.50	-0.3
	0.7s	9.90nm			
LBF	118.59	320 ePKP	54	11.70	-0.2
	0.8s	19.30nm			
SMF	118.80	320 ePKP	54	12.00	-0.3
	0.7s	7.70nm			
EKA	118.81	331 PKP	54	13.00	1.0
	0.6s	7.50nm			
SSF	118.86	320 iPKPc	54	12.50	0.2
	0.8s	34.90nm			
GRC	119.04	321 PKP	54	12.95	0.3
AVF	119.06	320 ePKP	54	12.40	-0.3
	0.6s	14.70nm			
PLDF	119.19	319 PKP	54	13.14	0.0
BGF	119.47	320 ePKP	54	13.80	0.3
AGO	119.48	319 PKP	54	13.60	0.0
PYM	119.67	319 PKP	54	14.39	0.4
LBL	119.70	318 PKP	54	14.55	0.6
MAF	119.78	320 ePKP	54	14.10	0.0
	0.9s	13.10nm			
TCF	119.98	320 iPKPc	54	14.70	0.2
	0.8s	20.10nm			
LSF	120.43	320 iPKPc	54	15.20	-0.2
	0.9s	17.00nm			
LDF	120.47	323 iPKPc	54	15.40	0.1
	0.9s	16.30nm			
CAF	120.60	318 ePKP	54	16.30	0.5
	0.8s	18.80nm			
FLN	120.61	323 ePKP	54	15.70	0.1
	0.9s	16.30nm			
RJF	120.81	319 ePKP	54	16.50	0.4
GRR	121.00	323 ePKP	54	16.50	0.2
	0.9s	22.90nm			
LPF	121.27	323 iPKPc	54	17.20	0.4
	0.8s	24.10nm			
LPO	121.27	318 ePKP	54	17.60	0.6
	0.8s	21.40nm			
MFF	121.34	321 iPKPc	54	17.20	0.1
	0.6s	19.80nm			
DMU	121.42	331 ePKP	54	17.20	0.2
RSSD	121.45	42 PKP	54	16.70	-1.0
LFF	121.46	319 ePKP	54	17.90	0.6
	0.8s	18.80nm			
DLE	121.59	330 ePKP	54	17.50	0.2
ESEL	121.82	313 iPKP	54	19.00	0.8
GLD	122.17	47 PKP	54	19.50	0.4
FRB	122.38	9 ePKPc	54	17.90	-0.5
	0.8s	52.00nm			
EPF	122.47	317 ePKP	54	19.40	0.0
	0.7s	13.20nm			
ALQ	122.63	53 PKP	54	21.10	0.9
EROQ	123.25	315 iPKPd	54	21.50	0.6
ECHE	124.68	314 iPKPd	54	25.00	1.2
ETOR	124.98	315 iPKPc	54	25.00	0.6
EVIA	126.14	313 iPKPd	54	27.20	0.4
GUD	126.50	316 iPKPd	54	28.80	1.3
ENIJ	126.54	311 iPKP	54	27.80	0.3
TOL	126.75	315 ePKP	54	28.50	0.7
EBAN	127.25	313 ePKP	54	29.80	1.0
AFC	127.42	312 iPKP	54	28.80	-0.5
EPLA	128.08	316 ePKP	54	32.00	1.7
EHOR	128.45	313 iPKPc	54	32.50	1.5
MEO	128.84	51 e(PKP)	54	32.60	0.7
IFR	129.99	308 iPKP	54	36.50	2.1
SIO	130.20	49 ePKP	54	36.00	1.5
TUL	130.52	48 iPKPc	54	36.60	1.6
	0.8s	12.00nm			
	Z 23s	0.39um			5.0MszX
		LR	40	20.00	
SCH	131.09	12 ePKP	54	37.00	1.4
KIC	133.68	272 PKP	54	29.00	-12.7X
LIC	133.95	272 PKP	54	28.80	-13.4X
TIC	133.97	272 PKP	54	28.40	-13.8X
RSNY	137.83	25 PKP	54	50.00	1.3
RSCP	137.94	43 PKP	54	47.80	-1.4
ANT	143.97	149 iPKPc	54	59.20	-0.9
ITB7	147.60	175 PKPc	55	08.60	2.5X
PT03	147.81	131 ePKPc	55	11.50	4.8X
ITB	147.93	175 e(PKP)	55	09.60	3.0X
ITB1	148.06	175 e(PKP)	55	08.00	1.2
NNA	148.23	127 ePKP	55	08.50	1.1
		i	55	12.00	
BMA	149.30	193 ePKP	55	13.80	4.9X
CNCB	150.92	146 PKPc	55	14.20	2.1
LPB	151.08	145 PKP	55	14.00	1.8
	1.0s	200.00nm			
ZOBO	151.28	145 PKPc	55	14.20	1.5
	1.0s	95.50nm			
	Z 22s	0.11um			4.6Msz
		LR	19	12.00	
CCH	151.43	149 PKP	55	21.20	8.7X
UPA	152.11	85 iPKPc	55	20.00	6.8X
	0.9s	142.86nm			
BAO	156.91	188 ePKP	55	22.00	2.2
	S.D. = 1.0	on 240 of 266 obs.			

OCT 22, 1989 21h 21m 49.70± 1.14s
43.273 N ± 7.6km 146.827 E ± 9.5km
DEPTH = 63.8 ± 11.2 km
4.5mb (7 obs.)
KURIL ISLANDS (221)
Felt (I JMA) at Nemuro ond Kushiro, Hokkaido.

NEM	0.91	274	iP+	22	06.30	-0.6
			iS	22	16.70	
KUSJ	1.56	264	iP+	22	14.40	-1.3
			S	22	30.90	
KUS	1.80	261	eP	22	19.00	-0.1
			eS	22	39.00	
HOOJ	2.75	252	P	22	34.10	1.8
			eS	23	06.00	
ASAJ	3.15	287	P	22	39.10	1.1
MRRJ	4.32	261	P	22	55.00	0.7
			eS	23	40.90	
AOMJ	5.53	243	P	23	11.80	0.5
			eS	24	12.80	
OFUJ	5.72	225	P	23	14.10	0.1
			S	24	16.10	
YAMJ	7.25	228	P	23	35.10	-0.2
NIIJ	8.49	227	P	23	52.60	0.2
KAKJ	8.72	218	P	23	54.00	-1.5
CHJJ	9.40	223	P	24	04.60	-0.4
			eS	25	45.80	
MAT	9.43	227	eP	24	05.00	-0.3
			eS	26	00.00	
MTMJ	9.62	229	P	24	08.20	0.2
IIDJ	10.40	225	P	24	18.40	-0.1
CN2	15.51	279	Pc	25	24.60	-1.2
BJI	23.06	272	eP	26	51.00	0.8
TIY	26.61	270	eP	27	25.90	2.0
BTO	27.37	277	eP	27	30.40	-0.4
FBA	41.62	36	P	29	33.00	0.4
	0.7s	19.19nm				5.0mb
FFC	66.22	36	iPc	32	32.90	0.3
	0.6s	12.00nm				5 0mb
KVN	67.77	57	P	32	43.90	1.0
TNP	68.92	57	P	32	50.10	0.1
	0.6s	2.69nm				4.4mb
NB2	69.96	339	P	32	54.20	-1.6
	0.7s	2.30nm				4.2mb
HFS	70.04	337	eP	32	54.10	-2.1
	0.4s	1.70nm				4.3mb
BW06	70.39	49	P	32	59.30	0.3
RSSD	72.46	46	P	33	11.00	-0.3
RSON	72.51	35	P	33	10.00	-1.2
	0.8s	5.21nm				4.5mb
GLD	74.84	49	P	33	26.60	1.4
EKA	78.51	343	P	33	45.00	-0.1
	0.6s	2.90nm				4.4mb
KHC	79.26	331	eP	33	49.70	0.4
	S.D. = 1.0	on 31 of 31 obs.				

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* OCT 22, 1989 21h 28m 49.37± 1.22s
20.466 S ± 9.5km 70.748 W ±10.9km
DEPTH = 52.3 ± 13.3 km
4.6mb (1 obs.)
NEAR COAST OF NORTHERN CHILE (122)

ANT	3.24	175	iPd	29	39.00	0.1
			iS	30	21.20	
ARE	4.04	350	eP	29	48.00	-2.6
			i(S)	30	36.40	
CNCB	4.48	36	eP	29	58.00	1.0
			i	30	02.00	
LPB	4.65	33	P	30	01.20	2.0
	1.0s	640.00nm				
			LR	31	39.00	
ZOBO	4.86	31	P	30	03.00	0.6
	Z 20s	4.82um				
			LR	31	51.00	
CCH	5.33	56	P	30	08.00	-0.7
PT03	8.04	322	ePd	30	42.00	-4.3X
PT08	10.13	326	eP	31	15.50	0.2
			e(S)	33	01.10	
NNA	10.26	324	eP	31	17.00	0.2
			eS	33	11.00	
PEL	12.63	180	eP	31	43.00	-5.6X
ITB1	15.67	108	eP	32	32.10	3.8X
BAO	22.16	81	e(P)	33	40.00	-2.5
BMA	24.82	100	eP	34	08.30	0.0
PDCR	31.29	80	e(P)	34	56.00	-10.9X
SNA	63.65	159	eP	39	17.60	0.6
KIC	70.08	75	P	39	54.40	-4.1X
PNT	81.91	330	eP	41	06.00	1.5
	0.6s	4.00nm				4.6mb
EDM	82.11	336	eP	41	04.50	-1.0
KSH	145.79	49	ePKP	48	24.50	0.4
NDI	149.81	68	ePKP	48	34.50	3.9X
MAT	150.09	309	ePKP	48	36.00	5.2X
	0.9s	14.29nm				
WMQ	150.58	33	PKP	48	36.50	5.1X
HYB	150.83	91	ePKP	48	36.50	4.0X
	S.D. = 1.5	on 14 of 23 obs.				

OCT 22, 1989 21h 44m 49.26± 0.77s
38.119 N ± 7.4km 21.952 E ± 7.2km
DEPTH = 10.0km (geophysicist)
GREECE (364)
ML 3.0 (ATH).

AGG	0.95	18	eP	45	07.00	-0.4
			eS	45	22.40	
VLS	1.08	274	ePb	45	09.00	-0.5
			eSb	45	25.80	
ATH	1.40	95	ePg	45	14.80	0.0
NEO	1.55	40	ePb	45	15.90	-1.0
VLI	1.60	150	ePb	45	18.00	0.3
LIT	2.02	12	eP	45	24.40	0.6
KZN	2.19	356	ePb	45	28.00	1.7
KEK	2.31	314	ePn	45	28.40	0.4
OHR	3.12	344	ePn	45	38.30	-1.1
	S.D. = 1.0	on 9 of 9 obs.				

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* OCT 22, 1989 21h 45m 57.91± 1.50s
20.735 S ± 9.9km 71.066 W ±18.5km
DEPTH = 37.3 ± 16.3 km
4.7mb (2 obs.)
OFF COAST OF NORTHERN CHILE (121)

ANT	3.02	169	eP	46	44.50	0.1
ARE	4.27	355	eP	47	01.00	-1.5
			i(S)	47	45.00	
CNCB	4.88	37	P	47	12.00	0.6
LPB	5.04	34	P	47	14.60	1.1
			LR	48	52.00	
ZOBO	5.25	33	P	47	16.00	-0.6
	Z 16s	4.63um				
			LR	49	03.00	
CCH	5.73	55	P	47	23.40	0.3
PT03	8.08	325	e(P)	47	08.00	-47.9X
			e(S)	49	25.00	
NNA	10.31	327	eP	48	35.50	8.9X
			eS	50	20.50	
ITB1	15.87	107	eP	49	45.50	5.2X
TUL	61.01	337	eP	56	10.40	0.4
	1.0s	6.70nm				4.7mb
SPA	69.39	180	e(P)	57	07.10	3.1X
	1.1s	6.55nm				4.6mb
KIC	70.44	75	P	57	09.00	-2.0
EDM	82.23	336	eP	58	18.00	1.5
MAT	150.02	308	ePKP	05	51.00	9.8X
	0.8s	9.70nm				
	S.D. = 1.5	on 9 of 14 obs.				

% OCT 22, 1989 22h 14m 39.32± 1.86s
39.300 N ±14.1km 23.289 E ±13.5km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

AGG	0.80	250	ePg	14	54.80	0.0
			eSg	15	08.50	
LIT	1.01	323	ePg	14	58.20	-0.2
			eS	15	12.60	
OUR	1.16	27	ePg	15	00.90	-0.1

			eSg	15	16.90	
GRG	1.79	338	ePn	15	10.60	0.1
			eSn	15	31.90	
SRS	1.83	7	ePn	15	10.90	-0.1
			eSn	15	32.70	
KNT	1.88	351	ePn	15	12.20	0.4
			eSn	15	34.90	

S.D. = 0.3 on 6 of 6 obs.

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* OCT 22, 1989 22h 29m 02.82± 0.81s
2.747 N ±12.0km 125.747 E ±11.7km
DEPTH = 33.0km (normal)
TALAUD ISLANDS (263)

MNI	1.58	215	ePd	29	30.00	1.1
			S	29	53.70	
TSM	7.80	281	ePd	30	57.00	0.1
KKM	10.05	289	ePc	31	26.80	-1.4
WB5	24.03	160	eP	34	15.60	-0.3
			iS	38	30.70	
OIS	26.85	150	eP	34	41.00	-1.5
ASPA	27.43	164	iPd	34	46.90	-0.9
			eS	39	40.30	
FORR	33.48	176	eP	35	40.10	-1.1
STK	37.58	158	eP	36	16.00	-0.1
BJI	38.12	348	eP	36	21.00	0.5
BWA	42.68	152	eP	37	00.20	1.8
CAN	43.69	152	eP	37	07.50	1.0
HYB	48.53	291	eP	37	46.00	0.8

S.D. = 1.2 on 12 of 12 obs.

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* OCT 22, 1989 23h 01m 28.98± 1.39s
38.944 N ± 6.8km 26.052 E ±13.7km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
MD 3.2 (ATH).

PRK	0.35	29	iPgc	01	36.50	0.4
			eSg	01	42.50	
EZN	0.91	13	iPg	01	46.20	-0.1
			iSg	01	57.70	
IZM	1.09	120	ePn	01	48.90	-0.7
SMG	1.38	153	ePb	01	54.50	0.3
EDC	1.98	44	ePn	02	03.30	0.4
BNT	2.02	45	iPn	02	04.00	0.6
DST	2.11	71	ePn	02	05.90	1.1
KCT	2.21	53	iPn	02	06.00	-0.2
RDO	2.23	350	ePn	02	06.70	0.1
PLG	2.47	306	ePb	02	17.50	7.6X
CTT	2.86	39	ePn	02	13.50	-2.0
ISK	3.13	47	ePn	02	24.00	4.7X
DMK	3.16	24	ePn	02	24.00	4.4X
HRT	3.36	55	ePn	02	26.00	3.4X
VAY	3.57	313	eP	02	38.60	13.1X

S.D. = 1.0 on 10 of 15 obs.

OCT 22, 1989 23h 24m 21.16± 0.70s
43.689 N ± 7.3km 12.739 E ± 6.8km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.8 (SSO).

ARV	0.24	142	Pd	24	28.10	1.8
			eSg	24	33.70	
RSM	0.32	319	Pd	24	27.20	-0.5
			eSg	24	31.90	
CRE	0.57	264	P	24	34.00	1.1
			eSg	24	42.00	
CIO	0.58	149	iPgc	24	32.80	-0.1
			iSg	24	44.22	
ASS	0.62	185	P	24	34.50	0.8
			eSg	24	44.90	
SSO	0.63	128	e(Pg)	24	33.41	-0.5
			e(Sg)	24	45.54	
AOI	0.64	102	iPg	24	32.28	-1.8
			iSg	24	43.03	
SFI	0.68	290	P	24	33.60	-1.1
			eSg	24	44.70	
PGD	0.76	285	P	24	35.10	-1.0
			iSg	24	47.20	
ALP	1.10	146	ePg	24	40.41	-1.4
			eSg	25	00.23	
MNS	1.30	182	P	24	45.70	0.4
			eSg	25	03.70	
TRI	2.15	20	e(P)	25	13.10	15.6X
			e	25	23.60	
VOY	2.48	19	e(Pn)	25	04.70	2.4
			eSn	25	33.30	

S.D. = 1.4 on 12 of 13 obs.

& OCT 22, 1989 23h 49m 25.83s
64.823 N 150.486 W
DEPTH = 43.6km
CENTRAL ALASKA (1)
<AGS-P>.

NEA	0.65	112	eP	49	38.55	-0.3
RDS	1.00	89	eP	49	43.50	-0.2
			eS	49	58.09	
FBA	1.15	85	eP	49	45.61	-0.1
CCB	1.16	98	eP	49	45.66	-0.2
			eS	50	02.40	
MCK	1.29	148	eP	49	47.07	-0.6
KTH	1.29	189	eP	49	48.04	0.3
GLM	1.33	81	eP	49	48.20	-0.1
HDA	1.58	104	eP	49	51.04	-0.8
RND	1.59	153	eP	49	51.26	-0.8
IMA	1.83	315	eP	49	55.95	0.5
DDM	2.27	115	eP	50	01.29	-0.4
CUT	2.43	178	eP	50	04.10	0.2
SKT	2.89	190	eP	50	09.93	-0.6
PAX	2.89	128	eP	50	09.66	-0.9
TTA	3.10	235	eP	50	10.54	-2.9
CGLM	3.60	192	eP	50	19.47	-1.1
PMS	3.62	173	eP	50	19.50	-1.3

17 obs. associated

OCT 22, 1989 23h 53m 34.47± 0.60s
36.327 N ± 6.1km 4.485 E ± 3.8km
DEPTH = 10.0km (geophysicist)
4.0mb (3 obs.)
ALGERIA (396)

ESEL	3.66	340	iPn	54	33.00	0.7
			eSn	55	10.40	
ACU	4.47	301	iPn	54	44.00	0.2
			eSn	55	34.00	
EALH	4.96	290	eP	54	51.00	0.2
ECHE	5.40	309	ePn	54	57.80	0.7
			eSn	55	56.00	
ENIJ	5.43	279	eP	54	54.50	-2.9
			eS	55	54.00	
EBR	5.47	326	ePn	54	57.50	-0.4
			i	55	03.00	
			i	55	55.50	
			i	56	15.00	
EROO	5.51	326	iPnc	54	58.00	-0.5
			eSn	55	58.00	
TAF	5.82	257	e(P)	54	42.00	-21.0X
			e	55	02.00	
			i	55	07.00	
			i	56	40.00	
			i	56	50.00	
			i	56	57.00	
EVIA	6.02	295	ePn	55	06.20	0.4
ETER	6.10	349	ePn	55	06.50	-0.3
			eSn	56	11.00	
CRT	6.55	280	eP	55	16.20	3.0
APHE	6.60	278	iPd	55	13.10	-1.0
ASMO	6.68	281	iP	55	15.20	0.1
ACHM	6.72	279	iP	55	15.60	-0.2
ETOR	6.81	313	ePn	55	18.60	1.7
EBAN	6.85	288	ePn	55	16.80	-0.6
ATEJ	6.86	277	iP	55	16.20	-1.5
ALOJ	6.94	279	iP	55	18.60	-0.3
AAPN	6.97	281	iP	55	20.00	0.7
CVF	7.09	27	Pn	55	18.70	-2.1
			Sn	56	34.60	
LMR	7.17	12	Pn	55	21.80	0.0
			Sn	56	37.20	
LRG	7.26	11	Pn	55	21.40	-1.7
			Sn	56	38.60	
FRF	7.41	12	Pn	55	24.00	-1.3
			Sg	56	43.20	
EPF	7.42	336	Pn	55	26.70	1.3
			Sn	56	45.00	
TOL	7.61	300	iPc	55	28.00	0.0
	0.8s		44.78nm			5.7mb X
SBF	7.86	16	Pn	55	30.00	-1.6
			Sn	56	52.00	
IMI	8.01	18	P	55	32.16	-1.5
GUD	8.03	305	ePn	55	33.80	-0.3
			eSn	57	02.00	
STV	8.20	14	P	55	36.68	0.3
ENR	8.20	15	P	55	35.75	-0.7
ROB	8.37	17	P	55	36.57	-2.1
FIN	8.37	19	P	55	36.98	-1.7
IFR	8.38	253	iP	55	41.00	2.0
			i	58	01.50	
PZZ	8.41	13	P	55	39.04	-0.3
DOI	8.43	14	P	55	42.00	2.4
CKI	8.59	19	P	55	40.00	-1.7
PII	8.71	30	P	55	43.50	0.1
LPO	8.72	344	Pn	55	43.80	0.3
RRL	8.76	11	P	55	44.37	0.1
MNS	8.77	44	P	55	38.00	-6.2X
PCP	8.77	19	P	55	42.21	-2.0
CAF	8.78	349	Pn	55	44.80	0.4
BNI	8.87	10	P	55	46.50	0.7
BDI	9.03	29	P	55	47.50	-0.3
LFF	9.06	343	Pn	55	49.00	0.8
RSP	9.06	13	P	55	49.09	0.7
ASS	9.22	41	P	55	53.00	2.5
RJF	9.25	347	Pn	55	50.80	0.0
LPG	9.32	10	Pn	55	53.00	0.9
			Sn	57	31.60	
LPL	9.34	10	Pn	55	53.20	1.0
LSD	9.34	12	P	55	52.78	0.4
PGD	9.35	34	P	55	52.50	0.1
ORX	9.66	15	P	55	55.03	-1.6
ARV	9.67	40	P	55	58.50	1.9
MAF	9.99	352	Pn	55	59.80	-1.2
LSF	10.16	348	Pn	56	02.20	-1.2
BGF	10.30	354	Pn	56	04.00	-1.2
MFF	10.84	343	Pn	56	12.80	0.2
CTI	11.11	27	P	56	18.00	1.6
FVI	11.99	29	P	56	35.00	6.8X
VOY	12.00	33	e(P)	56	32.50	4.0X
LJU	12.30	35	e(P)	56	35.00	2.6
LPF	12.39	342	Pn	56	33.20	-0.4
GRR	12.68	344	Pn	56	36.50	-1.0
LDF	12.72	346	Pn	56	38.00	0.0
FLN	12.95	345	Pn	56	40.40	-0.7
OHR	13.60	65	eP	56	57.80	7.9X
DOU	13.76	0	Pc	56	51.70	-0.1
SNF	14.18	359	Pd	56	58.70	1.4
SKO	14.31	62	eP	57	02.00	2.9X
KHC	14.42	25	eP	57	01.80	1.3
			i	57	06.50	
VAY	14.95	65	eP	57	11.40	4.0X
ZST	15.07	34	eP	57	17.00	8.0X
CLL	16.17	20	eP	57	26.00	2.8X
	1.5s		18.00nm			4.0mb
KSP	16.81	27	eP	57	33.00	1.7
SPC	17.25	37	eP	57	42.80	5.7X
KRA	17.71	34	eP	57	47.00	4.5X
			e	57	53.90	
MLR	18.58	54	ePc	57	56.00	2.5
EKA	19.72	347	Pc	58	08.70	1.8
	1.2s		35.70nm			4.5mb
CFR	19.94	56	eP	57	55.00	-14.2X
KHL	20.00	77	eP	58	10.00	-0.1
BCK	20.89	79	eP	58	19.00	-0.4
BBTK	22.49	72	eP	58	34.00	-1.5
NB2	25.10	8	P	59	01.00	0.5
	0.8s		1.80nm			3.8mb
PRNI	26.11	94	eP	59	08.00	-2.3
MBH	26.23	96	iP	59	10.00	-1.3
MAIO	43.80	73	eP	01	44.00	1.8
SCH	50.87	315	eP	02	36.00	-1.3
EDM	75.85	327	eP	05	22.50	0.1
PNT	81.39	327	eP	05	56.00	3.3X

S.D. = 1.3 on 77 of 90 obs.

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* OCT 23, 1989 00h 00m 00.13± 1.71s
20.788 S ± 9.6km 71.423 W ±23.3km
DEPTH = 33.0km (normal)
OFF COAST OF NORTHERN CHILE (121)

ANT	3.05	162	iPd	00	47.20	0.1
ARE	4.30	359	eP	01	05.00	-0.3
			eS	01	51.00	
CNCB	5.13	40	P	01	17.40	0.2
LPB	5.28	37	P	01	21.00	1.8
Z	16s		1.35um			
			LR	02	40.00	
ZOBO	5.48	35	P	01	21.00	-1.1
			S	02	52.00	
CCH	6.03	57	P	01	29.00	-0.8

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

23d 00h

% OCT 23, 1989 00h 12m 03.28± 1.19s
37.173 N ±12.6km 28.502 E ± 7.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

YER	0.18	258	iPg	12 07.30	0.0
			iSg	12 09.30	
CIN	0.54	322	iPgc	12 15.00	0.8
			iSg	12 24.00	
KHL	1.40	35	ePn	12 28.50	-0.5
IZM	1.57	322	iPn	12 30.50	-0.7
BCK	1.69	80	iPn	12 33.50	0.5

S.D. = 0.9 on 5 of 5 obs.

OCT 23, 1989 00h 14m 23.01± 0.71s
49.164 N ± 5.8km 6.954 E ±10.2km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
mbLg 2.4 (UCC).

WLF	0.72	314	iPd	14 36.90	-0.3
			i	14 37.70	
			iS	14 48.20	
CDF	0.78	164	Pg	14 37.97	-0.3
			Sg	14 49.86	
WLS	0.80	161	Pg	14 38.37	-0.2
ECH	0.96	172	Pg	14 41.48	0.2
VITF	1.15	215	Pg	14 43.98	-0.4
MOF	1.32	175	Pg	14 48.12	0.7
			Sg	15 05.96	
BSF	1.34	185	Pg	14 48.30	0.6
			Sg	15 06.62	
FEL	1.47	151	Pn	14 49.06	-0.6
			Pg	14 51.73	
MEM	1.57	337	P	14 51.40	0.5
			i	14 52.70	
DOU	1.80	302	Pn	14 54.20	0.0
			iPg	14 56.90	
			iSn	15 16.90	
LOMF	1.82	183	Pg	14 57.30	2.7X
			Sg	15 21.58	
SNF	2.19	309	P	15 04.40	4.4X
GRF	2.84	78	e(Pg)	15 18.20	9.0X
			e	15 21.60	
			eSg	15 59.30	
KHC	4.35	88	ePg	16 20.30	49.6X
			eSg	16 43.00	

S.D. = 0.5 on 10 of 14 obs.

% OCT 23, 1989 00h 22m 20.83± 1.07s
10.337 N ±10.2km 61.363 W ± 7.8km
DEPTH = 33.0km (normal)
TRINIDAD (98)
MD 3.8 (TRN). Felt (III) an Trinidad.

TPP	0.09	257	iP	22 26.44	-0.1
			eS	22 29.88	
TRN	0.31	353	ePc	22 29.18	0.5
			eS	22 33.74	
TBH	0.33	63	iP	22 29.09	0.2
			eS	22 33.40	
TCE	0.52	313	eP	22 31.79	0.0
			eS	22 35.75	
BOT	1.04	38	eP	22 38.92	-0.2
			eS	22 53.54	
GRW	1.84	351	eP	22 50.61	0.0
			eS	23 14.34	
SVB	2.92	2	eP	23 06.05	0.0
			eS	23 41.31	
SVV	2.97	3	eP	23 06.44	-0.3
			eS	23 42.67	
SSV	2.98	3	eP	23 06.85	-0.1
			eS	23 43.47	

S.D. = 0.2 on 9 of 9 obs.

? OCT 23, 1989 00h 43m 22.98± 2.07s
6.640 S ±26.6km 128.332 E ±30.8km
DEPTH = 33.0km (normal)
4.1mb (1 obs.)
BANDA SEA (280)

MTN	6.76	156	iPc	45 03.20	0.8
			e	45 21.00	
			eS	45 59.00	
KNA	9.06	177	eP	45 35.00	0.4
			eS	46 56.00	
WB5	14.41	157	eP	46 43.80	-2.8X
			eS	48 56.80	
QIS	17.63	143	eP	47 28.00	0.1
			eS	50 16.00	
ASPA	17.76	163	eP	47 28.00	-1.4
	0.4s		7.00nm		4.1mb
			i	47 37.50	
			eS	50 14.30	
FORR	24.09	180	eP	48 46.40	9.9X
NAI	91.37	269	eP	56 28.00	0.1

S.D. = 1.2 on 5 of 7 obs.

OCT 23, 1989 00h 57m 18.93± 0.60s
36.752 N ± 6.1km 26.457 E ± 6.2km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
ML 3.7 (ATH).

APE	0.81	293	ePg	57 35.00	0.4
			eSg	57 48.40	
SMG	1.00	17	ePg	57 36.80	-1.1
			eSg	57 50.40	
KAP	1.33	154	ePg	57 42.80	-0.7
YER	1.51	75	iPn	57 46.30	0.2
NPS	1.64	205	ePb	57 46.90	-1.0
IZM	1.76	21	iPn	57 50.00	0.3
VAM	2.27	234	ePn	57 58.30	1.3
PRK	2.49	357	ePg	58 05.00	4.8X
ATH	2.50	300	ePg	58 08.00	7.7X
VLI	2.83	270	ePb	58 09.40	4.4X
KHL	2.90	56	ePn	58 12.00	6.0X
DST	3.32	30	ePn	58 20.90	8.9X
BCK	3.38	77	ePn	58 14.00	1.2
NEO	3.61	316	ePn	58 15.50	-0.6

S.D. = 1.0 on 9 of 14 obs.

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* OCT 23, 1989 01h 32m 41.84± 1.32s
21.740 S ± 8.7km 69.327 W ±26.5km
DEPTH = 170.9 ± 48.2 km
NORTHERN CHILE (123)

ANT	2.20	207	eP	33 20.90	0.0
			iS	33 46.50	
CNCB	5.07	15	P	33 57.00	-0.8
LPB	5.31	13	P	34 02.00	1.2
ZOBO	5.56	12	P	34 04.00	-0.3
ARE	5.63	338	eP	34 05.00	0.0
			iS	35 09.10	
ITB1	14.04	105	eP	35 55.10	0.6
ITB	14.22	105	eP	35 56.20	-0.6
ITB7	14.31	107	e(P)	35 52.20	-5.7X

S.D. = 1.0 on 7 of 8 obs.

OCT 23, 1989 01h 48m 02.89± 0.69s
36.761 N ± 6.5km 26.553 E ± 7.6km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
ML 3.7 (ATH).

APE	0.88	291	ePb	48 20.50	0.8
			eSg	48 33.00	
SMG	0.97	13	ePg	48 21.40	0.1
			eSg	48 35.00	
KAP	1.31	157	ePg	48 26.50	-0.6
YER	1.43	74	iPn	48 30.50	1.5
NPS	1.68	207	ePb	48 31.60	-0.8
IZM	1.73	19	iPn	48 32.00	-1.2
VAM	2.34	235	ePn	48 43.00	1.0
PRK	2.49	355	ePg	48 50.20	6.1X
ATH	2.56	299	ePg	48 53.00	7.9X
KHL	2.83	56	ePn	48 56.00	7.0X
VLI	2.90	270	ePb	48 54.00	4.0X
DST	3.28	29	ePn	49 04.90	9.6X
BCK	3.30	77	ePn	48 59.00	3.3X
NEO	3.66	315	ePn	49 00.00	-0.7
KCT	3.76	22	ePn	49 15.50	13.3X

S.D. = 1.2 on 8 of 15 obs.

? OCT 23, 1989 02h 28m 38.21± 1.23s
10.223 S ±16.4km 166.127 E ±19.8km
DEPTH = 33.0km (normal)
4.8mb (5 obs.)
SANTA CRUZ ISLANDS (184)

DZM	11.78	179	iPc	31 27.60	0.4
BRS	21.21	215	iPd	33 20.20	-3.3X
	0.7s		10.00nm		4.3mb
CTA	21.52	241	iPd	33 30.30	3.6X
	0.6s		15.33nm		4.6mb
RMQ	23.05	223	iPd	33 41.00	-0.8
	0.5s		23 00nm		4.9mb
WB5	32.08	249	iPd	35 06.00	1.3
ASPA	33.50	242	iPd	35 17.30	0.3
	0.7s		14.00nm		5.0mb
WARB	40.53	242	iPd	36 16.50	0.3
	0.3s		6.00nm		4.8mb
FORR	40.82	234	eP	36 17.00	-1.4
	0.4s		26.00nm		5.3mb X
BCAO	147.36	262	iPKPc	48 18.40	-0.3
	0.5s		14.00nm		
HOR	148.87	23	iPKPc	48 20.50	0.1

S.D. = 1 0 on 8 of 10 obs.

OCT 23, 1989 03h 11m 53.05± 0.29s
2.444 N ± 4.9km 125.990 E ± 9.2km
DEPTH = 33.0km (normal)
5.1mb (10 obs.)
TALAUD ISLANDS (263)

AAI	6.48	160	ePd	13 31.00	2.4
			eS	14 42.30	
TSM	8.10	283	iPd	13 59.30	8.0X
	1.0s		572.10nm		6.6mb X
KKM	10.38	290	ePc	14 30.50	7.6X
	0.8s		270.90nm		6.5mb X
TLE	10.49	140	ePd	14 23.20	-1.1
MTN	16.02	162	eP	15 36.00	-1.7
KNA	18.28	171	eP	16 05.50	-0.5
WB5	23.66	160	eP	17 01.50	-1.1
			eS	21 12.00	
IPM	25.01	276	ePc	17 17.60	1.9
QIS	26.47	150	eP	17 28.70	-0.5
			eS	19 43.00	
NANU	26.87	202	iPd	17 33.70	0.9
	0.3s		6.00nm		4.7mb
ASPA	27.07	164	iPc	17 33.90	-0.8
	0.5s		30.00nm		5.2mb
			iS	22 05.70	
WARB	28.47	179	eP	17 47.50	0.2
CHTO	31.08	303	eP	18 10.00	-0.7
	1.0s		8.75nm		4.5mb
MRWA	32.91	196	eP	18 26.00	-0.5
FORR	33.17	177	iPd	18 27.70	-1.0
	0.3s		26.00nm		5.5mb
BAL	34.04	194	eP	18 36.00	-0.3
KLB	34.74	192	eP	18 42.00	-0.4
XAN	35.24	335	P	18 45.60	-1.1
CD2	35.26	326	P	18 46.50	-0.4
MUN	35.47	194	iPd	18 48.80	0.2
MAT	35.76	17	iPc	18 50.10	-0.9
	0.9s		22.69nm		5.1mb
NWAO	36.14	193	eP	18 54.40	0.2
STK	37.21	158	iPc	19 03.00	-0.2
ADE	39.08	163	eP	19 19.00	0.0
LZH	39.25	331	eP	19 21.00	0.5
	1.5s		0.06nm		2.1mb X
SNY	39.27	357	iPc	19 21.20	0.9
CN2	41.18	359	Pd	19 36.60	0.5
MDJ	42.12	4	eP	19 45.00	1.3
BWA	42.30	152	eP	19 47.10	1.6
LSA	42.75	313	P	19 52.00	2.3
CAN	43.31	152	eP	19 54.50	0.8
GTA	43.83	330	iPc	19 57.80	-0.1
HYB	48.87	291	ePc	20 38.40	0.4
GBA	49.24	286	P	20 40.00	-0.8
NDI	53.22	304	eP	21 09.00	-1.8
MAW	82.30	200	eP	24 13.00	0.6
IMA	83.85	24	ePc	24 22.20	1.6
	0.9s		12.50nm		5.1mb
PMR	85.42	29	eP	24 28.80	0.5
	0.8s		12.00nm		5.2mb
KVT	88.37	311	eP	24 43.00	-0.2
KEV	90.84	340	eP	24 53.00	-1.1
SOD	91.37	338	iP	24 55.70	-0.9
INK	91.62	21	eP	24 57.00	-0.7
SUF	92.36	333	eP	25 00.00	-1.2
	0.4s		6.50nm		5.4mb
NUR	93.46	331	eP	25 05.70	-0.6
HFS	98.80	332	eP	25 29.90	-0.8
	0.5s		3.00nm		5.1mb
NB2	99.60	333	P	25 32.70	-1.7
	0.8s		5.20nm		5.1mb
KIC	130.04	280	PKP	31 02.60	0.3
CNCB	160.19	137	PKP	31 53.50	1.8

LPB 160.30 136 (PKP) 31 55.00 3.4X
ZOBO 160.46 136 PKP 31 53.90 1.9
S.D. = 1.1 on 47 of 50 obs.

OCT 23, 1989 03h 30m 41.93± 0.44s
30.875 S ± 4.6km 65.441 W ± 4.3km
DEPTH = 170.1 ± 4.5 km
5.2mb (31 obs.)
CORDOBA PROVINCE, ARGENTINA (141)

ZON	2.85	256	iPc	31 30.40	1.5
			eS	32 06.00	
RFA	4.65	212	iPc	31 51.80	0.0
JACH	4.74	246	iPc	31 53.90	0.8
			iS	32 37.50	
FCH	4.79	238	iPc	31 54.60	0.6
			iS	32 46.50	
PEL	5.00	242	iPc	31 52.60	-3.8X
			iS	32 54.40	
PCH	5.10	236	iPc	31 57.90	0.1
			iS	32 58.50	
SAN	5.12	238	iP	31 05.50	-52.5X
			iS	32 53.20	
ROCH	5.18	245	iPc	31 58.70	-0.3
CHCH	5.36	234	iPc	32 01.40	0.2
			iS	33 01.50	
TACH	5.42	238	iPc	32 01.00	-0.9
			iS	33 03.50	
LCCH	5.81	242	iPd	32 05.50	-1.6
			iS	33 10.20	
LNV	5.91	237	iPd	32 06.50	-1.9
			iS	33 12.00	
ANT	8.40	327	iPd	32 42.00	0.5
ITB7	11.48	63	e(P)	33 22.40	0.5
ITB1	11.58	60	e(P)	33 24.90	1.7
ITB	11.64	61	e(P)	33 24.50	0.6
CCH	13.45	357	P	33 47.70	0.3
CNCB	14.19	350	P	33 57.90	0.8
			S	36 43.00	
LPB	14.48	350	P	34 00.00	-0.6
ZOBO	14.74	350	P	34 03.00	-1.0
			S	36 37.00	
ARE	15.37	338	eP	34 12.00	0.4
BMA	20.65	72	eP	35 08.80	-0.9
NNA	21.55	328	eP	35 21.30	2.6
BAO	22.02	50	eP	35 23.80	0.5
PDCR	30.39	59	eP	36 37.80	-2.2
			e	36 40.90	
SVB	44.08	6	eP	38 33.76	-0.9
SVV	44.12	6	eP	38 34.19	-0.9
SSV	44.13	6	eP	38 34.74	-0.5
BIM	45.32	6	eP	38 43.18	-1.4
MVM	45.38	6	eP	38 43.60	-1.4
FDF	45.53	6	eP	38 44.94	-1.3
	0.3s	1.40nm		4.0mb X	
CRM	45.57	6	eP	38 43.68	-2.8
SNA	52.25	158	iPd	39 36.30	-0.9
	0.7s	13.01nm		4.7mb	
LIC	68.47	68	Pd	41 26.50	-1.3
TIC	68.72	68	Pd	41 28.00	-1.4
KIC	68.77	68	Pd	41 28.40	-1.3
	0.7s	53.00nm		5.4mb	
RSCP	68.78	342	P	41 27.70	-1.6
LNO	72.29	334	e(P)	41 49.70	-0.6
TUL	72.29	334	eP	41 49.50	-0.9
	1.2s	19.10nm		4.7mb	
SIO	72.34	334	eP	41 50.20	-0.5
MEO	72.39	332	iPc	41 49.60	-1.4
RSNY	75.52	353	P	42 07.70	-1.1
	0.6s	18.12nm		5.0mb	
ALQ	76.01	326	P	42 11.20	-0.8
	0.8s	25.62nm		5.0mb	
GLA	78.88	319	P	42 28.00	0.3
GLA	78.88	319	eP	42 38.00	10.3X
GLD	79.39	330	P	42 30.50	0.1
	1.0s	56.00nm		5.2mb	
BAR	79.65	318	eP	42 33.00	1.2
PLM	80.25	318	eP	42 36.00	0.9
TPC	80.34	319	eP	42 36.00	0.6
RVR	81.01	319	eP	42 40.00	1.2
MWC	81.56	318	eP	42 43.00	1.0
GSC	81.64	320	eP	42 44.00	1.8
SBB	81.77	319	eP	42 43.00	0.1
CLC	82.46	320	eP	42 46.00	-0.4
RSSD	82.54	333	P	42 46.80	-0.1
ISA	82.84	319	eP	42 49.00	0.6
SYP	82.89	317	eP	42 49.00	0.2
BCH	83.42	318	P	42 51.90	0.5
BW06	83.74	329	P	42 52.00	-1.0
TNP	83.90	321	P	42 53.80	-0.1
	0.8s	11.18nm		4.7mb	
KVN	85.08	322	P	43 00.00	0.3
RSON	85.12	342	P	42 58.50	-0.9
	0.7s	48.44nm		5.4mb	
SCH	85.35	359	eP	43 00.50	0.1
CMB	85.60	320	P	43 03.00	0.8
BCAO	87.09	83	iPc	43 10.50	0.6
	0.7s	35.00nm		5.4mb	
			i	43 33.60	
ATEJ	88.61	45	eP	43 18.10	1.3
ALOJ	88.68	45	eP	43 18.10	1.0
AAPN	88.80	44	eP	43 18.20	0.5
APHE	88.83	45	eP	43 18.50	0.6
ACHM	88.85	45	eP	43 18.50	0.7
ASMO	89.07	45	eP	43 19.70	0.8
SES	90.42	333	eP	43 24.00	-0.8
FFC	90.87	340	eP	43 26.50	-0.2
	1.0s	28.00nm		5.3mb	
LON	92.48	325	P	43 34.50	0.2
PNT	93.25	328	eP	43 39.00	1.2
	0.7s	5.00nm		4.8mb	
EDM	93.52	333	ePc	43 37.80	-1.1
	0.6s	17.00nm		5.4mb	
EPF	95.08	42	eP	43 47.00	0.6
	0.6s	2.70nm		4.7mb	
LFF	96.48	41	eP	43 53.10	0.5
	0.5s	8.70nm		5.4mb	
LPO	96.57	41	eP	43 53.80	0.8
	0.7s	5.20nm		5.0mb	
MFF	97.01	39	eP	43 55.30	0.4
	0.7s	13.20nm		5.4mb	
RJF	97.14	41	eP	43 55.70	0.2
CAF	97.22	41	eP	43 56.40	0.4
	0.5s	3.20nm		5.0mb	
LPF	97.42	38	eP	43 56.70	0.0
	0.9s	9.80nm		5.2mb	
LSF	97.71	40	eP	43 58.30	0.2
	0.8s	12.00nm		5.4mb	
GRR	97.74	37	eP	43 58.10	0.0
	0.8s	16.10nm		5.5mb	
TCF	98.12	40	eP	44 00.20	0.3
	0.7s	5.50nm		5.2mb	
DLE	98.14	31	eP	43 59.90	0.1
FLN	98.17	37	eP	44 00.00	0.0
LDF	98.25	38	eP	44 00.50	0.1
	0.7s	16.30nm		5.6mb	
MAF	98.27	41	eP	44 01.10	0.5
	0.8s	4.50nm		5.0mb	
DMU	98.39	31	eP	44 01.70	0.8
BGF	98.63	40	eP	44 02.60	0.4
	0.7s	6.60nm		5.2mb	
AVF	99.05	40	eP	44 04.40	0.3
	0.6s	2.70nm		4.9mb	
SMF	99.24	41	eP	44 05.50	0.5
	0.6s	9.00nm		5.4mb	
SSF	99.29	40	eP	44 05.40	0.1
	0.7s	11.00nm		5.5mb	
LBF	99.51	41	eP	44 06.40	0.1
	0.8s	5.30nm		5.1mb	
LOR	99.61	40	eP	44 06.60	-0.1
	0.8s	8.50nm		5.3mb	
LPG	100.25	43	ePdiff	44 11.10	0.9
	0.5s	1.40nm		4.7mb	
EKA	100.98	31	Pdiff	44 13.00	0.2
	0.9s	4.80nm		5.1mb	
HFS	111.16	32	ePKP	48 54.70	-1.3
	1.6s	58.60nm			
NUR	116.39	34	iPKP	49 04.80	-1.2
	0.5s	11.20nm			
SUF	117.66	31	iPKP	49 07.80	-0.6
	0.6s	7.50nm			
SOD	118.87	26	iPKP	49 10.20	-0.4
WB5	126.07	203	ePKP	49 34.00	8.1X
HYB	144.68	104	iPKPd	50 00.00	-0.4
	1.0s	125.00nm			
KSH	147.52	64	ePKP	50 07.50	3.0X
NDI	147.61	84	iPKPd	50 08.50	3.7X
IPM	150.90	151	ePKPd	50 16.10	5.8X
	0.8s	83.90nm			
GTA	165.25	51	PKP	50 28.00	1.4
TIY	172.96	14	ePKP	50 33.30	2.2
S.D. = 1.0 on 103 of 110 obs.					

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* OCT 23, 1989 04h 42m 55.59± 1.23s
9.372 N ± 9.9km 69.922 W ±16.6km
DEPTH = 10.0km (geophysicist)
VENEZUELA (101)

TOV	0.43	17	iPgc	43 04.10	-0.3
			iSg	43 12.10	
SDV	0.85	236	iPgd	43 06.30	-5.9X
	0.3s	110.00nm			
			iSg	43 15.30	
MORO	2.17	47	eP	43 33.00	0.6
			eS	44 00.90	
GUAC	2.74	72	iP	43 40.60	0.1
			eS	44 22.60	
OLLA	3.14	78	eP	43 45.30	-0.8
			eS	44 34.70	
CAR	3.16	69	eP	43 49.00	2.6X
			eS	44 36.00	
LLAV	3.26	70	eP	43 48.30	0.5
			iS	44 40.40	
BMG	3.87	234	eP	44 09.00	12.5X
BOG	6.26	221	e(P)	44 48.00	17.4X
			e(S)	46 20.00	
ZOBO	25.54	176	P	48 26.00	-0.9
LPB	25.80	176	P	48 28.00	-1.2
CNCB	26.08	176	P	48 34.00	2.0
S.D. = 1.2 on 8 of 12 obs.					

OCT 23, 1989 05h 09m 30.30± 0.57s
47.221 N ± 6.3km 10.792 E ± 5.2km
DEPTH = 10.0km (geophysicist)
AUSTRIA (546)
ML 3.2 (FUR), 3.0 (KBA), 2.8 (LDG). Felt (IV) ot Imst.

OGA	0.39	156	iPgd	09 36.40	-1.9
FUR	1.00	19	iPgd	09 50.10	0.8
LLS	1.28	255	ePd	09 53.00	-1.1
CTI	1.31	153	P	09 53.00	-1 7
			eSn	10 11.40	
FVI	1.50	114	P	09 57.00	-0.2
			eSn	10 14.70	
BHG	1.50	70	eP	09 58.70	1.4
SAL	1.62	187	P	10 01.50	2.5
			eSn	10 21.50	
MDI	1.63	208	P	10 00.00	1.0
			eSn	10 20.70	
ZLA	1.65	280	ePc	10 00.80	1.3
KBA	1.75	94	iPnc	10 01.90	0.9
			iPgc	10 03.20	
			iSg	10 27.10	
VAI	1.94	227	P	10 04.10	0.5
MMK	2.27	240	ePd	10 09.30	0.6
WET	2.38	35	eP	10 08.30	-1.7
CDF	2.65	298	Pg	10 19.40	5.5X
			Sg	10 52.00	
KHC	2.67	43	Pg	10 20.00	5.8X
			Sg	10 54.00	
BSF	2.78	284	Pn	10 14.40	-1.4
			Pg	10 22.60	
			Sn	10 46.80	
HAU	3.11	286	Pn	10 19.00	-1.3
			Sn	10 54.60	
LPG	3.29	240	Pn	10 23.40	0.3
LPL	3.29	240	Pn	10 23.20	0.1
S.D. = 1.4 on 17 of 19 obs.					

? OCT 23, 1989 05h 44m 58.92± 2.61s
32.379 N ±21.8km 140.676 E ±19.6km
DEPTH = 33.0km (normol)
4.1mb (1 obs.)
SOUTH OF HONSHU, JAPAN (211)

KAKJ	3.84	354	iP+	45 57.80	0.7
			S	46 31.60	
IIDJ	3.85	324	iP+	45 57.80	0.4
CHJJ	3.92	340	iP+	45 58.60	0.4
			eS	46 28.20	
MAT	4.63	335	iPc	46 07.70	-0.6
			eS	46 46.00	
MTMJ	4.82	331	P	46 10.90	-0.2
NIIJ	5.04	345	P	46 13.10	-1.1
			S	46 58.10	
YAMJ	5.80	355	eP	46 25.60	0.6
			eS	47 17.80	
OFUJ	6.73	7	P	46 37.50	-0.5
			S	47 38.50	
NB2	78.24	337	P	56 56.60	0.0

23d 05h

0.8s 1.80nm 4.1mb
ZOBO 149.38 65 PKP 04 57.00 14.3X
S.D. = 0.7 on 9 of 10 obs.

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* OCT 23, 1989 06h 33m 00.09± 0.92s
41.796 N ± 9.1km 20.130 E ± 8.0km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)

PHP	0.26	115	iPgc	33 06.60	1.1
PUK	0.30	324	iPg	33 06.10	-0.3
KKS	0.35	37	ePg	33 07.00	-0.3
SDA	0.52	295	ePg	33 11.10	0.5
OHR	0.85	143	ePg	33 15.50	-1.0
			Sg	33 28.00	

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

% OCT 23, 1989 07h 34m 54.73± 0.75s
43.424 N ± 5.6km 5.461 E ± 6.6km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 2.5 (STR).

GELF	0.05	211	Pg	34 56.66	-0.2
BERF	0.20	123	Pg	34 59.55	0.4
TREF	0.21	344	Pg	34 59.22	-0.1
PRAF	0.44	331	Pg	35 03.72	0.1
VILF	0.47	23	Pg	35 04.46	0.2
TAVF	0.48	66	Pg	35 03.97	-0.4

S.D. = 0.4 on 6 of 6 obs.

OCT 23, 1989 07h 54m 00.93± 0.97s
12.419 N ± 4.7km 141.850 E ± 5.3km
DEPTH = 52.2 ± 9.6 km
4.8mb (12 obs.) 4.3Msz (3 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.16	68	eP	54 49.70	0.3
PJG	3.16	68	eP	54 49.70	0.3
			TT	57 29.50	
GUA	3.19	69	eP	54 48.80	-1.0
			eS	55 28.50	
DAV	16.89	253	eP	57 58.00	2.7
OCP	20.32	279	eP	58 39.00	3.6X
BAG	20.98	283	eP	58 42.00	-0 3
			eS	02 38.00	
AAI	20.98	221	eP	58 42.70	0.5
PMG	22.32	166	eP	58 55.00	-0.5
MAT	24.24	353	eP	59 13.00	-1.1
Z	20s		1.06um		4.3Msz
			eS	03 34.00	
QZH	25.26	303	eP	59 22.00	-1.9
SSE	26.63	318	eP	59 36.50	0.0
	5.0s		0.50nm		2.4mb X
Z	20s		0.90um		4.3Msz
N	10s		0.30um		
			eS	04 08.00	
			sS	04 16.00	
			eSS	05 32.00	
MTN	27.26	203	eP	59 41.00	-1.4
TIA	32.51	321	eP	00 27.40	-1.5
CTA	32.59	172	iPc	00 30.30	0.6
	0.8s		13.43nm		4.8mb
			iS	05 52.00	
QIS	32.84	184	iPd	00 31.60	-0.3
	0.8s		21.00nm		5.0mb
WB5	32.93	193	eP	00 31.90	-0.8
BJI	35.62	325	eP	00 55.00	-0.6
Z	24s		1.27um		4.6MszX
			eS	06 32.00	
GYA	35.86	298	P	00 59.00	1.0
TIY	36.39	319	eP	01 02.40	0.2
N	11s		0.30um		
ASPA	36.70	192	iPd	01 04.80	-0.1
	0.8s		16.00nm		5.0mb
Z	22s		1.30um		4.7MszX
			LR	15 07.00	
KMI	38.98	295	Pd	01 25.70	1.3
LOE	39.03	282	eP	01 25.00	0.4
BTO	39.60	321	eP	01 30.00	0.8
N	12s		0.40um		
E	12s		0.40um		
			eS	07 28.50	
CD2	39.64	304	P	01 28.60	-1 0
BRS	40.97	165	iPd	01 40.80	0.4
			i	01 48.50	
NNT	41.08	275	eP	01 43.00	1.5
WARB	41.12	201	eP	01 42.00	0.3
LZH	41.51	311	eP	01 45.00	0.0
	2.5s		0.08nm		2.0mb X
Z	26s		1.10um		4.6MszX
N	15s		0.90um		
E	17s		1.40um		
CHG	41.73	284	iPd	01 47.50	0.7
	0.9s		13.66nm		4.7mb
DZM	41.92	145	iPc	01 52.40	4.1X
NANU	43.29	217	eP	01 58.50	-0.9
COOL	47.43	204	eP	02 31.40	-1.0
BAL	49.14	209	eP	02 45.00	-0.5
TOO	49.84	176	eP	02 52 00	1.2
NWAO	50.85	207	eP	02 58.00	-0.6
Z	20s		0.30um		4.3Msz
WMO	55.84	315	iPd	03 36.00	0.5
Z	24s		0.80um		4.7MszX
			eS	11 20.00	
NDI	61.98	296	eP	04 17.00	-1.3
POO	65.50	285	eP	04 40.60	-0.8
SVW	66.07	28	ePd	04 44.90	0.5
IMA	68.48	23	ePd	05 00.10	0.4
	0.9s		11.50nm		4.9mb
PMR	69.21	29	ePd	05 03.00	-1.0
	0.8s		18.00nm		5.1mb
FBA	70.53	25	iP	05 11.50	-0.5
	1.0s		12.50nm		4.8mb
TOA	70.69	28	ePd	05 13.20	0.1
INK	76.56	22	eP	05 47.00	-0.1
MAIO	76.65	305	iPd	05 49.00	0.7
			eS	15 44.00	
MBC	80.11	14	eP	06 07.00	0.6
	1 0s		13.00nm		4.8mb
PNT	86.18	40	eP	06 40.00	2.1
	0.5s		2.00nm		4.6mb
EDM	88.82	36	eP	06 51.50	0.9
KVN	89.92	50	eP	06 57.50	1.2
TNP	90.86	51	eP	07 02.00	1.3
	1.0s		2.75nm		4.6mb
HFS	96.72	337	eP	07 25.80	-1.1
	0 5s		1.00nm		4.6mb
NB2	97.06	338	P	07 27.10	-1.4
	1.0s		2.50nm		4.7mb
PCH	143.74	131	ePKP	13 31.00	-1.5
PEL	143.83	130	iPKPd	13 31.50	-1 1
ARE	147.49	101	ePKP	13 46.00	6.6X
ZOBO	150.72	101	PKP	13 46.70	2.0
			i	14 12.00	

S.D. = 1.1 on 53 of 56 obs.

OCT 23, 1989 08h 10m 53.15± 1.29s
12.449 N ± 6.3km 141.824 E ± 8.0km
DEPTH = 43.8 ± 12.4 km
5.0mb (7 obs.)
SOUTH OF MARIANA ISLANDS (210)

GUMO	3.17	69	eP	11 42.50	0.6
PJG	3.17	69	eP	11 42.30	0.4
			TT	14 21.80	
GUA	3.20	70	eP	11 41.50	-0.7
			eS	12 23.20	
TLE	20.11	207	ePd	15 24.60	-1.5
BAG	20.94	283	eP	15 35.00	0.0
PMG	22.35	166	eP	15 50.00	1.1
MAT	24.21	353	(P)	16 05.00	-1.8
SSE	26.59	318	e(P)	16 29.00	-0.2
E	10s		0.40um		
MTN	27.28	203	eP	16 33.00	-2.6
CTA	32.62	172	iPd	17 25.60	2.5
	0.9s		15.13nm		4.9mb
QIS	32.87	184	iPd	17 24.70	-0.5
			i	17 32.10	
WB5	32.95	193	iPd	17 25.00	-1.0
BJI	35.58	325	eP	17 48.00	-0.4
Z	28s		0.41um		4.0MszX
			eS	23 36.00	
GYA	35.83	298	P	17 52.20	1.4
ASPA	36.72	192	iPd	17 57.90	-0.3
	1.7s		24.00nm		4.8mb
Z	22s		0.47um		4.2MszX
			LR	31 49.50	
KMI	38.95	295	Pc	18 19.00	1.8
BTO	39.56	321	P	18 23.40	1.5
CD2	39.61	304	P	18 22.80	0.4
BRS	41.00	165	iPd	18 34.30	0 5
			e	18 41.00	
WARB	41.14	201	eP	18 35.70	0.8
LZH	41.47	311	P	18 37.50	-0.3
	1.5s		0.04nm		1.9mb X
CHG	41.70	284	iPd	18 40.90	1.3
	0.9s		10.29nm		4.6mb
BWA	47.03	173	eP	19 22.90	0.6
TOO	49.87	176	eP	19 45.00	0.8
WMO	55.80	315	iPd	20 29.00	0.6
NDI	61.95	296	eP	21 10.00	-1.2
POO	65.47	285	eP	21 33.50	-0.9
SVW	66.05	28	eP	21 38.10	0.6
IMA	68.46	23	ePd	21 52.90	0.2
	1.2s		23.40nm		5.1mb
PMR	69.20	29	eP	21 56.10	-1.0
	0.9s		20.80nm		5.1mb
TOA	70.67	28	eP	22 06.90	0.7
INK	76.55	22	eP	22 40.00	-0.2
MAIO	76.61	305	eP	22 42.00	0.7
MBC	80.09	14	eP	23 00.00	0.5
	1.2s		19.00nm		4.9mb
PNT	86.17	40	eP	23 33.00	1.9
KEV	86.67	342	eP	23 31.00	-2.2
SUF	90.28	335	iP	23 49.50	-1.0
	0.9s		25.60nm		5.6mb
SBB	91.33	54	eP	24 12.00	16.0X
RVR	91.88	55	eP	24 08.00	9.6X
GSC	91.97	53	eP	24 12.00	13.1X
NUR	91.98	334	eP	23 55.00	-3.3X
PLM	92.48	55	eP	23 57.00	-4.4X
BAR	92.82	56	eP	24 01.00	-1.8
TPC	92.91	54	eP	24 04.00	0.8
SAN	143.74	131	ePKP	30 24.00	-1.7
PCH	143.77	131	ePKP	30 24.00	-1.8
PEL	143.87	130	iPKPd	30 24.00	-1.9
ARE	147.52	101	ePKP	30 40.00	7.3X
ZOBO	150.75	101	PKP	30 40.00	1.9
			LR	01 16.00	
LPB	150.76	102	ePKP	30 40.00	2.1
CNCB	150.85	102	PKP	30 46.00	7.8X
CCH	152.55	104	PKP	30 47.70	7.3X

S.D. = 1.3 on 44 of 52 obs.

OCT 23, 1989 08h 13m 13.78± 0.39s
19.101 S ± 3.4km 66.613 W ± 4.0km
DEPTH = 267.8 ± 4.4 km
4.8mb (22 obs.)
SOUTHERN BOLIVIA (125)

CCH	1.77	15	P	13 57.00	0.5
			i	14 00.00	
			S	14 33.00	
CNCB	2.62	330	P	13 47.50	-17.1X
			i	14 07.00	
LPB	2.92	331	eP	13 46.00	-21.4X
			i	14 09.80	
			S	14 51.00	
ARE	5.34	299	iPc	14 35.00	-0.1
			iS	15 36.00	
PT03	10.16	299	eP	15 34.90	-0.3
			eS	17 22.30	
PT08	11.92	305	iPd	15 57.30	-0.1
			eS	18 04.40	
NNA	12.13	304	iPd	15 59.50	-0.2
ITB1	12.62	118	Pd	16 06.60	0.9
ITB	12.82	118	eP	16 07.90	-0.4
ITB7	12.99	120	e(P)	16 09.30	-1.0
JACH	13.99	194	iPc	16 23.00	0.5
PEL	14.45	194	iPd	16 28.00	-0.1
FCH	14.55	192	iPc	16 31.00	1.5
SAN	14.74	193	ePc	16 31.50	-0.1
PCH	14.88	193	iPd	16 33.40	0.2
LCCH	14.99	196	ePd	16 34.00	-0.5
TACH	15.00	194	iP	16 34.00	-0.7
CHCH	15.21	193	ePc	16 37.00	-0.2
LNV	15.40	195	ePd	16 38.20	-1.3
RFA	15.69	186	ePd	16 42.80	-0.2
BAO	18.10	82	eP	17 10.80	2.1
BMA	21.28	104	eP	17 40.60	0.4
			e	17 47.30	
			e	17 51.10	
			e	18 30.70	
PDCR	27.22	80	eP	18 34.40	-1.0
			e	18 35.50	
LIC	65.65	74	P	23 30.00	-1.9
ALQ	65.73	325	P	23 31.90	-0.4
KIC	65.96	74	P	23 32.00	-1.9
GLD	68.74	329	P	23 51.20	0.3
	0.8s		28.24nm		5.0mb

GLA	69.35	318	P	23 55.00	0.4
SPA	71.02	180	ePd	24 04.90	0.6
	1.0s	15.50nm		4.7mb	
RSSD	71.63	333	P	24 08.00	-0.2
CLC	72.88	319	eP	24 16.00	0.5
BW06	73.17	328	P	24 17.00	-0.2
ISA	73.34	318	eP	24 19.00	0.8
TNP	74.11	321	P	24 23.20	0.4
	0.6s	6.67nm		4.5mb	
KVN	75.26	321	P	24 29.80	0.5
CER	76.44	121	iPd	24 36.00	0.2
	0.6s	35.71nm		5.3mb	
SES	79.50	333	eP	24 52.00	0.0
EDM	82.54	334	ePd	25 07.50	-0.3
TOL	82.67	44	eP	25 10.00	1.3
PNT	82.74	328	eP	25 10.00	1.2
BLF	83.28	118	eP	25 13.70	1.4
BFS	84.47	116	iPd	25 19.00	0.7
	1.0s	140.00nm		5.7mb	
SEK	84.73	118	iPd	25 20.50	1.0
	0.6s	13.33nm		4.9mb	
BCAO	86.86	84	ePd	25 30.10	0.2
	0.5s	5.00nm		4.6mb	
LFF	88.30	41	eP	25 36.30	0.2
	0.7s	13.20nm		4.9mb	
MFF	88.58	39	eP	25 37.30	-0.1
	0.8s	24.10nm		5.2mb	
LPF	88.77	38	eP	25 37.90	-0.4
GRR	89.06	37	eP	25 39.10	-0.5
CAF	89.12	41	eP	25 39.90	-0.1
	0.6s	3.00nm		4.4mb	
LSF	89.42	40	eP	25 41.00	-0.3
	0.8s	11.20nm		4.8mb	
FLN	89.47	37	eP	25 41.10	-0.4
LDF	89.59	38	eP	25 41.70	-0.3
	0.7s	9.70nm		4.8mb	
TCF	89.85	40	eP	25 43.00	-0.4
	0.6s	6.30nm		4.7mb	
MAF	90.04	40	eP	25 44.00	-0.2
	0.7s	7.70nm		4.7mb	
BGF	90.37	40	eP	25 45.40	-0.3
	0.8s	17.40nm		5.0mb	
AVF	90.79	40	eP	25 47.20	-0.4
	0.7s	5.50nm		4.6mb	
SSF	91.00	40	eP	25 48.20	-0.4
	0.7s	7.70nm		4.7mb	
SMF	91.02	40	eP	25 48.60	-0.1
	0.8s	13.90nm		4.9mb	
LBF	91.26	40	eP	25 49.30	-0.5
LOR	91.31	40	eP	25 49.30	-0.7
	0.7s	9.90nm		4.9mb	
EKA	91.46	31	P	25 51.00	0.6
	1.0s	5.90nm		4.5mb	
SBF	92.10	44	eP	25 53.20	-0.6
	0.7s	8.80nm		4.9mb	
LPG	92.34	42	eP	25 55.90	0.7
	0.8s	5.30nm		4.6mb	
ASPA	133.02	206	ePKP	31 59.70	0.1
WB5	136.14	209	ePKP	32 05.50	0.0
MTN	143.76	210	iPKPd	32 17.50	-1.8
NDI	145.69	67	ePKP	32 23.50	1.3
MAT	152.13	314	ePKP	32 50.00	18.0X
	1.1s	24.05nm			
	S.D. = 0.8	on	65 of	68 obs.	

? OCT 23, 1989 08h 14m 58.80± 2.28s
43.530 N ±18.8km 147.277 E ±21.9km
DEPTH = 33.0km (normal)
4.2mb (1 obs.)
KURIL ISLANDS (221)
Felt (I JMA) at Nemuro, Hokkaido.

NEM	1.25	261	iPd	15 20.30	0.3
			iS	15 30.60	
KUSJ	1.92	258	iPd	15 28.50	-1.3
			S	15 45.10	
HOOJ	3.15	250	P	15 48.00	0.9
			S	16 19.80	
ASAJ	3.41	282	P	15 52.00	1.1
MRRJ	4.69	258	eP	16 07.70	-1.3
			eS	16 55.10	
OFUJ	6.13	225	P	16 29.90	0.5
			S	17 30.80	
HFS	69.93	337	eP	26 08.00	-0.2
	0.4s	0.90nm		4.2mb	
	S.D. = 1.2	on	7 of	7 obs.	

? OCT 23, 1989 08h 22m 45.33± 1.00s
39.827 N ±12.2km 113.979 E ± 9.5km
DEPTH = 33.0km (normal)
NORTHEASTERN CHINA (658)
ML 3.6 (BJI).

BJI	1.70	82	Pnd	23 13.50	0.4
			Pg	23 14.50	
			Sn	23 36.50	
			Sg	23 38.50	
HHC	2.11	300	Pgc	23 18.80	-0.3
			Sg	23 46.60	
TIY	2.43	210	Pnc	23 24.20	0.5
			Pg	23 27.50	
			Sg	23 59.40	
BTO	3.13	286	Pg	23 37.20	3.6X
			Sg	24 14.70	
TIA	4.38	144	ePn	23 50.60	-0.7
			Pg	24 02.40	
			Sn	24 41.90	
			Sg	25 00.50	
LZH	8.83	248	ePg	25 22.70	28.9X
			eSg	27 10.70	
	S.D. = 1.0	on	4 of	6 obs.	

% OCT 23, 1989 08h 40m 14.82± 0.67s
11.733 N ± 5.5km 61.208 W ±14.2km
DEPTH = 33.0km (normal)
WINDWARD ISLANDS (95)
MD 3.4 (TRN).

GRW	0.61	314	eP	40 27.96	0.8
			eS	40 38.50	
BOT	0.74	139	eP	40 28.53	-0.2
			eS	40 39.17	
TRN	1.09	190	eP	40 32.54	-1.3
			eS	40 48.53	
TCE	1.16	208	eP	40 34.09	-0.7
			eS	40 51.19	
TBH	1.25	174	eP	40 38.14	2.1
TPP	1.43	190	eP	40 40.12	1.5
			eS	40 59.47	
SVB	1.53	358	eP	40 40.47	0.3
			eS	41 00.83	
SVV	1.58	360	eP	40 40.92	0.1
			eS	41 02.33	
SSV	1.58	1	eP	40 41.21	0.2
			eS	41 02.38	
	S.D. = 1.2	on	9 of	9 obs.	

? OCT 23, 1989 09h 00m 12.95± 1.31s
41.754 N ± 9.2km 20.122 E ±11.7km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)

PHP	0.25	105	iPgc	00 18.00	-0.2
PUK	0.34	329	iPg	00 19.80	-0.1
KKS	0.39	34	ePg	00 21.00	0.1
SDA	0.53	300	ePg	00 28.70	5.0X
OHR	0.82	141	ePg	00 29.00	0.1
			eSg	00 48.10	
	S.D. = 0.3	on	4 of	5 obs.	

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* OCT 23, 1989 09h 36m 49.31± 0.93s
36.507 N ±17.0km 32.019 E ±16.1km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
ML 3.6 (CSS).

BCK	1.49	310	iPn	37 16.00	-0.2
PPCY	1.64	171	eP	37 18.00	-0.3
LFK	1.74	134	iPn	37 20.40	0.7
CSS	1.87	145	eP	37 20.50	-1.2
			eS	37 41.00	
KHL	2.69	313	iPn	37 32.60	-0.9
YER	3.06	283	iPn	37 38.30	-0.4
CIN	3.33	290	eP	37 44.00	1.5
BBTK	3.38	10	eP	37 54.00	10.7X
SHMJ	4.87	140	Pd	38 05.60	1.2
DSI	5.66	150	eP	38 15.00	-0.5
PRNI	6.63	157	eP	38 26.00	-3.2X
	S.D. = 1.1	on	9 of	11 obs.	

OCT 23, 1989 09h 38m 19.45± 0.73s
19.851 S ± 8.9km 133.750 E ± 6.8km
DEPTH = 5.0km (geophysicist)
NORTHERN TERRITORY, AUSTRALIA (591)

WB5	0.58	93	iP	38 31.20	0.1
ASPA	3.80	178	iPd	39 24.20	4.2X
	0.4s	146.00nm			
			eS	40 07.40	
QIS	5.54	98	eP	39 45.00	0.3
			eS	40 46.80	
			e	41 05.00	
KNA	6.26	310	eP	39 55.50	0.7
	0.3s	5.00nm		4.9mb X	
			eS	41 09.00	
MTN	7.40	340	eP	40 10.00	-0.9
			eS	41 31.00	
			e	42 15.00	
WARB	9.08	225	eP	40 35.00	0.7
	0.2s	5.00nm		5.6mb X	
			eS	42 16.00	
FORR	12.08	204	eP	41 14.20	-1.0
	S.D. = 1.0	on	6 of	7 obs.	

% OCT 23, 1989 09h 38m 53.27± 0.85s
26.869 S ± 7.8km 26.704 E ± 9.4km
DEPTH = 5.0km (geophysicist)
REPUBLIC OF SOUTH AFRICA (584)

BFS	0.08	112	iPd	39 56.60	61.4X
PRY	0.69	95	iPd	39 05.80	-1.3
			S	39 12.20	
KSR	1.01	10	iPd	39 12.50	-0.6
			S	39 25.50	
SEK	1.66	151	iPd	39 24.00	0.7
SLR	1.81	52	iPd	39 27.00	1.5
			S	39 50.00	
BLF	2.28	191	iPd	39 32.30	0.0
			S	40 00.50	
KIM	2.53	222	iPc	39 35.00	-0.9
			S	40 06.00	
FRS	3.12	203	iPd	39 44.50	0.5
			S	40 21.00	
HVD	3.87	196	eP	39 59.00	4.1X
			S	40 43.00	
	S.D. = 1.2	on	7 of	9 obs.	

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* OCT 23, 1989 10h 16m 53.12± 1.80s
24.102 N ± 9.2km 122.346 E ±18.7km
DEPTH = 50.0 ± 18.4 km
2.0mb (1 obs.)
TAIWAN REGION (243)

TWC	0.68	318	iPc	17 07.20	0.5
			eS	17 17.30	
TWD	0.69	268	iPd	17 05.70	-1.1
			eS	17 13.90	
TWZ	1.21	325	iPd	17 15.50	1.5
TWF1	1.22	232	iPd	17 13.10	-1.0
ANP	1.31	325	iPd	17 16.90	1.4
	0.8s	1373.13nm			
			eS	17 33.80	
TWQ	1.39	277	ePd	17 17.60	1.1
			eS	17 35.70	
TWK	1.90	244	ePc	17 24.30	0.6
QZH	3.52	285	iPnd	17 45.50	-1.2
			Sn	18 22.50	
SSE	7.04	352	Pc	18 35.00	-1.1
	0.6s	0.02nm		2.0mb	
			pP	18 39.50	
			Lg	20 38.50	
NJ2	8.50	340	Pd	18 54.00	-2.3
			S	20 25.80	
GYA	14.38	283	eP	20 16.00	0.4
CN2	19.81	7	eP	21 22.50	0.2
WB5	45.26	164	eP	25 07.90	0.3
INK	72.90	22	eP	28 19.00	0.5
	S.D. = 1.3	on	14 of	14 obs.	

OCT 23, 1989 10h 32m 50.45± 0.64s
42.551 N ± 6.9km 19.826 E ± 4.9km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.2 (TTG).

PVY	0.12	68	iPgc	32 52.00	-1.5
			iSg	32 55.00	
IVA	0.32	9	ePg	32 57.60	0.4
			eSg	33 04.00	
TTG	0.44	254	iPgc	32 58.70	-0.6

23d 10h

			eSg	33 06.00		
NKY	0.66	293	ePg	33 04.00	0.3	
			eSg	33 16.00		
ULC	0.73	216	ePg	33 04.50	-0.2	
			eSg	33 16.50		
BDV	0.79	250	ePg	33 05.50	-0.3	
			eSg	33 19.00		
HCY	0.99	264	ePg	33 09.60	0.4	
			eSg	33 27.00		
BRY	1.01	291	ePg	33 10.00	0.4	
			eSg	33 25.00		
SKO	1.33	115	iPg	33 16.20	1.2	
			iSg	33 33.50		

S.D. = 0.9 on 9 of 9 obs.

% OCT 23, 1989 10h 55m 30.31± 0.90s
39.137 N ± 7.8km 27.610 E ± 9.2km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.79	200	iPg	55 45.60	-0.1	
			iSg	55 57.10		
DST	0.92	59	iPn	55 47.80	-0.1	
EZN	1.21	305	ePn	55 53.00	0.2	
EDC	1.22	9	ePn	55 52.30	-0.8	
KCT	1.25	27	iPn	55 54.30	0.7	

S.D. = 0.8 on 5 of 5 obs.

? OCT 23, 1989 11h 28m 51.57± 2.61s
17.838 S ±26.0km 178.878 W ±21.7km
DEPTH = 618.5 ± 32.6 km
4.9mb (8 obs.)
FIJI ISLANDS REGION (181)

VUN	2.54	266	eP	30 40.10	29.9X	
DZM	14.43	251	iPc	31 54.10	0.2	
BRS	27.79	245	iPc	33 55.00	-0.2	
	0.9s		5.00nm		4.1mb	
RMQ	31.12	248	iPd	34 23.90	0.4	
	0.7s		40.00nm		5.2mb	
			i	34 38.00		
CTA	33.02	260	iPd	34 39.30	-0.2	
	0.9s		19.33nm		4.7mb	
CAN	33.39	232	eP	34 42.50	0.0	
BWA	33.50	234	eP	34 41.50	-1.9	
CMS	34.67	240	iPd	34 53.30	0.2	
TOO	36.87	230	ePd	35 11.70	0.6	
STK	38.28	241	iPd	35 23.60	1.1	
	0.3s		16.00nm		5.0mb	
WB5	44.18	260	iPd	36 08.90	-0.5	
ASPA	44.38	254	iPd	36 11.20	0.3	
	0.7s		170.00nm		5.6mb	
			eS	42 04.60		
FORR	49.60	244	iPd	36 49.70	-0.3	
	0.4s		35.00nm		5.2mb	
KNA	50.03	264	eP	36 53.00	-0.4	
WARB	50.88	250	iPd	36 59.50	-0.1	
	0.5s		15.00nm		4.6mb	
MBL	57.56	256	iPd	37 46.10	-0.2	
	0.2s		2.00nm		4.0mb	
NANU	61.32	254	iPd	38 11.80	0.8	
PNT	84.93	34	eP	40 24.00	0.4	
SES	90.23	36	eP	40 48.00	-0.4	

S.D. = 0.7 on 18 of 19 obs.

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* OCT 23, 1989 11h 58m 00.71± 1.25s
36.371 S ±10.0km 176.864 E ±11.5km
DEPTH = 33.0km (normal)
OFF E. COAST OF N. ISLAND, N.Z. (160)

HBZ	1.68	137	Pc	58 28.30	0.1	
PGZ	4.27	186	eP	59 05.20	0.3	
KIW	4.74	198	eP	59 13.00	1.3	
MTW	4.90	192	eP	59 13.60	-0.3	
CAW	4.93	196	eP	59 14.60	0.1	
WDW	5.10	196	eP	59 16.40	-0.5	
BLW	5.11	192	eP	59 16.30	-0.6	
MRW	5.14	198	eP	59 17.40	0.1	
			eS	00 32.40		
WEL	5.17	198	P	59 18.30	0.5	
MOW	5.20	194	P	59 17.30	-0.9	
TCW	5.24	202	eP	59 18.80	0.0	
CTA	31.30	293	eP	04 20.00	0.0	

S.D. = 0.6 on 12 of 12 obs.

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* OCT 23, 1989 11h 59m 03.96± 0.91s
19.756 S ±12.4km 133.839 E ± 8.4km
DEPTH = 5.0km (geophysicist)
NORTHERN TERRITORY, AUSTRALIA (591)

WB5	0.51	104	iPd	59 15.40	1.2	
ASPA	3.89	179	iPc	00 08.60	2.8X	
	0.4s		214.00nm			
			eS	00 47.90		
QIS	5.48	99	eP	00 27.00	-1.3	
			eS	01 26.00		
			e	01 43.00		
KNA	6.26	309	eP	00 40.20	0.9	
	0.3s		3.00nm		4.7mb X	
			eS	01 51.00		
MTN	7.35	339	eP	00 54.00	-0.5	
			eS	02 14.00		
			e	03 02.00		
WARB	9.21	225	eP	01 20.30	-0.2	
	0.2s		3.00nm		5.4mb X	
			eS	03 01.00		

S.D. = 1.4 on 5 of 6 obs.

OCT 23, 1989 12h 08m 35.15± 0.50s
41.770 N ± 5.0km 20.166 E ± 4.1km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
ML 2.2 (TTG), 2.7 (SKO).

PHP	0.22	112	iPgc	08 39.60	-0.3	
PUK	0.34	323	iPgc	08 41.70	-0.5	
KKS	0.36	31	iPg	08 42.50	0.0	
LACI	0.37	249	iPgd	08 43.40	0.7	
TIR	0.48	208	iPgc	08 45.20	0.3	
SDA	0.56	296	iPgd	08 48.00	1.6	
ULC	0.71	286	iPgc	08 48.20	-1.0	
			iSg	08 59.50		
OHR	0.81	144	iPg	08 50.00	-0.9	
			iSg	09 03.30		
TTG	0.94	315	ePg	08 52.30	-0.8	
			eSg	09 07.00		
SKO	0.97	78	iPg	08 54.70	1.1	
			iSg	09 07.70		
BDV	1.12	298	ePg	08 55.80	-0.4	
			eSg	09 13.50		
HCY	1.41	299	ePg	09 00.20	-0.7	
			eSg	09 22.00		
BRY	1.65	314	ePn	09 05.20	0.8	
			eSn	09 31.50		

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

OCT 23, 1989 12h 48m 35.04± 0.42s
38.949 N ± 4.1km 27.259 E ± 5.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
MD 3.5 (ATH).

IZM	0.55	180	iPg	48 45.10	-1.1	
PRK	0.82	291	ePn	48 52.50	1.5	
EZN	1.14	321	iPg	48 56.00	-0.3	
			iSg	49 07.00		
DST	1.25	58	iPn	48 57.80	-0.5	
SMG	1.28	195	ePn	48 58.50	-0.3	
EDC	1.47	18	iPn	49 01.30	-0.3	
CIN	1.50	154	ePn	49 01.00	-0.9	
			iSg	49 21.00		
KHL	1.88	109	iPn	49 07.40	-0.2	
YER	1.98	156	iPn	49 08.40	-0.7	
APE	2.32	217	ePn	49 14.50	0.6	
GBZT	2.49	42	ePn	49 22.00	5.7X	
ISK	2.53	33	ePn	49 18.00	1.3	
ITU	2.54	31	ePn	49 23.00	6.0X	
			iSg	49 56.00		
RDO	2.56	329	ePn	49 17.20	0.0	
GPA	2.71	59	ePn	49 20.00	0.5	
DMK	2.89	7	iPn	49 21.00	-1.0	
BCK	3.01	118	iPn	49 23.50	-0.3	
KDZ	3.04	333	eP	49 24.00	-0.1	
			iS	49 58.00		
			iSg	50 11.00		
PLG	3.27	297	ePn	49 26.70	-0.7	
RZN	3.36	325	eP	49 28.00	-0.7	
DIM	3.37	338	eP	49 28.00	-0.7	
			Sg	50 23.00		
KSL	3.38	146	ePn	49 32.00	3.2	
VLI	4 08	238	ePn	49 37.80	-1.0	
PGB	4.30	328	eP	49 40.00	-2.0	
			eS	50 50.00		
VAY	4.30	305	e(Pn)	49 44.30	2.3	
BBTK	4.35	76	eP	49 58.00	15.1X	
			eS	50 57.00		
VTS	4.76	321	iP	49 50.00	1.3	

S.D. = 1.2 on 24 of 27 obs.

OCT 23, 1989 13h 08m 25.61± 0.12s
25.645 S ± 3.6km 179.809 E ± 3.1km
DEPTH = 441.4km (16 depth phases)
5.7mb (40 obs.)
SOUTH OF FIJI ISLANDS (171)
FAULT PLANE SOLUTION: P-Woves
NP1:Strike= 8 Dip=80 Slip= -90
NP2: 188 10 -90
Principol Axes:
T Plg=35 Azm= 98
P 55 278
Comment: The focol mechanism is poorly controlled and corresponds to normal foulting. The preferred foult plane is NP1.
MOMENT TENSOR SOLUTION
Dep 467 No. of sto: 13
Moment Tensar; Scale 10**18 Nm
Mrr=-0.50 Mtt=-0.18
Mff= 0.68 Mrt=-0.41
Mrf=-0.83 Mtf=-0.11
Principol oxes:
T Vol= 1.11 Plg=28 Azm= 95
N -0.01 19 195
P -1.11 55 315
Best Double Couple:Mo=1.1*10**18
NP1:Strike=145 Dip=24 Slip=-143
NP2: 21 76 -70
CENTROID, MOMENT TENSOR (HRV)
Dota Used: GDSN
L.P.B.: 17S, 45C
Centroid Location:
Origin Time 13:08:39.4 0.2
Lot 25.51S 0.03 Lon 179.15E 0.02
Dep 480.3 1.0 Half-duration 4.0
Moment Tensor; Scale 10**18 Nm
Mrr= 0.16 0.02 Mtt=-0.02 0.03
Mff=-0.14 0.03 Mrt=-0.09 0.03
Mrf=-1.75 0.03 Mtf=-0.16 0.02
Principol Axes:
T Val= 1.77 Plg=47 Azm= 88
N 0.00 5 183
P -1.77 42 278
Best Double Couple:Mo=1.8*10**18
NP1:Strike= 66 Dip= 6 Slip= 153
NP2: 183 87 85

SVA	7.60	350	eP	10 21.10	3.4X	
			eS	11 57.20		
MBU	8.69	353	ePc	10 34.40	4.5X	
HBZ	11.99	186	P	11 06.10	-0.1	
DZM	12.74	283	iPd	11 18.90	4.4X	
			iS	13 40.20		
KRP	12.77	195	P	11 18.20	3.5X	
	0.9s		469.00nm		5.9mb	
			S	13 48.00		
PVC	13.26	304	iPc	11 25.00	4.9X	
WHH	13.49	191	eP	11 21.80	-0.7	
TTH	14.08	190	eP	11 31.30	2.7X	
AFI	14.10	36	ePc	11 27.02	-2.0	
PGZ	15.22	190	eP	11 40.70	0.2	
MTW	15.88	192	eP	11 45.60	-1.7	
CAW	15.92	193	P	11 47.30	-0.3	
WDW	16.09	193	eP	11 47.60	-1.7	
BLW	16.09	192	P	11 48.80	-0.6	
MRW	16.11	194	eP	11 48.60	-1.0	
			eS	14 27.80		
WEL	16.15	194	P	11 51.30	1.3	
MOW	16.18	192	P	11 50.50	0.2	
TCW	16.19	195	P	11 49.00	-1.4	
MHZ	21.16	201	eP	12 38.20	-0.7	
BRS	24.24	260	iPc	13 09.00	1.7	
	0.8s		76.50nm		5.3mb	
			ipP	13 38.00	142kmX	
			i(sP)	14 12.50		
			eS	15 20.00		
			e	16 56.00		
			iPcP	17 05.00		
			iScP	19 28.20		
			iScS	23 19.20		
HNR	24.81	307	eP	13 12.00	-0.5	

| | | |

23d 13h

		S	30	33.00		
MSU	90.11	47 P	20	39.50	1.1	
		pP	22	20.00	439km	
CHG	90.13	291 iPd	20	40.00	1.4	
	1.0s	116.25nm			5.8mb	
TTA	90.34	11 P	20	39.00	0.2	
PMR	90.47	14 P	20	38.00	-1.2	
		pP	22	17.60	434km	
SIT	90.63	23 e(P)	20	41.70	1.7	
PEL	91.07	128 iPc	20	44.10	1.2	
TOA	91.60	15 eP	20	46.00	1.4	
DAU	91.73	45 P	20	47.20	1.2	
CD2	91.89	303 P	20	47.60	1.0	
PNT	92.02	35 eP	20	47.00	0.3	
	0.7s	32.00nm			5.4mb	
ALQ	92.16	52 P	20	48.50	0.6	
	1.0s	40.00nm			5.4mb	
		pP	22	28.60	435km	
IMA	93.64	11 eP	20	53.40	-0.5	
		e	22	45.40	497kmX	
FBA	93.68	13 P	20	52.90	-1.1	
	0.9s	54.17nm			5.6mb	
BW06	94.07	44 P	20	56.00	-0.6	
LZH	94.31	308 eP	20	58.92	1.2	
		eS	31	31.89		
GOL	95.25	48 P	21	01.00	-1.0	
	0.8s	101.19nm			6.0mb	
GLD	95.37	48 P	21	03.20	0.7	
SES	97.19	37 eP	21	10.00	-0.2	
EDM	97.50	34 eP	21	11.50	0.0	
MEO	97.82	55 iPd	21	13.00	-0.4	
GTA	98.67	309 eP	21	17.20	-0.1	
INK	99.75	16 eP	21	20.00	-1.3	
SIO	99.91	55 eP	21	34.20	11.4X	
TUL	100.36	55 ePdiff	21	36.10	11.2X	
	0.8s	7.40nm				
CNCB	101.72	115 Pdiff	21	36.00	4.0X	
LPB	101.77	115 Pdiff	21	40.00	8.0X	
		e	25	53.00		
		SS	31	26.00		
		LR	34	14.00		
ZOBO	101.88	115 Pdiff	21	35.00	2.2	
	Z 20s	0.38um			4.9Msz	
		i	25	51.00		
		LR	34	20.00		
KSH	116.07	303 ePKP	26	17.50	-1.5	
BAO	117.96	126 ePKP	26	22.50	-0.7	
FRB	122.25	29 ePKP	26	29.00	-0.7	
	0.5s	40.00nm				
SCH	123.96	40 ePKP	26	33.00	-0.4	
NPA	124.19	228 iPKP	26	34.60	-0.4	
PDCR	126.36	130 ePKP	26	37.50	-1.7	
MAIO	128.44	297 ePKP	26	43.00	0.3	
		e	27	43.00		
		e	29	19.00		
KEV	133.08	347 ePKP	26	51.00	0.7	
SUF	139.00	342 ePKP	26	51.00	-10.6X	
SLY	139.75	295 ePKPd	27	03.00	-0.8	
		e	29	55.00		
BHD	140.68	292 ePKPd	27	05.00	-0.6	
		ePP	29	45.00		
		eSKS	36	15.00		
		eSKKS	36	43.00		
NUR	141.20	341 iPKP	26	57.30	-8.4X	
	0.6s	37.80nm				
		i	27	09.20		
UPP	143.64	345 iPKP	27	06.10	-3.7X	
NB2	143.77	351 PKP	27	07.00	-3.1X	
HFS	144.21	348 ePKP	27	08.10	-2.7X	
	0.9s	313.10nm				
KVT	146.32	306 ePKP	27	17.00	2.0	
AYN	147.74	284 ePKP	27	17.30	-0.3	
KAS	147.88	308 ePKP	27	18.00	0.4	
HRI	147.92	292 ePKP	27	16.00	-1.9	
BURJ	147.93	290 PKPd	27	23.00	5.0X	
DSI	148.31	289 e(PKP)	27	16.00	-2.4X	
COP	148.60	346 iPKPc	27	23.00	4.9X	
	0.8s	167.16nm				
AQBJ	148.60	286 PKPd	27	23.20	4.3X	
MBH	148.75	286 ePKP	27	16.00	-3.1X	
BBTK	149.07	305 ePKP	27	18.00	-1.5	
LFK	149.51	296 iPKP	27	24.50	4.3X	
CSS	149.72	296 ePKP	27	25.00	4.5X	
CLI	149.79	321 iPKPc	27	25.00	4.8X	
AMAN	149.92	274 iPKPc	27	25.60	4.6X	
CFR	150.01	318 ePKP	27	20.00	-0.5	
EKA	150.26	3 PKP	27	21.00	0.4	
	1.1s	17.00nm				
TLB	150.39	317 ePKPc	27	27.00	5.9X	
VRI	150.49	320 ePKPc	27	25.50	4.2X	
		ed	42	03.50		
BRD	150.50	319 ePKPd	27	26.00	4.7X	
PPCY	150.53	296 ePKP	27	26.50	4.8X	
GPA	150.71	307 ePKP	27	20.00	-1.9	
ISR	151.00	319 ePKPc	27	23.50	1.3	
KRA	151.09	333 ePKP	27	23.30	1.3	
	0.6s	107.00nm				
		e	27	27.70		
		i	27	30.00		
MLR	151.16	320 ePKPc	27	27.00	4.5X	
DMU	151.34	8 ePKP	27	27.30	5.0X	
BCK	151.37	302 iPKP	27	28.20	5.2X	
SPC	151.61	331 ePKP	27	23.00	-0.1	
		i	27	30.80		
MDB	151.66	322 ePKP	27	28.00	5.0X	
CMP	151.81	320 ePKPc	27	21.00	-2.3X	
KSP	151.84	338 ePKP	27	23.00	-0.1	
	0.8s	170.00nm				
		id	27	29.60		
		i	27	24.70		
KHL	151.93	304 ePKP	27	19.00	-4.8X	
DLE	151.98	8 ePKP	27	29.10	5.9X	
	0.6s	40.00nm				
KCT	152.11	309 iPKP	27	30.30	6.4X	
BCAO	152.30	224 iPKPc	27	23.80	-1.1	
	0.6s	73.00nm				
		i	27	31.20		
		i	27	43.20		
		i	29	25.20		
WIT	152.38	351 ePKP	27	32.00	8.2X	
		e	29	27.00		
CLL	152.46	342 iPKPd	27	23.60	-0.4	
	1.0s	120.00nm				
		i	27	30.70		
		i	27	43.80		
		e	29	26.00		
ETA	152.61	8 ePKP	27	33.90	9.8X	
	0.5s	41.00nm				
ECP	153.09	8 ePKP	27	33.40	8.6X	
	0.6s	60.00nm				
PRU	153.15	339 PKPd	27	25.00	0.0	
		i	27	32.20		
WTS	153.15	350 ePKP	27	26.00	1.1	
	0.8s	79.00nm				
		i	27	34.70		
		e	27	51.50		
		e	29	24.00		
		e	29	31.00		
YER	153.23	302 ePKP	27	34.00	8.4X	
BUD	153.43	330 ePKP	27	22.00	-3.4X	
MOX	153.44	343 ePKP	27	25.00	-0.4	
	1.4s	23.00nm				
		e	27	34.00		
		e	27	48.00		
		e	29	32.00		
ZST	153.70	333 iPKP	27	25.40	-0.4	
KHC	154.21	339 ePKP	27	25.50	-1.0	
		e	27	51.50		
GRF	154.41	343 iPKPc	27	26.40	-0.3	
		e	27	35.40		
		e	27	51.80		
WET	154.42	340 ePKP	27	25.90	-0.9	
MEM	154.62	351 PKPd	27	37.60	10.7X	
		e	29	30.80		
DOU	155.31	353 PKPd	27	38.90	11.0X	
		e	27	55.00		
WLF	155.52	350 PKP	27	38.60	10.5X	
BHG	155.67	338 ePKP	27	28.10	-0.4	
SKO	155.85	318 ePKP	27	26.00	-2.9X	
		i	27	38.00		
		i	27	58.70		
		i	31	36.00		
PTJ	156.00	331 ePKP	27	29.10	0.0	
LJU	156.48	334 ePKP	27	29.00	-0.6	
VBY	156.61	332 ePKP	27	30.60	0.8	
FVI	156.68	337 PKP	27	29.00	-0.8	
		e	28	02.00		
VOY	156.74	335 ePKP	27	28.90	-1.1	
OHR	156.74	317 ePKP	27	29.50	-0.6	
	1.4s	69.00nm				
		i	28	01.90		
CEY	156.77	333 e(PKP)	27	29.00	-1.0	
FLN	156.92	0 ePKP	27	29.40	-0.6	
	1.2s	47.60nm				
TRI	157.06	334 PKP	27	31.00	0.7	
		e	28	02.50		
LDF	157.09	360 ePKP	27	29.50	-0.7	
	1.4s	39.20nm				
HAU	157.09	349 ePKP	27	29.60	-0.7	
	1.2s	23.80nm				
BSF	157.18	348 ePKP	27	29.80	-0.7	
	1.2s	17.85nm				
GRR	157.29	1 ePKP	27	30.20	-0.3	
	1.4s	43.55nm				
LSK	157.41	315 ePKP	27	45.80	14.8X	
CTI	157.54	338 PKP	27	31.50	0.5	
		e	28	04.50		
LPF	157.64	2 ePKP	27	30.50	-0.4	
	1.4s	39.20nm				
LOR	158.18	353 ePKP	27	30.80	-0.8	
	1.4s	52.30nm				
SSF	158.42	353 ePKP	27	31.50	-0.3	
	1.4s	39.20nm				
LBF	158.45	352 ePKP	27	31.30	-0.6	
	1.2s	26.80nm				
VAI	158.58	343 PKPc	27	32.30	0.3	
		i	28	09.70		
AVF	158.71	353 ePKP	27	31.40	-0.7	
	1.2s	14.90nm				
SMF	158.80	352 ePKP	27	31.70	-0.6	
	1.2s	11.90nm				
BGF	158.99	354 ePKP	27	32.10	-0.4	
BRT	159.03	321 PKP	27	33.50	0.8	
		e	28	12.00		
MFF	159.09	360 ePKP	27	32.10	-0.4	
	1.2s	29.75nm				
ARV	159.21	332 PKP	27	34.00	1.2	
		e	28	14.00		
TCF	159.31	355 ePKP	27	32.30	-0.6	
	1.2s	22.30nm				
PGD	159.39	335 PKP	27	34.00	0.8	
		i	28	12.40		
BOB	159.39	340 PKP	27	14.70	-18.4X	
		i	28	14.00		
LSF	159.39	357 ePKP	27	32.20	-0.7	
LPG	159.42	346 ePKP	27	33.00	-0.4	
	1.4s	26.15nm				
BNI	159.86	346 PKP	27	34.00	0.4	
		e	28	16.50		
DUI	159.95	326 PKP	27	36.00	2.3	
		e	28	16.00		
LIC	160.14	166 PKP	27	34.00	-0.6	
	0.8s	25.50nm				
	Z 20s	0.11um				
MNS	160.23	331 PKP	27	34.00	0.1	
		e	28	17.50		
SDI	160.23	328 PKP	27	34.00	0.0	
		e	28	17.00		
DOI	160.24	344 PKP	27	39.00	5.0X	
		e	28	14.50		
SGO	160.30	323 PKP	27	32.50	-1.5	
		e	28	18.00		
TDS	160.32	319 PKP	27	32.80	-1.3	
		i	28	19.10		
RJF	160.34	356 ePKP	27	33.50	-0.4	
	1.2s	29.75nm				
KIC	160.34	166 PKP	27	34.40	-0.4	
	0.8s	24.00nm				
TIC	160.55	165 PKP	27	34.60	-0.5	
	1.0s	37.00nm				
CAF	160.68	355 ePKP	27	34.20	-0.1	
	1.2s	23.80nm				
LFF	160.73	358 ePKP	27	34.10	-0.2	
	1.2s	32.75nm				
SBF	160.79	343 ePKP	27	34.80	0.3	
LPO	160.97	357 ePKP	27	34.50	-0.1	
	1.2s	23.80nm				
EPF	162.65	359 ePKP	27	36.10	-0.3	
	1.2s	32.75nm				
AAPN	167.90	15 ePKP	27	41.20	0.2	
ASMO	167.94	14 ePKP	27	42.50	1.5	
ALOJ	168.09	15 ePKP	27	42.20	1.0	
ATEJ	168.30	15 ePKP	27	40.00	-1.3	
APHE	168.34	14 ePKP	27	43.00	1.7	
AVE	170.12	38 ePKP	27	44.00	1.7	
		i	29	01.50		
IFR	171.06	28 ePKP	27	44.00	1.0	
		i	29	06.00		
TIO	171.84	48 iPKP	27	44.00	0.7	

S.D. = 1.0 on 239 of 300 obs.

OCT 23, 1989 13h 19m 36.81± 0.43s
39.865 N ± 7.2km 113.900 E ± 5.5km
DEPTH = 33.0km (normal)
5.3mb (3 obs.)
NORTHEASTERN CHINA (658)
Felt in the Datong-Yanggao area.

BJI	1.76	84	Pg	20	06.00	0.6
			Sg	20	30.00	
HHC	2.04	300	Pnc	20	09.80	0.2
			Pg	20	12.00	
			Sg	20	39.00	
TIY	2.43	209	Pnc	20	16.70	1.5
			Pg	20	20.20	
			Sg	20	52.60	
BTO	3.06	285	Pn	20	24.00	-0.1
			Pg	20	29.50	
			Sg	21	07.00	
TIA	4.45	144	Pn	20	43.80	0.1
			Pg	20	55.70	
DL2	6.06	97	Pn	21	05.70	-0.8
N	10s		5.00um			
E	10s		3.10um			
			Pg	21	27.50	
			Sg	22	43.50	
XAN	7.05	216	Pn	21	20.00	-0.4
			Sn	22	37.20	
			Sg	23	14.40	
SNY	7.59	72	iPnd	21	26.10	-1.8
Z	12s		6.00um			
E	11s		3.40um			
			Pg	21	51.80	
			Sg	23	31.30	
LZH	8.79	248	eP	21	44.00	-0.7
Z	15s		3.70um			
			Lg	24	05.00	
			e	24	14.00	
SSE	10.57	144	P+	22	16.00	7.0X
	5.0s		0.50nm		3.0mb	X
Z	20s		1.00um		5.4Msz	
N	11s		1.80um			
E	12s		1.30um			
			S	24	05.40	
			eLg	25	30.00	
GTA	10.88	272	eP	22	11.40	-2.0
Z	12s		3.50um			
N	10s		3.50um			
MDJ	12.56	63	eP	22	40.50	4.6X
E	12s		5.60um			
			eS	25	01.50	
GYA	14.67	206	iPc	23	02.00	-1.9
N	10s		3.30um			
E	10s		4.50um			
			S	25	50.00	
KMI	17.43	216	eP	23	41.00	1.7
Z	12s		3.20um			
N	11s		3.10um			
E	11s		3.40um			
			S	26	53.00	
			sS	27	02.00	
WMQ	19.89	290	P	24	09.00	0.8
QIZ	21.06	191	eP	24	29.00	8.6X
N	11s		1.30um			
E	11s		3.10um			
			eS	28	17.00	
LSA	21.21	248	P	24	26.00	3.6X
BOM	40.99	252	eP	27	06.80	-11.5X
			eS	32	11.80	
IMA	55.28	30	eP	29	28.80	19.8X
	0.9s		53.10nm			
SVW	56.29	36	eP	29	17.10	0.8
FBA	57.99	30	iP	29	28.50	0.3
	1.0s		60.00nm		5.6mb	
PMR	58.93	34	eP	29	33.30	-1.4
	1.0s		35.00nm		5.4mb	
TOA	59.93	32	eP	29	42.10	0.3
INK	61.13	23	eP	29	49.00	-0.7
KVN	88.19	38	eP	32	28.00	2.1
TNP	89.38	38	eP	32	32.00	0.3
	1.0s		3.75nm		4.6mb	
RSSD	89.67	26	iP	32	34.00	1.0

S.D. = 1.2 on 21 of 27 obs.

? OCT 23, 1989 13h 21m 59.89± 5.22s
14.770 N ±13.8km 60.639 W ±45.2km
DEPTH = 33.0km (normal)
WINDWARD ISLANDS (95)

ML 2.7 (FDF).

CRM	0.27	267	iPd	22	07.24	0.0
			S	22	13.20	
MVM	0.33	229	iPc	22	08.04	0.0
			S	22	14.80	
BIM	0.49	239	iPc	22	10.35	0.0
			S	22	18.70	
FDF	0.50	266	iPc	22	10.50	0.0
	0.1s		2.20nm			
			S	22	18.90	
DTMT	0.83	304	eP	22	15.17	0.0
			eS	22	27.14	

S.D. = 0.0 on 5 of 5 obs.

OCT 23, 1989 13h 32m 11.80± 0.80s
41.526 N ± 7.4km 20.120 E ± 6.0km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
MG 2.6 (TIR).

TIR	0.26	227	iPgc	32	15.00	-2.3
PHP	0.29	56	iPgc	32	16.10	-1.8
LACI	0.33	290	iPgc	32	16.60	-2.0
PUK	0.54	342	iPg	32	21.70	-1.1
KKS	0.59	22	ePg	32	23.00	-0.7
SDA	0.67	317	ePg	32	25.70	0.5
ULC	0.78	304	ePg	32	26.00	-1.1
			eSg	32	40.00	
SKO	1.08	65	ePg	32	31.50	-0.7
			iSg	32	47.50	
TTG	1.11	325	ePg	32	34.50	2.0
			eSg	32	52.50	
BDV	1.23	309	ePg	32	36.00	1.4
			eSg	32	56.00	
IVA	1.35	353	ePn	32	41.20	4.4X
			eSn	33	05.00	
LSK	1.42	165	ePn	32	39.60	1.8
HCY	1.52	308	ePg	32	40.00	1.0
			eSg	33	03.00	
NKY	1.53	327	ePn	32	39.50	0.2
			eSn	33	06.00	
BRY	1.80	320	ePn	32	44.80	1.5
			eSn	33	12.00	
VAY	1.85	96	ePn	32	45.00	1.1
LIT	2.29	128	eP	32	53.40	3.1X

S.D. = 1.6 on 15 of 17 obs.

OCT 23, 1989 13h 32m 14.24± 0.55s
49.955 N ± 3.1km 150.522 E ± 2.7km
DEPTH = 378.5 ± 6.1 km
5.0mb (62 obs.)
NORTHWEST OF KURIL ISLANDS (220)

ASAJ	7.94	226	iP+	34	12.60	3.8X
			eS	35	44.80	
KUSJ	7.94	212	iP+	34	07.00	-1.8
			S	35	35.10	
HOOJ	9.08	216	P	34	20.70	-1.4
			eS	35	57.30	
MRRJ	9.98	225	eP	34	32.20	-0.5
			S	36	20.80	
AOMJ	11.79	221	eP	34	52.50	-1.8
			S	36	56.00	
OFUJ	12.56	213	P	35	02.60	-0.7
			eS	37	15.20	
YAMJ	13.97	216	P	35	20.20	1.5
			S	37	47.60	
SMY	14.98	70	ePc	35	30.30	0.9
MDJ	15.16	257	iPd	35	31.50	0.1
NIIJ	15.18	217	P	35	32.20	0.6
KAKJ	15.66	213	P	35	36.40	-0.3
MAT	16.10	218	iPd	35	41.60	0.3
	1.0s		240.00nm		5.5mb	
			eS	38	41.00	
MTMJ	16.23	219	P	35	43.20	0.5
CHJJ	16.23	215	P	35	42.80	0.2
IIDJ	17.14	217	P	35	52.30	0.3
CN2	18.17	260	eP	36	02.00	-0.1
SNY	20.36	257	eP	36	25.30	1.8
ADK	20.67	72	ePc	36	26.20	-0.3
	0.8s		154.10nm		5.4mb	
SHNJ	21.30	229	eP	36	34.10	1.4
KUMJ	22.73	227	P	36	47.20	1.0
KAGJ	23.83	225	P	36	57.20	1.0
BJI	26.03	261	eP	37	16.00	0.0
			pP	38	26.50	
			PcP	40	31.00	
TIA	27.73	253	eP	37	31.10	-0.1
SSE	28.91	240	P	37	41.80	0.2
	1.0s		35.00nm		4.6mb	
Z	20s		0.90um		4.4Msz	
E	10s		0.50um			
			pP	37	58.00	68kmX
			eS	40	40.00	
NJ2	29.54	245	Pd	37	46.60	-0.5
BTO	29.68	267	eP	37	49.00	0.7
TIY	29.75	260	Pd	37	49.70	0.8
	0.8s		0.10nm		2.2mb	X
			S	42	17.00	
TTA	31.27	45	iPc	38	02.70	0.8
SVW	31.53	49	iPc	38	05.70	1.5
IMA	32.32	39	iPc	38	11.50	0.6
	0.7s		64.30nm		5.1mb	
WHN	33.29	248	Pd	38	19.00	-0.3
	1.0s		0.07nm		1.9mb	X
XAN	34.26	258	P	38	27.60	0.1
PMR	34.59	47	eP	38	30.70	0.8
	0.7s		34.30nm		4.8mb	
FBA	34.80	41	P	38	31.80	0.1
	0.7s		162.79nm		5.5mb	
QZH	35.13	237	eP	38	37.00	2.2
TOA	35.89	46	eP	38	42.50	1.6
GTA	36.91	273	iPd	38	50.60	0.9
			PcP	41	01.80	
CD2	39.60	259	P	39	12.50	0.7
INK	39.92	34	eP	39	14.00	0.1
WMQ	42.25	287	iPc	39	34.50	1.3
			eS	45	22.00	
SIT	42.63	51	ePc	39	38.20	2.3
KMI	44.29	254	Pd	39	50.00	0.2
	1.5s		0.20nm		2.2mb	X
LSA	48.50	268	P	40	24.00	1.5
LOE	50.71	248	eP	40	38.00	-0.7
CHG	51.32	252	iPd	40	43.20	0.0
	1.0s		70.00nm		4.9mb	
KSH	51.94	289	eP	40	49.00	1.3
PGC	53.05	56	eP	40	56.00	0.5
KEV	53.74	339	eP	40	59.00	-1.2
GMW	54.07	57	P	41	03.00	0.0
RMW	54.65	56	P	41	07.20	0.0
PNT	54.67	53	ePc	41	07.00	-0.3
	0.8s		37.00nm		4.8mb	
LON	55.09	57	P	41	10.00	-0.3
EDM	55.35	47	iPc	41	11.90	-0.1
DPW	56.31	54	P	41	18.70	-0.1
VGB	56.42	58	P	41	19.90	0.3
NDI	58.16	278	iPd	41	31.00	-0.7
SES	58.27	48	eP	41	32.00	-0.3
SUF	59.37	334	eP	41	38.00	-1.5
	0.6s		19.90nm		4.7mb	
FFC	59.39	40	iPc	41	39.90	0.1
	0.6s		16.00nm		4.6mb	
CMB	61.55	64	P	41	54.20	-0.2
	0.5s		22.59nm		5.0mb	
NUR	61.57	333	iP	41	53.40	-0.7
	0.6s		32.60nm		5.0mb	
KVN	62.17	62	P	41	58.20	-0.5
PTI	62.70	55	P	42	03.10	1.1
TNP	63.33	62	P	42	06.60	0.3
	0.4s		14.10nm		4.9mb	
MAIO	63.86	296	iPd	42	09.70	0.2
CWC	63.98	64	eP	42	09.00	-1.3
PSI	64.12	240	eP	42	10.40	-0.8
BW06	64.24	54	P	42	11.90	-0.1
DUG	64.32	58	P	42	12.90	0.4
	0.4s		6.01nm		4.6mb	
NB2	64.63	339	P	42	13.20	-0.8
	0.7s		25.90nm		5.0mb	
CLC	64.69	64	eP	42	14.00	-0.8
HFS	64.84	338	eP	42	14.10	-1.2
	0.6s		59.10nm		5.4mb	
DAU	65.01	56	P	42	17.20	0.1
SBB	65.35	65	eP	42	19.00	0.0
GSC	65.51	64	eP	42	20.00	0.0
MWC	65.54	66	eP	42	19.00	-1.3
MSU	65.86	59	P	42	22.90	0.5
RSSD	66.06	49	P	42	23.10	-0.4
RVR	66.10	65	eP	42	23.00	-0.6
PEC	66.30	65	P	42	24.20	-0.7
TPC	66.80	64	eP	42	27.00	-1.0
PLM	66.85	65	eP	42	28.00	-0.6
KLI	67.32	231	eP	42	30.00	-1.3
			e	42	44.00	

23d 13h

BAR	67.45	66	eP	42 31.00	-1.0
POO	67.51	272	iPd	42 32.00	-0.6
			iS	45 04.00	
BOM	67.92	273	iPc	42 33.80	-1.1
			eS	45 43.30	
KNA	68.18	203	eP	42 35.10	-1.3
GLA	68.26	64	eP	42 37.00	0.0
GOL	68.64	53	P	42 38.90	-0.6
	0.5s	7.01nm		4.6mb	
GLD	68.68	53	P	42 40.00	0.4
GBA	68.83	266	Pd	42 38.20	-2.3
	0.6s	21.20nm		5.0mb	
CTA	69.83	184	iPd	42 45.60	-0.8
	0.9s	70.59nm		5.3mb	
QIS	70.86	191	iPd	42 51.40	-1.1
	1.0s	41.00nm		5.1mb	
WB5	70.98	196	iPd	42 52.90	-0.4
			i	43 10.80	
ALQ	71.60	58	P	42 57.80	0.7
	0.5s	7.33nm		4.6mb	
KRA	71.77	329	ePd	42 57.40	-0.1
CLI	72.06	323	iPc	42 59.00	-0.3
SLY	72.18	304	iPd	43 01.00	0.8
KSP	72.26	332	iP	43 00.00	-0.4
	1.0s	31.00nm		4.9mb	
SPC	72.41	328	eP	43 01.90	0.4
KVT	72.70	314	iP	43 04.00	0.8
EKA	72.80	345	P	43 03.00	-0.5
	0.7s	6.70nm		4.4mb	
CLL	72.83	334	iPd	43 05.00	1.4
	1.1s	68.00nm		5.2mb	
MSL	72.83	306	ePc	43 04.50	0.6
DZM	73.08	165	iPc	43 06.10	0.6
MLR	73.46	323	eP	43 03.00	-4.6X
ISR	73.51	322	ePd	43 08.00	0.2
PRU	73.55	332	Pd	43 07.80	0.0
MOX	73.81	334	iPd	43 09.00	-0.4
	1.0s	37.00nm		5.0mb	
CMP	73.99	323	ePc	43 01.00	-9.5X
BUD	74.30	328	eP	43 20.00	7.9X
ZST	74.32	330	iP	43 13.60	1.4
BHD	74.55	303	ePc	43 13.00	-0.8
KHC	74.60	332	iPd	43 14.40	0.5
	1.0s	21.00nm		4.8mb	
			e	43 20.30	
ASPA	74.76	196	iPd	43 15.60	0.6
	0.8s	150.00nm		5.8mb	
GRF	74.78	334	iPd	43 15.10	0.2
	1.0s	56.00nm		5.2mb	
WET	74.79	333	iPd	43 15.50	0.5
	0.9s	34.00nm		5.1mb	
MEM	75.33	338	Pc	43 18.00	0.2
SNF	75.84	339	Pc	43 20.70	0.1
MBL	75.85	209	iPd	43 20.70	-0.3
	0.6s	13.00nm		4.8mb	
DOU	76.15	338	Pc	43 22.30	-0.1
	0.9s	25.00nm		5.0mb	
TUL	76.40	50	eP	43 24.10	0.1
	1.2s	12.70nm		4.5mb	
LNO	76.40	50	e(P)	43 23.40	-0.5
KBA	76.50	331	iPd	43 24.70	0.1
BRS	77.02	178	iPd	43 28.30	0.9
CDF	77.03	336	iPd	43 27.30	-0.1
	0.8s	18.80nm		4.9mb	
FVI	77.11	332	P	43 28.00	0.3
VOY	77.26	331	e(P)	43 27.10	-1.6
VBY	77.29	330	eP	43 29.00	0.3
CEY	77.35	330	e(P)	43 28.50	-0.6
OGA	77.39	333	iPd	43 30.00	0.5
	0.8s	28.00nm		5.1mb	
ZLA	77.58	335	eP+	43 30.50	0.1
TRI	77.59	331	P	43 29.50	-0.8
HAU	77.65	336	iPd	43 30.40	-0.3
	0.8s	14.50nm		4.8mb	
BSF	77.69	336	iPd	43 30.70	-0.3
	0.8s	14.50nm		4.8mb	
KHL	77.89	316	iP	43 32.10	-0.2
CTI	77.94	332	P	43 31.50	-0.9
LLS	77.97	334	ePc	43 33.00	0.3
SKO	78.17	324	iP	43 34.00	0.4
VAY	78.29	323	iP	43 34.30	0.1
LFK	78.52	312	iP	43 35.50	-0.1
FLN	78.55	341	iPd	43 35.30	-0.2
	0.8s	16.10nm		4.8mb	
NANU	78.58	213	eP	43 36.00	0.1
LDF	78.63	341	iPd	43 35.70	-0.2
	0.8s	9.10nm		4.6mb	
WARB	78.71	202	iPd	43 37.40	0.8
	0.6s	43.00nm		5.4mb	
VAI	78.95	334	P	43 37.50	-0.1
LOR	78.96	338	iPd	43 37.50	-0.2
	0.8s	38.90nm		5.2mb	
GRR	78.98	341	iPd	43 38.00	0.2
	0.8s	26.80nm		5.1mb	
MMK	79.01	334	ePc	43 39.20	0.9
HRI	79.05	309	ePd	43 31.00	-7.6X
GRC	79.13	338	P	43 38.73	0.2
DIX	79.13	335	ePc	43 39.80	0.8
OHR	79.16	324	eP	43 38.00	-0.9
LBF	79.20	337	iPd	43 38.80	-0.2
	0.8s	14.70nm		4.8mb	
SSF	79.24	338	iPd	43 39.30	0.1
	0.8s	23.30nm		5.0mb	
EMS	79.28	335	ePc	43 40.10	0.5
LPF	79.36	341	iPd	43 40.20	0.4
	1.0s	37.60nm		5.1mb	
ORX	79.39	334	P	43 42.07	1.9
AVF	79.53	338	iPd	43 40.80	0.1
	0.8s	30.00nm		5.1mb	
SMF	79.55	337	iPd	43 41.00	0.2
	0.8s	33.50nm		5.2mb	
BOB	79.76	333	P	43 42.50	0.5
LSD	79.78	335	P	43 42.58	0.2
SFI	79.79	331	P	43 43.00	0.9
ARV	79.83	330	P	43 42.50	0.2
LPG	79.85	335	iPd	43 43.50	0.7
	1.0s	38.80nm		5.1mb	
BGF	79.87	338	iPd	43 42.60	0.1
	0.6s	14.70nm		4.9mb	
PGD	79.88	331	P	43 43.50	0.7
CRE	80.03	331	P	43 43.50	0.0
RSP	80.03	335	P	43 43.20	-0.3
BDI	80.05	332	P	43 44.00	0.4
COO	80.18	179	eP	43 46.00	1.8
PCP	80.23	333	P	43 44.63	0.2
PLDF	80.23	337	P	43 44.90	0.4
MAF	80.25	338	iPd	43 45.20	0.7
AGO	80.28	338	P	43 45.24	0.6
TCF	80.28	338	iPd	43 45.10	0.4
	0.8s	26.80nm		5.1mb	
BNI	80.28	335	P	43 45.50	0.7
ASS	80.30	330	P	43 45.50	0.6
RRL	80.38	335	P	43 45.86	0.4
CKI	80.41	334	P	43 45.00	-0.3
LSF	80.47	339	iPd	43 46.00	0.3
	0.8s	30.00nm		5.1mb	
MFF	80.52	340	iPd	43 46.30	0.4
	0.8s	29.50nm		5.1mb	
PYM	80.59	338	P	43 46.81	0.5
DSI	80.59	308	iPd	43 45.00	-1.5
FIN	80.63	334	P	43 45.45	-1.1
DOI	80.63	334	P	43 45.00	-1.6
ROB	80.65	334	P	43 45.76	-0.9
PZZ	80.67	334	P	43 45.25	-1.6
ENR	80.84	334	P	43 45.97	-1.7
STV	80.85	334	P	43 45.56	-2.2
MNS	80.91	330	P	43 47.50	-0.5
DUI	80.97	328	P	43 49.00	0.6
IMI	80.99	334	P	43 48.02	-0.4
SDI	81.14	329	P	43 48.50	-0.8
SBF	81.17	334	iPd	43 48.90	-0.5
	0.8s	24.10nm		5.0mb	
CMS	81.19	184	eP	43 50.00	0.7
RJF	81.37	338	iPd	43 50.80	0.5
	0.8s	24.10nm		5.0mb	
CAF	81.59	338	iPd	43 52.50	1.0
	0.9s	36.00nm		5.1mb	
SGO	81.65	327	P	43 51.50	-0.3
FRF	81.67	334	eP	43 51.70	-0.2
	1.0s	12.00nm		4.6mb	
LRG	81.84	334	iPd	43 53.00	0.2
	1.0s	29.60nm		5.0mb	
STK	81.86	188	eP	43 53.00	0.2
LFF	81.89	339	iPd	43 53.80	0.8
	0.8s	45.60nm		5.3mb	
LMR	81.91	334	iPd	43 53.20	0.1
	0.9s	26.20nm		5.0mb	
CVF	81.94	332	iPd	43 52.70	-0.6
	0.6s	6.10nm		4.6mb	
LPO	82.03	338	iPd	43 54.30	0.6
	0.8s	33.30nm		5.2mb	
MBH	82.29	308	iPd	43 54.00	-1.3
FORR	82.88	199	iPc	43 58.10	0.2
	0.4s	14.00nm		5.1mb	
SOI	83.59	325	P	44 01.00	-0.6
EPF	83.79	338	iPd	44 03.70	1.0
	0.8s	15.30nm		4.8mb	
BWA	84.03	182	iPd	44 05.10	1.4
COOL	84.61	205	iPd	44 06.30	-0.3
CAN	84.91	181	eP	44 09.30	1.3
BAL	85.64	209	eP	44 11.50	-0.2
KLB	86.24	208	eP	44 14.40	-0.1
MUN	87.07	209	eP	44 18.30	-0.2
NWAO	87.64	208	eP	44 21.00	-0.2
TIC	119.76	332	PKP	50 20.00	-1.3
KIC	119.94	331	PKP	50 20.20	-1.4
LIC	120.16	332	PKP	50 20.80	-1.2
ZOBO	134.19	57	ePKP	50 47.00	-2.6X
LPB	134.42	57	(PKP)	50 53.00	3.2X
CNCB	134.71	57	PKP	50 51.70	1.2
SPA	139.76	180	e(PKP)	50 48.00	-9.9X
	0.7s	5.86nm			
BAO	142.62	30	ePKP	51 00.00	-4.4X
ITB1	148.18	47	PKPc	51 11.20	-2.0
ITB7	148.68	47	e(PKP)	51 12.10	-1.9
BMA	150.45	28	ePKP	51 23.10	6.3X

S.D. = 0.8 on 218 of 228 obs.

? OCT 23, 1989 13h 59m 24.64± 1.33s
40.933 N ±22.8km 29.129 E ±12.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

ISK	0.14	338	iPg	59 27.80	-0.2
			eSg	59 30.80	
HRT	0.42	105	ePg	59 33.30	0.0
CTT	0.57	292	ePg	59 36.00	-0.2
DMK	1.36	311	ePn	59 50.00	0.4

S.D. = 0.5 on 4 of 4 obs.

OCT 23, 1989 14h 33m 25.02± 0.77s
19.874 S ±10.1km 134 087 E ± 7.0km
DEPTH = 5.0km (geophysicist)
NORTHERN TERRITORY, AUSTRALIA (591)

WB5	0.26	91	iP	33 31.20	0.8
ASPA	3.78	183	iPd	34 29.00	3.7X
	0.4s	144.00nm			
			eS	35 13.50	
QIS	5.23	98	eP	34 45.00	-0.8
			eS	35 42.00	
			e	36 04.00	
KNA	6.52	308	eP	35 04.50	0.5
			eS	36 15.00	
MTN	7.54	337	eP	35 18.00	-0.3
			eS	36 39.00	
WARB	9.29	226	eP	35 44.60	1.9
	0.2s	2.00nm		5.2mb X	
			eS	37 26.00	
FORR	12.19	205	eP	36 21.00	-1.3
MBL	13.42	262	eP	36 38.00	-0.7
			eS	39 00.00	

S.D. = 1.3 on 7 of 8 obs.

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* OCT 23, 1989 15h 14m 22.95± 1.52s
36.950 N ± 5.7km 121.705 W ±17.2km
DEPTH = 15.0km (geophysicist)
CENTRAL CALIFORNIA (39)
ML 2.6 (NEIS).

ARN	0.42	19	iPd	14 31.00	-0.6
CMB	1.51	44	eP	14 50.00	0.6
PHAM	1.53	136	eP	14 50.00	0.2
PKEM	1.56	124	eP	14 50.70	0.5
BCH	2.20	143	eP	14 59.20	-0.3
ORV	2.61	3	eP	15 05.50	0.3
ABL	2.91	135	eP	15 09.30	-0.4
KVN	3.54	53	eP	15 18.80	0.2
TNP	3.74	71	eP	15 21.00	-0.6

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

% OCT 23, 1989 17h 07m 58.09± 0.92s
39.946 N ±12.4km 113.885 E ± 8.3km
DEPTH = 33.0km (normal)
NORTHEASTERN CHINA (658)
ML 3.6 (BJI).

BJI	1.76	86	Pn	08 27.00	0.3
			Pg	08 28.00	
			Sn	08 51.00	
			Sg	08 52.50	

HHC	1.99	298	Pn	08 30.60	0.4
			Pg	08 32.10	
			Sg	09 01.00	
TIY	2.50	207	Pnc	08 38.20	0.8
			Pg	08 40.80	
			Sg	09 11.80	
BTO	3.03	284	Pg	08 50.20	5.3X
			Sg	09 27.50	
TIA	4.52	145	Pn	09 05.40	-0.6
			Pg	09 16.50	
			Sg	10 14.50	
LZH	8.81	247	Pg	10 35.20	28.9X
			eSg	12 22.50	
GTA	10.86	272	eP	10 33.60	-0.9

S.D. = 1.0 on 5 of 7 obs.

OCT 23, 1989 19h 11m 25.12± 0.69s
19.832 S ± 9.0km 134.081 E ± 6.3km
DEPTH = 5.0km (geophysicist)
NORTHERN TERRITORY, AUSTRALIA (591)

WB5	0.27	100	iPd	11 30.90	0.2
ASPA	3.82	182	iPd	12 29.70	3.8X
	0.3s	104.00nm			
			eS	13 14.10	
QIS	5.24	99	eP	12 46.00	-0.1
			eS	13 42.00	
			e	14 04.00	
KNA	6.49	308	eP	13 05.00	1.3
			eS	14 16.00	
MTN	7.50	337	eP	13 17.00	-0.9
			eS	14 39.00	
			e	15 33.00	
WARB	9.32	226	eP	13 44.00	0.8
	0.2s	1.00nm		4.9mb X	
			eS	15 26.00	
FORR	12.23	205	iPd	14 22.30	-0.5
	0.3s	9.00nm		5.5mb X	
MBL	13.42	262	eP	14 38.00	-0.8
			eS	17 00.00	

S.D. = 1.0 on 7 of 8 obs.

% OCT 23, 1989 19h 22m 45.23± 0.85s
24.092 N ± 8.7km 121.463 E ± 7.4km
DEPTH = 10.0km (geophysicist)
TAIWAN (244)

TWD	0.12	96	iPd	22 48.60	0.4
			eS	22 50.50	
TWQ	0.60	288	iPc	22 57.60	0.2
TWC	0.62	34	iPc	22 57.10	-0.6
			eS	23 06.10	
TWZ	1.01	6	iPc	23 04.60	0.3
			eS	23 19.00	
TWK	1.21	228	eP	23 07.60	-0.3

S.D. = 0.6 on 5 of 5 obs.

& OCT 23, 1989 19h 23m 52.00s
36.935 N 121.685 W
DEPTH = 5.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

SAO	0.26	131	iPc	23 57.00	-0.2
GCC	0.27	291	iPc	23 57.30	-0.1
MHC	0.41	5	iPd	24 00.50	0.3
ARN	0.43	16	iPd	24 00.90	0.2
PRS	0.65	157	iPd	24 04.40	-0.7
PCC	0.79	316	iPd	24 06.70	-1.1
BKS	1.04	335	iPd	24 11.30	-0.7
			iS	24 26.50	
BRK	1.04	334	ePd	24 11.30	-0.8
			eS	24 26.10	
PRI	1.14	134	ePc	24 13.00	-0.9
CMB	1.51	43	ePd	24 18.30	-1.5
PHAM	1.51	136	eP	24 18.00	-1.8
PKEM	1.54	124	eP	24 18.00	-2.2
FRI	1.58	87	ePc	24 18.80	-2.0
			iS	24 39.20	
BCH	2.18	143	eP	24 27.00	-2.5
ORV	2.62	3	eP	24 34.60	-1.1
KVN	3.53	52	eP	24 52.80	4.0
TNP	3.73	71	eP	24 55.00	3.3

17 obs. associated

OCT 23, 1989 20h 55m 11.87± 0.25s
11.909 N ± 6.3km 86.277 W ± 5.0km
DEPTH = 73.0km (4 depth phases)
4.9mb (12 obs.)
NEAR COAST OF NICARAGUA (74)
Felt at Managua. Felt (IV) at
Playa Hermosa, (III) at Penas
Blancas and (II) at San Jose,
Costa Rica. Felt (II) at San
Salvador, El Salvador.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 27C
Centroid Location:
Origin Time 20:55:15.4 0.5
Lat 12.04N 0.05 Lon 86.35W 0.06
Dep 92.3 3.8 Half-duration 2.0
Moment Tensor; Scale 10**17 Nm
Mrr= 0.44 0.06 Mtt=-0.61 0.10
Mff= 0.18 0.12 Mrt= 1.01 0.05
Mrf=-1.37 0.05 Mtf=-0.01 0.09
Principal Axes:
T Val= 1.92 Plg=49 Azm= 63
N -0.30 13 318
P -1.62 38 217
Best Double Couple:Mo=1.8*10**17
NP1:Strike=250 Dip=14 Slip= 22
NP2: 139 85 103

SJS	2.93	132	iP	55 57.40	0.2
			S	56 25.40	
LCR2	3.10	134	iPd	55 58.90	-0.8
QCR	3.21	140	iPd	56 02.60	1.6
LIO	3.70	120	iPd	56 08.10	0.2
JCR	3.72	123	iPc	55 47.40	-20.7X
ACR	4.45	136	iPc	56 18.60	0.1
TPX	6.54	298	iP	56 47.50	0.0
UPA	7.24	113	iPc	56 57.10	-0.1
	0.8s	68.66nm		5.4mb	
			(S)	59 19.00	
SCX	7.81	309	eP	57 07.50	2.4
OXX	11.35	298	iP	57 53.00	-0.5
IISM	12.80	305	eP	58 11.22	-1.3
IIT	13.58	303	iPd	58 24.50	1.5
PPM	13.86	302	iPd	58 27.50	0.5
PSO	13.86	140	eP	58 28.00	1.1
BMG	13.88	109	iPc	58 43.00	16.2X
ACX	14.05	292	iPd	58 29.50	0.6
BOG	14.08	120	iPc	58 33.00	3.4X
			iS	01 28.00	
III	14.26	298	iP	58 32.50	0.6
CRX	14.90	302	eP	58 41.50	1.3
SDV	15.68	100	eP	58 52.30	2.3
MRX	16.30	300	iP	59 00.00	2.3
TOV	16.33	96	iPc	59 01.40	3.3X
GUAC	18.73	93	eP	59 28.50	0.7
CAR	19.03	92	iP	59 31.00	-0.2
			iS	01 04.00	
LLAV	19.15	92	eP	59 31.50	-1.0
OLLA	19.21	94	eP	59 32.00	-1.1
SVB	24.46	84	eP	00 26.88	1.4
			eS	00 29.37	
SVV	24.49	84	eP	00 27.76	2.0
SSV	24.52	84	eP	00 28.35	2.3
			eS	00 29.92	
MEO	25.37	336	iPd	00 33.90	0.0
LNO	25.40	342	e(P)	00 33.80	-0.2
TUL	25.40	342	ePc	00 33.70	-0.4
	0.7s	49.20nm		5.1mb	
Z	23s	1.71um		4.5MszX	
			epP	00 53.70	90kmX
			eS	05 31.00	
			LR	07 23.00	
SIO	25.41	341	e(P)	00 36.70	2.5X
NNA	25.52	158	eP	00 35.50	0.0
	1.0s	20.00nm		4.6mb	
CBN	27.37	15	eP	00 55.00	2.9X
			e	01 11.00	68km
ALQ	29.35	325	P	01 10.00	-0.3
	0.7s	21.44nm		4.9mb	
ARE	31.76	152	e(P)	01 43.00	11.3X
GOL	32.43	332	P	01 36.60	-0.8
	0.7s	25.49nm		5.2mb	
ZOBO	33.26	147	P	01 43.00	-2.1
Z	24s	0.63um		4.2MszX	
			S	07 04.00	
			LR	13 00.00	
LPB	33.49	147	(P)	01 42.00	-5.0X
Z	22s	1.33um		4.6Msz	
			LR	13 16.00	
GLA	33.56	313	eP	01 47.00	0.0
CNCB	33.78	147	P	01 48.00	-1.7
			S	08 06.00	
BAR	34.70	311	eP	02 08.00	11.2X
TPC	34.98	314	eP	02 03.00	3.8X
PLM	35.17	312	eP	02 01.00	0.0
CCH	35.25	145	P	02 02.30	0.4
MWC	36.47	313	eP	02 12.00	0.1
SBB	36.54	314	eP	02 12.00	-0.4
BW06	36.80	331	P	02 13.70	-1.0
CLC	36.96	315	eP	02 16.00	0.1
TNP	37.96	319	P	02 24.60	0.1
	0.7s	5.19nm		4.6mb	
KVN	39.09	319	P	02 34.00	0.2
CMB	40.03	316	eP	02 41.90	0.4
ORV	41.57	318	eP	02 55.10	1.1
SES	43.42	337	ePc	03 08.80	-0.2
FFC	44.47	347	eP	03 17.00	-0.4
	0.6s	15.00nm		5.0mb	
SCH	45.48	16	ePc	03 25.00	-0.4
	0.8s	6.20nm		4.5mb	
LON	45.85	326	P	03 27.60	-0.9
PNT	46.36	330	eP	03 32.00	-0.4
EDM	46.54	338	iPc	03 32.40	-1.4
	0.6s	20.00nm		5.2mb	
BAO	46.74	125	eP	03 35.00	-1.0
PEL	47.20	162	iPc	03 38.40	-0.9
FRB	53.26	10	eP	04 25.00	0.1
BMA	53.72	130	e(P)	04 23.00	-5.9X
INK	64.06	342	eP	05 38.00	-1.9
			pP	05 56.00	68km
MBC	66.71	352	eP	05 56.00	-0.8
	1.0s	39.00nm		5.3mb	
			pP	06 16.50	78km
FBA	67.39	336	P	06 00.00	-1.2
	0.7s	5.09nm		4.6mb	
			pP	06 20.50	78km
EKA	76.39	36	Pd	07 11.50	16.6X
	1.1s	18.10nm			
TOL	76.54	52	eP	07 14.00	17.9X
LPF	78.08	43	eP	07 21.60	17.3X
	1.0s	24.00nm			
GRR	78.17	43	eP	07 22.10	17.2X
	1.2s	47.60nm			
FLN	78.39	42	eP	07 23.20	17.1X
	1.2s	17.80nm			
LDF	78.64	43	eP	07 24.80	17.4X
	0.8s	10.70nm			
MFF	78.81	45	eP	07 25.50	17.1X
	0.9s	19.60nm			
EPF	79.53	48	eP	07 29.90	17.5X
	1.2s	29.70nm			
LFF	79.60	46	eP	07 30.20	17.5X
	1.2s	29.70nm			
LPO	79.95	46	eP	07 31.80	17.2X
	1.2s	35.70nm			
LSF	80.00	45	eP	07 31.80	17.0X
	1.3s	23.10nm			
RJF	80.10	46	eP	07 32.60	17.2X
	1.4s	26.10nm			
TCF	80.47	45	eP	07 34.50	17.2X
	1.2s	19.00nm			
CAF	80.54	46	eP	07 34.80	17.1X
	1.3s	30.30nm			
MAF	80.72	45	eP	07 35.80	17.1X
	1.2s	23.80nm			
BGF	80.87	44	eP	07 36.40	17.0X
	1.0s	16.00nm			
AVF	81.18	44	eP	07 37.80	16.8X
	1.2s	8.90nm			
SSF	81.25	44	eP	07 38.40	17.0X
	1.3s	18.00nm			
LOR	81.46	44	eP	07 39.30	16.8X
	1.2s	17.80nm			
SMF	81.53	44	eP	07 39.90	17.0X
	1.2s	8.90nm			
LBF	81.58	44	eP	07 39.80	16.6X
	1.2s	11.90nm			
HAU	83.00	43	eP	07 47.90	17.4X
NB2	83.28	29	P	07 30.60	-1.1
	0.9s	3.60nm		4.3mb	
NB2	83.28	29	P	07 47.60	15.9X
	1.2s	12.20nm			
BSF	83.33	43	eP	07 49.40	17.1X
	1.0s	8.00nm			
CDF	83.54	42	eP	07 50.70	17.4X

23d 21h

SBF	84.51	46	eP	07	55.70	17.5X
	1.2s	23.80nm				
GRF	85.82	40	eP	08	02.70	18.1X
	1.5s	18.00nm				
	Z 22s	1.20um			5.2Msz	
CLL	86.53	38	eP	08	06.00	18.0X
	1.5s	25.00nm				
KHC	87.45	40	iPc	08	11.50	18.9X
	Z 20s	0.80um			5.1Msz	
	E 21s	0.70um				
PRU	87.82	39	eP	08	04.50	10.2X
		e		08	12.50	25kmX
BWA	125.66	236	ePKP	14	05.90	-1.2
ASPA	140.13	247	ePKP	14	25.80	-8.9X
	1.3s	21.00nm				
WB5	140.20	253	ePKP	14	27.10	-7.8X
KNA	145.78	260	ePKP	14	44.50	-0.1
WARB	145.92	241	ePKP	14	44.00	-0.6
COOL	148.39	229	ePKP	14	52.00	3.5X
CHG	149.04	350	ePKP	14	54.00	4.2X
LOE	149.82	345	ePKP	14	53.90	3.0X
GBA	149.94	33	PKPd	14	53.60	2.4X
	0.7s	15.10nm				
NWAO	149.97	222	ePKP	14	55.00	4.2X
MUN	151.24	222	ePKP	14	52.20	-0.5
BAL	151.73	225	ePKP	14	55.00	1.5
	S.D. = 1.1	on 62 of 110 obs.				

OCT 23, 1989 21h 19m 17.98± 0.45s
41.710 N ± 4.7km 12.618 E ± 2.9km
DEPTH = 12.3 ± 2.1 km
SOUTHERN ITALY (390)
ML 3.3 (LDG), 3.3 (ROM). Slight domage (VII) in the Castelli Romani areo.

RDP	0.09	56	Pc	19	20.70	-0.2
			eSg	19	22.90	
RMP	0.12	32	Pc	19	21.10	-0.1
			eSg	19	22.30	
MNS	0.68	4	Pc	19	30.50	-0.7
			eSg	19	42.90	
AQU	0.87	42	P	19	34.60	0.1
			eSg	19	46.90	
SDI	0.90	90	Pc	19	34.50	-0.5
			eSg	19	47.00	
RFI	1.10	111	P	19	38.65	0.2
ALP	1.28	33	iPnd	19	41.17	-0.5
			iSn	20	04.07	
ASS	1.36	1	Pc	19	42.70	0.0
			eSg	20	01.70	
DUI	1.38	91	P	19	43.70	0.7
CIO	1.53	15	iPnd	19	45.10	-0.1
			iSn	20	10.47	
SSO	1.69	20	e(Pn)	19	52.04	4.6X
			e(Sn)	20	22.35	
ARV	1.80	8	P	19	50.20	1.1
AOI	1.98	21	ePn	19	52.66	1.1
			iSn	20	26.01	
CRE	1.98	346	P	19	52.50	0.8
PGD	2.26	343	P	19	57.60	1.7
SFI	2.28	346	P	19	57.00	1.1
FIR	2.30	335	e(Pn)	19	50.00	-6.2X
			iSn	20	24.00	
SGO	2.33	119	P	19	58.20	1.5
PII	2.53	323	P	20	00.40	0.9
BDI	2.78	328	P	20	04.40	1.3
CVF	2.92	288	Pn	20	04.90	-0.1
			Sn	20	38.20	
HVAR	3.19	61	iPn	20	10.00	1.1
TDS	3.49	125	P	20	14.00	0.9
BRT	3.55	102	P	20	14.00	0.0
BOB	3.83	324	Pd	20	20.30	2.2
TRI	4.08	11	P	20	20.00	-1.5
FIN	4.09	309	P	20	20.90	-0.7
PCP	4.11	315	P	20	22.44	0.5
IMI	4.12	304	P	20	21.31	-0.7
CKI	4.18	312	P	20	22.80	-0.1
SAL	4.18	339	P	20	23.00	0.1
CEY	4.24	17	e(Pn)	20	30.50	6.8X
			e	20	42.50	
			eSn	21	14.50	
VBY	4.25	26	eP	20	35.50	11.6X
			iSn	21	14.00	
ROB	4.34	308	P	20	25.00	-0.2
SBF	4.38	301	Pn	20	25.60	-0.2
CTI	4.39	351	P	20	26.00	0.0
VOY	4.42	12	ePn	20	24.80	-1.6
			e(Sn)	21	18.10	
LJU	4.55	17	ePn	20	28.00	-0.1
			e	20	31.00	
			e	20	44.00	
			eSn	21	20.00	
ENR	4.57	305	P	20	28.59	0.1
MDI	4.58	334	P	20	29.90	1.4
STV	4.64	305	P	20	29.41	-0.1
ZAG	4.77	30	iPg	20	52.00	20.7X
			iSn	21	27.00	
			iSg	21	52.70	
FRF	4.78	295	Pn	20	30.00	-1.4
LMR	4.80	292	Pn	20	30.50	-1.2
DOI	4.82	307	P	20	32.20	0.0
PTJ	4.84	29	ePn	20	33.50	1.2
			eSn	21	28.10	
FVI	4.88	1	P	20	31.70	-1.1
PZZ	4.91	307	P	20	32.70	-0.7
LRG	4.94	293	Pn	20	32.80	-0.9
ORX	5.17	321	P	20	38.54	1.6
RSP	5.20	313	P	20	36.69	-0.8
OGA	5.28	348	iPc	20	40.50	1.8
RRL	5.33	309	P	20	39.36	-0.1
KBA	5.39	5	e(P)	20	37.00	-3.3X
			i	20	42.10	
LSD	5.46	315	P	20	42.03	0.8
BNI	5.47	310	P	20	41.60	0.3
LPL	5.72	314	Pn	20	47.00	2.1
OHR	6.18	93	ePn	20	52.00	0.8
SKO	6.59	85	ePn	20	58.00	0.9
KHC	7.45	5	eP	21	08.50	-0.6
			e	21	18.50	
HAU	7.71	327	Pn	21	16.60	4.0X
CAF	8.34	296	Pn	21	19.80	-1.7
PRU	8.39	9	eP	21	27.50	5.4X
			e	23	02.00	
	S.D. = 1.0	on 55 of 63 obs.				

? OCT 23, 1989 21h 23m 59.24± 2.47s
30.729 S ±12.0km 70.330 W ±27.8km
DEPTH = 71.1 ± 16.6 km
CHILE-ARGENTINA BORDER REGION (127)
Felt (IV) at San Juan, Argentina.

ZON	1.63	120	iPc	24	28.00	1.5
			eS	24	42.00	
PEL	2.43	187	iPc	24	46.40	8.9X
			iS	25	13.00	
RFA	4.33	159	iPc	25	02.50	-1.6
CCH	13.82	17	P	27	13.50	-0.1
BAO	25.37	59	eP	29	22.40	0.8
PDCR	34.03	65	eP	30	36.80	-1.8
			e	33	15.70	
SPA	59.44	180	ePd	33	57.40	0.7
	0.9s	12.73nm			5.1mb	
LIC	72.37	71	Pd	35	19.40	-0.3
KIC	72.68	71	Pd	35	21.20	-0.4
	0.6s	12.00nm			5.0mb	
BCAO	91.26	86	ePc	36	58.40	0.0
	0.5s	4.00nm			5.0mb	
GBA	145.80	113	PKP	43	33.00	1.2
	S.D. = 1.3	on 10 of 11 obs.				

& OCT 23, 1989 21h 27m 41.00s
37.137 N 121.935 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.3 (BRK).
Mo=1.5*10**14 Nm (BRK).

GCC	0.12	205	iPc	27	43.50	-0.6
MHC	0.31	49	iPc	27	47.50	-0.1
ARN	0.38	56	iP	27	47.60	-1.4
PCC	0.51	316	eP	27	50.60	-0.7
SAO	0.54	133	eP	27	50.20	-1.7
BKS	0.78	342	iPd	27	56.00	0.0
			iS	28	06.80	
BRK	0.78	341	eP	27	55.70	-0.4
			eS	28	06.10	
PRS	0.92	150	eP	27	57.60	-1.0
LLA	0.95	123	ePd	27	58.00	-1.0
PRI	1.42	134	ePc	28	06.10	-0.8
			e	28	09.70	
NWRM	1.52	330	eP	28	08.50	0.4
CMB	1.52	53	eP	28	06.90	-1.3
FRI	1.79	94	ePc	28	10.40	-1.6
			e	28	13.60	
PHAM	1.79	136	eP	28	10.00	-2.1
ORV	2.44	8	eP	28	21.00	-0.4
BCH	2.46	142	eP	28	18.90	-2.8
ABL	3.17	135	eP	28	29.70	-2.3
KVN	3.58	57	eP	28	36.00	-1.7
	18 obs. associated					

OCT 23, 1989 22h 44m 22.78± 0.73s
41.792 N ± 6.3km 20.131 E ± 5.9km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
ML 2.3 (SKO).

PUK	0.31	325	iPgc	44	27.40	-1.8
KKS	0.35	36	iPg	44	30.50	0.5
LACI	0.35	244	ePg	44	30.50	0.5
TIR	0.49	204	ePg	44	32.50	-0.2
SDA	0.52	296	ePg	44	34.50	1.1
OHR	0.84	143	ePg	44	38.40	-0.7
			iSg	44	50.70	
SKO	0.99	79	ePg	44	42.20	0.6
			iSg	44	54.50	
	S.D. = 1.2	on 7 of 7 obs.				

OCT 23, 1989 23h 41m 26.32± 0.29s
27.916 S ± 4.8km 66.856 W ± 6.7km
DEPTH = 167.5km (2 depth phases)
5.4mb (23 obs.)
CATAMARCA PROVINCE, ARGENTINA (130)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 24C
Centroid Location:
Origin Time 23:41:36.2 0.5
Lat 27.51S 0.06 Lon 66.39W 0.06
Dep 175.8 2.1 Half-duration 1.7
Moment Tensor; Scale 10**16 Nm
Mrr=-5.29 0.49 Mtt= 0.34 0.76
Mff= 4.95 0.69 Mrt= 5.95 0.55
Mrf= 2.40 0.49 Mtf=-8.44 0.70
Principal Axes:

	Val=	Plg=	Azm=
T	11.59	7	50
N	0.36	46	313
P	-11.95	43	147

Best Double Couple:Mo=1.2*10**17
NP1:Strike=179 Dip=55 Slip= -29
NP2: 286 66 -142

ANT	5.28	322	iPd	42	44.30	-0.1
			iS	43	39.90	
JACH	5.74	213	iP	42	51.80	1.1
FCH	6.15	208	iPd	42	57.60	1.2
			iS	44	08.60	
PEL	6.17	211	iPc	42	55.50	-0.8
			iS	43	19.50	
ROCH	6.19	214	iPc	42	56.00	-0.7
SAN	6.42	210	iPc	42	59.40	-0.2
			iS	44	11.70	
PCH	6.50	208	iPd	43	01.00	0.3
			iS	44	16.00	
IHA	6.56	218	eP	43	00.00	-1.4
			iS	44	27.00	
TACH	6.71	211	iP	43	02.50	-1.0
			iS	44	18.50	
CHCH	6.83	208	iPd	43	04.50	-0.6
			iS	44	20.00	
LCCH	6.87	215	iPd	43	03.50	-2.1
RFA	6.97	191	eP	43	06.00	-1.0
LNV	7.18	212	iPc	43	07.50	-2.2
			iS	44	16.00	
BAA	9.78	135	P-	43	42.00	-2.0
			S	45	31.20	
CCH	10.50	4	P	43	52.80	-1.1
CNCB	11.10	354	iPc	44	00.90	-1.1
LPB	11.39	354	P	44	04.50	-1.0
	1.1s	192.41nm			5.5mb	
			eLR	46	44.00	
ZOBO	11.65	354	P	44	06.50	-2.6
	Z 24s	1.08um				
			LR	46	56.00	
ITB1	11.65	77	Pd	44	07.10	-1.4
ITB7	11.69	79	e(P)	44	07.50	-1.6
ITB	11.76	78	e(P)	44	08.90	-1.1
ARE	12.18	338	eP	44	12.00	-3.7X
NNA	18.40	327	eP	45	35.50	4.1X

```
        0.8s      7.46nm              4.1mb X
 BMA   21.16  81 eP     45 58.40   -1.0
                   e     46 14.70
                   e     47 02.30
                   e     47 29.80
 BAO   21.32  59 eP     45 59.50   -1.6
 PDCR  30.09  65 eP     47 18.40   -3.7X
                   e     47 36.40
                   e     48 31.00
 BIM   42.55   8 eP     49 05.60   -1.5
 MVM   42.61   9 eP     49 06.30   -1.2
 FDF   42.75   8 eP     49 06.69   -2.0
        0.3s      1.10nm              3.9mb X
 CRM   42.80   8 eP     49 06.50   -2.6
 BBL   43.49   8 eP     49 10.00   -4.7X
 SNA   55.45 158 iPd    50 44.40   -0.8
        0.9s     96.64nm              5.6mb
 SPA   62.24 180 ePd    51 32.10   -0.2
        1.2s    162.68nm              5.8mb
                   e     52 11.30
 RSCP  65.60 343 iP     51 53.00   -1.1
        1.0s     48.81nm              5.3mb
                 epP     52 33.00 168km
 LIC   68.58  70 P      52 11.10   -2.1
     Z  20s      0.09um              4.0Msz
 KIC   68.89  70 P      52 13.20   -1.9
 LNO   69.10 335 eP     52 15.50   -0.3
 TUL   69.10 335 eP     52 15.80   -0.1
        1.0s      6.00nm              4.3mb
                   e     52 26.90
 SIO   69.15 335 eP     52 15.90   -0.3
 SBA   69.88 190 P      52 22.00    1.8
 CER   72.26 119 iPd    52 35.00   -0.2
        1.0s    300.00nm              6.0mb
 ALQ   72.86 327 iP     52 40.50    1.8
                 epP     53 21.00 167km
 MAW   77.68 162 iPd    53 06.40    1.2
        1.0s    110.00nm              5.5mb
 HVD   78.19 118 iPd    53 16.00    7.0X
        0.9s     92.44nm              5.5mb
 FRS   78.42 117 iPd    53 11.50    1.5
        1.0s    145.00nm              5.7mb
 RSSD  79.36 334 iP     53 16.20    1.3
 BW06  80.58 330 eP     53 22.00    0.5
        1.0s      3.00nm              4.0mb X
 BFS   80.83 115 iPd    53 23.00   -0.1
        0.8s    328.36nm              6.1mb
 SEK   80.86 117 iPc    53 25.00    1.7
        1.0s     90.00nm              5.5mb
 PRY   81.37 116 iPc    53 25.40   -0.5
        1.0s     35.00nm              5.0mb
 KSR   81.38 115 iPd    53 30.20    4.1X
        1.0s     95.00nm              5.5mb
 TIO   81.56  49 iP     53 28.00    1.3
 RSON  81.94 343 eP     53 27.50   -0.6
        0.8s      4.01nm              4.2mb X
 KVN   82.00 322 eP     53 30.00    1.1
 SLR   82.55 115 iPd    53 32.30    0.2
        1.0s    175.00nm              5.8mb
 FFC   87.68 340 eP     53 57.00    0.5
        1.2s     21.00nm              5.0mb
 BCAO  87.99  84 iPd    53 59.70    0.8
        1.0s     50.00nm              5.4mb
                   i     54 08.00
 EDM   90.33 334 iP     54 09.50    0.5
 LFF   95.07  41 eP     54 32.90    2.0
        0.9s     13.10nm              5.2mb
 LPO   95.18  42 eP     54 32.90    1.4
        0.8s      5.30nm              4.9mb
 BGF   97.19  41 eP     54 42.50    2.0
        1.0s      8.00nm              5.1mb
 LRG   97.65  45 eP     54 45.30    2.7
        0.8s      9.10nm              5.3mb
 LMR   97.68  45 eP     54 44.80    2.0
 SMF   97.82  41 eP     54 45.00    1.7
        0.8s      4.00nm              4.9mb
 FRF   97.88  45 eP     54 45.90    2.2
        0.6s      3.60nm              5.0mb
 LBF   98.08  41 eP     54 46.20    1.7
 LOR   98.16  40 eP     54 46.60    1.7
 LPG   98.94  43 eP     54 51.50    2.7
        1.0s     10.00nm              5.3mb
 CLL  105.35  40 ePKP   59 51.00   20.9X
 ASPA 124.95 203 iPKPd  00 08.30   -0.1
        0.4s     20.00nm
 WB5  128.24 206 iPKPd  00 15.10    0.3
 MAIO 134.28  65 ePKP   00 27.00    1.0
                   e     02 56.00
 GBA  143.85 106 PKP    00 40.00   -3.7X
 MKS  146.50 191 ePKPd  00 50.80    2.6
                   e     02 12.00
 NDI  148.43  80 iPKPd  00 55.50    4.6X
        1.0s     60.00nm
 IPM  154.08 151 ePKPd  01 08.20    8.6X
        1.0s     56.10nm
      S.D. = 1.5  on  66 of  76 obs.
-------------------------------------
*  OCT  23, 1989  23h 58m 29.06± 1.17s
    38.036 N ±10.3km   20.958 E ± 9.3km
    DEPTH =  19.2 ±  8.2 km
 GREECE                              (364)
       ML 3.2 (ATH).

 VLS      0.32 296 ePg    58 35.50   -0.6
                   eSg     58 43.60
 AGG      1.46  47 ePg    58 59.80    5.3X
 KEK      1.90 332 ePn    59 03.70    2.8X
 VLI      2.05 129 ePb    59 04.00    0.9
 ATH      2.18  91 ePn    59 04.00   -0.9
 NEO      2.18  54 ePn    59 04.00   -1.0
 KZN      2.35  15 ePb    59 08.50    1.1
 LIT      2.38  30 ePn    59 10.20    2.4
 PLG      3.03  39 ePn    59 16.00   -1.0
 OHR      3.07 358 iPn    59 18.00    0.4
 GRG      3.12  20 ePn    59 17.80   -0.5
 KNT      3.46  25 ePn    59 22.90   -0.2
 VAY      3.51  20 ePn    59 23.00   -0.7
 SKO      3.95   5 ePn    59 30.00    0.0
      S.D. = 1.2  on  12 of  14 obs.
-------------------------------------
?  OCT  24, 1989  00h 05m 02.45± 7.62s
    22.564 N ±56.5km   121.405 E ±16.7km
    DEPTH =  10.0km  (geophysicist)
 TAIWAN REGION                       (243)

 TWG      0.40 310 iPc    05 10.70    0.1
                   eS      05 16.60
 TWF1     0.79 353 eP     05 17.70   -0.1
                   eS      05 29.00
 TWK      1.10 310 ePc    05 22.90   -0.2
 TWQ      1.78 343 eP     05 33.90    0.4
                   eS      05 57.10
 TWC      2.08  11 eP     05 37.60   -0.1
      S.D. = 0.3  on   5 of   5 obs.
-------------------------------------
*  OCT  24, 1989  00h 20m 13.78± 1.45s
    38.006 N ±14.9km   20.951 E ±11.1km
    DEPTH =  10.0km  (geophysicist)
 GREECE                              (364)
       MD 3.0 (ATH).

 VLS      0.33 301 ePg    20 20.00   -0.7
 AGG      1.48  46 eP     20 41.10    0.6
 KEK      1.93 333 ePg    20 51.50    4.6X
 VLI      2.04 128 ePb    20 49.00    0.5
 NEO      2.20  53 ePn    20 49.10   -1.9
 KZN      2.38  15 ePg    20 58.00    4.4X
 OHR      3.10 358 ePn    21 05.20    1.5
      S.D. = 1.8  on   5 of   7 obs.
-------------------------------------
*  OCT  24, 1989  00h 28m 31.86± 1.46s
    20.728 S ± 8.4km   71.371 W ±20.0km
    DEPTH =  33.0km  (normol)
    4.8mb (  1 obs.)
 OFF COAST OF NORTHERN CHILE         (121)

 ANT      3.09 164 iP     29 19.50    0.0
 ARE      4.24 358 eP     29 36.00   -0.1
                   iS      30 48.50
 CNCB     5.05  40 P      29 48.00    0.1
                   i       29 50.00
 LPB      5.20  37 P      29 51.00    1.2
                   LR      31 34.00
 ZOBO     5.40  35 P      29 52.00   -0.8
     Z  16s      3.31um
                   LR      31 38.00
 CCH      5.96  57 (P)    30 00.00   -0.5
 PEL     12.38 177 eP     31 34.50    5.8X
 SPA     69.40 180 e(P)   39 41.90    3.4X
        1.0s      9.00nm              4.8mb
 GBA    149.40  98 PKPc   48 20.00    4.7X
        0.7s      2.70nm
      S.D. = 0.9  on   6 of   9 obs.
-------------------------------------
?  OCT  24, 1989  02h 07m 05.48± 2.41s
    38.225 N ±20.4km   20.684 E ±28.5km
    DEPTH =  10.0km  (geophysicist)
 GREECE                              (364)
       MD 2.9 (ATH).

 VLS      0.09 237 ePg    07 08.00   -0.1
 KEK      1.64 335 ePb    07 35.10    0.7
                   eSb     07 55.50
 KZN      2.24  22 ePn    07 44.00    0.7
 OHR      2.88   2 ePn    07 51.00   -1.3
      S.D. = 1.7  on   4 of   4 obs.
-------------------------------------
%  OCT  24, 1989  02h 16m 53.24± 1.02s
    40.085 N ± 7.5km   28.678 E ± 9.4km
    DEPTH =  10.0km  (geophysicist)
 TURKEY                              (366)

 KCT      0.30 304 iPg    17 00.00    0.6
                   iSg     17 04.00
 DST      0.48 185 iPg    17 02.70   -0.3
                   eSg     17 07.70
 BNT      0.64 295 iPg    17 06.50    0.4
                   iSg     17 17.00
 HRT      1.05  45 ePn    17 14.00    0.9
 CTT      1.08 350 ePn    17 12.00   -1.5
      S.D. = 1.3  on   5 of   5 obs.
-------------------------------------
*  OCT  24, 1989  02h 30m 53.34± 1.41s
    15.325 N ±11.5km   120.945 E ±19.5km
    DEPTH =  50.2 ± 13.2 km
    4.6mb (  3 obs.)
 LUZON, PHILIPPINE ISLANDS           (249)

 QCP      0.70 169 eP     31 07.00   -0.1
 BAG      1.13 342 eP     31 20.80    7.5X
 SNG     21.50 250 eP     35 40.00    0.0
 XAN     21.56 332 P      35 41.80    1.2
 CD2     22.10 318 eP     35 46.00    0.1
 LZH     25.70 327 e(P)   36 20.00   -0.8
     Z  14s      0.50um              4.2MszX
 WB5     37.39 159 eP     38 03.00   -0.3
 ASPA    40.77 162 iPc    38 31.70    0.3
        0.8s     11.00nm              4.7mb
 WARB    41.63 172 iPd    38 38.80    0.4
        0.4s      3.00nm              4.4mb
 SUF     78.70 332 eP     42 50.00   -1.6
 NUR     79.87 330 eP     43 08.00   10.1X
 INK     81.50  21 eP     43 16.00    9.6X
 HFS     85.17 331 eP     43 25.60    0.3
        1.6s     30.30nm              5.2mb X
 NB2     85.93 333 P      43 29.70    0.5
        1.0s      7.40nm              4.9mb
      S.D. = 0.9  on  11 of  14 obs.
-------------------------------------
*  OCT  24, 1989  02h 57m 25.78± 0.77s
    20.447 S ± 7.8km   69.096 W ±12.6km
    DEPTH = 148.7 ± 15.4 km
 NORTHERN CHILE                      (123)

 ANT      3.47 200 e(P)   58 19.30   -0.3
 CNCB     3.77  16 Pc     58 24.20    0.0
 LPB      4.01  14 P      58 27.80    0.6
        1.0s    100.00nm
 CCH      4.14  43 P      58 27.90   -0.9
 ZOBO     4.26  13 P      58 30.50   -0.2
 ARE      4.57 330 eP     58 35.00    0.4
                   eS      59 26.00
 ITB1    14.22 110 eP     00 42.50    0.9
 KIC     68.58  74 P      08 14.40   -0.5
      S.D. = 0.8  on   8 of   8 obs.
-------------------------------------
    OCT  24, 1989  02h 59m 40.95± 1.09s
     5.502 S ± 7.3km   151.719 E ±11.7km
    DEPTH =  58.2 ±  9.4 km
    5.1mb (  6 obs.)
 NEW BRITAIN REGION                  (192)

 RAB      1.38  19 iPd    00 04.00   -0.2
 PAA      3.83 102 eP     00 53.00   14.1X
 LAT      4.83 256 eP     01 04.00   11.1X
 PMG      5.96 229 eP     01 09.00    0.3
        0.9s    201.68nm              5.5mb
                   eS      02 19.00
 CTA     15.44 200 eP     03 18.00    1.3
 QIS     19.04 217 eP     04 00.00   -1.3
 RMQ     21.06 187 eP     04 22.00   -0.4
```

24d 03h

		e	04	34.00		
MTN	21.58	249 eP	04	27.00	-0.7	
		e	04	30.00		
DZM	21.78	141 iPc	04	25.30	-4.4X	
BRS	21.79	177 iPd	04	29.10	-0.7	
		e	04	35.50		
		e	04	44.00		
WB5	22.12	228 eP	04	33.80	0.8	
		eS	08	33.90		
KNA	24.72	244 eP	04	59.00	0.6	
ASPA	24.91	222 iPc	05	01.10	0.9	
	0.7s	29.00nm			4.9mb	
Z	22s	0.26um			3.7MszX	
		epP	05	15.00	58kmX	
		eS	09	24.10		
		LR	13	52.00		
WARB	31.57	227 eP	06	00.00	-0.3	
	0.3s	5.00nm			4.8mb	
FORR	33.59	219 eP	06	17.00	-0.8	
	0.4s	11.00nm			5.1mb	
MRWA	41.17	231 iPc	07	25.20	3.7X	
QZH	44.21	315 Pd	07	47.00	0.8	
GTA	65.44	318 eP	10	19.20	-1.0	
GBA	76.12	285 Pd	11	24.30	-0.5	
	0.5s	21.60nm			5.3mb	
PNT	93.26	41 eP	12	51.00	0.6	
	0.8s	8.00nm			5.2mb	
NB2	117.20	340 PKP	18	18.80	-2.2	
	0.7s	1.40nm				
OHR	123.72	317 ePKP	18	33.50	-0.6	
BSF	128.27	330 ePKP	18	42.20	-0.5	
HAU	128.36	331 ePKP	18	42.40	-0.4	
LPG	129.87	328 ePKP	18	45.10	-1.0	
	0.8s	5.30nm				
LOR	130.08	332 ePKP	18	46.60	0.5	
	0.8s	2.60nm				
SSF	130.39	332 ePKP	18	47.70	1.1	
	0.8s	2.60nm				
BGF	131.07	332 ePKP	18	48.70	0.7	
	0.8s	5.30nm				
GRR	131.30	336 ePKP	18	49.60	1.3	
	0.6s	3.60nm				
TCF	131.57	332 ePKP	18	49.80	0.9	
	1.0s	6.00nm				
LPF	131.66	336 ePKP	18	50.10	1.1	
	0.8s	5.30nm				
BCAO	133.36	271 iPKPd	18	53.00	-0.3	
	0.6s	5.00nm				
	S.D. = 1.0	on 28 of 32 obs.				

? OCT 24, 1989 03h 06m 42.52± 1.17s
45.011 N ± 7.0km 7.228 E ±14.1km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.9 (GEN).

RSP	0.14	8 P	06	46.40	0.4	
		S	06	48.70		
RRL	0.33	254 P	06	49.53	0.1	
		S	06	54.06		
LSD	0.45	353 P	06	51.33	-0.4	
		S	06	57.26		
PZZ	0.51	190 P	06	52.83	-0.1	
		S	06	59.41		
	S.D. = 0.6	on 4 of 4 obs.				

* OCT 24, 1989 03h 30m 02.66± 1.18s
38.239 N ±11.0km 20.512 E ± 8.6km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.4 (ATH).

VLS	0.09	135 ePg	30	04.20	-1.0	
KEK	1.57	340 ePb	30	30.20	-0.5	
AGG	1.62	61 ePn	30	34.00	2.6	
SRN	1.69	346 ePn	30	33.30	1.0	
LSK	1.91	2 ePn	30	35.60	0.0	
KZN	2.28	25 ePn	30	40.70	-0.4	
VLO	2.36	341 ePn	30	42.40	0.4	
NEO	2.37	62 ePg	30	47.00	4.7X	
LIT	2.41	39 ePn	30	44.70	1.9	
		eSn	31	16.90		
VLI	2.45	127 ePg	30	48.90	5.5X	
BERA	2.50	350 ePn	30	50.20	6.3X	
OHR	2.88	4 ePn	30	48.00	-1.4	
GRG	3.08	28 ePn	30	55.20	2.9X	
PLG	3.12	46 ePn	30	52.50	-0.3	
TIR	3.14	351 ePn	31	03.50	10.4X	
KNT	3.45	31 ePn	30	56.70	-0.8	
VAY	3.46	27 ePn	30	55.60	-2.0	
TDS	3.55	295 P	31	00.80	1.9	
SGO	4.65	302 P	31	13.30	-1.2	
		eSn	31	59.60		
	S.D. = 1.5	on 14 of 19 obs.				

? OCT 24, 1989 03h 39m 21.66± 8.76s
44.881 N ±68.1km 14.824 E ± 8.8km
DEPTH = 10.0km (geophysicist)
ADRIATIC SEA (382)
MD 2.5 (TRI).

RIY	0.56	326 ePg	39	31.00	-2.0	
		iSg	39	40.80		
VBY	0.69	26 ePg	39	35.60	0.2	
		iSg	39	42.50		
CEY	0.90	342 e(Pg)	39	40.00	1.0	
		eSg	39	53.50		
TRI	1.12	318 ePgd	39	43.30	0.7	
		iSg	40	00.50		
LJU	1.18	350 ePg	39	46.30	2.6X	
		iSg	40	00.00		
ZAG	1.24	41 ePg	39	44.30	-0.4	
		iSg	40	00.50		
PTJ	1.30	38 ePg	39	45.50	-0.2	
		eSg	40	02.20		
VOY	1.32	331 ePg	39	46.70	0.5	
		eSg	40	00.90		
		e	40	06.50		
FVI	2.23	321 P	40	02.10	2.9X	
		eSn	40	33.30		
	S.D. = 1.2	on 7 of 9 obs.				

OCT 24, 1989 04h 27m 19.59± 0.94s
0.934 N ± 4.4km 78.936 W ±11.5km
DEPTH = 57.1 ± 11.4 km
4.6mb (3 obs.)
COLOMBIA-ECUADOR BORDER REGION (106)

COTA	0.84	135 iP+	27	35.60	-0.5	
GGP	1.15	163 iP+	27	39.50	-0.8	
OUR	1.17	160 iP+	27	40.10	-0.3	
		S	27	54.70		
CAYA	1.28	132 iP+	27	42.80	0.9	
		S	28	02.70		
RECU	1.60	167 iPd	27	47.90	1.4	
PSO	1.63	81 iPc	27	48.50	1.7	
PURC	2.92	62 eP	28	06.95	1.9	
SALC	3.02	48 eP	28	06.14	-0.1	
ANCC	3.29	39 ePc	28	08.79	-1.2	
HOQC	3.41	42 eP	28	11.15	-0.6	
CLMC	3.77	39 eP	28	15.17	-1.6	
HOBC	4.40	39 iPc	28	24.08	-1.5	
BOG	6.09	53 eP	28	55.00	5 5X	
UPA	8.02	356 eP	29	17.60	1.6	
NNA	13.00	171 eP	30	23.70	0.1	
	0.8s	6.72nm			4.6mb	
		eS	32	46.50		
PT10	13.07	171 e(P)	30	23.00	-1.5	
ARE	18.78	157 eP	31	38.00	0.6	
ZOBO	20.15	148 P	31	51.80	-0.8	
Z	25s	0.10um			3.1MszX	
		LR	38	16.00		
LPB	20.39	149 P	31	54.90	0.1	
CNCB	20.68	149 P	31	57.00	-1.0	
CCH	22.14	146 P	32	13.30	1.0	
ALQ	42.46	326 iP	35	12.00	1.0	
	0.8s	33.56nm			5.2mb	
		epP	35	25.00	48kmX	
TNP	51.00	321 eP	36	18.10	0.0	
	1.0s	2.50nm			4.2mb	
KVN	52.13	321 iP	36	26.20	-0.5	
	S.D. = 1.2	on 23 of 24 obs.				

% OCT 24, 1989 04h 28m 08.70± 0.73s
37.761 N ± 7.7km 14.148 E ± 5.3km
DEPTH = 10.0km (geophysicist)
SICILY (398)

GIB	0.25	337 P	28	13.70	-0.3	
		eSg	28	17.10		
MCT	0.43	252 P	28	17.70	0.2	
		eSg	28	25.30		
MNO	0.47	68 Pd	28	18.20	0.0	
		eSg	28	28.10		
MEU	0.91	136 P	28	25.70	-0.4	
ATN	1.11	69 P	28	29.50	-0.1	
SOI	1.54	78 P	28	36.80	0.6	
	S.D. = 0.5	on 6 of 6 obs.				

& OCT 24, 1989 04h 48m 12.30s
37.038 N 121.810 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).

GCC	0.15	267 iPc	48	15.20	-0.4	
MHC	0.33	24 iPd	48	19.10	0.0	
ARN	0.38	35 iPd	48	19.90	-0.2	
SAO	0.40	133 iPc	48	19.70	-0.7	
PCC	0.65	315 iPc	48	24.30	-1.0	
PRS	0.79	153 iPc	48	27.00	-0.8	
LLA	0.81	121 iPc	48	27.50	-0.8	
BKS	0.90	338 iPc	48	29.10	-0.7	
		iS	48	42.00		
BRK	0.91	337 ePc	48	29.20	-0.6	
		eS	48	41.20		
PRI	1.28	134 ePd	48	35.00	-1.4	
		i	48	40.20		
CMB	1.51	48 iPc	48	38.60	-1.1	
		iS	48	57.00		
NWRM	1.65	329 eP	48	39.90	-1.8	
PHAM	1.65	136 eP	48	40.10	-1.6	
PKEM	1.68	125 eP	48	40.00	-2.1	
FRI	1.68	91 ePc	48	40.40	-1.7	
		iS	49	03.30		
BCH	2.32	142 eP	48	49.20	-2.3	
ORV	2.53	5 eP	48	53.00	-1.3	
ABL	3.03	135 eP	48	59.10	-2.5	
KVN	3.55	54 eP	49	07.30	-1.7	
TNP	3.79	73 eP	49	11.00	-1.6	
	20 obs. ossocioted					

? OCT 24, 1989 05h 36m 16.12± 3.66s
47.851 N ± 8.4km 1.262 W ±44.8km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.1 (LDG).

LPF	0.23	39 Pg	36	21.00	-0.1	
		Sg	36	25.30		
GRR	0.60	27 Pg	36	28.00	-0.3	
		Sg	36	37.20		
FLN	1.05	29 Pg	36	36.20	0.3	
		Sg	36	52.00		
LDF	1.06	45 Pg	36	36.20	0.0	
		Sg	36	52.50		
MFF	1.46	148 Pg	36	42.50	0.0	
		Sg	37	01.50		
	S.D. = 0.3	on 5 of 5 obs.				

* OCT 24, 1989 05h 51m 05.73± 1.68s
20.774 S ± 9.8km 71.325 W ±23.3km
DEPTH = 33.0km (normal)
OFF COAST OF NORTHERN CHILE (121)

ANT	3.04	164 eP	51	52.70	0.2	
ARE	4.29	358 eP	52	10.00	-0.7	
CNCB	5.06	39 P	52	22.80	1.0	
		S	53	25.00		
LPB	5.21	36 P	52	25.00	1.1	
		S	53	27.00		
ZOBO	5.41	35 P	52	27.00	0.2	
CCH	5.95	56 P	52	32.40	-1.8	
	S.D. = 1.4	on 6 of 6 obs.				

? OCT 24, 1989 05h 56m 12.85± 6.53s
15.386 N ±32.7km 60.809 W ±48.4km
DEPTH = 10.0km (geophysicist)
LEEWARD ISLANDS (92)
ML 2.3 (FDF).

CRM	0.64	189 iPc	56	25.63	0.0	
BBL	0.66	282 eP	56	26.00	0.0	
FDF	0.73	207 iPc	56	27.09	-0.1	
	0.1s	0.37nm				
		S	56	36.30		
MVM	0.83	186 iPc	56	28.85	-0.1	
		S	56	39.50		
BIM	0.90	196 eP	56	30.29	0.2	
		S	56	41.30		
	S.D. = 0.1	on 5 of 5 obs.				

? OCT 24, 1989 06h 12m 40.92± 1.13s
10.830 N ±10.1km 61.466 W ±14.5km
DEPTH = 32.7 ± 12.8 km
TRINIDAD (98)
MD 2.5 (TRN).

TRN	0.19	161	eP	12 47.07	-0.3
			eS	12 51.86	
TCE	0.31	245	eP	12 49.22	0.4
			eS	12 54.98	
TPP	0.51	178	eP	12 51.22	-0.4
			eS	12 58.05	
TBH	0.52	131	eP	12 52.35	0.5
			eS	12 59.98	
GRW	1.34	352	eP	13 03.33	-0.2
			eS	13 16.64	

S.D. = 0.9 on 5 of 5 obs.

& OCT 24, 1989 07h 02m 23.80s
37.180 N 121.962 W
DEPTH = 8.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.2 (BRK).
Mo=5.6*10**13 Nm (BRK).

GCC	0.15	191	iPd	02 26.70	-0.5
MHC	0.30	58	iPd	02 30.10	0.0
ARN	0.38	64	iPd	02 31.20	-0.4
PCC	0.46	314	iPd	02 32.60	-0.5
SAO	0.59	135	iP	02 34.20	-1.4
BKS	0.73	343	iPd	02 37.70	-0.6
			iS	02 49.20	
BRK	0.73	341	iPd	02 37.50	-0.9
			eS	02 49.90	
PRS	0.97	151	ePd	02 41.40	-1.0
LLA	0.99	124	ePd	02 41.70	-1.1
PRI	1.47	134	e(P)	02 50.60	-0.1
NWRM	1.47	330	eP	02 50.00	-0.6
CMB	1.52	55	eP	02 50.20	-1.1
			i	02 51.70	
			iS	03 09.00	
FRI	1.81	95	ePd	02 53.80	-1.7
			eS	03 16.20	
BCH	2.50	142	eP	03 02.50	-3.1
KVN	3.57	57	eP	03 21.00	0.2
TNP	3.87	75	e(P)	03 27.00	1.9

16 obs. assocloted

? OCT 24, 1989 07h 16m 38.64± 5.09s
15.316 N ±25.8km 60.849 W ±41.5km
DEPTH = 10.0km (geophysicist)
LEEWARD ISLANDS (92)
ML 2.6 (FDF).

CRM	0.56	187	iPc	16 50.22	0.2
BBL	0.64	289	eP	16 51.50	0.0
FDF	0.65	207	iPc	16 51.71	0.1
	0.1s		1.10nm		
			S	17 00.90	
MVM	0.76	183	iPc	16 53.47	0.0
			S	17 04.10	
BIM	0.82	195	iPc	16 54.40	-0.2
			S	17 05.80	

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

% OCT 24, 1989 07h 17m 48.82± 3.68s
59.431 N ±27.1km 5.588 E ±20.7km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.5 (BER).

BLS3	0.47	90	iP	17 58.30	-0.2
			iS	18 04.60	
BLS1	0.63	93	iP	18 00.79	-0.8
			iS	18 09.44	
ODD1	0.71	47	iPc	18 02.32	-0.6
			eS	18 11.51	
BER	0.96	352	iPg	18 06.41	-0.7
			iSg	18 18.66	
SUE	1.68	346	iP	18 18.55	0.2
			eS	18 39.73	
HYA	1.77	9	iP	18 19.85	0.3
			eSg	18 42.42	
NRA0	3.26	64	eP	18 42.80	1.9
			iSg	19 26.30	

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

OCT 24, 1989 08h 06m 00.61± 0.78s
45.377 N ± 7.7km 14.760 E ± 5.3km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
MD 2.8 (TRI).

RIY	0.27	263	iPgc	06 05.60	-0.6
			iSg	06 50.90	
VBY	0.37	70	iPgc	06 07.90	-0.4
			iSg	06 12.60	
CEY	0.43	327	iPg	06 09.00	-0.4
			iSg	06 16.50	
LJU	0.69	347	iPgc	06 14.60	0.4
			eSg	06 25.00	
TRI	0.77	296	ePgc	06 14.90	-0.8
			iSg	06 26.90	
VOY	0.89	317	iPgc	06 17.40	-0.4
			eSg	06 32.10	
PTJ	0.99	58	ePg	06 19.10	-0.3
			eSg	06 34.20	
FVI	1.84	312	P	06 34.60	2.2
			eSg	06 37.50	
HVAR	2.51	151	i(Pn)	06 42.50	0.4
			iSn	07 15.30	
KHC	3.84	348	eP	07 17.90	16.8X

S.D. = 1.0 on 9 of 10 obs.

? OCT 24, 1989 08h 41m 30.68± 1.58s
19.883 S ±35.8km 177.530 W ±18.2km
DEPTH = 530.9 ± 19.5 km
FIJI ISLANDS REGION (181)

MBU	4.59	309	eP	42 56.50	-0.2
			eS	44 04.90	
AFI	8.10	44	eP	43 30.00	0.1
			eS	45 00.00	
DZM	15.13	259	iPc	44 41.60	-0.1
CTA	33.99	263	iPd	47 31.90	0.4
	0.9s	67.23nm		5.2mb	X
CMS	34.83	243	iPc	47 39.10	0.7
PMG	35.65	282	eP	47 46.00	0.8
ASPA	45.09	256	iPd	49 01.10	0.1
	1.1s	60.00nm		5.0mb	X
			iS	55 00.60	
			eScS	58 03.70	
WB5	45.11	261	iPd	49 00.60	-0.5
MTN	49.60	270	iPc	49 34.70	-0.6
WARB	51.44	252	eP	49 48.00	-0.7

S.D. = 0.6 on 10 of 10 obs.

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* OCT 24, 1989 08h 55m 54.43± 0.48s
12.916 N ±26.0km 86.894 W ±21.5km
DEPTH = 194.5 ± 18.6 km
4.3mb (2 obs.)
NICARAGUA (75)

RIN3	2.58	145	eP	56 37.10	-2.3
			S	57 02.80	
JUD	3.04	154	iPd	56 43.46	-1.3
			S	57 13.80	
YUP	3.10	295	iPc	56 45.50	-0.2
JTS	3.23	144	eP	56 46.30	-0.7
			S	57 19.10	
MYT	3.28	290	eP	56 48.00	0.2
			S	57 32.00	
CAO	3.65	151	iPd	56 51.10	-1.1
			S	57 28.80	
EPA	3.68	142	eP	56 52.60	0.0
			S	57 30.10	
SLP	3.76	299	iPc	56 54.50	0.8
			S	57 37.50	
MMG	4.02	294	ePd	57 00.56	3.5X
BVA	4.03	296	eP	56 57.80	0.5
OPS	4.42	142	eP	57 02.40	0.5
CDM	4.54	137	eP	57 05.10	1.2
			S	57 52.20	
TIG	5.23	137	eP	57 13.80	1.4
CTCR	5.70	134	eP	57 19.90	1.3
PBC	5.86	139	eP	57 21.60	1.0
TUL	24.26	342	eP	00 55.20	0.1
	1.1s	6.50nm		4.2mb	
LNO	24.26	342	eP	00 54.80	-0.2
ALQ	28.19	324	eP	01 30.70	-0.4
GOL	31.27	332	eP	01 58.30	0.0
KVN	37.93	319	eP	02 55.00	0.1
FFC	43.36	347	iPc	03 38.70	-0.2
	0.6s	10.00nm		4.5mb	
SCH	44.68	16	eP	03 48.70	-0.7

S.D. = 1.0 on 21 of 22 obs.

? OCT 24, 1989 10h 03m 09.52± 0.98s
42.670 N ± 7.5km 13.023 E ± 7.9km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.2 (SSO).

MNS	0.38	222	Pc	03 17.40	0.0
			eSg	03 22.90	
ALP	0.42	75	ePg	03 18.13	-0.1
			eSg	03 24.15	
ASS	0.48	327	Pc	03 19.20	-0.1
			eSg	03 22.30	
CIO	0.53	10	ePg	03 20.44	0.1
			iSg	03 28.07	

S.D. = 0.2 on 4 of 4 obs.

& OCT 24, 1989 10h 54m 38.60s
48.936 N 125.099 W
DEPTH = 34.7km
4.1mb (1 obs.)
VANCOUVER ISLAND REGION (25)
<PGC>. Felt strongly at Bamfield, Ucluelet and Port Alberni. Also felt at Tofino, Sproat Lake, Pachena Point and Parksville.

MGB	0.28	76	Pgc	54 46.68	0.3
			Sg	54 52.49	
ALB	0.38	28	Pgc	54 47.64	0.2
			Sg	54 54.05	
PFB	0.57	130	Pg	54 50.27	0.1
			Sg	54 58.79	
BTB	0.60	333	Pgc	54 50.19	-0.6
			Sg	54 58.41	
NAB	0.78	68	Pg	54 53.70	0.6
			Sg	55 04.82	
GDR	1.05	324	Pgd	54 56.40	-0.6
PGC	1.13	104	eP	54 58.00	-0.1
MCW	1.52	99	eP	55 03.90	0.0
GMW	2.08	131	eP	55 11.30	-0.5
RMW	2.65	123	eP	55 20.20	0.2
BMW	2.77	152	eP	55 20.50	-1.2
LON	3.11	133	eP	55 26.10	-0.4
SHW	3.36	144	eP	55 30.00	-0.1
PNT	3.62	82	eP	55 33.00	-0.7
VGB	4.51	138	eP	55 46.50	0.1
DPW	4.72	100	eP	55 48.60	-0.7
EDM	8.55	55	eP	56 41.50	-1.5
SES	9.24	76	eP	56 52.00	-0.5
KVN	11.09	150	eP	57 19.00	1.0
FFC	15.39	59	eP	58 17.00	2.4
	0.5s	6.00nm		4.1mb	

20 obs. assocloted

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* OCT 24, 1989 11h 17m 52.17± 0.77s
11.881 S ± 8.5km 120.040 E ± 9.4km
DEPTH = 33.0km (normal)
4.2mb (3 obs.)
SOUTH OF SUMBA ISLAND (292)

KUG	3.88	64	eP	18 52.00	1.0
			eS	19 33.00	
KHKI	5.59	308	ePd	19 14.00	-1.2
			eS	20 15.10	
			e	21 12.60	
TRT	8.39	299	ePc	19 55.10	0.6
			iS	21 23.80	
MBL	9.23	181	eP	20 06.40	0.3
			i	20 07.50	
			iS	21 44.00	
KNA	9.31	115	eP	20 01.00	-6.1X
			eS	21 37.00	
MTN	10.88	96	eP	20 23.00	-5.7X
			eS	22 13.00	
NANU	11.46	201	eP	20 37.40	0.8
	0.3s	8.00nm		5.4mb	X
			eS	22 39.00	
WARB	15.53	157	eP	21 29.00	-1.4
	0.3s	5.00nm		4.2mb	
			eS	23 12.00	
WB5	15.90	122	eP	21 28.90	-6.4X
			eS	24 12.50	

24d 11h

ASPA	17.63	134	iPc	21 56.10	-1.0	
	1.2s		13.00nm		3.9mb	
			eS	24 59.00		
MRWA	17.66	192	eP	22 00.50	3.2X	
			iS	25 03.00		
BAL	18.89	189	eP	22 16.00	3.5X	
			eS	25 31.00		
COOL	18.94	177	eP	22 14.00	0.9	
			eS	25 32.00		
KLB	19.73	186	eP	22 27.10	5.0X	
	0.3s		4.00nm		4.3mb	
			eS	25 50.00		
MUN	20.31	189	eP	22 35.00	6.8X	
			eS	26 04.00		
NWAO	21.11	187	eP	22 45.00	8.7X	
			eS	26 22.00		
RZN	101.75	310	ePdiff	31 33.00	-10.6X	
CNCB	150.41	164	PKP	37 46.00	8.0X	
LPB	150.64	164	PKP	37 46.50	8.4X	
ZOBO	150.89	164	PKP	37 46.00	7.3X	
S.D. = 1.2			on	8 of 20 obs.		

? OCT 24, 1989 12h 04m 29.82± 6.44s
47.460 N ±34.1km 8.043 E ±43.7km
DEPTH = 5.0km (geophysicist)
SWITZERLAND (544)
MD 2.0 (STR).

FEL	0.42	357	Pg	04 37.50	-0.7
LOMF	0.83	263	Pg	04 46.50	0.0
			Sg	05 03.00	
WLS	1.06	334	Pg	04 51.00	0.7
GWF	1.54	350	Pg	04 58.50	0.4
			Sg	05 21.50	
VITF	1.58	299	Pn	04 58.00	-0.5
			Sg	05 27.00	
S.D. = 0.8			on	5 of 5 obs.	

? OCT 24, 1989 12h 48m 09.58± 1.69s
3.985 S ±26.5km 128.593 E ±37.9km
DEPTH = 61.6 ± 15.9 km
4.5mb (2 obs.)
CERAM (272)

AAI	0.50	307	iPc	48 21.60	-0.1
			iS	48 45.00	
MTN	9.16	164	eP	50 22.00	0.5
PCI	9.27	289	ePd	50 32.50	9.5X
WB5	16.77	161	eP	51 58.60	-3.4X
			i	52 11.00	
OIS	19.65	148	iPd	52 33.60	-2.7X
			e	52 40.00	
ASPA	20.23	166	iPc	52 41.70	-0.6
	0.9s		24.00nm		4.5mb
CTA	23.50	134	iPc	53 14.90	0.0
	1.1s		22.78nm		4.5mb
			i	53 22.00	
BWA	35.45	151	eP	55 09.10	7.1X
CAN	36.45	151	eP	55 18.50	8.1X
CHG	36.95	309	eP	55 15.00	0.2
S.D. = 0.8			on	5 of 10 obs.	

• OCT 24, 1989 13h 33m 31.56± 0.51s
41.985 N ±11.5km 82.449 E ± 6.9km
DEPTH = 33.0km (normal)
4.6mb (7 obs.)
SOUTHERN XINJIANG, CHINA (321)

WMO	4.27	63	Pn	34 38.30	2.3
			Sg	35 45.80	
KSH	5.53	245	ePn	34 54.50	0.7
			eSn	35 51.20	
GTA	13.43	95	eP	36 40.00	-2.3
NDI	13.94	199	eP	36 42.20	-6.7X
			eS	39 14.50	
QUE	17.16	232	eP	37 31.50	1.0
LZH	17.62	102	e(P)	37 59.00	22.8X
CD2	20.34	116	eP	38 09.20	1.5
HHC	21.82	83	P	38 26.80	4.0X
XAN	22.25	102	P	38 25.20	-1.9
TIY	23.35	91	eP	38 39.00	1.2
GYA	25.19	120	P	38 56.00	0.3
SSE	32.72	97	eP	40 07.00	3.9X
	0.7s		0.01nm		1.8mb X
SUF	38.55	322	eP	40 54.00	1.6
SOD	39.05	329	eP	40 54.00	-2.5
NUR	39.13	318	eP	40 56.00	-1.2
KEV	39.47	333	eP	40 52.00	-7.9X
NB2	45.66	320	P	41 50.90	0.4
	0.6s		1.30nm		4.0mb
LPG	52.89	301	eP	42 47.30	0.6
	0.6s		5.40nm		4.7mb
SMF	54.23	304	eP	42 56.10	-0.1
	0.5s		1.70nm		4.3mb
AVF	54.47	304	eP	42 57.80	-0.1
	0.5s		3.90nm		4.7mb
MAF	55.21	304	eP	43 03.50	0.1
TCF	55.40	304	eP	43 04.70	-0.1
	0.4s		1.70nm		4.4mb
MBC	61.22	6	eP	43 45.50	0.5
	0.6s		6.00nm		4.9mb
INK	66.78	14	eP	44 25.00	3.7X
BCAO	67.79	255	iPd	44 26.90	-1.6
	0.6s		9.00nm		5.0mb
			i	44 31.20	
WB5	78.02	131	eP	45 27.80	-0.6
S.D. = 1.4			on	20 of 26 obs.	

OCT 24, 1989 13h 38m 28.92± 0.47s
41.637 N ± 9.6km 82.292 E ± 7.6km
DEPTH = 33.0km (normal)
4.8mb (8 obs.)
SOUTHERN XINJIANG, CHINA (321)

WMO	4.54	59	ePn	39 36.30	-0.9
			Sg	40 43.50	
KSH	5.28	248	ePn	39 52.70	5.0X
			eSn	40 54.00	
NDI	13.57	199	eP	41 40.00	-1.4
HHC	21.98	82	eP	43 21.00	-0.8
XAN	22.30	101	P	43 23.80	-1.1
TIY	23.47	90	Pd	43 35.60	-0.7
GYA	25.12	119	P	43 54.00	1.6
CHG	26.82	143	eP	44 09.30	1.2
SSE	32.79	96	eP	45 00.60	-0.5
SUF	38.75	322	eP	45 51.80	0.4
NUR	39.31	319	eP	45 50.00	-6.1X
HFS	44.77	319	eP	46 40.20	-0.5
	1.2s		20.10nm		4.9mb
NB2	45.85	320	P	46 48.50	-0.9
	0.5s		1.80nm		4.3mb
LPG	52.98	301	eP	47 45.00	0.3
	0.7s		5.90nm		4.7mb
SMF	54.33	304	eP	47 53.80	-0.4
AVF	54.57	304	eP	47 55.40	-0.6
	0.6s		3.90nm		4.6mb
TCF	55.50	304	eP	48 02.40	-0.4
	0.4s		1.90nm		4.5mb
MBC	61.58	6	eP	48 43.50	-1.3
	0.6s		8.00nm		5.0mb
INK	67.14	14	eP	49 23.00	2.0
BCAO	67.59	255	iPd	49 25.10	0.5
	0.5s		5.00nm		4.9mb
			i	49 29.00	
WB5	77.89	131	eP	50 25.80	0.8
FFC	83.94	2	iPc	50 59.30	2.8
	0.8s		9.00nm		5.0mb
S.D. = 1.2			on	20 of 22 obs.	

? OCT 24, 1989 14h 09m 19.99± 6.53s
43.521 N ±40.1km 6.450 E ±27.2km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)

STV	0.96	41	P	09 37.92	-0.4
			S	09 53.63	
ENR	1.00	45	P	09 38.64	-0.3
			S	09 53.81	
PZZ	1.09	25	P	09 40.90	0.3
			S	09 55.46	
IMI	1.11	69	P	09 40.90	0.0
			Sg	09 54.23	
			S	09 55.67	
ROB	1.29	53	P	09 44.28	0.4
			Sg	09 47.05	
RRL	1.42	10	P	09 45.97	-0.1
			Sg	09 47.44	
S.D. = 0.4			on	6 of 6 obs.	

& OCT 24, 1989 14h 23m 04.85s
58.602 N 153.681 W
DEPTH = 80.8km
KODIAK ISLAND REGION (13)
<AGS-P>.

CDD	0.33	3	iP	23 16.82	-0.8
			eS	23 25.49	
AUE	0.78	12	iP	23 21.09	-0.5
AUW	0.78	8	iP	23 21.06	-0.6
OPT	1.08	12	iP	23 24.53	-0.7
			eS	23 38.95	
ILIM	1.53	14	iP	23 29.75	-1.3
			eS	23 48.50	
CNPM	1.57	53	eP	23 30.33	-1.2
			eS	23 49.11	
RED	1.88	14	eP	23 34.35	-1.4
NNL	1.89	39	eP	23 35.46	-0.4
SLKM	2.60	41	eP	23 43.64	-1.9
SEW	2.64	53	eP	23 43.74	-2.3
SPU	2.71	17	eP	23 46.08	-1.1
SUA	3.23	26	eP	23 53.09	-1.3
PMS	3.37	36	eP	23 54.32	-1.9
SKT	3.55	17	eP	23 56.68	-2.1
GLI	4.04	53	eP	24 01.66	-3.9
15 obs. associated					

? OCT 24, 1989 14h 38m 23.74± 3.58s
58.979 N ±31.3km 5.958 E ± 8.3km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.7 (BER).

KMY	0.43	303	iP	38 31.93	-0.7
			eS	38 37.44	
BLS1	0.61	47	iP	38 35.77	-0.3
			eS	38 42.06	
ODD1	1.00	20	iP	38 42.07	-0.6
			eS	38 54.08	
SUE	2.17	344	eP	39 01.84	1.5
			eS	39 23.43	
HYA	2.20	3	iP	39 00.68	-0.1
			eS	39 26.80	
NRA0	3.32	56	iPc	39 17.00	0.2
			eS	39 52.80	
			iSg	40 04.50	
S.D. = 1.0			on	6 of 6 obs.	

? OCT 24, 1989 14h 52m 36.40± 1.58s
4.504 S ±29.1km 151.326 E ±16.0km
DEPTH = 73.4 ± 22.2 km
4.8mb (1 obs.)
NEW BRITAIN REGION (192)

RAB	0.90	70	iPd	52 54.00	-0.1
	0.5s		1549.30nm		
			iS	53 12.00	
PAA	4.51	113	eP	53 44.00	0.1
PMG	6.39	220	eP	54 10.00	0.0
	1.0s		40.00nm		4.8mb
			eS	55 23.00	
WB5	22.51	226	eP	57 31.80	0.8
ASPA	25.41	220	eP	57 58.00	-0.8
S.D. = 1.2			on	5 of 5 obs.	

OCT 24, 1989 15h 17m 44.08± 0.74s
42.232 N ± 6.0km 13.460 E ± 8.4km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.8 (SSO).

AQU	0.13	341	P	17 46.50	-0.8
			eSg	17 49.00	
ALP	0.56	9	iPg	17 53.33	-2.1
			iSg	18 02.00	
SDI	0.59	153	P	17 55.60	-0.4
			eSg	18 06.30	
MNS	0.60	285	P	17 55.20	-1.0
			eSg	18 05.80	
RMP	0.70	234	P	17 58.00	0.0
DUI	0.94	127	P	18 02.80	0.8
			eSg	18 18.80	
CIO	0.99	347	ePg	18 03.13	0.2
			iSg	18 16.77	
ASS	1.02	325	P	18 05.50	2.0
AOI	1.32	4	ePn	18 09.72	1.2
ARV	1.32	343	P	18 08.50	0.0
S.D. = 1.3			on	10 of 10 obs.	

OCT 24, 1989 16h 29m 58.16± 0.22s
21.908 S ± 7.0km 138.977 W ± 8.2km
DEPTH = 0.0km (geophysicist)
5.4mb (16 obs.)

24d 16h

TUAMOTU ARCHIPELAGO REGION (631)

MSZ	48.88	229	P	38 48.00	0.4
DZM	50.37	259	iPd	39 01.00	1.5
PLM	58.86	22	eP	40 01.00	-0.4
SYP	58.96	18	eP	40 03.00	1.1
PAS	59.16	20	eP	40 04.00	0.8
MWC	59.26	20	eP	40 05.00	0.9
RVR	59.27	21	eP	40 04.00	0.0
GLA	59.32	24	eP	40 05.00	0.7
SBB	59.76	20	eP	40 08.00	0.6
TPC	59.83	22	eP	40 08.00	0.1
PRS	60.27	16	ePc	40 11.70	0.9
PRI	60.28	17	eP	40 12.10	1.1
LLA	60.65	17	ePc	40 14.40	1.0
PEL	60.66	117	iPc	40 14.10	0.4
GSC	60.66	21	eP	40 14.00	0.4
SAO	60.66	16	ePc	40 14.00	0.6
CLC	60.88	20	eP	40 15.00	0.0
PCC	61.12	15	eP	40 17.30	0.8
FRI	61.34	18	ePc	40 18.50	0.5
BKS	61.51	15	eP	40 19.80	0.6
BRS	61.59	250	e(P)	40 21.00	0.9
CMB	62.13	17	iPc	40 24.10	0.6
TNP	63.08	19	P	40 30.00	0.1
	0.7s		5.93nm		4.9mb
KVN	63.71	18	P	40 34.50	0.4
BWA	64.01	241	eP	40 34.30	-1.8
WDC	64.02	14	iPc	40 36.20	0.4
ALQ	64.42	29	P	40 38.80	0.0
	1.0s		22.50nm		5.4mb
LPB	66.63	99	P	40 55.00	1.3
CNCB	66.66	99	Pc	40 56.00	2.0
ZOBO	66.68	99	Pc	40 55.00	0.8
	0.9s		32.44nm		5.6mb
CMS	66.70	244	eP	40 54.00	0.6
MEO	68.19	35	iPc	41 01.40	-1.2
	0.9s		55.30nm		5.8mb
GOL	68.86	27	P	41 07.00	0.0
	0.9s		34.09nm		5.6mb
CTA	69.15	256	iPc	41 09.20	0.3
	1.0s		55.00nm		5.7mb
BMW	69.54	12	P	41 10.80	0.0
BW06	69.85	23	P	41 12.30	-0.7
LON	70.07	12	P	41 13.60	-0.4
SIO	70.14	36	iPc	41 14.50	-0.1
TUL	70.54	36	iPd	41 16.80	-0.2
	1.0s		31.70nm		5.4mb
			e	41 20.00	
LNO	70.55	36	e(P)	41 15.40	-1.5
PGC	71.60	11	eP	41 24.00	0.9
OLY	72.70	39	P	41 29.40	-0.6
QIS	74.97	254	iPc	41 43.50	-0.1
FVM	75.02	38	P	41 42.80	-0.6
SES	76.11	18	eP	41 50.00	0.6
TKL	77.51	43	P	41 57.00	-0.5
EDM	78.05	15	iPc	42 00.20	0.1
	1.0s		111.00nm		5.9mb
JSC	78.30	46	P	42 02.00	0.1
ASPA	79.00	249	iPc	42 05.70	-0.4
	1.2s		15.00nm		4.9mb
WB5	79.84	253	eP	42 10.60	0.0
BLA	80.60	44	P	42 14.00	-0.3
	0.8s		14.43nm		5.0mb
FFC	82.64	21	eP	42 24.00	-0.5
	0.8s		10.00nm		5.1mb
RSON	82.69	27	P	42 23.40	-1.4
	0.9s		29.04nm		5.5mb
SNA	83.10	166	iPd	42 27.70	0.9
	0.9s		17.65nm		5.3mb
CBN	83.14	44	eP	42 28.00	0.6
PMR	83.61	355	P	42 29.00	-0.2
	0.9s		37.50nm		5.6mb
TTA	85.62	352	P	42 38.20	-1.3
	1.2s		60.61nm		5.6mb
TBR	86.79	43	P	42 45.40	-0.2
FBA	86.79	356	P	42 44.50	-0.6
	1.0s		20.00nm		5.3mb
RSNY	88.45	40	P	42 52.70	-0.8
HBVT	89.23	41	P	42 56.80	-0.5
MAW	89.29	188	eP	42 58.00	0.7
PDCR	94.31	105	eP	43 21.60	0.2
CHG	125.88	278	ePKPd	49 05.00	0.5
	1.0s		12.00nm		
GTA	127.40	303	ePKP	49 07.00	0.0
NB2	135.74	20	PKP	49 21.00	-1.1
	1.2s		6.90nm		

WTS	140.03	33	e(PKP)	49 31.00	0.8
	0.9s		10.00nm		
MOX	143.24	31	ePKP	49 32.50	-3.4X
	1.3s		24.00nm		
CLL	143.45	30	ePKP	49 32.00	-4.2X
	1.5s		19.00nm		
HOF	143.58	32	iPKP	49 34.50	-2.0
BNI	143.62	42	PKP	49 35.50	-1.4
GRF	143.65	33	ePKP	49 34.50	-2.2
	1.0s		34.00nm		
LSD	143.73	42	PKP	49 34.97	-2.3
RRL	143.75	43	PKP	49 35.18	-2.1
RSP	143.94	42	PKP	49 35.28	-2.2
ORX	144.15	41	PKP	49 34.25	-3.5X
PZZ	144.15	43	PKP	49 35.79	-2.1
ORO	144.15	41	PKP	49 37.00	-0.8
DOI	144.24	43	PKP	49 36.50	-1.4
STV	144.41	43	PKP	49 36.30	-1.9
ENR	144.48	43	PKP	49 36.41	-1.9
VAI	144.50	40	PKPd	49 36.90	-1.3
ROB	144.73	43	PKP	49 37.43	-1.3
WET	144.83	33	iPKPc	49 37.80	-0.9
IMI	144.93	43	PKP	49 37.43	-1.7
CKI	144.93	42	PKP	49 38.50	-0.5
FIN	144.99	43	PKP	49 38.05	-1.1
PCP	145.04	42	PKP	49 37.95	-1.3
PRU	145.07	30	iPKPc	49 38.60	-0.4
	0.9s		76.80nm		
MDI	145.11	39	PKPd	49 38.30	-0.9
KHC	145.19	32	iPKPc	49 39.00	-0.3
	1.0s		42.50nm		
KSP	145.25	28	iPKPc	49 39.20	-0.1
	0.9s		62.00nm		
OGA	145.25	37	iPKPc	49 40.20	0.5
BOB	145.48	41	PKP	49 40.50	0.5
SAL	145.68	39	PKP	49 41.00	0.8
BHG	145.74	34	ePKP	49 40.90	0.6
	1.0s		128.00nm		
CTI	146.08	38	PKPd	49 42.20	1.2
KMR	146.17	33	iPKP+	49 42.20	1.2
FVI	146.39	36	PKPd	49 42.60	1.3
MME	146.54	41	PKPc	49 43.90	1.9
BDI	146.55	41	PKPd	49 42.20	0.4
NDI	146.68	289	iPKPc	49 44.00	1.6
	0.7s		30.82nm		
PGD	147.34	41	PKPd	49 46.30	3.1X
VOY	147.34	36	iPKP	49 44.00	1.0
KRA	147.37	25	ePKP	49 43.80	1.0
	0.9s		80.00nm		
			e	49 46.10	
SFI	147.39	41	PKP	49 46.50	3.5X
TRI	147.47	37	ePKPc	49 45.80	2.7X
ZST	147.53	30	iPKP	49 44.90	1.8
			i	49 47.00	
CRE	147.61	41	PKP	49 45.50	1.9
LJU	147.68	36	ePKP	49 46.50	3.0X
CEY	147.82	36	ePKP	49 47.00	3.3X
RIY	148.04	37	ePKP	49 44.80	0.8
SPC	148.17	26	ePKP	49 49.00	4.6X
ARV	148.28	41	PKP	49 48.30	3.8X
ASS	148.35	42	PKP	49 48.00	3.3X
SRO	148.37	30	iPKP	49 49.00	4.5X
VBY	148.42	36	ePKP	49 49.10	4.5X
PTJ	148.53	35	ePKP	49 45.20	0.3
ZAG	148.60	35	ePKP	49 45.20	0.3
MNS	148.73	43	PKP	49 46.80	1.5
POO	149.05	270	iPKPc	49 50.00	3.5X
SDI	149.80	43	PKPd	49 52.00	5.0X
DUI	150.23	42	PKP	49 53.40	5.7X
SGO	151.37	44	PKP	49 55.00	5.8X
BCAO	152.13	125	PKP	49 58.20	7.0X
	0.6s		25.00nm		
BRT	152.38	41	PKP	49 58.50	7.7X
TDS	152.52	44	PKP	49 58.50	7.5X
SOI	153.16	48	PKP	49 59.00	7.1X
CMP	153.26	26	ePKPc	50 01.00	9.1X
VRI	153.40	23	ePKPd	50 00.00	8.0X
MLR	153.43	24	ePKPd	49 54.50	2.2X
SKO	154.11	35	ePKP	50 01.20	8.1X
			i	50 14.60	
OHR	154.35	37	ePKP	49 54.50	0.9
VAY	155.16	35	ePKP	49 55.50	1.0

S.D. = 1.0 on 109 of 134 obs.

OCT 24, 1989 17h 29m 42.46± 0.70s
2.706 S ± 4.7km 77.702 W ± 7.6km
DEPTH = 37.5 ± 6.6 km

5.0mb (13 obs.) 3.9Msz (1 obs.)
PERU-ECUADOR BORDER REGION (110)

TUNG	1.48	330	iP+	30 04.90	-2.4
			eS	30 22.50	
RECU	2.23	337	iP+	30 17.50	-0.8
QUR	2.65	342	eP	30 26.70	2.6
			eS	31 01.60	
GGP	2.67	340	Pd	30 26.30	1.7
			S	31 02.30	
CAYA	2.78	354	Pn	30 26.70	0.6
COTA	3.09	348	Pn	30 37.50	7.0X
			eS	31 14.50	
PSO	3.89	6	iPc	30 49.00	7.3X
BOG	8.14	27	eP	31 42.50	1.0
			eS	33 25.00	
NNA	9.26	175	iP	31 55.50	-1.2
	0.7s		27.40nm		5.5mb
			eS	33 44.00	
PT08	9.26	173	iPc	31 57.00	-0.1
			eS	33 46.50	
PT10	9.34	176	eP	31 56.00	-1.7
			eS	33 46.00	
PT03	11.37	171	e(P)	32 26.30	0.7
			e(S)	34 48.00	
UPA	11.75	351	eP	32 30.80	0.1
Z	22s		0.56um		
SDV	13.50	31	eP	32 53.50	-0.7
TOV	14.70	32	eP	33 07.80	-2.0
ARE	14.97	156	eP	33 21.00	7.4X
ZOBO	16.45	146	P	33 34.00	1.2
Z	20s		1.31um		
			LR	40 24.00	
GUAC	16.49	39	eP	33 38.00	5.0X
OLLA	16.66	41	eP	33 39.50	4.5X
LPB	16.67	146	P	33 40.00	4.5X
			SS	39 06.00	
			LR	40 24.00	
CAR	16.95	39	eP	33 37.00	-1.7
			eS	37 04.00	
CNCB	16.96	146	P	33 44.20	4.9X
LLAV	17.00	39	eP	33 41.70	2.4
CCH	18.48	143	P	34 03.90	6.0X
BAO	31.96	116	e(P)	35 51.00	-16.5X
ALQ	46.16	327	P	38 06.30	0.7
	0.7s		11.12nm		4.9mb
GLD	49.22	332	P	38 30.00	0.5
GOL	49.25	332	P	38 30.00	0.2
	0.5s		12.59nm		5.2mb
GLA	49.95	319	P	38 36.00	1.0
PLM	51.49	318	P	38 47.50	0.6
RSSD	52.25	336	P	38 52.20	-0.3
BW06	53.63	331	P	39 01.00	-1.7
TNP	54.60	322	P	39 09.90	0.0
RSON	55.09	348	P	39 10.50	-2.5
	0.5s		5.41nm		4.8mb
KVN	55.74	322	P	39 18.00	-0.2
CMB	56.56	320	ePd	39 36.00	12.1X
WDC	59.39	321	ePd	39 52.30	8.7X
LON	62.67	327	P	40 05.00	-0.8
PNT	63.19	331	eP	40 10.00	0.9
EDM	63.22	337	eP	40 07.00	-2.3
LIC	73.10	83	P	41 11.70	0.2
Z	18s		0.06um		3.9Msz
TIC	73.14	82	P	41 11.80	0.0
KIC	73.40	83	P	41 13.60	0.3
INK	80.50	342	eP	41 52.00	0.2
MBC	82.35	351	eP	42 03.00	1.6
	1.0s		7.00nm		4.7mb
LPF	83.11	41	eP	42 05.90	0.1
	1.1s		12.20nm		4.9mb
EPF	83.12	46	eP	42 07.10	1.1
FLN	83.62	40	eP	42 08.40	0.0
LFF	83.74	44	eP	42 08.80	-0.3
LDF	83.83	41	eP	42 09.10	-0.4
	1.1s		12.20nm		4.9mb
LPO	84.00	45	eP	42 10.20	-0.3
FBA	84.11	336	P	42 10.00	-0.6
	0.5s		3.72nm		4.8mb
RJF	84.34	44	eP	42 12.60	0.5
LSF	84.51	43	eP	42 13.20	0.3
CAF	84.66	45	eP	42 14.30	0.5
	1.6s		31.10nm		5.2mb
TCF	84.98	43	eP	42 15.50	0.2
MAF	85.21	43	eP	42 16.30	-0.2
BGF	85.45	43	eP	42 17.30	-0.4
	1.2s		14.90nm		5.1mb

24d 17h

AVF	85.83	43	eP	42	19.60	0.1
SSF	85.98	43	eP	42	19.40	-0.9
SMF	86.15	43	eP	42	20.70	-0.4
	1.5s	15.65nm			5.0mb	
LOR	86.24	42	eP	42	20.70	-0.9
	1.2s	8.95nm			4.9mb	
LBF	86.29	43	eP	42	20.70	-1.1
SPA	87.31	180	ePd	42	29.30	2.7
	1.0s	18.00nm			5.3mb	
SSE	146.60	330	PKP	49	22.30	1.6
	0.7s	17.00nm				
LZH	146.75	358	ePKP	49	24.20	3.1X
	2.0s	103.00nm				
WHN	150.05	339	ePKP	49	29.00	2.9X
GBA	153.15	65	PKPd	49	39.30	8.3X
	0.8s	3.20nm				

S.D. = 1.2 an 54 of 68 abs.

OCT 24, 1989 17h 43m 19.64± 0.38s
43.791 N ± 4.2km 21.065 E ± 3.3km
DEPTH = 22.9 ± 3.4 km
YUGOSLAVIA (383)
ML 3.2 (TTG).

BEO	1.12	337	iPg	43	40.20	0.3
			iSg	43	56.20	
IVA	1.25	223	ePg	43	41.00	-0.9
			eSg	43	56.50	
PLE	1.30	250	iPgd	43	41.90	-0.7
			eSg	43	58.00	
PVY	1.44	214	ePg	43	45.00	0.5
			eSg	44	02.50	
KKS	1.78	196	ePn	43	52.50	3.1X
NKY	1.80	238	ePg	43	49.50	-0.3
			eSg	44	12.00	
SKO	1.84	171	iPn	43	50.20	-0.1
			i	43	55.00	
			iSg	44	18.20	
BZS	1.87	12	iPc	44	51.00	60.4X
TTG	1.90	225	ePn	43	51.00	-0.1
			eSn	44	14.40	
PUK	1.95	207	ePn	43	55.20	3.4X
VTS	1.97	127	iPc	43	53.00	0.6
			iS	44	18.00	
			iSg	44	23.00	
GZR	2.02	37	ePd	43	57.00	4.1X
SDA	2.12	214	ePn	43	58.20	4.0X
PHP	2.15	193	ePn	43	58.20	3.5X
BDV	2.23	228	ePn	43	57.00	1.1
			eSn	44	24.00	
ULC	2.26	217	ePn	43	58.50	2.2
			eSn	44	26.70	
HCY	2.31	235	ePn	43	58.00	1.0
			eSn	44	25.50	
DRA	2.46	68	eP	44	09.00	9.9X
PGB	2.59	118	iPd	44	03.00	2.0
			eS	44	44.00	
TIR	2.60	200	ePn	44	05.00	3.9X
OHR	2.69	184	iPn	44	02.40	0.0
VAY	2.71	155	iPn	44	02.00	-0.7
MMB	2.95	137	iPc	44	07.00	0.9
			eS	44	44.00	
KNT	2.96	152	eP	44	05.90	-0.3
GRG	3.00	160	iPc	44	07.40	0.6
PLD	3.16	121	eP	44	18.00	9.0X
			iSg	45	24.00	
PVL	3.16	99	iPd	44	09.00	0.0
			iS	44	57.00	
CMP	3.20	61	ePc	44	25.00	15.3X
SRS	3.26	144	eP	44	10.30	-0.2
RZN	3.41	127	iPc	44	13.00	0.2
			eS	45	08.00	
HVAR	3.42	261	iPn	44	14.00	1.3
			iSn	44	54.30	
LSK	3.66	186	ePn	44	21.80	5.6X
LIT	3.84	163	eP	44	18.20	-0.5
MLR	3.87	62	eP	44	19.00	-0.3
BUD	3.96	340	e(P)	45	21.00	60.6X
OUR	4.08	147	eP	44	21.40	-0.7
ISR	4.15	69	eP	44	13.00	-10.2X
PAIG	4.33	152	eP	44	24.80	-0.8
VBY	4.48	294	eP	44	42.00	14.1X
			e(Sn)	45	19.00	
VRI	4.53	61	ePc	44	35.00	6.4X
AGG	4.86	168	eP	44	32.40	-0.8
RIY	5.02	290	ePn	44	35.50	0.1
TLB	5.07	79	eP	44	30.00	-6.2X
TRI	5.54	293	eP	44	43.10	0.3
			e	45	41.40	
VOY	5.56	296	ePn	44	42.50	-0.7
			eSn	45	37.40	
FVI	6.49	298	P	44	55.90	-0.3
			eSg	44	59.10	
KHC	7.43	319	eP	45	08.90	-0.5
			e	47	27.00	

S.D. = 0.8 an 31 of 47 abs.

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* OCT 24, 1989 18h 04m 23.07± 0.95s
49.334 N ± 9.8km 19.782 E ± 8.7km
DEPTH = 10.0km (geophysicist)
POLAND (548)
ML 3.1 (KRA). Felt at Vitanova, Czechoslavokia.

SPC	0.34	115	iPg	04	29.10	-1.0
			iSg	04	33.30	
KRA	0.73	8	ePg	04	38.50	1.1
			iSg	04	47.50	
SRO	1.81	213	iPn	04	56.90	2.4
			iPg	04	57.50	
			iSn	05	29.30	
BUD	1.92	196	e(P)	05	03.00	6.9X
ZST	2.11	238	iPn	04	57.90	-0.9
			i(Pg)	05	15.00	
			i	05	20.70	
			i(Sg)	05	24.70	
			i	05	34.80	
KSP	2.71	305	ePn	05	07.30	-0.1
	0.8s	50.00nm				
			iPg	05	15.50	
			eSn	05	40.50	
			iSg	05	48.50	
			i	05	53.20	
PRU	3.47	283	eP	05	17.00	-1.1
			Pg	05	25.20	
			eSg	06	09.00	
KHC	4.07	269	Pn	05	26.30	-0.4
			ePg	05	39.80	
			eSn	06	15.00	
			Sg	06	27.30	

S.D. = 1.6 an 7 of 8 obs.

? OCT 24, 1989 18h 30m 32.88± 5.98s
40.352 N ±14.9km 20.017 E ±53.1km
DEPTH = 10.0km (geophysicist)
GREECE-ALBANIA BORDER REGION (392)

OHR	0.96	38	ePn	30	53.00	1.8
LIT	1.91	97	ePn	31	05.20	-0.6
			eSn	31	37.00	
SKO	1.94	33	ePn	31	05.00	-1.2
VAY	2.17	63	ePn	31	08.80	-0.7
AGG	2.23	126	ePn	31	11.10	0.7
PAIG	2.84	97	ePn	31	18.90	-0.2

S.D. = 1.4 an 6 of 6 obs.

? OCT 24, 1989 20h 11m 33.67± 4.84s
36.927 S ±38.0km 177.019 E ±16.4km
DEPTH = 298.3 ± 30.0 km
OFF E. COAST OF N. ISLAND, N.Z. (160)

HBZ	1.22	124	P	12	15.00	-0.2
			S	12	42.00	
GNZ	1.89	155	P	12	20.10	0.4
			S	12	45.00	
WHH	2.00	192	P	12	19.90	-0.8
HITZ	2.04	209	Pc	12	21.20	0.3
HATZ	2.09	200	Pc	12	21.10	-0.3
RATZ	2.18	207	P	12	22.20	0.1
MOH	2.20	177	eP	12	22.40	0.1
KETZ	2.42	206	P	12	24.70	0.4
TTH	2.62	183	P	12	26.60	0.7
PGZ	3.73	189	P	12	37.20	-0.1
KIW	4.26	202	P	12	42.90	-0.2
MTW	4.39	195	P	12	44.30	-0.3
CAW	4.44	199	Pc	12	45.00	-0.2
BLW	4.60	195	P	12	46.80	-0.1
WDW	4.61	199	P	12	46.70	-0.4
MRW	4.66	202	P	12	47.40	-0.2
			eS	13	39.30	
WEL	4.69	201	eP	12	48.00	0.0
MOW	4.69	196	P	12	47.80	-0.3
TCW	4.78	206	P	12	49.10	0.0
CCW	5.28	203	eP	12	56.10	1.2

S.D. = 0.5 on 20 of 20 obs.

% OCT 24, 1989 20h 58m 39.59± 1.25s
39.939 N ±11.5km 23.290 E ± 6.0km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

PAIG	0.30	92	iPgd	58	46.00	0.2
			eSg	58	50.50	
LIT	0.64	285	ePg	58	52.20	-0.2
			eSg	59	02.20	
OUR	0.66	53	ePg	58	52.50	-0.2
			eSg	59	01.00	
SRS	1.20	11	ePb	59	02.00	0.1
			eSb	59	18.70	
GRG	1.22	327	ePb	59	02.70	0.4
			eSb	59	19.60	
KNT	1.26	346	ePb	59	02.80	-0.2
			eSb	59	20.80	

S.D. = 0.3 an 6 of 6 obs.

% OCT 24, 1989 21h 47m 19.68± 1.18s
39.961 N ±10.9km 23.310 E ± 6.1km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

PAIG	0.29	97	iPgd	47	25.90	0.2
			eSg	47	30.40	
OUR	0.64	54	ePg	47	32.20	-0.2
			eSg	47	40.90	
LIT	0.65	283	iPgd	47	32.30	-0.3
			eSg	47	41.40	
SRS	1.17	10	ePb	47	41.20	-0.4
GRG	1.21	325	ePb	47	42.70	0.4
			eSb	47	59.60	
KNT	1.24	345	ePb	47	43.00	0.3
			eSb	48	00.70	

S.D. = 0.5 on 6 of 6 obs.

% OCT 24, 1989 22h 15m 21.43± 1.40s
39.927 N ±12.9km 23.291 E ± 6.7km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

PAIG	0.30	90	iPgd	15	27.90	0.2
			eSg	15	32.50	
LIT	0.64	286	ePgd	15	34.20	-0.1
			eSg	15	44.10	
OUR	0.67	52	ePg	15	34.20	-0.5
			eSg	15	43.00	
SRS	1.21	11	ePb	15	44.30	0.3
			eSb	16	01.00	
KNT	1.27	346	ePb	15	45.00	0.0
			eSb	16	03.10	

S.D. = 0.4 an 5 of 5 obs.

OCT 24, 1989 22h 22m 09.02± 0.37s
42.997 N ± 2.9km 13.039 E ± 3.9km
DEPTH = 7.2 ± 4.9 km
CENTRAL ITALY (381)
MD 3.1 (SSO).

CIO	0.21	21	iPgd	22	13.33	-0.2
			iSg	22	17.12	
ASS	0.29	285	Pc	22	14.50	-0.4
			eSg	22	17.80	
SSO	0.41	43	iPgd	22	18.03	0.8
			iSg	22	25.68	
ALP	0.45	119	iPgd	22	17.96	-0.2
			iSg	22	25.55	
ARV	0.51	352	Pd	22	18.80	-0.4
			eSg	22	26.90	
MNS	0.67	204	Pc	22	21.60	-0.8
			eSg	22	32.60	
AOI	0.69	36	iPgd	22	21.87	-1.0
			iSg	22	33.99	
AQU	0.70	157	P	22	22.30	-0.7
			eSg	22	36.10	
CRE	1.01	309	P	22	29.50	1.0
RMP	1.21	192	P	22	31.50	-0.3
			eSn	22	51.00	
RDP	1.26	191	P	22	33.60	0.9
			eSn	22	51.60	
SFI	1.27	317	P	22	32.70	0.0
PGD	1.30	313	P	22	34.20	0.7
			eSn	22	51.70	
SDI	1.41	156	P	22	35.90	0.7

			eSn	22	56.40	
DUI	1.70	141	P	22	39.90	0.6
			eSn	23	02.30	
BDI	2.07	302	P	22	44.00	-0.7
TRI	2.76	11	eP	23	26.90	32.5X
VBY	2.97	32	eP	23	42.60	45.2X
			e	23	54.50	
VOY	3.10	11	e(Pn)	23	02.90	3.7X
			eSn	23	43.30	

S.D. = 0.7 on 16 of 19 obs.

& OCT 24, 1989 22h 36m 11.74s
61.829 N 151.276 W
DEPTH = 62.7km
SOUTHERN ALASKA (2)
<AGS-P>.

SUA	0.45	145	iP	36	23.56	-0.1
CGLM	0.63	214	iP	36	24.96	-0.7
CRP	0.70	217	iP	36	25.92	-0.7
			eS	36	37.59	
CUT	0.75	39	eP	36	26.24	-0.7
			eS	36	38.03	
PLRM	1.05	102	eP	36	29.77	-1.0
			eS	36	44.61	
GHO	1.12	92	eP	36	31.13	-0.7
			eS	36	47.37	
SLKM	1.42	158	eP	36	35.06	-0.8
KTH	1.74	5	eP	36	39.15	-1.1
RND	1.94	34	eP	36	41.73	-1.3
SEW	1.95	152	eP	36	44.31	1.2
CNPM	2.31	179	eP	36	47.86	-0.4
VZW	2.40	107	eP	36	47.19	-2.2
FID	2.56	113	eP	36	47.99	-3.6
KLU	2.58	95	eP	36	49.43	-2.6
PAX	2.94	64	eP	36	55.72	-1.4

15 obs. assocloted

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* OCT 24, 1989 22h 46m 03.60± 1.18s
36.340 N ±10.7km 33.950 E ± 9.8km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
ML 3.1 (CSS), 3.5 (BHL).

FAM	1.34	178	eP	46	28.00	-0.3
CSS	1.46	200	eP	46	28.50	-1.6
			eS	46	48.00	
PPCY	1.95	222	eP	46	39.00	1.9
GAZ	2.75	71	iPn	46	48.10	-0.4
BHL	2.80	150	Pn	46	51.00	1.6
			Sn	47	20.00	
BCK	2.92	294	iPn	46	55.90	4.9X
BBTK	3.62	345	eP	47	14.00	13.0X
			eS	48	08.00	
SHMJ	3.90	157	Pd	47	06.10	1.2
YER	4.62	282	ePn	47	15.00	-0.1
DSI	4.90	166	eP	47	19.00	-0.1
PRNI	6.04	171	e(P)	47	35.00	-0.2
MBH	6.60	173	eP	47	41.00	-2.0

S.D. = 1.4 on 10 of 12 obs.

% OCT 24, 1989 22h 46m 25.20± 1.12s
39.966 N ±10.0km 23.291 E ± 5.8km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

PAIG	0.30	97	ePgd	46	31.40	-0.1
			eSg	46	36.10	
LIT	0.63	283	ePgd	46	37.80	-0.1
			eSg	46	47.60	
OUR	0.64	55	ePg	46	38.30	0.2
			eSg	46	46.30	
THE	0.71	340	ePg	46	38.60	-0.6
			eSg	46	48.40	
SRS	1.17	11	ePb	46	47.00	-0.1
GRG	1.20	326	ePb	46	48.20	0.6
			eSb	47	04.30	
KNT	1.23	346	ePb	46	48.10	0.0
			eSb	47	06.10	

S.D. = 0.4 on 7 of 7 obs.

& OCT 24, 1989 22h 51m 11.72s
58.614 N 142.745 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

YAH	1.83	16	iP	51	38.86	-4.8
			eS	51	59.16	
PCA	1.96	40	iP	51	40.50	-4.9
			eS	52	03.70	
BCPM	2.09	49	eP	51	42.05	-5.1
			eS	52	05.37	
TGL	2.15	359	iP	51	42.95	-5.2
HON	2.17	66	eP	51	43.26	-5.1
			eS	52	05.82	
BALM	2.44	5	iP	51	47.18	-5.1
			eS	52	14.37	
FID	2.86	320	iP	51	52.93	-5.3
MTU	2.87	301	eP	51	53.36	-5.0
VLZ	3.11	326	iP	51	56.12	-5.5
VZW	3.12	324	eP	51	56.31	-5.5
			eS	52	31.41	
GLI	3.16	318	eP	51	56.52	-6.0
			eS	52	31.23	
KLU	3.30	332	iP	51	59.21	-5.3
			eS	52	33.62	
HYT	3.46	48	P	52	01.90	-4.9
SEW	3.74	296	eP	52	03.74	-7.0
			eS	52	45.55	
SIT	4.26	108	eP	52	11.70	-6.4
CNPM	4.48	285	eP	52	09.81	-11.3
PAX	4.57	344	eP	52	17.20	-5.4
OPT	5.50	285	eP	52	31.82	-3.8

18 obs. assocloted

? OCT 24, 1989 23h 02m 02.09± 3.92s
18.188 N ±27.9km 93.852 E ±32.1km
DEPTH = 33.0km (normol)
BURMA (296)

CHG	4.87	82	ePg	03	15.70	0.7
			eSg	04	02.60	
BDT	5.00	100	ePg	03	16.00	-0.8
			eSg	03	36.00	
LOE	7.54	95	ePn	03	52.50	-0.1
			ePg	04	02.00	
			eSg	05	11.00	
NNT	7.95	134	eP	03	58.70	0.5
WB5	54.88	132	eP	11	31.80	-0.2

S.D. = 0.8 on 5 of 5 obs.

OCT 24, 1989 23h 02m 57.41± 0.54s
43.010 N ± 4.4km 13.050 E ± 5.1km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.6 (SSO).

CIO	0.20	21	iPgd	03	01.50	-0.3
			iSg	03	05.32	
ASS	0.29	282	Pc	03	02.60	-0.9
			eSg	03	05.90	
SSO	0.39	44	ePgd	03	05.82	0.4
			eSg	03	13.44	
ALP	0.45	121	ePg	03	06.07	-0.5
			iSg	03	13.74	
ARV	0.49	351	Pc	03	06.80	-0.6
			eSg	03	15.20	
AOI	0.67	37	ePgd	03	10.28	-0.5
			iSg	03	22.60	
MNS	0.68	204	Pc	03	09.80	-1.2
			eSg	03	20.10	
AQU	0.71	158	P	03	11.80	0.4
CRE	1.01	308	P	03	17.20	0.6
			eSg	03	31.50	
PGD	1.30	312	P	03	23.00	1.4
SDI	1.42	156	P	03	24.60	1.3
			eSn	03	43.50	

S.D. = 1.0 on 11 of 11 obs.

? OCT 24, 1989 23h 32m 21.48± 0.75s
43.012 N ± 5.8km 13.049 E ± 6.8km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.5 (SSO).

CIO	0.20	21	iPg	32	25.74	-0.1
			iSg	32	29.46	
ASS	0.29	282	Pc	32	27.40	-0.2
			eSg	32	30.80	
ALP	0.45	121	e(Pg)	32	30.63	-0.1
			iSg	32	38.19	
ARV	0.49	351	P	32	31.70	0.2
			eSg	32	39.30	
MNS	0.68	204	P	32	35.20	0.1
			eSg	32	43.80	

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

? OCT 25, 1989 00h 23m 30.78± 7.04s
40.618 N ± 9.0km 24.473 E ±55.5km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

OUR	0.47	233	iPgc	23	40.20	-0.1
			eSg	23	45.30	
SRS	0.83	307	ePg	23	46.70	-0.2
			eSg	23	56.90	
PAIG	0.92	222	ePg	23	48.20	-0.1
KNT	1.31	295	ePgc	23	54.70	-0.3
			eSg	24	09.50	
GRG	1.61	283	ePb	24	00.00	0.7

S.D. = 0.6 on 5 of 5 obs.

% OCT 25, 1989 00h 46m 18.78± 2.93s
39.260 N ±20.8km 23.508 E ±19.1km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

PAIG	0.68	11	ePg	46	33.00	0.8
			eSg	46	44.00	
AGG	0.95	256	ePg	46	36.90	0.1
OUR	1.13	19	ePbc	46	40.00	0.0
LIT	1.15	317	ePb	46	40.60	0.3
			eSb	46	58.70	
GRG	1.90	334	ePn	46	52.10	0.6
KNT	1.96	346	ePnc	46	50.60	-1.7

S.D. = 1.2 on 6 of 6 obs.

& OCT 25, 1989 01h 27m 26.60s
37.078 N 121.832 W
DEPTH = 14.0km
4.6mb (4 obs.) 3.6Msz (1 obs.)
CENTRAL CALIFORNIA (39)
<BRK>. ML 5.0 (BRK).
Mo=1.2*10**16 Nm (BRK). Felt throughout the San Froncisco Boy area.

GCC	0.14	250	iPd	27	29.80	-0.5
MHC	0.30	30	iPd	27	33.00	-0.2
			iS	27	38.10	
ARN	0.36	41	iPd	27	33.90	-0.4
SAO	0.44	135	iPc	27	34.40	-1.2
PCC	0.61	314	iPd	27	37.90	-0.6
PRS	0.83	153	ePc	27	41.50	-0.8
LLA	0.85	123	iPc	27	41.90	-0.7
BKS	0.86	338	iPc	27	42.00	-0.8
			iS	27	54.10	
BRK	0.86	337	ePc	27	41.80	-1.0
			iS	27	54.60	
PRI	1.32	135	ePd	27	50.10	-0.6
CMB	1.49	50	iPd	27	52.20	-0.8
NWRM	1.61	329	eP	27	52.50	-2.1
PHAM	1.69	137	eP	27	54.50	-1.4
FRI	1.70	92	iPd	27	54.50	-1.5
PKEM	1.72	126	eP	27	55.80	-0.4
BCH	2.36	143	eP	28	03.10	-2.5
ORV	2.49	6	ePc	28	05.90	-1.4
BLP	2.77	155	eP	28	09.00	-2.3
ABL	3.07	136	eP	28	13.10	-2.6
LTCM	3.13	356	eP	28	14.70	-1.7
MIN	3.27	3	ePc	28	18.20	-0.3
KVN	3.54	55	eP	28	21.10	-1.4
TNP	3.80	73	eP	28	25.00	-1.2
FHC	4.08	336	P	28	29.40	-0.5
PNT	12.34	7	eP	30	26.00	1.4
	0.6s		4.00nm			4.8mb
EDM	17.19	17	eP	31	27.50	-0.3
	0.9s		34.00nm			4.5mb
MEO	18.96	90	eP	31	49.50	-0.2
TUL	20.95	85	eP	32	13.60	2.2
	0.8s		7.40nm			4.1mb
	Z 18s		0.25um			3.6Msz
			LR	40	45.00	
LNO	20.95	85	eP	32	13.00	1.7
FFC	22.28	31	eP	32	24.00	-0.6
	0.9s		25.00nm			4.7mb
UYO	22.41	89	e(P)	32	26.00	-0.1

31 obs. assocloted

? OCT 25, 1989 02h 39m 35.99± 3.14s

25d 02h

17.423 N ±17.4km 101.132 W ±25.3km
DEPTH = 33.0km (normal)
NEAR COAST OF GUERRERO, MEXICO (58)

ACX	1.34	114	iP	39	59.00	0.5
			iS	40	18.50	
III	1.85	59	eP	40	05.00	-1.1
			(S)	40	33.16	
MRX	2.27	359	iP	40	11.50	-0.4
			(S)	40	43.50	
CRX	2.41	35	iP	40	17.50	3.3X
			(S)	40	54.00	
UNM	2.65	44	(P)	40	19.50	1.9
TAC	2.70	43	iP	40	18.50	0.3
			(S)	40	57.00	
PPM	2.89	55	iP	40	20.50	-0.7
			(S)	41	04.00	
IIC	2.93	37	(P)	40	25.92	4.3X
			(S)	41	04.60	
IIT	3.12	59	(P)	40	28.00	3.7X
			(S)	41	09.50	
IISM	3.89	66	eP	40	38.46	3.5X
OXX	4.23	94	iP	40	39.50	-0.4

S.D. = 1.2 on 7 of 11 obs.

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* OCT 25, 1989 02h 40m 54.15± 0.77s
23.965 S ± 6.8km 68.725 W ±16.1km
DEPTH = 33.0km (normol)
NORTHERN CHILE (123)

CCH	6.98	21	P	42	42.50	5.5X
CNCB	7.15	6	P	42	40.00	0.3
LPB	7.42	5	P	42	44.00	0.7
ZOBO	7.68	4	P	42	46.00	-1.0
PEL	9.31	190	eP	43	09.80	0.7
			i	44	40.00	
LNV	10.23	193	eP	43	21.00	-0.7
PPD	16.15	87	eP	44	40.30	0.0
BAO	21.18	71	eP	45	59.00	19.8X

S.D. = 0.9 on 6 of 8 obs.

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* OCT 25, 1989 03h 21m 20.05± 1.03s
6.113 S ±11.3km 150.446 E ± 9.9km
DEPTH = 61.2 ± 15.3 km
4.8mb (3 obs.)
NEW BRITAIN REGION (192)

RAB	2.57	42	iPc+	22	00.00	0.0
LAT	3.47	261	eP	22	20.00	7.3X
PMG	4.62	225	eP	22	29.00	0.0
	0.9s		58.82nm			
			eS	23	22.00	
CTA	14.48	196	iPc	24	43.30	0.2
	1.0s		16.00nm			4.4mb
			i	24	49.90	
QIS	17.80	215	eP	25	25.00	-0.2
MTN	20.18	249	eP	25	52.00	-0.3
RMQ	20.33	184	iPd	25	54.20	0.4
	0.7s		96.00nm			5.2mb
			i	26	01.20	
WB5	20.77	227	eP	25	58.20	-0.2
			i	26	05.00	
OLP	21.20	196	eP	26	03.00	0.4
BRS	21.28	174	iPc	26	02.00	-1.5
			i	26	16.00	
DZM	22.15	137	iPc	26	12.70	0.4
ASPA	23.62	221	eP	26	27.30	0.8
	0.4s		14.00nm			4.8mb
	Z 23s		0.14um			3.3MszX
			i	26	35.50	
			LR	35	07.20	
BAO	151.71	140	ePKP	41	11.00	7.3X

S.D. = 0.7 on 11 of 13 obs.

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* OCT 25, 1989 03h 59m 19.14± 1.59s
16.777 N ±18.1km 99.592 W ± 8.8km
DEPTH = 33.0km (normal)
4.4mb (7 obs.)
NEAR COAST OF GUERRERO, MEXICO (58)

ACX	0.27	290	iPd	59	24.50	-2.1
			iS	59	28.12	
III	1.59	4	iP	59	46.50	0.9
			iS	00	08.78	
PPM	2.46	22	eP	59	55.00	-3.2X
			iS	00	31.35	
IIT	2.54	29	eP	59	59.79	0.5
			(S)	00	38.61	
UNM	2.57	9	(P)	00	03.00	3.4X
			(S)	00	39.50	
CRX	2.62	358	(P)	00	05.92	5.6X
			(S)	00	40.00	
TAC	2.64	8	(P)	00	05.00	4.4X
			(S)	00	43.00	
OXX	2.76	83	iP	00	03.50	1.2
			(S)	00	47.20	
IIC	2.99	6	eP	00	08.90	3.2X
			(S)	00	51.90	
IISM	3.05	43	iP	00	06.87	0.7
			iS	00	49.00	
SMMM	3.06	15	eP	00	08.22	2.0
			(S)	00	58.41	
MRX	3.28	333	eP	00	10.05	0.6
			eS	00	48.50	
EVV	4.38	67	(P)	00	23.00	-2.0
AGX	5.68	334	(P)	01	05.00	21.6X
SCX	6.67	89	(P)	01	13.00	15.7X
UYO	17.92	14	iPc	03	25.50	-2.0
MEO	17.96	3	e(P)	03	25.60	-2.3
ALQ	19.10	343	P	03	41.50	-0.7
	0.9s		2.34nm			3.4mb
TUL	19.35	9	eP	03	42.90	-2.0
	0.9s		13.60nm			4.2mb
	Z 21s		0.15um			4.3Msz
			e(S)	07	37.00	
			LR	09	26.00	
LNO	19.36	9	ePd	03	42.90	-1.9
GLA	21.25	322	P	03	59.50	-5.3X
FVM	22.61	19	P	04	20.00	1.7
PLM	22.68	320	P	04	21.50	2.2
GOL	23.39	349	P	04	26.50	0.3
	0.9s		9.47nm			4.3mb
GLD	23.41	349	P	04	28.00	1.7
	1.1s		28.93nm			4.7mb
TNP	26.27	327	P	04	54.00	0.4
	0.8s		4.41nm			4.1mb
BW06	27.28	344	P	05	01.90	-0.8
KVN	27.46	328	P	05	05.40	1.0
RSSD	27.52	353	P	05	02.50	-2.4X
PNT	36.30	338	eP	06	22.00	0.5
	0.5s		4.00nm			4.6mb
FFC	37.92	358	iPd	06	34.90	-0.1
	0.8s		16.00nm			4.9mb
EDM	37.93	347	iPd	06	35.30	0.1
INK	55.82	345	eP	08	55.00	-0.2
			pP	09	35.00	174kmX

S.D. = 1.5 on 24 of 33 obs.

OCT 25, 1989 04h 13m 48.94± 0.47s
41.804 N ± 6.0km 20.191 E ± 4.4km
DEPTH = 10.0km (geophysicist)
ALBANIA (391)
ML 2.3 (TTG).

PHP	0.22	122	iPgc	13	53.50	-0.2
PUK	0.33	317	iPgc	13	55.80	0.1
LACI	0.40	245	ePg	13	58.20	1.1
SDA	0.56	292	iPgd	14	00.30	0.0
PVY	0.81	349	ePg	14	04.60	-0.1
			eSg	14	17.00	
OHR	0.83	146	iPg	14	04.30	-0.7
			iSg	14	17.00	
TTG	0.93	312	ePg	14	06.20	-0.5
			eSg	14	21.00	
SKO	0.95	79	iPg	14	08.00	1.0
BERA	1.12	189	ePn	14	15.00	5.2X
BDV	1.12	296	iPgd	14	09.20	-0.8
			eSg	14	27.00	
HCY	1.41	298	ePg	14	14.00	-0.7
			eSg	14	36.00	
BRY	1.64	312	ePn	14	19.00	0.9
			eSn	14	44.80	
LSK	1.68	169	ePn	14	23.50	4.9X
VAY	1.85	104	ePn	14	20.70	-0.2

S.D. = 0.8 on 12 of 14 obs.

? OCT 25, 1989 04h 23m 22.99±20.65s
31.694 S ±139.km 72.191 W ±89.7km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	1.41	161	eP	23	48.00	-0.6
			iS	24	00.60	
ROCH	1.62	142	iPc	23	51.50	-0.4
JACH	1.68	126	iP	23	52.90	0.3
			iS	24	08.00	
LCCH	1.85	164	iPd	23	54.40	-0.6
			iS	24	12.00	
PEL	1.93	139	iPd	23	56.10	-0.1
			iS	24	14.70	
SAN	2.18	144	eP	24	00.00	0.2
			iS	24	23.00	
TACH	2.22	152	iPc	24	00.50	0.1
			iS	24	22.50	
FCH	2.29	136	iP	24	01.00	-0.7
			iS	24	25.50	
LNV	2.35	164	eP	24	03.00	0.8
			iS	24	26.50	
PCH	2.39	144	iPc	24	03.10	0.3
			iS	24	29.40	
CHCH	2.58	150	iPd	24	06.30	0.7
			iS	24	34.00	

S.D. = 0.6 on 11 of 11 obs.

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* OCT 25, 1989 04h 42m 54.17± 0.52s
52.637 N ±14.2km 169.283 W ± 7.3km
DEPTH = 33.0km (normal)
4.5mb (5 obs.)
FOX ISLANDS, ALEUTIAN ISLANDS (9)

ADK	4.61	264	eP	44	04.90	1.6
FBA	16.47	33	eP	46	44.20	0.2
	0.6s		7.64nm			4.0mb
INK	23.10	34	eP	47	57.50	0.1
RMW	30.47	80	eP	49	07.50	1.6
LON	30.81	82	eP	49	09.40	0.6
PNT	30.95	76	eP	49	10.00	0.0
NEW	32.90	76	eP	49	27.10	0.0
EDM	32.99	66	ePc	49	28.20	0.4
KVN	37.35	90	eP	50	06.20	0.8
TNP	38.50	91	eP	50	15.00	0.0
	0.6s		2.04nm			4.1mb
BW06	40.30	79	eP	50	29.80	-0.1
PLM	41.85	96	eP	50	43.00	0.4
RSSD	42.79	74	eP	50	49.90	-0.4
GOL	44.67	80	eP	51	06.00	0.4
GLD	44.73	80	eP	51	07.00	1.0
RSON	44.81	61	eP	51	05.50	-0.8
	0.5s		6.70nm			4.8mb
ALQ	47.10	86	eP	51	25.00	0.1
			e	52	56.00	
LNO	52.88	77	eP	52	07.00	-1.7
TUL	52.88	77	eP	52	07.70	-1.1
	1.0s		6.70nm			4.6mb
CVL	61.38	64	eP	53	08.50	-0.5
WB5	87.14	232	eP	55	36.00	-1.8
GBA	92.80	297	Pd	56	03.80	-0.7
	0.4s		1.40nm			4.7mb

S.D. = 0.9 on 22 of 22 obs.

& OCT 25, 1989 05h 38m 43.20s
37.070 N 121.828 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

GCC	0.14	254	iPd	38	46.40	-0.4
MHC	0.31	29	iPd	38	49.70	-0.2
ARN	0.37	40	iPd	38	50.40	-0.5
SAO	0.43	135	eP	38	50.90	-1.2
PCC	0.62	314	ePc	38	54.40	-0.9
PRS	0.82	153	ePd	38	58.10	-0.8
LLA	0.84	122	ePd	38	58.40	-0.8
BKS	0.87	338	iPd	38	59.30	-0.3
			iS	39	11.50	
BRK	0.87	337	ePd	38	59.10	-0.6
			eS	39	10.40	
CMB	1.50	50	iPc	39	08.60	-1.2
NWRM	1.62	329	e(P)	39	10.00	-1.5
PHAM	1.69	136	e(P)	39	11.00	-1.5
BCH	2.35	143	eP	39	20.40	-1.8
ORV	2.50	6	eP	39	25.00	0.9
KVN	3.55	55	eP	39	37.90	-1.3
TNP	3.80	73	e(P)	39	41.00	-1.9

16 obs. associated

OCT 25, 1989 05h 56m 13.07± 1.47s
4.830 S ± 4.7km 81.072 W ±13.8km
DEPTH = 38.7 ± 13.9 km
4.7mb (5 obs.)
NEAR COAST OF NORTHERN PERU (109)

Felt at Talara.

RECU	4.86	31	P	57	27.30	1.1
GGP	5.24	28	iPd	57	31.40	-0.3
OUR	5.28	29	eP	57	32.80	0.8
CAYA	5.77	32	eP	57	38.50	-0.6
COTA	5.81	28	P	57	38.80	-0.9
PSO	7.06	32	eP	57	56.00	-1.0
NNA	8.25	150	eP	58	12.00	-1.3
	0.6s	50.00nm				5.7mb X
			i	58	19.20	
			eS	59	43.00	
PT10	8.26	151	eP	58	15.00	1.5
			e(S)	00	05.00	
PT08	8.38	148	iPc	58	13.60	-1.8
			iS	59	48.50	
PT03	10.48	151	e(P)	58	44.90	0.9
BOG	11.71	37	e(P)	59	22.00	20.9X
			eS	01	22.00	
UPA	13.81	6	eP	59	31.20	2.7X
ARE	14.90	142	eP	59	44.00	0.8
ZOBO	17.05	133	P	00	11.00	0.1
Z	22s	0.34um				
			LR	06	47.00	
SDV	17.15	37	eP	00	12.70	1.0
LPB	17.24	133	P	00	13.00	-0.1
			LR	06	16.00	
CNCB	17.51	134	P	00	16.50	-0.1
TOV	18.36	38	eP	00	22.50	-4.2X
CCH	19.22	132	P	00	37.70	0.4
LNO	42.81	342	eP	04	10.00	1.1
TUL	42.81	342	eP	04	10.10	1.1
	0.5s	11.60nm				4.9mb
Z	22s	0.11um				3.7Msz
			e	04	21.30	
			LR	19	00.00	
FVM	43.47	349	P	04	15.10	0.8
	0.5s	10.50nm				4.8mb
ALQ	46.22	331	P	04	37.90	1.3
	0.8s	2.93nm				4.3mb
RSSD	52.93	339	P	05	28.00	-0.1
BW06	53.96	334	P	05	34.40	-1.3
TNP	54.29	325	P	05	37.90	-0.2
	0.8s	3.09nm				4.4mb
KVN	55.46	325	P	05	46.20	-0.4
RSON	56.52	350	P	05	52.10	-1.7
	0.5s	9.46nm				5.1mb
LON	62.71	330	P	06	36.00	-0.5
PNT	63.46	333	eP	06	42.00	0.6
EDM	63.91	339	ePc	06	43.20	-1.1
KIC	77.01	82	P	08	04.00	-0.4
INK	81.48	343	eP	08	28.00	0.6
WB5	137.38	234	ePKP	15	34.50	-0.9
TIY	145.02	341	PKPd	15	47.60	-0.9
GTA	145.57	359	iPKPc	15	48.40	-1.0
SSE	146.52	324	PKP	15	52.00	1.0
	0.8s	16.00nm				
MBL	147.02	218	iPKPc	15	53.50	1.4
LZH	148.57	352	ePKP	15	57.60	3.2X
	1.5s	46.00nm				
XAN	149.49	344	PKP	15	59.30	3.6X
	S.D. = 1.0	an	35 af	40	obs.	

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* OCT 25, 1989 06h 00m 10.89± 2.05s
15.367 N ±11.1km 120.042 E ±12.6km
DEPTH = 34.8 ± 20.0 km
4.7mb (3 obs.)
LUZON, PHILIPPINE ISLANDS (249)

BAG	1.16	26	iPd	00	31.50	0.4
QCP	1.24	126	eP	00	38.60	6.6X
DAV	9.85	146	eP	02	39.80	6.5X
QIZ	10.40	292	eP	02	38.90	-2.0
GYA	16.66	314	P	04	08.80	5.3X
SNG	20.70	249	eP	04	53.00	2.2
			e	13	38.00	
XAN	21.13	334	P	04	54.50	-0.6
CD2	21.49	319	P	04	59.40	0.6
TIY	23.26	345	eP	05	16.80	0.6
BJI	24.81	353	eP	05	32.50	1.3
LZH	25.20	328	eP	05	35.20	0.1
	1.5s	0.04nm				1.8mb X
WB5	37.75	158	eP	07	24.50	-1.0
ASPA	41.09	160	iPc	07	53.40	0.2
	0.5s	9.00nm				4.8mb
GBA	41.24	273	Pd	07	55.30	0.7
	0.8s	6.50nm				4.4mb
SUF	78.26	332	eP	12	07.00	-1.5
NUR	79.40	330	eP	12	34.00	19.3X
NB2	85.50	332	P	12	45.40	-1.0
	0.7s	3.90nm				4.7mb
	S.D. = 1.4	an	13 af	17	abs.	

& OCT 25, 1989 06h 45m 20.87s
59.588 N 146.273 W
DEPTH = 11.9km
GULF OF ALASKA (15)
<AGS-P>.

MID	0.16	192	iP	45	24.75	0.0
MTU	0.80	301	eP	45	35.47	-0.8
FID	1.17	355	iP	45	40.62	-1.9
			eS	45	57.47	
GLI	1.36	343	iP	45	43.60	-2.0
VZW	1.48	355	iP	45	45.45	-1.9
VLZ	1.55	359	iP	45	46.38	-1.9
SEW	1.68	289	eP	45	47.57	-2.7
KLU	1.92	5	iP	45	51.79	-2.0
TGL	2.08	54	eP	45	54.09	-2.0
SLKM	2.19	297	eP	45	55.17	-2.4
PMS	2.33	317	eP	45	57.20	-2.4
NCA	2.43	354	eP	45	59.49	-1.5
BALM	2.44	52	iP	45	59.01	-2.2
			eS	46	28.03	
PME	2.46	328	eP	45	59.15	-2.2
CNPM	2.53	271	eP	46	00.56	-1.8
RDT	3.23	290	eP	46	09.48	-2.9
SPU	3.29	302	eP	46	10.91	-2.3
PAX	3.42	6	eP	46	12.74	-2.4
CUT	3.43	327	eP	46	12.79	-2.4
SKT	3.52	315	eP	46	13.32	-3.2
DOT	4.21	14	eP	46	24.37	-1.9
MCK	4.35	344	eP	46	26.66	-1.6
HYT	4.55	70	P	46	33.00	1.8
KTH	4.56	333	eP	46	29.31	-1.9
HDA	4.85	356	eP	46	32.81	-2.5
CC8	5.13	353	eP	46	35.68	-3.6
NEA	5.18	346	eP	46	36.52	-3.4
RDS	5.33	351	eP	46	38.52	-3.6
DWY	5.53	33	P	46	42.00	-2.9
INK	10.36	27	eP	47	49.00	-3.2
	30 obs.	assaciated				

OCT 25, 1989 06h 46m 42.71± 1.08s
7.151 S ± 5.3km 113.247 E ± 6.1km
DEPTH = 41.4 ± 10.1 km
5.0mb (12 abs.) 4.4Msz (1 abs.)
JAVA (277)

TRT	0.82	228	iPd	46	58.00	0.1
			iS	47	32.10	
MKS	6.48	73	iPc	48	17.00	-1.1
			e	53	55.00	
PCI	9.04	47	iPd	48	53.20	-0.5
			iS	49	28.80	
KKM	13.44	13	ePd	49	53.70	0.4
MBL	15.31	156	eP	50	13.40	-4.3X
			eS	52	55.00	
NANU	15.48	172	eP	50	15.40	-4.4X
	0.3s	8.00nm				4.4mb
			eS	52	58.00	
IPM	16.87	313	ePd	50	38.00	0.4
	0.8s	50.00nm				4.7mb
KNA	17.43	121	eP	50	43.00	-1.6
SNG	19.01	318	eP	51	03.80	-0.1
TLE	19.44	87	ePd	51	04.00	-4.8X
BAL	23.56	173	eP	51	53.00	2.6X
NNT	23.77	326	iPc	51	54.40	1.9
WB5	24.08	124	iPc	51	55.50	0.0
			i	52	04.50	
COOL	24.74	164	eP	52	02.00	0.1
ASPA	25.75	132	iPc	52	11.60	0.2
	0.9s	61.00nm				5.2mb
			iPcP	55	40.90	
NST	26.13	330	iPc	52	13.00	-1.9
QIZ	26.23	353	eP	52	17.80	2.0
LOE	26.92	335	iPc	52	23.00	0.8
BDT	28.03	330	eP	52	33.50	1.3
	0.7s	30.10nm				5.1mb
QIS	28.79	120	iPc	52	38.10	-1.0
			i	55	47.60	
CHG	29.40	332	iPc	52	45.50	0.8
	1.0s	20.00nm				4.8mb
KMI	33.67	343	Pc	53	25.00	2.7
Z	15s	0.90um				4.6MszX
			pP	53	32.00	24kmX
GYA	34.01	349	iPc	53	27.40	2.3
			PcP	56	03.60	
CTA	34.47	115	iPd	53	29.20	0.1
	1.0s	30.00nm				5.2mb
STK	36.10	137	iPc	53	43.60	0.9
ADE	36.26	143	iPd	53	45.10	1.1
WHN	37.49	2	eP	53	55.00	0.7
SSE	38.78	11	eP	54	06.50	1.3
			sP	54	13.80	
RMO	38.85	124	iPc	54	07.30	1.4
CD2	38.92	347	iPc	54	07.40	1.0
GBA	41.10	300	Pc	54	22.00	-2.5
	0.9s	14.50nm				4.7mb
XAN	41.17	355	P	54	25.40	0.5
HYB	42.08	306	iPc	54	31.70	-0.9
	1.0s	70.00nm				5.3mb
LSA	42.35	331	P	54	31.80	-3.4X
BRS	42.51	123	iPc	54	36.80	0.7
			i	54	48.00	
			i	55	01.00	
LZH	43.91	349	P	54	48.70	1.3
Z	18s	0.40um				4.4Msz
			pP	54	56.00	24kmX
			sP	55	03.50	
TIY	44.64	359	eP	54	53.40	0.3
Z	16s	0.72um				4.7MszX
E	10s	0.30um				
POO	46.49	304	iPc	55	06.80	-1.3
BJI	47.03	3	eP	55	12.00	0.1
Z	16s	0.29um				4.3MszX
HHC	47.79	358	Pc	55	15.60	-2.5
GTA	47.97	346	iPc	55	20.80	1.2
SNY	49.65	10	Pd	55	30.50	-1.8
NDI	49.76	317	iPc	55	31.00	-2.3
	0.5s	70.42nm				5.9mb
CN2	51.90	11	Pc	55	47.60	-1.8
			pP	55	56.00	28kmX
MDJ	53.59	14	eP	56	00.50	-1.4
WMQ	55.76	338	P	56	18.00	0.1
KSH	57.78	326	P	56	32.00	-0.4
MSZ	60.26	138	P	56	50.00	0.7
MAIO	66.35	315	eP	57	27.00	-2.7
SLR	82.42	245	iPc	59	02.50	-0.2
SEK	82.81	242	iPc	59	05.50	0.8
	1.0s	10.00nm				4.8mb
SPA	82.90	180	e(P)	59	05.60	1.2
	1.0s	10.00nm				4.8mb
PRY	83.05	244	eP	59	07.00	1.0
KSR	83.65	245	eP	59	09.00	-0.1
BFS	83.67	244	eP	59	08.00	-1.1
BLF	84.01	241	eP	59	04.20	-6.6X
FRS	84.70	241	eP	59	15.50	1.5
KVT	85.11	312	eP	59	16.00	0.1
VRI	92.66	316	ePc	59	51.00	-0.6
BCAO	95.21	274	iPc	00	03.50	-0.5
	0.7s	11.00nm				5.4mb
KIC	118.46	273	PKP	05	28.00	-0.6
TIC	118.75	274	PKP	05	28.70	-0.5
EDM	120.58	30	ePKPc	05	31.10	-0.5
FFC	124.82	24	iPKPd	05	39.50	-0.1
	0.7s	6.00nm				
TUL	140.94	39	e(PKP)	06	10.00	-0.6
	0.8s	4.00nm				
LNO	140.94	39	e(PKP)	06	05.20	-5.3X
VAO	144.33	212	ePKP	06	16.80	-0.2
			e	06	25.40	
PDCR	146.29	235	ePKP	06	20.20	-0.2
BAO	150.71	219	ePKP	06	34.00	6.6X
	S.D. = 1.3	an	61 af	69	obs.	

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* OCT 25, 1989 07h 26m 39.98± 2.59s
31.933 S ±16.5km 71.545 W ±16.9km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

IHA	1.09	184	eP	27	00.70	0.2
			iS	27	18.80	
JACH	1.10	133	iPc	27	01.10	0.4
			iS	27	19.50	
ROCH	1.13	157	iPc	27	00.90	-0.4
			iS	27	18.50	
PEL	1.41	149	iPc	27	04.50	-1.2
			iS	27	26.50	
LCCH	1.54	181	iPc	27	06.50	-1.0
			iS	27	24.50	

25d 07h

SAN	1.69	154	eP	27 10.00	0.3
			iS	27 35.50	
FCH	1.75	143	iPc	27 11.00	0.2
			iS	27 36.00	
TACH	1.79	164	iP	27 10.50	-0.7
			iS	27 35.00	
PCH	1.89	153	eP	27 12.50	-0.2
			iS	27 39.00	
LNV	2.02	177	iPd	27 15.50	1.1
			iS	27 46.50	
CHCH	2.13	160	eP	27 17.50	1.4
			iS	27 43.40	
ZON	2.47	82	e(P)	27 21.00	0.0

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

OCT 25, 1989 07h 44m 19.70± 0.82s
39.003 N ± 8.2km 21.563 E ± 8.1km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

AGG	0.60	88	ePg	44 30.10	-1.7
			eSg	44 37.20	
VLS	1.12	223	ePb	44 40.70	-0.1
LIT	1.31	33	iPbc	44 37.70	-6.2X
			eSb	45 08.50	
KZN	1.31	7	ePn	44 50.30	6.3X
NEO	1.33	76	ePb	44 44.00	-0.2
PAIG	1.88	60	iPb	44 52.50	0.3
			eSb	45 14.50	
PLG	2.00	46	ePn	44 55.00	1.1
OHR	2.19	345	ePn	44 55.80	-0.9
OUR	2.29	54	ePn	44 58.90	0.8
KNT	2.39	25	ePn	45 03.80	4.3X
VAY	2.44	18	ePn	45 08.40	8.2X
VLI	2.53	154	ePb	45 02.00	0.6

S.D. = 1.1 on 8 of 12 obs.

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* OCT 25, 1989 07h 50m 26.31± 0.97s
1.938 S ±12.1km 151.737 E ±13.4km
DEPTH = 33.0km (normal)
4.9mb (4 obs.) 3.6Msz (1 obs.)
NEW IRELAND REGION (190)

RAB	2.28	169	iPd	51 03.00	0.6
PAA	5.73	139	eP	52 09.00	17.6X
PMG	8.71	211	eP	52 40.00	7.0X
CTA	18.82	196	eP	54 47.00	1.1
MTN	23.10	241	iPd	55 31.90	1.5
	0.7s		102.00nm		5.4mb X
			e	57 32.00	
DZM	24.60	146	iPd	55 45.40	0.4
WB5	24.62	222	eP	55 45.80	0.6
BRS	25.33	178	eP	55 51.00	-0.9
			e	56 17.00	
KNA	26.47	237	eP	56 04.00	1.5
	0.5s		47.00nm		5.4mb X
ASPA	27.66	217	iPc	56 12.80	-0.5
	0.4s		11.00nm		4.9mb
Z	21s		0.17um		3.6Msz
			LR	06 48.50	
FORR	36.43	215	eP	57 29.00	-0.9
	0.4s		15.00nm		5.2mb
COOL	40.82	222	eP	58 05.30	-1.3
	0.4s		10.00nm		4.9mb
KLB	43.55	224	eP	58 27.60	-1.3
BAL	43.73	226	eP	58 29.00	-1.4
GBA	75.22	285	Pc	02 08.50	0.4
	0.5s		1.20nm		4.1mb
FBA	79.65	22	eP	02 32.00	0.2
PPD	147.22	138	ePKP	09 33.50	-32.9X
			e	09 42.60	
VAO	149.23	145	ePKP	10 15.00	5.3X

S.D. = 1.1 on 14 of 18 obs.

? OCT 25, 1989 08h 22m 49.23± 0.93s
39.265 N ± 8.3km 27.726 E ± 8.9km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.78	64	ePg	23 04.50	0.1
			eSg	23 14.50	
IZM	0.94	203	iPg	23 07.10	-0.1
			iSg	23 20.60	
EDC	1.09	6	ePn	23 09.50	-0.1
EZN	1.22	298	ePn	23 12.00	0.1

S.D. = 0.2 on 4 of 4 obs.

OCT 25, 1989 09h 43m 00.79± 0.86s
13.585 S ± 8.5km 70.303 W ± 6.9km
DEPTH = 61.2 ± 10.1 km
4.7mb (4 obs.)
PERU (116)

ARE	3.08	202	eP	43 49.00	0.6
ZOBO	3.40	142	iPc	43 53.00	-0.1
			S	44 48.00	
CNCB	3.91	145	Pc	44 00.50	0.2
PT03	5.35	265	e(P)	44 10.00	-10.0X
CCH	5.51	134	P	44 20.40	-2.1
			S	44 41.90	
PT08	6.30	284	iPc	44 34.00	0.4
			e(S)	45 55.90	
NNA	6.57	283	iPc	44 36.80	-0.3
	0.7s		17.12nm		4.7mb
PT10	6.67	282	eP	44 39.00	0.6
BAO	21.69	98	e(P)	47 50.00	1.6
SDV	22.33	359	eP	47 54.60	-0.3
TOV	23.23	1	eP	48 04.50	1.0
OLLA	23.71	9	eP	48 09.00	0.8
GUAC	23.81	7	eP	48 11.00	1.7
LLAV	24.15	8	eP	48 13.50	1.0
FISA	24.71	2	eP	48 17.00	-0.8
PDCR	30.38	92	eP	49 09.30	-0.1
FVM	54.66	341	P	52 22.50	-3.2X
LNO	54.81	335	eP	52 24.90	-1.8
TUL	54.81	335	eP	52 25.20	-1.7
	0.7s		9.60nm		4.9mb
ALQ	59.21	326	P	52 57.20	-1.1
	0.7s		2.70nm		4.5mb
GLA	62.90	319	P	53 23.50	0.5
RSSD	65.13	334	P	53 36.00	-1.7
BW06	66.64	330	P	53 45.00	-2.4
TNP	67.62	321	P	53 53.10	-0.5
	0.7s		6.11nm		4.7mb
BCH	67.64	317	P	53 55.00	1.3
KIC	68.03	77	P	53 56.40	0.1
KVN	68.77	322	P	54 01.00	0.3
LLA	69.05	318	eP	54 03.00	0.7
PRS	69.16	318	eP	54 03.80	0.9
CMB	69.54	320	eP	54 05.70	0.4
ORV	71.15	320	eP	54 16.10	1.1
WDC	72.40	321	eP	54 21.30	-1.1
EDM	76.07	335	eP	54 41.50	-1.8
PNT	76.21	329	eP	54 45.00	0.8
WB5	138.83	217	ePKP	02 23.20	0.4
KNA	145.28	214	ePKP	02 34.00	-0.1
MTN	146.22	220	ePKP	02 37.00	1.3
GBA	148.65	86	PKPc	02 46.60	7.0X
	0.5s		0.90nm		

S.D. = 1.2 on 35 of 38 obs.

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* OCT 25, 1989 09h 59m 39.75± 0.93s
36.774 N ±15.5km 71.280 E ±16.4km
DEPTH = 33.0km (normal)
4.3mb (1 obs.)
AFGHANISTAN-USSR BORDER REGION (717)

NDI	9.49	147	eP	01 57.50	0.3
			eS	03 31.00	
MAIO	9.50	271	iPc	01 57.50	0.1
			eS	03 36.00	
HYB	20.33	160	eP	04 15.50	-0.4
SUF	37.81	328	eP	06 55.00	0.6
SOD	39.59	335	eP	06 50.00	-19.2X
NB2	44.30	323	P	07 47.20	-0.7
	0.6s		3.30nm		4.3mb

S.D. = 0.7 on 5 of 6 obs.

? OCT 25, 1989 10h 56m 24.16±13.53s
51.765 N ±71.7km 16.508 E ±86.4km
DEPTH = 10.0km (geophysicist)
POLAND (548)
ML 3.8 (VKA).

KSP	0.93	188	iP	56 41.70	-0.3
	0.3s		96.00nm		
			i	56 43.20	
			iS	56 51.80	
BRG	1.84	242	ePn	56 55.50	-0.5
			iPg	56 56.40	
			iSg	57 16.80	
PRU	2.17	216	ePn	57 01.50	0.7
			e	57 06.00	
			Sn	57 19.80	
			Sg	57 26.70	
			Lg	58 08.50	
CLL	2.24	260	iPn	57 01.90	0.1
			iPg	57 05.50	
			iSg	57 31.90	
KRA	2.77	127	eP	57 22.60	13.3X
			eS	58 01.30	
KHC	3.23	217	Pn	57 15.90	-0.1
			Pg	57 22.10	
			Sn	57 52.00	
			eSg	58 00.00	
MOX	3.27	252	iPg	57 25.00	8.5X
			iSg	58 04.00	
WET	3.50	223	iPc	57 19.60	-0.1
VKA	3.51	182	iPgc	57 32.30	12.5X
			iSg	58 15.50	
SPC	3.51	136	e(Pn)	57 35.80	15.7X
			e	58 25.30	
ZST	3.59	174	i(Pn)	57 57.50	36.4X
			i(Sg)	58 22.00	
SOP	4.09	180	eP	58 32.60	64.6X
BHG	4.68	212	iPnd	57 51.20	14.7X

S.D. = 0.5 on 6 of 13 obs.

OCT 25, 1989 11h 06m 31.49± 0.56s
40.327 N ± 5.3km 20.559 E ± 5.6km
DEPTH = 10.0km (geophysicist)
GREECE-ALBANIA BORDER REGION (392)
ML 2.5 (SKO). MD 3.0 (ATH).

LSK	0.18	170	iPgd	06 35.40	-0.2
BERA	0.60	309	ePg	06 42.90	-0.6
SRN	0.62	224	iPg	06 44.10	0.2
OHR	0.80	13	ePg	06 47.00	-0.1
			iSg	06 59.10	
KEK	0.85	224	ePg	06 47.50	-0.3
KZN	0.93	91	ePg	06 47.80	-1.4
TIR	1.15	333	ePg	06 56.20	3.3X
PHP	1.36	356	ePn	06 56.50	0.0
LIT	1.50	98	ePb	06 58.30	-0.1
			eSb	07 17.80	
GRG	1.54	65	ePb	06 58.10	-0.9
			eSb	07 18.70	
SKO	1.77	22	iPn	07 04.20	1.8
			iSn	07 27.60	
VAY	1.82	56	ePn	07 03.40	0.3
AGG	1.89	133	ePnd	07 04.20	0.1
PLG	2.21	88	ePn	07 07.50	-1.2
NEO	2.29	116	ePg	07 12.50	2.6

S.D. = 1.2 on 14 of 15 obs.

OCT 25, 1989 11h 30m 25.60± 0.85s
45.714 N ± 6.2km 27.451 E ± 9.1km
DEPTH = 43.5 ± 19.9 km
ROMANIA (358)

BRD	0.34	235	iPd	30 34.60	-0.1
VRI	0.53	287	iPd	30 34.50	-2.4
BIR	0.57	12	eP	30 37.00	-0.4
CFR	0.72	137	iPc	30 40.00	0.5
CLI	0.84	352	iPc	30 41.50	0.3
ISR	0.86	228	iPc	30 43.00	1.5
CVO	0.90	277	iPc	30 42.50	0.5
MLR	1.08	259	iPc	30 45.50	0.8
PTT	1.43	329	eP	30 50.00	0.6
IAS	1.48	3	iPd	30 50.00	-0.2
CMP	1.75	256	ePc	30 56.00	1.9
PSN	2.10	165	eP	31 04.00	5.1X
PGB	3.95	218	eP	31 24.00	-1.3
KDZ	4.32	201	iP	31 31.00	0.4
VTS	4.37	226	eP	31 30.00	-1.3
			eS	32 35.00	
			iSg	33 05.00	
MMB	4.93	215	eP	31 35.00	-4.1X
KNT	5.63	218	ePd	31 48.00	-1.0

S.D. = 1.3 on 15 of 17 obs.

% OCT 25, 1989 11h 50m 19.50± 0.79s
46.393 N ± 9.5km 2.413 E ± 6.6km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 1.7 (LDG).

TCF	0.18	233	Pg	50 23.90	0.4
			Sg	50 26.70	
MAF	0.20	148	Pg	50 23.80	-0.1

		Sg	50	26.40	
BGF	0.34 61	Pg	50	26.60	0.0
		Sg	50	31.10	
LSF	0.63 257	Pg	50	31.80	-0.4
		Sg	50	40.20	
AVF	0.76 58	Pg	50	34.40	0.1
		Sg	50	44.00	

S.D. = 0.4 on 5 of 5 obs.

? OCT 25, 1989 11h 58m 47.26± 3.89s
32.011 S ±19.3km 71.825 W ±30.2km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

ROCH	1.18 145	iPc	59	09.90	0.5
		iS	59	28.30	
PEL	1.48 140	iPd	59	13.30	-0.7
		iS	59	35.50	
TACH	1.80 156	iPd	59	19.00	0.4
		iS	59	43.50	
FCH	1.84 136	iPc	59	19.50	0.0
		iS	59	44.40	
PCH	1.95 146	iPc	59	20.50	-0.3
		iS	59	48.00	
LNV	1.97 170	iPd	59	21.00	0.0
		iS	59	55.00	
ZON	2.72 81	eP	59	32.00	0.2

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

& OCT 25, 1989 13h 00m 42.30s
36.880 N 121.652 W
DEPTH = 9.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.1 (BRK).
Mo=1.7*10**15 Nm (BRK). Felt in the Watsonville area.

SAO	0.20 125	iPd	00	45.90	-0.8
GCC	0.31 299	iPc	00	48.30	-0.5
MHC	0.46 1	iPd	00	51.45	-0.2
ARN	0.48 11	iPd	00	51.50	-0.5
PRS	0.59 157	iPd	00	53.45	-0.8
LLA	0.63 115	iPd	00	54.20	-0.7
PCC	0.85 317	iPc	00	57.70	-1.1
BRK	1.10 334	eP	01	01.90	-1.2
PHAM	1.45 135	eP	01	07.20	-1.5
PKEM	1.49 123	eP	01	08.00	-1.2
CMB	1.53 41	iPd	01	08.65	-1.2
FRI	1.56 85	iPc	01	08.50	-1.7
NWRM	1.85 328	eP	01	11.10	-3.4
BCH	2.12 143	eP	01	16.30	-2.1
BLP	2.53 156	eP	01	22.60	-1.6
ORV	2.67 3	eP	01	24.10	-2.2
ABL	2.83 135	eP	01	26.60	-2.1
KVN	3.55 51	eP	01	37.20	-1.6
TNP	3.73 70	eP	01	40.60	-0.8
FHC	4.32 336	eP	01	46.70	-3.0
EDM	17.34 17	eP	04	46.50	0.5

21 obs. associated

% OCT 25, 1989 13h 06m 33.70± 0.96s
36.802 N ± 9.6km 103.840 E ±11.9km
DEPTH = 33.0km (normal)
GANSU PROVINCE, CHINA (322)
ML 3.9 (BJI).

LZH	0.71 180	iPgd	06	46.50	-1.0
		Sg	06	57.00	
GTA	4.11 311	Pn	07	35.80	-0.1
		Pg	07	47.00	
		Sn	08	24.20	
		Sg	08	37.20	
XAN	4.98 122	Pn	07	47.60	-0.6
		Pg	08	00.80	
		Sn	08	41.50	
		Sg	09	05.80	
CD2	5.88 181	ePg	08	24.20	23.4X
		Sg	09	44.50	
TIY	6.91 80	Pg	08	38.00	22.6X
		Sg	10	09.40	
HHC	7.26 54	P	08	20.40	0.2
GYA	10.59 166	eP	09	07.80	1.5

S.D. = 1.3 on 5 of 7 obs.

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* OCT 25, 1989 13h 50m 56.70± 0.80s
19.899 S ± 9.8km 133.771 E ± 7.3km
DEPTH = 5.0km (geophysicist)

NORTHERN TERRITORY, AUSTRALIA (591)

WB5	0.56 88	iPd	51	08.50	0.5
ASPA	3.75 178	iPc	52	01.80	5.3X
	0.4s 151.00nm				
		eS	52	43.10	
QIS	5.52 98	iPc	52	21.00	-0.6
		eS	53	22.00	
KNA	6.30 310	eP	52	33.00	0.3
	0.3s 4.00nm			4.8mb	X
		eS	53	41.00	
MTN	7.46 340	eP	52	48.50	-0.3
		eS	54	09.00	
		e	54	54.00	
FORR	12.05 204	eP	53	52.00	0.0

S.D. = 0.7 on 5 of 6 obs.

OCT 25, 1989 14h 27m 55.62± 0.87s
42.614 N ± 9.3km 20.103 E ± 6.5km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.4 (TTG).

PVY	0.10 259	iPgc	27	58.20	-0.2
		iSg	28	01.00	
TTG	0.65 254	ePg	28	07.50	-1.1
		iSg	28	16.50	
PLE	0.88 324	ePg	28	12.50	-0.2
		eSg	28	25.00	
BDV	1.00 251	ePg	28	15.70	1.1
		eSg	28	30.00	
SKO	1.18 122	iPg	28	18.00	0.3
		iSg	28	35.60	
BRY	1.18 285	ePg	28	18.00	0.2
		eSg	28	37.00	
HCY	1.20 263	ePg	28	18.20	0.3
		eSg	28	38.00	
OHR	1.59 161	ePn	28	23.50	-0.4

S.D. = 0.8 on 8 of 8 obs.

OCT 25, 1989 15h 06m 48.16± 0.54s
8.805 N ± 9.2km 70.801 W ± 7.9km
DEPTH = 10.0km (geophysicist)
4.4mb (2 obs.)
VENEZUELA (101)

SDV	0.18 64	iPgd	06	51.80	-0.6
	0.3s 2725.00nm				
		iSg	06	55.50	
UAV	0.39 240	iPgc	06	54.10	-2.1
	0.2s 2131.10nm				
		iSg	06	58.30	
TOV	1.39 45	iPnd	07	13.20	-0.5
		iSn	07	31.40	
BMG	2.83 233	iPd	07	50.00	15.6X
FISA	2.84 30	iPc	07	34.50	0.0
		iS	08	11.00	
MORO	3.20 50	iPc	07	40.00	0.5
		eS	08	21.00	
GUAC	3.75 68	eP	07	47.00	-0.4
		eS	08	29.00	
OLLA	4.12 73	iPc	07	52.50	-0.2
		iS	08	41.50	
LLAV	4.27 67	iPc	07	54.50	-0.3
		iS	08	47.00	
BOG	5.27 218	eP	08	11.50	2.3
		eS	09	30.00	
UPA	8.63 272	eP	09	08.90	12.8X
	0.6s 10.67nm				
		S	10	26.00	
TRN	9.44 78	eP	09	03.28	-4.0X
PSO	9.97 221	eP	09	13.50	-1.4
ZOBO	25.05 174	P	12	16.00	1.1
LP8	25.32 174	P	12	26.00	8.8X
		Lg	20	03.00	
CNCB	25.60 174	P	12	20.00	0.0
FVM	34.02 332	eP	13	35.00	0.6
	0.9s 8.47nm			4.7mb	
ALQ	41.72 314	eP	14	35.00	-4.2X
BW06	47.90 322	eP	15	30.00	1.2
	1.0s 2.00nm			4.2mb	
WB5	153.29 243	ePKP	26	46.70	5.6X

S.D. = 1.2 on 14 of 20 obs.

? OCT 25, 1989 15h 13m 49.24± 5.79s
23.934 N ±17.1km 122.581 E ±43.5km
DEPTH = 5.0km (geophysicist)

TAIWAN REGION (243)

TWD	0.91 279	Pc	14	07.10	-0.1
TWC	0.95 315	iPd	14	07.40	-0.3
		eS	14	22.00	
TWF1	1.31 244	iPd	14	13.70	-0.3
TWZ	1.47 322	iPc	14	16.50	0.0
TWO	1.63 282	iPc	14	19.40	0.7

S.D. = 0.6 on 5 of 5 obs.

OCT 25, 1989 15h 27m 43.81± 0.26s
43.000 N ± 2.2km 26.616 E ± 2.5km
DEPTH = 36.9 ± 8.7 km
4.2mb (13 obs.)
BULGARIA (359)
Felt (V) at Vurbitso.

JMB	0.53 183	iPgc	27	53.00	-1.9
		Sg	28	09.00	
DIM	1.24 220	iPc	28	05.00	0.1
		iS	28	23.00	
PSN	1.33 59	iPc	28	06.00	-0.2
		iS	28	24.00	
BUC1	1.41 343	ePd	28	08.00	0.7
DMK	1.45 144	iPn	28	09.70	1.8
BUC	1.46 345	eP	28	11.00	2.9X
KDZ	1.62 214	iPc	28	12.00	1.6
		iS	28	37.00	
PLD	1.67 238	iPc	28	11.00	-0.2
		iS	28	33.00	
CVD	1.68 37	iPc	28	30.00	18.7X
PGB	1.86 257	iPd	28	14.00	0.1
		S	28	38.00	
TLB	1.89 32	iPc	28	14.00	-0.2
RZN	1.92 228	iPg	28	15.00	0.1
		S	28	40.00	
RDO	2.02 204	iPc	28	16.20	0.1
ISR	2.14 359	iPc	28	18.00	0.2
CTT	2.29 143	iPn	28	19.50	-0.5
DRA	2.39 315	iPd	28	22.00	0.6
CFR	2.45 26	ePc	28	22.00	-0.2
BRD	2.54 7	eP	28	29.50	6.0X
CMP	2.54 334	iPd	28	25.00	1.5
MLR	2.54 349	iPc	28	24.00	0.4
ITU	2.60 136	iPnd	28	25.00	0.6
		iSg	29	06.00	
ISK	2.66 136	iPn	28	26.20	1.1
EDC	2.81 160	iPn	28	28.50	1.1
BNT	2.82 159	iPn	28	28.30	0.8
CVO	2.84 354	iPc	28	29.00	1.2
VRI	2.87 2	iPd	28	28.50	0.3
SRS	2.93 231	ePc	28	29.10	-0.1
GBZT	3.06 135	ePn	28	31.00	0.1
		ePg	28	37.60	
		iSg	29	21.00	
EZN	3.18 184	iPn	28	32.70	0.1
YLV	3.19 139	iPn	28	32.50	-0.3
OUR	3.31 217	eP	28	33.60	-0.9
KNT	3.32 238	ePc	28	34.60	0.0
BIR	3.34 12	eP	28	36.00	1.1
VAY	3.44 242	eP	28	36.30	0.0
PLG	3.54 223	eP	28	36.80	-0.9
CLI	3.58 7	iPc	28	38.00	-0.3
THE	3.61 230	eP	28	38.30	-0.4
DST	3.71 155	iPn	28	40.50	0.2
GRG	3.75 238	ePc	28	39.90	-0.8
PRK	3.76 184	eP	28	41.00	0.2
PAIG	3.78 217	ePc	28	40.10	-1.0
GPA	3.87 133	iPn	28	43.60	1.1
DEV	3.92 319	iPd	28	24.80	-18.3X
PTT	3.94 358	eP	28	44.00	0.7
SKO	3.96 257	eP	28	43.20	-0.6
LIT	4.24 228	ePc	28	46.10	-1.6
IAS	4.25 9	eP	28	47.00	-0.7
BZS	4.44 308	ePc	28	47.50	-3.0X
NEO	4.49 216	eP	28	49.30	-1.9
KZN	4.52 235	eP	28	51.00	-0.7
IZM	4.62 174	iPn	28	52.20	-1.0
KKS	4.68 261	ePn	28	54.60	0.8
OHR	4.72 248	eP	28	54.00	-0.6
TIM	4.74 307	iPc	29	20.00	25.3X
BEO	4.81 294	ePn	28	54.80	-0.9
	Z 11s	1.86um			
		iPg	29	14.00	
		e(Sg)	30	21.00	
PUK	5.06 261	ePn	29	00.60	1.4
AGG	5.13 221	ePc	28	58.80	-1.5

25d 15h

KHL	5.17	154	iPn	29	01.00	0.1
TIR	5.28	254	ePn	29	05.00	2.7X
SMG	5.29	178	eP	29	01.20	-1.2
PLE	5.29	276	ePn	29	02.40	-0.2
			eSn	30	25.50	
LACI	5.30	257	ePn	29	04.00	1.4
LSK	5.34	240	iPnd	29	03.60	0.4
SDA	5.35	262	ePn	29	04.70	1.4
TTG	5.45	266	e(Pn)	29	13.20	8.5X
			eSn	30	40.00	
BERA	5.48	247	ePn	29	08.00	2.9X
CEI	5.52	329	eP	30	04.00	58.3X
ULC	5.54	262	ePn	29	10.50	4.4X
			eSn	30	38.60	
KAS	5.56	105	eP	29	05.50	-0.8
BBTK	5.59	122	iP	29	06.00	-0.9
			iS	30	50.00	
BDV	5.79	266	ePn	29	12.40	2.8X
			eSn	30	43.00	
SRN	5.87	240	ePn	29	12.30	1.7
BRY	5.93	272	ePn	29	12.00	0.4
			eSn	30	43.50	
HCY	6.01	267	ePn	29	15.00	2.4
			eSn	30	48.00	
KEK	6.09	240	eP	29	14.50	0.7
BCK	6.31	150	iPn	29	17.70	0.7
PSZ	6.82	318	eP	29	22.80	-1.3
VLI	6.88	205	eP	29	30.50	5.6X
BUD	6.99	313	e(P)	29	34.00	7.7X
KSL	7.24	161	eP	29	30.50	0.6
KVT	7.28	102	ePn	29	29.00	-1.5
SPC	7.61	327	iP	29	33.60	-1.6
PTJ	8.16	294	eP	29	40.60	-2.2
KRA	8.42	329	ePc	29	44.40	-1.9
			e	29	53.20	
VBY	8.53	291	e(P)	29	49.70	1.9
			e	31	20.00	
			e	32	30.10	
RIY	9.10	289	eP	29	55.50	-0.1
CEY	9.15	292	e(P)	29	58.00	1.6
LJU	9.15	294	e(P)	29	56.50	0.1
VOY	9.58	293	eP	30	02.20	-0.2
			eS	31	50.20	
TRI	9.60	291	eP	30	01.30	-1.2
			e	31	45.10	
KSP	10.55	322	eP	30	14.60	-0.9
PRU	10.86	314	eP	30	24.00	4.2X
			e	31	16.00	
KHC	10.93	309	P	30	09.20	-11.6X
			e	31	03.00	
LPG	14.45	287	eP	31	11.20	3.3X
	0.8s	13.40nm			4.5mb	
BSF	14.73	296	eP	31	18.90	7.6X
	1.0s	8.00nm			4.1mb	
LBF	16.49	292	eP	31	38.30	4.4X
LOR	16.60	293	eP	31	39.80	4.6X
	1.4s	34.80nm			4.3mb	
SSF	16.82	292	eP	31	42.30	4.3X
	1.0s	8.80nm			3.8mb	
BGF	17.23	290	eP	31	46.90	3.8X
	1.2s	17.80nm			4.1mb	
MAF	17.41	289	eP	31	49.30	3.9X
	1.2s	14.80nm			4.0mb	
NUR	17.58	357	iP	31	41.00	-6.3X
	0.8s	13.20nm			4.1mb	
			e	31	51.00	
LDF	19.41	296	eP	32	10.10	0.5
	1.4s	34.80nm			4.4mb	
SUF	19.76	359	eP	32	09.60	-3.6X
	0.6s	3.30nm			3.8mb	
GRR	19.88	295	eP	32	15.00	0.4
	1.4s	34.80nm			4.5mb	
LPF	19.97	294	eP	32	16.00	0.4
	1.2s	23.80nm			4.4mb	
NB2	20.30	338	P	32	17.20	-1.8
	0.6s	2.70nm			3.8mb	
SOD	24.43	0	iP	33	03.50	3.7X
KEV	26.82	0	eP	33	35.00	12.9X
BCAO	39.07	193	ePd	35	10.20	1.1
	0.8s	4.00nm			4.2mb	

S.D. = 1.0 on 82 of 109 obs.

? OCT 25, 1989 15h 32m 34.34± 5.60s
31.338 S ±39.2km 70.049 W ±23 5km
DEPTH = 159.6 ± 48.7 km
CHILE-ARGENTINA BORDER REGION (127)

ZON	1.19	100	iPd	33	02.00	0.0
			eS	33	18.00	
JACH	1.42	199	iPc	33	04.10	-0.1
			iS	33	22.00	
ROCH	1.82	206	iPc	33	08.60	-0.1
			iS	33	30.50	
PEL	1.88	197	iPc	33	09.00	-0.1
			iS	33	30.50	
FCH	1.99	186	iPc	33	11.00	0.3
			iS	33	34.10	
PCH	2.31	190	iPc	33	14.20	0.0
			iS	33	40.00	
TACH	2.43	198	iPc	33	15.50	0.0
			iS	33	41.80	
LCCH	2.49	211	iPd	33	16.80	0.6
			iS	33	43.90	
CHCH	2.64	191	iP	33	18.20	0.1
			iS	33	46.80	
LNV	2.85	203	iPd	33	20.10	-0.6
			iS	33	50.50	

S.D. = 0.4 on 10 of 10 obs.

? OCT 25, 1989 15h 35m 59.74± 4.13s
44.978 N ±11.1km 28.577 E ±33.4km
DEPTH = 5.0km (geophysicist)
ROMANIA (358)

CFR	0.36	305	ePd	36	06.00	-1.1
TLB	0.55	225	iPc	36	10.00	-0.7
ISR	1.45	277	eP	36	27.50	0.8
CLI	1.81	331	iPc	36	31.50	-0.4
MLR	1.93	286	eP	36	35.00	1.3

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

OCT 25, 1989 16h 23m 44.56± 0.60s
43.006 N ± 5.9km 26.641 E ± 6.3km
DEPTH = 10.0km (geophysicist)
BULGARIA (359)

JMB	0.54	185	iPgd	23	55.00	-0.5
			Sg	24	02.00	
PSN	1.31	58	iPd	24	08.00	-0.8
			S	24	27.00	
DMK	1.44	145	iPn	24	11.20	0.5
KDZ	1.63	214	iPc	24	14.00	0.6
			iS	24	40.00	
TLB	1.88	32	iPd	24	17.70	0.8
PGB	1.88	257	P	24	18.00	1.0
			iS	24	43.00	
RZN	1.94	228	iPc	24	17.00	-1.1
			S	24	42.00	
CTT	2.28	144	ePn	24	23.00	0.1
ISK	2.65	136	ePg	25	02.00	34.0X
VRI	2.86	1	ePd	24	38.00	6.9X
VAY	3.46	242	e(Pn)	24	48.30	8.7X
SKO	3.98	257	eP	25	38.00	51.0X
BZS	4.45	308	ePc	24	53.00	-0.6
OHR	4.74	248	eP	25	35.00	37.1X

S.D. = 0.9 on 9 of 14 obs.

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* OCT 25, 1989 16h 38m 44.69± 0.99s
38.417 N ± 9.0km 21.906 E ±11.5km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.0 (ATH).

AGG	0.69	29	eP	38	56.90	-1.5
			eS	39	17.30	
VLS	1.06	257	ePn	39	04.20	-0.5
NEO	1.36	49	ePn	39	03.50	-6.2X
LIT	1.74	15	ePc	39	15.70	0.5
VLI	1.88	154	ePb	39	17.50	0.3
KZN	1.89	357	ePb	39	18.50	1.1
OHR	2.82	343	e(Pn)	39	34.00	3.3X

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

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* OCT 25, 1989 16h 41m 32.80± 1.72s
23.494 S ±14.8km 179.848 W ± 9.9km
DEPTH = 621.4 ± 23.6 km
4.7mb (12 obs.)
SOUTH OF FIJI ISLANDS (171)

DZM	12.73	274	iPc	44	20.00	1.4
MNG	17.52	192	eP	45	03.00	-1.3
	0.2s	6 00nm			4.7mb	
BRS	25.00	255	iPd	46	12.60	0.6
	0.6s	5.50nm			4.4mb	

COO	26.10	248	iPc	46	22.70	1.2
RMQ	28.58	257	iPd	46	43.50	0.5
	1.0s	83.00nm			5.3mb	
			i	46	57.60	
CAN	29.47	239	iPd	46	51.70	1.1
BWA	29.71	241	iPd	46	51.40	-1.2
CMS	31.37	248	iPd	47	07.40	0.8
CTA	31.62	270	iPd	47	08.00	-0.7
	0.5s	140.85nm			5.8mb	X
QLP	32.62	257	iPd	47	17.00	-0.1
TOO	32.79	237	iP	47	20.00	1.5
PMG	34.50	288	eP	47	31.00	-1.8
	0.9s	134.45nm			5.6mb	
STK	35.01	248	iPd	47	38.00	1.2
	0.7s	16.00nm			4.7mb	
QIS	37.62	266	iPd	47	57.10	-1.3
ASPA	42.24	260	iPd	48	35.00	-0.3
	0.8s	48.00nm			5.0mb	
			iS	54	14.50	
WB5	42.56	266	iPd	48	36.50	-1.4
			eScP	53	16.00	
FORR	46.54	249	eP	49	08.00	-0.2
	0.4s	71.00nm			5.5mb	
MTN	47.57	274	iPd	49	14.30	-1.9
WARB	48.35	255	iPd	49	21.60	-0.4
	0.4s	14.00nm			4.8mb	
KNA	48.80	269	iPd	49	24.50	-0.9
TLE	48.92	284	ePd	49	20.00	-6.2X
COOL	52.49	248	eP	49	51.10	-1.0
	0.4s	12.00nm			4.6mb	
MBL	55.49	260	iPd	50	12.20	-0.9
	0.5s	19.00nm			4.6mb	
NWAO	55.53	245	eP	50	13.30	0.1
BAL	56.31	248	iPd	50	18.40	-0.2
MUN	56.52	246	eP	50	20.30	0.3
MRWA	57.16	249	iPc	50	24.40	0.0
	0.6s	18.00nm			4.5mb	
NANU	59.01	257	iPd	50	37.10	0.3
PCI	62.56	282	ePc	51	02.50	2.5
	1.2s	3.50nm			3.6mb	X
PRS	81.15	44	eP	52	46.50	0.4
BCH	81.30	46	P	52	46.90	-0.1
ARN	81.67	43	P	52	49.10	0.4
PLM	82.41	49	P	52	53.30	0.6
FRI	82.62	44	eP	52	53.20	-0.2
CMB	82.81	43	eP	52	54.20	-0.2
ORV	83.05	42	eP	52	55.30	-0.2
WDC	83.06	40	eP	52	55.70	0.2
GLA	83.66	50	P	52	59.50	0.8
KVN	84.86	44	P	53	04.20	-0.4
TNP	84.86	45	P	53	04.60	-0.1
	0.8s	4.85nm			4.2mb	
LON	87.34	36	P	53	15.00	-1.1
CHG	89.67	291	eP	53	29.50	2.2
FVM	103.63	54	Pdiff	54	15.00	-15.0X
CLL	150.51	344	iPKPd	00	17.20	7.0X
	1.2s	14.00nm				

S.D. = 1.0 on 41 of 44 obs.

OCT 25, 1989 17h 15m 33.50± 0.65s
40.329 N ± 5.0km 24.023 E ± 5.3km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)

OUR	0.03	280	ePg	15	34.60	-0.9
PLG	0.44	276	iPgc	15	41.30	-1.2
			eSg	15	47.80	
PAIG	0.48	213	ePgc	15	42.80	-0.4
			eSg	15	49.70	
SRS	0.85	338	ePg	15	49.20	-0.7
			eSg	16	03.00	
THE	0.86	291	ePg	15	50.70	0.6
			eSg	16	00.50	
NEO	1.19	211	ePb	15	55.20	-0.6
KNT	1.19	315	ePbc	15	54.90	-0.8
			eSb	16	11.60	
LIT	1.20	260	ePbc	15	55.60	-0.2
			eSb	16	12.60	
MMB	1.28	350	ePgd	15	56.00	-1.2
			Sg	16	13.00	
GRG	1.38	297	ePb	15	58.80	-0.1
			eSb	16	19.00	
RDO	1.41	54	ePb	15	59.50	0.3
RZN	1.46	21	eP	16	00.00	0.0
			Sg	16	21.00	
VAY	1.48	312	ePn	16	01.40	1.2
KDZ	1.69	38	iP	16	03.00	-0.2

			iS	16	26.00	
KZN	1.72	270	ePn	16	05.20	1.5
VTS	2.34	345	iP	16	13.00	0.2
			iS	16	42.00	
			iSg	16	48.00	

S.D. = 0.9 on 16 of 16 obs.

OCT 25, 1989 17h 30m 51.63± 0.68s
20.936 S ± 5.0km 67.307 W ± 9.6km
DEPTH = 208.9 ± 6.6 km
4.6mb (10 obs.)
SOUTHERN BOLIVIA (125)

CCH	3.70	17	iPc	31	52.70	1.8
CNCB	4.15	351	iPc	31	57.80	1.0
LPB	4.44	350	iPc	32	01.50	1.2
ZOBO	4.71	350	iPc	32	04.00	0.3
			S	32	55.00	
ARE	5.96	318	iPc	32	16.40	-3.1X
			iS	33	19.60	
PT03	10.64	309	eP	33	17.80	-2.2
			eS	35	12.50	
PEL	12.52	193	iPc	33	42.00	-1.9
PT08	12.57	314	iPc	33	43.60	-1.4
			iS	35	54.80	
NNA	12.75	313	iPc	33	45.70	-1.2
	0.7s		19.18nm			4.6mb
			eS	36	03.00	
PT10	12.78	312	e(P)	33	31.00	-16.2X
SAN	12.82	193	eP	33	45.50	-2.1
PCH	12.95	192	eP	33	46.50	-2.8
LCCH	13.05	196	ePd	33	53.00	2.5
TACH	13.07	194	eP	33	52.90	2.2
LNV	13.47	195	eP	33	57.00	1.3
PPD	14.93	97	eP	33	39.60	-34.3X
BIM	35.76	10	eP	37	31.42	-1.0
MVM	35.83	11	eP	37	31.93	-1.0
FDF	35.96	10	eP	37	32.53	-1.6
	0.3s		1.25nm			4.0mb
CRM	36.02	11	eP	37	33.80	-0.7
RSCP	58.84	343	P	40	51.00	20.5X
FVM	62.51	340	P	40	52.90	-2.2
	0.5s		27.29nm			5.3mb
LIC	66.79	73	P	41	21.40	-1.7
ALQ	66.86	326	P	41	23.10	-0.3
	0.7s		5.96nm			4.4mb
KIC	67.11	73	P	41	23.50	-1.6
SPA	69.19	180	P	41	37.00	-0.3
	1.0s		19.50nm			4.8mb
GOL	70.01	330	P	41	40.80	-2.0
	0.7s		9.71nm			4.6mb
RSSD	72.95	333	P	41	59.80	-0.2
BW06	74.39	329	P	42	08.10	-0.3
BCH	74.96	318	P	42	12.80	1.1
TNP	75.12	321	P	42	13.50	0.9
	0.7s		3.98nm			4.3mb
SCH	75.44	0	eP	42	13.00	-0.8
FRI	75.89	319	eP	42	18.50	1.8
KVN	76.28	322	P	42	19.70	0.6
LLA	76.41	318	eP	42	20.50	0.9
PRS	76.50	318	eP	42	21.10	1.0
CMB	76.97	320	eP	42	23.30	0.6
ARN	77.24	318	P	42	25.10	0.9
BKS	78.00	319	iPc	42	29.50	1.2
ORV	78.61	320	eP	42	32.70	1.1
WDC	79.87	321	iPd	42	37.70	-0.7
LBFM	79.97	321	P	42	39.80	0.6
FFC	80.99	340	eP	42	44.00	0.1
	0.6s		10.00nm			4.7mb
FRS	82.06	119	iPd	42	51.00	0.9
DPW	82.28	328	P	42	51.50	0.7
BLF	82.99	118	eP	42	55.00	-0.1
	0.7s		10.00nm			4.7mb
LON	83.38	326	P	42	56.10	-0.3
RMW	83.83	326	P	42	58.40	-0.3
BMW	83.96	325	P	43	00.00	0.7
GMW	84.40	326	P	43	01.80	0.4
MCW	85.14	327	P	43	05.60	0.4
SLR	85.91	116	iPd	43	09.50	-0.2
BCAO	87.69	84	iPc	43	18.80	0.5
	0.5s		5.00nm			4.6mb
GBA	145.61	96	PKP	50	08.00	0.8
NDI	146.98	69	iPKPd	50	12.00	2.9X
	0.7s		27.40nm			
HYB	147.60	90	ePKP	50	10.50	0.1
	1.0s		38.00nm			
			e	50	13.40	
WMQ	149.13	37	iPKPd	50	17.50	5.3X
GTA	158.53	28	ePKP	50	26.50	1.3

S.D. = 1.3 on 52 of 58 obs.

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* OCT 25, 1989 17h 42m 30.90± 1.34s
7.080 S ±16.8km 130.131 E ±13.4km
DEPTH = 147.2 ± 25.0 km
4.5mb (1 obs.)
TANIMBAR ISLANDS REGION (281)

TLE	2.97	61	ePc	43	18.10	-0.2
			iS	43	47.70	
MTN	5.81	170	iPd	43	57.20	1.1
			eS	44	58.00	
KUG	7.16	244	eP	44	15.00	0.7
			eS	45	29.00	
KNA	8.72	189	iPd	44	33.80	-1.3
	0.3s		24.00nm			5.4mb X
			eS	46	08.00	
WB5	13.37	163	eP	45	35.00	-1.1
			eS	48	02.50	
QIS	16.24	147	eP	46	15.00	2.9X
			eS	49	09.00	
ASPA	16.89	168	iPd	46	21.40	1.4
	0.9s		22.00nm			4.5mb
			eS	49	24.20	
MBL	17.18	214	eP	46	22.50	-1.0
FORR	23.72	184	eP	47	31.00	0.4

S.D. = 1.4 on 8 of 9 obs.

? OCT 25, 1989 17h 45m 18.43± 3.30s
34.553 N ±32.8km 26.319 E ±10.0km
DEPTH = 10.0km (geophysicist)
CRETE (370)
MD 3.4 (ATH).

NPS	0.92	321	ePb	45	35.20	-0.7
KAP	1.22	35	ePn	45	42.70	1.6
VAM	1.94	297	ePb	45	52.50	0.8
KSL	3.09	59	ePn	46	07.50	-0.6
CIN	3.36	25	eP	46	11.00	-1.0

S.D. = 1.6 on 5 of 5 obs.

% OCT 25, 1989 18h 09m 00.35± 1.48s
44.631 N ± 8.4km 8.498 E ± 9.8km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

PCP	0.10	160	P	09	03.20	0.1
			S	09	05.02	
FIN	0.47	206	P	09	09.74	-0.2
			S	09	15.91	
ROB	0.56	233	P	09	11.59	-0.2
			S	09	18.46	
IMI	0.84	211	P	09	16.53	-0.1
ENR	0.87	243	P	09	17.33	0.1
			S	17	28.20	
STV	0.93	246	P	09	18.46	0.4
			S	09	29.84	
PZZ	1.01	263	P	09	19.59	0.1
			S	09	32.77	
RSP	1.02	301	P	09	19.60	-0.2

S.D. = 0.3 on 8 of 8 obs.

& OCT 25, 1989 18h 20m 33.20s
36.822 N 121.558 W
DEPTH = 1.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.9 (BRK).

SAO	0.11	122	iPd	20	35.20	-0.1
GCC	0.41	301	ePc	20	40.60	-0.8
PRS	0.51	163	ePc	20	43.20	-0.2
MHC	0.52	353	iPd	20	44.10	0.5
ARN	0.53	2	iPd	20	43.90	0.2
LLA	0.53	112	iPc	20	43.90	0.0
PCC	0.94	316	ePc	20	51.00	-1.0
PRI	0.99	133	ePd	20	52.90	0.0
BKS	1.18	333	iPc	20	56.00	-0.1
			iS	21	13.20	
BRK	1.19	332	ePc	20	55.70	-0.5
PHAM	1.36	136	eP	20	57.80	-1.3
PKEM	1.39	123	eP	20	58.20	-1.5
FRI	1.49	83	eP	20	59.30	-1.9
			iS	21	20.20	
CMB	1.53	37	eP	20	59.80	-2.0
BCH	2.02	143	eP	21	06.80	-2.2
ORV	2.73	1	eP	21	17.70	-1.3
ABL	2.73	135	eP	21	17.70	-1.6

17 obs. associated

% OCT 25, 1989 18h 39m 36.84± 0.71s
37.748 N ± 7.2km 14.756 E ± 6.1km
DEPTH = 10.0km (geophysicist)
SICILY (398)

MNO	0.19	345	Pd	39	42.30	1.1
			eSg	39	45.70	
GIB	0.63	293	Pc	39	48.40	-1.1
			eSg	39	58.00	
MEU	0.66	168	Pd	39	49.80	-0.3
			eSg	39	59.80	
ATN	0.69	53	Pc	39	51.20	0.6
			eSg	40	01.50	
MCT	0.90	263	P	39	54.60	0.4
FAI	0.98	242	P	39	55.90	0.5
SOI	1.08	72	Pc	39	57.60	0.5
			eSn	40	13.20	
TDS	2.27	32	P	40	13.20	-1.8
			eSn	40	41.50	

S.D. = 1.2 on 8 of 8 obs.

% OCT 25, 1989 18h 47m 49.21± 0.84s
37.710 N ± 7.1km 14.715 E ± 7.3km
DEPTH = 10.0km (geophysicist)
SICILY (398)

MNO	0.22	356	Pd	47	54.30	0.2
			iSg	47	58.40	
GIB	0.61	297	P	48	01.50	-0.1
			eSg	48	10.50	
MEU	0.63	164	P	48	02.00	0.0
			eSg	48	12.20	
ATN	0.74	53	P	48	03.50	-0.3
			eSg	48	16.50	
SOI	1.12	71	P	48	10.30	0.1

S.D. = 0.3 on 5 of 5 obs.

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* OCT 25, 1989 18h 55m 00.26± 1.17s
17.757 S ±13.7km 122.448 E ±11.5km
DEPTH = 10.0km (geophysicist)
4.6mb (1 obs.)
WESTERN AUSTRALIA (590)

KNA	6.37	73	eP	56	37.00	0.4
			iS	57	42.20	
NANU	8.07	233	eP	57	00.10	-0.2
	0.3s		3.00nm			5.1mb X
			eS	58	23.00	
MTN	9.69	61	iPc	57	22.70	-0.1
			eS	59	03.00	
WB5	11.48	102	eP	57	47.20	-0.2
			eS	59	47.10	
MRWA	12.85	206	eP	58	05.80	0.1
			iS	00	16.00	
COOL	13.12	185	eP	58	11.50	2.1
			eS	00	25.00	
BAL	13.82	201	eP	58	18.50	0.0
			eS	00	40.00	
FORR	14.01	160	eP	58	20.00	-1.0
	0.4s		4.00nm			4.6mb
			eS	00	41.50	
KLB	14.42	196	eP	58	25.50	-0.9
			eS	00	53.00	
MUN	15.24	201	eP	58	37.00	-0.2
			eS	01	14.00	

S.D. = 1.0 on 10 of 10 obs.

? OCT 25, 1989 19h 26m 48.86±16.66s
18.964 N ±101.km 67.403 W ±91.0km
DEPTH = 33.0km (normol)
MONA PASSAGE (89)

LRS	0.85	141	P	27	04.40	-0.1
MGP	1.00	163	P	27	06.60	0.1
PORP	1.16	141	P	27	08.70	-0.2
SJG	1.46	125	iP	27	13.50	0.3
LPR	1.59	114	P	27	15.00	-0.2
CPD	1.69	123	P	27	16.50	0.0

S.D. = 0.2 on 6 of 6 obs.

? OCT 25, 1989 19h 34m 52.13± 6.21s
38.620 N ±52.4km 22.890 E ±14.3km

25d 19h

DEPTH = 33.0km (normal)
GREECE (364)

AGG	0.59	313	ePg	35 04.10	0.0
PAIG	1.44	25	ePb	35 16.40	0.3
LIT	1.51	348	ePb	35 17.80	0.6
OUR	1.91	26	ePn	35 22.70	-0.2
GRG	2.36	351	ePn	35 28.70	-0.8
KNT	2.54	0	ePn	35 32.10	0.2
SRS	2.55	12	ePn	35 32.00	-0.1

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

OCT 25, 1989 20h 29m 00.05± 0.12s
57.519 N ± 2.4km 118.811 E ± 2.9km
DEPTH = 21.8km (21 depth phases)
5.4mb (65 obs.) 5.5Msz (7 obs.)
EAST OF LAKE BAIKAL (328)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 23C
Centroid Location:
Origin Time 20:29: 3.8 0.5
Lat 57.81N 0.08 Lon 118.65E 0.17
Dep 15.0 FIX Half-duration 2.0
Moment Tensor; Scale 10**17 Nm
Mrr=-1.38 0.12 Mtt= 1.25 0.13
Mff= 0.12 0.16 Mrt= 0.21 0.51
Mrf= 0.27 0.43 Mtf= 0.94 0.13
Principal Axes:

	Val=	Plg=	Azm=
T	1.82	6	330
N	-0.39	7	239
P	-1.43	81	97

Best Double Couple:Mo=1.6*10**17
NP1:Strike= 68 Dip=40 Slip= -78
NP2: 233 51 -100

CN2		14.35	160	Pc	32 21.50 -2.3
	Z	10s		24.80um	
				pP	32 28.00
				isP	32 31.80
				S	35 07.00
				iSS	35 24.00
MDJ		14.56	148	eP	32 29.50 3.0X
	Z	14s		24.40um	
				epP	32 36.00
				esP	32 40.00
SNY		16.00	167	iPd	32 46.00 0.9
		1.8s		0.50nm	2.3mb X
	Z	16s		12.60um	5.0Msz
				pP	32 55.00
				S	35 41.00
HHC		17.33	199	Pc	33 04.80 2.8X
BJI		17.58	187	eP	33 05.50 0.5
		3.0s		0.81nm	2.3mb X
	Z	15s		19.50um	
	E	11s		15.80um	
				sP	33 18.00
				eS	36 20.00
BTO		17.86	202	iPd	33 10.00 1.3
	N	10s		10.40um	
				sP	33 20.00
				S	36 32.00
DL2		18.72	173	eP	33 19.00 0.0
	Z	12s		13.80um	
	N	12s		17.00um	
				pP	33 29.00
				eS	36 48.00
ASAJ		20.02	122	eP	33 33.60 -0.4
TIY		20.26	195	Pd	33 37.00 0.4
	E	11s		13.90um	
				pP	33 47.00 40kmX
MRRJ		20.67	127	P	33 42.30 1.7
TIA		21.35	184	Pc	33 47.90 0.3
	N	11s		7.10um	
				sP	33 58.00
HOOJ		21.67	124	eP	33 54.30 3.4X
KUSJ		21.76	120	eP	33 55.40 3.6X
AOMJ		21.93	131	eP	33 56.10 2.7X
GTA		21.93	222	iPd	33 53.80 0.1
		3.0s		0.80nm	2.6mb X
	Z	10s		8.30um	5.4MszX
				pP	34 04.00 39kmX
				sP	34 07.50
LZH		23.66	211	iPd	34 12.80 2.2
		2.0s		0.94nm	3.0mb X
	Z	16s		8.80um	5.3MszX
				pP	34 13.00 1kmX
				sS	38 29.00
				e	38 40.00
				SS	39 28.00
				Lg	41 25.00
OFUJ		23.71	131	eP	34 09.70 -1.2
WMQ		23.75	248	iPd	34 13.50 2.1
		4.0s		2.10nm	3.0mb X
	Z	16s		7.90um	5.3MszX
				eS	38 26.00
				sS	38 38.00
YAMJ		23.85	135	P	34 12.70 0.4
NIIJ		24.29	138	P	34 16.10 -0.4
YONJ		24.41	150	P	34 17.80 0.0
XAN		24.42	200	Pd	34 19.20 1.3
		4.0s		1.50nm	2.9mb X
	E	10s		7.00um	
				pP	34 28.50 33kmX
				S	38 32.00
MTMJ		24.46	141	P	34 16.30 -2.0
TSRJ		24.82	145	P	34 21.60 -0.1
SHNJ		24.84	155	eP	34 22.40 0.5
CHJJ		25.35	139	P	34 25.00 -1.8
NJ2		25.47	180	Pd	34 28.50 0.7
		2.0s		1.50nm	3.3mb X
	Z	15s		10.90um	5.5MszX
	E	10s		2.00um	
				S	38 44.00
IIDJ		25.49	142	P	34 27.10 -1.0
KAKJ		25.64	137	P	34 28.00 -1.4
TKSJ		25.71	150	eP	34 29.10 -1.0
WKYJ		25.92	147	eP	34 31.00 -1.2
SSE		26.47	175	Pd	34 36.00 -1.1
		1.0s		0.06nm	2.2mb X
	Z	20s		2.30um	4.7Msz
	N	13s		6.10um	
	E	13s		2.00um	
				sP	34 48.00
				S	39 13.00
				sS	39 26.00
				Lg	43 21.00
WHN		27.15	188	Pd	34 43.50 0.2
		1.0s		0.18nm	2.7mb X
	Z	12s		9.65um	5.6MszX
	N	13s		12.00um	
	E	10s		2.46um	
				pP	34 52.50 32km
CD2		28.57	208	P	34 56.80 0.5
	Z	14s		4.50um	5.2MszX
GYA		32.22	201	P	35 30.00 1.2
	N	12s		6.10um	
	E	12s		3.50um	
				pP	35 39.00 31km
QZH		32.55	180	Pc	35 30.30 -1.1
KSH		32.94	255	P	35 35.00 0.1
				sP	35 46.00
LSA		33.81	227	P	35 43.00 0.0
	N	10s		1.20um	
KMI		34.36	206	P-	35 46.50 -1.0
GZH		34.62	189	eP	35 49.00 -0.4
KBS		37.28	342	eP	36 24.50 13.1X
KEV		38.43	326	iP	36 23.00 1.9
	Z	16s		8.00um	5.6MszX
				e	36 33.00 34kmX
				LR	57 08.00
IMA		38.90	40	P	36 25.80 0.5
		1.2s		20.83nm	4.7mb
QIZ		39.00	194	P	36 27.00 0.6
	N	18s		6.10um	
TTA		39.70	46	P	36 32.00 0.1
		1.2s		26.52nm	4.8mb
SOD		39.79	323	iP	36 32.10 -0.4
				i	36 43.70 42kmX
NDI		40.84	243	eP	36 42.50 1.0
				eS	46 12.00
TRO		40.87	328	eP	36 42.30 1.1
BAG		41.06	177	eP	36 43.10 -0.5
CHG		41.36	209	iPd	36 46.00 0.1
		0.9s		38.87nm	5.1mb
MBC		41.47	18	eP	36 47.00 0.9
		0.9s		38.00nm	5.1mb
FBA		41.60	40	P	36 48.00 0.7
		1.1s		28.13nm	4.9mb
LOE		42.03	205	iPd	36 52.00 0.7
SUF		42.64	317	eP	36 56.70 0.9
		0.6s		18.40nm	5.0mb
BDT		42.85	208	eP	36 58.00 0.0
		0.8s		93 40nm	5.6mb
PMR		43.10	44	P	36 59.70 0.1
		1.2s		49.24nm	5.1mb
	Z	18s		4.76um	5.4Msz
INK		43.89	31	eP	37 07.00 1.1
		0.7s		24.00nm	5.1mb
MAIO		44.05	268	iPd	37 09.50 1.7
				eS	43 44.00
NST		44.07	206	iPd	37 11.00 3.1X
NUR		44.58	315	iP	37 10.70 -0.9
		1.0s		54.00nm	5.4mb
QUE		44.78	255	eP	37 15.00 1.1
NNT		47.14	206	iPc	37 33.20 0.8
UPP		47.62	318	iP	37 34.90 -0.8
PJG		48.09	145	eP	37 39.00 -0.9
GUA		48.16	145	eP	37 38.20 -2.1
NB2		49.00	322	P	37 45.80 -0.6
		0.8s		17.00nm	5.1mb
TAB		49.82	280	eP	37 55.00 1.8
HYB		49.94	234	iPc	37 54.60 0.5
		1.0s		75.00nm	5.7mb
DAV		50.58	171	eP	38 00.10 1.2
POO		51.08	240	iPc	38 03.00 0.2
SLY		52.11	278	ePd	38 12.00 1.7
				eS	45 37.00
SNG		52.18	203	eP	38 12.20 1.1
KER		52.19	276	eP	38 18.00 6.8X
MSL		52.77	281	eP	38 15.00 -0.3
				e	38 22.50 25km
				eS	45 44.00
SHI		52.90	268	eP	38 17.00 0.4
AKU		52.90	339	iP	38 17.50 1.6
		1.0s		40.00nm	5.3mb
KVT		52.95	290	eP	38 17.00 0.3
CLI		53.18	300	eP	38 18.00 -0.3
CFR		53.78	299	eP	38 25.00 2.4
GBA		53.81	233	P	38 24.00 0.9
KRA		53.84	308	eP	38 22.90 -0.1
		1.0s		93.00nm	5.8mb
	Z	18s		5.40um	5.7Msz
	N	18s		4.50um	
				i	38 29.90 23km
				i	38 35.20
KAS		53.88	292	eP	38 26.50 3.0
VRI		53.94	300	ePd	38 24.50 0.6
CVO		54.23	301	eP	38 32.50 6.4X
TLB		54.28	298	eP	38 33.00 6.7X
SPC		54.36	307	eP	38 29.30 2.2
				e	38 34.10 16km
ISR		54.57	300	eP	38 30.00 1.4
MLR		54.59	300	eP	38 29.50 0.7
IPM		54.62	202	ePd	38 29.40 0.3
		1.0s		41.50nm	5.4mb
KSP		54.76	311	eP	38 28.80 -1.1
		1.2s		62.00nm	5.5mb
				e	38 29.70 3kmX
				i	38 36.50
MDB		54.82	302	eP	38 36.00 5.6X
PSN		54.89	298	eP	38 34.00 3.1X
CMP		55.18	301	ePc	38 38.00 5.0X
PSZ		55.48	306	eP	38 35.60 0.4
BBTK		55.54	291	eP	38 36.00 0.3
				e	39 16.00 175kmX
CLL		55.73	313	iPc	38 36.10 -0.7
		1.6s		75.00nm	5.5mb
				i	38 42.30 20km
PRU		56.14	311	P	38 39.50 -0.3
	Z	14s		5.70um	5.8MszX
	N	15s		4.20um	
	E	15s		2.70um	
				e	38 46.00 21km
SRO		56.24	307	eP	38 41.50 1.0
				i	38 47.90 21km
				i	39 02.80
				e	42 15.50
GPA		56.42	293	eP	38 48.00 6.0X
ZST		56.47	308	eP	38 44.00 1.8
				i	38 49.00 16km
BZS		56.48	303	eP	38 41.50 -0.8
JMB		56.58	298	eP	38 44.00 1.0
				i	38 50.00 20km
CTT		56.69	295	eP	38 44.00 0.1
VKA		56.74	309	eP	38 43.50 -0.7
				i	38 55.50 42kmX
				ePP	42 06.50
MOX		56.79	313	iP	38 44.00 -0.5
		0.8s		35.00nm	5.4mb
	Z	16s		3.40um	5.5MszX

N 16s 3.00um
e 38 50.00 20km
PSI 56.89 204 ePd 38 45.00 -0.5
0.8s 30.30nm 5.4mb
WIT 56.93 318 e(P) 38 46.00 0.6
HOF 56.95 313 eP 38 45.50 -0.2
KHC 57.20 311 P 38 47.80 0.3
e 38 54.50 22km
WTS 57.54 317 eP 38 49.50 -0.2
0.8s 36.00nm 5.5mb
BEO 57.61 304 e(P) 38 56.50 6.2X
PGB 57.66 299 eP 38 51.00 0.2
GRF 57.70 313 iPc 38 50.90 0.0
0.9s 15.00nm 5.0mb
Z 21s 1.60um 5.1Msz
e 38 52.60 6kmX
e 38 58.20
KDZ 57.76 298 iP 38 53.00 1.6
DST 57.78 294 eP 38 53.50 1.9
KMR 57.82 310 e(P) 38 52.00 0.3
i 38 58.30 21km
RZN 58.06 298 eP 38 54.00 0.2
i 39 00.00 20km
EKA 58.15 325 Pc 38 54.00 0.1
0.7s 20.30nm 5.3mb
KHL 58.32 292 eP 38 55.00 -0.5
BCK 58.45 291 eP 38 57.80 1.4
BHG 58.60 310 eP 38 57.40 0.2
MMB 58.61 299 eP 38 57.00 -0.4
LFK 58.64 287 eP 38 57.70 0.0
KKB 58.70 300 eP 38 59.00 1.0
i 39 04.00 16km
EZN 58.73 296 iP 38 59.90 1.7
PTJ 58.75 307 e(P) 38 57.40 -1.0
ZAG 58.80 307 iP 39 05.00 6.4X
KBA 58.92 310 iPc 39 00.00 0.3
0.8s 60.30nm 5.8mb
i 39 07.40 24km
FRB 58.93 4 eP 39 04.00 4.8X
MEM 58.96 317 P 38 59.00 -0.6
SRS 59.04 299 ePc 38 59.80 -0.6
LJU 59.24 308 eP 39 03.40 1.7
KNT 59.33 299 eP 39 03.20 0.8
VBY 59.36 307 eP 39 02.50 0.0
VAY 59.36 300 iP 39 03.50 0.9
SKO 59.38 301 iP 39 03.50 0.8
Z 17s 4052.00um 8.6MszX
N 17s 3120.00um
E 17s 2678.00um
i 39 09.30 19km
LR 07 04.00
UCC 59.41 318 P 39 03.00 0.3
OUR 59.46 298 eP 39 03.80 0.5
VOY 59.52 309 eP 39 04.30 0.5
CEY 59.53 308 eP 39 04.50 0.8
FVI 59.54 310 P 39 05.20 1.5
SNF 59.67 318 Pc 39 04.30 -0.3
WLF 59.68 316 Pc 39 06.40 1.8
GWF 59.68 315 P 39 04.06 -0.7
GRG 59.73 299 ePc 39 04.80 -0.3
TRI 59.83 308 eP 39 05.10 -0.6
eLR 02 10.00
RIY 59.86 308 eP 39 05.10 -0.8
DOU 59.90 317 iPc 39 05.70 -0.5
0.7s 7.80nm 4.9mb
PUK 60.04 302 eP 39 08.10 0.9
OGA 60.04 311 iPc 39 07.70 0.3
0.8s 33.00nm 5.5mb
SDA 60.24 302 eP 39 06.00 -2.5
WLS 60.24 314 P 39 07.76 -0.8
CDF 60.27 314 P 39 07.96 -0.9
OHR 60.35 301 eP 39 09.00 -0.5
LIT 60.36 299 eP 39 08.40 -1.0
FEL 60.43 314 P 39 08.79 -1.2
LACI 60.44 302 eP 39 10.40 0.5
CTI 60.45 310 P 39 08.50 -1.6
ECH 60.48 314 P 39 09.25 -0.9
ZLA 60.60 313 ePd 39 11.20 0.2
TIR 60.60 301 eP 39 11.70 0.7
YRH 60.74 325 eP 39 16.50 4.7X
MOF 60.79 314 P 39 11.02 -1.3
LLS 60.86 312 ePd 39 12.60 -0.4
VITF 60.93 315 P 39 12.25 -0.9
BSF 60.93 314 P 39 12.08 -1.3
BBS 60.96 314 P 39 12.70 -0.8
HAU 60.96 315 eP 39 12.50 -1.0
0.8s 14.50nm 5.2mb

BERA 61.07 301 eP 39 14.60 0.4
LSK 61.21 300 eP 39 19.70 4.4X
SAL 61.26 311 P 39 17.00 1.5
LOMF 61.32 314 P 39 14.90 -1.1
ETA 61.34 325 eP 39 19.80 3.9X
MDI 61.46 311 P 39 15.50 -1.3
SRN 61.70 300 eP 39 12.30 -6.2X
EDM 61.73 33 ePd 39 17.50 -1.1
VAI 61.77 312 P 39 18.10 -0.8
MMK 61.94 312 ePd 39 20.00 -0.4
ARV 61.96 308 P 39 21.60 1.3
SFI 62.08 309 P 39 22.00 1.0
DIX 62.13 313 ePd 39 21.40 -0.3
PGD 62.17 309 P 39 24.00 2.1
ORX 62.27 312 P 39 20.54 -1.9
CRE 62.28 308 P 39 22.00 -0.5
ORO 62.28 312 P 39 21.40 -1.1
EMS 62.33 313 ePd 39 22.30 -0.6
MME 62.34 309 P 39 23.60 0.5
BOB 62.39 311 P 39 22.60 -0.6
ASS 62.43 307 P 39 22.50 -0.9
FIR 62.45 309 eP 39 23.00 -0.4
BDI 62.49 309 P 39 23.10 -0.8
LOR 62.52 316 eP 39 22.40 -1.5
1.0s 48.00nm 5.6mb
AQU 62.69 306 P 39 25.80 0.7
LBF 62.71 316 eP 39 23.80 -1.4
1.2s 71.40nm 5.7mb
LSD 62.75 313 P 39 25.46 -0.3
DUI 62.79 305 P 39 25.50 -0.3
PII 62.80 309 P 39 25.10 -0.6
SSF 62.82 316 eP 39 25.00 -0.9
1.0s 38.80nm 5.5mb
FLN 62.83 320 eP 39 24.30 -1.6
1.0s 56.00nm 5.7mb
LDF 62.85 319 eP 39 24.70 -1.3
1.0s 68.00nm 5.7mb
LPG 62.87 313 eP 39 26.30 -0.3
PCP 62.94 311 P 39 26.07 -0.7
RSP 62.96 312 P 39 25.25 -1.7
MNS 62.98 307 P 39 27.50 0.5
SDI 63.03 306 P 39 28.00 0.6
SMF 63.04 316 eP 39 26.10 -1.3
1.0s 46.00nm 5.6mb
AVF 63.11 316 eP 39 26.60 -1.1
1.2s 36.80nm 5.4mb
PNT 63.15 39 eP 39 28.00 0.0
CKI 63.15 311 P 39 27.30 -0.8
BNI 63.27 313 P 39 28.90 -0.2
GRR 63.28 320 eP 39 27.70 -1.2
0.8s 29.50nm 5.5mb
RFI 63.29 305 P 39 30.80 1.8
SGO 63.30 304 P 39 30.60 1.5
FFC 63.33 25 eP 39 29.00 -0.1
0.8s 9.00nm 5.0mb
RRL 63.34 313 P 39 29.15 -0.5
FIN 63.35 311 P 39 27.82 -1.7
ROB 63.42 311 P 39 28.43 -1.5
RMP 63.43 307 P 39 30.50 0.5
RDP 63.47 307 P 39 28.00 -2.3
BGF 63.49 316 eP 39 29.00 -1.3
1.2s 33.90nm 5.4mb
DOI 63.50 312 P 39 28.50 -2.0
PZZ 63.56 312 P 39 29.35 -1.6
TDS 63.56 303 Pc 39 31.20 0.3
LPF 63.65 319 eP 39 30.20 -1.1
1.2s 29.70nm 5.3mb
ENR 63.66 312 P 39 28.94 -2.6
STV 63.68 312 P 39 29.56 -2.2
IMI 63.73 311 P 39 30.89 -1.1
MAF 63.88 316 eP 39 32.10 -0.8
1.3s 61.30nm 5.6mb
SBF 63.95 311 eP 39 32.50 -1.0
1.2s 77.30nm 5.7mb
TCF 63.96 316 eP 39 32.40 -1.0
1.2s 29.70nm 5.3mb
RMW 63.98 41 P 39 34.20 0.6
LSF 64.24 317 eP 39 34.10 -1.1
0.8s 25.50nm 5.4mb
CVF 64.44 310 eP 39 35.90 -0.7
1.2s 29.70nm 5.3mb
FRF 64.52 312 eP 39 36.40 -0.7
1.2s 59.50nm 5.6mb
MFF 64.55 318 eP 39 36.20 -1.0
1.0s 40.00nm 5.5mb
LON 64.58 42 P 39 36.60 -0.9
LRG 64.73 312 eP 39 38.00 -0.4

1.2s 41.60nm 5.5mb
LMR 64.77 312 eP 39 37.90 -0.8
1.2s 29.70nm 5.3mb
SES 64.90 33 ePd 39 39.00 -0.5
1.3s 214.00nm 6.1mb
SOI 64.98 302 P 39 41.00 0.9
RJF 65.05 316 eP 39 39.80 -0.7
0.8s 8.00nm 4.9mb
CAF 65.16 316 eP 39 41.10 -0.2
1.0s 10.00nm 4.9mb
TRT 65.19 187 ePd 39 40.70 -0.9
1.0s 207.80nm 6.2mb
LFF 65.65 317 eP 39 44.10 -0.2
0.6s 14.40nm 5.3mb
LPO 65.70 316 eP 39 44.30 -0.3
0.8s 10.70nm 5.0mb
EPF 67.43 316 eP 39 54.90 -0.8
1.0s 22.80nm 5.3mb
SCH 67.93 3 ePd 39 59.70 1.1
0.8s 5.60nm 4.8mb
RSON 68.73 21 P 40 02.00 -1.6
FHC 68.85 46 eP 40 05.80 1.2
MTN 70.84 167 iPc 40 16.00 -0.8
0.9s 173.00nm 6.2mb
ORV 70.89 45 eP 40 17.10 0.1
TOL 71.80 317 eP 40 23.00 0.6
eS 49 48.00
BW06 72.20 35 P 40 25.30 0.2
KVN 72.61 43 P 40 28.20 0.7
CMB 72.64 45 eP 40 28.70 1.2
PRS 73.74 47 eP 40 34.90 1.0
TNP 73.79 43 P 40 35.10 0.7
FRI 73.81 45 eP 40 35.30 1.1
ASMO 73.90 316 eP 40 35.00 0.1
AAPN 74.09 316 eP 40 35.70 -0.3
ACHM 74.15 316 eP 40 43.70 7.3X
PRI 74.19 46 eP 40 38.10 1.5
APHE 74.24 315 eP 40 37.50 0.6
ALOJ 74.25 316 eP 40 36.60 -0.4
SVO 74.39 138 eP 40 38.00 0.2
ATEJ 74.39 316 eP 40 37.00 -0.8
HNR 74.70 138 eP 40 40.00 0.4
CLC 75.65 44 eP 40 45.00 0.0
GLD 76.28 33 P 40 49.30 0.7
1.3s 63.22nm 5.5mb
Z 20s 3.00um 5.6Msz
GOL 76.28 34 P 40 49.20 0.5
1.1s 67.31nm 5.6mb
GSC 76.40 44 eP 40 50.00 0.7
SBB 76.56 45 eP 40 52.00 1.9
MWC 76.88 45 eP 40 53.00 0.9
RSNY 77.69 10 P 40 56.80 0.7
TPC 77.75 44 eP 40 58.00 1.3
PLM 78.11 45 P 41 00.00 1.2
WB5 78.19 165 iPd 40 58.00 -1.1
i 41 06.00 26km
MBL 78.38 179 eP 40 56.60 -3.4X
BAR 78.78 45 eP 41 03.00 0.7
GLA 79.14 44 eP 41 06.00 1.7
QIS 79.70 160 ePd 41 06.20 -1.1
0.6s 23.00nm 5.4mb
e 41 17.00 35kmX
ALQ 80.33 36 P 41 12.20 1.4
1.3s 18.38nm 4.9mb
CTA 80.64 154 iPd 41 11.80 -0.5
0.9s 75.63nm 5.7mb
ASPA 81.86 166 iPd 41 18.00 -0.6
1.5s 78.00nm 5.5mb
LNO 82.47 28 e(P) 41 22.50 0.9
TUL 82.47 28 eP 41 23.20 1.4
1.1s 19.80nm 5.1mb
Z 22s 2.43um 5.5Msz
LR 11 14.00
SIO 82.49 28 e(P) 41 22.40 0.5
ELC 82.65 22 P 41 23.00 0.3
MEO 82.80 30 iPc 41 24.80 1.3
UYO 84.46 27 eP 41 32.50 0.6
RSCP 84.98 20 P 41 34.40 -0.2
Z 18s 2.58um 5.7Msz
QLP 86.46 157 eP 41 42.00 0.2
e 41 51.00 28km
NAI 86.77 263 iPc 41 46.50 2.6X
RMQ 87.39 153 eP 41 46.00 -0.3
BAL 87.80 182 eP 41 48.00 -0.1
COOL 88.08 178 eP 41 48.00 -1.5
FORR 88.37 172 eP 41 50.00 -0.8
0.4s 17.00nm 5.7mb

25d 20h

DZM	88.70	137	iPc	41	54.10	1.4
KLB	88.77	181	eP	41	52.10	-0.6
MUN	89.18	182	eP	41	54.10	-0.6
BRS	89.28	150	iP	41	51.00	-4.3X
			i	41	56.00	16km
NWAO	90.10	181	eP	41	58.00	-1.0
STK	91.10	161	ePd	42	04.20	0.6
	0.5s	11.00nm				5.5mb
BCAO	91.80	281	iP-	42	07.70	0.3
	1.0s	30.00nm				5.6mb
			i	42	14.80	22km
BWA	94.93	156	eP	42	21.90	0.7
CAN	95.92	156	eP	42	27.00	1.2
MAW	131.44	205	ePKP	48	10.00	-0.7
ZOBO	138.49	10	PKP	48	15.00	-11.3X
			LR	35	04.00	
LPB	138.76	10	ePKP	48	20.00	-6.6X
CNCB	139.04	10	PKP	48	18.00	-9.3X
SPA	147.34	180	ePKPd	48	40.50	1.0
	0.7s	122.27nm				
SNA	152.46	219	e(PKP)	48	44.60	-2.4
	0.9s	89.08nm				
			i	48	54.20	

S.D. = 1.0 on 284 of 312 obs.

? OCT 25, 1989 21h 22m 19.51± 0.90s
41.823 N ± 9.8km 12.805 E ± 8.1km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

RMP	0.08	261	Pd	22	21.60	-0.4
			iSg	22	22.80	
RDP	0.09	226	P	22	22.50	0.3
			eSg	22	24.20	
MNS	0.57	351	P	22	31.20	0.1
SDI	0.77	98	P	22	34.40	-0.1

S.D. = 0.5 on 4 of 4 obs.

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* OCT 25, 1989 21h 44m 14.67± 2.69s
39.883 N ± 8.0km 30.531 E ±25.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

GPA	0.44	337	iPg	44	24.00	0.4
			eSg	44	30.70	
YLV	1.12	308	iPn	44	34.20	-1.5
GBZT	1.23	318	ePn	44	37.00	-0.5
			iSg	44	55.00	
DST	1.49	260	iPn	44	40.50	-1.1
ISK	1.63	317	ePn	44	43.00	-0.5
KHL	1.74	207	ePn	44	45.10	-0.1
CTT	2.04	309	iPn	44	50.20	0.8
BNT	2.06	284	ePn	44	51.00	1.3
EDC	2.10	284	ePn	44	51.50	1.2

S.D. = 1.1 on 9 of 9 obs.

& OCT 25, 1989 22h 01m 49.80s
36.982 N 121.788 W
DEPTH = 14.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.0 (BRK).
Mo=1.7*10**15 Nm (BRK). Felt in Santo Cruz County.

GCC	0.17	286	iPd	01	53.40	-0.7
SAO	0.35	128	iP	01	56.50	-0.7
MHC	0.38	18	iPd	01	57.50	-0.3
ARN	0.42	29	iPd	01	58.10	-0.4
PCC	0.70	318	iPd	02	02.10	-1.2
PRS	0.73	152	iPd	02	03.40	-0.4
LLA	0.77	118	iPd	02	03.80	-0.7
BKS	0.96	338	iPd	02	05.80	-1.9
			iS	02	20.00	
BRK	0.97	337	ePd	02	05.70	-2.1
			i	02	06.90	
PRI	1.23	133	ePd	02	10.90	-1.5
CMB	1.53	46	iPc	02	15.20	-1.6
PHAM	1.60	135	eP	02	15.60	-2.1
PKEM	1.63	124	eP	02	17.20	-1.0
FRI	1.67	89	iPc	02	16.70	-1.9
NWRM	1.71	330	eP	02	19.00	-0.3
BCH	2.26	142	eP	02	24.80	-2.6
ORV	2.58	5	iPd	02	29.20	-2.6
ABL	2.98	135	eP	02	34.80	-2.8
KVN	3.57	54	iPc	02	44.00	-2.1
TNP	3.79	72	eP	02	46.70	-2.6
EDM	17.28	17	eP	05	51.50	-0.5

21 obs. associated

% OCT 25, 1989 22h 20m 21.96± 0.55s
44.428 N ± 5.3km 7.261 E ± 5.9km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.7 (GEN).

PZZ	0.14	304	P	20	25.70	0.3
			S	20	28.08	
STV	0.19	166	P	20	26.26	0.0
			S	20	28.81	
ENR	0.23	150	P	20	27.29	0.3
			S	20	30.40	
ROB	0.46	107	P	20	31.71	0.4
			S	20	38.48	
RRL	0.60	326	P	20	34.07	-0.1
			S	20	42.10	
IMI	0.69	139	P	20	34.88	-0.7
			S	20	43.71	
FIN	0.71	107	P	20	35.84	-0.2
			S	20	45.15	
RSP	0.72	360	P	20	36.04	-0.2
			S	20	45.95	
PCP	0.93	82	P	20	39.92	0.2
			S	20	53.05	

S.D. = 0.4 on 9 of 9 obs.

% OCT 25, 1989 23h 44m 43.09± 1.21s
17.259 N ±17.0km 62.184 W ± 9.6km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 3.0 (FDF).

ANG	0.35	107	eP	44	51.54	0.0
			eS	44	59.68	
BPA	0.38	124	eP	44	51.91	0.0
			eS	45	00.63	
SKI	0.54	278	eP	44	54.23	0.0
			eS	45	03.89	
PAG	1.31	158	eP	45	05.60	0.3
			S	45	25.40	
BBL	1.85	158	eP	45	12.87	-0.3
			S	45	36.20	

S.D. = 0.3 on 5 of 5 obs.

? OCT 25, 1989 23h 51m 50.89±22.59s
31.548 S ±169.km 71.653 W ±61.3km
DEPTH = 33.0km (normal)
NEAR COAST OF CENTRAL CHILE (135)

JACH	1.45	142	iPc	52	15.10	0.0
			iS	53	35.00	
ROCH	1.52	159	iPc	52	16.00	-0.3
PEL	1.79	153	iPc	52	20.00	0.0
			iS	52	44.00	
LCCH	1.92	178	iPc	52	21.30	-0.6
			iS	52	47.50	
SAN	2.08	156	eP	52	24.50	0.4
			iS	53	53.00	
FCH	2.12	147	iPc	52	25.10	0.1
			iS	53	55.50	
TACH	2.18	164	iPc	52	26.00	0.4
			iS	53	55.40	
PCH	2.28	155	iPc	52	26.60	-0.5
			iS	53	56.00	
LNV	2.41	175	eP	52	29.50	0.7
			iS	53	06.10	
CHCH	2.52	161	iPc	52	30.30	-0.2
			iS	53	07.40	

S.D. = 0.5 on 10 of 10 obs.

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* OCT 26, 1989 00h 26m 26.55± 2.45s
36.559 N ±16.6km 71.566 E ±15.3km
DEPTH = 98.8 ± 23.2 km
4.3mb (7 obs.)
AFGHANISTAN-USSR BORDER REGION (717)

QUE	7.43	213	eP	28	13.50	-0.8
			eS	29	35.00	
NDI	9.18	147	eP	28	38.00	0.1
			eS	30	25.00	
MAIO	9.73	272	eP	28	46.00	0.6
			eS	30	26.00	
POO	18.07	173	iPc	30	26.40	-6.3X
HYB	20.04	160	eP	30	54.00	-0.1
GBA	23.46	166	Pc	31	28.50	0.7

	0.5s	3.20nm				4.0mb
MLR	35.15	299	eP	33	14.00	1.4
NB2	44.61	323	P	34	29.80	-0.5
	0.5s	5.00nm				4.6mb
BSF	47.98	305	eP	34	57.20	0.1
SMF	50.20	304	eP	35	13.80	-0.2
	0.6s	2.70nm				4.5mb
AVF	50.49	304	eP	35	15.90	-0.3
	0.6s	1.80nm				4.3mb
MAF	51.16	304	eP	35	21.30	0.0
	0.8s	2.60nm				4.3mb
TCF	51.38	304	eP	35	23.00	0.0
	0.8s	2.60nm				4.3mb
LSF	51.85	304	eP	35	25.40	-1.1
	0.8s	2.60nm				4.3mb

S.D. = 0.7 on 13 of 14 obs.

OCT 26, 1989 01h 45m 58.68± 0.39s
39.709 N ±13.8km 143.865 E ±12.0km
DEPTH = 33.0km (normal)
5.2mb (8 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

MAT	5.47	236	P	47	20.00	0.0
YSS	7.35	354	P	47	40.00	-6.4X
GUMO	26.03	178	P	51	30.00	-0.6
HKC	30.61	244	P	52	12.00	0.2
TTA	42.13	36	P	53	49.70	0.6
	1.0s	37.50nm				5.1mb
IMA	43.41	32	P	53	59.80	0.2
	1.0s	56.25nm				5.3mb
PMR	45.33	38	P	54	12.70	-2.2
SHL	45.39	268	iP	54	16.00	-0.1
			eS	01	00.00	
FBA	45.81	34	P	54	18.00	-0.7
	0.9s	66.67nm				5.6mb
LON	65.04	49	P	56	37.20	-0.6
LBFM	67.93	54	P	56	56.80	0.3
ORV	69.18	56	P	57	03.90	-0.1
ARN	70.42	57	P	57	11.00	-0.6
CMB	70.77	56	P	57	14.00	0.3
	1.5s	19.25nm				4.9mb
KVN	71.62	54	P	57	19.20	0.2
TNP	72.75	55	P	57	26.50	0.7
BW06	74.42	47	P	57	35.10	-0.3
RSON	76.70	33	P	57	47.10	-0.8
	1.0s	37.96nm				5.4mb
GLA	77.39	58	P	57	51.70	-0.4
GOL	78.82	47	P	58	01.80	1.7
	1.1s	25.64nm				5.1mb
GLD	78.87	47	P	58	02.20	1.9
ALQ	81.41	51	P	58	14.40	0.5
	1.2s	32.99nm				5.2mb
MEO	86.12	47	e(P)	58	38.50	0.9
TUL	86.83	45	e(P)	58	40.30	-0.8
	1.2s	3.20nm				4.4mb
SPA	129.52	180	e(PKP)	05	16.20	11.5X
	0.5s	2.31nm				
			e	05	36.80	
BAO	153.87	27	ePKP	05	58.00	9.8X

S.D. = 0.9 on 23 of 26 obs.

% OCT 26, 1989 02h 40m 51.58± 1.07s
44.155 N ± 7.3km 6.546 E ±13.5km
DEPTH = 10.0km (geophysicist)
FRANCE (538)
ML 2.2 (LDG).

FRF	0.60	173	Pg	41	03.00	-0.7
			Sg	41	11.50	
SBF	0.70	114	Pg	41	05.80	0.3
LRG	0.71	191	Pg	41	06.40	0.8
			Sg	41	16.60	
LMR	0.82	182	Pg	41	07.20	-0.3
			Sg	41	18.80	
LPL	1.37	5	Pg	41	16.80	-0.1

S.D. = 0.8 on 5 of 5 obs.

OCT 26, 1989 02h 42m 54.94± 0.92s
16.057 N ± 7.2km 61.192 W ±13.5km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 2.7 (FDF).

PAG	0.47	267	eP	43	05.50	0.3
			S	43	12.10	
BBL	0.60	207	eP	43	06.60	-0.4

BPA	1.17	327	eP	43	13.90	-1.2
			eS	43	31.69	
ANG	1.25	331	eP	43	17.34	1.2
			eS	43	33.77	
FDF	1.32	178	eP	43	17.03	-0.2
	0.1s		0.25nm			
			S	43	32.70	
CRM	1.32	168	eP	43	17.00	-0.2
MVM	1.52	169	eP	43	20.14	0.0
			S	43	38.50	
BIM	1.54	176	eP	43	21.01	0.6
			S	43	39.50	
SKI	1.95	311	eP	43	26.27	-0.1
			eS	43	53.63	
S.D. = 0.8			on	9 of	9 obs.	

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* OCT 26, 1989 02h 43m 57.24± 1.26s
52.580 S ±15.7km 163.225 E ±15.2km
DEPTH = 10.0km (geophysicist)
MACQUARIE ISLANDS REGION (167)

MSZ	8.50	23	eP	45	58.00	-5.2X
			S	47	18.00	
MHZ	8.52	30	P	46	00.80	-2.7
SNZO	13.71	39	eP	47	28.00	14.1X
			S	49	29.00	
MNG	14.61	40	eP	47	27.70	2.0
			S	49	50.60	
TOO	19.46	313	eP	48	26.00	-0.9
			eTT	02	23.00	
CNB	19.88	325	eP	48	30.00	-1.4
			eTT	03	30.00	
CAN	20.00	324	eP	48	29.00	-3.7X
			eTT	04	30.00	
BWA	21.01	324	eP	48	38.50	-4.7X
BRS	26.35	339	iPc	49	34.80	-0.2
			eS	53	58.00	
			eTT	09	00.00	
DZM	30.56	6	iPc	50	14.00	0.9
CTA	35.01	331	iPd	50	53.10	1.3
	1.3s		57.69nm		5.3mb X	
			iS	56	12.00	
ASPA	36.48	311	iPc	51	05.40	1.1
	0.9s		21.00nm		5.0mb X	
	Z 17s		4.15um		5.3MszX	
			LR	03	28.10	
SPA	37.61	180	P	51	12.80	-0.7
SPA	37.61	180	e(P)	51	47.40	33.9X
	1.0s		6.00nm			
WARB	38.00	300	eP	51	20.00	3.0X
WB5	39.57	315	eP	51	30.70	0.5
SVO	43.39	355	eP	52	05.00	3.6X
GUA	67.72	341	eP	55	02.30	5.5X
CHG	90.18	301	eP	57	10.20	11.3X
SES	125.43	52	ePKP	03	15.00	15.9X
INK	129.30	25	ePKPd	03	20.00	14.2X
CTT	147.56	268	ePKP	03	58.00	18.2X
VRI	151.17	274	ePKPc	04	07.50	22.3X
VAY	151.23	263	ePKP	04	06.60	21.2X
SKO	152.30	263	ePKP	03	57.50	10.5X
S.D. = 1.6			on	10 of	25 obs.	

% OCT 26, 1989 03h 11m 53.19± 0.93s
39.352 N ± 8.0km 27.890 E ±11.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.62	66	iPg	12	05.40	-0.4
			eSg	12	12.40	
EDC	0.99	359	iPg	12	11.30	-0.7
			eSg	12	25.30	
BNT	1.00	1	iPn	12	12.70	0.5
IZM	1.07	207	iPn	12	13.40	0.0
YLV	1.66	43	ePn	12	23.20	0.6
S.D. = 0.8			on	5 of	5 obs.	

OCT 26, 1989 03h 14m 49.58± 0.41s
43.747 N ± 6.1km 5.985 W ± 4.9km
DEPTH = 10.0km (geophysicist)
SPAIN (377)
mbLg 3.5 (MDD). Felt (IV) in the Cobo Vidio oreo.

EMON	1.03	253	iPgd	15	10.10	1.1
			eSg	15	21.00	
ERUA	1.60	212	iPn	15	17.00	-0.9
			eSn	15	34.00	
STS	2.06	246	ePn	15	24.30	-0.4
			eSn	15	46.00	
GUD	3.39	156	ePn	15	43.50	-0.2
			eSn	16	22.00	
EPF	4.67	97	Pn	16	03.20	1.4
			Sn	16	53.90	
LFF	4.97	74	Pn	16	06.60	0.6
			Sn	17	00.60	
MFF	5.02	53	Pn	16	07.40	0.7
			Sn	17	02.00	
LPO	5.24	77	Pn	16	10.20	0.4
			Sn	17	07.00	
LPF	5.50	37	Pn	16	13.50	0.0
			Sn	17	12.90	
RJF	5.58	71	Pn	16	15.00	0.3
			Sn	17	15.20	
GRR	5.85	36	Pn	16	18.20	-0.2
			Sn	17	21.40	
LSF	5.89	62	Pn	16	20.00	1.1
			Sn	17	20.80	
CAF	5.89	76	Pn	16	18.80	-0.2
			Sn	17	21.90	
FLN	6.30	35	Pn	16	24.90	0.1
LDF	6.33	38	Pn	16	25.40	0.2
TCF	6.34	64	Pn	16	25.00	-0.4
			Sn	17	31.40	
MAF	6.55	65	Pn	16	27.60	-0.7
			Sn	17	37.50	
BGF	6.85	63	Pn	16	32.30	-0.2
			Sn	17	44.70	
AVF	7.26	62	Pn	16	38.00	-0.2
SSF	7.46	60	Pn	16	41.20	0.2
SMF	7.52	64	Pn	16	41.50	-0.4
LBF	7.73	62	Pn	16	44.40	-0.4
LOR	7.76	60	Pn	16	45.20	-0.1
HAU	9.60	59	Pn	17	08.80	-2.0
S.D. = 0.7			on	24 of	24 obs.	

OCT 26, 1989 04h 05m 01.71± 0.41s
11.095 S ± 6.2km 162.263 E ± 7.4km
DEPTH = 33.0km (normal)
4.9mb (6 obs.)
SOLOMON ISLANDS (193)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 11S, 15C
Centroid Location:
Origin Time 04:05:16.0 4.0
Lat 10.67S 0.31 Lon 161.83E 0.17
Dep 36.513.1 Half-duration 1.6
Moment Tensor; Scale 10**16 Nm
Mrr= 1.47 0.68 Mtt=-6.67 1.10
Mff= 5.20 1.37 Mrt=-0.75 1.36
Mrf=-1.27 1.36 Mtf= 4.88 0.88
Principal Axes:
T Val= 7.31 Plg=14 Azm=110
N 1.12 76 283
P -8.42 2 19
Best Double Couple:Mo=7.9*10**16
NP1:Strike=154 Dip=79 Slip= 171
NP2: 245 81 11

HNR	2.81	306	ePc	05	46.00	0.6
			eS	06	26.00	
SVO	3.09	309	eP	05	57.00	7.7X
			eS	06	29.00	
PAA	8.21	305	eP	07	24.00	22.3X
DZM	11.63	160	iPc	07	48.60	0.1
			iS	09	52.00	
PMG	14.96	275	eP	08	33.00	0.4
CTA	17.81	238	iPd	09	09.90	1.1
	1.0s		166.00nm		5.1mb	
			iS	12	32.00	
BRS	18.50	208	iPd	09	18.30	1.0
RMO	19.92	218	iPd	09	34.20	0.5
	1.0s		216.00nm		5.4mb	
COO	21.65	205	iPc	09	52.00	0.6
			e	09	56.00	
QIS	23.71	244	iPc	10	12.40	0.6
CMS	25.35	214	eP	10	27.00	-0.4
BWA	26.44	206	eP	10	36.10	-1.4
CAN	26.96	204	eP	10	42.80	0.5
STK	28.14	220	eP	10	52.60	-0.4
WB5	28.23	249	eP	10	52.00	-1.9
ASPA	29.74	241	iPc	11	05.60	-2.0
	0.9s		12.00nm		4.7mb	
	Z 23s		0.94um		4.4MszX	
			eS	16	01.60	
			LR	21	26.20	
WARB	36.79	241	eP	12	07.60	-0.9
MEKA	43.93	243	iPc	13	07.70	0.2
CN2	64.08	331	Pc	15	35.50	0.8
CHG	69.13	295	eP	16	10.90	3.6X
GTA	76.65	315	eP	16	55.00	3.7X
SPA	78.98	180	e(P)	17	03.80	0.1
	1.0s		10.00nm		4.8mb	
TTA	80.49	18	P	17	11.80	0.1
PMR	81.81	21	P	17	19.00	0.5
MAW	83.38	202	eP	17	27.00	0.4
IMA	83.50	17	P	17	27.20	-0.2
FBA	84.46	19	P	17	30.90	-1.1
	0.8s		13.79nm		5.2mb	
SIT	84.94	29	P	17	29.40	-5.1X
KVN	89.00	50	P	17	54.20	-0.8
TNP	89.42	51	P	17	56.90	-0.1
	0.6s		1.25nm		4.4mb	
BCAO	143.48	262	iPKPd	24	32.30	-3.5X
	0.5s		6.00nm			
			i	24	47.50	
PDCR	148.35	137	ePKP	24	45.50	1.8
S.D. = 1.0			on	26 of	32 obs.	

OCT 26, 1989 04h 44m 40.70± 0.25s
44.317 N ± 1.8km 7.276 E ± 2.7km
DEPTH = 13.3 ± 2.6 km
NORTHERN ITALY (545)
ML 2.9 (GEN).

STV	0.08	154	Pd	44	42.95	-0.8
			S	44	44.75	
ENR	0.14	131	Pc	44	44.02	-0.4
			S	44	46.84	
DOI	0.19	353	Pd	44	45.30	0.1
			eSg	44	48.00	
PZZ	0.23	326	Pd	44	45.59	-0.3
			S	44	48.87	
TOUF	0.30	184	Pg	44	47.10	-0.2
AUTN	0.34	161	Pg	44	47.93	-0.1
SAOF	0.39	149	Pg	44	48.75	-0.1
			Sg	44	54.28	
ROB	0.43	93	P	44	50.04	0.5
			S	44	55.74	
MVIF	0.43	192	Pg	44	49.36	-0.3
			Sg	44	55.60	
AURF	0.43	175	Pg	44	49.42	-0.2
			Sg	44	55.49	
SBF	0.47	166	Pg	44	50.20	-0.1
			Sg	44	57.00	
IMI	0.60	132	Pd	44	52.76	0.2
			S	45	00.66	
CALN	0.63	206	Pg	44	53.34	0.2
FIN	0.68	99	Pc	44	54.22	0.3
			S	45	03.84	
RRL	0.70	330	P	44	54.03	-0.3
			S	45	03.37	
CKI	0.73	81	Pc	44	55.10	0.4
			eSg	45	04.90	
RSP	0.83	359	P	44	56.03	-0.6
			S	45	06.67	
BNI	0.85	330	P	44	56.90	0.0
			eSg	45	08.00	
FRF	0.88	211	Pg	44	57.60	0.3
			Sg	45	08.40	
PCP	0.94	76	P	44	59.09	0.8
			S	45	11.19	
LRG	1.09	218	Pg	45	01.40	0.6
			Sg	45	15.20	
LMR	1.13	210	Pg	45	02.20	0.7
			Sg	45	16.20	
LSD	1.14	356	P	45	01.61	-0.4
			S	45	15.60	
LPG	1.24	343	Pg	45	04.40	0.8
			Sg	45	20.50	
LPL	1.26	342	Pg	45	04.70	0.7
			Sg	45	21.00	
ORX	1.41	21	P	45	05.02	-1.0
CVF	2.10	146	Pn	45	15.29	-0.7
S.D. = 0.5			on	27 of	27 obs.	

? OCT 26, 1989 04h 46m 38.95± 0.95s
36.515 N ± 8.6km 25.421 E ±12.1km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)

26d 04h

APE	0.56	9	ePb	46 50.30	0.0
			eSb	46 57.00	
NPS	1.26	173	ePb	47 07.30	4.9X
VAM	1.48	222	ePn	47 05.70	0.0
SMG	1.64	43	ePn	47 08.00	0.1
KAP	1.72	124	ePn	47 09.00	0.0

S.D. = 0.1 on 4 of 5 obs.

? OCT 26, 1989 04h 57m 16.56± 2.61s
5.274 S ±29.4km 138.958 E ±12.2km
DEPTH = 33.0km (normal)
4.7mb (2 obs.)
NEAR S. COAST OF WEST IRIAN (205)

MNDI	4.76	101	eP	58 28.00	0.0
PMG	9.11	117	eP	59 24.00	-4.8X
MTN	10.78	225	iPd	59 50.70	-1.1
			eS	01 55.50	
KNA	14.44	223	eP	00 41.00	0.4
			eS	03 20.00	
WB5	15.19	197	eP	00 49.10	-1.3
			i	00 57.00	
			eS	03 39.20	
QIS	15.20	178	eP	00 50.00	-0.6
			eS	03 44.00	
			e	05 39.00	
CTA	16.35	155	eP	01 06.00	0.7
ASPA	18.92	194	iPc	01 39.30	1.9
	0.7s	27.00nm		4.6mb	
			e	01 45.20	
			eS	05 04.70	
WARB	23.90	208	eP	02 29.40	1.1
	0.6s	18.00nm		4.8mb	
BRS	25.63	151	eP	02 44.00	-0.9
KIC	143.87	274	PKP	16 44.50	-6.8X
CNCB	145.49	130	PKP	16 51.00	-3.6X
LPB	145.57	129	PKP	16 52.00	-2.6X
ZOBO	145.71	129	PKP	16 52.00	-3.0X
CCH	146.51	133	ePKP	16 51.00	-5.0X

S.D. = 1.3 on 9 of 15 obs.

% OCT 26, 1989 05h 04m 00.93± 1.00s
45.177 N ± 7.4km 7.488 E ± 8.8km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.8 (GEN).

RSP	0.17	261	P	04 05.11	0.3
			S	04 07.11	
LSD	0.37	320	P	04 08.34	-0.2
			S	04 12.65	
RRL	0.56	243	P	04 12.34	-0.1
			S	04 19.21	
ORX	0.57	37	P	04 12.72	0.1
			S	04 20.14	
PZZ	0.73	202	P	04 15.22	-0.1
			S	04 25.67	

S.D. = 0.3 on 5 of 5 obs.

OCT 26, 1989 05h 05m 20.40± 0.80s
43.394 N ± 4.8km 5.425 E ± 6.1km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 2.6 (STR).

GELF	0.01	170	Pg	05 22.06	-0.3
BERF	0.21	113	Pg	05 25.71	0.7
TREF	0.23	353	Pg	05 24.96	-0.4
PUYF	0.24	55	Pg	05 24.70	-0.9
PRAF	0.45	336	Pg	05 30.00	0.4
VILF	0.50	25	Pg	05 30.08	-0.6
TAVF	0.51	64	Pg	05 30.37	-0.4
GANF	0.70	30	Pg	05 34.90	0.7
CALN	1.12	71	Pg	05 41.62	0.1
MVIF	1.35	68	Pn	05 45.63	0.2
			Sg	06 05.26	
TOUF	1.46	64	Pn	05 47.22	0.2
AURF	1.47	70	Pn	05 48.22	1.2
AUTN	1.57	67	Pn	05 48.80	0.2
			Sg	06 11.72	
SAOF	1.65	68	Pn	05 49.53	-0.1
CVF	2.66	107	Pn	06 02.92	-1.2

S.D. = 0.7 on 15 of 15 obs.

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* OCT 26, 1989 05h 24m 33.72± 1.75s
18.057 N ±11.1km 100.876 W ±15.8km
DEPTH = 33.0km (normal)

GUERRERO, MEXICO (59)

III	1.37	76	iP	24 58.00	1.0
ACX	1.53	140	iP	24 59.50	0.5
			iS	25 20.00	
MRX	1.67	350	eP	25 01.00	0.0
			iS	25 31.00	
CRX	1.76	40	eP	25 02.00	-0.6
PPM	2.36	64	eP	25 11.50	0.1
IIT	2.62	68	(P)	25 23.00	8.1X
IISM	3.45	74	eP	25 27.00	0.6
OXX	4.08	103	eP	25 34.00	-1.6
			(S)	26 38.50	

S.D. = 1.1 on 7 of 8 obs.

OCT 26, 1989 05h 57m 35.10± 0.41s
42.451 N ± 4.5km 26.267 E ± 3.7km
DEPTH = 10.0km (geophysicist)
BULGARIA (359)

JMB	0.23	86	iPgd	57 39.00	-1.1
			Sg	57 42.00	
DIM	0.68	234	Pg	57 48.00	-0.5
			Sg	57 57.00	
KDZ	1.02	219	iP	57 56.00	1.6
			iSg	58 09.00	
PVL	1.03	318	iPd	57 54.00	-0.5
			iS	58 08.00	
PLD	1.21	254	iPgd	57 57.00	-0.6
			iSg	58 12.00	
DMK	1.27	119	iPn	57 58.90	0.2
RZN	1.38	237	iPd	58 01.00	0.4
			Sg	58 20.00	
RDO	1.41	203	iPbc	58 01.00	0.2
			eSb	58 20.50	
PGB	1.56	274	iPd	58 03.00	0.1
			Sg	58 24.00	
CTT	2.08	128	iPn	58 09.70	-0.7
MMB	2.08	246	ePd	58 11.00	0.5
			eS	58 44.00	
VTS	2.27	275	iPc	58 13.00	-0.3
			iS	58 41.00	
			iSg	58 47.00	
EDC	2.42	150	ePn	58 40.00	24.7X
BNT	2.43	149	ePn	58 14.00	-1.5
KKB	2.44	257	iPd	58 15.00	-0.6
TLB	2.49	30	eP	58 18.50	2.2
ISK	2.51	123	ePn	58 12.00	-4.5X
EZN	2.62	179	ePn	58 19.00	0.8
ISR	2.69	4	eP	58 23.50	4.2X
GBZT	2.90	124	ePn	58 29.00	6.8X
			iSg	59 06.00	
PLG	2.97	227	ePn	58 22.70	-0.4
VAY	2.98	249	ePn	58 23.30	0.0
HRT	3.02	121	ePn	58 25.00	1.1
MLR	3.05	356	eP	58 25.00	0.7
CFR	3.06	26	eP	58 31.00	6.7X
VRI	3.43	5	ePd	58 28.50	-1.2

S.D. = 1.0 on 21 of 26 obs.

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* OCT 26, 1989 06h 45m 47.57± 0.93s
16.889 N ± 8.6km 62.273 W ± 9.9km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 2.5 (FDF).

BPA	0.43	68	eP	45 57.51	0.4
			eS	46 04.50	
ANG	0.50	58	eP	45 57.80	-0.4
			eS	46 05.05	
SKI	0.63	315	eP	46 00.03	0.0
			eS	46 07.60	
PAG	1.03	146	eP	46 06.00	0.3
			S	46 19.00	
BBL	1.56	151	eP	46 13.00	-0.3

S.D. = 0.5 on 5 of 5 obs.

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* OCT 26, 1989 06h 59m 45.71± 0.85s
36.765 N ± 7.9km 26.588 E ± 9.4km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
MD 3.5 (ATH).

APE	0.90	290	ePg	00 02.60	-0.4
SMG	0.96	12	ePg	00 03.00	-1.0
			eSg	00 17.00	
KAP	1.30	158	ePb	00 08.40	-1.4
YER	1.41	74	ePn	00 13.00	1.6
CIN	1.46	55	ePn	00 11.00	-1.1
			iSg	00 31.00	
NPS	1.69	208	ePn	00 16.70	1.2
IZM	1.72	18	iPn	00 16.90	1.1

S.D. = 1.5 on 7 of 7 obs.

& OCT 26, 1989 08h 11m 40.28s
63.130 N 150.434 W
DEPTH = 121.5km
CENTRAL ALASKA (1)
<AGS-P>.

HUR	0.39	112	eP	11 57.69	-0.4
			eS	12 10.84	
CUT	0.73	174	eP	11 59.88	-0.4
			eS	12 15.13	
RND	0.77	68	eP	12 00.39	-0.3
			eS	12 15.47	
SKT	1.26	204	eP	12 04.76	-0.7
			eS	12 22.93	
PWA	1.51	170	eP	12 07.88	-0.3
PME	1.64	156	eP	12 09.29	-0.6
SUA	1.68	185	eP	12 10.08	-0.3
WRH	1.70	37	eP	12 10.01	-0.6
NCG	1.91	206	eP	12 11.53	-1.7
			eS	12 37.44	
CCB	1.92	36	eP	12 12.59	-0.6
PMS	1.94	167	eP	12 12.83	-0.7
RDS	1.98	30	eP	12 13.36	-0.7
HDA	2.01	49	eP	12 13.78	-0.6
NCA	2.02	123	eP	12 14.34	-0.3
DDM	2.16	70	eP	12 16.85	0.5
PAX	2.27	92	eP	12 17.88	0.1
SLKM	2.63	178	eP	12 21.88	-0.6
			eS	12 51.50	
KLU	2.67	126	eP	12 21.87	-1.2
GLI	2.75	144	eP	12 22.60	-1.4
DOT	2.91	77	eP	12 25.62	-0.6

20 obs. ossocioted

& OCT 26, 1989 09h 01m 29.30s
37.050 N 121.895 W
DEPTH = 14.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.0 (BRK).
Mo=8.0*10**14 Nm (BRK). Felt at San Jose.

GCC	0.08	256	iPd	01 31.80	-0.6
MHC	0.35	35	iPd	01 36.60	-0.3
ARN	0.42	44	iPd	01 37.40	-0.5
SAO	0.46	128	iPc	01 37.20	-1.5
PCC	0.59	319	iPc	01 40.20	-0.7
PRS	0.83	149	iPc	01 44.30	-0.7
BKS	0.87	342	iPd	01 45.60	0.0
			iS	01 57.10	
BRK	0.87	341	ePd	01 44.80	-0.9
			iS	01 57.20	
LLA	0.88	119	iPc	01 44.80	-1.0
PRI	1.34	132	eP	01 52.10	-1.6
CMB	1.55	50	iPd	01 55.40	-1.1
PHAM	1.71	135	eP	01 57.40	-1.4
PKEM	1.74	124	eP	01 58.10	-1.2
FRI	1.75	91	iPc	01 57.80	-1.6
BCH	2.37	141	eP	02 05.60	-2.8
ORV	2.52	7	eP	02 08.60	-1.8
BLP	2.77	154	eP	02 11.10	-2.8
ABL	3.09	135	eP	02 16.00	-2.7
KVN	3.60	55	ePd	02 24.20	-1.8
TNP	3.86	73	eP	02 29.00	-0.6

20 obs. ossocioted

? OCT 26, 1989 10h 52m 14.37± 4.94s
36.500 N ±36.0km 20.576 E ±29.4km
DEPTH = 33.0km (normal)
MEDITERRANEAN SEA (400)

VLS	1.67	0	ePb	52 42.50	0.7
VLI	1.91	83	ePb	52 45.10	-0.1
AGG	2.88	28	ePc	53 00.20	1.3
KEK	3.27	349	ePn	53 05.00	0.6
LIT	3.90	22	eP	53 14.50	1.1
OHR	4.61	2	ePn	53 23.30	-0.3
KNT	5.00	21	ePd	53 28.50	-0.5
VAY	5.06	17	ePn	53 28.30	-1.6
SKO	5.51	7	ePn	53 35.00	-1.2

S.D. = 1.1 on 9 of 9 obs.

? OCT 26, 1989 11h 00m 03.57± 4.04s
44.288 N ±19.4km 129.052 W ±27.8km
DEPTH = 10.0km (geophysicist)
4.4mb (1 obs.)
OFF COAST OF OREGON (30)

BMW	4.65	60	eP	01 14.50	-1.0
RVW	4.83	65	eP	01 17.77	-0.3
CPW	4.94	55	eP	01 19.42	-0.2
OTR	5.01	39	eP	01 21.81	1.2
SMW	5.01	51	eP	01 20.13	-0.5
CZM	5.09	63	eP	01 20.94	-0.8
OSD	5.13	45	eP	01 22.21	-0.3
MTMW	5.14	68	eP	01 22.35	-0.2
ERK	5.15	65	eP	01 23.32	0.7
TDH	5.27	76	eP	01 24.17	-0.2
CDFW	5.28	67	eP	01 24.88	0.5
KOSW	5.30	63	eP	01 24.56	-0.2
LMW	5.32	61	eP	01 25.53	0.5
HDW	5.36	49	eP	01 25.61	-0.1
VLL	5.37	75	eP	01 26.11	0.3
STW	5.37	42	eP	01 25.51	-0.2
VBEM	5.38	79	eP	01 25.69	-0.3
APM	5.42	72	eP	01 26.44	-0.1
GMW	5.45	51	eP	01 26.96	0.1
VFP	5.50	77	eP	01 28.11	0.5
ASR	5.59	68	eP	01 29.29	0.4
RVC	5.63	59	eP	01 29.71	0.3
LON	5.65	62	eP	01 29.00	-0.7
GLK	5.71	64	eP	01 31.37	0.8
WPW	5.80	63	eP	01 31.91	0.1
FMW	5.81	60	eP	01 31.31	-0.8
GSM	5.86	58	eP	01 33.19	0.6
RMW	5.97	55	eP	01 34.60	0.4
PNT	8.19	49	eP	02 05.00	-0.3
	0.4s	3.00nm		4.9mb	X
FFC	20.32	49	eP	04 42.00	-0.2
	1.0s	21.00nm		4.4mb	

S.D. = 0.5 on 30 of 30 obs.

• OCT 26, 1989 11h 08m 37.17± 2.62s
20.430 N ±24.0km 99.045 W ± 9.9km
DEPTH = 10.0km (geophysicist)
CENTRAL MEXICO (523)

CRX	1.18	211	eP	08 58.50	-0.9
PPM	1.41	164	iP	09 03.50	0.1
			iS	09 27.00	
IIT	1.56	154	eP	09 05.00	-0.3
			eS	09 30.50	
III	2.08	191	eP	09 14.00	1.2
			iS	09 43.50	
IISM	2.13	132	eP	09 13.00	-0.2
			(S)	09 45.00	
MRX	2.14	251	eP	09 13.50	0.1
			(S)	09 47.50	
OXX	3.99	146	(P)	09 50.50	10.6X
			(S)	10 43.00	

S.D. = 0.9 on 6 of 7 obs.

• OCT 26, 1989 11h 08m 53.70± 2.36s
36.478 N ±15.8km 70.691 E ±19.0km
DEPTH = 195.8 ± 26.5 km
4.5mb (4 obs.)
HINDU KUSH REGION (718)

QUE	7.01	208	iPd	10 35.00	0.0
			eS	11 53.80	
MAIO	9.03	272	eP	10 55.00	-6.4X
			eS	12 31.00	
NDI	9.52	143	iPc	11 06.60	-1.1
			eS	12 43.20	
POO	18.09	170	eP	12 53.50	0.1
HYB	20.22	158	iPc	13 17.80	2.6
	0.8s	19.20nm		4.7mb	
NUR	37.70	324	eP	15 52.00	0.6
SUF	37.81	328	iP	15 52.80	0.5
	0.6s	8.40nm		4.6mb	
SOD	39.65	335	iP	16 08.00	0.6
NB2	44.25	323	P	16 44.20	-0.7
	0.8s	8.70nm		4.3mb	
BCAO	57.42	249	ePc	18 22.90	-1.3
	0.7s	5.00nm		4.4mb	
			id	19 11.80	
WB5	82.17	122	eP	20 52.50	-1.4

S.D. = 1.5 on 10 of 11 obs.

• OCT 26, 1989 11h 25m 32.42± 1.54s
43.339 N ±12.1km 18.963 E ± 7.9km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.5 (TTG).

PLE	0.31	91	ePg	25 38.20	-0.8
			eSg	25 43.50	
NKY	0.53	177	ePg	25 42.00	-1.1
			eSg	25 51.50	
BRY	0.53	215	iPgd	25 41.20	-2.1
			iSg	25 50.50	
TTG	0.93	166	ePg	25 50.60	0.4
			eSg	26 06.00	
HCY	0.95	201	ePg	25 52.00	1.4
			eSg	26 08.00	
PVY	1.05	135	ePg	25 53.00	0.7
			eSg	26 09.00	
BDV	1.06	185	ePg	25 53.50	1.1
			eSg	26 10.00	
HVAR	1.84	266	iPn	26 04.80	0.4
			iSn	26 30.50	

S.D. = 1.4 on 8 of 8 obs.

? OCT 26, 1989 12h 34m 25.32± 7.15s
42.944 N ±46.3km 0.519 W ±22.9km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

ESCF	0.14	343	Pg	34 28.65	0.0
			Sg	34 29.43	
ATE	0.20	316	Pg	34 29.47	-0.2
			Sg	34 31.14	
ISSF	0.22	292	Pg	34 30.14	0.0
OGE	0.23	8	Pg	34 30.22	0.0
MADF	0.30	312	Pg	34 31.72	0.2

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

? OCT 26, 1989 12h 51m 48.01± 3.19s
8.124 S ±27.6km 150.479 E ±28.5km
DEPTH = 33.0km (normal)
4.2mb (1 obs.)
EAST PAPUA NEW GUINEA REGION (207)

PMG	3.53	249	eP	52 43.00	1.2
	1.0s	200.00nm			
LAT	3.75	293	eP	52 45.00	0.1
BRS	19.29	174	iPc	56 13.80	0.7
WB5	19.49	232	iPd	56 13.80	-1.7
			i	56 24.90	
ASPA	22.16	224	eP	56 42.70	-0.2
	1.3s	14.00nm		4.2mb	

S.D. = 1.6 on 5 of 5 obs.

? OCT 26, 1989 13h 09m 19.42± 3.52s
6.020 S ±36.6km 146.541 E ±65.5km
DEPTH = 204.9 ± 33.8 km
4.5mb (2 obs.)
EAST PAPUA NEW GUINEA REGION (207)

LAT	0.78	144	iPc	09 49.00	0.4
			eS	10 15.00	
MNDI	2.87	267	eP	10 40.00	31.5X
PMG	3.42	170	eP	10 13.70	-1.1
CTA	13.99	181	iPc	12 31.00	0.8
	0.8s	9.33nm		4.3mb	
QIS	15.94	204	iPc	12 54.60	0.4
WB5	18.16	220	iPd	13 19.30	0.0
			eS	16 43.90	
ASPA	21.35	213	eP	13 51.90	0.5
	0.5s	13.00nm		4.7mb	
			eS	17 43.60	
WARB	27.62	221	eP	14 49.00	-1.0

S.D. = 1.0 on 7 of 8 obs.

? OCT 26, 1989 13h 32m 21.93± 0.89s
42.736 N ±12.2km 19.109 E ± 9.8km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.1 (TTG).

NKY	0.11	313	iPgd	32 25.00	0.1
			iSg	32 29.00	
TTG	0.33	160	ePg	32 28.70	0.0
			eSg	32 33.80	
BRY	0.45	292	ePg	32 31.00	-0.1
			eSg	32 39.00	
PVY	0.65	102	ePg	32 35.00	0.0
			eSg	32 47.00	
OHR	2.06	142	ePn	33 01.30	4.3X

S.D. = 0.1 on 4 of 5 obs.

? OCT 26, 1989 13h 42m 19.30± 6.74s
61.867 N ±37.9km 4.189 E ±40.0km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.8 (BER).

SUE	0.86	161	iPc	42 34.96	-0.8
			eS	42 42.06	
HYA	1.19	125	eP	42 41.49	0.1
			eSg	42 52.99	
ASK	1.47	160	iP	42 45.45	-0.4
			eS	42 59.77	
ODD1	2.30	148	eP	42 59.06	1.2
			eSg	43 23.48	
BLS1	2.80	151	eP	43 05.40	0.3
			eS	43 34.80	
NRA0	3.72	104	ePn	43 17.60	-0.5
			eS	43 57.00	
			iSg	44 09.70	

S.D. = 0.9 on 6 of 6 obs.

• OCT 26, 1989 14h 28m 55.39± 0.73s
51.324 N ±12.6km 177.827 W ±12.2km
DEPTH = 33.0km (normal)
4.3mb (6 obs.)
ANDREANOF ISLANDS, ALEUTIAN IS. (7)

ADK	0.91	51	eP	29 12.60	0.9
TTA	16.49	37	eP	32 45.30	-0.2
PMR	18.73	46	eP	33 14.00	0.8
IMA	19.18	31	eP	33 18.40	-0.4
	1.1s	15.94nm		4.2mb	
FBA	20.62	37	eP	33 32.70	-1.3
	0.6s	4.68nm		4.0mb	
INK	27.16	35	eP	34 38.00	1.0
LON	36.24	75	eP	35 58.40	1.4
PNT	36.38	70	eP	36 10.00	11.9X
	0.7s	14.00nm			
EDM	38.31	61	eP	36 14.00	-0.2
	0.6s	17.00nm		5.1mb	
KVN	42.70	83	eP	36 51.00	0.1
TNP	43.84	83	eP	37 00.50	0.4
	0.7s	2.59nm		4.1mb	
BW06	45.74	73	eP	37 14.90	-0.4
RSON	49.99	55	eP	37 46.50	-1.5
GOL	50.11	73	eP	37 49.00	-0.4
	0.8s	10.42nm		4.9mb	
ALQ	52.51	79	eP	38 07.00	-0.6
	0.8s	1.83nm		4.1mb	
W85	82.33	225	eP	41 14.80	-0.2
HYB	84.80	291	eP	41 28.50	0.7

S.D. = 0.9 on 16 of 17 obs.

OCT 26, 1989 14h 34m 33.59± 0.27s
22.552 S ± 5.6km 176.895 W ± 5.2km
DEPTH = 185.4km (6 depth phases)
5.1mb (14 obs.)
SOUTH OF FIJI ISLANDS (171)

SVA	6.20	315	ePc	36 04.80	0.7
			S	37 16.80	
KRO	6.27	326	eP	36 04.50	-0.6
VUN	6.28	315	eP	36 05.80	0.7
OVA	6.32	319	ePd	36 05.90	0.3
RAO	6.73	188	eP	36 14.80	3.8X
			iS	37 30.50	
MBU	6.92	323	ePd	36 13.60	0.1
NDE	6.93	328	ePc	36 13.70	0.0
PVC	14.69	286	iPc	38 01.00	7.2X
DZM	15.43	269	iPd	38 06.50	3.5X
RAR	15.95	88	P	38 07.00	-2.3
			S	41 01.00	
MNG	19.13	198	P	38 40.50	-4.2X
WDW	19.87	198	P	38 50.50	-1.7
MRW	19.92	199	P	38 49.90	-2.8X
			S	42 19.00	
WEL	19.95	199	eP	38 54.00	0.9
			S	42 21.00	
TCW	20.04	200	P	38 49.80	-4.1X

26d 14h

MSZ	25.35	206	eP	39 46.00	1.1
BRS	27.88	254	iPc	40 09.80	1.7
			e	40 18.00	29kmX
			i	40 49.00	
			i	41 21.00	
COO	28.97	247	ePd	40 19.30	1.4
RMO	31.44	256	ePd	40 40.10	0.5
			e	43 29.00	
CAN	32.28	239	eP	40 46.80	-0.1
BWA	32.55	241	eP	40 47.00	-2.2
CMS	34.25	247	eP	41 04.00	0.3
CTA	34.36	267	iPd	41 05.00	0.2
	0.7s	157.53nm		5.8mb	
			iPcP	43 37.10	
			iS	46 18.60	
QLP	35.49	255	iPd	41 14.00	-0.2
PMG	36.84	285	e(P)	41 26.00	0.4
STK	37.88	247	iPc	41 34.70	0.4
			e	41 36.00	4kmX
QIS	40.40	264	iPc	41 54.80	-0.4
ASPA	45.09	259	iPd	42 32.40	-0.7
			eS	48 54.30	
WB5	45.36	264	iPd	42 33.90	-1.3
			eScP	49 04.60	
FORR	49.42	248	iPc	43 05.60	-1.0
	0.4s	151.00nm		5.9mb	
MTN	50.24	272	eP	43 11.00	-2.0
	0.5s	38.00nm		5.2mb	
WARB	51.22	254	eP	43 19.00	-1.4
	0.5s	23.00nm		5.0mb	
KNA	51.55	267	eP	43 21.70	-1.2
	0.5s	72.00nm		5.6mb	
COOL	55.36	247	eP	43 49.00	-1.7
SBA	55.90	184	P	43 57.80	3.9X
MBL	58.34	258	eP	44 10.10	-1.6
RKG	58.43	243	eP	44 11.70	-0.5
	0.4s	20.00nm		5.3mb	
BAL	59.18	247	iPc	44 16.50	-0.9
	0.5s	13.00nm		5.0mb	
MUN	59.39	245	eP	44 18.00	-0.8
MRWA	60.03	248	iPc	44 22.50	-0.7
	0.5s	15.00nm		5.0mb	
NANU	61.87	256	eP	44 35.00	-0.6
SPA	67.58	180	iPc	45 13.20	1.2
	0.8s	22.92nm		5.0mb	
MAT	72.46	323	eP	45 24.00	-17.5X
	1.3s	80.77nm			
PRS	78.60	43	eP	46 16.00	-0.2
MAW	79.99	200	eP	46 25.00	1.9
FRI	80.06	43	eP	46 23.20	-0.7
CMB	80.28	42	eP	46 24.30	-0.9
			epP	47 10.00	187km
ORV	80.56	40	eP	46 26.50	0.0
WDC	80.60	39	eP	46 27.00	0.3
MIN	81.00	40	eP	46 28.50	-0.5
TNP	82.29	43	iP	46 35.10	-0.7
			epP	47 20.50	185km
KVN	82.32	42	iP	46 35.90	0.0
			epP	47 21.00	183km
IPM	84.45	277	ePc	46 47.10	0.1
CNZ	84.54	322	Pc	46 46.40	-0.4
SNA	87.31	178	iPc	47 00.90	0.9
	0.7s	8.90nm		4.7mb	
PNT	87.78	33	eP	47 03.00	0.5
	0.7s	14.00nm		5.0mb	
ALQ	87.89	51	eP	47 03.80	0.2
	1.2s	6.64nm		4.4mb	
			epP	47 49.00	181km
BJI	88.07	315	eP	47 03.00	-1.0
NNT	88.76	284	eP	47 09.80	2.0
TIY	89.40	312	eP	47 11.80	1.3
BW06	89.76	43	P	47 11.00	-1.3
FBA	90.02	12	iP	47 11.80	-0.9
	0.9s	47.92nm		5.5mb	
			epP	48 00.30	195km
XAN	90.19	307	P	47 14.70	0.5
CHG	91.90	289	ePc	47 24.00	1.7
	1.2s	4.69nm		4.4mb	
RSSD	93.92	44	eP	47 30.50	-0.8
			epP	48 16.00	182km
INK	95.98	15	eP	47 39.00	-0.9
MAIO	129.65	299	iPKPc	53 22.70	0.3
KEV	130.67	349	ePKP	53 39.00	15.9X
SOD	132.81	348	ePKP	53 35.00	7.7X
SUF	136.92	345	ePKP	53 25.00	-10.2X
NUR	139.19	344	ePKP	53 24.00	-15.4X
			e	53 41.00	

NB2	141.13	354	PKP	53 35.80	-7.2X
	0.6s	6.60nm			
QASM	143.09	284	ePKP	53 45.00	-2.5X
KVT	146.73	311	ePKP	53 54.00	0.9
EKA	146.93	7	PKP	53 55.00	2.1
	0.9s	28.70nm			
DMU	147.79	11	ePKP	53 56.60	2.3
KAS	148.17	313	ePKP	53 59.50	4.0X
DLE	148.44	11	ePKP	53 59.10	3.7X
BHL	149.30	299	PKP	54 02.00	4.5X
HRI	149.36	298	e(PKP)	53 56.00	-1.6
BBTK	149.53	311	iPKPc	54 02.50	4.8X
KRA	149.53	338	ePKPc	54 02.40	5.2X
	1.4s	134.00nm			
AYN	149.77	289	iPKPc	54 03.70	5.5X
VRI	149.84	326	ePKPd	54 01.50	3.7X
KSP	149.94	343	iPKPc	54 04.00	6.2X
	1.2s	77.00nm			
			e	54 53.50	
DSI	149.98	294	ePKP	54 02.50	4.1X
SPC	150.15	337	ePKP	54 04.50	6.1X
CLL	150.28	347	iPKPc	54 04.20	5.9X
	1.7s	155.00nm			
			ipP	54 53.90	
WTS	150.47	355	iPKPc	54 04.80	6.3X
	0.7s	18.00nm			
			i	54 11.30	
SRFA	150.47	289	iPKPc	54 05.90	6.7X
BRG	150.49	346	ePKP	53 59.00	0.4
			i	54 04.80	
			i	54 10.40	
			ipPKP	54 54.70	
			e	55 32.50	
HQL	150.56	290	iPKPc	54 05.60	6.2X
LFK	150.63	302	iPKP	54 05.70	6.3X
MBH	150.65	291	ePKP	54 04.00	4.5X
GPA	150.99	314	ePKP	54 05.40	5.7X
PRU	151.18	345	PKPc	54 06.50	6.8X
	1.2s	41.30nm			
			e	54 56.00	
MOX	151.18	349	iPKPc	54 06.50	6.8X
	1.8s	100.00nm			
			i	54 13.00	
ENN	151.75	356	ePKPc	54 07.50	7.0X
			e	54 15.50	
MEM	151.90	356	iPKP	54 07.68	7.0X
			i	54 17.28	
SRO	152.00	338	ePKP	54 08.60	7.7X
ZST	152.07	340	iPKP	54 09.00	8.0X
SNF	152.08	358	iPKPc	54 08.52	7.6X
			i	54 17.80	
GRF	152.17	349	ePKP	54 09.10	7.9X
	0.8s	13.00nm			
			e	54 10.20	
KHC	152.21	345	iPKPc	54 09.10	7.8X
	1.0s	25.00nm			
			e	54 18.80	
KHL	152.46	311	ePKP	54 09.20	7.2X
DOU	152.49	358	PKP	54 09.30	7.8X
			e	54 19.20	
FLN	153.69	5	ePKP	54 11.30	8.0X
	0.8s	8.00nm			
LDF	153.89	5	ePKP	54 11.80	8.3X
	0.8s	5.30nm			
CDF	153.98	354	ePKP	54 12.60	8.8X
	0.6s	3.60nm			
GRR	154.03	6	ePKP	54 12.30	8.6X
	0.6s	7.20nm			
LPF	154.36	6	ePKP	54 13.10	8.9X
	0.6s	7.20nm			
LJU	154.79	341	e(PKP)	54 05.50	0.7
VOY	154.99	342	e(PKP)	54 06.50	1.3
VBY	155.05	339	e(PKP)	54 06.00	0.8
			i	54 15.30	
CEY	155.10	341	ePKP	54 15.00	9.7X
SKO	155.29	326	ePKP	53 52.00	-13.6X
LOR	155.33	359	ePKP	54 16.10	10.5X
	0.6s	2.10nm			
LBF	155.61	359	ePKP	54 16.60	10.6X
	0.8s	5.90nm			
MFF	155.86	5	ePKP	54 17.30	11.0X
	0.6s	3.60nm			
OHR	156.24	325	ePKP	54 02.00	-5.1X
MAF	156.38	1	ePKP	54 20.20	13.2X
	0.8s	3.20nm			
BCAO	156.60	222	iPKPc	54 09.00	0.7
	1.0s	15.00nm			

			ic	54 39.40	
			ic	55 27.90	
SBF	158.45	351	ePKP	54 28.50	18.9X
	0.6s	3.60nm			
KIC	162.21	154	PKP	54 15.40	1.1
TIC	162.35	152	PKP	54 15.60	1.1

S.D. = 1.1 on 70 of 125 obs.

OCT 26, 1989 15h 17m 12.21± 0.55s
31.289 S ± 4.9km 68.603 W ± 6.6km
DEPTH = 118.1 ± 5.8 km
4.8mb (7 obs.)
SAN JUAN PROVINCE, ARGENTINA (137)
Felt (IV) at San Juan.

JACH	2.19	230	iPc	17 49.30	0.7
FCH	2.48	215	iPc	17 53.40	0.8
			iS	18 25.50	
ROCH	2.64	230	iPc	17 54.50	-0.1
			iS	18 27.00	
SAN	2.77	218	eP	17 56.00	-0.1
			iS	18 26.00	
PCH	2.83	214	iPc	17 57.50	0.5
			iS	18 27.00	
TACH	3.07	219	iPc	17 59.40	-0.7
			iS	18 31.50	
CHCH	3.15	213	iPc	18 01.20	0.0
			iS	18 32.50	
LCCH	3.32	228	iP	18 02.50	-1.0
ANT	7.72	348	iPc	18 04.00	-59.4X
CCH	14.03	10	P	20 17.50	-9.7X
CNCB	14.43	2	eP	20 31.00	-1.5
LPB	14.70	2	eP	20 31.00	-4.9X
ZOBO	14.96	2	P	20 39.20	-0.1
ARE	14.99	349	eP	20 40.00	0.5
PPD	17.98	63	eP	21 02.50	-13.6X
VAO	20.92	72	eP	21 47.40	0.3
			e	22 08.30	
			e	22 21.70	
BMA	23.37	74	eP	22 11.70	0.7
BAO	24.43	55	eP	22 21.50	0.1
SNA	52.92	157	e(P)	26 17.20	-0.5
SPA	58.88	180	iPd	27 00.80	0.1
	0.9s	18.18nm		5.1mb	
RSCP	68.42	345	P	28 02.70	-0.4
POW	70.35	341	P	28 14.50	-0.4
ELC	70.89	343	P	28 17.00	-1.1
LIC	71.15	70	P	28 19.60	-0.5
TIC	71.40	70	P	28 21.80	0.1
KIC	71.46	70	P	28 22.00	0.0
	0.8s	16.00nm		4.9mb	
TUL	71.55	337	ePc	28 22.20	0.1
	1.0s	23.00nm		4.9mb	
LNO	71.55	337	eP	28 22.00	0.0
SIO	71.58	337	eP	28 22.00	-0.3
FVM	71.86	342	P	28 23.00	-0.9
ALQ	74.89	329	eP	28 42.70	0.9
	0.7s	8.39nm		4.6mb	
			epP	29 12.00	115kmX
MAW	74.93	163	eP	28 42.00	0.7
GOL	78.45	332	P	29 02.00	0.4
	0.8s	14.88nm		4.8mb	
			pP	29 32.00	118kmX
TNP	82.58	323	P	29 24.50	1.1
	0.8s	6.62nm		4.5mb	
BW06	82.74	331	P	29 24.00	-0.2
KVN	83.76	323	P	29 30.00	0.6
CMB	84.20	321	eP	29 32.40	1.0
ARN	84.31	320	P	29 33.60	1.6
RSON	84.74	344	P	29 33.40	-0.4
SCH	85.77	1	eP	29 38.00	-0.7
ORV	85.90	322	eP	29 41.20	1.4
WDC	87.19	322	eP	29 46.00	0.0
LBFM	87.41	323	P	29 48.00	0.7
BCAO	89.83	85	ePc	30 00.90	1.7
	0.8s	7.00nm		4.8mb	
			ic	30 29.80	
WB5	124.55	206	ePKP	35 59.00	-0.5
			e	36 30.00	
GBA	144.21	112	PKPc	36 34.50	-1.7
	0.7s	6.40nm			
GUA	144.53	248	ePKP	36 35.40	-1.4
	0.8s	137.31nm			
GUMO	144.59	248	ePKP	36 35.40	-1.5
	0.8s	175.70nm			
HYB	147.19	107	iPKPd	36 44.80	3.7X
	0.6s	26.70nm			

		e	37 12.00			
IPM	151.70	158	ePKPc	36 54.90	6.7X	
S.D. = 0.9		on	44 of	50 obs.		

OCT 26, 1989 16h 01m 43.27± 0.76s
46.335 N ± 6.1km 7.449 E ± 6.6km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)

DIX	0.26	186	iPd	01 48.50	-0.3
EMS	0.45	234	iPd	01 51.70	-0.7
MMK	0.46	128	ePc	01 52.10	-0.5
ORX	0.79	152	P	01 59.31	0.5
			S	02 09.30	
LSD	0.90	193	P	01 59.92	-0.8
			S	02 13.46	
RSP	1.19	187	P	02 06.23	0.7
			S	02 24.84	
LLS	1.19	63	ePd	02 04.90	-0.8
BNI	1.39	203	P	02 10.00	1.1
			eSg	02 30.50	
VDL	1.41	83	ePd	02 09.50	0.4
RRL	1.49	198	P	02 13.30	3.0X
			S	02 36.68	
SLE	1.60	26	ePc	02 12.10	0.4
PZZ	1.85	188	P	02 18.07	2.7X
			S	02 43.30	
S.D. = 0.8		on	10 of	12 obs.	

? OCT 26, 1989 16h 24m 47.80± 1.03s
42.774 N ±15.6km 19.127 E ± 7.5km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.0 (TTG).

NKY	0.10	293	iPgd	24 50.60	-0.1
			eSg	24 54.10	
BRY	0.45	287	ePg	24 57.00	0.1
			eSg	25 04.70	
HCY	0.57	235	ePg	24 59.30	0.0
			eSg	25 10.00	
PVY	0.65	106	ePg	25 00.90	0.0
			eSg	25 11.00	
S.D. = 0.1		on	4 of	4 obs.	

? OCT 26, 1989 16h 44m 46.22± 1.22s
10.660 N ±20.0km 61.432 W ±11.3km
DEPTH = 33.0km (normal)
TRINIDAD (98)
MD 2.3 (TRN).

TRN	0.03	113	eP	44 51.41	-0.3
			eS	44 55.49	
TCE	0.32	277	eP	44 54.34	0.1
			eS	45 00.17	
TPP	0.34	183	eP	44 54.46	0.0
			eS	45 00.30	
TBH	0.40	116	eP	44 55.59	0.2
			eS	45 01.85	
S.D. = 0.4		on	4 of	4 obs.	

OCT 26, 1989 17h 05m 52.07± 1.08s
43.625 N ± 7.0km 7.075 E ± 7.3km
DEPTH = 10.0km (geophysicist)
NEAR SOUTH COAST OF FRANCE (379)
MD 1.2 (STR).

CALN	0.18	313	Pg	05 56.27	0.0
MVIF	0.28	12	Pg	05 57.98	0.0
			Sg	06 02.57	
AURF	0.32	35	Pg	05 58.46	-0.3
TOUF	0.41	18	Pg	06 00.49	0.0
AUTN	0.45	35	Pg	06 01.49	0.2
			Sg	06 08.45	
SAOF	0.50	44	Pg	06 02.27	0.0
CVF	1.69	128	Pn	06 21.77	0.0
S.D. = 0.2		on	7 of	7 obs.	

OCT 26, 1989 17h 06m 41.62± 0.11s
39.812 N ± 2.2km 143.539 E ± 2.2km
DEPTH = 8.0km (geophysicist)
5.8mb (69 obs.) 5.8Msz (18 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Ms 5.8 (BRK), 5.7 (PAS). Felt (II JMA) at Miyoko and Morioka; (I JMA) at Aomori. Felt (II JMA) at Kushiro and Muroran, Hokkaido. Depth from broadband displacement seismograms.
FAULT PLANE SOLUTION: P-Waves
NP1:Strike= 25 Dip=82 Slip= 90
NP2: 205 8 90
Principal Axes:
T Plg=53 Azm=295
P 37 115
Comment: The focal mechanism is poorly controlled and corresponds to reverse faulting. The preferred fault plane is NP2.
RADIATED ENERGY
No. of sta: 7 Focal mech. F
Energy 1.4±0.5*10**13 Nm
MOMENT TENSOR SOLUTION
Dep 5 No. of sta: 18
Moment Tensor; Scale 10**18 Nm
Mrr= 0.74 Mtt= 0.33
Mff=-1.06 Mrt= 0.61
Mrf= 1.69 Mtf=-0.67
Principal axes:
T Val= 1.78 Plg=60 Azm=287
N 0.59 2 20
P -2.37 30 111
Best Double Couple:Mo=2.1*10**18
NP1:Strike=208 Dip=15 Slip= 98
NP2: 20 75 88
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 14S, 35C
Centroid Locotion:
Origin Time 17:06:47.5 0.2
Lot 39.67N 0.04 Lon 143.59E 0.04
Dep 22.2 1.9 Half-duration 3.8
Moment Tensor; Scale 10**17 Nm
Mrr= 6.90 0.22 Mtt= 0.79 0.25
Mff=-7.69 0.30 Mrt= 4.36 0.54
Mrf= 6.16 0.75 Mtf=-1.96 0.25
Principal Axes:
T Val= 10.44 Plg=64 Azm=323
N 0.50 14 204
P -10.94 22 108
Best Double Couple:Mo=1.1*10**18
NP1:Strike=174 Dip=26 Slip= 58
NP2: 29 68 105

MIY	1.22	263	iP+	07 06.80	2.3
			S	07 22.80	
OFUJ	1.62	244	iP+	07 12.10	1.5
MRK	1.83	267	iP+	07 16.20	2.6X
AOM	2.33	296	iP	07 22.50	1.6
			S	07 53.80	
AOMJ	2.54	288	iP+	07 25.90	2.2
MRR	3.16	323	iP+	07 32.80	0.2
			S	08 15.00	
YAMJ	3.18	240	iP+	07 34.40	1.5
KUS	3.23	11	eP	07 33.00	-0.5
			S	08 07.60	
SAP	3.64	334	eP	07 39.00	-0.4
NIIJ	4.39	236	iP+	07 51.10	1.1
KAKJ	4.48	217	iP+	07 49.50	-1.7
			S	08 38.50	
CHJJ	5.20	225	P	08 01.30	-0.2
MAT	5.32	234	iPc	08 04.60	1.3
			eS	09 09.00	
MTMJ	5.55	236	iP+	08 07.90	1.3
IIDJ	6.21	228	iPd	08 16.20	0.3
YSS	7.23	356	P	08 36.00	6.0X
TSRJ	7.35	237	P	08 32.60	0.7
WKYJ	8.46	231	P	08 45.60	-1.8
YONJ	9.24	243	P	08 58.80	0.7
TKSJ	9.57	236	eP	09 01.90	-0.7
SHK	10.14	242	eP	09 10.50	0.0
MDJ	11.40	299	eP	09 28.00	0.3
E	14s	76.10um			
SHNJ	11.44	244	eP	09 29.20	0.9
KUMJ	12.57	239	eP	09 43.90	0.4
KAGJ	13.42	234	eP	09 53.90	-0.9
CN2	14.07	292	Pc	10 02.00	-1.3
Z	13s	42.70um			
E	12s	36.50um			
			pP	10 07.80	
SNY	15.25	284	iPc	10 18.00	-0.8
Z	16s	70.30um			
N	12s	20.30um			
E	12s	28.50um			
			PP	10 30.00	
			S	13 06.00	
			SS	13 28.00	
PET	16.77	33	eP	10 41.00	2.8X
			eS	13 48.00	
DL2	16.97	274	iPc	10 40.00	-0.8
Z	16s	27.00um			
N	13s	30.40um			
E	14s	27.80um			
			eS	13 50.00	
HIA	19.35	307	ePc	11 12.22	2.0
			eS	14 53.76	
SSE	20.14	251	P+	11 14.00	-4.9X
	8.0s		4.20nm		2.8mb X
Z	20s		14.40um		5.3Msz
N	14s		53.00um		
E	14s		36.00um		
			sP	11 38.00	
			S	14 50.00	
			sS	15 12.00	
			SS	15 27.00	
BJI	20.96	279	eP	11 23.50	-3.9X
	2.0s		1.00nm		2.8mb X
Z	22s		43.70um		5.8Msz
N	14s		29.20um		
			eS	15 12.00	
TIA	21.09	269	Pc	11 25.80	-3.0X
N	13s		137.00um		
E	13s		75.50um		
			sP	11 37.00	
			S	15 16.00	
NJ2	21.39	256	iPc	11 28.00	-3.8X
N	13s		24.40um		
E	12s		27.10um		
ANP	23.53	238	iP	11 54.00	0.9
			iS	16 12.00	
TIY	24.29	275	Pc	11 58.20	-2.2
N	15s		30.30um		
E	14s		20.50um		
			pP	12 03.50	19kmX
			S	16 17.50	
HHC	24.33	283	Pc	11 59.00	-1.8
	4.0s		5.80nm		3.6mb X
Z	28s		73.50um		6.0MszX
N	13s		16.70um		
E	14s		30.60um		
			PP	12 35.00	
			S	16 15.00	
WHN	25.50	258	P	12 10.00	-1.9
	1.4s		1.62nm		3.5mb X
Z	16s		26.80um		5.9MszX
N	13s		32.20um		
E	14s		35.90um		
			PP	12 54.00	
			S	16 36.00	
BTO	25.53	283	iPc	12 11.00	-1.3
	8.0s		6.20nm		3.4mb X
N	14s		40.80um		
E	15s		52.40um		
QZH	25.65	242	iPc	12 13.00	-0.3
	2.0s		2.80nm		3.6mb X
Z	12s		23.50um		5.9MszX
N	14s		28.70um		
E	14s		19.30um		
GUMO	26.15	177	eP	12 18.00	0.0
GUA	26.20	177	eP	12 18.90	0.4
Z	17s		15.24um		5.6MszX
XAN	28.15	269	Pc	12 34.60	-1.7
	8.0s		4.70nm		3.3mb X
N	14s		24.00um		
E	16s		35.00um		
			sS	17 33.00	
IRK	29.57	308	iPc	12 49.00	0.2
			eS	17 48.00	
HKC	30.43	244	P	12 58.00	1.3
			S	17 58.00	
GZH	30.49	246	iPc	12 56.00	-1.3
	8.0s		3.00nm		3.2mb X
Z	12s		47.60um		6.4MszX
N	13s		26.20um		
E	11s		21.30um		
			iS	17 56.00	
BAG	30.71	227	ePc+	12 58.00	-1.4
			eS	18 00.00	
LZH	31.34	276	ePc	13 04.16	-0.7
Z	15s		25.00um		6.0MszX

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	N	14s	22.00um						1.2s	53.03nm		5.4mb		LON	65.16	49	eP	17	25.20	-0.1
	E	14s	40.00um					Z	21s	8.23um		5.6Msz		DZM	65.17	157	iPc	17	26.00	0.5
			epP	13	06.48	8kmX	AAI	45.53	202	eP	15	04.50	1.0	KHI	65.60	295	eP	17	26.50	-1.9
			esP	13	07.47		COL	45.87	34	eP	15	06.32	0.6	QLP	66.05	179	eP	17	29.80	-1.1
			ePP	14	12.86					epP	15	09.14	9kmX	RMO	66.14	175	ePd	17	31.20	-0.3
			PPP	14	26.00					eS	21	50.13					i	17	36.90	
			PcP	15	54.00					e	24	58.84		EDM	66.14	40	eP	17	31.00	-0.4
			eS	18	18.86		FBA	45.87	34	P	15	05.90	0.2		1.0s	58.00nm			5.7mb	
			SS	19	54.00					pP	15	14.70	29kmX	SUF	66.25	333	iP	17	30.80	-1.1
			ScS	23	15.00		PCI	45.96	214	ePd	15	07.80	0.9		1.0s	96.50nm			6.0mb	
OCP	31.88	224	eP	13	02.50	-7.0X	NNT	47.09	247	iPc	15	16.30	0.4	PUL	66.65	330	ePd	17	35.00	0.6
TIK	32.75	351	iPc	13	15.00	-1.5	PMG	49.08	175	eP	15	30.00	-1.3				eS	26	27.00	
			eS	18	30.00		MKS	50.00	212	iPc	15	40.00	1.6	OBN	66.87	323	iPc+	17	35.00	-0.9
GYA	33.39	258	iPc	13	22.00	-0.8				e	18	14.50			1.8s	720.00nm			6.6mb	
	1.2s	0.10nm				2.6mb X	FRU	50.52	297	iPc	15	42.50	0.2		Z 16s	47.80um			6.8MszX	
	Z 18s	10.80um				5.6Msz				eS	22	54.00					iS	26	24.00	
	N 14s	29.20um					KSH	50.86	293	iPc	15	46.00	1.1	BRS	67.41	171	iPc	17	40.50	0.9
	E 14s	18.80um						6.0s	2.80nm			3.4mb X					i	17	48.00	
			PP	14	32.00			E 12s	32.00um								i	18	26.00	
			S	18	42.00		SVO	51.00	159	eP	15	46.00	0.0				eS	26	36.00	
			PcS	19	49.00		INK	51.16	28	ePc	15	44.60	-2.0				e(SS)	27	40.00	
			ScS	23	47.00			0.8s	41.00nm			5.4mb		WARB	67.52	196	iPd	17	40.10	-0.2
CD2	33.41	267	iPc	13	21.80	-1.0				pP	15	57.00	45kmX		0.6s	35.00nm			5.7mb	
	6.0s	3.00nm				3.4mb X	HNR	51.30	159	eP	15	48.00	-0.3	LBFM	68.07	54	P	17	44.80	0.7
	Z 13s	45.20um				6.4MszX				e(S)	23	06.00		WDC	68.09	55	eP	17	43.90	0.0
	N 12s	47.60um					IPM	51.93	239	ePc	15	53.60	0.4	NUR	68.28	332	iP	17	43.50	-1.2
			sP	13	37.00			1.2s	111.00nm			5.7mb			0.6s	41.70nm			5.8mb	
			PP	14	35.50		KGM	52.41	235	eP	15	50.00	-6.7X		Z 20s	27.80um			6.5Msz	
			PcP	16	03.50		OPA	52.47	92	P	15	58.50	1.3				i	17	54.00	
GTA	33.44	284	iPc	13	23.00	-0.1	HON	52.68	92	P	16	00.00	1.2				ePP	20	14.00	
	8.0s	3.70nm				3.4mb X		Z 22s	3.22um			5.3Msz					eS	26	42.00	
	Z 16s	50.10um				6.3MszX	MBC	53.39	17	eP	16	03.00	-0.3				LR	50	28.00	
	E 16s	49.90um						1.0s	97.00nm			5.7mb		MIN	68.81	55	e(P)	17	48.70	0.1
			pP	13	34.00	40kmX	MTN	53.64	195	iPd	16	04.80	-1.0	SES	68.97	41	eP	17	50.00	0.8
			sP	13	37.00		KHKI	54.46	215	ePc	16	10.20	-1.6		0.7s	41.00nm			5.7mb	
			PP	14	34.00					e	19	06.20		ORV	69.33	55	eP	17	51.00	-0.6
			S	18	38.00		PSI	54.73	239	eP	16	13.00	-0.9	TEH	69.68	300	eP	17	56.00	2.0
			sS	18	53.00			0.9s	18.80nm			5.1mb		BKS	69.82	57	eP	17	55.40	0.8
ILT	34.84	24	iPc	13	33.80	-0.9				e	20	10.00			1.0s	87.00nm			5.9mb	
			iS	19	00.00		NDI	54.81	280	iPc	16	13.50	-0.9				iS	27	05.00	
QIZ	35.61	244	Pc	13	42.50	0.7				ePP	18	20.00					eSS	31	35.00	
N	15s	18.50um								eS	23	53.00					eSSS	34	58.00	
E	15s	17.40um					DSH	56.32	295	iPc	16	24.00	-1.3				eLQ	36	09.00	
		PP	15	03.00						eS	24	13.00		COO	70.46	172	eP	18	07.00	8.6X
		eS	19	09.00			KNA	56.96	197	eP	16	29.00	-0.9	FFC	70.47	34	iPc	17	57.30	-1.0
		sS	19	24.00			CTA	59.64	177	eP	16	48.00	-0.5		1.4s	127.00nm			5.9mb	
DAV	36.36	211	eP	13	48.00	0.0				iS	24	53.00		GDH	70.52	6	iPd	17	59.00	0.7
KMI	37.08	259	ePc	13	54.19	-0.2	HYB	59.96	268	iPc	16	50.00	-1.0		1.2s	93.75nm			5.8mb	
Z	20s	51.00um				6.3Msz		1.2s	150.00nm			6.0mb			Z 19s	6.94um			5.9Msz	
N	16s	29.20um								iS	25	04.00					e	20	35.00	
E	16s	13.20um					WB5	59.99	190	iPc	16	48.80	-2.2				iS	27	10.00	
		epPd	13	56.67	8kmX		QIS	60.17	184	eP	16	50.00	-2.1	ARN	70.58	57	P	17	59.70	0.4
		esP	13	57.33			APA	60.88	336	iPc	16	54.60	-1.9	CMB	70.92	56	eP	18	01.05	-0.3
		ePP	15	18.78						iS	25	12.80					epP	18	03.69	9kmX
		eS	19	38.12			KEV	61.44	339	ePc	16	58.56	-1.8	CMS	70.97	178	eP	18	03.00	1.6
		PcS	19	57.00				1.0s	126.00nm			6.0mb		UPP	71.18	334	iP	18	02.80	0.4
		SS	22	12.50				Z 16s	17.80um			6.3MszX			1.3s	600.00nm			6.6mb	
WMQ	41.15	294	ePc	14	28.40	0.6				epPd	17	01.04	8kmX				iS	27	18.00	
Z	12s	16.70um				6.1MszX				esP	17	02.70		PRS	71.28	58	eP	18	03.60	0.1
N	14s	9.40um								ePP	19	48.00		STK	71.35	182	eP	18	03.00	-0.7
E	12s	18.30um								eS	25	17.78					e	18	07.00	
		epP	14	31.05	9kmX					LR	49	08.00		LLA	71.39	58	eP	18	04.40	0.2
		esPd	14	31.71		QUE	61.72	287	eP	17	02.00	-1.0	TAB	71.62	304	iP+	18	06.00	0.3
		PP	16	10.00						eS	25	26.70		KVN	71.76	54	iPc	18	06.50	-0.1
		eS	20	51.42		POO	62.93	272	iPc	17	10.30	-0.7	FRI	71.97	57	eP	18	07.60	0.0
KKM	41.65	223	ePc	14	33.00	0.8				eS	19	30.00		NB2	72.26	338	P	18	07.40	-1.6
1.2s	131.10nm				5.5mb		SOD	63.06	337	iP	17	10.00	-1.1		1.0s	165.60nm			6.1mb	
TTA	42.19	36	P	14	37.90	1.7				i	17	19.80		SHI	72.42	294	iPc	18	10.00	-0.6
1.3s	66.04nm				5.2mb		GBA	63.10	265	P	17	12.00	-0.1	TNP	72.90	55	iPc	18	11.80	-1.6
TSM	42.25	220	ePc	14	38.30	1.3	DAG	63.16	356	iP+	17	11.00	-0.7	SYP	73.26	59	eP	18	18.00	2.6X
BRW	43.20	24	P	14	44.20	0.0	Z	21s	7.60um			5.8Msz		KER	73.33	301	iPc	18	14.80	-1.1
IMA	43.45	32	P	14	46.90	0.4	N	21s	3.44um					CWC	73.35	56	eP	18	16.00	0.0
CHG	43.62	255	iPc	14	48.50	0.3	E	21s	3.73um					ISA	73.56	57	eP	18	16.00	-1.1
1.1s	72.78nm				5.4mb		BOM	63.51	273	iPc	17	13.20	-1.6	SLY	73.63	303	iPd	18	17.00	-0.3
		eS	21	18.40						iS	25	48.70					iPcP	18	26.50	
LSA	43.67	273	P	14	50.40	1.3	MCW	63.56	48	P	17	19.30	4.5X				iPP	21	06.00	
N	15s	7.70um					TRO	63.63	341	iP	17	14.20	-0.7				iPPP	22	51.00	
E	16s	7.10um					ASPA	63.79	190	iPc	17	14.80	-1.6				eS	27	45.00	
		S	21	20.00				1.1s	44.00nm			5.6mb					iPS	28	25.50	
RAB	44.50	168	eP	14	56.00	0.7				eS	25	46.10					eSS	32	12.50	
		iS	21	30.00		MAIO	63.87	296	iPc+	17	16.60	-0.5					eSSS	35	14.00	
BDT	44.56	253	eP	14	55.60	-0.2		1.8s	105.63nm			5.7mb					eLR	47	54.50	
1.0s	55.20nm				5.4mb					eS	25	56.00		FRB	73.68	14	eP	18	17.00	-0.1
NST	44.74	250	eP	14	59.00	1.7	BMW	64.48	50	P	17	24.80	3.9X		1.0s	119.00nm			5.9mb	
SHL	45.14	268	iP	15	00.50	-0.2	MBL	64.57	205	eP	17	20.00	-1.5	AKU	73.87	352	iP	18	19.50	1.3
		eS	21	00.00		PNT	65.03	46	eP	17	23.00	-1.3			1.0s	68.00nm			5.6mb	
PMR	45.41	38	P	15	01.90	-0.2		0.7s	30.00nm			5.6mb		8WA	74.00	176	eP	18	21.10	1.8

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26d 17h

WLS	83.96	332	P	19	13.37	-0.1
CDF	83.99	332	P	19	13.50	-0.1
LIT	84.01	319	ePc	19	13.20	-0.6
SDA	84.03	322	eP	19	13.80	0.0
SLE	84.09	331	ePc	19	13.80	-0.3
OHR	84.09	320	iP	19	13.70	-0.5
	1.1s	272.00nm			6.4mb	
AYN	84.10	303	eP	19	14.20	-0.2
BDV	84.15	322	eP	19	15.00	0.6
FEL	84.17	332	P	19	14.41	-0.2
HCY	84.18	322	eP	19	14.40	-0.2
ULC	84.19	322	eP	19	15.00	0.3
ECH	84.20	332	P	19	14.19	-0.4
ETA	84.20	342	eP	19	15.10	0.6
	1.4s	294.00nm			6.3mb	
SAX	84.20	331	ePc	19	14.80	-0.2
KZN	84.22	319	eP	19	14.00	-0.9
MBH	84.22	304	iPc	19	13.80	-1.1
NEO	84.22	318	eP	19	13.60	-1.3
LACI	84.22	321	eP	19	14.80	0.0
CTI	84.29	329	Pc	19	14.30	-0.9
OSS	84.36	330	ePc	19	15.90	0.2
ZLA	84.37	331	ePc	19	15.40	-0.1
TIR	84.37	321	eP	19	15.00	-0.5
MOF	84.51	332	P	19	16.06	-0.2
HVAR	84.55	324	iP	19	15.50	-0.9
SRFA	84.59	303	iPc	19	17.30	0.5
VITF	84.61	333	P	19	16.55	0.0
BSF	84.65	332	P	19	16.37	-0.6
LLS	84.65	331	ePc	19	17.30	0.2
HAU	84.66	333	eP	19	17.00	0.1
	1.0s	57.60nm			5.8mb	
BBS	84.70	332	P	19	17.18	0.0
ECP	84.72	342	eP	19	17.60	0.6
	1.6s	690.00nm			6.6mb	
VDL	84.79	330	ePc	19	18.10	0.3
AGG	84.89	318	ePc	19	16.80	-1.5
LSK	84.92	320	iPc	19	19.90	1.5
ATH	84.95	317	eP	19	19.60	1.1
			eS	29	39.60	
BADA	84.98	303	ePc	19	19.00	0.2
LOMF	85.05	332	P	19	18.91	0.0
SAL	85.10	329	Pc	19	19.80	0.7
MDI	85.28	330	P	19	19.00	-1.0
TMA	85.33	330	ePc	19	20.30	-0.2
SRN	85.42	320	iP	19	21.30	0.5
AOI	85.51	326	eP	19	20.43	-0.8
WAJH	85.55	300	ePc	19	22.40	0.7
VAI	85.57	330	Pc	19	21.10	-0.3
SNZO	85.58	157	eP	19	28.00	6.8X
			PcP	22	36.00	
			PcS	26	16.00	
			ScS	29	48.00	
KEK	85.65	320	eP	19	21.90	-0.1
MMK	85.73	331	ePc	19	23.00	0.4
SSO	85.79	326	e(P)	19	23.08	0.4
VAL	85.81	344	P	19	24.00	1.5
			S	29	56.00	
ARV	85.83	326	P	19	22.70	-0.2
DIX	85.91	331	ePc	19	23.80	0.3
NPS	85.91	314	eP	19	12.10	-11.3X
SFI	85.95	327	Pc	19	25.00	1.6
CIO	85.99	326	eP	19	23.40	-0.3
BRT	86.01	322	Pc	19	23.00	-0.7
KOT	86.03	306	eP	19	24.00	0.0
PGD	86.04	327	Pc	19	24.80	0.7
LCI	86.07	321	P	19	24.00	0.0
ORX	86.07	330	P	19	23.45	-0.7
ORO	86.08	330	Pc	19	22.60	-1.6
EMS	86.10	331	ePc	19	24.50	0.2
ALP	86.14	326	eP	19	24.24	-0.3
CRE	86.15	327	P	19	24.50	0.0
LOR	86.16	334	eP	19	24.60	0.2
	1.0s	137.50nm			6.1mb	
MME	86.20	328	Pc	19	25.40	0.4
BOB	86.23	329	Pc	19	24.80	-0.1
FLN	86.23	337	eP	19	24.90	0.2
	1.4s	156.80nm			6.0mb	
MEO	86.23	47	e(P)	19	25.50	0.5
LDF	86.28	337	eP	19	25.20	0.3
	1.4s	174.20nm			6.0mb	
ASS	86.30	326	P	19	24.50	-0.7
FIR	86.31	328	iPc	19	26.00	0.8
			iS	29	58.00	
BDI	86.35	328	Pc	19	25.20	-0.3
LBF	86.36	334	eP	19	25.50	0.0
HLW	86.38	306	eP+	19	28.00	2.2
			ePPP	22	28.00	
			eS	29	52.00	
GRC	86.40	334	P	19	25.78	0.2
VLS	86.43	318	eP	19	25.00	-0.9
SSF	86.46	334	eP	19	26.10	0.2
LSD	86.53	331	P	19	26.73	0.1
AQU	86.56	325	P	19	26.90	0.4
LPG	86.65	331	eP	19	27.50	0.3
	1.0s	75.00nm			5.9mb	
DUI	86.65	324	Pc	19	26.80	-0.2
PII	86.66	328	P	19	26.50	-0.4
GRR	86.68	337	eP	19	27.40	0.5
SMF	86.70	333	eP	19	27.30	0.2
AVF	86.74	334	eP	19	27.70	0.4
RSP	86.75	331	P	19	27.04	-0.5
PCP	86.77	330	P	19	26.63	-0.9
SIO	86.78	45	eP	19	31.80	4.1X
MNS	86.85	326	Pc	19	27.00	-0.9
SDI	86.90	325	Pc	19	27.40	-0.8
TUL	86.94	44	eP	19	31.30	2.9X
	1.2s	53.20nm			5.6mb	
Z	19s	2.35um			5.6Msz	
			LR	48	00.00	
LNO	86.94	44	e(P)	19	28.20	-0.1
CKI	86.97	330	Pc	19	27.50	-0.9
BNI	87.05	331	P	19	30.00	1.0
LPF	87.05	337	eP	19	29.20	0.5
	1.4s	221.30nm			6.2mb	
BGF	87.12	334	eP	19	29.50	0.4
RRL	87.13	331	P	19	29.70	0.2
SGO	87.14	323	P	19	29.00	-0.3
FIN	87.18	330	P	19	27.76	-1.7
ROB	87.24	330	P	19	29.09	-0.7
DOI	87.30	330	P	19	27.50	-2.6
RMP	87.31	326	P	19	31.00	0.9
RDP	87.34	325	P	19	29.50	-0.8
PZZ	87.36	330	P	19	28.58	-1.9
MGR	87.36	323	Pc	19	30.00	-0.4
PLDF	87.37	333	P	19	30.79	0.4
TDS	87.37	322	P	19	30.50	0.1
AGO	87.46	334	P	19	31.19	0.4
ENR	87.47	330	P	19	26.83	-4.1X
STV	87.49	330	P	19	28.17	-2.9X
MAF	87.51	334	eP	19	31.80	0.8
IMI	87.56	330	P	19	30.22	-1.1
TCF	87.57	334	eP	19	31.80	0.5
CCM	87.66	40	ePd	19	32.11	0.3
			esPc	19	36.08	
			eSKS	29	57.58	
			eS	30	11.38	
PYM	87.77	334	P	19	32.68	0.3
SBF	87.77	330	eP	19	31.80	-0.6
	1.4s	69.70nm			5.8mb	
LSF	87.83	335	eP	19	33.10	0.6
MFF	88.05	336	eP	19	34.10	0.5
	1.4s	165.50nm			6.2mb	
FVM	88.12	40	P	19	35.10	1.0
LBL	88.14	333	P	19	34.89	0.9
CVF	88.29	328	eP	19	34.30	-0.5
	1.4s	26.10nm			5.4mb	
FRF	88.33	330	eP	19	34.90	-0.1
	1.4s	52.20nm			5.6mb	
LRG	88.53	330	eP	19	35.80	-0.1
	1.2s	61.80nm			5.8mb	
LMR	88.58	330	eP	19	36.00	-0.1
	1.4s	87.10nm			5.9mb	
RJF	88.66	334	eP	19	37.40	0.8
	1.0s	72.00nm			5.9mb	
SOI	88.76	321	Pc	19	36.50	-0.6
CAF	88.81	334	eP	19	38.20	0.9
UYO	88.97	45	e(P)	19	41.20	3.0X
CBM	89.13	21	P	19	39.30	0.5
LFF	89.24	335	eP	19	40.10	0.8
	1.1s	107.40nm			6.0mb	
RSNY	89.30	26	P	19	30.40	-9.2X
	1.2s	19.44nm			5.2mb	
LPO	89.32	334	eP	19	40.40	0.7
	1.2s	83.30nm			5.9mb	
AMAN	89.47	301	eP	19	41.50	0.8
AGRW	89.75	301	eP	19	41.20	-0.8
HBVT	89.95	25	P	19	43.80	1.1
ARO	90.77	286	iP+	19	48.00	1.1
			eS	23	25.00	
EPF	91.07	334	eP	19	47.70	-0.2
	1.0s	22.00nm			5 4mb	
HRV	92.10	25	eP	19	44.92	-7.7X
			eS	30	51.96	
EBR	92.97	333	eP	19	52.00	-4.6X
			ePP	23	46.00	
			e	30	32.00	
			eS	31	08.00	
TOL	95.34	336	eP	20	09.00	1.4
			ePP	23	57.00	
			eSKS	30	28.00	
			iS	31	27.00	
			iPS	32	49.00	
			iSS	37	57.00	
			eSSS	41	49.00	
AAE	95.43	286	eP	20	10.00	1.3
BCAO	113.05	297	iPKPd	25	22.90	1.4
	1.3s	16.00nm				
			ic	25	51.10	
			id	26	08.10	
BCAO	113.05	297	ePdiff	21	31.87	4.7X
			ePP	26	07.51	
MAW	122.76	207	ePKP	25	39.00	0.6
SLR	124.88	264	iPKPd	25	44.50	0.5
	0.9s	26.89nm				
Z	20s	5.67um			6.2Msz	
TIC	125.42	321	PKP	25	44.60	-0.6
PRY	126.12	263	ePKP	25	47.00	0.5
BFS	126.63	264	ePKP	25	47.50	0.1
BLF	128.19	261	ePKP	25	46.50	-3.9X
SPA	129.62	180	e(PKP)	25	52.50	0.6
	1.0s	5.50nm				
ZOBO	143.83	59	PKP	26	16.00	-4.1X
	1.0s	22.50nm				
Z	24s	1.51um			5.7MszX	
			i	26	19.60	
			LR	15	44.00	
LPB	144.03	59	PKP	26	22.00	1.7
	1.0s	60.00nm				
Z	20s	3.19um			6.1Msz	
			LR	15	14.00	
CNCB	144.31	59	PKP	26	19.40	-1.5
SNA	144.69	199	iPKPc	26	11.70	-7.6X
	0.9s	79.83nm				
CCH	145.93	58	PKP	26	17.00	-6.4X
SAN	151.95	88	ePKP	26	42.00	10.1X
PCH	152.13	88	ePKP	26	42.00	9.7X
PDCR	152.73	6	ePKP	26	33.30	-0.2
			e	26	40.50	
			e	26	52.30	

S.D. = 0.9 on 402 of 443 obs.

% OCT 26, 1989 17h 29m 27.73± 3.73s
45.137 N ±15.6km 25.807 E ±26.5km
DEPTH = 10.0km (geophysicist)
ROMANIA (358)

MLR	0.37	15	iPd	29	35.00	-0.3
ISR	0.52	90	iPc	29	38.30	0.0
CVO	0.73	21	iPd	29	42.00	-0.1
VRI	0.98	41	iPc	29	46.20	-0.1
TLB	1.68	108	iPc	29	57.00	-0.2
CLI	1.75	36	iPc	29	59.00	0.7

S.D. = 0.5 on 6 of 6 obs.

% OCT 26, 1989 17h 32m 11.93± 0.59s
47.068 N ± 4.9km 8.841 E ± 5.8km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)

LLS	0.23	152	ePc	32	16.50	-0.4
SAX	0.39	62	ePd	32	20.70	0.7
ZLA	0.52	324	ePd	32	21.80	-0.6
VDL	0.72	143	ePd	32	25.80	-0.5
SLE	0.74	341	ePd	32	26.00	-0.4
TMA	0.96	179	ePd	32	29.70	-0.7
OSS	0.97	113	ePc	32	30.90	0.4
MMK	1.18	211	ePc	32	34.10	-0.1
EMS	1.65	234	ePd	32	42.90	1.6

S.D. = 0.9 on 9 of 9 obs.

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* OCT 26, 1989 17h 53m 06.52± 1.30s
39.821 N ± 9.5km 143.963 E ±13.3km
DEPTH = 10.0km (geophysicist)
3.2mb (2 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.92	248	iP+	53	39.70	0.1
AOMJ	2.85	286	P	53	53.20	0.4
YAMJ	3.47	243	P	54	01.90	0.2
NIIJ	4.67	238	P	54	19.20	0.5

KAKJ	4.69	221	P	54	18.10	-0.9
CHJJ	5.44	228	iP+	54	28.90	-0.7
MAT	5.59	236	iPc	54	32.00	0.2
	0.9s	36.13nm			5.0mb	X
			eS	55	39.00	
MTMJ	5.83	238	P	54	35.20	0.1
IIDJ	6.47	230	P	54	45.00	0.9
BJI	21.28	280	eP	57	51.50	-3.7X
WHN	25.82	258	Pc	58	39.00	-0.5
	0.8s	0.02nm			1.9mb	
GYA	33.71	258	P	59	49.20	-0.9
GTA	33.75	284	Pd	59	50.60	0.2
WB5	60.06	190	eP	03	16.80	0.8
GBA	63.43	266	Pd	03	38.50	-0.3
	0.9s	3.90nm			4.6mb	
ALQ	81.28	52	e(P)	05	34.00	9.4X

S.D. = 0.6 on 14 of 16 obs.

OCT 26, 1989 18h 05m 19.17± 0.61s
34.154 N ± 8.4km 135.686 E ± 5.5km
DEPTH = 72.1 ± 9.7 km
NEAR S. COAST OF SOUTHERN HONSHU(233)
MG 3.8 (JMA). Felt (I JMA) ot Owose.

WKYJ	0.10	311	iPd	05	29.70	-0.3
			S	05	36.10	
OWA	0.43	102	iPd	05	32.00	0.3
			iS	05	40.40	
TKSJ	1.37	263	P	05	42.90	0.1
			S	05	59.00	
TSRJ	1.40	10	iP+	05	43.50	0.3
			S	06	00.80	
YONJ	2.10	300	iPd	05	52.70	-0.2
			S	06	17.10	
IIDJ	2.26	54	iP+	05	54.60	-0.5
			S	06	21.10	
MTMJ	2.98	35	iP+	06	05.10	-0.1
MAT	3.15	40	iPc	06	07.40	-0.1
CHJJ	3.31	54	P	06	09.90	0.3
SHNJ	3.80	271	P	06	16.70	0.3
			S	06	57.70	
KUMJ	4.37	250	eP	06	24.70	0.1
			S	07	12.10	
KAGJ	5.01	235	P	06	33.30	-0.2
			eS	07	27.70	

S.D. = 0.3 on 12 of 12 obs.

OCT 26, 1989 18h 14m 02.61± 0.51s
3.009 S ± 6.3km 130.357 E ±10.4km
DEPTH = 10.0km (geophysicist)
4.7mb (5 obs.)
CERAM (272)

AAI	2.26	253	iPd	14	41.50	0.9
			iS	15	34.50	
MTN	9.80	176	eP	16	27.00	0.3
			eS	18	15.00	
PCI	10.72	281	ePc	16	40.00	0.7
KNA	12.76	187	eP	17	04.90	-2.0
WB5	17.22	167	eP	18	04.00	-1.0
			i	18	10.20	
			eS	21	14.70	
PMG	17.86	112	eP	18	19.00	6.1X
QIS	19.63	153	eP	18	35.50	0.9
MBL	20.75	209	eP	18	42.70	-3.5X
ASPA	20.82	171	iPc	18	47.30	0.3
	0.5s	134.00nm			5.6mb	
			eS	22	35.50	
CTA	23.00	139	iP	19	12.80	4.1X
	1.0s	13.00nm			4.4mb	
WARB	23.32	188	eP	19	12.80	1.0
FORR	27.77	184	eP	19	53.00	-0.7
	0.4s	9.00nm			4.9mb	
IPM	30.26	284	ePd	20	15.70	-0.6
STK	30.61	161	eP	20	20.00	0.9
LOE	34.77	307	eP	20	55.20	-0.4
BWA	35.49	154	eP	21	12.90	11.3X
CAN	36.50	154	eP	21	22.00	11.9X
GYA	37.19	323	P	21	16.40	0.4
CHG	37.76	306	ePc	21	21.30	0.5
	0.9s	10.71nm			4.6mb	
KMI	38.73	318	eP	21	30.50	1.3
MAT	40.02	10	(P)	21	38.00	-1.5
TIY	43.80	339	Pc	22	11.50	1.1
BJI	44.77	345	eP	22	18.00	-0.2
CN2	46.81	355	eP	22	34.40	0.2
GTA	50.70	329	eP	23	04.60	-0.1
HYB	54.97	294	eP	23	35.00	-1.7
GBA	55.02	289	Pc	23	34.30	-2.8
	1.3s	10.10nm			4.7mb	
MAIO	76.48	308	eP	25	56.00	1.1
MAW	78.77	201	eP	26	08.00	1.3
CNCB	153.25	138	PKP	34	07.00	10.7X
LPB	153.36	137	(PKP)	34	05.00	8.BX
ZOBO	153.53	137	PKP	34	06.50	9.BX

S.D. = 1.2 on 24 of 32 obs.

? OCT 26, 1989 18h 30m 33.31± 2.57s
39.889 N ±12.4km 144.319 E ±27.1km
DEPTH = 10.0km (geophysicist)
4.5mb (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	2.20	249	iP+	31	10.10	-0.4
			S	31	31.00	
AOMJ	3.09	284	P	31	23.40	0.3
YAMJ	3.75	244	P	31	32.20	-0.3
KAKJ	4.92	223	P	31	48.40	-0.6
			S	32	39.30	
NIIJ	4.94	239	P	31	49.70	0.5
CHJJ	5.69	229	P	31	59.40	-0.5
MAT	5.86	237	iPc	32	02.50	0.2
	1.0s	38.00nm			5.1mb	X
			eS	33	11.00	
MTMJ	6.10	239	P	32	06.20	0.5
IIDJ	6.72	231	P	32	14.90	0.4
CN2	14.60	292	Pd	34	09.20	7.5X
BJI	21.54	280	eP	35	22.00	-2.6
WHN	26.10	258	eP	36	10.00	1.1
GYA	33.99	258	P	37	19.80	0.4
GTA	34.00	284	eP	37	20.80	1.4
GBA	63.70	266	Pc	41	06.90	-0.5
	0.8s	2.90nm			4.5mb	

S.D. = 1.1 on 14 of 15 obs.

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* OCT 26, 1989 19h 54m 06.37± 0.99s
51.326 N ±10.8km 7.657 E ± 8.3km
DEPTH = 10.0km (geophysicist)
GERMANY (543)

WTS	0.85	322	iPgd	54	22.80	0.0
	0.6s	77.00nm				
			i	54	24.80	
MEM	1.27	236	iP	54	29.30	-0.5
			iS	54	43.30	
WLF	1.92	211	iPd	54	46.60	7.2X
			iS	55	10.70	
SNF	2.28	250	P	54	44.20	-0.5
			S	55	40.90	
DOU	2.30	239	P	54	46.00	1.1
			S	55	09.20	
MOX	2.59	104	ePg	54	49.00	-0.1
			iSg	55	28.00	
GRF	2.80	124	e(Pg)	54	55.60	3.5X
			e	55	04.40	
			eSg	55	48.80	

S.D. = 0.9 on 5 of 7 obs.

OCT 26, 1989 20h 01m 24.79± 0.46s
39.764 N ± 7.0km 143.664 E ± 7.0km
DEPTH = 10.0km (geophysicist)
4.7mb (16 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.69	247	iP+	01	55.50	1.0
			eS	02	16.70	
AOMJ	2.64	289	P	02	09.70	1.5
YAMJ	3.24	242	iP+	02	17.70	1.0
NIIJ	4.44	237	P	02	34.90	1.2
KAKJ	4.50	219	P	02	33.70	-0.8
			S	03	22.40	
CHJJ	5.23	226	P	02	44.40	-0.6
MAT	5.37	235	iPc	02	47.50	0.6
	1.0s	43.00nm			5.0mb	
			eS	03	47.00	
MTMJ	5.60	237	P	02	51.50	1.2
IIDJ	6.25	229	P	02	59.90	0.5
TSRJ	7.41	238	P	03	17.30	1.7
CN2	14.17	292	Pc	04	51.60	4.0X
			PP	05	03.40	
SNY	15.35	284	Pc	05	01.80	-1.2
DL2	17.07	274	eP	05	26.00	1.0
SSE	20.22	252	P	06	08.50	5.9X
	1.2s	17.00nm			4.3mb	
	N 14s	0.80um				
BJI	21.06	280	eP	06	08.00	-3.3X
	Z 15s	0.58um			4.1MszX	
	N 14s	0.52um				
			eS	09	58.00	
TIA	21.19	269	eP	06	09.80	-2.8
	N 13s	0.60um				
	E 13s	0.80um				
			esS	10	16.00	
NJ2	21.47	257	Pc	06	13.50	-2.0
TIY	24.39	275	eP	06	42.40	-1.8
	Z 16s	0.80um			4.3MszX	
WHN	25.58	258	eP	06	55.00	-0.5
	1.2s	0.09nm			2.3mb	X
BTO	25.63	283	eP	06	56.00	-0.1
	N 14s	0.30um				
	E 14s	0.70um				
			eS	11	20.00	
XAN	28.25	269	P	07	18.70	-1.3
LZH	31.45	276	Pd	07	49.00	0.4
	1.2s	0.04nm			2.2mb	X
	Z 14s	0.80um			4.5MszX	
GYA	33.47	258	P	08	05.60	-0.7
CD2	33.51	267	eP	08	05.40	-1.1
GTA	33.54	284	iPc	08	06.70	-0.2
KMI	37.16	259	Pd	08	38.00	0.1
WMO	41.25	295	P	09	12.00	0.4
CHG	43.70	255	eP	09	31.80	0.1
FBA	45.85	34	eP	09	54.00	5.6X
	1.0s	4.00nm			4.4mb	
INK	51.15	28	ePd	10	28.70	-0.7
MBC	53.41	17	eP	10	46.00	-0.3
	1.0s	5.00nm			4.4mb	
WB5	59.96	190	eP	11	31.50	-2.1
SOD	63.14	337	eP	11	54.00	-0.5
GBA	63.19	266	P	11	55.00	-0.5
SUF	66.34	334	eP	12	14.00	-1.3
	0.5s	2.60nm			4.7mb	
NUR	68.37	332	eP	12	18.00	-10.1X
KVN	71.71	54	eP	12	50.00	0.8
NB2	72.34	338	P	12	51.20	-1.1
	1.0s	8.40nm			4.8mb	
BW06	74.50	47	eP	13	05.00	-0.4
RSSD	76.63	43	eP	13	24.00	6.5X
KRA	77.81	327	eP	13	24.20	0.6
KSP	78.69	329	eP	13	28.00	-0.5
CLL	79.59	331	ePd	13	33.00	-0.3
PRU	80.06	329	eP	13	36.50	0.7
SRO	80.21	326	eP	13	36.10	-0.6
KHC	81.12	329	eP	13	42.50	0.9
ALQ	81.49	51	eP	13	45.00	1.0
	1.0s	3.00nm			4.3mb	
GRF	81.57	331	eP	13	44.60	0.8
	1.2s	11.00nm			4.8mb	
SKO	83.23	321	eP	13	49.50	-3.1X
			i	13	53.20	
MBH	84.32	304	eP	13	52.00	-6.3X
LOR	86.24	334	eP	14	07.80	0.1
	0.8s	5.30nm			4.8mb	
LBF	86.45	334	eP	14	08.80	0.1
	0.8s	4.00nm			4.7mb	
SSF	86.54	334	eP	14	09.40	0.3
	0.8s	2.60nm			4.5mb	
LPG	86.74	331	eP	14	10.80	0.3
	0.9s	4.90nm			4.7mb	
AVF	86.83	334	eP	14	11.10	0.6
	0.8s	8.00nm			5.0mb	
MAF	87.59	334	eP	14	15.10	0.9
	1.2s	14.80nm			5.2mb	
TCF	87.65	334	eP	14	15.20	0.7
LSF	87.91	335	eP	14	16.50	0.7
	0.8s	9.40nm			5.2mb	
RJF	88.75	334	eP	14	20.60	0.8
CAF	88.90	334	eP	14	21.60	1.1
	1.0s	6.00nm			4.8mb	

S.D. = 1.0 on 52 of 60 obs.

OCT 26, 1989 21h 39m 22.89± 0.22s
4.651 S ± 3.7km 152.828 E ± 5.7km
DEPTH = 74.2km (4 depth phases)
5.4mb (16 obs.)
NEW BRITAIN REGION (192)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 16S, 31C
Centroid Location:

26d 21h

Origin Time 21:39:24.5 0.5
Lat 4.38S 0.05 Lon 153.51E 0.05
Dep 35.0 3.3 Half-duration 2.3
Moment Tensor; Scale 10**17 Nm
Mrr= 1.27 0.08 Mtt=-0.92 0.09
Mff=-0.34 0.11 Mrt= 2.01 0.22
Mrf= 0.94 0.17 Mtf=-1.30 0.09
Principal Axes:
T Val= 2.47 Plg=60 Azm=353
N 0.59 12 241
P -3.06 27 145
Best Double Couple:Mo=2.8*10**17
NP1:Strike=209 Dip=21 Slip= 56
NP2: 65 73 102

RAB	0.80	305	iPd	39 39.50	0.1
PAA	3.12	122	iPd	40 21.80	11.0X
			eS	41 03 00	
LAT	6.13	251	eP	40 57.00	4.1X
PMG	7.35	230	eP	41 09.00	-0.8
	0.7s	191.78nm			5.9mb X
CTA	16.63	202	iPc+	43 13.00	0.2
	1.2s	56.25nm			4.6mb
			iS	46 22.00	
			i	46 46.80	
GUA	19.71	337	eP	43 50.50	1.4
	0.9s	497.48nm			5.8mb
			pP	43 57.80	28kmX
GUMO	19.77	337	eP	43 50.50	0.7
	1.2s	511.11nm			5.7mb
PJG	19.77	337	eP	43 50.30	0.5
QIS	20.38	218	eP	43 55.00	-1.1
DZM	21.77	144	iPc	44 09.30	-0.9
RMQ	22.06	190	eP	44 13.00	0.0
BRS	22.61	180	iPc	44 18.50	0.1
			i	44 28.00	35kmX
			i	44 37.00	
			eS	48 12.00	
			i	48 25.00	
MTN	22.92	248	eP	44 22.00	0.6
			e	44 23.00	4kmX
QLP	23.31	200	eP	44 25.70	0.6
			e	44 37.00	44kmX
WB5	23.50	228	eP	44 27.00	-0.1
			eS	48 13.00	
			ePcP	48 35.70	
COO	25.80	182	eP	44 49.00	0.1
KNA	26.09	243	eP	44 51.00	-0.5
	0.3s	39.00nm			5.4mb
ASPA	26.28	222	eP	44 52.40	-0.9
	0.9s	37.00nm			4.9mb
			eS	49 16.20	
			eScS	55 43.00	
STK	29.07	200	eP	45 17.00	-1.4
CAN	30.72	186	eP	45 41.30	8.2X
WARB	32.96	227	eP	45 52.00	-0.8
	0.2s	12.00nm			5.4mb
PCI	33.16	275	ePd	45 56.80	2.2
			eS	46 41.50	
FORR	34.94	219	eP	46 09.00	-0.7
	0.4s	43.00nm			5.7mb
MBL	35.98	240	eP	46 18.30	-0.4
KKM	38.07	286	ePd	46 36.80	0.4
	1.2s	88.80nm			5.6mb
BAG	38.14	304	eP	46 37.10	0.0
MEKA	39.37	233	eP	46 46.50	-0.5
NANU	40.21	240	eP	46 53.50	-0.5
MNG	41.20	154	P	47 00.80	-1.0
	0.3s	12.00nm			5.2mb
PGZ	41.55	153	P	47 03.70	-1.0
	0.5s	67.00nm			5.7mb
MSZ	42.00	164	P	47 11.00	2.7X
KLB	42.42	227	eP	47 10.50	-1.5
CHJJ	42.51	343	P	47 10.90	-1.7
MRWA	42.56	231	eP	47 13.80	0.6
BAL	42.69	229	eP	47 13.00	-1.2
MAT	43.20	343	(P)	47 16 00	-2.2
			(S)	53 45.00	
MTMJ	43.36	342	P	47 17.90	-1.7
NIIJ	43.62	344	P	47 20.30	-1.3
MUN	43.75	227	eP	47 22.00	-0.8
YAMJ	44.23	346	eP	47 26.50	0.0
RKG	44.29	224	eP	47 29.00	1.9
OFUJ	44.72	348	eP	47 29.20	-1.2
AOMJ	46.42	347	eP	47 44.40	0.6
SSE	46.64	322	Pc	47 45.00	-0.7
	1.0s	0.05nm			2.4mb X

	Z 22s		1.10um		4.8Msz
	E 12s		0.40um		
			pP	48 02.00	67km
			PP	49 35.40	
			eS	54 28.00	
			sS	55 00.00	
QIZ	48.42	300	eP	48 00.60	0.7
NJ2	48.75	321	Pc	48 02.50	0.4
	4.0s		0.60nm		3.0mb X
	Z 26s		1.40um		4.8MszX
WHN	50.77	316	eP	48 18.00	0.4
	Z 22s		1.31um		4.9Msz
			pP	48 35.50	69km
DL2	52.06	329	eP	48 27.00	-0.3
PPI	52.53	273	eP	48 30.00	-1.3
IPM	52.55	279	ePc	48 30.00	-1.4
TIA	52.61	324	Pd	48 30.50	-1.0
SNY	53.38	333	eP	48 34.60	-2.4
CN2	54.17	336	Pc	48 41.60	-1.2
GYA	54.33	307	P	48 44.80	0.4
			sS	56 49.00	
LOE	54.99	295	eP	48 48.60	-0.6
NNT	55.47	289	iPd	48 52.90	0.2
BJI	55.78	326	eP	48 54.00	-0.5
	5.0s		0.40nm		2.7mb X
	Z 25s		1.36um		4.9MszX
			eS	56 18.00	
NST	55.92	292	eP	48 57.20	1.3
TIY	56.43	322	Pc	48 58.70	-0.7
	E 11s		0.30um		
XAN	56.53	316	P	48 59.00	-1.2
KMI	56.93	304	Pc	49 04.00	0.7
CHG	57.95	295	ePc	49 10.50	0.2
	1 2s		48.83nm		5.5mb
CD2	58.66	311	eP	49 14.80	-0.3
HHC	58.94	324	P	49 16.80	-0.2
	Z 14s		1.50um		5.3MszX
BTO	59.70	323	P	49 22.00	-0.2
LZH	61.14	316	Pc	49 32.50	0.3
	2.5s		0.24nm		2.9mb X
	Z 23s		1.30um		5.0MszX
			pP	49 53.00	80km
			eS	57 48.00	
GTA	65.57	317	Pc	50 00.80	-0.4
	1.0s		0.04nm		2.3mb X
SBA	73.52	177	P	50 56.20	7.3X
WMQ	75.65	317	Pc	51 02.50	0.5
	Z 32s		0.90um		4.9MszX
			pP	51 24.00	81km
			eS	00 40.50	
			ScS	01 06.00	
HYB	76.47	289	iPc	51 06.40	-0.6
	1.0s	110.00nm			5.7mb
GBA	76.96	285	P	51 10.00	0.4
TTA	77.62	21	P	51 11.00	-1.5
PMR	79.54	24	P	51 21.00	-1.9
	0.7s	13.08nm			5.0mb
NDI	79.68	300	iPc	51 24.00	-0.4
IMA	80.31	19	P	51 25.30	-1.8
	1.0s	12.50nm			4.8mb
POO	81.06	289	iPd	51 32.00	0.1
FBA	81.74	22	P	51 31.70	-2.7
	0.7s	15.99nm			5.1mb
KSH	82.84	311	Pc	51 42.00	1.1
SPA	85.38	180	(P)	51 53.00	-0.2
	0.9s	30.91nm			5.3mb
MAW	85.72	203	eP	51 54.00	-0.6
INK	88.31	21	eP	52 05.00	-2.1
QUE	88.75	300	iPc	52 10.00	-0.3
KVN	92.18	51	P	52 20.00	-6.0X
MAIO	95.41	306	eP	52 41.00	0.2
EDM	95.99	37	ePd	52 42.50	-0.5
BW06	98.73	48	P	52 45.70	-10.1X
SOD	107.58	341	iPKP	57 52.50	10.1X
SUF	110.23	337	ePKP	57 48.00	0.5
NUR	112.01	335	ePKP	57 40.00	-10.9X
NB2	116.78	340	PKP	57 59.80	-0.4
	0.6s		1.40nm		
KRA	119.92	327	ePKP	58 23.40	17.0X
SPC	120.22	326	ePKP	58 24.80	17.6X
SRO	122.04	325	ePKP	58 12.00	1.5
ZST	122.50	326	iPKP	58 13.60	2.3X
BRG	122.55	330	iPKP	58 12.00	0.6
	0.6s	12.00nm			
			i	58 28.20	
CLL	122.73	331	ePKP	58 12.00	0.3
	1.0s	17.00nm			

			e	58 28.00	
PRU	122.81	329	ePKP	58 13.00	1.1
			e	58 20.00	
SKO	123.03	318	iPKP	58 11.80	-0.8
	1.3s	********	nm		
KHC	123.83	329	ePKP	58 12.50	-1.5
			e	58 31.80	
OHR	123.85	317	ePKP	58 11.50	-2.8X
	1.4s	62.00nm			
GRF	124.65	331	ePKP	58 16.30	0.8
	1.0s	5.00nm			
	Z 20s		0.20um		4.8Msz
			e	58 32.60	
VBY	125.08	325	ePKP	58 18.00	1.6
			e	58 33.60	
LJU	125.18	325	ePKP	58 16.30	-0.3
CEY	125.42	325	ePKP	58 17.50	0.3
VOY	125.55	326	ePKP	58 17.00	-0.5
			e	58 33.80	
TRI	125.81	326	PKP	58 17.50	-0.4
FVI	125.82	327	PKP	58 19.80	1.9
EKA	125.90	343	PKP	58 19.00	1.2
	1.6s	34.80nm			
CTI	126.77	327	PKP	58 20.00	0.1
TDS	127.54	318	PKPc	58 22.50	1.1
ARV	127.59	324	PKPd	58 21.80	0.4
SGO	127.75	319	PKP	58 22.00	0.3
MGR	127.81	319	PKP	58 21.00	-0.9
SFI	127.97	325	PKP	58 24.50	2.5X
ASS	128.00	323	PKP	58 21.50	-0.8
BSF	128.06	331	ePKP	58 23.10	0.8
	0.8s	8.00nm			
CRE	128.09	324	PKP	58 25.50	3.0X
HAU	128.15	332	ePKP	58 23.30	1.0
	0.6s	5.40nm			
MNS	128.39	323	PKP	58 23.00	0.0
VAI	128.42	328	PKPd	58 22.50	-0.3
SOI	128.51	316	PKP	58 24.00	0.7
BDI	128.60	326	PKP	58 24.50	1.1
RDP	128.73	322	PKP	58 25.50	1.8
BOB	128.79	327	PKP	58 24.80	1.1
ORO	129.00	329	PKP	58 25.00	0.9
CKI	129.64	327	PKP	58 26.00	0.7
LPG	129.72	329	ePKP	58 27.30	1.5
	0.6s	4.50nm			
LOR	129.84	333	ePKP	58 26.70	1.1
	0.6s	4.50nm			
LBF	130.00	332	ePKP	58 27.40	1.5X
	0.6s	3.60nm			
BNI	130.06	329	PKP	58 26.50	0.3
SSF	130.16	333	ePKP	58 27.20	1.1
	0.6s	3.60nm			
SMF	130.31	332	ePKP	58 27.90	1.4
	0.6s	6.30nm			
AVF	130.43	333	ePKP	58 28.50	1.9
	0.6s	3.60nm			
SBF	130.47	327	ePKP	58 28.00	1.1
	0.8s	8.00nm			
CVF	130.52	325	ePKP	58 27.80	0.8
	0.6s	11.50nm			
BGF	130.83	333	ePKP	58 28.30	0.8
	0.6s	6.30nm			
GRR	130.97	337	ePKP	58 28.40	0.8
	0.6s	7.90nm			
FRF	131.09	328	ePKP	58 29.40	1.4
	0.6s	3.60nm			
MAF	131.21	333	ePKP	58 30.20	2.0
	0.6s	3.60nm			
LRG	131.32	328	ePKP	58 30.10	1.7
	0.6s	6.10nm			
LMR	131.32	327	ePKP	58 29.90	1.4
	0.8s	8.00nm			
LPF	131.33	337	ePKP	58 29.50	1.2
	0.6s	9.00nm			
LPO	133.01	332	ePKP	58 33.40	1.7X
	0.8s	4.00nm			
CNCB	134.38	119	ePKP	58 31.00	-4.8X
LPB	134.39	118	(PKP)	58 35.00	-0.6
ZOBO	134.48	118	ePKP	58 27.00	-9.0X
			i	58 35.00	
IFR	144.70	327	iPKP	58 51.00	-2.5
AVE	146.06	330	iPKP	58 56.00	0.4
			i	59 11.50	
			i	59 32.50	
VAO	146.40	146	ePKP	58 57.70	1.2
			e	59 02.20	
			e	59 08.40	

			e	59	17.40	
BMA	148.15	149	ePKP	59	03.50	4.2X
BAO	151.17	135	ePKP	59	06.50	2.4X
KIC	157.61	275	PKP	59	30.26	17.4X
PDCR	159.20	145	ePKP	59	14.30	-0.2

S.D. = 1.1 on 131 of 153 obs.

OCT 26, 1989 22h 41m 18.23± 0.35s
35.225 N ± 4.8km 133.431 E ± 3.9km
DEPTH = 10.0km (geophysicist)
4.9mb (4 obs.)
SOUTHERN HONSHU, JAPAN (232)

Felt (III JMA) at Matsue and Yonago; (II JMA) at Hiroshima; (I JMA) at Saigo and Takamatsu.

YONJ	0.05	144	iP+	41	20.60	0.2
YON	0.22	341	iP+	41	22.00	-1.0
			iS	41	24.50	
MTS	0.37	308	iPd	41	24.30	-1.6
			iS	41	29.20	
SHK	0.93	222	iPc	41	34.20	-1.8
SAI	0.98	355	iP+	41	35.30	-1.5
			iS	41	47.90	
TKM	1.04	150	iP+	41	36.00	-1.9
			iS	41	52.60	
HIR	1.19	224	iP+	41	38.90	-1.4
			iS	41	54.20	
TKSJ	1.34	157	iP+	41	42.50	-0.4
			S	42	00.70	
WKYJ	2.04	119	iPd	41	53.70	0.6
			S	42	21.50	
TSRJ	2.11	81	iPd	41	53.80	-0.2
			eS	42	26.10	
SHNJ	2.21	241	P	41	55.20	-0.2
			eS	42	24.80	
KUMJ	3.45	220	P	42	12.90	-0.1
IIDJ	3.67	85	P	42	15.50	-0.8
MTMJ	3.80	68	iPd	42	19.70	1.5
MAT	4.10	70	(P)	42	22.00	-0.2
	1.3s		86.54nm			
KAGJ	4.56	209	P	42	29.40	0.6
CHJJ	4.61	78	P	42	30.60	1.1
NIIJ	4.93	64	P	42	34.30	0.2
KAKJ	5.57	78	eP	42	42.10	-1.1
YAMJ	6.07	59	eP	42	50.40	0.3
OFUJ	7.62	57	P	43	12.70	0.8
MDJ	9.83	344	eP	43	43.00	0.4
SNY	10.15	313	eP	43	47.00	0.1
Z	10s		1.40um			
N	12s		1.60um			
			S	45	44.00	
CN2	10.55	327	eP	43	55.30	2.9X
Z	12s		1.40um			
N	13s		1.60um			
E	13s		3.50um			
SSE	11.06	252	P	44	02.80	3.4X
	0.9s		0.02nm			2.5mb X
Z	20s		0.90um			4.7MszX
N	13s		3.80um			
E	12s		1.80um			
			sP	44	09.40	
			Lg	47	10.00	
NJ2	12.55	260	eP	44	16.50	-3.1X
Z	16s		1.00um			
TIA	13.29	279	eP	44	31.80	2.3
N	11s		1.20um			
E	12s		1.40um			
ANP	14.35	229	e(P)	44	30.00	-13.5X
BJI	14.49	294	eP	44	44.50	-0.7
Z	11s		1.55um			
N	11s		0.87um			
E	11s		1.01um			
			eS	48	05.00	
WHN	16.69	259	eP	45	16.50	2.8
Z	12s		1.81um			
N	12s		1.05um			
E	12s		2.20um			
			eS	48	23.00	
TIY	17.07	285	eP	45	18.00	-0.5
N	12s		1.10um			
HHC	18.10	295	P	45	32.30	0.9
Z	12s		1.40um			
E	10s		0.80um			
			PP	45	48.00	
BTO	19.21	293	eP	45	44.00	-1.0
N	11s		0.60um			
E	11s		1.20um			
			sP	45	55.00	
			eS	49	20.50	
XAN	20.19	274	P	45	54.30	-1.6
N	11s		1.20um			
			S	49	36.00	
LZH	24.02	281	eP	46	33.50	-0.7
	2.0s		0.08nm			1.9mb X
Z	14s		1.20um			4.5MszX
N	12s		0.80um			
E	12s		0.90um			
			eS	50	47.00	
GYA	24.53	257	P	46	41.00	1.8
N	15s		2.00um			
E	15s		0.90um			
CD2	25.19	269	eP	46	45.00	-0.4
N	12s		2.10um			
			eS	51	09.80	
GTA	26.97	289	eP	46	58.80	-3.1X
Z	12s		1.20um			4.7MszX
E	11s		0.80um			
KMI	28.28	258	Pd	47	16.00	1.9
CHG	34.59	251	eP	48	07.00	-2.4
WMO	35.92	298	P	48	22.30	1.7
Z	16s		0.50um			4.4MszX
N	12s		0.50um			
			eS	54	06.00	
HYB	51.65	265	eP	50	29.40	2.0
GBA	54.59	261	P	50	51.00	1.8
	1.2s		5.90nm			4.5mb
WB5	54.81	179	eP	50	51.10	0.5
ASPA	58.57	179	iPc	51	16.70	-0.7
	0.7s		10.00nm			5.0mb
INK	58.88	26	eP	51	17.00	-2.1
MBC	60.03	15	eP	51	24.50	-2.5
	1.0s		12.00nm			5.0mb
EDM	74.65	35	eP	53	01.50	2.1
FFC	78.58	29	eP	53	13.00	-8.2X
	0.8s		8.00nm			4.8mb
CLL	79.24	327	eP	53	23.00	-1.9
PRU	79.44	325	eP	53	27.50	1.5
KVN	80.89	48	eP	53	36.00	1.7

S.D. = 1.4 on 46 of 52 obs.

OCT 26, 1989 22h 52m 59.23± 0.42s
39.743 N ± 7.5km 143.811 E ± 6.9km
DEPTH = 10.0km (geophysicist)
4.6mb (10 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.79	249	iP+	53	31.00	0.7
			eS	53	51.90	
AOMJ	2.76	288	P	53	44.90	0.6
YAMJ	3.33	243	P	53	53.00	0.5
NIIJ	4.53	238	P	54	10.30	1.0
KAKJ	4.55	220	P	54	08.80	-0.9
			eS	54	59.20	
CHJJ	5.30	227	P	54	19.90	-0.5
MAT	5.45	236	iPc	54	23.20	0.7
	0.8s		44.78nm			5.2mb
			(S)	55	32.00	
MTMJ	5.69	238	P	54	27.10	1.2
IIDJ	6.33	230	P	54	35.10	0.2
MDJ	11.62	299	eP	55	47.50	-0.5
BJI	21.18	280	eP	57	41.00	-5.9X
WHN	25.69	258	Pc	58	30.20	-0.8
N	16s		1.49um			
E	12s		0.73um			
			sP	58	39.00	
GYA	33.58	258	P	59	40.40	-1.3
N	15s		0.80um			
E	15s		0.40um			
GTA	33.66	284	Pc	59	41.80	-0.5
CHG	43.80	255	eP	01	07.00	0.0
			e	04	46.50	
FBA	45.81	34	P	01	34.00	11.5X
	0.5s		3.10nm			
INK	51.12	28	eP	02	04.00	0.4
MBC	53.39	17	eP	02	21.00	0.4
	1.0s		4.00nm			4.3mb
WB5	59.96	190	eP	03	06.80	-1.2
GBA	63.30	266	P	03	30.00	-0.7
SUF	66.41	334	eP	03	59.00	8.8X
CMB	70.78	56	eP	04	08.80	-9.0X
KVN	71.63	54	P	04	23 10	0.0
NB2	72.40	338	P	04	25.50	-1.6
	1.0s		5.00nm			4.6mb
TNP	72.77	55	P	04	30.40	0.5
	0.8s		5.00nm			4.7mb
BW06	74.43	47	P	04	40.00	0.5
RSSD	76.56	43	P	04	50.00	-1.6
ALQ	81.42	51	eP	05	20.00	2.0
	1.0s		4.75nm			4.5mb
PRNI	83.97	305	ePc	05	39.00	8.0X
OHR	84.28	320	eP	05	30.50	-1.9
MBH	84.43	304	eP	05	40.00	6.7X
LOR	86.31	334	eP	05	43.40	1.0
	0.6s		1.80nm			4.4mb
SSF	86.61	334	eP	05	44.60	0.7
	0.8s		2.60nm			4.5mb
LPG	86.81	331	eP	05	45.40	0.1
SMF	86.86	334	eP	05	45.40	0.3
	0.8s		4.00nm			4.7mb
AVF	86.90	334	eP	05	45.50	0.2
	0.8s		5.30nm			4.8mb
MAF	87.66	334	eP	05	49.60	0.6
	1.0s		4.80nm			4.7mb

S.D. = 1.0 on 31 of 37 obs.

OCT 26, 1989 22h 56m 38.25± 0.30s
39.723 N ± 6.0km 143.771 E ± 4.7km
DEPTH = 10.0km (geophysicist)
4.9mb (18 obs.) 4.2Msz (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.75	249	P	57	09.60	0.8
			S	57	31.60	
AOMJ	2.74	289	P	57	23.50	0.5
YAMJ	3.30	243	P	57	31.90	0.9
NIIJ	4.49	238	P	57	49.30	1.5
KAKJ	4.52	220	eP	57	46.70	-1.5
			S	58	38.20	
CHJJ	5.27	227	P	57	58.90	0.0
MAT	5.41	236	iPc	58	01.80	0.8
			eS	59	04.00	
MTMJ	5.65	238	P	58	06.00	1.6
IIDJ	6.29	230	P	58	15.00	1.6
TSRJ	7.46	238	P	58	31.40	1.7
MDJ	11.60	300	eP	59	25.60	-1.2
CN2	14.27	293	eP	59	59.50	-2.8X
N	13s		1.90um			
SNY	15.44	284	Pd	00	16.60	-1.1
DL2	17.15	274	eP	00	40.00	0.5
SSE	20.28	252	P	01	13.50	-3.2X
Z	18s		0.90um			4.2Msz
N	12s		1.50um			
E	10s		0.70um			
			pP	01	22.50	34kmX
			eS	04	24.00	
BJI	21.15	280	eP	01	21.50	-4.1X
Z	16s		1.28um			4.4MszX
N	14s		1.03um			
			eS	04	40.00	
TIA	21.27	269	Pd	01	24.10	-2.8
E	13s		1.30um			
NJ2	21.55	257	Pc	01	27.00	-2.7
Z	16s		1.50um			4.5MszX
TIY	24.47	275	eP	01	57.20	-1.3
N	14s		1.20um			
WHN	25.65	258	Pc	02	09.50	-0.2
	1.0s		0.08nm			2.4mb X
N	14s		1.76um			
E	14s		1.31um			
			sP	02	18.00	
			eS	06	28.00	
BTO	25.72	283	eP	02	10.00	-0.4
N	13s		1.10um			
E	15s		1.60um			
XAN	28.33	270	P	02	33.00	-1.2
LZH	31.53	276	Pd	03	03.20	0.4
	1.5s		0.06nm			2.3mb X
Z	14s		1.90um			4.9MszX
N	13s		1.00um			
E	13s		1.30um			
GYA	33.54	258	P	03	20.20	-0.2
N	14s		1.30um			
E	14s		0.70um			
CD2	33.59	267	eP	03	19.50	-1.2
Z	14s		1.40um			4.8MszX
N	12s		1.80um			
GTA	33.63	284	iPc	03	21.00	-0.1
Z	16s		1.50um			4.8MszX
E	15s		1.10um			
			sP	03	30.00	

26d 23h

KMI	37.24	260	eP	03	51.50	-0.5
WMQ	41.34	295	P	04	26.00	0.2
	Z 14s	0.60um			4.6MszX	
	E 12s	0.90um				
CHTO	43.77	255	eP	04	46.10	0.4
	0.8s	5.12nm			4.4mb	
LSA	43.85	274	P	04	48.40	1.5
FBA	45.84	34	eP	05	03.00	1.2
	1.0s	5.00nm			4.4mb	
KSH	51.06	293	eP	05	43.90	1.2
INK	51.15	28	eP	05	43.00	0.1
NDI	55.00	280	eP	06	11.00	-1.1
WB5	59.94	190	eP	06	45.80	-1.1
HYB	60.13	268	ePc	06	47.50	-1.0
QUE	61.92	287	eP	07	08.00	7.3X
POO	63.11	272	eP	07	08.20	-0.3
GBA	63.27	266	P	07	09.00	-0.5
ASPA	63.73	190	eP	07	12.10	-0.2
MAIO	64.07	297	eP	07	23.00	8.3X
CMB	70.82	56	eP	07	57.50	0.4
KVN	71.67	54	P	08	02.40	0.0
			pP	08	11.50	29kmX
NB2	72.41	338	P	08	05.20	-1.0
	0.5s	1.30nm			4.3mb	
TNP	72.80	55	P	08	09.20	0.1
	1.0s	11.25nm			4.9mb	
			pP	08	18.40	30kmX
CWC	73.25	56	eP	08	23.00	11.3X
CLC	73.93	57	eP	08	16.00	0.5
BW06	74.47	47	P	08	18.50	-0.2
SBB	74.47	58	eP	08	18.00	-0.7
MWC	74.60	58	eP	08	29.00	9.4X
RVR	75.19	58	eP	08	22.00	-0.7
RSSD	76.60	43	P	08	29.90	-0.9
GLA	77.44	58	eP	08	36.00	0.6
KRA	77.89	327	eP	08	46.70	9.2X
SPC	78.41	326	eP	08	50.80	10.2X
KSP	78.77	329	eP	08	42.50	0.2
			e	08	51.00	27kmX
BRG	79.66	330	eP	08	56.00	8.9X
	1.1s	11.00nm			4.8mb	
CLL	79.66	331	iPd	08	56.20	9.0X
	1.3s	19.00nm			4.9mb	
PRU	80.14	330	eP	08	50.50	0.8
			e	08	59.50	29kmX
SRO	80.29	326	e(P)	09	01.40	10.8X
ZST	80.51	327	e(PKP)	09	02.00	10.3X
KHC	81.20	329	eP	08	55.50	0.1
			e	09	05.50	32kmX
ALQ	81.45	51	eP	08	57.50	0.3
	1.1s	9.49nm			4.8mb	
GRF	81.64	331	eP	08	59.00	1.3
	1.2s	27.00nm			5.2mb	
			e	09	07.50	27kmX
VAY	83.24	320	eP	09	06.60	0.5
SKO	83.31	321	iP	09	06.00	-0.5
	1.1s	******nm			8.5mb	X
			i	09	10.80	15kmX
			i	09	16.00	
PRNI	83.95	305	e(P)	09	09.00	-1.0
OHR	84.27	320	eP	09	11.80	0.4
MBH	84.41	304	eP	09	09.00	-3.2X
LOR	86.32	334	eP	09	21.60	0.1
	0.8s	8.50nm			5.0mb	
LBF	86.52	334	eP	09	22.80	0.3
	1.0s	6.00nm			4.7mb	
SSF	86.61	334	eP	09	23.60	0.7
	1.0s	6.00nm			4.8mb	
LPG	86.81	331	eP	09	24.70	0.4
	1.2s	14.80nm			5.1mb	
GRR	86.83	337	eP	09	24.50	0.6
	0.8s	13.40nm			5.2mb	
SMF	86.86	334	eP	09	24.50	0.3
	1.0s	7.80nm			4.9mb	
AVF	86.90	334	eP	09	24.90	0.6
	0.8s	10.70nm			5.1mb	
MAF	87.66	334	eP	09	29.10	1.1
	1.0s	16.00nm			5.3mb	
TCF	87.73	334	eP	09	29.20	0.9
	0.8s	4.00nm			4.8mb	
LSF	87.98	335	eP	09	30.30	0.7
CAF	88.97	334	eP	09	35.70	1.3
	0.9s	6.50nm			4.9mb	
ZOBO	143.72	59	ePKP	16	12.00	-4.2X
LPB	143.93	59	PKP	16	20.00	3.6X
CNCB	144.20	60	ePKP	16	16.00	-1.0
SNA	144.67	199	e(PKP)	16	14.40	-1.1

	0.9s	20.17nm				
			i	16	22.10	
CCH	145.83	58	PKP	16	17.90	-1.6
	S.D. = 1.0	on	69 of	85	obs.	

? OCT 26, 1989 23h 17m 58.11± 0.89s
45.757 N ±12.1km 14.976 E ± 8.5km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)

VBY	0.32	142	ePg	18	04.80	0.0
			eSg	18	09.30	
LJU	0.42	313	iPgc	18	06.80	0.1
			eSg	18	12.00	
PTJ	0.70	78	iPgc	18	12.00	0.0
			eSg	18	21.90	
VOY	0.80	290	ePg	18	13.70	-0.1
			eSg	18	25.10	
	S.D. = 0.1	on	4 of	4	obs.	

OCT 26, 1989 23h 40m 18.54± 0.69s
42.455 N ± 5.2km 13.285 E ± 6.8km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.5 (SSO).

AQU	0.13	139	P	40	22.00	0.2
			eSg	40	24.50	
ALP	0.39	33	iPg	40	25.89	-0.7
			iSg	40	32.08	
MNS	0.45	261	Pc	40	27.30	-0.5
			eSg	40	34.10	
CIO	0.75	352	ePg	40	33.12	-0.1
			iSg	40	44.61	
ASS	0.77	323	P	40	33.50	-0.1
			eSg	40	44.70	
RDP	0.81	211	P	40	34.50	0.1
			eSg	40	47.50	
ARV	1.07	347	P	40	39.70	1.0
			eSg	40	55.40	
	S.D. = 0.6	on	7 of	7	obs.	

OCT 27, 1989 00h 19m 56.99± 0.23s
39.680 N ± 5.5km 143.821 E ± 3.9km
DEPTH = 10.0km (geophysicist)
5.0mb (36 obs.) 4.7Msz (2 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.77	251	iP+	20	28.60	0.7
AOMJ	2.79	289	eP	20	42.70	0.3
YAMJ	3.31	244	iP+	20	50.80	0.9
NIIJ	4.50	239	P	21	07.80	1.1
KAKJ	4.51	221	P	21	06.40	-0.5
			eS	21	56.80	
CHJJ	5.27	228	P	21	17.60	0.0
			eS	22	16.80	
MAT	5.42	236	iPc	21	20.80	0.9
	1.0s	175.00nm			5.7mb	
			eS	22	27.00	
MTMJ	5.66	239	P	21	24.30	1.0
IIDJ	6.29	230	P	21	33.10	1.0
TSRJ	7.47	239	eP	21	50.10	1.5
YONJ	9.38	245	eP	22	14.60	-0.5
TKSJ	9.68	237	eP	22	19.20	0.0
SHNJ	11.59	245	eP	22	45.80	0.4
MDJ	11.65	300	eP	22	44.70	-1.6
CN2	14.32	293	Pc	23	21.80	0.1
SNY	15.49	284	eP	23	33.00	-4.0X
	Z 17s	3.10um			4.4MszX	
	N 14s	2.30um				
	E 14s	1.40um				
			pP	23	42.60	
DL2	17.20	275	Pd	23	59.00	0.2
SSE	20.31	252	P	24	34.80	-0.9
	1.0s	0.04nm			1.7mb	X
	Z 12s	1.50um			4.6MszX	
	N 12s	2.30um				
	E 11s	1.40um				
			pP	24	44.00	35kmX
			eS	28	29.00	
BJI	21.20	280	eP	24	41.00	-3.8X
	Z 14s	2.35um			4.7MszX	
	E 13s	1.70um				
			eS	28	30.00	
TIA	21.31	269	Pd	24	42.50	-3.5X
	N 13s	1.30um				
	E 13s	3.90um				

NJ2	21.57	257	Pd	24	46.00	-2.7
	N 11s	1.60um				
	E 11s	1.30um				
TIY	24.52	275	Pd	25	18.80	1.2
	N 15s	2.06um				
HHC	24.57	283	P	25	16.30	-1.9
	Z 18s	2.80um			4.8Msz	
	N 14s	1.60um				
	E 15s	1.70um				
			PP	25	49.00	
			S	29	39.00	
WHN	25.68	258	iPc	25	28.00	-0.7
	1.0s	0.11nm			2.5mb	X
	N 15s	2.92um				
	E 14s	1.63um				
			pP	25	37.00	32kmX
BTO	25.77	283	eP	25	28.00	-1.6
	N 14s	2.20um				
	E 16s	2.50um				
XAN	28.37	270	P	25	51.30	-2.0
	N 12s	0.80um				
	E 12s	1.30um				
			S	30	33.00	
LZH	31.58	276	Pc	26	20.50	-1.5
	1.2s	0.04nm			2.2mb	X
			pP	26	25.00	16kmX
			sP	26	29.50	
GYA	33.57	258	iPc	26	38.20	-1.2
	N 16s	1.70um				
	E 16s	0.90um				
CD2	33.62	268	eP	26	38.20	-1.5
	Z 15s	2.00um			5.0MszX	
	N 12s	2.40um				
GTA	33.68	284	iPc	26	39.40	-0.8
	Z 16s	2.30um			5.0MszX	
	E 14s	1.60um				
			pP	26	48.00	29kmX
			S	31	52.00	
KMI	37.27	260	Pc	27	10.50	-0.5
			pP	27	19.50	30kmX
WMQ	41.40	295	P	27	45.00	0.1
	Z 14s	1.00um			4.8MszX	
SVW	42.26	39	eP	27	52.50	0.8
IMA	43.45	32	eP	28	01.70	0.2
	1.0s	1.50nm			3.7mb	X
			e	28	11.20	32kmX
CHG	43.79	255	eP	28	05.00	0.3
LSA	43.89	274	P	28	09.00	3.1X
PMR	45.38	38	eP	28	15.90	-1.0
	0.9s	10.40nm			4.8mb	
FBA	45.86	34	P	28	20.00	-0.7
	0.7s	10.17nm			4.9mb	
KSH	51.11	293	eP	29	01.50	-0.4
INK	51.17	28	iPd	29	01.60	-0.2
NDI	55.05	280	eP	29	29.60	-1.6
WB5	59.90	190	iPd	30	04.50	-0.9
			i	30	13.50	29kmX
HYB	60.17	268	eP	30	06.50	-1.0
KEV	61.64	339	eP	30	17.00	0.3
			e	30	24.00	23kmX
SOD	63.26	337	iP	30	26.30	-1.2
			i	30	35.00	28kmX
GBA	63.31	266	P	30	29.00	0.5
ASPA	63.69	190	iPc	30	30.80	0.0
	1.1s	13.00nm			5.0mb	
			e	30	39.60	28kmX
MAIO	64.12	297	eP	30	33.00	-0.8
PNT	64.97	46	eP	30	38.00	-1.0
	0.9s	14.00nm			5.2mb	
LON	65.08	49	P	30	38.00	-1.8
RMQ	65.99	175	eP	30	46.00	0.5
			e	30	55.00	29kmX
EDM	66.10	40	iP	30	45.00	-1.2
SUF	66.47	334	eP	30	55.20	6.9X
	0.7s	22.50nm			5.5mb	
NEW	66.92	46	P	30	50.20	-1.3
	0.6s	7.69nm			5.1mb	
BRS	67.25	171	eP	30	53.00	-0.6
WARB	67.45	197	eP	30	55.70	0.7
			e	31	04.00	27kmX
WDC	67.99	55	eP	30	59.00	0.7
			epP	31	08.10	29kmX
NUR	68.50	332	iP	31	08.40	7.3X
	0.6s	20.90nm			5.5mb	
MIN	68.71	55	eP	31	03.00	0.0
SES	68.92	41	eP	31	03.00	-1.0
ORV	69.23	55	eP	31	06.00	0.0

			epP	31	15.10	29kmX
FFC	70.46	34	iPd	31	12.50	−0.7
	0.8s		16.00nm			5.2mb
CMB	70.81	56	eP	31	16.10	0.4
			epP	31	25.50	30kmX
LLA	71.28	58	eP	31	19.00	0.5
KVN	71.66	54	P	31	21.20	0.1
			pP	31	28.40	23kmX
FRI	71.86	57	eP	31	22.00	0.0
			epP	31	30.50	27kmX
NB2	72.47	338	P	31	25.00	−0.2
	0.8s		21.10nm			5.3mb
BCH	72.68	59	P	31	27.80	0.8
TNP	72.80	55	P	31	28.00	0.2
	0.9s		23.63nm			5.3mb
			pP	31	37.60	31kmX
SYP	73.14	59	eP	31	24.00	−5.8X
KER	73.59	301	eP	31	32.00	−0.4
CLC	73.92	57	eP	31	35.00	0.8
SBB	74.46	58	eP	31	37.00	−0.3
BW06	74.47	47	P	31	36.70	−0.8
MWC	74.59	58	eP	31	38.00	−0.3
GSC	74.75	57	eP	31	40.00	1.0
RVR	75.18	58	eP	31	41.00	−0.4
PLM	75.91	58	eP	31	43.00	−2.8
TPC	75.98	57	eP	31	46.00	0.0
KVT	76.22	312	eP	31	44.00	−3.2X
BAR	76.45	59	eP	31	47.00	−1.7
RSSD	76.60	43	P	31	48.40	−1.2
GLA	77.43	58	eP	31	54.00	−0.1
VRI	77.92	320	ePd	32	05.50	9.0X
KRA	77.94	327	eP	32	05.40	8.9X
	0.8s		42.00nm			5.6mb
Z	16s		1.60um			5.4MszX
SPC	78.47	326	eP	32	08.90	9.2X
MLR	78.57	321	eP	32	09.00	8.7X
KSP	78.83	329	eP	32	02.50	1.1
			i	32	10.20	25kmX
			e	35	01.00	
GOL	78.87	47	P	32	02.20	0.0
	0.8s		13.69nm			5.0mb
BBTK	78.91	313	eP	32	04.00	1.8
			e	42	12.00	
GLD	78.92	47	P	32	03.70	1.4
	1.0s		46.00nm			5.5mb
BRG	79.72	330	iP	32	15.00	8.8X
	1.0s		14.00nm			4.9mb
CLL	79.72	331	iP	32	14.30	8.1X
	1.1s		27.00nm			5.1mb
			i	33	11.80	240kmX
PRU	80.19	330	eP	32	10.00	1.2
			e	32	13.50	11kmX
SRO	80.35	326	iP	32	19.10	9.5X
ZST	80.57	327	iP	32	20.50	9.7X
MOX	80.77	331	eP	32	20.00	8.1X
HOF	80.95	331	iPc	32	14.40	1.6
EKA	81.25	342	P	32	23.00	8.8X
	0.9s		5.60nm			4.6mb
KHC	81.26	330	eP	32	16.40	1.9
			e	32	23.80	23kmX
ALQ	81.45	51	eP	32	16.50	0.5
	1.0s		14.50nm			5.0mb
WET	81.52	330	eP	32	25.10	9.3X
	1.0s		19.00nm			5.1mb
GRF	81.70	331	eP	32	18.20	1.5
	1.0s		7.40nm			4.7mb
			e	32	26.20	25kmX
KHL	81.78	314	eP	32	18.00	0.5
BHG	82.67	329	iPd	32	31.50	9.7X
	0.8s		22.00nm			5.4mb
FUR	82.93	330	eP	32	32.30	9.1X
	0.8s		20.00nm			5.4mb
KBA	83.00	328	iPd	32	32.80	9.0X
	0.7s		14.40nm			5.3mb
VAY	83.30	320	eP	32	25.40	0.3
LJU	83.34	327	e(P)	32	33.00	7.7X
SKO	83.37	321	iP	32	27.00	1.5
	0.9s	*******	nm			8.7mb X
			i	32	34.50	24kmX
VBY	83.47	326	eP	32	34.60	8.7X
VOY	83.62	327	eP	32	34.40	7.6X
CEY	83.63	327	e(P)	32	35.00	8.2X
DOU	83.68	335	P	32	34.90	8.0X
PRNI	84.01	305	e(P)	32	28.00	−1.0
LIT	84.25	319	ePc	32	28.00	−2.0
OHR	84.33	320	eP	32	29.00	−1.5
	0.9s		76.00nm			5.9mb

			i	32	38.60	30kmX
MBH	84.47	304	eP	32	30.00	−1.2
LOR	86.37	334	eP	32	41.50	1.0
	0.8s		5.30nm			4.8mb
LBF	86.58	334	eP	32	42.40	0.9
	0.8s		4.50nm			4.7mb
SSF	86.67	334	eP	32	43.30	1.4
	0.9s		3.20nm			4.5mb
LPG	86.87	331	eP	32	44.60	1.3
	0.8s		2.60nm			4.5mb
LNO	86.88	45	eP	32	43.20	0.2
TUL	86.88	45	eP	32	43.70	0.6
	0.8s		6.80nm			4.9mb
Z	19s		0.19um			4.5Msz
SMF	86.92	334	eP	32	44.20	1.0
	1.2s		11.90nm			5.0mb
AVF	86.96	334	eP	32	44.60	1.3
	0.8s		6.70nm			4.9mb
BGF	87.33	334	eP	32	46.20	1.0
	0.8s		4.00nm			4.7mb
MAF	87.72	334	eP	32	48.70	1.7
	1.0s		8.80nm			5.0mb
TCF	87.78	334	eP	32	48.80	1.4
	1.0s		4.00nm			4.7mb
LSF	88.04	335	eP	32	50.10	1.5
CAF	89.03	334	eP	32	55.40	2.0
	1.0s		6.80nm			4.9mb
LFF	89.46	335	eP	32	57.00	1.7
	0.8s		8.00nm			5.0mb
ZOBO	143.71	59	PKP	39	31.00	−4.0X
LPB	143.92	59	PKP	39	32.00	−3.1X
CNCB	144.19	60	iPKPc	39	32.30	−3.5X
CCH	145.82	58	PKP	39	40.40	2.2X
PDCR	152.83	6	ePKP	39	53.30	4.7X
			e	40	05.20	

S.D. = 1.1 on 105 of 137 obs.

% OCT 27, 1989 00h 28m 36.22± 0.94s
40.759 N ± 6.2km 27.468 E ± 8.1km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EDC	0.51	144	iPg	28	45.60	−1.0
			eSg	28	52.60	
BNT	0.53	139	iPg	28	46.80	−0.1
			iSg	28	52.80	
CTT	0.83	62	iPg	28	51.80	−0.4
			eSg	29	02.30	
DMK	1.08	11	iPg	28	56.80	0.2
			iSg	29	10.80	
ISK	1.24	75	ePn	28	58.70	−0.6
EZN	1.28	224	iPn	28	59.50	−0.4
DST	1.46	142	iPn	29	04.30	1.7
YLV	1.46	97	iPn	29	03.30	0.6

S.D. = 1.0 on 8 of 8 obs.

OCT 27, 1989 01h 18m 31.69± 0.75s
49.105 N ± 6.5km 6.886 E ±11.4km
DEPTH = 10.0km (geophysicist)
GERMANY (543)
MD 2.3 (STR).

WLF	0.74	320	iPc	18	44.80	−1.3
CDF	0.74	159	Pg	18	45.48	−0.8
			Sg	18	55.55	
WLS	0.76	156	Pg	18	45.88	−0.7
ECH	0.91	168	Pg	18	49.15	0.1
VITF	1.07	214	Pg	18	51.19	−0.6
MOF	1.27	172	Pg	18	55.01	−0.3
			Sg	19	13.76	
BSF	1.28	183	Pg	18	55.75	0.3
FEL	1.44	148	Pg	18	58.57	0.6
MEM	1.61	340	P	19	00.40	0.2
LOMF	1.76	181	Pg	19	03.71	1.3
DOU	1.79	305	P	19	04.00	1.2
			iS	19	23.80	

S.D. = 0.9 on 11 of 11 obs.

OCT 27, 1989 01h 28m 00.10± 0.77s
37.522 N ± 6.9km 140.060 E ±10.1km
DEPTH = 10.0km (geophysicist)
HONSHU, JAPAN (227)

YAMJ	0.65	358	P	28	12.80	−0.3
			S	28	21.00	
NIIJ	0.89	252	P	28	17.00	−0.1
			S	28	28.80	
KAKJ	1.32	176	P	28	23.80	−0.6
			S	28	41.10	
CHJJ	1.70	210	P	28	31.00	1.0
MAT	1.78	237	iPc	28	30.80	−0.3
			eS	28	56.00	
OFUJ	2.01	39	P	28	34.60	0.2
MTMJ	2.03	243	P	28	39.20	4.3X
			S	29	04.00	

S.D. = 0.7 on 6 of 7 obs.

OCT 27, 1989 01h 45m 55.08± 0.13s
39.823 N ± 2.6km 143.692 E ± 2.5km
DEPTH = 9.1km (geophysicist)
5.8mb (55 obs.) 6.2Msz (16 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Ms 5.8 (PAS). Felt (II JMA) at Aomori and Morioka; (I JMA) at Hachinohe and Niigata. Also felt (I JMA) at Kushiro, Hokkaido.
Depth from broadband displacement seismograms.
FAULT PLANE SOLUTION: P-Waves
NP1:Strike= 15 Dip=85 Slip= 90
NP2: 195 5 90
Principal Axes:
T Plg=50 Azm=285
P 40 105
Comment: The focal mechanism is poorly controlled and corresponds to reverse faulting. The preferred fault plane is NP2.
RADIATED ENERGY
No. of sta: 9 Focal mech. F
Energy 2.1±0.7*10**13 Nm
MOMENT TENSOR SOLUTION
Dep 5 No. of sta: 21
Moment Tensor; Scale 10**18 Nm
Mrr= 1.79 Mtt=−0.94
Mff=−0.84 Mrt= 1.04
Mrf= 3.68 Mtf=−1.36
Principal axes:
T Val= 4.38 Plg=55 Azm=271
N −0.07 15 23
P −4.31 31 122
Best Double Couple:Mo=4.3*10**18
NP1:Strike=251 Dip=19 Slip= 139
NP2: 20 78 75
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 18S, 46C
Centroid Locotion:
Origin Time 01:46: 2.2 0.3
Lat 39.61N 0.03 Lon 143.59E 0.04
Dep 15.0 FIX Half-duration 4.0
Moment Tensor; Scale 10**18 Nm
Mrr= 1.14 0.03 Mtt= 0.02 0.03
Mff=−1.16 0.04 Mrt= 0.86 0.08
Mrf= 1.61 0.10 Mtf=−0.27 0.03
Principal Axes:
T Val= 2.17 Plg=60 Azm=307
N 0.01 8 203
P −2.18 28 109
Best Double Couple:Mo=2.2*10**18
NP1:Strike=179 Dip=18 Slip= 65
NP2: 25 74 98

MIY	1.34	263	iP+	46	21.40	1.5
			iS	46	38.20	
OFUJ	1.73	245	iP+	46	26.40	0.9
			eS	46	50.10	
HAC	1.80	294	iP+	46	27.30	0.8
			eS	46	53.00	
MRK	1.95	267	iP+	46	30.50	1.9
			S	46	54.40	
AOM	2.44	295	iP+	46	36.50	0.9
			S	47	10.30	
AOMJ	2.65	287	P	46	39.90	1.3
KUS	3.20	9	eP	46	45.00	−1.4
			iS	47	21.50	
YAMJ	3.29	241	iP+	46	49.30	1.5
			eS	47	36.50	
SAP	3.69	332	eP	46	51.00	−2.4
NII	4.09	244	eP	47	02.00	2.9X
			S	47	54.80	
NIIJ	4.49	236	P	47	05.90	1.1
KAKJ	4.56	219	P	47	04.60	−1.1

27d 01h

				eS	47	56.70		HKC		30.54	244	P	52	12.00	1.1	NST		44.86	250	eP	54	13.10	1.6
CHJJ		5.29	226	P	47	15.60	-0.6					S	57	12.00		PMR		45.33	38	P	54	12.70	-2.0
MAJO		5.42	235	ePc	47	18.66	0.6	GZH		30.60	246	iPc	52	11.00	-0.5		Z	18s	11.43um				5.9Msz
MAT		5.42	235	iPc	47	19.40	1.4			7.0s		3.70nm			3.4mb X	COL		45.79	34	ePd	54	25.59	7.2X
				eS	48	21.00			Z	12s		85.60um			6.6MszX					eS	01	03.37	
MTMJ		5.65	237	P	47	22.70	1.3		N	14s		69.00um								eSS	04	09.60	
IIDJ		6.31	228	P	47	30.60	0.0		E	12s		46.20um				FBA		45.79	34	eP	54	18.30	-0.1
YSS		7.23	355	eP	47	38.00	-5.3X					iS	57	08.00		TLG		48.57	297	iPd	54	42.00	1.4
				eS	48	40.00		BAG		30.80	227	ePc+	52	12.00	-1.5					eS	01	33.00	
TSRJ		7.46	237	P	47	47.30	0.6					eS	57	13.00		PMG		49.08	175	eP	54	41.00	-3.6X
WKYJ		8.55	232	eP	48	01.70	-0.3	LZH		31.46	276	ePc	52	18.64	-0.6	MKS		50.07	212	iPd	54	53.00	0.8
YONJ		9.35	244	P	48	13.40	0.4		N	13s		44.40um				SNG		50.40	242	eP	54	55.70	0.9
TKSJ		9.67	236	eP	48	16.50	-0.9		E	13s		55.90um						1.8s	454.55nm				6.1mb
SHK		10.25	242	ePc	48	24.60	-0.8					epP	52	21.62	10kmX					eS	00	29.80	
MDJ		11.50	299	iPc	48	42.20	-0.2					e	52	22.00						e	15	07.20	
	E	12s	88.40um									sS	52	26.00		FRU		50.62	297	iPc	54	56.50	0.2
				esP	48	52.00						ePP	53	23.70						iS	02	10.00	
SHNJ		11.56	244	eP	48	42.20	-1.0					PPP	53	29.00		KSH		50.96	293	Pc	54	59.00	0.0
KUMJ		12.68	239	eP	48	56.90	-1.4					PcP	55	27.00			N	12s	24.20um				
KAGJ		13.52	234	eP	49	06.50	-2.9X					PcS	59	16.00						PP	56	58.00	
CN2		14.17	292	Pc	49	16.00	-2.0	TIK		32.76	351	iPc	52	29.00	-0.9					eS	02	18.00	
	E	12s	60.10um									eS	57	44.00		INK		51.09	28	iPc	54	59.10	-0.3
				pP	49	22.00		GYA		33.50	258	iPc	52	36.40	-0.7			0.9s	50.00nm				5.4mb
				sP	49	26.00				1.4s		0.20nm			2.9mb X	IPM		52.04	239	ePc	55	07.70	0.4
SNY		15.36	284	iPc	49	33.00	-0.5		Z	16s		21.80um			6.0MszX			1.3s	140.20nm				5.7mb
	Z	20s	48.30um			5.0MszX			N	15s		76.10um				KGM		52.51	235	ePd	55	12.10	1.3
	N	12s	33.20um						E	15s		49.20um				HON		52.56	92	P	55	16.00	4.8X
	E	12s	40.40um									S	57	56.40			Z	20s	5.32um				5.6Msz
				sP	49	45.60						SS	59	57.00		MBC		53.34	17	eP	55	16.00	-0.3
PET		16.70	33	iPc	49	55.00	4.4X					ScS	03	01.40		MTN		53.69	195	iPc	55	18.30	-1.0
				eS	53	06.00		CD2		33.53	267	iPc	52	36.00	-1.1	NDI		54.92	280	iPc	55	27.80	-0.7
HIA		19.44	307	ePc	50	20.61	-4.0X			7.0s		4.30nm			3.5mb X	DSH		56.42	295	iPc	55	39.00	-0.3
				eS	54	04.86			Z	16s		76.70um			6.5MszX					eS	03	30.00	
SSE		20.26	252	Pc	50	30.00	-3.4X		N	11s		67.40um				KNA		57.01	197	eP	55	42.00	-1.4
		1.6s	0.19nm			2.2mb X						PP	53	47.80		KBS		58.23	350	iP	55	51.30	-0.1
	Z	22s	24.10um			5.5Msz						S	57	52.00		CTAO		59.64	177	eP	56	01.07	-0.7
	N	14s	111.00um					GTA		33.55	284	iPc	52	36.70	-0.6					epP	56	03.72	9kmX
	E	14s	65.80um							7.0s		5.30nm			3.6mb X	HYB		60.07	268	iPc	56	04.20	-0.9
				sP	50	45.50			Z	16s		72.30um			6.5MszX			1.2s	142.90nm				6.0mb
				PP	50	56.00			E	15s		57.70um				APA		60.92	336	ePd	56	07.50	-2.6
				S	54	08.00		ILT		34.78	24	iPc	52	49.20	1.7					eS	04	26.70	
				sS	54	27.00						iS	58	13.00		KEV		61.47	339	eP	56	12.00	-1.8
				SS	54	54.00		OIZ		35.73	244	Pc	52	57.00	1.0			0.9s	91.20nm				5.9mb
BJI		21.08	279	ePc	50	38.36	-3.5X		N	15s		39.90um					Z	16s	24.80um				6.5MszX
				epPc	50	40.85	9kmX		E	15s		29.00um								i	56	23.20	38kmX
				eS	54	43.19						sP	53	08.50						eS	04	34.00	
TIA		21.21	269	Pc	50	40.20	-3.1X					PP	54	21.00						eScS	06	04.00	
	N	14s	303.00um									eS	58	28.00						eSS	08	32.00	
				S	54	28.50						sS	58	38.00						LR	31	30.00	
NJ2		21.51	257	iPc	50	43.00	-3.3X					SS	00	47.00		PVC		61.70	153	iPc	56	15.00	-0.8
		3.5s	1.50nm			2.8mb X		DAV		36.43	211	eP	53	02.00	0.1	QUE		61.83	287	iPc	56	16.20	-0.9
	N	12s	31.00um					KMI		37.19	259	ePc	53	08.52	-0.1					eS	04	41.70	
	E	12s	49.50um									epP	53	11.50	10kmX	SOD		63.09	337	iP	56	23.60	-1.0
				iS	54	38.00						ePP	54	34.52						i	56	33.00	30kmX
ANP		23.64	239	iP	51	08.00	0.6					PPP	54	57.00		DAG		63.16	356	iP+	56	25.00	0.1
				iS	55	28.00						eS	58	53.78			Z	21s	13.19um				6.1Msz
TIY		24.40	275	Pc	51	12.80	-2.0	WMO		41.25	294	ePc	53	42.75	0.8		N	21s	6.88um				
	E	13s	43.40um						Z	15s		33.30um			6.3MszX		E	21s	7.74um				
				pP	51	17.50	17kmX		N	13s		18.10um				GBA		63.22	266	P	56	26.00	-0.1
HHC		24.44	283	iPc	51	13.50	-1.7		E	13s		31.80um				BOM		63.63	273	iPc	56	27.50	-1.3
		9.0s	6.20nm			3.2mb X						epPd	53	45.73	10kmX					iS	05	03.00	
	Z	18s	81.50um			6.3Msz						esPd	53	46.89		TRO		63.66	341	iP	56	27.10	-1.2
	N	11s	2.14um									PP	55	32.00		ASPA		63.82	190	eP	56	28.00	-1.8
	E	13s	47.40um									eS	00	02.39				0.9s	56.00nm				5.8mb
				PP	51	52.00						SS	01	27.00			Z	22s	6.06um				5.7MszX
WHN		25.61	258	P	51	23.60	-2.7X	KKM		41.73	224	ePc	53	47.00	0.8					eS	04	59.50	
	E	15s	94.20um							1.7s		371.70nm			5.8mb					LR	22	17.20	
				S	55	47.00		TTA		42.12	36	P	53	49.70	0.9	MAIO		63.97	297	iPc	56	30.70	-0.3
BTO		25.64	283	iPc	51	25.00	-1.6			1.0s		37.50nm			5.1mb					e	05	12.00	
		8.0s	7.10nm			3.4mb X		SVW		42.21	39	eP	53	51.70	2.1	MBL		64.63	205	eP	56	35.00	-0.1
	N	13s	46.50um					TSM		42.33	220	ePc	53	53.00	2.0	RMW		64.69	48	P	56	39.00	3.5X
	E	13s	43.90um					LOE		42.57	251	eP	53	52.50	-0.5	PNT		64.94	46	eP	56	38.00	1.0
OZH		25.76	242	iPc	51	27.00	-0.6	BRW		43.15	24	eP	53	57.50	0.5			0.9s	33.00nm				5.5mb
		8.0s	10.10nm			3.6mb X		IMA		43.38	32	eP	54	00.00	0.8	LON		65.06	49	P	56	37.20	-0.7
	Z	14s	40.50um			6.1MszX				0.8s		10.90nm			4.7mb X	DZM		65.13	157	iPc	56	39.20	0.7
	N	14s	50.70um									i	54	08.20	27kmX	KHI		65.70	295	eP	56	40.80	-1.5
	E	14s	23.90um					CHG		43.73	255	iPc	54	03.00	0.6	EDM		66.06	40	eP	56	42.50	-1.7
				S	55	58.00				1.2s		113.28nm			5.5mb			1.0s	50.00nm				5.7mb
GUMO		26.15	177	eP	51	30.50	-0.9					eS	00	40.00		QLP		66.06	179	iPd	56	42.80	-1.4
GUA		26.20	177	eP	51	30.00	-1.9	LSA		43.78	273	Pc	54	04.80	1.5	RMO		66.14	175	iPc	56	44.50	-0.2
	Z	18s	25.84um			5.8Msz			Z	16s		23.20um			6.2MszX	SUF		66.30	333	eP	56	44.00	-1.4
XAN		28.27	269	Pc	51	49.00	-1.6		N	15s		11.10um						0.8s	42.10nm				5.7mb
	N	13s	31.60um						E	15s		9.50um				PUL		66.70	330	ePd	56	48.00	0.0
	E	13s	56.00um									S	00	35.00						eS	05	35.00	
				S	56	33.00		KDC		43.89	44	eP	54	02.90	-0.3	OBN		66.93	323	iPc+	56	49.00	-0.6
IRK		29.66	308	iPc	52	02.00	-0.9	BDT		44.67	253	eP	54	10.00	0.0			1.9s	560.00nm				6.4mb
				eS	57	00.00				1.0s		51.90nm			5.4mb		Z	16s	71.40um				7.0MszX

| | | |

27d 01h

EZN	82.28	316	iP	58	18.00	-0.1	LACI	84.29	321	eP	58	28.50	0.1	RRL	87.17	331	P	58	43.03	0.1
PPCY	82.38	309	eP	58	18.50	-0.2	NEO	84.29	318	eP	58	28.00	-0.5	SGO	87.20	323	P	58	42.50	-0.3
BHG	82.49	329	iPc	58	20.30	1.2	MBH	84.31	304	iP	58	27.00	-1.7	RFI	87.21	325	P	58	43.60	0.8
	2.3s	698.00nm			6.4mb		CTI	84.35	329	Pc	58	28.00	-0.8	FIN	87.23	330	P	58	41.80	-1.2
MEM	82.60	334	P	58	18.20	-1.4	ZLA	84.41	331	ePc	58	29.50	0.5	ROB	87.29	330	P	58	42.11	-1.2
			e	58	30.00	39kmX	OSS	84.41	330	ePc	58	29.80	0.6	DOI	87.35	330	P	58	43.00	-0.6
PTJ	82.68	326	eP	58	19.60	-0.6	TIR	84.43	321	eP	58	28.50	-0.6	RMP	87.36	326	P	58	44.20	0.6
			e	07	51.60		MOF	84.56	332	P	58	29.84	0.1	RDP	87.40	326	P	58	41.80	-2.1
ZAG	82.73	326	iPc	58	20.50	0.1	HVAR	84.61	324	iP	58	27.60	-2.4	PZZ	87.41	331	P	58	42.62	-1.3
FUR	82.76	330	iPc	58	21.50	1.0	VITF	84.65	333	P	58	30.56	0.5	MGR	87.42	323	P	58	43.50	-0.4
SRS	82.76	319	ePc	58	20.90	0.3	SRFA	84.68	303	ePc	58	36.30	5.8X	TDS	87.44	322	P	58	45.00	1.0
DSI	82.77	305	iPc	58	20.00	-0.8	BSF	84.70	332	P	58	30.31	-0.2	ENR	87.52	330	P	58	41.90	-2.6
IZM	82.81	315	iP	58	21.60	0.6	LLS	84.70	331	ePc	58	31.10	0.5	MAF	87.55	334	eP	58	44.90	0.4
KBA	82.83	328	ePc	58	21.50	0.4	HAU	84.71	333	eP	58	30.40	0.0	CCM	87.58	40	eP	58	46.40	1.7
	2.1s	652.00nm			6.4mb			1.0s	60.00nm			5.8mb					epP	58	48.71	7kmX
			i	58	33.30	39kmX	ECP	84.74	342	eP	58	40.90	10.5X				eSKS	09	10.97	
			ePP	01	32.50			1.4s	461.00nm								eS	09	24.76	
UCC	82.98	335	P	58	21.00	-0.5	BBS	84.75	332	P	58	30.93	0.3	IMI	87.61	330	P	58	43.13	-1.7
KNT	83.08	319	eP	58	22.40	0.1	VDL	84.84	330	ePc	58	31.80	0.5	TCF	87.61	334	eP	58	45.10	0.3
VAY	83.12	319	iPc	58	22.80	0.3	LSK	84.99	320	iPc	58	32.90	0.9	SBF	87.82	330	eP	58	45.50	-0.4
			i	58	31.70	28kmX	ATH	85.03	317	eP	58	28.40	-3.7X		1.4s	99.30nm			5.9mb	
			iPP	01	35.40					ePP	02	00.00		LSF	87.87	335	eP	58	46.20	0.2
OUR	83.14	318	ePc	58	21.90	-0.7				eS	08	53.60		MFF	88 09	336	eP	58	47.30	0.3
PLE	83.14	323	eP	58	23.40	0.7				eSS	14	40.00			1.2s	124.90nm			6.1mb	
YER	83.15	313	iP	58	24.00	1.2	LOMF	85.09	332	P	58	32.97	0.5	FRF	88.38	330	eP	58	48.00	-0.5
LJU	83.17	327	ePc	58	22.50	-0.2	SAL	85.16	329	Pc	58	32.60	0.0		1.2s	41.60nm			5.6mb	
SKO	83.19	321	iPc	58	23.60	0.7	MDI	85.34	330	P	58	33.70	0.2	LRG	88.58	330	eP	58	49.20	-0.2
Z	16s	********um			9.6MszX		TMA	85.38	330	ePc	58	34.00	0.0		1.2s	65.40nm			5.8mb	
N	15s	********um					SRN	85.49	320	iP	58	34.80	0.4	LMR	88.63	330	eP	58	49.60	0.0
E	16s	********um					AOI	85.57	326	eP	58	34.53	-0.3		1.4s	87.10nm			5.9mb	
			i	58	28.10	14kmX	VAI	85.62	330	P	58	34.60	-0.4	RJF	88.71	334	eP	58	50.50	0.5
			i(PcP)	58	32.00		WAJH	85.64	301	ePc	58	36.30	0.9		1.0s	80.00nm			6.0mb	
			i	59	13.50		MMK	85.77	331	ePc	58	36.80	0.7	SOI	88.82	321	P	58	49.70	-1.0
			iPP	01	31.00		VAL	85.83	344	P	58	40.00	4.1X	CAF	88.85	334	eP	58	51.40	0.6
			iPP	03	22.00					S	09	03.00		UYO	88.88	45	e(P)	58	56.30	5.3X
			iS	08	44.00		SSO	85.85	326	e(P)	58	38.32	2.1	CLE	89.23	32	iP	58	58.90	6.3X
			i	12	36.00		ARV	85.89	326	Pc	58	36.70	0.3	LFF	89.29	335	eP	58	53.40	0.6
			iSS	13	40.00		DIX	85.96	331	ePc	58	37.30	0.3		1.0s	89.60nm			6.0mb	
			iSSS	17	25.00		SFI	86.00	327	P	58	38.60	1.7	LPO	89.36	334	eP	58	53.50	0.3
			LR	39	55.00		CIO	86.05	326	eP	58	37.00	-0.3		1.2s	85.60nm			5.9mb	
SNF	83.25	335	Pc	58	23.30	0.4	BRT	86.07	322	P	58	35.50	-1.8	PZI	90.20	321	P	58	58.20	0.9
			e	58	33.50	32kmX	PGD	86.10	327	P	58	39.50	1.9	CGL	90.85	326	P	59	00.60	0.3
DMU	83.28	343	eP	58	34.00	10.9X	KOT	86.12	306	eP	58	42.50	4.8X	ARO	90.88	286	iP+	59	02.00	1.3
VBY	83.29	326	iPc	58	23.60	0.3	ORX	86.12	331	P	58	36.57	-1.1	EPF	91.11	334	eP	59	01.00	-0.4
WLF	83.36	334	Pc	58	24.20	0.7	ORO	86.13	331	P	58	37.10	-0.6		1.0s	20.00nm			5.4mb	
PLG	83.39	318	eP	58	23.90	0.0	LCI	86.14	322	P	58	38.00	0.4	HRV	92.04	25	ePc	59	08.02	2.5
GWF	83.43	333	P	58	24.23	0.3	EMS	86.14	331	ePc	58	38.40	0.6				eS	10	05.89	
THE	83.44	319	ePc	58	23.40	-0.7	ALP	86.20	326	eP	58	38.10	0.0	EBR	93.02	333	eP	59	12.00	1.9
VOY	83.45	327	eP	58	22.10	-2.1	LOR	86.20	334	eP	58	37.60	-0.3				e	03	06.00	
			e	58	23.30	4kmX		1.0s	125.00nm			6.0mb					e	09	46.00	
			e	58	32.30		CRE	86.20	327	P	58	38.50	0.4				e	10	20.00	
FVI	83.45	328	Pc	58	23.40	-0.6	OCO	86.22	46	ePc	58	37.00	-1.2				e	11	36.00	
CEY	83.46	327	eP	58	24.10	-0.1	FLN	86.27	337	eP	58	38.00	-0.2	TOL	95.38	336	eP	59	31.50	10.5X
GRG	83.48	319	eP	58	24.10	-0.3		1.2s	142.80nm			6.0mb					iPP	03	12.00	
DOU	83.51	335	P	58	24.30	0.0	BOB	86.28	329	P	58	38.30	-0.1				iPP	05	11.00	
			i	58	34.60	32kmX	LDF	86.31	337	eP	58	38.70	0.3				eSKS	09	29.00	
			S	08	44.00			1.2s	130.90nm			6.0mb					iS	10	41.00	
PAIG	83.60	318	eP	58	24.90	0.0	ASS	86.36	326	P	58	39.50	0.7				ePS	12	02.00	
KKS	83.61	321	eP	58	28.00	3.1X	FIR	86.37	328	iPc	58	39.00	0.3				ePPS	13	12.00	
STR	83.71	332	P	58	26.11	0.8				iS	09	13.00					iSS	17	08.00	
YRH	83.72	341	eP	58	35.80	10.5X	BDI	86.40	328	P	58	39.70	0.7				eSSS	20	38.00	
	1.3s	345.00nm					LBF	86.41	334	eP	58	38.80	-0.1	AAE	95.54	286	eP	59	13.50	-8.9X
NKY	83.72	323	eP	58	25.40	-0.3	HLW	86.47	306	eP+	58	41.00	1.5	BUL	121.67	269	iPKPd	04	51.80	0.5
DLE	83.76	343	eP	58	26.10	0.6				ePPP	02	02.00			0.8s	4.10nm				
	1.1s	87.00nm			5.9mb					eS	09	04.00		SLR	125.00	264	iPKPd	04	57.50	0.0
TRI	83.76	327	Pc	58	25.10	-0.5	SSF	86.50	334	eP	58	39.40	0.1		0.9s	25.21nm				
RIY	83.79	327	eP	58	25.20	-0.6	LSD	86.58	331	P	58	40.67	0.6		Z 18s	8.93um			6.5Msz	
BRY	83.87	323	eP	58	26.00	-0.4	AQU	86.62	325	Pc	58	40.40	0.3				i	05	45.00	
PUK	83.89	321	eP	58	27.20	0.9	SIO	86.69	45	e(P)	58	45.00	4.5X	KIC	125.59	320	PKP	04	59.00	0.1
TTG	83.89	322	eP	58	26.70	0.3	LPG	86.69	331	eP	58	40.80	0.1	KSR	126.13	265	ePKP	04	58.00	-1.8
			eS	08	48.00		DUI	86.71	324	Pc	58	41.00	0.4	PRY	126.24	263	ePKP	04	46.70	-13.3X
WLS	84.00	332	P	58	27.40	0.5	GRR	86.72	337	eP	58	40.40	0.0	BFS	126.75	264	ePKP	05	04.00	3.1X
CDF	84.03	332	P	58	27.43	0.3	PII	86.72	328	P	58	37.80	-2.6	ZOBO	143.72	59	PKP	05	30.00	-3.2X
LIT	84.08	319	ePc	58	25.70	-1.7	SMF	86.75	334	eP	58	40.60	0.0		Z 24s	2.57um			5.9MszX	
SDA	84.10	322	eP	58	28.20	0.8	AVF	86.79	334	eP	58	41.00	0.3				LR	54	36.00	
SLE	84.14	331	ePc	58	27.90	0.3	RSP	86.80	331	P	58	39.95	-1.0	LPB	143.93	59	PKP	05	35.00	1.6
OHR	84.16	320	iP	58	26.80	-1.0	PCP	86.82	330	P	58	40.36	-0.7		Z 24s	4.65um			6.2MszX	
	1.1s	207.00nm			6.3mb		TUL	86.85	44	eP	58	45.10	3.9X				LR	54	30.00	
			i	58	35.50	27kmX		1.5s	52.90nm			5.5mb		CNCB	144.21	59	PKP	05	32.00	-2.0
AYN	84.20	303	iPc	58	29.10	1.0	Z	18s	10.94um			6.3Msz		SNA	144.74	199	iPKPd	05	30.40	-2.2
FEL	84.22	332	P	58	28.11	0.0				LR	32	00.00			1.8s	554.55nm				
ETA	84.23	342	eP	58	38.20	10.3X	LNO	86.85	44	eP	58	41.80	0.7	CCH	145.83	58	PKP	05	37.40	0.9
	1.4s	539.00nm					MNS	86.91	326	Pc	58	40.70	-0.8	PDCR	152.70	6	ePKP	05	47.20	0.5
ECH	84.24	332	P	58	28.16	0.1	CKI	87.02	330	Pc	58	41.20	-0.7				e	05	57.10	
SAX	84.25	331	ePc	58	29.10	0.6	LPF	87 09	337	eP	58	42.60	0.4				e	06	06.50	
ULC	84.26	322	eP	58	27.70	-0.6	8NI	87.10	331	P	58	43.00	0.5				e	06	13.00	
KZN	84.28	319	eP	58	27.80	-0.7	BGF	87.16	334	eP	58	42.40	-0.2		S.D. = 1.0		on 372 of 412 obs.			

* OCT 27, 1989 01h 47m 46.78± 1.33s
26.233 S ± 6.7km 177.877 W ±21.4km
DEPTH = 174.3 ± 12.9 km
5.1mb (8 obs.)
SOUTH OF FIJI ISLANDS (171)

RAO	3.01	181	iP	48	51.10	15.4X
			iS	49	39.00	
SVA	8.76	336	ePc	49	51.10	0.0
			S	51	26.10	
VUN	8.86	337	iPc	50	04.00	11.6X
OVA	9.05	339	ePc	49	56.70	1.8
KRO	9.23	344	ePd	49	57.30	0.0
MBU	9.74	340	iPc	50	04.00	0.0
NDE	9.95	344	ePd	50	06.30	-0.5
HBZ	11.79	195	eP	50	31.10	0.6
AFI	13.53	26	iPc	50	46.00	-7.0X
			S	53	00.00	
DZM	14.90	283	iPc	51	15.90	5.8X
			iS	54	04.90	
PGZ	15.15	197	eP	51	10.90	-2.1
MNG	15.37	199	P	51	13.70	-2.1
	0.2s	40.00nm			5.4mb	
			eS	54	02.00	
KIW	15.77	201	eP	51	20.00	-0.7
WEL	16.20	200	P	51	27.00	1.1
			S	54	22.00	
BRS	26.19	261	iPc	53	10.50	3.4X
			e	53	55.00	
			i	54	02.80	
			i	54	46.50	
RMQ	29.85	262	eP	53	42.00	2.2
BWA	30.11	246	eP	53	42.90	0.8
CTA	33.47	273	iPd	54	11.90	0.6
	0.8s	44.78nm			5.2mb	
			i	55	06.00	
			iS	04	05.00	
QIS	39.30	269	eP	55	00.00	-0.4
ASPA	43.60	263	iPd	55	35.80	0.3
	0.6s	36.00nm			5.1mb	
FORR	47.30	251	eP	56	02.00	-2.6X
	0.4s	47.00nm			5.4mb	
WARB	49.44	257	eP	56	20.00	-1.1
			e	56	53.70	
MRWA	57.91	251	eP	57	22.00	-0.9
			eS	01	31.00	
NANU	60.16	258	eP	57	39.00	0.6
	0.3s	10.00nm			5.1mb	
			eS	59	04.00	
SPA	63.92	180	ePc	58	05.40	2.4
	1.1s	23.81nm			5.0mb	
			e	59	03.30	
MAW	76.24	200	eP	59	19.00	1.9
SNA	83.68	178	iPc	59	57.60	1.2
	0.9s	33.61nm			5.1mb	
MDJ	85.27	325	eP	00	03.00	-1.7
CN2	86.90	323	Pd	00	10.40	-2.3
			sP	01	10.00	
TIY	91.18	312	eP	00	31.40	-1.6
FBA	93.79	12	eP	00	41.00	-3.4X
	0.9s	3.75nm			4.6mb	
SOD	136.19	347	ePKP	06	34.00	-14.1X
SUF	140.19	343	ePKP	06	45.00	-10.6X
	0.3s	0.90nm				
NUR	142.42	342	ePKP	06	45.00	-14.6X
NB2	144.66	352	PKP	06	58.80	-4.7X
	0.8s	35.70nm				
HFS	145.18	350	ePKP	06	59.90	-4.5X
	0.7s	50.80nm				
EKA	150.67	6	PKPd	07	16.40	3.2X
	0.8s	4.60nm				
PRNI	150.82	286	ePKP	07	30.00	15.8X
MBH	150.92	285	iPKPc	07	17.00	2.7X
BBTK	151.11	306	ePKP	07	16.00	1.5X
KRA	152.53	335	ePKPc	07	21.10	5.0X
			e	07	27.30	
KSP	153.14	340	ePKP	07	22.20	5.3X
			e	08	25.20	
CLL	153.62	345	iPKPd	07	22.80	5.3X
	1.3s	19.00nm				
			i	07	35.60	
BRG	153.78	343	iPKP	07	23.00	5.2X
	1.0s	12.00nm				
			i	07	29.70	
			i	07	36.00	
PRU	154.42	341	PKP	07	39.80	21.1X

MOX 154.56 346 ePKP 07 40.00 21.2X
S.D. = 1.5 on 24 of 46 obs.

% OCT 27, 1989 01h 53m 02.45± 1.12s
39.635 N ± 9.4km 28.525 E ±11.2km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.09	110	iPg	53	03.30	-1.7
			eSg	53	04.40	
BNT	0.86	327	iPg	53	19.80	0.8
			iSg	53	32.80	
EDC	0.87	325	iPg	53	17.60	-1.6
			eSg	53	29.60	
YLV	1.14	35	iPn	53	23.90	0.1
HRT	1.47	36	ePn	53	29.20	0.1
ISK	1.49	16	ePn	53	30.00	0.8
CTT	1.51	357	ePn	53	29.70	0.1
KHL	1.52	149	ePn	53	31.00	1.2
S.D. = 1.3 on 8 of 8 obs.						

OCT 27, 1989 02h 06m 08.09± 0.18s
39.752 N ± 3.7km 143.602 E ± 3.2km
DEPTH = 10.0km (geophysicist)
5.3mb (41 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Felt (I JMA) at Hachinohe and Morioka.

OFUJ	1.64	246	iP+	06	38.50	1.4
HAC	1.77	297	eP	06	39.00	0.1
MRK	1.88	269	P	06	42.80	2.3
			S	07	07.40	
AOMJ	2.60	289	P	06	52.50	1.6
YAMJ	3.20	242	iP+	07	00.50	1.2
SAP	3.72	333	eP	07	11.00	4.3X
NIIJ	4.39	237	P	07	17.30	0.9
KAKJ	4.46	218	P	07	16.40	-0.8
			S	08	05.80	
CHJJ	5.19	226	iP+	07	27.40	-0.2
MAT	5.32	235	iPc	07	30.30	0.7
	1.5s	266.67nm			5.7mb	
			eS	08	34.00	
MTMJ	5.55	237	P	07	34.10	1.2
IIDJ	6.21	228	P	07	41.40	-0.7
			eS	08	55.80	
TSRJ	7.36	238	P	08	00.20	2.0
WKYJ	8.46	232	eP	08	14.60	1.0
YONJ	9.26	244	P	08	25.90	1.3
			S	09	20.30	
TKSJ	9.57	236	eP	08	28.40	-0.5
SHNJ	11.46	245	eP	08	54.00	-0.8
MDJ	11.47	300	iPd	08	56.00	1.1
KUMJ	12.58	239	eP	09	09.60	-0.3
KAGJ	13.42	234	eP	09	18.80	-2.2
CN2	14.14	293	eP	09	29.00	-1.4
DL2	17.02	274	eP	10	07.40	-0.3
SSE	20.17	252	eP	10	42.50	-2.8X
			sS	14	41.00	
TIA	21.14	269	Pc	10	51.80	-3.6X
NJ2	21.42	257	Pd	10	56.00	-2.3
TIY	24.34	275	Pc	11	26.40	-0.7
HHC	24.39	283	eP	11	26.00	-1.6
WHN	25.53	258	P	11	37.50	-0.9
			pP	11	47.30	36kmX
BTO	25.59	283	eP	11	38.20	-0.8
QZH	25.66	242	eP	11	40.50	0.9
BAG	30.70	227	eP	12	24.50	-1.0
LZH	31.40	276	P	12	31.00	-0.5
	1.6s	0.21nm			2.8mb X	
			pP	12	35.50	16kmX
			sP	12	38.50	
GYA	33.42	258	iPc	12	48.00	-1.2
			S	18	10.20	
CD2	33.46	267	eP	12	48.10	-1.3
GTA	33.50	284	iPc	12	49.40	-0.4
	1.0s	0.10nm			2.7mb X	
KMI	37.11	259	Pc	13	20.50	-0.3
WMQ	41.21	295	Pc	13	55.00	0.5
KKM	41.64	224	ePc	14	01.00	2.8
TSM	42.24	220	ePc	14	04.90	1.9
IMA	43.48	32	eP	14	13.70	0.9
	1.0s	6.60nm			4.4mb	
			e	14	22.80	30kmX
CHG	43.65	255	ePc	14	15.00	0.4
	1.0s	25.00nm			5.0mb	
BDT	44.58	253	eP	14	22.00	-0.1

PMS	45.24	39	eP	14	28.70	1.7
FBA	45.89	34	P	14	32.00	0.0
	0.7s	20.35nm			5.2mb	
NNT	47.11	247	eP	14	43.50	1.3
KSH	50.92	293	eP	15	12.20	0.6
IPM	51.94	239	ePd	15	20.80	1.4
MBC	53.43	17	eP	15	30.00	0.2
	1.0s	15.00nm			4.9mb	
NDI	54.87	280	eP	15	39.50	-1.5
WB5	59.94	190	eP	16	14.80	-1.9
HYB	60.00	268	ePc	16	16.00	-1.4
KEV	61.51	339	eP	16	22.00	-5.0X
			e	16	35.00	46kmX
QUE	61.79	287	iPd	16	29.50	-0.1
			eS	25	14.00	
POO	62.98	272	iPc	16	36.50	-1.0
SOD	63.13	337	iP	16	37.10	-0.6
			i	16	46.00	29kmX
GBA	63.14	265	P	16	38.00	-0.5
ASPA	63.73	190	iPd	16	41.60	-0.6
MAIO	63.94	297	iPc	16	43.00	-0.7
PNT	65.04	46	eP	16	51.00	0.5
DZM	65.10	157	iPd	16	52.30	1.2
RMQ	66.07	175	eP	16	56.00	-1.2
EDM	66.16	40	eP	16	56.50	-1.1
SUF	66.33	333	eP	16	57.00	-1.5
	0.7s	15.00nm			5.3mb	
NEW	67.00	46	P	17	00.50	-2.6X
BRS	67.34	171	eP	17	05.00	-0.3
WARB	67.47	196	eP	17	06.30	0.1
WDC	68.09	55	eP	17	10.70	0.7
NUR	68.36	332	iP	17	10.20	-1.1
	0.7s	26.70nm			5.5mb	
			i	17	19.40	30kmX
MIN	68.81	55	eP	17	14.60	-0.1
SES	68.98	41	eP	17	16.00	0.6
ORV	69.32	55	eP	17	16.20	-1.5
BKS	69.81	57	eP	17	21.30	0.6
FFC	70.49	34	eP	17	21.00	-3.5X
	1.1s	18.00nm			5.1mb	
CMB	70.91	56	P	17	27.00	-0.5
	1.3s	27.87nm			5.2mb	
PRS	71.27	58	eP	17	31.10	1.5
STK	71.30	182	eP	17	29.00	-0.5
TAB	71.70	304	eP	17	32.00	-0.3
KVN	71.76	54	P	17	32.10	-0.6
FRI	71.96	57	eP	17	32.80	-0.9
HFS	72.31	336	eP	17	34.00	-1.3
	0.7s	9.30nm			5.0mb	
NB2	72.34	338	P	17	34.00	-1.6
	0.9s	20.70nm			5.2mb	
SHI	72.49	294	eP	17	36.00	-1.2
BCH	72.79	58	P	17	37.00	-1.8
TNP	72.89	55	P	17	39.80	0.3
	1.0s	19.75nm			5.2mb	
CWC	73.34	56	eP	17	42.00	0.0
KER	73.41	301	eP	17	43.00	0.6
ISA	73.55	57	eP	17	43.00	-0.2
SLY	73.71	303	ePd	17	43.00	-0.9
			e	17	53.00	32kmX
CLC	74.03	57	eP	17	45.00	-0.9
BW06	74.54	47	P	17	49.40	0.4
SBB	74.57	58	eP	17	49.00	0.0
MWC	74.70	58	eP	17	52.00	2.0
GSC	74.85	57	eP	18	01.00	10.3X
RVR	75.29	58	eP	17	54.00	0.9
BHD	75.86	301	ePd	17	55.00	-1.3
PLM	76.02	58	eP	18	04.00	6.5X
KVT	76.05	312	eP	17	56.00	-1.4
TPC	76.08	57	eP	18	03.00	5.3X
RSSD	76.67	43	P	18	01.20	0.2
KAS	77.15	313	eP	18	04.50	1.0
GLA	77.53	57	eP	18	06.00	0.2
VRI	77.75	320	ePd	18	07.50	0.8
KRA	77.79	327	ePc	18	06.80	0.0
	0.8s	38.00nm			5.5mb	
			e	18	16.50	31kmX
SPC	78.31	326	eP	18	10.40	0.4
MLR	78.41	321	ePd	18	11.00	0.5
PSN	78.56	318	eP	18	13.00	1.8
KSP	78.68	329	eP	18	12.20	0.5
BBTK	78.74	313	eP	18	12.00	-0.4
GLD	78.99	47	P	18	15.20	1.3
	1.0s	64.00nm			5.6mb	
BRG	79.57	330	eP	18	16.30	-0.2
	2.0s	70.00nm			5.3mb	
			e	18	26.00	31kmX

27d 02h

CLL	79.58	331	eP	18 16.00	-0.5
			i	18 24.90	28kmX
			i	18 37.60	
PRU	80.04	329	P	18 19.50	0.4
			e	18 29.00	30kmX
SRO	80.19	326	iP	18 20.80	0.9
PVL	80.35	319	eP	18 21.00	0.2
ZST	80.41	327	iP	18 22.40	1.3
			i	18 30.50	26kmX
WIT	80.54	335	eP	18 22.50	0.9
MOX	80.63	331	eP	18 22.00	-0.2
	1.9s		69.00nm		5.3mb
HOF	80.80	331	iPc	18 23.00	-0.1
KHC	81.11	329	P	18 25.30	0.5
			e	18 35.00	31kmX
EKA	81.13	342	P	18 34.00	9.3X
	1.0s		10.40nm		4.8mb
WTS	81.19	335	eP	18 26.00	0.9
	1.0s		13.00nm		4.9mb
WET	81.37	330	eP	18 27.00	0.9
HRI	81.39	306	eP	18 26.00	-0.6
KDZ	81.44	318	eP	18 27.00	0.4
ALO	81.54	51	eP	18 25.00	-2.5
	1.1s		14.87nm		5.0mb
GRF	81.56	331	iPc	18 27.60	0.5
	2.0s		158.00nm		5.7mb
			e	18 37.10	30kmX
KHL	81.61	313	eP	18 27.00	-0.7
RZN	81.78	318	iPc	18 29.00	0.4
VTS	81.87	320	iP	18 29.00	0.0
MMB	82.35	319	eP	18 32.00	0.6
BHG	82.52	329	eP	18 32.80	0.7
MEM	82.64	334	P	18 33.10	0.5
PTJ	82.70	326	eP	18 31.50	-1.7
DSI	82.76	305	eP	18 32.00	-1.6
VAY	83.13	319	iP	18 35.00	-0.4
YER	83.14	313	eP	18 37.00	1.4
LJU	83.19	327	eP	18 35.00	-0.6
SKO	83.20	321	iPc	18 36.00	0.2
			i	18 45.80	31kmX
VBY	83.31	326	e(P)	18 37.00	0.8
WLF	83.39	334	P	18 37.40	0.9
GWF	83.46	333	P	18 36.73	-0.3
VOY	83.47	327	eP	18 35.70	-1.5
FVI	83.47	328	P	18 36.00	-1.0
CEY	83.48	327	eP	18 36.50	-0.6
TRI	83.78	327	P	18 34.50	-4.1X
RIY	83.81	327	eP	18 37.70	-1.1
WLS	84 03	332	P	18 40.05	0.1
CDF	84.06	332	P	18 39.46	-0.7
SLE	84 16	331	ePd	18 41.40	0.8
OHR	84.17	320	eP	18 39.00	-1.8
	0.9s		54.00nm		5.8mb
FEL	84.25	332	P	18 40.17	-1.0
ECH	84.27	332	P	18 40.60	-0.5
SAX	84.28	331	ePd	18 41.90	0.4
MBH	84 29	304	ePc	18 40.00	-1.4
CTI	84.37	329	P	18 41.40	-0.3
OSS	84.44	330	ePd	18 42.80	0.6
ZLA	84.44	331	ePd	18 42.10	0.1
BSF	84.73	332	P	18 42.94	-0.6
LLS	84.73	331	ePd	18 44.00	0.4
HAU	84.74	333	eP	18 43.30	-0.1
	0.8s		11.80nm		5.2mb
VDL	84.87	330	ePd	18 44.80	0.5
LOMF	85.12	332	P	18 44.77	-0.7
SAL	85.18	329	P	18 46.00	0.4
TMA	85.41	330	ePd	18 47.00	0.0
VAI	85.65	330	Pc	18 47.40	-0.5
MMK	85.80	331	ePd	18 49.70	0.6
ARV	85.91	326	P	18 50.50	1.1
DIX	85.98	331	ePd	18 50.60	0.6
PGD	86.12	327	Pc	18 52.00	1.4
ORO	86.15	331	P	18 51.00	0.3
EMS	86.17	331	ePd	18 51.20	0.4
CRE	86.22	327	P	18 51.50	0.5
LOR	86.23	334	eP	18 50.70	-0.2
	1.0s		38.00nm		5.5mb
MME	86.28	328	P	18 52.10	0.6
BOB	86.30	329	P	18 51.50	0.1
LDF	86.35	337	eP	18 52.10	0.7
	1.0s		28.00nm		5.4mb
ASS	86.38	326	P	18 51.50	-0.2
LBF	86.44	334	eP	18 51.70	-0.3
	0.8s		20.10nm		5.4mb
SSF	86.53	334	eP	18 52.50	0.1
	0.8s		16.10nm		5.3mb
LPG	86.72	331	eP	18 53.90	0.2
	0.8s		12.00nm		5.2mb
DUI	86.73	324	P	18 53.50	0.0
GRR	86.75	337	eP	18 53.80	0.4
	1.0s		28.00nm		5.4mb
SMF	86.78	334	eP	18 53.90	0.3
	1.2s		42.80nm		5.5mb
AVF	86.82	334	eP	18 54.10	0.4
	1.2s		83.30nm		5.8mb
MNS	86.93	326	P	18 54.00	-0.4
LNO	86.95	44	eP	18 55.20	0.8
TUL	86.95	44	eP	18 55.70	1.1
	1.2s		16.80nm		5.1mb
CKI	87.05	330	P	18 53.50	-1.4
LPF	87.13	337	eP	18 55.80	0.6
	1.2s		41.60nm		5.6mb
BGF	87.19	334	eP	18 56.10	0.5
	1.2s		26.70nm		5.4mb
TDS	87.45	322	P	18 57.50	0.6
MAF	87.58	334	eP	18 58.10	0.6
	1.0s		32.00nm		5.6mb
TCF	87.64	334	eP	18 58.20	0.4
	1.2s		20.80nm		5.3mb
LSF	87.90	335	eP	18 59.40	0.4
	0.8s		25.50nm		5.6mb
MFF	88.13	336	eP	19 00.50	0.4
	1.0s		9.60nm		5.1mb
RJF	88.74	334	eP	19 03.90	0.9
	1.2s		17.80nm		5.2mb
SOI	88.84	321	P	19 01.00	-2.6
CAF	88.89	334	eP	19 04.40	0.6
	1.2s		22.00nm		5.3mb
LFF	89.32	335	eP	19 06.30	0.5
	1.2s		26.10nm		5.4mb
LPO	89.40	334	eP	19 07.00	0.8
	1.2s		23.80nm		5.3mb
SLR	124.92	264	ePKP	25 06.00	-4.2X
ZOBO	143.82	59	PKP	25 44.00	-2.2
LPB	144.02	59	PKP	25 47.00	0.6
CNCB	144.30	59	PKP	25 46.80	-0.2
SNA	144.65	199	iPKPc	25 44.20	-1.1
	0.9s		22.69nm		
CCH	145.92	58	PKP	25 50.40	0.9

S.D. = 1.0 on 194 of 206 obs.

OCT 27, 1989 02h 24m 00.52± 0.62s
39.873 N ± 7.6km 143.714 E ± 9.5km
DEPTH = 10.0km (geophysicist)
4.7mb (12 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.77	244	iP+	24 31.90	0.5
AOMJ	2.65	286	eP	24 44.40	0.4
YAMJ	3.33	241	P	24 54.00	0.3
NIIJ	4.53	236	P	25 11.90	1.2
KAKJ	4.61	218	P	25 11.20	-0.6
			eS	26 02.90	
CHJJ	5.34	226	iP+	25 21.40	-0.8
MAT	5.46	234	iPc	25 24.50	0.5
	1.0s		47.00nm		5.1mb
			eS	26 48.00	
MTMJ	5.69	237	P	25 27.80	0.5
IIDJ	6.36	228	P	25 37.00	0.4
			eS	26 49.80	
TSRJ	7.50	237	P	25 54.90	2.3
MDJ	11.49	299	eP	26 46.50	-1.1
NJ2	21.54	257	Pc	28 49.40	-2.4
TIY	24.42	275	eP	29 21.50	1.3
WHN	25.64	258	Pc	29 30.20	-1.6
	1.0s		0.04nm		2.1mb X
GYA	33.53	258	P	30 41.00	-1.6
GTA	33.55	284	P	30 42.00	-0.7
WMQ	41.24	294	P	31 47.50	0.3
FBA	45.74	34	eP	32 33.00	9.7X
	1.0s		5.50nm		4.5mb
INK	51.04	28	eP	33 05.00	0.7
W85	60.08	190	eP	34 08.80	-1.3
GBA	63.24	266	P	34 31.00	-0.5
KVN	71.62	54	eP	35 30.00	5.7X
NB2	72.26	338	P	35 26.60	-0.9
	0.9s		4.70nm		4.6mb
TNP	72.75	55	eP	35 41.00	9.9X
	0.8s		1.18nm		4.0mb
CLL	79.51	331	e(P)	36 16.00	7.4X
PRU	79.98	329	eP	36 12.00	0.8
			e	36 20.50	
KHC	81.05	329	eP	36 17.80	0.9
PRNI	83.83	305	ePd	36 20.50	-11.1X
OHR	84.13	320	eP	36 27.00	-6.0X
MBH	84.29	304	eP	36 32.50	-1.4
LOR	86.16	334	eP	36 43.10	0.1
	1.0s		6.00nm		4.7mb
LBF	86.37	334	eP	36 44.00	0.0
	0.8s		4.50nm		4.7mb
SSF	86.46	334	eP	36 44.50	0.1
	1.2s		5.90nm		4.7mb
LPG	86.66	331	eP	36 46.00	0.2
	1.0s		4.00nm		4.6mb
SMF	86.71	334	eP	36 46.10	0.4
AVF	86.75	334	eP	36 46.10	0.3
	0.8s		5.30nm		4.8mb
MAF	87.51	334	eP	36 50.40	0.8
	1.0s		4.00nm		4.7mb
TCF	87.57	334	eP	36 50.20	0.3
	1.2s		8.90nm		4.9mb
LSF	87.83	335	eP	36 51.50	0.4
	1.0s		8.00nm		5.0mb

S.D. = 1.0 on 33 of 39 obs.

OCT 27, 1989 03h 03m 21.41± 0.38s
39.644 N ± 6.1km 143.741 E ± 5.6km
DEPTH = 10.0km (geophysicist)
4.7mb (19 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.70	251	iP+	03 52.10	0.8
AOMJ	2.74	291	eP	04 07.20	1.0
YAMJ	3.24	244	iP+	04 14.10	0.8
NIIJ	4.43	239	P	04 31.90	1.8
KAKJ	4.44	221	P	04 30.40	0.1
			eS	05 19.50	
CHJJ	5.19	228	P	04 41.20	0.2
			eS	05 37.90	
MAT	5.35	236	iPc	04 44.10	0.8
	0.8s		130.60nm		5.6mb
			(S)	05 54.00	
MTMJ	5.59	239	P	04 47.40	0.7
IIDJ	6.22	230	P	04 55.90	0.4
TSRJ	7.40	239	eP	05 13.40	1.4
MDJ	11.62	300	eP	06 09.50	-0.7
CN2	14.28	293	eP	06 48.20	2.6
SNY	15.44	285	eP	07 00.40	-0.4
DL2	17.14	275	eP	07 23.60	1.2
SSE	20.24	252	P	07 58.50	-0.9
	1.0s		14.00nm		4.3mb
			sP	08 05.00	
TIA	21.25	269	Pd	08 06.50	-3.3X
NJ2	21.50	257	Pd	08 09.50	-2.9
TIY	24.46	276	eP	08 43.00	1.5
HHC	24.52	283	eP	08 40.40	-1.7
WHN	25.61	258	Pc	08 52.00	-0.5
	1.0s		0.08nm		2.4mb X
			sP	08 59.50	
BTO	25.72	283	eP	08 54.00	0.5
XAN	28.30	270	P	09 15.50	-1.7
LZH	31.52	276	Pd	09 45.00	-0.9
	1.5s		0.06nm		2.3mb X
			pP	09 49.50	16kmX
GYA	33.50	258	P	10 01.80	-1.4
CD2	33.56	268	eP	10 01.80	-1.8
GTA	33.63	284	iPc	10 03.80	-0.4
WMQ	41.36	295	Pc	11 09.00	0.0
IMA	43.51	32	eP	11 30.40	4.0X
			e	11 37.10	
CHG	43.72	255	eP	11 28.60	0.1
FBA	45.92	34	eP	11 55.00	9.4X
	1.0s		6.00nm		4.5mb
INK	51.23	28	eP	12 27.00	0.4
MBC	53.50	17	eP	12 43.50	-0.1
	1.0s		4.00nm		4.4mb
WB5	59.86	190	eP	13 28.20	-1.3
WRA	59.92	190	Pd	13 28.80	-1.1
	0.6s		5.00nm		4.8mb
HYB	60.11	268	eP	13 30.00	-1.5
KEV	61.65	339	eP	13 46.00	4.8X
GBA	63.24	266	P	13 52.00	-0.5
SOD	63.27	337	iP	13 50.80	-1.2
MAIO	64.08	297	eP	13 58.00	0.1
EDM	66.17	40	eP	14 11.00	-0.1
SUF	66.47	334	eP	14 11.00	-1.7
	0.5s		1.50nm		4.4mb
WARB	67.40	197	eP	14 19.00	0.0
NUR	68.50	332	eP	14 33.10	7.6X
NUR	68.50	332	eP	14 28.00	2.5

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CMB    70.88  56 eP     14 41.00    0.4
KVN    71.74  54 eP     14 47.00    1.1
HFS    72.45 336 eP     14 47.90   -1.6
       0.8s      4.00nm          4.6mb
NB2    72.48 338 P      14 48.30   -1.4
       1.0s      9.40nm          4.8mb
TNP    72.87  55 eP     14 54.00    1.4
       1.0s      3.75nm          4.4mb
RSSD   76.67  43 eP     15 14.50    0.1
KRA    77.94 327 eP     15 21.30    0.4
                 e      15 31.30
KSP    78.83 329 eP     15 26.00    0.2
                 e      15 42.00
BRG    79.72 330 e(P)   15 30.50   -0.1
                 e      15 55.00
CLL    79.72 331 eP     15 30.00   -0.6
PRU    80.19 329 eP     15 33.50    0.3
                 e      15 42.30
KHC    81.26 329 eP     15 39.00    0.1
ALQ    81.52  51 eP     15 42.00    1.3
       1.0s      4.25nm          4.5mb
GRF    81.70 331 iPc    15 41.50    0.3
       1.2s     12.00nm          4.8mb
SKO    83.36 321 iP     15 50.00    0.1
LOR    86.38 334 eP     16 05.10    0.2
       1.0s     10.00nm          5.0mb
LBF    86.58 334 eP     16 05.80   -0.2
       1.0s      8.00nm          4.9mb
SSF    86.68 334 eP     16 06.60    0.2
       1.0s      4.00nm          4.6mb
LPG    86.87 331 eP     16 08.00    0.3
       0.8s      4.00nm          4.7mb
SMF    86.92 334 eP     16 07.70    0.1
       1.0s      8.00nm          4.9mb
AVF    86.96 334 eP     16 08.00    0.2
       1.0s     13.60nm          5.1mb
BGF    87.34 334 eP     16 10.50    0.9
       1.2s     11.90nm          5.0mb
MAF    87.73 334 eP     16 12.10    0.6
       1.2s     20.80nm          5.3mb
     S.D. = 1.1  on  62 of  67 obs.
-------------------------------------
* OCT  27, 1989  03h 22m 54.49± 0.95s
  37.854 N ± 8.2km   29.656 E ± 8.4km
  DEPTH =  10.0km  (geophysicist)
 TURKEY                          (366)

KHL     0.48 347 iPg    23 03.20   -1.1
                iSg     23 09.80
BCK     0.84 118 ePn    23 10.70    0.0
CIN     1.27 259 ePg    23 18.00   -0.1
                iSg     23 36.00
YER     1.31 237 ePn    23 18.50   -0.2
DST     1.92 336 ePn    23 29.00    1.4
IZM     1.96 287 ePn    23 31.00    2.8X
YLV     2.72 355 ePn    23 42.00    3.0X
     S.D. = 1.2  on   5 of   7 obs.
-------------------------------------
? OCT  27, 1989  03h 23m 21.87± 6.79s
  43.052 N ±32.1km     1.096 W ±39.6km
  DEPTH =  10.0km  (geophysicist)
 PYRENEES                        (378)
     MD 1.0 (STR).

BOH     0.08  51 Pg     23 24.56    0.1
                Sg     23 25.69
ELYF    0.14  33 Pg     23 25.23    0.0
                Sg     23 26.76
ISSF    0.22  96 Pg     23 26.52   -0.2
                Sg     23 29.03
MADF    0.22  65 Pg     23 26.36   -0.3
                Sg     23 28.65
ATE     0.29  83 Pg     23 28.35    0.4
     S.D. = 0.4  on   5 of   5 obs.
-------------------------------------
? OCT  27, 1989  03h 48m 10.26± 1.72s
  41.210 N ±19.8km    23.195 E ± 6.7km
  DEPTH =  10.0km  (geophysicist)
 GREECE-BULGARIA BORDER REGION   (363)

KNT     0.23 258 ePgc   48 15.10   -0.1
                eSg     48 18.40
SRS     0.31 107 ePg    48 16.80    0.0
                eSg     48 21.70
THE     0.60 197 ePgc   48 22.40    0.0
                eSg     48 30.80
GRG     0.65 247 ePg    48 23.40    0.1
                eSg     48 32.10
     S.D. = 0.2  on   4 of   4 obs.
-------------------------------------
* OCT  27, 1989  04h 39m 30.60± 0.44s
  20.893 S ±12.2km  173.968 W ± 9.3km
  DEPTH =  33.0km  (normal)
  5.1mb ( 12 obs.) 5.3Msz (  2 obs.)
 TONGA ISLANDS                   (173)
      CENTROID, MOMENT TENSOR    (HRV)
      Data Used: GDSN
      L.P.B.: 12S, 22C
      Centroid Location:
      Origin Time        04:39:43.3 1.9
      Lat 20.87S 0.11 Lon 174.54W 0.13
      Dep  47.5 5.5 Half-duration  1.6
      Moment Tensor;   Scale 10**16 Nm
        Mrr= 7.06 0.60  Mtt= 1.67 1.10
        Mff=-8.73 0.92  Mrt=-1.60 1.10
        Mrf= 2.96 1.20  Mtf=-4.72 0.72
       Principal Axes:
        T  Val=  8.59  Plg=63  Azm=214
        N        2.24      26       16
        P      -10.83       7      110
      Best Double Couple:Mo=9.7*10**16
       NP1:Strike=227 Dip=44 Slip= 129
       NP2:       358     57       58

SVA     7.66 290 ePd    41 24.70    2.0
VUN     7.70 291 ePd    41 27.80    4.6X
MBU     7.94 298 ePd    41 27.80    1.1
PGZ    21.35 201 eP     44 17.60    0.5
MNG    21.62 202 eP     44 19.80    0.0
       0.3s      9.00nm          4.7mb
MSZ    28.05 208 P      45 25.00    4.1X
BRS    30.97 251 iPc    45 45.80   -1.4
CMS    37.40 245 iPc    46 41.30   -1.1
STK    41.04 245 eP     47 12.00   -0.6
ASPA   48.10 257 iPd    48 07.00   -2.5
       0.5s     12.00nm          5.2mb
WB5    48.27 262 eP     48 08.00   -2.8
WRA    48.28 262 Pd     48 11.90    1.0
       0.8s      9.10nm          4.9mb
MTN    52.94 269 eP     48 43.00   -3.4X
       0.7s     60.00nm          5.7mb
MRWA   63.18 247 eP     49 57.00   -1.0
SPA    69.24 180 e(P)   50 40.00    3.8X
       1.0s     19.50nm          5.1mb
     Z  21s      4.80um          5.7Msz
MAT    72.82 321 eP     50 56.00   -2.0
       0.9s     19.33nm          5.1mb
MWC    76.36  45 eP     51 18.00   -0.7
PLM    76.64  46 eP     51 20.00   -0.2
RVR    76.68  45 eP     51 33.00   12.8X
SBB    76.80  45 eP     51 21.00    0.1
FRI    77.00  42 e(P)   51 24.90    3.0X
CMB    77.24  41 e(P)   51 23.30    0.0
CLC    77.62  44 eP     51 26.00    0.6
TPC    77.63  46 eP     51 26.00    0.5
CWC    77.69  43 eP     51 29.00    3.1X
GLA    77.86  48 P      51 31.00    4.2X
TNP    79.23  42 P      51 33.90   -0.5
       0.8s      6.76nm          4.7mb
KVN    79.28  41 P      51 34.00   -0.6
KDC    80.37  11 eP     51 50.40   10.7X
SSE    80.87 308 P      51 42.00   -1.0
       0.7s      0.09nm          2.9mb X
LON    82.12  33 P      51 50.00    0.7
MAW    82.45 199 eP     51 53.00    2.4
ALQ    84.74  50 eP     52 03.00   -0.1
       1.0s      8.75nm          4.9mb
     Z  18s      0.41um          4.9Msz
PNT    84.92  32 eP     52 03.00   -0.4
       0.8s     11.00nm          5.1mb
WHN    85.74 305 eP     52 07.80   -0.1
                 pP     52 17.80   31kmX
TIA    86.35 311 eP     52 10.10   -0.7
BW06   86.71  42 P      52 12.20   -0.5
GOL    87.84  46 P      52 21.50    3.2X
       0.5s      7.37nm          5.2mb
FBA    87.86  11 eP     52 16.30   -1.2
SNG    88.27 278 eP     52 21.20    0.7
SES    90.00  35 eP     52 27.00   -1.0
GYA    90.14 298 P      52 29.40    0.1
TIY    90.38 310 eP     52 31.70    1.7
     E  11s      0.30um
EDM    90.42  32 eP     52 29.00   -0.8
RSSD   90.85  43 P      52 32.20   -0.1
XAN    91.39 306 P      52 35.00    0.2
KMI    92.90 296 Pc     52 34.50   -7.6X
BDT    93.33 287 eP     52 44.60    0.7
       0.8s     46.70nm          6.0mb
INK    93.70  14 eP     52 44.00   -0.5
CHTO   93.94 289 eP     52 47.50    0.8
       0.8s      9.15nm          5.3mb
MAIO  131.20 300 ePKP   58 42.00    0.7
EKA   144.92   9 PKP    59 04.00   -1.6
       0.7s      5.50nm
KRA   148.88 343 ePKP   59 16.90    4.7X
KAS   148.91 317 ePKP   59 18.00    5.3X
KSP   149.04 347 iPKP   59 17.00    4.5X
       0.6s     23.00nm
CLL   149.15 351 iPKPc  59 16.20    3.6X
       1.4s     32.00nm
                 i      59 28.10
BRG   149.44 350 iPKP   59 17.50    4.4X
       1.4s     30.00nm
                 i      59 29.00
SPC   149.57 341 ePKP   59 13.70    0.1
VRI   149.86 331 ePKP   59 18.70    4.8X
MOX   149.98 353 ePKP   59 19.00    5.1X
PRU   150.19 349 ePKP   59 19.50    5.3X
                 e      59 30.50
MEM   150.35   0 PKP    59 31.40   17.0X
BBTK  150.37 316 ePKP   59 20.00    5.0X
MLR   150.50 331 ePKPd  59 20.00    5.0X
BHL   150.80 303 PKP    59 22.00    6.2X
DOU   150.84   2 PKP    59 21.60    6.4X
HRI   150.92 301 e(PKP) 59 15.00   -1.0
GRF   150.97 353 ePKP   59 22.00    6.6
KHC   151.19 350 ePKP   59 16.00    0.2
                 e      59 22.40
WLF   151.29 360 PKP    59 24.10    8.3X
ZST   151.34 344 e(PKP) 59 23.00    7.0X
SRO   151.37 343 ePKP   59 22.70    6.7X
DSI   151.69 298 ePKP   59 22.00    5.0X
FLN   151.71   9 ePKP   59 22.60    6.1X
       0.6s     11.50nm
LDF   151.92   9 ePKP   59 22.30    5.4X
       0.6s      9.00nm
GRR   152.01  10 ePKP   59 23.00    6.0X
       0.6s     15.10nm
LPF   152.33  10 ePKP   59 24.00    6.6X
       0.6s     10.80nm
CDF   152.53 358 ePKP   59 25.00    7.1X
       0.7s      6.60nm
MBH   152.53 295 iPKPc  59 24.00    5.7X
HAU   152.95 360 ePKP   59 25.80    7.4X
       0.6s      7.20nm
BSF   153.12 359 ePKP   59 25.90    7.2X
LOR   153.63   3 ePKP   59 27.40    8.0X
       0.8s      4.50nm
SSF   153.82   4 ePKP   59 27.90    8.3X
       0.8s      4.00nm
LBF   153.92   3 ePKP   59 28.00    8.2X
       0.8s      2.60nm
LJU   153.96 346 e(PKP) 59 27.50    7.7X
VOY   154.11 347 ePKP   59 27.60    7.5X
BGF   154.27   5 ePKP   59 28.60    8.4X
       0.6s      5.40nm
CEY   154.28 346 e(PKP) 59 30.50   10.2X
VBY   154.31 345 e(PKP) 59 30.40   10.1X
TCF   154.48   6 ePKP   59 28.90    8.4X
       0.7s      2.20nm
MAF   154.58   6 ePKP   59 29.50    8.9X
       0.7s      3.30nm
BCAO  159.62 218 iPKPd  59 29.30    1.5
       0.4s     10.00nm
                 id     00 07.50
                 ic     00 17.90
     S.D. = 1.5  on  46 of  92 obs.
-------------------------------------
? OCT  27, 1989  05h 38m 59.21± 4.07s
  10.967 N ±14.3km    62.239 W ±39.3km
  DEPTH =  33.0km  (normal)
 NEAR COAST OF VENEZUELA         ( 97)
     MD 3.1 (TRN).

TCE     0.55 119 eP     39 11.52    1.0
                eS      39 24.35
TRN     0.88 111 eP     39 15.31    0.1
                eS      39 30.64
TPP     1.01 130 eP     39 16.53   -0.5
                eS      39 33.01
TBH     1.25 113 eP     39 19.93   -0.5
```

27d 05h

		eS	39 40.49		
GRW	1.31	25 eP	39 21.49	0.0	
		eS	39 38.94		
BOT	1.51	82 eP	39 23.98	-0.2	
		eS	39 43.92		
S.D. = 0.7		on	6 of	6 obs.	

& OCT 27, 1989 05h 47m 03.78s
63.142 N 150.975 W
DEPTH = 110.4km
CENTRAL ALASKA (1)
<AGS-P>.

HUR	0.63	105 eP	47 21.47	-0.4	
CUT	0.81	156 eP	47 23.01	-0.3	
		eS	47 36.75		
RND	1.00	74 eP	47 23.96	-1.4	
SKT	1.19	193 iP	47 27.00	-0.4	
PWA	1.58	161 eP	47 31.22	-0.7	
SUA	1.69	176 eP	47 33.44	0.0	
PME	1.77	148 eP	47 32.69	-1.6	
NCG	1.83	198 eP	47 34.51	-0.7	
WRH	1.85	43 eP	47 34.95	-0.4	
PMS	2.02	160 eP	47 36.63	-0.9	
CCB	2.06	41 eP	47 37.34	-0.7	
PAX	2.51	91 eP	47 42.70	-1.4	
DOT	3.15	78 eP	47 50.50	-2.1	
13 obs. associated					

% OCT 27, 1989 05h 48m 42.96± 4.10s
17.805 N ±29.3km 66.065 W ±13.3km
DEPTH = 10.0km (geophysicist)
PUERTO RICO REGION (90)

CPD	0.27	31 P	48 48.90	0.2	
SJG	0.32	345 iP	48 49.70	0.2	
LPR	0.53	20 P	48 53.50	-0.3	
PORP	0.60	295 P	48 55.20	0.1	
LRS	0.89	303 P	48 59.80	-0.2	
S.D. = 0.3		on	5 of	5 obs.	

* OCT 27, 1989 07h 42m 21.75± 0.40s
59.652 S ±10.6km 26.033 W ± 9.4km
DEPTH = 33.0km (normal)
5.0mb (3 obs.) 4.2Msz (1 obs.)
SOUTH SANDWICH ISLANDS REGION (153)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 10S, 17C
Centroid Location:
Origin Time 07:42:26.3 0.8
Lat 60.00S 0.13 Lon 24.45W 0.27
Dep 15.0 FIX Half-duration 1.6
Moment Tensor; Scale 10**16 Nm
Mrr= 4.55 0.64 Mtt=-3.09 0.72
Mff=-1.46 0.61 Mrt=-6.79 2.14
Mrf=-3.49 2.16 Mtf=-3.18 0.73
Principal Axes:
T Val= 8.74 Plg=61 Azm=161
N 0.85 6 60
P -9.59 28 326
Best Double Couple:Mo=9.2*10**16
NP1:Strike= 39 Dip=18 Slip= 69
NP2: 242 73 97

SNA	14.52	147 iPc	45 41.10	-5.3X	
	0.8s	301.49nm		5.9mb X	
SPA	30.52	180 ePc	48 33.80	0.0	
	0.9s	30.91nm		5.1mb	
		e	49 22.10		
MAW	36.92	140 eP	49 28.00	-0.6	
PCH	39.01	292 eP	49 48.00	1.4	
LNV	39.16	290 eP	49 47.50	-0.2	
TACH	39.18	291 eP	49 47.70	-0.3	
SAN	39.21	292 eP	49 48.50	0.2	
VAO	39.49	329 eP	49 51.10	0.4	
BLF	46.44	73 eP	50 47.70	0.6	
BAO	46.81	330 eP	50 50.00	0.0	
PDCR	48.03	343 eP	50 57.50	-2.0	
KSR	49.49	71 eP	51 09.50	-1.4	
	0.8s	6.25nm		4.7mb	
SLR	50.27	72 iPc	51 28.00	11.2X	
	1.5s	63.89nm			
CCH	51.20	308 P	51 24.30	0.2	
CNCB	52.46	306 P	51 34.00	0.0	
LPB	52.76	306 P	51 36.00	0.0	
ZOBO	53.00	306 P	51 36.00	-2.0	
		LR	09 08.00		
LIC	67.76	23 P	53 20.20	2.2	
	Z 22s	0.15um		4.2Msz	
KIC	67.95	23 P	53 19.10	-0.1	
TIC	68.17	23 P	53 20.60	0.0	
MUN	83.52	148 eP	54 47.00	-0.2	
ASPA	95.36	162 iPd	55 43.10	-0.7	
	0.8s	7.00nm		5.2mb	
NB2	123.77	21 PKP	01 15.10	-1.1	
	0.7s	1.70nm			
TIY	145.71	111 ePKP	01 57.80	0.2	
	Z 16s	1.20um		5.8MszX	
	N 15s	1.00um			
	E 14s	0.80um			
BTO	146.80	105 ePKP	02 01.00	1.7	
MBC	147.51	334 ePKP	01 58.50	-0.8	
	0.9s	8.00nm			
HHC	147.75	107 ePKP	02 01.00	0.1	
INK	148.92	317 ePKP	02 04.00	2.3	
FBA	153.28	306 ePKP	02 26.50	18.3X	
	1.0s	6.00nm			
S.D. = 1.1		on	26 of	29 obs.	

% OCT 27, 1989 07h 59m 44.72± 0.64s
43.937 N ± 9.3km 11.021 E ± 4.6km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)

BDI	0.33	292 P	59 52.00	0.4	
		eSg	59 57.30		
MME	0.35	318 P	59 51.60	-0.3	
		eSg	59 57.90		
PII	0.42	239 Pd	59 53.20	-0.1	
		eSg	00 00.90		
PGD	0.51	97 P	59 55.30	0.2	
		eSg	00 02.90		
SFI	0.60	91 P	59 56.90	0.1	
CRE	0.74	114 Pc	59 59.10	-0.2	
		eSg	00 11.40		
S.D. = 0.4		on	6 of	6 obs.	

OCT 27, 1989 08h 09m 00.70± 0.34s
39.870 N ± 6.9km 143.618 E ± 5.5km
DEPTH = 10.0km (geophysicist)
4.8mb (18 obs.) 4.4Msz (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.70	243 P	09 31.90	1.3	
		S	09 54.10		
AOMJ	2.58	287 eP	09 45.00	1.8	
YAMJ	3.26	240 P	09 54.20	1.3	
NIIJ	4.47	235 P	10 11.40	1.4	
KAKJ	4.56	218 P	10 10.40	-0.9	
CHJJ	5.28	225 P	10 21.50	-0.1	
MAT	5.40	234 iPc	10 24.40	1.1	
	1.2s	210.94nm		5.7mb	
		eS	11 29.00		
MTMJ	5.63	236 P	10 27.80	1.2	
IIDJ	6.30	228 P	10 02.70	-33.3X	
TSRJ	7.44	237 P	10 55.00	3.1	
MDJ	11.42	299 eP	11 47.80	0.9	
Z	15s	4.40um			
CN2	14.10	292 eP	12 18.60	-4.0X	
SNY	15.29	284 eP	12 37.70	-0.4	
Z	16s	2.20um			
N	12s	1.20um			
E	14s	1.10um			
DL2	17.03	274 eP	13 01.20	0.9	
SSE	20.22	251 P	13 38.00	-0.5	
Z	16s	0.70um		4.1MszX	
N	12s	1.00um			
E	12s	0.80um			
		sP	13 48.50		
		S	17 24.00		
		sS	17 39.00		
TIA	21.16	268 eP	13 44.90	-3.3X	
N	14s	0.90um			
E	14s	2.10um			
NJ2	21.46	256 Pd	13 49.00	-2.3	
Z	18s	1.30um		4.4Msz	
N	10s	0.80um			
E	11s	0.60um			
TIY	24.34	275 eP	14 21.00	1.3	
HHC	24.38	283 eP	14 17.80	-2.2	
WHN	25.57	258 Pc	14 31.20	-0.1	
	1 4s	0.15nm		2.5mb X	
Z	16s	11.90um		5.5MszX	

BTO	25.58	283 eP	14 30.00	-1.5	
N	14s	1.00um			
E	16s	1.70um			
XAN	28.21	269 P	14 55.00	-0.6	
N	14s	1.00um			
		S	19 37.00		
LZH	31.40	276 Pd	15 23.50	-0.6	
	1.5s	0.05nm		2.2mb X	
Z	16s	1.50um		4.8MszX	
N	14s	0.80um			
E	14s	1.20um			
GYA	33.46	258 P	15 41.00	-1.1	
N	15s	1.30um			
E	15s	1.20um			
CD2	33.47	267 eP	15 40.20	-1.9	
Z	14s	1.40um		4.8MszX	
N	12s	1.40um			
GTA	33.48	284 iPc	15 41.20	-1.0	
	1.0s	0.03nm		2.2mb X	
Z	16s	1.50um		4.8MszX	
E	14s	1.20um			
		S	20 56.00		
KMI	37.15	259 eP	16 13.50	-0.2	
KMI	37.15	259 Pd	16 14.00	0.3	
WMO	41.18	294 P	16 47.00	0.2	
Z	13s	0.70um		4.7MszX	
IMA	43.37	32 eP	17 05.40	0.8	
	0.9s	2.20nm		3.9mb	
		e	17 13.60		
CHG	43.69	255 eP	17 08.00	0.5	
FBA	45.79	34 P	17 30.00	6.2X	
	0.8s	13.79nm		5.0mb	
INK	51.08	28 eP	18 05.00	0.2	
MBC	53.31	17 eP	18 22.00	0.5	
	1.0s	6.00nm		4.5mb	
NDI	54.86	280 eP	18 32.00	-1.5	
HYB	60.02	268 eP	19 09.00	-1.1	
WB5	60.06	190 eP	19 08.50	-1.7	
WRA	60.13	190 Pc	19 09.20	-1.4	
	0.6s	4.80nm		4.8mb	
POO	62.98	272 iPd	19 29.50	-0.6	
GBA	63.16	265 P	19 31.00	-0.2	
ASPA	63.85	190 eP	19 35.30	-0.3	
	1.2s	6.00nm		4.7mb	
Z	23s	1.16um		5.0MszX	
		LR	34 04.90		
MAIO	63.90	297 iPd	19 36.00	0.0	
PNT	64.95	46 eP	19 43.00	0.5	
NEW	66.91	46 P	20 00.00	4.9X	
ORV	69.25	55 e(P)	20 10.30	0.5	
FFC	70.39	34 eP	20 16.00	-0.5	
	0.7s	8.00nm		5.0mb	
CMB	70.84	56 eP	20 19.80	0.2	
KVN	71.68	54 P	20 25.30	0.4	
NB2	72.23	338 P	20 26.40	-1.2	
	1.1s	13.40nm		4.9mb	
TNP	72.82	55 P	20 27.50	-4.1X	
	0.5s	1.92nm		4.4mb	
BW06	74.45	47 P	20 40.00	-1.1	
RSSD	76.57	43 P	21 00.00	6.9X	
GLA	77.46	57 P	21 00.00	2.0	
KRA	77.70	327 eP	20 59.20	0.3	
KSP	78.58	329 eP	21 04.00	0.2	
GOL	78.85	47 P	21 06.90	1.1	
CLL	79.48	331 iPc	21 08.20	-0.4	
	1.5s	27.00nm		5.0mb	
		i	21 31.30		
PRU	79.95	329 P	21 12.20	1.0	
		e	21 21.00		
KHC	81.01	329 eP	21 17.50	0.6	
ALQ	81.46	51 eP	21 21.20	1.5	
	1.0s	5.00nm		4.5mb	
GRF	81.46	331 eP	21 20.00	0.8	
	1.1s	16.00nm		5.0mb	
		e	21 25.30		
SKO	83.12	321 eP	21 28.40	0.5	
PRNI	83.77	305 ePc	21 29.00	-2.5	
OHR	84.09	320 eP	21 32.30	-0.6	
MBH	84.23	304 ePc	21 30.50	-3.3X	
LOR	86.13	334 eP	21 43.10	0.1	
	1.0s	8.80nm		4.9mb	
MEO	86.15	47 e(P)	21 49.00	5.7X	
LBF	86.34	334 eP	21 44.20	0.1	
	0.8s	5.30nm		4.8mb	
SSF	86.43	334 eP	21 45 00	0.5	
	0.8s	4.00nm		4.7mb	
LPG	86.63	331 eP	21 46.20	0.4	

	1.0s		8.80nm			4.9mb
TUL	86.85	44	eP	21	54.60	7.9X
	1.0s		4.70nm			4.7mb
MAF	87.48	334	eP	21	50.50	0.9
	1.0s		14.00nm			5.2mb
SKI	118.01	29	ePKP	27	46.84	-2.8
ANG	118.51	28	ePKP	27	44.50	-6.0X
BPA	118.60	28	ePKP	27	44.90	-5.9X
NNA	134.81	64	iPKP	28	37.00	15.1X
ZOBO	143.75	59	PKP	28	38.00	-0.7
			i	29	21.30	
LPB	143.95	59	ePKP	28	40.00	1.1
CNCB	144.23	59	PKP	28	38.00	-1.5
			i	29	27.00	
CCH	145.85	58	PKP	28	43.80	1.9
			e	29	37.00	

S.D. = 1.2 on 67 of 80 obs.

OCT 27, 1989 08h 24m 24.67± 0.63s
6.826 N ± 7.7km 73.063 W ± 5.2km
DEPTH = 159.3 ± 8.3 km
5.1mb (11 obs.)
NORTHERN COLOMBIA (99)

BMG	0.24	357	eP	25	02.50	14.7X
BOG	2.40	205	iPc	25	07.50	1.6
			iS	25	37.50	
UPA	6.76	289	eP	26	00.50	-2.1
			i	27	16.30	
PSO	7.03	217	eP	26	07.00	0.4
CAYA	8.31	216	eP	26	37.30	13.6X
COTA	8.32	219	eP	26	29.70	5.7X
RECU	9.23	217	eP	26	34.50	-1.4
CUM	9.51	67	iP	26	41.60	2.5
			iS	28	21.60	
TRN	12.13	71	eP	27	20.40	6.9X
TBH	12.40	72	eP	27	25.38	8.4X
SVB	13.27	60	eP	27	27.28	-0.9
SVV	13.33	60	eP	27	27.83	-1.0
SSV	13.35	60	eP	27	28.37	-0.8
LNO	35.66	327	iP	31	09.00	-0.1
TUL	35.66	327	eP	31	09.40	0.2
	0.7s		17.20nm			4.9mb
	Z 19s		0.20um			3.9Msz
			LR	37	00.00	
SIO	35.82	327	eP	31	10.70	0.2
MEO	36.42	323	iPd	31	15.40	-0.2
ALQ	41.55	317	eP	31	59.00	0.7
	1.0s		6.25nm			4.2mb
GLD	43.67	324	P	32	16.60	1.1
	0.9s		71.58nm			5.3mb
GOL	43.73	323	P	32	16.60	0.6
	0.6s		83.33nm			5.5mb
RSSD	45.96	329	P	32	34.00	0.4
GLA	46.67	310	eP	32	40.00	0.8
RSON	47.13	342	P	32	41.80	-0.7
	0.5s		33.78nm			5.2mb
TPC	48.04	310	eP	32	51.00	1.2
BW06	48.11	324	P	32	50.20	-0.3
SCH	48.12	5	ePc	32	50.60	0.6
	0.6s		43.00nm			5.3mb
PLM	48.36	309	eP	32	53.00	0.6
GSC	49.10	312	eP	32	58.00	0.0
SBB	49.62	310	eP	33	01.00	-0.9
CLC	49.90	312	eP	33	04.00	-0.1
TNP	50.60	315	P	33	09.80	0.3
	0.6s		7.22nm			4.5mb
KVN	51.65	315	P	33	17.20	-0.2
LLA	52.70	311	eP	33	24.50	-0.5
CMB	52.84	313	eP	33	25.80	-0.3
PRS	52.92	311	eP	33	26.50	-0.1
FFC	53.10	339	iPd	33	27.00	-0.6
	0.4s		12.00nm			5.0mb
MHC	53.49	312	eP	33	31.70	0.7
SES	53.72	331	ePd	33	32.60	0.3
BKS	54.13	312	iPc	33	36.50	1.0
ORV	54.25	315	eP	33	36.70	0.3
WDC	55.39	315	eP	33	42.20	-2.4
EDM	56.65	332	iPd	33	52.40	-0.9
	0.4s		29.00nm			5.5mb
PNT	57.58	326	eP	34	00.00	0.1
	0.8s		16.00nm			5.0mb
LON	57.59	322	P	34	00.00	-0.1
LIC	67.54	86	P	35	05.00	-1.3
KIC	67.82	86	P	35	06.80	-1.3
INK	73.04	340	eP	35	39.00	0.5
MBC	73.81	350	ePd	35	43.70	0.9

	0.6s		14.00nm			4.9mb
NB2	81.30	29	P	36	25.20	1.0
	0.5s		1.40nm			3.9mb X
QIS	145.54	243	iPKPd	43	46.10	-0.2
	0.8s		38.00nm			
ASPA	149.16	234	iPKPd	43	55.90	3.9X
	0.7s		30.00nm			
WRA	150.39	241	PKPc	43	54.40	0.5
	0.6s		1.50nm			
WB5	150.39	241	iPKPd	43	59.10	5.2X
WARB	153.10	222	iPKPc	44	05.10	7.4X

S.D. = 1.0 on 46 of 54 obs.

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* OCT 27, 1989 08h 35m 23.63± 0.74s
37.759 S ± 8.4km 176.874 E ±14.7km
DEPTH = 248.6 ± 7.9 km
4.2mb (2 obs.)
NORTH ISLAND, NEW ZEALAND (159)

HBZ	1.14	82	Pc	35	58.40	-1.2
WHH	1.16	195	Pd	35	59.70	-0.1
HATZ	1.29	208	Pc	36	00.60	0.0
HITZ	1.29	222	Pc	36	00.60	0.0
MOH	1.39	171	Pd	36	02.40	1.2
RATZ	1.41	218	Pd	36	01.50	0.0
KETZ	1.65	215	Pc	36	03.60	0.2
TTH	1.78	181	P	36	05.70	1.4
PGZ	2.89	189	P	36	15.80	0.6
MNG	3.05	200	Pd	36	17.20	0.2
KIW	3.45	206	Pc	36	21.20	-0.3
MTW	3.56	197	Pc	36	22.40	-0.2
CAW	3.63	202	Pc	36	23.30	-0.1
BLW	3.76	196	P	36	24.90	-0.1
WDW	3.79	202	Pd	36	24.90	-0.5
MRW	3.85	205	Pc	36	25.60	-0.4
MOW	3.87	198	P	36	25.90	-0.3
WEL	3.88	204	P	36	26.00	-0.4
TCW	3.99	209	P	36	27.00	-0.7
CCW	4.48	206	eP	36	33.70	0.2
ASPA	39.19	278	iPc	42	29.80	0.6
	0.6s		10.00nm			4.5mb
WRA	40.87	284	Pc	42	42.70	-0.3
	0.4s		1.90nm			3.9mb
WB5	40.89	284	eP	42	43.30	0.2

S.D. = 0.6 on 23 of 23 obs.

? OCT 27, 1989 08h 42m 45.84± 2.28s
39.781 N ±15.8km 143.954 E ±18.2km
DEPTH = 10.0km (geophysicist)
3.9mb (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.90	249	P	43	19.00	0.4
AOMJ	2.85	287	P	43	31.70	-0.5
YAMJ	3.45	244	P	43	41.20	0.5
NIIJ	4.64	238	P	43	58.40	0.8
KAKJ	4.65	221	P	43	57.20	-0.6
			eS	44	48.60	
CHJJ	5.41	228	P	44	08.50	0.0
MAT	5.56	236	iPc	44	11.30	0.6
			eS	45	06.00	
IIDJ	6.44	230	eP	44	21.50	-1.5
WRA	60.09	190	Pc	52	55.80	0.3
	0.4s		0.40nm			3.9mb

S.D. = 0.9 on 9 of 9 obs.

OCT 27, 1989 08h 43m 49.07± 1.05s
39.969 N ± 7.7km 21.856 E ± 9.6km
DEPTH = 10.0km (geophysicist)
GREECE (364)

LIT	0.50	75	ePgc	43	58.30	-1.0
			eSg	44	07.40	
AGG	1.01	159	ePgd	44	08.00	-0.3
			Sg	44	24.60	
GRG	1.07	23	ePgc	44	09.30	0.1
			eSg	44	27.70	
OHR	1.40	325	ePn	44	15.30	0.7
PAIG	1.40	91	ePb	44	15.50	0.8
			eSb	44	37.30	
KNT	1.43	33	ePb	44	16.10	1.0
			eSb	44	36.80	
VAY	1.46	22	ePn	44	15.60	0.2
SKO	2.03	351	ePn	44	22.00	-1.6
			i	44	56.50	

S.D. = 1.1 on 8 of 8 obs.

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* OCT 27, 1989 09h 48m 48.81± 0.87s
51.586 S ±10.9km 152.333 E ±10.1km
DEPTH = 10.0km (geophysicist)
4.5mb (2 obs.) 4.2Msz (1 obs.)
NORTH OF MACQUARIE ISLAND (165)

MSZ	12.49	62	P	51	47.00	-2.2
			eS	53	56.00	
TOO	14.83	338	eP	52	20.00	-0.2
			e	54	59.00	
CAN	16.44	350	eP	52	42.10	1.1
			e	55	21.20	
			e	55	33.80	
BWA	17.39	349	eP	52	53.90	1.0
ADE	19.29	324	e(P)	53	15.00	-1.5
COO	20.99	359	eP	53	35.00	0.4
STK	21.21	334	iPc	53	38.30	1.5
			e	53	41.00	
BRS	24.17	1	iPc	54	10.00	4.1X
RMQ	25.21	352	eP	54	17.00	1.0
FORR	27.37	310	iPd	54	36.30	0.4
	0.4s		28.00nm			5.3mb X
ASPA	31.28	326	iPd	55	10.40	-0.6
	Z 18s		0.45um			4.2Msz
			LR	06	50.90	
DZM	31.44	26	iPc	55	13.50	1.1
NWAO	31.56	292	eP	55	13.00	-0.3
WARB	31.99	313	eP	55	17.00	-0.2
MUN	32.84	293	eP	55	24.00	-0.5
BAL	33.58	295	eP	55	30.00	-0.9
WRA	34.59	329	Pc	55	38.60	-1.2
	0.6s		2.10nm			4.2mb
WB5	34.64	329	eP	55	39.30	-0.9
MRWA	35.03	296	iPc	55	42.70	-0.8
SNA	57.03	190	iPc	58	37.90	1.4
	0.9s		9.24nm			4.8mb
CHG	84.15	310	eP	01	22.50	1.3

S.D. = 1.1 on 20 of 21 obs.

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* OCT 27, 1989 10h 35m 25.77± 0.88s
39.148 N ± 7.2km 27.672 E ± 9.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

IZM	0.81	203	iPg	35	41.70	0.1
			iSg	35	53.20	
DST	0.87	58	iPg	35	42.30	-0.2
			eSg	35	56.30	
EDC	1.21	7	ePn	35	48.50	0.3
BNT	1.22	9	iPn	35	48.60	0.1
EZN	1.24	303	ePn	35	48.60	-0.2

S.D. = 0.3 on 5 of 5 obs.

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* OCT 27, 1989 10h 59m 39.67± 0.78s
39.542 N ±12.8km 143.959 E ± 9.8km
DEPTH = 10.0km (geophysicist)
4.3mb (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

OFUJ	1.84	256	P	00	10.90	-0.6
			S	00	31.00	
YAMJ	3.35	247	P	00	33.10	-0.1
			eS	01	10.90	
KAKJ	4.48	223	eP	00	48.50	-0.6
			eS	01	37.20	
NIIJ	4.52	241	eP	00	50.30	0.6
CHJJ	5.25	230	P	00	59.80	-0.4
			S	01	56.80	
MAT	5.44	238	iPc	01	03.00	0.2
MTMJ	5.68	241	eP	01	06.60	0.3
IIDJ	6.29	232	eP	01	15.20	0.4
			eS	02	24.90	
INK	51.24	28	eP	08	45.00	0.0
WB5	59.79	190	eP	09	47.00	-0.3
WRA	59.85	190	P	09	48.00	0.3
	0.7s		1.60nm			4.3mb

S.D. = 0.5 on 11 of 11 obs.

? OCT 27, 1989 12h 20m 08.35± 4.43s
4.257 S ±47.6km 139.343 E ±14.9km
DEPTH = 33.0km (normal)
4.0mb (2 obs.)
WEST IRIAN (201)

MNDI	4.69	114	eP	21	20.00	1.1
PMG	9.29	124	eP	22	22.00	-1.1
MTN	11.78	223	eP	22	57.00	-0.1

27d 12h

			e	25 15.00		
QIS	16.20	179	eP	23 55.00	-0.3	
			eS	26 31.00		
WB5	16.27	197	eP	23 57.00	0.9	
			eS	27 08.20		
WRA	16.34	197	Pd	23 57.50	0.5	
	0.9s		5.40nm		3.7mb	
ASPA	20.00	195	iPd	24 40.20	-1.0	
	0.6s		12.00nm		4.4mb	
			eS	28 37.20		
	S.D. = 1.1		on	7 of 7 obs.		

? OCT 27, 1989 12h 22m 36.29± 1.03s
41.144 N ±11.6km 28.702 E ± 7.6km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

CTT	0.21	271	iPg	22 40.00	-0.8	
			eSg	22 43.00		
ISK	0.28	106	ePg	22 42.00	-0.2	
			eSg	22 46.50		
HRT	0.80	113	ePg	22 46.00	-5.8X	
DMK	0.98	314	iPn	22 55.40	0.5	
BNT	0.99	217	iPn	22 55.50	0.5	
	S.D. = 1.1		on	4 of 5 obs.		

? OCT 27, 1989 12h 48m 38.06± 0.98s
39.243 N ± 8.5km 27.821 E ±13.7km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.72	60	ePg	48 52.30	0.0	
			eSg	49 03.00		
IZM	0.95	208	iPn	48 56.20	0.0	
EDC	1.10	2	ePn	48 58.70	0.0	
BNT	1.11	4	iPn	48 59.00	0.1	
	S.D. = 0.1		on	4 of 4 obs.		

* OCT 27, 1989 13h 26m 58.94± 2.37s
37.903 N ±16.5km 20.618 E ±22.0km
DEPTH = 10.0km (geophysicist)
IONIAN SEA (399)
MD 3.3 (ATH).

VLS	0.27	355	ePg	27 03.80	-0.9	
ITM	1.27	124	ePb	27 22.00	-0.5	
AGG	1.75	50	ePd	27 31.30	1.8	
KEK	1.92	341	ePn	27 33.00	1.1	
LIT	2.64	33	eP	27 41.00	-1.3	
OHR	3.21	2	ePn	27 50.20	-0.2	
	S.D. = 1.5		on	6 of 6 obs.		

& OCT 27, 1989 13h 29m 51.30s
36.942 N 121.722 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.1 (BRK).

GCC	0.24	292	iPc	29 55.90	-0.5	
SAO	0.28	128	iPd	29 57.00	-0.3	
MHC	0.40	9	iPd	29 59.60	-0.1	
ARN	0.43	20	iPd	30 00.00	-0.2	
PRS	0.67	155	iPd	30 04.00	-0.6	
LLA	0.70	117	ePc	30 04 40	-0.7	
PCC	0.77	317	iPd	30 05.00	-1.2	
BKS	1.02	337	iPc	30 09.40	-1.1	
			eS	30 23.40		
BRK	1.02	335	ePc	30 09.50	-1.0	
			eS	30 23.40		
PRI	1.17	133	eP	30 12.60	-0.5	
CMB	1.52	44	ePc	30 16.60	-1.9	
PHAM	1.54	136	eP	30 17.30	-1.4	
FRI	1.61	88	eP	30 17.50	-2.2	
NWRM	1.77	329	eP	30 19.00	-3.0	
BCH	2.20	142	eP	30 26.50	-1.9	
ORV	2.62	4	eP	30 32.00	-2.2	
KVN	3.55	53	eP	30 45.40	-2.3	
TNP	3.76	71	eP	30 49.00	-1.6	
	18 obs. associated					

* OCT 27, 1989 13h 45m 09.50± 3.03s
25.672 S ±18.2km 179.745 E ±24.6km
DEPTH = 517.5 ± 32.2 km
4.2mb (2 obs.)
SOUTH OF FIJI ISLANDS (171)

DZM	12.69	284	iPc	47 56.00	-0.1	
MNG	15.32	192	eP	48 21.80	-0.8	
			eS	50 59.80		
CAW	15.88	193	eP	48 28.50	0.4	
WDW	16.05	193	P	48 30.20	0.5	
MRW	16.07	194	P	48 30.40	0.4	
TCW	16.15	195	P	48 30.40	-0.4	
CTA	31.30	273	iPc	50 49.10	0.7	
	0.9s		12.18nm		4.5mb	
PMG	34.89	292	eP	51 18.50	-0.1	
WB5	42.08	268	eP	52 17.00	-0.1	
			e(S)	57 57.00		
WRA	42.09	268	Pd	52 16.60	-0.5	
	0.3s		1.60nm		4.0mb	
MAT	73.23	326	eP	55 49.00	0.1	
NB2	143.79	351	PKP	03 46.10	-0.1	
	0.9s		2.80nm			
	S.D. = 0.5		on	12 of 12 obs.		

? OCT 27, 1989 14h 15m 59.38± 2.99s
20.321 S ±18.0km 177.817 W ±16.7km
DEPTH = 544.5 ± 34.0 km
4.7mb (9 obs.)
FIJI ISLANDS REGION (181)

DZM	14.78	260	iPc	19 08.00	1.4	
BRS	27.76	250	iPc	21 06.50	0.2	
RMQ	31.23	252	eP	21 36.00	-0.1	
PMG	35.47	283	eP	22 11.50	-0.2	
STK	38.02	244	iPc	22 33.20	0.7	
ASPA	44.73	257	iPd	23 25.40	-0.6	
	1.1s		61.00nm		5.0mb	
			eS	29 24.30		
WB5	44.78	262	eP	23 25.20	-1.2	
WRA	44.79	262	P	23 26.00	-0.5	
	0.5s		19.80nm		4.9mb	
FORR	49.49	246	eP	24 01.00	-0.9	
	0.4s		15.00nm		4.9mb	
MBL	57.97	257	eP	25 01.20	-0.9	
	0.4s		8.00nm		4.4mb	
NANU	61.61	255	eP	25 26.50	0.3	
SPA	69.80	180	e(P)	26 16.10	-0.5	
	0.9s		22.73nm		4.7mb	
MAT	70.17	324	eP	26 18.00	-0.9	
	0.7s		6.85nm		4.3mb	
CMB	79.22	43	eP	27 09.50	0.2	
KVN	81.26	43	iP	27 20.00	0.0	
TNP	81.28	44	eP	27 20.20	0.0	
	1.0s		3.25nm		3.8mb	
FBA	88.03	12	iP	27 51.00	-1.2	
	1.0s		9.00nm		4.6mb	
CHG	90.34	290	iPc	28 06.00	2.2	
	0.8s		10.07nm		4.8mb	
HRI	147.54	300	e(PKP)	34 41.00	0.4	
KSP	147.57	343	ePKPc	34 43.50	3.6X	
			e	34 47.50		
CLL	147.93	347	iPKPc	34 45.10	4.6X	
BRG	148.13	346	iPKPc	34 45.50	4.7X	
	1.4s		19.00nm			
DSI	148.23	297	ePKP	34 43.00	1.4	
PRU	148.81	345	PKP	34 47.00	5.1X	
MOX	148.83	348	ePKP	34 47.00	5.1X	
MBH	149.01	294	iPKPc	34 45.00	2.2X	
ZST	149.69	340	i(PKP)	34 49.50	6.2X	
KHC	149.84	345	ePKP	34 49.30	5.8X	
	S.D. = 1.0		on	20 of 28 obs.		

& OCT 27, 1989 14h 26m 40.19s
59.359 N 152.266 W
DEPTH = 54.0km
SOUTHERN ALASKA (2)
<AGS-P>.

XLV	0.29	71	eP	26 49.21	-0.5	
CNPM	0.55	72	eP	26 51.98	-0.5	
			eS	27 01.56		
AUE	0.57	270	eP	26 52.45	-0.1	
			eS	27 01.61		
OPT	0.57	301	eP	26 52.53	-0.2	
			eS	27 02.08		
SHU	0.73	183	eP	26 53.73	-0.9	
			eS	27 05.17		
ILIM	0.80	334	iP	26 55.02	-0.6	
			eS	27 06.19		
BRLK	0.81	59	eP	26 55.37	-0.3	
CDD	0.83	239	eP	26 55.42	-0.5	
NNL	0.84	35	eP	26 56.43	0.3	
MCNL	1.08	262	iP	26 58.16	-1.1	
			eS	27 11.86		
RDT	1.22	357	iP	27 00.62	-0.7	
			eS	27 16.68		
SLKM	1.55	41	eP	27 05.12	-0.7	
SPU	1.83	3	eP	27 09.33	-0.5	
CKL	1.84	359	iP	27 09.92	-0.1	
SUA	2.24	19	eP	27 15.27	-0.4	
	15 obs. associated					

% OCT 27, 1989 15h 07m 59.89± 0.90s
39.537 N ± 7.6km 28.961 E ± 8.9km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.27	285	iPg	08 05.20	-0.3	
			eSg	08 12.20		
YLV	1.08	17	iPn	08 20.00	-0.2	
BNT	1.14	316	iPn	08 21.50	0.2	
EDC	1.17	314	ePn	08 22.00	0.3	
KHL	1.29	160	ePn	08 23.90	0.1	
	S.D. = 0.4		on	5 of 5 obs.		

? OCT 27, 1989 15h 18m 12.40± 3.85s
15.347 N ±20.2km 60.837 W ±51.7km
DEPTH = 33.0km (normal)
LEEWARD ISLANDS (92)
ML 2.4 (FDF).

CRM	0.59	187	iPc	18 25.16	0.8	
FDF	0.68	206	iPc	18 25.75	0.2	
	0.1s		1.48nm			
			S	18 38.10		
MVM	0.79	184	eP	18 26.68	-0.4	
			S	18 39.90		
BIM	0.86	195	eP	18 27.52	-0.5	
			S	18 41.10		
PAG	1.06	310	eP	18 31.00	0.0	
			S	18 46.50		
	S.D. = 0.8		on	5 of 5 obs.		

? OCT 27, 1989 15h 44m 28.16± 7.00s
11.833 S ±58.3km 116.896 E ±36.5km
DEPTH = 33.0km (normal)
4.6mb (1 obs.)
SOUTH OF SUMBAWA ISLAND (291)

MBL	9.69	163	eP	46 48.30	-0.1	
			eS	48 30.00		
NANU	10.75	187	eP	47 03.00	0.1	
			eS	48 55.00		
WARB	16.98	149	eP	48 25.00	0.2	
MRWA	17.32	183	eP	48 29.00	-0.1	
	0.2s		11.00nm		4.6mb	
			eS	51 30.00		
WB5	18.60	118	eP	48 45.00	0.0	
			eS	52 01.00		
	S.D. = 0.2		on	5 of 5 obs.		

* OCT 27, 1989 19h 21m 09.09± 1.17s
36.326 N ±10.4km 70.596 E ±10.7km
DEPTH = 214.0 ± 13.0 km
4.5mb (4 obs.)
HINDU KUSH REGION (718)

QUE	6.84	208	eP	22 48.00	-0.2	
			eS	24 07.00		
MAIO	8.96	273	ePn	23 16.00	0.3	
			eSn	24 36.00		
NDI	9.45	142	iPd	23 22.00	0.1	
	0.6s		46.67nm		4.9mb X	
			eS	25 01.00		
NUR	37.78	325	iP	28 05.40	-0.3	
	0.7s		16.00nm		4.7mb	
SUF	37.90	328	iP	28 06.90	0.2	
	0.6s		10.70nm		4.6mb	
SOD	39.76	335	iP	28 22.50	0.5	
NB2	44.32	323	P	28 58.30	-0.9	
	0.7s		8.70nm		4.3mb	
BCAO	57.29	249	ePd	30 36.70	-0.2	
	0.4s		4.00nm		4.5mb	
KIC	74.45	266	P	32 25.90	0.2	
TIC	74.51	267	P	32 26.40	0.3	
LIC	74.76	267	P	32 27.40	-0.1	
	S.D. = 0.5		on	11 of 11 obs.		

OCT 27, 1989 20h 01m 45.52± 1.03s
42.776 N ± 7.8km 28.305 E ± 9.7km

DEPTH = 10.0km (geophysicist)
BLACK SEA (360)

DMK	1.04	203	iPg	02 05.50	0.4
			iSg	02 19.50	
JMB	1.31	257	iPd	02 12.00	2.3
			Sg	02 31.00	
CTT	1.63	177	ePn	02 11.90	-2.5
ISK	1.80	162	ePn	02 19.00	2.2
DIM	2.18	251	eP	02 22.00	-0.3
			Sg	02 55.00	
PVL	2.22	282	eP	02 24.00	1.0
YLV	2.35	160	iPn	02 23.40	-1.4
KDZ	2.42	243	eP	02 26.00	0.2
			iS	02 55.00	
BNT	2.44	187	ePn	02 28.00	2.0
PLD	2.75	257	eP	02 37.00	6.6X
			eSg	27 31.00	
RZN	2.88	249	iPc	02 31.00	-1.4
PGB	3.06	267	eP	02 34.00	-0.9
VRI	3.29	340	iPd	02 38.00	-0.2
MMB	3.60	252	eP	02 53.00	10.4X
			eS	03 27.00	
VTS	3.76	269	eP	02 51.00	6.0X
			iSg	03 51.00	
CLI	3.84	349	iPc	02 46.30	0.3
KKB	3.98	259	eP	02 47.00	-0.9
VAY	4.51	253	ePn	02 54.50	-0.9

S.D. = 1.5 on 15 of 18 obs.

OCT 27, 1989 20h 27m 03.64± 0.61s
41.632 N ± 7.0km 24.048 E ± 5.1km
DEPTH = 10.0km (geophysicist)
GREECE-BULGARIA BORDER REGION (363)

MMB	0.24	260	iPgc	27 08.00	-0.9
			Sg	27 11.00	
RZN	0.50	83	ePg	27 15.00	1.1
			iSg	27 23.00	
SRS	0.62	214	ePg	27 15.40	-0.7
			eSg	27 23.10	
PGB	0.92	5	eP	27 21.00	-0.3
			Sg	27 35.00	
KNT	0.98	242	ePg	27 21.70	-0.6
			eSg	27 34.20	
KDZ	1.03	89	ePg	27 22.00	-1.0
VTS	1.14	327	ePg	27 28.00	2.8X
			iSg	27 47.00	
VAY	1.15	255	ePn	27 26.30	1.1
THE	1.29	220	ePb	27 27.80	0.3
			eSb	27 43.80	
OUR	1.30	182	ePb	27 27.60	0.0
			eSb	27 45.50	
GRG	1.41	242	ePb	27 30.40	1.0
			eSb	27 48.40	

S.D. = 0.9 on 10 of 11 obs.

? OCT 27, 1989 20h 49m 31.07± 4.34s
43.036 N ±12.7km 145.181 E ±47.9km
DEPTH = 59.6 ± 27.6 km
4.2mb (5 obs.)
HOKKAIDO, JAPAN REGION (224)
Felt (I JMA) at Kushiro.

KUS	0.58	265	eP	49 45.00	1.1
			iS	49 54.00	
OFUJ	4.76	215	P	50 41.80	-0.1
			eS	51 33.20	
YAMJ	6.24	221	eP	51 03.30	0.7
KAKJ	7.84	211	P	51 23.00	-1.8
			S	52 45.30	
MAT	8.42	222	eP	51 32.00	-0.8
	0.7s		19.18nm		5.1mb
CHJJ	8.45	216	eP	51 33.30	0.0
			S	53 02.50	
MTMJ	8.58	224	P	51 35.20	0.0
WRA	63.45	191	P	59 59.00	2.2
	0.8s		1.70nm		4.1mb
GBA	64.60	265	P	00 05.00	0.5
	0.6s		1.50nm		4.2mb
NB2	69.74	338	P	00 35.60	-0.7
	0.8s		1.90nm		4.1mb
HFS	69.78	336	eP	00 35.50	-1.0
	0.4s		1.70nm		4.3mb
	Z 17s		1.41um		5.3MszX
			LR	25 41.00	

S.D. = 1.3 on 11 of 11 obs.

OCT 27, 1989 21h 04m 51.82± 0.10s
11.022 S ± 2.9km 162.350 E ± 2.9km
DEPTH = 24.7km (geophysicist)
6.1mb (44 obs.) 7.0Msz (39 obs.)
SOLOMON ISLANDS (193)

Ms 7.1 (BRK), 6.8 (PAS).
Mo=3.0*10**19 Nm (PPT). Felt on San Cristobal and (IV) on Guodolcanol. Minor landslide and ground fissure at Mwaniwaro Villoge, Santa Catolina. Two events about 3 secands apart. Depth from broadband displacement seismograms, based on first event.

FAULT PLANE SOLUTION: P-Waves
NP1:Strike=165 Dip=81 Slip= 90
NP2: 345 9 90
Principal Axes:
T Plg=54 Azm= 75
P 36 255
Comment: The focal mechanism is poorly controlled and corresponds to reverse faulting. The preferred fault plane is NP2.

RADIATED ENERGY
No. of sta: 11 Focal mech. F
Energy 1.2±0.3*10**14 Nm

CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 19S, 54C M.W.: 14S, 34C
Centroid Location:
Origin Time 21:04:58.5 0.2
Lat 10.95S 0.02 Lon 162.30E 0.01
Dep 25.2 0.9 Half-duration 12.0
Moment Tensor; Scale 10**19 Nm
Mrr= 0.74 0.01 Mtt=-0.70 0.01
Mff=-0.04 0.01 Mrt= 0.74 0.06
Mrf=-2.56 0.09 Mtf= 0.96 0.01
Principal Axes:
T Val= 2.94 Plg=49 Azm= 92
N -0.03 19 338
P -2.90 35 234
Best Double Couple:Mo=2.9*10**19
NP1:Strike=272 Dip=21 Slip= 22
NP2: 161 82 109

HNR	2.84	304	eP+	05 39.00	2.4
PAA	8.24	304	eP	07 14.00	21.1X
PVC	8.83	140	iPc	07 00.00	-0.9
DZM	11.66	161	iPc	07 38.20	-1.7
			iS	10 04.10	
RAB	12.16	303	iPd-	07 47.50	1.0
			iS	10 20.00	
PMG	15.04	275	iPd	08 27.80	3.2X
LAT	15.77	285	eP	08 36.00	1.9
MBU	16.95	112	ePd	08 50.30	1.2
VUN	17.07	116	ePd	08 50.30	-0.2
SVA	17.10	116	ePc	08 53.10	2.1
CTA	17.92	238	iPd-	09 02.50	1.3
			iS	12 02.00	
BRS	18.61	208	iPc+	09 10.80	1.2
			e	09 53.00	
			iS	12 30.00	
			i	12 34.80	
			e	13 36.00	
			i	17 15.00	
			e	23 32.00	
			eTT	26 26.00	
MNDI	19.10	283	eP	09 18.00	2.1
RMO	20.03	218	iPd	09 26.70	0.8
			e	10 37.00	
COO	21.75	205	ePc	09 44.60	1.0
			e	13 50.00	
QLP	23.05	225	iPd	09 56.80	0.4
			e	10 31.00	176kmX
QIS	23.82	244	iPc	10 03.60	-0.4
RIV	24.91	203	ePc	10 20.20	5.9X
			e	14 40.00	
AFI	25.42	99	ePc	10 18.34	-1.1
			ec	10 22.31	14kmX
			eS	14 52.00	
			e	27 28.00	
CMS	25.46	214	ePd	10 19.60	0.0
BWA	26.54	206	eP	10 29.50	-0.1
CNB	26.91	204	eP	10 35.00	1.9
	1.2s		306.00nm		5.8mb
			eS	15 12.00	
CAN	27.06	205	eP	10 35.80	1.4
			i	12 45.00	
STK	28.25	220	ePc	10 45.10	-0.1
			i	10 48.30	11kmX
			e	11 22.00	
WB5	28.33	248	iPd	10 44.80	-1.3
WRA	28.37	248	Pc	10 45.70	-0.7
	0.6s		38.20nm		5.3mb
TLE	29.76	278	ePc	10 53.00	-5.9X
ASPA	29.85	241	iPd	10 57.30	-2.4
	1.3s		259.00nm		5.9mb
	Z 22s		424.35um		7.0MszX
			eS	15 53.40	
			LR	21 30.20	
GUA	29.91	324	eP	11 01.70	1.5
	0.8s		376.12nm		6.3mb
			pP	11 07.80	21kmX
GUMO	29.98	324	eP	11 01.00	0.2
	1.3s		653.59nm		6.3mb
TOO	30.47	207	ePd	11 06.40	1.4
			e	11 15.00	30kmX
			e	11 42.50	
MTN	30.59	263	eP	11 05.00	-1.2
			e	11 28.00	103kmX
KIW	31.72	162	P	11 14.30	-1.6
TCW	31.85	163	eP	11 17.20	0.1
PGZ	31.94	160	P	11 17.00	-0.8
CAW	31.99	162	P	11 18.70	0.4
WEL	32.06	162	Pd+	11 20.00	1.1
			PP	12 09.40	
			PPP	12 28.00	
			S	16 30.00	
			ScS	21 50.00	
ADE	32.11	218	iPd	11 19.20	-0.3
	1.0s		310.00nm		6.2mb
WDW	32.12	162	eP	11 18.20	-1.2
MTW	32.18	161	P	11 19.20	-0.7
MOW	32.34	162	P	11 21.00	-0.3
BLW	32.36	161	eP	11 19.20	-2.3
KNA	32.98	258	iPd	11 26.10	-1.1
	0.6s		369.00nm		6.5mb
MSZ	33.87	173	P	11 35.50	1.0
TAU	34.36	200	ePd	11 40.95	2.1
			ed	11 42.93	7kmX
TAU	34.36	200	ePd	11 42.93	4.1X
MHZ	34.44	171	P	11 40.10	0.5
AAI	34.62	280	ePc	11 46.00	4.6X
	0.9s		73.00nm		5.6mb
WARB	36.90	241	iPd	12 00.10	-0.5
	0.3s		41.00nm		5.7mb
FORR	37.36	233	eP	12 04.00	-0.3
	0.4s		151.00nm		6.2mb
RAR	37.68	110	P	12 04.00	-3.2X
			S	18 04.00	
MNI	39.30	286	eP	12 20.00	-0.9
			e	18 15.50	
DAV	40.78	295	eP	12 35.00	1.9
MBL	41.96	251	eP	12 42.00	-0.7
MKS	42.81	274	iPd	12 50.00	0.3
	1.1s		568.60nm		6.2mb
COOL	42.94	236	eP	12 50.00	-0.6
	0.6s		74.00nm		5.6mb
MEKA	44.04	243	eP	13 00.00	0.4
KLB	45.92	237	eP	13 14.00	-0.5
NANU	46.09	249	iPc	13 17.10	1.1
	0.3s		49.00nm		5.9mb
BKB2	46.16	279	ePc	13 22.90	6.3X
BAL	46.53	238	eP	13 19.00	-0.3
TSM	46.60	287	eP	13 20.00	-0.1
NWAO	46.73	235	ePd	13 21.54	0.6
	0.9s		144.00nm		6.0mb
			ed	13 24.03	8kmX
AFR	46.75	104	iP	13 21.90	0.7
	1.5s		720.00nm		6.5mb
MRWA	46.79	240	eP	13 21.00	-0.5
PAE	46.94	104	iP	13 23.20	0.5
	1.5s		760.00nm		6.5mb
PPT	46.94	104	P	13 32.30	9.5X
PPT	46.94	104	iP	13 23.60	0.8
	1.5s		740.00nm		6.5mb
PPN	47.08	104	iP	13 24.60	0.8
	1.5s		350.00nm		6.2mb
RKG	47.25	234	eP	13 26.00	1.0
TVO	47.25	104	iP	13 26.10	0.8

27d 21h

| | | |

			iScS	29	25.00	
			eSS	33	59.00	
			eLQ	40	37.00	
			eLR	43	44.00	
MHC	85.73	51	eP	17	30.00	-0.5
			e	18	47.00	328kmX
			ePP	20	45.00	
			e	22	10.00	
			eS	28	12.00	
			eSPP	29	15.00	
			eSS	33	24.00	
			e	33	55.00	
			eLQ	40	40.00	
			eLR	43	29.00	
ARN	85.82	51	P	17	30.00	-0.8
WDC	86.04	48	eP	17	31.20	-0.6
LLA	86.05	52	eP	17	31.70	-0.3
PRI	86.13	52	eP	17	32.40	-0.1
SYP	86.22	54	eP	17	30.00	-3.0X
ORV	86.49	49	eP	17	32.90	-1.1
BRW	86.59	12	eP	17	35.00	1.2
WMQ	86.73	316	ePc	17	34.51	-0.7
	Z 20s		37.10um			6.8Msz
	E 16s		21.30um			
			ec	17	38.48	12kmX
			esP	17	44.77	
			eSKS	27	59.15	
			eS	28	07.97	
LBFM	86.74	47	P	17	35.00	-0.5
CMB	86.88	50	P	17	35.40	-0.6
	1.0s		15.00nm			5.2mb
FRI	87.11	52	eP	17	36.30	-0.7
			eP'P'	43	42.60	
HYB	87.43	288	eP	17	34.00	-5.0X
	1.4s		125.00nm			6.0mb
			e	17	44.50	33kmX
PAS	87.56	55	ePc	17	38.77	-0.5
			ec	17	42.74	
			epPd	17	46.55	24kmX
			esP	17	48.20	
			ePP	21	07.59	
			eSKS	28	01.92	
			eS	28	21.51	
			eSP	29	30.76	
			e	30	07.45	
MWC	87.67	55	eP	17	39.00	-1.1
MWC	87.67	55	eP	17	42.20	2.1
GBA	87.69	284	P	17	40.00	-0.2
ISA	87.71	53	eP	17	41.00	0.9
ISA	87.71	53	eP	17	42.40	2.3
SBB	87.98	54	eP	17	41.00	-0.4
SBB	87.98	54	eP	17	43.80	2.4
PGC	87.99	40	eP	17	41.00	0.1
GMW	88.05	41	P	17	41.00	-0.4
RVR	88.16	55	eP	17	42.00	-0.2
RVR	88.16	55	eP	17	44.30	2.1
CWC	88.23	53	eP	17	43.00	0.3
PEC	88.31	55	P	17	42.30	-0.7
BAR	88.41	56	eP	17	43.00	-0.4
BAR	88.41	56	eP	17	45.70	2.3
PLM	88.42	56	eP	17	43.00	-0.7
LON	88.44	42	ePc	17	41.77	-1.5
			ec	17	46.08	
			epPd	17	51.37	30kmX
			esPd	17	53.52	
			ePP	21	13.82	
CLC	88.44	53	eP	17	43.00	-0.6
CLC	88.44	53	eP	17	45.90	2.3
RMW	88.66	41	P	17	45.00	0.6
KVN	88.88	50	ePc	17	44.70	-1.1
GSC	88.94	54	eP	17	46.00	0.0
TPC	89.26	55	eP	17	46.00	-1.5
TPC	89.26	55	eP	17	49.80	2.3
TNP	89.31	51	ePc	17	46.80	-1.0
GLA	90.01	56	eP	17	51.00	0.0
PNT	90.60	40	eP	17	53.00	-0.3
INK	90.98	20	eP	17	57.00	2.4
	1.2s		58.00nm			5.8mb
NDI	91.00	299	iPd	18	02.00	6.4X
			iPP	21	20.00	
			eS	28	20.00	
BOM	93.07	289	ePKP	18	10.50	5.3X
			ePP	19	02.50	
EDM	95.34	37	eP	18	13.50	-1.6
	1.3s		225.00nm			6.4mb
FRU	95.75	312	e(P)	18	20.00	2.8X
			e(SKS)	28	50.00	

BW06	96.00	48	P	18	17.00	-1.6
SES	96.24	40	eP	18	19.00	-0.3
	0.7s		32.00nm			5.9mb
AIA	96.41	162	e(P)	18	21.00	1.2
ALQ	97.19	56	P	18	24.00	-0.1
	1.0s		15.00nm			5.5mb
	Z 18s		34.12um			6.9Msz
ANMO	97.19	56	ePc	18	27.40	3.3X
			ePP	22	22.22	
			eS	29	51.43	
			eSP	31	17.51	
			e	31	38.48	
MBC	97.86	14	eP	18	27.00	1.0
GOL	98.68	51	P	18	32.50	1.7
GLD	98.80	51	P	18	32.50	1.3
	Z 20s		295.00um			7.8Msz
QUE	100.08	299	Pdiff	18	37.00	-0.4
			eS	31	55.00	
FFC	102.18	36	ePdiff	18	49.00	3.1X
	1.7s		71.00nm			6.0mb
TUL	105.94	56	Pdiff+	19	06.00	2.9X
	Z 20s		57.50um			7.1Msz
			LR	54	00.00	
TUL	105.94	56	(PKP)	23	15.60	0.0
	1.2s		24.10nm			
LNO	105.95	56	(PKP)	23	15.00	-0.5
MAIO	106.76	305	ePdiff	19	09.00	2.1
			i	22	45.00	
			e	23	38.00	
UYO	106.98	58	e(PKP)	23	27.50	9.9X
RSON	107.27	40	PKP+	23	30.00	12.4X
	Z 19s		105.40um			7.4Msz
CCM	109.60	54	ePdiff	19	23.04	3.7X
			ePP	23	55.01	
			eSKS	29	59.45	
			eS	31	30.74	
			eSP	33	23.06	
SLM	110.38	53	PKP	23	35.00	11.1X
	Z 19s		35.40um			7.0Msz
KBS	110.58	354	ePdiff	19	24.00	1.2
RSCP	114.25	56	PKP	23	45.00	13.5X
	Z 20s		40.56um			7.0Msz
KEV	114.91	344	ePKP	23	36.00	4.4X
	Z 22s		20.20um			6.7Msz
			e	24	32.00	
			e	32	16.00	
			e	34	12.00	
			e	40	28.00	
			e	44	40.00	
			LR	03	10.00	
SOD	116.56	342	iPKP	23	36.20	1.4
			i	23	47.80	
NNA	116.92	110	ePdiff	20	00.00	7.5X
	Z 22s		11.11um			6.4Msz
			i	24	48.00	
KER	116.94	303	ePKP	23	36.00	-0.8
TAB	117.17	307	ePdiff	20	01.00	7.8X
			e	23	19.00	
			e	24	40.00	
RYD	117.82	292	ePKP	23	38.50	-0.1
ANT	117.94	124	ePdiff	20	05.20	8.5X
			e	25	46.40	
NPA	117.95	246	ePKP	23	39.30	0.3
SLY	118.13	304	ePKPc	23	38.00	-0.8
			ePP	25	02.00	
			ePPP	27	21.50	
			eSKS	30	22.00	
			ePS	35	06.00	
OBN	119.02	328	ePKP	23	39.00	-0.8
	1.2s		44.00nm			
	Z 18s		54.00um			7.2Msz
			eSKS	30	43.00	
UPA	119.11	86	ePdiff	20	05.00	2.9X
	Z 20s		32.98um			7.0Msz
			i	23	40.90	
			i	25	02.00	
BHD	119.30	302	ePKPc	23	41.00	-0.1
			ePP	25	09.00	
			e	26	08.00	
			eSKS	30	46.00	
			eSKKS	32	20.00	
			ePS	34	46.00	
SUF	119.68	338	ePKP	23	39.60	-1.3
	0.6s		8.90nm			
PUL	119.77	334	ePKP	23	47.00	5.9X
			eSKS	29	50.00	
MSL	119.92	306	ePKP	23	38.00	-4.2X

			ePP	25	09.50	
			eSKS	30	33.00	
			eSKKS	32	10.00	
			ePS	35	03.50	
QASM	120.57	294	ePKP	23	44.30	0.5
SEK	121.30	227	iPKPd	23	45.50	0.2
	0.4s		8.47nm			
			i	33	36.00	
NUR	121.63	337	iPKP	23	44.90	0.3
	0.9s		47.30nm			
	Z 22s		27.60um			6.9Msz
			i	23	49.60	
			e	25	24.00	
			e	33	12.00	
			e	41	54.00	
			LR	11	06.00	
SCH	121.78	31	ePKP	23	44.00	-1.2
BLF	121.86	226	ePKP	23	50.70	4.4X
SLR	122.27	230	iPKPc	23	47.00	-0.2
	1.5s		125.00nm			
	Z 20s		74.47um			7.3Msz
CNCB	123.07	118	PKP	23	49.00	-0.4
LPB	123.09	118	PKP	23	41.00	-8.3X
	Z 22s		35.56um			7.0Msz
			i	23	51.00	
			PP	25	22.00	
			LR	03	40.00	
ZOBO	123.18	118	Pdiff	20	32.00	11.1X
			LR	03	32.00	
KSR	123.23	229	ePKP	23	43.50	-5.6X
	0.9s		7.69nm			
HRV	123.75	46	ePdiff	20	27.81	5.7X
			ePP	25	28.50	
			eSKS	30	55.31	
			eS	33	43.04	
			eSP	35	32.84	
BOG	123.82	92	ePdiff	20	30.00	6.4X
			ePP	25	38.00	
CCH	124.40	120	PKP	23	53.50	1.8
SIM	124.42	317	e(Pdif	20	20.00	-5.1X
			eSKS	30	52.00	
NAI	124.50	261	iPKPd	23	53.50	1.6
UPP	124.65	339	iPKP	23	51.70	1.2
BUL	124.94	236	iPKPc	23	52.00	-0.5
	0.9s		16.81nm			
	Z 18s		98.97um			7.5Msz
	N 19s		68.06um			
HFS	125.74	341	ePKP	23	52.20	-0.5
	0.7s		6.10nm			
	Z 20s		17.82um			6.7Msz
			LR	09	16.00	
NB2	125.76	343	PKP	23	51.90	-0.9
	1.0s		24.50nm			
KAS	125.87	313	iPKPc	23	54.50	0.9
HLBJ	126.22	302	PKPd	23	55.00	0.4
HRI	126.46	303	ePKP	23	52.00	-3.1X
SHMJ	126.55	303	PKPc	23	57.10	2.0
AYN	126.99	298	ePKP	23	56.90	0.9
ANTO	127.05	312	ePKP	23	55.73	-0.2
			ePP	25	57.48	
DSI	127.08	301	ePKP	23	53.00	-3.1X
SRFA	127.68	298	ePKPd	23	58.00	0.7
HQL	127.75	298	ePKPd	23	58.10	0.6
LFK	127.79	306	ePKP	23	57.80	0.3
MBH	127.82	299	ePKP	23	57.00	-0.6
SDV	127.82	87	ePKP	23	55.40	-2.9
BADA	127.90	298	ePKP	23	58.00	0.2
CLI	128.11	322	ePKPd	23	58.00	0.3
CFR	128.19	320	ePKPd	23	58.00	0.2
WAR	128.40	331	ePKP	23	58.00	0.0
	Z 18s		41.00um			7.2Msz
			e	26	10.00	
			e	26	56.00	
			e	27	24.00	
			e	34	02.00	
			e	35	20.00	
TLB	128.53	319	ePKPd	23	59.00	0.5
GPA	128.70	313	ePKP	23	59.00	0.0
TOV	128.75	86	ePKP	23	59.00	-0.9
PSN	128.83	318	ePKP	24	00.00	0.9
CVO	129.13	321	ePKPd	24	00.00	0.3
ISR	129.23	320	ePKPd	24	01.00	1.1
YLV	129.27	314	iPKP	23	58.90	-1.2
ISK	129.30	315	ePKP	24	01.90	1.9
ITU	129.31	315	iPKPd	24	04.00	3.9X
FISA	129.35	84	ePKP	24	01.00	0.0
MLR	129.43	321	iPKPd	24	00.20	-0.2

27d 21h

BCK	129.45	310	ePKP	24	00.10	-0.5		E	20s	11.70um						e	27	46.40				
COP	129.62	338	ePKP	24	04.00	3.9X	WIT	133.95	340	ePKP	24	11.50	3.0X	DLE	136.91	350	ePKP	24	15.80	1.7			
	Z 20s	44.68um			7.2Msz					e	24	23.50		DOU	136.93	339	PKP	24	03.80	-10.5X			
			i	27	14.00		KHC	134.00	332	ePKP	24	08.80	0.0				e	24	10.00				
			i	43	44.00			Z 21s	39.00um				7.1Msz				e	27	03.00				
CTT	129.70	315	ePKP	24	00.00	-0.8		N 20s	25.00um								SKSP	36	36.00				
UZH	129.90	326	ePKP	24	02.50	1.6		E 23s	25.00um								SS	44	08.00				
BUC1	129.92	320	ePKP	23	58.00	-3.1X				e	26	38.00		STR	136.96	335	PKP	24	07.51	-6.8X			
KHL	129.96	311	ePKP	24	01.00	-0.5	SKO	134.01	319	ePKP	23	58.50	-10.5X	TRN	137.05	86	ePKP	24	06.80	-8.7X			
KRA	130.29	329	ePKP	24	01.00	-0.6		1.2s	132.00nm					CTI	137.11	330	PKP	24	14.18	-0.7			
	1.8s	179.00nm						Z 22s	20.52um				6.8MszX		1.6s	128.00nm							
	Z 18s	33.70um			7.1Msz			N 20s	11.58um					LCI	137.11	319	PKP	24	14.90	0.0			
	N 18s	25.60um						E 23s	25.73um					WLS	137.26	335	PKP	24	07.94	-7.1X			
		e	24	09.50						i	24	08.50		BRT	137.29	320	PKP	24	18.31	3.0X			
		e	24	19.50						i	24	14.00			1.7s	741.70nm							
		e	26	19.00						e	24	15.20		CDF	137.30	336	PKP	24	05.09	-10.1X			
		e	34	32.00						iPP	26	40.00		FEL	137.41	334	PKP	24	07.77	-7.7X			
KQT	130.39	300	ePKP	24	03.00	0.6				i	27	23.00		ETA	137.43	350	ePKP	24	20.90	5.8X			
JMB	130.41	317	ePKP	24	03.00	0.9				i	27	36.90		AOI	137.79	326	ePKP	24	15.32	-0.9			
SPC	130.67	328	ePKP	24	02.80	0.1				iPKS	27	44.50		MOF	137.80	335	PKP	24	06.99	-9.2X			
		e	26	26.40						i	27	51.80		ECP	137.95	350	ePKP	24	17.90	1.8			
HLW	130.82	300	ePKP-	24	09.00	5.7X				iPPP	29	35.00		BSF	137.95	335	ePKP	24	14.40	-2.1			
		i	26	26.00						iSKS	31	26.00			1.0s	33.60nm							
		e	27	16.00						iSKKS	33	52.00		SAL	137.97	330	PKP	24	17.07	0.7			
PVL	130.90	319	iPKPd	24	04.00	1.0				iSKSP	36	40.00			0.1s	70.30nm							
KSP	131.55	332	ePKP	24	04.30	0.3				i	39	36.00		FG2	137.99	323	PKP	24	16.28	-0.3			
		e	24	10.30						iS	44	19.00		HAU	137.99	336	ePKP	24	14.60	-1.8			
		e	26	32.50			WET	134.31	332	ePKP	24	09.80	0.4		1.1s	29.30nm							
		i	27	30.50				Z 19s	34.70um				7.1Msz	SSO	138.06	326	ePKP	24	15.17	-1.5			
KDZ	131.55	317	ePKP	24	04.00	-0.4	ATH	134.32	313	ePKP	24	14.00	4.3X	RSM	138.16	327	PKP	24	15.92	-0.8			
IZM	131.59	312	iPKP	24	12.20	7.6X	EKA	134.35	348	PKP	24	18.00	8.8X		2.1s	288.50nm							
PSZ	131.62	327	ePKP	24	04.30	-0.1		2.0s	125.40nm					ARV	138.18	326	PKP	24	16.10	-0.8			
RDO	131.69	316	ePKP	24	05.00	0.4	KMR	134.49	330	ePKP+	24	09.00	-0.7		1.4s	182.90nm							
EZN	131.70	314	ePKP	24	02.40	-2.2				i	24	19.20		MDI	138.24	331	PKP	24	18.50	1.7			
OLLA	131.70	86	ePKP	24	05.00	-0.5				ePP	26	41.00		CIO	138.27	326	ePKP	24	15.24	-1.9			
LLAV	131.75	86	ePKP	24	05.00	-0.6	WTS	134.58	339	ePKP	24	10.00	0.3	ALP	138.30	325	ePKP	24	15.16	-2.1			
PLD	131.82	318	ePKP	24	05.00	0.2		1.0s	25.00nm					LOMF	138.32	335	PKP	24	04.33	-12.8X			
PGB	131.97	318	iPKP	24	05.00	-0.2				e	24	25.00		SFI	138.49	328	PKP	24	19.95	2.6X			
RZN	132.00	317	ePKP	24	05.00	-0.4				ePP	26	52.00			1.4s	768.20nm							
BUD	132.35	327	ePKP	24	04.00	-1.6				eSKP	27	39.50		DUI	138.50	323	PKP	24	14.77	-2.8X			
SRO	132.53	328	e(PKP)	24	06.80	0.8	KZN	134.62	317	ePKP	24	11.00	0.7		1.5s	103.70nm							
		e	26	26.90			GRF	134.65	334	ePKP	24	10.00	0.0	TDS	138.52	319	PKP	24	15.30	-2.3			
		e	26	40.90				Z 18s	33.00um				7.1Msz		1.4s	113.70nm							
		i	27	34.10						e	24	19.20		PGD	138.59	328	PKP	24	13.50	-4.3X			
BRG	132.59	333	iPKPd	24	06.70	0.7	GRFO	134.65	334	ePKP	24	11.96	2.0	VAI	138.61	332	PKP	24	11.88	-5.6X			
	Z 20s	36.00um			7.1Msz		AGG	134.84	315	ePKP	24	10.50	-0.2		2.6s	2668.40nm							
	N 20s	32.00um					PTJ	134.99	327	ePKP	24	08.50	-2.3	ASS	138.62	326	PKP	24	14.00	-3.7X			
	E 20s	17.00um					ZAG	135.03	327	ePKPd	24	11.20	0.4	CRE	138.63	327	PKP	24	13.50	-4.3X			
		i	24	14.50			DBN	135.05	340	ePKP+	24	08.00	-2.6X	SGO	138.65	321	PKP	24	12.50	-5.2X			
		i	24	24.00				Z 20s	9.00um				6.5Msz	AQU	138.67	325	PKP	24	18.10	0.2			
		e	26	40.00						ePP	26	49.00		MGR	138.74	320	PKP	24	13.00	-5.0X			
		eSKP	27	31.00						eSKP	27	38.00		VAL	138.76	353	PKP	24	10.00	-7.6X			
		eSKKP	36	53.00						eSPP	39	00.00		SDI	138.85	324	PKP	24	14.52	-3.7X			
		ePS	37	16.00						eSKKS	40	42.00			1.6s	140.60nm							
CLL	132.69	334	iPKP	24	07.00	0.8				eSS	44	35.00		FIR	138.90	328	ePKP	24	14.00	-4.1X			
	2.3s	93.00nm								eSSS	50	30.00					iPP	27	20.00				
	Z 17s	33.00um			7.1MszX		SDA	135.22	320	ePKP	24	11.00	-0.2				i(SKS)	30	50.00				
		e	24	14.00			TIR	135.34	319	ePKP	24	09.20	-2.3	GRI	138.93	318	PKP	24	09.19	-9.2X			
		iSKP	27	32.70			LSK	135.48	317	ePKP	24	02.70	-9.3X		1.0s	99.50nm							
MMB	132.71	318	ePKP	24	05.00	-1.6	KBA	135.55	330	ePKP	24	10.00	-2.0	RFI	139.00	323	PKP	24	19.18	0.8			
ZST	132.91	329	e(PKP)	24	08.00	1.3				e	24	22.00			1.1s	76.10nm							
		e	26	40.00						e	26	49.00		BDI	139.04	329	PKP	24	18.47	0.0			
		e	27	35.00						ePP	26	54.00			0.9s	138.50nm							
PRU	132.95	332	PKP	24	07.20	0.5				iPKS	27	42.60		MNS	139.06	325	PKP	24	16.52	-2.0			
	Z 20s	37.40um			7.1Msz		VBY	135.62	327	iPKP	24	12.50	0.6		1.4s	336.20nm							
	N 20s	30.50um					VAO	135.64	140	ePKP	24	15.50	2.7X	BOB	139.11	330	PKP	24	20.02	1.4			
	E 20s	11.90um					LJU	135.65	328	ePKP	24	11.60	-0.4		1.9s	458.60nm							
		e	24	12.50			CEY	135.91	328	ePKP	24	12.40	-0.1	ORX	139.15	332	PKP	24	18.45	-0.2			
		PP	26	37.00			ITM	135.95	313	ePKP	24	07.50	-5.4X	ORO	139.16	332	PKP	24	19.18	0.5			
		PPP	27	34.80			VOY	135.99	328	ePKP	24	07.30	-5.5X		0.1s	3.10nm							
KKB	133.00	318	ePKP	24	07.00	-0.1				e	24	12.00		PII	139.32	328	PKP	24	17.84	-1.0			
BEO	133.10	323	ePKP	24	06.00	-1.1	SRN	136.01	317	ePKP	24	12.10	-0.7		0.1s	4.70nm							
		i	27	36.00			FVI	136.17	330	PKP	24	12.60	-0.3	RMP	139.42	324	PKP	24	19.26	0.1			
VKA	133.27	329	ePKP	24	03.50	-3.9X		3.0s	535.90nm						0.2s	21.50nm							
	3.5s	1384.00nm					RIY	136.19	327	ePKP	24	11.80	-1.2	RDP	139.45	324	PKP	24	19.50	0.2			
		i	24	08.50			TRI	136.27	328	ePKPc	24	12.40	-0.7		0.1s	127.60nm							
		i	24	18.20						e	27	46.00		LOR	139.57	337	ePKP	24	15.90	-3.4X			
		e(PP)	26	33.00						e	36	50.00			1.4s	65.30nm							
		e	27	00.00						eLR	11	00.00		SOI	139.58	318	PKP	24	17.84	-1.6			
KNT	133.46	317	ePKP	24	06.80	-1.2	UCC	136.42	340	PKP	24	16.00	2.8X		1.5s	187.40nm							
SOP	133.52	328	ePKP	24	10.00	2.1				e	27	03.00		GMB	139.65	318	PKP	24	21.26	1.4			
VAY	133.60	318	ePKP	24	03.50	-4.7X				e	44	58.00			0.7s	30.90nm							
MOX	133.77	334	ePdiff	21	08.00	1.4X	SNF	136.69	340	PKP	24	13.40	-0.4	LSD	139.66	333	PKP	24	15.18	-4.6X			
MOX	133.77	334	ePKP	24	08.00	-0.3				e	27	03.20		PCP	139.71	331	PKP	24	15.95	-3.7X			
	2.2s	63.00nm					GWF	136.71	336	PKP	24	03.91	-10.0X	LBF	139.76	337	ePKP	24	16.30	-3.3X			
	Z 20s	30.00um			7.0Msz		WLF	136.73	338	PKPc	24	13.80	0.0		1.4s	60.90nm							
	N 18s	24.00um								e	27	06.30		RSP	139.85	332	PKP	24	16.34	-3.6X			

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SSF   139.87 337 ePKP  24 16.50  -3.3X
       1.4s     75.80nm
MAO   139.88 326 PKP   24 18.86  -1.1
       1.8s    393.20nm
ATN   139.92 318 PKP   24 25.50   5.3X
       0.7s      6.90nm
CKI   139.92 331 PKP   24 19.39  -0.6
       1.1s     53.40nm
BDF   140.00 131 ePKP  24 12.11  -8.9X
                 ePP   27 16.44
SMF   140.09 337 ePKP  24 16.60  -3.6X
       1.2s     66.60nm
FIN   140.12 331 PKP   24 18.45  -1.9
BNI   140.19 333 PKP   24 21.00   0.4
ROB   140.21 331 PKP   24 16.72  -3.9X
RRL   140.24 333 PKP   24 19.99  -0.8
DOI   140.35 332 PKP   24 21.80   1.0
PZZ   140.41 332 PKP   24 19.80  -1.2
ENR   140.48 331 PKP   24 18.26  -2.8X
IMI   140.49 331 PKP   24 17.68  -3.4X
STV   140.51 331 PKP   24 20.18  -1.0
BGF   140.54 338 ePKP  24 17.80  -3.2X
       1.4s    100.10nm
AUTN  140.65 331 PKP   24 07.38 -14.2X
SBF   140.75 331 ePKP  24 17.80  -3.8X
       1.2s    101.10nm
MAF   140.93 338 ePKP  24 17.90  -3.8X
       1.4s     74.00nm
CVF   140.99 328 ePKP  24 18.40  -3.6X
       1.2s     91.60nm
TCF   141.01 338 ePKP  24 19.00  -2.9X
       1.4s     74.00nm
FRF   141.35 331 ePKP  24 19.30  -3.2X
       1.2s     89.20nm
MFF   141.55 341 ePKP  24 19.60  -3.2X
       1.1s     87.90nm
LRG   141.56 332 ePKP  24 19.90  -3.0X
       1.1s    107.40nm
LMR   141.58 331 ePKP  24 19.70  -3.3X
       1.0s     68.00nm
CVT   141.93 319 PKP   24 24.21   0.5
       1.2s    126.90nm
PTS   142.96 319 PKP   24 28.28   2.7X
       1.3s    166.10nm
CGL   142.98 324 PKP   24 29.15   3.5X
       0.6s     21.50nm
BCAO  143.58 263 ePKP  24 24.11  -3.2X
                 e     24 25.93
                 ePP   25 13.00
ETER  144.06 334 e(PKP)24 26.00  -1.2
EPF   144.48 337 ePKP  24 23.80  -4.2X
ESCF  144.78 338 PKP   24 27.75  -0.8
MADF  144.81 338 PKP   24 27.44  -1.1
ATE   144.82 338 PKP   24 27.69  -0.9
ELYF  144.85 339 PKP   24 27.44  -1.2
ISSF  144.90 338 PKP   24 28.88   0.0
BOH   144.92 339 PKP   24 28.31  -0.5
LHE   144.94 338 PKP   24 28.95   0.1
ESEL  146.06 331 e(PKP)24 31.20   0.5
EBR   146.28 335 ePKP  24 28.00  -3.0X
EROQ  146.31 335 e(PKP)24 33.00   1.9
EMON  146.49 346 ePKP  24 32.00   0.6
STS   147.28 34B e(PKP)24 35.50   2.9X
ETOR  147.29 338 ePKP  24 33.80   1.0
ERUA  147.43 345 e(PKP)24 36.00   3.1X
ECHE  147.92 335 e(PKP)24 37.80   4.0X
GUD   148.18 340 ePKP  24 36.00   1.7
PDCR  148.34 137 ePKP  24 33.30  -1.8
                 e     24 35.30
                 e     25 12.80
TOL   148.83 340 ePKP  24 37.79   2.6
                 ePKS  27 50.00
                 iPP   28 08.00
                 ePS   38 42.00
                 iSS   47 13.00
                 iSSS  53 01.00
EVIA  149.35 336 e(PKP)24 41.60   5.4X
EBAN  150.26 338 e(PKP)24 43.00   5.6X
ENIJ  150.66 334 e(PKP)24 43.80   5.8X
ASMO  150.95 337 ePKP  24 43.00   4.4X
AFC   150.96 336 e(PKP)24 43.80   5.1X
CRT   151.04 336 ePKP  24 46.20   7.5X
EHOR  151.09 339 ePKP  24 45.00   6.4X
AAPN  151.13 337 ePKP  24 44.10   5.2X
ACHM  151.20 337 ePKP  24 45.00   6.1X
APHE  151.28 336 ePKP  24 45.20   6.1X
LIS   151.40 346 iPKPd 24 46.40   7.4X
ATEJ  151.44 337 ePKP  24 45.00   5.6X
EVAL  151.79 341 ePKP  24 47.40   7.7X
EPRU  151.85 339 ePKP  24 47.80   7.9X
EJIF  152.39 338 e(PKP)24 51.60  11.0X
TAF   152.55 332 ePKP  24 42.00   1.0
                 i     24 48.00
IFR   154.84 335 iPKPc 24 45.00   0.7
AVE   155.92 339 ePKP  24 46.00   0.5
                 i     25 14.00
                 i     26 02.00
                 i     28 57.00
TIO   157.97 336 iPKP  24 49.00   0.6
                 i     25 29.50
                 i     29 09.40
WEGH  162.04 254 ePKP  24 35.00 -17.9X
KOGH  162.11 256 ePKP  24 54.00   1.0
KUK   162.26 256 ePKP  24 54.00   0.9
KIC   166.43 251 PKPc  24 56.98   0.1
       1.5s    107.50nm
LIC   166.64 250 PKP   24 56.96  -0.1
       1.5s     93.00nm
TIC   166.79 252 PKP   24 57.18   0.0
      S.D. = 1.1  on 354 of 493 obs.
-------------------------------------
*  OCT 27, 1989  21h 53m 15.74± 2.73s
   22.868 N ±20.6km  120.758 E ±14.4km
   DEPTH =  10.0km  (geophysicist)
 TAIWAN                          (244)

TWG     0.29  99 iPc   53 21.90   0.0
                eS    53 38.70
TWK     0.47 328 iPd   53 25.80   0.5
TWF1    0.69  46 iPd   53 30.20   0.8
                eS    53 53.10
TWQ     1.40   3 iPd   53 40.50  -0.8
TWD     1.43  32 ePc   53 41.10  -0.6
TWZ     2.34  19 ePc   53 55.00   0.1
      S.D. = 0.8  on   6 of   6 obs.
-------------------------------------
&  OCT 27, 1989  22h 15m 59.60s
   36.992 N          121.752 W
   DEPTH =  11.0km
 CENTRAL CALIFORNIA              ( 39)
      <BRK>. ML 3.0 (BRK).

GCC     0.20 281 iPc   16 03.60  -0.5
SAO     0.33 133 iPd   16 06.10  -0.5
MHC     0.36  14 iPc   16 07.00  -0.1
ARN     0.40  26 iPd   16 07.80   0.0
PCC     0.71 315 eP    16 12.60  -1.0
PRS     0.73 155 iPd   16 13.10  -0.7
LLA     0.75 120 iPd   16 13.60  -0.6
BRK     0.97 335 eP    16 16.90  -1.0
                eS    16 30.70
PRI     1.22 134 eP    16 21.80  -0.5
CMB     1.51  46 eP    16 24.70  -1.9
PHAM    1.59 136 eP    16 26.80  -0.9
FRI     1.64  89 ePd   16 28.80   0.4
BCH     2.25 143 eP    16 35.30  -2.2
ORV     2.57   4 eP    16 41.20  -0.6
KVN     3.54  53 eP    16 56.50   0.7
       15 obs. associated
-------------------------------------
*  OCT 27, 1989  23h 01m 47.92± 1.90s
    7.274 S ±12.9km  128.883 E ±15.3km
   DEPTH =  95.5 ± 17.8 km
   4.3mb (  4 obs.)
 BANDA SEA                       (280)

TLE     4.17  67 iPd   02 50.50   0.0
                iS    03 36.00
MTN     5.96 158 eP    03 17.00   1.7
                e     03 30.00
                eS    04 19.00
KUG     5.97 241 ePd   03 24.00   8.6X
                eS    04 26.00
KNA     8.42 181 eP    03 49.20   0.1
       0.3s     34.00nm          5.5mb X
                eS    05 14.00
WB5    13.61 158 eP    04 56.60  -1.7
                eS    07 18.00
WRA    13.66 158 Pd    04 57.30  -1.6
       0.4s      3.40nm          4.1mb
MBL    16.34 211 iPc   05 32.30  -0.7
                eS    08 23.00
ASPA   17.00 164 eP    05 42.30   1.1
       0.7s     15.00nm          4.3mb
                eS    08 33.90
WARB   18.93 186 eP    06 04.40   0.3
                eS    09 27.00
NANU   19.91 219 eP    06 14.00  -0.4
       0.3s      7.00nm          4.5mb
                eS    09 43.00
FORR   23.47 182 eP    06 50.00   0.4
       0.4s      6.00nm          4.3mb
MRWA   24.98 207 eP    07 05.00   0.8
       0.5s     27.00nm          4.9mb X
                eS    11 40.00
STK    27.20 156 eP    07 24.70   0.1
                e     08 05.00
                e     12 40.00
MAIO   78.00 309 eP    13 43.40   5.7X
CNCB  150.83 145 PKP   21 33.50   7.0X
LPB   150.99 145 PKP   21 33.00   6.5X
ZOBO  151.18 144 PKP   21 27.00   0.0
      S.D. = 1.1  on  13 of  17 obs.
-------------------------------------
*  OCT 27, 1989  23h 26m 24.35± 2.08s
   10.942 S ±17.7km  162.709 E ±18.7km
   DEPTH =  53.3 ± 16.4 km
   4.5mb (  2 obs.)
 SOLOMON ISLANDS                 (193)

HNR     3.11 299 eP    27 12.00   0.0
                eS    27 54.00
DZM    11.63 163 iPc   29 10.20  -0.2
CTA    18.26 238 iPd   30 36.50   0.8
WB5    28.69 249 eP    32 18.80   0.1
WRA    28.73 248 Pd    32 17.80  -1.3
       0.4s      1.00nm          3.8mb
MRWA   47.14 240 iPd   34 53.60   0.1
       0.4s     13.00nm          5.2mb
BCAO  143.94 262 iPKPd 45 57.00   0.4
       0.4s      5.00nm
PDCR  148.16 136 ePKP  46 09.80   6.4X
                e     46 15.30
      S.D. = 0.9  on   7 of   8 obs.
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&  OCT 28, 1989  00h 53m 42.99s
   61.547 N          150.570 W
   DEPTH =  47.1km
 SOUTHERN ALASKA                 (  2)
      <AGS-P>. ML 3.2 (PMR).

SUA     0.12 225 iP    53 50.91   1.8
                eS    53 57.40
PWA     0.35  72 iPc   53 54.00   1.7
PMS     0.57 122 iPc   53 54.80  -0.3
SKT     0.63 314 iP    53 54.92  -0.9
PMR     0.69  86 iPc   53 55.80  -0.8
CGLM    0.73 251 iP    53 56.67  -0.6
                eS    54 07.20
PME     0.74  83 iP    53 56.64  -0.6
                eS    54 08.65
NCG     0.78 260 iP    53 57.33  -0.5
                eS    54 08.55
SPU     0.80 244 iP    53 57.40  -0.8
                eS    54 08.75
CRP     0.81 250 iP    53 57.82  -0.6
                eS    54 09.63
CUT     0.87   9 eP    53 58.28  -0.8
BGL     0.92 253 iP    53 59.16  -0.7
CKL     0.92 248 iP    53 59.05  -0.8
SLKM    1.06 171 iP    54 00.65  -1.0
RDT     1.32 223 iP    54 04.60  -0.9
                eS    54 22.25
HUR     1.50  17 eP    54 07.87   0.0
SEW     1.55 159 eP    54 08.62   0.1
NNL     1.55 194 eP    54 08.98   0.4
RED     1.56 224 eP    54 08.01  -0.8
                eS    54 26.65
GLI     1.81 110 eP    54 10.61  -1.7
NCA     1.84  74 eP    54 12.17  -0.5
                eS    54 36.08
ILIM    1.88 220 eP    54 12.14  -1.2
                eS    54 37.02
RND     2.03  22 eP    54 14.67  -0.8
                eS    54 40.91
VLZ     2.08 100 eP    54 15.02  -1.1
FID     2.14 110 eP    54 15.12  -1.8
TOA     2.16  73 iPc   54 17.30   0.0
OPT     2.31 216 eP    54 19.65   0.3
SVW     2.48 262 iPc   54 19.90  -1.9
PAX     2.78  57 eP    54 25.66  -0.6
```

28d 00h

TTA	2.90	301	eP	54 25.90	-2.0
FBA	3.59	19	ePc	54 36.30	-1.3
IMA	4.74	344	eP	54 52.30	-1.6
	32 obs. associated				

OCT 28, 1989 01h 35m 53.70± 0.26s
51.600 N ± 2.2km 16.086 E ± 3.2km
DEPTH = 10.0km (geophysicist)
4.7mb (4 obs.)
POLAND (548)
ML 5.1 (GRF), 4.8 (FUR), 4.8 (KBA), 4.7 (VKA).

KSP	0.77	170	iP	36 08.50	-0.2
			iS	36 17.00	
BRG	1.53	242	iPnd	36 22.50	1.4
			iPg	36 24.00	
			iSg	36 46.00	
PRU	1.89	212	Pnd	36 27.00	0.7
	3.0s		2.00nm		
			Sg	36 50.50	
			e	49 18.00	
			Sn	49 30.30	
			Sg	49 36.00	
CLL	1.95	263	iPnd	36 29.10	1.9
	1.2s		240.00nm		
			iPg	36 32.60	
			iSn	36 53.00	
			iSg	36 59.00	
KRA	2.89	121	eP	36 40.30	-0.3
			iS	37 26.90	
KHC	2.95	214	iPn	36 42.20	0.8
			iPg	36 48.20	
			eSn	37 08.20	
			eSg	37 21.00	
MOX	2.97	253	iPn	36 43.50	1.7
			iPg	36 51.00	
			iSn	37 17.00	
			iSg	37 30.00	
WET	3.20	221	iPnd	36 46.30	1.3
VKA	3.34	177	ePnd	36 47.50	0.4
			iPgc	36 56.50	
			i	37 22.90	
			iSg	37 40.20	
			i	37 42.00	
ZST	3.47	169	iPn	36 49.90	1.1
			i(Pb)	36 57.70	
			i(Sn)	37 40.80	
SPC	3.59	131	ePn	36 51.70	1.0
			iPg	37 37.70	
			i	37 41.80	
GRF	3.64	240	iPnd	36 52.60	1.4
			ePg	37 06.30	
			eSg	37 50.80	
KMR	3.77	200	ePn+	36 52.00	-1.1
			i	37 04.80	
			iSg	37 48.30	
			i	37 53.00	
SOP	3.93	175	eP	36 57.10	1.7
SRO	4.06	158	iPn	36 58.20	1.1
			i	37 12.70	
			i(Sn)	38 02.60	
PSZ	4.43	145	iP	37 02.80	0.2
BUD	4.54	154	iPc	37 04.50	0.5
COP	4.63	333	iPc	37 32.60	27.3X
			i	38 57.00	
			i	39 17.00	
FUR	4.64	224	iPc	37 06.00	0.6
KBA	4.87	203	iPnd	37 08.90	0.0
			ic	37 09.40	
			i	37 17.20	
			iPgPg	37 28.60	
			i	38 12.90	
			i	38 29.20	
DEL	5.05	346	iPn	37 12.10	0.9
			i	37 39.50	
			iSn	38 08.10	
			i	38 55.40	
FVI	5.46	205	P	37 17.00	0.0
			eSn	38 48.40	
BNS	5.63	267	ePc	37 20.60	1.2
	1.3s		952.00nm		6.3mb X
			i	38 59.70	
LJU	5.66	191	ePn	37 20.00	0.2
			e(Sn)	38 37.00	
PTJ	5.71	181	iPnc	37 20.50	-0.1
			eSn	38 37.10	
VOY	5.76	195	ePn	37 20.80	-0.5
			eSn	38 42.00	
WTS	5.77	278	iPnc	37 23.70	2.4
	1.0s		53.00nm		5.2mb X
			ePg	37 48.50	
			e(Sb)	39 01.50	
			iSg	39 18.00	
ZAG	5.79	181	ePn	37 21.00	-0.7
			i(Sn)	38 32.00	
WIT	5.92	286	iPnc	37 26.90	3.5X
			e(Sn)	38 55.50	
			e	39 05.50	
			eSg	39 32.00	
CEY	5.97	191	ePn	37 24.00	-0.2
			e(Sn)	38 42.50	
GWF	6.03	247	Pn	37 24.00	-1.0
			Pg	37 59.00	
TRI	6.09	196	e(Pn)	37 25.00	-0.9
			e	38 49.20	
			i(Sn)	39 09.90	
VBY	6.13	185	iPnc	37 26.80	0.4
			iSn	38 56.00	
KLL	6.23	265	ePc	37 28.50	0.7
SLE	6.24	235	eP	37 27.70	-0.4
OSS	6.27	221	eP	37 28.70	0.0
CTI	6.28	210	P	37 29.30	0.6
			eSn	39 10.40	
RIY	6.36	191	iPnc	37 29.30	-0.5
			iS	39 16.80	
FEL	6.42	238	Pn	37 35.50	4.7X
			Pg	38 01.00	
			Sg	39 29.29	
MEM	6.43	265	iPc	37 31.26	0.6
			i	37 32.14	
WLS	6.47	244	Pn	37 31.00	-0.3
			Pg	38 04.00	
WLF	6.61	257	iP	37 32.50	-0.7
VDL	6.71	223	eP	37 35.20	0.3
SAL	7.04	214	P	37 38.60	-0.6
MDI	7.19	218	P	37 42.00	0.7
TMA	7.27	224	eP	37 43.20	0.6
VITF	7.35	247	Pn	37 43.00	-0.5
			Sg	39 55.47	
LOMF	7.38	238	Pn	37 46.00	1.9
			Pg	38 19.50	
			Sg	39 55.67	
BEO	7.38	155	eP	37 46.00	2.0
DOU	7.43	263	Pn	37 46.00	1.3
			Sb	39 32.80	
VAI	7.50	223	P	37 46.00	0.3
			eSn	39 43.40	
SNF	7.52	266	P	37 47.50	1.6
MMK	7.71	227	ePc	37 49.50	0.6
BOB	8.15	216	Pc	37 55.00	0.2
AOI	8.23	193	eP	37 55.31	-0.6
PGD	8.27	203	P	37 55.00	-1.6
UPP	8.32	5	iPn	37 58.20	1.0
			iSn	39 41.60	
			iSg	40 21.00	
			i	40 29.40	
ARV	8.38	196	P	37 53.00	-5.0X
BDI	8.39	208	P	37 56.90	-1.4
CRE	8.45	201	P	37 55.50	-3.6X
FIR	8.48	204	ePn	38 02.00	2.7X
			e($n)	39 30.00	
LSD	8.53	227	P	38 00.81	0.4
UDD	8.62	352	iPn	38 01.70	0.3
			i	38 10.00	
			iSn	39 39.10	
CIO	8.64	194	eP	38 00.13	-1.6
HFS	8.66	352	eP	38 01.70	-0.2
	0.5s		9.80nm		5.4mb X
PCP	8.68	218	P	38 02.45	0.3
ASS	8.84	197	P	38 00.00	-4.5X
CKI	8.88	219	P	38 04.50	-0.4
CLI	8.92	120	iPc	38 06.50	1.1
MLR	8.95	129	ePd	38 13.00	7.1X
BNI	9.06	227	P	38 10.50	2.9X
VRI	9.07	125	eP	38 15.00	7.5X
FIN	9.09	219	P	38 07.58	-0.2
RRL	9.11	226	P	38 08.50	0.1
ROB	9.15	220	P	38 07.89	-0.8
DOI	9.24	223	P	38 09.00	-0.9
PZZ	9.30	224	P	38 09.02	-1.8
ENR	9.39	222	P	38 10.45	-1.6
STV	9.42	222	P	38 10.25	-2.1
IMI	9.46	219	P	38 11.89	-1.1
NRA0	9.50	346	iP	38 12.50	-0.9
SAOF	9.53	220	Pn	38 12.33	-1.6
AUTN	9.58	221	Pn	38 13.44	-1.3
TOUF	9.64	221	Pn	38 14.28	-1.2
AURF	9.71	221	Pn	38 14.89	-1.5
MVIF	9.77	221	Pn	38 16.59	-0.8
NB2	9.84	346	P	38 16.40	-1.8
	0.4s		3.20nm		5.1mb X
CALN	10.00	222	Pn	38 19.63	-0.8
NUR	10.12	25	iP	38 22.80	0.8
	1.2s		193.70nm		6.4mb X
			iS	40 11.80	
			e	40 14.20	
SKO	10.30	157	iP	38 25.40	0.9
OHR	10.98	161	eP	38 19.00	-14.9X
MYV	11.41	356	iPn	38 38.60	-1.0
			iSn	40 44.00	
			i	41 25.00	
SUF	12.39	22	eP	38 52.00	-0.8
	0.3s		4.80nm		5.2mb X
			eS	41 05.50	
UME	12.44	9	iPn	38 53.70	0.2
			iSn	41 06.90	
NSS	13.14	352	eP	39 01.50	-1.3
LOF	16.63	357	iP	39 45.88	-2.2
SOD	16.66	14	iP	39 47.00	-1.4
			eS	42 43.00	
TRO	18.14	3	eP	40 07.00	0.1
KEV	18.92	12	iP	40 17.00	0.5
	0.6s		18.30nm		4.5mb
WMQ	47.02	70	P	44 30.10	3.3X
BCAO	47.05	177	ePc	44 27.10	-0.1
	0.6s		6.00nm		4.9mb
TIY	65.08	60	eP	46 39.20	2.8X
CN2	67.08	48	P	46 51.80	2.8X
SES	68.92	327	eP	47 03.00	2.5X
LNO	74.47	309	eP	47 36.00	2.4X
TUL	74.47	309	eP	47 35.20	1.5
	1.2s		13.20nm		4.8mb
ALQ	80.21	315	eP	48 10.00	4.1X
	1.2s		7.03nm		4.5mb

S.D. = 1.1 on 90 of 107 obs.

% OCT 28, 1989 01h 57m 55.34± 1.34s
40.636 N ± 6.0km 22.331 E ±12.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)

GRG	0.32	9	iPgc	58 02.70	0.6
			eSg	58 08.50	
THE	0.48	90	ePgc	58 04.80	-0.3
			eSg	58 11.50	
LIT	0.55	167	ePg	58 06.60	0.2
			eSg	58 15.10	
KNT	0.68	39	ePg	58 09.00	0.2
			eSg	58 19.10	
VAY	0.71	15	ePn	58 08.30	-1.0
SRS	1.07	63	ePg	58 15.90	0.4

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

OCT 28, 1989 02h 27m 54.42± 0.58s
34.025 N ± 8.3km 135.637 E ± 5.1km
DEPTH = 62.5 ± 10.9 km
NEAR S. COAST OF SOUTHERN HONSHU(233)
MG 4.0 (JMA). Felt (III JMA) at Owase; (I JMA) at Kobe and Naro.

WKYJ	0.20	350	iPd	28 04.10	-0.2
			iS	28 10.20	
OWA	0.47	85	iPd	28 06.50	0.2
			iS	28 14.70	
NAR	0.68	14	eP	28 00.00	-8.6X
KOB	0.76	330	P	28 09.90	0.3X
			iS	28 20.70	
TKSJ	1.32	269	P	28 17.10	0.1
			eS	28 32.60	
TSRJ	1.53	11	iP+	28 20.50	0.6
			S	28 39.30	
YONJ	2.14	304	P	28 28.30	0.0
			S	28 53.20	
IIDJ	2.37	52	iPd	28 32.00	0.4
			S	28 58.20	
MTMJ	3.11	34	P	28 41.90	-0.3
MAT	3.28	39	iPc	28 44.10	-0.3
CHJJ	3.42	53	P	28 46.40	0.0
SHNJ	3.76	273	P	28 51.00	-0.2
			S	29 32.00	

NIIJ 4.22 40 eP 28 57.30 -0.3
KUMJ 4.29 251 eP 28 59.10 0.4
S 29 45.00
KAGJ 4.91 236 P 29 07.00 -0.3
eS 29 58.60
S.D. = 0.4 on 13 of 15 obs.

% OCT 28, 1989 03h 20m 22.82± 0.70s
41.700 N ±10.1km 13.893 E ± 6.4km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

DUI 0.43 95 P 20 30.90 -0.6
eSg 20 37.00
AQU 0.75 331 Pc 20 37.40 -0.1
eSg 20 46.80
RDP 0.88 274 P 20 39.00 -0.8
eSg 20 52.80
RMP 0.90 277 P 20 39.90 -0.1
eSg 20 53.00
MNS 1.13 308 P 20 44.90 0.8
eSg 21 00.50
SGO 1.56 136 P 20 51.40 0.8
ASS 1.65 327 P 20 52.00 0.1
S.D. = 0.8 on 7 of 7 obs.

OCT 28, 1989 04h 42m 24.82± 0.66s
36.587 N ± 9.4km 142.645 E ± 7.2km
DEPTH = 34.1km (2 depth phases)
4.5mb (7 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ 2.03 260 P 42 55.90 -1.4
S 43 21.10
YAMJ 2.61 308 P 43 05.80 0.2
NIIJ 2.99 284 P 43 11.00 0.0
CHJJ 3.00 261 P 43 09.80 -1.3
MAT 3.57 271 eP 43 19.00 -0.2
(S) 44 02.00
MTMJ 3.89 271 P 43 24.30 0.4
IIDJ 3.99 255 eP 43 25.00 -0.3
S 44 13.60
TSRJ 5.50 261 P 43 47.50 1.0
HOOJ 5.81 5 P 43 48.10 -2.8
S 44 51.10
KUSJ 6.69 13 eP 43 57.90 -5.4X
eS 45 11.00
TKSJ 7.49 252 eP 44 14.20 -0.3
ASAJ 7.52 360 eP 44 11.10 -3.8
eS 45 36.30
YONJ 7.58 262 eP 44 14.40 -1.4
MDJ 12.74 313 eP 45 28.00 1.7
N 12s 1.10um
ePP 45 37.00
SNY 15.67 295 eP 46 06.80 2.2
Z 16s 1.70um
N 13s 1.20um
E 10s 0.70um
TIA 20.53 277 eP 47 01.70 -1.2
TIY 24.06 282 eP 47 36.80 -1.1
Z 14s 3.30um 5.0MszX
WHN 24.29 264 P 47 40.00 0.0
Z 12s 1.21um 4.6MszX
pP 47 48.50 30km
esS 52 08.00
HHC 24.55 290 eP 47 44.70 2.0
BTO 25.73 289 eP 47 55.00 1.2
N 14s 0.70um
E 12s 0.50um
eS 52 21.00
XAN 27.56 275 P 48 09.50 -1.1
LZH 31.12 281 Pd 48 42.00 -0.5
1.8s 0.04nm 1.9mb X
Z 16s 1.10um 4.6MszX
E 16s 1.00um
pP 48 52.50 38km
sP 48 57.50
GYA 32.13 262 P 48 52.80 1.4
GTA 33.64 288 eP 49 04.40 -0.1
KMI 35.88 263 P 49 34.00 10.1X
WMQ 41.92 298 eP 50 15.50 1.7
CHTO 42.15 257 eP 50 20.00 4.2X
1.0s 5.00nm 4.2mb
FBA 48.96 32 eP 51 11.00 1.6
1.0s 1.10nm 3.8mb
INK 54.33 27 eP 51 50.00 0.2
WB5 56.70 189 eP 52 06.00 -1.4
WRA 56.77 189 P 52 07.00 -0.9
1.4s 12.60nm 4.8mb
GBA 62.17 267 P 52 58.00 12.7X
KVN 74.24 53 eP 54 01.50 1.1
NB2 74.98 338 P 54 04.50 0.4
1.5s 11.00nm 4.6mb
TNP 75.36 53 eP 54 07.10 0.2
1.1s 3.57nm 4.3mb
KRA 80.01 327 eP 54 35.30 3.3X
BRG 81.93 330 eP 54 57.00 14.9X
CLL 81.97 331 e(P) 54 49.00 6.7X
GRF 83.95 331 eP 54 53.20 0.6
1.8s 19.00nm 4.9mb
e 55 08.00 51kmX
ALQ 84.12 50 eP 54 55.00 1.1
1.1s 4.11nm 4.5mb
SKO 85.16 320 iP 54 59.80 1.1
OHR 86.11 320 eP 55 03.20 -0.4
LPB 146.24 62 PKP 02 05.00 1.8X
CNCB 146.51 62 PKP 02 07.00 3.2X
CCH 148.19 61 ePKP 02 04.00 -2.1X
S.D. = 1.4 on 35 of 45 obs.

& OCT 28, 1989 04h 43m 58.04s
60.099 N 152.298 W
DEPTH = 86.7km
SOUTHERN ALASKA (2)
<AGS-P>.

ILIM 0.33 267 iP 44 10.98 -0.5
eS 44 22.08
RED 0.40 324 P 44 11.48 -0.5
eS 44 22.67
RDT 0.48 354 iP 44 11.97 -0.6
eS 44 23.94
NNL 0.51 96 eP 44 13.46 0.8
OPT 0.65 227 eP 44 13.36 -0.6
eS 44 25.69
XLV 0.71 155 eP 44 13.87 -0.7
eS 44 27.78
BRLK 0.79 115 eP 44 15.49 0.1
NKA 0.83 39 eP 44 17.13 1.3
CKL 1.10 359 iP 44 18.20 -0.9
eS 44 34.60
SLKM 1.11 67 eP 44 18.27 -0.9
CRP 1.17 3 eP 44 19.29 -0.8
eS 44 35.75
CDD 1.36 211 eP 44 20.97 -1.3
SEW 1.43 89 eP 44 21.82 -1.2
eS 44 41.59
SHU 1.48 181 eP 44 22.60 -1.1
eS 44 42.95
SUA 1.57 28 iP 44 24.33 -0.7
iS 44 45.72
PMS 1.77 48 iP 44 27.33 -0.3
16 obs. associated

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* OCT 28, 1989 05h 36m 10.36± 0.83s
21.798 S ± 8.7km 68.916 W ±12.9km
DEPTH = 150.0 ± 14.5 km
CHILE-BOLIVIA BORDER REGION (124)

ANT 2.35 216 iPc 36 50.60 0.6
iS 37 15.50
CNCB 5.04 10 Pd 37 26.80 1.1
CCH 5.11 31 P 37 26.00 -0.4
LPB 5.29 9 P 37 30.00 1.0
ARE 5.84 335 eP 37 35.00 -1.1
iS 38 42.00
ITB1 13.65 105 Pd 39 20.00 1.0
ITB 13.84 105 e(P) 39 20.70 -0.7
LIC 68.48 74 P 46 57.80 -0.8
KIC 68.79 74 Pc 46 59.90 -0.7
0.6s 16.50nm 5.0mb X
GBA 146.98 99 PKPd 55 38.70 3.5X
0.7s 4.00nm
S.D. = 1.2 on 9 of 10 obs.

? OCT 28, 1989 06h 09m 53.68± 1.79s
10.721 S ±20.8km 162.285 E ±16.6km
DEPTH = 33.0km (normal)
4.4mb (3 obs.) 4.1Msz (1 obs.)
SOLOMON ISLANDS (193)

HNR 2.63 299 eP 10 03.00 -31.8X
eS 11 17.00
DZM 11.97 161 iPc 12 44.50 -0.6
iS 14 53.10
CTA 18.03 237 iPd 14 05.00 1.5
0.9s 39.50nm 4.5mb
BRS 18.85 207 iPc 14 13.30 -0.2
RMQ 20.23 217 iPc 14 29.10 0.2
e 15 40.00
COO 21.99 205 eP 14 47.00 0.2
QIS 23.90 243 iPc 15 06.60 1.0
BWA 26.78 206 eP 15 33.40 0.8
WB5 28.39 248 eP 15 47.10 -0.2
WRA 28.43 248 Pc 15 46.60 -1.1
1.1s 6.30nm 4.2mb
ASPA 29.94 241 eP 15 58.90 -2.4
0.8s 5.00nm 4.4mb
Z 18s 0.41um 4.1Msz
LR 26 53.40
PDCR 148.61 137 e(PKP) 29 37.00 0.9
S.D. = 1.2 on 11 of 12 obs.

& OCT 28, 1989 07h 10m 56.72s
61.509 N 146.450 W
DEPTH = 26.7km
SOUTHERN ALASKA (2)
<AGS-P>. ML 3.2 (PMR).

KLU 0.25 93 iP 11 03.28 -0.1
VLZ 0.38 171 iP 11 04.47 -0.6
VZW 0.45 186 iP 11 05.48 -0.8
NCA 0.52 340 iP 11 06.36 -1.0
eS 11 14.80
TOA 0.61 12 iPc 11 08.10 -0.8
GLI 0.70 207 iP 11 09.10 -1.3
eS 11 19.43
FID 0.76 181 eP 11 10.48 -0.9
eS 11 22.13
SDG 1.11 22 eP 11 14.82 -1.7
eS 11 29.05
PME 1.24 277 eP 11 17.47 -0.9
eS 11 34.29
PMR 1.29 275 iPc 11 18.10 -0.9
PMS 1.52 261 iPd 11 22.00 -0.5
PAX 1.54 17 eP 11 21.09 -1.7
eS 11 40.38
MTU 1.64 202 eP 11 24.18 0.1
PWA 1.65 276 iP 11 23.50 -0.7
TGL 1.91 112 eP 11 26.52 -1.7
CUT 2.02 298 eP 11 29.17 -0.4
eS 11 54.38
SEW 2.04 228 eP 11 29.17 -0.7
eS 11 56.98
BALM 2.04 102 eP 11 28.16 -1.9
eS 11 53.61
SUA 2.06 271 eP 11 29.59 -0.8
SLKM 2.09 243 eP 11 29.72 -1.0
HUR 2.10 316 eP 11 29.18 -1.6
RND 2.21 331 eP 11 31.61 -0.8
DDM 2.30 7 eP 11 34.15 0.4
DOT 2.42 26 eP 11 34.05 -1.2
SKT 2.46 283 eP 11 34.36 -1.6
KTH 2.92 317 eP 11 40.18 -2.2
HDA 2.92 356 eP 11 40.37 -2.0
FBA 3.46 350 eP 11 50.50 0.4
DWY 4.11 49 P 11 57.50 -1.8
SVW 4.44 269 eP 12 00.30 -3.8
TTA 4.70 292 eP 12 04.40 -3.3
KDC 4.86 222 e(P) 12 10.80 0.9
IMA 5.58 328 eP 12 18.70 -1.6
33 obs. associated

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* OCT 28, 1989 07h 28m 10.68± 2.14s
37.852 N ±13.5km 20.476 E ±19.2km
DEPTH = 5.0km (geophysicist)
IONIAN SEA (399)
MD 3.2 (ATH).

VLS 0.34 15 ePg 28 17.00 -0.5
ITM 1.33 120 ePb 28 35.50 -0.3
AGG 1.87 51 ePd 28 44.40 0.8
KEK 1.93 344 ePn 28 45.00 0.5
LIT 2.74 34 eP 28 59.60 3.5X
OHR 3.26 4 ePn 29 03.00 -0.6
S.D. = 0.9 on 5 of 6 obs.

OCT 28, 1989 07h 46m 14.94± 0.82s
35.601 N ±10.3km 26.718 E ± 5.4km
DEPTH = 10.0km (geophysicist)
CRETE (370)

28d 07h

MD 4.1 (ATH).

KAP	0.38	97	ePg	46 23.00	0.3
NPS	0.96	250	ePg	46 33.60	0.3
APE	1.75	327	ePb	46 44.50	-1.1
YER	1.98	39	iPn	46 49.30	0.3
VAM	2.06	265	ePg	46 54.00	3.9X
SMG	2.11	3	ePn	46 49.00	-1.6
CIN	2.28	28	eP	46 55.00	1.8
KSL	2.38	77	ePn	46 55.00	0.3
VLI	3.26	291	ePn	47 06.40	-0.7
KHL	3.53	39	ePn	47 11.00	0.1
BCK	3.63	58	ePn	47 13.10	0.7
ITM	4.17	294	ePn	47 21.50	1.4
LFK	5.57	91	ePn	47 38.00	-2.0
DSI	8.27	117	eP	48 11.00	-6.7X
			eS	49 40.00	
PRNI	8.71	125	eP	48 17.00	-6.9X

S.D. = 1.3 on 12 of 15 obs.

? OCT 28, 1989 09h 13m 27.12± 0.95s
38.019 N ± 8.0km 21.878 E ±10.7km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 2.9 (ATH).

ITM	0.84	177	ePb	13 42.60	-0.7
VLS	1.03	279	ePb	13 46.80	0.2
AGG	1.06	19	ePd	13 46.90	-0.3
			eS	14 00.40	
VLI	1.55	147	ePn	13 55.50	0.7
LIT	2.13	13	eP	14 06.60	3.3X

S.D. = 1.1 on 4 of 5 obs.

& OCT 28, 1989 09h 34m 16.60s
40.373 N 124.375 W
DEPTH = 24.0km
NEAR COAST OF NORTHERN CALIF. (35)
<BRK>. ML 3.1 (BRK).

FHC	0.52	35	iPd	34 26.30	-0.8
			iS	34 34.10	
WDC	1.42	81	iPc	34 38.70	-2.3
LTCM	1.73	95	e(P)	34 43.00	-2.5
MIN	2.12	90	ePc	34 48.50	-2.8
LBFM	2.12	62	eP	34 50.40	-1.0
ORV	2.36	109	eP	34 51.90	-2.6
			eS	35 18.20	
PCC	3.26	151	eP	35 04.60	-2.8
			e	35 06.90	
ARN	3.75	143	eP	35 12.50	-1.8
KVN	5.02	103	eP	35 29.80	-2.7

9 obs. associated

? OCT 28, 1989 09h 41m 46.36±11.31s
51.480 N ±57.9km 16.445 E ±77.5km
DEPTH = 10.0km (geophysicist)
POLAND (548)

KSP	0.64	189	iP	41 59.30	0.0
	0.6s		66.00nm		
			iS	42 08.20	
BRG	1.69	250	iPg	42 16.00	0.0
			iSg	42 35.50	
PRU	1.92	220	Pg	42 20.00	0.6
			e	42 24.00	
			Sn	42 37.00	
			eSg	42 44.30	
CLL	2.16	267	(Pg)	42 22.90	0.0
			eSg	42 49.00	
KHC	2.98	219	ePn	42 34.00	-0.6
			ePg	42 39.50	
			eSg	43 04.00	
MOX	3.16	257	ePg	42 42.50	5.4X
			iSg	43 22.00	

S.D. = 0.6 on 5 of 6 obs.

• OCT 28, 1989 12h 33m 37.30± 1.03s
49.181 S ±11.2km 123.378 E ±15.5km
DEPTH = 10.0km (geophysicist)
4.0mb (2 obs.) 3.6Msz (1 obs.)
SOUTH OF AUSTRALIA (437)

RKG	15.82	340	eP	37 13.50	-8.1X
	0.4s		79.00nm		5.3mb X
NWAO	16.88	342	eP	37 34.00	-1.0
MUN	18.01	340	eP	37 49.00	-0.2
KLB	18.07	344	eP	37 50.00	0.0
COOL	18.35	354	eP	37 55.00	1.5
TOO	19.74	62	eP	38 10.00	-0.1
BWA	23.64	61	eP	38 54.70	5.3X
ASPA	26.78	22	eP	39 18.80	-0.3
	Z 20s		0.16um		3.6Msz
			LR	48 26.30	
WRA	30.47	21	P	39 59.00	6.7X
	0.7s		0.70nm		3.6mb
WB5	30.53	21	eP	40 00.50	7.6X
SPA	41.01	180	e(P)	41 22.00	0.1
	1.0s		6.50nm		4.3mb
TUL	148.61	100	ePKP	53 33.80	12.0X
	0.8s		9.20nm		
			e	53 54.70	

S.D. = 0.9 on 7 of 12 obs.

OCT 28, 1989 12h 52m 56.45± 0.68s
35.149 N ± 7.6km 26.805 E ± 5.6km
DEPTH = 33.0km (normal)
CRETE (370)
MD 4.1 (ATH).

KAP	0.50	37	ePb	53 05.70	-1.4
NPS	0.98	277	ePb	53 16.50	2.6X
VAM	2.15	278	ePn	53 31.00	0.4
APE	2.18	332	ePn	53 27.40	-3.7X
YER	2.31	31	iPn	53 31.90	-1.2
KSL	2.46	66	ePn	53 37.00	1.9
SMG	2.55	1	ePn	53 31.50	-4.9X
CIN	2.66	23	ePn	53 37.00	-0.8
			iSg	54 05.00	
IZM	3.26	6	ePn	53 48.00	1.5
VLI	3.51	298	ePn	53 49.00	-1.0
BCK	3.83	52	ePn	53 56.10	1.5
KHL	3.85	34	iPn	53 54.10	-0.7
ITM	4.44	299	ePn	54 03.50	0.3
AGG	5.27	319	ePc	54 15.90	1.0
LFK	5.51	87	ePn	54 22.00	3.6X
LIT	6.01	327	eP	54 24.90	-0.6
KOT	6.71	139	ePn	54 39.50	4.3X
			eSn	55 57.50	
OHR	7.60	323	eP	54 56.00	8.2X
DSI	8.01	114	eP	54 53.00	-0.4
			eS	56 21.00	
PRNI	8.40	122	eP	54 58.00	-0.8
MBH	8.68	126	ePd	55 03.00	0.4
			eS	57 37.00	

S.D. = 1.2 on 15 of 21 obs.

• OCT 28, 1989 13h 10m 10.70± 1.05s
32.177 S ± 7.9km 71.717 W ±12.3km
DEPTH = 69.2 ± 12.0 km
4.5mb (1 obs.)
NEAR COAST OF CENTRAL CHILE (135)

IHA	0.85	176	iPd	10 28.20	0.7
			iS	10 39.00	
ROCH	0.99	143	iPc	10 29.10	-0.4
JACH	1.08	118	iPd	10 29.60	-0.9
			iS	10 43.00	
PEL	1.30	138	iPd	10 35.20	-0.2
			i(S)	10 48.20	
LCCH	1.30	175	iPc	10 34.00	0.7
			iS	10 49.30	
SAN	1.55	145	iPd	10 37.00	0.2
			iS	10 55.00	
TACH	1.61	156	iPd	10 37.90	0.3
FCH	1.66	134	iPc	10 38.20	-0.4
PCH	1.76	145	iPd	10 39.60	-0.1
			iS	11 00.00	
LNV	1.79	172	eP	10 38.50	-1.5
			iS	10 57.80	
CHCH	1.97	153	iPc	10 43.30	0.8
			iS	11 06.50	
ZON	2.66	77	iPc	10 53.00	0.8
RFA	3.75	134	ePd	11 07.70	0.2
CNCB	15.67	13	P	13 49.00	-0.3
LPB	15.92	13	P	13 41.00	-11.3X
SPA	58.00	180	e(P)	19 58.40	0.0
	1.0s		4.00nm		4.5mb

S.D. = 0.7 on 15 of 16 obs.

& OCT 28, 1989 13h 16m 31.15s
63.079 N 151.137 W
DEPTH = 122.5km
CENTRAL ALASKA (1)
<AGS-P>.

HUR	0.69	98	eP	16 50.68	-0.3
			eS	17 05.64	
CUT	0.79	149	eP	16 51.23	-0.5
RND	1.08	71	eP	16 53.51	-1.1
			eS	17 11.23	
SKT	1.12	190	iP	16 54.39	-0.5
			eS	17 13.15	
NCG	1.75	196	eP	17 01.36	-0.8
PMS	1.98	157	eP	17 04.11	-0.9
CCB	2.16	42	eP	17 05.64	-1.5
SLKM	2.62	170	eP	17 11.72	-1.4

8 obs. associated

? OCT 28, 1989 13h 49m 11.73± 5.56s
28.880 N ± 9.6km 34.621 E ±38.4km
DEPTH = 10.0km (geophysicist)
ARAB REPUBLIC OF EGYPT (553)

BADA	0.49	137	iPc	49 21.70	0.1
			iS	49 27.00	
SRFA	0.50	84	eP	49 22.00	0.1
			iS	49 28.50	
HQL	0.54	44	iPc	49 22.70	0.0
			iS	49 29.50	
AYN	1.21	90	iPc	49 34.00	-0.2
			iS	49 48.90	

S.D. = 0.3 on 4 of 4 obs.

OCT 28, 1989 14h 01m 31.99± 0.48s
39.094 N ± 4.3km 28.002 E ± 6.2km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.70	43	iPg	01 45.10	-0.8
			eSg	01 56.10	
IZM	0.90	220	iPg	01 48.40	-0.9
			iSg	02 00.40	
EDC	1.26	355	iPn	01 55.80	0.5
BNT	1.26	357	iPn	01 56.10	0.7
PRK	1.35	277	ePb	01 57.80	1.0
			eSb	02 12.00	
KHL	1.42	122	iPn	01 58.10	0.2
EZN	1.49	300	iPn	01 57.70	-1.1
CIN	1.49	177	ePg	01 58.00	-0.8
			iSg	02 16.00	
SMG	1.66	214	ePb	02 01.60	0.4
YLV	1.81	35	ePn	02 03.60	0.1
YER	1.97	173	ePn	02 07.00	1.2
CTT	2.08	9	ePn	02 07.00	-0.3

S.D. = 0.9 on 12 of 12 obs.

& OCT 28, 1989 14h 59m 49.47s
61.277 N 151.331 W
DEPTH = 65.0km
SOUTHERN ALASKA (2)
<AGS-P>.

CGLM	0.33	276	iP	00 00.23	-0.4
SUA	0.34	56	eP	00 00.47	-0.2
			eS	00 09.95	
SPU	0.36	255	iP	00 00.37	-0.5
			eS	00 09.11	
CRP	0.40	269	iP	00 00.95	-0.3
NCG	0.42	288	iP	00 00.90	-0.5
CKL	0.49	261	iP	00 01.60	-0.5
			eS	00 11.72	
BGL	0.51	269	iP	00 01.70	-0.6
NKA	0.54	175	iP	00 03.82	1.4
SKT	0.71	352	iP	00 03.48	-0.9
			eS	00 15.43	
PWA	0.79	61	eP	00 05.12	-0.2
			eS	00 16.60	
PMS	0.86	91	iP	00 05.86	-0.3
			eS	00 18.87	
RDT	0.88	217	eP	00 05.79	-0.7
			eS	00 18.92	
SLKM	0.94	144	eP	00 06.55	-0.7
PME	1.16	71	eP	00 09.24	-0.8
			eS	00 24.43	
CUT	1.24	24	eP	00 10.16	-1.0
NNL	1.24	179	eP	00 11.76	0.6
ILIM	1.44	214	eP	00 13.19	-0.8
			eS	00 31.85	
SEW	1.50	141	eP	00 15.51	0.9
VZW	2.33	93	eP	00 23.74	-2.5

19 obs. associoted

? OCT 28, 1989 15h 00m 18.08± 9.37s
58.199 N ±84.1km 9.782 E ±32.8km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 2.3 (BER).

BLS2	1.85	308	eP	00 51.00	0.8
			eS	01 13.90	
ODD1	2.37	318	eP	00 57.09	-0.5
			eS	01 29.67	
KMY	2.58	295	eP	01 00.14	-0.3
			eS	01 30.40	
NRA0	2.70	19	iPc	01 02.30	0.0
			iPg	01 06.80	
			eS	01 32.90	
			iSg	01 46.80	

S.D. = 1.0 on 4 of 4 obs.

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* OCT 28, 1989 15h 24m 31.62± 1.59s
44.213 N ±17.5km 149.163 E ±20.2km
DEPTH = 33.0km (normol)
4.6mb (2 obs.)
KURIL ISLANDS (221)

KUSJ	3.42	253	P	25 23.10	-0.8
			S	25 52.40	
HOOJ	4.66	249	P	25 42.40	0.9
			eS	26 24.80	
ASAJ	4.69	271	iPd	25 42.60	0.7
MRRJ	6.17	256	eP	26 02.00	-0.7
			eS	27 00.60	
OFUJ	7.60	230	P	26 23.70	0.9
			S	27 35.40	
YAMJ	9.15	232	eP	26 43.40	-0.9
INK	45.27	31	eP	32 56.00	8.8X
KEV	58.79	340	eP	34 34.00	5.6X
SOD	60.59	338	iP	34 40.30	-0.5
SUF	64.14	335	iP	35 03.90	-0.6
	0.4s		4.10nm		4.9mb
NUR	66.28	334	eP	35 17.90	-0.3
NB2	69.69	340	P	35 40.90	1.3
	0.5s		1.50nm		4.3mb
LPB	138.20	61	ePKP	43 45.00	-10.9X
	1.1s		126.58nm		
			i	44 20.00	

S.D. = 1.0 on 10 of 13 obs.

% OCT 28, 1989 15h 30m 17.54± 2.51s
42.427 N ± 8.9km 19.376 E ±19.6km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.0 (TTG).

TTG	0.09	272	ePg	30 21.40	1.4
			eSg	30 24.50	
BDV	0.43	251	ePg	30 26.10	-0.2
			eSg	30 33.50	
ULC	0.47	191	ePg	30 27.00	-0.2
			eSg	30 34.60	
NKY	0.48	324	ePg	30 27.00	-0.2
			eSg	30 35.00	
HCY	0.65	272	ePg	30 29.80	-0.7
			eSg	30 39.80	

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

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* OCT 28, 1989 15h 41m 38.22± 0.86s
21.831 S ± 9.2km 69.130 W ±13.9km
DEPTH = 150.0 ± 18.1 km
NORTHERN CHILE (123)

ANT	2.21	212	iPc	42 16.20	0.0
			i	42 39.30	
			iS	42 41.70	
CNCB	5.11	12	P	42 55.80	1.3
CCH	5.24	33	P	42 55.00	-1.1
ARE	5.79	337	eP	43 03.00	-0.3
			iS	44 05.00	
ITB1	13.84	105	Pd	44 49.90	0.7
ITB	14.02	105	e(P)	44 51.00	-0.5
VAO	20.52	97	eP	46 01.80	-4.7X
			e	46 32.60	
BAO	20.94	77	eP	46 18.50	7.8X
KIC	68.99	74	P	52 29.60	0.0

S.D. = 1.1 on 7 of 9 obs.

OCT 28, 1989 16h 40m 33.69± 0.83s
14.720 N ±12.2km 92.795 W ± 8.6km
DEPTH = 63.2 ± 7.2 km
4.3mb (2 obs.)
NEAR COAST OF CHIAPAS, MEXICO (69)

TPX	0.55	70	iP	40 46.90	0.3
			iS	40 59.68	
OC2	0.61	105	iPd	40 46.50	-0.7
SBG	0.83	60	iPd	40 50.00	-0.2
SOG	1.17	87	iPd	40 54.00	-0.7
SOG2	1.19	90	iPd	40 54.20	-0.6
			S	41 07.90	
JAT	1.19	109	iPc	40 55.00	0.4
LHG	1.59	100	iPc	40 59.10	-1.0
ITG	1.89	93	iPc	41 04.50	-0.1
FUG	1.91	98	ePd	41 04.00	-0.7
SCX	2.01	4	iP	41 10.19	4.3X
			iS	41 35.84	
MMG	2.05	95	iPd	41 07.10	0.3
PSG2	2.06	111	ePd	41 06.20	-0.5
TER	2.09	101	iPc	41 06.50	-0.6
BVA	2.09	91	iPc	41 07.80	0.5
PCG	2.10	99	iPd	41 07.90	0.3
GCG	2.19	93	ePc	41 09.00	0.3
			S	41 32.50	
REC	2.22	97	iPc	41 09.10	0.1
RDG	2.26	82	ePc	41 10.00	0.3
IXG	2.33	103	iPd	41 11.00	0.4
SLP	2.43	89	iPc	41 12.20	0.2
MYT	2.73	104	ePd	41 16.99	0.8
YUP	2.95	100	iPc	41 18.50	-0.8
OXX	4.45	302	iP	41 47.15	6.7X
			(S)	42 35.00	
LVVM	6.09	326	(P)	42 02.96	-0.3
			(S)	43 07.39	
IISM	6.10	315	(P)	42 03.49	0.1
PPM	7.06	309	iP	42 21.00	3.8X
III	7.36	301	(P)	42 38.80	17.7X
			iS	43 56.50	
UYO	19.42	356	e(P)	44 55.00	-2.7X
MEO	20.65	346	e(P)	45 10.00	-0.5
TUL	21.27	353	eP	45 22.70	5.9X
	0.8s		7.40nm		4.1mb
Z	18s		0.41um		3.9Msz
LNO	21.27	353	e(P)	45 22.40	5.7X
KVN	32.91	322	eP	47 05.00	0.7
PNT	40.89	333	eP	48 12.00	0.9
	0.7s		6.00nm		4.5mb
INK	59.53	344	iPd	50 31.10	-1.4

S.D. = 0.6 on 27 of 34 obs.

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* OCT 28, 1989 17h 01m 14.98± 1.99s
16.639 N ±19.4km 99.816 W ± 7.1km
DEPTH = 44.3 ± 8.0 km
4.8mb (12 obs.)
NEAR COAST OF GUERRERO, MEXICO (58)
Felt ot Acopulco.

ACX	0.23	350	iPc	01 21.06	-2.0
			(S)	01 30.00	
III	1.76	11	iPc	01 44.60	0.9
			iS	02 10.17	
PPM	2.67	25	iP	01 57.02	0.1
			(S)	02 29.47	
UNM	2.75	13	(P)	02 02.80	5.0X
			(S)	02 45.50	
CRX	2.76	3	(P)	01 59.52	1.5
			iS	02 36.80	
IIT	2.77	31	iP	01 59.02	0.8
			(S)	02 33.80	
OXX	2.99	81	iP	02 03.30	2.0X
			(S)	02 38.50	
IIC	3.16	10	(P)	02 09.32	5.6X
			(S)	02 58.30	
IISM	3.29	44	iP	02 05.58	0.2
MRX	3.32	337	iP	02 07.00	1.3
			iS	02 50.00	
LVVM	4.44	46	(P)	02 16.60	-5.0X
			(S)	03 08.50	
EVV	4.63	66	(P)	02 17.20	-7.0X
AGX	5.72	336	(P)	02 55.50	15.9X
			(S)	04 08.70	
SCX	6.88	88	(P)	03 47.50	51.6X
TPX	7.47	102	(P)	03 45.70	41.4X
			(S)	05 39.50	
MEO	18.10	3	e(P)	05 24.50	-0.4
UYO	18.11	14	iPd	05 24.00	-0.9
ALQ	19.17	343	P	05 36.80	-1.2
	1.0s		10.00nm		4.0mb
SIO	19.29	9	e(P)	05 44.90	5.8X
TUL	19.53	10	eP	05 40.60	-1.1
	0.7s		14.80nm		4.4mb
Z	21s		0.31um		5.5MszX
LNO	19.53	10	eP	05 40.00	-1.6
OLY	20.21	20	P	05 47.00	-1.9
PWLA	21.07	28	P	05 56.00	-1.7
GLA	21.23	323	eP	06 00.00	0.6
BAR	22.08	319	eP	06 10.00	2.1
PLM	22.65	320	eP	06 14.00	0.3
TPC	22.70	323	eP	06 15.00	1.0
RSCP	22.75	31	P	06 16.20	1.7
	0.8s		44.07nm		5.0mb
FVM	22.81	19	P	06 14.00	-1.0
PRM	23.40	39	P	06 22.50	1.7
RVR	23.40	321	eP	06 21.00	0.2
GOL	23.48	349	P	06 21.00	-0.8
	0.8s		13.39nm		4.5mb
MWC	23.97	320	eP	06 33.00	6.4X
GSC	23.99	324	eP	06 28.00	1.4
SBB	24.15	321	eP	06 29.00	0.9
JSC	24.20	40	P	06 30.00	1.4
MSU	24.34	336	P	06 31.00	0.8
CLC	24.81	324	eP	06 35.00	0.6
ISA	25.20	322	eP	06 36.00	-2.2
CWC	25.52	324	eP	06 41.00	-0.3
DAU	25.68	340	P	06 43.00	0.0
TNP	26.28	328	P	06 48.50	0.2
	0.8s		6.37nm		4.2mb
BLA	26.71	36	P	06 52.70	0.6
	0.7s		36.11nm		5.1mb
FRI	26.84	323	eP	06 52.80	-0.4
BW06	27.35	344	P	06 57.70	-0.4
KVN	27.46	328	P	06 59.00	-0.1
CMB	27.95	324	e(P)	07 03.30	-0.1
RSON	34.49	7	P	07 59.00	-1.7
LON	35.13	333	P	08 06.30	-0.1
BMW	35.54	332	P	08 10.00	0.1
PNT	36.35	338	eP	08 17.00	0.4
EDM	3B.02	347	iPd	08 30.90	0.3
	0.8s		35.00nm		5.3mb
FFC	38.05	358	eP	08 30.50	-0.2
	0.9s		34.00nm		5.2mb
FFC	38.05	358	eP	08 37.00	6.3X
	0.8s		25.00nm		5.2mb
CBM	39.98	34	P	08 47.50	0.6
SCH	45.79	26	eP	09 35.00	1.0
INK	55.90	346	ePc	10 49.10	-1.2
PMR	56.72	334	P	11 00.00	3.7X
	0.7s		5.81nm		4.7mb
FBA	57.92	338	P	11 03.00	-1.8
	0.8s		3.45nm		4.5mb
MBC	60.49	355	eP	11 23.00	0.6
	0.9s		10.00nm		4.9mb

S.D. = 1.1 on 48 of 60 obs.

? OCT 28, 1989 17h 48m 03.61± 5.65s
8.843 N ±50.9km 63.065 W ±13.8km
DEPTH = 10.0km (geophysicist)
VENEZUELA (101)

CUM	1.94	326	iPc	48 37.00	0.0
			iS	48 52.00	
TPP	2.16	47	eP	48 41.81	1.6
			eS	49 13.32	
TRN	2.43	42	eP	48 43.54	-0.4
			eS	49 14.41	
TBH	2.56	50	eP	48 44.95	-0.9
BOT	3.27	45	eP	48 55.55	-0.3
GRW	3.57	23	eP	48 59.48	-0.8
SVB	4.75	22	eP	49 17.68	0.7
			eS	50 03.55	
SVV	4.80	22	eP	49 17.93	0.2
			eS	50 05.05	

S.D. = 1.0 on 8 of 8 obs.

? OCT 2B, 1989 20h 23m 21.50± 1.05s
40.108 N ± 8.5km 28.268 E ± 9.8km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

BNT	0.36	313	ePg	23 29.10	0.1
DST	0.57	151	iPg	23 33.10	-0.1
			eSg	23 40.10	

28d 20h

YLV 0.96 61 iPn 23 40.00 0.2
CTT 1.05 7 ePn 23 41.00 -0.2
S.D. = 0.3 on 4 of 4 obs.

? OCT 28, 1989 20h 25m 38.26± 3.31s
24.658 N ±31.5km 121.644 E ±13.3km
DEPTH = 10.0km (geophysicist)
TAIWAN (244)

TWC 0.19 104 eP 25 42.50 0.0
TWD 0.58 184 eP 25 50.00 0.1
TWK 1.74 218 eP 26 09.20 0.4
TWM1 2.14 212 eP 26 14.00 -0.5
S.D. = 0.7 on 4 of 4 obs.

? OCT 28, 1989 20h 26m 25.64± 6.76s
24.702 N ±38.3km 122.289 E ±37.5km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWC 0.41 257 iP 26 34.10 0.1
eS 26 42.00
TWD 0.88 226 eP 26 42.50 -0.1
TWO 1.39 252 eP 26 51.00 -0.1
TWK 2.18 229 eP 27 02.50 0.0
TWM1 2.53 223 eP 27 07.60 0.1
S.D. = 0.1 on 5 of 5 obs.

• OCT 28, 1989 21h 06m 30.64± 1.37s
1.350 S ±10.0km 126.979 E ±13.9km
DEPTH = 60.4 ± 14.3 km
4.1mb (2 obs.)
MOLUCCA SEA (269)

AAI 2.62 152 iPd 07 12.50 1.2
iS 07 33.50
MNI 3.50 322 ePc 07 23.50 -0.4
PCI 7.15 273 ePd 08 15.60 0 6
eS 09 39.50
MKS 8.42 243 iPc 08 35.00 2.5X
MTN 12.14 160 eP 09 21.00 -2.0
eS 11 37.00
JAY 13.77 95 ePc 09 55.00 10.5X
0.6s 133.80nm
WB5 19.78 159 eP 10 56.80 -2.0
WRA 19.83 159 Pd 10 59.60 0.2
0.5s 2.80nm 3.8mb
ASPA 23.18 164 eP 11 32.60 -0.3
NANU 23.84 207 eP 11 40.20 0.9
OIZ 26.34 321 eP 12 08.60 5.7X
CTA 26.50 136 eP 12 07.00 2.6
IPM 26.59 283 ePc 12 06.20 0.9
WHN 33.92 340 eP 13 08.50 -1.6
BRS 35.80 139 eP 13 19.00 -7.3X
i 13 32.30
XAN 39.08 336 P 13 52.60 -1.1
TIY 41.13 342 eP 14 11.50 0.9
BJI 42.36 348 eP 14 21.50 1.0
LZH 43.03 332 P 14 32.50 6.2X
1.4s 0.05nm 2.1mb X
pP 14 41.00 28kmX
SNY 43.09 356 eP 14 32.10 5.8X
SHL 43.22 311 iP 14 28.20 0.3
GBA 51.30 289 Pd 15 30.20 -0.9
0.6s 2.60nm 4.4mb
WMQ 57.05 327 P 16 13.10 0.2
MAIO 72.81 309 iPc 17 55.00 -0.1
S.D. = 1.4 on 18 of 24 obs.

& OCT 28, 1989 21h 27m 49.60s
36.888 N 121.665 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.5 (BRK).

SAO 0.22 125 iPd 27 53.50 -0.8
GCC 0.30 298 iPc 27 55.40 -0.5
MHC 0.45 2 iPd 27 58.70 -0.2
ARN 0.47 13 iPd 27 58.80 -0.5
PRS 0.60 157 iPd 28 01.00 -0.7
LLA 0.64 115 iPd 28 01.70 -0.6
PCC 0.84 317 iPc 28 04.70 -1.0
BRK 1.09 334 eP 28 08.20 -1.8
PRI 1.10 132 eP 28 09.50 -0.7
PHAM 1.47 135 eP 28 14.40 -1.6
PKEM 1.50 123 eP 28 15.70 -0.7
CMB 1.53 41 eP 28 15.20 -1.7

BCH 2.13 143 eP 28 23.40 -2.2
ORV 2.67 3 eP 28 31.80 -1.4
KVN 3.55 51 eP 28 44.00 -1.9
TNP 3.73 70 eP 28 48.00 -0.6
16 obs. associated

? OCT 28, 1989 22h 04m 00.40± 6.05s
28.553 N ±23.5km 34.760 E ±37.0km
DEPTH = 10.0km (geophysicist)
ARAB REPUBLIC OF EGYPT (553)

BADA 0.22 98 iPc 04 05.00 -0.1
SRFA 0.53 45 iPc 04 11.10 0.0
iS 04 20.30
HQL 0.76 20 iPc 04 15.20 0.0
iS 04 26.80
AYN 1.13 74 iPc 04 21.70 0.1
iS 04 37.80
S.D. = 0.1 on 4 of 4 obs.

• OCT 29, 1989 00h 22m 14.30± 2.12s
24.717 S ±26.1km 179.956 E ±12.8km
DEPTH = 546.0 ± 27.5 km
4.6mb (10 obs.)
SOUTH OF FIJI ISLANDS (171)

DZM 12.68 279 iPd 25 00.60 0.2
BRS 24.55 258 iPd 26 54.00 1.1
0.8s 4.50nm 4.1mb
i 29 09.50
i 33 15.00
RMQ 28.16 260 iPd 27 25.20 0.6
CAN 28.71 241 eP 27 30.70 1.4
BWA 28.99 243 eP 27 30.70 -1.0
CTA 31.45 272 iPd 27 52.70 -0.1
0.8s 48.51nm 5.2mb
RUV 32.06 79 iP 27 56.70 -1.2
0.8s 15.00nm 4.7mb
STK 34.39 249 iPd 28 18.60 1.2
ASPA 41.87 262 iPd 29 18.40 0.0
0.7s 13.00nm 4.6mb
WB5 42.31 267 iPd 29 21.00 -0.8
WRA 42.32 267 Pd 29 20.90 -1.0
0.5s 14.90nm 4.8mb
FORR 45.95 250 eP 29 49.00 -1.0
0.4s 47.00nm 5.4mb
KNA 48.62 270 iPd 30 10.00 -0.5
MBL 55.11 261 iPd 30 56.20 -1.0
0.4s 6.00nm 4.3mb
NANU 58.57 258 iPd 31 21.10 0.2
0.3s 7.00nm 4.5mb
PLM 83.35 49 iP 33 47.10 1.8
TNP 85.85 45 iP 33 57.00 -0.4
1.0s 12.50nm 4.6mb
KVN 85.86 44 iP 33 57.10 -0.3
PNT 91.19 35 eP 34 22.00 0.3
0.4s 2.00nm 4.5mb
ALQ 91.49 52 eP 34 24.20 0.5
HFS 143.33 349 ePKP 40 44.00 -3.3X
0.4s 3.70nm
S.D. = 1.0 on 20 of 21 obs.

? OCT 29, 1989 02h 11m 42.03±12.79s
51.719 N ±68.4km 16.486 E ±82.0km
DEPTH = 10.0km (geophysicist)
POLAND (548)
ML 3.5 (VKA).

KSP 0.88 188 iP 11 59.30 0.3
iS 12 08.70
BRG 1.81 243 iPg 12 14.50 1.1
iSg 12 34.00
PRU 2.13 216 ePn 12 17.50 -0.5
Pg 12 19.20
eSn 12 35.00
Sg 12 42.50
CLL 2.21 261 iPn 12 19.10 -0.2
ePg 12 22.00
eSg 12 48.00
KHC 3.19 217 ePn 12 33.00 -0.2
ePg 12 39.00
eSg 13 07.00
MOX 3.25 253 ePn 12 34.00 0.0
ePg 12 41.50
iSg 13 19.00
VKA 3.46 182 ePg 12 47.00 10.0X
i 13 28.80
iSg 13 30.30
GRF 3.91 241 e(Pn) 12 43.00 -0.5
e(Pg) 12 59.50
eSg 13 40.60
S.D. = 0.7 on 7 of 8 obs.

% OCT 29, 1989 02h 22m 47.17± 0.78s
39.815 N ±10.5km 113.902 E ± 7.3km
DEPTH = 33.0km (normal)
NORTHEASTERN CHINA (658)
ML 4.0 (BJI).

BJI 1.76 82 Pn 23 16.00 0.2
Pg 23 17.00
Sn 23 41.00
Sg 23 42.00
HHC 2.06 301 Pg 23 21.00 0.7
Sg 23 45.00
TIY 2.39 209 Pnc 23 26.00 1.0
iPg 23 28.50
Sg 24 00.70
BTO 3.08 286 Pgc 23 38.00 3.3X
Sg 24 16.50
TIA 4.41 144 ePn 23 54.30 0.8
Pg 24 05.70
Sg 24 43.80
Sg 25 02.00
DL2 6.06 96 ePn 24 16.00 -0.8
XAN 7.01 216 Pn 24 28.60 -1.6
Sg 26 22.40
LZH 8.77 248 P 25 21.50 26.6X
pP 25 24.00
S 26 48.00
eLg 27 24.00
Lg 27 38.50
GTA 10.88 272 eP 25 15.60 -8.2X
WMQ 19.91 290 eP 27 18.40 -0.4
S.D. = 1.2 on 7 of 10 obs.

OCT 29, 1989 03h 09m 10.72± 0.13s
39.590 N ± 2.6km 143.458 E ± 2.7km
DEPTH = 10.0km (geophysicist)
5.7mb (57 obs.) 5.9Msz (19 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Felt (II JMA) at Hachinohe, Miyako and Morioka; (I JMA) at Akito, Aomori and Sendai. Felt (I JMA) at Hakadate, Kushiro, Tomakomai and Urakawa, Hokkaido.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 13S, 34C
Centroid Location:
Origin Time 03:09:18.3 0.4
Lat 39.29N 0.04 Lon 143.35E 0.04
Dep 30.4 1.9 Half-duration 3.3
Moment Tensor; Scale 10**17 Nm
Mrr= 4.96 0.14 Mtt= 0.67 0.16
Mff=-5.64 0.20 Mrt= 1.90 0.31
Mrf= 3.81 0.44 Mtf=-1.36 0.17
Principal Axes:
T Val= 6.54 Plg=69 Azm=312
N 0.78 9 197
P -7.31 19 104
Best Double Couple:Mo=6.9*10**17
NP1:Strike=179 Dip=27 Slip= 70
NP2: 22 64 100

MIY 1.15 273 iP+ 09 34.80 2.6
iS 09 52.00
HAC 1.75 303 iP+ 09 42.20 0.9
eS 10 11.00
MRK 1.77 274 iP+ 09 44.30 2.7
S 10 10.20
AOM 2.39 302 iP+ 09 51.90 1.4
S 10 26.70
SEN 2.40 237 iP+ 09 52.50 1.9
eS 10 25.00
AKI 2.59 274 iP+ 09 56.10 2.7
eS 10 32.00
URA 2.62 349 eP 09 54.00 0.3
S 10 26.00
HAK 3.02 318 eP 10 00.00 0.5
eS 10 39.00
TMR 3.35 336 eP 10 00.00 -4.2X
KUS 3.46 11 eP 10 05.00 -0.6
eS 10 41.00

NIIJ	4.21	238	P	10	15.30	-1.1
KAKJ	4.26	219	iP+	10	15.60	-1.5
			S	11	04.50	
CHJJ	5.00	226	P	10	27.70	0.2
IIDJ	6.02	229	P	10	42.60	0.6
TSRJ	7.18	238	P	11	00.30	2.0
YSS	7.44	356	iPc	10	59.00	-2.9X
			iS	12	21.00	
MDJ	11.46	300	Pc	11	57.50	0.2
E	14s	131.00um				
			sS	14	14.00	
CN2	14.10	293	Pc	12	31.00	-1.5
	8.0s	5.70nm			3.4mb X	
E	16s	46.10um				
			eS	15	13.00	
SNY	15.24	285	iPc	12	47.00	-0.5
Z	19s	74.30um				
N	13s	21.10um				
E	14s	37.40um				
			S	15	41.00	
DL2	16.92	275	Pc	13	08.00	-1.1
Z	16s	32.50um				
N	14s	41.10um				
E	17s	48.70um				
			sP	13	20.00	
PET	16.99	33	eP	13	13.00	3.2X
			eS	16	28.00	
SSE	20.01	252	Pc	13	42.00	-4.3X
Z	20s	10.20um			5.2Msz	
N	12s	27.00um				
E	12s	19.40um				
			PP	13	59.00	
			S	17	19.00	
BJI	20.94	280	Pc	13	53.00	-2.9X
	1.2s	0.22nm			2.4mb X	
N	13s	14.70um				
E	14s	34.30um				
			sS	17	52.00	
TIA	21.03	269	Pc	13	53.70	-3.2X
	5.0s	2.60nm			2.9mb X	
N	12s	26.80um				
E	12s	59.10um				
			pP	13	58.70	18kmX
			S	17	37.50	
NJ2	21.28	257	Pc	13	57.00	-2.4
Z	18s	29.80um			5.7Msz	
N	12s	17.40um				
E	13s	21.90um				
ANP	23.36	239	iP+	14	20.00	-0.2
			iS	18	28.00	
TIY	24.24	275	Pc	14	27.00	-1.7
	1.0s	0.20nm			2.7mb X	
N	15s	37.80um				
E	16s	26.80um				
			pP	14	31.50	16kmX
			sS	18	51.00	
HHC	24.32	283	P	14	28.00	-1.5
Z	20s	73.10um			6.2Msz	
N	14s	22.60um				
E	15s	37.50um				
			PP	15	05.00	
			S	18	40.00	
WHN	25.39	258	P	14	37.50	-2.1
	1.0s	0.91nm			3.4mb X	
Z	18s	21.30um			5.7Msz	
N	15s	31.70um				
E	15s	18.60um				
			S	19	05.00	
QZH	25.49	242	iPc	14	40.00	-0.6
	4.0s	2.60nm			3.3mb X	
Z	17s	18.30um			5.7MszX	
N	13s	15.70um				
			S	19	05.00	
BTO	25.52	283	iPc	14	39.50	-1.5
	7.0s	4.40nm			3.3mb X	
N	13s	22.80um				
E	13s	44.50um				
GUMO	25.93	177	eP	14	43.00	-1.8
GUA	25.98	177	eP	14	44.00	-1.3
Z	18s	9.62um			5.4Msz	
IRK	29.66	308	iPc	15	18.00	-0.4
			eS	20	30.00	
HKC	30.27	244	eP	15	25.00	0.9
			e	20	27.00	
GZH	30.34	246	iPc	15	24.00	-0.7
	9.0s	2.00nm			3.0mb X	
Z	14s	28.00um			6.1MszX	
N	12s	17.70um				
E	11s	13.40um				
			iS	20	23.00	
BAG	30.51	227	eP	15	25.00	-1.5
			eS	20	25.00	
LZH	31.31	276	Pc	15	32.20	-1.1
	1.5s	0.36nm			3.1mb X	
Z	15s	50.80um			6.3MszX	
N	12s	13.80um				
E	13s	38.00um				
			pP	15	37.50	18kmX
			sP	15	41.50	
			PP	16	29.00	
			PPP	16	44.00	
			S	20	20.00	
			S	20	39.00	
			SS	22	06.00	
			ScP	22	15.00	
QCP	31.68	225	eP	15	26.00	-10.5X
TIK	32.96	352	iPc	15	46.00	-1.1
			e(S)	21	02.50	
GYA	33.28	258	iPc	15	50.00	-0.6
	1.2s	0.20nm			2.9mb X	
Z	16s	12.60um			5.7MszX	
N	14s	14.30um				
E	14s	8.80um				
			sP	16	05.00	
			PP	17	00.00	
			S	21	05.00	
			sS	21	22.00	
CD2	33.34	267	iPc	15	49.60	-1.4
Z	16s	33.70um			6.2MszX	
N	13s	53.90um				
			PP	17	04.00	
			S	21	07.00	
GTA	33.43	284	iPc	15	51.60	-0.2
	8.0s	3.00nm			3.3mb X	
Z	18s	57.70um			6.3Msz	
E	16s	53.20um				
			pP	16	02.00	37kmX
			PP	16	56.00	
			S	21	02.00	
			sS	21	22.00	
QIZ	35.46	245	Pc	16	10.00	0.7
N	14s	13.20um				
			PP	17	29.50	
			S	21	36.50	
DAV	36.13	211	eP	16	11.00	-4.0X
KMI	36.97	259	iPc	16	22.00	-0.3
	5.0s	2.50nm			3.2mb X	
Z	17s	36.30um			6.2MszX	
N	13s	17.50um				
E	13s	9.70um				
			pP	16	28.00	20kmX
			PP	17	50.00	
			S	22	05.00	
			sS	22	31.00	
			SS	24	40.00	
WMQ	41.18	295	iPc	16	58.00	1.1
	6.0s	6.10nm			3.5mb X	
Z	16s	14.50um			5.9MszX	
N	13s	15.90um				
			S	23	06.00	
			ScS	27	00.00	
KKM	41.44	223	ePd	17	01.00	1.7
			e	17	19.50	76kmX
TSM	42.04	220	ePc	17	06.10	2.0
LOE	42.33	251	eP	17	06.00	-0.4
TTA	42.41	36	eP	17	08.40	1.7
BRW	43.43	24	eP	17	15.00	0.2
CHG	43.50	255	iPc	17	16.20	0.2
	1.0s	62.50nm			5.3mb	
LSA	43.62	274	P	17	18.70	1.3
N	14s	7.40um				
E	15s	6.70um				
			S	23	47.00	
IMA	43.67	32	eP	17	18.00	1.0
	1.2s	33.20nm			5.0mb	
KDC	44.19	44	eP	17	20.00	-1.1
RAB	44.30	168	eP	17	20.00	-2.4X
NST	44.61	250	eP	17	27.00	2.0
SHL	45.07	268	iP	17	28.80	-0.1
PMR	45.62	38	eP	17	33.20	0.7
	1.2s	39.10nm			5.3mb	
PCI	45.74	214	ePd	17	35.30	1.4
	1.3s	6.50nm			4.4mb X	
FBA	46.09	33	eP	17	36.60	0.4
NNT	46.95	247	iPc	17	44.00	0.4
MKS	49.78	212	ePd	18	06.50	1.0
			e	18	11.00	15kmX
SNG	50.13	242	ePc	18	09.40	1.1
			eS	25	23.00	
FRU	50.57	297	iPc	18	11.50	0.1
			eS	25	25.00	
KSH	50.88	293	iPc	18	14.00	0.1
Z	18s	21.30um			6.2Msz	
N	16s	56.10um				
			PP	20	13.00	
INK	51.38	28	eP	18	16.00	-1.1
	0.8s	45.00nm			5.5mb	
IPM	51.77	239	ePc	18	21.00	0.3
	1.1s	66.80nm			5.5mb	
			e	18	31.20	34kmX
KGM	52.23	235	ePd	18	25.00	0.8
HON	52.73	92	P	18	43.00	15.1X
Z	20s	3.19um			5.4Msz	
MTN	53.41	195	iPc	18	32.80	0.0
			e	18	57.00	99kmX
MBC	53.62	17	ePc	18	33.50	-0.3
	1.0s	42.00nm			5.4mb	
NDI	54.79	280	iPc	18	42.00	-1.0
	1.0s	100.00nm			5.8mb	
TRT	55.03	218	ePd	18	43.50	-1.3
DSH	56.36	295	iPc	18	54.00	-0.3
			eS	26	41.00	
KNA	56.73	197	eP	18	57.00	0.0
CTA	59.42	177	eP	19	23.00	7.2X
			iS	27	22.00	
			i	29	05.00	
WB5	59.77	190	eP	19	16.20	-2.0
			i	19	20.00	12kmX
WRA	59.83	190	Pc	19	16.80	-1.8
	0.7s	29.20nm			5.5mb	
QIS	59.94	184	eP	19	16.00	-3.3X
APA	61.06	336	iPc	19	25.00	-1.5
			eS	27	20.50	
KEV	61.63	339	iP	19	29.60	-0.8
	1.0s	56.00nm			5.7mb	
Z	22s	11.60um			6.0Msz	
			i	19	45.20	58kmX
			ePP	21	42.00	
			ePPP	23	20.00	
			eS	27	48.00	
			eScS	29	20.00	
			eSS	31	56.00	
			LR	48	14.00	
QUE	61.73	287	eP	19	31.00	-0.8
			eS	28	10.50	
POO	62.87	272	iPc	19	39.20	-0.2
			iS	28	12.00	
GBA	63.02	265	P	19	40.00	-0.3
SOD	63.24	337	iP	19	40.30	-0.8
PGC	63.42	48	eP	19	44.00	1.5
BOM	63.46	273	iPc	19	43.00	-0.2
			eS	28	17.00	
ASPA	63.56	190	iPd	19	43.10	-0.5
	1.0s	25.00nm			5.4mb	
Z	23s	2.67um			5.4MszX	
			LR	44	24.00	
TRO	63.82	341	iP	19	44.00	-0.9
MAIO	63.91	297	iPc+	19	46.00	-0.1
			eS	28	26.00	
MBL	64.34	205	eP	19	48.00	-0.8
DZM	64.99	156	iPc	19	54.00	0.9
PNT	65.23	46	eP	19	54.00	-0.4
	0.9s	45.00nm			5.7mb	
KHI	65.64	295	eP	19	56.00	-1.4
QLP	65.83	179	eP	19	57.00	-1.3
RMQ	65.92	175	eP	19	58.60	-0.3
EDM	66.35	40	eP	20	03.00	1.5
	1.4s	100.00nm			5.8mb	
SUF	66.42	333	iP	20	01.00	-0.7
	0.7s	36.10nm			5.7mb	
OBN	67.01	323	iPc	20	04.90	-0.7
	1.0s	91.00nm			5.9mb	
Z	16s	32.00um			6.6MszX	
			iS	28	58.00	
NANU	67.11	208	eP	20	06.60	0.1
BRS	67.20	171	iPc	20	07.30	0.3
	0.9s	4.50nm			4.7mb	
			ipP	20	17.80	34kmX
			e	20	55.00	
			e	22	09.00	
			e	24	47.00	

29d 03h

			eS	29	00.00			N	20s	1.20um				PP	24	34.00							
FHC	67.23	55	P	20	10.00	2.7X		E	20s	0.50um				S	31	36.00							
WARB	67.29	196	eP	20	07.70	0.1	PLM	76.20	58	eP	21	05.00	3.8X	BNT	81.09	316	iP	21	27.70	0.2			
WDC	68.27	55	eP	20	14.80	1.0	TPC	76.26	57	eP	21	05.00	3.7X	SOP	81.12	327	iPc	21	30.90	3.5X			
NUR	68.45	332	iP	20	13.70	-0.8	COP	76.36	334	iPd+	21	02.00	0.6	DIM	81.14	318	eP	21	29.00	1.4			
	1.0s		88.00nm			5.9mb		0.9s		117.65nm			6.0mb	KHC	81.19	329	iPc	21	28.50	0.7			
	Z 16s		20.10um			6.4MszX		Z 18s		16.49um			6.4Msz		1.0s		46.00nm			5.5mb			
			ePP	22	44.00					eS	30	44.00			Z 15s		15.50um			6.5MszX			
			ePPP	24	24.00		BAR	76.74	59	eP	21	13.00	9.0X		N 15s		7.50um						
			eS	29	12.00		TOO	76.81	178	eP	21	05.00	1.0		E 20s		10.50um						
			LR	52	30.00		RSON	76.97	33	P	21	08.20	3.3X				e	21	37.50	29kmX			
SES	69.17	41	eP	20	18.00	-1.3		1.0s		43.38nm			5.5mb				S	31	36.00				
ORV	69.51	55	eP	20	21.90	0.5	CLI	77.05	321	iPc	21	04.00	-1.5	DST	81.24	315	eP	21	29.00	0.7			
TEH	69.74	300	eP	20	23.00	-0.1	KAS	77.18	313	iPc	21	07.30	1.0	EKA	81.24	341	P	21	29.00	1.0			
BRK	69.98	57	eP	20	25.20	0.9	CFR	77.57	319	iPc	21	06.50	-1.8		1.9s		142.00nm			5.7mb			
BKS	69.99	57	ePd	20	17.60	-6.8X	GLA	77.71	57	eP	21	11.00	1.6	WTS	81.29	335	eP	21	28.50	0.3			
	1.3s		138.00nm			5.9mb	VRI	77.81	320	ePc	21	08.00	-1.6		1.0s		42.00nm			5.4mb			
			e	20	26.20	28kmX	KRA	77.86	327	iPc	21	10.30	0.5				e	21	37.50	29kmX			
			e	20	31.00			1.0s		87.00nm			5.8mb				e	21	54.00				
			iS	29	36.00			Z 18s		13.40um			6.3Msz				e	24	26.00				
			iScS	30	26.00			N 16s		12.50um				HRI	81.40	306	iPc	21	26.00	-3.3X			
			eSS	34	17.00					e	21	19.70	30kmX	LFK	81.40	309	eP	21	29.50	0.3			
			e	37	20.00					e	24	01.00		WET	81.45	330	iPc	21	29.90	0.7			
			eLQ	38	24.00					eS	31	01.00			1.2s		60.00nm			5.5mb			
COO	70.25	172	eP	20	29.00	3.1X	UZH	77.89	325	iPc	21	12.00	2.0	PGB	81.47	319	iPc	21	30.00	0.5			
FFC	70.69	34	iPc	20	27.90	-0.5				iS	31	07.00		KDZ	81.49	318	eP	21	31.00	1.5			
	0.8s		25.00nm			5.4mb	TLB	78.05	319	ePc	21	09.50	-1.4	BEO	81.58	323	iP	21	29.90	0.0			
CMS	70.75	178	eP	20	29.00	0.2	CVO	78.11	321	ePc	21	10.00	-1.3				iS	31	42.40				
CMB	71.09	56	eP	20	31.10	-0.1	ISR	78.41	320	eP	21	12.00	-1.0	BCK	81.64	312	eP	21	30.50	0.1			
			eSKKP	43	51.00		MLR	78.46	320	ePd	21	12.00	-1.4	KHL	81.64	313	eP	21	30.40	0.0			
STK	71.13	182	eP	20	31.00	-0.1	PSN	78.61	318	iPc	21	15.00	1.0	GRF	81.64	331	iPc	21	30.90	0.7			
UPP	71.36	334	iPc	20	31.20	-1.0	KSP	78.76	329	iPc	21	14.90	0.1		1.3s		125.00nm			5.8mb			
	1.1s		200.00nm			6.1mb				i	21	24.00	29kmX		Z 18s		5.00um			5.9Msz			
			iS	29	12.00					id	22	12.90					e	21	40.20	29kmX			
PRS	71.45	58	e(P)	20	33.30	0.0				e	23	12.00		CSS	81.74	309	eP	21	31.50	0.6			
FORR	71.52	194	eP	20	34.00	0.5	BBTK	78.77	313	iPc+	21	16.00	0.8	RDO	81.79	318	eP	21	31.00	0.0			
	0.5s		12.00nm			5.3mb	BUC	79.15	320	ePd	21	16.50	-0.5	RZN	81.82	318	iPc	21	32.00	0.5			
LLA	71.56	58	eP	20	34.00	0.0	GLD	79.18	47	P	21	20.00	2.5	KMR	81.83	328	iP+	21	32.00	0.9			
TAB	71.70	304	iP+	20	35.00	0.1		Z 18s		3.68um			5.8Msz	VTS	81.92	320	iPc	21	33.00	1.1			
KVN	71.94	54	P	20	36.70	0.2	PSZ	79.50	325	iP	21	19.80	0.9	EZN	82.33	316	iP	21	34.20	0.4			
FRI	72.14	57	eP	20	36.80	-0.6	RYD	79.62	293	iPc	21	19.00	-0.9	PPCY	82.38	309	eP	21	34.20	0.0			
HFS	72.41	336	eP	20	37.30	-1.3	BRG	79.65	330	iPc	21	19.50	-0.1	MMB	82.40	319	eP	21	35.00	0.7			
	1.1s		134.30nm			5.9mb		1.6s		100.00nm			5.6mb	SCH	82.46	17	eP	21	34.00	-0.3			
	Z 18s		6.31um			5.9Msz				i	21	33.00	46kmX	KKB	82.52	319	iPc	21	35.00	0.1			
			LR	49	57.00					e	23	39.00		MEM	82.73	334	P	21	35.70	0.0			
NB2	72.44	338	P	20	37.00	-1.8				e	24	29.00		DSI	82.76	305	iPc	21	33.00	-3.2X			
	1.1s		104.20nm			5.8mb				eS	31	05.00		PTJ	82.77	326	eP	21	36.00	-0.2			
SHI	72.46	294	eP	20	39.00	-0.6	CLL	79.66	331	iPc	21	19.90	0.3	SRS	82.81	319	ePc	21	36.00	-0.4			
TNP	73.08	54	ePd	20	43.60	0.4		1.9s		180.00nm			5.7mb	ZAG	82.83	326	iPc	21	36.70	0.4			
	1.7s	2127	.17nm			7.0mb X				i	21	28.70	28kmX	IZM	82.84	315	iP	21	37.50	0.8			
COOL	73.12	200	eP	20	43.00	0.0				eS	31	20.00		FUR	82.87	330	iPc	21	37.40	0.8			
KER	73.39	301	eP	20	44.00	-1.0	HRT	79.82	315	eP	21	20.10	-0.6	KBA	82.93	328	ePc	21	36.50	-0.6			
SYP	73.43	59	eP	20	52.00	6.8X	GPA	79.84	314	eP	21	21.00	0.2		1.2s		69.80nm			5.7mb			
CWC	73.52	56	eP	20	50.00	4.3X	ISK	79.98	316	eP	21	21.00	-0.5				e	24	52.00				
SLY	73.70	303	iPd	20	46.50	0.0	PRU	80.13	329	Pc	21	22.70	0.6	KNT	83.13	319	ePc	21	38.20	0.1			
			iPcP	21	00.00			2.5s		326.80nm			5.9mb	VAY	83.18	319	iPc	21	38.50	0.2			
			iPP	23	37.00			Z 14s		12.00um			6.4MszX		1.0s		0.12nm			3.0mb X			
			ePPP	25	18.50			N 16s		14.90um							iPP	24	52.00				
			eS	30	14.50			E 16s		11.20um				OUR	83.19	318	ePc	21	38.40	0.1			
			ePS	30	51.50					e	21	31.50	28kmX	PLE	83.21	322	iPc	21	39.50	0.9			
ISA	73.73	57	eP	20	46.00	-0.8				PP	23	24.00		SKO	83.26	320	iPc	21	39.70	1.0			
BWA	73.79	176	eP	20	46.90	0.1				S	31	26.00			1.0s		160.00nm			6.2mb			
FRB	73.91	14	eP	20	43.00	-4.2X	DMK	80.14	317	iP	21	25.00	2.6X		Z 15s		11.56um			6.4MszX			
	0.9s		73.00nm			5.7mb	YLV	80.16	315	iP	21	22.20	-0.4		N 15s		15.42um						
AKU	74.08	352	iPc	20	49.70	1.5	BUD	80.21	325	iPc	21	23.00	0.4		E 15s		9.18um						
	1.1s		50.63nm			5.5mb	CTT	80.26	316	iP	21	22.70	-0.3				iPcP	21	48.20				
			i	21	02.30	43kmX	SRO	80.27	326	iP	21	24.50	1.6				iPP	24	50.00				
CLC	74.21	57	eP	20	50.00	0.4				e	44	43.90					iPPP	26	41.00				
SIM	74.62	316	ePc	20	50.00	-1.7	JMB	80.30	318	iPc	21	24.00	0.8				iS	32	00.00				
			eS	30	26.00		PVL	80.40	319	iPc	21	23.00	-0.7				iSS	37	06.00				
CAN	74.71	175	eP	20	54.60	2.4	ZST	80.49	327	iP	21	21.20	-2.9X				iSSS	41	33.00				
MSL	74.74	305	eP	20	53.50	1.0				e	22	06.00	183kmX				LR	03	08.00				
			eS	30	26.00		TIM	80.54	323	ePc	21	24.30	-0.1	LJU	83.27	327	ePc	21	38.40	-0.2			
SBB	74.75	58	eP	20	53.00	0.3	WIT	80.64	335	eP	21	26.50	1.7	SNF	83.38	335	Pc	21	39.60	0.5			
MWC	74.88	58	eP	20	51.00	-2.6				e	21	36.00	30kmX	VBY	83.39	326	iPc	21	39.60	0.4			
GSC	75.03	57	eP	21	01.00	6.6X	MOX	80.72	331	iPc+	21	25.00	-0.3	PLG	83.44	318	eP	21	39.00	-0.7			
RVR	75.47	58	eP	20	58.00	1.2		2.0s		172.00nm			5.7mb	WLF	83.49	334	P	21	37.40	-2.2			
PEC	75.67	58	P	20	58.60	0.6		Z 15s		8.70um			6.2MszX	THE	83.49	319	ePc	21	39.10	-0.8			
WAR	75.78	328	eP	20	59.00	0.9		N 14s		8.80um				GRG	83.54	319	ePc	21	40.00	-0.2			
	Z 20s		10.50um			6.1Msz		E 15s		7.80um				VOY	83.54	327	ePc	21	38.30	-1.9			
			e	30	48.00		VKA	80.76	327	ePc	21	26.00	0.4	FVI	83.55	328	P	21	39.30	-0.7			
BHD	75.85	301	iPd	20	57.50	-1.4		4.0s	1194	.00nm			6.3mb X	CEY	83.55	327	ePc	21	39.90	-0.2			
			ePP	23	51.00			Z 13s		7.10um			6.2MszX	GWF	83.55	332	P	21	40.12	0.0			
			eS	30	36.50					ePF	24	25.50		DOU	83.64	335	P	21	40.20	-0.3			
KVT	76.07	312	iP	21	00.90	0.8				LR	03	28.00					S	32	05.00				
NWAO	76.14	203	eP	20	50.00	-10.3X	OASM	80.92	296	ePc	21	26.70	-0.1	PAIG	83.65	318	ePc	21	40.70	0.0			
	Z 20s		1.60um			5.3Msz	BHL	81.03	307	P	21	27.00	-0.4	NKY	83.80	322	eP	21	42.00	0.5			

TRI	83.86	327	eP	21	40.50	-1.1
			e	24	54.00	
			ePP	25	42.00	
			e(SKS)	32	16.00	
			eLR	55	04.00	
KMSA	83.88	291	ePd	21	42.00	-0.2
RIY	83.89	327	iPc	21	41.10	-0.7
DLE	83.93	342	eP	21	42.40	0.6
	1.1s		73.00nm			5.8mb
BRY	83.94	323	eP	21	42.00	-0.3
TTG	83.97	322	eP	21	42.30	0.1
			e(S)	32	04.00	
LIT	84.13	319	ePc	21	42.40	-0.8
CDF	84.15	332	P	21	42.96	-0.3
AYN	84.17	303	ePc	21	44.70	1.2
OHR	84.22	320	iPc	21	43.70	0.0
	1.0s		0.15nm			3.2mb X
SLE	84.25	331	ePc	21	43.70	0.0
BDV	84.28	322	eP	21	43.80	-0.1
MBH	84.29	304	iPc	21	41.00	-3.1X
HCY	84.31	322	eP	21	43.50	-0.5
ULC	84.33	322	eP	21	44.00	-0.1
FEL	84.34	332	P	21	44.13	-0.1
KZN	84.34	319	eP	21	43.50	-0.8
ECH	84.36	332	P	21	44.26	0.1
SAX	84.36	331	ePc	21	44.80	0.3
CTI	84.45	329	Pc	21	43.90	-0.9
HQL	84.52	304	ePc	21	46.00	0.8
OSS	84.52	330	ePc	21	45.70	0.5
ZLA	84.53	331	ePc	21	45.10	0.0
SRFA	84.66	303	ePc	21	46.50	0.6
MOF	84.68	332	P	21	44.94	-0.9
HVAR	84.69	324	iPc	21	44.80	-1.1
VITF	84.78	333	P	21	46.17	0.0
LLS	84.81	331	ePc	21	47.10	0.4
BSF	84.82	332	eP	21	46.40	-0.2
HAU	84.83	333	eP	21	46.50	0.0
	0.8s		13.40nm			5.2mb
BBS	84.87	332	P	21	46.60	-0.2
BADA	85.05	303	ePc	21	48.10	0.2
ATH	85.07	316	eP	21	48.00	0.2
LOMF	85.21	332	P	21	48.70	0.2
SAL	85.26	329	P	21	49.20	0.6
SNZO	85.40	157	P	21	56.00	6.9X
			PP	25	12.00	
			S	32	16.00	
			SS	37	48.00	
MDI	85.44	330	P	21	49.00	-0.5
TMA	85.50	330	ePc	21	50.10	0.0
WAJH	85.60	300	ePc	21	50.90	0.2
AOI	85.66	326	eP	21	50.01	-0.7
VAI	85.73	330	Pc	21	50.90	-0.1
KEK	85.78	320	eP	21	51.00	-0.4
RSM	85.84	327	P	21	52.30	0.7
MMK	85.89	331	eP	21	52.70	0.6
VAL	86.01	344	P	22	04.00	11.7X
			S	32	25.00	
DIX	86.07	331	eP	21	53.50	0.4
SFI	86.10	327	P	21	55.00	2.1
CIO	86.14	326	eP	21	53.00	-0.2
BRT	86.14	322	Pd	21	53.20	0.0
PGD	86.19	327	P	21	54.60	1.0
LCI	86.21	321	P	21	53.50	0.0
ORO	86.24	330	Pc	21	52.00	-1.7
ALP	86.29	326	eP	21	54.09	0.1
CRE	86.30	327	P	21	54.00	0.0
LOR	86.33	334	iPc	21	54.00	0.0
	1.1s		91.50nm			5.9mb
BOB	86.39	329	P	21	53.60	-0.8
FLN	86.41	337	eP	21	54.30	-0.1
	1.3s		93.80nm			5.8mb
MEO	86.43	47	e(P)	21	55.00	0.3
ASS	86.45	326	P	21	54.50	-0.2
LDF	86.45	337	iPc	21	54.60	0.0
	1.1s		24.40nm			5.3mb
HLW	86.46	306	eP+	21	56.00	1.1
			ePPP	25	18.00	
			eS	32	20.00	
FIR	86.47	327	iPc	21	56.00	1.3
			iS	32	20.00	
OCO	86.51	46	iPd	21	56.70	1.6
LBF	86.53	334	iPc	21	55.00	-0.1
	1.1s		42.40nm			5.6mb
VLS	86.55	318	eP	21	54.80	-0.4
ITM	86.61	317	eP	21	54.50	-1.0
SSF	86.63	334	iPc	21	55.70	0.2
	1.1s		48.80nm			5.6mb

AQU	86.71	325	P	21	56.30	0.3
DUI	86.79	324	P	21	55.90	-0.6
LPG	86.81	331	eP	21	57.00	0.2
	1.1s		47.30nm			5.6mb
GRR	86.86	337	iPc	21	56.80	0.3
	1.1s		87.90nm			5.9mb
SMF	86.87	333	iPc	21	56.90	0.2
	1.6s		161.60nm			6.0mb
AVF	86.92	334	iPc	21	57.20	0.4
SIO	86.98	45	e(P)	21	54.60	-2.8X
MNS	87.00	326	Pd	21	56.80	-0.6
CKI	87.13	330	P	21	57.50	-0.4
TUL	87.14	44	eP	21	56.70	-1.4
	1.3s		27.40nm			5.3mb
Z	19s		2.35um			5.6Msz
LNO	87.14	44	e(P)	22	01.00	3.0X
BNI	87.22	331	P	21	58.50	0.0
LPF	87.23	337	eP	21	58.70	0.3
	1.2s		79.70nm			5.8mb
SGO	87.28	323	Pc	21	58.10	-0.6
BGF	87.29	334	iPc	21	59.10	0.4
	1.3s		39.70nm			5.5mb
RFI	87.29	324	P	21	59.50	0.8
RMP	87.45	325	P	21	59.00	-0.5
RDP	87.49	325	P	21	58.50	-1.3
MGR	87.50	323	P	21	58.50	-1.3
TDS	87.51	322	P	22	00.50	0.7
MAF	87.68	334	iPc	22	01.30	0.7
	1.1s		70.80nm			5.9mb
TCF	87.74	334	eP	22	01.40	0.5
	1.2s		59.50nm			5.8mb
LSF	88.00	335	eP	22	02.60	0.5
GRI	88.13	321	P	22	03.00	0.1
MFF	88.23	336	iPc	22	03.70	0.5
	1.3s		53.40nm			5.7mb
RJF	88.84	334	iPc	22	06.80	0.7
	1.1s		36.10nm			5.6mb
SOI	88.89	321	P	22	06.50	0.0
CAF	88.98	334	iPc	22	07.90	1.0
	1.3s		48.30nm			5.6mb
UYO	89.17	45	e(P)	22	11.80	3.9X
CBM	89.36	21	P	22	08.40	-0.2
LFF	89.42	335	eP	22	09.50	0.6
	1.3s		82.30nm			5.8mb
ASW	89.46	301	iPd	22	08.00	-1.4
			eS	25	44.00	
ELC	89.47	39	P	22	13.40	4.2X
LPO	89.49	334	eP	22	09.90	0.6
RSNY	89.52	26	P	22	20.00	10.6X
Z	20s		6.78um			6.1Msz
OLY	89.73	42	P	22	15.10	4.6X
HBVT	90.18	25	P	22	13.00	0.5
ARO	90.77	286	P+	22	17.00	1.4
EBR	93.14	333	eP	22	24.00	-2.1
			ePP	26	16.00	
			eS	33	40.00	
TOL	95.52	335	eP	22	35.00	-2.2
			ePP	26	28.00	
			eSKS	33	09.00	
			iS	33	56.00	
			ePS	35	13.00	
			eSS	40	25.00	
			eSSS	43	58.00	
BUL	121.49	269	ePKP	28	06.60	0.2
SLR	124.79	264	iPKPd	28	12.50	-0.1
	1.0s		40.00nm			
Z	18s		4.81um			6.2Msz
KIC	125.65	320	PKP	28	14.90	0.4
KSR	125.92	264	ePKP	28	14.00	-0.9
PRY	126.03	263	ePKP	28	12.50	-2.6X
SEK	126.61	261	ePKP	28	08.00	-8.2X
SPA	129.40	180	e(PKP)	28	22.30	2.1
	0.8s		2.92nm			
ZOBO	144.00	59	PKP	28	47.00	-2.2
			i	56	16.00	
			LR	18	18.00	
LPB	144.20	59	ePKP	28	50.00	0.7
			LR	18	28.00	
CNCB	144.48	59	PKP	28	49.00	-1.0
			i	28	51.00	
CCH	146.10	58	PKP	28	55.00	2.6X
PEL	151.88	88	ePKPc	29	09.00	8.4X
	1.1s		32.91nm			
SAN	152.02	88	ePKP	29	09.50	8.7X
PCH	152.20	88	ePKP	29	11.50	10.4X
BAO	154.12	26	ePKP	29	03.60	-0.7
S.D. = 1.0 on 325 of 369 obs.						

OCT 29, 1989 03h 32m 30.49± 0.50s
39.607 N ± 7.7km 143.508 E ± 8.2km
DEPTH = 10.0km (geophysicist)
4.7mb (8 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ	4.25	238	P	33	38.40	1.6
KAKJ	4.30	219	P	33	36.30	-1.1
CHJJ	5.04	227	P	33	48.10	0.2
MTMJ	5.42	238	P	33	54.60	1.3
IIDJ	6.06	229	P	34	03.80	1.5
MDJ	11.48	300	eP	35	17.00	-0.4
SNY	15.28	285	eP	36	09.70	2.0
SSE	20.05	252	P	37	04.00	-2.5
	1.0s		12.00nm			4.2mb
			sP	37	14.20	
BJI	20.97	280	eP	37	12.00	-4.0X
TIA	21.06	269	eP	37	13.00	-4.1X
TIY	24.28	275	Pc	37	51.10	2.2
WHN	25.43	258	Pc	37	59.50	-0.3
	1.0s		0.07nm			2.3mb X
BTO	25.55	283	eP	37	55.00	-6.0X
LZH	31.34	276	P	38	52.00	-1.4
	1.0s		0.04nm			2.3mb X
GYA	33.32	258	iPc	39	09.60	-1.1
CD2	33.38	267	eP	39	09.60	-1.5
GTA	33.46	284	iPc	39	11.80	-0.1
WMQ	41.21	295	Pc	40	17.50	0.6
CHG	43.54	255	eP	40	36.00	-0.1
INK	51.35	28	eP	41	36.00	-0.6
MBC	53.59	17	eP	41	54.00	0.7
	1.0s		6.00nm			4.5mb
WB5	59.79	190	eP	42	37.80	-0.3
WRA	59.85	190	Pd	42	37.80	-0.7
	1.0s		4.40nm			4.5mb
KEV	61.62	339	eP	42	49.00	-1.1
GBA	63.06	266	P	42	59.60	-0.7
SOD	63.23	337	iP	43	00.20	-0.6
SUF	66.43	333	eP	43	21.00	-0.5
	0.5s		6.00nm			5.0mb
NUR	68.45	332	eP	43	33.50	-0.8
			e	43	42.00	
KVN	71.90	54	P	43	57.50	1.5
HFS	72.41	336	eP	43	57.30	-1.1
	0.5s		5.90nm			4.9mb
NB2	72.44	338	P	43	58.10	-0.5
	0.7s		7.30nm			4.9mb
TNP	73.04	55	eP	44	05.00	2.3
	1.0s		3.00nm			4.3mb
KSP	78.77	329	eP	44	34.70	0.1
CLL	79.67	331	eP	44	40.00	0.6
	1.2s		10.00nm			4.7mb
PRU	80.13	329	P	44	42.50	0.6
KHC	81.20	329	eP	44	48.80	1.2
SKO	83.27	320	iP	44	59.40	0.9
			i	45	16.20	
OHR	84.23	320	eP	45	03.50	0.0
ZOBO	143.95	59	ePKP	52	08.00	-0.9
LPB	144.16	59	PKP	52	13.00	4.0X
CNCB	144.44	59	ePKP	52	09.00	-0.7
S.D. = 1.2 on 37 of 41 obs.						

OCT 29, 1989 03h 50m 43.12± 0.76s
40.618 N ± 7.3km 23.605 E ± 8.4km
DEPTH = 33.0km (normal)
GREECE (364)

OUR	0.40	134	ePg	50	52.80	0.5
			eSg	50	59.20	
THE	0.49	272	ePg	50	52.90	-0.6
			eSg	50	56.50	
SRS	0.50	359	ePgc	50	53.50	-0.2
			eSg	51	02.30	
PAIG	0.69	175	ePg	50	55.80	-0.6
KNT	0.76	316	ePg	50	57.10	-0.3
			eSg	51	06.30	
GRG	0.97	291	ePg	51	01.60	1.1
			eSg	51	15.20	
LIT	1.00	239	ePg	51	01.10	0.3
			eSg	51	13.60	
S.D. = 0.8 on 7 of 7 obs.						

OCT 29, 1989 04h 56m 15.57± 1.45s
2.701 S ± 5.6km 79.772 W ±17.2km
DEPTH = 71.5 ± 15.5 km
4.7mb (6 obs.)

29d 04h

NEAR COAST OF ECUADOR (105)

RECU	2.38	30	iPd	56	55.00	1.5
GGP	2.77	25	iP+	56	59.40	0.3
			S	57	29.40	
QUR	2.80	26	P+	56	59.60	0.2
			eS	57	30.70	
CAYA	3.29	33	P	57	06.20	-0.1
COTA	3.34	25	P	57	06.80	-0.2
PSO	4.58	32	eP	57	23.50	-0.7
PURC	6.04	34	eP	57	44.24	-0.6
SALC	6.42	29	eP	57	46.48	-3.3X
ANCC	6.82	25	eP	57	49.59	-5.6X
HOQC	6.88	27	eP	57	51.80	-4.5X
DIAC	6.94	31	eP	57	52.84	-4.2X
CLMC	7.28	26	eP	57	56.09	-5.6X
BOG	9.24	38	eP	58	35.00	6.2X
NNA	9.67	163	iPc	58	32.70	-1.7
	0.6s	12.00nm			5.1mb	
			iS	59	17.00	
PT08	9.74	161	eP	58	35.60	0.0
			eS	59	11.80	
UPA	11.61	1	ePd	59	06.20	5.7X
ARE	15.92	150	eP	59	59.00	2.0
ZOBO	17.70	140	P	00	18.80	-0.6
LPB	17.91	141	P	00	22.00	0.1
CNCB	18.19	141	P	00	25.90	0.4
CCH	19.80	138	P	00	43.00	-0.3
TUL	41.23	340	eP	03	54.60	-0.5
	1.0s	14.70nm			4.8mb	
LNO	41.23	340	eP	03	54.60	-0.3
SIO	41.26	339	e(P)	03	54.90	-0.4
FVM	41.67	347	eP	03	57.50	-1.1
	1.0s	15.00nm			4.8mb	
ALQ	45.05	329	iP	04	26.80	0.5
	1.0s	10.25nm			4.6mb	
			e	04	43.00	
TNP	53.34	323	eP	05	30.00	0.0
	1.0s	2.00nm			4.1mb	
			e	05	44.50	
KVN	54.49	324	eP	05	40.00	1.5
			e	05	54.00	
INK	79.85	342	eP	08	24.00	6.5X
SPA	87.32	180	e(P)	08	56.00	0.4
	1.0s	8.00nm			4.8mb	
MTN	145.65	243	iPKPc	15	48.40	0.1
	S.D. = 0.9	on	23 af	31	abs.	

OCT 29, 1989 05h 00m 06.35± 0.88s
38.682 N ± 7.0km 27.820 E ± 9.3km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
MD 3.2 (ATH).

IZM	0.52	237	iPg	00	18.50	1.6
			iSg	00	26.50	
CIN	1.10	169	ePg	00	26.00	-1.0
			iSg	00	43.00	
DST	1.12	34	ePn	00	31.00	3.7X
SMG	1.24	219	ePb	00	32.50	3.1X
PRK	1.33	295	ePb	00	30.00	-0.9
			eSb	00	45.00	
KHL	1.38	104	iPn	00	40.50	8.8X
YER	1.59	167	ePn	00	45.30	10.7X
EZN	1.63	315	ePn	00	34.20	-0.9
EDC	1.66	1	iPn	00	35.80	0.2
BNT	1.67	3	iPn	00	36.20	0.4
YLV	2.23	32	iPn	00	44.70	0.7
CTT	2.51	11	ePn	01	00.20	12.4X
HRT	2.57	33	ePn	00	58.20	9.5X
	S.D. = 1.2	on	7 af	13	abs.	

OCT 29, 1989 05h 25m 38.27± 0.12s
39.571 N ± 2.6km 143.333 E ± 2.4km
DEPTH = 9.6km (geophysicist)
6.0mb (68 abs.) 6.6Msz (26 abs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Ms 6.4 (PAS), 6.1 (BRK). Felt (III JMA) at Hachinohe, Miyako, Moriaka, Ofunata and Sakata; (II JMA) at Akita, Aomari, Sendai, Ishinamaki and Mutsu. Felt fram central Hanshu ta Hokkoida. Small tsunami recarded with moximum wave heights 11 cm. at Ofunato, 10 cm. at Ayukawa, 6 cm. at Miyako and 3 cm. at Hachinahe. Depth fram broadband displacement seismagrams.
FAULT PLANE SOLUTION: P-Waves
NP1:Strike= 30 Dip=85 Slip= 90
NP2: 210 5 90
Principal Axes:
T Plg=50 Azm=300
P 40 120
Comment: The focal mechanism is poarly cantrolled and carresponds ta reverse faulting. The preferred fault plane is NP2.
RADIATED ENERGY
No. af sta: 10 Facal mech. F
Energy 8.5±2.6*10**13 Nm
MOMENT TENSOR SOLUTION
Dep 3 Na. of sta: 22
Mament Tensar; Scale 10**19 Nm
Mrr= 0.11 Mtt= 0.02
Mff=-0.13 Mrt=-0.12
Mrf= 2.70 Mtf=-0.41
Principal axes:
T Val= 2.75 Plg=45 Azm=259
N -0.01 9 358
P -2.73 43 96
Best Double Cauple:Ma=2.7*10**19
NP1:Strike=261 Dip= 9 Slip= 173
NP2: 358 89 81
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 17S, 46C M.W.: 11S, 22C
Centroid Locatian:
Origin Time 05:25:45.6 0.2
Lat 39.38N 0.02 Lan 143.50E 0.02
Dep 29.8 1.1 Half-duratian 6.7
Mament Tensar; Scale 10**18 Nm
Mrr= 3.14 0.06 Mtt=-0.14 0.05
Mff=-3.00 0.05 Mrt= 2.80 0.19
Mrf= 3.88 0.23 Mtf=-0.93 0.05
Principal Axes:
T Val= 5.82 Plg=60 Azm=316
N -0.12 9 210
P -5.70 28 115
Best Double Cauple:Ma=5.8*10**18
NP1:Strike=182 Dip=19 Slip= 61
NP2: 32 74 99

MIY	1.06	274	iP+	26	01.00	2.8
			iS	26	17.00	
OFU	1.35	248	iP+	26	04.70	1.6
			iS	26	26.20	
MRK	1.68	275	iP+	26	10.50	2.7
			S	26	36.00	
HAC	1 68	305	iP+	26	08.70	0.8
			eS	26	34.00	
ISN	1.95	235	iP+	26	12.60	0.8
			iS	26	40.70	
SEN	2.31	236	iP+	26	18.00	1.1
			S	26	50.50	
AOM	2.32	303	iP+	26	19.00	1.9
			eS	26	49.00	
AKI	2.50	274	iP+	26	22.20	2.6
			eS	27	00.00	
URA	2.62	351	eP	26	21.00	-0.3
			eS	26	54.00	
HOO	2.71	360	eP	26	00.00	-22.7X
NIIJ	4.12	237	P	26	43.50	0.8
KAKJ	4.19	218	P	26	42.10	-1.5
CHJJ	4.92	226	P	26	53.20	-0.8
MAT	5.05	235	P	26	57.00	1.1
TSRJ	7.09	238	P	27	26.60	2.0
CN2	14.01	293	Pc	28	58.00	-1.1
E	15s	278.00um				
			S	31	38.00	
SNY	15.15	285	iPc	29	13.00	-1.0
N	15s	345.00um				
E	17s	238.00um				
			pP	29	20.10	
			sS	32	10.00	
DL2	16.83	275	iPc	29	34.00	-1.5
N	14s	263.00um				
E	16s	188.00um				
PET	17.06	33	eP	29	40.00	1.7
			eS	32	57.00	
SSE	19.91	252	P+	30	09.00	-3.9X
	1.0s	26.00nm			4.5mb X	
N	13s	232.00um				
E	12s	115.00um				
			PPP	30	37.00	
			PP	33	28.00	
			SS	33	45.00	
			sS	33	52.00	
			SS	34	12.50	
BJI	20.85	280	ePc	30	19.00	-3.6X
	1.5s	760.00nm			5.8mb	
E	15s	306.00um				
			eS	34	20.00	
TIA	20.93	269	Pc	30	20.10	-3.4X
			pP	30	25.50	20kmX
NJ2	21.18	257	iPc	30	23.00	-3.1X
N	13s	106.00um				
E	14s	117.00um				
			iS	34	11.00	
ANP	23.27	238	iP+	30	47.00	0.0
			iS	34	56.00	
TIY	24.15	275	Pd	30	53.80	-1.6
	8.0s	11.40nm			3.5mb X	
E	16s	135.00um				
HHC	24.23	283	P	30	55.00	-1.2
Z	26s	157.00um			6.4MszX	
N	15s	83.60um				
E	15s	61.90um				
			S	35	10.00	
SMY	24.83	48	eP	31	04.30	2.5
WHN	25.29	258	Pc	31	05.50	-0.8
	0.8s	0.97nm			3.5mb X	
Z	16s	250.00um			6.8MszX	
E	17s	145.00um				
OZH	25.40	242	eP	31	05.50	-1.9
	7.0s	18.70nm			3.9mb X	
Z	16s	102.00um			6.4MszX	
N	13s	90.60um				
			iS	35	32.00	
BTO	25.43	283	iPc	31	06.00	-1.7
N	13s	61.60um				
E	13s	76.60um				
GUMO	25.92	177	e(P)	31	10.00	-2.3X
	1.2s	250.00nm			5.8mb	
GUA	25.97	176	e(P)	31	12.00	-0.8
	1.2s	250.00nm			5.8mb	
Z	20s	80.28um			6.3Msz	
XAN	27.99	270	iPc	31	30.00	-1.2
N	16s	144.00um				
E	14s	85.40um				
			sS	36	21.00	
IRK	29.59	308	iPc	31	45.00	-0.5
			eS	36	56.00	
ADK	30.12	53	eP	31	49.70	-0.4
HKC	30.18	244	iP	31	53.00	2.1
			eS	36	50.00	
GZH	30.25	246	iPc	31	50.00	-1.5
Z	20s	148.00um			6.6Msz	
N	15s	88.80um				
E	13s	45.40um				
			iS	36	50.00	
BAG	30.43	227	eP+	31	50.00	-3.4X
			eS	36	53.00	
LZH	31.21	276	ePc	31	59.44	-0.7
N	13s	135.20um				
E	13s	288.50um				
			sP	32	27.50	
			PP	33	01.50	
			PPP	33	10.50	
			PcP	34	56.70	
			eS	37	12.37	
			e	37	14.00	
			ScS	42	32.00	
QCP	31.60	224	eP	31	48.00	-15.4X
TIK	32.96	352	eP	32	14.00	-0.8
			eS	37	33.00	
GYA	33.18	258	iPc	32	16.00	-1.4
	4.0s	7.40nm			4.0mb X	
Z	16s	60.00um			6.4MszX	
N	15s	97.20um				
E	15s	56.20um				
			PP	33	28.00	
			S	37	37.00	
CD2	33.24	267	eP	32	16.60	-1.2
Z	30s	43.40um			6.0MszX	
E	14s	143.00um				
			iPP	33	31.00	
GTA	33.34	284	iPc	32	18.80	0.2
	9.5s	13.80nm				

	Z 18s 135.00um 6.7Msz				Z 20s 59.40um 6.6Msz		
	E 15s 180.00um				N 18s 142.00um		
	PP 33 25.00				isS 42 06.00		
	S 37 31.00			INK	51.44 28 eP 34 44.00 -1.2		
	sS 37 48.00				1.0s 186.00nm 6.0mb		
QIZ	35.37 244 Pc 32 37.00 0.9			IPM	51.67 239 ePd 34 48.10 0.5		
	N 14s 73.90um				1.0s 129.50nm 5.8mb		
	E 13s 39.50um			KGM	52.14 234 ePd 34 52.60 1.5		
	PP 33 59.50			KUG	52.77 205 eP 35 00.00 4.2X		
	S 38 04.50				0.5s 144.10nm 6.2mb		
DAV	36.07 211 eP 32 43.50 1.5			HON	52.83 92 P 35 00.00 3.7X		
KMI	36.88 259 eP 32 50.87 1.8				Z 20s 15.96um 6.1Msz		
	Z 20s 112.90um 6.7Msz			HON	52.83 92 ePd 34 56.15 -0.1		
	N 15s 125.30um				epPc 34 58.47 8kmX		
	sP 33 15.00			MTN	53.37 195 iPd 34 59.60 -0.5		
	ePP 34 15.46			SIT	53.49 42 eP 35 01.90 1.3		
	PcP 35 05.00				i 05 35.90		
	S 38 30.00			MBC	53.66 17 eP 35 01.00 -0.7		
	eS 38 32.12				0.9s 44.00nm 5.5mb		
	PcS 38 50.00			TSI	54.11 240 eP 35 08.00 2.3		
	eSS 41 14.35			PSI	54.47 239 iPd 35 07.90 -0.4		
ANM	38.65 33 eP 33 06.30 3.1X				0.7s 21.00nm 5.3mb		
WMQ	41.10 295 eP 33 26.55 2.7X			NDI	54.70 280 iPc 35 08.50 -1.4		
	Z 15s 65.20um 6.6MszX				0.8s 216.42nm 6.2mb		
	N 15s 81.00um			BSI	54.91 245 eP 35 14.00 2.4		
	E 15s 70.70um			TRT	54.96 218 ePd 35 10.50 -1.4		
	ePP 35 04.22				1.2s 105.70nm 5.7mb		
	eS 39 45.22			DSH	56.28 295 iPc 35 19.00 -2.3		
	eSS 42 57.24				eS 43 11.00		
KKM	41.36 223 ePc 33 28.30 2.1			KNA	56.69 197 eP 35 23.00 -1.3		
	1.1s 150.30nm 5.6mb				0.9s 104.00nm 5.9mb		
	e 33 37.00			KBS	58.43 350 iP 35 35.70 -0.2		
MNI	41.53 209 eP 33 30.00 2.5X			CTA	59.41 177 iP- 35 42.90 -0.4		
JAY	41.95 184 iPc 33 33.70 2.7X				2.0s 352.94nm 6.1mb		
	0.6s 7.50nm 4.6mb X				iS 43 48.00		
	e 37 06.00				i 45 28.00		
TSM	41.96 220 ePd 33 34.20 3.2X			CTAO	59.41 177 ePd 35 41.08 -2.2		
	1.3s 1022.80nm 6.4mb				epP 35 44.23 10kmX		
LOE	42.23 251 iPc 33 32.80 -0.4			WB5	59.73 190 eP 35 43.10 -2.4		
TTA	42.48 36 P 33 35.00 0.1				eS 43 52.00		
	1.6s 180.33nm 5.6mb				e 05 26.50		
SVW	42.58 39 eP 33 36.80 1.1			WRA	59.80 190 Pd 35 43.50 -2.5X		
CHG	43.40 255 iPc 33 42.50 -0.3				0.7s 29.30nm 5.5mb		
	0.9s 134.45nm 5.7mb			QIS	59.91 184 iPd 35 46.20 -0.6		
	eS 40 14.00			APA	61.03 336 iPd 35 52.80 -1.2		
BRW	43.49 24 eP 33 42.70 -0.2				iS 44 08.60		
LSA	43.52 274 P 33 45.90 1.6			PVC	61.60 153 iPc 36 03.00 4.7X		
	Z 17s 50.00um 6.5MszX			KEV	61.61 339 ePc 35 56.57 -1.3		
	N 15s 46.80um				epP 35 59.88 11kmX		
	E 15s 43.50um				ePP 38 06.19		
	S 40 08.00				ePPP 39 31.44		
IMA	43.74 32 eP 33 44.30 -0.9				eS 44 19.30		
	1.0s 175.00nm 5.8mb				e 45 45.38		
	id 33 47.20				e 45 45.94		
KDC	44.27 44 eP 33 49.70 0.4				eSS 48 17.68		
RAB	44.30 167 eP 33 48.00 -2.1			QUE	61.64 287 iPd 35 59.50 0.6		
	iS 40 22.00				eS 44 27.00		
NST	44.51 250 eP 33 54.00 2.2			POO	62.78 272 iPc 36 05.80 -0.6		
SHL	44.98 268 iP 33 56.00 0.2				iS 44 40.00		
	iS 40 36.00			GBA	62.92 265 P 36 05.80 -1.5		
AAI	45.25 202 ePd 34 03.60 5.9X			SOD	63.22 337 iP 36 06.80 -1.7		
PCI	45.67 214 iPd 34 01.80 0.8			BOM	63.37 273 iP 36 09.50 -0.7		
	iS 34 43.30				iS 44 44.00		
PMR	45.70 38 eP 33 59.10 -1.6			DAG	63.38 355 iP+ 36 10.00 0.5		
	0.9s 75.00nm 5.7mb				Z 17s 23.13um 6.4MszX		
	ic 34 02.60				N 17s 28.57um		
TLE	46.03 195 ePd 33 59.00 -4.8X				E 16s 16.16um		
LAT	46.12 175 eP 34 08.00 3.5X			PGC	63.50 48 eP 36 10.00 -0.7		
COL	46.16 33 eP 34 08.14 3.8X			ASPA	63.52 190 iPc 36 09.70 -1.3		
	ePP 35 59.22				1.0s 89.00nm 5.9mb		
	eS 40 51.72				Z 23s 20.18um 6.2MszX		
	eSS 43 57.12				eS 44 36.70		
FBA	46.16 33 eP 34 03.70 -0.7				LR 00 57.10		
NNT	46.85 247 iPd 34 10.00 -0.4			TRO	63.81 341 eP 36 11.23 -1.2		
TOA	47.05 37 eP 34 12.80 1.2			MAIO	63.83 297 iPc+ 36 13.00 -0.2		
TLG	48.44 297 iP 34 23.00 0.3				eS 44 14.00		
	iS 41 23.00			MBL	64.28 204 eP 36 16.50 0.5		
PMG	48.86 175 eP 34 26.50 0.5			DZM	65.01 156 iPc 36 20.80 -0.1		
KDB	48.92 175 eP 34 28.00 1.5			RMW	65.06 48 P 36 22.00 0.9		
MKS	49.71 212 ePc 34 34.30 1.7			PNT	65.31 46 eP 36 21.00 -1.5		
	e 38 58.00				0.9s 136.00nm 6.1mb		
SNG	50.04 241 ePd 34 35.00 -0.2			LON	65.44 49 eP 36 23.27 -0.2		
	1.4s 334.88nm 6.1mb			KHI	65.56 295 eP 36 23.50 -1.0		
	eS 41 47.80			QLP	65.82 179 eP 36 24.00 -1.8		
FRU	50.49 297 iPc 34 38.50 0.1				e 36 28.00		
	iS 41 34.00			RMO	65.91 175 iPc 36 26.20 -0.2		
KSH	50.80 293 iPc 34 40.00 -0.9				e 36 28.00		

			e	36 58.00			
LOF	66.24 342 iP	36 27.33	-0.8				
SUF	66.40 333 eP	36 27.60	-1.6				
	0.7s 140.40nm 6.3mb						
EDM	66.43 40 ePd	36 28.00	-1.6				
	1.4s 315.00nm 6.3mb						
OBN	66.96 323 iPc	36 32.20	-0.7				
	1.0s 228.00nm 6.3mb						
	Z 16s 180.00um 7.4MszX						
	iS	45 27.00					
NANU	67.05 208 eP	36 33.00	-0.7				
	0.9s 245.00nm 6.4mb						
BRS	67.20 171 iPc+	36 34.50	-0.1				
	i	36 47.80					
	i	37 45.00					
	i	37 47.80					
	i	41 47.00					
	iS	45 16.00					
WARB	67.24 196 eP	36 34.30	-0.7				
	0.7s 5B.00nm 5.9mb						
FHC	67.32 55 eP	36 37.50	2.0				
AFI	67.65 132 eP	36 37.37	-0.4				
	eS	45 36.90					
LBFM	68.34 54 P	36 42.70	0.6				
WDC	68.36 55 ePc	36 42.20	0.2				
NUR	68.42 332 eP	36 40.10	-1.8				
	0.8s 135.00nm 6.2mb						
	i	36 44.00					
	ePP	39 08.00					
	ePPP	40 44.00					
	eS	45 42.00					
LTCM	68.83 55 P	36 46.20	1.3				
MIN	69.08 55 eP	36 46.50	-0.1				
SES	69.25 41 eP	36 46.00	-1.4				
ORV	69.60 55 eP	36 49.40	-0.2				
BRK	70.07 57 eP	36 53.20	0.7				
BKS	70.08 57 ePd	36 52.30	-0.3				
	1.5s 762.00nm 6.6mb						
	i	36 55.00					
BKS	70.08 57 ePd	36 56.00	3.4X				
	Z 20s 10.00um 6.1Msz						
	N 20s 11.00um						
	E 20s 1.70um						
	i	37 05.30					
	eS	46 08.00					
	iScS	46 46.00					
	eLQ	53 50.00					
	eLR	55 32.00					
COO	70.24 172 eP	36 53.00	-0.5				
GCC	70.73 58 e(P)	36 55.50	-1.0				
CMS	70.73 178 eP	36 55.00	-1.3				
FFC	70.76 34 iPc	36 54.60	-1.8				
	0.8s 103.00nm 6.0mb						
GDH	70.78 6 eP+	36 57.00	0.8				
	Z 20s 16.67um 6.3Msz						
	iS	46 10.00					
ARN	70.84 57 P	36 57.60	0.3				
STK	71.11 182 eP	36 58.00	-0.6				
	e	37 00.00					
CMB	71.19 56 ePd	37 00.20	0.8				
	epP	37 03.85	12kmX				
	eS	46 17.98					
	eSKS	47 07.09					
	eSS	50 50.82					
UPP	71.33 334 iPc	36 58.30	-1.4				
	1.0s 400.00nm 6.5mb						
	iS	46 18.00					
FORR	71.4B 194 eP	37 01.00	0.1				
	0.6s 30.00nm 5.6mb						
PRS	71.54 58 eP	37 01.60	0.1				
TAB	71.63 304 iP+	37 02.00	-0.1				
LLA	71.65 58 eP	37 02.40	0.3				
KVN	72.03 54 ePc	37 03.40	-1.2				
PRI	72.11 58 eP	37 05.40	0.4				
FRI	72.23 57 eP	37 05.50	0.0				
	eS	46 28.40					
SHI	72.38 294 eP	37 07.00	0.3				
HFS	72.39 336 eP	37 04.60	-1.5				
	0.6s 134.00nm 6.2mb						
	Z 18s 44.43um 6.8Msz						
	LR	03 53.00					
NB2	72.42 338 P	37 04.40	-1.9				
COOL	73.07 200 eP	37 10.00	-0.4				
	0.7s 16.00nm 5.2mb						
TNP	73.17 54 ePc	37 10.00	-1.3				
KER	73.32 301 iPc	37 12.50	0.3				
SYP	73.52 59 eP	37 16.00	2.7X				

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CWC	73.61	56	eP	37	15.00	1.1
SLY	73.63	303	ePd	37	13.00	-0.7
			iPcP	37	20.50	
			iPP	40	05.50	
			iPPP	41	48.00	
			iS	46	41.50	
			ePS	47	22.00	
			eSS	52	12.00	
			eSSS	55	13.00	
BWA	73.78	176	eP	37	14.60	0.2
ISA	73.83	57	eP	37	15.00	0.0
FRB	73.96	14	ePc	37	14.40	-0.7
	0.7s	170.00nm			6	2mb
KONO	74.03	338	ePc	37	16.09	0.5
			epP	37	19.56	11kmX
			ePP	40	04.36	
			ePPP	41	46.72	
BAL	74.08	204	eP	37	15.00	-1.2
	0.7s	41.00nm			5.6mb	
AKU	74.09	352	iP	37	17.10	1.3
	1.0s	112.00nm			5.8mb	
	Z 20s	23.40um			6.5Msz	
ADE	74.29	184	iPd	37	19.30	2.0
	0.3s	96.10nm			6	3mb
CLC	74.30	56	eP	37	17.00	-0.7
SIM	74.57	316	ePc	37	18.00	-1.0
			eS	46	52.00	
BER	74.61	340	eP	37	21.50	2.5X
MSL	74.67	305	ePc	37	21.50	1.7
			eS	46	56.00	
CAN	74.70	175	eP	37	20.90	1.2
CNB	74.72	175	eP	37	25.00	5.1X
SBB	74.84	58	eP	37	22.00	1.1
PAS	74.94	58	ePd	37	22.74	1.4
			epP	37	26.38	12kmX
			e	38	10.75	
			ePP	40	23.00	
			iS	46	53.00	
			eS	46	58.65	
			eSKS	47	30.93	
			ePS	48	06.00	
			eSS	51	44.45	
			eSS	51	53.00	
			eSSS	55	04.00	
			eLg	57	20.00	
			eLR	59	57.00	
MWC	74.97	58	eP	37	23.00	1.2
GSC	75.12	56	eP	37	25.00	2.5
MUN	75.51	204	eP	37	12.00	-12.4X
	Z 20s	5.90um			5.9Msz	
RVR	75.56	58	eP	37	26.00	1.1
WAR	75.74	328	eP+	37	25.00	-0.6
	Z 20s	81.00um			7.0Msz	
			e	40	16.00	
			e	41	58.00	
			eS	47	12.00	
PEC	75.76	58	P	37	25.60	-0.5
BHD	75.77	301	iPd	37	25.00	-1.1
			ePP	40	10.50	
			ePPP	42	05.00	
			eS	46	56.00	
			e	47	08.00	
REY	75.97	353	iP	37	31.00	4.4X
KVT	76.01	312	iP	37	27.40	0.0
DHR	76.06	293	ePc	37	26.20	-1.6
NWAO	76.08	202	ePc	37	28.39	0.8
	0.6s	27.00nm			5.5mb	
			epPd	37	31.20	9kmX
PLM	76.29	58	eP	37	30.00	0.7
COP	76.33	334	eP+	37	28.50	-0.3
	0.8s	223.88nm			6.3mb	
	Z 18s	89.35um			7.1Msz	
			i	40	22.00	
			iS	47	12.00	
TPC	76.35	57	eP	37	30.00	0.5
BFD	76.38	181	eP	37	30.00	0.9
CPE	76.43	59	eP	37	32.80	3.0X
TOO	76.79	178	eP	37	32.00	0.5
			e	37	42.00	
BAR	76.83	59	eP	37	33.00	0.9
CLI	77.00	320	iPd	37	31.00	-1.8
RSON	77.04	33	P	37	31.60	-1.3
	1.0s	154.56nm			6.1mb	
	Z 20s	20.34um			6.4Msz	
KAS	77.12	313	iP	37	35.10	1.5
CFR	77.53	319	ePd	37	34.00	-1.6
VRI	77.76	320	ePc	37	36.50	-0.5

GLA	77.81	57	eP	37	38.00	0.5
KRA	77.83	327	eP	37	37.10	-0.1
	0.8s	179.00nm			6.2mb	
	Z 18s	89.60um			7.1Msz	
	N 18s	73.30um				
			i	37	39.90	
			iS	47	33.00	
UZH	77.85	324	iPc	37	39.00	1.6
			iS	47	35.00	
TLB	78.00	319	iPd	37	31.00	-7.3X
CVO	78.06	321	ePd	37	37.50	-1.2
ISR	78.37	320	iPd	37	39.50	-0.9
MLR	78.41	320	ePd	37	39.00	-1.8
PSN	78.56	318	iPd	37	43.00	1.6
ANTO	78.67	313	ePc	37	42.38	0.2
			esP	37	47.18	
			ePP	40	37.35	
B8TK	78.71	313	iPc+	37	43.00	0.5
KSP	78.73	329	iPc	37	42.30	0.1
			id	40	27.80	
BUC	79.11	320	ePc	37	43.00	-1.3
GLD	79.27	47	ePd	37	46.50	0.9
	1.2s	8569.70nm			7.6mb X	
	Z 20s	22.00um			6.5Msz	
PSZ	79.46	325	iP	37	47.30	1.0
RYD	79.54	293	eP	37	46.70	-0.4
BRG	79.62	330	iPc	37	46.50	-0.5
	1.0s	38.00nm			5.3mb	
	N 20s	47.00um				
	E 20s	93.00um				
			i	37	49.00	
			i	37	59.50	
			e	39	19.00	
			e	40	59.00	
			eS	47	50.00	
CLL	79.63	331	iPc	37	46.40	-0.7
	1.7s	260.00nm			5.9mb	
			i	38	00.00	
			eS	47	47.00	
HRT	79.76	315	eP	37	48.20	0.1
GPA	79.78	314	eP	37	49.00	0.8
ITU	79.92	316	iPc	37	48.00	-0.8
ISK	79.93	316	eP	37	48.20	-0.6
PRU	80.09	329	Pc	37	49.50	-0.1
	2.3s	697.50nm			6.2mb	
	Z 21s	76.20um			7.0Msz	
	N 16s	86.70um				
	E 17s	65.80um				
			e	37	58.00	
			PP	40	54.00	
			PPP	42	36.00	
			iS	47	54.00	
YLV	80.10	315	iP	37	49.20	-0.7
BUD	80.17	325	iPd	37	50.30	0.3
CTT	80.21	316	iP	38	02.00	11.6X
SRO	80.23	326	iP	37	51.40	1.1
	Z 13s	45.00um			7.0MszX	
JMB	80.25	318	iP	37	52.00	1.4
ZST	80.45	327	iP	37	52.70	1.2
			e(PP)	39	15.00	
WIT	80.62	335	eP	37	53.00	0.7
			i	38	07.30	
MOX	80.69	331	ePc	37	52.00	-0.8
	2.1s	433.00nm			6.1mb	
	Z 15s	64.00um			7.1MszX	
	N 18s	67.90um				
	E 20s	88.30um				
			i	37	55.00	
			iS	48	00.00	
VKA	80.73	327	iPc	37	54.20	1.2
	7.0s	5485.00nm			6.7mb X	
	Z 14s	82.50um			7.2MszX	
			iPP	40	58.80	
			eS	47	55.00	
			iSKS	48	05.00	
			LR	20	00.00	
OASM	80.84	296	ePd	37	53.90	-0.1
BHL	80.97	307	P	37	54.00	-0.6
			PP	41	00.00	
			S	48	04.00	
BNT	81.04	316	iP	37	55.70	0.9
DST	81.18	315	iP	37	56.00	0.4
EKA	81.23	341	Pc	37	56.20	0.7
	0.8s	36.90nm			5.5mb	
WTS	81.26	335	ePc	37	55.50	-0.2
			i	38	10.00	
			ePP	41	04.00	

HRI	81.33	306	ePc	37	53.00	-3.6X
LFK	81.34	309	eP	37	56.60	0.1
WET	81.42	330	eP	37	57.20	0.6
			eS	48	08.50	
PGB	81.42	319	iP	37	56.00	-0.8
8EO	81.54	323	iP	37	54.40	-2.9
			iPP	41	06.40	
			iPPP	42	57.40	
			iS	48	09.00	
BCK	81.58	312	iP	37	58.00	0.3
KHL	81.58	313	eP	37	57.20	-0.6
GRF	81.61	331	iPc	37	57.30	-0.3
	1.0s	214.00nm			6.2mb	
	Z 20s	29.00um			6.6Msz	
			e	38	07.40	
CSS	81.68	309	eP	37	58.00	-0.2
DBN	81.71	335	eP	38	03.00	5.0X
	Z 20s	59.90um			7.0Msz	
			ePP	41	07.00	
			ePPP	43	06.00	
			eS	48	17.00	
			eSS	54	00.00	
RDO	81.74	318	eP	37	59.00	0.6
KMR	81.79	328	eP+	37	59.00	0.4
			iPP	41	06.50	
			isS	48	25.00	
ALQ	81.81	51	P	37	59.00	-0.2
	1.5s	253.38nm			6.1mb	
	Z 20s	9.57um			6.2Msz	
VTS	81.87	320	iPc	38	00.00	0.7
PPCY	82.32	309	eP	38	02.00	0.5
SCH	82.51	17	eP	38	02.00	-0.2
DSI	82.69	305	eP	38	01.00	-2.5
MEM	82.71	334	P	38	03.30	0.1
PTJ	82.73	326	eP	38	02.90	-0.7
SRS	82.77	319	ePc	38	03.40	-0.4
IZM	82.79	315	iP	38	05.50	1.5
ZAG	82.79	326	eP	38	03.00	-0.8
FUR	82.84	330	eP	38	04.40	0.4
	1.6s	524.00nm			6.5mb	
KBA	82.90	328	iPd	38	04.90	0.3
	1.5s	433.00nm			6.4mb	
			i	38	08.80	
			i	38	17.80	
			ePP	41	02.00	
KNT	83.09	319	ePc	38	05.20	-0.2
UCC	83.09	335	Pd+	38	07.60	2.4
			e	41	21.00	
			e	48	36.00	
YER	83.12	313	iP	38	06.30	0.6
VAY	83.13	319	iPc	38	05.50	-0.1
	1.8s	0.68nm			3.5mb X	
			iPP	41	21.40	
OUR	83.14	318	ePc	38	05.40	-0.3
PLE	83.17	322	eP	38	06.60	0.6
SKO	83.21	320	iPc	38	06.50	0.4
	1.2s	341.00nm			6.4mb	
	Z 16s	105.58um			7.3MszX	
	N 16s	96.22um				
	E 17s	52.20um				
			i	38	19.50	
			i	39	02.20	
			iPP	41	21.00	
			i	42	10.00	
			iPPP	43	13.00	
			iS	48	28.00	
			iPS	49	18.50	
			i	51	11.50	
			iSS	53	50.00	
			iSSS	57	38.00	
			LR	19	50.00	
LJU	83.23	327	ePc	38	05.50	-0.6
			eS	48	24.00	
VBY	83.35	326	eP	38	07.50	0.8
SNF	83.36	335	P	38	06.40	-0.2
PLG	83.39	318	eP	38	06.50	-0.5
DMU	83.44	343	eP	38	07.80	0.8
THE	83.44	319	ePc	38	06.90	-0.3
PVY	83.45	322	eP	38	10.20	2.8X
WLF	83.46	334	P	38	08.70	1.6
GRG	83.49	319	ePc	38	06.90	-0.6
VOY	83.51	327	ePc	38	06.30	-1.3
CEY	83.52	327	ePc	38	07.00	-0.6
FVI	83.52	328	Pc	38	07.30	-0.2
GWF	83.53	332	P	38	07.91	0.3
PAIG	83.60	318	eP	38	07.70	-0.3
DOU	83.62	335	P	38	08.00	0.0

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			S	48	30.00		MME	86.32	328	P	38	21.10	-0.8	ATE	91.52	335	P	38	47.66	1.4
HITJ	83.62	303	Pc	38	00.10	-8.4X	BOB	86.35	329	P	38	22.30	0.4	ISSF	91.60	335	P	38	46.44	-0.4
KKS	83.64	321	eP	38	07.00	-1.2	VLI	86.36	316	eP	38	23.00	1.1	SCP	91.64	30	ePc	38	46.68	-0.2
NKY	83.75	322	eP	38	08.40	-0.5	FLN	86.39	337	eP	38	21.70	-0.2				ePP	39	39.74	
TRI	83.82	327	ePc	38	07.80	-1.2		1.0s	92.00nm			5.9mb		LHE	91.64	334	P	38	48.50	1.5
			ePP	41	22.00		HLW	86.40	306	eP+	38	04.00	-18.2X	PWLA	91.94	40	P	38	50.00	1.7
			ePPP	43	16.00					ePP	41	36.00		HRV	92.39	25	ePc	38	50.96	0.7
			e(S)	48	38.00					ePPP	43	44.00					epPd	38	54.44	11kmX
			e(SSS)	57	30.00					eS	48	50.00					ePP	39	26.11	
			eLR	06	06.00		ASS	86.41	326	P	38	22.50	0.3				eS	49	50.89	
PMO	83.84	115	iP	38	17.80	8.3X	FIR	86.43	327	iPc	38	24.00	1.9	PNJ	92.92	28	iP	38	54.20	1.5
	1.2s	60.00nm			5.7mb					iS	48	50.00		GMTN	92.93	28	iP	38	54.40	1.6
RIY	83.85	327	eP	38	08.70	-0.5	LDF	86.43	337	eP	38	21.70	-0.4	EBR	93.12	333	eP	38	53.00	-0.6
BRY	83.90	323	eP	38	09.20	-0.5		1.2s	172.50nm			6.1mb					ePP	42	40.00	
DLE	83.92	342	iPd	38	09.80	0.4	BDI	86.47	328	P	38	23.80	1.3				eSKS	49	28.00	
	0.7s	89.00nm			6.1mb		BDI	86.47	328	P	38	20.30	-2.2				e	51	20.00	
TTG	83.92	322	iPd	38	09.80	0.2	VLS	86.50	318	eP	38	22.00	-0.6	BLA	93.65	34	P	38	59.00	2.8X
			eS	48	32.00		LBF	86.51	333	eP	38	22.10	-0.5	ETOR	93.99	334	eP	39	01.00	3.2X
TPT	84.02	115	iP	38	18.80	8.4X	ITM	86.56	317	eP	38	21.50	-1.4	GUD	94.84	336	eP	39	04.50	2.7X
	1.2s	75.00nm			5.8mb		SSF	86.60	334	eP	38	22.80	-0.2	TOL	95.49	335	ePc	39	08.44	3.8X
WLS	84.10	332	P	38	10.78	0.3	VAM	86.64	314	eP	38	25.50	2.2				iPP	42	53.00	
AYN	84.10	303	ePd	38	11.60	0.9	LSD	86.66	331	P	38	23.37	-0.2				ePPP	44	53.00	
SDA	84.12	322	eP	38	11.10	0.5	DUI	86.75	324	P	38	24.40	0.5				eSKS	49	40.69	
CDF	84.13	332	P	38	10.91	0.2	LPG	86.78	331	eP	38	24.20	0.0				iSS	50	25.00	
OHR	84.18	320	iP	38	10.10	-0.9		1.0s	62.50nm			5.8mb					e	51	47.00	
	1.5s	0.15nm			3.0mb	X	PII	86.78	328	P	38	22.50	-1.3				ePPS	52	46.00	
MBH	84.22	304	iPc	38	07.00	-4.3X	GRR	86.84	337	eP	38	24.10	0.0				eSS	56	54.00	
BDV	84.24	322	eP	38	11.10	-0.2	SMF	86.85	333	eP	38	24.00	-0.2				eSSS	00	29.00	
HCY	84.27	322	eP	38	10.50	-0.9	RSP	86.88	331	P	38	25.01	0.5	EVIA	96.11	334	eP	39	07.60	0.0
ULC	84.28	322	eP	38	11.40	-0.1	AVF	86.89	334	eP	38	24.50	0.2	EPRU	98.53	335	eP	39	18.50	0.1
NEO	84.29	318	eP	38	11.00	-0.6	PCP	86.90	329	P	38	24.30	-0.2	SBA	118.02	175	ePKPc	44	28.60	3.0X
KZN	84.29	319	eP	38	11.00	-0.7	MNS	86.96	326	P	38	24.40	-0.4	BUL	121.39	269	iPKPc	44	33.70	-0.1
FEL	84.31	332	P	38	11.65	0.0	SDI	87.00	325	P	38	24.20	-0.9		1.0s	8.00nm				
SAX	84.33	330	ePd	38	12.20	0.2	SIO	87.06	45	eP	38	18.60	-6.8X	TOV	122.06	39	ePKP	44	33.00	-2.2
ECH	84.33	332	P	38	11.79	0.1	CKI	87.10	330	P	38	26.00	0.6	SDV	122.42	41	iPKP	44	35.80	-0.2
ETA	84.38	342	eP	38	12.80	1.0	BNI	87.19	331	P	38	25.80	-0.2	MAW	122.48	207	ePKP	44	33.00	-1.2
	1.0s	256.00nm			6.4mb		LNO	87.22	44	eP	38	25.50	-0.5	KUK	123.46	315	ePKP	44	38.00	0.2
CTI	84.42	328	Pd	38	11.30	-0.9	TUL	87.22	44	eP	38	25.00	-1.1				e	46	15.00	
HOL	84.45	304	ePc	38	12.70	0.2		1.3s	118.40nm			6.0mb		KOGH	123.48	315	ePKP	44	38.00	0.1
PPT	84.45	118	iP	38	17.70	5.1X	Z	18s	30.57um			6.8Msz					e	48	16.00	
	1.2s	135.00nm			6.1mb		SGO	87.24	323	P	38	28.00	1.9	LEGH	123.81	315	ePKP	44	54.00	15.5X
TIR	84.46	321	eP	38	12.20	-0.1	RFI	87.25	324	P	38	27.20	1.0				e	46	27.00	
OSS	84.49	330	ePd	38	13.00	0.3	RRL	87.26	331	P	38	27.06	0.6	WEGH	123.94	315	ePKP	44	30.00	-8.8X
ZLA	84.50	331	ePd	38	12.60	0.1	BGF	87.26	334	eP	38	26.30	0.1	SLR	124.69	264	iPKPc	44	39.00	-1.1
SRFA	84.59	303	iPd	38	14.20	1.0	FIN	87.31	329	P	38	25.83	-0.6		1.0s	40.00nm				
HVAR	84.65	324	iP	38	12.30	-1.0	ROB	87.37	330	P	38	25.94	-0.8		Z 18s	26.12um			6.9Msz	
MOF	84.65	332	P	38	13.27	-0.1	RMP	87.41	325	P	38	26.50	-0.5	TIC	125.50	320	PKP	44	41.20	-0.6
VITF	84.75	333	P	38	13.95	0.3	DOI	87.43	330	P	38	27.50	0.4	KIC	125.61	320	PKP	44	40.42	-1.6
LLS	84.78	330	ePd	38	14.20	0.0	RDP	87.45	325	P	38	28.50	1.3		Z 20s	21.20um			6.8Msz	
BSF	84.79	332	P	38	13.85	-0.2	MGR	87.46	323	P	38	27.50	0.3	KSR	125.83	264	ePKP	44	31.00	-11.4X
HAU	84.80	333	eP	38	13.80	-0.2	TDS	87.46	322	P	38	27.50	0.3	BFS	126.44	263	iPKPc	44	43.00	-0.5
	1.0s	76.00nm			5.9mb		PZZ	87.49	330	P	38	27.78	0.3		0.7s	41.10nm				
BBS	84.84	332	P	38	14.50	0.3	PLDF	87.51	333	P	38	27.88	0.4	SEK	126.52	261	ePKP	44	41.00	-2.6
ECP	84.89	342	eP	38	15.40	1.1	ENR	87.60	330	P	38	26.96	-1.0		1.1s	37.97nm				
	0.9s	213.00nm			6.4mb		AGO	87.61	334	P	38	27.99	0.1				i	44	59.00	
BADA	84.98	303	ePd	38	15.90	0.7	MAF	87.65	334	eP	38	28.40	0.3	FRS	128.97	261	ePKP	44	47.50	-0.4
ATH	85.02	316	eP	38	20.00	4.8X	IMI	87.68	330	P	38	25.12	-3.2X	SPA	129.38	180	e(PKP)	44	49.70	1.9
LOMF	85.18	332	P	38	16.30	0.3	TCF	87.72	334	eP	38	28.70	0.3		0.6s	12.20nm				
SAL	85.23	329	Pc	38	16.20	0.1	PYM	87.91	333	P	38	29.81	0.4		Z 20s	5.36um			6.2Msz	
MDI	85.41	329	P	38	16.70	-0.3	CCM	87.95	40	ePd	38	31.24	1.7	NNA	135.14	63	ePKP	45	02.00	1.8
WEL	85.41	157	P	38	21.00	4.2X				ePPc	38	34.22	9kmX		0.8s	5.97nm				
			PP	41	36.00					esP	38	35.38			Z 20s	2.66um			6.0Msz	
			S	48	39.00					eSKS	48	53.41		ARE	141.95	63	ePKP	45	11.00	-2.0
			SS	54	14.00					eS	49	10.51		ZOBO	144.09	59	PKP	45	13.50	-3.5X
TMA	85.46	330	ePd	38	17.30	-0.3	LSF	87.98	335	eP	38	29.80	0.2		1.2s	68.24nm				
SRN	85.51	320	eP	38	17.90	0.3	MFF	88.21	336	eP	38	30.80	0.1	LPB	144.29	59	PKP	45	16.00	-1.1
WAJH	85.53	300	ePc	38	18.10	0.1		1.2s	172.50nm			6.2mb			Z 20s	15.60um			6.8Msz	
AOI	85.62	326	ePd	38	17.45	-0.7	LBL	88.28	333	P	38	31.99	1.0				LR	34	14.00	
VAI	85.70	330	P	38	17.90	-0.6	FVM	88.41	40	P	38	32.60	0.8	SNA	144.41	199	iPKPc	45	11.50	-3.7X
KEK	85.73	320	eP	38	19.00	0.2	RJF	88.81	334	eP	38	34.10	0.5		0.9s	189.92nm				
RSM	85.81	327	P	38	19.60	0.6		1.2s	113.00nm			6.0mb		CNCB	144.57	59	PKP	45	16.20	-1.6
MMK	85.86	331	ePd	38	20.00	0.4	CAF	88.96	334	eP	38	35.20	0.8				i	45	19.00	
ARV	85.95	326	P	38	19.60	-0.2	UYO	89.25	45	iPd	38	38.20	2.3	CCH	146.19	58	PKP	45	21.50	1.3
VAL	86.00	344	P	38	20.00	0.2	ASW	89.39	301	iPd	38	38.00	1.3	ANT	147.43	71	ePKP	45	25.80	4.2X
			S	48	53.00					eS	42	00.00		AIA	149.76	157	ePKP	45	32.10	8.2X
DIX	86.04	331	ePd	38	20.80	0.2	LFF	89.39	334	eP	38	36.90	0.5	IHA	151.19	88	ePKP	45	31.00	3.9X
SFI	86.07	327	P	38	21.30	1.0		1.2s	154.70nm			6.1mb		LNV	151.72	90	ePKP	45	36.00	8.1X
BRT	86.10	322	Pc	38	20.80	0.2	CBM	89.42	21	P	38	40.00	3.5X	PEL	151.98	87	ePKP	45	33.00	4.6X
CIO	86.10	326	ePd	38	20.75	0.1	LPO	89.47	334	eP	38	37.20	0.4		1.5s	250.00nm				
PGD	86.16	327	P	38	21.30	0.3		1.0s	69.60nm			5.9mb		TACH	151.98	89	ePKP	45	35.00	6.7X
LCI	86.16	321	P	38	20.50	-0.4	CLE	89.59	32	iP	38	38.40	1.0	SAN	152.11	88	ePKP	45	34.00	5.5X
ORX	86.20	330	P	38	21.94	0.8	AGRW	89.74	301	eP	38	38.20	-0.1	PCH	152.29	88	ePKP	45	34.50	5.6X
ORO	86.21	330	P	38	20.10	-1.1	OLY	89.81	42	P	38	40.00	1.5	FCH	152.35	88	ePKP	45	39.00	9.7X
ALP	86.25	325	ePd	38	21.22	-0.2	PZI	90.22	321	P	38	42.40	1.9	BAO	154.18	26	ePKP	45	35.50	3.5X
CRE	86.26	327	P	38	21.40	-0.1	HBVT	90.24	25	P	38	40.00	-0.4	BDF	154.23	26	ePKPc	45	37.85	5.8X
LOR	86.30	334	eP	38	21.10	-0.4	ARO	90.68	285	eP+	38	44.00	1.1				ePP	49	25.68	
	0.8s	88.10nm			6.0mb		CGL	90.90	326	P	38	44.00	0.4	VAO	161.31	31	ePKP	45	43.00	2.8X

29d 05h

BMA 162.01 23 ePKP 45 37.50 -3.4X
S.D. = 1.0 on 409 of 476 obs.

OCT 29, 1989 05h 37m 51.36± 0.39s
39.540 N ± 8.3km 143.405 E ± 5.2km
DEPTH = 10.0km (geophysicist)
5.0mb (23 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Felt (I JMA) at Morioka.

MRK	1.73	276	eP	38 24.00	2.3
			eS	38 46.00	
MDJ	11.45	301	eP	40 38.00	0.1
CN2	14.08	293	eP	41 14.00	1.1
SNY	15.22	285	Pc	41 28.00	0.2
SSE	19.96	252	eP	42 24.50	-1.9
	1.0s	47.00nm		4.8mb	
			pP	42 30.00	21kmX
			sP	42 36.40	
BJI	20.91	280	eP	42 33.00	-3.2X
TIA	20.98	269	eP	42 33.60	-3.5X
TIY	24.21	276	Pd	43 09.00	0.0
BTO	25.49	283	eP	43 20.20	-1.1
CHTO	43.44	255	iP	45 56.50	0.3
	1.6s	40.68nm		4.9mb	
IMA	43.74	32	eP	45 59.20	1.0
FBA	46.15	33	iP	46 19.00	1.7
	1.0s	17.50nm		5.0mb	
			e	46 29.70	
INK	51.44	28	eP	46 58.00	-0.2
MBC	53.68	17	eP	47 14.50	-0.3
	1.0s	7.00nm		4.6mb	
WB5	59.71	190	eP	47 57.80	-0.6
WRA	59.78	190	Pc	48 00.20	1.3
	0.9s	6.80nm		4.8mb	
KEV	61.66	339	eP	48 09.00	-2.2
GBA	62.98	265	P	48 19.70	-0.9
SOD	63.27	337	iP	48 21.00	-0.9
PNT	65.29	46	eP	48 35.00	-0.4
	0.7s	6.00nm		4.9mb	
SUF	66.45	333	iP	48 41.80	-0.8
	0.7s	14.90nm		5.3mb	
NUR	68.47	332	iP	48 54.40	-0.9
	0.6s	190.40nm		6.5mb X	
FFC	70.75	34	eP	49 09.00	-0.4
	0.9s	15.00nm		5.1mb	
KVN	72.01	54	eP	49 17.50	0.0
HFS	72.44	336	eP	49 17.90	-1.5
	1.3s	57.40nm		5.5mb	
Z	16s	32.92um		6.7MszX	
		LR	12 58.00		
NB2	72.47	338	P	49 18.70	-1.0
	0.8s	16.50nm		5.2mb	
TNP	73.14	54	iP	49 24.50	0.3
	1.0s	5.50nm		4.6mb	
BW06	74.80	47	eP	49 34.00	0.3
	1.0s	3.00nm		4.3mb	
RSSD	76.93	43	eP	49 46.00	0.3
KRA	77.88	327	eP	49 50.90	0.3
KSP	78.78	329	iPc	49 55.90	0.4
BRG	79.68	330	e(P)	50 00.50	0.1
	1.0s	10.00nm		4.8mb	
CLL	79.69	331	eP	50 00.00	-0.4
	1.7s	38.00nm		5.1mb	
PRU	80.15	329	Pc	50 03.50	0.6
	1.0s	14.50nm		4.9mb	
MOX	80.74	331	eP	50 06.00	-0.1
KHC	81.21	329	eP	50 09.00	0.4
GRF	81.67	331	iPc	50 11.40	0.5
	1.0s	17.00nm		5.1mb	
ALQ	81.79	51	eP	50 12.00	-0.1
			e	50 27.00	
DSI	82.76	305	eP	50 14.00	-2.9X
KBA	82.95	328	e(P)	50 18.00	0.1
PRNI	83.82	304	iPc	50 19.00	-3.4X
OHR	84.23	320	e(P)	50 24.50	0.1
MBH	84.28	304	eP	50 21.00	-3.7X
LOR	86.36	334	eP	50 34.90	0.1
	1.0s	20.00nm		5.3mb	
LBF	86.56	334	eP	50 35.90	0.1
	0.6s	3.60nm		4.8mb	
SSF	86.66	334	eP	50 36.70	0.5
	0.9s	9.80nm		5.0mb	
LPG	86.84	331	eP	50 38.00	0.5
	1.0s	10.00nm		5.0mb	
SMF	86.90	333	eP	50 37.60	0.1
	0.8s	7.20nm		4.9mb	

AVF	86.94	334	eP	50 38.00	0.4
	1.0s	22.00nm		5.3mb	
MAF	87.71	334	eP	50 42.10	0.8
	1.2s	23.80nm		5.4mb	
ZOBO	144.06	59	PKP	57 38.00	8.1X
LPB	144.26	59	(PKP)	57 34.00	3.9X
CNCB	144.54	59	PKP	57 31.00	0.3X
S.D. = 0.9 on 45 of 53 obs.					

OCT 29, 1989 05h 53m 14.91± 1.35s
34.919 N ±11.5km 30.820 E ±16.2km
DEPTH = 10.0km (geophysicist)
EASTERN MEDITERRANEAN SEA (371)

PPCY	1.25	91	eP	53 39.50	1.3
CSS	2.06	88	eP	53 48.00	-2.0
BCK	2.54	356	ePn	53 57.50	0.6
FAM	2.61	87	eP	54 02.50	4.6X
YER	3.02	318	ePn	54 08.20	4.5X
KHL	3.55	343	ePn	54 11.00	-0.3
SHMJ	4.66	117	Pc	54 27.60	0.6
DSI	5.07	130	eP	54 33.00	0.2
			eS	55 30.00	
PRNI	5.76	141	eP	54 41.00	-1.6
M8H	6.18	145	eP	54 49.50	1.2
			eS	56 00.00	
S.D. = 1.4 on 8 of 10 obs.					

OCT 29, 1989 06h 16m 04.84± 1.19s
39.934 N ±14.4km 142.822 E ±18.3km
DEPTH = 10.0km (geophysicist)
4.1mb (2 obs.)
NEAR EAST COAST OF HONSHU, JAPAN(228)

NIIJ	4.02	229	P	17 08.90	1.1
KAKJ	4.27	210	P	17 06.70	-4.6X
CHJJ	4.92	219	P	17 18.00	-2.5
IIDJ	5.91	223	P	17 33.10	-1.5
BJI	20.40	279	eP	20 44.00	-0.5
TIA	20.55	268	eP	20 45.60	-0.5
WHN	24.98	257	Pd	21 31.00	1.1
			pP	21 35.50	16kmX
GTA	32.87	283	P	22 43.00	1.9
INK	51.31	28	eP	25 09.00	-1.7
TRT	55.00	217	ePc	25 18.60	-20.1X
WB5	60.02	189	eP	26 15.50	1.5
WRA	60.09	189	P	26 16.00	1.5
	0.4s	0.60nm		4.1mb	
NB2	71.94	337	P	27 29.50	-0.5
	0.8s	1.30nm		4.1mb	
S.D. = 1.7 on 11 of 13 obs.					

? OCT 29, 1989 06h 40m 44.72± 2.27s
22.924 N ±18.4km 120.760 E ±14.1km
DEPTH = 10.0km (geophysicist)
TAIWAN (244)

TWG	0.31	110	iPc	40 51.10	0.0
TWK	0.42	324	eP	40 53.60	0.2
TWF1	0.65	49	iPd	40 58.60	0.9
			eS	41 16.10	
TWD	1.38	34	ePd	41 08.90	-1.1
S.D. = 1.4 on 4 of 4 obs.					

OCT 29, 1989 07h 37m 15.55± 0.65s
43.107 N ± 7.3km 0.497 W ± 5.2km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
ML 2.4 (LDG).

ESCF	0.06	243	Pg	37 17.68	-0.2
OGE	0.06	16	Pg	37 17.68	-0.2
ATE	0.15	262	Pg	37 19.09	0.0
			Sg	37 21.62	
LHE	0.21	205	Pg	37 20.18	-0.1
			Sg	37 23.10	
ISSF	0.23	250	Pg	37 20.71	0.1
			Sg	37 24.81	
MADF	0.24	279	Pg	37 20.92	0.2
EPF	0.62	97	Pg	37 28.20	0.2
			Sg	37 36.00	
LPD	1.99	37	Pg	37 53.00	3.4X
			Sg	38 19.20	
S.D. = 0.2 on 7 of 8 obs.					

% OCT 29, 1989 07h 54m 28.17± 3.47s
23.626 N ±13.9km 122.020 E ±26.9km
DEPTH = 10.0km (geophysicist)
TAIWAN REGION (243)

TWD	0.60	319	iPd	54 39.90	-0.3
			eS	54 48.60	
TWF1	0.72	248	iPd	54 42.10	-0.2
			eS	54 53.00	
TWC	0.99	351	iPd	54 47.00	0.1
TWO	1.26	301	iPd	54 51.90	0.3
			eS	55 08.60	
TWK	1.45	256	iPd	54 54.70	0.2
			eS	55 14.40	
S.D. = 0.4 on 5 of 5 obs.					

OCT 29, 1989 09h 08m 30.00± 0.45s
35.886 N ± 3.5km 114.862 W ± 4.1km
DEPTH = 5.0km (geophysicist)
CALIFORNIA-NEVADA BORDER REGION (40)
ML 2.8 (NEIS). Felt (IV) at Boulder City, Nevada.

EMN	0.09	68	iPd	08 32.38	0.2
SHRG	0.66	339	ePc	08 42.25	-1.0
APKW	0.73	307	ePc	08 44.16	-0.5
NOP	1.07	283	eP	08 50.63	-0.1
SPRG	1.11	317	eP	08 51.06	-0.3
JON	1.15	299	ePc	08 51.96	0.0
MCY	1.18	311	iPc	08 52.44	-0.1
SDH	1.41	303	ePc	08 56.75	0.3
LSM	1.42	307	iPc	08 57.02	0.4
LOP	1.43	313	eP	08 56.97	0.2
CDH1	1.52	310	P	08 58.70	0.6
PRN	1.53	354	P	08 58.00	-0.1
YMT3	1.54	306	P	08 59.00	0.7
DLM	1.72	3	ePc	09 00.75	-0.2
PEC	2.74	224	eP	09 15.80	0.3
GLA	2.83	179	e(P)	09 16.60	-0.1
TNP	2.89	320	eP	09 18.30	0.5
PLM	3.02	214	eP	09 18.80	-0.7
KVN	4.08	322	e(P)	09 37.40	2.9X
S.D. = 0.5 on 18 of 19 obs.					

? OCT 29, 1989 09h 51m 43.02± 7.51s
28.788 N ±14.6km 34.580 E ±53.6km
DEPTH = 10.0km (geophysicist)
ARAB REPUBLIC OF EGYPT (553)

BADA	0.46	125	iPd	51 52.30	0.0
			iS	51 57.00	
SRFA	0.55	75	eP	51 54.30	0.1
			eS	52 01.00	
HQL	0.63	41	iPc	51 55.70	0.0
			iS	52 03.70	
AYN	1.25	86	iPc	52 06.10	-0.1
			iS	52 21.30	
S.D. = 0.1 on 4 of 4 obs.					

? OCT 29, 1989 10h 04m 27.66± 2.51s
38.997 N ±22.6km 22.713 E ±10.5km
DEPTH = 10.0km (geophysicist)
GREECE (364)

AGG	0.30	275	ePc	04 33.70	-0.2
			eS	04 46.90	
LIT	1.12	351	eP	04 48.10	-0.5
			eS	05 15.20	
PAIG	1.19	39	ePc	04 50.00	0.1
OUR	1.66	36	eP	04 56.70	-0.1
OHR	2.57	326	ePn	05 10.80	0.7
S.D. = 0.6 on 5 of 5 obs.					

& OCT 29, 1989 10h 43m 52.19s
53.068 N 165.212 W
DEPTH = 47.3km
FOX ISLANDS, ALEUTIAN ISLANDS (9)
<PAL>.

SNKA	2.02	45	eP	44 23.50	-0.9
			eS	44 47.52	
DRRA	2.54	42	eP	44 29.71	-2.1
			eS	44 59.38	
PS4	3.02	39	eP	44 37.74	-0.9
PVV	3.06	40	eP	44 38.44	-0.8
			eS	45 10.93	
SASA	3.58	49	eP	44 45.48	-1.1
			eS	45 24.91	
NGI	3.62	55	eP	44 45.94	-1.2

		eS	45 25.60		
IVF	4.36	47 eP	44 55.79	-1.8	
		eS	45 43.28		
ADK	7.11	265 e(P)	45 32.00	-4.1	
TTA	11.01	23 e(P)	46 26.00	-3.9	
IMA	14.25	19 e(P)	47 15.00	2.2	
FBA	14.80	30 e(P)	47 21.00	1.2	
INK	21.39	32 eP	48 28.00	-9.2	
	12 obs. associated				

OCT 29, 1989 10h 51m 25.30± 0.24s
39.500 N ± 4.9km 143.408 E ± 4.0km
DEPTH = 18.0km (16 depth phases)
5.2mb (29 obs.) 5.3Msz (6 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Felt (I JMA) at Akita and
Morioka. Also felt (I JMA) at
Kushiro, Hokkaido.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 28C
Centroid Location:
Origin Time 10:51:36.5 0.6
Lat 39.29N 0.07 Lon 143.36E 0.06
Dep 15.0 FIX Half-duration 2.1
Moment Tensor; Scale 10**17 Nm
Mrr= 1.37 0.06 Mtt= 0.25 0.06
Mff=-1.62 0.09 Mrt= 0.05 0.17
Mrf= 1.50 0.23 Mtf=-0.69 0.07
Principal Axes:
T Val= 2.03 Plg=65 Azm=252
N 0.38 12 10
P -2.41 21 105
Best Double Couple:Mo=2.2*10**17
NP1:Strike=216 Dip=26 Slip= 119
NP2: 5 67 77

MRK	1.74	277 iP+	51 57.50	2.6	
		S	52 27.30		
AKI	2.56	276 eP	52 09.00	2.3	
		eS	52 40.00		
KUS	3.55	12 eP	52 21.00	0.3	
		eS	52 59.00		
NIIJ	4.13	238 P	52 30.00	1.0	
KAKJ	4.17	219 P	52 28.70	-0.7	
CHJJ	4.91	227 iP+	52 40.10	0.1	
MTMJ	5.29	238 iP+	52 46.70	1.2	
IIDJ	5.93	229 P	52 54.40	0.0	
TSRJ	7.10	238 P	53 12.50	1.6	
MDJ	11.47	301 eP	54 11.00	-0.2	
Z	14s	14.50um			
		sS	56 28.00		
CN2	14.10	294 Pd	54 48.00	1.9	
	5.0s	1.60nm		3.0mb X	
Z	13s	6.50um		4.1Msz	
N	13s	8.30um			
E	13s	5.10um			
		esP	54 58.50		
SNY	15.23	285 Pc	55 00.00	-0.9	
Z	14s	10.60um			
N	12s	4.80um			
E	13s	5.90um			
		pP	55 07.00		
		sS	58 00.00		
DL2	16.89	275 eP	55 18.00	-4.2X	
Z	16s	3.80um			
N	12s	5.10um			
E	12s	2.70um			
		sS	58 42.00		
SSE	19.95	252 P	55 59.00	-0.1	
	7.0s	1.40nm		2.4mb X	
Z	20s	1.40um		4.1Msz	
N	13s	4.90um			
E	13s	5.40um			
		pP	56 02.00	11km	
		ePP	56 15.00		
		PPP	56 27.00		
		eS	59 36.00		
		sS	59 44.00		
		SS	00 04.00		
BJI	20.92	280 eP	56 05.50	-3.6X	
Z	16s	6.70um		5.1MszX	
N	13s	5.16um			
E	14s	4.47um			
		eS	00 07.00		
TIA	20.99	269 Pd	56 07.30	-2.6	
Z	14s	9.80um		5.3MszX	
N	12s	4.30um			
E	12s	8.60um			
		pP	56 13.40	22km	
		eS	59 54.50		
NJ2	21.22	257 eP	56 09.40	-2.9	
Z	14s	3.90um		4.9MszX	
N	11s	3.90um			
E	12s	3.20um			
		sS	00 17.00		
ANP	23.28	239 eP	56 40.00	7.1X	
TIY	24.21	276 eP	56 41.80	-0.1	
N	14s	5.80um			
		pP	56 51.00	33kmX	
		sS	01 13.50		
HHC	24.30	283 P	56 41.40	-1.4	
Z	16s	8.00um		5.3MszX	
N	14s	4.40um			
E	15s	5.30um			
		sS	01 11.00		
WHN	25.33	258 Pc	56 53.00	0.5	
	1.3s	0.19nm		2.6mb X	
Z	14s	4.14um		5.1MszX	
N	17s	8.24um			
E	16s	4.29um			
		pP	56 59.00	21km	
QZH	25.41	243 eP	56 54.00	0.7	
Z	14s	3.60um		5.0MszX	
N	13s	3.80um			
		S	01 21.50		
BTO	25.50	283 P	56 52.00	-2.2	
N	13s	5.30um			
E	14s	6.80um			
		sS	01 30.00		
GUMO	25.84	177 eP	57 09.00	11.6X	
Z	20s	1.59um		4.5Msz	
GUA	25.89	177 eP	57 08.50	10.6X	
XAN	28.05	270 P	57 16.70	-0.8	
N	14s	3.40um			
E	13s	4.20um			
		sS	02 16.00		
BAG	30.42	227 eP	57 44.50	5.4X	
LZH	31.28	276 Pd	57 46.00	-0.5	
	2.0s	0.09nm		2.3mb X	
Z	12s	7.79um		5.6MszX	
N	12s	2.76um			
E	13s	5.71um			
		pP	57 52.00	21km	
		PP	58 50.50		
		eS	02 54.00		
		sS	03 10.00		
		eSS	04 57.00		
		ScS	08 20.00		
GYA	33.22	258 iPc	58 02.80	-0.7	
	3.0s	1.10nm		3.3mb X	
Z	16s	1.80um		4.9MszX	
N	14s	3.30um			
E	14s	1.80um			
		sP	58 18.00		
		PP	59 17.00		
		PcP	00 46.00		
CD2	33.30	268 eP	58 02.80	-1.2	
Z	15s	4.77um		5.3MszX	
N	12s	8.12um			
		esS	03 35.00		
GTA	33.41	284 iPc	58 05.20	0.2	
Z	16s	5.90um		5.4MszX	
E	13s	4.50um			
		pP	58 11.00	20km	
		sP	58 15.00		
		PP	59 18.00		
		S	03 20.00		
QIZ	35.39	245 eP	58 21.00	-1.0	
N	14s	2.40um			
		sS	04 05.00		
KMI	36.92	260 Pc	58 35.00	-0.2	
N	12s	2.90um			
E	12s	1.20um			
		sP	58 51.00		
		PP	00 07.00		
		S	04 16.00		
WMQ	41.18	295 Pc	59 11.30	1.0	
	8.0s	0.90nm		2.6mb X	
Z	15s	3.70um		5.4MszX	
N	13s	3.40um			
E	13s	2.70um			
		sS	05 34.00		
LOE	42.26	251 eP	59 19.00	-0.2	
SVW	42.60	39 eP	59 22.70	1.1	
CHG	43.44	255 eP	59 29.20	0.3	
LSA	43.59	274 P	59 32.10	1.6	
N	16s	1.80um			
E	14s	1.10um			
IMA	43.77	32 eP	59 31.70	0.5	
	0.8s	6.00nm		4.5mb	
KDC	44.28	44 eP	59 34.30	-0.9	
BDT	44.37	253 eP	59 37.50	1.1	
SHL	45.03	268 iP	59 41.00	-0.9	
		eS	06 29.50		
PMR	45.72	38 P	59 46.80	0.2	
	1.0s	15.00nm		4.9mb	
FBA	46.18	33 eP	59 50.00	-0.3	
PAA	46.92	163 eP	59 59.00	2.3	
SNG	50.06	242 eP	00 15.80	-5.2X	
		eS	07 44.00		
KSH	50.88	293 eP	00 28.50	1.3	
N	12s	2.60um			
INK	51.48	28 eP	00 31.00	-0.2	
MTN	53.32	195 eP	00 44.00	-1.5	
MBC	53.72	17 eP	00 47.50	-0.3	
	1.3s	32.00nm		5.2mb	
NDI	54.77	280 iPc	00 55.00	-1.2	
		eS	08 48.00		
KBS	58.51	350 eP	01 23.00	0.8	
WB5	59.67	190 eP	01 28.90	-1.9	
WRA	59.74	190 P	01 31.00	-0.3	
	0.9s	3.80nm		4.5mb	
KEV	61.70	339 eP	01 49.00	4.9X	
QUE	61.72	287 P	01 44.00	-1.1	
		eS	10 16.00		
POO	62.84	272 iPc	01 52.20	-0.3	
		iS	10 26.00		
GBA	62.97	265 P	01 52.80	-0.5	
SOD	63.30	337 iP	01 54.00	-0.8	
TRO	63.89	341 iP	02 04.20	5.5X	
MAIO	63.92	297 eP	02 05.00	5.6X	
		eS	10 52.00		
DZM	64.92	156 iPc	02 08.10	2.1	
PNT	65.32	46 eP	02 07.00	-1.3	
	0.7s	13.00nm		5.2mb	
LON	65.44	49 P	02 09.50	0.4	
EDM	66.45	40 ePd	02 14.50	-0.9	
SUF	66.49	333 eP	02 14.40	-1.1	
	0.8s	12.30nm		5.1mb	
BRS	67.12	171 iP	02 24.00	4.2X	
WDC	68.35	55 eP	02 30.60	3.0X	
NUR	68.51	332 eP	02 27.00	-1.2	
		i	02 34.30	23km	
SES	69.27	41 eP	02 32.00	-1.1	
ORV	69.59	55 eP	02 34.70	-0.5	
FFC	70.79	34 eP	02 42.00	-0.2	
	1.0s	22.00nm		5.2mb	
CMB	71.18	56 eP	02 44.50	-0.5	
TAB	71.72	304 e(P)	02 47.00	-1.3	
KVN	72.03	54 P	02 50.60	0.3	
FRI	72.22	57 eP	02 51.70	0.5	
SHI	72.46	294 eP	02 58.00	5.1X	
HFS	72.48	336 eP	02 51.20	-1.1	
	0.6s	4.60nm		4.7mb	
Z	18s	1.33um		5.3Msz	
		LR	34 48.00		
NB2	72.51	338 P	02 51.70	-0.8	
	1.1s	36.70nm		5.4mb	
BWA	73.70	176 eP	03 05.80	6.2X	
SLY	73.72	303 ePd	03 05.00	5.1X	
FR8	74.01	14 eP	03 02.00	0.9	
CLC	74.29	57 eP	03 03.00	-0.3	
MSL	74.76	305 eP	03 06.50	0.6	
BW06	74.82	47 P	03 04.50	-2.0	
SBB	74.83	58 eP	03 07.00	0.5	
GSC	75.12	57 eP	03 14.00	5.8X	
WAR	75.83	328 eP	03 22.00	10.2X	
		e	13 16.00		
BHD	75.86	301 ePd	03 05.00	-7.3X	
KVT	76.10	312 eP	03 13.60	0.0	
TPC	76.34	57 eP	03 20.00	4.9X	
BAR	76.82	59 eP	03 22.00	4.3X	
RSSD	76.95	43 P	03 18.50	0.0	
VRI	77.85	320 ePd	03 17.50	-5.6X	
KRA	77.92	327 ePc	03 23.70	0.3	
	1.3s	58.00nm		5.5mb	
Z	18s	3.20um		5.7Msz	
N	18s	4.00um			
		e	03 28.80	16km	
SPC	78.44	326 eP	03 32.60	6.1X	

29d 11h

MLR	78.51	320	ePc	03	25.50	-1.4
BBTK	78.80	313	eP	03	29.00	0.4
KSP	78.82	329	ePc	03	28.50	0.1
			e	03	33.00	14km
GOL	79.22	47	P	03	34.00	2.9X
	1.0s	22.50nm			5.1mb	
GLD	79.27	47	P	03	34.50	3.2X
	1.2s	60.61nm			5.5mb	
BRG	79.71	330	eP	03	32.30	-0.9
	1.5s	26.00nm			5.0mb	
			i	03	38.60	20km
			i	04	05.80	
CLL	79.72	331	iPd	03	33.30	0.1
	1.9s	76.00nm			5.4mb	
			i	03	38.30	16km
PRU	80.19	329	P	03	36.50	0.8
	1.0s	14.50nm			4.9mb	
Z	18s	2.40um			5.6Msz	
N	18s	2.40um				
E	16s	2.60um				
			e	03	41.50	16km
SRO	80.32	326	eP	03	37.30	0.8
			e	03	43.20	19km
ZST	80.54	327	e(P)	03	39.00	1.3
			e	03	44.00	16km
			e	03	54.00	
MOX	80.78	331	eP	03	39.00	0.1
	1.5s	42.00nm			5.2mb	
Z	17s	2.00um			5.5MszX	
N	18s	2.70um				
E	18s	3.20um				
			e	03	46.00	22km
			e	03	55.00	
SOP	81.17	327	eP	03	45.00	4.0X
KHC	81.25	329	eP	03	41.80	0.4
Z	14s	2.50um			5.7MszX	
N	15s	2.00um				
E	20s	2.00um				
			e	03	46.50	15km
KDZ	81.53	318	iP	03	43.00	0.0
GRF	81.70	331	iPc	03	44.70	1.0
	1.3s	18.00nm			5.0mb	
Z	19s	0.80um			5.1Msz	
			e	03	49.50	15km
ALQ	81.81	51	P	03	46.50	1.7
	1.3s	14.30nm			4.9mb	
VTS	81.97	320	iPc	03	46.00	0.6
KBA	82.99	328	e(P)	03	50.00	-0.7
VAY	83.23	319	iP	03	52.40	0.6
SKO	83.30	320	iPc	03	52.50	0.3
	1.7s	116.00nm			5.8mb	
Z	15s	2.72um			5.7MszX	
N	16s	2.34um				
E	15s	1.63um				
		i(PcP)		03	57.90	211kmX
		i		04	44.00	
		iPP		07	05.00	
		iS		14	24.00	
		LR		45	30.00	
LJU	83.32	327	e(P)	03	52.00	-0.2
VBY	83.44	326	e(P)	03	58.50	5.7X
VOY	83.60	327	e(P)	03	53.00	-0.7
FVI	83.61	328	P	03	57.00	3.4X
CEY	83.61	327	e(P)	03	53.00	-0.7
WLS	84.19	332	PKP	03	55.30	-1.3
CDF	84.22	332	PKP	03	56.75	-0.1
OHR	84.27	320	iP	03	57.00	-0.1
	1.0s	0.05nm			2.7mb X	
FEL	84.40	332	PKP	03	59.81	2.0
ECH	84.42	332	PKP	03	58.77	1.0
CTI	84.51	329	P	04	04.50	6.2X
MOF	84.74	332	PKP	04	00.31	0.9
VITF	84.84	333	PKP	03	59.75	0.0
BSF	84.88	332	PKP	03	58.54	-1.6
HAU	84.89	333	eP	04	00.40	0.3
BBS	84.93	332	PKP	04	00.41	0.1
LOMF	85.27	332	PKP	03	57.41	-4.7X
VAI	85.79	330	P	04	04.00	-0.6
BRT	86.19	322	P	04	12.00	5.3X
PGD	86.25	327	P	04	13.50	6.4X
LOR	86.39	334	eP	04	07.70	0.1
	1.2s	47.60nm			5.6mb	
MEO	86.52	47	e(P)	04	11.00	2.6
FIR	86.52	327	eP	04	16.00	7.8X
LBF	86.60	334	eP	04	08.70	0.1
	1.0s	18.80nm			5.3mb	
SSF	86.69	334	eP	04	09.30	0.3
	1.0s	12.00nm			5.1mb	
DUI	86.84	324	P	04	10.50	0.5
LPG	86.87	331	eP	04	13.50	3.2X
	1.2s	22.00nm			5.3mb	
SMF	86.94	333	eP	04	10.80	0.5
	1.2s	47.60nm			5.6mb	
AVF	86.98	334	eP	04	10.80	0.4
	1.0s	30.00nm			5.5mb	
MNS	87.05	326	P	04	16.50	5.6X
LNO	87.23	44	e(P)	04	14.70	3.0X
TUL	87.23	44	eP	04	17.80	6.0X
	0.7s	4.80nm			4.9mb	
Z	19s	1.12um			5.3Msz	
			LR	33	49.00	
BNI	87.28	331	P	04	17.50	5.4X
SGO	87.33	323	P	04	19.00	6.8X
BGF	87.35	334	eP	04	12.60	0.3
	1.2s	47.60nm			5.6mb	
TDS	87.56	322	P	04	20.00	6.7X
MAF	87.74	334	eP	04	14.90	0.8
	1.4s	74.00nm			5.8mb	
TCF	87.81	334	eP	04	15.10	0.6
LSF	88.07	335	eP	04	16.20	0.5
	1.2s	44.60nm			5.7mb	
SOI	88.94	321	P	04	20.50	0.5
ZOBO	144.08	59	PKP	11	02.00	-0.5
Z	24s	0.33um			5.0MszX	
			LR	00	32.00	
LPB	144.28	59	ePKP	11	05.00	2.3
Z	24s	0.78um			5.4MszX	
			LR	01	32.00	
SNA	144.36	199	ePKP	10	59.30	-1.4
	1.0s	46.00nm				
CNCB	144.56	59	PKP	11	02.20	-1.1
S.D. = 1.1 on 121 of 160 obs.						

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* OCT 29, 1989 11h 05m 07.02± 1.09s
38.474 N ± 7.7km 27.187 E ±16.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)
Felt at Izmir.

IZM	0.10	142	iPg	05	10.50	0.8
CIN	1.13	141	ePg	05	28.00	-0.1
			iSg	05	42.00	
EZN	1.51	334	ePn	05	34.00	0.0
DST	1.59	44	iPn	05	35.00	-0.4
YER	1.59	147	ePn	05	34.80	-0.6
KHL	1.84	94	ePn	05	54.00	15.0X
BNT	1.96	17	ePn	05	41.00	0.3
S.D. = 0.6 on 6 of 7 obs.						

? OCT 29, 1989 11h 58m 45.76± 1.78s
41.597 N ± 8.4km 22.613 E ±21.4km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.1 (SKO).

VAY	0.28	187	iPg	58	51.00	-0.6
			iSg	58	57.00	
KKB	0.44	52	eP	58	54.00	-0.8
KNT	0.48	154	ePd	58	56.30	0.7
VTS	1.09	24	iPg	59	07.00	0.7
			iSg	59	24.00	
S.D. = 1.4 on 4 of 4 obs.						

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* OCT 29, 1989 12h 45m 37.64± 0.81s
39.748 N ±10.1km 143.326 E ±11.9km
DEPTH = 10.0km (geophysicist)
4.4mb (3 obs.) 4.0Msz (2 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

NIIJ	4.22	235	P	46	45.60	2.2
KAKJ	4.33	216	P	46	44.30	-0.6
			S	47	36.40	
CHJJ	5.04	224	iP+	46	55.50	0.5
IIDJ	6.05	227	P	47	10.70	1.4
CN2	13.94	293	eP	48	59.00	1.6
SSE	19.96	251	P	50	19.20	6.5X
1.0s	0.01nm				1.2mb X	
Z	12s	0.50um			4.9Msz	
E	11s	0.50um				
			pP	50	35.00	78kmX
BJI	20.81	280	eP	50	19.00	-2.5
Z	18s	0.59um			4.0Msz	
TIA	20.93	269	eP	50	20.70	-2.1
TIY	24.13	275	eP	50	57.90	3.4X
WHN	25.32	258	Pc	51	06.50	0.6
XAN	27.99	269	P	51	29.40	-1.1
LZH	31.19	276	(P)	51	58.00	-1.2
GYA	33.21	258	P	52	16.80	-0.1
GTA	33.29	284	eP	52	18.20	0.7
WMQ	41.02	294	eP	53	24.00	1.5
CHG	43.44	254	eP	53	43.00	0.5
INK	51.29	28	eP	54	44.00	0.7
WB5	59.90	190	eP	55	44.00	-2.0
WRA	59.97	190	P	55	46.00	-0.5
0.8s	2.20nm				4.3mb	
SOD	63.05	337	eP	56	23.00	16.2X
SUF	66.24	333	eP	56	27.00	-0.5
NUR	68.26	332	eP	56	23.00	-17.3X
KVN	71.94	54	eP	57	05.00	1.7
HFS	72.23	336	eP	57	04.10	-0.3
0.5s	2.30nm				4.5mb	
Z	18s	0.08um			4.0Msz	
			LR	29	45.00	
NB2	72.26	338	P	57	04.40	-0.3
0.7s	2.30nm				4.4mb	
S.D. = 1.4 on 21 of 25 obs.						

& OCT 29, 1989 13h 10m 57.60s
37.055 N 121.922 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.3 (BRK).
Mo=7.6*10**13 Nm (BRK).

GCC	0.06	247	iPc	11	00.10	0.1
MHC	0.36	38	iPd	11	05.10	-0.1
ARN	0.43	47	iPd	11	06.00	-0.4
SAO	0.48	127	iPc	11	06.00	-1.4
PCC	0.58	321	iPc	11	08.20	-1.0
PRS	0.85	148	iPc	11	13.10	-0.8
BKS	0.86	343	iPc	11	13.40	-0.6
			i	11	21.00	
			iS	11	25.50	
BRK	0.86	342	ePc	11	13.40	-0.6
			iS	11	25.00	
LLA	0.90	119	iPc	11	13.30	-1.4
PRI	1.36	132	eP	11	21.40	-1.2
CMB	1.57	51	ePd	11	23.70	-1.7
PHAM	1.73	134	eP	11	25.50	-2.3
FRI	1.77	91	ePc	11	26.00	-2.4
			eS	11	48.30	
BCH	2.39	141	eP	11	34.30	-3.0
KVN	3.62	55	eP	11	52.50	-2.4
15 obs. associated						

OCT 29, 1989 13h 33m 37.53± 0.76s
46.241 N ± 7.0km 12.740 E ± 6.7km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
MD 2.1 (TRI).

FVI	0.35	5	P	33	44.10	-0.7
			eSg	33	48.50	
CTI	0.78	256	P	33	52.90	0.1
			eSg	34	03.50	
VOY	0.83	104	ePg	33	52.80	-0.8
			eSg	34	06.50	
TRI	0.89	126	e(Pg)	33	54.50	-0.1
			iSg	34	06.30	
LJU	1.26	98	e(Pn)	34	02.00	1.0
			eSg	34	21.90	
RIY	1.46	127	iPnc	34	03.70	-0.2
			iSn	34	24.50	
VBY	1.91	112	ePn	34	14.30	3.9X
			eSn	34	40.00	
			eSg	34	43.10	
KHC	2.95	11	ePn	34	26.00	0.7
			eSg	35	03.50	
S.D. = 0.8 on 7 of 8 obs.						

OCT 29, 1989 13h 35m 11.19± 0.59s
39.234 N ± 5.1km 27.904 E ± 8.1km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

DST	0.67	56	iPg	35	24.00	-0.6
			eSg	35	33.00	
IZM	0.97	211	iPg	35	28.60	-1.1
			iSg	35	43.60	
EDC	1.11	358	iPn	35	32.90	0.9
BNT	1.12	1	iPn	35	33.60	1.4

EZN	1.36	296	iPn	35	36.00	-0.1
CIN	1.64	175	ePn	35	40.00	-0.1
			iSg	36	00.00	
YLV	1.75	40	iPn	35	40.60	-1.2
CTT	1.95	12	ePn	35	44.70	0.0
ISK	2.03	25	ePn	35	44.70	-1.1
YER	2.12	172	ePn	35	48.70	1.6
GPA	2.13	60	ePn	35	48.30	0.9
DMK	2.59	358	ePn	35	53.20	-0.6
BBTK	3.80	79	eP	36	27.00	15.8X
			eS	37	16.00	

S.D. = 1.1 on 12 of 13 obs.

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* OCT 29, 1989 13h 35m 27.81± 1.77s
19.569 N ± 8.3km 146.345 E ±11.8km
DEPTH = 36.0 ± 16.5 km
4.8mb (8 obs.)
MARIANA ISLANDS REGION (215)

GUMO	6.11	194	eP	36	58.60	0.4
	0.6s		114.48nm			5.7mb X
PJG	6.11	194	eP	36	58.60	0.4
GUA	6.15	193	eP	36	58.70	-0.1
	0.5s		90.14nm			5.7mb X
			eS	38	06.10	
SNY	29.42	324	eP	41	29.00	-1.1
WB5	40.92	197	eP	43	06.30	-2.3
WRA	40.99	197	P	43	08.00	-1.2
	1.1s		10.60nm			4.5mb
GTA	44.51	307	eP	43	38.00	0.1
ASPA	44.65	196	eP	43	38.40	-0.6
	0.7s		9.00nm			4.7mb
BRS	47.10	172	iPc	43	58.50	0.2
MBL	48.08	214	eP	44	08.00	1.9
WMO	54.21	310	Pc	44	53.50	1.2
FBA	62.25	26	eP	45	48.00	-0.2
	1.0s		40.00nm			5.5mb
INK	68.34	23	ePd	46	26.00	-1.3
MBC	72.16	15	eP	46	50.50	0.1
PNT	77.98	42	eP	47	24.00	-0.1
	0.9s		8.00nm			4.7mb
WDC	78.36	51	eP	47	26.30	0.0
ORV	79.41	52	eP	47	31.80	-0.3
EDM	80.53	37	eP	47	37.50	-0.3
CMB	80.69	53	eP	47	39.00	0.0
FRI	81.52	54	eP	47	43.10	-0.2
KVN	82.08	51	iP	47	46.80	0.4
			epP	48	02.00	53kmX
TNP	83.05	52	iP	47	51.50	0.0
	1.0s		11.25nm			4.9mb
FFC	86.03	33	eP	48	06.00	0.1
	0.7s		21.00nm			5.5mb
BW06	86.78	46	iP	48	10.00	-0.1
	0.9s		3.18nm			4.5mb
GOL	90.94	47	eP	48	26.10	-3.8X
	1.0s		6.50nm			5.0mb
ALQ	92.25	52	eP	48	36.80	0.9
ZOBO	147.07	90	ePKP	55	07.00	-0.9
			i	55	09.00	
LPB	147.14	90	ePKP	55	10.00	2.2
CNCB	147.31	91	PKP	55	09.00	0.7

S.D. = 1.0 on 28 of 29 obs.

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* OCT 29, 1989 13h 55m 49.14± 4.11s
32.930 S ±15.7km 72.129 W ±26.2km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.42	103	eP	55	57.50	-0.2
			iS	56	05.50	
LCCH	0.72	139	iPc	56	03.50	0.2
			iS	56	16.50	
ROCH	0.94	93	iP	56	07.40	0.2
LNV	1.19	150	iPc	56	10.30	-0.9
			iS	56	26.50	
PEL	1.23	100	iPc	56	12.00	-0.1
			iS	56	29.00	
TACH	1.23	126	iPd	56	12.00	0.0
			iS	56	30.50	
JACH	1.32	80	iP	56	13.00	-0.6
			iS	56	30.50	
SAN	1.34	113	iPd	56	13.90	0.1
			iS	56	33.50	
PCH	1.52	117	iPc	56	16.60	0.2
			iS	56	38.00	
CHCH	1.59	129	iPd	56	18.30	0.9
			iS	56	39.50	
FCH	1.59	105	eP	56	18.00	0.3
			iS	56	42.00	

S.D. = 0.5 on 11 of 11 obs.

? OCT 29, 1989 14h 52m 14.24± 0.97s
40.217 N ± 8.1km 28.781 E ± 9.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

YLV	0.57	52	iPg	52	25.60	-0.3
DST	0.62	191	iPg	52	27.00	0.2
			eSg	52	37.00	
EDC	0.71	281	ePg	52	27.90	-0.4
			eSg	52	40.90	
CTT	0.97	344	ePn	52	33.10	0.5

S.D. = 0.7 on 4 of 4 obs.

OCT 29, 1989 15h 53m 10.70± 0.19s
39.531 N ± 3.5km 143.412 E ± 3.6km
DEPTH = 10.0km (geophysicist)
5.4mb (32 obs.) 5.3Msz (6 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Felt (I JMA) at Akita and Morioka.
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 27C
Centroid Location:
Origin Time 15:53:16.7 0.4
Lat 39.29N 0.05 Lon 143.57E 0.05
Dep 15.0 FIX Half-duration 2.3
Moment Tensor; Scale 10**17 Nm
Mrr= 1.42 0.05 Mtt= 0.24 0.05
Mff=-1.66 0.07 Mrt= 1.00 0.14
Mrf= 1.24 0.18 Mtf=-0.17 0.05
Principal Axes:

T	Val= 2.26	Plg=61	Azm=328
N	-0.05	18	201
P	-2.21	22	103

Best Double Couple:Mo=2.2**17
NP1:Strike=163 Dip=29 Slip= 49
NP2: 28 69 110

MRK	1.74	276	iP+	53	44.40	3.3X
			iS	54	10.70	
AKI	2.56	275	iP+	53	56.20	3.3X
			eS	54	34.00	
NIIJ	4.15	238	P	54	16.80	1.3
KAKJ	4.19	219	P	54	14.50	-1.6
			S	55	02.60	
CHJJ	4.93	227	P	54	26.40	-0.2
MTMJ	5.31	238	P	54	33.60	1.5
IIDJ	5.95	229	P	54	41.60	0.5
TSRJ	7.12	238	P	54	59.20	1.8
MDJ	11.46	301	Pc	55	57.50	0.2
Z	14s		23.20um			
			S	58	05.00	
CN2	14.09	293	Pc	56	31.50	-0.9
	6.0s		1.20nm			2.8mb X
Z	13s		6.50um			3.6Msz
N	13s		12.10um			
E	13s		5.80um			
			pP	56	37.00	
			eS	59	14.00	
SNY	15.22	285	iPc	56	47.00	-0.2
Z	16s		18.00um			
N	12s		7.20um			
E	13s		7.10um			
			sP	56	58.50	
			S	59	39.50	
DL2	16.89	275	Pc	57	07.00	-1.7
Z	14s		7.20um			
N	12s		8.80um			
E	13s		4.00um			
			eS	00	20.00	
SSE	19.96	252	P+	57	40.00	-5.7X
Z	20s		3.00um			
N	14s		7.70um			
E	13s		8.10um			
			pP	57	44.00	15kmX
			PPP	58	08.00	
			S	01	26.00	
			sS	01	32.00	
			SS	02	02.00	
BJI	20.91	280	eP	57	53.00	-2.6X
	1.5s		0.31nm			2.5mb X
Z	16s		13.40um			5.4MszX
E	14s		8.40um			
			sS	01	56.00	
TIA	20.99	269	Pc	57	53.80	-2.7X
Z	13s		17.60um			5.6MszX
N	14s		2.60um			
E	13s		17.20um			
			pP	58	00.00	23kmX
			eS	01	36.30	
NJ2	21.23	257	Pc	57	57.00	-1.9
Z	16s		6.90um			5.1MszX
N	11s		3.50um			
E	11s		3.50um			
ANP	23.30	239	eP	58	20.00	0.4
TIY	24.21	276	Pc	58	26.30	-2.1
N	13s		5.80um			
E	16s		7.60um			
			pP	58	31.50	18kmX
			sS	02	56.00	
HHC	24.30	283	P	58	28.50	-0.8
Z	18s		18.90um			5.6Msz
N	15s		4.80um			
E	15s		10.00um			
			sS	02	54.00	
WHN	25.34	258	Pc	58	40.00	0.8
	1.3s		0.79nm			3.2mb X
Z	16s		5.95um			5.2MszX
N	13s		3.61um			
E	12s		7.07um			
			pP	58	49.00	32kmX
			S	03	04.00	
QZH	25.43	243	Pc	58	39.50	-0.6
Z	14s		6.80um			5.3MszX
N	12s		3.70um			
			S	03	06.00	
BTO	25.50	283	iPc	58	39.50	-1.2
	8.0s		1.30nm			2.7mb X
Z	16s		18.40um			5.7MszX
N	14s		4.80um			
E	16s		18.70um			
GUMO	25.87	177	eP	58	44.00	-0.3
Z	20s		1.90um			4.6Msz
PJG	25.87	177	eP	58	44.50	0.2
GUA	25.92	177	eP	58	45.00	0.2
XAN	28.05	270	Pc	59	03.20	-1.0
N	14s		6.90um			
E	13s		5.40um			
			S	03	45.00	
HKC	30.21	244	e(P)	59	24.00	0.4
GZH	30.29	246	eP	59	24.00	-0.2
Z	14s		6.00um			5.4MszX
N	12s		4.10um			
E	11s		3.80um			
			S	04	25.00	
BAG	30.45	227	eP	59	23.00	-2.9X
			eS	04	32.00	
LZH	31.28	276	Pc	59	32.00	-1.1
	2.0s		0.28nm			2.8mb X
Z	13s		15.00um			5.8MszX
N	13s		4.10um			
E	13s		11.50um			
			pP	59	37.00	17kmX
			ePP	00	29.00	
			S	04	39.00	
			sS	04	47.00	
			ScS	10	06.00	
GYA	33.23	258	iPc	59	49.40	-0.8
	1.2s		0.10nm			2.6mb X
Z	16s		3.00um			5.1MszX
N	14s		4.40um			
E	14s		4.10um			
			pP	59	59.00	33kmX
			PP	01	00.00	
			S	05	05.00	
			sS	05	23.00	
CD2	33.30	267	eP	59	50.00	-0.6
GTA	33.41	284	iPc	59	51.80	0.2
	4.0s		1.10nm			3.1mb X
Z	16s		13.30um			5.7MszX
E	16s		11.90um			
			pP	59	59.00	25kmX
			PP	01	00.00	
			S	05	08.00	
			sS	05	23.00	
DAV	36.06	211	eP	00	14.00	-0.4
KMI	36.93	260	Pc+	00	22.00	0.1
N	13s		3.10um			
E	14s		3.40um			

29d 16h

| | | |

RECU	0.65	18	iP+	46	51.50	-1.0
GGP	1.09	9	iPd	47	00.70	-0.2
			S	47	11.60	
OUR	1.11	13	iPd	47	00.60	-0.4
			S	47	13.60	
CAYA	1.55	31	P	47	03.70	-4.5X
			eS	47	18.50	
COTA	1.64	15	P	47	08.90	-0.7
SALC	4.69	26	eP	47	54.61	1.9
ANCC	5.11	22	eP	47	58.27	-0.3
HOOC	5.16	24	eP	47	59.55	0.0
DIAC	5.20	30	eP	48	00.84	0.8
CLMC	5.56	23	eP	48	05.20	0.1
NNA	10.83	170	eP	49	19.00	0.7
	0.5s		11.97nm			5.6mb X
			i	49	23.20	
			iS	51	20.00	
ZOBO	18.23	145	P	50	53.00	-2.7
LPB	18.46	146	eP	50	59.00	0.6
CNCB	18.75	146	P	51	03.00	0.9

S.D. = 1.2 on 13 of 14 obs.

& OCT 29, 1989 17h 59m 00.63s
66.911 N 147.121 W
DEPTH = 10.0km (geophysicist)
ALASKA (676)
<AGS-P>.

GLM	1.94	183	iP	59	33.88	-0.1
FBA	2.04	188	eP	59	35.32	-0.1
RDS	2.14	192	eP	59	36.78	0.0
CCB	2.29	187	eP	59	38.52	-0.5
NEA	2.48	200	eP	59	41.41	-0.3
WRH	2.48	190	eP	59	41.17	-0.6
HDA	2.52	178	eP	59	42.05	-0.2
IMA	2.76	255	eP	59	47.12	1.3
DDM	3.18	170	eP	59	50.78	-0.9
INK	5.38	69	eP	00	18.00	-4.8

10 obs. associoted

? OCT 29, 1989 18h 51m 07.30± 4.98s
32.822 S ±20.5km 72.458 W ±34.6km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.72	107	eP	51	21.80	0.4
			iS	51	28.00	
LCCH	0.99	131	iPd	51	25.70	-0.4
			iS	51	37.00	
ROCH	1.23	97	eP	51	29.50	-0.8
			iS	51	43.00	
LNV	1.43	143	iPc	51	32.50	-0.8
			iS	51	48.70	
TACH	1.52	123	iPd	51	34.00	-0.6
			iS	51	52.50	
PEL	1.52	103	iPc	51	34.20	-0.5
			iS	51	52.80	
JACH	1.58	85	iP	51	35.30	-0.2
			iS	51	52.90	
SAN	1.63	113	iPd	51	36.50	0.3
			iS	51	55.50	
PCH	1.81	117	iP	51	39.00	0.1
CHCH	1.87	127	iPd	51	41.20	1.5
			iS	52	01.30	
FCH	1.89	106	eP	51	41.00	0.8
			iS	52	03.00	
RFA	3.85	121	e(P)	52	38.50	30.6X

S.D. = 0.8 on 11 of 12 obs.

? OCT 29, 1989 18h 51m 32.36± 4.31s
32.881 S ±16.5km 72.252 W ±28.7km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.53	106	eP	51	43.50	0.3
			iS	51	50.80	
LCCH	0.82	136	iP	51	48.50	0.2
			iS	51	59.50	
ROCH	1.05	95	iP	51	51.70	-0.6
			iS	52	03.70	
LNV	1.28	147	iP	51	55.20	-0.9
			iS	52	11.60	
TACH	1.34	125	iP	51	56.80	-0.3
			iS	52	14.00	
JACH	1.41	82	iP	51	58.00	-0.2
			iS	52	15.50	
PCH	1.63	117	iP	52	01.50	0.2
			iS	52	23.50	
CHCH	1.70	129	iPc	52	03.50	1.2
			iS	52	25.50	

S.D. = 0.8 on 8 of 8 obs.

? OCT 29, 1989 18h 52m 26.56± 4.98s
32.843 S ±17.0km 72.328 W ±35.4km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.61	108	iPc	52	38.80	0.0
			iS	52	44.30	
LCCH	0.90	135	iP	52	43.50	-0.2
			iS	52	55.00	
ROCH	1.12	97	iPc	52	47.20	-0.4
			iS	53	00.50	
LNV	1.35	146	iP	52	50.70	-0.7
			iS	53	06.00	
PEL	1.41	103	iP	52	52.50	0.1
TACH	1.42	125	iP	52	52.00	-0.4
			iS	53	08.50	
JACH	1.47	84	iPd	52	52.90	-0.3
			iS	53	11.00	
SAN	1.53	114	iPc	52	54.00	0.1
			iS	53	13.00	
PCH	1.71	118	iPd	52	57.00	0.4
			iS	53	10.00	
CHCH	1.77	128	iPd	52	58.50	1.0
			iS	53	20.00	
FCH	1.78	106	iPc	52	58.20	0.3
			iS	53	20.50	

S.D. = 0.5 on 11 of 11 obs.

? OCT 29, 1989 18h 57m 57.99± 3.54s
32.873 S ±14.1km 72.269 W ±24.5km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.55	106	eP	58	09.00	-0.1
			iS	58	16.70	
LCCH	0.84	136	iP	58	14.10	-0.1
			iS	58	25.50	
ROCH	1.06	96	iP	58	18.00	-0.2
			iS	58	32.50	
LNV	1.30	147	iP	58	21.20	-0.8
			iS	58	37.50	
PEL	1.36	102	iPc	58	22.80	-0.2
			iS	58	40.70	
TACH	1.36	125	iPd	58	22.70	-0.3
			iS	58	40.10	
JACH	1.43	83	eP	58	23.50	-0.5
			iS	58	42.00	
SAN	1.47	114	iPd	58	25.00	0.5
			iS	58	43.50	
PCH	1.65	117	iP	58	27.50	0.3
			iS	58	49.00	
CHCH	1.72	128	iPc	58	29.00	0.9
			iS	58	50.50	
FCH	1.72	106	iPd	58	29.00	0.5
			iS	58	51.70	

S.D. = 0.5 on 11 of 11 obs.

? OCT 29, 1989 19h 00m 18.34± 5.10s
32.841 S ±19.3km 72.402 W ±36.6km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

LCCH	0.94	132	iPd	00	36.10	-0.2
			iS	00	47.50	
ROCH	1.18	97	iP	00	40.00	-0.5
			iS	00	55.00	
LNV	1.39	144	iPc	00	43.20	-0.5
			iS	00	59.50	
TACH	1.47	124	iPc	00	45.00	0.1
			iS	01	02.50	
PEL	1.47	102	iPc	00	45.00	0.0
			iS	01	02.60	
JACH	1.53	85	iPc	00	45.50	-0.4
			iS	01	04.50	
SAN	1.58	113	iPc	00	46.80	0.3
			iS	01	05.20	
PCH	1.76	117	iP	00	49.50	0.3
			iS	01	10.60	
CHCH	1.83	127	iPc	00	50.20	0.1
			iS	01	12.20	
FCH	1.84	106	iPd	00	51.20	0.7
			iS	01	13.50	

S.D. = 0.4 on 10 of 10 obs.

OCT 29, 1989 19h 09m 12.94± 0.13s
36.788 N ± 1.8km 2.448 E ± 1.4km
DEPTH = 5.7km (geophysicist)
5.7mb (47 obs.) 5.7Msz (13 obs.)
ALGERIA (396)
Ms 5.9 (PAS). At leost 30 people killed, 245 injured ond domage (VIII) in the Cherchell-Tifozo orea. Felt (IV) in the Baleoric Islands, Spoin. Depth from broadbond displocement seismograms.
FAULT PLANE SOLUTION: P-Waves
NP1:Strike=260 Dip=64 Slip= 152
NP2: 3 65 29
Principal Axes:
T Plg=37 Azm=222
P 1 131
Comment: The focal mechonism is poorly controlled and corresponds to strike-slip faulting with o moderote reverse component. The preferred fault plane is not determined.
RADIATED ENERGY
No. of sta: 9 Focol mech. C
Energy 4.5±1.0*10**12 Nm
MOMENT TENSOR SOLUTION
Dep 6 No. of sta: 15
Moment Tensor; Scole 10**18 Nm
Mrr= 0.83 Mtt=-0.69
Mff=-0.14 Mrt=-0.66
Mrf=-0.32 Mtf=-0.29
Principal oxes:
T Vol= 1.11 Plg=69 Azm=152
N -0.01 1 245
P -1.10 21 336
Best Double Couple:Mo=1.1*10**18
NP1:Strike= 68 Dip=24 Slip= 93
NP2: 245 66 89
CENTROID, MOMENT TENSOR (HRV)
Dota Used: GDSN
L.P.B.: 14S, 36C
Centroid Locotion:
Origin Time 19:09:21.6 0.3
Lat 36.84N 0.03 Lon 2.92E 0.04
Dep 15.0 FIX Half-duration 3.6
Moment Tensor; Scale 10**17 Nm
Mrr= 8.00 0.21 Mtt=-8.93 0.30
Mff= 0.93 0.27 Mrt= 0.57 0.80
Mrf=-2.59 0.61 Mtf=-3.86 0.21
Principal Axes:
T Vol= 9.03 Plg=69 Azm= 73
N 1.24 21 250
P -10.27 1 341
Best Double Couple:Mo=9.6*10**17
NP1:Strike= 91 Dip=48 Slip= 119
NP2: 231 50 62

ACU	2.85	308	iPnd	09	58.70	-1.2
ESEL	3.00	7	iPnd	10	01.90	0.0
ENIJ	3.74	274	ePn	10	09.20	-3.4X
			eSn	10	53.00	
ECHE	3.88	317	ePn	10	13.90	-0.6
EBR	4.31	340	iP	10	20.00	-0.5
			i	10	24.50	
EROO	4.33	339	iPnd	10	20.20	-0.7
			eSn	11	10.50	
EVIA	4.34	297	ePn	10	20.00	-1.1
TAF	4.41	245	iPd	10	21.50	-0.6
			i	10	45.00	
			i	10	52.00	
			i	11	06.00	
			i	11	10.00	
			i	11	16.00	
EMEL	4.62	253	ePn	10	22.00	-3.0X
			eSn	11	15.00	
AFC	4.82	277	ePn	10	26.50	-1.4
			eSn	11	21.00	
EBAN	5.14	287	iPn	10	30.30	-2.1
			eSn	11	30.00	
ETOR	5.34	320	ePn	10	36.50	1.2
			eSn	11	37.00	
ETER	5.52	3	iPnc	10	37.20	-0.4

29d 19h

			iSn	11	40.00					i	14	23.00		VITF	11.71	12	P	12	03.04	-0.5
TOL	5.97	303	eP	10	42.81	-1.2				i	14	33.00		FEL	11.82	19	P	12	03.68	-1.4
			i(Pb)	10	53.00		CKI	8.82	28	Pc	11	22.80	-1.1	SLE	11.84	20	ePd	12	04.10	-1.3
			eSn	11	51.50		BNI	8.85	20	P	11	25.50	1.0	GRR	11.84	349	Pn	12	04.10	-1.2
			eSb	12	11.00		PYM	8.96	3	P	11	26.32	0.3	ECH	11.93	15	P	12	05.48	-1.1
CGL	5.98	62	P	10	42.11	-2.2	MCT	8.97	81	P	11	25.60	-0.5	LDF	11.95	352	Pn	12	05.60	-1.1
KCHT	6.02	85	iPc	10	43.00	-1.7	FAI	8.99	84	P	11	26.40	0.1	CDF	12.15	15	Pn	12	08.40	-1.1
ZGN	6.18	92	iPd	10	45.00	-2.1	PCP	9.02	29	P	11	24.38	-2.4	FLN	12.16	351	Pn	12	08.40	-1.2
EHOR	6.22	282	ePn	10	45.30	-2.2	RSP	9.11	22	P	11	28.99	1.0	WLS	12.16	16	P	12	08.45	-1.2
			eSn	11	55.50		PLDF	9.22	5	P	11	29.16	-0.3	BRT	12.21	66	P	12	10.40	0.1
SBS	6.34	87	iPc	10	46.50	-2.8X	AGO	9.27	3	P	11	30.37	0.2	TRI	12.32	40	P	12	12.00	0.3
EJIF	6.38	269	ePn	10	48.60	-1.2	PII	9.27	39	P	11	28.00	-2.1	RIY	12.41	43	eP	12	15.10	2.2
GUD	6.44	309	iPn	10	49.00	-1.8	ERUA	9.28	310	iPnc	11	28.40	-1.9	FVI	12.46	35	P	12	14.40	0.8
			eSn	12	01.00					eSn	13	11.50		HVAR	12.48	55	iP	12	14.20	0.2
EPF	6.44	346	Pn	10	51.00	0.3	LPG	9.29	19	Pn	11	31.80	1.2	VOY	12.60	39	eP	12	17.20	1.6
			Sn	12	02.20		GIB	9.29	79	P	11	31.00	0.4	LCI	12.64	69	P	12	17.00	0.9
OJEN	6.47	266	eP	10	53.00	1.8	LPL	9.30	19	Pn	11	32.00	1.3	CEY	12.68	41	eP	12	19.50	2.8X
LHE	6.56	340	P	10	53.31	0.9	LSD	9.36	21	P	11	32.58	1.0	GWF	12.76	16	P	12	16.31	-1.3
MOMI	6.59	268	eP	10	55.00	2.2	RDP	9.38	55	P	11	30.00	-1.7	LJU	12.94	41	eP	12	20.50	0.5
MBZ	6.61	89	iPc	10	51.00	-2.0	LIS	9.38	285	iPc	11	32.40	0.7				eS	14	40.00	
ESCF	6.70	341	P	10	54.45	0.1				iS	13	11.30		VBY	12.99	44	eP	12	17.30	-3.4X
ISSF	6.71	339	P	10	55.05	0.5	RMP	9.40	55	P	11	30.30	-1.6				e	12	24.30	
ATE	6.74	340	P	10	55.12	0.2	MAF	9.43	1	Pn	11	31.80	-0.5	KBA	13.08	35	ePd	12	21.50	-0.6
OGE	6.76	342	P	10	55.61	0.5	MTH	9.45	286	eP	11	33.00	0.4		0.8s		72.90nm			5.9mb
MADF	6.83	339	P	10	56.34	0.2				iS	13	14.00					ic	12	23.00	
BOH	6.84	338	P	10	57.06	0.6	LSF	9.48	356	Pn	11	31.70	-1.3				i	12	28.00	
CNIL	6.85	269	eP	10	56.00	-0.5				Sn	13	14.80					iPP	12	33.00	
ELYF	6.90	339	P	10	57.68	0.5	TCF	9.49	359	Pn	11	32.50	-0.7				i	12	36.20	
GELF	6.97	18	P	10	58.23	0.1	BDI	9.56	38	P	11	32.80	-1.3				iS	15	00.70	
BERF	6.98	20	P	10	58.31	0.1	BOB	9.57	31	P	11	33.60	-0.8	FUR	13.09	27	iPd	12	23.30	1.2
BMK	6.98	257	eP	10	48.80	-9.4X	MNS	9.67	52	P	11	34.00	-1.7	WLF	13.15	11	iPd	12	23.60	0.9
			i	10	49.80		FIR	9.69	41	ePn	11	12.00	-23.9X	DOU	13.39	6	iPc	12	27.30	1.3
			i	10	51.00		MME	9.70	38	P	11	34.80	-1.5				iS	14	45.80	
			i	10	59.00		ORO	9.76	24	P	11	36.60	-0.4	ZAG	13.58	44	eP	12	31.50	3.0
			i	11	59.60		BGF	9.77	2	Pn	11	36.70	-0.3	HCY	13.60	61	eP	12	30.00	1.2
IFR	7.01	244	iPd	10	58.00	-0.9	ORX	9.77	24	P	11	36.99	-0.1	PTJ	13.62	44	eP	12	29.90	0.8
			i	11	02.00		MNO	9.82	80	P	11	39.30	1.4	BDV	13.78	62	eP	12	33.00	1.8
			i	13	10.00		EMS	9.86	19	ePc	11	39.30	0.8	SNF	13.78	5	iP	12	32.83	1.7
PUYF	7.18	19	P	11	01.17	0.1	SMF	9.90	6	Pn	11	38.80	-0.1				iS	15	06.20	
TREF	7.19	17	P	11	01.31	0.2	TIO	9.96	237	iPd	11	39.00	-0.9	BRY	13.78	59	eP	12	32.20	0.8
LMR	7.24	24	Pn	11	00.80	-1.1				i	13	33.40		VLO	13.82	69	iP	12	32.30	0.5
			Sn	12	20.60					i	14	38.00		KEK	13.95	73	eP	12	32.90	-0.5
LRG	7.30	23	Pn	11	02.50	-0.2	CRE	9.97	44	P	11	40.80	0.9	ULC	13.98	63	eP	12	37.60	3.7X
			Sn	12	22.00		MFF	10.00	350	Pn	11	38.50	-1.6	MEM	14.05	9	iP	12	36.31	1.7
PRAF	7.31	16	P	11	03.18	0.3				Sn	13	27.20		NKY	14.07	60	eP	12	35.50	0.4
TAVF	7.36	21	P	11	03.43	-0.1	MEU	10.00	84	P	11	38.80	-1.5	UCC	14.07	5	P	12	37.40	2.5
EVAL	7.38	279	ePn	11	02.40	-1.5	DIX	10.00	20	ePd	11	42.10	1.6	SRN	14.12	72	eP	12	36.30	0.7
			eSn	12	21.50		EMON	10.00	315	ePn	11	39.00	-1.3	TTG	14.13	61	eP	12	37.00	1.3
VILF	7.48	18	P	11	04.87	-0.5	PGD	10.01	42	P	11	42.30	1.8				eS	15	37.00	
FRF	7.49	24	Pn	11	04.50	-0.8	AVF	10.02	4	Pn	11	40.40	0.0	KLL	14.13	10	ePc	12	37.10	1.4
			Sn	12	26.00		ASS	10.04	48	P	11	41.00	0.2	KMR	14.17	34	eP	12	37.50	1.3
CVF	7 60	39	Pn	11	05.90	-1.1	RFI	10.04	60	P	11	39.08	-1.7				i	12	39.70	
			Sn	12	27.80		SDI	10.09	57	P	11	39.30	-2.2				iPP	12	48.50	
PTS	7.66	87	Pd	11	05.70	-2.1	SFI	10.11	42	P	11	44.00	2.4	BERA	14.21	69	eP	12	36.70	-0.1
GANF	7.67	19	P	11	07.28	-0.6	EZAM	10.14	305	ePn	11	41.00	-1.1	LACI	14.23	65	eP	12	37.50	0.5
CALN	7.74	25	P	11	08.53	-0.5				eSn	13	31.00		TIR	14.27	66	eP	12	38.70	1.0
LPO	7.94	353	Pn	11	11.20	-0.5	VAI	10.24	26	P	11	43.10	-0.3				iS	15	32.00	
MVIF	7.96	25	P	11	11.65	-0.4	LBF	10.25	6	Pn	11	43.70	0.0	GRF	14.38	24	iPc	12	38.60	-0.4
AURF	8.01	26	P	11	12.34	-0.4	SSF	10.30	4	Pn	11	44.20	0.0		Z 12s		17.00um			
SBF	8.03	27	Pn	11	11.30	-1.6	CIO	10.40	49	eP	11	48.89	3.1X				e	12	41.80	
			Sn	12	39.80		STS	10.42	309	ePn	11	44.00	-1.9				e	12	49.70	
TOUF	8.09	25	P	11	13.71	-0.3				eSn	13	36.80					eS	15	32.60	
CAF	8.13	358	Pn	11	14.00	-0.4	ATN	10.44	79	P	11	49.00	2.8X	VLS	14.48	79	eP	12	40.00	-0.4
AUTN	8.14	26	P	11	14.14	-0.5	ALP	10.44	52	eP	11	46.62	0.2	WET	14.50	28	iPc	12	40.80	0.2
ERC	8.17	78	P	11	14.20	-0.7	ARV	10.46	47	P	11	46.40	-0.1	PLE	14.52	58	eP	12	42.50	1.5
SAOF	8.18	27	P	11	13.66	-1.3	TMA	10.48	25	ePd	11	46.50	-0.4	BNS	14.57	12	ePd	12	42.90	1.4
IMI	8.24	29	P	11	14.12	-1.8	MDI	10.51	29	P	11	45.80	-1.3		Z 11s		19.00um			
LFF	8.25	352	Pn	11	14.80	-1.1	DUI	10.51	59	P	11	46.50	-0.8				i	16	23.50	
CVT	8.30	81	P	11	15.50	-1.2	GRC	10.51	2	P	11	47.40	0.2	KHC	14.76	30	iPc	12	45.50	1.5
STV	8.32	25	P	11	16.79	-0.3	LOR	10.53	5	Pn	11	47.00	-0.4		1.1s		167.00nm			5.5mb
ENR	8.34	25	P	11	16.28	-1.0	SAL	10.70	32	P	11	51.40	1.6		Z 16s		20.00um			
LBL	8.46	4	P	11	18.89	0.0	SGO	10.74	66	P	11	50.30	0.0		N 13s		24.00um			
PZZ	8.48	23	P	11	19.46	0.1	MGR	10.81	68	P	11	48.20	-3.1X		E 15s		21.00um			
DOI	8.52	24	P	11	19.30	-0.6	AOI	10.88	48	eP	11	54.64	2.4				e	12	54.00	
RJF	8.54	356	Pn	11	19.00	-1.0	SOI	10.90	79	P	11	51.40	-1.1				S	15	26.00	
ROB	8.56	27	P	11	18.84	-1.5	LOMF	11.04	16	P	11	53.91	-0.6	OHR	14.91	68	iPd	12	47.10	1.0
FIN	8.61	29	P	11	18.64	-2.4	TDS	11.30	71	P	11	56.30	-1.7		1.4s		0.54nm			2.9mb X
USI	8.71	74	P	11	16.90	-5.6X	BBS	11.31	18	P	11	57.55	-0.6	SOP	15.07	39	eP	12	51.30	3.3X
MOE	8.74	285	eP	11	20.50	-2.4	OSS	11.43	28	ePd	12	00.80	0.9	VKA	15.34	37	ePd	12	53.00	1.5
			iS	12	56.00		BSF	11.49	15	Pn	11	59.60	-1.1		4.5s		3526.00nm			6.0mb X
MAO	8.76	47	P	11	21.00	-2.1				Sn	14	02.80					id	12	54.70	
RRL	8.76	21	P	11	24.07	0.7	LPF	11.53	348	Pn	12	00.00	-1.0				iS	15	52.50	
AVE	8.80	250	iP	11	22.50	-1.2	CTI	11.54	34	P	12	00.50	-0.8				LR	23	22.00	
			i	11	35.00		ZLA	11.56	21	ePd	12	01.10	-0.4	MOX	15.34	23	iPc	12	54.00	2.5
			i	13	55.00		HAU	11.57	13	Pn	12	00.60	-1.1		2.2s		295.00nm			5.3mb
			i	14	15.00					Sn	14	05.20			Z 10s		20.50um			6.5MszX
			i	14	18.50		MOF	11.58	16	P	12	00.84	-1.1		N 13s		28.40um			

29d 19h

	E	12s	36.20um				KDZ	18.43	68	iP	13 30.00	-0.7	REY	31.06	339	iP	15 41.80	8.2X
			i	13 00.00			APE	18.45	82	eP	13 32.40	1.4	LEGH	31.09	185	eP	15 38.00	3.8X
			iS	15 40.00			RDO	18.46	69	eP	13 31.00	0.0				e	25 15.00	
DBN		15.43	6 eP-	12 56.00	3.3X		PVL	18.64	63	iPc	13 31.00	-2.2				e	25 32.00	
	Z	18s	18.90um				NPS	18.79	88	eP	13 35.40	0.2				e	25 51.00	
			eS	16 11.00			TBT	18.92	251	iP	13 37.70	1.0	LIC	31.18	194	P	15 32.08	-3.0
WTS		15.52	10 iPd	12 56.40	2.6X		PRK	18.92	75	eP	13 37.10	0.4		0.9s		32.50nm		5.2mb	
		0.9s	246.00nm		5.5mb		EKA	18.94	350	P	13 38.00	1.2	AKU	31.35	344	iP	15 38.30	2.2
			e	13 11.50				0.6s		30.90nm		4.7mb		1.1s		156.96nm		5.8mb	
KZN		15.52	71 iPd	12 55.00	0.9		EZN	18.97	74	iP	13 36.60	-0.7			-	i	15 40.20		
SKO		15.56	65 eP	12 54.10	-0.4		CVVD	19.38	248	iPd	13 44.40	2.0				i	28 17.10		
		1.5s	166.00nm		5.1mb		BUC1	19.40	60	iPc	13 40.00	-2.5	MSL	32.51	78	ePd	15 46.50	-0.1
	Z	14s	10.67um		7.1Msz		JMB	19.41	66	iPd	13 43.00	0.4				ePP	16 49.50		
	N	13s	12.44um				BUC	19.46	60	iPc	13 41.00	-2.2				ePPP	17 04.50		
	E	15s	12.21um				MLR	19.66	56	iPd	13 44.00	-1.6				eS	20 49.50		
			iPP	13 14.50			IZM	19.72	78	iP	13 45.60	-0.6	SOD	33.57	17	iP	15 55.20	-0.3
			i	13 30.00			CVO	19.92	56	iPd	13 47.00	-1.2	TRO	34.10	10	eP	16 02.00	2.0
			iS	15 50.00			ISR	19.96	58	iPd	13 47.00	-1.7	BHD	34.32	83	ePc	16 02.00	-0.3
			iSS	16 28.00			KAP	19.99	86	eP	13 48.80	-0.2				eS	21 23.50	
			LR	17 52.00			COP	20.08	17	iPd-	13 52.60	2.8X	SLY	34.55	79	eP	16 03.50	-0.8
ITM		15.58	83 eP	12 54.30	-0.4			1.1s	784.81nm			6.0mb	TAB	34.63	74	eP	16 03.00	-2.2
ZST		15.68	39 e(P)	12 57.00	1.1					iS	17 36.00		BCAO	35.43	152	ePc	16 11.10	-0.9
			i	13 04.00			EDC	20.17	72	iP	13 49.90	-0.9		0.8s		72.00nm		5.6mb	
			i	13 17.50			DMK	20.19	68	iP	13 50.80	-0.3				epP	16 12.59	5kmX
			e	14 32.00			BNT	20.21	72	iP	13 49.60	-1.7				esP	16 14.08	
BEO		15.80	54 iP	12 58.90	1.4		WAR	20.26	34	eP-	13 56.00	4.3X				ePP	17 31.72		
			iS	16 06.40				Z 12s	16.00um			5.6MszX				id	19 16.20		
PRU		15.83	30 Pc	12 58.70	0.9					e	15 34.00					ic	27 35.70		
		1.5s	44.60nm		4.4mb X					e	17 44.00					ic	29 25.00		
	Z	16s	17.10um		6.7MszX		VRI	20.30	56	ePc	13 50.00	-2.2				ic	31 07.10		
	N	11s	17.00um				BRD	20.41	57	ePd	13 52.00	-1.4	KEV	35.60	14	eP	16 11.57	-1.3
	E	11s	24.00um				YER	20.63	81	iP	13 55.30	-0.5		0.9s		126.70nm		5.8mb	
			e	13 01.50			CTT	20.64	70	iP	13 54.10	-1.6		Z 18s		11.70um		5.7Msz	
			S	15 52.00			DST	20.74	74	iP	13 55.90	-1.0				epPc	16 13.22	6kmX
AGG		15.85	76 ePc	12 58.30	0.0		TLB	20.85	60	iPd	13 56.00	-1.9				esPd	16 14.38		
LIT		16.05	72 ePc	13 00.80	0.0		CLI	20.88	54	iPd	13 57.00	-1.3				e	17 40.00		
SRO		16.06	42 eP	13 03.20	2.3		CFR	21.07	59	iPd	13 56.50	-3.6X				eS	21 47.81		
GRG		16.08	69 ePd	13 01.00	-0.3		ITU	21.07	70	eP	14 00 00	-0.2				LR	30 24.00		
CFTV		16.23	244 eP	13 06.80	3.7X		ISK	21.11	70	eP	13 59.10	-1.4	KER	36.16	80	eP	16 19.00	0.8
BUD		16.26	44 e(P)	13 05.00	1.6		YLV	21.32	72	iP	14 01.60	-1.3	QASM	36.40	95	eP	16 21.50	1.3
VAY		16.27	68 iPd	13 03.70	0.1		KSL	21.82	84	eP	14 08.20	0.5	RYD	39.49	95	ePd	16 31.30	-14.9X
		1.4s	0.51nm		2.5mb X		GPA	22.04	72	eP	14 11.00	1.0	KMSA	40.04	102	eP	16 52.00	1.3
WIT		16.30	9 iP	13 08.70	4.9X		BCK	22.42	80	iP	14 14.10	0.2	DHR	41.60	91	eP	17 02.70	-0.6
BRG		16.31	27 iP	13 05.60	1.5		KONO	23.34	9	ePd	14 26.72	4.1X	SHI	42.11	85	eP	17 09.00	1.3
			i	13 08.10			BER	23.69	4	iP	14 30.40	4.5X	KBS	42.42	3	eP	17 13.00	3.5X
			i	13 12.10			BBTK	23.92	73	eP	14 29.00	0.4	AAE	42.95	121	iP	17 16.00	1.1
			iS	16 20.00			ANTO	23.95	73	ePc	14 28.38	-0.4	ARO	44.14	114	iP+	17 25.50	1.2
CLL		16.35	24 iP	13 06.30	1.7		PPCY	24.27	86	eP	14 32.50	0.7				eS	19 13.50		
		1.2s	390.00nm		5.4mb		HFS	24.46	14	eP	14 34.60	1.2	GDH	44.18	335	iPc	17 36.00	12.2X
			i	13 09.60				0.7s	277.50nm			6.0mb		0.9s		100.84nm			
			eS	16 11.00				Z 17s	9.86um			5.4MszX				i	24 05.00		
THE		16.46	70 ePc	13 06.10	0.0					LR	22 38.00		MAIO	45.23	73	iPc+	17 32.50	-0.4
KNT		16.49	68 ePd	13 06.50	0.1		KAS	24.66	70	iPd	14 35.60	-0.1				eS	24 08.00		
NEO		16.56	75 eP	13 07.50	0.2		NB2	24.90	10	P	14 39.00	1.2	KHI	45.29	76	eP	17 32.70	-0.8
ECP		16.60	341 iPc	13 08.60	0.9		UPP	25.07	18	iP	14 39.50	0.2	SCH	49.38	315	eP	18 04.00	-1.1
		0.6s	185.00nm		5.4mb			0.9s	300.00nm			6.0mb		1.1s		163.00nm		5.9mb	
TIM		16 68	52 iPd	13 10.00	1.3					iS	19 14 00		FRB	49.43	326	eP	18 06.00	0.7
PLG		16 80	71 eP	13 10.10	-0.3		KOT	25.41	97	ePc	14 43.50	0.7	NAI	49.50	132	iP	18 09.20	2.5
PAIG		16.94	73 eP	13 11.40	-0.7		FAM	25.57	85	eP	14 46.00	1.7		1.2s		114.06nm		5.7mb	
ATH		16.95	80 eP	13 17.60	5.4X		KVT	26.39	70	iP	14 49.80	-2.1	CBM	51.88	305	eP	18 23.10	-1.1
VTS		16.98	64 iPd	13 14.00	1.2		BHL	27.16	86	P	14 59.50	0.4	EMM	52.08	302	eP	18 25.60	-0.1
PSZ		16.99	44 iP	13 15.00	2.3					S	19 46.00		QUE	53.31	77	eP	18 35.00	-0.3
SRS		17.00	69 ePc	13 12.50	-0.3		JVI	27.51	90	eP	14 59.40	-2.7X				e	27 00.00		
ETA		17.03	342 iPc	13 14.40	1.3		SHMJ	27.59	89	Pc	15 04.50	1.6	BNH	54.68	303	eP	18 45.30	0.3
		0.6s	125.00nm		5.2mb		NUR	27.63	24	eP	15 02.10	-0.9	HRV	55.60	301	ePc	18 52.27	0.6
MMB		17.17	67 ePc	13 15.00	0.0			1.1s	74.40nm			5.4mb				epP	18 53.76	5kmX	
OUR		17.20	72 ePc	13 15.00	-0.4			Z 16s	8.00um			5.4MszX				esP	18 55.08		
VAL		17.62	333 iP	13 23.90	3.5X					LR	26 26.00					eS	26 41.11		
			S	16 48.00			DSI	27.65	91	eP	15 00.20	-3.2X	HBVT	55.98	303	eP	18 54.30	-0.1
VAM		17.63	88 eP	13 23.10	2.3		MBH	27.91	95	eP	15 02.90	-2.9	KSH	56.39	63	eP	18 55.00	-2.5
DLE		17.65	342 iPc	13 23.10	2.2		AQBJ	28.06	95	Pc	15 07.40	0.2	RSNY	56.89	304	P	19 01.00	0.0
		0.8s	231.00nm		5.4mb		BADA	28.52	97	eP	15 11.60	0.3		1.2s		72.89nm		5.6mb	
PGB		17.67	64 iP	13 22.00	0.8		ASW	29.01	107	iPc	15 16.00	0.2		Z 20s		11.30um		6.0Msz	
CTFE		17.78	248 iP	13 24.00	1.3					eS	20 12.00		TBR	57.95	300	eP	19 17.30	8.9X
RZN		17.92	67 iPc	13 25.00	0.5		AMAN	29.13	107	iPd	15 17.00	0.2	PNJ	58.00	300	iP	19 09.10	0.4
SPC		17.92	41 eP	13 26.70	2.2		AYN	29.17	96	eP	15 18.00	0.9	GMTN	58.03	300	iP	19 08.70	-0.2
			i	13 30.70			AGRW	29.19	108	iPd	15 17.80	0.5	BPA	59.56	269	eP	19 19.11	-0.9
PLD		17.97	66 iPc	13 26.00	1.0		SUF	29.78	22	eP	15 21.50	-0.8	SCP	60.62	301	ePd	19 27.40	0.5
DMU		18.30	342 eP	13 31.60	2.6X			0.8s	58.10nm			5.5mb	SVB	61.16	265	eP	19 30.93	0.0
KRA		18.30	38 eP	13 31.00	2.0		KUK	30.56	186	eP	15 30.00	0.3	CBN	61.38	298	eP	19 32.00	0.0
		1.8s	337.00nm		5.2mb					e	25 50.00		MBC	61.47	347	eP	19 32.50	0.3
	Z	14s	9.60um		6.8Msz		KOGH	30.66	185	eP	15 29.00	-1.5		1.0s		37.00nm		5.5mb	
	N	12s	14.50um							e	25 49.00		NA2	61.68	298	eP	19 34.90	0.8
			i	13 33.60			TIC	30.77	195	P	15 28.42	-3.1X	BUL	61.78	152	iPc	19 35.00	0.0
			e	13 40.10			WAJH	30.81	100	eP	15 33.10	1.3		1.0s		100.00nm		6.0mb	
			i	13 45.40			KIC	30.99	194	P	15 30.46	-2.9	NDI	61.97	74	eP	19 35.00	-1.2
			eS	16 53.00				1.0s	57.50nm			5.4mb	NPA	62.18	139	iP	19 39.00	1.3

29d 19h

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29d 19h

			SS	39	32.00					i	23	49.00			AVE	8.78	250	eP	24	02.00	-0.4
OIZ	91.94	65	eP	22	26.00	2.1				i	24	00.00						i	24	14.00	
E	18s		1.70um							i	24	18.00						i	26	21.50	
SNG	92.25	79	ePd	22	26.80	1.4				i	24	29.00						i	26	25.50	
	1.2s	162.50nm				6.3mb				i	24	30.00						i	26	55.00	
			eS	33	04.00		EMEL	4.61	253	eP	23	02.50	-1.2					i	27	18.00	
IPM	94.13	81	ePd	22	35.70	1.6				eS	23	52.00			MAO	8.79	47	P	23	59.70	-2.7X
NANU	121.22	96	ePdiff	24	28.20	-6.9X	AFC	4.82	278	eP	23	05.50	-1.4		RRL	8.80	21	P	24	03.48	0.6
BAL	125.91	104	ePKP	28	17.00	-0.6	EBAN	5.15	288	iP	23	10.20	-1.3		CKI	8.86	28	P	24	02.00	-1.4
	1.0s	32.00nm								eS	24	07.00			BNI	8.89	20	P	24	05.50	1.5
MUN	126.10	106	ePKP	28	17.00	-0.9	ETOR	5.38	321	eP	23	16.00	1.3		MCT	8.97	81	P	24	04.70	-0.5
	1.3s	1.00nm								eS	24	15.00			FAI	9.00	83	P	24	06.20	0.8
SPA	126.60	180	e(PKP)	28	17.40	-0.6	ETER	5.56	3	eP	23	16.00	-1.2		PYM	9.01	3	P	24	05.96	0.5
	1.0s	91.00nm								eS	24	16.00			PCP	9.06	29	P	24	04.09	-2.1
COOL	129.49	102	ePKP	28	24.00	-0.5	TOL	5.99	303	Pnc	23	22.00	-1.2		RSP	9.15	22	P	24	08.61	1.1
	0.6s	8.00nm								iPb	23	36.00			PLDF	9.26	5	P	24	08.54	-0.4
WARB	131.84	94	ePdiff	25	04.20	-18.1X				eSn	24	28.00			ERUA	9.30	310	iP	24	08.00	-1.5
ASPA	136.49	87	ePKP	28	37.50	-0.5				iSb	24	38.00						eS	25	49.50	
	1.1s	44.00nm								iSg	24	51.00			GIB	9.31	79	P	24	10.00	0.3
			eS	32	09.20		CGL	6.01	62	P	23	22.00	-1.6		PII	9.31	39	P	24	06.50	-3.1X
SBA	138.28	175	ePKP	28	38.90	-0.8	KCHT	6.03	84	iPd	23	22.00	-1.8		AGO	9.31	3	P	24	09.35	-0.3
CTA	144.34	72	iPKPc	28	50.30	-1.8	ZGN	6.18	91	iPc	23	24.00	-2.0		LPG	9.33	19	Pn	24	11.60	1.5
	1.2s	321.88nm					EHOR	6.22	282	eP	23	24.50	-2.0		LPL	9.34	19	Pn	24	11.60	1.4
			iS	32	14.00					eS	24	33.00			LIS	9.39	286	iPd	24	09.00	-1.8
CTAO	144.34	72	ePKP	28	49.91	-2.1X	LIJA	6.30	274	eP	23	50.00	22.2X					iS	25	48.30	
			epP	28	51.24		SBS	6.35	87	iPc	23	25.50	-2.8X		LSD	9.40	21	P	24	12.40	1.3
			esP	28	52.56		EJIF	6.37	270	eP	23	27.00	-1.7		RDP	9.41	55	P	24	07.70	-3.4X
ADE	144.74	100	ePKP	28	50.50	-1.9	GUD	6.46	309	iP	23	29.00	-1.1		RMP	9.42	54	P	24	09.10	-2.1
	0.6s	220.00nm								eS	24	38.00			MTH	9.45	287	iPc	24	10.00	-1.7
RUV	145.62	301	iPKP	28	55.90	1.6	OJEN	6.47	267	eP	23	35.00	4.9X					iS	25	51.00	
	1.1s	100.00nm					EPF	6.48	346	Pn	23	30.80	0.5		MAF	9.47	1	Pn	24	11.60	-0.2
TPT	145.64	301	iPKP	28	56.00	1.7				Sn	24	40.80			LSF	9.52	356	Pn	24	11.40	-1.1
	1.1s	220.00nm					MOMI	6.59	269	eP	23	34.00	2.3					Sn	25	52.00	
VAH	145.83	301	iPKP	28	56.60	2.0	LHE	6.60	340	P	23	32.40	0.5		TCF	9.54	359	Pn	24	12.20	-0.6
	1.1s	70.00nm					MBZ	6.61	88	iPd	23	31.00	-1.0		BDI	9.59	38	P	24	12.00	-1.6
PMO	145.85	302	iPKP	28	56.80	2.1	ESCF	6.74	341	P	23	34.19	0.4		BOB	9.61	31	P	24	12.10	-1.7
	1.1s	115.00nm					ISSF	6.75	339	P	23	34.35	0.3		MNS	9.70	51	P	24	13.50	-1.6
HNR	145.98	42	ePKP	28	55.00	0.0	ATE	6.78	340	P	23	34.65	0.3		FIR	9.73	41	ePn	24	11.00	-4.3X
STK	146.09	94	ePKP	28	54.00	-0.7	OGE	6.80	342	P	23	35.10	0.5		MME	9.74	38	P	24	14.70	-1.1
			e	28	56.00		CNIL	6.85	269	eP	23	33.00	-2.3		ORO	9.80	23	P	24	16.50	0.0
QLP	146.12	84	iPKPc	28	56.00	1.1	MADF	6.87	340	P	23	36.00	0.4		ORX	9.81	23	P	24	16.40	-0.2
			e	28	59.00		BOH	6.88	338	P	23	36.24	0.3		BGF	9.81	2	Pn	24	16.30	-0.2
BFD	148.28	103	ePKP	29	01.00	3.0X	ELYF	6.94	339	P	23	37.23	0.6		MNO	9.83	79	P	24	17.10	0.1
TVO	148.70	300	iPKP	29	04.90	5.6X	IFR	6.99	245	iP	23	41.00	3.5X		EMS	9.91	18	ePc	24	19.20	1.2
	1.1s	165.00nm								i	25	53.00			TIO	9.94	237	iP	24	31.00	12.6X
PPT	148.78	300	iPKP	29	05.80	6.4X	GELF	7.01	18	P	23	37.54	-0.1					i	27	20.50	
	1.1s	100.00nm					BERF	7.02	20	P	23	37.86	0.1		SMF	9.95	6	Pn	24	18.20	-0.2
CMS	149.36	91	ePKP	29	04.00	4.1X	PUYF	7.22	19	P	23	40.90	0.3		PZI	10.00	85	P	24	18.90	-0.3
	1.2s	149.00nm					TREF	7.23	17	P	23	41.37	0.7		CRE	10.00	44	P	24	19.00	-0.3
RMQ	149.67	80	iPKPc	29	02.00	1.5	LMR	7.28	24	Pn	23	41.00	-0.4		MEU	10.01	84	P	24	16.70	-2.6
			i	29	06.40					Sn	24	57.20			EMON	10.03	315	eP	24	18.00	-1.6
TOO	150.66	103	iPKPc	29	08.00	6.3X	LRG	7.34	23	Pn	23	42.20	0.0		MFF	10.04	350	Pn	24	18.40	-1.2
	1.0s	388.00nm								Sn	24	59.80						Sn	26	04.00	
BWA	152.31	95	ePKP	29	12.00	7.7X	PRAF	7.35	16	P	23	42.87	0.4		PGD	10.04	42	P	24	17.00	-2.9X
CAN	152.99	97	ePKP	29	12.90	7.7X	EVAL	7.39	279	eP	23	42.00	-0.9		DIX	10.04	20	ePc	24	22.30	2.3
BRS	153.26	78	iPKPc	29	14.30	8.5X				eS	25	00.00			AVF	10.06	4	Pn	24	19.90	0.0
			i	36	02.50		TAVF	7.40	21	P	23	43.54	0.4		RFI	10.06	60	P	24	17.90	-2.1
CNB	153.28	97	ePKP	29	14.00	8.4X	VILF	7.53	18	P	23	45.67	0.8		ASS	10.07	48	P	24	19.00	-1.2
COO	153.90	85	ePKP	29	17.00	10.4X	FRF	7.53	24	Pn	23	44.60	-0.3		SDI	10.12	57	P	24	18.00	-2.8
			e	29	26.00					Sn	25	04.00			SFI	10.14	42	P	24	21.50	0.5
SNZO	172.47	129	PKP	29	24.00	0.8	CVF	7.64	38	P	23	45.22	-1.2		AQU	10.15	53	P	24	19.90	-1.3
			PP	34	40.00		PTS	7.66	87	P	23	44.30	-2.5		EZAM	10.16	305	iP	24	20.80	-0.6
			PPP	38	56.00		GANF	7.71	19	P	23	47.90	0.5		MMK	10.18	22	ePd	24	22.50	0.7
			SS	56	20.00		CALN	7.78	25	P	23	48.49	0.0		VAI	10.28	26	P	24	22.90	0.0
S.D. = 1.2 on 461 of 517 obs.							LPO	7.99	354	Pn	23	51.00	-0.3		LBF	10.30	6	Pn	24	23.00	-0.2
----------							MVIF	8.00	25	P	23	51.31	-0.2		SSF	10.34	4	Pn	24	23.40	-0.4
OCT 29, 1989 19h 21m 52.43± 0.16s							SBF	8.07	27	Pn	23	51.00	-1.4		CIO	10.43	49	eP	24	25.91	0.8
36.745 N ± 2.0km 2.443 E ± 1.5km										Sn	25	16.00			STS	10.44	309	iP	24	24.00	-1.2
DEPTH = 10.0km (geophysicist)							TOUF	8.13	25	P	23	53.41	-0.1		ATN	10.45	78	P	24	25.70	0.4
5.4mb (38 obs.) 5.6Msz (3 obs.)							CAF	8.18	358	Pn	23	54.00	0.0		ALP	10.47	51	iPc	24	25.13	-0.6
ALGERIA (396)							AUTN	8.18	26	P	23	53.36	-0.8		ARV	10.49	47	P	24	25.50	-0.4
Additionol cosuolties and domage in the Cherchell-Tifaza area.							ERC	8.18	78	P	23	48.00	-6.0X		TMA	10.52	25	ePc	24	26.20	-0.2
							SAOF	8.22	27	P	23	53.41	-1.1		DUI	10.53	59	P	24	25.00	-1.6
							IMI	8.28	28	P	23	53.84	-1.5		MDI	10.55	29	P	24	25.10	-1.5
ACU	2.87	309	iP	22	38.60	-0.5	LFF	8.29	352	Pn	23	54.90	-0.6		GRC	10.55	2	P	24	26.93	0.3
ESEL	3.04	7	eP	22	42.00	0.6	CVT	8.31	80	P	23	54.20	-1.6		LOR	10.57	5	Pn	24	26.40	-0.5
ENIJ	3.74	275	eP	22	48.00	-3.5X	STV	8.36	25	P	23	56.10	-0.5		SAL	10.74	32	P	24	32.00	2.8X
			eS	23	28.20		ENR	8.38	25	P	23	56.51	-0.3		MGR	10.83	68	P	24	26.90	-3.6X
ECHE	3.91	318	eP	22	54.00	0.1	LBL	8.50	4	P	23	58.24	-0.2		AOI	10.91	48	e(P)	24	33.93	2.3
EVIA	4.36	297	eP	22	59.60	-0.7	PZZ	8.52	23	P	23	59.58	0.7		SOI	10.91	79	P	24	31.70	0.1
EROO	4.37	339	eP	23	00.60	0.2	DOI	8.57	24	P	23	59.00	-0.4		LOMF	11.09	16	P	24	33.96	-0.1
			eS	23	48.00		RJF	8.58	356	Pn	23	59.20	-0.3		LLS	11.23	24	ePd	24	38.30	2.2
TAF	4.39	245	iP	23	00.50	-0.3	ROB	8.60	27	P	23	59.48	-0.4		TDS	11.31	71	P	24	35.10	-2.0
			i	23	10.00		FIN	8.65	29	P	23	59.07	-1.5		BBS	11.35	18	P	24	37.31	-0.3
			i	23	20.00		USI	8.73	74	P	23	57.60	-4.0X		OSS	11.47	28	ePc	24	40.30	0.9
			i	23	28.50		MOE	8.75	285	iPc	23	59.00	-2.9X		BSF	11.54	15	P	24	39.51	-0.7
			i	23	32.00					iS	25	33.00			LPF	11.57	348	Pn	24	39.20	-1.3

29d 19h

CTI	11.58	34	P	24	40.50	-0.2	BRG	16.35	27	iPd	25	44.80	1.3	NUR	27.68	24	eP	27	40.80	-1.3
ZLA	11.60	20	ePc	24	41.00	0.0		1.0s	20.00nm			4.2mb X			1.1s	50.40nm			5.2mb	
HAU	11.62	13	Pn	24	40.20	-1.0				i	25	47.40		MBH	27.91	95	iPc	27	42.00	-2.6
			Sn	26	41.20					i	25	53.50		AOBJ	28.06	95	Pc	27	46.70	0.7
MOF	11.63	16	P	24	40.65	-0.8	CLL	16.39	24	eP	25	46.00	2.0	BADA	28.51	97	eP	27	50.70	0.7
SAX	11.68	24	ePd	24	44.40	2.1		1.1s	170.00nm			5.1mb		AMAN	29.12	107	iPc	27	56.50	1.0
VITF	11.76	12	P	24	43.20	0.2				i	25	55.00		AYN	29.17	96	eP	27	57.50	1.6
FEL	11.86	19	P	24	43.57	-1.0	VLI	16.43	84	iPc	25	45.30	0.7	AGRW	29.18	108	iPc	27	57.20	1.1
SLE	11.89	20	ePc	24	43.90	-1.0	THE	16.48	70	ePd	25	45.50	0.3	SUF	29.83	22	eP	28	00.90	-0.6
GRR	11.89	349	Pn	24	43.80	-1.0	KNT	16.50	68	ePd	25	45.80	0.3		0.8s	66.70nm			5.5mb	
ECH	11.98	15	P	24	45.43	-0.7	NEO	16.57	75	eP	25	46.20	-0.2	WAJH	30.81	100	eP	28	12.30	1.8
LDF	11.99	352	Pn	24	45.00	-1.2	ECP	16.64	341	eP	25	48.10	1.0	MSL	32.52	78	ePd	28	26.00	0.5
CDF	12.19	15	P	24	48.04	-1.0		0.6s	275.00nm			5.6mb					e	29	31.00	
FLN	12.20	351	Pn	24	48.00	-1.1	KKB	16.76	66	iP	25	50.00	1.2	SOD	33.61	17	iP	28	34.40	-0.2
WLS	12.21	16	P	24	48.23	-1.0	PLG	16.82	71	eP	25	48.90	-0.6	TRO	34.15	10	eP	28	39.90	0.7
BRT	12.23	66	P	24	46.20	-3.3X	ATH	16.96	79	eP	25	52.70	1.5	BHD	34.33	83	iPd	28	40.50	-0.7
TRI	12.35	40	P	24	51.00	-0.1	VTS	17.00	64	iPc	25	52.00	0.0	TAB	34.64	74	eP	28	43.00	-1.1
RIY	12.44	43	eP	24	51.60	-0.7	SRS	17.02	69	ePc	25	52.00	0.0	KEV	35.64	14	iP	28	51.20	-0.8
FVI	12.50	35	P	24	53.70	0.7	PSZ	17.02	44	iP	25	53.70	1.7		1.0s	106.00nm			5.7mb	
HVAR	12.51	55	iP	24	52.40	-0.9	ETA	17.07	342	eP	25	53.80	1.3	KER	36.17	80	ePc	28	57.00	-0.1
VOY	12.64	39	e(P)	25	02.50	7.5X		0.5s	134.00nm			5.3mb		RYD	39.49	95	ePc	29	17.30	-7.6X
LCI	12.66	69	P	24	56.50	1.2	MMB	17.19	67	iPc	25	54.00	-0.2	KMSA	40.03	102	eP	29	31.70	2.3
GWF	12.80	16	P	24	56.27	-0.8	VAM	17.64	88	eP	26	01.00	1.2	SHI	42.11	85	iP	29	47.50	0.9
LJU	12.97	41	e(P)	25	00.00	0.6	VAL	17.65	333	iP	26	02.80	3.0X	KBS	42.47	3	eP	29	51.50	2.9X
			e	25	05.00		PGB	17.69	64	iP	25	59.00	-1.4	AAE	42.94	121	iP	29	55.50	1.9
VBY	13.02	44	iPd	25	01.40	1.4	DLE	17.69	342	eP	26	02.30	2.0	ARO	44.13	114	iP+	30	05.00	2.0
KBA	13.12	35	iPd	25	02.40	0.9		0.6s	203.00nm			5.4mb		MAIO	45.25	73	iPc	30	11.20	-0.6
			i(PP)	25	14.70		RZN	17.94	67	iPc	26	03.00	-0.6	SCH	49.41	315	eP	30	43.00	-1.1
			iS	27	39.30		SPC	17.96	41	iPc	26	06.70	2.9		1.0s	58.00nm			5.5mb	
FUR	13.13	27	iPd	25	03.90	2.4	KRA	18.34	38	ePc	26	09.60	1.3	NAI	49.48	132	iP	30	48.50	3.3X
WLF	13.19	11	iPc	25	03.60	1.4		1.8s	238.00nm			5.1mb			1.0s	80.00nm			5.7mb	
DOU	13.44	6	iP	25	06.50	1.0	Z	12s	4.50um					CBM	51.91	305	P	31	01.20	-2.0
ZAG	13.61	44	eP	25	09.00	1.1	N	12s	5.30um					QUE	53.32	77	iPd	31	13.00	-1.2
HCY	13.62	60	eP	25	08.50	0.5	DMU	18.34	342	eP	26	10.30	1.9	HBVT	56.00	303	P	31	32.40	-0.9
PTJ	13.65	44	eP	25	07.00	-1.5	KDZ	18.45	68	iPc	26	09.00	-0.8	KSH	56.41	63	P	31	36.50	0.0
BDV	13.80	61	iPd	25	11.40	1.0	APE	18.46	82	eP	26	09.50	-0.5	RSNY	56.91	304	P	31	50.00	10.1X
BRY	13.81	59	eP	25	11.20	0.6	RDO	18.48	69	iPc	26	10.70	0.6	TBR	57.97	300	P	31	46.90	-0.4
SNF	13.83	5	P	25	12.00	1.4	PVL	18.67	63	iPc	26	11.00	-1.4	PNJ	58.02	300	iP	31	47.50	-0.1
KEK	13.96	72	eP	25	12.40	-0.1	NPS	18.80	88	eP	26	14.20	0.1	GMTN	58.05	300	iP	31	48.20	0.4
ULC	14.00	63	eP	25	13.60	0.5	PRK	18.94	75	eP	26	16.10	0.4	MBC	61.51	347	eP	32	11.50	0.3
NKY	14.09	59	eP	25	14.50	0.2	EKA	18.98	350	P	26	17.00	0.8		1.4s	26.00nm			5.2mb	
MEM	14.09	9	P	25	15.50	1.4		0.8s	50.50nm			4.8mb		BUL	61.74	152	iPd	32	14.00	0.4
UCC	14.12	5	P	25	17.40	3.0X	EZN	18.99	73	iP	26	15.60	-0.7		0.9s	67.23nm			5.8mb	
TTG	14.15	61	eP	25	15.30	0.4	JMB	19.43	65	iPc	26	11.00	-10.7X	NDI	61.98	74	iPc	32	13.00	-2.1
KMR	14.20	34	eP	25	16.50	0.9	SMG	19.44	80	eP	26	21.10	-0.8	NPA	62.15	139	iPc	32	18.20	2.0
			iPP	25	27.50		MLR	19.69	56	iPd	26	22.50	-2.3		1.0s	280.00nm			6.4mb X	
GRF	14.42	23	iPc	25	19.90	1.4	IZM	19.73	78	iP	26	24.60	-0.6				e	42	40.00	
			e	25	22.90		CVO	19.95	56	iPd	26	26.00	-1.4	CVL	62.27	298	P	32	16.40	-0.4
			e	25	27.50		ISR	19.99	58	iPd	26	26.00	-1.8	WMQ	62.67	54	P	32	19.50	0.0
VLS	14.49	79	eP	25	19.20	-0.2	KAP	20.00	86	eP	26	26.50	-1.4	TRN	62.78	263	eP	32	21.00	0.5
WET	14.54	28	eP	25	20.00	-0.1	COP	20.13	17	iPc	26	32.30	3.2X	CLE	62.84	303	iP	32	21.50	0.9
			i	25	22.00			1.0s	228.00nm			5.5mb		BLA	64.00	298	P	32	29.00	0.6
PLE	14.54	58	eP	25	21.50	1.3	EDC	20.18	72	iP	26	28.90	-0.9	POO	64.46	85	iPd	32	31.40	-0.2
KHC	14.80	30	iP	25	24.00	0.5	DMK	20.21	68	iP	26	29.30	-0.8	RSON	66.03	316	P	32	43.60	2.4X
	1.0s	82.00nm				5.2mb	BNT	20.23	72	iP	26	29.10	-1.2	KSR	66.40	156	iPc	32	43.20	-0.8
			e	25	29.00		VRI	20.33	56	iPd	26	29.00	-2.3		1.1s	54.05nm			5.7mb	
OHR	14.93	67	iP	25	25.60	0.3	BRD	20.44	57	ePd	26	31.00	-1.5	SLR	66.75	155	iPc	32	46.00	-0.1
	1.6s	0.57nm				2.8mb X	YER	20.64	81	iP	26	34.30	-0.4		1.3s	134.62nm			6.0mb	
VKA	15.37	37	ePc	25	32.00	1.1	CTT	20.65	70	iP	26	33.60	-1.1	TKL	67.12	298	P	32	49.00	0.6
			LR	36	43.00		DST	20.76	74	iP	26	35.90	0.0	BFS	67.32	156	iPc	32	46.50	-3.3X
MOX	15.38	22	eP	25	33.00	2.0	TLB	20.87	60	iPd	26	35.00	-1.9		1.0s	150.00nm			6.1mb	
	2.0s	162.00nm				5.0mb	CLI	20.91	54	iPd	26	36.00	-1.4	GBTN	67.42	298	P	32	50.70	0.4
			i	25	37.00		ITU	21.09	70	iP	26	39.00	-0.2	PRY	67.58	156	iPc	32	51.40	0.0
KZN	15.54	71	eP	25	34.00	0.8	CFR	21.10	58	iPd	26	35.70	-3.5X		1.0s	35.00nm			5.5mb	
WTS	15.56	10	iP	25	36.00	2.8X	ISK	21.12	70	eP	26	37.00	-2.5	FFC	68.34	323	eP	32	55.00	-0.7
	1.0s	163.00nm				5.3mb	YLV	21.34	71	iP	26	40.10	-1.8		1.3s	44.00nm			5.5mb	
			e	25	53.50		GPA	22.05	72	eP	26	48.00	-0.9	RSCP	68.43	299	P	33	10.00	13.4X
ITM	15.58	83	eP	25	34.00	0.3	BCK	22.43	80	iP	26	53.40	0.6	FRS	69.54	159	iPc	33	04.00	0.7
SKO	15.59	65	eP	25	33.70	0.0	BER	23.73	4	eP	27	08.00	2.9X		0.9s	176.47nm			6.2mb	
	1.5s	202.00nm				5.2mb	BBTK	23.94	73	iPc	27	08.00	0.5	GBA	70.03	88	P	33	06.00	-0.7
ZST	15.71	39	iP	25	36.50	1.2	PPCY	24.28	85	eP	27	11.50	0.8	ELC	70.09	302	P	33	04.60	-2.1
			i	25	42.50		HFS	24.50	14	eP	27	12.90	0.3	INK	70.23	344	eP	33	06.00	-1.0
			i	25	55.00			0.7s	67.90nm			5.4mb		BAO	70.52	232	eP	33	10.90	1.2
BEO	15.83	54	iP	25	37.90	1.1	KAS	24.68	70	iPc	27	14.40	-0.3	FVM	70.53	303	P	33	08.20	-1.3
PRU	15.86	30	P	25	38.00	0.8	NB2	24.94	10	P	27	17.60	0.6	LSA	71.98	66	P	33	19.50	0.6
	1.5s	44.60nm				4.4mb		0.9s	74.50nm			5.4mb		OLY	72.56	301	P	33	20.00	-1.7
Z	10s	6.00um				6.5MszX	CSS	25.05	85	eP	27	18.50	0.3	GTA	72.73	54	iPc	33	22.80	0.0
N	11s	7.50um					HLW	25.05	97	eP	27	18.50	0.3		0.8s	0.10nm			3.0mb X	
E	12s	7.50um					UPP	25.11	18	iP	27	18.30	-0.2	Z	18s	2.30um			5.5Msz	
			e	25	42.20			1.0s	200.00nm			5.8mb		N	14s	1.60um				
AGG	15.87	76	ePc	25	38.40	1.0	KOT	25.41	97	eP	27	22.50	0.9	BMA	73.67	224	eP	33	28.60	0.4
LIT	16.06	72	ePc	25	39.70	-0.2	FAM	25.58	84	eP	27	24.80	1.7	EDM	74.59	326	eP	33	32.50	-0.7
SRO	16.10	42	eP	25	41.50	1.3	KVT	26.40	70	iP	27	29.80	-1.0		1.2s	117.00nm			5.8mb	
VAY	16.29	68	iPd	25	43.00	0.3	BHL	27.17	86	P	27	39.00	1.0	SHL	74.77	69	iP	33	33.00	-1.8
	1.3s	0.41nm				2.4mb X				S	32	00.00					iS	43	07.30	
BUD	16.29	44	e(P)	25	44.00	1.3	SHMJ	27.59	88	Pd	27	43.60	1.9	SES	75.36	323	ePc	33	37.20	-0.5
WIT	16.34	9	eP	25	49.50	6.2X	DSI	27.66	91	ePc	27	39.00	-3.3X	IMA	75.86	350	ePc	33	41.80	1.4

	0.8s	22.30nm			5.3mb	
FBA	76.04	347	eP	33	42.00	0.8
LZH	77.25	54	Pc	33	49.00	0.3
	1.0s	0.12nm			2.9mb	X
			pP	33	50.50	5kmX
BTO	78.38	48	eP	33	56.00	1.2
GLD	78.96	312	P	33	58.80	0.7
	1.7s	97.83nm			5.6mb	
GOL	79.08	312	P	33	58.60	-0.2
	1.4s	58.75nm			5.4mb	
HHC	79.13	47	Pd	34	00.20	1.3
N	14s	2.45um				
E	13s	2.46um				
TTA	79.17	350	eP	34	00.00	1.4
PMR	79.32	347	eP	34	00.30	1.0
	1.0s	15.00nm			5.0mb	
PNT	80.13	326	ePc	34	04.00	0.0
	0.9s	37.00nm			5.4mb	
CD2	80.27	59	P	34	06.00	0.9
DPW	80.52	324	P	34	06.60	0.5
SVW	80.86	349	eP	34	08.90	1.2
TIY	81.66	49	Pc	34	12.60	0.3
Z	24s	1.10um			5.1Mszx	
XAN	81.80	54	P	34	13.30	0.3
DAU	82.06	315	P	34	20.00	5.3X
PGC	82.33	327	eP	34	16.00	0.6
BJI	82.33	45	eP	34	16.50	0.9
	1.0s	0.08nm			2.8mb	X
RMW	82.49	326	P	34	16.40	0.0
ALQ	82.77	308	P	34	19.40	1.1
	1.4s	31.25nm			5.3mb	
GMW	82.86	326	P	34	19.40	1.1
LON	83.02	325	P	34	20.00	0.8
KMI	83.03	64	Pc	34	20.00	0.2
VGB	83.45	324	P	34	22.60	1.2
KDC	83.53	347	eP	34	23.70	2.2
SHW	83.63	325	P	34	23.40	1.0
MSU	83.86	314	P	34	24.60	0.7
BMW	83.87	326	P	34	25.20	1.7
CHG	83.98	71	iPc	34	24.50	0.0
	1.1s	53.16nm			5.7mb	
CCH	84.08	243	P	34	27.50	2.3X
CN2	84.60	38	Pc	34	27.00	-0.2
ZOBO	84.79	245	P	34	28.00	-1.1
LPB	84.94	245	P	34	30.00	0.3
GYA	85.00	61	iPc	34	30.40	0.7
N	20s	1.80um				
E	20s	1.30um				
			S	44	59.00	
CNCB	85.03	245	P	34	30.00	-0.3
SNY	85.10	40	Pc	34	29.70	0.0
	1.0s	0.10nm			3.0mb	X
Z	22s	3.70um			5.7Msz	
N	16s	4.20um				
E	16s	3.90um				
TIA	85.46	47	Pc	34	32.30	0.7
Z	18s	2.60um			5.7Msz	
N	13s	1.60um				
E	13s	1.10um				
MDJ	85.96	35	eP	34	33.00	-0.9
WHN	87.56	53	eP	34	42.00	0.1
WDC	87.98	321	eP	34	43.60	-0.3
ORV	88.22	320	eP	34	45.50	0.5
CWC	88.67	316	eP	34	49.00	1.5
CMB	88.76	318	eP	34	48.10	0.4
FRI	89.16	317	eP	34	50.70	1.1
TPC	89.17	313	eP	34	51.00	1.3
NJ2	89.36	50	Pd	34	51.00	0.4
ISA	89.45	316	eP	34	57.00	6.0X
SBB	89.78	315	eP	34	54.00	1.4
RVR	90.02	314	eP	34	53.00	-0.7
LLA	90.11	318	eP	34	55.70	1.6
MWC	90.25	314	eP	34	55.00	0.0
PRI	90.31	317	eP	34	57.10	2.0
SNG	92.26	79	eP	35	04.60	0.4
	1.2s	162.50nm			6.3mb	
PSI	93.60	84	ePd	35	12.00	1.7
	0.6s	18.00nm			5.6mb	
			e	36	30.00	
WRA	134.96	82	PKP	41	15.00	1.2
	0.5s	10.40nm				
CTA	144.36	72	iPKPc	41	29.10	-1.7
	1.2s	246.88nm				
ADE	144.73	100	iPKPc	41	30.50	-0.6
	0.5s	169.01nm				
RUV	145.64	301	iPKP	41	35.60	2.6X
	1.2s	55.00nm				
TPT	145.66	301	iPKP	41	35.80	2.7X
	1.2s	95.00nm				
VAH	145.85	301	iPKP	41	36.20	2.8X
	1.2s	55.00nm				
PMO	145.87	302	iPKP	41	36.50	3.1X
	1.2s	75.00nm				
STK	146.09	94	ePKP	41	33.70	0.3
			e	41	35.00	
OLP	146.13	84	ePKP	41	35.00	1.4
BFD	148.28	103	iPKPd	41	40.80	4.1X
CMS	149.36	91	iPKPd	41	43.70	5.1X
	1.0s	68.00nm				
RMQ	149.68	80	ePKP	41	40.00	0.7
			i	41	45.60	
TOO	150.66	103	iPKPd	41	47.80	7.4X
	0.5s	88.00nm				
BWA	152.31	95	iPKPd	41	50.70	7.7X
			i	42	00.80	
CAN	152.99	97	iPKPd	41	52.50	8.6X
			i	42	04.00	
CNB	153.28	97	iPKPc	41	53.00	8.6X
COO	153.91	85	ePKPd	41	55.90	10.6X
			e	42	08.00	

S.D. = 1.1 on 367 of 415 obs.

OCT 29, 1989 19h 23m 43.20± 0.71s
39.081 N ± 5.6km 21.253 E ± 6.6km
DEPTH = 10.0km (geophysicist)
GREECE (364)

AGG	0.84	94	ePg	23	58.00	-1.5
			eSg	24	12.60	
VLS	1.04	210	ePg	23	56.70	-6.2X
KZN	1.29	18	ePb	24	07.00	-0.1
KEK	1.29	300	ePg	24	05.80	-1.3
LIT	1.40	43	ePbc	24	09.20	0.5
			eSb	24	29.90	
NEO	1.55	81	ePb	24	11.10	0.2
ITM	1.97	164	ePg	24	18.90	1.9
OHR	2.06	350	ePn	24	19.50	1.2
PAIG	2.06	65	ePn	24	18.40	0.2
			eSn	24	44.50	
GRG	2.07	25	ePn	24	18.40	0.0
PLG	2.13	52	ePn	24	19.40	0.1
KNT	2.43	31	ePn	24	23.40	-0.2
			eSn	24	55.10	
OUR	2.45	58	ePn	24	23.70	-0.1
			eSn	24	55.40	
VAY	2.45	24	ePn	24	24.40	0.5
VLI	2.71	150	ePn	24	26.50	-1.1
SRS	2.71	41	ePn	24	27.40	-0.2
			eSn	25	02.40	

S.D. = 1.0 on 15 of 16 obs.

• OCT 29, 1989 19h 29m 37.02± 1.00s
38.982 N ± 8.6km 20.959 E ±10.9km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 2.9 (ATH).

VLS	0.85	200	ePg	29	53.70	0.2
AGG	1.07	87	eP	29	55.70	-1.5
KEK	1.16	309	ePn	30	03.50	4.8X
KZN	1.46	25	ePb	30	04.10	0.6
LIT	1.63	46	eP	30	06.30	0.5
NEO	1.79	79	ePb	30	08.70	0.5
ITM	1.95	157	ePg	30	16.70	6.1X
OHR	2.13	357	ePn	30	12.00	-1.2
PLG	2.37	53	ePn	30	17.50	0.9
KNT	2.64	34	eP	30	49.50	29.2X

S.D. = 1.1 on 7 of 10 obs.

OCT 29, 1989 19h 32m 46.03± 0.78s
38.880 N ± 7.8km 21.166 E ± 6.9km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.2 (ATH).

VLS	0.83	213	ePg	33	01.90	-0.3
AGG	0.92	81	eP	33	03.10	-0.5
			eS	33	17.30	
KEK	1.35	309	ePg	33	10.90	0.1
KZN	1.50	18	ePb	33	12.00	-1.0
LIT	1.59	40	ePd	33	14.50	0.2
			eS	33	37.20	
NEO	1.66	74	ePn	33	17.10	1.8
ITM	1.80	160	ePg	33	24.50	7.1X
OHR	2.25	353	ePn	33	25.00	1.2
PLG	2.31	49	ePn	33	23.90	-0.8
KNT	2.64	30	eP	33	28.60	-0.8
VAY	2.67	23	ePn	33	30.00	0.3
SKO	3.10	4	ePn	33	43.00	7.2X
			e	34	14.50	
			i	34	17.80	

S.D. = 1.0 on 10 of 12 obs.

• OCT 29, 1989 19h 33m 41.27± 1.49s
9.745 S ± 9.9km 118.288 E ±12.7km
DEPTH = 83.5 ± 25.8 km
4.6mb (5 obs.)
SUMBAWA ISLAND REGION (285)

MKS	4.65	15	iPc	34	48.50	-2.0
			eS	35	36.50	
			e	37	46.50	
KUG	5.24	95	eP	35	03.50	4.8X
			eS	36	03.50	
TRT	5.94	290	ePc	35	09.50	1.0
			iS	36	13.60	
PCI	8.92	10	ePd	35	51.00	1.6
MBL	11.45	173	iPd	36	23.10	-0.5
			iS	38	20.00	
MTN	12.97	105	eP	36	39.00	-4.6X
			e	38	54.00	
NANU	13.02	191	eP	36	45.00	0.7
	0.3s	8.00nm			4.9mb	
			eS	38	51.00	
WARB	18.17	155	eP	37	51.50	1.9X
			eS	41	03.00	
WB5	18.51	125	eP	37	53.00	-0.7
			eS	41	11.00	
MRWA	19.49	186	eP	38	14.00	9.6X
	0.3s	15.00nm			4.8mb	
			eS	41	28.00	
ASPA	20.35	135	iPd	38	14.60	1.2
	0.8s	25.00nm			4.6mb	
Z	23s	0.18um			3.4MszX	
			e	41	16.50	
			eS	41	58.30	
			e	44	47.80	
			LR	58	14.60	
COOL	21.20	173	eP	38	20.00	-1.9
	0.3s	1.00nm			3.6mb	
			eS	42	03.00	
KLB	21.75	181	eP	38	44.00	16.7X
	0.3s	3.00nm				
			eS	42	18.00	
MUN	22.21	185	eP	38	43.00	11.1X
			eS	42	29.00	
PSI	22.91	302	ePd	38	38.00	-0.8
	0.7s	13.00nm			4.4mb	
			e	40	30.00	
NWAO	23.09	182	eP	38	59.00	18.5X
	0.4s	3.00nm				
			eS	42	51.00	
QIS	23.18	120	eP	38	43.00	1.5
			e	41	14.00	

S.D. = 1.7 on 10 of 17 obs.

OCT 29, 1989 19h 34m 29.63± 0.51s
39.033 N ± 6.3km 21.147 E ± 3.9km
DEPTH = 13.1 ± 3.9 km
3.5mb (1 obs.)
GREECE (364)
ML 3.7 (ATH).

AGG	0.92	90	ePg	34	45.40	-1.6
			eSg	34	58.80	
VLS	0.96	207	eP	34	58.20	10.6X
SRN	1.23	314	ePn	34	52.80	0.7
KEK	1.25	303	eP	34	53.40	0.9
KZN	1.36	21	eP	34	54.20	-0.1
LIT	1.49	44	ePb	34	56.90	0.8
			eSb	35	17.70	
NEO	1.64	80	eP	34	57.50	-0.7
VLO	1.92	319	iPn	35	06.50	4.3X
ITM	1.95	161	eP	35	05.00	2.3
OHR	2.09	353	iPn	35	07.00	2.2
THE	2.12	41	ePn	35	06.70	1.5
			eSn	35	34.00	
GRG	2.15	26	ePn	35	05.70	0.1
			eSn	35	31.70	
PAIG	2.15	65	ePn	35	04.90	-0.8
			eSn	35	30.50	

29d 19h

PLG	2.22	52	eP	35 05.60	-1.1
ATH	2.28	117	eP	35 08.20	0.7
TIR	2.51	337	ePn	35 40.20	29.5X
KNT	2.52	32	ePn	35 10.90	0.1
			eSn	35 41.20	
VAY	2.53	25	iPn	35 12.40	1.4
OUR	2.54	58	ePn	35 11.10	-0.1
			eSn	35 40.90	
VLI	2.71	148	eP	35 13.80	0.2
LCI	2.79	299	P	35 18.00	3.3X
SRS	2.80	41	ePn	35 14.50	-0.4
			eSn	35 46.40	
SKO	2.94	4	iPn	35 17.70	0 8
			iPg	35 24.80	
			iSn	35 52.00	
			iSg	36 00.00	
			LQ	36 18.00	
KKB	3.19	27	iP	35 20.00	-0.5
ULC	3.27	334	ePn	35 21.50	0.0
			e(Sn)	37 17.00	
BRT	3.55	303	P	35 26.00	0.5
TTG	3.68	338	ePn	35 28.00	0.6
			e(Sn)	37 28.00	
BDV	3.70	332	ePn	35 26.60	-1.0
TDS	3.78	281	P	35 31.60	2.8X
VTS	3.88	23	iP	35 30.00	-0.4
			i	36 50.00	
RDO	3.97	57	eP	35 31.40	-0.1
SOI	4.11	258	P	35 31.50	-1.8
KDZ	4.18	50	iP	35 35.00	0.5
			iS	36 56.00	
MGR	4.46	286	P	35 40.50	2.1
SGO	4.75	291	P	35 42.00	-0.5
MEU	5.27	250	P	36 43.60	53.6X
SDI	6.20	298	P	36 01.90	-1.2
ALP	6.85	306	iP	36 10.30	-2.0
NB2	22.88	348	P	39 31.60	-2.1
	0.7s		1.20nm		3.5mb
	S.D. = 1.2		on 33 of 39 obs.		

OCT 29, 1989 19h 35m 52.52± 0.84s
39.126 N ± 7.5km 21.267 E ± 9.4km
DEPTH = 33.0km (normal)
3.6mb (1 obs.)
GREECE (364)
ML 4.0 (ATH).

VLS	1.09	209	eP	36 18.50	7.0X
KZN	1.24	18	eP	36 15.50	1.8
KEK	1.28	298	eP	36 14.00	-0.2
NEO	1.53	83	eP	36 18.70	0.8
ITM	2.01	165	eP	36 27.10	2.3
OHR	2.02	350	iPn	36 29.30	4.4X
PLG	2.09	53	eP	36 25.50	-0.5
ATH	2.24	120	eP	36 27.60	-0.4
VLI	2.74	151	eP	36 33.50	-1.6
SKO	2.85	3	ePn	36 38.00	1.4
			iPg	36 44.70	
			iSn	37 11.00	
			iSg	37 20.00	
			LQ	37 38.00	
RDO	3.85	57	eP	36 49.00	-1.8
MLR	7.24	27	ePc	37 40.00	1.2
PTJ	7.82	332	eP	37 45.80	-1.1
VRI	7.85	29	iPc	37 46.50	-0.7
NB2	22.81	347	P	40 52.30	-1.1
	0.5s		1.10nm		3.6mb
	S.D. = 1.5		on 13 of 15 obs		

OCT 29, 1989 19h 38m 50.69± 0.84s
39.062 N ± 7.5km 21.249 E ± 7.7km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

KEK	1.30	300	ePb	39 14.50	-0.2
KZN	1.31	18	ePb	39 14.50	-0.4
LIT	1.41	42	eP	39 17.50	1.1
			eS	39 36.50	
NEO	1.55	80	ePb	39 17.50	-0.9
ITM	1.95	164	ePb	39 24.50	0.3
OHR	2.08	351	ePn	39 26.20	0.2
PLG	2.14	52	ePn	39 27.10	0.1
KNT	2.45	31	eP	39 21.60	-9.7X
	S.D. = 0.8		on 7 of 8 obs.		

OCT 29, 1989 19h 41m 37.46± 0.94s
39.066 N ± 7.7km 21.357 E ± 8.2km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

AGG	0.76	93	ePg	41 52.00	-0.3
			eSg	42 06.10	
VLS	1.07	214	ePg	41 51.00	-6.6X
			eSg	42 05.50	
KZN	1.28	14	ePb	42 01.00	-0.2
LIT	1.35	40	ePb	42 03.70	1.3
			eSb	42 23.50	
KEK	1.37	299	ePn	42 01.20	-1.4
NEO	1.47	80	ePb	42 04.00	0.0
ITM	1.94	166	ePg	42 11.70	0.9
PAIG	1.99	64	ePn	42 16.20	4.7X
GRG	2.05	23	ePn	42 13.40	1.0
PLG	2.07	50	ePn	42 10.20	-2.6
OHR	2.09	348	ePn	42 13.70	0.7
OUR	2.39	57	ePn	42 15.90	-1.3
KNT	2.40	29	ePn	42 18.30	0.8
			eSn	42 43.00	
VAY	2.44	22	ePn	42 18.60	0.7
SRS	2.67	39	ePn	42 21.90	0.6
			eSn	42 56.00	
SKO	2.90	1	ePn	42 24.20	-0.3
	S.D. = 1.2		on 14 of 16 obs.		

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* OCT 29, 1989 19h 43m 58.37± 2.01s
36.531 N ±18.3km 2.492 E ± 6.2km
DEPTH = 10.0km (geophysicist)
4.1mb (2 obs.)
ALGERIA (396)

ACU	3.04	311	eP	44 48.30	0.9
			eS	45 19.00	
ESEL	3.25	5	iPn	44 50.60	0.3
			eSn	45 24.80	
ECHE	4.10	319	ePn	45 03.50	1.1
			eSn	45 46.00	
TAF	4.35	248	eP	45 30.00	24.0X
			i	46 34.00	
EBR	4.56	341	iP	45 08.00	-0.9
			e	46 12.00	
EROQ	4.58	340	ePn	45 08.80	-0.5
			eSn	45 56.50	
EBAN	5.26	290	eP	45 17.90	-1.1
			eS	46 15.80	
ETOR	5.57	322	eP	45 27.00	3.7X
			eS	46 24.50	
ETER	5.77	3	eP	45 25.90	-0.1
			eS	46 27.00	
GUD	6.63	310	ePn	45 37.80	-0.6
			eSn	46 46.50	
EPF	6.70	346	Pn	45 40.00	0.8
			Sn	46 48.00	
LMR	7.46	23	Pn	45 49.00	-0.8
LRG	7.52	22	Pn	45 50.40	-0.3
FRF	7 71	23	Pn	45 52.60	-0.7
			Sn	47 14.00	
CVF	7.78	37	Pn	45 54.00	-0.4
LPO	8.20	353	Pn	46 00.00	-0.2
SBF	8.24	26	Pn	46 00.20	-0.6
CAF	8.39	358	Pn	46 02.80	-0.1
LFF	8.50	352	Pn	46 04.10	-0.3
STV	8.54	24	P	46 04.75	-0.2
ENR	8.56	25	P	46 04.65	-0.6
PZZ	8.70	22	P	46 07 81	0.5
ROB	8.77	26	P	46 08.34	0.2
FIN	8.82	28	P	46 07.62	-1.2
RRL	8.99	20	P	46 12.23	0.9
PCP	9.23	28	P	46 13.36	-1.1
RSP	9.34	21	P	46 17.26	1.3
LPG	9.52	18	Pn	46 20.20	1.5
LPL	9.53	18	Pn	46 20.40	1.6
LSD	9.59	20	P	46 21.26	1.7
MAF	9 68	0	Pn	46 20.40	-0.3
ORX	9.99	23	P	46 24.75	-0.3
BSF	11.73	14	Pn	46 47.60	-1.2
HAU	11 81	13	Pn	46 49.00	-0.8
DOU	13.64	6	P	47 13.80	-0.4
HFS	24.70	13	eP	49 20.50	0.0
	0.6s		3.00nm		4.1mb
NB2	25.15	10	P	49 26.90	2.0
	0.8s		3.20nm		4.1mb
	S.D. = 0.9		on 35 of 37 obs.		

OCT 29, 1989 20h 05m 09.55± 0.71s
39.080 N ± 6.6km 21.250 E ± 5.0km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.5 (ATH).

AGG	0.84	94	ePnd	05 24.30	-1.5
			eSn	05 38.40	
VLS	1.04	210	ePg	05 23.00	-6.2X
SRN	1.25	310	ePn	05 32.80	0.0
KZN	1.29	18	ePb	05 32.70	-0.8
KEK	1.29	300	ePg	05 31.80	-1.7
LIT	1.40	43	ePb	05 35.60	0.5
			eSb	05 56.80	
NEO	1.55	81	ePn	05 38.00	0.7
VLO	1.94	316	ePn	05 42.90	0.1
ITM	1.97	164	ePg	05 44.20	0.9
OHR	2.06	350	ePn	05 45.80	1.2
PAIG	2.06	65	ePn	05 45.00	0.4
GRG	2.07	25	ePnd	05 44.20	-0.6
PLG	2.13	52	ePn	05 45.00	-0.7
KNT	2.43	31	ePn	05 49.70	-0.3
			eSn	06 22.00	
OUR	2.45	58	ePn	05 50.00	-0.2
VAY	2.46	24	ePn	05 51.00	0.7
TIR	2.50	335	ePn	05 57.20	6.3X
SRS	2.71	41	ePn	05 53.70	-0.3
SKO	2.89	3	ePn	05 58.00	1.5
SDA	3.22	336	ePn	06 06.60	5.5X
BOB	10.47	307	Pd	07 48.00	5.3X
			iSg	07 50.50	
	S.D. = 1.0		on 17 of 21 obs.		

OCT 29, 1989 20h 14m 47.07± 0.82s
39.047 N ± 6.7km 21.257 E ± 6.5km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

AGG	0.84	91	ePgc	15 02.10	-1.2
			eSg	15 16.30	
VLS	1.01	211	ePg	15 02.00	-4.3X
KEK	1.31	301	ePg	15 10.20	-1.1
KZN	1.32	17	ePb	15 12.50	1.0
LIT	1.42	42	ePb	15 13.50	0.6
			eSb	15 35.10	
NEO	1.55	80	ePb	15 14.40	-0.4
ITM	1.94	164	ePg	15 21.50	1.1
PAIG	2.07	64	ePn	15 21.50	-0.8
OHR	2.09	350	ePn	15 23.70	1.1
GRG	2.10	24	ePn	15 23.10	0.4
PLG	2.15	51	ePn	15 23.00	-0.4
KNT	2.46	30	ePn	15 27.80	0.0
OUR	2.46	58	ePn	15 28.50	0.6
			eSn	15 59.30	
VAY	2.48	23	ePn	15 29.00	0.8
SRS	2.74	40	ePn	15 31.60	-0.2
SKO	2.93	3	ePn	15 33.00	-1.5
	S.D. = 0.9		on 15 of 16 obs.		

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* OCT 29, 1989 20h 20m 12.85± 1.37s
36.828 N ±12.7km 2.430 E ± 6.4km
DEPTH = 10.0km (geophysicist)
3.8mb (2 obs.)
ALGERIA (396)

ACU	2.81	308	iP	20 58.80	0.1
			eS	21 30.20	
ESEL	2.96	7	iPn	21 01.20	0.5
			eSn	21 34.50	
ENIJ	3.73	274	eP	21 10.00	-1.7
			eS	21 53.50	
ECHE	3.84	317	ePn	21 15.20	1.9
			eSn	21 59.80	
EBR	4.26	340	eP	21 19.00	-0.2
EROQ	4.29	339	ePn	21 20.00	0.4
			eSn	22 06.80	
EVIA	4.31	296	eP	21 19.80	-0.2
			eS	22 07.50	
EBAN	5.12	287	eP	21 31.30	-0.1
			eS	22 29.00	
EPF	6.40	346	Pn	21 50.50	1.0
			Sn	23 00.00	
GUD	6.40	309	ePn	21 50.00	0.3
			eSn	23 00.00	
IFR	7.01	244	eP	22 19.00	20.7X
			i	24 07.00	

LMR	7.21	24	Pn	21 59.60	-1.2
LRG	7.27	23	Pn	22 01.20	-0.4
FRF	7.46	24	Pn	22 03.00	-1.3
			Sn	23 24.00	
CVF	7.58	39	Pn	22 04.00	-2.0
LPO	7.90	354	Pn	22 10.80	0.3
SBF	8.00	27	Pn	22 10.40	-1.5
CAF	8.09	358	Pn	22 13.60	0.4
LFF	8.20	352	Pn	22 14.00	-0.7
RJF	8.50	356	Pn	22 18.40	-0.4
LPG	9.25	19	Pn	22 31.20	1.7
LPL	9.26	19	Pn	22 31.20	1.6
MAF	9.39	1	Pn	22 31.20	0.1
BGF	9.73	2	Pn	22 35.80	0.0
BSF	11.46	15	Pn	22 58.40	-1.2
HAU	11.54	13	Pn	22 59.60	-0.9
DOU	13.35	6	P	23 26.10	1.3
AGG	15.86	76	eP	24 00.10	2.4
HFS	24.42	14	eP	25 36.00	3.7X
	0.6s		1.10nm	3.7mb	
NB2	24.86	10	P	25 40.60	4.0X
	0.7s		2.30nm	4.0mb	

S.D. = 1.2 on 27 of 30 obs.

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* OCT 29, 1989 20h 24m 41.01± 1.22s
36.185 N ±12.7km 27.126 E ±10.1km
DEPTH = 10.0km (geophysicist)
DODECANESE ISLANDS (369)
MD 3.9 (ATH).

YER	1.33	44	iPn	25 06.20	0.6
NPS	1.54	234	ePb	25 08.20	-0.3
			eSb	25 29.00	
SMG	1.54	351	ePb	25 08.00	-0.5
APE	1.56	305	ePb	25 09.00	0.2
CIN	1.61	28	ePn	25 09.00	-0.5
			iSg	25 30.00	
IZM	2.21	3	iPn	25 24.60	6.3X
VAM	2.50	253	ePg	25 28.70	6.3X
BCK	3.06	64	ePn	25 35.90	5.6X
PRK	3.13	348	ePg	25 41.70	10.4X
VLI	3.42	280	ePn	25 35.90	0.5

S.D. = 0.6 on 6 of 10 obs.

& OCT 29, 1989 20h 59m 49.90s
40.477 N 124.880 W
DEPTH = 3.0km
NEAR COAST OF NORTHERN CALIF. (35)
<BRK>. ML 3.3 (BRK).

FHC	0.75	64	iPc	00 04.90	-0.1
			e	00 12.60	
			eS	00 15.30	
WDC	1.79	86	eP	00 19.70	-2.2
			eS	00 43.70	
LTCM	2.12	96	eP	00 24.00	-2.7
LBFM	2.43	68	eP	00 29.50	-1.8
MIN	2.50	92	eP	00 29.50	-2.9
			eS	01 00.60	
ORV	2.75	108	eP	00 32.50	-3.3
			eS	01 06.20	
BRK	3.30	141	e(P)	00 38.40	-5.1
PCC	3.55	146	e(P)	00 41.60	-5.5
ARN	4.07	139	eP	00 49.20	-5.3
KVN	5.42	103	eP	01 07.00	-6.7

10 obs. associated

? OCT 29, 1989 21h 02m 40.80±10.21s
38.655 N ±75.1km 21.006 E ±40.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)

AGG	1.10	70	ePg	03 01.20	-0.2
			eSg	03 14.80	
LIT	1.85	38	ePb	03 12.40	-0.4
			eSb	03 32.60	
OHR	2.46	356	ePn	03 20.80	-0.8
OUR	2.85	53	ePn	03 27.90	0.8
KNT	2.90	30	ePn	03 27.50	-0.3
VAY	2.92	24	ePn	03 28.40	0.3
SRS	3.16	38	ePn	03 31.10	-0.5
SKO	3.33	6	ePn	03 35.00	1.0

S.D. = 0.8 on 8 of 8 obs.

OCT 29, 1989 21h 03m 03.87± 0.82s
38.938 N ± 8.1km 21.174 E ± 6.9km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.2 (ATH).

VLS	0.89	211	ePg	03 20.60	-0.3
SRN	1.31	316	ePn	03 27.10	-0.9
KEK	1.32	306	ePn	03 29.60	1.4
KZN	1.44	18	ePb	03 29.40	-0.7
NEO	1.64	76	ePb	03 33.20	0.4
ITM	1.85	161	ePg	03 40.40	4.4X
VLO	2.00	320	ePn	03 38.00	-0.1
PLG	2.27	50	ePn	03 42.20	0.2
TIR	2.61	338	ePn	03 53.00	6.3X

S.D. = 0.9 on 7 of 9 obs.

OCT 29, 1989 21h 20m 02.86± 0.85s
39.114 N ± 7.0km 21.298 E ± 6.8km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.1 (ATH).

AGG	0.81	96	ePgc	20 16.00	-2.6
			eSg	20 30.50	
VLS	1.09	211	ePg	20 15.60	-7.7X
KZN	1.25	17	ePb	20 25.70	-0.3
KEK	1.31	298	ePg	20 25.50	-1.5
LIT	1.35	43	ePbc	20 28.00	0.3
			eSb	20 48.00	
NEO	1.51	82	ePb	20 30.10	0.1
ITM	1.99	165	ePg	20 38.50	1.5
PAIG	2.01	65	ePn	20 36.70	-0.5
GRG	2.03	24	ePn	20 37.30	-0.2
OHR	2.03	349	ePn	20 38.20	0.6
PLG	2.08	52	ePn	20 38.60	0.4
KNT	2.39	30	ePn	20 42.70	0.1
			eSn	21 14.70	
OUR	2.40	59	ePn	20 43.50	0.7
			eSn	21 16.10	
VAY	2.41	23	ePn	20 43.70	0.8
SRS	2.66	41	ePn	20 47.00	0.4
SKO	2.86	2	ePn	20 49.50	0.2

S.D. = 1.1 on 15 of 16 obs.

& OCT 29, 1989 21h 55m 45.10s
37.088 N 121.902 W
DEPTH = 11.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 3.0 (BRK).

GCC	0.10	233	iPd	55 47.40	-0.5
MHC	0.33	39	iPd	55 51.90	-0.1
ARN	0.39	48	iPd	55 52.90	-0.3
SAO	0.49	131	eP	55 53.60	-1.4
PCC	0.56	317	eP	55 55.50	-0.9
BKS	0.83	342	iPc	56 00.80	-0.3
			iS	56 12.40	
BRK	0.83	340	eP	56 00.40	-0.7
			iS	56 12.60	
PRS	0.87	150	ePc	56 00.90	-0.8
LLA	0.90	121	ePd	56 01.20	-1.1
PRI	1.37	133	eP	56 09.60	-0.6
CM8	1.53	51	eP	56 11.10	-1.3
NWRM	1.57	331	eP	56 14.60	1.6
PHAM	1.74	135	eP	56 13.90	-1.5
FRI	1.76	92	ePd	56 14.10	-1.5
			eS	56 35.50	
BCH	2.40	142	eP	56 22.20	-2.9
ORV	2.48	7	eP	56 26.50	0.4
ABL	3.12	135	eP	56 32.50	-2.8
KVN	3.58	56	eP	56 42.10	0.2
TNP	3.85	74	eP	56 44.00	-1.7

19 obs. associated

% OCT 29, 1989 22h 00m 27.87± 0.96s
39.875 N ± 8.0km 22.828 E ± 9.1km
DEPTH = 10.0km (geophysicist)
GREECE (364)

LIT	0.34	311	ePg	00 35.00	0.0
AGG	0.93	205	ePg	00 45.70	0.0
OUR	1.00	62	ePg	00 46.30	-0.4
			eSg	00 59.40	
KNT	1.29	2	ePb	00 51.00	-0.7
SRS	1.37	25	ePb	00 54.20	1.2

S.D. = 1.0 on 5 of 5 obs.

OCT 29, 1989 22h 01m 17.95± 0.91s
33.139 S ± 5.4km 71.612 W ± 7.3km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

IHA	0.12	348	eP	01 21.00	0.1
			iS	01 27.00	
LCCH	0.34	174	iP	01 24.50	-0.4
			iS	01 35.50	
ROCH	0.53	72	iPc	01 28.50	-0.3
			iS	01 39.50	
TACH	0.76	132	iPd	01 33.00	0.2
			iS	01 50.50	
PEL	0.78	91	iPc	01 33.00	-0.1
			iS	01 51.00	
LNV	0.83	168	iPd	01 30.20	-3.8X
			iS	01 47.30	
SAN	0.85	112	iPd	01 34.80	0.4
			iS	01 53.50	
JACH	0.97	62	iP	01 33.70	-2.8X
			iS	01 51.80	
PCH	1.04	118	iP	01 37.60	0.0
			iS	02 00.00	
FCH	1.12	100	eP	01 39.00	-0.2
CHCH	1.13	135	eP	01 39.50	0.4
			iS	02 00.50	

S.D. = 0.3 on 9 of 11 obs.

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* OCT 29, 1989 22h 01m 51.36± 1.99s
36.639 N ±17.7km 2.550 E ± 8.0km
DEPTH = 10.0km (geophysicist)
ALGERIA (396)

ACU	3.00	309	iP	02 39.70	-0.2
			eS	03 12.00	
ESEL	3.14	5	ePn	02 41.80	0.1
			eSn	03 15.50	
ENIJ	3.84	276	ePn	02 51.20	-0.6
ECHE	4.05	318	ePn	02 54.80	0.1
EVIA	4.48	298	ePn	03 03.00	2.1
			eSn	03 48.00	
EROO	4.50	339	ePn	03 00.00	-1.1
			eSn	03 48.50	
EBAN	5.27	289	ePn	03 16.00	3.9X
ETER	5.66	2	eP	03 17.60	0.1
GUD	6.60	309	ePn	03 30.00	-0.9
			eSn	04 42.40	
EPF	6.61	346	Pn	03 30.70	-0.2
			Sn	04 40.50	
LMR	7.34	23	Pn	03 41.00	-0.2
LRG	7.41	22	Pn	03 43.00	1.0
FRF	7.59	23	Pn	03 44.80	0.1
			Sn	05 04.80	
CVF	7.67	38	Pn	03 44.70	-1.1
LPO	8.10	353	Pn	03 52.00	0.2
SBF	8.12	26	Pn	03 51.30	-0.9
CAF	8.29	358	Pn	03 54.60	0.2
LFF	8.40	351	Pn	03 56.00	0.0
RJF	8.69	355	Pn	03 59.90	-0.1
LPG	9.40	18	Pn	04 11.60	1.6
LPL	9.41	18	Pn	04 11.60	1.4
MAF	9.57	0	Pn	04 11.30	-0.9
BSF	11.62	14	Pn	04 39.00	-1.2
DOU	13.53	6	P	05 06.30	0.6

S.D. = 0.9 on 23 of 24 obs.

OCT 29, 1989 23h 18m 04.50± 0.30s
39.832 N ± 5.4km 143.198 E ± 4.8km
DEPTH = 10.0km (geophysicist)
5.1mb (28 obs.) 5.3Msz (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)
Felt (I JMA) at Morioka.

MRK	1.57	266	iP+	18 35.30	2.9
			S	18 59.50	
NIIJ	4.19	233	P	19 11.40	1.6
KAKJ	4.34	214	P	19 10.70	-1.3
CHJJ	5.03	223	P	19 21.10	-0.7
IIDJ	6.04	226	P	19 36.70	0.7
TSRJ	7.15	235	P	19 54.00	2.4
YONJ	9.01	242	P	20 17.80	0.1
TKSJ	9.36	234	P	20 22.20	-0.3
MDJ	11.16	300	eP	20 48.50	1.4
	N 14s		2.90um		
			S	22 54.00	
CN2	13.82	292	eP	21 23.00	0.4
	Z 20s		2.40um		
	N 13s		1.90um		
SNY	14.99	284	eP	21 39.00	1.0

29d 23h

Z 17s 4.20um
N 14s 1.50um
E 16s 2.60um
DL2 16.71 274 eP 22 02.00 1.9
Z 15s 1.30um
SSE 19.90 251 P 22 28.00 -10.9X
Z 12s 1.10um
N 13s 1.40um
E 13s 0.90um
pP 22 39.20 49kmX
sP 22 45.50
sS 26 48.00
SS 27 29.00
BJI 20.70 279 eP 22 43.50 -3.7X
Z 16s 2.33um 4.6MszX
E 15s 1.76um
esS 26 44.00
TIA 20.83 268 Pd 22 45.50 -3.2X
Z 15s 3.90um 4.9MszX
N 13s 2.10um
E 13s 2.90um
NJ2 21.14 256 Pc 22 50.00 -1.8
Z 17s 1.80um 4.5MszX
TIY 24.02 275 Pc 23 20.70 0.3
N 15s 1.60um
esS 27 49.00
HHC 24.07 283 P 23 19.00 -1.8
WHN 25.24 257 Pc 23 31.50 -0.6
0.7s 0.01nm 1.6mb X
N 16s 1.98um
E 16s 1.43um
pP 23 40.50 32kmX
eS 27 49.00
BTO 25.27 283 eP 23 30.50 -1.9
N 13s 0.80um
E 16s 3.70um
esS 28 07.50
XAN 27.89 269 P 23 55.00 -1.5
LZH 31.08 276 Pc 24 24.50 -0.6
1.4s 0.05nm 2.2mb X
Z 14s 2.70um 5.1MszX
N 12s 0.60um
E 13s 1.90um
pP 24 33.00 30kmX
eS 29 46.00
GYA 33.13 258 iPc 24 41.60 -1.5
N 14s 0.90um
E 14s 1.20um
CD2 33.15 267 eP 24 42.00 -1.1
Z 14s 2.20um 5.0MszX
N 13s 3.30um
GTA 33.18 283 Pc 24 42.80 -0.6
Z 16s 3.40um 5.2MszX
E 16s 2.70um
sS 30 17.00
KMI 36.82 259 eP 25 13.00 -1.8
KMI 36.82 259 Pd 25 14.50 -0.3
Z 16s 2.70um 5.1MszX
N 16s 1.40um
E 16s 0.70um
sP 25 23.00
WMO 40.90 294 P 25 48.50 0.2
Z 16s 0.70um 4.6MszX
N 13s 0.50um
E 13s 0.40um
eS 31 55.00
LOE 42.22 250 eP 25 59.00 -0.3
TTA 42.33 36 P 26 04.10 4.2X
CHG 43.37 254 iPc 26 08.50 -0.2
1.0s 14.50nm 4.7mb
LSA 43.40 273 eP 26 11.40 1.9
IMA 43.57 32 P 26 10.80 0.8
1.0s 12.50nm 4.7mb
FBA 46.00 34 P 26 29.00 -0.3
KSH 50.61 293 eP 27 06.00 0.4
INK 51.26 28 eP 27 10.00 0.0
NDI 54.55 280 eP 27 34.00 -1.0
WB5 59.97 190 eP 28 10.90 -2.4
WRA 60.04 190 Pd 28 16.30 2.5
0.6s 3.60nm 4.7mb
KEV 61.33 339 eP 28 20.00 -2.1
POO 62.66 272 iPd 28 31.30 -0.5
GBA 62.84 265 P 28 32.00 -0.9
SOD 62.93 337 iP 28 32.80 -0.1
MAIO 63.62 296 eP 28 38.00 0.0
eS 37 20.00
ASPA 63.76 190 eP 28 37.90 -0.9

1.4s 9.00nm 4.8mb
PNT 65.20 46 eP 28 50.00 2.0
LON 65.35 49 P 28 51.20 2.2
SUF 66.12 333 eP 28 53.00 -0.6
0.7s 12.90nm 5.2mb
BRS 67.47 171 iP 29 04.50 2.0
NUR 68.14 332 eP 29 17.00 10.6X
WDC 68.30 55 eP 29 10.90 3.2X
SES 69.12 41 eP 29 12.00 -0.7
ORV 69.53 55 e(P) 29 14.80 -0.6
FFC 70.60 34 eP 29 21.00 -0.6
1.6s 51.00nm 5.4mb
CMB 71.13 56 eP 29 24 50 -0.7
KVN 71.97 54 P 29 30.20 -0.2
HFS 72.11 336 eP 29 30.10 -0.5
0.7s 11.30nm 5.1mb
Z 17s 0.35um 4.7MszX
LR 02 34.00
NB2 72.14 338 P 29 29.70 -1.1
0.8s 14.50nm 5.1mb
TNP 73.10 54 P 29 37.50 0.4
0.7s 3.98nm 4.6mb
FRB 73.73 14 eP 29 39.00 -0.9
BWA 74.04 176 eP 29 49.00 6.9X
BW06 74.71 47 P 29 46.20 -0.2
CAN 74.97 175 eP 29 58.00 10.5X
KVT 75.76 312 eP 29 52.90 0.7
KAS 76.86 313 eP 29 58.00 -0.4
KRA 77.55 326 eP 30 02.20 0.3
Z 18s 1.30um 5.3Msz
SPC 78.07 326 e(P) 30 05.50 0.5
KSP 78.45 329 ePd 30 07.30 0.5
i 30 12.80
BRG 79.35 330 eP 30 12.00 0.3
1.0s 10.00nm 4.8mb
e 30 34.80
CLL 79.35 331 eP 30 11.00 -0.7
1.1s 18.00nm 5.0mb
e 30 44.00
PRU 79.82 329 eP 30 14.30 0.0
e 30 47.00
SRO 79.95 326 eP 30 14.60 -0.4
ZST 80.18 327 iP 30 17.50 1.3
MOX 80.41 331 eP 30 17.00 -0.4
KHC 80.88 329 eP 30 21.00 1.0
EKA 80.95 341 P 30 21.00 0.8
2.8s 188.70nm 5.6mb
GRF 81.33 331 iPc 30 22.60 0.3
0.9s 23.00nm 5.2mb
ALO 81.73 51 P 30 25.50 0.6
0.7s 4.37nm 4.6mb
VAY 82.87 319 eP 30 30.00 -0.4
SKO 82.94 320 iP 30 31.00 0.2
CDF 83.85 332 eP 30 35.60 0.1
1.0s 8.00nm 4.9mb
OHR 83.91 320 eP 30 35.20 -0.6
MBH 83.99 304 eP 30 33.00 -3.3X
CTI 84.14 328 P 30 36.50 -0.5
HAU 84.52 333 eP 30 38.60 -0.2
0.8s 5.30nm 4.8mb
VAI 85.43 330 P 30 42.70 -0.5
PGD 85.88 327 P 30 47.50 1.7
LOR 86.02 334 eP 30 46.00 -0.3
0.8s 20.10nm 5.3mb
LBF 86.23 333 eP 30 47.10 -0.2
0.9s 18.00nm 5.3mb
SSF 86.32 334 eP 30 47.70 0.0
0.9s 18.00nm 5.3mb
DUI 86.48 324 P 30 41.00 -7.7X
LPG 86.50 331 eP 30 49.20 0.2
1.0s 20.80nm 5.3mb
GRR 86.56 337 eP 30 48.90 0.0
0.8s 18.80nm 5.3mb
SMF 86.57 333 eP 30 49.20 0.2
1.0s 18.00nm 5.2mb
AVF 86.61 334 eP 30 49.20 0.1
0.8s 27.40nm 5.5mb
MAF 87.37 334 eP 30 53.40 0.5
1.0s 18.00nm 5.3mb
TCF 87.44 334 eP 30 53.70 0.5
1.0s 8.80nm 5.0mb
LSF 87.70 334 eP 30 54.70 0.3
1.0s 30.80nm 5.6mb
FVM 88.27 40 P 30 53.00 -4.3X
RJF 88.53 334 eP 30 58.20 -0.3
1.0s 16.00nm 5.3mb
SOI 88.58 321 P 30 55.50 -3.2X

CAF 88.68 334 eP 30 59.70 0.5
1.2s 11.90nm 5.1mb
ZOBO 144.04 58 PKP 37 39.00 -4.0X
CCH 146.14 57 PKP 37 49.00 2.8X
S.D. = 1.1 on 90 of 104 obs.

OCT 29, 1989 23h 50m 09.86± 0.74s
38.999 N ± 6.6km 21.151 E ± 7.6km
DEPTH = 10.0km (geophysicist)
GREECE (364)
MD 3.0 (ATH).

AGG 0.92 88 ePg 50 26.50 -1.0
VLS 0.93 208 ePg 50 25.40 -2.2
KEK 1.27 305 ePn 50 34.70 1.3
KZN 1.39 20 ePb 50 35.60 0.3
LIT 1.51 43 ePb 50 37.20 0.2
eSb 50 58.40
NEO 1.64 79 ePb 50 38.40 -0.5
ITM 1.92 161 ePg 50 45.60 2.7
OHR 2.13 353 ePn 50 44.30 -1.6
GRG 2.18 26 ePn 50 46.80 0.1
PLG 2.24 51 ePn 50 47.60 0.0
KNT 2.54 31 ePn 50 51.10 -0.7
OUR 2.56 58 ePn 50 52.40 0.4
VAY 2.56 25 ePn 50 53.60 1.5
SRS 2.83 41 ePn 50 55.30 -0.6
SKO 2.98 4 ePn 50 58.00 0.0
S.D. = 1.3 on 15 of 15 obs.

% OCT 29, 1989 23h 50m 25.00± 1.19s
40.577 N ± 9.5km 27.493 E ± 8.0km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

EDC 0.36 129 iPg 50 31.90 -0.6
eSg 50 34.90
BNT 0.39 124 iPg 50 33.50 0.4
iSg 50 36.50
CTT 0.91 51 iPn 50 43.00 0.6
EZN 1.17 230 iPn 50 46.70 -0.1
DST 1.30 138 ePn 50 49.90 0.7
YLV 1.43 90 iPn 50 50.00 -1.1
S.D. = 0.9 on 6 of 6 obs.

& OCT 29, 1989 23h 55m 09.80s
36.837 N 121.615 W
DEPTH = 5.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.8 (BRK).

SAO 0.15 118 iPd 55 12.90 -0.1
GCC 0.36 302 eP 55 16.70 -0.4
MHC 0.50 358 eP 55 20.10 0.2
eS 55 26.40
ARN 0.52 7 iP 55 20.00 -0.1
PRS 0.54 159 eP 55 20.40 -0.2
LLA 0.58 112 iPc 55 21.10 -0.4
PCC 0.90 317 eP 55 26.00 -1.5
PRI 1.03 132 eP 55 29.20 -0.7
BKS 1.15 335 iPc 55 30.50 -1.3
iS 55 47.50
BRK 1.16 334 ePc 55 30.70 -1.1
eS 55 47.30
PHAM 1.40 135 eP 55 35.00 -1.0
FRI 1.54 84 eP 55 35.80 -2.1
eS 55 55.80
CMB 1.55 39 eP 55 37.50 -0.6
KVN 3.55 50 eP 56 14.00 7.1
14 obs. associated

OCT 30, 1989 01h 32m 32.51± 1.03s
33.146 S ± 6.4km 71.597 W ± 8.2km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

IHA 0.13 343 eP 32 35.80 0.2
iS 32 42.60
LCCH 0.33 176 iP 32 38.90 -0.4
iS 32 51.00
ROCH 0.52 71 iP 32 42.30 -0.8
iS 32 57.60
TACH 0.75 133 iP 32 46.90 -0.3
iS 33 05.50
PEL 0.76 90 eP 32 47.00 -0.5
iS 33 05.90
LNV 0.82 169 iPd 32 45.00 -3.4X

		iS	33 02.50		
SAN	0.84	112 iPd	32 50.40	1.6	
		iS	33 09.00		
JACH	0.96	62 iPc	32 48.20	-2.7X	
		iS	33 07.20		
PCH	1.02	118 iPd	32 51.60	-0.3	
		iS	33 14.10		
FCH	1.11	100 iPd	32 54.00	0.4	
		iS	33 16.10		
CHCH	1.11	135 eP	32 53.50	0.1	
		iS	33 15.50		

S.D. = 0.8 on 9 of 11 obs.

& OCT 30, 1989 01h 54m 44.34s
58.503 N 142.717 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

YAH	1.93	14 eP	55 12.92	-4.8	
		eS	55 36.72		
PCA	2.04	37 eP	55 14.20	-4.9	
		iS	55 37.43		
MID	2.09	298 eP	55 15.69	-4.1	
		eS	55 38.80		
BCPM	2.15	46 eP	55 15.56	-5.2	
		eS	55 39.73		
HON	2.20	63 eP	55 16.35	-5.2	
		eS	55 41.85		
TGL	2.26	359 iP	55 17.09	-5.3	
BALM	2.55	4 iP	55 21.25	-5.2	
		eS	55 48.77		
FID	2.95	321 eP	55 26.68	-5.5	
		eS	55 56.34		
VZW	3.22	325 eP	55 29.95	-5.9	
GLI	3.26	319 eP	55 30.30	-6.2	
		eS	56 06.42		
KLU	3.40	333 iP	55 33.10	-5.5	
SEW	3.81	298 eP	55 38.85	-5.4	
SLKM	4.32	301 eP	55 45.11	-6.5	

13 obs. associated

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* OCT 30, 1989 02h 05m 26.24± 2.26s
19.454 N ± 8.7km 98.391 E ±27.2km
DEPTH = 10.0km (geophysicist)
SOUTHEAST ASIA (299)

CHG	0.82	141 ePn	05 42.00	-0.2	
		ePg	05 43.10		
		iSg	06 01.00		
BDT	2.27	165 ePn	06 04.80	0.4	
		ePg	06 10.00		
		eSg	06 50.50		
LOE	3.77	122 ePg	06 26.00	0.3	
		eSg	07 15.00		
NST	4.11	156 eP	06 30.00	-0.5	
		e	07 24.00		
KMI	6.93	35 Pc	07 10.50	-0.1	
		S	08 31.00		

S.D. = 0.5 on 5 of 5 obs.

? OCT 30, 1989 02h 31m 37.40± 9.07s
36.382 N ±77.0km 2.661 E ±15.8km
DEPTH = 10.0km (geophysicist)
ALGERIA (396)

ESEL	3.39	3 eP	32 31.00	-0.3	
		eS	33 05.00		
ECHE	4.30	319 eP	32 44.30	-0.1	
		eS	33 28.00		
EPF	6.88	346 Pn	33 21.00	0.2	
		Sn	34 29.20		
LMR	7.55	22 Pn	33 29.40	-0.7	
LRG	7.61	21 Pn	33 30.70	-0.3	
FRF	7.79	22 Pn	33 33.00	-0.5	
		Sn	34 54.00		
CAF	8.55	357 Pn	33 44.30	0.2	
LPL	9.63	17 Pn	34 01.20	2.0	
MAF	9.83	360 Pn	34 01.20	-0.6	

S.D. = 0.9 on 9 of 9 obs.

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* OCT 30, 1989 02h 36m 25.53± 0.98s
43.051 N ±22.6km 0.223 W ± 5.9km
DEPTH = 10.0km (geophysicist)
PYRENEES (378)
MD 1.0 (STR).

OGE	0.22	303 Pg	36 30.15	-0.1	
ESCF	0.26	276 Pg	36 30.66	-0.4	
ATE	0.35	276 Pg	36 33.56	0.7	
		Sg	36 37.76		
EPF	0.41	93 Pg	36 34.00	0.0	
		Sg	36 40.00		
ISSF	0.42	267 Pg	36 33.87	-0.3	
		Sg	36 39.96		

S.D. = 0.6 on 5 of 5 obs.

OCT 30, 1989 02h 38m 08.89± 0.47s
38.508 N ± 4.3km 26.812 E ± 5.1km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
Felt at Izmir, Turkey.

IZM	0.37	107 iPg	38 17.70	1.2	
SMG	0.80	179 iPgc	38 24.20	-0.2	
		eSg	38 33.80		
PRK	0.85	330 iPgc	38 26.00	0.8	
		eSg	38 39.50		
CIN	1.35	132 iPnd	38 34.00	0.2	
		iSg	38 54.00		
EZN	1.37	344 iPn	38 34.20	0.2	
APE	1.76	216 ePg	38 38.50	-1.1	
DST	1.79	52 iPn	38 39.90	-0.2	
EDC	2.01	24 ePn	38 41.90	-1.3	
BNT	2.04	25 iPn	38 43.00	-0.6	
RDO	2.81	340 ePn	38 54.80	0.1	
YLV	2.85	43 iPn	38 55.00	-0.4	
CTT	2.92	25 iPn	39 51.50	55.4X	
ISK	3.09	33 ePn	39 03.00	4.5X	
BCK	3.16	108 ePn	38 59.90	0.2	
HRT	3.19	43 ePn	39 01.00	0.9	
GPA	3.24	56 ePn	39 08.00	7.2X	
KSL	3.25	136 ePn	39 06.50	5.6X	
KDZ	3.32	342 iPc	39 02.00	0.1	
DMK	3.39	12 ePn	39 01.00	-1.9	
RZN	3.56	334 eP	39 06.00	0.5	
VAM	3.74	215 ePg	39 19.50	11.7X	
MMB	3.88	323 ePd	39 10.00	0.1	
VAY	4.30	312 ePn	39 31.40	15.5X	
BBTK	4.81	72 eP	39 41.00	17.8X	
		eS	40 48.00		
VTS	4.92	327 eP	39 26.00	1.3	

S.D. = 0.9 on 18 of 25 obs.

& OCT 30, 1989 02h 46m 24.82s
57.103 N 142.873 W
DEPTH = 10.0km (geophysicist)
GULF OF ALASKA (15)
<AGS-P>.

HON	3.16	40 eP	47 09.76	-5.8	
		eS	47 45.05		
PCA	3.30	23 eP	47 12.04	-5.6	
		eS	47 50.00		
YAH	3.32	10 iP	47 12.39	-5.7	
		eS	47 50.74		
BCPM	3.32	29 eP	47 12.25	-5.7	
		eS	47 48.48		

4 obs. associated

? OCT 30, 1989 03h 40m 43.42± 2.24s
4.543 S ±20.7km 145.835 E ±16.0km
DEPTH = 94.5 ± 17.0 km
4.2mb (2 obs.)
NEAR N COAST OF PAPUA NEW GUINEA(200)

LAT	2.40	151 eP	41 22.00	0.4	
MNDI	2.69	233 eP	41 26.00	0.1	
PMG	5.01	165 eP	41 57.00	-0.6	
WB5	18.90	215 eP	44 58.20	-1.2	
		e	50 45.00		
WRA	18.97	215 Pc	45 00.60	0.4	
	1.1s	13.60nm		4.2mb	
ASPA	22.23	210 iPc	45 34.40	1.1	
	0.7s	10.00nm		4.3mb	
CHG	51.68	298 eP	49 43.00	-0.2	
GGP	135.37	95 Pdiff	56 50.40	-8.0X	
KIC	150.66	275 PKP	00 29.50	8.3X	
TIC	150.92	275 PKP	00 30.10	8.4X	
LIC	150.95	275 PKP	00 30.10	8.4X	

S.D. = 1.1 on 7 of 11 obs.

? OCT 30, 1989 04h 03m 08.05±10.02s
18.389 N ±22.1km 102.736 W ±83.8km
DEPTH = 33.0km (normal)
MICHOACAN, MEXICO (57)

MRX	1.96	48 iPc	03 39.40	-0.2	
		iS	04 04.80		
CRX	3.07	70 (P)	04 07.80	12.2X	
		(S)	04 36.30		
III	3.10	90 eP	03 54.50	-1.5	
		iS	04 28.70		
ACX	3.13	118 iP	03 56.50	0.2	
		iS	04 32.80		
UNM	3.49	74 (P)	04 11.00	9.3X	
		(S)	04 47.50		
PPM	3.95	80 iP	04 08.20	-0.2	
		iS	04 55.00		
IIT	4.24	81 eP	04 14.00	1.7	
OXX	5.88	102 (P)	04 42.70	7.3X	
		(S)	05 44.00		

S.D. = 1.6 on 5 of 8 obs.

? OCT 30, 1989 04h 44m 23.91± 4.09s
32.838 S ±17.0km 72.348 W ±28.5km
DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.62	108 iPc	44 36.40	0.0	
		iS	44 42.00		
LCCH	0.91	134 iPd	44 41.00	-0.3	
		iS	44 51.00		
ROCH	1.13	97 ePc	44 45.00	-0.3	
		iS	44 59.00		
LNV	1.36	145 iPc	44 48.40	-0.5	
		iS	45 04.50		
PEL	1.43	103 iPd	44 49.80	-0.1	
		iS	45 08.20		
TACH	1.43	125 iPd	44 49.50	-0.5	
		iS	45 07.50		
JACH	1.49	84 iP	44 50.50	-0.3	
		iS	45 08.50		
SAN	1.54	114 iPc	44 51.60	0.1	
		iS	45 10.50		
PCH	1.72	117 iPc	44 54.40	0.2	
		iS	45 16.00		
CHCH	1.79	128 iPd	44 55.70	0.6	
		iS	45 18.00		
FCH	1.80	106 iPc	44 55.80	0.3	
		iS	45 18.50		
RFA	3.76	122 ePd	45 24.10	0.8	

S.D. = 0.5 on 12 of 12 obs.

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* OCT 30, 1989 05h 02m 52.01± 1.82s
11.130 S ± 9.0km 161.749 E ±12.0km
DEPTH = 46.6 ± 17.0 km
4.7mb (3 obs.)
SOLOMON ISLANDS (193)

HNR	2.45	313 eP	03 30.00	-0.3	
		eS	04 12.00		
DZM	11.77	158 iP	05 38.50	-1.7	
		iS	07 44.50		
CTA	17.37	237 iPc	06 54.60	1.8	
	0.9s	21.01nm		4.3mb	
BRS	18.25	206 eP	07 06.00	2.4	
RMQ	19.59	217 iPd	07 19.20	-0.1	
QIS	23.25	243 eP	07 55.00	-1.3	
		i	07 58.10		
WB5	27.75	248 eP	08 36.90	-1.6	
CHG	68.69	295 eP	13 52.50	-0.8	
KDC	78.15	23 eP	14 47.70	0.0	
SPA	78.94	180 e(P)	15 04.00	11.8X	
	1.0s	7.00nm			
SVW	79.45	20 ePc	14 55.70	0.9	
TTA	80.68	18 eP	15 01.80	0.4	
PMR	82.02	21 eP	15 08.50	0.2	
TOA	83.43	22 ePc	15 16.50	0.8	
IMA	83.68	17 eP	15 17.30	0.4	
FBA	84.66	19 eP	15 21.00	-0.7	
	0.8s	6.80nm		4.8mb	
CMB	87.41	51 P	15 37.00	1.1	
	0.5s	4.65nm		5.0mb	
KVN	89.41	50 P	15 45.00	-0.6	
BCAO	142.98	263 iPKPd	22 22.60	-0.9	
	0.7s	6.00nm			

S.D. = 1.2 on 18 of 19 obs.

? OCT 30, 1989 05h 09m 19.66± 4.48s
32.794 S ±18.8km 72.460 W ±31.0km

30d 05h

DEPTH = 10.0km (geophysicist)
OFF COAST OF CENTRAL CHILE (134)

IHA	0.73	109	eP	09 34.30	0.4
			iS	09 41.00	
LCCH	1.01	133	iPc	09 38.50	-0.3
			iS	09 49.50	
ROCH	1.23	99	iPc	09 42.00	-0.7
LNV	1.45	143	iPc	09 45.50	-0.4
			iS	10 01.50	
PEL	1.53	104	iPc	09 47.10	0.0
			iS	10 05.00	
TACH	1.54	124	iPd	09 46.60	-0.6
			iS	10 04.00	
JACH	1.58	86	eP	09 47.50	-0.3
			iS	10 06.00	
SAN	1.65	114	iPc	09 49.00	0.2
			iS	10 07.50	
PCH	1.83	117	iPc	09 51.70	0.2
			iS	10 13.50	
CHCH	1.89	127	iPc	09 53.00	0.7
			iS	10 15.00	
FCH	1.90	107	eP	09 53.50	0.8
			iS	10 15.10	

S.D. = 0.6 on 11 of 11 obs.

? OCT 30, 1989 05h 32m 22.39± 4.69s
46.486 N ± 9.3km 7.889 E ±47.5km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 2.2 (LDG).

LPL	1.26	220	Pg	32 45.90	-0.1
LPG	1.27	219	Pg	32 46.20	0.1
			Sg	33 01.40	
HAU	1.85	326	Pg	32 54.40	0.0
			Sg	33 13.50	
LBF	2.74	282	Pg	33 07.20	0.0
			Sg	33 36.00	

S.D. = 0.1 on 4 of 4 obs.

OCT 30, 1989 06h 06m 36.38± 0.52s
46.559 N ± 4.1km 7.212 E ± 6.1km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 3.0 (LDG).

DIX	0.50	164	eP	06 45.70	-0.9
EMS	0.53	202	ePc	06 46.60	-0.5
MMK	0.73	134	ePc	06 49.30	-1.6
ORX	1.07	150	P	06 56.38	-0.2
			S	07 09.46	
LPL	1.10	198	Pg	06 57.20	0.1
			Sg	07 13.20	
LSD	1.10	182	P	06 57.59	0.3
			S	07 11.44	
LPG	1.11	197	Pg	06 57.50	0.1
			Sg	07 13.60	
ZLA	1.23	41	ePc	06 58.00	-1.2
BSF	1.30	347	Pg	07 00.90	0.3
			Sg	07 17.80	
RSP	1.41	179	P	07 04.07	1.9
			S	07 20.99	
HAU	1.56	338	Pg	07 05.50	1.3
			Sg	07 25.00	
RRL	1.67	191	P	07 07.15	1.2
			S	07 26.53	
CDF	1.85	1	Pn	07 09.80	1.2
			Pg	07 12.40	
			Sg	07 32.80	
PZZ	2.06	182	P	07 12.84	1.3
			S	07 37.91	
LBF	2.26	282	Pn	07 15.00	0.5
			Pg	07 18.50	
			Sg	07 47.60	
SMF	2.33	273	Pn	07 12.90	-2.4
			Pg	07 20.20	
			Sg	07 49.20	
LOR	2.41	288	Pn	07 16.60	0.2
			Pg	07 22.00	
			Sg	07 50.80	
SSF	2.59	283	Pn	07 25.00	5.9X
			Sg	07 57.20	
AVF	2.67	276	Pn	07 19.80	-0.3
			Pg	07 27.80	
			Sg	07 59.00	
BGF	3.01	272	Pn	07 23.70	-1.3
			Sg	08 11.90	

S.D. = 1.2 on 19 of 20 obs.

& OCT 30, 1989 06h 31m 27.60s
36.913 N 121.687 W
DEPTH = 10.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 2.8 (BRK).

SAO	0.24	127	iPc	31 32.50	-0.3
GCC	0.27	295	iPc	31 32.80	-0.6
MHC	0.43	5	iPc	31 36.20	-0.2
ARN	0.45	16	iPd	31 36.60	-0.2
PRS	0.63	156	iPc	31 39.50	-0.8
LLA	0.67	116	iPc	31 40.20	-0.7
PCC	0.81	317	iPc	31 42.10	-1.1
			eS	31 54.00	
BKS	1.06	336	ePd	31 46.30	-1.2
			eS	32 03.30	
BRK	1.06	335	eP	31 45.40	-2.2
PRI	1.13	133	ePd	31 48.10	-0.7
PHAM	1.50	136	eP	31 52.80	-1.7
CMB	1.53	42	eP	31 52.90	-2.1
FRI	1.59	87	eP	31 55.10	-0.7
BCH	2.16	143	eP	32 02.50	-1.7
KVN	3.55	52	eP	32 30.00	6.0

15 obs. associated

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* OCT 30, 1989 06h 40m 07.20± 0.40s
27.757 S ± 9.5km 64.180 E ± 8.7km
DEPTH = 10.0km (geophysicist)
5.1mb (4 obs.)
ATLANTIC-INDIAN RISE (428)

SLR	32.05	265	eP	46 37.00	0.4
SEK	32.19	260	eP	46 25.00	-12.8X
BFS	33.15	263	eP	46 46.00	-0.1
KSR	33.25	265	eP	46 44.20	-2.8
BUL	33.29	275	iPd	46 48.00	0.6
MAW	39.88	181	eP	47 43.00	0.7
GBA	43.08	19	Pd	48 08.20	-0.9
	1.5s		15.40nm	4.5mb	
HYB	47.02	19	eP	48 42.00	1.3
BCAO	54.40	299	iPc	49 37.50	0.6
	1.5s		38.00nm	5.2mb	
			id	49 55.50	
SNA	56.25	202	iPc	49 51.00	1.4
	1.1s		18.99nm	5.0mb	
CHG	57.24	40	eP	49 57.80	0.5
SHL	59.35	29	iP	50 13.00	0.9
ASPA	62.19	104	eP	50 31.30	-0.1
SPA	62.40	180	e(P)	50 32.10	-0.4
	1.0s		19.00nm	5.2mb	
MAIO	63.87	356	eP	50 42.00	-0.2
WB5	63.94	100	eP	50 41.90	-1.1
KMI	64.37	39	Pc	50 46.50	0.6
GYA	67.63	41	eP	51 06.80	0.2
CD2	69.49	36	eP	51 16.80	-1.2
LZH	73.68	33	(P)	51 41.50	-1.6
KIC	74.58	286	P	51 57.30	8.7X
GTA	74.63	28	eP	51 48.80	0.3
XAN	74.66	37	P	51 49.00	0.3
OHR	79.44	328	eP	52 16.00	0.8
INK	138.07	10	ePKP	59 33.00	-0.3
FFC	151.22	343	ePKP	00 02.00	6.3X
	1.1s		18.00nm		

S.D. = 1.0 on 23 of 26 obs.

? OCT 30, 1989 08h 05m 59.13± 3.21s
46.485 N ± 8.9km 8.205 E ±30.3km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 2.7 (LDG).

LPL	1.41	227	Pg	06 25.00	-0.1
LPG	1.41	226	Pg	06 25.30	0.1
			Sg	06 40.80	
BSF	1.66	325	Pg	06 27.80	-0.7
			Sg	06 44.60	
HAU	1.98	321	Pg	06 33.70	0.7
			Sg	06 52.70	
CDF	2.03	342	Pg	06 39.60	5.8X
			Sg	07 00.20	
LBF	2.95	281	Pg	06 46.40	-0.5
			Sg	07 14.80	
SMF	3.01	275	Pg	06 47.20	-0.6
			Sg	07 16.20	
SSF	3.28	282	Pg	06 52.60	1.0
			Sg	07 25.00	

S.D. = 0.8 on 7 of 8 obs.

% OCT 30, 1989 08h 12m 39.32± 0.80s
40.447 N ± 6.7km 23.038 E ± 7.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)

THE	0.19	343	ePgd	12 42.80	-0.8
			eSg	12 45.80	
LIT	0.54	231	ePg	12 50.30	0.0
			eSg	13 00.80	
GRG	0.70	317	ePg	12 54.00	0.8
PAIG	0.71	136	ePg	12 53.90	0.5
			eSg	13 03.50	
KNT	0.72	352	ePg	12 52.50	-1.0
			eSg	13 04.30	
OUR	0.73	99	ePg	12 52.50	-1.1
			eSg	13 03.70	
SRS	0.79	32	ePg	12 56.40	1.7
			eSg	13 06.70	

S.D. = 1.3 on 7 of 7 obs.

& OCT 30, 1989 08h 18m 40.06s
61.569 N 146.355 W
DEPTH = 30.0km
SOUTHERN ALASKA (2)
<AGS-P>. ML 3.1 (PMR).

KLU	0.22	110	iP	18 46.00	-0.7
			eS	18 52.00	
TOA	0.54	9	iPd	18 50.40	-0.9
PMR	1.33	272	iPc	19 01.30	-1.3
PMS	1.58	259	iPd	19 05.20	-1.1
PWA	1.69	274	iPc	19 06.80	-1.0
TGL	1.89	114	iP	19 09.20	-1.8
			eS	19 33.20	
SLKM	2.16	242	eP	19 14.00	-0.7
SPU	2.77	264	eP	19 22.80	-0.6
			eS	19 54.40	
RDT	3.11	254	eP	19 28.00	-0.2
FBA	3.41	350	eP	19 32.30	-0.1
SVW	4.49	268	eP	19 47.80	0.0
TTA	4.72	291	eP	19 50.80	-0.2
KDC	4.94	222	eP	19 50.20	-3.8

13 obs. associated

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* OCT 30, 1989 08h 20m 30.19± 0.81s
42.868 N ± 5.7km 12.836 E ± 8.3km
DEPTH = 10.0km (geophysicist)
CENTRAL ITALY (381)
MD 2.2 (SSO).

ASS	0.24	328	P	20 35.30	0.0
			eSg	20 38.90	
CIO	0.40	35	iPg	20 38.35	0.0
			iSg	20 44.70	
MNS	0.50	193	P	20 40.30	0.0
			eSg	20 47.50	
ALP	0.55	99	ePg	20 41.48	0.0
			iSg	20 50.59	
ARV	0.63	7	P	20 43.00	0.1
			eSg	20 52.00	

S.D. = 0.0 on 5 of 5 obs.

OCT 30, 1989 09h 34m 10.53± 0.67s
13.681 N ± 4.6km 59.977 W ± 6.0km
DEPTH = 10.0km (geophysicist)
WINDWARD ISLANDS (95)
ML 3.6 (FDF), 3.5 (TRN).

BDH	0.61	141	eP	34 23.03	0.2
			eS	34 32.50	
SLB	1.04	278	eP	34 30.97	0.7
SSV	1.23	254	eP	34 33.65	0.1
			eS	34 52.45	
MVM	1.24	314	iPc	34 33.66	0.0
			S	34 50.60	
SVV	1.26	253	eP	34 33.97	0.1
			eS	34 52.65	
SVB	1.31	252	eP	34 34.73	0.0
			eS	34 52.74	
BIM	1.35	308	eP	34 35.12	-0.2
			S	34 53.60	
CRM	1.40	320	iPc	34 35.94	-0.2
			S	43 55.10	

FDF	1.55	313	iPc	34 38.16	0.0
	0.1s		0.80nm		
			S	34 58.60	
GRW	2.23	228	eP	34 47.47	-0.7
			eS	35 15.83	
BBL	2.34	322	eP	34 49.50	-0.1
PAG	2.86	325	eP	34 57.20	0.1
			S	35 30.00	

S.D. = 0.4 an 12 of 12 obs.

? OCT 30, 1989 09h 59m 22.60±11.14s
18.888 N ±97.7km 66.120 W ±26.0km
DEPTH = 33.0km (normal)
PUERTO RICO REGION (90)

LPR	0.62	158	P	59 35.10	0.1
			S	59 42.60	
CPD	0.87	167	P	59 38.30	-0.1
LRS	0.91	229	P	59 39.00	0.0
PORP	0.96	211	P	59 39.90	0.1
MGP	1.27	227	P	59 44.10	0.0

S.D. = 0.1 an 5 of 5 obs.

% OCT 30, 1989 10h 19m 02.67± 2.18s
64.867 N ±12.7km 5.125 E ±23.5km
DEPTH = 10.0km (geophysicist)
NORWEGIAN SEA (642)
MD 2.7 (BER).

MOL	2.55	154	eP	19 45.14	0.5
			eS	20 12.00	
NSS	2.96	93	iP	19 50.20	-0.3
			eS	20 18.48	
HYA	3.75	172	eP	20 03.20	1.5
			eS	20 43.10	
SUE	3.83	183	eP	20 01.50	-1.4
			eS	20 44.50	
LOF	4.70	42	iP	20 15.40	0.2
			eS	21 03.70	
NRA0	5.08	142	eP	20 20.10	-0.5
			iS	21 14.20	
			iSg	21 33.40	

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

? OCT 30, 1989 10h 32m 15.90± 0.88s
41.860 N ± 7.8km 12.792 E ± 8.9km
DEPTH = 10.0km (geophysicist)
SOUTHERN ITALY (390)

RMP	0.08	234	Pc	32 18.20	-0.2
			eSg	32 19.10	
RDP	0.12	209	Pc	32 19.10	0.2
			eSg	32 21.20	
MNS	0.53	351	Pc	32 26.70	0.0
			eSg	32 33.00	
SDI	0.78	101	P	32 31.10	0.0
			eSg	32 44.40	

S.D. = 0.3 on 4 of 4 obs.

& OCT 30, 1989 11h 17m 13.70s
37.060 N 121.813 W
DEPTH = 13.0km
CENTRAL CALIFORNIA (39)
<BRK>. ML 4.1 (BRK).
Mo=9.7*10**14 Nm (BRK).

GCC	0.15	259	iPd	17 17.00	-0.5
MHC	0.31	26	iPd	17 20.30	-0.1
ARN	0.37	38	iPd	17 21.10	-0.3
SAO	0.42	135	iPc	17 21.30	-1.0
PCC	0.63	314	ePd	17 25.30	-0.8
PRS	0.81	154	iPc	17 28.50	-0.6
LLA	0.83	122	iPc	17 28.80	-0.6
BKS	0.88	338	iPc	17 29.70	-0.6
			iS	17 42.20	
BRK	0.89	336	eP	17 29.10	-1.3
			eS	17 41.90	
PRI	1.30	134	eP	17 36.10	-1.5
CMB	1.50	49	iPd	17 39.40	-0.9
NWRM	1.63	329	eP	17 40.00	-2.2
PHAM	1.67	137	eP	17 41.20	-1.6
FRI	1.69	92	eP	17 41.30	-1.7
PKEM	1.70	125	eP	17 42.00	-1.1
BCH	2.34	143	eP	17 50.20	-2.3
ORV	2.50	6	eP	17 53.50	-1.2
BLP	2.75	155	eP	17 56.20	-2.0
ABL	3.05	136	eP	18 00.10	-2.5
KVN	3.54	55	iPd	18 08.50	-1.2
TNP	3.79	73	eP	18 12.10	-1.2

21 obs. assaciated

OCT 30, 1989 11h 24m 05.56± 0.16s
44.626 N ± 1.6km 7.263 E ± 1.7km
DEPTH = 12.4 ± 1.4 km
NORTHERN ITALY (545)
ML 3.7 (LDG), 3.6 (GEN). MD 3.4 (STR).

DOI	0.12	186	Pc	24 09.50	0.5
			eSg	24 11.70	
PZZ	0.17	224	Pc	24 09.60	-0.1
			S	24 12.28	
STV	0.38	173	Pd	24 13.54	-0.1
			S	24 18.81	
ENR	0.42	164	Pd	24 14.04	-0.1
RRL	0.45	311	Pd	24 14.79	-0.1
RSP	0.53	360	Pc	24 16.06	-0.2
RO8	0.55	127	Pc	24 17.07	0.5
BNI	0.60	316	P	24 17.40	-0.1
			eSg	24 26.00	
TOUF	0.61	181	Pg	24 17.57	-0.2
AUTN	0.64	169	Pg	24 17.93	-0.4
			Sg	24 26.93	
SAOF	0.67	162	Pg	24 18.57	-0.2
			Sg	24 28.19	
MVIF	0.73	186	Pg	24 19.71	-0.1
			Sg	24 30.18	
AURF	0.74	176	Pg	24 19.78	-0.1
			Sg	24 30.05	
CKI	0.75	105	Pc	24 20.60	0.5
			eSg	24 33.80	
SBF	0.77	171	Pg	24 20.40	-0.1
FIN	0.80	121	Pc	24 21.20	0.4
			S	24 31.68	
LSD	0.83	355	P	24 21.69	0.0
			S	24 32.99	
IMI	0.85	148	P	24 21.58	-0.1
			S	24 32.67	
CALN	0.91	197	Pg	24 23.42	0.5
			Sg	24 35.47	
PCP	0.92	95	Pc	24 23.80	0.8
			S	24 35.61	
LPG	0.94	338	Pn	24 24.10	0.6
			Sg	24 36.80	
LPL	0.97	337	Pn	24 24.30	0.4
ORO	1.12	27	P	24 25.10	-1.3
			eSg	24 41.20	
ORX	1.13	27	Pc	24 25.00	-1.5
			S	24 38.68	
FRF	1.15	203	Pn	24 27.20	0.3
			Pg	24 27.90	
			Sg	24 41.80	
GANF	1.16	238	Pg	24 27.70	0.7
			Sg	24 43.12	
TAVF	1.33	221	Pg	24 30.87	1.0
			Sg	24 48.94	
LRG	1.34	209	Pn	24 30.40	0.4
			Pg	24 31.40	
			Sg	24 48.60	
VILF	1.35	236	Pg	24 31.36	1.1
			Sg	24 48.47	
LMR	1.40	203	Pn	24 31.20	0.4
			Pg	24 31.60	
			Sg	24 49.60	
DIX	1.46	4	ePd	24 31.50	-0.4
EMS	1.46	351	ePc	24 33.50	1.6
MMK	1.51	19	ePd	24 31.40	-1.2
BOB	1.56	84	P	24 35.00	1.8
			iSg	24 55.00	
PUYF	1.57	226	Pn	24 33.89	0.7
			Sg	24 54.76	
VAI	1.64	40	P	24 34.10	0.0
			eSg	24 54.20	
TREF	1.68	234	Pn	24 35.04	0.2
PRAF	1.71	242	Pg	24 38.65	3.3X
			Sg	24 59.42	
BERF	1.74	221	Pn	24 37.03	1.3
			Sg	25 00.50	
GELF	1.82	227	Pn	24 37.83	1.0
			Sg	25 03.33	
TMA	1.87	37	ePd	24 36.90	-0.8
SS8	2.04	290	Pn	24 40.26	0.2
MDI	2.08	56	P	24 41.20	0.6
			eSg	25 07.00	
CVF	2.37	150	Pn	24 43.07	-1.7
BDI	2.46	102	P	24 46.40	0.3
			eSn	25 16.00	
MME	2.50	99	P	24 47.20	0.4
PII	2.51	110	P	24 46.40	-0.4
			eSn	25 19.20	
LLS	2.55	28	ePc	24 49.10	1.6
OSS	2.89	43	ePd	24 52.30	0.0
PLDF	2.90	299	Pn	24 53.10	0.7
LBL	2.92	283	Pn	24 52.73	0.3
			Sg	25 40.92	
ZLA	2.96	15	ePd	24 55.50	2.3
SMF	3.14	311	Pn	24 56.50	0.9
			Sn	25 31.80	
			Sg	25 45.20	
PYM	3.21	292	Pn	24 56.73	-0.1
BSF	3.22	354	Pn	24 57.80	0.8
			Sn	25 34.70	
AGO	3.24	298	Pn	24 57.59	0.4
SLE	3.25	15	ePd	24 58.00	0.6
PGD	3.29	102	P	24 58.80	0.8
CTI	3.40	64	P	25 00.00	0.4
			eSn	25 37.10	
HAU	3.44	350	Pn	25 00.30	0.3
			Sn	25 40.00	
AVF	3.49	310	Pn	25 01.60	0.9
CRE	3.52	105	P	25 00.70	-0.5
			eSn	25 42.30	
LOR	3.55	319	Pn	25 02.00	0.4
			Sn	25 42.00	
SSF	3.58	314	Pn	25 02.40	0.4
BGF	3.65	303	Pn	25 03.20	0.2
			Sn	25 44.00	
MAF	3.67	297	Pn	25 03.50	0.2
			Sg	26 01.30	
CAF	3.71	276	Pn	25 03.80	-0.1
			Sn	25 44.00	
CDF	3.79	0	Pn	25 04.40	-0.6
			Sn	25 48.40	
TCF	3.92	297	Pn	25 06.80	-0.1
			Sg	26 09.20	
GRC	3.96	314	Pn	25 07.96	0.7
RJF	4.13	281	Pn	25 10.00	0.2
LPO	4.34	273	Pn	25 12.00	-0.7
FVI	4.34	61	P	25 13.00	0.2
			eSn	26 00.20	
LSF	4.35	294	Pn	25 12.40	-0.5
			Sg	26 23.00	
LFF	4.65	276	Pn	25 16.20	-1.0
VOY	4.88	71	ePn	25 18.70	-1.8
			e(Sn)	26 14.70	
KBA	4.91	58	eP	25 21.00	0.1
EPF	5.26	255	Pn	25 23.00	-2.8
MFF	5.56	293	Pn	25 30.40	0.4
KHC	6.25	42	ePn	25 40.00	0.3
			eSn	26 49.00	
PTJ	6.27	75	eP	25 52.40	12.3X
LDF	6.45	311	Pn	25 41.60	-1.0
LPF	6.68	304	Pn	25 45.50	-0.3
FLN	6.74	311	Pn	25 45.00	-1.7
GRR	6.75	307	Pn	25 46.00	-0.8

S.D. = 0.8 on 83 of 85 obs.

% OCT 30, 1989 11h 34m 28.29± 0.55s
44.617 N ± 3.5km 7.247 E ± 4.8km
DEPTH = 10.7 ± 6.7 km
NORTHERN ITALY (545)
ML 2.2 (GEN).

DOI	0.11	181	P	34 31.50	0.1
			iSg	34 33.50	
PZZ	0.15	223	P	34 32.00	0.0
			S	34 34.30	
STV	0.38	172	P	34 36.35	0.3
			S	34 41.23	
ENR	0.41	162	P	34 36.48	-0.3
			S	34 42.51	
RRL	0.45	313	P	34 37.25	-0.3
			S	34 42.89	
RSP	0.53	1	P	34 39.17	0.0
			S	34 45.97	
ROB	0.55	126	P	34 39.17	-0.3
			S	34 47.25	
FIN	0.80	120	P	34 43.66	-0.1
			S	34 53.95	
LSD	0.84	356	P	34 44.90	0.2
			S	34 55.33	

30d 11h

IMI 0.84 147 P 34 44.81 0.2
S 34 55.70
PCP 0.93 94 P 34 46.10 0.1
S.D. = 0.3 on 11 of 11 obs.

% OCT 30, 1989 11h 35m 45.04± 0.75s
44.621 N ± 6.3km 7.245 E ±11.2km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.8 (GEN).

STV 0.38 171 P 35 53.15 0.3
S 35 57.87
ENR 0.41 162 P 35 53.46 -0.1
S 35 59.23
RRL 0.44 313 P 35 53.97 -0.2
S 35 59.33
RSP 0.53 1 P 35 56.00 0.2
S 36 02.89
ROB 0.55 126 P 35 56.13 -0.2
S 36 03.84
S.D. = 0.3 on 5 of 5 obs.

% OCT 30, 1989 11h 37m 39.52± 0.86s
44.623 N ± 5.2km 7.254 E ±10.7km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.8 (GEN).

PZZ 0.16 223 P 37 43.49 0.2
S 37 45.64
STV 0.38 172 P 37 47.29 -0.1
S 37 52.53
ENR 0.41 163 P 37 48.00 0.0
S 37 53.36
RRL 0.45 312 P 37 48.52 -0.2
S 37 53.87
RSP 0.53 0 P 37 50.36 0.1
S 37 57.59
S.D. = 0.2 on 5 of 5 obs.

% OCT 30, 1989 11h 41m 08.76± 0.68s
44.576 N ± 5.7km 7.203 E ± 8.4km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.7 (GEN).

PZZ 0.10 226 P 41 12.19 0.6
S 41 14.22
STV 0.34 165 P 41 15.45 -0.4
S 41 20.43
ENR 0.38 156 P 41 16.50 -0.1
S 41 22.03
RRL 0.46 319 P 41 17.67 -0.4
S 41 23.01
ROB 0.55 120 P 41 20.31 0.2
RSP 0.58 4 P 41 20.75 0.2
S.D. = 0.5 on 6 of 6 obs.

% OCT 30, 1989 12h 43m 18.09± 0.52s
44.625 N ± 3.8km 7.254 E ± 6.9km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.4 (GEN).

DOI 0.12 183 P 43 21.70 0.5
eSg 43 24.00
PZZ 0.16 223 P 43 21.93 0.0
S 43 24.28
STV 0.38 172 P 43 25.82 -0.2
S 43 31.05
ENR 0.42 163 P 43 26.34 -0.3
S 43 31.74
RRL 0.45 312 P 43 27.05 -0.2
S 43 32.84
RSP 0.53 0 P 43 28.80 0.0
S 43 35.73
ROB 0.55 127 P 43 29.31 0.0
S 43 37.14
LSD 0.84 355 P 43 34.54 0.1
S 43 45.51
S.D. = 0.3 on 8 of 8 obs.

% OCT 30, 1989 12h 43m 27.65± 0.70s
44.586 N ± 6.2km 7.132 E ±11.6km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 1.4 (GEN).

PZZ 0.08 195 P 43 30.00 -0.3
S 43 33.46
DOI 0.12 135 P 43 31.10 0.4
eSg 43 33.20
STV 0.37 158 P 43 35.76 0.5
S 43 40.25
ENR 0.42 150 P 43 35.51 -0.7
S 43 41.28
RRL 0.42 324 P 43 36.41 0.2
S 43 42.17
RSP 0.57 9 P 43 39.10 -0.2
S 43 46.40
S.D. = 0.6 on 6 of 6 obs.

* OCT 30, 1989 12h 44m 51.72± 1.12s
7.264 S ±10.7km 129.354 E ±14.5km
DEPTH = 183.6 ± 14.8 km
4.5mb (2 obs.)
BANDA SEA (280)

AAI 3.74 342 eP 45 49.90 -0.3
MTN 5.82 163 iPd 46 16.40 -0.7
eS 47 17.00
KUG 6.39 243 eP 46 26.50 1.9
eS 47 31.00
KNA 8.45 184 eP 46 49.40 -2.5X
0.2s 43.00nm 5.5mb X
eS 48 18.00
WB5 13.45 159 eP 47 53.80 -2.8X
i 47 57.10
eS 50 16.00
QIS 16.53 144 eP 48 35.00 0.4
eS 51 32.00
MBL 16.60 213 eP 48 33.00 -2.5
ASPA 16.88 166 eP 48 39.70 0.7
0.6s 23.00nm 4.8mb
eS 51 40.10
WARB 18.99 188 eP 49 02.00 0.2
NANU 20.21 220 eP 49 14.00 -0.1
CHG 39.63 311 eP 52 06.80 -0.4
SPA 82.78 180 e(P) 56 57.10 0.8
0.6s 3.66nm 4.3mb
NB2 109.72 333 PKP 02 52.10 -9.9X
0.7s 1.30nm
S.D. = 1.4 on 10 of 13 obs.

? OCT 30, 1989 12h 52m 23.63± 2.43s
52.194 N ±35.6km 170.496 E ±17.2km
DEPTH = 33.0km (normal)
NEAR ISLANDS, ALEUTIAN ISLANDS (5)
ML 4.3 (PMR).

SMY 2.27 75 iPc 52 59.40 -0.1
SVW 20.43 51 eP 57 01.20 0.8
TTA 20.67 46 eP 57 02.50 -0.4
KDC 21.76 61 eP 57 12.50 -1.3
IMA 22.61 38 eP 57 22.90 0.5
PMS 23.36 52 eP 57 30.70 1.1
FBA 24.66 43 eP 57 42.50 0.4
INK 30.73 37 eP 58 36.00 -1.2
KVN 49.66 76 eP 01 14.50 0.4
KHC 77.16 345 eP 04 15.20 0.0
S.D. = 0.9 on 10 of 10 obs.

? OCT 30, 1989 13h 09m 45.09± 4.38s
46.493 N ±10.0km 8.446 E ±41.4km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 2.5 (LDG).

LPL 1.54 231 Pg 10 12.80 -0.1
LPG 1.55 230 Pg 10 13.00 0.0
Sg 10 28.50
BSF 1.75 320 Pg 10 16.70 0.9
Sg 10 32.80
HAU 2.08 317 Pg 10 19.50 -1.0
Sg 10 41.00
LBF 3.11 281 Pg 10 35.00 -0.2
Sg 11 04.80
SMF 3.18 274 Pg 10 36.40 0.3
Sg 11 05.60
S.D. = 0.8 on 6 of 6 obs.

& OCT 30, 1989 13h 43m 58.25s
64.817 N 149.072 W
DEPTH = 12.9km
CENTRAL ALASKA (1)
<AGS-P>. ML 3.3 (PMR).

FBA 0.55 81 iPc 44 08.90 -0.4
IMA 2.30 305 eP 44 35.80 -0.7
TOA 3.02 153 eP 44 48.00 1.4
PWA 3.20 187 eP 44 47.80 -1.3
PMR 3.24 180 eP 44 48.60 -1.1
TTA 3.61 241 eP 45 02.80 7.8
KLU 3.63 155 eP 44 56.00 0.6
SPU 3.89 202 eP 44 57.60 -1.5
DWY 4.25 96 P 45 01.00 -3.1
9 obs. ossociated

OCT 30, 1989 13h 44m 56.06± 0.39s
46.561 N ± 3.4km 7.268 E ± 4.1km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 3.0 (LDG).

DIX 0.49 168 ePd 45 05.70 -0.4
EMS 0.54 206 ePd 45 06.20 -0.9
MMK 0.70 136 ePc 45 09.10 -1.0
ORO 1.06 152 P 45 15.60 -0.5
eSg 45 20.90
LPL 1.11 200 Pg 45 17.00 0.0
LPG 1.12 199 Pg 45 17.20 -0.1
Sg 45 33.00
ZLA 1.20 39 ePd 45 18.00 -0.4
LLS 1.23 75 ePc 45 18.30 -0.8
VAI 1.25 123 Pd 45 20.60 1.3
eSg 45 33.10
BSF 1.31 346 Pg 45 21.20 0.8
Sg 45 37.20
SLE 1.47 34 ePd 45 22.30 -0.3
BNI 1.56 196 P 45 25.70 1.6
eSg 45 42.00
HAU 1.58 337 Pn 45 23.80 -0.3
Pg 45 25.60
Sg 45 45.00
CDF 1.85 0 Pg 45 32.00 3.8X
Sg 45 52.80
MDI 1.87 114 P 45 29.50 1.2
eSn 45 46.50
LBF 2.30 282 Pn 45 34.20 -0.5
Pg 45 39.00
Sg 46 07.40
SMF 2.36 273 Pg 45 40.00 4.5X
Sg 46 08.80
LOR 2.44 288 Pn 45 36.40 -0.2
Pg 45 41.00
Sg 46 11.50
SSF 2.63 282 Pn 45 39.80 0.5
Pg 45 46.20
Sg 46 17.30
S.D. = 0.8 on 17 of 19 obs.

? OCT 30, 1989 14h 20m 41.09± 2.40s
39.213 N ±29.2km 144.239 E ±39.4km
DEPTH = 10.0km (geophysicist)
4.1mb (2 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

KAKJ 4.41 228 eP 21 49.40 -0.1
S 22 37.60
NIIJ 4.57 246 P 21 51.80 0.0
CHJJ 5.22 234 P 22 00.80 -0.3
MTMJ 5.72 245 P 22 08.20 -0.1
IIDJ 6.27 235 P 22 16.40 0.5
HFS 73.00 337 eP 32 12.50 0.1
0.5s 1.20nm 4.2mb
NB2 73.02 338 P 32 12.50 -0.1
0.7s 1.00nm 4.0mb
S.D. = 0.3 on 7 of 7 obs.

? OCT 30, 1989 14h 24m 00.55± 3.62s
51.261 N ±45.7km 176.217 E ±15.3km
DEPTH = 33.0km (normal)
4.2mb (1 obs.)
RAT ISLANDS, ALEUTIAN ISLANDS (6)

SMY 1.97 319 eP 24 32.70 0.5
ADK 4.47 79 eP 25 09.00 1.3
SVW 18.37 47 eP 28 14.70 0.7
TTA 18.90 41 eP 28 21.00 0.5
KDC 19.17 58 eP 28 21.20 -2.5

IMA 21.25 34 eP 28 45.50 -0.3
PMR 21.50 48 eP 28 45.00 -3.2X
TOA 22.98 47 eP 29 03.40 0.5
INK 29.37 36 eP 29 51.00 -11.1X
NB2 67.41 352 P 34 53.60 -0.7
0.8s 1.70nm 4.2mb
S.D. = 1.4 on 8 of 10 obs.

% OCT 30, 1989 14h 41m 39.75± 0.56s
44.616 N ± 4.5km 7.242 E ± 6.0km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.1 (GEN).

PZZ 0.15 222 P 41 43.53 0.2
S 41 45.79
STV 0.38 171 P 41 47.64 0.1
S 41 52.76
ENR 0.41 162 P 41 47.74 -0.4
S 41 53.89
RRL 0.45 313 P 41 48.66 -0.2
S 41 54.30
RSP 0.54 1 P 41 50.81 0.2
S 41 58.61
ROB 0.55 125 P 41 51.12 0.1
S 41 58.51
FIN 0.80 120 P 41 55.12 -0.2
IMI 0.85 146 P 41 56.45 0.3
S.D. = 0.3 on 8 of 8 obs.

OCT 30, 1989 14h 41m 53.60± 0.57s
38.473 N ± 4.8km 24.062 E ± 7.4km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
ML 3.0 (ATH).

ATH 0.57 209 iPnd 42 05.00 -0.1
NEO 1.06 322 ePn 42 13.10 -0.5
eSn 42 26.50
AGG 1.46 293 ePb 42 18.80 -1.2
eSb 42 36.00
PAIG 1.48 349 iPbc 42 20.10 -0.2
eSb 42 37.00
APE 1.82 140 ePb 42 27.00 1.7
OUR 1.86 358 iPnc 42 25.80 0.1
eSn 42 48.20
PLG 1.96 346 ePn 42 26.50 -0.7
eSn 42 49.00
VLI 1.97 207 ePn 42 27.00 -0.3
LIT 2.03 324 ePn 42 28.00 -0.3
eSn 42 51.20
ITM 2.13 233 ePn 42 29.30 -0.4
EZN 2.22 52 ePn 42 38.00 7.1X
SMG 2.32 108 ePn 42 31.10 -1.3
KZN 2.55 317 ePb 42 38.00 2.3
GRG 2.79 333 ePnd 42 38.50 -0.7
eSn 43 10.10
KNT 2.83 342 ePn 42 39.80 0.1
VAN 7.00 170 ePb 42 48.00 0.0
VAY 3.07 339 ePn 42 43.00 0.0
KEK 3.34 292 ePb 42 58.10 8.4X
OHP 3.64 317 ePn 42 52.70 1.5
SKO 4.03 331 ePn 43 04.60 7.3X
S.D. = 1.1 on 16 of 20 obs.

% OCT 30, 1989 14h 58m 00.94± 0.54s
59.956 N ± 5.0km 6.272 E ± 5.4km
DEPTH = 10.0km (geophysicist)
SOUTHERN NORWAY (535)
MD 1.8 (BER)

ODD1 0.18 102 iP+ 58 04.78 -0.3
eS 58 06.61
BLS1 0.63 153 iP 58 13.04 -0.6
eS 58 21.14
BER 0.64 313 eP 58 13.55 -0.2
eS 58 20.53
ASK 0.76 315 eP 58 15.54 -0.2
eS 58 25.92
KMY 0.91 216 iP 58 18.71 0.5
eS 58 30.36
HYA 1.22 358 iP 58 23.53 -0.1
eS 58 39.71
SUE 1.34 327 iP 58 25.87 0.3
eS 58 42.58
MOL 2.78 13 iP 58 44.72 -0.4
iS 59 16.95
NRA0 2.74 71 iPc 58 46.70 1.0
eS 59 14.30
iSg 59 23.20
S.D. = 0.6 on 9 of 9 obs.

? OCT 30, 1989 15h 02m 55.22± 0.95s
40.776 N ± 9.0km 22.960 E ±10.4km
DEPTH = 10.0km (geophysicist)
GREECE (364)

THE 0.14 179 eP 02 59.30 0.7
eS 03 02.10
KNT 0.39 353 eP 03 03.70 0.5
eS 03 09.80
GRG 0.46 293 eP 03 04.00 -0.6
eS 03 10.60
SRS 0.59 54 eP 02 56.20 -10.9X
OUR 0.90 119 eP 03 11.70 -0.7
S.D. = 1.3 on 4 of 5 obs.

% OCT 30, 1989 15h 46m 29.46± 0.82s
44.620 N ± 5.5km 7.231 E ±11.6km
DEPTH = 10.0km (geophysicist)
NORTHERN ITALY (545)
ML 2.0 (GEN).

PZZ 0.15 219 P 46 33.15 0.1
S 46 35.44
STV 0.38 170 P 46 37.13 -0.2
S 46 42.25
ENR 0.42 161 P 46 38.00 0.0
S 46 43.38
RRL 0.44 313 P 46 38.28 -0.2
S 46 44.05
RSP 0.53 2 P 46 40.31 0.1
S 46 48.28
S.D. = 0.2 on 5 of 5 obs.

• OCT 30, 1989 17h 15m 41.41± 1.16s
7.626 S ±11.4km 128.687 E ±15.2km
DEPTH = 128.2 ± 29.2 km
4.3mb (2 obs.)
BANDA SEA (280)

AAI 3.94 353 eP 16 41.00 -0.2
TLE 4.49 64 iPd 16 49.00 0.4
iS 17 24.50
KUG 5.63 243 eP 17 12.00 7.9X
MTN 5.72 155 iPd 17 06.40 1.1
eS 18 05.00
KNA 8.07 179 iPd 17 36.50 -0.8
0.3s 54.00nm 5.7mb X
eS 19 03.00
WB5 13.37 156 eP 18 45.00 -2.3
eS 21 05.20
MBL 15.94 212 eP 19 20.60 0.8
0.3s 3.00nm 4.1mb
eS 22 09.00
GRA 16.04 142 eP 19 26.00 -0.5
eS 22 22.00
ASPA 16.72 163 iPc 19 30 40 1.0
0.5s 13.00nm 4.5mb
WARB 18.56 286 eP 19 52.80 1.7
NANU 19.52 219 eP 20 00.00 -1.2
S.D. = 1.5 on 10 of 11 obs.

• OCT 30, 1989 18h 12m 07.13± 1.56s
6.618 N ±13.1km 76.027 W ±12.6km
DEPTH = 75.0 ± 14.6 km
4.6mb (2 obs.)
NORTHERN COLOMBIA (99)

HOBC 2.25 183 eP 12 42.26 -0.8
FUQ 2.55 116 eP 12 48.00 0.7
CLMC 2.77 191 iPd 12 50.04 -0.3
BOG 2.78 135 iPc 12 52.00 1.4
iS 13 31.50
BMG 2.97 81 iPd 13 02.00 9.0X
HOQC 3.19 191 iPd 12 55.24 -1.0
ANCC 3.19 195 eP 12 54.91 -1.2
DIAC 3.31 183 ePc 12 58.19 0.4
SALC 3.68 198 eP 13 03.30 0.3
UPA 4.19 304 iPd 13 02.10 -8.0X
0.4s 101.69nm
iS 13 55.60
PURC 4.28 184 eP 13 12.87 1.1
PSO 5.54 194 eP 13 31.50 2.2
ZOBO 24.05 161 P 17 15.90 -1.3
Z 24s 0.10um 3.2MszX
LR 26 14.00
LPB 24.30 161 P 17 20.60 1.1
CNCB 24.60 161 P 17 22.00 -0.5
CCH 25.77 158 P 17 20.00 -13.1X
FVM 33.85 339 eP 18 47.00 2.5
1.0s 28.00nm 5.1mb
BAO 35.50 129 eP 18 56.50 -2.4
ALO 39.74 319 eP 19 33.00 -1.3
PDCR 41.32 117 e(P) 19 35.00 -12.3X
BW06 46.59 326 eP 20 34.00 4.3X
1.0s 2.50nm 4.1mb
INK 72.26 341 eP 23 32.00 6.1X
GBA 146.87 53 PKP 31 40.00 -1.4
WB5 147.69 243 ePKP 31 43.00 0.3
S.D. = 1.5 on 18 of 24 obs.

• OCT 30, 1989 19h 30m 06.18± 2.12s
12.366 N ± 7.7km 59.614 W ±20.0km
DEPTH = 10.0km (geophysicist)
WINDWARD ISLANDS (95)
MD 3.9 (TRN).

SSV 1.81 302 eP 30 37.92 0.2
eS 31 06.11
SVV 1.83 301 eP 30 37.63 -0.3
eS 31 03.97
SVB 1.83 300 eP 30 37.85 -0.1
eS 31 06.23
SLB 2.01 316 eP 30 41.02 0.4
eS 31 07.97
GRW 2.01 264 eP 30 40.51 -0.1
eS 31 06.20
TRN 2.45 226 eP 30 46.85 0.1
eS 31 14.17
MVM 2.51 330 iPc 30 47.19 -0.5
BIM 2.57 327 iPd 30 48.37 -0.1
S 31 18.10
CRM 2.69 332 iPd 30 50.01 -0.3
S 31 20.80
FDF 2.79 328 eP 30 51.63 -0.1
0.1s 2.10nm
S 31 23.70
BBL 3.62 330 eP 31 03.39 -0.1
PAG 4.16 331 eP 31 11.80 0.7
S 31 57.00
S.D. = 0.4 on 12 of 12 obs.

OCT 30, 1989 19h 41m 00.85± 0.71s
39.163 N ± 4.6km 23.748 E ± 6.9km
DEPTH = 10.0km (geophysicist)
AEGEAN SEA (365)
ML 2.9 (ATH).

NEO 0.43 290 ePg 41 09.70 0.0
PAIG 0.76 356 ePgc 41 16.70 0.9
eSg 41 28.50
AGG 1.11 283 ePga 41 21.90 0.2
eSg 41 38.90
OUR 1.18 9 ePgc 41 22.90 0.0
eSg 41 38.80
ATH 1.19 181 ePb 41 23.00 0.0
eSg 41 38.20
PLG 1.23 349 ePb 41 23.20 -0.6
eSb 41 39.00
LIT 1.35 314 ePbd 41 25.30 -0.4
eSb 41 43.60
THE 1.59 338 ePb 41 29.40 0.4
KZN 1.90 307 ePg 41 36.00 4.3X
SRS 1.96 357 ePnc 41 33.90 -0.5
GRG 2.07 330 ePnd 41 35.80 -0.3
KNT 2.10 342 ePnc 41 36.50 0.0
VAY 2.34 338 ePn 41 40.00 0.1
OHP 2.98 312 ePn 41 58.50 9.4X
S.D. = 0.5 on 12 of 14 obs.

? OCT 30, 1989 20h 15m 08.32± 1.74s
8.710 S ±20.2km 112.230 E ±15.9km
DEPTH = 120.3 ± 16.7 km
4.4mb (2 obs.)
JAVA (277)

TRT 1.08 22 ePd 15 31.50 -0.4
KHKI 3.36 84 eP 16 01.00 0.8
e 21 09.10
PCI 18.84 15 ePd 17 41.00 -0.2

30d 20h

WB5 24.12 120 eP 20 13.90 0.0
i 21 40.80
i 21 50.90
ASPA 25.52 128 eP 20 26.40 -0.6
1.2s 10.00nm 4.2mb
Z 20s 0.15um 3.5Msz
epP 20 37.80 44kmX
LR 31 47.60
GBA 41.05 302 Pd 22 41.50 0.4
0.8s 9.50nm 4.6mb
S.D. = 0.8 on 6 of 6 obs.

OCT 30, 1989 23h 46m 30.61± 0.09s
21.104 S ± 3.4km 178.684 W ± 2.8km
DEPTH = 582.2km (14 depth phases)
5.6mb (46 obs.)
FIJI ISLANDS REGION (181)
FAULT PLANE SOLUTION: P-Woves
NP1:Strike= 30 Dip=90 Slip= -60
NP2: 120 30 -180
Principal Axes:
T Plg=38 Azm= 93
P 38 327
Comment: The focol mechanism is poorly controlled and corresponds to normol foulting with o moderote strike-slip component. The preferred foult plone is not determined.
MOMENT TENSOR SOLUTION
Dep 581 No. of sto: 7
Moment Tensor; Scale 10**17 Nm
Mrr=-2.18 Mtt= 3.33
Mff=-1.15 Mrt=-2.47
Mrf=-4.55 Mtf= 2.05
Principol oxes:
T Vol= 6.31 Plg=28 Azm=146
N -0.04 27 40
P -6.27 49 275
Best Double Couple:Mo=6.3*10**17
NP1:Strike=283 Dip=29 Slip= -24
NP2: 35 78 -117
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 15S, 37C
Centroid Location:
Origin Time 23:46:41.6 0.4
Lat 20.72S 0.04 Lon 179.53W 0.04
Dep 585.5 2.2 Half-duration 3.0
Moment Tensor; Scale 10**17 Nm
Mrr=-2.30 0.14 Mtt= 1.20 0.23
Mff= 1.10 0.22 Mrt=-3.16 0.21
Mrf=-5.06 0.21 Mtf= 0.67 0.19
Principol Axes:
T Vol= 6.02 Plg=36 Azm=126
N 0.56 3 33
P -6.59 54 299
Best Double Couple:Mo=6.3*10**17
NP1:Strike=231 Dip=10 Slip= -72
NP2: 33 81 -93

SVA 4.01 317 iPc 47 55.20 -0.1
S 48 22.80
VUN 4.09 318 iPc 47 55.10 -0.8
OVA 4.15 324 iPc 47 56.60 0.2
KRO 4.19 334 ePc 47 55.90 -0.8
MBU 4.79 329 iPd 48 02.00 0.7
NDE 4.88 337 ePc 48 01.50 -0.6
RAO 8.14 175 iP 48 41.30 10.1X
iS 49 34.70
AFI 9.72 44 ePc 48 43.40 -3.5X
eS 50 24.00
PVC 12.72 283 iPc 49 18.50 2.0
iS 51 42.00
DZM 13.87 263 iPd 49 29.80 1.8
ScS 00 30.10
iS 51 57.00
ScP 56 47.90
HBZ 16.64 188 eP 49 55.00 0.2
0.3s 53.00nm 5.5mb
KRP 17.49 195 P 50 05.80 2.9X
PGZ 19.92 191 P 50 24.50 -1.1
KIW 20.44 194 eP 50 29.00 -1.3
MTW 20.59 193 P 50 30.20 -1.6
e 51 42.00
CAW 20.64 193 P 50 31.10 -1.1
BLW 20.80 192 eP 50 32.40 -1.3

e 51 42.80
WDW 20.80 194 eP 50 32.70 -1.0
MRW 20.83 194 eP 50 33.10 -0.8
eS 53 44.20
WEL 20.87 194 eP 50 33.70 -0.6
MOW 20.90 193 P 50 34.30 -0.2
e 51 44.00
TCW 20.92 195 P 50 33.70 -1.0
CCW 21.44 195 P 50 39.20 -0.3
HNR 23.62 296 eP 50 57.00 -2.3
MHZ 25.88 200 eP 51 17.60 -1.5
BRS 26.73 251 iPc+ 51 27.80 1.2
i(pP) 51 44.00 69kmX
i(sP) 51 58.00
eS 54 04.00
iPcP 54 31.00
iScP 57 19.80
AFR 27.49 88 iP 51 32.90 -0.3
1.2s 325.00nm 5.8mb
PAE 27.65 88 iP 51 34.00 -0.6
1.2s 125.00nm 5.4mb
PPT 27.67 88 iP 51 34.50 -0.4
1.2s 315.00nm 5.8mb
PPN 27.81 88 iP 51 35.60 -0.5
1.2s 135.00nm 5.5mb
TVO 27.93 88 iP 51 36.60 -0.6
1.2s 205.00nm 5.6mb
COO 28.04 244 iPd 51 39.40 1.3
i 57 24.00
PMO 29.86 83 iP 51 53.20 -0.5
1.2s 225.00nm 5.7mb
VAH 30.04 84 iP 51 54.40 -0.8
1.2s 160.00nm 5.5mb
TPT 30.12 84 iP 51 55.40 -0.5
1.2s 230.00nm 5.7mb
RMO 30.22 253 iPd 51 57.70 1.0
0.4s 155.00nm 6.0mb
i 52 12.00 57kmX
e 57 29.00
RUV 30.29 84 iP 51 56.70 -0.6
1.2s 360.00nm 5.9mb
CNB 31.36 236 iPc 52 08.10 1.8
BWA 31.84 238 iPd 52 09.40 -1.0
ePP 53 45.00
iPcP 54 44.00
iScP 57 34.40
CTA 32.80 265 iPd 52 18.80 0.3
iScS 01 40.60
iPcP 54 46.70
iS 56 50.00
iScP 57 37.80
iSS 59 55.00
CTAO 32.80 265 iPd 52 18.56 0.1
CMS 33.32 245 eP 52 23.00 0.2
e 57 41.00
OLP 34.27 254 iPd 52 31.30 0.6
PMG 34.87 284 iPd 52 35.50 -0.2
TOO 35.03 234 iPd 52 38.40 1.5
1.0s 463.00nm 6.1mb
LAT 36.17 288 iPd 52 46.80 0.4
STK 36.96 245 iPd 52 54.10 1.3
1.2s 1000.00nm 6.3mb
i 57 54.10
BFD 37.17 236 iPd 52 55.60 1.1
i 57 54.10
MNDI 39.36 287 eP 53 14.00 1.2
ADE 39.77 240 iPd 53 16.30 0.6
1.0s 240.00nm 5.7mb
RKT 40.44 101 iP 53 21.90 0.8
1.2s 175.00nm 5.5mb
JAY 43.63 290 ePd 53 44.70 -1.7
ASPA 43.76 257 iPd 53 47.40 0.0
1.0s 997.00nm 6.3mb
ePcP 55 21.60
eScP 58 20.80
ePcS 59 14.10
eS 59 34.90
WB5 43.87 263 iPd 53 47.30 -0.9
iS 59 36.20
MTN 48.53 271 eP 54 23.00 -0.8
GUA 49.64 311 eP 54 31.10 -0.7
1.0s 1680.00nm 6.5mb
GUMO 49.70 311 eP 54 30.60 -1.7
1.1s 1413.43nm 6.4mb
PJG 49.70 311 eP 54 30.80 -1.5
KNA 49.96 267 eP 54 33.00 -1.2
0.4s 203.00nm 6.0mb

WARB 50.04 253 iPd 54 34.70 0.0
0.4s 47.00nm 5.4mb
COOL 54.40 247 iPd 55 05.30 -0.7
AAI 54.40 281 iPc 55 05.10 -1.0
MBL 57.01 258 iPd 55 23.10 -0.9
0.3s 66.00nm 5.4mb
KLB 57.22 245 eP 55 25.20 -0.2
SBA 57.23 184 iPc 55 28.00 3.2X
NWAO 57.53 244 iPd 55 27.34 -0.1
BAL 58.23 246 iPd 55 32.00 -0.3
MRWA 59.03 248 eP 55 38.00 0.4
0.4s 90.00nm 5.4mb
MNI 59.56 285 ePc 55 40.50 -0.8
NANU 60.62 255 eP 55 48.00 -0.2
0.4s 43.00nm 5.1mb
DAV 61.46 291 eP 55 52.00 -1.6
MKS 61.89 275 ePc 55 57.00 0.5
e 56 41.00 189kmX
PCI 63.17 280 iPc 56 06.00 1.4
1.0s 56.00nm 5.0mb
KHKI 64.42 271 ePd 56 11.20 -1 4
e 00 26.80
TRT 67.41 270 ePc 56 30.20 -0.9
0.7s 312.40nm 5.9mb
QCP 68.98 296 eP 56 26.00 -14.4X
SPA 69.03 180 iPc 56 42.40 2.2
1.1s 164.88nm 5.5mb
i 58 40.00 573km
KKM 69.30 285 iPd 56 42.50 0.0
1.0s 378.10nm 5.9mb
BAG 70.27 297 eP 56 47.00 -1.3
1.0s 304.00nm 5.8mb
MAJO 70.32 324 iPd 56 46.53 -1.4
SHK 72.10 319 iPd 56 58.00 -0.3
0.9s 551.26nm 6.1mb
ADK 72.69 1 eP 56 59.80 -1.4
0.7s 571.40nm 6.2mb
SMY 73.79 355 eP 57 06.40 -1 0
ANP 74.09 305 eP 57 09.70 -0.2
QZH 76.21 304 Pd 57 21.50 0.1
SSE 77.59 310 Pd 57 28.50 -0.2
1.0s 0.12nm 2.3mb X
Z 20s 0.90um 5.1Msz
SDN 77.70 11 ePd 57 27.80 -1.0
HKC 78.42 299 iP 57 35.00 1.7
SYP 78.55 46 eP 57 35.00 1.0
PRS 78.69 44 eP 57 35.60 1.1
GCC 78.71 43 eP 57 35.30 0.8
PCC 78.75 42 eP 57 35.60 0.9
MCO 78.83 299 iP 57 36.50 1.0
BCH 78.86 45 P 57 36.90 1.3
pP 59 37.80 568kmX
SAO 78.91 43 e(P) 57 36.70 1.1
PRI 79.04 44 eP 57 37.50 1.0
epP 59 41.90 588km
BRK 79.06 42 eP 57 37.10 0.8
BKS 79.07 42 iPc 57 37.60 1.2
0.7s 89.00nm 5.3mb
i 57 43.70
epP 59 40.30 578km
e 59 51.50
MHC 79.13 43 eP 57 37.90 1.0
KGM 79.54 276 iPd 57 40.90 1.5
1.0s 886.90nm 6.1mb
NJ2 79.77 310 iPd 57 40.00 -0.2
3.5s 1.40nm 2.8mb X
BAR 79.79 49 eP 57 42.00 1.7
FHC 79.83 39 eP 57 41.80 1.5
RVR 80.02 48 eP 57 42.00 0.5
PLM 80.03 49 eP 57 42.00 0.2
FRI 80.16 44 eP 57 42.50 0.4
epP 59 47.00 586km
CMB 80.34 43 ePd 57 42.30 -0.8
OIZ 80.52 295 Pd 57 45.20 0.9
WDC 80.55 40 eP 57 44.90 0.9
epP 59 49.50 586km
ORV 80.55 41 eP 57 44.70 0.6
epP 59 49.50 587km
LTCM 80.57 40 P 57 44.50 0.4
MDJ 80.65 325 eP 57 45.60 0.6
S 07 50.00
epP 59 48.00 576km
MAW 80.78 200 eP 57 47.00 2.2
CLC 80.89 46 eP 57 47.00 1.0
e 59 52.00 588km
MIN 80.96 41 eP 57 46.10 -0.3
TPC 81.01 48 eP 57 48.00 1.4

GSC	81.14	47	eP	57	48.00	0.7	SHL	98.35	294	iP	59	07.60	-0.7	BBTK	147.33	312	ePKP	05	07.00	-0.6
GLA	81.30	50	eP	57	50.00	1.9				eS	08	49.00		BURJ	147.38	297	PKPd	05	19.00	11.1X
PPI	81.36	273	eP	57	49.00	0.2	CNCB	102.32	114	Pdiff	59	29.00	2.4	CFR	147.38	324	ePKPc	05	07.00	-0.3
KDC	81.54	14	ePd	57	48.60	0.0				e	03	34.00		WAJH	147.38	286	ePKP	05	08.30	0.4
SNY	82.26	320	iPd	57	53.00	0.4	LPB	102.34	113	Pdiff	59	32.00	5.5X	KFNJ	147.56	296	PKPc	05	19.20	11.2X
WHN	82.29	307	iPd	57	53.60	0.6				e	03	43.00		KRA	147.57	337	iPKPc	05	07.40	0.0
	1.4s		0.41nm			2.8mb X	ZOBO	102.43	113	Pdiff	59	29.00	1.8		1.0s		192.00nm			
KVN	82.39	43	P	57	53.90	0.3		Z 21s		0.22um			4.7Msz				i	05	11.00	
			pP	59	59.80	590km				i	03	41.00					i	05	15.40	
CN2	82.39	323	iPd	57	53.20	0.0				LR	12	12.00		AYN	147.71	291	ePKP	05	08.50	0.2
	3.5s		1.60nm			3.0mb X	MBC	103.51	12	ePdiff	59	32.50	2.6X	VRI	147.71	326	ePKPc	05	11.00	3.1X
			eS	07	21.00			1.0s		7.00nm			5.3mb	TLB	147.82	323	iPKPd	05	08.00	0.0
TNP	82.41	44	P	57	53.70	-0.1	WMQ	106.84	311	Pdiff	59	46.00	0.5	DSI	147.86	296	ePKP	05	09.00	0.5
			pP	59	57.20	576km	GBA	107.54	278	PKP	03	54.00	0.0	ETA	147.93	9	iPKPd	05	11.50	3.6X
IPM	82.61	278	ePd	57	56.00	1.0	NDI	111.76	293	iPKPd	04	00.80	-0.9		0.8s		126.00nm			
	0.9s		580.90nm			6.1mb				eS	09	48.00		KSP	148.07	342	iPKPd	05	08.30	0.1
PSI	83.87	275	ePd	58	03.00	1.7	POO	112.27	282	iPKPc	04	02.00	-1.0		1.0s		327.00nm			
	0.9s		47.60nm			5.1mb	KSH	114.69	305	ePKP	04	07.50	0.3				id	05	13.00	
SVW	84.01	11	iPd	58	00.60	-0.4	BAO	119.39	123	ePKP	04	17.00	0.2				i	05	17.40	
TSI	84.50	276	iPd	58	06.50	2.2	QUE	120.84	293	iPKPd	04	20.00	0.7				i	07	26.90	
LON	84.78	35	eP	58	03.99	-1.1	HVD	123.58	205	iPKPc	04	25.00	0.5				i	07	57.00	
PGC	85.11	33	eP	58	08.00	1.5	FRS	124.41	205	iPKPc	04	28.20	2.3	WIT	148.08	354	ePKPc	05	09.00	0.9
	1.0s		91.00nm			5.4mb		0.7s		54.79nm				SPC	148.17	336	ePKP	05	08.40	-0.3
TTA	85.65	10	ePd	58	08.80	-0.1	SEK	124.68	208	iPKPc	04	27.00	0.3				i	05	14.00	
PMR	85.75	14	ePd	58	08.50	-0.8		0.9s		10.08nm							e	07	30.20	
	1.2s		293.00nm			5.9mb	PRY	125.95	209	iPKPd	04	29.80	0.6	PSN	148.28	321	iPKPc	05	09.00	0.2
BJI	85.87	316	Pd	58	10.50	0.1		0.9s		7.69nm				ISR	148.29	325	ePKPd	05	03.00	-5.8X
	1.7s		0.41nm			2.9mb X	BFS	126.28	208	iPKPc	04	30.00	0.2	MLR	148.37	326	iPKPc	05	09.00	-0.1
			PP	01	38.00			1.5s		222.22nm				PRNI	148.39	294	ePKPc	05	10.00	0.6
			SKS	07	40.00		SLR	126.59	211	iPKPc	04	30.60	0.2	ECP	148.41	9	iPKPd	05	12.60	3.9X
SIT	85.92	22	eP	58	10.70	0.5		1.3s		57.69nm					0.9s		234.00nm			
GYA	86.39	300	iPd	58	14.00	0.6	KSR	127.12	209	iPKPc	04	31.50	0.0	SRFA	148.41	291	ePKP	05	09.80	0.4
	1.4s		0.20nm			2.7mb X		1.2s		20.00nm				LFK	148.45	304	iPKP	05	14.80	5.4X
			ipP	00	16.00	559kmX	MAIO	127.50	300	ePKP	04	17.00	-14.8X	CEI	148.47	332	iPKPc	05	18.00	9.1X
			sP	01	16.00					i	04	31.00		CLL	148.49	346	ePKP	05	08.00	-0.9
			PP	01	45.00					i	06	39.00			1.6s		81.00nm			
			SKS	07	45.00		PDCR	128.08	126	ePKP	04	25.30	-8.1X	BADA	148.62	290	ePKP	05	10.10	0.4
NNT	86.79	285	iPd	58	16.20	0.9				e	06	57.20		BRG	148.67	345	iPKPd	05	09.00	-0.2
LOE	86.86	290	iPd	58	16.50	0.9	NPA	128.23	229	iPKP	04	34.50	0.9				i	05	14.00	
TOA	86.88	15	ePd	58	15.10	0.3		0.8s		70.00nm							i	05	18.60	
TIY	87.20	312	iPd	58	18.00	1.1				i	06	46.50					e	07	31.00	
	1.3s		0.30nm			2.9mb X	KEV	128.94	349	ePKP	04	26.00	-7.3X				e	12	12.00	
			SKS	07	49.50			1.0s		64.00nm				GPA	148.79	314	ePKP	05	09.00	-0.7
PNT	87.51	34	iP	58	19.00	1.0				i	04	33.00		WTS	148.87	353	iPKPc	05	10.00	0.6
	0.8s		99.00nm			5.6mb	BUL	131.08	215	iPKPd	04	40.00	0.9		1.0s		63.00nm			
KBR	87.51	286	e(P)	58	21.20	2.6X		0.8s		20.52nm				CMP	148.99	327	ePKPc	05	10.00	0.1
NST	87.61	288	iPd	58	22.50	3.5X	SHI	133.27	291	ePKP	04	27.00	-16.1X	BUC1	149.08	324	ePKPc	05	12.00	2.0
XAN	87.99	308	iPd	58	21.30	0.7	SUF	135.09	344	ePKP	04	30.00	-15.2X	GBZT	149.11	316	ePKP	05	10.00	-0.1
NEW	88.24	36	P	58	21.40	0.0	NUR	137.33	343	ePKP	04	36.00	-13.5X	ISK	149.22	317	ePKP	05	14.90	4.6X
	0.7s		21.56nm			5.1mb		0.8s		67.50nm				ITU	149.23	317	ePKP	05	09.00	-1.3
BSI	88.26	277	ePd	58	24.00	1.8				i	04	48.80		YLV	149.27	315	iPKP	05	09.40	-1.1
ALQ	88.28	52	eP	58	22.20	0.1	TAB	137.80	304	e(PKP)	04	40.00	-11.3X	PRU	149.33	343	ePKP	05	10.00	-0.2
	1.0s		15.50nm			4.8mb				e	04	42.00			1.5s		33.50nm			
			epP	00	28.00	578km				e	04	51.00		PSZ	149.34	335	ePKP	05	10.20	-0.2
SNA	88.80	179	iPd	58	25.40	1.8	RYD	138.26	284	ePKP	04	42.70	-9.7X	MOX	149.42	347	ePKPd	05	10.00	-0.3
	0.6s		14.00nm			5.0mb	NAI	138.78	242	iPKP	04	48.00	-5.9X		1.6s		71.00nm			
HIA	88.81	325	ePd	58	24.46	0.4		1.0s		20.00nm							i	05	16.00	
IMA	88.95	10	ePd	58	23.90	-0.5	NB2	139.50	353	PKP	04	43.80	-9.7X				i	05	22.50	
COL	88.97	13	eP	58	22.78	-1.6		0.9s		44.70nm							epP	07	34.00	
FBA	88.97	13	ePd	58	23.20	-1.2	UPP	139.58	347	iPKP	04	45.10	-8.5X	CTT	149.58	317	iPKP	05	10.00	-0.8
KMI	89.05	297	iPd	58	27.76	1.8				i	07	34.80		DRA	149.80	326	iPKPc	05	17.00	6.0X
BDT	89.20	289	eP	58	29.00	2.6X	HFS	140.03	350	ePKP	04	45.70	-8.7X	BCK	149.87	309	iPKP	05	10.30	-1.2
	1.1s		116.50nm			5.7mb		0.4s		39.70nm				JMB	149.95	321	ePKP	05	11.00	-0.3
HHC	89.32	315	Pd	58	27.40	0.8	BHD	140.08	297	ePKPd	04	47.00	-8.3X	SRO	150.03	337	ePKP	05	10.80	-0.5
			SKS	08	02.00		MSL	140.61	302	ePKPd	04	50.00	-6.3X				i	05	17.40	
BW06	89.84	43	P	58	29.50	0.3				e	04	56.50					i	05	25.60	
			pP	00	35.50	577km	QASM	141.12	286	ePKP	04	52.70	-4.8X	BUD	150.04	336	ePKP	05	10.50	-0.8
CHG	89.85	290	iPd	58	30.80	1.4	AAE	142.00	257	ePKP	04	57.00	-2.7X	ZST	150.14	339	ePKP	05	11.50	0.1
	1.0s		115.00nm			5.8mb	CDP	144.48	349	iPKPd	05	01.90	-0.3				i	05	18.00	
BTO	90.23	314	iPd	58	32.00	1.2		1.0s		508.00nm							i	05	26.30	
CD2	90.58	303	eP	58	34.00	1.4				ipP	05	25.00					e	07	34.30	
GOL	91.20	48	P	58	36.00	0.5	KVT	144.53	312	iPKP	05	03.50	0.6	PVL	150.20	323	iPKPc	05	12.00	0.3
	0.9s		37.88nm			5.4mb	GAZ	145.04	305	iPKP	05	03.50	-0.3	DST	150.25	314	iPKP	05	17.80	5.8X
			pP	00	45.10	593kmX	EKA	145.66	5	PKP	05	03.00	-1.2	KHL	150.26	311	ePKP	05	12.00	-0.1
GLD	91.32	48	P	58	36.80	0.8		0.8s		126.10nm				UCC	150.27	356	PKP	05	12.00	0.5
	1.0s		64.00nm			5.6mb	KAS	145.97	314	iPKPc	05	05.40	0.1				i	05	17.70	
			pP	00	44.70	586km	IAS	146.40	327	ePKP	05	09.00	3.3X				e	05	25.90	
LZH	92.63	308	iPDIFd	58	42.97	0.9	DMU	146.66	9	ePKP	05	08.10	2.2	MEM	150.32	354	iPKPc	05	12.06	0.5
SES	92.73	36	iPc	58	41.30	-0.7	CLI	146.97	326	ePKP	05	06.00	-0.7				i	05	17.78	
	0.7s		32.00nm			5.5mb	BIR	146.98	326	ePKP	05	10.00	3.4X				e	05	26.30	
EDM	92.96	33	iP	58	42.50	-0.5	PPE	147.02	326	ePKPc	05	10.00	3.3X	BNT	150.33	316	iPKP	05	10.90	-1.1
BRW	93.41	7	ePd	58	44.40	-0.2	BHL	147.14	300	PKPc	05	06.00	-1.4	VKA	150.34	340	ePKPd	05	11.00	-0.8
RSSD	94.03	44	P	58	47.00	-1.4				PP	08	16.00					i	05	18.20	
			pP	00	54.20	581km	PTT	147.17	328	ePKP	05	08.00	1.1				i	05	27.20	
INK	95.02	15	ePd	58	50.50	-1.5	HRI	147.22	299	ePKP	05	08.00	0.4	EDC	150.37	316	iPKP	05	12.00	0.0
	1.1s		484.00nm			6.6mb X	DLE	147.31	9	ePKP	05	09.70	2.8X	KHC	150.37	344	ePKP	05	12.00	0.2
GTA	96.86	309	iPd	59	01.60	0.5		0.9s		323.00nm				GRF	150.41	347	iPKPd	05	11.70	-0.1

31d 00h

			e	05	18.00		LIT	153.84	321	ePKP	05	16.10	-0.9				i	05	54.50		
			e	05	27.60		PHP	153.89	326	ePKP	05	16.30	-0.6	MNS	156.73	338	PKP	05	19.70	-1.1
BZS	150.42	330	ePKP	05	11.00	-0.9	PUK	153.91	327	ePKP	05	15.90	-1.0				i	05	53.20		
WET	150.54	344	ePKP	05	12.00	-0.1	SSF	154.04	357	ePKP	05	16.30	-0.7	SBF	156.74	349	ePKP	05	19.70	-1.1
			i	05	18.40		LBF	154.09	356	ePKP	05	16.50	-0.6	FRF	157.17	350	ePKP	05	20.30	-0.9
			i	05	28.20		OHR	154.11	325	iPKPd	05	16.60	-0.8	SGO	157.24	332	PKP	05	21.00	-0.4
SNF	150.56	356	iPKPc	05	12.51	0.5		1.5s		0.13nm							i	05	55.80		
			i	05	18.32					i	05	25.00		RDP	157.27	337	PKP	05	21.20	-0.3
			i	05	26.90					i	05	43.00					i	05	56.00		
AMAN	150.69	282	ePKP	05	20.00	7.0X	SDA	154.13	328	ePKP	05	16.10	-1.1	LRG	157.32	350	ePKP	05	20.80	-0.6
SOP	150.76	339	ePKP	05	15.00	2.6	LACI	154.30	327	ePKP	05	17.00	-0.5	LMR	157.41	350	ePKP	05	20.70	-0.8
AGRW	150.80	281	iPKPd	05	19.90	6.8X	TMA	154.31	348	ePKPc	05	17.70	0.1	MGR	157.47	331	PKP	05	20.50	-1.2
DIM	150.82	321	ePKP	05	12.00	-0.7	AVF	154.32	357	ePKP	05	16.80	-0.6				i	05	56.50		
DOU	150.95	356	PKP	05	12.90	0.3	SAL	154.42	345	PKP	05	17.00	-0.5	TDS	157.48	329	PKP	05	21.60	-0.1
			i	05	19.10					i	05	43.50					i	05	57.50		
			i	05	27.80		TIR	154.43	326	ePKP	05	17.20	-0.5	CVF	157.68	345	ePKP	05	20.80	-1.1
KDZ	151.14	321	ePKP	05	13.00	-0.2	SMF	154.44	356	ePKP	05	17.10	-0.5	GRI	158.08	327	PKP	05	22.65	0.2
KOT	151.16	294	ePKP	05	20.00	6.5X	MDI	154.44	346	PKP	05	16.50	-1.0		0.8s		172.30nm			
KMR	151.20	342	iPKP-	05	19.30	6.3X				i	05	43.00		EPF	158.12	2	ePKP	05	22.10	-0.3
			i	05	30.50		MMK	154.53	349	ePKPc	05	18.90	0.9	SOI	158.83	326	PKPc	05	23.10	-0.1
WLF	151.24	353	PKPc	05	13.90	0.9	MFF	154.54	2	ePKP	05	17.10	-0.6				i	06	03.70		
			i	05	20.50		VAI	154.56	348	PKP	05	17.40	-0.3	ATN	159.07	327	PKP	05	22.50	-1.0
			i	05	30.50					i	05	44.00					e	06	02.50		
			e	07	35.50		BGF	154.58	358	ePKP	05	17.40	-0.4	MNO	159.63	328	PKP	05	27.00	2.6
PLD	151.27	322	ePKP	05	20.00	6.7X	DIX	154.59	350	ePKPc	05	19.10	0.9				i	06	07.00		
PGB	151.28	323	ePKP	05	13.00	-0.4	HVAR	154.61	334	iPKP	05	26.10	8.2X	GUD	159.97	12	ePKP	05	25.50	0.9
RZN	151.52	321	iPKPc	05	14.00	0.0				i	05	43.50		EPLA	160.07	17	ePKP	05	26.00	1.4
BEO	151.55	331	ePKP	05	12.50	-1.1	AGG	154.61	319	ePKP	05	17.10	-1.0	ETOR	160.14	8	ePKP	05	26.00	1.3
			i	05	20.50		EMS	154.68	351	ePKPc	05	19.20	1.0	EROQ	160.33	2	e(PKP)	05	25.50	0.8
			i	05	31.70		BERA	154.85	325	ePKP	05	18.10	-0.2	TOL	160.73	13	ePKP	05	26.00	0.8
HLW	151.59	294	ePKP	05	22.00	7.8X	TCF	154.87	359	ePKP	05	17.50	-0.7	EVAL	162.15	21	ePKP	05	28.50	1.8
			e	05	35.00		LSF	154.92	360	ePKP	05	17.50	-0.7	EVIA	162.22	10	e(PKP)	05	28.50	1.7
IZM	151.78	313	iPKP	05	20.90	6.7X	MAF	154.93	358	ePKP	05	17.70	-0.6	EBAN	162.44	13	e(PKP)	05	28.00	1.0
VTS	151.78	324	iPKP	05	13.00	-1.3	ORX	154.93	349	PKP	05	18.82	0.4	AAPN	163.18	15	ePKP	05	28.50	0.6
FUR	151.84	346	iPKPc	05	14.40	0.4	ORO	154.94	349	PKP	05	17.20	-1.2				e	06	23.50		
			i	05	21.50					i	05	45.50		ASMO	163.22	14	ePKP	05	28.40	0.5
			i	05	33.60		LSD	155.24	350	PKP	05	17.80	-1.2				e	06	23.00		
MMB	152.16	322	ePKPc	05	14.00	-0.7	LPG	155.26	351	ePKP	05	18.80	-0.3	AFC	163.36	14	e(PKP)	05	28.50	0 4
KBA	152.31	342	iPKPc	05	14.20	-0.7	AOI	155.38	338	ePKP	05	18.63	-0.4	ALOJ	163.37	15	ePKP	05	29.00	0.9
	0.8s		58.10nm				SRN	155.40	324	ePKP	05	18.60	-0.4				e	06	24.00		
			i	05	21.10		BOB	155.46	346	PKP	05	18.80	-0.3	ACHM	163.44	15	ePKP	05	28.70	0.6
			i	05	36.10					i	05	49.00					e	06	24.50		
			ePP	09	05.00		RSP	155.52	350	PKP	05	18.00	-1.3	ATEJ	163.58	15	ePKP	05	29.00	0.7
CDF	152.34	351	ePKP	05	14.10	-0.7	SFI	155.62	341	PKPc	05	19.70	0.5				e	06	24.80		
KKB	152.34	323	ePKPc	05	14.00	-0.9				i	05	50.00		APHE	163.62	14	ePKP	05	29.00	0.7
FLN	152.37	3	ePKP	05	13.80	-0.9	SSO	155.67	338	ePKP	05	19.56	0.2				e	06	25.00		
PTJ	152.51	338	ePKP	05	15.20	0.1	MME	155.69	343	PKP	05	29.60	9.9X	LIC	163.98	157	PKPd	05	29.52	0.4
LDF	152.55	2	ePKP	05	14.10	-0.8	PGD	155.70	341	PKP	05	19.50	-0.1		1.1s		48.00nm			
ZAG	152.57	337	ePKPd	05	15.50	0.5				i	05	50.50		KIC	164.21	157	PKPd	05	29.70	0.4
GRR	152.72	3	ePKP	05	14.50	-0.7	BNI	155.71	351	PKP	05	20.30	0.8		1.1s		53.50nm			
SLE	152.78	349	ePKPc	05	15.30	0.0				i	05	49.50		TIC	164.37	156	PKPd	05	29.88	0.4
HAU	152.86	353	ePKP	05	15.00	-0.4	RRL	155.82	350	PKP	05	20.36	0.5		1.0s		50.00nm			
LJU	152.87	340	ePKPd	05	15.00	-0.5	BDI	155.84	343	PKP	05	18.10	-1.6	AVE	165.59	31	iPKP	05	32.00	2.1
			i	05	23.50					i	05	49.50					i	06	34.00		
FVI	152.91	342	PKP	05	14.50	-1.0	CRE	155.85	341	PKP	05	18.50	-1.2	TIO	167.55	36	iPKP	05	33.00	1.3
			i	05	37.50					i	05	50.50		S.D. = 0.9 on 367 of 419 obs.						
KNT	152.91	322	ePKP	05	14.00	-1.7	CIO	155.85	339	ePKP	05	18.73	-1.0	---						
BSF	152.97	352	ePKP	05	15.10	-0.6	RJF	155.86	360	ePKP	05	19.20	-0.4	OCT 31, 1989 00h 11m 45.59± 0.57s						
VAY	152.99	323	iPKP	05	14.60	-1.2	PCP	155.87	347	PKP	05	18.82	-0.8	32.740 S ± 6.5km 70.385 W ± 8.4km						
	1.2s		0.13nm				FIR	155.92	342	ePKP	05	15.00	-4.6X	DEPTH = 103.9 ± 9.3 km						
			i	05	22.80					i	05	50.00		CHILE-ARGENTINA BORDER REGION (127)						
			i	05	38.30		CKI	156.04	348	PKP	05	18.80	-1.0							
LPF	153.07	3	ePKP	05	14.80	-0.8				i	05	50.00		JACH	0.18	288	iPc	12	00.00	-0.7
ZLA	153.07	349	ePKPc	05	16.10	0.3	ALP	156.07	337	ePKP	05	19.19	-0.9				iS	12	10.50		
VOY	153.09	340	ePKP	05	15.00	-0.9	BRT	156.11	329	PKPc	05	19.80	-0.2	PEL	0.48	212	iPd	12	01.60	-0.3
			i	05	23.40					i	05	51.50					iS	12	13.70		
			e	05	37.00		ASS	156.13	339	PKP	05	19.00	-1.0	ROCH	0.58	246	iPc	12	02.90	0.1
VBY	153.10	338	ePKPd	05	16.00	0.2				i	05	51.50					iS	12	16.00		
			i	05	24.40		DOI	156.15	349	PKP	05	19.50	-0.6	FCH	0.59	172	iPd	12	03.00	-0.1
			i	05	38.40					i	05	49.50					iS	12	16.00		
SAX	153.12	348	ePKPc	05	16.40	0.2	LCI	156.16	327	PKPc	05	20.50	0.5	SAN	0.75	198	iPd	12	04.50	0.4
SKO	153.16	325	iPKP	05	15.30	-0.7				i	05	51.50					iS	12	18.30		
	1.2s		151.00nm				PZZ	156.18	350	PKP	05	20.36	0.2	PCH	0.89	187	iP	12	05.60	0.1
			i	05	24.40		PII	156.18	343	PKP	05	18.50	-1.5				iS	12	21.00		
			i	05	39.20					i	05	50.50		TACH	1.02	207	iPd	12	07.00	0.2
			i	07	45.00		LFF	156.22	1	ePKP	05	19.50	-0.5				iS	12	24.00		
CEY	153.18	339	ePKPd	05	15.50	-0.4	CAF	156.23	359	ePKP	05	19.80	-0.3	CHCH	1.21	191	iPc	12	09.40	0.4
			i	05	24.00		ROB	156.24	348	PKP	05	19.54	-0.6				iS	12	28.00		
			i	05	38.50		FIN	156.26	348	PKP	05	19.23	-0.9	LCCH	1.24	233	iPc	12	09.60	0.4
TRI	153.42	340	ePKPc	05	16.20	0.0	ENR	156.39	349	PKP	05	18.82	-1.6				iS	12	28.00		
			e	05	24.20		STV	156.39	349	PKP	05	19.44	-0.9	LNV	1.49	215	iPc	12	12.00	-0.2
			i	05	39.10		BCAO	156.45	228	iPKPd	05	20.90	-0.4				iS	12	32.50		
OSS	153.49	346	ePKPc	05	16.80	0.3		0.9s		59.00nm				ZON	1.87	51	iPd	12	18.00	0.8
LLS	153.55	348	ePKPc	05	16.90	0.3				id	05	54.80					eS	12	42.00		
CTI	153.72	344	PKPd	05	16.00	-0.8	LPO	156.48	0	ePKP	05	20.00	-0.4	RFA	2.58	142	ePc	12	26.00	-0.6
			i	05	40.50		IMI	156.61	348	PKP	05	20.05	-0.6	CNCB	16.01	8	P	15	27.00	0.4
LOR	153.82	356	ePKP	05	16.10	-0.6	DUI	156.69	334	PKP	05	25.90	5.1X	LPB	16.27	8	P	15	29.00	-0.7

ZOBO 16.53 8 P 15 23.00 -10.0X
S.D. = 0.5 on 14 of 15 obs.

? OCT 31, 1989 00h 50m 56.49± 1.46s
6.185 N ±23.1km 73.389 W ±17.4km
DEPTH = 196.5 ± 14.2 km
NORTHERN COLOMBIA (99)

FUQ	0.79	206	eP	51 26.00	0.8
BMG	0.93	19	iPd	51 26.00	0.2
BOG	1.69	203	eP	51 31.00	-1.4
			eS	52 02.00	
HOBC	3.28	237	iPd	51 48.45	-1.5
DIAC	4.01	224	eP	51 59.09	0.0
HOOC	4.21	230	eP	52 01.90	0.2
ANCC	4.36	233	eP	52 03.16	-0.2
SALC	4.59	226	eP	52 06.85	0.5
PURC	4.85	218	eP	52 11.71	1.7
UPA	6.69	295	eP	52 52.50	19.0X
			i	53 04.50	
			e	53 34.00	
ZOBO	22.91	167	P	55 44.00	-1.0
LPB	23.17	167	(P)	55 53.00	5.7X
CNCB	23.46	167	P	55 51.00	0.7
WRA	149.79	240	PKPd	10 36.80	16.5X
	0.6s		3.10nm		
WB5	149.80	241	ePKP	10 22.90	2.6X
			e	10 36.90	

S.D. = 1.2 on 11 of 15 obs.

& OCT 31, 1989 01h 01m 08.00s
63.012 N 149.386 W
DEPTH = 86.9km
CENTRAL ALASKA (1)
<AGS-P>.

HUR	0.12	253	eP	01 20.13	1.3
CUT	0.73	214	iP	01 24.50	-0.3
MCK	0.75	15	eP	01 24.95	-0.1
KTH	0.88	309	eP	01 26.27	-0.2
PWA	1.39	190	eP	01 32.68	0.2
PME	1.40	173	eP	01 33.35	0.7
SKT	1.44	225	eP	01 32.64	-0.6
NCA	1.57	130	eP	01 35.23	0.3
WRH	1.57	21	iP	01 34.59	-0.4
SUA	1.68	203	eP	01 36.95	0.5
DDM	1.77	62	eP	01 38.25	0.7
HDA	1.77	37	eP	01 37.21	-0.3
CCB	1.78	22	iP	01 37.19	-0.5
PAX	1.79	90	eP	01 38.71	0.8
SDG	1.83	104	eP	01 39.22	0.8
RDS	1.90	16	eP	01 38.93	-0.4
FBA	2.02	20	iP	01 40.53	-0.4
NCG	2.07	220	eP	01 41.42	-0.3
GLM	2.17	23	eP	01 42.48	-0.5
KLU	2.23	132	eP	01 43.29	-0.5
SLKM	2.54	189	eP	01 48.33	0.3
FID	2.65	147	eP	01 48.53	-1.0
RDT	2.84	212	eP	01 53.07	1.0

23 obs. associated

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* OCT 31, 1989 01h 43m 28.16± 1.09s
31.999 S ±10.9km 68.866 W ±15.1km
DEPTH = 10.0km (geophysicist)
SAN JUAN PROVINCE, ARGENTINA (137)

ZON	0.48	19	iPd	43 38.00	0.1
JACH	1.61	245	iPd	43 57.50	0.7
			iS	44 25.00	
FCH	1.79	222	iPc	44 02.90	3.3X
			iS	44 34.50	
PEL	1.91	233	iPd	44 02.00	0.8
			iS	44 33.00	
ROCH	2.06	241	iPc	44 02.70	-0.7
SAN	2.10	226	eP	44 05.00	1.2
PCH	2.13	220	iP	44 06.10	1.7
			iS	44 40.60	
TACH	2.40	226	iPc	44 08.00	-0.1
			iS	44 44.50	
CHCH	2.44	217	iPc	44 09.70	0.9
			iS	44 48.10	
LCCH	2.71	236	iPd	44 11.00	-1.6
			iS	44 43.10	
RFA	2.78	173	ePc	44 13.10	-0.6
LNV	2.90	227	iPc	44 12.60	-2.5

S.D. = 1.4 on 11 of 12 obs.

& OCT 31, 1989 01h 45m 21.24s
60.361 N 152.108 W
DEPTH = 76.2km
SOUTHERN ALASKA (2)
<AGS-P>.

RDT	0.26	325	iP	45 32.71	-0.4
RED	0.33	280	iP	45 33.17	-0.4
ILIM	0.51	237	eP	45 34.05	-0.9
NNL	0.52	128	iP	45 35.74	0.8
NKA	0.58	48	iP	45 37.13	1.6
SPU	0.82	2	iP	45 37.83	-0.4
BRLK	0.86	134	eP	45 37.90	-0.7
OPT	0.91	219	eP	45 38.31	-0.9
			eS	45 49.96	
XLV	0.93	168	eP	45 38.42	-1.1
CNPM	0.95	152	iP	45 38.90	-0.8
SLKM	0.95	80	eP	45 39.03	-0.7
AUW	1.21	215	eP	45 41.75	-1.2
SUA	1.29	30	iP	45 43.89	-0.3
SEW	1.35	100	eP	45 43.54	-1.3
PMS	1.53	54	ePc	45 46.70	-0.6
MCNL	1.63	225	eP	45 46.68	-1.9
CDD	1.63	209	eP	45 47.05	-1.6
SKT	1.65	10	eP	45 47.75	-1.1
PWA	1.69	39	iPc	45 48.90	-0.4
SVW	1.88	295	iPd	45 49.60	-2.4
PMR	1.91	48	iPc	45 51.00	-1.3
GLI	2.53	76	eP	45 57.36	-3.5
KDC	2.63	184	iPc	45 59.30	-2.9
FID	2.81	80	eP	46 00.86	-3.9
TTA	3.18	326	ePd	46 07.60	-2.4
TOA	3.36	56	iPd	46 11.10	-1.4
FBA	4.97	22	iPd	46 32.80	-2.2
IMA	5.77	354	eP	46 43.50	-2.8

28 obs. associated

OCT 31, 1989 02h 13m 27.71± 1.12s
36.707 N ±12.4km 21.074 E ± 5.4km
DEPTH = 10.0km (geophysicist)
SOUTHERN GREECE (368)

ITM	0.83	55	ePb	13 42.80	-1.0
VLI	1.50	89	ePn	13 54.50	-0.1
NEO	3.10	33	ePn	14 18.00	0.4
KZN	3.64	8	ePn	14 27.50	2.2
SOI	4.22	290	P	14 33.80	0.3
			eSn	15 19.50	
LCI	4.37	327	P	14 35.20	-0.4
OHR	4.40	357	ePn	14 36.00	-0.1
ATN	4.70	290	P	14 40.50	0.2
MEU	4.94	276	P	14 44.70	0.9
BRT	5.15	325	Pc	14 46.50	-0.1
SKO	5.27	3	ePn	14 44.00	-4.3X
MGR	5.52	310	P	14 52.00	0.0
DUI	7.13	316	P	15 13.50	-1.2
SDI	7.53	314	P	15 19.00	-1.2

S.D. = 1.0 on 13 of 14 obs.

OCT 31, 1989 03h 19m 16.84± 0.55s
46.577 N ± 4.5km 7.231 E ± 5.9km
DEPTH = 10.0km (geophysicist)
SWITZERLAND (544)
ML 2.8 (LDG).

DIX	0.51	166	ePd	19 26.40	-0.9
EMS	0.55	202	ePc	19 27.60	-0.4
MMK	0.73	136	ePc	19 29.80	-1.6
ORO	1.09	151	P	19 40.00	2.7X
			eSg	19 49.50	
LPL	1.12	198	Pg	19 37.80	-0.1
LPG	1.13	197	Pg	19 38.10	-0.1
			Sg	19 53.60	
ZLA	1.20	41	ePd	19 38.10	-1.2
LLS	1.25	76	ePc	19 39.40	-0.8
VAI	1.28	123	P	19 42.00	1.4
			eSg	19 56.50	
BSF	1.29	347	Pg	19 41.20	0.4
			Sg	19 58.00	
SLE	1.47	35	iP	19 43.30	-0.1
HAU	1.55	338	Pg	19 45.40	0.9
			Sg	20 05.40	
BNI	1.57	195	P	19 46.40	1.4
			eSg	20 02.90	
MDI	1.90	114	P	19 51.50	2.0
			eSn	20 09.00	
OSS	2.01	86	ePd	19 53.90	2.5X
LBF	2.27	282	Pg	20 00.00	5.0X
			Sg	20 28.40	
LOR	2.41	288	Pg	20 02.20	5.2X
			Sg	20 31.60	
SSF	2.60	282	Pg	20 05.60	5.9X
			Sg	20 38.40	
BGF	3.02	271	Pg	20 04.80	-0.8
			Sg	20 52.30	

S.D. = 1.2 on 14 of 19 obs.

OCT 31, 1989 04h 13m 35.98± 1.61s
36.646 N ±14.6km 2.450 E ± 7.4km
DEPTH = 10.0km (geophysicist)
3.9mb (1 obs.)
ALGERIA (396)
mbLg 3.6 (MDD).

ACU	2.94	310	iP	14 23.30	-0.3
			eS	14 55.50	
ESEL	3.14	6	ePn	14 26.20	-0.1
			eSn	15 01.00	
ENIJ	3.76	276	ePn	14 34.00	-1.3
			eSn	15 17.00	
ECHE	3.99	318	ePn	14 39.50	1.0
			eSn	15 23.00	
TAF	4.36	247	e(P)	15 12.00	28.2X
			e	15 40.00	
			e	15 59.00	
EVIA	4.41	298	ePn	14 45.00	0.5
			eSn	15 33.00	
EBR	4.44	340	ePn	14 25.00	-19.8X
EROQ	4.47	340	ePn	14 44.80	-0.4
			eSn	15 33.00	
AFC	4.84	279	ePn	14 51.50	0.8
			eSn	15 46.50	
EBAN	5.19	289	ePn	14 56.00	0.4
			eSn	15 54.00	
ETOR	5.46	321	ePn	15 00.00	0.6
TOL	6.05	304	ePn	15 06.00	-1.6
GUD	6.53	310	ePn	15 14.60	0.0
			eSn	16 25.00	
EPF	6.58	346	Pn	15 15.40	0.2
			Sn	16 24.00	
LMR	7.37	24	Pn	15 25.20	-1.0
LRG	7.43	23	Pn	15 26.20	-0.8
FRF	7.62	24	Pn	15 29.40	-0.2
			Sn	16 51.00	
CVF	7.71	38	Pn	15 30.20	-0.8
LPO	8.09	354	Pn	15 36.00	-0.2
CAF	8.28	358	Pn	15 38.00	-0.9
LFF	8.39	352	Pn	15 40.40	0.0
LPG	9.42	19	Pn	15 56.00	1.1
LPL	9.43	19	Pn	15 56.20	1.2
MAF	9.57	0	Pn	15 56.00	-0.7
BGF	9.91	2	Pn	16 01.00	-0.4
DOU	13.53	6	P	16 51.70	1.4
KHC	14.88	30	eP	17 17.00	8.9X
NB2	25.04	10	P	19 03.00	1.5
	1.0s		2.80nm		3.9mb

S.D. = 0.9 on 25 of 28 obs.

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* OCT 31, 1989 04h 16m 20.10± 1.94s
34.371 N ±18.5km 2.288 E ±12.3km
DEPTH = 10.0km (geophysicist)
ALGERIA (396)
mbLg 3.6 (MDD).

ACU	4.67	333	eP	17 38.30	6.0X
			eS	18 10.00	
ESEL	5.41	5	eP	17 40.60	-2.1
			eS	18 14.50	
ECHE	5.82	334	eP	17 54.50	5.9X
			eS	18 43.50	
EBR	6.59	348	ePn	18 00.00	0.6
			eSg	18 59.00	
EROQ	6.61	348	eP	18 00.00	0.3
			eS	18 48.00	
AVE	8.14	265	eP	18 21.00	-0.2
			i	18 43.00	
EPF	8.78	351	Pn	18 31.00	1.0
			Sn	19 40.00	
LMR	9.53	19	Pn	18 39.30	-1.1
LRG	9.61	18	Pn	18 40.90	-0.5
CVF	9.67	30	Pn	18 43.60	1.3
FRF	9.78	19	Pn	18 43.20	-0.6
			Sn	20 04.20	
IMI	10.47	23	P	18 54.13	0.8

31d 04h

CAF	10.54	359	Pn	18	54.50	0.2
STV	10.60	20	P	18	55.15	0.0
ENR	10.61	20	P	18	54.85	-0.4
PZZ	10.78	19	P	18	57.41	-0.2
ROB	10.81	22	P	18	57.72	-0.2
FIN	10.84	23	P	18	57.31	-1.0
RRL	11.09	17	P	19	03.56	1.6
PCP	11.25	24	P	19	02.74	-1.1
RSP	11.42	18	P	19	06.84	0.5
LPL	11.64	16	Pn	19	10.60	1.2
LSD	11.68	17	P	19	11.05	1.0
MAF	11.84	1	Pn	19	10.70	-1.2

S.D. = 1.0 on 22 of 24 obs.

? OCT 31, 1989 04h 33m 26.84±16.80s
36.730 N ±131.km 2.517 E ±57.6km
DEPTH = 10.0km (geophysicist)
ALGERIA (396)

ACU	2.93	308	eP	34	14.00	-0.3
			iS	34	45.00	
ESEL	3.05	5	eP	34	16.00	0.1
			eS	34	51.00	
ECHE	3.96	317	eP	34	29.50	0.5
			eS	35	14.00	
EROQ	4.41	339	eP	34	35.00	-0.3
			eS	35	23.00	

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

? OCT 31, 1989 04h 52m 41.26± 1.49s
32.014 S ±25.3km 69.643 W ±21.1km
DEPTH = 10.0km (geophysicist)
MENDOZA PROVINCE, ARGENTINA (139)

ZON	0.94	61	iPd	52	59.50	0.2
			eS	53	14.00	
JACH	1.04	230	iPc	53	03.50	2.5
			iS	53	22.50	
FCH	1.42	202	iPd	53	08.00	0.6
			iS	53	32.00	
PEL	1.43	218	iPd	53	08.00	0.7
			iS	53	29.90	
ROCH	1.50	230	iPd	53	08.50	0.1
			iS	53	31.00	
SAN	1.67	211	eP	53	11.00	0.3
			iS	53	35.30	
PCH	1.76	204	iPc	53	12.60	0.5
			iS	53	38.50	
TACH	1.96	213	iPd	53	14.30	-0.7
			iS	53	41.00	
CHCH	2.09	204	iPc	53	17.10	0.2
			iS	53	45.70	
LCCH	2.18	228	iPd	53	16.50	-1.6
			iS	53	44.40	
LNV	2.44	217	iPd	53	19.00	-2.7

S.D. = 1.5 on 11 of 11 obs.

OCT 31, 1989 05h 07m 57.36± 0.38s
39.579 N ± 7.4km 143.257 E ± 6.2km
DEPTH = 33.0km (normal)
4.7mb (20 obs.) 4.2Msz (1 obs.)
OFF EAST COAST OF HONSHU, JAPAN (229)

MAT	5.01	234	iPc	09	13.40	1.2
	0.8s		82.09nm			5.2mb
			eS	10	18.00	
MDJ	11.33	301	eP	10	39.80	-0.1
Z	20s		1.30um			
CN2	13.96	293	eP	11	19.60	4.7X
Z	17s		0.60um			
BJI	20.79	280	eP	12	32.50	-5.5X
Z	12s		0.60um			4 2MszX
TIY	24.09	275	eP	13	10.50	-0.3
Z	20s		0.80um			4.2Msz
WHN	25.23	258	iPd	13	22.90	1.2
	1.0s		0.06nm			2.1mb X
XAN	27.93	269	P	13	45.50	-1.1
LZH	31.15	276	Pc	14	15.00	-0.4
	1.0s		0.03nm			2.0mb X
Z	14s		0.80um			4.5MszX
GYA	33.13	258	iPc	14	32.00	-0.7
CD2	33.18	267	eP	14	32.00	-1.1
GTA	33.28	284	P	14	34.00	0.0
KMI	36.82	259	Pd	15	04.50	0.1
			sP	15	13.50	
WMQ	41.04	295	P	15	40.00	0.8
CHG	43.35	255	eP	15	59.00	0.8
PMR	45.73	38	P	16	17.00	0.3
FBA	46.18	33	P	16	28.00	7.7X
	0.5s		3.51nm			4.6mb
INK	51.46	28	eP	17	00.00	-1.1
MBC	53.67	17	eP	17	26.00	8.5X
	1.0s		6.00nm			4.6mb
WB5	59.73	190	eP	18	00.20	-1.0
WRA	59.79	190	Pc	18	01.10	-0.5
	0.9s		3.30nm			4.5mb
GBA	62.86	265	Pc	18	21.30	-1.2
	0.9s		5.30nm			4.7mb
SOD	63.19	337	iP	18	23.30	-0.7
PNT	65.35	46	eP	18	48.00	9.6X
SUF	66.36	333	eP	18	43.00	-1.6
	0.6s		1.20nm			4.2mb
NUR	68.39	332	eP	18	51.80	-5.5X
CMB	71.23	56	P	19	24.80	9.6X
KVN	72.08	54	P	19	21.00	0.6
HFS	72.36	336	eP	19	20.40	-1.1
	0.6s		8.70nm			4.9mb
Z	17s		0.20um			4.5MszX
			LR	43	30.00	
NB2	72.40	338	P	19	20.80	-0.9
	0.8s		9.20nm			4.8mb
TNP	73.21	54	P	19	27.20	0.1
	0.8s		3.68nm			4.4mb
BW06	74.85	47	P	19	36.10	-0.5
	1.2s		6.85nm			4.5mb
RSSD	76.97	43	P	19	55.00	6.5X
BRG	79.59	330	e(P)	20	01.60	-0.8
CLL	79.60	331	eP	20	02.00	-0.4
	1.0s		11.00nm			4.8mb
PRU	80.06	329	P	20	05.30	0.4
KHC	81.12	329	eP	20	11.50	0.9
ALQ	81.85	51	eP	20	20.00	5.1X
	1.0s		2.50nm			4.2mb
CDF	84.09	332	eP	20	26.60	0.6
LOR	86.27	334	eP	20	37.40	0.6
	0.8s		5.30nm			4.8mb
LBF	86.47	333	eP	20	38.20	0.3
	0.8s		5.90nm			4.9mb
SSF	86.57	334	eP	20	38.90	0.6
	0.8s		3.20nm			4.6mb
LPG	86.75	331	eP	20	40.20	0.6
	0.7s		3.30nm			4.7mb
SMF	86.81	333	eP	20	40.20	0.7
	1.0s		8.80nm			4.9mb
AVF	86.86	334	eP	20	40.50	0.8
	0.8s		9.40nm			5.1mb
MAF	87.62	334	eP	20	43.90	0.5
TCF	87.68	334	eP	20	44.70	1.0
	1.0s		8.80nm			5.0mb
LSF	87.94	335	eP	20	45.90	0.9
FVM	88.44	40	P	20	44.50	-3.0X
	0.9s		22.03nm			5.5mb
ZOBO	144.13	59	ePKP	27	28.00	-4.4X
LP8	144.34	59	PKP	27	27.00	-5.6X
CNCB	144.62	59	PKP	27	25.00	-8.2X
CCH	146.24	58	ePKP	27	36.00	0.4

S.D. = 0.8 on 39 of 52 obs.

? OCT 31, 1989 05h 47m 25.84± 2.38s
4.136 S ±22.7km 133.501 E ±18.1km
DEPTH = 33.0km (normal)
3.9mb (2 obs.)
WEST IRIAN REGION (196)

AAI	5.31	275	eP	48	44.30	-0.7
MTN	8.97	195	iPd	49	36.80	0.7
			eS	51	17.00	
KNA	12.44	202	eP	50	22.00	-1.6
WB5	15.67	177	eP	51	05.80	-0.2
			eS	53	57.00	
WRA	15.73	177	Pd	51	06.00	-0.8
	0.7s		2.20nm			3.4mb
ASPA	19.42	179	iPc	51	53.00	0.5
	0.9s		18.00nm			4.3mb
			eS	55	23.60	
CTA	20.14	143	eP	52	00.00	-0.2
MBL	21.51	217	eP	52	16.30	2.1
CNCB	150.27	135	PKP	07	20.00	8.5X
ZOBO	150.53	134	PKP	07	18.00	6.1X
CCH	151.13	138	ePKP	07	20.00	7.5X

S.D. = 1.3 on 8 of 11 obs.

? OCT 31, 1989 06h 10m 08.61±14.68s
36.879 N ±116.km 2.430 E ±50.9km
DEPTH = 10.0km (geophysicist)
ALGERIA (396)

ACU	2.78	307	iP	10	53.80	-0.2
			iS	11	25.50	
ESEL	2.91	7	eP	10	55.80	0.1
			eS	11	30.00	
ECHE	3.81	316	eP	11	09.00	0.4
			eS	11	53.50	
EROQ	4.24	339	eP	11	14.50	-0.2
			eS	12	04.00	

S.D. = 0.5 on 4 of 4 obs.

% OCT 31, 1989 07h 09m 42.17± 0.78s
36.410 N ± 6.2km 5.829 W ± 6.8km
DEPTH = 10.0km (geophysicist)
STRAIT OF GIBRALTAR (385)

CNIL	0.18	257	iP	09	46.00	-0.3
EJIF	0.29	82	iP	09	47.50	-0.8
			eS	09	53.00	
PLAT	0.29	169	iP	09	48.00	-0.3
OJEN	0.39	143	iP	09	51.00	0.8
EPRU	0.73	41	eP	09	56.50	-0.1
EHOR	1.48	18	eP	10	09.50	0.7
			eS	10	29.50	

S.D. = 0.8 on 6 of 6 obs.

% OCT 31, 1989 07h 15m 06.68± 0.58s
40.774 N ± 4.7km 23.054 E ± 5.2km
DEPTH = 10.0km (geophysicist)
GREECE (364)

THE	0.16	206	iPgc	15	10.40	0.1
			eSg	15	12.80	
KNT	0.40	343	iPgc	15	15.00	0.0
			eSg	15	20.60	
GRG	0.53	290	ePg	15	17.50	0.1
			eSg	15	24.20	
SRS	0.53	50	ePgc	15	17.20	-0.3
			eSg	15	24.50	
LIT	0.80	213	ePg	15	22.00	-0.2
			eSg	15	33.40	
OUR	0.83	122	ePg	15	23.30	0.6
			eSg	15	35.40	
PAIG	0.97	150	ePgc	15	24.80	-0.3
			eSg	15	38.60	

S.D. = 0.4 on 7 of 7 obs.

OCT 31, 1989 07h 18m 48.90± 1.66s
11.009 S ± 6.4km 162.397 E ± 9.8km
DEPTH = 50.7 ± 13.9 km
5.1mb (10 obs.) 4.5Msz (1 obs.)
SOLOMON ISLANDS (193)
CENTROID, MOMENT TENSOR (HRV)
Data Used: GDSN
L.P.B.: 12S, 20C
Centroid Location:
Origin Time 07:18:53.3 1.4
Lat 11.05S 0.17 Lon 162.40E 0.21
Dep 21.013.3 Half-duration 1.7
Moment Tensor; Scale 10**16 Nm
Mrr=-1.72 0.66 Mtt= 1.59 0.74
Mff= 0.12 1.10 Mrt= 0.49 1.02
Mrf=-8.03 5.04 Mtf= 0.90 0.63
Principal Axes:

T	Val= 7.31	Plg=41	Azm= 95
N	1.66	6	359
P	-8.97	48	262

Best Double Couple:Mo=8.1*10**16
NP1:Strike=241 Dip= 7 Slip= -28
NP2: 359 87 -96

HNR	2.88	303	ePc	19	35.00	1.7
			eS	20	14.00	
DZM	11.66	161	iPc	21	32.60	-2.9
			iS	23	37.80	
PMG	15.09	275	eP	22	24.00	3.5X
CTA	17.97	238	iPc	22	58.80	1.9
	1.0s		362.00nm			5.5mb
			iS	26	34.00	
BRS	18.64	208	iPc	23	05.20	0.2
RMQ	20.07	218	iPd	23	21.70	0.8
	1.0s		176.00nm			5.3mb
COO	21.78	205	eP	23	38.00	-0.3
			e	23	50.00	
JAY	23.12	290	ePd	23	49.20	-2.3

			e	25	45.00	
CMS	25.50	214	iPc	24	14.70	0.4
	1.0s		55.00nm			5.0mb
			e	24	22.00	
BWA	26.57	207	eP	24	23.70	-0.5
CAN	27.10	205	eP	24	30.20	1.2
STK	28.29	220	eP	24	40.00	0.2
WB5	28.38	248	iPd	24	40.00	-0.7
WRA	28.42	248	Pd	24	40.00	-1.1
	0.5s		11.10nm			4.7mb
ASPA	29.90	241	iPd	24	52.60	-1.8
	1.0s		27.00nm			4.9mb
Z	23s		0.73um			4.2MszX
			LR	35	22.70	
TOO	30.50	207	eP	25	01.00	1.5
KNA	33.03	258	iPd	25	21.20	-0.6
WARB	36.94	241	eP	25	55.10	0.0
	0.8s		37.00nm			5.4mb
MBL	42.01	251	iPd	26	37.00	-0.2
COOL	42.99	236	eP	26	44.50	-0.6
MEKA	44.09	243	eP	26	55.00	0.9
NANU	46.14	249	iPd	27	11.00	0.6
	0.8s		77.00nm			5.7mb
BAL	46.57	238	eP	27	13.30	-0.5
NWAO	46.77	235	eP	27	14.70	-0.6
Z	20s		0.50um			4.5Msz
MRWA	46.84	240	eP	27	16.20	0.3
	0.5s		17.00nm			5.2mb
MUN	47.34	237	eP	27	19.40	-0.4
MAT	52.50	335	(P)	27	59.00	-0.1
CN2	64.07	331	iPc	29	19.80	0.0
XAN	67.69	314	P	29	42.00	-1.3
CHG	69.22	295	eP	29	52.40	-0.6
CD2	69.99	309	eP	29	57.00	-0.5
GTA	76.69	315	eP	30	37.00	0.4
SPA	79.06	180	ePd	30	51.20	2.0
	1.0s		9.00nm			4.7mb
SVW	79.13	19	eP	30	50.50	1.0
IMA	83.38	17	eP	31	12.30	0.5
	0.8s		2.10nm			4.2mb
MAW	83.51	202	eP	31	13.00	0.7
FBA	84.34	19	eP	31	16.00	-0.5
NB2	125.76	343	PKP	37	46.50	0.2
	0.9s		1.80nm			
BCAO	143.63	263	iPKPc	38	18.10	-2.8X
	0.6s		28.00nm			
			ic	38	24.20	
PDCR	148.32	137	ePKP	38	29.60	1.0
ASMO	150.95	337	ePKP	38	39.20	7.1X
AAPN	151.14	337	ePKP	38	38.20	5.8X
APHE	151.28	336	ePKP	38	39.00	6.3X
	S.D. = 1.1		on 38 of 43 obs.			

OCT 31, 1989 07h 20m 27.42± 0.70s
36.676 N ± 6.8km 21.437 E ± 4.3km
DEPTH = 52.4 ± 11.8 km
3.6mb (1 obs.)
SOUTHERN GREECE (368)
MD 3.7 (ATH).

ITM	0.64	38	ePn	20	40.00	-0.6
VLI	1.21	88	ePn	20	49.00	0.8
VLS	1.64	336	ePn	20	55.40	1.0
ATH	2.23	54	ePn	21	02.50	-0.1
AGG	2.45	17	ePgd	21	07.90	2.2
VAM	2.57	119	ePn	21	07.00	-0.4
NEO	2.98	28	ePn	21	13.60	0.2
KEK	3.30	337	ePn	21	18.50	0.7
SRN	3.39	341	ePn	21	20.00	0.9
LIT	3.52	13	ePn	21	21.60	0.7
			eSn	21	33.80	
KZN	3.63	4	ePn	21	23.00	0.4
NPS	3.67	111	ePb	21	33.00	10.0X
PAIG	3.69	28	ePn	21	22.00	-1.4
PLG	4.01	22	ePn	21	28.30	0.4
OUR	4.16	28	ePn	21	29.50	-0.4
BERA	4.19	344	ePn	21	30.60	0.4
SOI	4.51	290	P	21	34.90	0.1
			eSn	22	21.40	
LCI	4.56	324	P	21	35.00	-0.5
			eSn	22	23.50	
KNT	4.62	14	ePnc	21	36.80	0.4
SRS	4.74	20	ePn	21	37.90	-0.3
TIR	4.82	346	ePn	21	40.00	0.7
ATN	4.98	289	P	21	41.80	0.2
			eSn	22	33.80	
TDS	5.00	308	P	21	42.50	0.7
LACI	5.13	345	ePn	21	42.60	-1.0
MEU	5.23	277	P	21	44.70	-0.5
			eSn	22	40.80	
SKO	5.29	0	ePn	21	43.50	-2.3
BRT	5.34	323	P	21	46.00	-0.6
			eSn	22	42.00	
PUK	5.49	348	ePn	21	46.00	-2.6
MNO	5.52	285	P	21	49.50	0.2
SDA	5.54	345	ePn	21	50.00	0.7
MGR	5.77	309	P	21	53.00	0.4
SGO	6.17	311	P	21	57.20	-0.9
NB2	25.23	348	P	25	50.00	0.2
	0.6s		1.30nm			3.6mb
SUF	26.23	5	eP	25	59.30	0.4
	S.D. = 1.0		on 33 of 34 obs.			

OCT 31, 1989 07h 52m 57.88± 0.66s
37.733 N ± 6.6km 15.457 E ± 6.0km
DEPTH = 23.8 ± 6.3 km
SICILY (398)

ATN	0.43	1	P	53	07.00	0.2
			eSg	53	15.00	
MSI	0.48	9	P	53	08.10	0.5
			eSg	53	15.80	
GMB	0.54	36	iP	53	10.00	1.2
			eS	53	20.00	
SOI	0.58	54	P	53	11.20	1.9
			eSn	53	21.30	
MNO	0.63	288	P	53	09.50	-0.9
			eSg	53	19.10	
MEU	0.76	214	P	53	11.60	-0.8
			eSn	53	22.80	
PZI	0.82	212	P	53	12.00	-1.5
LPI	0.86	332	iP	53	13.70	-0.4
GIB	1.16	283	P	53	18.20	-0.6
			eSg	53	34.70	
GRI	1.32	35	P	53	22.60	1.7
MCT	1.45	267	eP	53	24.90	2.0
FAI	1.49	253	P	53	24.40	1.1
			eSg	53	43.50	
TDS	2.04	19	P	53	31.70	0.3
CVT	2.11	269	P	53	34.18	1.8
CSI	2.14	17	P	53	33.50	0.7
MGR	2.40	2	P	53	36.20	-0.3
			eSn	54	07.40	
SGO	2.82	358	P	53	42.80	0.4
PTS	2.91	253	P	53	45.46	1.8
LCI	3.24	36	P	53	49.20	0.8
			eSn	54	28.60	
BRT	3.42	23	P	53	50.50	-0.4
			eSn	54	31.90	
FG3	3.98	5	P	54	01.16	2.2
DUI	4.00	349	P	54	00.50	1.3
SDI	4.16	343	P	54	02.40	0.8
CGL	5.10	291	P	54	13.36	-1.4
BDV	5.23	29	ePn	54	14.50	-2.1
			eSn	55	11.50	
HCY	5.25	25	iPnc	54	15.00	-1.9
			eSn	55	13.00	
OHR	5.34	49	ePn	54	19.20	1.0
HVAR	5.49	8	iPn	54	19.20	-1.1
TTG	5.52	31	ePn	54	19.00	-1.7
			eSn	55	19.50	
AGG	5.55	74	eP	54	21.70	0.5
BRY	5.68	24	ePn	54	21.10	-1.9
			eSn	55	22.50	
NKY	5.75	27	ePn	54	22.30	-1.7
			eSn	55	25.00	
SKO	6.25	46	ePn	55	19.00	48.0X
			eSn	55	39.00	
PLE	6.34	27	ePn	54	31.70	-0.7
			eSn	55	41.50	
	S.D. = 1.4		on 33 of 34 obs.			

& OCT 31, 1989 08h 03m 18.33s
62.406 N 149.319 W
DEPTH = 57.6km
CENTRAL ALASKA (1)
<AGS-P>.

CUT	0.44	270	iP	03	29.06	-0.5
HUR	0.59	346	iP	03	30.64	-0.6
			eS	03	40.61	
PME	0.79	170	iP	03	33.22	-0.5
PWA	0.80	199	iP	03	33.39	-0.4
			eS	03	45.26	
PMR	0.82	174	iPc	03	33.50	-0.5
RND	1.03	12	iP	03	36.05	-0.6
			eS	03	49.68	
SKT	1.12	249	iP	03	37.48	-0.6
			eS	03	52.54	
SUA	1.16	216	iP	03	38.51	-0.2
			eS	03	54.83	
PMS	1.17	186	ePc	03	38.80	0.6
MCK	1.34	7	eP	03	40.32	-0.6
KTH	1.36	328	iP	03	40.55	-0.5
TOA	1.50	100	iPc	03	43.80	0.4
NCG	1.68	234	eP	03	45.30	-0.6
			eS	04	07.89	
SDG	1.76	84	eP	03	47.28	0.3
			eS	04	10.12	
KLU	1.85	118	eP	03	47.69	-0.6
GLI	1.86	144	eP	03	47.63	-0.6
PAX	1.86	71	eP	03	48.34	-0.7
			eS	04	12.09	
VLZ	1.91	131	eP	03	47.90	-1.1
SLKM	1.95	193	eP	03	48.72	-0.5
DDM	2.10	47	eP	03	51.55	-0.7
WRH	2.15	14	eP	03	50.85	-1.5
HDA	2.27	27	eP	03	51.94	-2.2
SEW	2.31	182	eP	03	55.50	0.5
RDT	2.36	220	eP	03	54.56	-0.5
			eS	04	26.65	
FBA	2.59	15	iPc	03	57.30	-1.3
DOT	2.70	60	eP	03	59.55	-0.6
ILIM	2.92	219	eP	04	02.24	-1.2
CNPM	3.04	199	eP	04	04.60	-0.6
TTA	3.13	283	eP	04	04.10	-2.3
SVW	3.27	249	iPc	04	06.50	-1.1
IMA	4.14	335	eP	04	18.50	-2.2
DWY	4.77	65	P	04	28.80	-0.5
	32 obs. associated					

% OCT 31, 1989 08h 30m 09.67± 2.5
35.102 N ±24.4km 24.204 E ±14.0
DEPTH = 10.0km (geophysicist)
CRETE (37
MD 3.5 (ATH).

VAM	0.30	359	ePg	30	15.70	-0.3
NPS	1.16	82	ePb	30	31.50	0.7
			eSb	30	49.50	
VLI	1.91	328	ePg	30	44.40	1.8
KAP	2.47	79	ePn	30	50.50	-0.7
ITM	2.77	319	ePn	30	53.50	-1.5
	S.D. = 1.7		on 5 of 5 obs.			

& OCT 31, 1989 08h 34m 51.30s
37.062 N 121.797 W
DEPTH = 10.0km
CENTRAL CALIFORNIA (3
<BRK>. ML 3.7 (BRK).
Mo=5.5*10**14 Nm (BRK). Felt o
Los Gatos and San Francisco. MI
1.4 event 2.5 seconds earlier.
(BRK).

GCC	0.16	259	iPd	34	54.70	-0.3
MHC	0.31	24	eP	34	57.70	0.6
ARN	0.36	36	eP	34	58.70	0.6
SAO	0.41	136	i(P)	34	59.20	-0.5
PCC	0.64	313	ePd	35	03.00	-1.1
PRS	0.81	155	iPc	35	06.10	-0.8
LLA	0.82	123	iPc	35	06.60	-0.5
BKS	0.88	337	iPd	35	07.80	-0.5
			iS	35	20.20	
BRK	0.89	336	ePd	35	07.70	-0.6
			eS	35	20.10	
PRI	1.29	135	eP	35	14.60	-0.6
CMB	1.48	49	iPd	35	17.00	-1.1
PHAM	1.66	137	eP	35	19.00	-1.6
FRI	1.67	92	ePd	35	19.30	-1.4
			iS	35	40.70	
PKEM	1.69	126	eP	35	19.20	-1.6
BCH	2.33	143	eP	35	27.90	-2.5
ORV	2.50	5	eP	35	31.00	-1.7
KVN	3.53	55	ePd	35	46.00	-1.5
TNP	3.78	73	eP	35	50.00	-1.1
	18 obs. associated					

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* OCT 31, 1989 08h 39m 25.15± 1.79
15.710 N ±10.4km 62.385 W ±20.4k
DEPTH = 33.0km (normal)

31d 08h

LEEWARD ISLANDS (92)
ML 2.8 (FDF).

PAG	0.75	65	eP	39 38.90	-0.4
			S	39 45.00	
BBL	0.89	102	iPc	39 40.68	-0.7
			S	39 48.20	
BPA	1.42	21	eP	39 50.00	1.1
			eS	40 05.25	
ANG	1.53	20	eP	39 51.09	0.6
			eS	40 05.34	
FDF	1.54	129	eP	39 51.34	0.7
0.1s	0.50nm				
			S	40 07.40	
SKI	1.65	348	eP	39 51.13	-1.1
			eS	40 05.56	
CRM	1.71	124	eP	39 51.67	-1.4
			S	40 07.00	
BIM	1.74	133	eP	39 55.07	1.6
			S	40 13.60	
MVM	1.84	128	iPd	39 54.56	-0.4
			S	40 11.80	

S.D. = 1.2 on 9 of 9 obs.

% OCT 31, 1989 09h 15m 19.05± 0.96s
18.095 N ±21.0km 66.006 W ±10.0km
DEPTH = 33.0km (normal)
PUERTO RICO REGION (90)

CPD	0.10	123	P	15 25.20	0.3
			S	15 28.70	
SJG	0.14	277	iP	15 24.50	-0.6
			S	15 27.30	
LPR	0.25	31	P	15 26.20	0.0
PORP	0.60	266	P	15 31.00	-0.1
LRS	0.82	284	P	15 34.70	0.5

S.D. = 0.6 on 5 of 5 obs.

% OCT 31, 1989 10h 11m 35.44± 3.40s
33.081 S ±13.4km 71.679 W ±23.0km
DEPTH = 10.0km (geophysicist)
NEAR COAST OF CENTRAL CHILE (135)

LCCH	0.40	167	iPc	11 44.80	1.1
			iS	11 49.90	
ROCH	0.57	79	iPc	11 47.40	0.2
			iS	11 55.60	
PEL	0.84	95	iPd	11 52.00	0.4
			iS	12 03.60	
TACH	0.84	133	iPd	11 51.10	-0.6
			iS	12 02.10	
LNV	0.90	166	iPc	11 51.60	-1.1
			iS	12 03.10	
SAN	0.93	114	eP	11 53.00	-0.2
			iS	12 05.50	
JACH	1.00	67	iPc	11 54.40	0.0
			iS	12 06.40	
FCH	1.19	102	iPd	11 57.50	-0.4
			iS	12 12.10	
CHCH	1.21	135	iPd	11 58.50	0.5
			iS	12 08.50	

S.D. = 0.7 on 9 of 9 obs.

? OCT 31, 1989 10h 20m 00.06± 4.03s
37.913 N ±23.4km 27.300 E ±34.4km
DEPTH = 10.0km (geophysicist)
TURKEY (366)

ZM	0.49	357	iPg	20 09.90	0.0
			iSg	20 15.90	
IN	0.70	116	iPgc	20 14.00	0.2
			iSg	20 20.00	
HL	1.80	76	ePn	20 31.00	-0.5
ST	1.98	31	iPn	20 34.70	0.6
DC	2.47	10	ePn	20 41.00	0.0
NT	2.49	11	ePn	20 40.90	-0.3
RT	3.44	32	ePg	21 00.40	5.7X

S.D. = 0.5 on 6 of 7 obs.

OCT 31, 1989 12h 03m 48.29± 8.81s
51.529 N ±55.2km 16.266 E ±56.1km
DEPTH = 10.0km (geophysicist)
POLAND (548)

SP	0.69	179	iP	04 02.00	0.1
0.5s	47.00nm				
			iS	04 11.20	
BRG	1.60	247	iPg	04 17.30	0.6
			iSg	04 37.50	
PRU	1.89	216	Pg	04 24.60	3.7X
			e	04 30.80	
			Sn	04 40.50	
			Sg	04 46.70	
CLL	2.05	265	ePn	04 23.00	-0.3
			eSg	04 52.00	
KHC	2.95	217	ePg	04 42.50	6.4X
			eSg	05 21.00	
WET	3.22	224	eP	04 39.50	-0.5

S.D. = 0.8 on 4 of 6 obs.

& OCT 31, 1989 12h 05m 30.93s
63.383 N 147.853 W
DEPTH = 83.2km
CENTRAL ALASKA (1)
<AGS-P>.

RND	0.45	273	iP	05 44.78	-0.1
			eS	05 55.10	
MCK	0.60	306	iP	05 45.82	-0.3
HUR	0.91	244	eP	05 48.91	-0.4
			eS	06 02.59	
DDM	0.98	65	eP	05 50.51	0.2
			eS	06 05.08	
WRH	1.10	355	eP	05 51.31	-0.3
			eS	06 05.70	
HDA	1.10	21	eP	05 51.38	-0.3
			eS	06 05.82	
PAX	1.16	110	eP	05 51.97	-0.5
			eS	06 08.20	
DMW	1.16	53	eP	05 52.02	-0.4
CCB	1.27	1	iP	05 53.28	-0.5
NEA	1.32	336	iP	05 53.90	-0.5
			eS	06 10.57	
SDG	1.36	128	eP	05 54.66	-0.3
			eS	06 13.26	
KTH	1.39	278	iP	05 55.23	-0.2
RDS	1.46	355	eP	05 55.88	-0.3
			eS	06 13.55	
NCA	1.47	161	iP	05 56.12	-0.3
			eS	06 16.52	
CUT	1.48	229	eP	05 55.88	-0.6
FBA	1.52	1	iP	05 56.76	-0.3
GLM	1.62	7	iP	05 58.00	-0.5
			eS	06 17.06	
DOT	1.72	79	iP	05 58.64	-1.1
PME	1.84	198	P	06 01.23	-0.1
KLU	2.10	154	eP	06 04.36	-0.5
SKT	2.20	232	iP	06 05.87	-0.4
SUA	2.35	216	eP	06 09.58	1.2
DWY	3.81	76	P	06 24.80	-3.5

23 obs. associated

OCT 31, 1989 13h 11m 55.55± 2.03s
12.458 S ± 8.6km 166.826 E ± 7.7km
DEPTH = 290.5 ± 20.2 km
4.6mb (12 obs.)
SANTA CRUZ ISLANDS (184)

DZM	9.57	182	iPd	14 09.90	0.5
			iS	15 58.70	
BRS	19.85	219	iPd	16 07.30	0.9
0.8s	14.00nm			4.4mb	
CTA	21.14	246	iPd	16 19.20	0.2
1.1s	84.81nm			5.0mb	
			i	16 54.00	
RMQ	21.98	228	iPd	16 28.90	1.8
MNG	29.07	166	P	17 30.90	-0.6
0.3s	9.00nm			4.8mb	
PGZ	29.26	165	P	17 32.10	-1.0
TCW	29.38	168	eP	17 33.20	-1.0
CAW	29.44	167	eP	17 34.20	-0.6
MRW	29.48	168	P	17 35.10	0.0
WDW	29.58	167	P	17 35.10	-0.9
MOW	29.78	167	P	17 37.00	-0.8
ASPA	33.15	246	eP	18 05.60	-1.5
0.9s	15.00nm			4.5mb	
			e	18 51.20	
WARB	40.13	244	eP	19 06.00	0.7
0.3s	3.00nm			4.1mb	
MBL	45.67	253	eP	19 50.10	0.3
MAT	55.70	332	eP	21 02.00	-2.5
0.8s	7.46nm			4.2mb	
CN2	67.49	329	Pc	22 21.80	-0.6
TIY	71.31	317	Pc	22 46.00	0.2
SPA	77.62	180	iPc	23 22.90	1.6
1.1s	10.71nm			4.5mb	
GTA	80.79	314	eP	23 39.40	0.8
PMR	81.52	20	P	23 40.90	-0.7
0.6s	10.84nm			4.8mb	
BKS	83.03	49	ePd	23 51.30	1.4
0.7s	17.00nm			5.0mb	
PRS	83.12	51	eP	23 51.00	0.6
PRI	83.58	51	eP	23 53.70	0.8
WDC	83.81	46	eP	23 54.20	0.4
ORV	84.17	48	eP	23 56.00	0.4
FBA	84.33	18	P	23 55.10	-0.8
0.6s	27.34nm			5.3mb	
MIN	84.39	47	eP	23 56.70	-0.2
CMB	84.45	49	eP	23 57.30	0.2
FRI	84.60	50	eP	23 57.90	0.1
PLM	85.63	55	P	24 04.00	0.8
KVN	86.48	49	P	24 07.30	0.1
TNP	86.82	50	P	24 09.00	0.1
0.3s	1.67nm			4.4mb	
GLA	87.17	55	P	24 11.50	1.0
PNT	88.92	39	eP	24 18.00	-0.4
ALQ	94.37	55	eP	24 44.00	-0.1
0.8s	1.31nm			4.1mb	
NB2	128.33	345	PKP	30 29.80	1.0
0.9s	3.50nm				
LBF	142.68	341	ePKP	30 53.20	-2.7X
SSF	142.76	341	ePKP	30 53.40	-2.6X
LPG	142.96	337	ePKP	30 55.70	-1.0
0.8s	4.70nm				
LPF	143.12	346	ePKP	30 53.80	-2.7X
BGF	143.41	341	ePKP	30 55.20	-1.9
MAF	143.80	341	ePKP	30 56.70	-1.1
TCF	143.85	342	ePKP	30 57.00	-0.9
0.6s	3.15nm				
LSF	144.09	343	ePKP	30 57.50	-0.8
0.7s	10.45nm				
MFF	144.23	345	ePKP	30 57.90	-0.6
0.8s	20.15nm				
PDCR	144.24	133	e(PKP)	30 56.00	-3.4X
RJF	144.95	342	ePKP	31 00.10	0.4
1.0s	20.00nm				
CAF	145.12	341	ePKP	31 00.80	0.7
0.9s	13.10nm				
LFF	145.51	342	ePKP	31 02.30	1.6
0.6s	12.65nm				
LPO	145.61	342	ePKP	31 02.00	1.1
0.6s	9.90nm				
BCAO	147.67	258	iPKPc	31 09.10	4.0X
0.5s	13.00nm				
			ic	31 13.10	
			id	32 04.70	

S.D. = 1.0 on 46 of 51 obs.

OCT 31, 1989 13h 34m 15.62± 0.82s
41.506 N ±10.1km 22.324 E ± 6.4km
DEPTH = 10.0km (geophysicist)
YUGOSLAVIA (383)
ML 2.1 (SKO).

VAY	0.26	135	iPg	34 21.40	0.2
			iSg	34 27.20	
GRG	0.55	174	ePg	34 26.30	-0.6
KNT	0.55	128	ePg	34 26.60	-0.3
			eSg	34 35.60	
SKO	0.81	305	ePg	34 31.00	-0.3
			iSg	34 39.00	
SRS	1.03	112	ePg	34 35.10	0.0
OHR	1.21	252	ePn	34 38.70	0.4
OUR	1.72	132	ePn	34 46.10	0.4

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

? OCT 31, 1989 15h 01m 33.68± 2.84s
34.430 S ±29.0km 70.786 W ±15.6km
DEPTH = 90.0km (geophysicist)
CHILE-ARGENTINA BORDER REGION (127)

CHCH	0.51	13	iPd	01 48.60	-0.2
LNV	0.70	312	iP	01 50.40	0.0
			iS	02 04.00	
TACH	0.79	351	iPd	01 52.00	0.7
			iS	02 06.00	
PCH	0.84	16	iPd	01 52.00	0.0
			iS	02 06.90	
LCCH	1.15	325	iPd	01 55.00	-0.5
			iS	02 12.50	
FCH	1.17	21	iPc	01 56.00	-0.1

		iS	02 14.00		
PEL	1.29	4 iPc	01 57.40	0.2	
		iS	02 16.20		
ROCH	1.47	353 iPc	02 00.10	0.5	
		iS	02 22.00		
JACH	1.75	5 eP	02 02.50	-0.7	
		iS	02 26.00		

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

& OCT 31, 1989 15h 30m 00.09s
37.263 N 116.491 W
DEPTH = 0.0km
5.7mb (55 obs.)
SOUTHERN NEVADA (41)
<DOE>. ML 5.3 (BRK). 37' 15' 47.16" N., 116' 29' 26.61" W., Surface Elev. 1873 m., Depth of Buriol 600 m., Shot Time 153000.085, "HORNITOS," Nevada Test Site (Dept. of Energy).

TNP	1.00	325 iPc	30 19.90	-0.2	
CLC	1.70	212 iPc	30 30.90	-0.3	
GSC	1.97	187 iPc	30 34.70	-0.5	
KVN	2.19	325 iPc	30 38.00	-0.5	
ISA	2.26	226 iPc	30 39.20	-0.2	
FRI	2.59	265 iPc	30 43.80	-0.1	
SBB	2.79	203 iPc	30 46.20	-0.7	
PKEM	3.15	249 iPc	30 52.70	0.8	
TPC	3.17	173 iPc	30 51.30	-1.0	
CMB	3.19	285 iPc	30 51.90	-0.6	
		iS	31 49.00		
ABL	3.27	223 iPc	30 53.30	-0.5	
MWC	3.29	203 iPc	30 53.90	-0.2	
RVR	3.34	193 iPc	30 54.30	-0.4	
PAS	3.40	204 iPc	30 55.30	-0.2	
PEC	3.41	189 iPc	30 55.50	-0.2	
PHAM	3.45	247 eP	30 55.90	-0.4	
PRI	3.54	253 iPc	30 56.80	-0.7	
BCH	3.57	236 iPc	30 57.60	-0.4	
HAY	3.61	169 eP	30 57.40	-1.1	
LLA	3.62	261 ePc	30 57.30	-1.4	
MSU	3.64	69 iPc	30 58.40	-0.7	
PLM	3.91	185 iPc	31 02.60	-0.4	
SYP	3.93	227 ePc	31 03.10	-0.1	
PRS	4.02	258 iPc	31 03.40	-1.0	
DUG	4.10	43 eP	31 04.40	-1.2	
MHC	4.11	273 iPc	31 05.10	-0.6	
CIS	4.15	203 ePc	31 05.40	-0.8	
BLP	4.16	231 eP	31 06.00	-0.3	
CPE	4.40	187 iPc	31 08.80	-0.9	
GLA	4.42	162 iPc	31 08.70	-1.3	
ORV	4.55	302 iPc	31 10.90	-0.9	
BAR	4.57	182 ePc	31 11.10	-1.1	
SCI	4.59	202 eP	31 11.70	-0.7	
BKS	4.60	279 iPnc	31 11.50	-1.1	
		iPbc	31 22.40		
		iPg	31 31.50		
BRK	4.62	279 eP	31 11.80	-1.0	
PCC	4.70	275 iPc	31 12.50	-1.4	
MIN	5.04	309 iPc	31 18.20	-0.8	
DAU	5.16	51 eP	31 21.00	0.2	
LTCM	5.30	305 eP	31 22.50	0.1	
WDC	5.76	307 iPc	31 27.60	-1.4	
LBFM	5.84	316 iPc	31 30.50	0.2	
PTI	6.43	28 eP	31 37.50	-1.1	
FHC	6.82	304 eP	31 43.00	-0.9	
BW06	7.66	42 eP	31 55.70	-0.1	
ALQ	8.44	103 iPc	32 04.30	-2.6	
VGB	8.85	340 ePc	32 13.90	1.6	
GOL	9.05	71 eP	32 15.00	-0.3	
GLD	9.18	71 eP	32 17.00	0.0	
LON	10.27	339 ePc	32 33.00	1.2	
RSSD	11.67	50 eP	32 48.00	-3.1	
PNT	12.26	350 eP	32 59.00	0.1	
PGC	12.46	338 eP	33 04.00	2.5	
	0.8s	136.00nm	6.3mb		
SES	13.70	15 eP	33 17.00	-1.0	
MEO	14.70	94 iPc	33 32.00	0.7	
EDM	16.11	7 eP	33 48.50	-1.0	
SIO	16.30	89 eP	33 52.70	0.7	
TUL	16.68	88 eP	33 56.40	-0.4	
	1.1s	156.30nm	5.1mb		
Z	18s	3.86um	4.7MszX		
		LR	39 05.00		
LNO	16.68	88 eP	33 56.30	-0.4	
UYO	18.15	93 iPd	34 14.50	-0.7	
FFC	20.09	25 iPc	34 36.10	-1.9	
	1.0s	743.00nm	6.0mb		
OLY	20.21	87 eP	34 37.90	-1.5	
POW	20.31	85 ePc	34 39.00	-1.3	
FVM	20.64	80 iPc	34 42.80	-1.0	
	1.2s	786.76nm	5.9mb		
RSON	21.17	43 iPc	34 47.00	-2.1	
	0.8s	360.58nm	5.8mb		
LST	21.40	84 eP	34 54.00	2.5	
ELC	21.67	82 eP	34 53.70	-0.6	
MRX	22.01	138 (P)	35 00.30	2.5	
PWLA	23.04	87 eP	35 09.00	1.0	
SIT	23.43	334 eP	35 12.70	1.2	
PPM	23.94	134 iP	35 19.30	2.0	
III	24.03	137 (P)	35 09.80	-8.0	
IIT	24.16	134 eP	35 21.30	2.1	
IISM	24.73	132 iP	35 26.00	1.6	
RSCP	24.87	84 iP	35 25.20	-0.5	
ACX	25.06	140 (P)	35 12.26	-15.4	
GBTN	25.95	84 eP	35 35.40	-0.4	
TKL	26.29	84 eP	35 38.50	-0.6	
OXX	26.61	134 iP	35 43.60	1.3	
CLE	27.24	70 iP	35 46.90	-0.7	
PRM	27.82	86 ePc	35 52.30	-0.7	
NAV	28.30	79 eP	35 56.70	-0.7	
BLA	28.61	79 eP	35 59.20	-1.0	
JSC	28.64	85 ePc	35 59.30	-1.1	
LHS	28.94	85 eP	36 01.70	-1.4	
CVL	30.00	77 eP	36 11.50	-1.0	
CBN	30.80	76 eP	36 19.00	-0.6	
TOA	30.90	333 ePc	36 21.40	1.0	
PMR	31.70	331 ePc	36 27.30	0.0	
	1.0s	115.00nm	5.8mb		
RSNY	32.26	64 ePc	36 30.70	-1.7	
PRIN	32.48	71 eP	36 32.10	-2.2	
INK	32.51	348 eP	36 33.00	-1.3	
	1.1s	50.00nm	5.4mb		
		pP	36 53.00	86kmX	
TBR	32.75	70 eP	36 35.00	-1.7	
FBA	33.27	336 Pc	36 40.60	-0.4	
HBVT	33.31	64 eP	36 39.60	-2.0	
SVW	34.15	327 ePc	36 48.40	-0.3	
BNH	34.59	63 eP	36 50.80	-1.9	
TTA	35.15	330 ePc	36 57.10	-0.2	
IMA	35.93	335 ePc	37 03.90	-0.1	
	1.3s	115.60nm	5.5mb		
MIM	36.12	62 eP	37 04.00	-1.6	
SCH	37.79	46 ePd	37 17.60	-2.0	
FRB	38.95	32 eP	37 28.00	-1.1	
	1.0s	154.00nm	5.6mb		
MBC	39.10	359 ePc	37 30.00	-0.2	
	1.0s	106.00nm	5.4mb		
UPA	43.67	121 iPc	38 07.20	-1.2	
ADK	44.03	309 eP	38 10.00	-1.0	
	1.0s	100.00nm	5.6mb		
BPA	51.87	97 eP	39 09.00	-3.6	
PAG	52.59	98 eP	39 14.00	-4.0	
RUV	59.73	215 iP	40 08.20	-0.8	
	1.0s	50.00nm	5.6mb		
PMO	59.81	216 iP	40 07.40	-2.1	
	1.0s	25.00nm	5.3mb		
NNA	61.53	135 iPd	40 19.80	-1.7	
	1.1s	40.51nm	5.5mb		
PT08	61.68	134 iPd	40 21.60	-1.2	
KEV	70.00	13 eP	41 12.00	-3.0	
ZOBO	70.05	130 P	41 12.60	-4.1	
	1.0s	82.50nm	5.8mb		
LPB	70.27	130 P	41 17.00	-0.9	
	1.0s	80.00nm	5.8mb		
CNCB	70.55	130 Pc	41 18.20	-1.6	
SOD	72.00	14 iP	41 24.90	-2.3	
NB2	73.19	24 P	41 32.50	-1.8	
	0.9s	22.00nm	5.3mb		
HFS	74.68	23 iPc	41 39.90	-3.0	
	0.8s	51.60nm	5.6mb		
SUF	75.95	17 eP	41 47.60	-2.5	
	1.2s	45.90nm	5.5mb		
UPP	76.10	22 iP	41 49.20	-1.8	
FLN	77.26	38 eP	41 56.50	-1.2	
	1.2s	119.00nm	5.9mb		
GRR	77.33	38 iPc	41 57.00	-1.1	
	1.2s	95.20nm	5.8mb		
LPF	77.48	38 iPc	41 57.80	-1.1	
	1.2s	124.90nm	5.9mb		
NUR	77.50	19 eP	41 53.20	-5.5	
LDF	77.55	38 eP	41 58.00	-1.3	
	1.2s	101.10nm	5.8mb		
WIT	77.63	31 eP	42 00.50	0.9	
SNF	78.27	34 P	42 02.60	-0.5	
WTS	78.29	32 eP	42 02.50	-0.7	
	1.0s	33.00nm	5.4mb		
DOU	78.70	34 iPc	42 04.40	-1.2	
	1.1s	123.10nm	5.9mb		
MFF	78.90	39 iPc	42 05.80	-0.9	
	1.2s	107.10nm	5.8mb		
MEM	78.96	33 Pc	42 05.80	-1.1	
MAT	79.17	308 iPc	42 07.10	-1.3	
	1.0s	58.00nm	5.5mb		
WLF	79.71	34 P	42 10.00	-1.0	
LSF	79.98	38 eP	42 11.40	-1.2	
	1.2s	59.50nm	5.4mb		
EPLA	80.04	47 eP	42 12.00	-1.1	
TCF	80.29	38 iPc	42 12.80	-1.5	
	1.2s	63.60nm	5.5mb		
SSF	80.37	37 iPc	42 13.40	-1.2	
	1.2s	110.00nm	5.7mb		
LOR	80.39	37 iPc	42 13.60	-1.2	
	1.1s	167.90nm	5.9mb		
BGF	80.41	38 iPc	42 13.50	-1.4	
	1.2s	88.60nm	5.6mb		
AVF	80.49	37 iPc	42 13.90	-1.4	
	1.2s	92.20nm	5.6mb		
LFF	80.50	40 iPc	42 14.30	-1.0	
	1.2s	115.40nm	5.7mb		
MAF	80.51	38 iPc	42 14.10	-1.3	
	1.2s	66.60nm	5.5mb		
RJF	80.63	39 iPc	42 14.90	-1.2	
	1.2s	65.40nm	5.5mb		
LBF	80.65	37 iPc	42 14.90	-1.3	
	1.2s	87.40nm	5.6mb		
VITF	80.69	35 P	42 15.42	-0.9	
GUD	80.77	45 eP	42 16.00	-1.1	
SMF	80.83	37 iPc	42 15.50	-1.6	
	1.2s	107.10nm	5.7mb		
LPO	80.90	40 iPc	42 16.40	-1.1	
	1.2s	83.30nm	5.6mb		
HAU	81.02	35 iPc	42 17.20	-0.9	
	1.2s	107.10nm	5.8mb		
CDF	81.13	34 P	42 17.39	-1.4	
WLS	81.17	34 P	42 17.74	-1.2	
CAF	81.18	39 iPc	42 17.70	-1.3	
	1.2s	107.10nm	5.8mb		
ECH	81.23	34 P	42 18.18	-1.0	
CLL	81.32	29 iP	42 18.30	-1.3	
	1.2s	45.00nm	5.4mb		
TOL	81.33	46 iPd	42 19.00	-0.9	
	1.2s	109.38nm	5.8mb		
BSF	81.35	35 P	42 18.62	-1.3	
MOF	81.49	35 P	42 19.11	-1.5	
EPF	81.61	41 iPc	42 20.20	-1.1	
	1.2s	44.60nm	5.4mb		
CN2	81.72	320 iPc	42 20.60	-1.2	
LOMF	81.72	35 P	42 20.25	-1.6	
ETOR	81.83	44 eP	42 21.80	-0.7	
FEL	81.86	34 P	42 21.05	-1.6	
GRF	81.87	31 iPc	42 21.90	-0.5	
	1.2s	56.00nm	5.6mb		
BBS	81.94	35 P	42 22.03	-0.9	
EHOR	82.00	48 e(P)	42 22.20	-1.1	
BRG	82.04	29 iPc	42 21.90	-1.4	
	1.1s	40.00nm	5.5mb		
		e	42 44.00		
SLE	82.16	34 ePc	42 22.90	-1.1	
ZLA	82.33	34 ePc	42 24.40	-0.6	
EMS	82.71	36 ePc	42 26.40	-0.8	
DIX	82.93	36 ePc	42 28.00	-0.4	
KSP	82.95	28 iP	42 27.30	-0.8	
		e	42 48.00		
		e	45 36.50		
PRU	82.97	29 Pc	42 27.20	-1.0	
	1.5s	33.50nm	5.3mb		
		e	42 34.80		
WET	82.97	31 eP	42 27.60	-0.6	
	1.3s	48.00nm	5.6mb		
AAPN	83.01	48 eP	42 27.50	-1.3	
LPG	83.05	36 iPc	42 28.80	-0.3	
	1.2s	74.30nm	5.8mb		
EVIA	83.06	46 eP	42 28.60	-0.4	
LLS	83.06	34 ePc	42 28.60	-0.4	
FUR	83.07	32 iPd	42 28.90	0.2	
	1.3s	85.00nm	5.8mb		
ALOJ	83.15	48 eP	42 29.20	-0.3	
EROO	83.19	43 eP	42 29.00	-0.5	
ASMO	83.20	48 eP	42 29.90	0.2	

31d 15h

MMK	83.21	35	ePc	42 29.60	-0.2
EBR	83.23	43	eP	42 27.00	-2.7
KHC	83.27	30	iPd	42 29.40	-0.4
	1.1s	25.00nm		5.4mb	
LSD	83.27	36	P	42 29.61	-0.6
ACHM	83.32	48	eP	42 30.00	-0.3
ATEJ	83.33	48	eP	42 30.00	-0.5
BNI	83.35	37	P	42 29.50	-0.9
AFC	83.38	48	e(P)	42 30.00	-0.8
RRL	83.50	37	P	42 30.94	-0.3
APHE	83.50	48	eP	42 31.00	-0.3
ORX	83.53	36	P	42 30.53	-0.8
RSP	83.55	36	P	42 31.25	-0.1
TMA	83.58	35	ePc	42 31.70	0.1
AVE	83.63	53	iP	42 30.50	-1.3
			i	42 48.50	
OSS	83.71	34	ePc	42 32.00	-0.3
PZZ	83.96	37	P	42 33.10	-0.4
DOI	84.03	37	P	42 32.70	-1.1
SNY	84.09	319	iPc	42 34.00	0.0
MDI	84.21	35	P	42 33.00	-1.5
STV	84.26	37	P	42 32.99	-2.0
ENR	84.32	37	P	42 33.30	-2.0
ROB	84.48	37	P	42 34.64	-1.4
AUTN	84.49	37	P	42 35.26	-1.1
CKI	84.58	36	P	42 35.10	-1.3
PCP	84.61	36	P	42 34.64	-2.0
FIN	84.70	36	P	42 35.25	-1.9
SAL	84.71	34	P	42 37.00	0.0
IMI	84.78	37	P	42 35.76	-1.8
BOB	84.86	35	Pd	42 37.20	-0.8
CTI	84.87	33	P	42 37.40	-0.6
FVI	84.93	32	P	42 35.50	-2.6
KRA	84.93	26	iPd	42 37.30	-0.8
	1.1s	93.00nm		5.9mb	
VKA	85.05	29	iPc	42 37.60	-1.1
	1.0s	49.30nm		5.7mb	
ESEL	85.27	42	eP	42 39.80	-0.2
ZST	85.41	29	eP	42 39.60	-0.9
SOP	85.62	30	iPd	42 44.10	2.5
SPC	85.77	27	eP	42 42.00	-0.6
VOY	85.85	32	eP	42 42.00	-0.9
BDI	85.93	35	P	42 43.00	-0.3
LJU	86.11	32	e(P)	42 43.00	-1.1
PII	86.16	35	P	42 44.00	-0.3
SRO	86.19	29	iP	42 44.40	0.0
CEY	86.31	32	e(P)	42 44.00	-1.1
FIR	86.45	35	eP	42 42.00	-3.8
PGD	86.59	35	P	42 45.00	-1.7
SFI	86.61	35	P	42 46.40	-0.1
BUD	86.74	28	eP	42 46.80	-0.3
PTJ	86.82	31	eP	42 45.40	-2.3
VBY	86.85	32	eP	42 46.80	-0.9
ASS	87.65	35	P	42 49.50	-2.2
PDCR	87.68	108	eP	42 50.50	-1.6
MNS	88 19	35	P	42 51.50	-2.8
GUA	88.61	286	eP	42 55.30	-1.3
	0.8s	107.46nm		6.2mb	
PJG	88.62	286	eP	42 55.70	-0.9
GUMO	88.62	286	eP	42 55.70	-0.9
	0.8s	76.13nm		6.0mb	
BJI	89.15	322	eP	42 58.50	-0.3
	1.2s	0.02nm		2.3mb X	
SDI	89.25	35	P	42 56.50	-2.9
HHC	90.67	326	Pd	43 06.40	0.3
SGO	90.84	35	P	43 04.50	-2.2
MLR	90.94	25	eP	43 06.00	-1.3
MGR	91.29	35	P	43 10.00	1.2
BTO	91.56	326	P	43 10.00	-0.2
SKO	92.29	30	iP	43 11.50	-1.9
OHR	92.76	31	eP	43 13.80	-1.8
TIY	92.78	323	iPd	43 16.10	0.3
SSE	93.22	313	Pc	43 17.60	-0.2
	1.4s	0.13nm		3.1mb X	
VAY	93.29	30	eP	43 16.70	-1.3
DZM	93.41	245	iPc	43 20.00	1.2
KNT	93.56	29	eP	43 18.00	-1.2
WJ2	93.83	316	Pc	43 20.00	-0.6
WMQ	96.36	343	eP	43 31.50	-0.7
GTA	96.71	332	eP	43 33.60	-0.3
CAN	97.42	323	P	43 36.00	-1.0
WB5	116.74	265	ePKP	48 46.90	-1.5
ASPA	119.09	261	iPKPc	48 50.50	-2.3
	1.3s	15.00nm			
ICAO	121.09	55	iPKPd	48 55.10	-1.8
	0.5s	7.00nm			
IPA	127.08	180	ePKPc	49 05.90	-1.1
	1.1s	19.64nm			
			e	51 41.30	
GBA	127.74	343	PKP	49 07.00	-2.6
BUL	145.21	70	iPKPc	49 40.60	-1.2
	1.0s	75.00nm			
KSR	146.99	81	iPKPd	49 45.30	0.6
	1.2s	60.00nm			
BFS	147.39	82	iPKPc	49 45.00	-0.3
	1.0s	240.00nm			
FRS	147.46	88	iPKPd	49 47.40	2.4
	0.8s	67.16nm			
BLF	147.89	86	ePKP	49 47.00	1.0
HVD	147.93	89	iPKPd	49 48.00	2.0
	1.0s	46.00nm			
PRY	147.95	82	iPKPc	49 47.50	1.3
	0.7s	8.50nm			
SLR	148.01	79	iPKPc	49 48.50	2.2
	1.2s	78.13nm			
SEK	148.70	84	iPKPc	49 50.00	2.7
	1.0s	50.00nm			
NPA	149.16	51	iPKP	49 49.80	1.6
MAW	149.61	180	ePKP	49 50.00	2.8
GRM	149.72	94	iPKPd	49 53.00	4.4
	1.0s	50.00nm			
	270 obs. associated				

OCT 31, 1989 16h 56m 58.54± 0.21s
21.826 S ± 6.5km 138.910 W ± 8.1km
DEPTH = 0.0km (geophysicist)
5.2mb (16 obs.)
TUAMOTU ARCHIPELAGO REGION (631)

MSZ	48.98	229	P	05 51.00	2.3
DZM	50.45	259	iPc	06 01.30	0.8
PLM	58.76	22	eP	07 01.00	-0.1
MWC	59.17	20	eP	07 04.00	0.2
RVR	59.18	21	eP	07 05.00	1.3
GLA	59.22	24	eP	07 05.00	1.0
BCH	59.45	18	P	07 06.50	0.8
SBB	59.67	20	eP	07 07.00	-0.2
TPC	59.73	22	eP	07 08.00	0.4
PRS	60.17	16	eP	07 11.40	0.9
PRI	60.18	17	eP	07 11.80	1.1
ISA	60.36	19	eP	07 13.00	1.1
LLA	60.55	17	eP	07 14.00	0.9
GSC	60.56	21	eP	07 13.00	-0.3
SAO	60.56	16	eP	07 13.50	0.3
GCC	60.67	15	eP	07 14.50	0.6
CLC	60.78	20	eP	07 14.00	-0.7
PCC	61.03	15	eP	07 17.00	0.8
MHC	61.06	16	eP	07 17.70	1.0
ARN	61.09	16	P	07 17.70	0.9
CWC	61.20	19	eP	07 18.00	0.3
FRI	61.24	17	eP	07 18.20	0.5
BKS	61.42	15	ePc	07 19.70	0.7
	0.8s	31.00nm		5.5mb	
BRS	61.68	250	eP	07 20.80	-0.3
	1.0s	2.50nm		4.4mb	
CMB	62.04	17	eP	07 23.60	0.4
TNP	62.98	19	P	07 29.80	0.1
	0.6s	4.94nm		4.9mb	
ARE	63.48	98	eP	07 34.00	0.4
CAN	63.49	240	eP	07 35.20	2.2
KVN	63.62	18	P	07 34.00	0.2
WDC	63.93	14	eP	07 35.80	0.2
BWA	64.10	241	eP	07 34.90	-2.2
ALO	64.32	29	iPc	07 38.30	-0.2
	1.0s	12.50nm		5.1mb	
MSU	65.05	23	P	07 44.20	0.9
RMO	65.38	250	eP	07 46.00	0.6
LPB	66.58	99	P	07 56.00	2.3
CNCB	66.61	99	P	07 55.30	1.2
ZOBO	66.63	99	Pc	07 53.80	-0.5
	0.9s	30.71nm		5.5mb	
DAU	67.06	23	P	07 57.20	1.0
MEO	68.09	35	iPd	08 01.50	-0.9
SPA	68.31	180	e(P)	08 04.50	0.9
	0.5s	1.85nm		4.6mb	
GOL	68.76	27	P	08 06.30	-0.4
	0.7s	12.14nm		5.2mb	
CTA	69.23	256	iPc	08 09.80	0.0
	1.0s	41.00nm		5.6mb	
BMW	69.44	12	P	08 10.20	-0.4
LON	69.98	12	P	08 13.00	-0.9
SIO	70.04	36	e(P)	08 14.30	0.0
TUL	70.44	36	eP	08 16.20	-0.6
	0.9s	15.10nm		5.1mb	
			e	08 18.20	
			e	08 29.00	
LNO	70.44	36	eP	08 15.30	-1.4
RMW	70.66	12	P	08 17.50	-0.5
OLY	72.60	39	P	08 29.00	-0.8
PNT	72.88	13	eP	08 31.00	-0.2
	0.7s	10.00nm		5.1mb	
SES	76.01	18	ePc	08 49.30	0.0
JSC	78.20	46	P	09 01.70	0.0
ASPA	79.09	249	iPc	09 06.30	-0.6
	0.9s	9.00nm		4.8mb	
WB5	79.92	253	eP	09 10.80	-0.7
WRA	79.93	253	Pd	09 11.50	0.0
	0.6s	6.40nm		4.7mb	
RSON	82.59	27	P	09 23.00	-1.7
SNA	83.16	166	iPd	09 28.80	1.3
	1.0s	34.00nm		5.5mb	
PMR	83.53	355	P	09 28.80	-0.4
	0.7s	34.88nm		5.7mb	
TTA	85.55	352	P	09 39.40	-0.1
	0.8s	27.59nm		5.5mb	
FBA	86.72	356	P	09 44.50	-0.6
	1.0s	20.00nm		5.3mb	
IMA	88.34	354	P	09 52.40	-0.7
MAW	89.38	188	eP	09 58.00	-0.1
INK	89.95	2	eP	09 59.50	-0.9
GTA	127.40	304	PKPd	16 07.40	0.0
KEV	131.32	6	ePKP	16 15.00	1.3
KIC	133.17	102	PKP	16 18.50	-0.4
SOD	133.55	8	iPKP	16 18.20	0.2
NB2	135.65	20	PKP	16 15.90	-6.4X
	0.8s	3.60nm			
SLL	136.75	20	ePKP	16 24.10	-0.2
	1.0s	14.70nm			
SUF	137.88	10	ePKP	16 18.30	-8.1X
NUR	139.66	12	iPKP	16 30.30	0.7
	0.8s	19.10nm			
WTS	139.93	33	ePKP	16 31.00	0.6
	0.7s	13.00nm			
CLL	143.35	30	ePKP	16 34.00	-2.4X
	1.1s	14.00nm			
BNI	143.52	42	PKP	16 36.50	-0.6
GRF	143.55	33	ePKP	16 34.20	-2.7X
	1.0s	27.00nm			
LSD	143.63	41	PKP	16 34.11	-3.4X
RRL	143.65	43	PKP	16 34.62	-2.9X
RSP	143.84	42	PKP	16 35.13	-2.5X
ORX	144.05	41	PKP	16 34.41	-3.6X
PZZ	144.05	43	PKP	16 36.16	-1.9
BRG	144.08	30	iPKP	16 36.00	-1.7
	1.0s	20.00nm			
DOI	144.14	43	PKP	16 37.00	-1.1
STV	144.31	43	PKP	16 36.36	-2.1
ENR	144.38	43	PKP	16 36.67	-1.9
VAI	144.40	40	PKP	16 36.60	-1.8
GBA	144.50	263	PKP	16 38.00	-1.4
ROB	144.63	43	PKP	16 36.98	-2.0
WET	144.73	33	ePKP	16 38.10	-0.8
IMI	144.83	43	PKP	16 37.39	-1.9
CKI	144.83	42	PKP	16 37.90	-1.3
FIN	144.89	43	PKP	16 37.70	-1.6
PCP	144.93	42	PKP	16 37.70	-1.8
PRU	144.97	30	PKPc	16 38.60	-0.6
	1.0s	50.60nm			
			e	16 45.60	
MDI	145.01	39	PKP	16 38.00	-1.4
KHC	145.09	32	PKP	16 39.40	-0.1
	1.1s	39.00nm			
KSP	145.15	28	iPKP	16 39.20	-0.3
	1.0s	46.00nm			
BOB	145.38	41	PKP	16 40.50	0.3
KSH	145.49	309	PKP	16 42.00	1.3
SAL	145.58	39	PKP	16 41.00	0.6
CTI	145.98	38	PKP	16 42.10	0.8
FVI	146.29	36	PKP	16 42.00	0.5
KBA	146.29	35	ePKP	16 41.50	-0.3
BDI	146.45	41	PKP	16 41.80	-0.2
NDI	146.71	289	iPKPc	16 44.00	1.2
	0.8s	70.90nm			
VKA	147.01	31	i(PKP)	16 45.20	2.5X
	0.8s	34.10nm			
PGD	147.23	41	PKP	16 46.00	2.6X
VOY	147.24	36	ePKP	16 43.50	0.2
KRA	147.27	25	ePKP	16 44.10	1.1
	0.9s	70.00nm			
			e	16 45.80	
			e	16 52.40	

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SFI    147.29   41 PKP    16 46.20    3.0X
TRI    147.37   37 ePKP   16 45.70    2.4
ZST    147.43   30 ePKP   16 43.60    0.3
                   i      16 46.90
CRE    147.51   41 PKP    16 44.00    0.2
LJU    147.58   36 e(PKP)16 46.50    2.8X
CEY    147.71   36 e(PKP)16 47.00    3.1X
ASS    148.25   42 PKP    16 47.50    2.6X
SRO    148.27   30 iPKP   16 48.80    4.1X
VBY    148.31   36 iPKPd  16 49.20    4.4X
PTJ    148.43   35 e(PKP)16 44.80   -0.3
CIO    148.47   41 ePKP   16 48.93    3.6X
AOI    148.55   40 e(PKP)16 48.81    3.5X
SSO    148.59   41 e(PKP)16 49.91    4.5X
MNS    148.62   43 PKP    16 48.90    3.4X
RMP    148.94   44 PKP    16 51.00    5.0X
ALP    148.97   41 e(PKP)16 49.46    3.3X
RDP    148.97   44 PKP    16 51.00    4.9X
POO    149.11  270 iPKPc  16 50.00    3.1X
SDI    149.70   43 PKP    16 52.00    4.8X
DUI    150.13   42 PKP    16 53.50    5.6X
HVAR   150.44   38 iPKP   16 52.80    4.6X
SGO    151.27   44 PKP    16 55.50    6.0X
BZS    151.42   29 ePKPc  16 49.00   -0.5
BEO    151.46   32 ePKP   16 56.00    6.4X
MGR    151.65   44 PKP    16 55.50    5.4X
BCAO   152.12  125 iPKPd  16 52.00    0.4
        0.5s     35.00nm
                   id     16 58.30
TDS    152.42   44 PKP    16 52.20    1.0
SOI    153.05   47 PKP    16 58.90    6.8X
MLR    153.33   24 ePKP   16 54.00    1.5
SKO    154.00   35 ePKP   16 53.00   -0.4
OHR    154.24   37 ePKP   16 54.00    0.2
        0.8s      0.04nm
VAY    155.06   35 ePKP   16 55.60    0.9
     S.D. = 1.0  on 109 of 140 obs.
-------------------------------------
?  OCT  31, 1989   17h 13m 12.19± 3.19s
   11.026 S ±37.4km  162.475 E ±21.0km
   DEPTH =  33.0km  (normol)
   4.5mb (  1 obs.)
 SOLOMON ISLANDS                  (193)

DZM    11.62  161 iPc   15 59.10    0.2
CTA    18.02  238 eP    17 23.00    1.0
RMQ    20.10  218 iPc   17 45.70   -0.4
CMS    25.53  215 eP    18 40.00    0.5
BWA    26.59  207 eP    18 48.20   -1.2
WB5    28.45  249 eP    19 02.50   -3.9X
WARB   37.00  241 eP    20 20.00   -0.8
SPA    79.05  180 e(P)  25 15.20    0.7
        1.0s     5.00nm          4.5mb
     S.D. = 1.0  on   7 of   8 obs.
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   OCT  31, 1989   17h 16m 47.73± 0.42s
    9.230 S ± 8.6km  111.995 E ± 8.4km
   DEPTH =  33.0km  (normol)
   4.8mb ( 10 obs.)
 SOUTH OF JAVA                    (282)

TRT     1.64   23 ePd    16 38.00 -36.7X
                  eS     17 19.00
KHKI    3.67   77 ePd    17 43.10   -0.5
                  e(S)   18 22.00
                  e      24 17.50
MKS     8.42   62 e(P)   19 11.50   21.1X
PCI    11.37   44 ePc    19 37.40    6.4X
        1.8s     3.60nm          4.3mb
NANU   13.68  166 eP     19 53.50   -8.3X
                  eS     22 16.00
MBL    14.06  148 eP     19 58.00   -8.8X
                  eS     22 24.00
MNI    16.62   51 ePc    20 45.00    5.1X
MTN    19.12  103 eP     21 11.00    0.1
                  e      21 15.00
MRWA   20.24  170 eP     21 20.00   -3.0
                  eS     24 53.00
WB5    24.07  119 iPc    22 01.30    0.0
WRA    24.07  119 Pd     22 01.70    0.4
        0.7s     29.20nm          4.9mb
ASPA   25.39  127 iPd    22 13.90    0.0
        0.8s     45.00nm          5.1mb
     Z  22s      0.28um          3.7MszX
                  LR     31 22.00
CHTO   30.70  335 eP     23 02.00    0.1
        0.9s     1.49nm          3.8mb
CTA    34.78  112 iPd    23 38.60    1.0
        1.0s     28.00nm          5.1mb
KMI    35.32  345 eP     23 44.50    2.2
STK    35.51  134 iPd    23 44.00    0.4
                  i      23 54.00
GYA    35.85  352 P      23 48.70    2.1
SHL    39.74  331 iP     24 17.00   -2.4
CD2    40.68  349 eP     24 27.80    0.9
GBA    41.13  303 P      24 30.00   -0.6
HYB    42.35  309 eP     24 40.50   -0.2
XAN    43.13  356 P      24 47.00    0.2
LSA    43.60  333 P      24 51.70    0.5
LZH    45.72  351 P      25 08.00    0.2
        1.5s     0.03nm          2.0mb X
POO    46.66  306 iPc    25 14.50   -0.9
TIY    46.70    0 eP     25 15.70    0.4
BJI    49.17    4 eP     25 33.50   -1.0
BTO    49.61  358 eP     25 38.00    0.0
GTA    49.70  348 eP     25 39.00    0.2
NDI    50.48  319 iPd    25 42.50   -2.2
        0.5s     22.54nm          5.4mb
MAT    51.77   27 eP     25 53.00   -1.5
        1.0s     12.00nm          4.8mb
WMQ    57.23  339 eP     26 32.50   -1.8
MAIO   66.95  316 iPc    27 38.20   -1.3
SHI    69.01  307 eP     27 51.00   -1.6
SLR    80.43  245 iPc    28 59.50    1.2
BUL    80.71  251 iPc    29 01.50    1.6
        1.0s     7.50nm          4.6mb
SPA    80.83  180 e(P)   29 00.10    0.5
        0.6s     1.22nm          4.1mb
MBH    83.53  301 ePc    29 15.00    0.9
PRNI   83.57  302 eP     29 16.00    1.6
HRI    83.71  305 eP     29 17.00    1.9
BCAO   94.11  274 iPd    30 05.80    0.9
        0.9s     9.00nm          5.2mb
                  id     30 16.80
CNCB  154.13  180 PKP    36 28.00 -10.9X
ZOBO  154.67  180 PKP    36 25.00 -14.6X
     S.D. = 1.3  on  35 of  43 obs.
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&  OCT  31, 1989   18h 33m 57.64s
   55.317 N          162.418 W
   DEPTH = 123.6km
 ALASKA PENINSULA                 ( 12)
      <PAL>.

PVV     0.36   81 eP     34 14.87   -0.6
DRRA    0.40  169 ePd    34 15.13   -0.6
                  eS     34 28.21
SNKA    0.87  194 eP     34 18.43   -0.6
                  eS     34 33.62
NGI     1.38  101 eP     34 23.34   -0.9
                  eS     34 42.54
IVF     1.74   69 eP     34 28.21   -0.3
        5 obs. ossocioted
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   OCT  31, 1989   18h 44m 20.66± 0.18s
    9.219 S ± 5.0km  111.962 E ± 5.0km
   DEPTH =  33.0km  (normol)
   5.3mb ( 33 obs.)  5.2Msz (  9 obs.)
 SOUTH OF JAVA                    (282)
      CENTROID, MOMENT TENSOR     (HRV)
      Data Used: GDSN
      L.P.B.: 18S, 35C
      Centroid Locotion:
      Origin Time          18:44:31.5 0.4
      Lat  9.21S  FIX;Lon 112.04E  FIX
      Dep  61.3 4.1 Holf-durotion  2.5
      Moment Tensor;   Scole 10**17 Nm
        Mrr= 1.39 0.11  Mtt=-2.67 0.14
        Mff= 1.28 0.21  Mrt=-0.36 0.20
        Mrf= 0.99 0.14  Mtf= 1.33 0.15
       Principol Axes:
        T  Vol=  2.43  Plg=41   Azm=281
        N          0.74      48       118
        P         -3.16       8        18
      Best Double Couple:Mo=2.8*10**17
       NP1:Strike= 69 Dip=56 Slip=  26
       NP2:        323     69       143

TRT     1.65   24 iPc    44 52.10    4.5X
                  iS     45 45.10
KHKI    3.70   77 ePd    45 59.00   42.1X
                  e(S)   46 04.50
MKS     8.44   62 iPd    46 29.50    5.8X
        1.0s   332.80nm          6.4mb X
                  eS     49 03.00
BKB2    9.31   32 ePc    46 42.70    7.1X
        1.0s   307.10nm          6.5mb X
PCI    11.39   44 ePc    47 08.40    4.3X
        2.0s     9.50nm          4.6mb
KUPT   11.52   96 eP     47 08.50    2.6
        0.5s   468.20nm          6.9mb X
                  e(S)   49 30.00
NANU   13.70  166 eP     47 25.50   -9.5X
MBL    14.09  148 eP     47 30.30   -9.8X
        0.3s     20.00nm          5.4mb
                  eS     49 56.00
KGM    14.10  322 eP     47 47.00    6.8X
PPI    14.43  306 eP     47 42.30   -2.3
TSM    14.68   25 eP     47 57.50    9.7X
KKM    15.74   16 ePd    48 08.00    6.2X
                  e      48 38.00
KLM    15.99  320 eP     48 05.50    0.7
MNI    16.64   51 ePd    48 16.50    3.4X
AAI    17.03   72 eP     48 22.50    4.4X
IPM    17.51  321 ePd    48 25.80    1.7
        0.6s     21.10nm          4.4mb
PSI    17.58  312 ePd    48 25.50    0.7
                  e      55 50.00
KNA    17.64  113 eP     48 24.00   -1.6
MTN    19.15  103 iPd    48 43.00   -1.2
SNG    19.83  325 eP     48 15.90 -35.8X
                  eS     52 48.00
MRWA   20.25  170 eP     48 51.50   -4.6X
        0.3s     15.00nm          4.8mb
                  eS     52 26.00
DAV    21.13   40 eP     49 08.00    2.8X
BAL    21.74  169 eP     49 08.00   -3.2X
WARB   21.88  142 eP     49 11.40   -1.3
                  eS     53 09.00
BSI    22.13  311 eP     49 21.00    5.8X
KLB    22.91  167 eP     49 22.10   -0.6
        0.3s     7.00nm          4.6mb
                  eS     53 29.00
MUN    22.99  171 eP     49 20.50   -3.0X
     Z  20s      8.80um          5.2Msz
COOL   23.19  160 eP     49 23.00   -2.6
        0.5s    45.00nm          5.2mb
                  e      49 31.00
                  eS     53 33.00
NWAO   24.09  169 eP     49 33.30   -0.9
        0.8s   106.00nm          5.4mb
     Z  20s      2.40um          4.7Msz
                  e      49 43.00
                  eS     54 12.00
WB5    24.11  119 iPc    49 33.80   -0.7
                  eS     53 04.00
                  iScP   56 04.20
WRA    24.11  119 Pc     49 29.00   -5.6X
        0.5s    46.50nm          5.3mb
NNT    24.84  331 eP     49 42.00    0.4
OCP    25.37   21 eP     49 53.00    6.4X
ASPA   25.42  127 iPc    49 45.90   -1.3
        1.0s   281.00nm          5.8mb
     Z  21s      9.69um          5.3Msz
                  e      54 34.90
                  LR     59 38.70
FORR   26.26  147 eP     49 54.00   -0.7
        0.4s    22.00nm          5.1mb
BAG    26.85   19 eP     50 06.50    6.0X
                  eS     55 03.50
NST    27.37  335 eP     50 06.50    1.5
LOE    28.32  339 eP     50 13.00   -0.7
BDT    29.25  334 eP     50 23.00    1.0
JAY    29.34   79 ePc    50 24.00    1.0
                  e      52 35.00
CHTO   30.67  335 eP     50 34.00   -0.7
        1.0s    15.50nm          4.8mb
PMG    34.72   93 eP     51 12.00    2.0
LAT    34.79   88 eP     51 24.00   13.4X
CTA    34.82  112 iPc    51 10.40   -0.4
        1.3s   225.00nm          5.9mb
                  iS     56 40.00
OLP    35.08  124 eP     51 13.00    0.0
KMI    35.30  345 Pd     51 16.50    1.5
     N  13s      3.80um
                  sP     51 27.00
                  PP     53 04.00
                  S      57 03.00
ADE    35.43  140 eP     51 15.00   -0.9
        1.5s   250.00nm          5.9mb
STK    35.54  134 iPc    51 16.00   -0.8
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31d 18h

| | | |

	Z	20s	1.20um			5.6Msz
ALQ	136.57	48	ePKP	03	42.00	0.0
	Z	18s	0.52um			5.3Msz
MEO	142.21	43	e(PKP)	03	51.50	-0.5
SIO	143.12	40	e(PKP)	03	51.50	-2.0
LNO	143.34	39	ePKP	03	50.80	-2.9X
TUL	143.34	39	ePKP	03	51.50	-2.3
	1.1s		14.90nm			
PDCR	144.05	234	ePKP	03	39.00	-16.6X
			e	03	52.90	
EMM	144.61	359	PKP	03	54.20	-1.5
BNH	144.65	4	PKP	03	55.00	-0.8
HBVT	144.72	6	PKP	03	55.20	-0.7
FVM	144.97	32	PKP	03	55.90	-0.6
UYO	145.29	40	iPKPd	03	57.00	-0.2
POW	145.91	35	PKP	03	58.90	0.7
OLY	146.21	36	PKP	03	59.70	1.0
MRX	146.31	68	iPKP	04	02.60	3.3X
TBR	147.74	9	PKP	04	03.30	2.3
CRX	147.77	68	ePKP	04	05.50	3.5X
III	148.20	70	iPKP	04	07.70	5.1X
PWLA	148.49	33	PKP	04	02.60	0.3
PPM	148.81	68	iPKP	04	09.70	5.7X
RSCP	149.25	29	PKP	04	08.20	4.6X
CBN	149.94	15	ePKP	04	10.00	5.5X
BLA	149.96	20	PKP	04	09.80	5.2X
OXX	151.02	71	ePKP	04	15.30	8.4X
PRM	151.97	26	PKP	04	14.70	7.0X
CCH	153.50	184	PKP	04	19.90	9.3X
CNCB	154.14	180	PKP	04	14.00	2.1
ARE	154.26	172	ePKP	04	17.00	5.3X
LPB	154.41	180	ePKP	04	19.00	7.0X
ZOBO	154.68	180	PKP	04	13.20	0.6
			LR	57	36.00	
NNA	157.19	157	ePKP	04	28.50	13.2X
	1.2s		12.50nm			
UPA	168.64	90	(PKP)	04	26.00	0.0
	S.D. = 1.3		on 155 of 223 obs.			

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* OCT 31, 1989 19h 13m 47.75± 0.58s
9.516 S ± 8.0km 111.880 E ±10.7km
DEPTH = 33.0km (normal)
4.7mb (5 obs.) 4.5Msz (1 obs.)
SOUTH OF JAVA (282)

TRT	1.95	23	iPc	14	18.00	-1.1
			iS	15	21.60	
PCI	11.66	43	ePc	16	35.00	0.1
NANU	13.44	165	eP	16	53.50	-5.1X
MBL	13.88	147	eP	16	58.30	-6.2X
	0.3s		7.00nm			4.9mb X
			eS	19	22.00	
MNI	16.89	51	ePc	17	45.50	2.2
			e	20	28.00	
MTN	19.17	102	eP	18	10.00	-1.5
			e	18	17.00	
MRWA	19.98	169	eP	18	19.80	-0.5
	0.4s		9.00nm			4.4mb
			eS	21	51.00	
WARB	21.69	142	eP	18	39.00	1.1
			eS	22	31.00	
COOL	22.95	159	eP	18	53.50	3.2X
WB5	24.04	118	eP	19	00.40	-0.6
WRA	24.04	118	Pd	19	05.00	4.0X
	0.2s		42.40nm			5.6mb
ASPA	25.31	126	iPc	19	13.20	0.0
	Z 20s		1.68um			4.5Msz
			LR	29	34.00	
FORR	26.05	147	eP	19	20.00	0.1
	0.4s		11.00nm			4.8mb
CHTO	30.91	336	eP	20	06.00	2.2
CTA	34.78	112	iPd	20	38.00	0.4
STK	35.40	133	eP	20	43.00	0.3
KMI	35.56	346	eP	20	56.50	12.1X
GYA	36.11	352	P	20	49.80	0.9
CD2	40.94	349	eP	21	29.80	0.8
GBA	41.19	303	P	21	30.00	-1.1
BWA	41.62	132	eP	21	37.60	3.0X
BRS	42.43	120	iP	21	44.00	2.7
	1.0s		3.50nm			4.0mb
			i	21	57.00	
CAN	42.46	133	eP	21	39.70	-1.8
LZH	45.98	351	eP	22	09.50	-0.4
TIY	46.98	1	eP	22	19.00	1.4
BJI	49.46	4	(P)	22	35.00	-1.8
GTA	49.95	348	eP	22	40.80	0.1
MAT	52.07	27	eP	22	54.00	-2.8
	0.8s		7 46nm			4.7mb
WMQ	57.45	339	P	23	34.50	-1.4
QUE	58.50	314	eP	23	44.00	0.4
KSH	59.02	328	eP	23	47.50	0.5
TAB	77.21	313	eP	25	50.00	9.5X
CNCB	153.84	180	ePKP	33	50.00	11.5X
LPB	154.12	180	ePKP	33	52.00	13.3X
ZOBO	154.38	180	ePKP	33	49.00	9.7X
	S.D. = 1.4		on 25 of 35 obs.			

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* OCT 31, 1989 19h 17m 13.80± 1.44s
7.228 S ±15.5km 151.329 E ±19.9km
DEPTH = 33.0km (normal)
4.1mb (1 obs.)
NEW BRITAIN REGION (192)

RAB	3.13	16	eP	18	02.00	0.0
LAT	4.34	277	eP	18	19.00	-0.1
PMG	4.67	242	eP	18	24.00	0.2
	0.9s		75.63nm			
			eS	19	13.00	
WB5	20.71	231	eP	21	52.80	-1.2
WRA	20.77	231	Pd	21	55.50	0.9
	1.0s		9.30nm			4.1mb
NANU	37.67	242	eP	24	28.20	0.2
	S.D. = 0.9		on 6 of 6 obs.			

OCT 31, 1989 19h 35m 00.45± 0.19s
9.306 S ± 4.5km 112.050 E ± 4.7km
DEPTH = 33.0km (normal)
5.4mb (35 obs.) 5.2Msz (12 obs.)
SOUTH OF JAVA (282)
CENTROID, MOMENT TENSOR (HRV)
Doto Used: GDSN
L.P.B.: 16S, 30C
Centroid Locotion:
Origin Time 19:35: 3.0 0.8
Lot 9.56S 0.06 Lon 111.95E 0.07
Dep 54.4 6.1 Half-durotion 2.3
Moment Tensor; Scole 10**17 Nm
Mrr= 0.15 0.10 Mtt=-2.00 0.13
Mff= 1.85 0.19 Mrt=-1.59 0.22
Mrf= 1.13 0.16 Mtf= 1.42 0.14
Principol Axes:
T Vol= 2.52 Plg=19 Azm=281
N 0.93 55 161
P -3.45 28 21
Best Double Couple:Mo=3.0*10**17
NP1:Strike= 59 Dip=56 Slip= -7
NP2: 153 84 -146

TRT	1.69	20	iPd	35	31.50	3.4X
			eS	36	24.50	
KHKI	3.64	75	eP	35	56.20	0.4
			e(S)	36	44.20	
			e	48	08.50	
MKS	8.41	62	ePc	37	06.50	3.5X
	1.0s		360.60nm			6.5mb X
			eS	39	29.50	
BKB2	9.33	31	ePc	37	21.60	5.8X
PCI	11.39	43	ePc	37	46.50	2.6
			eS	38	12.50	
KUPT	11.42	95	eP	37	48.50	4.1X
	0.6s		459.40nm			6.8mb X
NANU	13.60	166	eP	38	04.60	-8.8X
			eS	40	23.00	
MBL	13.97	148	eP	38	10.00	-8.3X
	0.3s		16.00nm			5.2mb
			eS	40	32.00	
KGM	14.22	322	eP	38	27.00	5.4X
PPI	14.55	307	eP	38	24.00	-2.0
TSM	14.72	24	eP	38	33.50	5.3X
KKM	15.80	15	ePd	38	46.00	3.6X
AAI	16.98	72	eP	39	02.10	4.9X
KNA	17.52	113	eP	39	01.30	-2.7
	0.5s		90.00nm			5.2mb
IPM	17.64	321	ePd	39	07.00	1.6
PSI	17.70	312	ePc	39	09.50	3.3X
			e	44	55.00	
MEKA	18.28	161	eP	39	08.50	-4.8X
	0.3s		24.00nm			4.8mb
MTN	19.05	102	iPd	39	21.70	-1.1
SNG	19.95	325	eP	39	34.80	2.1
			eS	43	07.00	
MRWA	20.15	170	eP	39	30.40	-4.4X
	0.3s		13.00nm			4.7mb
			eS	43	02.00	

DAV	21.14	40	eP	39	48.90	3.9X
BAL	21.63	169	eP	39	47.70	-2.3
WARB	21.75	142	eP	39	50.60	-0.6
			eS	43	44.00	
KLB	22.80	167	eP	40	01.50	0.0
	0.3s		6.00nm			4.6mb
			eS	44	06.00	
MUN	22.89	171	eP	40	01.50	-0.9
	Z 20s		8.50um			5.2Msz
COOL	23.08	160	eP	40	00.00	-4.3X
	0.4s		18.00nm			4.9mb
			eS	44	03.00	
WB5	23.99	118	iPc	40	12.80	-0.4
NWAO	23.99	169	eP	40	13.00	0.0
	0.7s		28.00nm			4.9mb
WRA	23.99	119	Pd	40	13.20	0.0
	1.0s		298.10nm			5.8mb
NNT	24.96	330	eP	40	22.00	-0.5
ASPA	25.30	127	iPc	40	24.80	-1.0
	1.2s		244.00nm			5.7mb
	Z 22s		8.55um			5.2MszX
			eS	45	10.10	
			LR	50	25.30	
OCP	25.42	21	eP	40	22.00	-4.8X
FORR	26.14	147	eP	40	32.00	-1.4
	0.4s		19.00nm			5.0mb
BAG	26.91	18	eP	40	42.00	1.2
			eS	45	31.00	
NST	27.48	334	eP	40	48.00	2.2
QIZ	28.24	356	eP	40	54.80	2.1
	E 14s		2.20um			
LOE	28.43	339	eP	40	54.50	0.0
QIS	28.83	116	iPc	40	56.20	-1.8
JAY	29.27	78	ePc	41	02.70	0.6
			e	42	48.00	
BDT	29.36	334	eP	41	02.90	0.1
			e	44	10.90	
CHG	30.79	335	iPd	41	16.80	1.3
	0.8s		15.67nm			4.9mb
PMG	34.63	93	eP	41	50.00	1.0
	0.7s		47.95nm			5.5mb
LAT	34.70	88	eP	41	58.00	8.3X
CTA	34.71	112	iPc+	41	49.80	0.2
	1.0s		110.00nm			5.7mb
			i	42	11.60	
QLP	34.96	124	ePd	41	52.40	0.7
ADE	35.30	140	iPc	41	54.50	-0.1
	0.7s		47.95nm			5.5mb
KMI	35.40	345	Pc	41	57.00	1.3
	E 15s		5.70um			
			sP	42	07.00	
			S	47	32.00	
STK	35.42	134	iPd	41	55.70	0.1
	0.8s		104.00nm			5.8mb
			e	42	09.00	
ANP	35.50	15	e(P)	41	39.00	-17.4X
GYA	35.93	352	P	42	01.80	1.7
	N 16s		1.30um			
	E 16s		4.80um			
			PcP	44	28.60	
			S	47	40.00	
			PcS	48	15.00	
CMS	38.34	130	eP	42	20.00	-0.1
RMQ	38.70	121	iPd	42	24.60	1.3
	0.6s		35.00nm			5.3mb
			i	42	37.20	
BFD	39.11	140	eP	42	26.60	0.1
WHN	39.68	3	Pc	42	31.50	0.3
	Z 20s		1.88um			4.9Msz
	E 12s		1.22um			
			eS	48	38.00	
GUMO	39.73	56	eP	42	30.80	-1.1
	0.6s		85.30nm			5.7mb
PJG	39.73	56	eP	42	31.10	-0.8
GUA	39.74	56	eP	42	30.70	-1.3
	0.6s		48.00nm			5.4mb
SHL	39.84	331	iP	42	30.80	-2.1
			iS	48	28.50	
CD2	40.77	349	eP	42	40.00	-0.3
	Z 16s		2.70um			5.2MszX
	E 16s		4.80um			
			S	48	48.00	
			isS	49	06.50	
SSE	41.11	12	P	42	43.60	0.6
	0.8s		0.03nm			2.1mb X
	Z 20s		0.90um			4.6Msz
	N 14s		1.34um			

31d 19h

	E 14s 0.70um					
	S	48 40.00				
	sS	49 12.00				
GBA	41.21 303 P	42 42.00	-2.1			
TOO	41.24 138 iPc	42 47.00	2.9X			
BWA	41.64 132 eP	42 49.70	2.3			
	e	43 01.00				
NJ2	41.63 9 Pc	42 50.00	2.7			
HYB	42.44 309 iPd	42 53.50	-0.6			
	1.0s 50.00nm		5.2mb			
	i	43 03.00				
CAN	42.48 133 eP	42 55.50	1.1			
	e	43 08.50				
COO	42.70 125 eP	42 56.00	-0.2			
XAN	43.21 356 P	42 59.00	-1.2			
LSA	43.69 333 P	43 04.70	0.0			
	N 19s 2.40um					
	S	49 34.50				
TIA	45.52 6 P	43 17.20	-1.6			
	Z 18s 2.30um		5.2Msz			
	N 17s 2.50um					
	eS	49 54.00				
LZH	45.81 351 Pd	43 19.50	-1.7			
	1.5s 0.12nm		2.6mb X			
	Z 26s 3.20um		5.1MszX			
	N 10s 0.50um					
	E 18s 5.00um					
	pP	43 28.50	30kmX			
	S	50 02.50				
TIY	46.77 0 eP	43 28.00	-0.7			
	N 15s 1.80um					
HNR	47.23 94 eP	43 33.00	0.4			
BOM	47.77 306 eP	43 34.00	-2.7			
	eS	50 32.00				
DL2	48.79 10 eP	43 44.00	-0.3			
BJI	49.24 4 eP	43 46.50	-1.3			
	1.0s 0.04nm		2.4mb X			
	Z 20s 2.69um		5.2Msz			
	E 14s 0.99um					
	eS	50 47.00				
	e	54 52.00				
BTO	49.69 358 Pc	43 50.60	-0.7			
	Z 18s 1.80um		5.1Msz			
	N 20s 2.60um					
	E 18s 2.40um					
	pP	44 04.00	50kmX			
	PP	45 48.50				
	esS	51 07.00				
GTA	49.78 348 iPd	43 52.00	-0.2			
	0.8s 0.10nm		2.9mb X			
	Z 20s 2.60um		5.2Msz			
	N 12s 1.50um					
	sP	44 06.00				
	S	50 59.00				
	sS	51 14.00				
MAT	51.81 27 iPc	44 05.20	-2.3			
	0.9s 89.08nm		5.7mb			
	Z 20s 1.42um		5.0Msz			
	eS	51 20.00				
SNY	51.97 11 Pc	44 06.60	-2.0			
	Z 28s 1.30um		4.8MszX			
	E 27s 3.20um					
	S	51 32.00				
DZM	53.63 110 iPd	44 22.00	0.7			
CN2	54.24 12 iPc	44 23.00	-2.3			
	Z 20s 1.20um		5.0Msz			
	N 13s 1.00um					
	pP	44 34.00	37kmX			
	sP	44 38.00				
MDJ	55.97 15 eP	44 35.30	-2.6			
	Z 28s 1.50um		4.9MszX			
	S	52 16.00				
WMO	57.32 339 Pd	44 46.00	-1.7			
	Z 21s 6.40um		5.7Msz			
	pP	44 57.00	37kmX			
	S	52 43.50				
	ScS	54 34.00				
QUE	58.48 314 iP	44 54.00	-2.1			
	eS	53 12.00				
KSH	58.94 328 P	44 58.30	-0.8			
MSZ	59.49 137 P	45 04.40	1.7			
TCW	63.10 132 P	45 26.20	-1.0			
MRW	63.42 131 P	45 28.20	-1.1			
KIW	63.50 131 P	45 29.00	-0.9			
CAW	63.66 131 P	45 29.80	-1.1			
MTW	64.00 131 P	45 32.30	-0.8			
PGZ	64.47 131 P	45 35.50	-0.7			
MAW	66.69 198 eP	45 49.00	-1.0			
MAIO	67.04 316 iPd	45 50.90	-1.9			
SHI	69.10 307 eP	46 04.00	-1.9			
BJA	69.23 302 ePn	46 05.50	-1.0			
BRF	69.28 302 ePn	46 06.00	-0.8			
DHR	69.74 302 eP	46 08.50	-1.1			
NPA	71.12 257 iP	46 18.70	0.4			
RYD	72.16 300 eP	46 23.10	-1.3			
SBA	73.87 170 e(P)	46 34.90	1.5			
KER	75.19 309 eP	46 40.00	-1.9			
AAE	75.20 282 eP	46 44.50	1.9			
NAI	75.24 271 iP	46 46.00	3.3X			
	1.0s 30.00nm		5.2mb			
BHD	76.91 307 ePd	46 50.00	-1.4			
	eS	56 32.00				
	e	56 45.00				
TAB	77.19 312 ePc	46 52.70	-0.5			
MSL	78.94 310 ePd	47 02.00	-0.6			
	e	47 12.00				
SLR	80.44 245 iPc	47 12.00	0.9			
	1.2s 65.63nm		5.5mb			
	Z 18s 2.75um		5.6Msz			
	i	47 22.00				
BUL	80.74 251 Pc	47 14.40	1.7			
	1.0s 28.00nm		5.2mb			
SPA	80.76 180 iPd	47 12.20	0.2			
	0.8s 17.08nm		5.1mb			
SEK	80.77 243 eP	46 58.00	-14.8X			
	0.6s 10.00nm					
PRY	81.05 244 iPc	47 16.10	1.8			
	1.2s 20.00nm		5.0mb			
GRM	81.20 238 iPd	47 19.50	4.7X			
	0.8s 29.85nm		5.3mb			
BFS	81.66 244 iPd	47 18.00	0.6			
	1.0s 50.00nm		5.5mb			
KSR	81.67 245 eP	47 18.00	0.4			
BLF	81.95 242 eP	47 20.00	1.1			
HVD	82.38 240 iPc	47 24.50	3.3X			
AYN	82.44 301 eP	47 22.00	0.8			
FRS	82.63 241 iPc	47 27.20	5.0X			
MBH	83.62 301 eP	47 28.00	0.7			
DSI	83.65 303 eP	47 27.00	-0.4			
HRI	83.80 305 eP	47 30.00	1.7			
BHL	84.04 306 P	47 32.00	2.5			
KVT	85.68 313 iP	47 38.80	1.3			
ADK	85.96 36 P	47 38.30	-0.2			
	0.8s 86.21nm		6.0mb			
KOT	86.23 301 eP	47 41.50	1.2			
HLW	86.63 301 eP	47 45.00	2.7X			
BBTK	87.78 311 eP	47 48.00	0.2			
BCK	88.89 308 eP	47 52.80	-0.3			
SNA	89.25 198 iPc	47 56.00	1.9			
	0.9s 26.05nm		5.5mb			
HRT	90.30 311 eP	47 59.00	-0.6			
GBZT	90.46 311 eP	48 11.00	10.7X			
YLV	90.47 311 iP	48 00.90	0.5			
VRI	93.37 316 ePc	48 15.00	1.5			
MLR	93.84 315 eP	48 16.00	0.1			
BCAO	94.17 274 iPc	48 18.30	0.4			
	0.9s 27.00nm		5.7mb			
	ic	48 26.40				
LIT	95.58 310 ePc	48 23.10	-0.8			
VAY	95.68 311 eP	48 24.30	0.0			
SUF	96.32 332 iP	48 26.70	0.0			
	0.7s 30.70nm		5.9mb			
SKO	96.60 311 eP	48 28.00	-0.4			
NUR	96.74 330 eP	48 29.60	1.0			
NUR	96.74 330 iPc	48 23.50	-5.1X			
	0.3s 69.70nm		6.6mb X			
	e	48 29.60				
SOD	96.76 337 eP	48 23.00	-5.6X			
	i	48 30.00				
OHR	96.98 310 eP	48 30.20	0.0			
KRA	98.41 319 eP	48 48.20	11.8X			
	e	52 34.10				
TTA	99.10 28 P	48 40.00	0.7			
	1.0s 17.50nm		5.5mb			
SVW	99.20 29 eP	48 40.70	0.9			
IMA	100.18 24 ePdiff	48 45.70	1.4			
	0.8s 4.30nm		5.0mb			
HFS	102.17 330 ePdiff	48 53.10	0.0			
	0.8s 8.70nm		5.5mb			
NB2	103.34 331 Pdiff	48 58.80	0.5			
	0.8s 3.60nm		5.2mb			
TOA	103.68 28 ePdiff	49 01.00	1.1			
LPG	107.30 315 ePKP	53 41.20	15.5X			
	0.8s 9.40nm					
INK	107.51 21 ePKP	53 20.00	-4.9X			
MBC	107.66 11 ePKP	53 07.50	-17.5X			
	1.0s 5.00nm					
LON	121.13 40 PKP	53 50.00	-1.6X			
PNT	121.47 37 ePKP	53 53.00	0.8			
	0.7s 9.00nm					
WDC	122.66 48 ePKP	53 55.80	1.1			
EDM	123.03 31 ePKP	53 55.50	0.5			
	0.7s 18.00nm					
ORV	123.73 48 ePKP	53 57.60	0.8			
MHC	124.25 51 ePKP	54 00.20	2.1			
ARN	124.33 51 PKP	53 59.00	0.9			
PRS	124.73 52 ePKP	54 00.50	1.7			
LLA	124.99 52 ePKP	54 01.20	1.9			
CMB	125.01 50 ePKP	54 00.80	1.4			
SES	125.79 33 ePKP	54 01.00	0.5			
FRI	125.83 51 ePKP	54 02.60	1.6			
KVN	126.39 48 PKP	54 03.20	0.9			
ISA	127.17 52 ePKP	54 05.00	1.3			
CWC	127.25 51 ePKP	54 08.00	4.1X			
FFC	127.26 24 ePKP	54 04.00	0.9			
	0.7s 10.00nm					
TNP	127.37 49 PKP	54 05.00	0.8			
CLC	127.81 52 ePKP	54 08.00	3.1X			
	e	56 15.00				
MWC	127.91 54 ePKP	54 08.00	2.7X			
SBB	127.97 53 ePKP	54 06.00	0.8			
BAR	129.46 55 ePKP	54 21.00	12.9X			
	e	56 18.00				
TPC	129.54 53 ePKP	54 11.00	2.8X			
GLA	130.83 54 ePKP	54 24.00	13.3X			
	e	56 36.00				
MSU	130.88 46 PKP	54 12.00	1.1			
RSON	133.45 22 PKP	54 15.50	0.5			
SCH	134.60 359 ePKP	54 19.00	1.9			
GOL	134.99 42 PKP	54 19.00	0.3			
ALQ	136.56 48 ePKP	54 23.00	1.3			
	Z 18s 0.60um		5.4Msz			
MEO	142.21 43 iPKPd	54 27.80	-4.0X			
SIO	143.13 40 e(PKP)	54 32.00	-1.3			
TUL	143.35 39 ePKP	54 31.00	-2.6X			
	0.7s 24.10nm					
LNO	143.35 39 ePKP	54 31.00	-2.5			
PDCR	144.07 233 ePKP	54 33.50	-1.9			
MIM	144.18 1 PKP	54 32.40	-2.3			
RSNY	144.43 8 PKP	54 33.70	-1.5			
EMM	144.70 359 PKP	54 34.70	-0.9			
BNH	144.73 4 PKP	54 34.40	-1.3			
HBVT	144.79 6 PKP	54 35.00	-0.8			
FVM	145.00 32 PKP	54 35.20	-1.2			
UYO	145.30 41 iPKPd	54 37.00	0.0			
OLY	146.23 36 PKP	54 39.40	0.9			
MRX	146.26 68 (PKP)	54 42.60	3.6X			
III	148.14 70 ePKP	54 47.30	5.0X			
PPM	148.77 69 iPKP	54 49.30	5.6X			
RSCP	149.28 29 PKP	54 47.50	4.1X			
GBTN	149.86 27 PKP	54 50.00	5.7X			
CVL	149.92 17 PKP	54 50.00	5.8X			
IISM	149.93 68 iPKP	54 52.60	7.9X			
TKL	150.06 26 PKP	54 50.30	5.7X			
OXX	150.97 72 ePKP	54 55.30	8.6X			
PRM	152.01 26 PKP	54 55.00	7.5X			
JSC	152.30 24 PKP	54 55.30	7.4X			
CCH	153.42 184 PKP	55 00.40	10.1X			
CNCB	154.05 180 PKP	54 56.00	4.5X			
	i	55 02.50				
LPB	154.33 180 ePKP	55 00.00	8.3X			

S.D. = 1.3 on 155 of 210 obs.

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* OCT 31, 1989 20h 07m 27.37± 0.99s
9.837 S ± 8.9km 111.731 E ±12.6km
DEPTH = 33.0km (normal)
4.2mb (3 obs.)
SOUTH OF JAVA (282)

KHKI	4.10 69 eP	08 29.10	-0.2			
	e	12 50.00				
PCI	11.99 43 ePc	10 19.80	0.8			
NANU	13.17 164 eP	10 36.00	1.3			
	0.4s 7.00nm		5.0mb X			
	eS	12 58.00				
MBL	13.69 146 eP	10 41.00	-0.6			
	eS	13 02.00				
MNI	17.20 50 eP	11 27.00	0.1			
WB5	24.02 117 eP	12 44.00	3.6X			
WRA	24.02 117 Pc	12 39.40	-1.0			
	0.7s 5.60nm		4.2mb			

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ASPA    25.24 126 iPd    12 56.20    4.0X
        1.0s      9.00nm             4.3mb
GBA     41.24 304 Pc     15 10.80   -0.4
        0.5s      1.90nm             4.1mb
      S.D. = 1.0  on   7 of   9 obs.
-------------------------------------------
&  OCT  31, 1989  20h 53m 48.37s
   61.334 N          150.643 W
   DEPTH =  46.6km
 SOUTHERN ALASKA                    (  2)
      <AGS-P>.

SUA     0.14 340 iP     53 56.42    1.9
CGLM    0.66 268 eP     54 01.09   -0.5
NKA     0.66 206 eP     54 02.90    1.4
SPU     0.70 258 eP     54 01.54   -0.6
                 eS     54 12.06
NCG     0.73 276 iP     54 02.04   -0.6
                 eS     54 12.85
CRP     0.73 265 eP     54 02.12   -0.6
SKT     0.77 327 iP     54 02.29   -0.8
                 eS     54 13.58
SLKM    0.85 166 eP     54 03.54   -0.7
CUT     1.09   9 eP     54 06.54   -0.9
RDT     1.15 229 iP     54 07.70   -0.7
                 eS     54 23.38
NNL     1.34 194 eP     54 11.69    0.8
SEW     1.37 154 eP     54 12.33    1.0
RED     1.39 230 iP     54 11.13   -0.6
                 eS     54 28.79
ILIM    1.70 223 eP     54 15.52   -0.6
                 eS     54 37.20
       14 obs. ossocioted
-------------------------------------------
   OCT  31, 1989  21h 26m 23.47± 1.67s
   36.554 N ±15.2km    2.585 E ± 6.2km
   DEPTH =  10.0km  (geophysicist)
 ALGERIA                            (396)
      mbLg 3.6 (MDD).

ACU     3.08 310 iPnd   27 13.00   -0.1
                 eSn    27 45.00
ESEL    3.22   4 iPn    27 15.00    0.0
                 eSn    27 48.50
ENIJ    3.88 278 ePn    27 24.00   -0.4
                 eSn    28 06.00
ECHE    4.13 318 ePn    27 28.50    0.5
                 eSn    28 12.50
TAF     4.42 248 e(P)   27 48.00   15.8X
                 e      27 58.00
                 i      28 02.00
                 i      29 06.00
EVIA    4.54 299 ePn    27 34.80    0.8
                 eSn    28 22.00
EBR     4.56 340 ePn    27 34.00   -0.1
                 e      27 39.00
                 e      28 33.00
                 e      28 46.00
EROO    4.59 339 iPn    27 34.00   -0.5
                 eSn    28 21.80
AFC     4.96 280 ePn    27 42.50    2.6X
EBAN    5.32 289 ePn    27 44.80   -0.2
                 eSn    28 43.00
ETOR    5.59 321 ePn    27 50.00    1.2
TOL     6.19 304 ePn    27 57.00   -0.1
                 eSn    29 03.00
GUD     6.67 310 ePn    28 04.00   -0.1
                 eSn    29 14.80
EPF     6.69 346 Pn     28 04.20   -0.1
                 Sn     29 13.40
LPO     8.19 353 Pn     28 24.70   -0.4
CAF     8.37 357 Pn     28 27.30   -0.4
IMI     8.39  27 P      28 27.17   -0.8
STV     8.49  24 P      28 29.32   -0.1
LFF     8.49 351 Pn     28 28.00   -1.3
ENR     8.50  24 P      28 29.01   -0.6
PZZ     8.65  22 P      28 32.09    0.4
DOI     8.70  23 P      28 32.30    0.0
ROB     8.72  26 P      28 32.19   -0.3
FIN     8.76  28 P      28 31.78   -1.4
RJF     8.78 355 Pn     28 32.80   -0.5
MAO     8.84  46 P      28 33.40   -0.7
RRL     8.94  20 P      28 39.47    3.7X
PCP     9.17  28 P      28 37.73   -1.1
RSP     9.29  21 P      28 42.24    1.8
LPG     9.47  18 Pn     28 45.40    2.3
LPL     9.48  18 Pn     28 45.60    2.3
LSD     9.54  20 P      28 46.04    2.0
MAF     9.66 360 Pn     28 45.40   -0.1
LSF     9.72 356 Pn     28 45.00   -1.3
TCF     9.73 358 Pn     28 46.20   -0.3
BGF    10.00   1 Pn     28 49.60   -0.5
      S.D. = 1.0  on   33 of  36 obs.
-------------------------------------------
?  OCT  31, 1989  22h 09m 35.22± 4.03s
   10.828 S ±12.8km   160.898 E ±54.4km
   DEPTH =  33.0km  (normal)
 SOLOMON ISLANDS                    (193)

HNR     1.67 326 eP     10 03.00    0.4
                 eS     10 30.00
CTA    16.84 235 eP     13 31.00    0.8
BRS    18.16 204 iPc    13 48.00    1.3
RMO    19.34 215 iPd    13 59.50   -1.4
WB5    27.09 247 eP     15 16.00   -1.1
WRA    27.13 247 Pd     15 17.40    0.0
      S.D. = 1.4  on   6 of   6 obs.
-------------------------------------------
*  OCT  31, 1989  22h 13m 59.85± 1.00s
   38.234 N ± 7.8km   22.234 E ±13.6km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      MD 3.1 (ATH).

AGG     0.79   5 ePc    14 14.00   -1.3
                 eS     14 26.00
ITM     1.08 193 ePb    14 20.00   -0.2
VLS     1.30 268 ePg    14 15.60   -8.3X
NEO     1.32  36 ePb    14 25.00    0.7
VLI     1.61 159 ePg    14 34.00    5.6X
LIT     1.88   6 eP     14 33.40    1.1
KZN     2.10 350 ePn    14 34.50   -1.1
KEK     2.41 309 ePg    14 40.00    0.1
KNT     2.97  10 eP     14 47.00   -0.9
OHR     3.08 339 ePn    14 50.80    1.3
VAY     3.09   5 ePn    14 55.30    5.7X
      S.D. = 1.2  on   8 of  11 obs.
-------------------------------------------
*  OCT  31, 1989  22h 21m 53.82± 0.84s
   38.273 N ± 7.8km   21.801 E ±10.5km
   DEPTH =  10.0km  (geophysicist)
 GREECE                             (364)
      MD 3.0 (ATH).

AGG     0.85  29 eP     22 09.50   -0.8
VLS     0.96 265 ePg    22 11.20   -0.9
ITM     1.10 175 ePb    22 15.00    0.6
NEO     1.52  47 ePb    22 20.00   -1.0
VLI     1.80 149 ePg    22 29.50    4.4X
KZN     2.03 359 ePg    22 30.00    1.5
OHR     2.94 345 ePn    22 45.50    4.1X
KNT     3.01  16 eP     22 42.30    0.0
VAY     3.10  11 ePn    22 44.40    0.8
SKO     3.70 356 ePn    22 55.00    2.7X
      S.D. = 1.2  on   7 of  10 obs.
-------------------------------------------
   OCT  31, 1989  22h 48m 14.16± 0.55s
   42.196 N ± 5.3km   15.787 E ± 6.4km
   DEPTH =  10.0km  (geophysicist)
 ADRIATIC SEA                       (382)

HVAR    1.10  26 iPg    48 32.50   -2.2
                 iSg    48 51.00
DUI     1.13 242 P      48 33.80   -1.5
                 eSg    48 49.50
SDI     1.55 252 P      48 40.30   -1.6
                 eSg    49 01.10
SGO     1.68 193 P      48 43.00   -0.6
                 eSn    49 05.50
BRT     1.69 141 P      48 44.40    0.5
                 eSn    49 06.80
ALP     1.74 290 ePn    48 45.25    0.6
MGR     2.06 185 P      48 49.40    0.1
                 eSn    49 14.70
AOI     2.10 311 e(Pn)  48 54.61    4.8X
CIO     2.19 298 ePn    48 54.45    3.3X
                 iSn    49 22.24
MNS     2.31 276 P      48 52.90    0.0
RDP     2.33 260 P      48 53.00   -0.2
ASS     2.47 292 P      48 56.50    1.4
LCI     2.48 138 P      48 57.00    1.9
TDS     2.57 170 P      48 58.00    1.5
CRE     3.16 298 P      49 04.50   -0.5
VBY     3.33 354 e(Pn)  49 10.30    3.0
                 e      49 21.60
                 e      49 23.00
                 e(Sn)  49 48.80
PGD     3.42 301 P      49 09.00    0.2
PTJ     3.70   2 e(Pn)  49 11.00   -1.7
OHR     3.91 104 ePn    49 13.50   -2.1
LJU     3.95 347 e(Pn)  49 17.60    1.5
                 eSn    50 04.00
VOY     4.07 341 ePn    49 18.40    0.6
                 eSn    49 58.80
SOI     4.12 177 P      49 18.50    0.0
SKO     4.21  91 ePn    49 32.50   12.6X
CTI     4.87 324 P      49 28.50   -0.7
      S.D. = 1.5  on  21 of  24 obs.
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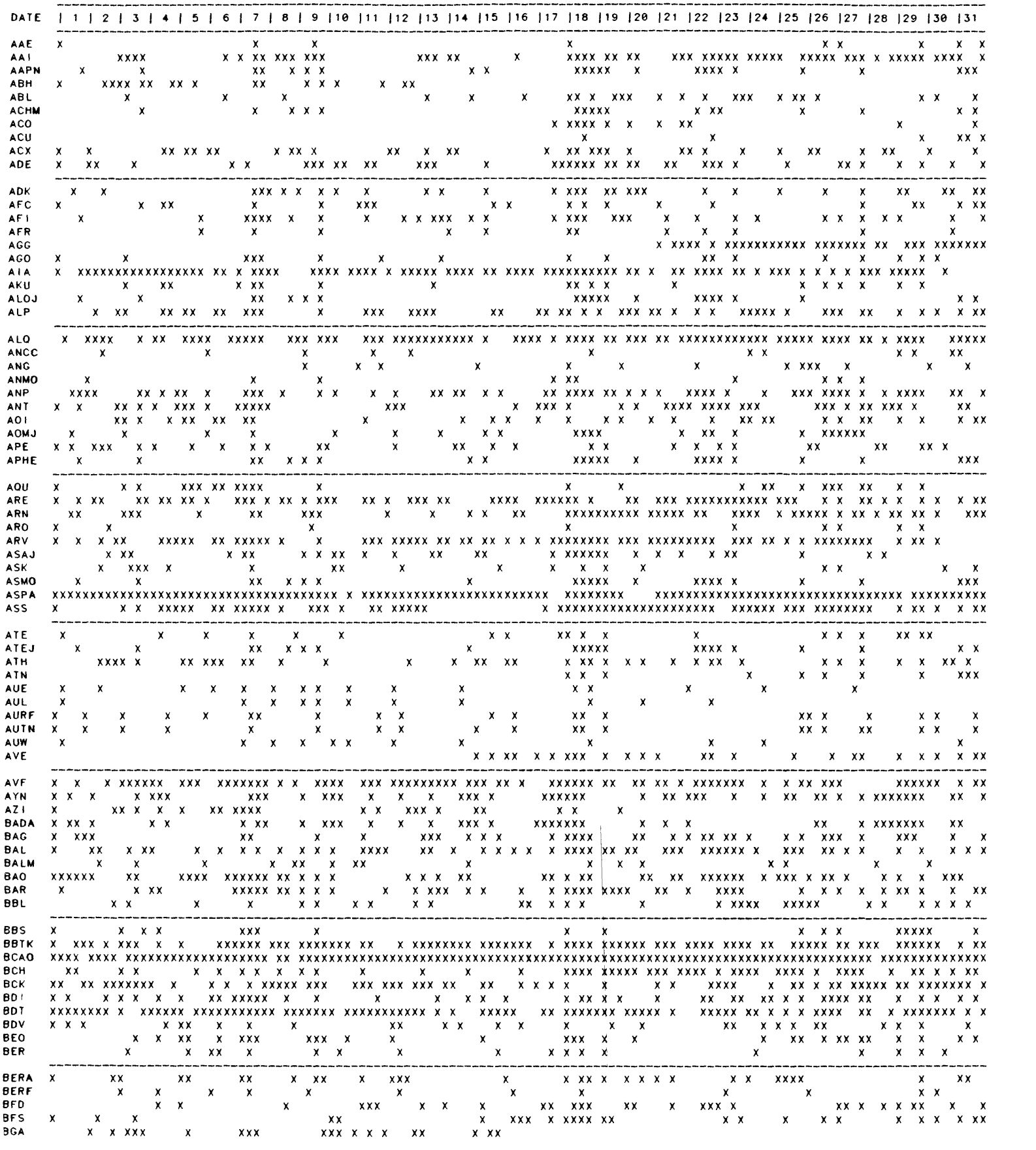
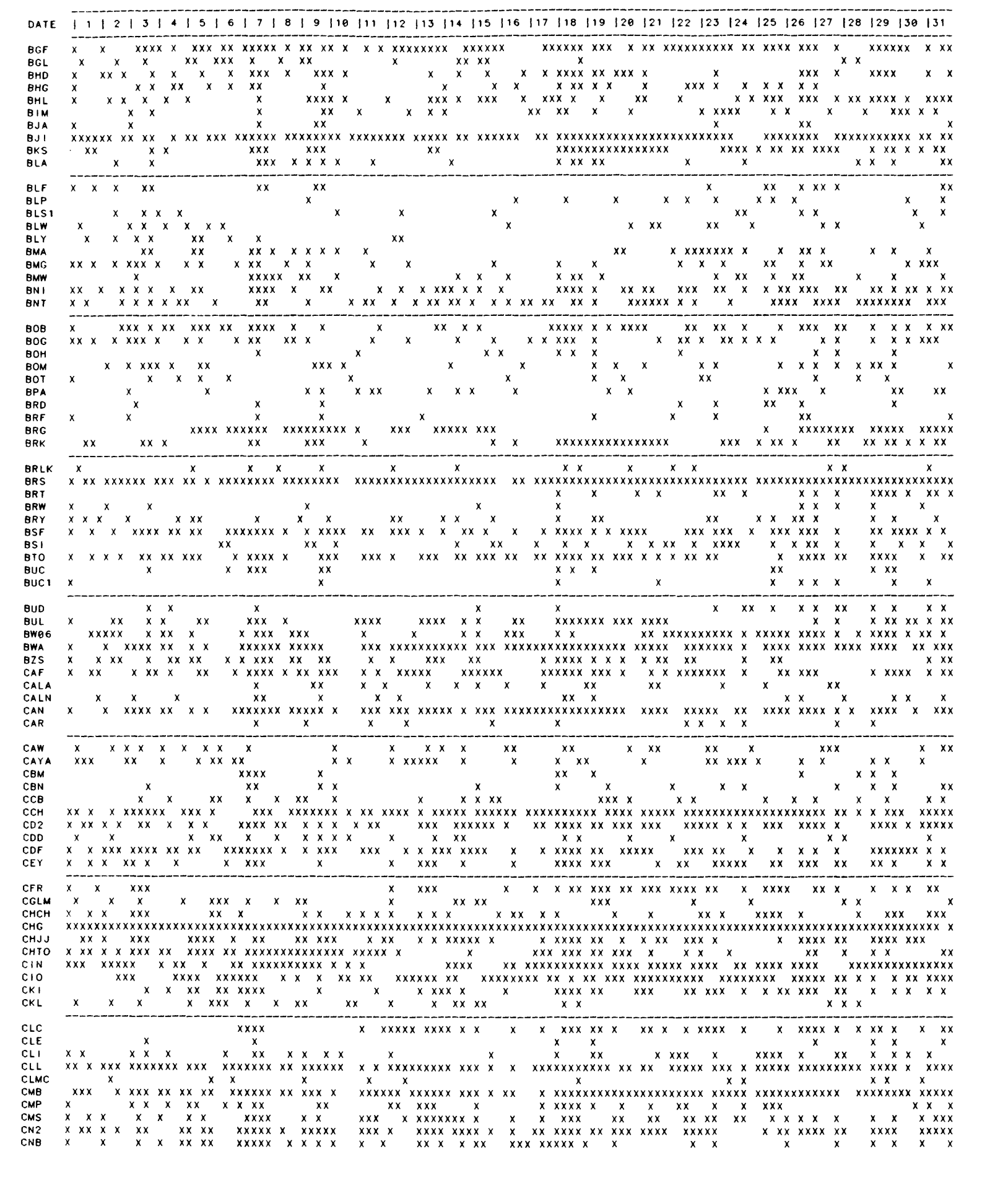
STATION DATA REPORT FOR OCTOBER, 1989

1406 stations reported 61214 reoding orrival groups

X = doto received for this 6-hour time period

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BGF
BGL
BHD
BHG
BHL
BIM
BJA
BJI
BKS
BLA
BLF
BLP
BLS1
BLW
BLY
BMA
BMG
BMW
BNI
BNT
BOB
BOG
BOH
BOM
BOT
BPA
BRD
BRF
BRG
BRK
BRLK
BRS
BRT
BRW
BRY
BSF
BSI
BTO
BUC
BUC1
BUD
BUL
BW06
BWA
BZS
CAF
CALA
CALN
CAN
CAR
CAW
CAYA
CBM
CBN
CCB
CCH
CD2
CDD
CDF
CEY
CFR
CGLM
CHCH
CHG
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CLE
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CLMC
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CMP
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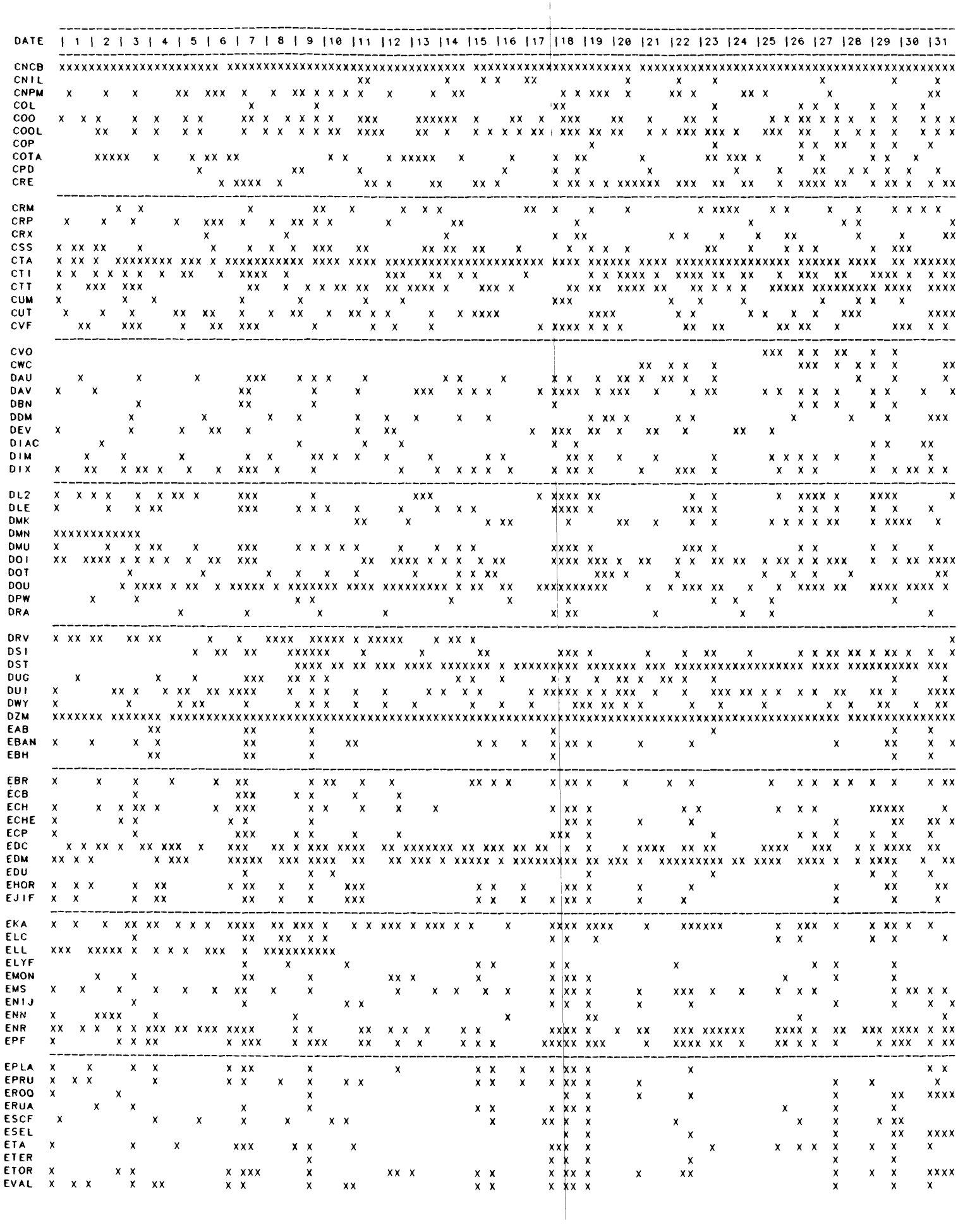
CNB


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 31
CNCB
CNIL
CNPM
COL
COO
COOL
COP
COTA
CPD
CRE
CRM
CRP
CRX
CSS
CTA
CTI
CTT
CUM
CUT
CVF
CVO
CWC
DAU
DAV
DBN
DDM
DEV
DIAC
DIM
DIX
DL2
DLE
DMK
DMN
DMU
DOI
DOT
DOU
DPW
DRA
DRV
DSI
DST
DUG
DUI
DWY
DZM
EAB
EBAN
EBH
EBR
ECB
ECH
ECHE
ECP
EDC
EDM
EDU
EHOR
EJIF
EKA
ELC
ELL
ELYF
EMON
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ESCF
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ETA
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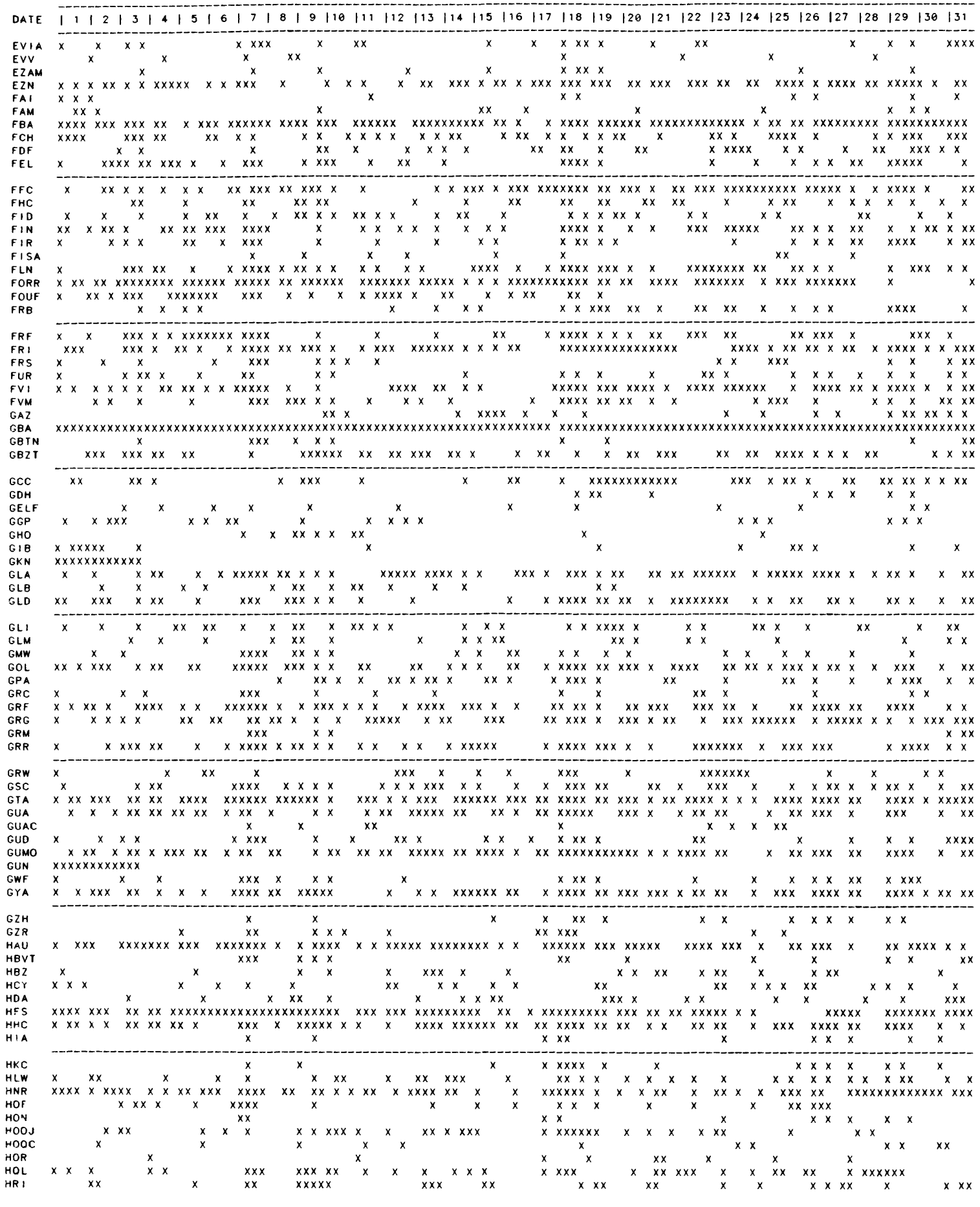
ETOR
EVAL


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 | 31
EVIA
EVV
EZAM
EZN
FAI
FAM
FBA
FCH
FDF
FEL
FFC
FHC
FID
FIN
FIR
FISA
FLN
FORR
FOUF
FRB
FRF
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FVM
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GBTN
GBZT
GCC
GDH
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GGP
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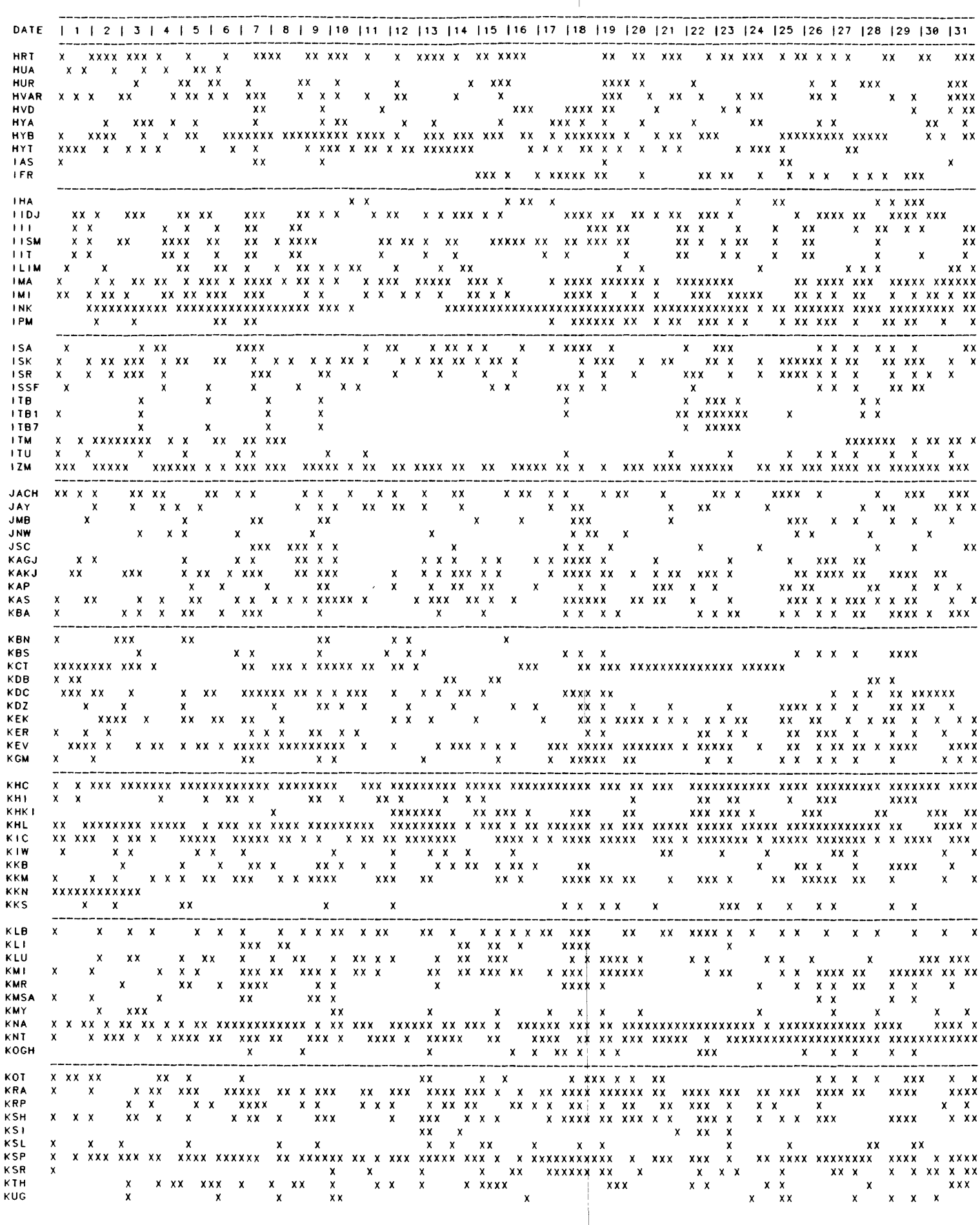
DATE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
HRT
HUA
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HVAR
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HYA
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IFR
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IIDJ
III
IISM
IIT
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INK
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ISA
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ITB7
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JMB
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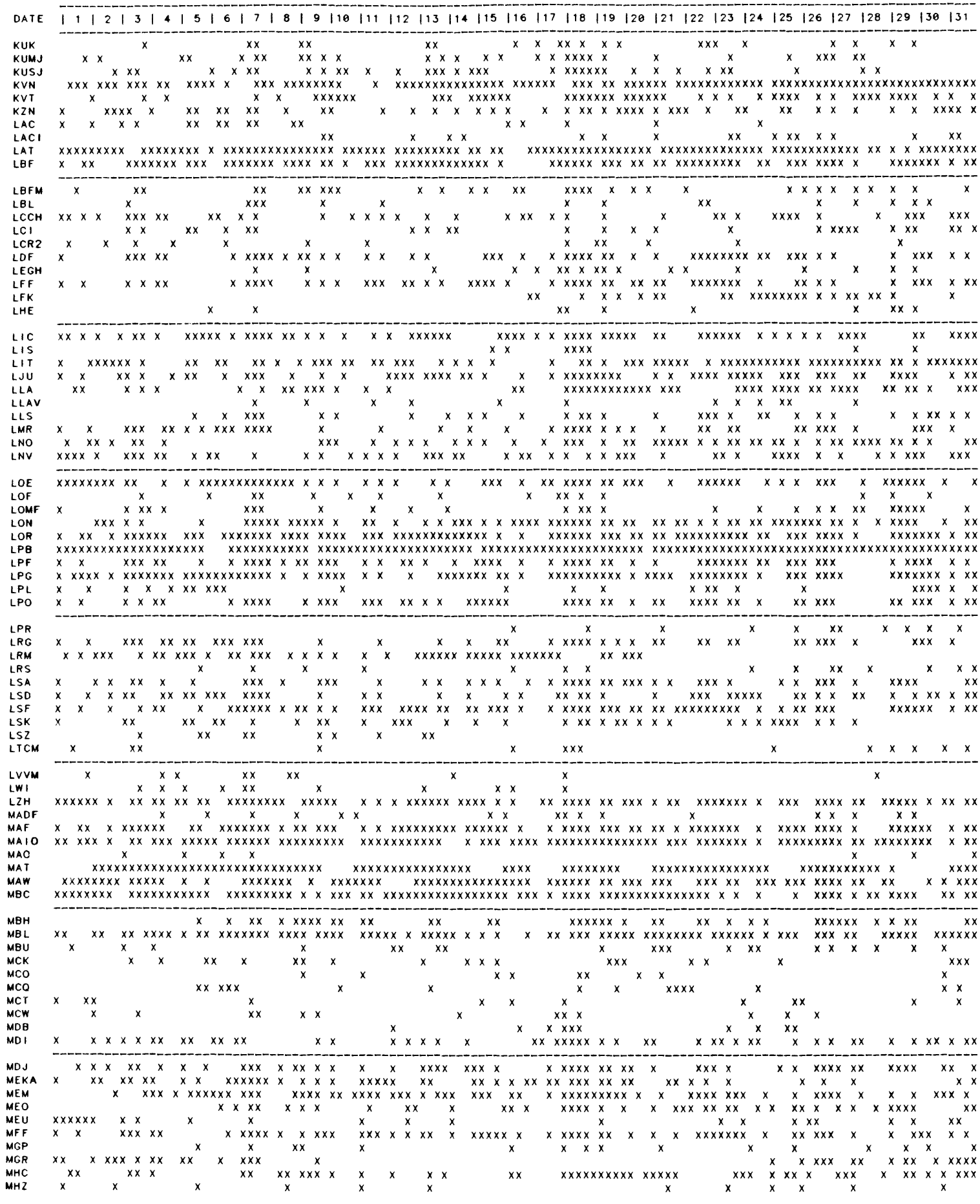
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KUK
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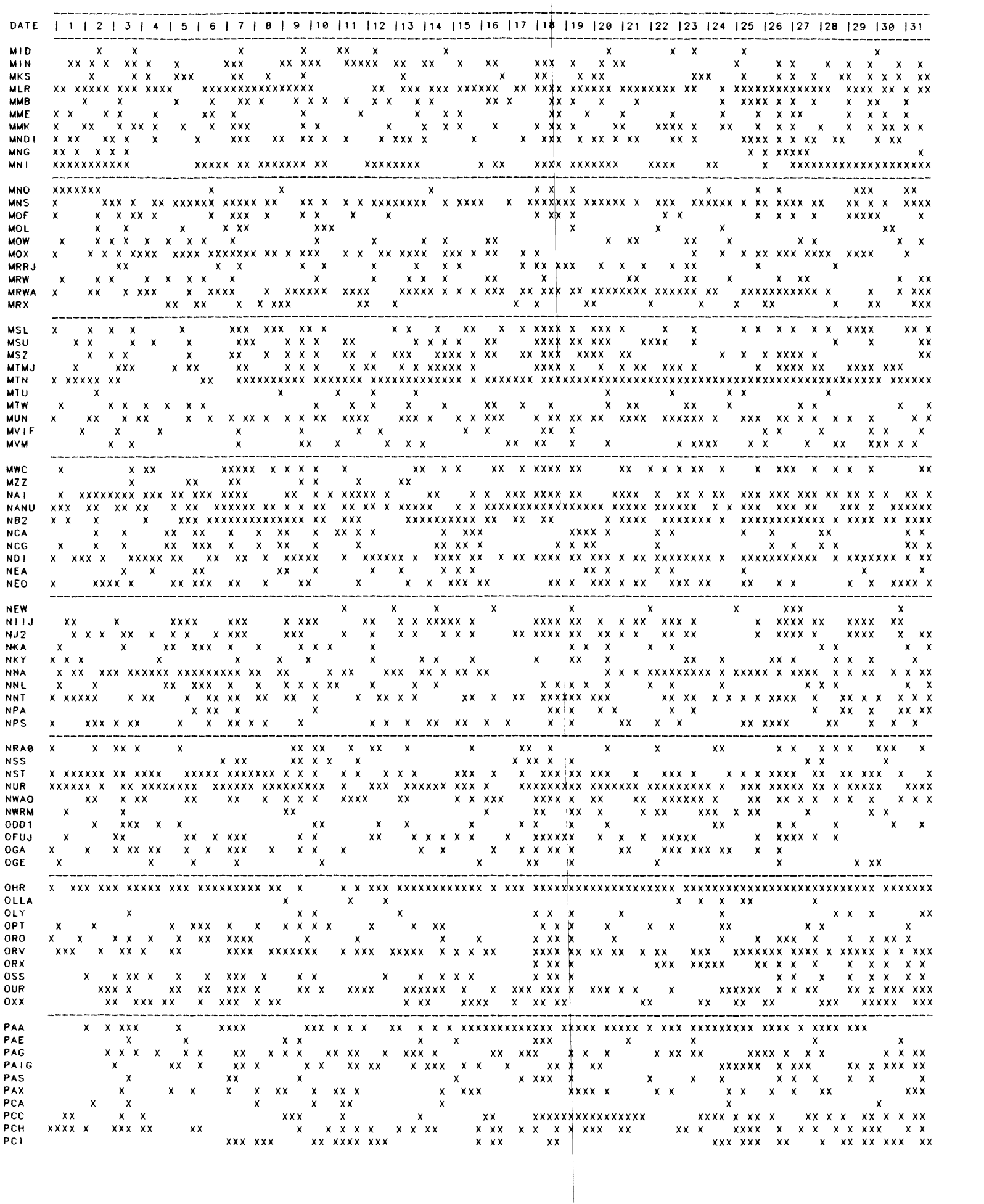
DATE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31
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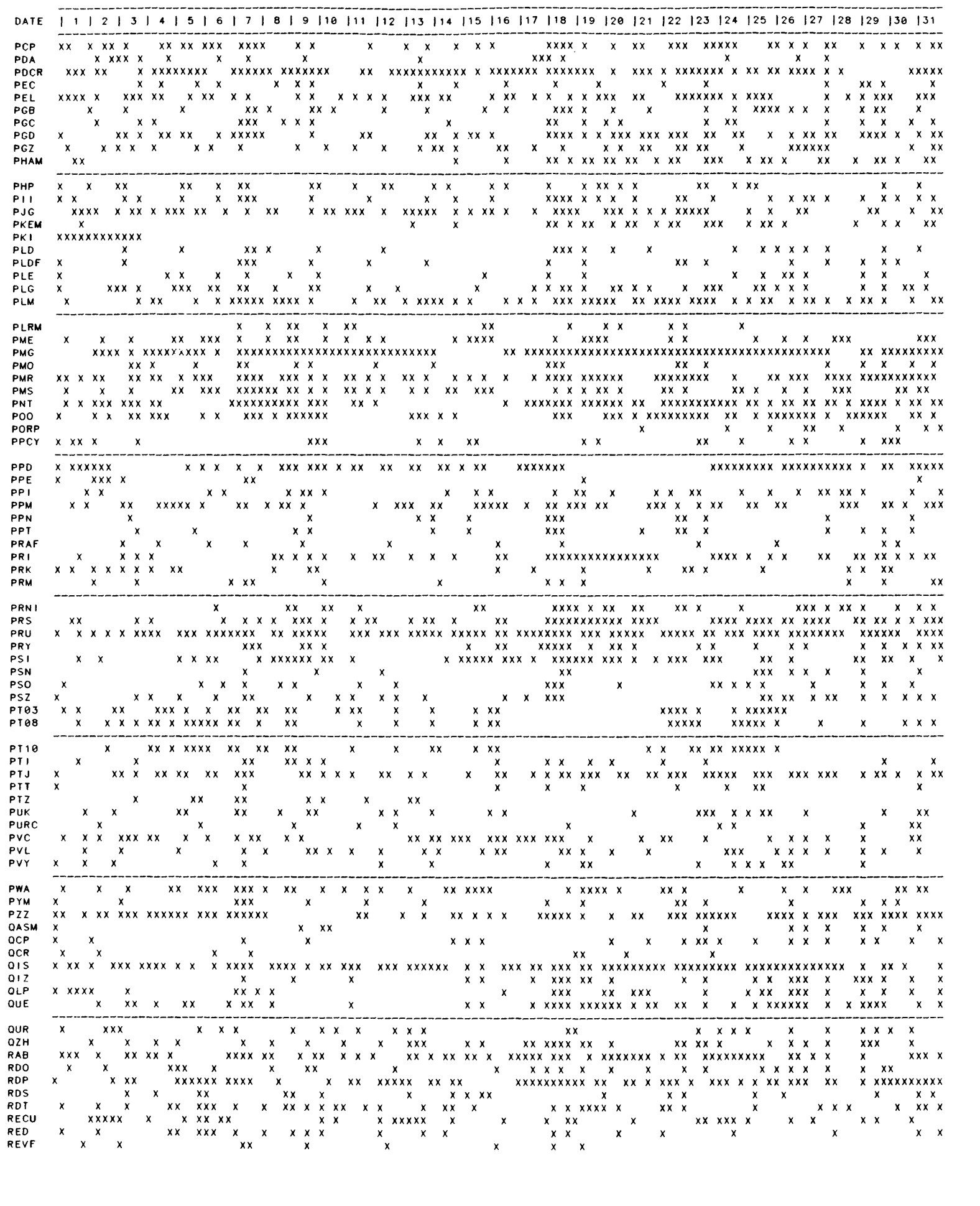
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PT08
PT10
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PUK
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PVL
PVY
PWA
PYM
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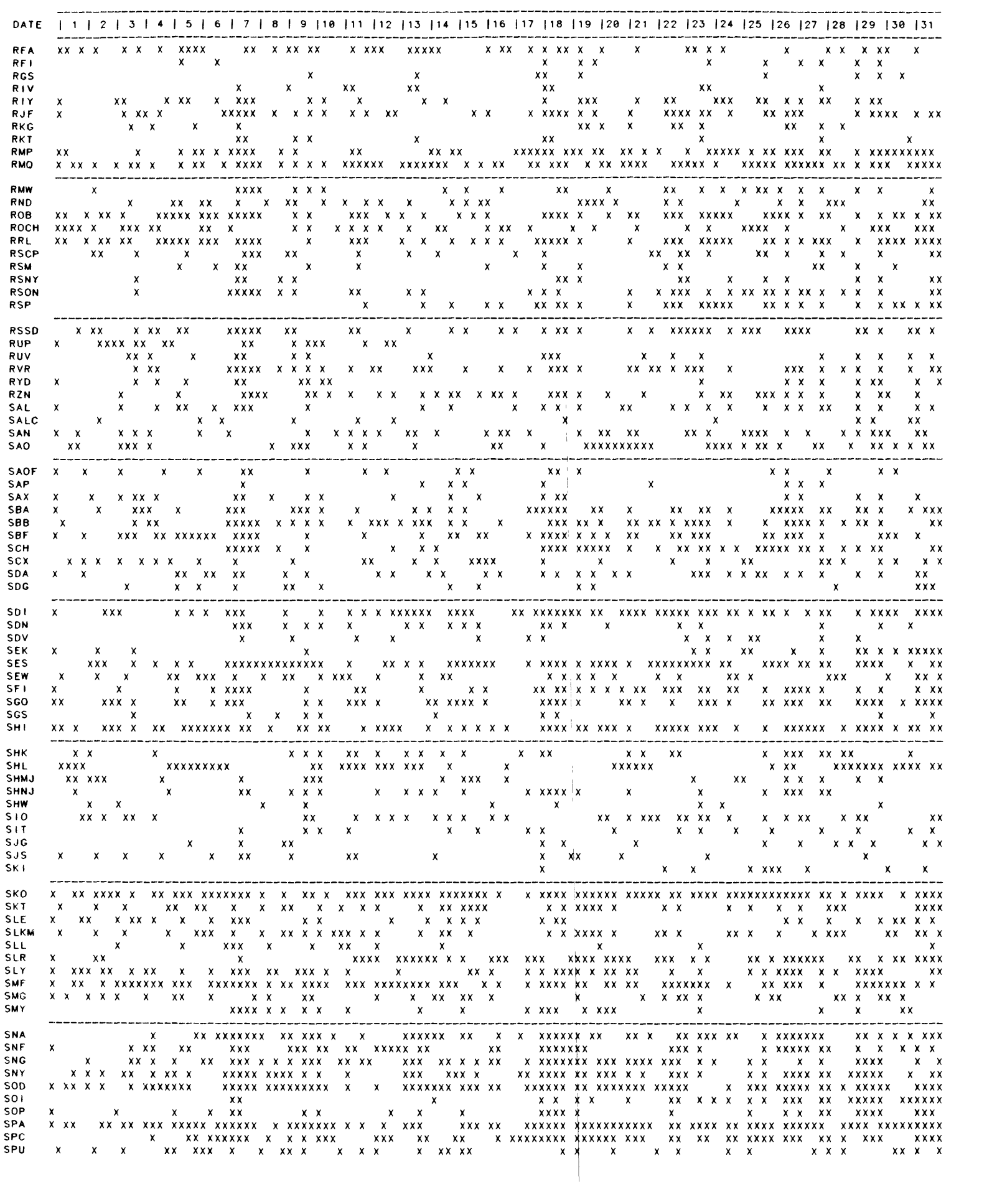
DATE
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RFA
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RKT
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RMO
RMW
RND
ROB
ROCH
RRL
RSCP
RSM
RSNY
RSON
RSP
RSSD
RUP
RUV
RVR
RYD
RZN
SAL
SALC
SAN
SAO
SAOF
SAP
SAX
SBA
SBB
SBF
SCH
SCX
SDA
SDG
SDI
SDN
SDV
SEK
SES
SEW
SFI
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SIT
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SKO
SKT
SLE
SLKM
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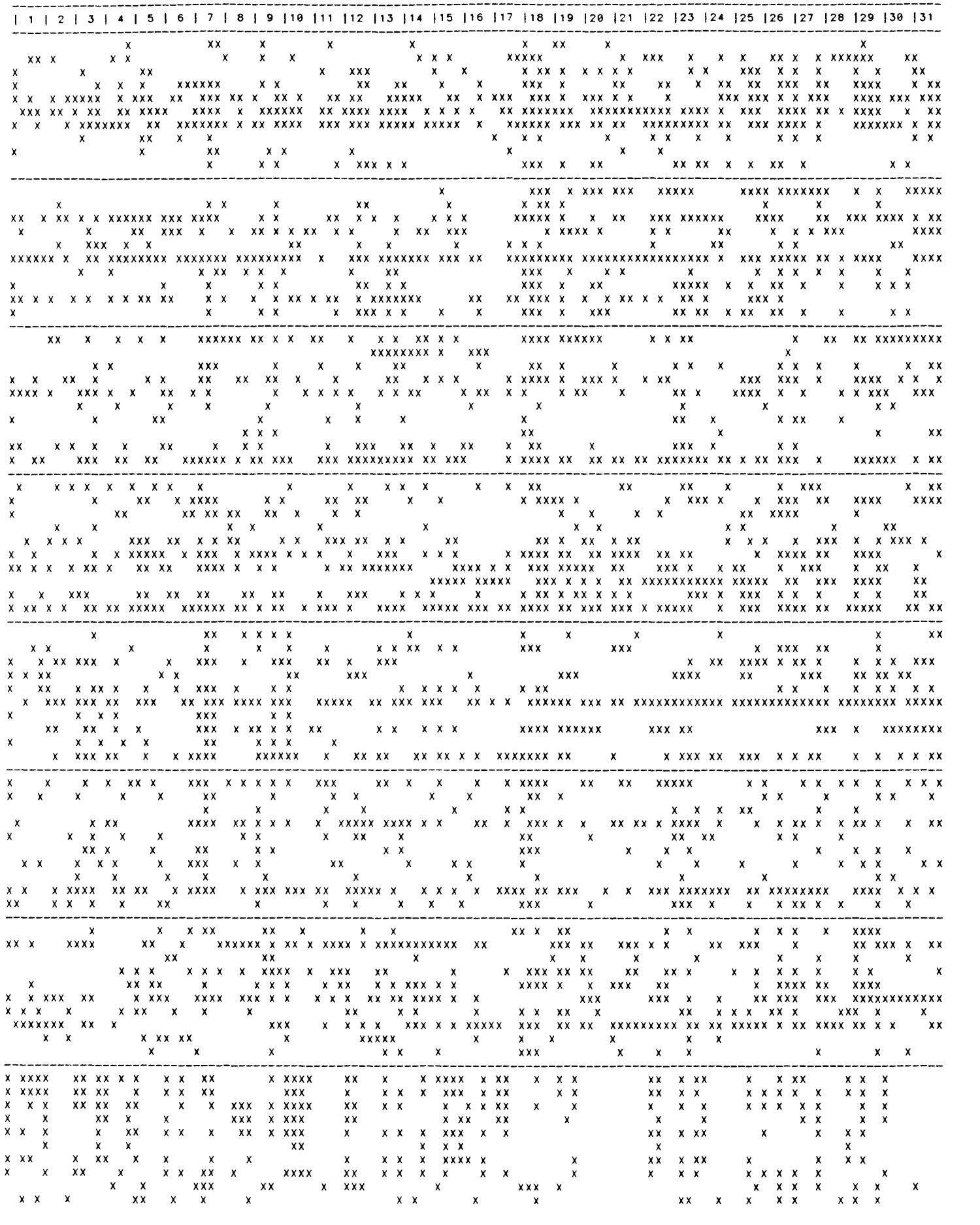
DATE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
SRA
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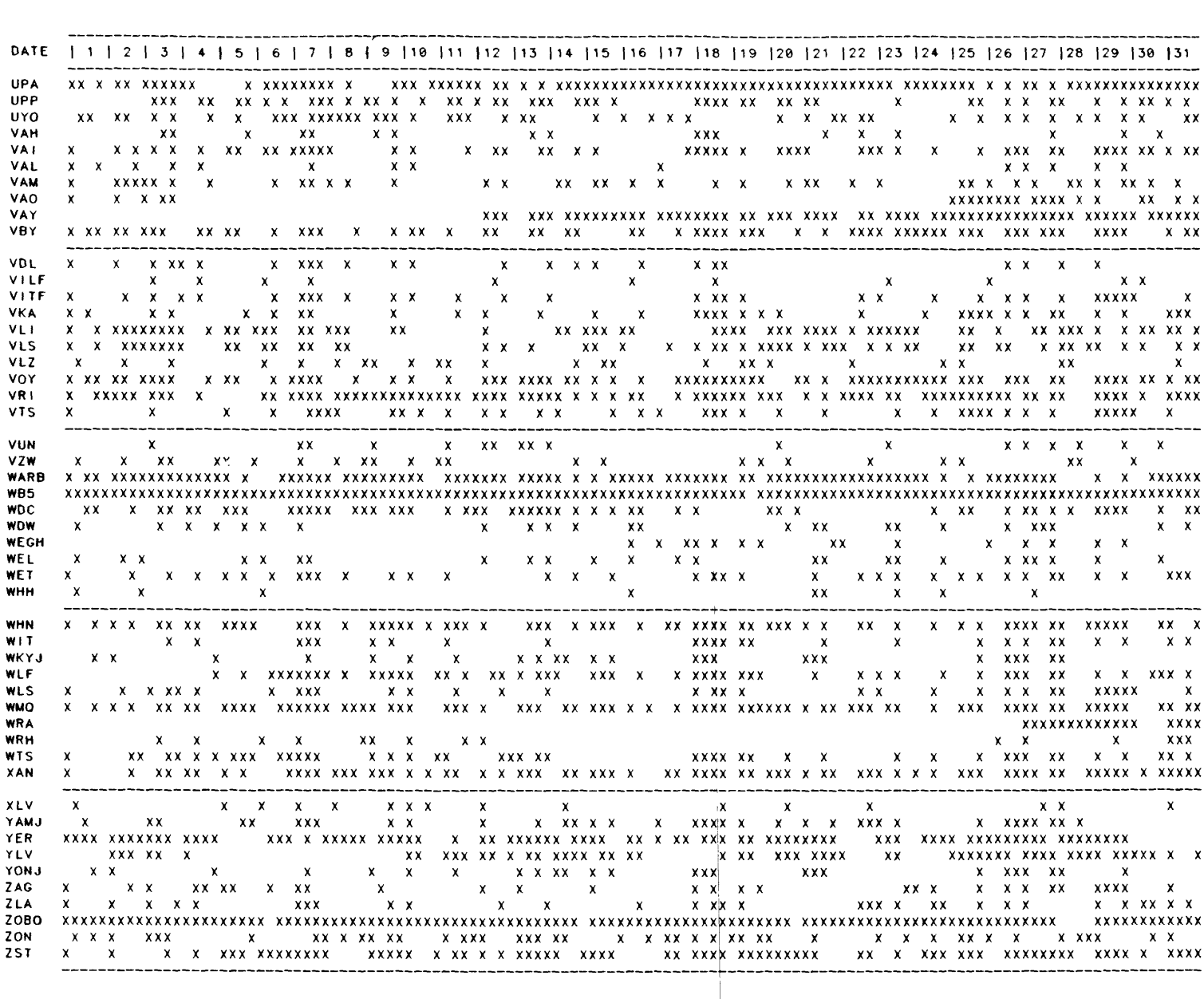

The following stations each reported less than 10 readings:

AAA	ABF	ACR	ADH	ADI	AGAL	AGMR	AGRW	AGX	AJI	AKI	AKSR	ALB	ALM	ALN	ALPW	AMAN	AMR
ANM	ANTO	AOM	APA	APKW	APM	APO	APW	AOBJ	ARC	ARU	ASH	ASR	ASW	ATA	ATZ	AUI	AVN
BAA	BALA	BBB	BCI	BCPM	BDF	BDH	BEE	BFT	BGB	BGMT	BIB	BIR	BJOM	BKB2	BKJ	BLH	BLN
BLS2	BLS3	BMK	BMNM	BMTN	BNH	BNM	BNS	BRN	BTB	BURJ	BUT	BVA	CAO	CBI	CBO	CBTI	CBX
CBZ	CCM	CCS	CCW	CDFW	CDH1	CDM	CEI	CEOS	CER	CFTV	CGL	CHOI	CIS	CLN4	CLN6	CLN7	CLNB
CMW	CNBA	COLW	CPE	CPW	CRNM	CRT	CSI	CTAO	CTCR	CTFE	CTGM	CUMC	CVA	CVD	CVL	CVT	CVVD
CYK	CZM	DAF	DAG	DEL	DHR	DLA	DLB	DLG	DLM	DMMT	DMW	DNP	DNZ	DPMT	DRRA	DSH	DTMT
EALH	EAU	EBL	ECBX	EDB	EDI	EDR	ELF	ELO	ELT	EMEL	EMM	EMN	EMX	ENX	EPA	ERC	ERE
ERK	ESD	ESK	ESY	ETB	FG2	FG3	FKJ	FKK	FKO	FL2	FLAG	FMW	FRU	FUG	FUN	FUO	GANF
GAP	GBI	GBR	GBZ	GCG	GDR	GGC	GHW	GLK	GLO	GMB	GMN	GMTN	GNZ	GRB2	GRC1	GRC3	GRFO
GRI	GRO	GROR	GSM	GT2	GUAN	GULW	GVN	GWY	HAC	HAK	HATZ	HAY	HBF	HDW	HIM	HIN	HIR
HITJ	HITZ	HLBJ	HMT	HNB	HOBC	HOO	HPI	HQN	HRV	HRY	HSR	HTW	IIA	IIC	IKP	IKZ	ILT
IMW	IRK	ISI	ISN	ITG	IVA	IVF	IXG	JARJ	JAT	JCR	JCW	JGI	JLK	JMI	JNE	JON	JOZ
JTS	JUD	JVI	KAG	KAIM	KBR	KCHT	KETZ	KFNJ	KHO	KIM	KIP	KIS	KKG	KLL	KLM	KMG	KMOR
KNK	KOB	KOF	KONO	KOSW	KPO	KRO	KTD	KUM	KUPT	KUR	KUS	LAZ	LCCM	LDN	LHG	LHS	LIJA
LIO	LMW	LOHW	LOP	LPI	LPM	LPS	LSM	LST	LTMT	LVI	LVP	LVV	MAJO	MAL	MASJ	MBW	MBZ
MCA	MCMT	MCNL	MCY	MDL	MEMT	MEW	MFT	MGB	MGD	MGG	MIM	MIS	MIT	MIY	MKRJ	MLH	MMG
MML	MNB	MNK	MOE	MOH	MOMI	MOOW	MORO	MOS	MRK	MRR	MSI	MTH	MTMW	MTS	MUDI	MYK	MYT
MYV	MYZ	MZP	MZX	NA2	NAB	NAH	NAR	NAV	NDE	NDF	NEM	NEZ	NGI	NGO	NGS	NGT	NII
NLO	NOP	NRI	NRN	OBC	OBH	OBN	OBO	OC2	OCO	OFK	OFU	OHW	OJEN	ONR	OOW	OPA	ORGA
OSD	OSG	OSH	OSP	OTR	OVA	OWA	OZB	PACW	PANV	PBC	PBX	PCG	PCO	PET	PFB	PGO	PGW
PHC	PHCM	PIG	PINI	PLAT	PMV	PNJ	POW	PPK	PRIN	PRN	PRZ	PS4	PSG2	PSMM	PT02	PT06	PTN
PTO	PTP	PTS	PUL	PUYF	PVV	PWLA	PYA	PZI	QPS	QSM	QUTJ	RAGM	RAO	RAR	RATZ	RBL	RDG
RDX	REC	REDW	REY	RIN3	RPW	RRI2	RUWJ	RVC	RVW	SAI	SALJ	SAM	SASA	SBG	SBM	SBS	SCE
SCI	SCP	SDH	SEN	SFG	SGAM	SGB	SGE	SGH	SGV	SHBJ	SHR	SHRG	SHU	SHZ	SIM	SJB	SJI
SKH	SLB	SLM	SLP	SMMM	SMNM	SMW	SNB	SNH	SNKA	SNM	SNOW	SNZO	SOA	SOG	SOG2	SONG	SOSW
SPRG	SPW	SPX	SQF	SSB	SSS	STD	STR	STU	STW	SVP	SXM	TAC	TAF	TAS	TAT	TAU	TBI
TBT	TDD	TDH	TDL	TER	THI	TIG	TIK	TIM	TKM	TKS	TLG	TMBR	TMDA	TMI	TMO	TMR	TMW
TOK	TPAW	TPR	TRXW	TTH	UAV	UDD	UME	UNM	URA	USI	UTS	UTU	UWE	UZH	VAN	VBEM	VDB

VFP	VGB	VGZ	VIE	VLL	VLMM	VLO	VVI	WAJH	WAR	WAX	WCBC	WHB	WHC	WIN	WKY	WMZ	WPB
WPW	WSI	YAH	YAK	YEL	YKA	YKU	YMT1	YMT3	YMT4	YMT5	YMT6	YOK	YON	YRH	YSS	YUP	ZAK
ZGN	ZNT	ZSP															