

**UNITED STATES DEPARTMENT OF THE INTERIOR**

**U.S. GEOLOGICAL SURVEY**

**PRELIMINARY DETERMINATION OF EPICENTERS  
MONTHLY LISTING**

**JANUARY – MARCH 1997**

**NATIONAL EARTHQUAKE INFORMATION CENTER**

**Open-File Report**

**97-600-A**



**This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey (USGS) editorial standards.**

**1998**



# PRELIMINARY DETERMINATION OF EPICENTERS

## MONTHLY LISTING

### U.S. DEPARTMENT OF THE INTERIOR / GEOLOGICAL SURVEY National Earthquake Information Center

JANUARY 1997

| ORIGIN TIME  |    |    |       | GEOGRAPHIC  |           | DEPTH |     | MAGNITUDE |     | SD  | REGION, CONTRIBUTED |  | MAGNITUDES AND |  | COMMENTS |
|--|----|----|-------|-------------|-----------|-------|-----|-----------|-----|-----|---------------------|--|----------------|--|----------|
| UTC  |    |    |       | COORDINATES |           |       |     | GS        |     |     |                     |  |                |  |          |
| DAY  | HR | MN | SEC   | LAT         | LONG      |       |     | MB        | Msz |     | STA                 |  |                |  |          |
|  |    |    |       |             |           |       |     |           |     |     | USED                |  |                |  |          |
| 01   | 00 | 30 | 20.3* | 13.030 N    | 88.083 W  | 33 N  | 4.5 |           |     | 0.7 | 20                  | EL SALVADOR  |                |  |          |
| 01   | 01 | 44 | 02.3  | 45.664 N    | 26.577 E  | 141   | 3.6 |           |     | 0.7 | 15                  | ROMANIA  |                |  |          |
| 01   | 02 | 22 | 17.36 | 63.360 N    | 147.440 W | 64    |     |           |     |     | 52                  | CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC).                                 |                |  |          |
| 01   | 02 | 32 | 27.6* | 15.359 S    | 173.361 W | 83 D  | 4.2 |           |     | 1.0 | 23                  | TONGA ISLANDS  |                |  |          |
| 01   | 02 | 44 | 01.5? | 2.52 N      | 127.54 E  | 125 ? | 3.8 |           |     | 0.8 | 7                   | NORTHERN MOLUCCA SEA   |                |  |          |
| 01   | 03 | 30 | 45.3* | 30.258 N    | 68.117 E  | 40 D  | 4.5 |           |     | 0.9 | 30                  | PAKISTAN. Felt at Harnai.  |                |  |          |
| 01   | 03 | 53 | 58.3* | 33.292 S    | 71.913 W  | 20 G  |     |           |     | 0.3 | 10                  | NEAR COAST OF CENTRAL CHILE. MD 3.8 (SAN).                             |                |  |          |
| 01   | 04 | 35 | 51.8  | 6.813 N     | 72.894 W  | 164 D | 5.0 |           |     | 1.1 | 150                 | NORTHERN COLOMBIA. Mw 5.3 (HRV).                                       |                |  |          |
| Centroid, Moment Tensor (HRV): Centroid origin time<br>04:35:55.2; Lat 6.98 N; Lon 72.91 W; Dep 164.3; Half-<br>duration 1.0 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=0.90, Plg=50, Azm=102; (N) Val=0.39, Plg=38, Azm=261;<br>(P) Val=-1.29, Plg=10, Azm=359; Best double couple:<br>Mo=1.1*10**17 Nm; NP1: Strike=126, Dip=48, Slip=146; NP2:<br>Strike=240, Dip=66, Slip=47. |    |    |       |             |           |       |     |           |     |     |                     |  |                |  |          |
| 01   | 05 | 28 | 01.0  | 15.097 S    | 75.627 W  | 33 N  | 4.5 |           |     | 1.0 | 40                  | NEAR COAST OF PERU   |                |  |          |
| 01   | 05 | 49 | 22.2  | 34.350 N    | 37.299 W  | 10 G  | 4.8 | 4.2       |     | 1.0 | 69                  | NORTHERN MID-ATLANTIC RIDGE  |                |  |          |
| 01   | 07 | 10 | 39.9? | 15.66 S     | 72.20 W   | 100 G | 3.6 |           |     | 0.5 | 5                   | SOUTHERN PERU  |                |  |          |
| 01   | 07 | 56 | 58.1? | 4.43 S      | 140.03 E  | 33 N  | 3.4 |           |     | 1.0 | 5                   | IRIAN JAYA, INDONESIA  |                |  |          |
| 01   | 08 | 42 | 13.36 | 63.260 N    | 151.103 W | 7     |     |           |     |     | 38                  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 2.8 (PMR).                      |                |  |          |
| 01   | 08 | 48 | 46.4? | 34.76 S     | 179.52 W  | 33 N  | 4.3 |           |     | 0.8 | 8                   | SOUTH OF KERMADEC ISLANDS  |                |  |          |
| 01   | 09 | 23 | 40.4* | 37.113 N    | 4.283 W   | 15 G  |     |           |     | 0.4 | 6                   | SPAIN. mbLg 2.3 (MDD).   |                |  |          |
| 01   | 09 | 40 | 26.1? | 33.97 S     | 179.07 W  | 33 N  | 3.8 |           |     | 0.5 | 6                   | SOUTH OF KERMADEC ISLANDS  |                |  |          |
| 01   | 09 | 44 | 11.8? | 4.89 S      | 152.30 E  | 33 N  | 4.4 |           |     | 0.6 | 6                   | NEW BRITAIN REGION, P.N.G.   |                |  |          |
| 01   | 10 | 13 | 54.16 | 61.470 N    | 149.866 W | 37    |     |           |     |     | 5                   | SOUTHERN ALASKA. <AEIC>. ML 2.2 (AEIC), 2.8 (PMR).                     |                |  |          |
| 01   | 10 | 14 | 22.5* | 56.537 N    | 152.149 W | 33 N  |     |           |     | 1.0 | 18                  | KODIAK ISLAND REGION   |                |  |          |
| 01   | 10 | 24 | 21.5? | 2.23 S      | 138.46 E  | 33 N  | 3.4 |           |     | 0.5 | 6                   | IRIAN JAYA, INDONESIA  |                |  |          |
| 01   | 10 | 38 | 50.6  | 34.727 N    | 25.371 E  | 33 N  | 4.1 |           |     | 1.0 | 49                  | CRETE  |                |  |          |
| 01   | 11 | 19 | 36.1? | 37.07 N     | 141.68 E  | 10 G  |     |           |     | 0.9 | 6                   | NEAR EAST COAST OF HONSHU, JAPAN                                       |                |  |          |
| 01   | 11 | 44 | 56.6  | 34.407 N    | 37.354 W  | 10 G  | 4.8 | 4.8       |     | 1.0 | 71                  | NORTHERN MID-ATLANTIC RIDGE  |                |  |          |
| 01   | 11 | 46 | 34.0? | 32.89 S     | 178.39 W  | 33 N  | 4.7 |           |     | 1.1 | 15                  | SOUTH OF KERMADEC ISLANDS  |                |  |          |
| 01   | 12 | 34 | 27.9* | 3.524 N     | 127.303 E | 100 G | 4.0 |           |     | 1.2 | 9                   | TALAUD ISLANDS, INDONESIA  |                |  |          |
| 01   | 12 | 54 | 03.9* | 32.858 S    | 71.363 W  | 50 G  |     |           |     | 0.4 | 10                  | NEAR COAST OF CENTRAL CHILE. MD 3.7 (SAN).                             |                |  |          |
| 01   | 13 | 15 | 15.8? | 22.18 S     | 174.59 W  | 33 N  | 4.3 |           |     | 0.7 | 6                   | TONGA ISLANDS REGION   |                |  |          |
| 01   | 14 | 55 | 53.0* | 16.591 S    | 67.023 E  | 10 G  | 4.7 | 4.5       |     | 0.8 | 23                  | MID-INDIAN RIDGE   |                |  |          |
| 01   | 15 | 05 | 39.3  | 30.632 N    | 132.949 E | 33 N  | 4.6 |           |     | 1.1 | 32                  | SOUTHEAST OF SHIKOKU, JAPAN  |                |  |          |
| 01   | 15 | 31 | 09.8* | 16.381 S    | 67.048 E  | 10 G  | 4.4 |           |     | 0.9 | 11                  | MID-INDIAN RIDGE   |                |  |          |
| 01   | 15 | 41 | 28.2* | 37.168 N    | 4.247 W   | 10 G  |     |           |     | 0.5 | 8                   | SPAIN. mbLg 2.7 (MDD).   |                |  |          |
| 01   | 16 | 18 | 53.3* | 52.161 N    | 176.118 W | 90 *  | 3.7 |           |     | 1.0 | 21                  | ANDREANOF ISLANDS, ALEUTIAN IS.  |                |  |          |
| 01   | 16 | 53 | 00.0* | 14.722 N    | 92.404 W  | 150 G | 4.3 |           |     | 0.6 | 15                  | NEAR COAST OF CHIAPAS, MEXICO  |                |  |          |
| 01   | 17 | 24 | 22.6* | 36.981 N    | 135.508 E | 361   | 4.1 |           |     | 0.3 | 10                  | SEA OF JAPAN   |                |  |          |
| 01   | 17 | 47 | 35.4* | 47.448 N    | 1.409 W   | 10 G  |     |           |     | 0.5 | 7                   | FRANCE. ML 2.5 (LDG).  |                |  |          |
| 01   | 17 | 52 | 44.2* | 10.532 N    | 63.278 W  | 33 N  | 3.5 |           |     | 1.1 | 7                   | NEAR COAST OF VENEZUELA. MD 3.4 (TRN).                                 |                |  |          |
| 01   | 17 | 54 | 34.6? | 0.85 S      | 133.46 E  | 33 N  | 3.8 |           |     | 0.8 | 8                   | IRIAN JAYA REGION, INDONESIA   |                |  |          |
| 01   | 18 | 07 | 02.8* | 8.562 S     | 157.579 E | 33 N  | 4.3 |           |     | 1.0 | 28                  | SOLOMON ISLANDS  |                |  |          |
| 01   | 18 | 30 | 25.2* | 37.212 N    | 69.615 E  | 33 N  |     |           |     | 0.7 | 5                   | AFGHANISTAN-TAJIKISTAN BORD REG.                                       |                |  |          |
| 01   | 18 | 49 | 44.5? | 2.68 S      | 130.70 E  | 33 N  | 3.5 |           |     | 0.8 | 5                   | SERAM, INDONESIA   |                |  |          |
| 01   | 19 | 32 | 49.5* | 16.651 N    | 94.352 W  | 100 G | 4.2 |           |     | 1.0 | 37                  | OAXACA, MEXICO   |                |  |          |
| 01   | 19 | 48 | 08.0* | 85.398 N    | 14.685 E  | 10 G  |     |           |     | 1.4 | 9                   | NORTH OF SVALBARD  |                |  |          |
| 01   | 19 | 56 | 42.8  | 47.224 N    | 9.405 E   | 10 G  |     |           |     | 0.9 | 38                  | GERMANY. ML 3.0 (STR), 3.0 (VIE), 2.8 (LDG).                           |                |  |          |
| 01   | 19 | 57 | 11.4* | 23.713 S    | 179.784 E | 600 G | 4.9 |           |     | 0.9 | 35                  | SOUTH OF FIJI ISLANDS  |                |  |          |
| 01   | 20 | 00 | 56.0? | 34.22 S     | 179.04 W  | 33 N  |     |           |     | 0.9 | 5                   | SOUTH OF KERMADEC ISLANDS  |                |  |          |
| 01   | 20 | 34 | 13.8? | 47.98 N     | 152.71 E  | 100 G | 4.5 |           |     | 1.3 | 9                   | KURIL ISLANDS  |                |  |          |
| 01   | 21 | 22 | 52.9? | 17.54 S     | 167.64 E  | 33 N  | 4.1 |           |     | 1.2 | 10                  | VANUATU ISLANDS  |                |  |          |
| 01   | 21 | 23 | 11.36 | 65.126 N    | 148.595 W | 11    |     |           |     |     | 14                  | NORTHERN ALASKA. <AEIC>. ML 2.6 (AEIC).                                |                |  |          |
| 01   | 21 | 59 | 56.1? | 21.17 N     | 119.90 E  | 33 N  | 4.0 |           |     | 1.0 | 5                   | TAIWAN REGION  |                |  |          |
| 01   | 22 | 27 | 01.16 | 46.771 N    | 120.459 W | 19    |     |           |     |     | 54                  | WASHINGTON. <SEA-P>. MD 3.7 (SEA).                                     |                |  |          |
| 01   | 22 | 32 | 32.3  | 0.127 S     | 123.823 E | 115 D | 5.9 |           |     | 1.0 | 178                 | MINAHASSA PENINSULA, SULAWESI. Mw 5.8 (GS), 5.8 (HRV). Me<br>5.7 (GS). |                |  |          |
| Broadband Source Parameters (GS): Dep 110; NP1: Strike=180;<br>Dip=35, Slip=105; NP2: Strike=342, Dip=56, Slip=80;   |    |    |       |             |           |       |     |           |     |     |                     |  |                |  |          |



Radiated energy 7.9\*10\*\*12 Nm.  
Moment Tensor (GS): Dep 99; Principal axes (scale 10\*\*17 Nm): (T) Val=-5.61, Plg=59, Azm=326; (N) Val=0.63, Plg=30, Azm=164; (P) Val=-6.24, Plg=8, Azm=70; Best double couple: Mo=5.9\*10\*\*17 Nm; NP1: Strike=130, Dip=45, Slip=45; NP2: Strike=4, Dip=60, Slip=125.  
Centroid, Moment Tensor (HRV): Centroid origin time 22:32:35.4; Lat 0.14 S; Lon 124.10 E; Dep 120.0; Half-duration 2.0 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=6.29, Plg=64, Azm=328; (N) Val=-0.75, Plg=24, Azm=174; (P) Val=-5.54, Plg=11, Azm=80; Best double couple: Mo=5.9\*10\*\*17 Nm; NP1: Strike=143, Dip=40, Slip=51; NP2: Strike=9, Dip=60, Slip=118.

|    |    |    |      |        |   |         |   |     |     |     |     |                                      |
|----|----|----|------|--------|---|---------|---|-----|-----|-----|-----|--------------------------------------|
| 01 | 22 | 43 | 32.3 | 5.977  | S | 129.665 | E | 177 | 5.0 | 0.8 | 31  | BANDA SEA                            |
| 01 | 22 | 51 | 37.8 | 33.697 | S | 71.048  | W | 100 | G   | 1.3 | 10  | NEAR COAST OF CENTRAL CHILE          |
| 01 | 23 | 02 | 45.0 | 46.251 | N | 7.165   | E | 10  | G   | 0.7 | 11  | SWITZERLAND. ML 2.3 (LDG).           |
| 01 | 23 | 46 | 19.1 | 44.390 | N | 7.381   | E | 10  | G   | 0.3 | 7   | NORTHERN ITALY                       |
| 02 | 00 | 40 | 36.3 | 51.725 | N | 16.102  | E | 5   | G   | 0.7 | 18  | POLAND. ML 3.5 (VIE).                |
| 02 | 01 | 43 | 19.5 | 2.238  | S | 139.452 | E | 33  | N   | 0.9 | 9   | NEAR NORTH COAST OF IRIAN JAYA       |
| 02 | 02 | 35 | 39.1 | 49.13  | N | 153.05  | E | 200 | G   | 0.8 | 7   | KURIL ISLANDS                        |
| 02 | 02 | 43 | 40.7 | 10.398 | S | 124.075 | E | 33  | N   | 1.2 | 9   | TIMOR REGION, INDONESIA              |
| 02 | 02 | 57 | 51.6 | 23.860 | S | 179.870 | W | 500 | G   | 0.9 | 107 | SOUTH OF FIJI ISLANDS. Mw 5.4 (HRV). |

Centroid, Moment Tensor (HRV): Centroid origin time 02:57:58.7; Lat 23.66 S; Lon 179.58 W; Dep 528.1; Half-duration 1.1 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=1.30, Plg=55, Azm=115; (N) Val=-0.18, Plg=3, Azm=210; (P) Val=-1.12, Plg=34, Azm=303; Best double couple: Mo=1.2\*10\*\*17 Nm; NP1: Strike=48, Dip=11, Slip=108; NP2: Strike=210, Dip=80, Slip=87.

|    |    |    |      |        |   |         |   |     |     |     |     |  |
|----|----|----|------|--------|---|---------|---|-----|-----|-----|-----|--|
| 02 | 02 | 58 | 22.1 | 44.352 | N | 7.395   | E | 15  | G   | 0.2 | 7   | NORTHERN ITALY. ML 1.9 (GEN).                |
| 02 | 03 | 11 | 01.9 | 21.90  | S | 168.97  | E | 33  | N   | 1.1 | 6   | LOYALTY ISLANDS                              |
| 02 | 03 | 52 | 31.6 | 30.54  | N | 77.84   | E | 33  | N   | 0.9 | 7   | NORTHERN INDIA                               |
| 02 | 05 | 03 | 05.3 | 33.199 | N | 132.176 | E | 33  | N   | 1.1 | 5   | SHIKOKU, JAPAN                               |
| 02 | 06 | 31 | 43.7 | 22.374 | N | 121.126 | E | 33  | N   | 1.1 | 25  | TAIWAN REGION                                |
| 02 | 07 | 33 | 50.1 | 30.20  | S | 72.91   | W | 20  | G   | 0.6 | 8   | OFF COAST OF CENTRAL CHILE                   |
| 02 | 07 | 48 | 38.1 | 3.06   | S | 68.79   | E | 10  | G   | 1.3 | 6   | CHAGOS ARCHIPELAGO REGION                    |
| 02 | 08 | 06 | 18.8 | 41.433 | N | 142.831 | E | 10  | G   | 1.1 | 14  | HOKKAIDO, JAPAN REGION                       |
| 02 | 08 | 36 | 00.1 | 1.79   | S | 133.77  | E | 33  | N   | 0.4 | 6   | IRIAN JAYA REGION, INDONESIA                 |
| 02 | 09 | 21 | 22.0 | 6.50   | S | 156.09  | E | 33  | N   | 0.5 | 6   | SOLOMON ISLANDS                              |
| 02 | 09 | 47 | 02.0 | 60.94  | S | 50.83   | W | 10  | G   | 1.2 | 8   | SCOTIA SEA                                   |
| 02 | 09 | 47 | 55.3 | 4.16   | S | 128.26  | E | 33  | N   | 1.2 | 10  | BANDA SEA                                    |
| 02 | 10 | 18 | 19.4 | 23.989 | S | 66.721  | W | 200 | G   | 0.8 | 20  | JUJUY PROVINCE, ARGENTINA                    |
| 02 | 10 | 21 | 56.7 | 6.22   | S | 129.74  | E | 100 | G   | 1.1 | 6   | BANDA SEA                                    |
| 02 | 10 | 28 | 10.6 | 23.399 | S | 169.633 | E | 33  | N   | 1.2 | 8   | LOYALTY ISLANDS REGION                       |
| 02 | 10 | 29 | 01.0 | 40.11  | S | 176.20  | E | 33  | N   | 0.6 | 7   | NORTH ISLAND, NEW ZEALAND                    |
| 02 | 10 | 39 | 38.6 | 34.429 | S | 70.462  | W | 10  | G   | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.5 (SAN). |
| 02 | 10 | 52 | 35.0 | 10.568 | N | 92.742  | E | 33  | N   | 0.9 | 117 | ANDAMAN ISLANDS, INDIA                       |
| 02 | 10 | 56 | 59.7 | 51.670 | N | 16.202  | E | 10  | G   | 0.7 | 14  | POLAND. ML 3.4 (VIE).                        |
| 02 | 11 | 11 | 46.3 | 35.491 | N | 135.665 | E | 358 | 4.6 | 1.0 | 127 | WESTERN HONSHU, JAPAN                        |
| 02 | 12 | 13 | 25.1 | 34.49  | N | 37.35   | W | 10  | G   | 1.3 | 6   | NORTHERN MID-ATLANTIC RIDGE                  |
| 02 | 12 | 31 | 14.3 | 0.449  | N | 126.442 | E | 41  | *   | 1.1 | 64  | NORTHERN MOLUCCA SEA. Mw 5.4 (HRV).          |

Centroid, Moment Tensor (HRV): Centroid origin time 12:31:19.1; Lat 0.54 N; Lon 126.53 E; Dep 29.8; Half-duration 1.0 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=1.32, Plg=58, Azm=8; (N) Val=-0.24, Plg=25, Azm=231; (P) Val=-1.08, Plg=19, Azm=131; Best double couple: Mo=1.2\*10\*\*17 Nm; NP1: Strike=187, Dip=34, Slip=41; NP2: Strike=61, Dip=69, Slip=117.

|    |    |    |      |        |   |         |   |     |   |             |    |  |
|----|----|----|------|--------|---|---------|---|-----|---|-------------|----|--|
| 02 | 12 | 37 | 34.9 | 0.43   | N | 126.23  | E | 33  | N | 1.3         | 13 | NORTHERN MOLUCCA SEA   |
| 02 | 12 | 51 | 31.0 | 0.529  | N | 126.533 | E | 33  | N | 1.3         | 13 | NORTHERN MOLUCCA SEA   |
| 02 | 14 | 19 | 25.0 | 45.254 | N | 149.448 | E | 33  | N | 0.7         | 12 | KURIL ISLANDS  |
| 02 | 14 | 26 | 40.7 | 7.031  | S | 124.117 | E | 500 | G | 1.3         | 30 | BANDA SEA  |
| 02 | 14 | 30 | 03.4 | 15.22  | S | 173.58  | W | 33  | N | 0.5         | 8  | TONGA ISLANDS  |
| 02 | 15 | 16 | 20.3 | 39.631 | N | 73.147  | E | 33  | N | 1.1         | 12 | TAJIKISTAN-XINJIANG BORDER REG.  |
| 02 | 15 | 22 | 10.3 | 37.412 | N | 20.655  | E | 10  | G | 1.3         | 15 | IONIAN SEA   |
| 02 | 15 | 22 | 19.1 | 37.546 | N | 20.829  | E | 10  | G | 1.2         | 53 | IONIAN SEA. ML 4.4 (THE).  |
| 02 | 15 | 44 | 26.8 | 11.49  | S | 166.71  | E | 200 | G | 1.3         | 12 | SANTA CRUZ ISLANDS   |
| 02 | 15 | 44 | 49.9 | 0.68   | N | 127.60  | E | 33  | N | 1.4         | 7  | HALMAHERA, INDONESIA   |
| 02 | 16 | 06 | 42.7 | 8.46   | S | 129.19  | E | 33  | N | 1.2         | 6  | TIMOR SEA  |
| 02 | 16 | 16 | 12.1 | 37.167 | N | 4.227   | W | 10  | G | 0.7         | 11 | SPAIN. mbLg 3.0 (MDD).   |
| 02 | 16 | 19 | 32.3 | 18.821 | N | 145.531 | E | 250 | G | 1.3         | 24 | MARIANA ISLANDS  |
| 02 | 16 | 26 | 54.1 | 23.857 | S | 64.961  | W | 33  | N | 0.7         | 16 | JUJUY PROVINCE, ARGENTINA  |
| 02 | 16 | 35 | 18.9 | 2.292  | N | 128.468 | E | 33  | N | 0.9         | 21 | HALMAHERA, INDONESIA   |
| 02 | 16 | 37 | 27.4 | 81.403 | N | 119.075 | E | 10  | G | 1.3         | 10 | EAST OF SEVERNAYA ZEMLYA, RUSSIA   |
| 02 | 17 | 26 | 08.3 | 23.45  | S | 170.66  | E | 33  | N | 1.1         | 6  | LOYALTY ISLANDS REGION   |
| 02 | 17 | 40 | 23.0 | 60.415 | N | 149.599 | W | 30  |   | 0.87        |    | KENAI PENINSULA, ALASKA. <AEIC>. ML 3.4 (AEIC), 3.5 (PMR).<br>Felt at Cooper Landing, Moose Pass and Seward. |
| 02 | 17 | 44 | 39.6 | 14.155 | S | 166.643 | E | 33  | N | 1.1         | 46 | VANUATU ISLANDS  |
| 02 | 18 | 03 | 47.1 | 4.61   | S | 135.43  | E | 33  | N | 1.3         | 7  | IRIAN JAYA REGION, INDONESIA   |
| 02 | 18 | 20 | 20.8 | 14.167 | S | 166.836 | E | 33  | N | 5.1 4.9 1.0 | 98 | VANUATU ISLANDS. Mw 5.4 (HRV).   |

Centroid, Moment Tensor (HRV): Centroid origin time 18:20:25.4; Lat 14.03 S; Lon 166.24 E; Dep 18.0 Bdy; Half-duration 1.2 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=1.45, Plg=61, Azm=345; (N) Val=-0.30, Plg=28, Azm=148; (P) Val=-1.14, Plg=7, Azm=242; Best double couple: Mo=1.3\*10\*\*17 Nm; NP1: Strike=0, Dip=45, Slip=132; NP2: Strike=129, Dip=58, Slip=56.

|    |    |    |      |        |   |         |   |    |     |     |    |   |
|----|----|----|------|--------|---|---------|---|----|-----|-----|----|---|
| 02 | 19 | 03 | 58.4 | 45.863 | N | 118.181 | W | 8  |     | 1.1 | 26 | OREGON. <SEA-P>. MD 2.9 (SEA).              |
| 02 | 19 | 09 | 42.9 | 14.16  | S | 166.58  | E | 33 | N   | 1.0 | 10 | VANUATU ISLANDS                             |
| 02 | 19 | 24 | 33.1 | 14.183 | S | 166.779 | E | 33 | N   | 1.0 | 61 | VANUATU ISLANDS                             |
| 02 | 19 | 53 | 01.6 | 44.121 | N | 7.401   | E | 10 | G   | 0.3 | 14 | NORTHERN ITALY. ML 2.4 (GEN), 2.2 (LDG).    |
| 02 | 20 | 09 | 01.8 | 4.242  | S | 143.505 | E | 98 | 4.9 | 1.2 | 61 | NEW GUINEA, PAPUA NEW GUINEA. Mw 5.2 (HRV). |

Centroid, Moment Tensor (HRV): Centroid origin time

20:09:04.4; Lat 4.45 S; Lon 143.46 E; Dep 84.1; Half-duration 1.0 sec; Principal axes (scale 10\*\*16 Nm): (T) Val=7.07, Plg=29, Azm=278; (N) Val=-0.24, Plg=60, Azm=118; (P) Val=-6.83, Plg=9, Azm=13; Best double couple: Mo=6.9\*10\*\*16 Nm; NP1: Strike=59, Dip=63, Slip=15; NP2: Strike=322, Dip=77, Slip=152.

02 20 36 59.26 59.880 N 152.880 W 110 61 SOUTHERN ALASKA. <AEIC>.

02 20 45 38.8\* 47.217 N 154.329 E 33 N 3.4 1.1 18 KURIL ISLANDS

02 20 58 38.9 31.866 S 67.166 W 128 D 4.5 1.0 27 SAN JUAN PROVINCE, ARGENTINA

02 21 30 37.5 0.655 N 124.066 E 191 \* 5.2 1.2 51 MINAHASSA PENINSULA, SULAWESI

02 22 06 03.27 29.59 S 178.01 W 33 N 4.1 0.7 6 KERMADEC ISLANDS, NEW ZEALAND

02 22 13 07.47 32.48 S 179.05 W 200 G 4.6 1.0 18 SOUTH OF KERMADEC ISLANDS

02 22 14 01.27 14.34 S 166.56 E 33 N 1.4 6 VANUATU ISLANDS

02 22 36 09.26 39.014 N 123.061 W 3 68 NEAR COAST OF NORTHERN CALIF. <GM-P>. Mw 4.1 (BRK). MD 3.5 (GM). ML 4.0 (BRK), 3.8 (GS). Felt at Kelseyville. Scalar Moment (BRK): Mo=1.4\*10\*\*15 Nm.

02 23 39 44.4? 0.51 N 126.59 E 33 N 4.3 1.3 10 NORTHERN MOLUCCA SEA

03 00 00 38.2 34.483 N 32.158 E 10 G 4.5 3.6 1.0 89 CYPRUS REGION. ML 4.4 (JER). MD 4.1 (HLW).

03 00 11 01.7\* 34.422 S 70.453 W 10 G 0.3 10 CHILE-ARGENTINA BORDER REGION. MD 3.6 (SAN).

03 00 32 47.6? 29.77 S 177.88 W 33 N 4.4 0.8 11 KERMADEC ISLANDS, NEW ZEALAND

03 00 51 20.0\* 64.089 N 18.109 W 10 G 4.2 3.5 1.2 19 ICELAND

03 00 56 53.9\* 24.048 N 123.749 E 33 N 4.6 1.1 22 SOUTHWESTERN RYUKYU ISLANDS

03 01 22 10.4 1.813 N 126.930 E 85 \* 4.5 0.9 23 NORTHERN MOLUCCA SEA

03 01 35 16.9 2.641 N 96.318 E 33 N 4.6 0.7 14 NORTHERN SUMATERA, INDONESIA

03 02 22 18.0 13.506 N 88.048 W 180 D 4.8 1.0 141 EL SALVADOR. Felt (II) at San Salvador.

03 03 11 22.2\* 38.615 N 72.171 E 68 ? 1.0 14 TAJIKISTAN

03 03 23 25.77 26.41 S 27.82 E 5 G 4.2 1.5 9 REPUBLIC OF SOUTH AFRICA

03 03 56 11.6 22.807 S 175.388 W 33 N 4.8 0.9 39 TONGA ISLANDS REGION

03 03 58 22.1 19.224 S 174.838 W 140 D 5.7 0.9 316 TONGA ISLANDS. Mw 6.0 (GS), 6.0 (HRV). Me 5.6 (GS). Broadband Source Parameters (GS): Dep 138; NP1: Strike=35, Dip=70, Slip=100; NP2: Strike=188, Dip=22, Slip=64; Radiated energy 6.1\*10\*\*12 Nm. Moment Tensor (GS): Dep 139; Principal axes (scale 10\*\*18 Nm): (T) Val=1.15, Plg=59, Azm=326; (N) Val=0.00, Plg=16, Azm=207; (P) Val=-1.15, Plg=25, Azm=109; Best double couple: Mo=1.1\*10\*\*18 Nm; NP1: Strike=167, Dip=24, Slip=48; NP2: Strike=32, Dip=72, Slip=107. Centroid, Moment Tensor (HRV): Centroid origin time 03:58:28.8; Lat 19.15 S; Lon 174.26 W; Dep 146.6; Half-duration 2.5 sec; Principal axes (scale 10\*\*18 Nm): (T) Val=1.21, Plg=61, Azm=315; (N) Val=-0.09, Plg=9, Azm=208; (P) Val=-1.12, Plg=28, Azm=113; Best double couple: Mo=1.2\*10\*\*18 Nm; NP1: Strike=180, Dip=19, Slip=61; NP2: Strike=31, Dip=73, Slip=100.

03 04 23 01.5 11.980 S 166.146 E 33 N 4.9 4.9 1.0 41 SANTA CRUZ ISLANDS

03 04 48 08.4 46.965 N 7.095 E 5 G 0.4 7 SWITZERLAND. ML 2.3 (LDG).

03 04 58 38.2 28.266 N 139.142 E 525 4.5 0.8 26 BONIN ISLANDS REGION

03 04 59 56.1? 0.40 N 126.04 E 33 N 4.5 1.2 8 NORTHERN MOLUCCA SEA

03 05 08 41.9? 26.45 S 27.74 E 5 G 1.8 5 REPUBLIC OF SOUTH AFRICA

03 05 11 38.0\* 56.217 N 114.881 E 10 G 1.5 8 EAST OF LAKE BAYKAL, RUSSIA

03 05 15 49.3\* 22.999 S 68.869 W 33 N 1.3 10 NORTHERN CHILE

03 05 21 04.5\* 45.073 N 7.389 E 10 G 0.4 12 NORTHERN ITALY. ML 2.3 (GEN).

03 05 29 36.06 60.280 N 151.950 W 51 59 KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).

03 05 39 27.46 58.873 N 152.712 W 63 66 KODIAK ISLAND REGION. <AEIC>. ML 3.2 (AEIC).

03 05 52 25.5 44.249 N 9.845 E 10 G 0.8 38 NORTHERN ITALY. ML 2.8 (GEN), 2.8 (LDG), 2.4 (VIE).

03 06 56 49.2\* 12.006 S 166.147 E 33 N 4.4 1.4 22 SANTA CRUZ ISLANDS

03 07 15 57.4\* 11.855 S 166.343 E 33 N 4.3 1.5 23 SANTA CRUZ ISLANDS

03 09 59 49.0? 17.17 S 178.93 W 500 G 4.2 0.4 8 FIJI ISLANDS REGION

03 11 21 42.4? 43.99 N 149.30 E 33 N 1.5 8 EAST OF KURIL ISLANDS

03 11 30 49.4 43.987 N 8.747 E 10 G 0.8 25 CORSICA. ML 3.0 (LDG), 2.9 (STR), 2.7 (GEN).

03 12 10 00.9\* 3.942 S 129.057 E 100 G 4.0 0.8 5 SERAM, INDONESIA

03 12 21 51.3\* 15.006 S 172.576 W 33 N 0.5 12 SAMOA ISLANDS REGION

03 12 38 22.1\* 44.361 N 7.326 E 10 G 0.2 5 NORTHERN ITALY. ML 1.7 (GEN).

03 12 40 18.7\* 11.953 S 166.206 E 33 N 4.9 4.5 1.4 32 SANTA CRUZ ISLANDS

03 12 41 55.5\* 35.438 N 78.320 E 33 N 0.8 10 EASTERN KASHMIR

03 12 43 29.8\* 7.596 N 81.035 W 10 G 1.0 8 PANAMA. MD 4.2 (UPA).

03 12 51 00.1? 35.10 S 71.20 W 90 G 0.3 9 CENTRAL CHILE

03 13 19 46.4? 10.18 S 119.04 E 100 G 4.1 1.2 9 SUMBA REGION, INDONESIA

03 13 39 53.5\* 56.204 S 25.612 W 33 N 0.7 11 SOUTH SANDWICH ISLANDS REGION

03 14 17 07.1\* 22.108 N 121.370 E 90 ? 1.2 18 TAIWAN REGION

03 15 01 08.2\* 43.736 N 18.248 E 10 G 1.3 8 NORTHWESTERN BALKAN REGION

03 15 05 43.5\* 0.822 S 120.761 E 33 N 3.9 1.0 13 MINAHASSA PENINSULA, SULAWESI

03 15 35 12.3\* 9.071 N 93.663 E 33 N 4.6 1.0 26 NICOBAR ISLANDS, INDIA

03 15 45 55.3\* 56.621 N 151.867 W 33 N 0.9 11 KODIAK ISLAND REGION

03 17 36 26.6\* 5.686 N 95.377 E 200 G 0.7 9 NORTHERN SUMATERA, INDONESIA

03 17 52 35.8\* 39.480 N 75.668 E 33 N 4.4 1.3 20 SOUTHERN XINJIANG, CHINA

03 17 54 26.1\* 1.834 S 12.881 W 10 G 4.7 3.9 1.0 17 NORTH OF ASCENSION ISLAND

03 18 26 40.6\* 24.385 N 122.564 E 33 N 1.0 5 TAIWAN REGION

03 19 15 38.6\* 29.284 N 81.553 E 33 N 1.0 8 NEPAL

03 20 14 49.3\* 4.871 S 153.485 E 33 N 4.1 1.0 12 NEW IRELAND REGION, P.N.G.

03 20 19 34.2? 52.31 S 71.64 W 33 N 0.9 10 SOUTHERN CHILE

03 21 01 29.1\* 11.976 N 41.614 E 10 G 4.5 3.8 1.0 24 ETHIOPIA

03 21 39 26.6 8.079 N 82.816 W 33 N 4.8 1.2 27 PANAMA-COSTA RICA BORDER REGION. MD 4.7 (UPA).

03 21 51 28.3 60.958 N 167.396 E 10 G 5.7 4.9 0.9 315 EASTERN SIBERIA, RUSSIA. Mw 5.4 (GS), 5.4 (HRV). Me 5.4 (GS). Broadband Source Parameters (GS): Dep 6; NP1: Strike=215, Dip=55, Slip=90; NP2: Strike=35, Dip=35, Slip=90; Radiated energy 2.7\*10\*\*12 Nm. Moment Tensor (GS): Dep 9; Principal axes (scale 10\*\*17 Nm): (T) Val=1.35, Plg=66, Azm=150; (N) Val=0.28, Plg=13, Azm=30; (P) Val=-1.63, Plg=20, Azm=295; Best double couple: Mo=1.5\*10\*\*17 Nm; NP1: Strike=3, Dip=27, Slip=61; NP2: Strike=215, Dip=66, Slip=104. Centroid, Moment Tensor (HRV): Centroid origin time

21:51:31.6; Lat 60.86 N; Lon 167.71 E; Dep 15.0 Fix; Half-duration 1.1 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=-1.33, Plg=64, Azm=124; (N) Val=0.08, Plg=1, Azm=33; (P) Val=-1.41, Plg=26, Azm=303; Best double couple: Mo=1.4\*10\*\*17 Nm; NP1: Strike=31, Dip=19, Slip=88; NP2: Strike=213, Dip=71, Slip=91.

|   |    |    |       |        |   |         |   |     |   |         |     |  |
|---|----|----|-------|--------|---|---------|---|-----|---|---------|-----|--|
| 03  | 22 | 00 | 53.47 | 44.54  | N | 146.60  | E | 118 | ? | 1.3     | 6   | KURIL ISLANDS  |
| 03  | 22 | 06 | 49.1* | 21.785 | N | 121.409 | E | 33  | N | 4.3     | 1.0 | 15 TAIWAN REGION   |
| 03  | 22 | 12 | 25.0% | 44.385 | N | 7.373   | E | 10  | G |         | 0.4 | 9 NORTHERN ITALY. ML 2.0 (GEN).  |
| 03  | 22 | 40 | 41.0  | 61.061 | N | 167.134 | E | 10  | G | 4.7     | 1.2 | 60 EASTERN SIBERIA, RUSSIA   |
| 03  | 22 | 42 | 20.8  | 45.230 | N | 6.513   | E | 10  | G |         | 0.5 | 20 FRANCE. ML 2.5 (GEN), 2.3 (LDG).  |
| 03  | 22 | 42 | 33.4  | 43.071 | N | 0.511   | W | 10  | G |         | 1.3 | 7 PYRENEES. ML 2.8 (LDG). mbLg 2.8 (MDD). Felt (II) in the Ossau Valley, France. |
| 03  | 23 | 09 | 45.9* | 3.055  | S | 130.201 | E | 33  | N | 4.6     | 1.0 | 21 SERAM, INDONESIA  |
| 03  | 23 | 41 | 04.6  | 52.072 | N | 153.382 | E | 411 | * | 4.4     | 0.7 | 60 NORTHWEST OF KURIL ISLANDS  |
| 04  | 00 | 16 | 42.2? | 10.95  | N | 138.87  | E | 33  | N |         | 1.6 | 5 WESTERN CAROLINE ISLANDS   |
| 04  | 00 | 21 | 25.3* | 39.361 | N | 73.630  | E | 85  | ? |         | 1.2 | 15 TAJIKISTAN-XINJIANG BORDER REG.   |
| 04  | 02 | 12 | 23.4  | 6.905  | S | 155.417 | E | 33  | N | 4.6     | 0.7 | 44 SOLOMON ISLANDS   |
| 04  | 02 | 16 | 16.1? | 26.07  | S | 26.59   | E | 5   | G |         | 0.9 | 5 REPUBLIC OF SOUTH AFRICA   |
| 04  | 02 | 27 | 56.0% | 63.019 | N | 150.457 | W | 94  |   |         | 0.5 | 70 CENTRAL ALASKA. <AEIC>.   |
| 04  | 03 | 23 | 30.3% | 32.953 | S | 71.516  | W | 50  | G |         | 0.5 | 9 NEAR COAST OF CENTRAL CHILE. MD 2.9 (SAN).                                     |
| 04  | 03 | 36 | 05.0  | 12.490 | N | 89.053  | W | 50  | G | 4.9 5.0 | 1.0 | 97 OFF COAST OF CENTRAL AMERICA. Felt (II) at San Salvador, El Salvador.         |
| 04  | 03 | 42 | 34.2  | 65.024 | N | 133.883 | W | 10  | G |         | 1.4 | 20 NORTHERN YUKON TERRITORY, CANADA  |
| 04  | 04 | 04 | 48.5* | 8.042  | S | 128.660 | E | 174 | * | 4.5     | 0.8 | 12 TIMOR SEA   |
| 04  | 04 | 14 | 09.0? | 32.35  | S | 71.67   | W | 33  | N |         | 0.3 | 9 NEAR COAST OF CENTRAL CHILE. MD 3.6 (SAN).                                     |
| 04  | 04 | 49 | 51.1? | 50.92  | N | 178.66  | W | 33  | N |         | 1.1 | 5 ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 04  | 05 | 08 | 51.6% | 46.586 | N | 2.846   | E | 10  | G |         | 1.1 | 7 FRANCE. ML 2.2 (LDG).  |
| 04  | 05 | 34 | 41.0* | 14.493 | N | 145.918 | E | 74  | * | 4.6     | 1.3 | 35 MARIANA ISLANDS   |
| 04  | 06 | 12 | 53.2* | 60.801 | N | 167.388 | E | 10  | G |         | 0.6 | 9 EASTERN SIBERIA, RUSSIA  |
| 04  | 06 | 13 | 44.4* | 61.004 | N | 167.273 | E | 10  | G |         | 0.6 | 7 EASTERN SIBERIA, RUSSIA  |
| 04  | 06 | 35 | 17.0% | 59.101 | N | 154.077 | W | 104 |   |         | 0.6 | 46 SOUTHERN ALASKA. <AEIC>.  |
| 04  | 07 | 26 | 08.9  | 42.800 | N | 17.638  | E | 10  | G |         | 1.3 | 18 ADRIATIC SEA  |
| 04  | 07 | 28 | 28.7? | 57.40  | S | 25.36   | W | 33  | N |         | 1.5 | 7 SOUTH SANDWICH ISLANDS REGION  |
| 04  | 07 | 54 | 52.4* | 71.486 | N | 7.745   | W | 10  | G |         | 0.5 | 7 JAN MAYEN ISLAND REGION  |
| 04  | 08 | 11 | 28.1? | 52.53  | S | 71.35   | W | 33  | N |         | 1.1 | 11 SOUTHERN CHILE  |
| 04  | 08 | 33 | 57.8? | 28.89  | S | 74.06   | E | 10  | G | 4.5     | 0.2 | 5 MID-INDIAN RIDGE   |
| 04  | 08 | 38 | 23.5* | 36.743 | N | 141.700 | E | 50  | * |         | 1.4 | 20 NEAR EAST COAST OF HONSHU, JAPAN  |
| 04  | 08 | 47 | 05.5* | 9.354  | N | 127.080 | E | 33  | N | 4.7     | 0.7 | 6 PHILIPPINE ISLANDS REGION  |
| 04  | 09 | 01 | 10.7  | 4.011  | S | 128.131 | E | 33  | N | 5.1     | 1.1 | 64 BANDA SEA   |
| 04  | 09 | 13 | 19.3% | 32.982 | S | 71.149  | W | 33  | N |         | 0.4 | 10 NEAR COAST OF CENTRAL CHILE. MD 3.8 (SAN).                                    |
| 04  | 09 | 23 | 47.5  | 5.433  | S | 145.734 | E | 100 | G |         | 0.7 | 6 EASTERN NEW GUINEA REG., P.N.G.  |
| 04  | 09 | 42 | 08.7% | 37.209 | N | 3.712   | W | 10  | G |         | 0.9 | 5 SPAIN. mbLg 2.3 (MDD).   |
| 04  | 09 | 59 | 06.7  | 7.116  | S | 122.612 | E | 579 | D | 5.1     | 0.9 | 95 FLORES SEA. Mw 5.3 (HRV).   |
| Centroid, Moment Tensor (HRV): Centroid origin time 09:59:09.8; Lat 7.11 S; Lon 122.48 E; Dep 584.4; Half-duration 1.0 sec; Principal axes (scale 10**17 Nm): (T) Val=0.82, Plg=29, Azm=224; (N) Val=0.29, Plg=22, Azm=327; (P) Val=-1.11, Plg=52, Azm=89; Best double couple: Mo=9.6*10**16 Nm; NP1: Strike=270, Dip=26, Slip=-150; NP2: Strike=152, Dip=77, Slip=-67.   |    |    |       |        |   |         |   |     |   |         |     |  |
| 04  | 10 | 13 | 21.6* | 11.931 | S | 166.093 | E | 44  | D | 4.5     | 1.1 | 23 SANTA CRUZ ISLANDS  |
| 04  | 10 | 34 | 19.5* | 43.473 | N | 147.507 | E | 54  | D |         | 1.3 | 12 KURIL ISLANDS   |
| 04  | 11 | 02 | 25.6% | 34.411 | S | 70.463  | W | 10  | G |         | 0.4 | 10 CHILE-ARGENTINA BORDER REGION. MD 3.3 (SAN).                                  |
| 04  | 11 | 21 | 45.2  | 29.940 | S | 71.575  | W | 39  | D | 4.8     | 0.9 | 53 NEAR COAST OF CENTRAL CHILE. MD 4.9 (SAN). Felt (III) at La Serena.           |
| 04  | 11 | 40 | 46.3* | 43.365 | N | 147.818 | E | 46  | D |         | 1.5 | 16 KURIL ISLANDS   |
| 04  | 12 | 31 | 53.7* | 33.803 | N | 131.148 | E | 60  | * |         | 1.5 | 12 KYUSHU, JAPAN   |
| 04  | 12 | 46 | 31.1? | 17.47  | S | 179.71  | W | 500 | G | 4.5     | 1.1 | 12 FIJI ISLANDS REGION   |
| 04  | 13 | 29 | 30.5  | 7.355  | S | 128.341 | E | 150 | G | 5.2     | 0.9 | 126 BANDA SEA  |
| 04  | 14 | 39 | 08.4? | 30.70  | N | 140.73  | E | 33  | N |         | 1.4 | 9 SOUTH OF HONSHU, JAPAN   |
| 04  | 14 | 58 | 35.1% | 36.068 | N | 117.648 | W | 1   |   |         | 0.9 | 72 CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.8 (PAS). ML 4.0 (GS).          |
| 04  | 15 | 25 | 27.2% | 36.064 | N | 117.644 | W | 1   |   |         | 0.9 | 57 CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.1 (PAS). ML 3.5 (GS).          |
| 04  | 16 | 22 | 13.9  | 11.783 | N | 125.226 | E | 46  | D | 4.9 4.0 | 0.9 | 59 SAMAR, PHILIPPINE ISLANDS   |
| 04  | 16 | 33 | 36.3* | 43.227 | N | 140.913 | E | 100 | G | 4.1     | 0.4 | 8 HOKKAIDO, JAPAN REGION   |
| 04  | 16 | 34 | 18.4? | 0.06   | S | 124.39  | E | 33  | N |         | 1.3 | 5 SOUTHERN MOLUCCA SEA   |
| 04  | 16 | 38 | 04.5? | 11.93  | N | 86.14   | W | 33  | N | 4.2     | 1.5 | 16 NEAR COAST OF NICARAGUA   |
| 04  | 16 | 51 | 09.3  | 18.125 | S | 178.170 | W | 600 | G | 5.3     | 0.9 | 137 FIJI ISLANDS REGION. Mw 5.4 (HRV).   |
| Centroid, Moment Tensor (HRV): Centroid origin time 16:51:16.1; Lat 18.13 S; Lon 178.15 W; Dep 627.7; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.41, Plg=32, Azm=106; (N) Val=0.24, Plg=18, Azm=208; (P) Val=-1.65, Plg=53, Azm=322; Best double couple: Mo=1.5*10**17 Nm; NP1: Strike=151, Dip=21, Slip=-148; NP2: Strike=31, Dip=79, Slip=-72. |    |    |       |        |   |         |   |     |   |         |     |  |
| 04  | 17 | 16 | 37.9  | 49.320 | N | 156.471 | E | 33  | N | 4.5     | 0.5 | 15 KURIL ISLANDS   |
| 04  | 17 | 18 | 54.0* | 3.330  | S | 145.535 | E | 33  | N | 4.4     | 0.6 | 7 NEAR N COAST OF NEW GUINEA, PNG.   |
| 04  | 17 | 58 | 52.2  | 43.535 | N | 7.831   | E | 10  | G |         | 1.2 | 25 NEAR SOUTH COAST OF FRANCE. ML 3.2 (LDG), 3.0 (GEN).                          |
| 04  | 18 | 00 | 28.5% | 59.326 | N | 152.656 | W | 89  |   |         | 0.6 | 37 SOUTHERN ALASKA. <AEIC>.  |
| 04  | 18 | 33 | 01.0? | 34.63  | N | 137.89  | E | 400 | G |         | 0.6 | 6 NEAR S. COAST OF HONSHU, JAPAN   |
| 04  | 18 | 44 | 55.9  | 12.690 | N | 88.882  | W | 57  |   | 5.0     | 1.1 | 80 OFF COAST OF CENTRAL AMERICA. Felt (II) at San Salvador, El Salvador.         |
| 04  | 18 | 49 | 44.2% | 36.064 | N | 117.645 | W | 2   |   |         | 1.1 | 11 CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 2.6 (PAS). ML 2.6 (GS).          |
| 04  | 20 | 06 | 02.4% | 44.403 | N | 7.343   | E | 10  | G |         | 0.6 | 12 NORTHERN ITALY. ML 2.2 (GEN).   |
| 04  | 20 | 31 | 40.9? | 50.28  | N | 156.37  | E | 33  | N |         | 0.4 | 5 KURIL ISLANDS  |
| 04  | 20 | 46 | 37.9? | 21.00  | S | 68.26   | W | 150 | G |         | 0.3 | 5 CHILE-BOLIVIA BORDER REGION  |
| 04  | 21 | 42 | 39.5? | 32.47  | S | 71.87   | W | 33  | N |         | 0.5 | 10 NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).                                    |
| 04  | 23 | 17 | 49.9* | 21.133 | S | 66.459  | W | 250 | G |         | 1.0 | 12 SOUTHERN BOLIVIA  |
| 04  | 23 | 21 | 55.2* | 49.962 | S | 126.795 | E | 10  | G | 4.6     | 1.1 | 26 SOUTH OF AUSTRALIA  |
| 05  | 00 | 17 | 48.5* | 17.831 | S | 178.547 | W | 650 | G | 4.6     | 0.8 | 31 FIJI ISLANDS REGION   |



|    |    |    |       |          |           |       |         |     |     |     |  |  |  |  |  |  |  |  |     |   |
|----|----|----|-------|----------|-----------|-------|---------|-----|-----|-----|--|--|--|--|--|--|--|--|-----|---|
| 05 | 00 | 20 | 10.46 | 60.888 N | 151.471 W | 64    |         |     |     |     |  |  |  |  |  |  |  |  | 66  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 05 | 01 | 11 | 05.36 | 44.840 N | 111.545 W | 6     |         |     |     |     |  |  |  |  |  |  |  |  | 23  | HEBGEN LAKE REGION. <BUT-P>. ML 3.7 (BUT). Felt.  |
| 05 | 01 | 33 | 33.87 | 26.07 S  | 68.93 E   | 10 G  |         |     |     | 0.5 |  |  |  |  |  |  |  |  | 5   | SOUTH INDIAN OCEAN  |
| 05 | 03 | 03 | 11.96 | 60.040 N | 151.290 W | 57    |         |     |     |     |  |  |  |  |  |  |  |  | 59  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 05 | 03 | 32 | 10.2* | 32.791 N | 26.576 E  | 10 G  |         |     |     | 0.9 |  |  |  |  |  |  |  |  | 13  | EASTERN MEDITERRANEAN SEA   |
| 05 | 04 | 17 | 25.47 | 31.90 S  | 69.66 W   | 150 G |         |     |     | 0.5 |  |  |  |  |  |  |  |  | 10  | SAN JUAN PROVINCE, ARGENTINA. MD 2.7 (SAN).   |
| 05 | 04 | 27 | 18.9* | 3.281 N  | 96.286 E  | 100 G | 4.1     |     |     | 1.3 |  |  |  |  |  |  |  |  | 12  | NORTHERN SUMATERA, INDONESIA  |
| 05 | 04 | 45 | 16.97 | 41.01 N  | 80.71 E   | 10 G  |         |     |     | 1.5 |  |  |  |  |  |  |  |  | 7   | SOUTHERN XINJIANG, CHINA  |
| 05 | 05 | 26 | 12.66 | 59.448 N | 152.366 W | 68    |         |     |     |     |  |  |  |  |  |  |  |  | 38  | SOUTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 05 | 05 | 30 | 02.2  | 35.107 N | 28.104 E  | 10 G  | 3.8     |     |     | 1.1 |  |  |  |  |  |  |  |  | 18  | EASTERN MEDITERRANEAN SEA   |
| 05 | 06 | 52 | 48.7* | 49.014 N | 155.970 E | 42 D  |         |     |     | 1.0 |  |  |  |  |  |  |  |  | 18  | KURIL ISLANDS   |
| 05 | 08 | 11 | 30.7  | 8.927 S  | 125.076 E | 33 N  | 4.5     |     |     | 0.9 |  |  |  |  |  |  |  |  | 33  | TIMOR REGION, INDONESIA   |
| 05 | 08 | 47 | 25.4  | 29.845 N | 80.532 E  | 33 N  | 5.6 5.3 | 0.9 |     |     |  |  |  |  |  |  |  |  | 232 | NEPAL-INDIA BORDER REGION. Mw 5.6 (HRV), 5.4 (GS). Me 5.3 (GS). Many houses damaged in western Nepal. Felt at Baitadi and Dandeldhura.<br>Broadband Source Parameters (GS): Dep 15; NP1: Strike=120, Dip=75, Slip=80; NP2: Strike=334, Dip=18, Slip=123;<br>Radiated energy 1.7*10**12 Nm.<br>Moment Tensor (GS): Dep 14; Principal axes (scale 10**17 Nm): (T) Val=-1.80, Plg=55, Azm=38; (N) Val=-0.40, Plg=21, Azm=275; (P) Val=-1.40, Plg=26, Azm=174; Best double couple: Mo=-1.6*10**17 Nm; NP1: Strike=225, Dip=26, Slip=37; NP2: Strike=101, Dip=75, Slip=112.<br>Centroid, Moment Tensor (HRV): Centroid origin time 08:47:31.6; Lat 29.43 N; Lon 80.29 E; Dep 15.0 Fix; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=-2.29, Plg=62, Azm=42; (N) Val=0.32, Plg=7, Azm=300; (P) Val=-2.61, Plg=27, Azm=206; Best double couple: Mo=2.5*10**17 Nm; NP1: Strike=279, Dip=19, Slip=68; NP2: Strike=122, Dip=73, Slip=97. |
| 05 | 09 | 03 | 49.5* | 11.800 N | 93.546 E  | 100 G | 4.4     |     | 1.4 |     |  |  |  |  |  |  |  |  | 15  | ANDAMAN ISLANDS, INDIA  |
| 05 | 09 | 11 | 11.2* | 29.728 N | 80.594 E  | 33 N  |         |     | 0.8 |     |  |  |  |  |  |  |  |  | 8   | NEPAL-INDIA BORDER REGION   |
| 05 | 09 | 13 | 22.8? | 22.77 S  | 170.43 E  | 33 N  |         |     | 1.3 |     |  |  |  |  |  |  |  |  | 9   | LOYALTY ISLANDS REGION  |
| 05 | 09 | 32 | 45.5? | 32.40 S  | 71.36 W   | 70 G  |         |     | 0.3 |     |  |  |  |  |  |  |  |  | 10  | NEAR COAST OF CENTRAL CHILE. MD 2.9 (SAN).  |
| 05 | 09 | 36 | 03.2* | 35.799 N | 105.452 E | 33 N  | 4.3     |     | 1.2 |     |  |  |  |  |  |  |  |  | 15  | GANSU, CHINA. ML 4.4 (BJI).   |
| 05 | 10 | 34 | 19.4  | 24.677 N | 122.457 E | 33 N  | 5.3 4.9 | 1.0 |     |     |  |  |  |  |  |  |  |  | 112 | TAIWAN REGION. Mw 5.2 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 10:34:17.5; Lat 24.92 N; Lon 122.18 E; Dep 26.8; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=-8.89, Plg=10, Azm=191; (N) Val=-3.03, Plg=4, Azm=281; (P) Val=-5.85, Plg=79, Azm=34; Best double couple: Mo=7.4*10**16 Nm; NP1: Strike=275, Dip=35, Slip=98; NP2: Strike=104, Dip=55, Slip=85.   |
| 05 | 10 | 45 | 04.7* | 2.420 N  | 129.108 E | 200 G | 4.1     |     | 1.3 |     |  |  |  |  |  |  |  |  | 11  | HALMAHERA, INDONESIA  |
| 05 | 11 | 01 | 55.5* | 36.272 N | 70.682 E  | 250 G |         |     | 0.6 |     |  |  |  |  |  |  |  |  | 6   | HINDU KUSH REGION, AFGHANISTAN  |
| 05 | 11 | 25 | 49.9? | 60.69 S  | 32.78 W   | 10 G  | 4.6     |     | 1.2 |     |  |  |  |  |  |  |  |  | 17  | SCOTIA SEA  |
| 05 | 11 | 38 | 24.5* | 29.668 N | 80.565 E  | 33 N  |         |     | 1.0 |     |  |  |  |  |  |  |  |  | 12  | NEPAL-INDIA BORDER REGION   |
| 05 | 11 | 58 | 53.4* | 12.996 N | 125.487 E | 49 D  | 4.4     |     | 1.1 |     |  |  |  |  |  |  |  |  | 10  | SAMAR, PHILIPPINE ISLANDS   |
| 05 |    |    |       |          |           |       |         |     |     |     |  |  |  |  |  |  |  |  |     |   |

|    |    |    |       |        |   |         |   |     |   |     |     |     |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|-----|-----|--|
| 06 | 17 | 19 | 31.4  | 44.023 | N | 7.599   | E | 10  | G |     |     |     | 0.2 | 12  | NORTHERN ITALY. ML 2.0 (GEN), 1.8 (LDG).   |
| 06 | 18 | 57 | 58.5% | 36.127 | N | 139.892 | E | 33  | N |     |     |     | 0.4 | 5   | EASTERN HONSHU, JAPAN  |
| 06 | 19 | 06 | 44.2* | 36.818 | N | 35.520  | E | 10  | G |     |     |     | 0.8 | 9   | TURKEY   |
| 06 | 21 | 56 | 57.7% | 37.379 | N | 4.036   | W | 33  | N |     |     |     | 0.5 | 11  | SPAIN. mbLg 3.0 (MDD).   |
| 06 | 21 | 57 | 07.8? | 32.81  | S | 70.21   | W | 100 | G |     |     |     | 0.2 | 7   | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).   |
| 06 | 22 | 15 | 40.4% | 40.779 | N | 125.316 | W | 5   |   |     |     |     | 85  |     | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. Mw 4.0 (BRK). MD 3.7 (GM). ML 4.0 (BRK), 3.7 (GS).<br>Scalar Moment (BRK): Mo=1.1*10**15 Nm.   |
| 06 | 22 | 24 | 24.9? | 36.16  | S | 71.88   | W | 80  | G |     |     |     | 0.6 | 11  | CENTRAL CHILE. MD 3.9 (SAN).   |
| 06 | 22 | 32 | 22.6  | 43.879 | N | 8.700   | E | 10  | G |     |     |     | 1.0 | 27  | CORSICA. ML 2.8 (LDG), 2.8 (GEN), 2.7 (STR).   |
| 06 | 23 | 17 | 27.5* | 36.988 | N | 97.813  | E | 33  | N |     |     |     | 1.4 | 12  | QINGHAI, CHINA. ML 3.5 (BJI).  |
| 06 | 23 | 21 | 15.4  | 22.070 | S | 179.549 | W | 600 | G | 4.8 |     |     | 1.0 | 89  | SOUTH OF FIJI ISLANDS  |
| 07 | 00 | 37 | 27.8* | 45.060 | N | 150.056 | E | 33  | N | 4.3 |     |     | 1.1 | 29  | KURIL ISLANDS  |
| 07 | 01 | 11 | 01.0  | 19.415 | N | 145.299 | E | 223 | D | 4.5 |     |     | 1.0 | 50  | MARIANA ISLANDS  |
| 07 | 02 | 12 | 29.6  | 5.802  | S | 77.265  | W | 33  | N | 4.9 |     |     | 0.6 | 60  | NORTHERN PERU  |
| 07 | 02 | 13 | 23.2% | 32.996 | S | 71.709  | W | 50  | G |     |     |     | 0.4 | 10  | NEAR COAST OF CENTRAL CHILE. MD 2.6 (SAN).   |
| 07 | 02 | 14 | 21.8  | 34.738 | N | 24.855  | E | 41  | D | 4.8 |     |     | 1.3 | 123 | CRETE  |
| 07 | 03 | 29 | 50.9% | 59.388 | N | 144.901 | W | 10  | G | 3.1 |     |     | 38  |     | GULF OF ALASKA. <AEIC>. ML 3.4 (AEIC).   |
| 07 | 03 | 30 | 10.4? | 28.56  | S | 73.89   | E | 10  | G |     |     |     | 0.9 | 6   | MID-INDIAN RIDGE   |
| 07 | 04 | 04 | 51.1% | 63.550 | N | 149.100 | W | 7   |   |     |     |     | 57  |     | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.4 (PMR).  |
| 07 | 04 | 17 | 02.8* | 55.547 | S | 3.432   | W | 10  | G | 4.9 |     |     | 0.9 | 31  | SOUTHERN MID-ATLANTIC RIDGE. Mw 5.2 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 04:17:09.2; Lat 56.02 S; Lon 2.60 W; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=-6.56, Plg=0, Azm=268; (N) Val=-0.87, Plg=90, Azm=180; (P) Val=-5.69, Plg=0, Azm=178; Best double couple: Mo=6.1*10**16 Nm; NP1: Strike=313, Dip=90, Slip=180; NP2: Strike=43, Dip=90, Slip=0. |
| 07 | 05 | 23 | 56.5* | 51.262 | N | 15.866  | E | 5   | G |     |     |     | 0.8 | 9   | POLAND. ML 2.7 (MOX).  |
| 07 | 05 | 35 | 39.6% | 34.132 | S | 70.550  | W | 100 | G |     |     |     | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).   |
| 07 | 05 | 47 | 43.7? | 12.31  | N | 85.95   | W | 33  | N | 3.1 |     |     | 1.1 | 6   | NICARAGUA  |
| 07 | 06 | 13 | 18.7* | 34.019 | N | 141.883 | E | 10  | G |     |     |     | 0.7 | 9   | OFF EAST COAST OF HONSHU, JAPAN  |
| 07 | 07 | 34 | 51.5% | 36.744 | N | 121.436 | W | 6   |   |     |     |     | 29  |     | CENTRAL CALIFORNIA. <GM-P>. MD 2.7 (GM). ML 2.8 (GS).  |
| 07 | 07 | 42 | 17.8  | 3.359  | S | 128.051 | E | 35  | D | 5.0 | 4.2 | 1.1 | 40  |     | SERAM, INDONESIA. Mw 5.1 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 07:42:20.4; Lat 2.93 S; Lon 128.43 E; Dep 71.6; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=5.31, Plg=13, Azm=148; (N) Val=-1.10, Plg=76, Azm=306; (P) Val=-4.21, Plg=5, Azm=56; Best double couple: Mo=4.8*10**16 Nm; NP1: Strike=191, Dip=77, Slip=174; NP2: Strike=283, Dip=84, Slip=13.              |
| 07 | 08 | 45 | 31.5  | 16.180 | N | 98.677  | W | 33  | N | 4.5 |     |     | 0.8 | 34  | NEAR COAST OF GUERRERO, MEXICO   |
| 07 | 09 | 02 | 53.8  | 42.292 | N | 142.914 | E | 62  | D | 4.9 |     |     | 1.0 | 107 | HOKKAIDO, JAPAN REGION   |
| 07 | 10 | 09 | 12.2? | 36.49  | N | 3.40    | W | 10  | G |     |     |     | 0.6 | 5   | STRAIT OF GIBRALTAR. mbLg 2.8 (MDD).   |
| 07 | 10 | 17 | 00.1% | 40.375 | N | 125.418 | W | 26  |   |     |     |     | 3   |     | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 2.9 (GM).   |
| 07 | 11 | 30 | 01.8? | 16.79  | S | 174.28  | W | 150 | G |     |     |     | 0.7 | 8   | TONGA ISLANDS  |
| 07 | 11 | 30 | 55.0% | 60.363 | N | 152.831 | W | 150 |   |     |     |     | 65  |     | SOUTHERN ALASKA. <AEIC>.   |
| 07 | 13 | 37 | 01.9% | 44.100 | N | 7.379   | E | 10  | G |     |     |     | 0.1 | 6   | NORTHERN ITALY. ML 1.8 (GEN).  |
| 07 | 14 | 06 | 19.8* | 43.082 | N | 0.225   | W | 5   | G |     |     |     | 0.7 | 5   | PYRENEES. mbLg 2.6 (MDD). ML 2.5 (LDG).  |
| 07 | 14 | 50 | 06.0% | 44.057 | N | 8.243   | E | 10  | G |     |     |     | 0.2 | 9   | NORTHERN ITALY. ML 2.2 (GEN).  |
| 07 | 14 | 50 | 42.8% | 44.064 | N | 8.230   | E | 10  | G |     |     |     | 0.2 | 7   | NORTHERN ITALY. ML 1.8 (GEN).  |
| 07 | 16 | 14 | 06.4  | 43.976 | N | 7.823   | E | 10  | G |     |     |     | 0.3 | 14  | NEAR SOUTH COAST OF FRANCE. ML 2.2 (LDG), 2.0 (GEN).   |
| 07 | 16 | 23 | 47.0% | 63.365 | N | 145.274 | W | 4   |   |     |     |     | 27  |     | CENTRAL ALASKA. <AEIC>. ML 3.1 (AEIC), 3.5 (PMR).  |
| 07 | 16 | 50 | 01.7? | 4.29   | S | 131.39  | E | 33  | N | 3.8 |     |     | 1.3 | 9   | BANDA SEA  |
| 07 | 17 | 20 | 41.4* | 26.148 | N | 125.526 | E | 50  | G | 4.3 |     |     | 1.3 | 12  | NORTHEAST OF TAIWAN  |
| 07 | 17 | 41 | 04.4* | 28.660 | N | 143.345 | E | 33  | N | 4.6 |     |     | 0.4 | 7   | BONIN ISLANDS REGION   |
| 07 | 18 | 00 | 51.8* | 18.687 | S | 174.741 | W | 33  | N | 5.2 |     |     | 0.9 | 39  | TONGA ISLANDS  |
| 07 | 18 | 44 | 00.1  | 20.092 | N | 121.337 | E | 33  | N | 4.4 |     |     | 0.6 | 17  | PHILIPPINE ISLANDS REGION  |
| 07 | 19 | 04 | 09.4* | 37.866 | N | 71.683  | E | 100 | G | 3.9 |     |     | 0.5 | 7   | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 07 | 19 | 53 | 49.1* | 2.308  | S | 138.592 | E | 50  | G | 4.5 |     |     | 1.3 | 23  | IRIAN JAYA, INDONESIA  |
| 07 | 20 | 09 | 20.7  | 40.033 | N | 143.339 | E | 26  | * | 4.7 |     |     | 1.0 | 33  | OFF EAST COAST OF HONSHU, JAPAN  |
| 07 | 20 | 39 | 51.4* | 2.302  | S | 138.655 | E | 50  | G | 4.2 |     |     | 1.3 | 19  | IRIAN JAYA, INDONESIA  |
| 07 | 21 | 20 | 33.4% | 37.004 | N | 4.284   | W | 10  | G |     |     |     | 0.8 | 10  | SPAIN. mbLg 2.9 (MDD).   |
| 07 | 21 | 29 | 24.3? | 32.10  | S | 69.84   | W | 140 | G |     |     |     | 0.4 | 9   | MENDOZA PROVINCE, ARGENTINA  |
| 07 | 22 | 16 | 05.2% | 59.609 | N | 145.799 | W | 10  | G | 3.7 |     |     | 72  |     | GULF OF ALASKA. <AEIC>. ML 3.4 (AEIC), 3.8 (PMR).  |
| 07 | 22 | 28 | 24.1* | 34.394 | N | 62.327  | E | 33  | N |     |     |     | 1.1 | 8   | NORTHWESTERN AFGHANISTAN   |
| 07 | 22 | 45 | 49.0* | 24.387 | S | 71.824  | W | 33  | N | 4.4 |     |     | 0.8 | 14  | OFF COAST OF NORTHERN CHILE  |
| 07 | 23 | 52 | 33.4* | 50.851 | N | 16.049  | E | 5   | G |     |     |     | 1.5 | 5   | POLAND. ML 2.5 (MOX).  |
| 08 | 00 | 33 | 45.5? | 44.64  | N | 6.39    | E | 15  | G |     |     |     | 0.4 | 6   | FRANCE   |
| 08 | 01 | 33 | 38.2% | 40.376 | N | 124.499 | W | 17  |   |     |     |     | 3   |     | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.8 (GM).   |
| 08 | 02 | 23 | 35.0* | 60.210 | N | 29.713  | W | 10  | G | 4.1 | 3.6 | 1.2 | 15  |     | NORTH ATLANTIC OCEAN   |
| 08 | 02 | 34 | 40.7* | 39.927 | N | 143.568 | E | 33  | N |     |     |     | 0.8 | 12  | OFF EAST COAST OF HONSHU, JAPAN  |
| 08 | 03 | 22 | 26.6* | 38.884 | N | 22.534  | E | 33  | N | 3.9 |     |     | 1.2 | 21  | GREECE   |
| 08 | 03 | 36 | 51.0% | 34.264 | S | 70.094  | W | 5   | G |     |     |     | 0.6 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 08 | 04 | 45 | 58.5* | 42.574 | N | 126.642 | W | 10  | G | 3.2 |     |     | 1.1 | 14  | OFF COAST OF OREGON  |
| 08 | 05 | 35 | 18.9% | 33.842 | N | 135.407 | E | 33  | N |     |     |     | 0.6 | 7   | NEAR S. COAST OF WESTERN HONSHU  |
| 08 | 05 | 36 | 11.7* | 32.429 | N | 90.700  | E | 33  | N | 3.7 |     |     | 0.8 | 13  | XIZANG   |
| 08 | 06 | 06 | 13.1* | 7.557  | S | 128.906 | E | 150 | G | 4.6 |     |     | 1.2 | 9   | BANDA SEA  |
| 08 | 06 | 25 | 20.9% | 63.350 | N | 145.199 | W | 5   |   |     |     |     | 38  |     | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 08 | 06 | 43 | 04.8  | 17.672 | N | 72.209  | W | 10  | G | 5.3 | 4.8 | 0.8 | 240 |     | HAITI REGION. Mw 5.4 (HRV). Felt in Haiti.<br>Centroid, Moment Tensor (HRV): Centroid origin time 06:43:09.3; Lat 17.61 N; Lon 71.90 W; Dep 15.0 Fix; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=1.56, Plg=51, Azm=48; (N) Val=-0.32, Plg=5, Azm=312; (P) Val=-1.24, Plg=38, Azm=218; Best double couple: Mo=1.4*10**17 Nm; NP1: Strike=275, Dip=8, Slip=53; NP2: Strike=132, Dip=83, Slip=95. |
| 08 | 06 | 52 | 41.8  | 9.838  | N | 126.363 | E | 33  | N | 4.7 | 4.3 | 0.8 | 32  |     | MINDANAO, PHILIPPINE ISLANDS   |
| 08 | 07 | 48 | 48.8? | 9.81   | N | 126.72  | E | 33  | N | 3.9 |     |     | 1.0 | 6   | MINDANAO, PHILIPPINE ISLANDS   |
| 08 | 09 | 57 | 01.1? | 34.00  | S | 179.07  | W | 33  | N | 4.4 |     |     | 1.1 | 13  | SOUTH OF KERMADEC ISLANDS  |
| 08 | 09 | 59 | 01.9* | 31.583 | N | 80.603  | E | 33  | N | 3.9 |     |     | 1.6 | 16  | XIZANG   |
| 08 | 12 | 13 | 38.6? | 38.58  | N | 73.65   | E | 100 | G | 3.1 |     |     | 1.2 | 8   | TAJIKISTAN-XINJIANG BORDER REG.  |
| 08 | 12 | 54 | 12.3? | 10.28  | S | 126.65  | E | 100 | G | 3.8 |     |     | 1.0 | 7   | TIMOR SEA  |



|    |    |    |       |        |   |         |   |       |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-------|---------|-----|-----|--|
| 08 | 12 | 59 | 41.9? | 6.31   | S | 130.37  | E | 125 ? | 3.9     | 1.2 | 10  | BANDA SEA  |
| 08 | 13 | 12 | 23.1* | 4.540  | S | 143.933 | E | 94 *  | 4.3     | 1.6 | 16  | NEW GUINEA, PAPUA NEW GUINEA   |
| 08 | 13 | 36 | 31.3* | 35.105 | N | 135.528 | E | 66 *  |         | 1.6 | 11  | WESTERN HONSHU, JAPAN  |
| 08 | 14 | 06 | 30.7* | 3.837  | S | 141.192 | E | 85 ?  | 3.8     | 1.5 | 9   | NEW GUINEA, PAPUA NEW GUINEA   |
| 08 | 15 | 30 | 36.7* | 34.041 | N | 117.250 | W | 16    |         |     | 26  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.6 (PAS). ML 2.8 (GS).<br>Felt at Salton City.   |
| 08 | 17 | 44 | 48.2* | 59.911 | N | 152.781 | W | 93    |         |     | 54  | SOUTHERN ALASKA. <AEIC>.   |
| 08 | 17 | 45 | 09.5? | 17.58  | S | 178.77  | W | 600 G | 4.4     | 0.7 | 15  | FIJI ISLANDS REGION  |
| 08 | 18 | 02 | 09.7? | 10.98  | N | 86.45   | W | 33 N  | 4.6     | 1.2 | 18  | OFF COAST OF COSTA RICA  |
| 08 | 18 | 12 | 19.5? | 17.40  | S | 178.46  | W | 400 G | 4.0     | 1.1 | 15  | FIJI ISLANDS REGION  |
| 08 | 18 | 50 | 26.0? | 36.66  | N | 70.87   | E | 220 ? |         | 1.1 | 7   | HINDU KUSH REGION, AFGHANISTAN   |
| 08 | 19 | 56 | 12.5? | 30.35  | N | 88.01   | E | 33 N  | 3.6     | 0.9 | 5   | XIZANG   |
| 08 | 20 | 14 | 10.5  | 7.383  | N | 127.143 | E | 41 D  | 4.6     | 1.2 | 40  | PHILIPPINE ISLANDS REGION  |
| 08 | 21 | 32 | 47.9  | 44.125 | N | 7.414   | E | 10 G  |         | 0.7 | 15  | NORTHERN ITALY. ML 2.3 (LDG), 2.2 (GEN).   |
| 08 | 22 | 18 | 28.3* | 60.782 | N | 150.704 | W | 46    |         |     | 39  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 08 | 22 | 51 | 22.5  | 16.224 | N | 95.359  | W | 33 N  | 4.9 4.5 | 1.0 | 69  | OAXACA, MEXICO   |
| 08 | 22 | 53 | 32.0? | 32.82  | S | 179.06  | W | 33 N  | 4.2     | 0.9 | 11  | SOUTH OF KERMADec ISLANDS  |
| 08 | 23 | 03 | 41.5* | 62.123 | N | 150.363 | W | 52    |         |     | 57  | CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC).   |
| 08 | 23 | 15 | 54.4* | 12.383 | N | 88.907  | W | 54    | 4.6     | 0.8 | 36  | OFF COAST OF CENTRAL AMERICA. MD 4.9 (SSS). Felt (II) at San Salvador, El Salvador.  |
| 08 | 23 | 18 | 56.9* | 44.378 | N | 7.122   | E | 10 G  |         | 0.4 | 12  | NORTHERN ITALY. ML 2.2 (GEN).  |
| 08 | 23 | 20 | 41.6* | 12.423 | N | 88.839  | W | 33 N  | 4.7     | 1.1 | 30  | OFF COAST OF CENTRAL AMERICA   |
| 08 | 23 | 29 | 57.7? | 5.17   | S | 149.81  | E | 100 G | 4.2     | 1.4 | 12  | NEW BRITAIN REGION, P.N.G.   |
| 08 | 23 | 32 | 48.7* | 44.241 | N | 6.236   | E | 5 G   |         | 0.4 | 8   | FRANCE. ML 1.9 (LDG).  |
| 09 | 00 | 14 | 38.1* | 9.579  | N | 84.122  | W | 10 G  | 3.7     | 1.1 | 12  | COSTA RICA   |
| 09 | 01 | 43 | 58.9* | 33.851 | N | 132.359 | E | 33 N  |         | 0.7 | 5   | SHIKOKU, JAPAN   |
| 09 | 03 | 07 | 25.9* | 33.200 | N | 92.600  | W | 5 G   |         |     | 4   | ARKANSAS. <MACRO>. mbLg 2.8 (GS). Felt in the El Dorado area.  |
| 09 | 03 | 31 | 47.8* | 38.849 | N | 119.585 | W | 5 G   |         | 0.8 | 7   | CALIFORNIA-NEVADA BORDER REGION. ML 2.9 (GS), 3.1 (BRK). MD 2.9 (GM).  |
| 09 | 04 | 19 | 12.0* | 59.479 | N | 152.842 | W | 98    | 3.0     |     | 98  | SOUTHERN ALASKA. <AEIC>.   |
| 09 | 05 | 54 | 00.4? | 51.14  | N | 170.95  | W | 33 N  |         | 0.7 | 5   | FOX ISLANDS, ALEUTIAN ISLANDS  |
| 09 | 06 | 36 | 40.1  | 26.025 | N | 141.152 | E | 62 D  | 4.9     | 0.7 | 70  | BONIN ISLANDS REGION   |
| 09 | 06 | 48 | 44.5? | 32.96  | N | 103.58  | E | 33 N  | 3.2     | 1.5 | 7   | SICHUAN, CHINA   |
| 09 | 07 | 27 | 53.4* | 6.098  | S | 105.249 | E | 100 G | 4.6     | 1.2 | 17  | SUNDA STRAIT   |
| 09 | 07 | 52 | 16.1  | 53.701 | N | 163.546 | W | 33 N  | 5.2 4.5 | 0.9 | 163 | UNIMAK ISLAND REGION. Mw 5.1 (HRV). ML 5.0 (PMR).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>07:52:14.5; Lat 53.11 N; Lon 163.18 W; Dep 40.5; Half-<br>duration 1.0 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=3.62, Plg=63, Azm=342; (N) Val=1.55, Plg=6, Azm=240;<br>(P) Val=-5.17, Plg=26, Azm=147; Best double couple:<br>Mo=4.4*10**16 Nm; NP1: Strike=223, Dip=19, Slip=72; NP2:<br>Strike=62, Dip=72, Slip=96.  |
| 09 | 08 | 16 | 28.5* | 37.615 | N | 75.456  | E | 109 ? | 3.4     | 0.3 | 9   | TAJIKISTAN-XINJIANG BORDER REG.  |
| 09 | 08 | 29 | 31.2* | 17.691 | S | 168.322 | E | 108 D | 4.9     | 1.1 | 44  | VANUATU ISLANDS. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>08:29:31.4; Lat 17.68 S; Lon 168.36 E; Dep 119.3; Half-<br>duration 1.1 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.50, Plg=25, Azm=157; (N) Val=-0.32, Plg=47, Azm=37;<br>(P) Val=-1.18, Plg=32, Azm=264; Best double couple:<br>Mo=1.3*10**17 Nm; NP1: Strike=298, Dip=48, Slip=-6; NP2:<br>Strike=32, Dip=85, Slip=-137.   |
| 09 | 08 | 42 | 43.8* | 52.593 | N | 142.476 | E | 33 N  | 4.0     | 0.7 | 10  | SAKHALIN ISLAND  |
| 09 | 08 | 50 | 16.6  | 34.456 | N | 37.284  | W | 10 G  | 5.2 5.2 | 0.9 | 218 | NORTHERN MID-ATLANTIC RIDGE. Mw 5.5 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>08:50:19.1; Lat 34.71 N; Lon 37.13 W; Dep 15.0 Fix; Half-<br>duration 1.1 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.67, Plg=49, Azm=248; (N) Val=0.00, Plg=33, Azm=26;<br>(P) Val=-1.67, Plg=22, Azm=131; Best double couple:<br>Mo=1.7*10**17 Nm; NP1: Strike=264, Dip=37, Slip=153; NP2:<br>Strike=16, Dip=74, Slip=56.   |
| 09 | 09 | 01 | 54.2* | 34.371 | N | 116.463 | W | 3     |         |     | 25  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.9 (PAS). ML 3.1 (GS).   |
| 09 | 09 | 41 | 36.7? | 47.17  | N | 146.21  | E | 355 ? | 4.5     | 1.1 | 13  | NORTHWEST OF KURIL ISLANDS   |
| 09 | 11 | 40 | 59.5  | 5.652  | S | 151.008 | E | 100 G | 5.1     | 0.9 | 50  | NEW BRITAIN REGION, P.N.G. Mw 5.1 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>11:40:56.9; Lat 5.82 S; Lon 151.22 E; Dep 38.8; Half-<br>duration 1.0 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=5.64, Plg=64, Azm=336; (N) Val=-0.50, Plg=1, Azm=69;<br>(P) Val=-5.14, Plg=26, Azm=160; Best double couple:<br>Mo=5.4*10**16 Nm; NP1: Strike=253, Dip=19, Slip=94; NP2:<br>Strike=69, Dip=71, Slip=88.  |
| 09 | 12 | 14 | 49.8  | 59.240 | N | 144.711 | W | 10 G  | 2.3     | 0.9 | 28  | GULF OF ALASKA. ML 2.6 (AEIC).   |
| 09 | 12 | 46 | 28.9? | 14.74  | S | 173.95  | W | 33 N  | 4.6     | 0.7 | 30  | SAMOA ISLANDS REGION   |
| 09 | 13 | 02 | 42.3? | 43.27  | N | 142.19  | E | 173 ? | 3.3     | 1.0 | 5   | HOKKAIDO, JAPAN REGION   |
| 09 | 13 | 28 | 37.0? | 30.60  | N | 115.58  | W | 5 G   |         | 1.0 | 21  | BAJA CALIFORNIA, MEXICO. ML 3.7 (GS).  |
| 09 | 13 | 32 | 02.3? | 8.29   | S | 114.86  | E | 33 N  | 3.8     | 0.7 | 7   | BALI REGION, INDONESIA   |
| 09 | 13 | 43 | 31.5  | 41.026 | N | 74.284  | E | 22 D  | 5.7 5.8 | 1.0 | 376 | KYRGYZSTAN. Mw 5.9 (OBN), 5.8 (HRV), 5.7 (GS). Me 5.6 (GS).<br>At least 10 houses destroyed and 400 others damaged in the<br>Dzhergetal area. Felt (VII) at Koshtebe; (VI) at Kazarman;<br>(V) at Min-Kush; (IV) at Jalal-Abad, Naryn, Osh, Sufi-<br>Kurgan, Talas and Uzgen; (III) at Bishkek. Also felt (III)<br>at Almaty, Kazakhstan.<br>Broadband Source Parameters (GS): Dep 15; NP1: Strike=85,<br>Dip=55, Slip=90; NP2: Strike=265, Dip=35, Slip=90; Radiated<br>energy 5.6*10**12 Nm.<br>Moment Tensor (GS): Dep 14; Principal axes (scale 10**17<br>Nm): (T) Val=4.11, Plg=78, Azm=317; (N) Val=0.04, Plg=9,<br>Azm=96; (P) Val=-4.16, Plg=8, Azm=187; Best double couple:<br>Mo=4.1*10**17 Nm; NP1: Strike=287, Dip=38, Slip=105; NP2:<br>Strike=89, Dip=53, Slip=79.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>13:43:35.3; Lat 41.00 N; Lon 74.16 E; Dep 15.0 Bdy; Half-<br>duration 1.9 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=6.10, Plg=70, Azm=312; (N) Val=-0.88, Plg=12, Azm=79; |

(P) Val=-5.22, Plg=15, Azm=173; Best double couple:  
Mo=5.7\*10\*\*17 Nm; NP1: Strike=280, Dip=32, Slip=114; NP2:  
Strike=72, Dip=61, Slip=76.  
Moment Tensor (OBN); Principal axes: (T) Plg=71, Azm=56; (N)  
Plg=14, Azm=279; (P) Plg=12, Azm=186; Best double couple:  
Mo=7.8\*10\*\*17 Nm; NP1: Strike=258, Dip=35, Slip=65; NP2:  
Strike=108, Dip=59, Slip=107.

09 14 16 53.8\* 38.294 N 24.143 E 33 N 1.1 27 AEGEAN SEA. ML 3.6 (THE). Felt at Athens, Greece.  
09 15 15 42.8 23.780 S 179.937 W 500 G 4.8 0.9 67 SOUTH OF FIJI ISLANDS  
09 16 07 11.2 18.841 N 145.042 E 368 4.1 1.0 37 MARIANA ISLANDS  
09 16 21 50.8 6.185 S 142.214 E 33 N 4.2 1.2 16 NEW GUINEA, PAPUA NEW GUINEA  
09 16 23 38.0\* 44.278 N 148.856 E 33 N 4.4 1.1 9 KURIL ISLANDS  
09 17 47 17.2 0.785 N 29.255 W 10 G 4.9 0.8 39 CENTRAL MID-ATLANTIC RIDGE  
09 18 13 26.2 6.171 S 142.180 E 33 N 4.5 1.3 27 NEW GUINEA, PAPUA NEW GUINEA  
09 18 46 17.8\* 12.179 N 96.384 E 33 N 4.8 1.2 13 ANDAMAN ISLANDS, INDIA  
09 19 08 07.7 34.521 N 24.525 E 33 N 3.3 0.7 14 CRETE  
09 19 48 12.7\* 46.966 N 0.396 E 5 G 1.3 10 FRANCE. ML 2.5 (LDG).  
09 19 51 40.4\* 62.921 N 149.778 W 79 61 CENTRAL ALASKA. <AEIC>.  
09 21 51 25.5\* 43.461 N 147.773 E 33 N 4.6 1.4 22 KURIL ISLANDS  
09 22 04 08.0\* 23.144 N 144.495 E 33 N 4.3 0.6 13 VOLCANO ISLANDS REGION  
09 22 46 15.0 28.696 N 128.738 E 156 4.3 1.2 21 RYUKYU ISLANDS  
10 23 50 41.2\* 63.259 N 151.084 W 7 64 CENTRAL ALASKA. <AEIC>. ML 3.2 (AEIC), 3.5 (PMR).  
10 00 04 24.3\* 62.886 N 149.967 W 83 56 CENTRAL ALASKA. <AEIC>.  
10 01 52 06.8\* 23.71 S 169.84 E 33 N 1.4 5 LOYALTY ISLANDS REGION  
10 02 11 53.7 44.599 N 7.265 E 10 G 0.3 18 NORTHERN ITALY. ML 2.1 (GEN), 1.8 (LDG).  
10 02 24 12.9 36.385 N 70.821 E 201 D 4.8 0.9 147 HINDU KUSH REGION, AFGHANISTAN. Felt at Peshawar, Pakistan.  
10 04 15 03.3\* 6.09 S 153.45 E 200 G 4.4 1.4 13 NEW BRITAIN REGION, P.N.G.  
10 04 25 27.1 51.665 N 15.792 E 5 G 1.4 12 POLAND. ML 3.6 (VIE), 3.4 (GRF), 3.3 (MOX).  
10 04 52 33.8\* 38.659 N 73.617 E 100 G 3.3 0.8 10 TAJIKISTAN-XINJIANG BORDER REG.  
10 05 05 03.3\* 40.864 N 123.807 W 26 34 NORTHERN CALIFORNIA. <GM-P>. MD 3.5 (GM). ML 3.5 (GS), 3.5 (BRK).  
10 05 39 21.0\* 24.872 N 125.425 E 33 N 3.6 1.5 6 SOUTHWESTERN RYUKYU ISLANDS  
10 06 08 06.2\* 44.37 N 7.36 E 10 G 0.0 4 NORTHERN ITALY. ML 1.5 (GEN).  
10 06 42 12.5\* 5.289 S 129.846 E 121 ? 4.4 0.9 9 BANDA SEA  
10 06 56 53.6\* 59.730 N 151.967 W 57 58 KENAI PENINSULA, ALASKA. <AEIC>. ML 3.0 (AEIC).  
10 07 08 08.0\* 34.356 N 37.319 W 10 G 3.7 1.2 16 NORTHERN MID-ATLANTIC RIDGE  
10 08 09 10.8\* 34.556 S 179.837 W 58 D 5.0 1.3 29 SOUTH OF KERMADec ISLANDS  
10 08 22 59.1\* 14.689 S 27.108 E 20 D 4.1 1.4 13 ZAMBIA  
10 08 46 41.7\* 23.044 S 68.383 W 100 G 4.1 1.0 14 NORTHERN CHILE  
10 08 50 16.3\* 11.141 N 61.132 W 33 N 0.5 7 WINDWARD ISLANDS. MD 2.8 (TRN).  
10 09 08 30.5\* 28.874 N 67.316 E 33 N 4.4 4.1 1.1 15 PAKISTAN  
10 09 27 44.1\* 14.69 N 91.87 W 150 G 3.7 1.2 8 GUATEMALA  
10 09 47 42.6\* 33.744 N 141.505 E 33 N 1.2 8 OFF EAST COAST OF HONSHU, JAPAN  
10 09 56 45.2\* 17.46 S 178.20 W 500 G 4.2 0.7 13 FIJI ISLANDS REGION  
10 10 24 50.9 42.842 N 17.889 E 10 G 4.0 1.2 54 ADRIATIC SEA. ML 3.7 (ROM). Felt in the Slano area, Croatia.  
10 10 41 53.9\* 2.30 S 138.86 E 33 N 3.6 1.6 5 IRIAN JAYA, INDONESIA  
10 11 47 49.5 5.808 S 80.959 W 33 N 4.7 1.0 38 NEAR COAST OF NORTHERN PERU  
10 12 18 53.3\* 4.33 S 126.20 E 400 G 4.4 1.0 11 BANDA SEA  
10 12 30 09.9\* 44.300 N 7.415 E 10 G 0.4 8 NORTHERN ITALY. ML 1.9 (GEN).  
10 13 32 34.3\* 64.661 N 149.422 W 20 20 CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC).  
10 13 49 41.6\* 54.06 S 1.87 W 10 G 4.9 1.0 9 BOUVET ISLAND REGION  
10 13 57 34.8\* 16.89 S 178.78 W 400 G 4.2 0.7 8 FIJI ISLANDS REGION  
10 14 42 36.0\* 34.08 S 178.90 W 33 N 4.3 1.3 8 SOUTH OF KERMADec ISLANDS  
10 15 26 33.3\* 20.35 S 177.80 W 500 G 4.2 1.3 11 FIJI ISLANDS REGION  
10 16 05 12.1\* 33.734 N 120.059 W 6 G 23 OFF COAST OF CALIFORNIA. <PAS-P>. MD 2.9 (PAS).  
10 16 28 35.1\* 72.694 N 4.616 E 10 G 4.6 1.0 8 NORWEGIAN SEA  
10 17 03 03.6 37.384 N 143.130 E 33 N 0.9 18 OFF EAST COAST OF HONSHU, JAPAN  
10 17 31 52.2\* 44.60 N 114.32 W 5 G 0.3 8 WESTERN IDAHO. ML 2.6 (BUT). Felt at Challis.  
10 18 25 23.5\* 43.861 N 10.870 E 10 G 0.7 30 CENTRAL ITALY. ML 2.8 (LDG).  
10 18 32 41.5 5.885 S 105.584 E 33 N 5.0 1.1 71 SUNDA STRAIT  
10 19 19 55.1 43.128 N 145.901 E 89 D 5.0 0.9 155 HOKKAIDO, JAPAN REGION. Mw 5.2 (HRV). Felt (III JMA) at Akkeshi, Bakkai and Naka-shibetsu.  
Centroid, Moment Tensor (HRV): Centroid origin time  
19:19:59.9; Lat 43.13 N; Lon 145.36 E; Dep 97.4; Half-  
duration 1.0 sec; Principal axes (scale 10\*\*16 Nm): (T)  
Val=7.31, Plg=35, Azm=285; (N) Val=-0.09, Plg=18, Azm=29;  
(P) Val=-7.22, Plg=49, Azm=141; Best double couple:  
Mo=7.3\*10\*\*16 Nm; NP1: Strike=322, Dip=20, Slip=-158; NP2:  
Strike=211, Dip=83, Slip=-72.  
10 19 21 59.5\* 29.135 N 130.650 E 53 \* 1.3 14 RYUKYU ISLANDS  
10 19 42 08.8 20.979 S 178.969 W 650 G 4.5 0.8 64 FIJI ISLANDS REGION  
10 19 53 06.3 40.066 N 142.042 E 70 D 4.5 1.0 49 NEAR EAST COAST OF HONSHU, JAPAN  
10 20 44 14.3 39.604 N 120.177 W 5 G 0.9 39 NORTHERN CALIFORNIA. ML 3.1 (GS), 3.1 (BRK). MD 3.0 (GM).  
10 20 55 46.8\* 61.106 N 145.439 W 25 3.2 71 SOUTHERN ALASKA. <AEIC>. ML 3.4 (AEIC), 3.5 (PMR).  
10 21 22 03.5\* 23.030 N 93.622 E 100 G 4.2 0.6 12 MYANMAR-INDIA BORDER REGION  
10 21 45 13.7 34.532 N 32.241 E 33 N 4.1 0.9 34 CYPRUS REGION. ML 4.2 (JER).  
11 00 36 18.0\* 62.920 N 148.710 W 58 53 CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC).  
11 02 06 26.5 34.199 N 26.757 E 33 N 4.3 1.0 82 CRETE. ML 4.6 (JER). MD 4.1 (HLW).  
11 02 22 05.7\* 35.28 N 140.40 E 33 N 1.4 7 NEAR EAST COAST OF HONSHU, JAPAN  
11 03 27 10.6\* 15.63 N 96.81 W 33 N 3.8 0.9 7 NEAR COAST OF OAXACA, MEXICO  
11 04 09 05.6\* 45.169 N 6.505 E 10 G 0.9 6 FRANCE. ML 2.0 (LDG).  
11 04 09 26.3\* 9.44 S 156.46 E 33 N 4.0 0.9 9 SOLOMON ISLANDS  
11 04 09 30.0 29.212 N 130.527 E 45 4.3 1.3 39 RYUKYU ISLANDS  
11 04 45 24.3\* 6.195 N 126.996 E 33 N 4.3 1.0 19 MINDANAO, PHILIPPINE ISLANDS  
11 05 12 44.5\* 44.50 N 114.56 W 5 G 0.3 7 WESTERN IDAHO. ML 3.3 (BUT).  
11 05 50 23.7 31.631 N 131.542 E 52 5.0 4.9 1.2 106 KYUSHU, JAPAN. Mw 5.5 (HRV).  
Centroid, Moment Tensor (HRV): Centroid origin time  
05:50:29.1; Lat 31.69 N; Lon 131.69 E; Dep 53.9; Half-  
duration 1.4 sec; Principal axes (scale 10\*\*17 Nm): (T)  
Val=1.46, Plg=70, Azm=318; (N) Val=0.41, Plg=7, Azm=209;  
(P) Val=-1.87, Plg=19, Azm=117; Best double couple:  
Mo=1.7\*10\*\*17 Nm; NP1: Strike=195, Dip=27, Slip=75; NP2:  
Strike=32, Dip=64, Slip=98.

|    |    |    |       |        |   |         |   |     |   |         |     |  |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|--|--|
| 11 | 06 | 00 | 20.3% | 32.838 | S | 70.984  | W | 10  | G | 0.7     | 11  | CHILE-ARGENTINA BORDER REGION. MD 3.9 (SAN). |  |
| 11 | 06 | 23 | 59.5* | 3.478  | S | 134.274 | E | 33  | N | 4.3     | 1.0 | 11   | IRIAN JAYA REGION, INDONESIA   |
| 11 | 07 | 01 | 54.3* | 6.971  | N | 73.020  | W | 150 | G | 4.2     | 0.9 | 18   | NORTHERN COLOMBIA  |
| 11 | 07 | 41 | 10.0? | 35.71  | S | 71.32   | W | 130 | G |         | 0.3 | 10   | CENTRAL CHILE. MD 3.1 (SAN).   |
| 11 | 07 | 48 | 37.6? | 7.38   | S | 129.19  | E | 150 | G | 4.0     | 1.5 | 10   | BANDA SEA  |
| 11 | 08 | 38 | 21.5* | 36.567 | N | 71.046  | E | 212 | D | 4.5     | 1.1 | 21   | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 11 | 09 | 16 | 57.1* | 42.731 | N | 83.418  | E | 23  | D | 4.3     | 1.0 | 14   | NORTHERN XINJIANG, CHINA   |
| 11 | 09 | 19 | 48.7% | 48.038 | N | 153.836 | E | 33  | N |         | 1.3 | 10   | KURIL ISLANDS  |
| 11 | 09 | 47 | 49.1% | 62.171 | N | 141.170 | W | 9   |   |         |     | 28   | CENTRAL ALASKA. <AEIC>. ML 2.6 (AEIC).   |
| 11 | 10 | 40 | 26.6? | 13.72  | N | 103.64  | W | 10  | G | 3.3     | 1.0 | 13   | OFF COAST OF GUERRERO, MEXICO  |
| 11 | 11 | 18 | 08.0* | 2.061  | S | 136.301 | E | 33  | N | 4.3     | 1.3 | 16   | IRIAN JAYA REGION, INDONESIA   |
| 11 | 12 | 24 | 02.2* | 17.476 | S | 178.660 | W | 500 | G | 4.1     | 0.9 | 19   | FIJI ISLANDS REGION  |
| 11 | 12 | 51 | 58.6% | 43.718 | N | 6.267   | E | 10  | G |         | 0.6 | 7  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (LDG).  |
| 11 | 12 | 55 | 42.7  | 32.782 | N | 39.899  | W | 10  | G | 4.8 4.7 | 1.3 | 66   | NORTHERN MID-ATLANTIC RIDGE. Mw 5.2 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>12:55:47.9; Lat 32.74 N; Lon 39.59 W; Dep 15.0 Fix; Half-<br>duration 1.0 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=6.33, Plg=10, Azm=279; (N) Val=-0.20, Plg=17, Azm=186;<br>(P) Val=-6.13, Plg=70, Azm=39; Best double couple:<br>Mo=6.2*10**16 Nm; NP1: Strike=29, Dip=38, Slip=62; NP2:<br>Strike=175, Dip=57, Slip=110.  |
| 11 | 13 | 32 | 33.5* | 39.546 | N | 54.421  | E | 33  | N | 3.7     | 0.9 | 17   | TURKMENISTAN   |
| 11 | 13 | 39 | 03.9  | 47.997 | N | 7.461   | E | 10  | G |         | 0.7 | 10   | SWITZERLAND. ML 2.7 (LDG).   |
| 11 | 14 | 04 | 33.5% | 43.161 | N | 0.188   | W | 10  | G |         | 1.3 | 5  | PYRENEES. ML 2.7 (LDG). Felt (I) at Asson, France.   |
| 11 | 14 | 26 | 53.1? | 10.04  | N | 121.69  | E | 33  | N |         | 1.4 | 8  | PANAY, PHILIPPINE ISLANDS  |
| 11 | 14 | 35 | 12.0  | 8.858  | N | 93.695  | E | 33  | N | 4.7 4.7 | 1.1 | 54   | NICOBAR ISLANDS, INDIA. Mw 5.3 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>14:35:14.8; Lat 9.06 N; Lon 93.30 E; Dep 48.3; Half-<br>duration 1.1 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=9.09, Plg=3, Azm=317; (N) Val=0.72, Plg=80, Azm=206;<br>(P) Val=-9.81, Plg=9, Azm=47; Best double couple:<br>Mo=9.4*10**16 Nm; NP1: Strike=92, Dip=81, Slip=-4; NP2:<br>Strike=182, Dip=86, Slip=171.   |
| 11 | 15 | 00 | 40.0? | 17.31  | S | 178.68  | W | 500 | G | 4.4     | 0.6 | 11   | FIJI ISLANDS REGION  |
| 11 | 16 | 45 | 08.7? | 14.02  | N | 91.19   | W | 100 | G | 4.5     | 1.4 | 12   | GUATEMALA  |
| 11 | 16 | 57 | 49.2% | 37.054 | N | 4.157   | W | 10  | G |         | 0.3 | 5  | SPAIN. mbLg 2.5 (MDD).   |
| 11 | 17 | 04 | 16.8% | 41.978 | N | 122.139 | W | 16  |   |         |     | 14   | NORTHERN CALIFORNIA. <GM-P>. MD 3.1 (GM). ML 3.3 (BRK).  |
| 11 | 17 | 10 | 56.2  | 6.362  | S | 103.493 | E | 33  | N | 4.3     | 0.9 | 19   | SOUTHWEST OF SUMATERA, INDONESIA   |
| 11 | 18 | 43 | 51.0% | 32.831 | S | 70.206  | W | 120 | G |         | 0.2 | 10   | CHILE-ARGENTINA BORDER REGION. MD 3.2 (SAN).   |
| 11 | 18 | 45 | 28.2? | 7.60   | S | 159.13  | E | 100 | G | 3.8     | 0.9 | 8  | SOLOMON ISLANDS  |
| 11 | 18 | 54 | 31.7% | 59.846 | N | 152.558 | W | 78  |   |         |     | 47   | SOUTHERN ALASKA. <AEIC>.   |
| 11 | 19 | 11 | 48.8* | 5.860  | S | 147.272 | E | 33  | N | 4.1     | 1.3 | 13   | EASTERN NEW GUINEA REG., P.N.G.  |
| 11 | 19 | 32 | 19.7? | 20.52  | S | 177.73  | W | 500 | G |         | 0.9 | 8  | FIJI ISLANDS REGION  |
| 11 | 20 | 13 | 54.4* | 1.999  | S | 133.173 | E | 33  | N | 3.7     | 1.3 | 8  | IRIAN JAYA REGION, INDONESIA   |
| 11 | 20 | 28 | 26.0  | 18.219 | N | 102.756 | W | 33  | N | 6.5 6.9 | 1.1 | 354  | MICHOACAN, MEXICO. Mw 7.2 (GS), 7.2 (HRV). Me 7.0 (GS). One<br>person killed and extensive damage in the Arteaga area.<br>Felt strongly in much of Michoacan and at Mexico City. Also<br>felt in Colima, Guerrero and Jalisco.<br>Broadband Source Parameters (GS): Dep 35; NP1: Strike=285,<br>Dip=88, Slip=115; NP2: Strike=191, Dip=25, Slip=5;<br>Radiated energy 7.4*10**14 Nm. Complex earthquake, with at<br>least one event occurring about 3.5 seconds after the<br>onset. Depth based on second event.<br>Moment Tensor (GS): Dep 11; Principal axes (scale 10**19<br>Nm): (T) Val=6.33, Plg=46, Azm=25; (N) Val=0.09, Plg=3,<br>Azm=292; (P) Val=-6.42, Plg=44, Azm=199; Best double<br>couple: Mo=6.4*10**19 Nm; NP1: Strike=215, Dip=3, Slip=13;<br>NP2: Strike=112, Dip=89, Slip=93.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>20:28:39.6; Lat 18.34 N; Lon 102.58 W; Dep 40.0 Bdy; Half-<br>duration 9.4 sec; Principal axes (scale 10**19 Nm): (T)<br>Val=6.39, Plg=35, Azm=35; (N) Val=-0.66, Plg=16, Azm=294;<br>(P) Val=-5.73, Plg=51, Azm=183; Best double couple:<br>Mo=6.1*10**19 Nm; NP1: Strike=175, Dip=18, Slip=-28; NP2:<br>Strike=292, Dip=82, Slip=106.<br>Scalar Moment (PPT): Mo=7.5*10**19 Nm. |
| 11 | 20 | 28 | 53.6? | 32.60  | S | 70.36   | W | 100 | G |         | 0.3 | 9  | CHILE-ARGENTINA BORDER REGION. MD 2.9 (SAN).   |
| 11 | 20 | 48 | 04.1% | 18.101 | N | 102.996 | W | 33  | N |         | 1.2 | 8  | MICHOACAN, MEXICO  |
| 11 | 21 | 03 | 15.0% | 63.908 | N | 150.133 | W | 14  |   |         |     | 77   | CENTRAL ALASKA. <AEIC>. ML 4.2 (AEIC), 4.3 (PMR).  |
| 11 | 22 | 22 | 32.6? | 25.85  | N | 141.02  | E | 100 | G | 4.5     | 0.7 | 7  | VOLCANO ISLANDS REGION   |
| 12 | 00 | 00 | 33.8* | 11.123 | N | 125.793 | E | 33  | N | 4.3     | 0.7 | 13   | SAMAR, PHILIPPINE ISLANDS  |
| 12 | 00 | 01 | 48.3% | 36.058 | N | 117.639 | W | 1   |   |         |     | 35   | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.6 (PAS). ML<br>3.6 (GS).  |
| 12 | 00 | 04 | 55.9* | 51.515 | N | 178.598 | W | 33  | N | 3.4     | 1.1 | 20   | ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 12 | 00 | 10 | 26.8? | 18.32  | N | 102.68  | W | 33  | N | 3.8     | 1.4 | 18   | MICHOACAN, MEXICO  |
| 12 | 01 | 23 | 58.9  | 46.555 | N | 1.019   | W | 10  | G |         | 1.4 | 60   | FRANCE. ML 4.3 (STR), 4.2 (LDG). mbLg 4.0 (MDD).   |
| 12 | 01 | 28 | 26.1* | 18.049 | N | 102.424 | W | 33  | N | 4.9     | 1.1 | 29   | MICHOACAN, MEXICO  |
| 12 | 02 | 01 | 00.1? | 35.99  | N | 71.01   | E | 100 | G | 3.7     | 1.5 | 9  | PAKISTAN   |
| 12 | 02 | 50 | 13.7% | 37.198 | N | 4.190   | W | 5   | G |         | 0.5 | 5  | SPAIN. mbLg 2.2 (MDD).   |
| 12 | 03 | 28 | 48.6* | 16.979 | S | 176.595 | E | 33  | N | 4.8 4.7 | 1.5 | 21   | FIJI ISLANDS REGION  |
| 12 | 05 | 22 | 17.2% | 33.582 | S | 70.794  | W | 70  | G |         | 0.2 | 10   | CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN).   |
| 12 | 05 | 48 | 31.3  | 44.696 | N | 6.825   | E | 10  | G |         | 0.3 | 9  | FRANCE. ML 2.1 (GEN).  |
| 12 | 06 | 01 | 08.0% | 49.600 | N | 120.500 | W | 5   |   |         |     | 23   | BRITISH COLUMBIA, CANADA. <PGC-P>. ML 3.5 (PGC). MD 4.1<br>(SEA). Felt at Kelowna, Oliver, Peachland, Penticton,<br>Princeton, and Vernon.   |
| 12 | 07 | 17 | 43.6? | 3.07   | S | 78.81   | W | 100 | G | 3.7     | 1.5 | 8  | PERU-ECUADOR BORDER REGION   |
| 12 | 07 | 39 | 53.9% | 33.185 | S | 71.424  | W | 50  | G |         | 0.3 | 10   | NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).   |
| 12 | 08 | 15 | 35.7? | 27.47  | N | 140.11  | E | 456 | * |         | 0.7 | 10   | BONIN ISLANDS REGION   |
| 12 | 08 | 30 | 16.4  | 27.901 | S | 66.611  | W | 150 | G | 4.5     | 0.7 | 19   | CATAMARCA PROVINCE, ARGENTINA  |
| 12 | 08 | 31 | 36.6% | 32.676 | S | 70.501  | W | 50  | G |         | 0.7 | 10   | CHILE-ARGENTINA BORDER REGION. MD 4.4 (SAN).   |
| 12 | 08 | 32 | 56.5% | 37.383 | N | 2.109   | W | 10  | G |         | 0.9 | 18   | SPAIN. mbLg 3.5 (MDD). Felt (IV) in the epicentral area.   |
| 12 | 09 | 36 | 32.1? | 33.78  | S | 77.14   | E | 10  | G |         | 0.5 | 5  | MID-INDIAN RIDGE   |
| 12 | 10 | 14 | 02.2% | 39.161 | N | 75.192  | E | 10  | G |         | 1.2 | 9  | SOUTHERN XINJIANG, CHINA   |



|    |    |    |       |        |   |         |   |     |   |         |     |  |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|--|---|
| 12 | 10 | 29 | 11.2? | 64.81  | N | 170.66  | W | 10  | G |         | 1.1 | 13   | BERING STRAIT   |
| 12 | 10 | 48 | 30.3  | 35.936 | N | 28.699  | E | 61  | * | 4.1     | 1.1 | 53   | EASTERN MEDITERRANEAN SEA   |
| 12 | 11 | 15 | 23.4? | 39.66  | N | 21.48   | E | 33  | N |         | 1.0 | 12   | GREECE  |
| 12 | 12 | 01 | 27.2  | 9.039  | N | 83.198  | W | 10  | G |         | 0.8 | 12   | COSTA RICA. MD 4.4 (UPA).   |
| 12 | 12 | 10 | 51.3  | 40.956 | N | 19.672  | E | 10  | G | 4.8 4.7 | 1.3 | 195  | ALBANIA. ML 4.6 (ROM), 4.4 (THE). More than 70 houses damaged in the Berat District. Damage at Ora Vajgurore. Felt (VI) at Berat and Gramsh; (V) at Cerrik and Elbasan; (IV) at Kavaje, Tepelene and Vlore.   |
| 12 | 13 | 08 | 28.3? | 23.21  | N | 142.43  | E | 150 | G |         | 1.2 | 10   | VOLCANO ISLANDS REGION  |
| 12 | 13 | 31 | 32.5? | 34.088 | S | 70.493  | W | 100 | G |         | 0.2 | 11   | CHILE-ARGENTINA BORDER REGION. MD 4.1 (SAN).  |
| 12 | 14 | 32 | 05.3? | 47.42  | N | 147.21  | E | 400 | G |         | 0.8 | 7  | NORTHWEST OF KURIL ISLANDS  |
| 12 | 14 | 39 | 28.2? | 18.24  | S | 172.02  | W | 33  | N | 4.5     | 0.4 | 7  | TONGA ISLANDS REGION  |
| 12 | 15 | 00 | 41.9* | 33.332 | S | 70.413  | W | 100 | G | 3.4     | 0.4 | 12   | CHILE-ARGENTINA BORDER REGION. MD 3.9 (SAN).  |
| 12 | 15 | 02 | 18.9? | 23.87  | N | 108.33  | W | 24  | D | 5.0 4.4 | 1.3 | 13   | GULF OF CALIFORNIA  |
| 12 | 15 | 46 | 57.5* | 3.520  | S | 145.994 | E | 33  | N | 4.1     | 1.5 | 14   | NEAR N COAST OF NEW GUINEA, PNG.  |
| 12 | 16 | 03 | 48.2? | 19.39  | N | 148.10  | E | 33  | N |         | 1.1 | 11   | MARIANA ISLANDS REGION  |
| 12 | 16 | 22 | 01.7? | 36.32  | N | 141.01  | E | 33  | N |         | 1.1 | 6  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 12 | 17 | 37 | 22.0  | 35.517 | N | 23.046  | E | 33  | N | 4.1     | 1.1 | 49   | CRETE   |
| 12 | 17 | 39 | 34.0? | 15.53  | S | 174.63  | W | 33  | N | 4.6     | 1.5 | 13   | TONGA ISLANDS   |
| 12 | 17 | 43 | 37.6* | 32.008 | S | 70.398  | W | 120 | G | 3.7     | 0.4 | 12   | CHILE-ARGENTINA BORDER REGION. MD 4.1 (SAN).  |
| 12 | 18 | 35 | 41.9  | 6.501  | S | 145.972 | E | 137 |   | 3.8     | 0.8 | 16   | NEW GUINEA, PAPUA NEW GUINEA  |
| 12 | 20 | 04 | 43.1* | 35.346 | N | 77.875  | E | 33  | N | 3.9     | 1.2 | 16   | EASTERN KASHMIR   |
| 12 | 20 | 20 | 58.0  | 36.485 | N | 25.752  | E | 50  | G | 4.1     | 1.3 | 47   | DODECANESE ISLANDS  |
| 12 | 23 | 32 | 05.9? | 54.66  | N | 163.71  | W | 33  | N |         | 1.4 | 8  | UNIMAK ISLAND REGION  |
| 13 | 00 | 01 | 22.1* | 56.274 | S | 24.343  | W | 45  | D | 4.9     | 0.8 | 14   | SOUTH SANDWICH ISLANDS REGION   |
| 13 | 00 | 46 | 32.8* | 51.079 | N | 179.201 | E | 33  | N | 3.6     | 1.0 | 8  | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 13 | 01 | 00 | 17.0  | 9.103  | S | 75.069  | W | 126 | D | 5.0     | 0.9 | 91   | CENTRAL PERU  |
| 13 | 01 | 39 | 08.3* | 18.386 | S | 174.855 | W | 100 | G | 4.8     | 1.1 | 29   | TONGA ISLANDS   |
| 13 | 01 | 47 | 21.2* | 34.513 | N | 37.269  | W | 10  | G | 3.9     | 0.5 | 10   | NORTHERN MID-ATLANTIC RIDGE   |
| 13 | 02 | 24 | 10.8? | 28.65  | N | 55.96   | E | 50  | G | 3.5     | 1.4 | 10   | SOUTHERN IRAN   |
| 13 | 03 | 18 | 01.0? | 37.79  | N | 21.95   | E | 33  | N |         | 1.2 | 10   | SOUTHERN GREECE   |
| 13 | 04 | 23 | 02.6? | 36.625 | N | 71.037  | E | 50  | G |         | 0.7 | 8  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 13 | 05 | 51 | 11.3? | 63.338 | N | 149.644 | W | 102 |   |         | 70  | CENTRAL ALASKA. <AEIC>.  |   |
| 13 | 06 | 26 | 30.9* | 0.486  | N | 99.225  | E | 100 | G | 4.3     | 1.1 | 21   | NORTHERN SUMATERA, INDONESIA  |
| 13 | 06 | 43 | 50.1? | 17.98  | N | 106.45  | W | 33  | N | 4.7     | 1.2 | 17   | OFF COAST OF JALISCO, MEXICO  |
| 13 | 06 | 51 | 04.8* | 8.048  | S | 122.591 | E | 250 | G | 4.7     | 1.2 | 15   | FLORES REGION, INDONESIA  |
| 13 | 07 | 51 | 32.7? | 27.68  | N | 131.57  | E | 33  | N | 4.7     | 0.6 | 6  | SOUTHEAST OF RYUKYU ISLANDS   |
| 13 | 08 | 06 | 31.7? | 10.31  | N | 125.25  | E | 33  | N | 4.7     | 0.6 | 7  | LEYTE, PHILIPPINE ISLANDS   |
| 13 | 09 | 02 | 36.5? | 37.141 | N | 3.747   | W | 10  | G |         | 0.9 | 6  | SPAIN. mbLg 2.6 (MDD).  |
| 13 | 10 | 01 | 35.7? | 50.74  | N | 15.72   | E | 5   | G |         | 1.3 | 6  | CZECH AND SLOVAK REPUBLICS  |
| 13 | 10 | 19 | 26.1  | 34.305 | N | 32.326  | E | 33  | N | 5.3 5.4 | 1.1 | 267  | CYPRUS REGION. Mw 5.7 (GS), 5.7 (HRV). ML 5.9 (CSS). Felt strongly at Limassol and Paphos. Felt in Israel and Lebanon. Also felt at Cairo, Egypt. Moment Tensor (GS): Dep 15; Principal axes (scale 10**17 Nm): (T) Val=4.19, Plg=20, Azm=335; (N) Val=-0.43, Plg=70, Azm=164; (P) Val=-3.76, Plg=3, Azm=66; Best double couple: Mo=4.0*10**17 Nm; NP1: Strike=112, Dip=74, Slip=12; NP2: Strike=19, Dip=78, Slip=164. Centroid, Moment Tensor (HRV): Centroid origin time 10:19:28.3; Lat 34.09 N; Lon 31.74 E; Dep 33.0 Fix; Half-duration 1.8 sec; Principal axes (scale 10**17 Nm): (T) Val=3.70, Plg=2, Azm=323; (N) Val=0.56, Plg=73, Azm=227; (P) Val=-4.25, Plg=17, Azm=54; Best double couple: Mo=4.0*10**17 Nm; NP1: Strike=97, Dip=76, Slip=-11; NP2: Strike=190, Dip=79, Slip=-166. |
| 13 | 11 | 23 | 32.9? | 38.638 | N | 72.024  | E | 100 | G |         | 1.1 | 14   | TAJIKISTAN  |
| 13 | 11 | 29 | 37.6? | 33.448 | N | 116.902 | W | 14  |   |         | 19  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.6 (PAS). Felt in the Escondido area.          |   |
| 13 | 11 | 37 | 20.3  | 34.364 | N | 141.102 | E | 40  | * | 5.0     | 0.9 | 61   | OFF EAST COAST OF HONSHU, JAPAN   |
| 13 | 11 | 54 | 00.1  | 47.272 | N | 11.209  | E | 5   | G |         | 0.5 | 7  | AUSTRIA. ML 1.8 (VIE).  |
| 13 | 13 | 18 | 49.0  | 16.914 | N | 147.073 | E | 33  | N | 5.1 5.2 | 1.3 | 88   | MARIANA ISLANDS REGION. Mw 5.6 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 13:18:54.1; Lat 16.57 N; Lon 147.32 E; Dep 18.0 Bdy; Half-duration 1.6 sec; Principal axes (scale 10**17 Nm): (T) Val=2.48, Plg=58, Azm=246; (N) Val=0.37, Plg=10, Azm=352; (P) Val=-2.85, Plg=31, Azm=88; Best double couple: Mo=2.7*10**17 Nm; NP1: Strike=207, Dip=17, Slip=126; NP2: Strike=350, Dip=76, Slip=80.   |
| 13 | 13 | 42 | 41.6* | 16.973 | N | 147.207 | E | 33  | N | 4.1     | 1.0 | 22   | MARIANA ISLANDS REGION  |
| 13 | 14 | 06 | 05.8* | 16.954 | N | 147.221 | E | 33  | N | 4.1     | 1.1 | 17   | MARIANA ISLANDS REGION  |
| 13 | 14 | 54 | 38.9? | 40.287 | N | 124.390 | W | 21  |   |         | 28  | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 3.8 (GM). ML 4.1 (BRK).                 |   |
| 13 | 15 | 19 | 03.0  | 71.541 | N | 4.706   | W | 10  | G | 4.4     | 1.4 | 43   | JAN MAYEN ISLAND REGION   |
| 13 | 15 | 45 | 31.6? | 63.250 | N | 151.083 | W | 5   |   |         | 38  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC).   |   |
| 13 | 15 | 57 | 26.1? | 20.89  | S | 178.69  | W | 600 | G | 4.1     | 1.0 | 17   | FIJI ISLANDS REGION   |
| 13 | 16 | 09 | 34.8? | 33.267 | N | 116.010 | W | 4   |   |         | 23  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.5 (PAS). ML 3.7 (GS).                         |   |
| 13 | 16 | 14 | 21.2* | 36.860 | N | 71.351  | E | 150 | G | 3.2     | 0.3 | 8  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 13 | 16 | 32 | 49.0  | 43.705 | N | 127.926 | W | 10  | G | 3.8     | 0.9 | 36   | OFF COAST OF OREGON   |
| 13 | 16 | 43 | 59.6? | 33.385 | N | 116.981 | W | 9   |   |         | 21  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.9 (PAS). Felt slightly in the Escondido area. |   |
| 13 | 18 | 15 | 57.6  | 34.332 | N | 32.398  | E | 33  | N | 4.1     | 1.0 | 46   | CYPRUS REGION. ML 4.3 (JER).  |
| 13 | 18 | 53 | 05.8* | 17.186 | E | 146.914 | E | 33  | N | 3.5     | 0.9 | 11   | MARIANA ISLANDS   |
| 13 | 18 | 58 | 05.4  | 37.059 | N | 143.093 | E | 36  | D | 4.7     | 1.0 | 34   | OFF EAST COAST OF HONSHU, JAPAN   |
| 13 | 20 | 24 | 19.0? | 4.24   | N | 127.04  | E | 100 | G | 4.1     | 1.0 | 7  | TALAUD ISLANDS, INDONESIA   |
| 13 | 21 | 04 | 10.5* | 14.976 | S | 75.947  | W | 33  | N | 4.1     | 1.0 | 14   | NEAR COAST OF PERU  |
| 13 | 22 | 54 | 18.8? | 16.89  | N | 147.23  | E | 33  | N | 3.5     | 0.6 | 7  | MARIANA ISLANDS REGION  |
| 13 | 23 | 09 | 55.6? | 44.440 | N | 7.345   | E | 10  | G |         | 0.4 | 9  | NORTHERN ITALY. ML 2.0 (LDG).   |
| 13 | 23 | 33 | 15.7* | 16.954 | N | 147.210 | E | 33  | N | 4.2     | 0.9 | 18   | MARIANA ISLANDS REGION  |
| 13 | 23 | 37 | 38.2* | 30.501 | S | 178.480 | W | 250 | G | 4.8     | 1.2 | 30   | KERMADEC ISLANDS, NEW ZEALAND   |
| 13 | 23 | 55 | 56.2  | 43.973 | N | 10.679  | E | 10  | G |         | 1.3 | 35   | CENTRAL ITALY. ML 3.1 (THE), 3.0 (LDG), 2.9 (VIE).  |
| 13 | 23 | 57 | 17.3* | 45.111 | N | 151.913 | E | 33  | N | 4.8     | 1.1 | 21   | KURIL ISLANDS   |
| 14 | 00 | 02 | 26.9  | 39.587 | N | 120.142 | W | 5   | G |         | 1.0 | 16   | NORTHERN CALIFORNIA. MD 3.0 (GM).   |
| 14 | 00 | 29 | 10.0? | 32.11  | S | 70.47   | W | 100 | G |         | 0.3 | 9  | CHILE-ARGENTINA BORDER REGION   |

|   |    |    |       |        |   |         |   |     |   |         |     |     |  |
|---|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 14  | 00 | 55 | 54.18 | 31.663 | S | 67.548  | W | 33  | N | 3.9     | 1.4 | 12  | SAN JUAN PROVINCE, ARGENTINA   |
| 14  | 02 | 24 | 56.78 | 45.910 | N | 6.192   | E | 5   | G |         | 1.3 | 8   | FRANCE. ML 2.2 (LDG).  |
| 14  | 03 | 07 | 14.56 | 36.829 | N | 121.561 | W | 7   |   |         |     | 20  | CENTRAL CALIFORNIA. <GM-P>. MD 2.9 (GM).   |
| 14  | 03 | 30 | 34.2* | 34.320 | N | 32.522  | E | 33  | N | 4.0     | 1.1 | 23  | CYPRUS REGION. MD 3.9 (HLW).   |
| 14  | 03 | 40 | 49.9* | 34.472 | N | 32.347  | E | 33  | N |         | 0.4 | 7   | CYPRUS REGION. MD 3.8 (HLW).   |
| 14  | 04 | 16 | 11.8* | 29.692 | N | 70.121  | E | 10  | G | 4.1     | 1.0 | 8   | PAKISTAN   |
| 14  | 04 | 57 | 46.9* | 52.762 | N | 157.774 | E | 150 | G |         | 0.7 | 11  | KAMCHATKA  |
| 14  | 05 | 30 | 52.38 | 26.659 | N | 126.239 | E | 150 | G |         | 0.8 | 11  | RYUKYU ISLANDS   |
| 14  | 06 | 20 | 58.9  | 34.317 | N | 141.227 | E | 33  | N | 5.0     | 0.9 | 69  | OFF EAST COAST OF HONSHU, JAPAN  |
| 14  | 07 | 21 | 39.77 | 8.95   | N | 82.96   | W | 10  | G |         | 0.1 | 6   | PANAMA-COSTA RICA BORDER REGION. MD 4.1 (UPA).   |
| 14  | 08 | 13 | 00.2  | 49.333 | N | 155.660 | E | 33  | N | 5.0 4.4 | 0.9 | 112 | KURIL ISLANDS  |
| 14  | 08 | 46 | 50.5* | 17.219 | S | 69.324  | W | 100 | G | 4.3     | 1.5 | 9   | PERU-BOLIVIA BORDER REGION   |
| 14  | 09 | 15 | 26.8* | 22.182 | S | 171.552 | E | 33  | N | 5.2 4.6 | 1.3 | 53  | LOYALTY ISLANDS REGION. Mw 5.3 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 09:15:35.5; Lat 22.75 S; Lon 171.48 E; Dep 87.1; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=1.06, Plg=44, Azm=281; (N) Val=0.00, Plg=41, Azm=136; (P) Val=-1.06, Plg=18, Azm=29; Best double couple: Mo=1.1*10**17 Nm; NP1: Strike=76, Dip=45, Slip=23; NP2: Strike=330, Dip=74, Slip=133.  |    |    |       |        |   |         |   |     |   |         |     |     |  |
| 14  | 09 | 59 | 45.5? | 27.74  | N | 53.69   | E | 33  | N | 3.6     | 0.5 | 5   | SOUTHERN IRAN  |
| 14  | 11 | 07 | 03.9? | 23.24  | S | 174.75  | W | 33  | N | 4.2     | 1.2 | 10  | TONGA ISLANDS REGION   |
| 14  | 11 | 44 | 49.18 | 34.040 | S | 70.069  | W | 10  | G |         | 0.2 | 11  | CHILE-ARGENTINA BORDER REGION. MD 4.0 (SAN).   |
| 14  | 11 | 47 | 55.1  | 37.403 | N | 141.373 | E | 50  | G | 3.3     | 1.1 | 15  | NEAR EAST COAST OF HONSHU, JAPAN   |
| 14  | 12 | 21 | 40.0  | 31.466 | N | 131.825 | E | 33  | N | 3.2     | 0.5 | 7   | KYUSHU, JAPAN  |
| 14  | 12 | 42 | 36.0? | 27.44  | N | 140.02  | E | 500 | G | 2.8     | 1.2 | 7   | BONIN ISLANDS REGION   |
| 14  | 13 | 42 | 52.4* | 53.317 | N | 170.616 | E | 33  | N | 3.3     | 1.3 | 10  | NEAR ISLANDS, ALEUTIAN ISLANDS   |
| 14  | 14 | 20 | 52.4* | 20.849 | S | 178.898 | W | 600 | G | 4.3     | 0.8 | 18  | FIJI ISLANDS REGION  |
| 14  | 14 | 46 | 52.3  | 30.538 | N | 131.519 | E | 37  | D | 3.8 4.1 | 0.8 | 22  | KYUSHU, JAPAN  |
| 14  | 18 | 03 | 34.4  | 17.373 | N | 61.623  | W | 55  |   | 4.8     | 0.9 | 112 | LEEWARD ISLANDS. MD 5.4 (FDF), 5.4 (TRN). Felt (IV) on Antigua, Guadeloupe and St. Kitts; (III) on Montserrat. |
| 14  | 18 | 05 | 23.0  | 21.581 | N | 143.023 | E | 300 | G | 4.6     | 0.9 | 73  | MARIANA ISLANDS REGION   |
| 14  | 18 | 10 | 45.3? | 17.40  | N | 62.28   | W | 33  | N |         | 0.3 | 4   | LEEWARD ISLANDS. MD 2.4 (TRN).   |
| 14  | 18 | 49 | 00.2? | 35.02  | N | 121.65  | E | 39  | D | 3.9     | 1.1 | 7   | YELLOW SEA   |
| 14  | 18 | 56 | 07.3* | 5.697  | S | 133.454 | E | 33  | N | 4.2     | 1.5 | 11  | ARU ISLANDS REGION, INDONESIA  |
| 14  | 19 | 01 | 51.5? | 25.08  | S | 179.32  | E | 600 | G |         | 1.3 | 9   | SOUTH OF FIJI ISLANDS  |
| 14  | 19 | 09 | 42.98 | 40.842 | N | 4.289   | W | 10  | G |         | 1.5 | 6   | SPAIN. mblg 2.8 (MDD).   |
| 14  | 19 | 17 | 50.5  | 40.814 | N | 78.786  | E | 23  | D | 4.3     | 0.9 | 20  | SOUTHERN XINJIANG, CHINA   |
| 14  | 19 | 39 | 11.5* | 24.853 | N | 127.728 | E | 39  | D | 4.4     | 1.2 | 19  | SOUTHEAST OF RYUKYU ISLANDS  |
| 14  | 19 | 53 | 10.7* | 12.918 | N | 90.187  | W | 50  | G | 4.0     | 0.8 | 15  | OFF COAST OF CENTRAL AMERICA. MD 4.2 (SSS). Felt (II) at San Salvador, El Salvador.                            |
| 14  | 20 | 06 | 04.0  | 24.590 | N | 122.627 | E | 100 | G | 3.2     | 0.8 | 12  | TAIWAN REGION  |
| 14  | 21 | 11 | 17.2  | 12.681 | N | 143.715 | E | 33  | N | 4.9     | 1.0 | 30  | SOUTH OF MARIANA ISLANDS. Mw 5.4 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 21:11:20.9; Lat 12.58 N; Lon 143.57 E; Dep 31.5; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=1.69, Plg=74, Azm=229; (N) Val=-0.29, Plg=12, Azm=93; (P) Val=-1.40, Plg=11, Azm=1; Best double couple: Mo=1.5*10**17 Nm; NP1: Strike=76, Dip=36, Slip=69; NP2: Strike=281, Dip=57, Slip=104.   |    |    |       |        |   |         |   |     |   |         |     |     |  |
| 14  | 21 | 30 | 55.4? | 36.76  | S | 176.84  | E | 200 | G | 4.8     | 0.9 | 12  | OFF E. COAST OF N. ISLAND, N.2.  |
| 14  | 22 | 13 | 29.5* | 24.124 | N | 127.166 | E | 33  | N | 4.0     | 0.3 | 7   | SOUTHEAST OF RYUKYU ISLANDS  |
| 14  | 22 | 57 | 47.28 | 62.131 | N | 141.226 | W | 6   |   |         |     | 9   | CENTRAL ALASKA. <AEIC>. ML 3.2 (AEIC).   |
| 14  | 22 | 58 | 16.5  | 40.546 | N | 20.688  | E | 10  | G | 4.1     | 1.5 | 47  | GREECE-ALBANIA BORDER REGION. ML 3.8 (ROM), 3.5 (SKO).   |
| 15  | 01 | 03 | 36.8  | 8.997  | N | 83.120  | W | 20  | G | 3.9     | 1.2 | 15  | COSTA RICA. MD 4.5 (UPA).  |
| 15  | 01 | 10 | 41.3* | 34.001 | S | 71.278  | W | 80  | G |         | 0.2 | 11  | NEAR COAST OF CENTRAL CHILE. MD 3.7 (SAN).   |
| 15  | 01 | 26 | 20.4? | 20.78  | N | 100.94  | E | 33  | N |         | 1.5 | 5   | SOUTHEAST ASIA   |
| 15  | 01 | 26 | 28.6  | 2.828  | N | 84.345  | W | 33  | N | 5.0 4.6 | 0.8 | 58  | OFF COAST OF CENTRAL AMERICA. Mw 5.0 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 01:26:28.3; Lat 2.85 N; Lon 83.91 W; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=4.86, Plg=0, Azm=178; (N) Val=-2.23, Plg=0, Azm=88; (P) Val=-2.63, Plg=90, Azm=180; Best double couple: Mo=3.7*10**16 Nm; NP1: Strike=268, Dip=45, Slip=-90; NP2: Strike=88, Dip=45, Slip=90. |    |    |       |        |   |         |   |     |   |         |     |     |  |
| 15  | 01 | 29 | 21.1? | 3.53   | N | 84.02   | W | 33  | N | 3.5     | 0.9 | 7   | OFF COAST OF CENTRAL AMERICA   |
| 15  | 02 | 47 | 02.3  | 52.319 | N | 173.973 | W | 100 | G | 4.0     | 0.9 | 22  | ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 15  | 03 | 31 | 05.3? | 21.22  | S | 169.42  | E | 33  | N |         | 1.4 | 15  | LOYALTY ISLANDS REGION   |
| 15  | 04 | 06 | 39.7* | 15.405 | S | 75.049  | W | 50  | G | 4.0     | 1.3 | 11  | NEAR COAST OF PERU   |
| 15  | 04 | 37 | 25.2? | 10.52  | N | 61.84   | W | 5   | G |         | 0.3 | 6   | TRINIDAD. MD 3.3 (TRN).  |
| 15  | 05 | 00 | 52.7  | 34.375 | N | 32.454  | E | 33  | N | 3.8     | 0.9 | 28  | CYPRUS REGION. ML 4.2 (JER).   |
| 15  | 05 | 10 | 02.4* | 51.091 | N | 15.653  | E | 5   | G |         | 1.2 | 6   | POLAND. ML 2.5 (MOX).  |
| 15  | 05 | 35 | 09.8  | 47.726 | N | 6.979   | E | 10  | G |         | 1.1 | 50  | FRANCE. ML 3.4 (LDG), 3.4 (GRF), 3.3 (STR), 3.1 (FUR), 3.0 (VIE).  |
| 15  | 06 | 06 | 26.2* | 1.499  | N | 117.915 | E | 33  | N | 4.3     | 1.0 | 13  | BORNEO   |
| 15  | 06 | 46 | 58.58 | 60.135 | N | 153.047 | W | 152 |   |         |     | 32  | SOUTHERN ALASKA. <AEIC>.   |
| 15  | 07 | 36 | 35.8? | 1.54   | S | 24.07   | W | 10  | G | 4.2     | 1.4 | 11  | CENTRAL MID-ATLANTIC RIDGE   |
| 15  | 07 | 49 | 25.1? | 13.80  | N | 87.11   | W | 250 | G | 3.5     | 1.4 | 14  | HONDURAS   |
| 15  | 07 | 58 | 26.2? | 21.31  | S | 174.15  | W | 33  | N | 4.5     | 0.4 | 11  | TONGA ISLANDS  |
| 15  | 08 | 14 | 24.5* | 51.732 | N | 16.055  | E | 5   | G |         | 1.5 | 9   | POLAND. ML 2.6 (MOX), 2.3 (CLL).   |
| 15  | 08 | 24 | 07.08 | 33.247 | S | 70.950  | W | 70  | G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 1.9 (SAN).   |
| 15  | 11 | 06 | 41.6  | 34.305 | N | 32.273  | E | 33  | N |         | 0.3 | 13  | CYPRUS REGION. ML 4.0 (JER).   |
| 15  | 11 | 10 | 42.9? | 9.59   | S | 124.42  | E | 100 | G | 4.4     | 1.5 | 8   | TIMOR REGION, INDONESIA  |
| 15  | 11 | 59 | 55.2? | 22.33  | N | 143.80  | E | 150 | G | 3.2     | 0.9 | 5   | VOLCANO ISLANDS REGION   |
| 15  | 12 | 24 | 05.4  | 51.660 | N | 16.074  | E | 5   | G | 3.4     | 1.4 | 16  | POLAND. ML 3.6 (GRF), 3.6 (VIE), 3.2 (MOX).  |
| 15  | 12 | 53 | 20.6  | 21.641 | S | 68.296  | W | 119 | D | 4.8     | 1.0 | 34  | CHILE-BOLIVIA BORDER REGION  |
| 15  | 15 | 23 | 35.7? | 35.69  | N | 69.12   | E | 200 | G |         | 0.2 | 5   | HINDU KUSH REGION, AFGHANISTAN   |
| 15  | 15 | 28 | 11.3* | 28.980 | N | 51.953  | E | 33  | N | 4.0     | 1.0 | 17  | SOUTHERN IRAN  |
| 15  | 15 | 43 | 19.38 | 22.960 | N | 123.147 | E | 33  | N |         | 0.7 | 5   | SOUTHEAST OF TAIWAN  |
| 15  | 16 | 17 | 19.38 | 33.819 | N | 117.002 | W | 13  |   |         |     | 23  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.2 (PAS). ML 3.1 (GS). Felt at Hemet and in the Ferris Lake area.            |
| 15  | 17 | 43 | 19.4* | 12.581 | N | 125.420 | E | 33  | N | 4.7     | 0.9 | 15  | SAMAR, PHILIPPINE ISLANDS  |
| 15  | 18 | 06 | 35.88 | 59.868 | N | 151.751 | W | 48  |   |         |     | 117 | KENAI PENINSULA, ALASKA. <AEIC>. ML 4.2 (AEIC), 4.0 (PMR).   |



Felt at Anchor Point, Clam Gulch, Homer, Ninilchik and Seldovia.

|    |    |    |      |        |   |         |   |     |   |         |     |     |   |
|----|----|----|------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 15 | 18 | 54 | 34.9 | 11.531 | S | 117.940 | E | 33  | N | 4.7     | 1.1 | 23  | SOUTH OF SUMBAWA, INDONESIA   |
| 15 | 19 | 23 | 56.4 | 37.483 | N | 118.806 | W | 10  |   |         |     | 13  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.8 (GM). ML 3.0 (BRK).   |
| 15 | 19 | 25 | 07.0 | 44.72  | N | 126.13  | W | 10  | G | 2.6     | 0.5 | 15  | OFF COAST OF OREGON   |
| 15 | 19 | 31 | 04.0 | 46.424 | N | 3.366   | E | 10  | G |         | 0.5 | 5   | FRANCE. ML 2.0 (LDG).   |
| 15 | 19 | 36 | 52.2 | 17.07  | N | 147.41  | E | 33  | N |         | 0.7 | 9   | MARIANA ISLANDS REGION  |
| 15 | 20 | 16 | 09.8 | 60.163 | N | 153.110 | W | 150 |   |         |     | 50  | SOUTHERN ALASKA. <AEIC>.  |
| 15 | 20 | 24 | 54.6 | 11.142 | S | 113.328 | E | 14  |   |         | 1.1 | 10  | SOUTH OF JAWA, INDONESIA  |
| 15 | 20 | 42 | 39.7 | 14.995 | S | 75.695  | W | 33  | N | 4.4     | 0.9 | 20  | NEAR COAST OF PERU  |
| 15 | 22 | 10 | 52.8 | 2.233  | S | 85.112  | E | 10  | G | 4.8 4.3 | 0.8 | 66  | SOUTH INDIAN OCEAN  |
| 15 | 22 | 27 | 24.2 | 28.194 | N | 142.889 | E | 33  | N | 4.5     | 1.3 | 9   | BONIN ISLANDS REGION  |
| 16 | 00 | 38 | 44.9 | 22.955 | N | 123.119 | E | 33  | N |         | 1.5 | 10  | SOUTHEAST OF TAIWAN   |
| 16 | 00 | 53 | 11.1 | 31.64  | N | 85.25   | E | 50  | G |         | 0.4 | 6   | XIZANG  |
| 16 | 01 | 07 | 19.8 | 21.876 | N | 121.461 | E | 30  |   | 5.3 4.5 | 1.0 | 131 | TAIWAN REGION. Felt on Lan Yu.  |
| 16 | 01 | 26 | 45.5 | 60.938 | N | 151.495 | W | 67  |   |         |     | 55  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 16 | 01 | 27 | 50.2 | 31.518 | N | 85.050  | E | 33  | N | 4.5     | 1.2 | 37  | XIZANG  |
| 16 | 01 | 37 | 07.1 | 62.558 | N | 151.340 | W | 89  |   |         |     | 58  | CENTRAL ALASKA. <AEIC>.   |
| 16 | 02 | 44 | 44.5 | 15.82  | S | 167.10  | E | 100 | G | 4.5     | 1.4 | 18  | VANUATU ISLANDS   |
| 16 | 03 | 27 | 57.0 | 32.974 | S | 70.300  | W | 100 | G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION   |
| 16 | 03 | 41 | 20.1 | 17.224 | N | 120.507 | E | 50  | G | 3.9     | 1.5 | 14  | LUZON, PHILIPPINE ISLANDS   |
| 16 | 03 | 48 | 28.1 | 7.415  | S | 155.938 | E | 21  | D | 4.6     | 1.4 | 23  | SOLOMON ISLANDS   |
| 16 | 04 | 07 | 27.1 | 6.109  | S | 142.189 | E | 33  | N | 4.0     | 1.1 | 14  | NEW GUINEA, PAPUA NEW GUINEA  |
| 16 | 06 | 10 | 37.1 | 31.684 | N | 131.752 | E | 63  | * |         | 1.5 | 10  | KYUSHU, JAPAN   |
| 16 | 06 | 58 | 37.7 | 34.947 | N | 120.744 | W | 6   | G |         |     | 40  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.0 (PAS).   |
| 16 | 07 | 36 | 56.2 | 37.334 | N | 118.693 | W | 15  |   |         |     | 24  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.1 (GM). ML 3.1 (GS), 3.0 (BRK).   |
| 16 | 07 | 49 | 58.7 | 47.400 | N | 149.966 | E | 250 | G | 4.0     | 1.1 | 21  | NORTHWEST OF KURIL ISLANDS  |
| 16 | 08 | 13 | 11.1 | 64.47  | S | 175.47  | E | 10  | G | 4.6     | 1.4 | 12  | BALLENY ISLANDS REGION  |
| 16 | 09 | 16 | 49.7 | 44.431 | N | 148.231 | E | 50  | G | 4.9     | 1.2 | 22  | KURIL ISLANDS   |
| 16 | 09 | 45 | 47.3 | 21.576 | N | 121.283 | E | 33  | N | 4.2     | 1.0 | 26  | TAIWAN REGION   |
| 16 | 10 | 40 | 58.2 | 26.97  | S | 176.64  | W | 33  | N | 4.8     | 1.0 | 14  | SOUTH OF FIJI ISLANDS   |
| 16 | 11 | 28 | 41.7 | 1.297  | N | 121.569 | E | 33  | N | 4.4     | 0.9 | 19  | MINAHASSA PENINSULA, SULAWESI   |
| 16 | 11 | 43 | 50.4 | 33.235 | S | 71.107  | W | 60  | G |         | 0.3 | 8   | NEAR COAST OF CENTRAL CHILE   |
| 16 | 11 | 44 | 22.8 | 11.967 | S | 162.903 | E | 33  | N | 3.9     | 0.5 | 8   | SOLOMON ISLANDS   |
| 16 | 13 | 27 | 54.4 | 31.56  | S | 69.74   | W | 160 | G |         | 0.4 | 10  | SAN JUAN PROVINCE, ARGENTINA. MD 3.3 (SAN).   |
| 16 | 13 | 37 | 44.2 | 6.89   | S | 72.10   | E | 10  | G | 4.4     | 0.9 | 11  | CHAGOS ARCHIPELAGO REGION   |
| 16 | 14 | 18 | 22.2 | 32.43  | S | 72.01   | W | 10  | G |         | 0.5 | 10  | OFF COAST OF CENTRAL CHILE. MD 3.4 (SAN).   |
| 16 | 14 | 32 | 40.5 | 36.181 | N | 139.825 | E | 33  | N |         | 0.4 | 5   | EASTERN HONSHU, JAPAN   |
| 16 | 14 | 57 | 12.9 | 30.906 | N | 138.669 | E | 400 | G | 3.8     | 0.7 | 8   | SOUTH OF HONSHU, JAPAN  |
| 16 | 14 | 59 | 28.5 | 21.03  | S | 173.62  | W | 33  | N | 4.1     | 1.2 | 15  | TONGA ISLANDS   |
| 16 | 16 | 02 | 49.7 | 40.389 | N | 124.934 | W | 23  |   |         |     | 26  | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 3.4 (GM). ML 3.3 (BRK).  |
| 16 | 16 | 13 | 08.5 | 22.30  | S | 179.59  | W | 600 | G | 4.7     | 1.1 | 23  | SOUTH OF FIJI ISLANDS   |
| 16 | 16 | 42 | 01.1 | 14.058 | S | 168.210 | E | 33  | N | 4.0     | 1.0 | 18  | VANUATU ISLANDS   |
| 16 | 17 | 24 | 16.8 | 2.23   | S | 125.97  | E | 33  | N | 4.5     | 1.4 | 11  | CERAM SEA   |
| 16 | 17 | 34 | 32.0 | 9.81   | S | 161.01  | E | 100 | G | 3.7     | 1.1 | 7   | SOLOMON ISLANDS   |
| 16 | 17 | 37 | 37.7 | 7.508  | S | 156.216 | E | 33  | N | 4.6     | 1.1 | 24  | SOLOMON ISLANDS   |
| 16 | 17 | 47 | 40.4 | 7.445  | S | 156.176 | E | 33  | N | 3.9     | 1.5 | 13  | SOLOMON ISLANDS   |
| 16 | 18 | 12 | 06.5 | 45.527 | N | 6.168   | E | 5   | G |         | 0.7 | 6   | FRANCE. ML 1.7 (LDG).   |
| 16 | 19 | 26 | 21.6 | 24.65  | S | 116.49  | W | 10  | G | 4.3     | 0.6 | 9   | SOUTHERN EAST PACIFIC RISE  |
| 16 | 19 | 46 | 51.8 | 7.329  | S | 156.001 | E | 33  | N | 3.8     | 1.4 | 12  | SOLOMON ISLANDS   |
| 16 | 20 | 18 | 54.8 | 3.08   | N | 84.30   | W | 10  | G | 3.8     | 1.0 | 12  | OFF COAST OF CENTRAL AMERICA  |
| 16 | 20 | 27 | 01.2 | 36.048 | N | 139.952 | E | 33  | N |         | 0.3 | 6   | EASTERN HONSHU, JAPAN   |
| 16 | 20 | 38 | 16.4 | 6.355  | S | 130.016 | E | 33  | N | 4.0     | 1.3 | 13  | BANDA SEA   |
| 16 | 20 | 46 | 39.7 | 37.321 | N | 118.541 | W | 15  |   |         |     | 2   | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.1 (GM). ML 3.2 (BRK).   |
| 16 | 21 | 23 | 23.5 | 30.55  | S | 179.06  | E | 600 | G | 4.2     | 0.4 | 13  | KERMADEC ISLANDS REGION   |
| 16 | 21 | 41 | 07.0 | 18.098 | N | 102.675 | W | 28  | D | 5.6 4.9 | 1.0 | 172 | MICHOACAN, MEXICO. Mw 5.5 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 21:41:16.9; Lat 18.23 N; Lon 102.55 W; Dep 47.2; Half-duration 1.4 sec; Principal axes (scale 10**17 Nm): (T) Val=2.17, Plg=80, Azm=240; (N) Val=0.04, Plg=7, Azm=110; (P) Val=-2.21, Plg=8, Azm=19; Best double couple: Mo=2.2*10**17 Nm; NP1: Strike=102, Dip=38, Slip=79; NP2: Strike=295, Dip=53, Slip=98. |
| 16 | 22 | 13 | 15.5 | 61.264 | N | 150.852 | W | 49  |   |         |     | 65  | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC), 3.1 (PMR).  |
| 16 | 23 | 00 | 23.6 | 23.99  | S | 179.72  | E | 500 | G | 4.5     | 0.9 | 17  | SOUTH OF FIJI ISLANDS   |
| 16 | 23 | 29 | 07.1 | 37.86  | N | 1.09    | W | 10  | G |         | 1.4 | 5   | SPAIN. mbLg 2.9 (MDD).  |
| 16 | 23 | 34 | 34.1 | 58.37  | S | 25.75   | W | 33  | N | 4.7     | 1.1 | 15  | SOUTH SANDWICH ISLANDS REGION   |
| 16 | 23 | 37 | 44.6 | 20.25  | S | 177.88  | W | 500 | G | 4.1     | 1.2 | 16  | FIJI ISLANDS REGION   |
| 17 | 00 | 18 | 58.2 | 18.54  | N | 71.76   | W | 33  | N | 3.7     | 1.3 | 17  | DOMINICAN REPUBLIC REGION   |
| 17 | 00 | 25 | 19.1 | 22.13  | N | 144.25  | E | 150 | G | 3.2     | 1.5 | 5   | VOLCANO ISLANDS REGION  |
| 17 | 00 | 57 | 20.1 | 32.04  | S | 70.15   | W | 120 | G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.7 (SAN).  |
| 17 | 01 | 02 | 16.5 | 17.368 | S | 178.979 | W | 550 | G | 4.6     | 1.0 | 58  | FIJI ISLANDS REGION   |
| 17 | 01 | 43 | 56.2 | 13.780 | N | 120.764 | E | 200 | G |         | 0.8 | 13  | MINDORO, PHILIPPINE ISLANDS   |
| 17 | 02 | 12 | 18.0 | 4.16   | S | 151.14  | E | 33  | N | 4.1     | 1.4 | 6   | NEW BRITAIN REGION, P.N.G.  |
| 17 | 04 | 29 | 01.9 | 68.827 | N | 17.039  | W | 10  | G | 4.3     | 0.9 | 52  | ICELAND REGION  |
| 17 | 04 | 55 | 18.3 | 21.844 | N | 143.129 | E | 250 | G | 4.0     | 0.8 | 17  | MARIANA ISLANDS REGION  |
| 17 | 05 | 00 | 49.7 | 22.090 | S | 179.615 | W | 550 | G | 4.8     | 1.0 | 27  | SOUTH OF FIJI ISLANDS   |
| 17 | 05 | 13 | 39.8 | 36.517 | N | 71.032  | E | 250 | G | 3.5     | 0.5 | 13  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 17 | 05 | 52 | 04.7 | 39.640 | N | 120.033 | W | 5   | G |         | 0.5 | 17  | NORTHERN CALIFORNIA. ML 3.0 (GS). MD 2.8 (GM).  |
| 17 | 07 | 03 | 21.8 | 1.06   | S | 149.75  | E | 33  | N |         | 1.6 | 5   | NEW IRELAND REGION, P.N.G.  |
| 17 | 09 | 18 | 26.3 | 2.08   | S | 133.54  | E | 33  | N |         | 1.6 | 5   | IRIAN JAYA REGION, INDONESIA  |
| 17 | 09 | 30 | 53.5 | 7.677  | N | 36.759  | W | 10  | G | 4.1     | 0.7 | 12  | CENTRAL MID-ATLANTIC RIDGE  |
| 17 | 10 | 38 | 55.4 | 1.704  | S | 123.984 | E | 33  | N | 4.4     | 1.4 | 17  | SULAWESI, INDONESIA   |
| 17 | 10 | 49 | 01.1 | 32.80  | S | 179.16  | E | 400 | G | 4.0     | 0.9 | 13  | SOUTH OF KERMADEC ISLANDS   |
| 17 | 11 | 06 | 31.3 | 2.642  | S | 128.833 | E | 37  | * | 4.4     | 1.5 | 28  | CERAM SEA   |
| 17 | 11 | 16 | 16.6 | 6.426  | S | 154.665 | E | 100 | G | 3.8     | 1.2 | 8   | SOLOMON ISLANDS   |
| 17 | 11 | 20 | 22.0 | 8.899  | S | 123.542 | E | 111 | D | 6.2     | 1.0 | 292 | FLORES REGION, INDONESIA. Mw 6.2 (GS), 6.2 (HRV). Me 6.0 (GS). Felt (IV) at Waingapu. Broadband Source Parameters (GS): Dep 105; NP1: Strike=70,  |

Dip=86, Slip=120; NP2: Strike=167, Dip=30, Slip=8; Radiated energy 2.1\*10\*\*13 Nm.

Moment Tensor (GS): Dep 111; Principal axes (scale 10\*\*18 Nm): (T) Val=-2.20, Plg=41, Azm=345; (N) Val=0.00, Plg=18, Azm=239; (P) Val=-2.20, Plg=44, Azm=131; Best double couple: Mo=2.2\*10\*\*18 Nm; NP1: Strike=143, Dip=18, Slip=-6; NP2: Strike=239, Dip=88, Slip=-108.

Centroid, Moment Tensor (HRV): Centroid origin time 11:20:28.0; Lat 8.88 S; Lon 123.72 E; Dep 113.3; Half-duration 3.1 sec; Principal axes (scale 10\*\*18 Nm): (T) Val=-1.86, Plg=44, Azm=336; (N) Val=0.29, Plg=6, Azm=240; (P) Val=-2.15, Plg=45, Azm=143; Best double couple: Mo=2.0\*10\*\*18 Nm; NP1: Strike=143, Dip=6, Slip=-7; NP2: Strike=240, Dip=89, Slip=-96.

17 11 35 49.9% 11.008 N 61.825 W 50 G 0.3 9 WINDWARD ISLANDS. MD 3.6 (TRN). Felt (II) on Trinidad.

17 12 05 01.6\* 10.635 S 112.026 E 33 N 4.0 0.4 6 SOUTH OF JAWA, INDONESIA

17 13 14 02.7% 18.449 N 67.443 W 10 G 0.4 8 MONA PASSAGE. MD 3.2 (MPR).

17 13 20 49.3? 21.89 N 143.50 E 150 G 1.2 7 MARIANA ISLANDS REGION

17 13 52 41.8? 17.28 S 178.89 W 500 G 4.6 1.2 20 FIJI ISLANDS REGION

17 13 55 44.1\* 30.230 S 72.509 W 50 G 4.5 0.7 14 OFF COAST OF CENTRAL CHILE. MD 4.7 (SAN).

17 14 59 31.1? 44.53 N 113.89 W 5 G 0.2 7 EASTERN IDAHO. MD 3.4 (BUT).

17 15 37 06.6 28.745 N 130.023 E 33 N 5.2 1.1 140 RYUKYU ISLANDS

17 15 53 13.4 28.814 N 129.953 E 33 N 5.9 6.3 1.0 327 RYUKYU ISLANDS. Mw 6.3 (HRV), 6.2 (GS). Me 5.8 (GS). Broadband Source Parameters (GS): Dep 24; NP1: Strike=30, Dip=88, Slip=70; NP2: Strike=295, Dip=20, Slip=174; Radiated energy 1.3\*10\*\*13 Nm.

Moment Tensor (GS): Dep 6; Principal axes (scale 10\*\*18 Nm): (T) Val=-2.82, Plg=48, Azm=280; (N) Val=-0.75, Plg=7, Azm=18; (P) Val=-2.07, Plg=42, Azm=115; Best double couple: Mo=2.4\*10\*\*18 Nm; NP1: Strike=266, Dip=8, Slip=157; NP2: Strike=18, Dip=87, Slip=83.

Centroid, Moment Tensor (HRV): Centroid origin time 15:53:17.1; Lat 28.76 N; Lon 129.83 E; Dep 15.0 Fix; Half-duration 3.1 sec; Principal axes (scale 10\*\*18 Nm): (T) Val=-2.62, Plg=48, Azm=290; (N) Val=0.23, Plg=7, Azm=28; (P) Val=-2.84, Plg=41, Azm=124; Best double couple: Mo=2.7\*10\*\*18 Nm; NP1: Strike=272, Dip=8, Slip=154; NP2: Strike=28, Dip=86, Slip=83.

17 16 11 43.1\* 28.369 N 130.274 E 33 N 3.3 1.2 12 RYUKYU ISLANDS

17 16 18 41.5% 43.969 N 7.963 E 10 G 0.3 6 NEAR SOUTH COAST OF FRANCE. ML 2.1 (LDG).

17 17 52 55.5% 22.099 N 120.526 E 33 N 0.1 5 TAIWAN

17 17 53 18.7% 45.961 N 6.243 E 10 G 1.2 9 FRANCE. ML 2.3 (LDG).

17 18 00 36.6? 12.56 N 87.96 W 100 G 3.2 1.5 5 NEAR COAST OF NICARAGUA

17 18 18 55.5\* 28.249 N 139.730 E 420 4.2 0.9 25 BONIN ISLANDS REGION

17 20 58 39.1\* 2.806 S 140.579 E 33 N 4.4 1.5 14 NEAR NORTH COAST OF IRIAN JAYA

17 21 10 41.1 0.965 N 27.622 W 10 G 4.8 0.8 71 CENTRAL MID-ATLANTIC RIDGE

17 21 13 28.1\* 0.947 N 27.652 W 10 G 4.4 1.3 14 CENTRAL MID-ATLANTIC RIDGE

17 21 14 15.8 0.908 N 27.653 W 10 G 4.9 4.3 0.8 123 CENTRAL MID-ATLANTIC RIDGE

17 21 39 50.0 38.036 N 20.455 E 10 G 1.1 28 GREECE. ML 4.1 (ROM).

17 21 45 03.4\* 51.595 N 16.149 E 5 G 0.5 6 POLAND. ML 2.5 (MOX), 2.1 (CLL).

17 21 57 29.1\* 17.703 S 178.491 W 550 G 4.5 1.0 19 FIJI ISLANDS REGION

17 22 32 11.5 24.308 S 67.097 W 167 \* 4.5 0.9 28 CHILE-ARGENTINA BORDER REGION

17 22 42 12.6% 61.211 N 150.409 W 55 2.4 62 SOUTHERN ALASKA. <AEIC>. ML 2.7 (AEIC).

17 22 57 37.5 50.176 N 12.378 E 10 G 0.8 14 GERMANY. ML 3.3 (STR), 3.0 (FUR).

17 22 57 51.0\* 14.812 S 167.318 E 150 G 4.7 1.1 77 VANUATU ISLANDS

17 22 58 57.8\* 6.966 N 72.888 W 150 G 4.5 1.2 26 NORTHERN COLOMBIA

17 23 22 50.5? 38.58 S 78.87 E 10 G 4.7 1.5 19 MID-INDIAN RIDGE

17 23 24 09.8\* 47.416 S 13.451 W 10 G 5.4 5.7 1.4 85 SOUTHERN MID-ATLANTIC RIDGE. Mw 5.8 (HRV), 5.6 (GS).

Moment Tensor (GS): Dep 5; Principal axes (scale 10\*\*17 Nm): (T) Val=-3.15, Plg=1, Azm=267; (N) Val=0.26, Plg=0, Azm=177; (P) Val=-3.41, Plg=89, Azm=75; Best double couple: Mo=3.3\*10\*\*17 Nm; NP1: Strike=357, Dip=44, Slip=90; NP2: Strike=177, Dip=46, Slip=90.

Centroid, Moment Tensor (HRV): Centroid origin time 23:24:16.2; Lat 47.37 S; Lon 12.99 W; Dep 15.0 Fix; Half-duration 1.8 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=5.08, Plg=6, Azm=262; (N) Val=-0.37, Plg=7, Azm=171; (P) Val=-4.72, Plg=81, Azm=29; Best double couple: Mo=4.9\*10\*\*17 Nm; NP1: Strike=0, Dip=40, Slip=-78; NP2: Strike=165, Dip=51, Slip=-100.

17 23 25 39.1\* 50.232 N 12.397 E 10 G 0.4 5 GERMANY

17 23 40 52.4\* 23.944 S 66.607 W 200 G 0.8 9 JUJUY PROVINCE, ARGENTINA

18 00 04 51.9% 11.043 N 61.770 W 33 N 0.5 7 WINDWARD ISLANDS. MD 3.2 (TRN).

18 00 11 30.7% 34.158 N 116.424 W 1 19 SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS). ML 3.1 (GS). Felt at Yucca Valley.

18 00 44 08.5% 34.355 N 118.740 W 17 33 SOUTHERN CALIFORNIA. <PAS-P>. MD 3.0 (PAS). ML 3.0 (GS). Felt in Simi Valley.

18 01 31 58.2\* 5.198 S 151.272 E 108 \* 4.4 0.8 18 NEW BRITAIN REGION, P.N.G.

18 02 09 45.4? 23.89 S 179.72 E 500 G 3.8 0.3 7 SOUTH OF FIJI ISLANDS

18 02 31 10.8? 44.88 N 147.06 E 66 ? 3.8 1.3 14 KURIL ISLANDS

18 02 39 14.7 54.094 N 158.119 W 33 N 4.4 1.1 56 SOUTH OF ALASKA. ML 4.3 (PMR).

18 02 54 01.0? 36.38 N 70.68 E 244 ? 0.7 9 HINDU KUSH REGION, AFGHANISTAN

18 03 14 36.4\* 11.002 S 161.913 E 33 N 3.9 0.8 6 SOLOMON ISLANDS

18 04 06 42.0 5.848 N 126.252 E 135 5.1 1.0 88 MINDANAO, PHILIPPINE ISLANDS

18 04 11 12.2 34.307 N 32.389 E 33 N 4.1 1.0 38 CYPRUS REGION. ML 4.3 (JER).

18 04 41 49.8? 34.89 S 179.28 W 33 N 4.2 0.4 7 SOUTH OF KERMADEC ISLANDS

18 05 01 32.6? 71.24 S 96.18 W 30 D 4.5 0.9 11 SOUTHERN PACIFIC OCEAN

18 05 34 14.7 50.226 N 12.510 E 10 G 1.2 6 GERMANY

18 06 00 05.2? 34.02 S 72.22 W 10 G 0.7 10 NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).

18 06 38 52.6\* 30.811 S 76.279 E 10 G 4.6 0.6 12 MID-INDIAN RIDGE

18 07 17 07.1? 10.85 N 61.89 W 10 G 0.2 5 TRINIDAD. MD 3.1 (TRN).

18 07 18 00.7% 10.402 N 61.416 W 33 N 0.2 6 TRINIDAD. MD 3.5 (TRN). Felt (II) on Trinidad.

18 07 38 27.3 36.527 N 71.385 E 93 D 4.4 0.8 46 AFGHANISTAN-TAJIKISTAN BORD REG.

| Year | Month | Day | Time  | Lat      | Long      | Depth        | Magnitude | Location | Notes  |
|------|-------|-----|-------|----------|-----------|--------------|-----------|----------|--|
| 18   | 08    | 04  | 09.0  | 4.045 N  | 126.382 E | 33 N 5.0     | 1.0       | 65       | TALAUD ISLANDS, INDONESIA. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 08:04:17.0; Lat 4.22 N; Lon 126.71 E; Dep 33.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**17 Nm): (T) Val=0.99, Plg=30, Azm=219; (N) Val=0.33, Plg=11, Azm=315; (P) Val=-1.32, Plg=58, Azm=63; Best double couple: Mo=1.2*10**17 Nm; NP1: Strike=278, Dip=18, Slip=-128; NP2: Strike=138, Dip=76, Slip=-79.   |
| 18   | 08    | 09  | 49.7  | 4.887 S  | 150.709 E | 307 4.8      | 1.0       | 32       | NEW BRITAIN REGION, P.N.G.   |
| 18   | 09    | 24  | 16.7? | 22.37 S  | 170.49 E  | 33 N 4.3     | 1.1       | 16       | LOYALTY ISLANDS REGION   |
| 18   | 09    | 54  | 42.7  | 31.485 S | 66.730 W  | 135 4.5      | 0.6       | 20       | LA RIOJA PROVINCE, ARGENTINA   |
| 18   | 11    | 43  | 44.7  | 62.388 N | 149.390 W | 60           |           | 74       | CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC), 2.8 (PMR).  |
| 18   | 12    | 59  | 40.0* | 5.488 S  | 150.767 E | 150 G        | 1.1       | 8        | NEW BRITAIN REGION, P.N.G.   |
| 18   | 13    | 04  | 30.5  | 60.246 N | 152.665 W | 96           |           | 79       | SOUTHERN ALASKA. <AEIC>.   |
| 18   | 13    | 08  | 49.8  | 36.401 N | 25.594 E  | 33 N 4.0     | 1.4       | 30       | DODECANESE ISLANDS   |
| 18   | 13    | 20  | 16.8? | 29.10 N  | 51.28 E   | 33 N         | 1.4       | 9        | SOUTHERN IRAN  |
| 18   | 13    | 55  | 07.4? | 46.06 N  | 7.28 E    | 10 G         | 1.1       | 6        | SWITZERLAND. ML 2.4 (LDG).   |
| 18   | 14    | 19  | 10.1? | 7.57 N   | 72.96 W   | 150 G 3.9    | 0.9       | 7        | NORTHERN COLOMBIA  |
| 18   | 15    | 42  | 19.6? | 35.97 N  | 141.32 E  | 10 G         | 0.9       | 6        | NEAR EAST COAST OF HONSHU, JAPAN   |
| 18   | 16    | 03  | 22.8  | 46.417 N | 10.301 E  | 10 G         | 1.0       | 29       | NORTHERN ITALY. ML 3.1 (STR), 2.6 (LDG), 2.3 (VIE).  |
| 18   | 16    | 27  | 51.5  | 38.861 N | 70.518 E  | 33 N 4.6     | 0.9       | 34       | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 18   | 16    | 51  | 26.2  | 62.701 N | 148.308 W | 51           |           | 86       | CENTRAL ALASKA. <AEIC>. ML 3.3 (AEIC), 3.2 (PMR).  |
| 18   | 16    | 56  | 25.9* | 11.844 N | 61.086 W  | 90 * 3.3     | 1.3       | 10       | WINDWARD ISLANDS. MD 3.3 (TRN).  |
| 18   | 17    | 13  | 50.6  | 24.179 N | 122.668 E | 56 5.0 4.9   | 0.9       | 90       | TAIWAN REGION. Felt along the northeast coast of Taiwan.   |
| 18   | 18    | 19  | 46.6* | 46.215 N | 13.011 E  | 10 G         | 1.0       | 15       | AUSTRIA. ML 2.7 (VIE).   |
| 18   | 18    | 20  | 35.1* | 25.219 S | 179.415 W | 500 G 4.7    | 0.9       | 29       | SOUTH OF FIJI ISLANDS  |
| 18   | 18    | 24  | 21.8  | 5.215 N  | 124.602 E | 395 4.5      | 1.1       | 67       | MINDANAO, PHILIPPINE ISLANDS   |
| 18   | 18    | 57  | 27.6* | 58.607 N | 145.283 W | 10 G         | 1.3       | 20       | GULF OF ALASKA. ML 2.6 (AEIC).   |
| 18   | 19    | 08  | 56.4* | 15.076 S | 167.708 E | 33 N 4.5     | 0.9       | 24       | VANUATU ISLANDS  |
| 18   | 19    | 26  | 34.5* | 17.057 N | 147.280 E | 33 N 4.5     | 0.9       | 11       | MARIANA ISLANDS REGION   |
| 18   | 19    | 45  | 19.6  | 12.090 N | 93.685 E  | 27 D 4.7     | 1.3       | 39       | ANDAMAN ISLANDS, INDIA   |
| 18   | 19    | 47  | 40.3  | 46.476 N | 12.939 E  | 10 G         | 1.1       | 24       | NORTHERN ITALY. ML 3.4 (LDG), 3.2 (VIE), 2.8 (FUR).  |
| 18   | 20    | 49  | 55.7* | 17.363 S | 68.839 W  | 196 3.4      | 0.3       | 9        | CENTRAL BOLIVIA  |
| 18   | 21    | 24  | 37.0  | 38.339 N | 133.853 E | 450 4.2      | 1.1       | 27       | SEA OF JAPAN   |
| 18   | 21    | 26  | 33.8? | 0.95 S   | 137.33 E  | 33 N 4.0     | 0.6       | 8        | IRIAN JAYA REGION, INDONESIA   |
| 18   | 22    | 04  | 39.0  | 39.100 N | 105.100 W | 5 G 3.3      |           | 10       | COLORADO. <MACRO>. ML 2.8 (GS). Felt in the Woodland Park area. Felt in El Paso and Teller Counties.   |
| 18   | 22    | 11  | 02.4  | 59.158 N | 144.966 W | 10 G         | 0.9       | 30       | GULF OF ALASKA. ML 2.4 (AEIC).   |
| 18   | 22    | 31  | 49.8? | 18.04 N  | 145.31 E  | 400 G 3.0    | 1.0       | 8        | MARIANA ISLANDS  |
| 18   | 22    | 40  | 36.7* | 19.503 N | 39.084 E  | 10 G         | 1.0       | 13       | RED SEA  |
| 18   | 22    | 48  | 42.8* | 7.032 S  | 125.274 E | 550 4.9      | 1.1       | 27       | BANDA SEA  |
| 18   | 22    | 54  | 37.4  | 42.392 N | 142.018 E | 139 3.9      | 0.8       | 24       | HOKKAIDO, JAPAN REGION   |
| 18   | 23    | 07  | 56.8? | 9.25 N   | 126.37 E  | 33 N         | 0.7       | 8        | MINDANAO, PHILIPPINE ISLANDS   |
| 18   | 23    | 18  | 39.2? | 17.05 S  | 174.07 W  | 33 N 4.5     | 1.0       | 10       | TONGA ISLANDS  |
| 18   | 23    | 22  | 39.5* | 38.459 N | 68.430 E  | 33 N 3.3     | 1.5       | 16       | TAJIKISTAN   |
| 18   | 23    | 40  | 49.7* | 19.535 N | 38.894 E  | 10 G         | 1.2       | 8        | RED SEA  |
| 18   | 23    | 52  | 43.0? | 3.25 S   | 147.35 E  | 33 N 3.6     | 0.8       | 6        | BISMARCK SEA   |
| 18   | 23    | 59  | 09.7  | 30.272 N | 96.787 E  | 33 N 4.7     | 1.1       | 27       | XIZANG   |
| 19   | 00    | 02  | 29.5  | 30.338 N | 96.882 E  | 33 N 3.9     | 0.8       | 16       | XIZANG   |
| 19   | 00    | 35  | 04.6* | 35.551 N | 78.461 E  | 33 N         | 0.8       | 10       | EASTERN KASHMIR  |
| 19   | 01    | 03  | 03.9  | 60.425 N | 152.935 W | 153          |           | 42       | SOUTHERN ALASKA. <AEIC>.   |
| 19   | 01    | 26  | 04.9  | 43.771 N | 11.769 E  | 10 G         | 0.8       | 18       | CENTRAL ITALY. ML 3.0 (LDG).   |
| 19   | 02    | 27  | 13.6  | 5.028 S  | 108.403 E | 651 D 5.1    | 1.2       | 145      | JAVA SEA. Mw 5.5 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 02:27:16.1; Lat 5.13 S; Lon 108.42 E; Dep 647.3; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.30, Plg=2, Azm=50; (N) Val=0.78, Plg=19, Azm=140; (P) Val=-2.08, Plg=71, Azm=314; Best double couple: Mo=1.7*10**17 Nm; NP1: Strike=121, Dip=46, Slip=-117; NP2: Strike=337, Dip=50, Slip=-65.  |
| 19   | 02    | 54  | 51.0* | 30.120 S | 71.721 W  | 33 N         | 1.0       | 16       | NEAR COAST OF CENTRAL CHILE. MD 4.6 (SAN).   |
| 19   | 03    | 50  | 59.2  | 59.157 N | 144.982 W | 10 G 2.9     | 0.8       | 35       | GULF OF ALASKA. ML 3.0 (AEIC).   |
| 19   | 03    | 56  | 56.3  | 39.100 N | 105.100 W | 5 G 2.9      |           | 7        | COLORADO. <MACRO>. ML 2.6 (GS). Felt in the Woodland Park area. Felt in El Paso and Teller Counties.   |
| 19   | 04    | 33  | 22.3  | 19.981 N | 121.419 E | 33 N 5.7 5.4 | 1.0       | 267      | PHILIPPINE ISLANDS REGION. Mw 5.9 (HRV), 5.8 (GS). Me 5.6 (GS).<br>Broadband Source Parameters (GS): Dep 15; NP1: Strike=220, Dip=70, Slip=120; NP2: Strike=341, Dip=36, Slip=36; Radiated energy 5.1*10**12 Nm.<br>Moment Tensor (GS): Dep 8; Principal axes (scale 10**17 Nm): (T) Val=6.11, Plg=55, Azm=147; (N) Val=0.42, Plg=14, Azm=36; (P) Val=-6.53, Plg=31, Azm=298; Best double couple: Mo=6.3*10**17 Nm; NP1: Strike=351, Dip=19, Slip=43; NP2: Strike=219, Dip=77, Slip=104.<br>Centroid, Moment Tensor (HRV): Centroid origin time 04:33:22.8; Lat 19.99 N; Lon 121.10 E; Dep 19.0 Bdy; Half-duration 2.2 sec; Principal axes (scale 10**17 Nm): (T) Val=7.11, Plg=64, Azm=147; (N) Val=-0.05, Plg=13, Azm=28; (P) Val=-7.06, Plg=22, Azm=292; Best double couple: Mo=7.1*10**17 Nm; NP1: Strike=358, Dip=26, Slip=58; NP2: Strike=213, Dip=68, Slip=104. |
| 19   | 04    | 36  | 15.0  | 39.100 N | 105.100 W | 5 G          |           | 9        | COLORADO. <MACRO>. ML 2.7 (GS). Felt in the Woodland Park area. Felt in El Paso and Teller Counties.   |
| 19   | 04    | 53  | 37.0? | 34.10 S  | 71.58 W   | 250 G        | 0.5       | 9        | NEAR COAST OF CENTRAL CHILE  |
| 19   | 04    | 55  | 22.3* | 28.800 N | 130.046 E | 33 N 3.8     | 1.1       | 11       | RYUKYU ISLANDS   |
| 19   | 05    | 32  | 12.1  | 51.510 N | 178.224 W | 33 N 5.2 5.1 | 1.0       | 265      | ANDREANOF ISLANDS, ALEUTIAN IS. Mw 5.7 (HRV). ML 5.7 (PMR). Felt on Adak.<br>Centroid, Moment Tensor (HRV): Centroid origin time 05:32:15.1; Lat 51.51 N; Lon 177.79 W; Dep 41.0 Bdy; Half-duration 1.7 sec; Principal axes (scale 10**17 Nm): (T) Val=3.83, Plg=65, Azm=307; (N) Val=-0.04, Plg=9, Azm=57; (P) Val=-3.79, Plg=23, Azm=151; Best double couple: Mo=3.8*10**17 Nm; NP1: Strike=259, Dip=23, Slip=114; NP2:  |



Strike=53, Dip=69, Slip=80.

|   |    |    |       |          |           |       |         |     |     |   |
|---|----|----|-------|----------|-----------|-------|---------|-----|-----|---|
| 19  | 06 | 21 | 32.6* | 20.799 S | 70.533 W  | 33 N  | 3.8     | 1.2 | 16  | NEAR COAST OF NORTHERN CHILE  |
| 19  | 06 | 57 | 54.8* | 19.307 S | 175.309 W | 64 D  | 5.0     | 1.0 | 33  | TONGA ISLANDS   |
| 19  | 07 | 08 | 24.6  | 36.168 N | 7.411 E   | 10 G  | 4.3     | 1.3 | 47  | NORTHERN ALGERIA  |
| 19  | 07 | 30 | 01.2* | 45.303 N | 5.067 E   | 10 G  |         | 0.9 | 9   | FRANCE. ML 1.9 (LDG).   |
| 19  | 08 | 25 | 14.3* | 20.443 S | 178.322 W | 600 G | 4.5     | 1.0 | 27  | FIJI ISLANDS REGION   |
| 19  | 09 | 32 | 45.7* | 30.112 S | 72.736 W  | 33 N  | 3.8     | 0.2 | 11  | OFF COAST OF CENTRAL CHILE. MD 4.5 (SAN).   |
| 19  | 09 | 33 | 11.0* | 31.767 N | 130.956 E | 10 G  | 3.4     | 1.4 | 10  | KYUSHU, JAPAN   |
| 19  | 09 | 34 | 01.9* | 71.516 N | 7.685 W   | 10 G  |         | 0.3 | 6   | JAN MAYEN ISLAND REGION   |
| 19  | 09 | 40 | 20.4* | 33.265 S | 70.937 W  | 70 G  |         | 0.2 | 11  | CHILE-ARGENTINA BORDER REGION. MD 3.9 (SAN).  |
| 19  | 10 | 30 | 02.1  | 5.581 S  | 129.964 E | 30 D  | 5.0 4.4 | 1.1 | 43  | BANDA SEA. Mw 5.4 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 10:30:05.2; Lat 5.61 S; Lon 130.18 E; Dep 19.6; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.26, Plg=28, Azm=292; (N) Val=-0.06, Plg=47, Azm=167; (P) Val=-1.20, Plg=29, Azm=40; Best double couple: Mo=1.2*10**17 Nm; NPl: Strike=76, Dip=47, Slip=-1; NP2: Strike=166, Dip=90, Slip=-137.  |    |    |       |          |           |       |         |     |     |   |
| 19  | 10 | 30 | 54.2* | 44.824 N | 6.706 E   | 10 G  |         | 0.6 | 8   | FRANCE. ML 2.3 (LDG).   |
| 19  | 10 | 36 | 57.5* | 52.206 N | 170.774 W | 33 N  | 3.3     | 1.1 | 9   | FOX ISLANDS, ALEUTIAN ISLANDS   |
| 19  | 10 | 54 | 12.3  | 17.287 S | 178.897 W | 500 G | 4.5     | 0.9 | 66  | FIJI ISLANDS REGION   |
| 19  | 11 | 14 | 28.9* | 9.574 S  | 120.622 E | 33 N  | 4.1     | 0.7 | 7   | SUMBA REGION, INDONESIA. Felt (III) at Waingapu.  |
| 19  | 11 | 15 | 39.8* | 6.28 N   | 73.15 W   | 150 G | 3.8     | 1.0 | 7   | NORTHERN COLOMBIA   |
| 19  | 12 | 00 | 28.1* | 38.685 N | 7.646 W   | 10 G  |         | 0.5 | 12  | PORTUGAL. mbLg 3.6 (MDD). Felt (IV) at Arraiolos.   |
| 19  | 12 | 44 | 49.2* | 19.986 N | 70.819 W  | 33 N  | 3.6     | 1.2 | 10  | DOMINICAN REPUBLIC REGION   |
| 19  | 12 | 47 | 45.2* | 36.68 N  | 2.85 W    | 10 G  |         | 0.4 | 4   | STRAIT OF GIBRALTAR. mbLg 2.7 (MDD).  |
| 19  | 12 | 48 | 18.7* | 43.899 N | 7.084 E   | 10 G  |         | 0.9 | 6   | NEAR SOUTH COAST OF FRANCE. ML 2.0 (LDG).   |
| 19  | 13 | 00 | 15.8* | 36.490 N | 71.057 E  | 234 * | 3.2     | 0.7 | 12  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 19  | 13 | 02 | 45.0* | 36.20 N  | 141.09 E  | 33 N  |         | 0.6 | 5   | NEAR EAST COAST OF HONSHU, JAPAN  |
| 19  | 13 | 59 | 14.8* | 46.820 N | 2.288 W   | 10 G  |         | 1.0 | 7   | BAY OF BISCAY. ML 2.2 (LDG).  |
| 19  | 13 | 59 | 24.4* | 33.728 N | 74.993 E  | 33 N  | 3.1     | 0.7 | 10  | SOUTHWESTERN KASHMIR  |
| 19  | 14 | 38 | 24.7* | 32.777 N | 76.182 E  | 72 ?  | 3.6     | 0.9 | 12  | KASHMIR-INDIA BORDER REGION   |
| 19  | 14 | 53 | 17.1  | 21.073 S | 178.969 W | 600 G | 4.7     | 0.9 | 50  | FIJI ISLANDS REGION   |
| 19  | 14 | 56 | 19.8* | 37.874 S | 178.659 E | 100 G | 4.6     | 1.1 | 30  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 19  | 15 | 44 | 29.2* | 14.168 N | 121.022 E | 33 N  |         | 0.6 | 6   | LUZON, PHILIPPINE ISLANDS   |
| 19  | 16 | 53 | 52.3* | 20.975 S | 174.156 W | 33 N  | 4.8     | 1.3 | 31  | TONGA ISLANDS   |
| 19  | 17 | 42 | 56.8* | 37.106 N | 135.096 E | 383   |         | 0.5 | 9   | SEA OF JAPAN  |
| 19  | 18 | 19 | 22.5* | 11.987 S | 165.953 E | 45 D  | 4.3     | 1.1 | 24  | SANTA CRUZ ISLANDS  |
| 19  | 19 | 06 | 13.8* | 29.446 N | 51.836 E  | 33 N  | 3.6     | 1.3 | 15  | SOUTHERN IRAN   |
| 19  | 19 | 42 | 38.4  | 40.817 N | 19.665 E  | 10 G  | 4.8     | 1.3 | 166 | ALBANIA. Felt (IV) in the Bitola-Resen area and (III) at Skopje, former Yugoslav Republic of Macedonia. |
| 19  | 20 | 21 | 55.2* | 4.869 N  | 125.199 E | 33 N  | 4.3     | 0.9 | 11  | TALAUD ISLANDS, INDONESIA   |
| 19  | 20 | 36 | 11.2* | 37.619 N | 20.528 E  | 33 N  |         | 0.9 | 13  | IONIAN SEA  |
| 19  | 20 | 43 | 21.9  | 13.087 S | 77.043 W  | 47 D  | 4.6     | 0.8 | 24  | OFF COAST OF PERU   |
| 19  | 21 | 01 | 40.2* | 27.985 N | 139.644 E | 526 * | 4.1     | 0.7 | 9   | BONIN ISLANDS REGION  |
| 19  | 21 | 08 | 22.5* | 21.72 S  | 179.38 W  | 500 G | 4.0     | 0.9 | 12  | FIJI ISLANDS REGION   |
| 19  | 21 | 09 | 08.5* | 36.152 N | 69.386 E  | 122 D | 4.2     | 1.0 | 18  | HINDU KUSH REGION, AFGHANISTAN  |
| 19  | 21 | 15 | 15.8* | 71.839 N | 0.956 E   | 10 G  | 3.0     | 1.2 | 13  | NORWEGIAN SEA   |
| 19  | 21 | 29 | 46.6  | 23.181 S | 66.325 W  | 215 * | 4.3     | 1.0 | 24  | JUJUY PROVINCE, ARGENTINA   |
| 19  | 21 | 49 | 27.0  | 11.974 S | 166.217 E | 33 N  | 4.9 4.9 | 1.1 | 58  | SANTA CRUZ ISLANDS. Mw 5.4 (HRV).   |
| Centroid, Moment Tensor (HRV): Centroid origin time 21:49:30.8; Lat 12.02 S; Lon 165.76 E; Dep 15.0 Fix; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.45, Plg=70, Azm=341; (N) Val=0.02, Plg=20, Azm=169; (P) Val=-1.47, Plg=3, Azm=78; Best double couple: Mo=1.5*10**17 Nm; NPl: Strike=149, Dip=46, Slip=62; NP2: Strike=7, Dip=51, Slip=116. |    |    |       |          |           |       |         |     |     |   |
| 19  | 23 | 08 | 22.5* | 12.074 S | 166.191 E | 33 N  | 4.4     | 1.1 | 21  | SANTA CRUZ ISLANDS  |
| 19  | 23 | 15 | 57.8* | 43.075 N | 0.112 E   | 10 G  |         | 0.8 | 6   | FRANCE. ML 2.5 (LDG).   |
| 19  | 23 | 41 | 14.5  | 11.905 S | 166.184 E | 20 D  | 4.9 4.8 | 1.0 | 42  | SANTA CRUZ ISLANDS. Mw 5.2 (HRV).   |
| Centroid, Moment Tensor (HRV): Centroid origin time 23:41:20.1; Lat 11.96 S; Lon 165.79 E; Dep 22.5; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=7.14, Plg=72, Azm=340; (N) Val=-0.35, Plg=18, Azm=165; (P) Val=-6.79, Plg=2, Azm=74; Best double couple: Mo=7.0*10**16 Nm; NPl: Strike=147, Dip=46, Slip=65; NP2: Strike=1, Dip=49, Slip=114.     |    |    |       |          |           |       |         |     |     |   |
| 19  | 23 | 46 | 53.3* | 12.161 S | 165.909 E | 34 D  |         | 0.8 | 18  | SANTA CRUZ ISLANDS  |
| 20  | 00 | 07 | 45.6* | 10.325 N | 62.499 W  | 5 G   | 3.4     | 1.3 | 11  | NEAR COAST OF VENEZUELA. MD 3.4 (TRN).  |
| 20  | 00 | 16 | 21.6  | 41.996 N | 0.254 E   | 10 G  |         | 1.0 | 12  | SPAIN. ML 3.0 (LDG). mbLg 3.0 (MDD).  |
| 20  | 01 | 09 | 23.5* | 10.57 N  | 61.84 W   | 10 G  |         | 0.9 | 4   | TRINIDAD. MD 3.0 (TRN).   |
| 20  | 01 | 11 | 07.0  | 30.108 S | 71.924 W  | 33 N  | 4.6     | 1.2 | 26  | NEAR COAST OF CENTRAL CHILE   |
| 20  | 01 | 55 | 29.5* | 44.76 N  | 9.27 E    | 10 G  |         | 0.3 | 5   | NORTHERN ITALY. ML 2.3 (LDG).   |
| 20  | 02 | 11 | 04.8* | 34.409 S | 70.464 W  | 10 G  |         | 0.4 | 10  | CHILE-ARGENTINA BORDER REGION   |
| 20  | 03 | 03 | 18.5  | 73.345 N | 6.794 E   | 10 G  | 4.3 3.5 | 1.4 | 48  | GREENLAND SEA   |
| 20  | 03 | 31 | 07.4  | 34.528 N | 85.664 E  | 33 N  | 4.7 4.4 | 1.3 | 44  | XIZANG  |
| 20  | 04 | 39 | 05.3* | 32.042 S | 69.709 W  | 150 G | 3.6     | 0.4 | 11  | MENDOZA PROVINCE, ARGENTINA. MD 3.6 (SAN).  |
| 20  | 05 | 34 | 21.2* | 11.971 S | 166.044 E | 33 N  | 4.5     | 1.3 | 22  | SANTA CRUZ ISLANDS  |
| 20  | 05 | 38 | 19.1* | 19.27 S  | 167.59 E  | 33 N  | 4.3     | 1.5 | 22  | VANUATU ISLANDS REGION  |
| 20  | 05 | 52 | 57.6* | 24.191 N | 122.309 E | 33 N  | 4.2     | 0.8 | 8   | TAIWAN REGION   |
| 20  | 05 | 55 | 58.7* | 25.33 N  | 64.61 E   | 33 N  | 4.1     | 0.6 | 13  | SOUTHWESTERN PAKISTAN   |
| 20  | 06 | 16 | 24.9  | 39.605 N | 120.136 W | 5 G   |         | 0.3 | 13  | NORTHERN CALIFORNIA. MD 3.0 (GM).   |
| 20  | 07 | 12 | 00.9* | 38.254 N | 116.971 W | 5 G   |         | 0.3 | 5   | NEVADA. ML 3.0 (GS).  |
| 20  | 08 | 14 | 00.6* | 17.363 S | 69.451 W  | 173   | 4.4     | 0.8 | 12  | PERU-BOLIVIA BORDER REGION  |
| 20  | 08 | 14 | 21.3* | 57.30 S  | 24.47 W   | 33 N  |         | 1.1 | 8   | SOUTH SANDWICH ISLANDS REGION   |
| 20  | 08 | 20 | 17.8* | 60.243 N | 152.240 W | 85    |         |     | 61  | SOUTHERN ALASKA. <AEIC>.  |
| 20  | 08 | 33 | 55.9  | 10.062 N | 126.153 E | 56 *  | 4.9 4.5 | 1.2 | 68  | PHILIPPINE ISLANDS REGION. Mw 5.4 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 08:33:58.0; Lat 9.89 N; Lon 126.61 E; Dep 35.6; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.15, Plg=63, Azm=337; (N) Val=0.22, Plg=22, Azm=195; (P) Val=-1.37, Plg=15, Azm=99; Best double couple: Mo=1.3*10**17 Nm; NPl: Strike=161, Dip=36, Slip=50; NP2:                                 |    |    |       |          |           |       |         |     |     |   |

Strike=26, Dip=63, Slip=115.

|    |    |    |       |        |   |         |   |     |   |         |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 20 | 08 | 34 | 18.1? | 31.45  | S | 179.47  | E | 500 | G | 4.8     | 1.2 | 11  | KERMADEC ISLANDS REGION   |
| 20 | 09 | 09 | 11.1  | 34.588 | N | 139.163 | E | 33  | N | 3.3     | 1.3 | 19  | NEAR S. COAST OF HONSHU, JAPAN  |
| 20 | 09 | 48 | 52.76 | 62.667 | N | 148.331 | W | 38  |   |         |     | 69  | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 3.0 (PMR).   |
| 20 | 10 | 30 | 01.1  | 34.486 | N | 139.288 | E | 33  | N | 3.6     | 1.2 | 26  | NEAR S. COAST OF HONSHU, JAPAN  |
| 20 | 10 | 32 | 54.2  | 34.405 | N | 139.340 | E | 33  | N |         | 0.7 | 15  | NEAR S. COAST OF HONSHU, JAPAN  |
| 20 | 10 | 46 | 04.4* | 9.997  | N | 126.219 | E | 33  | N | 4.3     | 0.8 | 10  | MINDANAO, PHILIPPINE ISLANDS  |
| 20 | 12 | 25 | 42.7? | 25.21  | S | 177.65  | W | 200 | G |         | 1.1 | 8   | SOUTH OF FIJI ISLANDS   |
| 20 | 12 | 33 | 31.2* | 11.936 | S | 165.934 | E | 33  | N | 4.4 4.5 | 1.2 | 27  | SANTA CRUZ ISLANDS  |
| 20 | 13 | 16 | 37.0  | 56.472 | N | 152.919 | W | 33  | N | 4.9 5.0 | 1.1 | 168 | KODIAK ISLAND REGION. Mw 5.3 (HRV). ML 5.1 (AEIC), 5.0 (PMR). Centroid, Moment Tensor (HRV): Centroid origin time 13:16:38.2; Lat 55.82 N; Lon 152.84 W; Dep 47.4; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=0.82, Plg=53, Azm=309; (N) Val=0.22, Plg=7, Azm=48; (P) Val=-1.04, Plg=36, Azm=143; Best double couple: Mo=9.3*10**16 Nm; NP1: Strike=268, Dip=11, Slip=130; NP2: Strike=47, Dip=82, Slip=83.   |
| 20 | 13 | 30 | 54.4  | 35.503 | N | 77.893  | E | 33  | N | 3.9     | 0.9 | 20  | EASTERN KASHMIR   |
| 20 | 13 | 31 | 26.6? | 56.60  | N | 152.65  | W | 33  | N | 2.8     | 1.2 | 5   | KODIAK ISLAND REGION  |
| 20 | 13 | 49 | 00.1? | 56.91  | N | 153.10  | W | 33  | N | 3.0     | 1.4 | 5   | KODIAK ISLAND REGION  |
| 20 | 13 | 49 | 58.1* | 13.011 | N | 144.040 | E | 121 |   | 3.8     | 0.9 | 17  | MARIANA ISLANDS   |
| 20 | 14 | 10 | 52.3? | 34.40  | N | 139.36  | E | 33  | N |         | 1.0 | 5   | NEAR S. COAST OF HONSHU, JAPAN  |
| 20 | 14 | 20 | 40.7* | 56.334 | N | 153.032 | W | 33  | N | 2.7     | 1.2 | 15  | KODIAK ISLAND REGION  |
| 20 | 14 | 37 | 22.9  | 18.796 | N | 121.860 | E | 84  | D | 4.6     | 0.9 | 20  | LUZON, PHILIPPINE ISLANDS   |
| 20 | 14 | 43 | 16.9  | 56.240 | N | 152.784 | W | 33  | N | 4.2     | 1.2 | 108 | KODIAK ISLAND REGION. ML 4.4 (AEIC), 4.4 (PMR).   |
| 20 | 14 | 45 | 27.2* | 35.393 | N | 77.713  | E | 33  | N | 3.4     | 1.2 | 11  | EASTERN KASHMIR   |
| 20 | 14 | 57 | 50.4  | 5.521  | N | 126.301 | E | 123 | * | 4.5     | 0.8 | 32  | MINDANAO, PHILIPPINE ISLANDS  |
| 20 | 15 | 41 | 12.0? | 34.32  | N | 139.43  | E | 33  | N |         | 0.8 | 5   | NEAR S. COAST OF HONSHU, JAPAN  |
| 20 | 16 | 27 | 20.56 | 62.887 | N | 149.752 | W | 77  |   |         |     | 49  | CENTRAL ALASKA. <AEIC>.   |
| 20 | 16 | 34 | 31.8  | 56.232 | N | 152.910 | W | 33  | N |         | 1.2 | 39  | KODIAK ISLAND REGION. ML 2.9 (AEIC).  |
| 20 | 16 | 58 | 38.2  | 56.300 | N | 152.749 | W | 33  | N | 4.0     | 1.1 | 74  | KODIAK ISLAND REGION. ML 3.9 (PMR), 3.7 (AEIC).   |
| 20 | 17 | 02 | 46.0  | 56.198 | N | 152.741 | W | 33  | N | 4.5 4.6 | 1.1 | 108 | KODIAK ISLAND REGION. ML 4.7 (PMR), 4.6 (AEIC).   |
| 20 | 17 | 22 | 08.6* | 24.341 | S | 179.389 | E | 600 | G | 4.7     | 0.9 | 29  | SOUTH OF FIJI ISLANDS   |
| 20 | 17 | 50 | 44.1? | 12.29  | S | 165.94  | E | 33  | N |         | 1.8 | 6   | SANTA CRUZ ISLANDS  |
| 20 | 17 | 53 | 43.6  | 38.108 | N | 73.063  | E | 60  | * | 4.6 4.1 | 1.4 | 31  | TAJIKISTAN-XINJIANG BORDER REG.   |
| 20 | 18 | 02 | 46.8? | 37.18  | S | 47.90   | E | 10  | G |         | 0.2 | 6   | SOUTHWEST INDIAN RIDGE  |
| 20 | 18 | 14 | 57.7  | 56.164 | N | 152.783 | W | 33  | N | 3.4     | 1.1 | 70  | KODIAK ISLAND REGION. ML 3.9 (AEIC), 3.8 (PMR).   |
| 20 | 18 | 27 | 42.4* | 51.126 | N | 15.758  | E | 5   | G |         | 0.9 | 8   | POLAND. ML 2.7 (MOX), 2.2 (CLL).  |
| 20 | 18 | 46 | 11.1* | 8.873  | S | 122.450 | E | 139 | * | 4.4     | 1.4 | 15  | FLORES REGION, INDONESIA  |
| 20 | 18 | 57 | 23.9* | 35.372 | N | 77.542  | E | 33  | N | 3.6     | 1.3 | 14  | EASTERN KASHMIR   |
| 20 | 19 | 10 | 38.9  | 34.138 | N | 141.364 | E | 33  | N | 4.7     | 1.3 | 47  | OFF EAST COAST OF HONSHU, JAPAN   |
| 20 | 19 | 32 | 27.0? | 34.58  | S | 70.78   | W | 100 | G |         | 0.2 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.2 (SAN).  |
| 20 | 20 | 05 | 21.9? | 23.47  | S | 171.40  | E | 33  | N |         | 1.2 | 6   | LOYALTY ISLANDS REGION  |
| 20 | 20 | 19 | 07.0? | 11.85  | S | 165.94  | E | 33  | N |         | 1.4 | 11  | SANTA CRUZ ISLANDS  |
| 20 | 20 | 57 | 56.3* | 18.955 | S | 169.445 | E | 33  | N | 4.7     | 1.4 | 22  | VANUATU ISLANDS   |
| 20 | 21 | 03 | 12.3* | 24.101 | N | 122.274 | E | 33  | N |         | 0.8 | 9   | TAIWAN REGION   |
| 20 | 22 | 23 | 23.2* | 3.599  | N | 127.254 | E | 33  | N | 4.4     | 0.6 | 14  | TALAUD ISLANDS, INDONESIA   |
| 20 | 23 | 04 | 30.3* | 20.698 | S | 68.726  | W | 152 | * |         | 0.6 | 11  | CHILE-BOLIVIA BORDER REGION   |
| 21 | 01 | 35 | 31.8  | 38.695 | N | 119.575 | W | 5   | G |         | 1.0 | 23  | CALIFORNIA-NEVADA BORDER REGION. MD 3.0 (GM).   |
| 21 | 01 | 44 | 33.6? | 55.01  | N | 162.79  | E | 33  | N |         | 1.8 | 7   | NEAR EAST COAST OF KAMCHATKA  |
| 21 | 01 | 47 | 15.8  | 39.515 | N | 76.931  | E | 33  | N | 4.9     | 1.1 | 142 | SOUTHERN XINJIANG, CHINA  |
| 21 | 01 | 48 | 30.1* | 39.474 | N | 76.998  | E | 33  | N | 5.3 5.8 | 1.3 | 42  | SOUTHERN XINJIANG, CHINA. Mw 5.9 (HRV). At least 12 people killed, 40 injured and 2,500 families homeless; about 14,000 homes destroyed, 17,000 additional homes damaged and 3,360 head of livestock killed in the Jiashi area. Felt at Aksu, Akto, Artux, Kashi and Wuqia. Centroid, Moment Tensor (HRV): Centroid origin time 01:48:28.6; Lat 39.51 N; Lon 77.26 E; Dep 33.0 Fix; Half-duration 2.1 sec; Principal axes (scale 10**17 Nm): (T) Val=7.66, Plg=8, Azm=271; (N) Val=0.17, Plg=75, Azm=34; (P) Val=-7.83, Plg=13, Azm=179; Best double couple: Mo=7.7*10**17 Nm; NP1: Strike=315, Dip=75, Slip=-177; NP2: Strike=224, Dip=87, Slip=-15. |
| 21 | 02 | 15 | 55.9  | 46.027 | N | 6.029   | E | 10  | G |         | 0.9 | 40  | SWITZERLAND. ML 3.0 (LDG), 3.0 (STR).   |
| 21 | 02 | 41 | 55.1* | 39.714 | N | 76.494  | E | 33  | N |         | 1.6 | 17  | SOUTHERN XINJIANG, CHINA  |
| 21 | 02 | 50 | 15.6* | 31.752 | S | 67.766  | W | 53  | * |         | 0.9 | 15  | SAN JUAN PROVINCE, ARGENTINA. MD 4.1 (SAN).   |
| 21 | 03 | 07 | 12.4  | 45.961 | N | 6.028   | E | 5   | G |         | 1.1 | 24  | FRANCE.. ML 2.9 (STR), 2.8 (LDG).   |
| 21 | 03 | 44 | 33.9? | 23.79  | S | 176.04  | W | 100 | G | 3.9     | 1.2 | 10  | SOUTH OF FIJI ISLANDS   |
| 21 | 04 | 03 | 06.6* | 2.807  | S | 129.553 | E | 33  | N | 4.2     | 1.1 | 11  | SERAM, INDONESIA  |
| 21 | 04 | 03 | 15.76 | 47.825 | N | 114.290 | W | 4   |   |         |     | 8   | MONTANA. <BUT-P>. ML 2.6 (BUT). Felt in the Big Arm-Rollins area.   |
| 21 | 04 | 12 | 41.76 | 47.838 | N | 114.280 | W | 5   |   |         |     | 6   | MONTANA. <BUT-P>. ML 2.2 (BUT). Felt in the Big Arm-Rollins area.   |
| 21 | 04 | 50 | 01.2* | 21.133 | S | 178.768 | W | 600 | G | 4.8     | 1.0 | 28  | FIJI ISLANDS REGION   |
| 21 | 05 | 18 | 38.16 | 45.981 | N | 6.262   | E | 10  | G |         | 1.5 | 6   | FRANCE. ML 2.2 (LDG).   |
| 21 | 05 | 20 | 15.96 | 54.129 | N | 35.156  | W | 10  | G |         | 0.9 | 10  | NORTH ATLANTIC OCEAN  |
| 21 | 06 | 24 | 04.6* | 37.356 | N | 143.162 | E | 33  | N | 4.3     | 1.0 | 14  | OFF EAST COAST OF HONSHU, JAPAN   |
| 21 | 07 | 18 | 07.1? | 51.95  | N | 176.12  | W | 33  | N |         | 1.4 | 5   | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 21 | 08 | 33 | 17.26 | 60.425 | N | 146.887 | W | 20  |   |         |     | 66  | SOUTHERN ALASKA. <AEIC>. ML 2.8 (AEIC), 3.2 (PMR).  |
| 21 | 09 | 24 | 47.76 | 59.552 | N | 151.498 | W | 10  |   |         |     | 58  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 21 | 09 | 50 | 46.3* | 15.152 | S | 75.808  | W | 33  | N |         | 0.9 | 14  | NEAR COAST OF PERU  |
| 21 | 11 | 24 | 47.7* | 38.129 | N | 141.981 | E | 83  | ? |         | 0.7 | 11  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 21 | 13 | 05 | 53.7  | 59.385 | N | 145.063 | W | 10  | G |         | 1.0 | 33  | GULF OF ALASKA. ML 2.5 (AEIC).  |
| 21 | 13 | 49 | 01.6? | 5.45   | S | 152.12  | E | 33  | N | 4.3     | 1.5 | 12  | NEW BRITAIN REGION, P.N.G.  |
| 21 | 13 | 52 | 43.1* | 15.063 | N | 97.422  | W | 72  | D | 4.8     | 1.2 | 37  | NEAR COAST OF OAXACA, MEXICO  |
| 21 | 14 | 21 | 00.4  | 0.879  | N | 27.677  | W | 10  | G | 4.8     | 0.9 | 20  | CENTRAL MID-ATLANTIC RIDGE  |
| 21 | 14 | 43 | 14.9* | 6.196  | N | 73.307  | W | 150 | G |         | 1.4 | 10  | NORTHERN COLOMBIA   |
| 21 | 17 | 04 | 42.9* | 24.044 | S | 66.669  | W | 200 | G |         | 0.7 | 14  | SALTA PROVINCE, ARGENTINA   |
| 21 | 17 | 25 | 42.06 | 59.037 | N | 154.440 | W | 123 |   |         |     | 69  | SOUTHERN ALASKA. <AEIC>.  |
| 21 | 17 | 31 | 11.66 | 39.471 | N | 122.988 | W | 8   |   |         |     | 26  | NORTHERN CALIFORNIA. <GM-P>. MD 3.1 (GM). ML 3.2 (BRK), 3.1 (GS).   |
| 21 | 18 | 29 | 28.9* | 20.830 | S | 174.240 | W | 33  | N | 4.6     | 0.6 | 15  | TONGA ISLANDS   |
| 21 | 20 | 10 | 34.36 | 36.776 | N | 5.431   | W | 10  | G |         | 0.4 | 7   | STRAIT OF GIBRALTAR. mbLg 2.8 (MDD).  |



|    |    |    |       |        |   |         |   |     |   |     |     |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|-----|---|
| 21 | 20 | 47 | 46.7  | 38.047 | N | 29.030  | E | 16  | D | 5.0 | 4.3 | 1.1 | 226 | TURKEY. Mw 5.2 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 20:47:50.2; Lat 37.98 N; Lon 28.33 E; Dep 18.1; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=7.41, Plg=24, Azm=30; (N) Val=0.83, Plg=20, Azm=129; (P) Val=-8.25, Plg=58, Azm=255; Best double couple: Mo=7.8*10**16 Nm; NP1: Strike=85, Dip=28, Slip=-138; NP2: Strike=316, Dip=72, Slip=-69.   |
| 21 | 20 | 57 | 58.5? | 2.00   | S | 128.68  | E | 33  | N | 4.4 |     | 0.6 | 9   | CERAM SEA   |
| 21 | 21 | 19 | 58.9  | 16.413 | N | 98.035  | W | 33  | N | 5.1 | 5.0 | 1.0 | 106 | NEAR COAST OF GUERRERO, MEXICO. Mw 5.5 (HRV). Felt throughout Guerrero and Oaxaca. Also felt at Mexico City. Centroid, Moment Tensor (HRV): Centroid origin time 21:20:02.1; Lat 16.49 N; Lon 97.99 W; Dep 39.7; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=2.17, Plg=60, Azm=82; (N) Val=-0.16, Plg=17, Azm=320; (P) Val=-2.00, Plg=24, Azm=222; Best double couple: Mo=2.1*10**17 Nm; NP1: Strike=281, Dip=26, Slip=49; NP2: Strike=146, Dip=71, Slip=108.  |
| 21 | 21 | 23 | 45.6* | 13.519 | N | 146.118 | E | 64  | ? | 4.2 |     | 0.9 | 19  | SOUTH OF MARIANA ISLANDS  |
| 21 | 22 | 32 | 47.7  | 46.643 | N | 10.493  | E | 5   | G |     |     | 1.1 | 11  | NORTHERN ITALY. ML 2.8 (FUR), 2.2 (VIE).  |
| 21 | 22 | 44 | 02.1* | 42.014 | N | 142.421 | E | 74  | * | 4.5 |     | 1.2 | 34  | HOKKAIDO, JAPAN REGION  |
| 22 | 01 | 21 | 49.3* | 59.758 | N | 152.959 | W | 95  |   |     |     |     | 78  | SOUTHERN ALASKA. <AEIC>.  |
| 22 | 01 | 56 | 32.6* | 10.549 | N | 93.647  | E | 129 | ? | 4.5 |     | 1.0 | 19  | ANDAMAN ISLANDS, INDIA  |
| 22 | 02 | 03 | 05.4  | 43.009 | N | 17.747  | E | 10  | G |     |     | 1.1 | 25  | NORTHWESTERN BALKAN REGION. MG 3.3 (ZAG).   |
| 22 | 02 | 07 | 03.7* | 34.386 | N | 136.974 | E | 338 | * |     |     | 1.1 | 9   | WESTERN HONSHU, JAPAN   |
| 22 | 02 | 14 | 32.5* | 43.085 | N | 17.857  | E | 10  | G |     |     | 0.8 | 9   | NORTHWESTERN BALKAN REGION. MG 3.0 (ZAG).   |
| 22 | 02 | 40 | 19.8* | 35.079 | N | 118.947 | W | 11  |   |     |     |     | 24  | CENTRAL CALIFORNIA. <PAS-P>. MD 3.4 (PAS). ML 3.2 (GS).   |
| 22 | 02 | 41 | 09.0? | 32.55  | S | 71.93   | W | 20  | G |     |     | 0.5 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).  |
| 22 | 02 | 44 | 00.3? | 16.50  | S | 179.41  | W | 400 | G |     |     | 0.7 | 6   | FIJI ISLANDS REGION   |
| 22 | 04 | 24 | 01.5  | 22.177 | S | 175.714 | W | 33  | N | 5.0 | 4.4 | 0.9 | 69  | TONGA ISLANDS REGION  |
| 22 | 05 | 21 | 19.8? | 32.96  | S | 72.02   | W | 10  | G |     |     | 0.5 | 10  | OFF COAST OF CENTRAL CHILE. MD 3.3 (SAN).   |
| 22 | 06 | 19 | 33.0* | 63.110 | N | 150.966 | W | 123 |   |     |     |     | 74  | CENTRAL ALASKA. <AEIC>.   |
| 22 | 07 | 14 | 56.4  | 45.008 | N | 9.106   | E | 10  | G |     |     | 1.0 | 30  | NORTHERN ITALY. ML 2.9 (LDG), 2.4 (VIE).  |
| 22 | 07 | 17 | 16.6* | 40.272 | N | 124.394 | W | 24  |   | 4.7 | 5.1 |     | 70  | NEAR COAST OF NORTHERN CALIF. <GM-P>. Mw 5.7 (HRV), 5.6 (BRK). MD 5.6 (GM). Slight damage at Petrolia and Scotia. Felt strongly in parts of southern Humboldt County and felt as far north as Trinidad. Centroid, Moment Tensor (HRV): Centroid origin time 07:17:25.8; Lat 40.33 N; Lon 124.75 W; Dep 17.7; Half-duration 1.7 sec; Principal axes (scale 10**17 Nm): (T) Val=3.95, Plg=25, Azm=57; (N) Val=0.37, Plg=64, Azm=214; (P) Val=-4.32, Plg=9, Azm=323; Best double couple: Mo=4.1*10**17 Nm; NP1: Strike=97, Dip=66, Slip=168; NP2: Strike=192, Dip=79, Slip=24. Scalar Moment (BRK): Mo=2.9*10**17 Nm.  |
| 22 | 07 | 18 | 14.1? | 34.56  | S | 70.63   | W | 10  | G |     |     | 0.4 | 9   | CHILE-ARGENTINA BORDER REGION. MD 4.1 (SAN).  |
| 22 | 07 | 29 | 10.0? | 22.63  | S | 179.72  | W | 600 | G | 4.3 |     | 0.8 | 12  | SOUTH OF FIJI ISLANDS   |
| 22 | 07 | 33 | 18.9* | 28.814 | N | 67.490  | E | 33  | N |     |     | 1.0 | 13  | PAKISTAN  |
| 22 | 08 | 00 | 43.1* | 40.327 | N | 124.643 | W | 21  |   |     |     |     | 29  | NEAR COAST OF NORTHERN CALIF. <GM-P>. Mw 4.6 (BRK). MD 4.3 (GM). ML 4.3 (BRK). Scalar Moment (BRK): Mo=7.5*10**15 Nm.   |
| 22 | 08 | 11 | 21.3* | 35.306 | N | 77.894  | E | 33  | N | 3.5 |     | 1.2 | 14  | EASTERN KASHMIR   |
| 22 | 08 | 20 | 49.4* | 40.303 | N | 124.515 | W | 21  |   |     |     |     | 1   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.8 (GM).  |
| 22 | 08 | 45 | 47.0* | 6.124  | S | 130.155 | E | 33  | N | 4.3 |     | 1.4 | 11  | BANDA SEA   |
| 22 | 08 | 57 | 33.1* | 40.286 | N | 124.405 | W | 23  |   |     |     |     | 4   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.8 (GM).  |
| 22 | 09 | 59 | 06.2* | 39.755 | N | 76.597  | E | 33  | N | 3.3 |     | 0.3 | 7   | SOUTHERN XINJIANG, CHINA  |
| 22 | 10 | 15 | 47.8* | 39.906 | N | 75.643  | E | 33  | N | 3.4 |     | 1.2 | 9   | SOUTHERN XINJIANG, CHINA  |
| 22 | 11 | 12 | 04.4* | 25.582 | N | 90.322  | E | 33  | N |     |     | 1.3 | 9   | INDIA-BANGLADESH BORDER REGION  |
| 22 | 11 | 48 | 01.8* | 41.117 | N | 126.110 | W | 14  |   | 3.9 |     |     | 62  | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 4.3 (GM). ML 4.3 (GS), 4.2 (BRK).  |
| 22 | 12 | 50 | 47.0? | 19.42  | S | 178.48  | W | 500 | G | 4.1 |     | 0.3 | 8   | FIJI ISLANDS REGION   |
| 22 | 13 | 36 | 49.9* | 36.428 | N | 141.409 | E | 33  | N |     |     | 0.9 | 8   | NEAR EAST COAST OF HONSHU, JAPAN  |
| 22 | 13 | 56 | 42.1? | 12.92  | S | 167.04  | E | 150 | G |     |     | 0.8 | 11  | SANTA CRUZ ISLANDS  |
| 22 | 14 | 37 | 04.1* | 21.235 | S | 69.775  | W | 100 | G |     |     | 1.0 | 15  | NORTHERN CHILE  |
| 22 | 14 | 49 | 02.1* | 17.418 | S | 179.023 | W | 500 | G | 4.3 |     | 0.9 | 16  | FIJI ISLANDS REGION   |
| 22 | 16 | 57 | 14.3* | 38.629 | N | 26.864  | E | 33  | N | 3.2 |     | 1.1 | 15  | AEGEAN SEA  |
| 22 | 17 | 04 | 32.4* | 10.048 | N | 126.215 | E | 33  | N | 4.2 |     | 0.9 | 10  | PHILIPPINE ISLANDS REGION   |
| 22 | 17 | 57 | 18.7  | 36.250 | N | 35.951  | E | 10  | G | 5.4 | 5.4 | 1.1 | 270 | TURKEY. Mw 5.7 (GS), 5.7 (HRV). ML 5.6 (JER). At least five people injured and ten houses damaged at Antakya. Felt at Adana, Malatya and Mersin. Felt at Beirut and Tripoli, Lebanon. Also felt at Nicosia, Cyprus and in Syria. Moment Tensor (GS): Dep 15; Principal axes (scale 10**17 Nm): (T) Val=4.28, Plg=30, Azm=92; (N) Val=0.15, Plg=40, Azm=333; (P) Val=-4.42, Plg=36, Azm=207; Best double couple: Mo=4.4*10**17 Nm; NP1: Strike=236, Dip=40, Slip=-6; NP2: Strike=331, Dip=86, Slip=-130. Centroid, Moment Tensor (HRV): Centroid origin time 17:57:24.4; Lat 36.01 N; Lon 35.77 E; Dep 15.0 Bdy; Half-duration 1.8 sec; Principal axes (scale 10**17 Nm): (T) Val=5.35, Plg=26, Azm=104; (N) Val=-2.05, Plg=38, Azm=352; (P) Val=-3.30, Plg=42, Azm=219; Best double couple: Mo=4.3*10**17 Nm; NP1: Strike=243, Dip=39, Slip=-15; NP2: Strike=345, Dip=81, Slip=128. |
| 22 | 18 | 14 | 55.2  | 8.820  | S | 124.287 | E | 33  | N | 5.1 |     | 1.1 | 36  | TIMOR REGION, INDONESIA   |
| 22 | 18 | 21 | 26.1* | 40.334 | N | 124.660 | W | 19  |   |     |     |     | 4   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 3.0 (GM). ML 3.0 (BRK).  |
| 22 | 18 | 22 | 06.3* | 36.061 | N | 35.669  | E | 10  | G | 4.3 |     | 1.0 | 14  | TURKEY  |
| 22 | 18 | 24 | 50.2  | 36.239 | N | 35.922  | E | 10  | G | 5.1 |     | 1.2 | 201 | TURKEY. ML 5.2 (JER).   |
| 22 | 18 | 27 | 29.6  | 36.275 | N | 35.997  | E | 10  | G | 5.3 |     | 1.1 | 204 | TURKEY. ML 5.3 (JER).   |
| 22 | 19 | 13 | 22.4? | 8.99   | S | 124.65  | E | 100 | G | 3.8 |     | 0.7 | 5   | TIMOR REGION, INDONESIA   |
| 22 | 19 | 42 | 41.3* | 51.302 | N | 15.948  | E | 5   | G |     |     | 0.6 | 6   | POLAND. ML 2.3 (CLL).   |
| 22 | 20 | 12 | 58.3  | 51.605 | N | 16.318  | E | 5   | G |     |     | 0.7 | 20  | POLAND. ML 3.7 (GRF), 3.6 (VIE).  |
| 22 | 22 | 07 | 28.3? | 50.43  | N | 176.74  | W | 33  | N |     |     | 1.0 | 8   | ANDREANOF ISLANDS, ALEUTIAN IS.   |

|    |    |    |       |        |   |         |   |     |   |     |     |   |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|---|--|
| 22 | 22 | 16 | 08.1* | 15.217 | S | 75.865  | W | 33  | N | 3.9 | 0.6 | 14  | NEAR COAST OF PERU   |
| 23 | 00 | 34 | 04.4* | 59.327 | N | 149.754 | W | 14  |   |     | 73  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.7 (AEIC).                               |  |
| 23 | 00 | 51 | 14.1  | 3.023  | S | 136.475 | E | 54  | * | 4.9 | 0.8 | 42  | IRIAN JAYA, INDONESIA  |
| 23 | 02 | 15 | 22.9  | 21.999 | S | 65.719  | W | 276 | D | 6.4 | 0.9 | 322   | SOUTHERN BOLIVIA. Mw 7.1 (HRV), 7.0 (GS). Me 6.6 (GS). Felt (V) at Antofagasta, Calama and Tocopilla; (III) at Arica, Chile. Felt in northern Jujuy Province, Argentina. Broadband Source Parameters (GS): Dep 276; NP1: Strike=170, Dip=89, Slip=100; NP2: Strike=266, Dip=10, Slip=6; Radiated energy 1.8*10**14 Nm. Two events about 3.0 seconds apart. Depth based on first event. Moment Tensor (GS): Dep 280; Principal axes (scale 10**19 Nm): (T) Val=3.58, Plg=45, Azm=80; (N) Val=-0.02, Plg=5, Azm=175; (P) Val=-3.56, Plg=44, Azm=270; Best double couple: Mo=3.6*10**19 Nm; NP1: Strike=78, Dip=5, Slip=173; NP2: Strike=175, Dip=89, Slip=85. Centroid, Moment Tensor (HRV): Centroid origin time 02:15:31.9; Lat 22.04 S; Lon 65.92 W; Dep 281.6; Half-duration 9.0 sec; Principal axes (scale 10**19 Nm): (T) Val=5.84, Plg=45, Azm=77; (N) Val=-0.09, Plg=4, Azm=171; (P) Val=-5.75, Plg=45, Azm=264; Best double couple: Mo=5.8*10**19 Nm; NP1: Strike=85, Dip=4, Slip=-175; NP2: Strike=351, Dip=90, Slip=-86. Scalar Moment (PPT): Mo=1.6*10**20 Nm. |
| 23 | 02 | 34 | 46.0? | 17.44  | N | 76.06   | E | 33  | N |     | 1.1 | 9   | SOUTHERN INDIA   |
| 23 | 03 | 24 | 57.0* | 43.997 | N | 7.754   | E | 10  | G |     | 0.9 | 8   | NEAR SOUTH COAST OF FRANCE. ML 2.1 (LDG).  |
| 23 | 03 | 28 | 00.4? | 11.28  | S | 166.53  | E | 33  | N |     | 1.1 | 8   | SANTA CRUZ ISLANDS   |
| 23 | 04 | 57 | 18.4? | 5.55   | S | 147.34  | E | 200 | * | 4.1 | 0.9 | 9   | EASTERN NEW GUINEA REG., P.N.G.  |
| 23 | 05 | 44 | 28.4  | 38.862 | N | 141.151 | E | 33  | N |     | 0.9 | 15  | NEAR EAST COAST OF HONSHU, JAPAN   |
| 23 | 05 | 56 | 59.2  | 42.781 | N | 17.433  | E | 10  | G |     | 1.1 | 11  | ADRIATIC SEA   |
| 23 | 06 | 11 | 58.6? | 13.40  | S | 168.35  | E | 100 | G | 4.0 | 0.5 | 7   | VANUATU ISLANDS  |
| 23 | 07 | 05 | 21.2? | 43.01  | N | 87.96   | E | 25  | D | 3.3 | 1.3 | 8   | NORTHERN XINJIANG, CHINA   |
| 23 | 07 | 09 | 22.2  | 36.326 | N | 36.231  | E | 10  | G | 4.3 | 0.9 | 44  | JORDAN - SYRIA REGION. ML 4.4 (JER).   |
| 23 | 07 | 37 | 44.2? | 2.38   | N | 128.73  | E | 221 | ? | 4.6 | 1.2 | 15  | HALMAHERA, INDONESIA   |
| 23 | 07 | 50 | 10.6* | 53.114 | N | 162.911 | W | 33  | N | 4.9 | 1.4 | 44  | SOUTH OF ALASKA. ML 4.6 (PMR).   |
| 23 | 07 | 54 | 28.8* | 63.241 | N | 147.406 | W | 10  |   |     | 65  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.2 (PMR).                             |  |
| 23 | 08 | 11 | 08.0? | 32.56  | S | 71.44   | W | 33  | N |     | 0.7 | 6   | NEAR COAST OF CENTRAL CHILE  |
| 23 | 08 | 38 | 16.5* | 15.866 | S | 171.831 | E | 33  | N | 4.5 | 1.0 | 12  | VANUATU ISLANDS REGION   |
| 23 | 08 | 42 | 41.8? | 18.17  | S | 169.28  | E | 33  | N | 4.1 | 0.6 | 8   | VANUATU ISLANDS  |
| 23 | 09 | 49 | 13.4* | 24.355 | S | 179.802 | E | 600 | G | 4.4 | 0.8 | 18  | SOUTH OF FIJI ISLANDS  |
| 23 | 09 | 49 | 42.2  | 27.940 | N | 131.303 | E | 33  | N | 5.2 | 0.8 | 46  | SOUTHEAST OF RYUKYU ISLANDS  |
| 23 | 10 | 20 | 38.4? | 22.52  | S | 169.54  | E | 33  | N | 4.3 | 1.3 | 10  | LOYALTY ISLANDS REGION   |
| 23 | 10 | 24 | 54.5? | 12.89  | N | 89.82   | W | 71  | ? |     | 0.4 | 11  | OFF COAST OF CENTRAL AMERICA. MD 3.5 (SSS). Felt (III) at San Salvador, El Salvador.   |
| 23 | 10 | 56 | 28.7  | 39.601 | N | 77.161  | E | 33  | N | 4.4 | 1.1 | 23  | SOUTHERN XINJIANG, CHINA   |
| 23 | 11 | 12 | 10.4* | 1.653  | N | 99.371  | E | 33  | N | 4.4 | 0.8 | 12  | NORTHERN SUMATERA, INDONESIA   |
| 23 | 11 | 48 | 52.4  | 31.696 | S | 71.217  | W | 81  | * | 3.6 | 0.6 | 18  | NEAR COAST OF CENTRAL CHILE. MD 4.3 (SAN).   |
| 23 | 12 | 53 | 45.9* | 37.112 | N | 3.857   | W | 10  | G |     | 0.7 | 8   | SPAIN. mbLg 3.0 (MDD).   |
| 23 | 13 | 06 | 58.8? | 29.53  | S | 178.36  | W | 33  | N | 4.2 | 0.5 | 6   | KERMADEC ISLANDS, NEW ZEALAND  |
| 23 | 13 | 34 | 05.0? | 31.07  | S | 69.75   | W | 180 | G |     | 0.3 | 9   | SAN JUAN PROVINCE, ARGENTINA   |
| 23 | 14 | 23 | 21.6* | 40.284 | N | 124.702 | W | 20  |   |     | 3   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.8 (GM).                            |  |
| 23 | 14 | 31 | 19.4? | 53.56  | S | 139.04  | E | 10  | G | 4.2 | 1.0 | 9   | WEST OF MACQUARIE ISLAND   |
| 23 | 14 | 53 | 14.6  | 36.168 | N | 35.735  | E | 10  | G | 4.4 | 0.6 | 17  | TURKEY. ML 4.1 (JER).  |
| 23 | 14 | 58 | 10.0* | 24.993 | S | 179.295 | W | 500 | G | 4.6 | 1.0 | 21  | SOUTH OF FIJI ISLANDS  |
| 23 | 15 | 23 | 30.1  | 20.363 | S | 175.852 | W | 200 | G | 4.8 | 0.9 | 79  | TONGA ISLANDS  |
| 23 | 16 | 11 | 35.1* | 20.415 | S | 178.222 | W | 500 | G | 4.2 | 0.9 | 14  | FIJI ISLANDS REGION  |
| 23 | 16 | 17 | 49.5  | 16.051 | S | 175.193 | W | 336 | D | 4.7 | 0.9 | 110   | TONGA ISLANDS  |
| 23 | 16 | 24 | 34.5* | 18.502 | S | 169.348 | E | 200 | G | 4.7 | 1.3 | 21  | VANUATU ISLANDS  |
| 23 | 16 | 35 | 27.9? | 34.83  | S | 71.01   | W | 100 | G |     | 0.3 | 10  | NEAR COAST OF CENTRAL CHILE  |
| 23 | 17 | 01 | 55.8  | 16.002 | S | 70.038  | W | 200 | G | 4.2 | 0.8 | 19  | SOUTHERN PERU  |
| 23 | 18 | 31 | 02.1* | 2.917  | S | 130.167 | E | 33  | N | 4.1 | 0.9 | 13  | SERAM, INDONESIA   |
| 23 | 19 | 06 | 59.9  | 3.203  | S | 138.667 | E | 33  | N | 5.1 | 0.7 | 29  | IRIAN JAYA, INDONESIA  |
| 23 | 19 | 59 | 01.9* | 47.692 | N | 113.742 | W | 7   |   |     | 7   | MONTANA. <BUT-P>. ML 3.1 (BUT).   |  |
| 23 | 20 | 49 | 54.1  | 61.346 | N | 152.022 | W | 10  | G |     | 0.9 | 7   | SOUTHERN ALASKA. ML 2.2 (AEIC).  |
| 23 | 20 | 50 | 02.3? | 43.84  | N | 12.86   | E | 10  | G |     | 0.8 | 13  | CENTRAL ITALY  |
| 23 | 21 | 46 | 06.9* | 7.204  | S | 131.096 | E | 33  | N | 4.2 | 0.9 | 8   | TANIMBAR ISLANDS REG., INDONESIA   |
| 23 | 21 | 53 | 15.2? | 3.03   | S | 136.71  | E | 33  | N | 3.9 | 1.3 | 7   | IRIAN JAYA, INDONESIA  |
| 23 | 22 | 37 | 19.8* | 34.612 | S | 70.770  | W | 100 | G |     | 0.2 | 9   | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 23 | 22 | 48 | 40.7* | 58.065 | N | 151.769 | W | 0   |   |     | 109 | KODIAK ISLAND REGION. <AEIC>. ML 4.3 (AEIC), 4.4 (PMR). Felt (III) at Kodiak. |  |
| 23 | 23 | 05 | 33.0? | 2.97   | S | 136.97  | E | 33  | N | 3.8 | 0.3 | 5   | IRIAN JAYA REGION, INDONESIA   |
| 23 | 23 | 10 | 00.3* | 4.478  | S | 102.626 | E | 33  | N |     | 0.8 | 11  | SOUTHERN SUMATERA, INDONESIA   |
| 24 | 00 | 54 | 52.4? | 7.75   | N | 76.14   | W | 33  | N | 3.7 | 0.7 | 5   | NORTHERN COLOMBIA  |
| 24 | 00 | 59 | 05.2  | 36.609 | N | 71.326  | E | 214 | * | 3.9 | 0.7 | 35  | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 24 | 01 | 16 | 06.4* | 4.079  | S | 128.029 | E | 33  | N | 4.2 | 1.3 | 10  | BANDA SEA  |
| 24 | 01 | 26 | 15.0  | 38.213 | N | 6.432   | W | 10  | G |     | 0.6 | 21  | SPAIN. mbLg 3.4 (MDD). Felt (III) in the Fuente de Cantos area.  |
| 24 | 01 | 36 | 12.7  | 39.550 | N | 76.828  | E | 33  | N | 4.4 | 1.0 | 24  | SOUTHERN XINJIANG, CHINA   |
| 24 | 02 | 15 | 55.2? | 5.55   | N | 125.71  | E | 100 | G | 4.1 | 1.0 | 11  | MINDANAO, PHILIPPINE ISLANDS   |
| 24 | 02 | 38 | 10.9? | 42.57  | N | 85.80   | E | 33  | N | 3.4 | 0.4 | 7   | NORTHERN XINJIANG, CHINA   |
| 24 | 04 | 36 | 40.6? | 43.73  | N | 142.09  | E | 150 | G | 3.5 | 0.7 | 6   | HOKKAIDO, JAPAN REGION   |
| 24 | 04 | 39 | 08.7* | 24.161 | N | 142.725 | E | 33  | N | 4.2 | 1.2 | 22  | VOLCANO ISLANDS REGION   |
| 24 | 05 | 17 | 29.7  | 5.614  | S | 153.836 | E | 71  | D | 5.4 | 1.0 | 127   | NEW IRELAND REGION, P.N.G. Mw 5.6 (HRV), 5.5 (GS). Moment Tensor (GS): Dep 20; Principal axes (scale 10**17 Nm): (T) Val=1.63, Plg=82, Azm=344; (N) Val=0.11, Plg=3, Azm=98; (P) Val=-1.73, Plg=7, Azm=189; Best double couple: Mo=1.7*10**17 Nm; NP1: Strike=282, Dip=38, Slip=95; NP2: Strike=96, Dip=52, Slip=86. Centroid, Moment Tensor (HRV): Centroid origin time 05:17:30.2; Lat 5.86 S; Lon 153.84 E; Dep 39.2; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=2.66, Plg=74, Azm=1; (N) Val=-0.14, Plg=10, Azm=128; (P) Val=-2.52, Plg=13, Azm=221; Best double couple: Mo=2.6*10**17 Nm; NP1: Strike=324, Dip=33, Slip=108; NP2:   |

Strike-122, Dip-59, Slip-78.

|    |    |    |       |        |   |         |   |     |   |     |     |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|-----|--|
| 24 | 06 | 15 | 09.4* | 15.904 | N | 91.301  | W | 50  | G | 4.6 | 4.5 | 1.3 | 29  | MEXICO-GUATEMALA BORDER REGION   |
| 24 | 07 | 25 | 16.3* | 59.855 | N | 153.294 | W | 129 |   |     |     |     | 48  | SOUTHERN ALASKA. <AEIC>.   |
| 24 | 07 | 38 | 37.1  | 46.131 | N | 7.575   | E | 5   | G |     |     | 0.9 | 23  | SWITZERLAND. ML 2.9 (STR), 2.6 (LDG).  |
| 24 | 07 | 55 | 21.9  | 13.108 | N | 88.159  | W | 66  | D |     |     | 0.9 | 28  | EL SALVADOR. MD 3.6 (SSS). Felt (II) at San Salvador.  |
| 24 | 08 | 44 | 04.1* | 44.31  | N | 147.74  | E | 100 | G |     |     | 0.6 | 8   | KURIL ISLANDS  |
| 24 | 08 | 54 | 59.2* | 36.90  | S | 177.08  | E | 300 | G | 4.2 |     | 1.5 | 16  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 24 | 09 | 04 | 33.5* | 59.317 | N | 153.537 | W | 111 |   | 3.2 |     |     | 105 | SOUTHERN ALASKA. <AEIC>.   |
| 24 | 09 | 15 | 15.9* | 15.191 | S | 173.740 | W | 47  | D | 4.8 |     | 0.9 | 39  | TONGA ISLANDS  |
| 24 | 11 | 40 | 15.2* | 20.998 | S | 179.157 | W | 650 | G | 4.5 |     | 0.9 | 20  | FIJI ISLANDS REGION  |
| 24 | 12 | 42 | 12.7* | 59.433 | N | 138.211 | W | 0   |   |     |     |     | 14  | SOUTHEASTERN ALASKA. <AEIC>. ML 2.7 (AEIC).  |
| 24 | 12 | 43 | 03.6* | 39.089 | N | 76.996  | E | 110 | D | 3.4 |     | 1.1 | 17  | SOUTHERN XINJIANG, CHINA   |
| 24 | 12 | 51 | 05.4* | 6.388  | N | 72.316  | W | 50  | G | 4.0 |     | 0.6 | 9   | NORTHERN COLOMBIA  |
| 24 | 15 | 29 | 26.2  | 54.606 | N | 168.665 | E | 33  | N | 4.9 | 4.5 | 0.8 | 105 | KOMANDORSKY ISLANDS REGION. Mw 5.2 (HRV). ML 5.0 (PMR). Centroid, Moment Tensor (HRV): Centroid origin time 15:29:26.6; Lat 54.71 N; Lon 168.73 E; Dep 43.2; Half-duration 1.1 sec; Principal axes (scale 10**16 Nm): (T) Val=-6.48, Plg=8, Azm=83; (N) Val=-0.11, Plg=82, Azm=243; (P) Val=-6.37, Plg=3, Azm=353; Best double couple: Mo=6.4*10**16 Nm; NP1: Strike=128, Dip=83, Slip=177; NP2: Strike=218, Dip=87, Slip=7. |
| 24 | 15 | 41 | 58.2* | 21.00  | S | 178.32  | W | 500 | G |     |     | 0.2 | 6   | FIJI ISLANDS REGION  |
| 24 | 15 | 44 | 53.0* | 37.028 | N | 4.138   | W | 12  |   |     |     | 0.4 | 9   | SPAIN. mbLg 2.8 (MDD).   |
| 24 | 16 | 10 | 03.5* | 36.102 | N | 118.229 | W | 1   |   |     |     |     | 1   | CENTRAL CALIFORNIA. <PAS-P>. MD 2.8 (PAS).   |
| 24 | 16 | 46 | 47.6* | 41.361 | N | 23.454  | E | 10  | G |     |     | 0.7 | 6   | GREECE-BULGARIA BORDER REGION  |
| 24 | 17 | 12 | 57.5  | 28.226 | N | 57.529  | E | 40  | D | 4.5 |     | 1.0 | 55  | SOUTHERN IRAN  |
| 24 | 17 | 24 | 34.1  | 31.301 | N | 138.196 | E | 408 |   | 3.9 |     | 0.8 | 29  | SOUTH OF HONSHU, JAPAN   |
| 24 | 17 | 42 | 00.0* | 36.099 | N | 118.228 | W | 0   |   |     |     |     | 21  | CENTRAL CALIFORNIA. <PAS-P>. MD 3.2 (PAS), 3.0 (GM). ML 2.8 (GS). Felt.  |
| 24 | 18 | 22 | 23.1* | 59.939 | S | 26.651  | W | 100 | G | 3.7 |     | 1.0 | 12  | SOUTH SANDWICH ISLANDS REGION  |
| 24 | 18 | 27 | 51.8* | 34.224 | N | 117.431 | W | 13  |   |     |     |     | 19  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS). ML 3.2 (GS). Felt.   |
| 24 | 18 | 35 | 45.3* | 32.61  | S | 69.12   | W | 150 | G |     |     | 0.3 | 9   | MENDOZA PROVINCE, ARGENTINA. MD 2.9 (SAN).   |
| 24 | 20 | 27 | 20.6* | 34.506 | S | 70.380  | W | 5   | G |     |     | 0.5 | 11  | CHILE-ARGENTINA BORDER REGION  |
| 24 | 21 | 07 | 03.8* | 36.467 | N | 69.353  | E | 50  | G |     |     | 1.3 | 11  | HINDU KUSH REGION, AFGHANISTAN   |
| 24 | 21 | 28 | 00.1* | 61.522 | N | 152.039 | W | 3   |   |     |     |     | 57  | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC), 3.1 (PMR).   |
| 24 | 21 | 52 | 54.1* | 59.818 | N | 151.676 | W | 42  |   |     |     |     | 48  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 24 | 22 | 10 | 00.0* | 51.979 | N | 172.861 | W | 33  | N |     |     | 0.6 | 7   | ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 24 | 22 | 22 | 38.4* | 60.798 | N | 148.039 | W | 27  |   |     |     |     | 61  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.7 (AEIC), 2.9 (PMR).   |
| 24 | 23 | 04 | 45.9* | 33.15  | S | 72.50   | W | 33  | N |     |     | 0.8 | 9   | OFF COAST OF CENTRAL CHILE. MD 3.7 (SAN).  |
| 24 | 23 | 40 | 04.7* | 33.04  | N | 67.85   | E | 33  | N |     |     | 1.3 | 6   | AFGHANISTAN  |
| 24 | 23 | 58 | 45.3* | 39.576 | N | 76.803  | E | 33  | N | 3.6 |     | 1.4 | 16  | SOUTHERN XINJIANG, CHINA   |
| 24 | 23 | 59 | 48.9* | 50.46  | S | 162.72  | E | 10  | G | 4.1 |     | 1.3 | 10  | AUCKLAND ISLANDS REGION  |
| 25 | 00 | 03 | 29.6* | 26.16  | S | 177.03  | W | 100 | G |     |     | 1.3 | 6   | SOUTH OF FIJI ISLANDS  |
| 25 | 01 | 23 | 04.1* | 0.886  | N | 125.065 | E | 50  | G | 4.5 |     | 1.0 | 18  | NORTHERN MOLUCCA SEA   |
| 25 | 02 | 38 | 55.5  | 22.069 | N | 101.133 | E | 33  | N | 4.5 |     | 1.1 | 43  | MYANMAR-CHINA BORDER REGION. Some houses damaged in Mengla County, China. Felt at Menghai and Yunjinghong, China.  |
| 25 | 03 | 09 | 17.5  | 38.712 | N | 75.596  | E | 33  | N | 4.9 |     | 1.1 | 94  | SOUTHERN XINJIANG, CHINA   |
| 25 | 03 | 22 | 33.0* | 44.62  | N | 39.45   | E | 33  | N |     |     | 0.7 | 7   | NORTHWESTERN CAUCASUS  |
| 25 | 03 | 39 | 03.8* | 81.90  | N | 1.58    | W | 10  | G | 3.0 |     | 1.3 | 6   | NORTH OF SVALBARD  |
| 25 | 04 | 19 | 46.4* | 3.79   | S | 140.70  | E | 100 | G | 3.8 |     | 1.2 | 5   | IRIAN JAYA, INDONESIA  |
| 25 | 04 | 45 | 16.0  | 41.605 | N | 19.053  | E | 10  | G |     |     | 0.6 | 12  | ALBANIA  |
| 25 | 05 | 10 | 02.7  | 3.895  | S | 127.676 | E | 25  | D | 5.3 | 4.5 | 1.0 | 83  | SERAM, INDONESIA. Mw 5.1 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 05:10:04.7; Lat 4.00 S; Lon 127.40 E; Dep 17.5; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=4.77, Plg=82, Azm=341; (N) Val=0.17, Plg=5, Azm=112; (P) Val=-4.94, Plg=6, Azm=203; Best double couple: Mo=4.9*10**16 Nm; NP1: Strike=299, Dip=39, Slip=98; NP2: Strike=108, Dip=51, Slip=83.                           |
| 25 | 05 | 17 | 02.7* | 55.449 | N | 158.086 | W | 33  | N | 2.8 |     | 1.3 | 11  | ALASKA PENINSULA   |
| 25 | 05 | 18 | 02.7* | 3.75   | S | 127.88  | E | 33  | N | 4.0 |     | 0.8 | 6   | SERAM, INDONESIA   |
| 25 | 05 | 30 | 21.9  | 3.846  | S | 127.836 | E | 33  | N | 4.8 |     | 1.2 | 39  | SERAM, INDONESIA   |
| 25 | 06 | 02 | 03.6* | 3.788  | S | 127.793 | E | 23  | D | 4.5 |     | 1.4 | 20  | SERAM, INDONESIA   |
| 25 | 06 | 03 | 18.0  | 3.806  | S | 127.702 | E | 22  | D | 5.0 |     | 1.1 | 48  | SERAM, INDONESIA   |
| 25 | 06 | 13 | 20.0* | 44.808 | N | 6.625   | E | 5   | G |     |     | 0.5 | 7   | FRANCE. ML 1.8 (LDG).  |
| 25 | 06 | 20 | 01.7  | 3.802  | S | 127.739 | E | 21  | D | 5.0 |     | 1.0 | 34  | SERAM, INDONESIA   |
| 25 | 06 | 55 | 37.3* | 38.802 | N | 122.798 | W | 2   |   |     |     |     | 12  | NORTHERN CALIFORNIA. <GM-P>. MD 3.0 (GM). ML 3.4 (BRK), 3.3 (GS).  |
| 25 | 07 | 16 | 27.5* | 37.534 | N | 3.777   | W | 5   | G |     |     | 0.7 | 8   | SPAIN. mbLg 2.4 (MDD).   |
| 25 | 07 | 43 | 15.5* | 34.918 | N | 76.531  | E | 100 | G | 3.7 |     | 1.2 | 10  | EASTERN KASHMIR  |
| 25 | 09 | 05 | 04.4* | 9.134  | S | 119.617 | E | 114 | * | 3.9 |     | 1.3 | 15  | SUMBA REGION, INDONESIA  |
| 25 | 09 | 45 | 36.8* | 4.43   | N | 125.57  | E | 150 | G | 4.3 |     | 1.1 | 12  | TALAUD ISLANDS, INDONESIA  |
| 25 | 10 | 14 | 25.1* | 4.729  | S | 145.621 | E | 48  | * | 4.2 |     | 1.5 | 13  | NEAR N COAST OF NEW GUINEA, PNG.   |
| 25 | 10 | 21 | 33.6* | 38.549 | N | 119.539 | W | 2   |   |     |     |     | 3   | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.8 (GM).  |
| 25 | 10 | 22 | 19.4  | 25.495 | N | 128.819 | E | 46  | D | 4.3 |     | 0.8 | 18  | RYUKYU ISLANDS   |
| 25 | 10 | 41 | 42.4* | 59.890 | N | 153.270 | W | 131 |   | 2.6 |     |     | 57  | SOUTHERN ALASKA. <AEIC>.   |
| 25 | 10 | 50 | 04.2* | 78.461 | N | 112.732 | W | 10  | G |     |     | 1.1 | 7   | QUEEN ELIZABETH ISLANDS, CANADA  |
| 25 | 11 | 04 | 48.0  | 16.095 | S | 167.946 | E | 181 | D | 4.9 |     | 1.1 | 88  | VANUATU ISLANDS  |
| 25 | 11 | 13 | 46.1* | 1.132  | S | 126.878 | E | 33  | N | 4.4 |     | 1.5 | 13  | SOUTHERN MOLUCCA SEA   |
| 25 | 11 | 23 | 51.8* | 23.550 | S | 66.710  | W | 200 | G | 4.0 |     | 0.6 | 10  | JUJUY PROVINCE, ARGENTINA  |
| 25 | 11 | 33 | 08.6* | 17.68  | S | 167.36  | E | 33  | N | 4.0 |     | 1.5 | 10  | VANUATU ISLANDS. Felt at Port-Vila.  |
| 25 | 11 | 49 | 51.7  | 52.391 | N | 178.604 | W | 173 |   | 4.6 |     | 0.9 | 47  | ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 25 | 11 | 57 | 32.0* | 45.906 | N | 0.687   | E | 10  | G |     |     | 0.4 | 5   | FRANCE. ML 2.0 (LDG).  |
| 25 | 12 | 23 | 19.5  | 51.642 | N | 16.148  | E | 5   | G | 3.4 |     | 0.9 | 27  | POLAND. ML 3.8 (GRF), 3.5 (VIE).   |
| 25 | 12 | 33 | 44.7* | 4.942  | S | 153.687 | E | 100 | G | 4.2 |     | 0.9 | 11  | NEW IRELAND REGION, P.N.G.   |
| 25 | 13 | 05 | 34.5  | 51.616 | N | 16.322  | E | 5   | G | 3.2 |     | 1.3 | 17  | POLAND. ML 3.8 (VIE), 3.6 (GRF).   |
| 25 | 13 | 26 | 13.7* | 11.551 | N | 125.593 | E | 33  | N | 4.2 |     | 0.7 | 12  | SAMAR, PHILIPPINE ISLANDS  |
| 25 | 14 | 52 | 31.7  | 17.738 | N | 61.613  | W | 46  |   | 4.8 |     | 0.9 | 90  | LEEWARD ISLANDS. MD 5.2 (TRN). Felt on Antigua and St. Kitts.  |
| 25 | 15 | 18 | 21.7* | 78.596 | N | 19.217  | W | 10  | G | 3.0 |     | 1.2 | 9   | EASTERN GREENLAND  |
| 25 | 16 | 15 | 26.4* | 5.83   | S | 154.07  | E | 150 | G |     |     | 0.7 | 6   | SOLOMON ISLANDS  |
| 25 | 17 | 39 | 39.0* | 56.094 | S | 146.636 | E | 10  | G | 4.4 |     | 0.7 | 13  | WEST OF MACQUARIE ISLAND   |
| 25 | 18 | 59 | 44.7* | 57.649 | N | 153.963 | W | 44  |   | 2.9 |     |     | 52  | KODIAK ISLAND REGION. <AEIC>. ML 3.5 (AEIC).   |



|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 25 | 20 | 02 | 51.1  | 52.216 | N | 159.514 | E | 33  | N | 4.4     | 1.0 | 50  | OFF EAST COAST OF KAMCHATKA  |
| 25 | 20 | 08 | 28.7  | 30.074 | N | 88.087  | E | 33  | N | 4.4     | 0.9 | 36  | XIZANG   |
| 25 | 20 | 14 | 12.5? | 32.38  | S | 71.67   | W | 15  | G |         | 0.5 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.8 (SAN).   |
| 25 | 23 | 33 | 04.2  | 44.483 | N | 7.155   | E | 5   | G |         | 0.3 | 8   | NORTHERN ITALY. ML 2.0 (LDG).  |
| 25 | 23 | 48 | 29.4* | 44.549 | N | 148.844 | E | 33  | N | 4.0     | 1.1 | 19  | KURIL ISLANDS  |
| 26 | 01 | 24 | 10.8* | 35.292 | N | 77.841  | E | 33  | N | 3.9     | 1.2 | 18  | EASTERN KASHMIR  |
| 26 | 01 | 27 | 07.4? | 46.79  | N | 1.36    | E | 5   | G |         | 0.9 | 6   | FRANCE. ML 2.0 (LDG).  |
| 26 | 01 | 32 | 29.0* | 20.591 | S | 74.641  | E | 10  | G | 4.4     | 0.8 | 9   | SOUTH INDIAN OCEAN   |
| 26 | 02 | 04 | 00.0? | 38.90  | N | 75.68   | E | 33  | N | 3.3     | 1.2 | 5   | SOUTHERN XINJIANG, CHINA   |
| 26 | 02 | 05 | 27.9? | 35.01  | S | 71.79   | W | 70  | G |         | 0.4 | 10  | CENTRAL CHILE. MD 3.3 (SAN).   |
| 26 | 02 | 17 | 20.0  | 40.442 | N | 126.975 | W | 8   |   |         |     | 4   | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 3.0 (GM).   |
| 26 | 02 | 19 | 13.5? | 56.32  | S | 27.69   | W | 100 | G | 4.4     | 0.8 | 9   | SOUTH SANDWICH ISLANDS REGION  |
| 26 | 02 | 26 | 28.8? | 11.19  | N | 60.19   | W | 90  | G |         | 0.1 | 5   | WINDWARD ISLANDS. MD 2.8 (TRN).  |
| 26 | 04 | 19 | 04.2* | 59.128 | S | 26.475  | W | 87  | D | 4.2     | 0.8 | 11  | SOUTH SANDWICH ISLANDS REGION  |
| 26 | 04 | 48 | 12.5? | 10.32  | N | 61.37   | W | 40  | G |         | 0.1 | 4   | TRINIDAD. MD 2.3 (TRN).  |
| 26 | 06 | 23 | 19.3  | 40.280 | N | 124.402 | W | 22  |   |         |     | 74  | NEAR COAST OF NORTHERN CALIF. <GM-P>. Mw 5.2 (BRK). MD 4.1 (GM). ML 3.9 (GS).  |
|    |    |    |       |        |   |         |   |     |   |         |     |     | Scalar Moment (BRK): Mo=6.4*10**16 Nm.   |
| 26 | 06 | 35 | 10.9* | 4.855  | N | 126.523 | E | 100 | G | 4.4     | 1.3 | 20  | TALAUD ISLANDS, INDONESIA  |
| 26 | 06 | 43 | 45.3? | 19.70  | S | 177.80  | W | 500 | G | 4.0     | 0.8 | 11  | FIJI ISLANDS REGION  |
| 26 | 06 | 58 | 23.1* | 12.063 | N | 41.794  | E | 10  | G | 4.7 4.3 | 1.3 | 66  | ETHIOPIA   |
| 26 | 07 | 44 | 46.0  | 47.066 | N | 0.307   | E | 5   | G |         | 1.3 | 10  | FRANCE. ML 2.3 (LDG).  |
| 26 | 07 | 53 | 44.6  | 23.114 | N | 102.645 | W | 10  | G |         | 0.3 | 8   | CENTRAL MEXICO   |
| 26 | 08 | 21 | 41.5? | 29.50  | N | 34.67   | E | 10  | G |         | 0.4 | 8   | EGYPT. ML 4.0 (JER).   |
| 26 | 08 | 32 | 31.2* | 43.741 | N | 147.201 | E | 59  | D | 4.0     | 0.3 | 11  | KURIL ISLANDS  |
| 26 | 08 | 48 | 23.3  | 45.043 | N | 6.166   | E | 5   | G |         | 1.3 | 8   | FRANCE. ML 1.8 (LDG).  |
| 26 | 08 | 50 | 00.8* | 17.811 | S | 178.949 | W | 550 | G | 4.7     | 1.1 | 31  | FIJI ISLANDS REGION  |
| 26 | 08 | 57 | 43.1* | 7.283  | S | 110.933 | E | 150 | G | 4.7     | 1.0 | 16  | JAWA, INDONESIA  |
| 26 | 09 | 48 | 03.7  | 38.664 | N | 119.511 | W | 0   |   |         |     | 3   | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.8 (GM).  |
| 26 | 09 | 55 | 19.6  | 61.410 | N | 151.705 | W | 77  |   |         |     | 7   | SOUTHERN ALASKA. <AEIC>.   |
| 26 | 09 | 59 | 33.2  | 45.293 | N | 112.543 | W | 7   |   |         |     | 10  | MONTANA. <BUT-P>. ML 3.6 (BUT). Felt in the Dillon area. A magnitude 2.2 foreshock occurred 18.5 seconds earlier.  |
| 26 | 10 | 49 | 04.2  | 40.934 | N | 123.444 | W | 28  |   |         |     | 6   | NORTHERN CALIFORNIA. <GM-P>. MD 3.2 (GM). ML 3.2 (BRK).  |
| 26 | 11 | 19 | 59.5  | 8.385  | S | 156.391 | E | 24  | D | 4.9 4.7 | 1.0 | 33  | SOLOMON ISLANDS  |
| 26 | 11 | 22 | 34.6* | 29.809 | S | 71.402  | W | 33  | N |         | 1.0 | 18  | NEAR COAST OF CENTRAL CHILE. MD 4.7 (SAN). Felt (IV) at Combarbala, Coquimbo, La Serena, Ovalle, Punitaqui and Vicuna; (III) at Illapel.   |
| 26 | 11 | 26 | 15.0* | 36.526 | N | 71.053  | E | 250 | G | 3.4     | 0.5 | 9   | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 26 | 11 | 31 | 59.3  | 44.005 | N | 7.773   | E | 5   | G |         | 0.8 | 10  | NORTHERN ITALY. ML 2.4 (LDG).  |
| 26 | 11 | 50 | 51.3? | 31.49  | S | 69.60   | W | 170 | G |         | 0.5 | 9   | SAN JUAN PROVINCE, ARGENTINA   |
| 26 | 12 | 48 | 21.1  | 34.340 | N | 116.470 | W | 5   |   |         |     | 18  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.7 (PAS).  |
| 26 | 12 | 50 | 26.3? | 0.79   | N | 120.10  | E | 33  | N | 4.5     | 0.7 | 13  | MINAHASSA PENINSULA, SULAWESI  |
| 26 | 13 | 35 | 00.2* | 36.343 | N | 71.122  | E | 100 | G | 4.2     | 1.1 | 16  | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 26 | 14 | 19 | 11.1  | 6.085  | N | 127.072 | E | 100 | G | 4.9     | 1.1 | 42  | PHILIPPINE ISLANDS REGION  |
| 26 | 14 | 41 | 16.6  | 17.181 | S | 167.768 | E | 38  | D | 5.0 4.9 | 1.0 | 71  | VANUATU ISLANDS. Mw 5.4 (HRV).   |
|    |    |    |       |        |   |         |   |     |   |         |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 14:41:20.5; Lat 17.28 S; Lon 167.67 E; Dep 19.2; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.44, Plg=66, Azm=49; (N) Val=-0.06, Plg=11, Azm=163; (P) Val=-1.38, Plg=22, Azm=257; Best double couple: Mo=1.4*10**17 Nm; NP1: Strike=7, Dip=25, Slip=116; NP2: Strike=159, Dip=67, Slip=78. |
| 26 | 15 | 26 | 38.9  | 35.654 | N | 140.123 | E | 70  |   | 4.7     | 1.0 | 41  | NEAR EAST COAST OF HONSHU, JAPAN   |
| 26 | 15 | 28 | 47.4? | 34.58  | N | 32.28   | E | 33  | N | 3.9     | 1.4 | 17  | CYPRUS REGION  |
| 26 | 15 | 32 | 51.9* | 4.847  | S | 154.022 | E | 118 | D | 4.5     | 1.2 | 11  | SOLOMON ISLANDS  |
| 26 | 15 | 40 | 25.8* | 51.678 | N | 16.246  | E | 5   | G |         | 1.6 | 7   | POLAND   |
| 26 | 17 | 27 | 54.7  | 63.356 | N | 145.217 | W | 8   |   |         |     | 26  | CENTRAL ALASKA. <AEIC>. ML 2.6 (AEIC).   |
| 26 | 18 | 06 | 12.6  | 43.774 | N | 6.452   | E | 5   | G |         | 0.3 | 6   | NEAR SOUTH COAST OF FRANCE. ML 1.6 (LDG).  |
| 26 | 18 | 25 | 18.5* | 3.823  | S | 127.841 | E | 33  | N | 3.8     | 0.7 | 10  | SERAM, INDONESIA   |
| 26 | 18 | 36 | 34.2* | 7.480  | S | 106.542 | E | 50  | G | 4.5     | 1.2 | 26  | JAWA, INDONESIA  |
| 26 | 18 | 48 | 54.7? | 17.98  | N | 65.91   | W | 20  | G |         | 0.7 | 6   | PUERTO RICO REGION   |
| 26 | 19 | 17 | 58.8* | 24.035 | N | 121.878 | E | 33  | N | 4.5     | 1.0 | 14  | TAIWAN   |
| 26 | 19 | 46 | 54.2  | 10.494 | N | 61.580  | W | 33  | N |         | 0.3 | 5   | TRINIDAD. MD 3.1 (TRN).  |
| 26 | 20 | 24 | 07.6* | 17.697 | S | 178.571 | W | 550 | G | 4.7     | 1.1 | 30  | FIJI ISLANDS REGION  |
| 26 | 21 | 19 | 34.5? | 32.42  | S | 70.33   | W | 100 | G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.7 (SAN).   |
| 26 | 21 | 33 | 31.0  | 40.283 | N | 124.407 | W | 22  |   |         |     | 6   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.9 (GM). ML 3.0 (BRK).   |
| 26 | 21 | 48 | 24.9  | 61.536 | N | 151.375 | W | 66  |   |         |     | 79  | SOUTHERN ALASKA. <AEIC>. ML 3.0 (AEIC).  |
| 26 | 22 | 54 | 27.9* | 9.481  | N | 126.666 | E | 52  | D | 4.5     | 0.5 | 12  | MINDANAO, PHILIPPINE ISLANDS   |
| 26 | 23 | 15 | 27.2  | 48.799 | N | 1.973   | W | 10  | G |         | 0.5 | 6   | FRANCE. ML 2.0 (LDG).  |
| 26 | 23 | 16 | 52.6  | 48.786 | N | 1.927   | W | 10  | G |         | 0.1 | 5   | FRANCE. ML 1.5 (LDG).  |
| 27 | 00 | 19 | 41.1* | 24.888 | S | 68.740  | W | 118 | D | 4.5     | 1.1 | 25  | CHILE-ARGENTINA BORDER REGION  |
| 27 | 00 | 32 | 03.5* | 50.236 | N | 12.445  | E | 10  | G |         | 0.2 | 5   | GERMANY. ML 1.6 (GRF).   |
| 27 | 00 | 40 | 56.3  | 45.431 | N | 6.139   | E | 10  | G |         | 0.9 | 7   | FRANCE. ML 2.1 (LDG).  |
| 27 | 00 | 46 | 16.8  | 45.224 | N | 16.194  | E | 10  | G | 4.2     | 1.3 | 120 | NORTHWESTERN BALKAN REGION. ML 4.3 (VIE), 4.0 (FUR), 3.8 (ROM). Felt at Glina and Sisak, Croatia and at Bihac, Bosnia and Herzegovina.   |
| 27 | 00 | 49 | 54.0? | 26.89  | S | 176.93  | W | 33  | N |         | 1.2 | 10  | SOUTH OF FIJI ISLANDS  |
| 27 | 01 | 12 | 38.2? | 17.91  | S | 167.38  | E | 200 | G | 4.3     | 1.0 | 15  | VANUATU ISLANDS  |
| 27 | 01 | 34 | 59.4* | 38.013 | N | 73.396  | E | 200 | G | 3.7     | 1.1 | 13  | TAJIKISTAN-XINJIANG BORDER REG.  |
| 27 | 02 | 06 | 44.6  | 36.731 | N | 134.749 | E | 366 | * |         | 0.8 | 10  | SEA OF JAPAN   |
| 27 | 02 | 39 | 24.3* | 6.805  | N | 73.101  | W | 150 | G | 3.6     | 0.5 | 9   | NORTHERN COLOMBIA  |
| 27 | 03 | 27 | 09.5* | 10.592 | N | 125.168 | E | 223 | ? | 4.7     | 1.4 | 21  | LEYTE, PHILIPPINE ISLANDS  |
| 27 | 03 | 46 | 15.7  | 61.520 | N | 152.052 | W | 3   |   |         |     | 45  | SOUTHERN ALASKA. <AEIC>. ML 2.7 (AEIC).  |
| 27 | 03 | 46 | 59.6  | 59.657 | N | 146.242 | W | 0   |   |         |     | 40  | GULF OF ALASKA. <AEIC>. ML 3.4 (AEIC).   |
| 27 | 05 | 22 | 37.8  | 60.283 | N | 146.099 | W | 3   |   |         |     | 56  | SOUTHERN ALASKA. <AEIC>. ML 3.0 (AEIC).  |
| 27 | 05 | 28 | 00.2  | 37.143 | N | 72.033  | E | 250 | G |         | 0.5 | 11  | TAJIKISTAN   |
| 27 | 05 | 38 | 31.4* | 1.245  | S | 100.622 | E | 33  | N |         | 1.2 | 12  | SOUTHERN SUMATERA, INDONESIA   |
| 27 | 06 | 31 | 36.6* | 5.523  | S | 147.085 | E | 200 | G | 4.7     | 0.9 | 12  | EASTERN NEW GUINEA REG., P.N.G.  |
| 27 | 06 | 41 | 39.4  | 33.621 | N | 131.812 | E | 75  | D |         | 0.8 | 8   | KYUSHU, JAPAN  |
| 27 | 06 | 44 | 50.4  | 44.971 | N | 6.631   | E | 5   | G |         | 0.7 | 22  | FRANCE. ML 2.4 (GEN), 2.3 (LDG).   |
| 27 | 07 | 22 | 16.1? | 32.78  | S | 70.30   | W | 100 | G |         | 0.5 | 6   | CHILE-ARGENTINA BORDER REGION  |
| 27 | 07 | 28 | 47.7* | 12.064 | S | 74.388  | W | 33  | N |         | 0.5 | 6   | CENTRAL PERU   |

|    |    |    |       |          |           |       |         |     |    |   |
|----|----|----|-------|----------|-----------|-------|---------|-----|----|---|
| 27 | 09 | 13 | 12.3% | 39.472 N | 122.992 W | 9     |         |     | 6  | NORTHERN CALIFORNIA. <GM-P>. MD 2.9 (GM). ML 3.1 (BRK). |
| 27 | 09 | 56 | 24.3% | 32.747 N | 139.585 E | 200 G |         | 0.5 | 6  | SOUTH OF HONSHU, JAPAN                                  |
| 27 | 10 | 32 | 13.3* | 55.981 S | 26.605 W  | 33 N  | 4.9     | 1.0 | 18 | SOUTH SANDWICH ISLANDS REGION                           |
| 27 | 11 | 58 | 54.3* | 58.718 N | 141.362 W | 10 G  |         | 0.6 | 15 | OFF COAST OF SOUTHEASTERN ALASKA. ML 3.2 (AEIC).        |
| 27 | 12 | 12 | 01.9  | 51.991 N | 169.108 W | 33 N  | 4.7 4.7 | 1.0 | 66 | FOX ISLANDS, ALEUTIAN ISLANDS. ML 4.7 (PMR).            |
| 27 | 12 | 59 | 03.5* | 9.565 N  | 126.317 E | 33 N  | 4.7     | 0.9 | 22 | MINDANAO, PHILIPPINE ISLANDS                            |
| 27 | 14 | 20 | 36.2% | 34.521 S | 70.389 W  | 5 G   |         | 0.4 | 9  | CHILE-ARGENTINA BORDER REGION                           |
| 27 | 14 | 44 | 12.4% | 59.103 S | 154.114 W | 109   |         |     | 34 | SOUTHERN ALASKA. <AEIC>.                                |
| 27 | 15 | 25 | 53.8? | 2.79 N   | 124.96 E  | 400 G | 4.4     | 0.7 | 8  | CELEBES SEA   |
| 27 | 16 | 07 | 02.6  | 24.072 S | 70.425 W  | 33 N  | 4.9     | 1.0 | 29 | NEAR COAST OF NORTHERN CHILE                            |
| 27 | 16 | 18 | 33.2* | 51.087 N | 179.287 E | 33 N  | 4.5     | 1.4 | 23 | RAT ISLANDS, ALEUTIAN ISLANDS                           |
| 27 | 16 | 19 | 18.0* | 51.196 N | 179.488 E | 33 N  | 4.4     | 1.1 | 26 | RAT ISLANDS, ALEUTIAN ISLANDS                           |
| 27 | 16 | 47 | 32.7  | 17.846 N | 102.725 W | 26 D  | 5.0 4.4 | 1.0 | 81 | NEAR COAST OF MICHOACAN, MEXICO                         |
| 27 | 18 | 49 | 40.9? | 31.78 S  | 69.94 W   | 150 G |         | 0.3 | 10 | SAN JUAN PROVINCE, ARGENTINA. MD 3.9 (SAN).             |
| 27 | 19 | 42 | 23.7* | 0.610 S  | 136.530 E | 24 D  | 4.5     | 0.8 | 11 | IRIAN JAYA REGION, INDONESIA                            |
| 27 | 20 | 25 | 27.0? | 41.69 S  | 84.75 E   | 10 G  | 4.2     | 0.6 | 10 | SOUTHEAST INDIAN RIDGE                                  |
| 27 | 20 | 27 | 29.4? | 21.09 S  | 174.18 W  | 33 N  |         | 0.8 | 9  | TONGA ISLANDS   |
| 27 | 21 | 16 | 40.8? | 20.19 S  | 177.34 W  | 500 G | 4.0     | 0.9 | 9  | FIJI ISLANDS REGION                                     |
| 27 | 21 | 59 | 18.1* | 4.183 S  | 127.773 E | 33 N  | 4.5     | 1.3 | 13 | BANDA SEA   |
| 27 | 22 | 09 | 39.3? | 22.51 S  | 169.82 E  | 33 N  |         | 1.7 | 11 | LOYALTY ISLANDS REGION                                  |
| 27 | 23 | 10 | 01.7% | 65.820 N | 146.620 W | 5     |         |     | 13 | NORTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).                 |
| 28 | 00 | 21 | 45.8% | 63.243 N | 151.189 W | 4     |         |     | 51 | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 3.4 (PMR).       |
| 28 | 01 | 55 | 06.4  | 5.904 S  | 129.505 E | 150 G | 5.0     | 1.3 | 32 | BANDA SEA   |
| 28 | 04 | 19 | 31.6* | 10.505 N | 92.798 E  | 33 N  | 4.2     | 0.9 | 13 | ANDAMAN ISLANDS, INDIA                                  |
| 28 | 05 | 04 | 36.6* | 7.492 S  | 120.902 E | 600 G | 4.8     | 0.7 | 18 | FLORES SEA  |
| 28 | 05 | 26 | 22.6  | 47.530 N | 14.882 E  | 5 G   |         | 1.1 | 10 | AUSTRIA. ML 3.0 (GRF), 2.9 (VIE).                       |
| 28 | 07 | 27 | 18.9* | 48.793 N | 155.904 E | 33 N  | 3.2     | 1.1 | 13 | KURIL ISLANDS   |
| 28 | 08 | 20 | 59.7* | 5.380 N  | 126.300 E | 68 *  |         | 1.1 | 12 | MINDANAO, PHILIPPINE ISLANDS                            |
| 28 | 08 | 21 | 12.4* | 17.674 N | 97.378 W  | 109 D |         | 1.6 | 10 | OAXACA, MEXICO  |
| 28 | 09 | 03 | 37.4? | 34.93 S  | 70.62 W   | 120 G |         | 0.2 | 7  | CHILE-ARGENTINA BORDER REGION                           |
| 28 | 09 | 18 | 42.7% | 63.360 N | 149.229 W | 101   |         |     | 59 | CENTRAL ALASKA. <AEIC>.                                 |
| 28 | 09 | 20 | 41.7  | 12.398 N | 125.458 E | 33 N  | 4.9     | 0.9 | 21 | SAMAR, PHILIPPINE ISLANDS                               |
| 28 | 10 | 17 | 01.4* | 37.337 N | 71.294 E  | 100 G | 3.1     | 0.5 | 9  | AFGHANISTAN-TAJIKISTAN BORD REG.                        |
| 28 | 10 | 40 | 08.9% | 44.383 N | 7.346 E   | 10 G  |         | 0.5 | 10 | NORTHERN ITALY. ML 2.0 (GEN).                           |
| 28 | 10 | 44 | 17.6* | 10.645 N | 85.008 W  | 200 G | 3.7     | 0.9 | 14 | COSTA RICA  |
| 28 | 10 | 56 | 53.7  | 42.393 N | 48.489 E  | 33 N  | 4.6     | 1.3 | 38 | CASPIAN SEA   |
| 28 | 12 | 28 | 40.9? | 11.27 N  | 61.71 W   | 10 G  |         | 0.1 | 5  | WINDWARD ISLANDS. MD 3.0 (TRN).                         |
| 28 | 14 | 11 | 37.2* | 26.794 S | 177.099 W | 100 G | 4.6     | 1.1 | 28 | SOUTH OF FIJI ISLANDS                                   |
| 28 | 16 | 20 | 06.4? | 24.35 S  | 179.85 E  | 600 G | 4.3     | 1.1 | 18 | SOUTH OF FIJI ISLANDS                                   |
| 28 | 16 | 30 | 18.2  | 27.629 S |           |       |         |     |    |   |

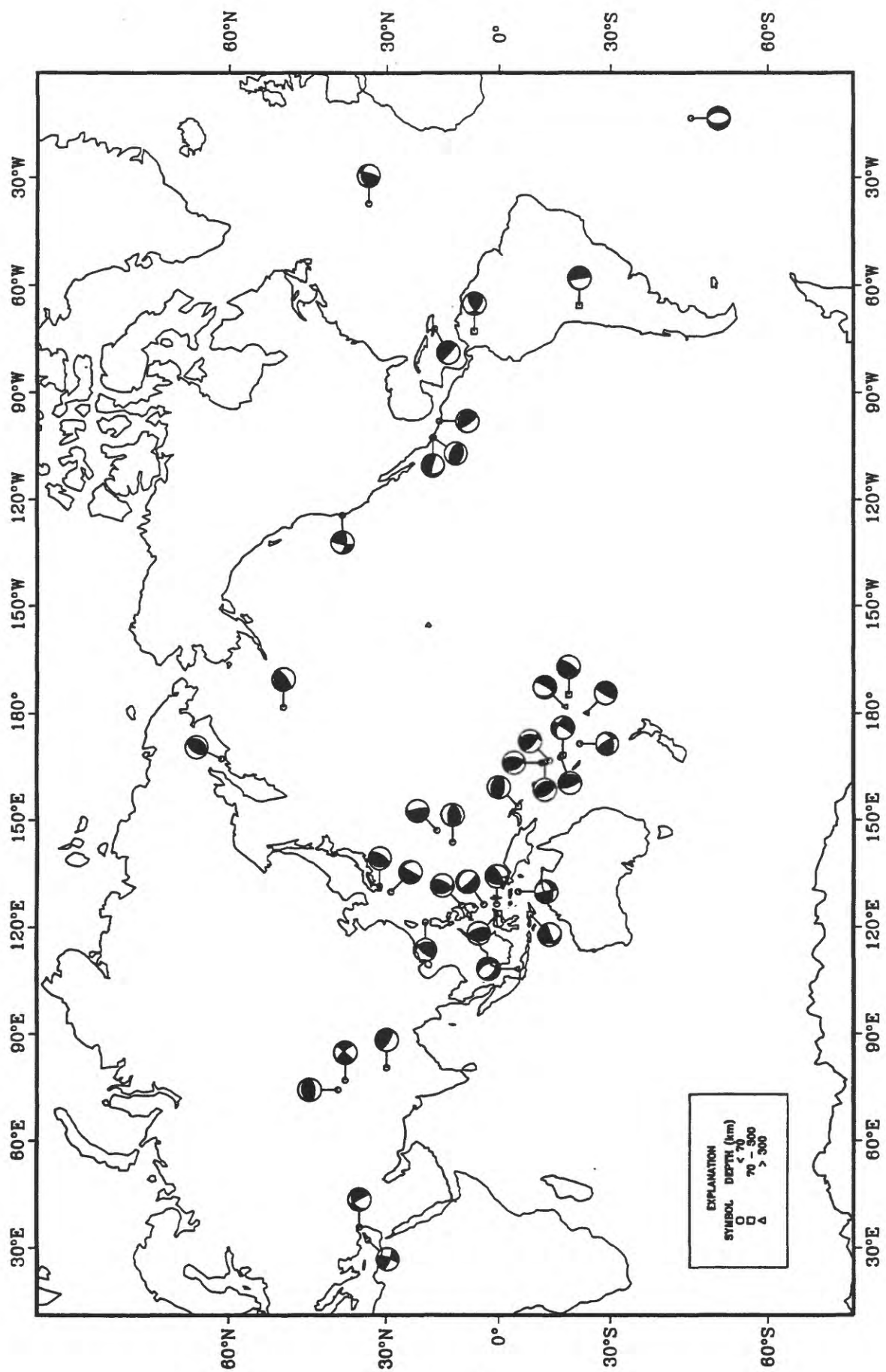


|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 29 | 17 | 06 | 13.4* | 2.954  | S | 129.422 | E | 33  | N | 4.6     | 1.1 | 25  | SERAM, INDONESIA   |
| 29 | 17 | 16 | 16.8* | 22.940 | S | 169.301 | E | 33  | N | 4.6     | 1.3 | 23  | LOYALTY ISLANDS REGION   |
| 29 | 17 | 54 | 46.2  | 14.832 | N | 60.511  | W | 50  | G |         | 0.4 | 15  | WINDWARD ISLANDS. MD 4.0 (TRN). Felt (II) on Martinique.   |
| 29 | 18 | 19 | 33.6  | 23.995 | S | 178.647 | E | 600 | G | 5.1     | 0.8 | 68  | SOUTH OF FIJI ISLANDS. Mw 5.3 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>18:19:34.7; Lat 23.84 S; Lon 178.85 E; Dep 584.2; Half-<br>duration 1.0 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=0.69, Plg=27, Azm=241; (N) Val=0.48, Plg=2, Azm=150;<br>(P) Val=-1.16, Plg=63, Azm=55; Best double couple:<br>Mo=9.2*10**16 Nm; NP1: Strike=337, Dip=18, Slip=-82; NP2:<br>Strike=149, Dip=72, Slip=-93.  |
| 29 | 18 | 45 | 13.6* | 61.002 | N | 150.808 | W | 44  |   |         |     | 55  | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC).  |
| 29 | 19 | 37 | 31.3  | 26.481 | N | 126.757 | E | 100 | G | 4.3     | 0.9 | 27  | RYUKYU ISLANDS   |
| 29 | 19 | 40 | 55.5* | 7.516  | N | 95.590  | E | 150 | G | 4.2     | 1.2 | 9   | NICOBAR ISLANDS, INDIA   |
| 29 | 19 | 52 | 42.4* | 30.940 | N | 141.892 | E | 33  | N |         | 1.0 | 7   | SOUTH OF HONSHU, JAPAN   |
| 29 | 20 | 16 | 39.0* | 59.814 | N | 153.226 | W | 119 |   | 3.0     |     | 63  | SOUTHERN ALASKA. <AEIC>.   |
| 29 | 20 | 21 | 35.9* | 46.654 | N | 150.267 | E | 100 | G | 4.4     | 0.9 | 40  | KURIL ISLANDS  |
| 29 | 20 | 29 | 29.2* | 24.243 | S | 178.637 | E | 650 | G | 4.3     | 1.2 | 18  | SOUTH OF FIJI ISLANDS  |
| 29 | 21 | 41 | 17.7* | 29.539 | N | 138.889 | E | 450 | G | 3.6     | 0.7 | 14  | SOUTH OF HONSHU, JAPAN   |
| 29 | 22 | 33 | 44.7* | 23.17  | S | 111.69  | W | 10  | G | 3.9     | 0.9 | 7   | EASTER ISLAND REGION   |
| 29 | 23 | 08 | 47.0* | 61.358 | N | 147.494 | W | 20  |   |         |     | 67  | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC), 2.9 (PMR).   |
| 29 | 23 | 15 | 31.2* | 24.50  | S | 179.59  | E | 550 | G | 4.2     | 1.2 | 14  | SOUTH OF FIJI ISLANDS  |
| 29 | 23 | 19 | 20.8  | 12.904 | S | 166.376 | E | 33  | N | 5.5 6.0 | 1.3 | 116 | SANTA CRUZ ISLANDS. Mw 6.2 (HRV), 6.0 (GS).<br>Moment Tensor (GS): Dep 28; Principal axes (scale 10**18<br>Nm): (T) Val=1.31, Plg=83, Azm=43; (N) Val=-0.05, Plg=2,<br>Azm=147; (P) Val=-1.26, Plg=7, Azm=238; Best double couple:<br>Mo=1.3*10**18 Nm; NP1: Strike=330, Dip=38, Slip=93; NP2:<br>Strike=146, Dip=52, Slip=88.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>23:19:27.7; Lat 12.87 S; Lon 166.26 E; Dep 36.0 Bdy; Half-<br>duration 3.1 sec; Principal axes (scale 10**18 Nm): (T)<br>Val=2.13, Plg=77, Azm=348; (N) Val=0.05, Plg=13, Azm=162;<br>(P) Val=-2.18, Plg=1, Azm=253; Best double couple:<br>Mo=2.2*10**18 Nm; NP1: Strike=355, Dip=45, Slip=108; NP2:<br>Strike=150, Dip=48, Slip=73. |
| 29 | 23 | 31 | 11.0* | 12.899 | S | 166.588 | E | 33  | N | 4.7     | 1.0 | 21  | SANTA CRUZ ISLANDS   |
| 29 | 23 | 40 | 46.1* | 26.203 | N | 124.820 | E | 200 | G | 4.1     | 0.7 | 18  | NORTHEAST OF TAIWAN  |
| 30 | 00 | 38 | 53.8* | 1.228  | N | 126.053 | E | 33  | N | 4.7     | 0.8 | 20  | NORTHERN MOLUCCA SEA   |
| 30 | 03 | 14 | 40.7* | 31.715 | S | 68.837  | W | 200 | G | 4.0     | 1.2 | 14  | SAN JUAN PROVINCE, ARGENTINA. MD 4.2 (SAN).  |
| 30 | 03 | 20 | 54.9  | 34.821 | N | 136.089 | E | 356 |   | 4.4     | 0.9 | 68  | WESTERN HONSHU, JAPAN  |
| 30 | 03 | 26 | 20.7* | 24.86  | S | 179.25  | E | 650 | G | 4.5     | 0.9 | 17  | SOUTH OF FIJI ISLANDS  |
| 30 | 03 | 32 | 50.4* | 24.09  | S | 67.19   | W | 200 | G | 4.5     | 1.1 | 7   | CHILE-ARGENTINA BORDER REGION  |
| 30 | 03 | 40 | 51.9* | 13.02  | S | 166.49  | E | 100 | G |         | 1.5 | 6   | VANUATU ISLANDS  |
| 30 | 03 | 56 | 56.4* | 65.026 | N | 132.591 | W | 10  | G |         | 1.2 | 6   | NORTHERN YUKON TERRITORY, CANADA   |
| 30 | 05 | 28 | 23.3  | 59.380 | N | 145.049 | W | 33  | N | 5.0 4.5 | 0.9 | 183 | GULF OF ALASKA. ML 4.9 (AEIC), 4.8 (PMR).  |
| 30 | 05 | 38 | 06.8* | 18.375 | S | 178.263 | W | 650 | G | 4.3     | 0.7 | 18  | FIJI ISLANDS REGION  |
| 30 | 08 | 32 | 13.5* | 51.149 | N | 179.724 | E | 33  | N | 4.1     | 0.8 | 22  | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 30 | 08 | 50 | 56.6* | 8.348  | N | 145.549 | E | 33  | N | 4.4     | 1.2 | 21  | E. CAROLINE ISLANDS, MICRONESIA  |
| 30 | 09 | 22 | 32.8* | 6.14   | S | 155.71  | E | 100 | G | 3.5     | 0.5 | 6   | SOLOMON ISLANDS  |
| 30 | 09 | 59 | 01.8  | 22.504 | N | 101.322 | E | 10  | G | 5.0 4.7 | 1.3 | 65  | MYANMAR-CHINA BORDER REGION. Felt strongly at Jiangcheng,<br>Mengla, Puer and Yunjinghong, China.  |
| 30 | 10 | 34 | 00.0* | 51.08  | N | 179.49  | E | 33  | N | 3.5     | 0.9 | 6   | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 30 | 10 | 37 | 04.5* | 50.90  | N | 179.40  | E | 33  | N | 3.4     | 0.9 | 5   | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 30 | 10 | 42 | 07.3* | 3.510  | S | 149.758 | E | 33  | N | 4.3     | 1.3 | 12  | BISMARCK SEA   |
| 30 | 11 | 10 | 47.8* | 40.213 | N | 124.165 | W | 11  |   |         |     | 4   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.8 (GM).   |
| 30 | 11 | 47 | 21.1* | 60.174 | N | 147.246 | W | 7   |   |         |     | 47  | SOUTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 30 | 12 | 09 | 18.7  | 51.599 | N | 16.442  | E | 5   | G |         | 0.9 | 8   | POLAND. MG 3.1 (WAR).  |
| 30 | 12 | 57 | 56.9* | 54.084 | S | 5.343   | E | 10  | G | 4.8     | 0.5 | 8   | BOUVET ISLAND REGION   |
| 30 | 13 | 06 | 52.9* | 35.749 | N | 117.638 | W | 5   |   |         |     | 26  | CENTRAL CALIFORNIA. <PAS-P>. MD 3.0 (PAS). ML 3.0 (GS).  |
| 30 | 13 | 54 | 32.7* | 15.268 | S | 178.618 | W | 400 | G | 4.1     | 0.8 | 36  | FIJI ISLANDS REGION  |
| 30 | 14 | 15 | 53.7* | 54.284 | N | 169.437 | W | 281 | * | 4.1     | 1.1 | 19  | FOX ISLANDS, ALEUTIAN ISLANDS  |
| 30 | 14 | 35 | 53.3* | 44.912 | N | 6.373   | E | 5   | G |         | 0.7 | 9   | FRANCE. ML 2.2 (GEN).  |
| 30 | 14 | 36 | 20.7* | 84.974 | N | 5.965   | E | 10  | G | 4.5     | 0.9 | 12  | NORTH OF SVALBARD  |
| 30 | 15 | 11 | 59.0* | 1.72   | N | 128.54  | E | 100 | G | 3.8     | 1.1 | 8   | HALMAHERA, INDONESIA   |
| 30 | 15 | 55 | 04.1* | 24.941 | N | 94.385  | E | 100 | G | 4.1     | 1.1 | 13  | MYANMAR-INDIA BORDER REGION  |
| 30 | 16 | 13 | 18.1* | 79.232 | N | 3.693   | E | 10  | G |         | 0.9 | 7   | GREENLAND SEA  |
| 30 | 16 | 17 | 45.3  | 44.410 | N | 4.858   | E | 10  | G |         | 0.9 | 11  | FRANCE.. ML 2.8 (STR).   |
| 30 | 17 | 20 | 10.0* | 3.60   | S | 103.68  | E | 150 | G | 3.6     | 1.1 | 8   | SOUTHERN SUMATERA, INDONESIA   |
| 30 | 17 | 44 | 20.6* | 37.179 | N | 71.642  | E | 133 | D | 4.2     | 1.1 | 20  | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 30 | 18 | 01 | 31.6* | 36.54  | N | 71.35   | E | 150 | G | 3.5     | 0.8 | 9   | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 30 | 18 | 16 | 49.2* | 44.877 | N | 144.406 | E | 238 | * | 4.4     | 1.0 | 26  | HOKKAIDO, JAPAN REGION   |
| 30 | 18 | 25 | 56.8* | 6.24   | S | 141.85  | E | 33  | N | 3.7     | 1.2 | 7   | NEW GUINEA, PAPUA NEW GUINEA   |
| 30 | 18 | 32 | 33.4* | 10.258 | N | 121.675 | E | 33  | N | 4.8     | 1.1 | 19  | PANAY, PHILIPPINE ISLANDS  |
| 30 | 18 | 37 | 58.1  | 36.861 | N | 28.312  | E | 38  | * | 3.8     | 1.2 | 23  | DODECANESE ISLANDS   |
| 30 | 18 | 48 | 21.0* | 36.082 | N | 117.634 | W | 1   |   |         |     | 25  | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.2 (PAS). ML<br>3.1 (GS).  |
| 30 | 20 | 53 | 22.8* | 0.68   | S | 131.53  | E | 33  | N | 4.3     | 1.3 | 10  | IRIAN JAYA REGION, INDONESIA   |
| 30 | 21 | 21 | 48.2* | 50.446 | N | 18.978  | E | 10  | G |         | 1.4 | 7   | POLAND. MG 2.9 (WAR).  |
| 30 | 21 | 31 | 52.0  | 23.820 | N | 141.686 | E | 118 | D | 4.6     | 1.2 | 51  | VOLCANO ISLANDS REGION   |
| 30 | 21 | 33 | 46.6* | 33.03  | S | 72.48   | W | 10  | G |         | 0.5 | 11  | OFF COAST OF CENTRAL CHILE. MD 3.4 (SAN).  |
| 30 | 21 | 40 | 51.8* | 5.911  | N | 125.733 | E | 176 | * | 4.3     | 1.0 | 15  | MINDANAO, PHILIPPINE ISLANDS   |
| 30 | 21 | 42 | 46.4  | 17.679 | N | 120.247 | E | 53  | D | 4.9     | 0.8 | 88  | LUZON, PHILIPPINE ISLANDS  |
| 30 | 21 | 49 | 58.4* | 43.140 | N | 145.295 | E | 100 | G |         | 0.6 | 5   | HOKKAIDO, JAPAN REGION   |
| 30 | 21 | 57 | 46.4  | 39.520 | N | 76.938  | E | 80  | D | 4.2     | 0.8 | 23  | SOUTHERN XINJIANG, CHINA   |
| 30 | 23 | 46 | 29.7  | 7.505  | N | 36.290  | W | 10  | G | 4.8 4.4 | 0.7 | 77  | CENTRAL MID-ATLANTIC RIDGE   |
| 31 | 00 | 12 | 51.5* | 2.846  | S | 138.592 | E | 33  | N | 4.0     | 1.5 | 9   | IRIAN JAYA, INDONESIA  |
| 31 | 01 | 43 | 25.4* | 12.21  | N | 85.99   | W | 100 | G | 3.6     | 0.7 | 9   | NICARAGUA  |
| 31 | 02 | 56 | 53.3* | 29.515 | N | 68.094  | E | 33  | N | 3.8     | 0.6 | 9   | PAKISTAN   |
| 31 | 03 | 17 | 29.4* | 16.817 | N | 96.502  | W | 76  | * |         | 1.4 | 12  | OAXACA, MEXICO   |
| 31 | 03 | 51 | 49.9  | 18.656 | S | 169.060 | E | 200 | G | 5.0     | 1.1 | 132 | VANUATU ISLANDS  |
| 31 | 04 | 05 | 42.6* | 43.708 | N | 147.379 | E | 60  | ? | 4.2     | 1.3 | 35  | KURIL ISLANDS  |
| 31 | 04 | 48 | 41.9* | 12.43  | N | 125.57  | E | 33  | N |         | 1.3 | 6   | SAMAR, PHILIPPINE ISLANDS  |
| 31 | 05 | 02 | 56.7* | 14.70  | S | 176.35  | W | 200 | G | 4.2     | 1.1 | 13  | FIJI ISLANDS REGION  |

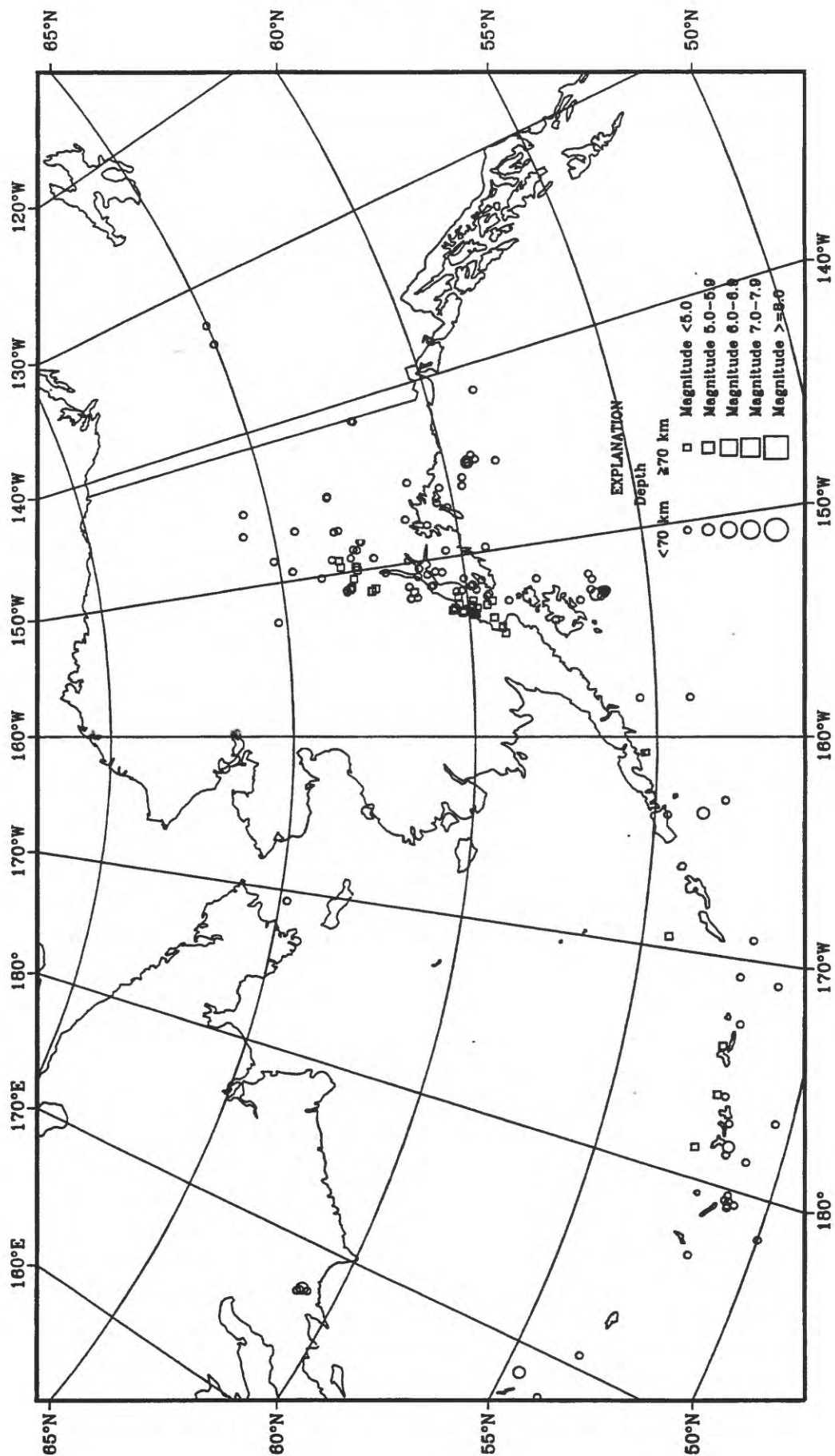
|    |    |    |       |        |   |         |   |     |   |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|--|
| 31 | 06 | 00 | 01.37 | 43.30  | N | 146.78  | E | 33  | N | 1.1 | 6   | KURIL ISLANDS  |
| 31 | 08 | 21 | 20.3* | 11.767 | N | 143.572 | E | 33  | N | 0.8 | 13  | SOUTH OF MARIANA ISLANDS   |
| 31 | 09 | 25 | 57.97 | 24.96  | N | 45.97   | W | 10  | G | 0.6 | 6   | NORTHERN MID-ATLANTIC RIDGE  |
| 31 | 09 | 55 | 20.0  | 10.966 | N | 84.775  | W | 155 | D | 0.8 | 61  | COSTA RICA   |
| 31 | 10 | 39 | 57.8* | 12.633 | N | 142.735 | E | 137 | * | 1.1 | 30  | SOUTH OF MARIANA ISLANDS   |
| 31 | 10 | 43 | 00.7* | 36.107 | N | 139.902 | E | 33  | N | 0.8 | 5   | EASTERN HONSHU, JAPAN  |
| 31 | 12 | 25 | 41.0* | 33.911 | N | 117.785 | W | 9   |   |     | 29  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.5 (PAS). ML 3.5 (GS).<br>Felt in Los Angeles, Orange, Riverside and San Bernardino<br>Counties. |
| 31 | 12 | 48 | 31.7  | 45.188 | N | 5.932   | E | 10  | G | 1.3 | 14  | FRANCE. ML 2.5 (STR).  |
| 31 | 13 | 28 | 03.5* | 27.853 | N | 129.807 | E | 33  | N | 0.4 | 6   | RYUKYU ISLANDS   |
| 31 | 13 | 55 | 47.8* | 24.858 | N | 46.434  | W | 10  | G | 1.0 | 9   | NORTHERN MID-ATLANTIC RIDGE  |
| 31 | 14 | 22 | 38.9* | 31.188 | N | 138.428 | E | 371 | * | 1.3 | 15  | SOUTH OF HONSHU, JAPAN   |
| 31 | 16 | 14 | 02.67 | 22.86  | S | 170.35  | E | 50  | G | 1.4 | 13  | LOYALTY ISLANDS REGION   |
| 31 | 17 | 09 | 15.9  | 27.998 | N | 85.218  | E | 10  | G | 1.1 | 28  | NEPAL. Felt at Kathmandu.  |
| 31 | 18 | 02 | 29.4* | 5.245  | S | 129.941 | E | 200 | G | 0.5 | 14  | BANDA SEA  |
| 31 | 18 | 06 | 44.5  | 8.595  | S | 114.847 | E | 76  |   | 1.2 | 33  | BALI REGION, INDONESIA. Felt at Denpasar. Also felt (II) at<br>Kahang-Kahang.  |
| 31 | 18 | 24 | 46.4* | 62.817 | N | 148.770 | W | 11  |   |     | 70  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.4 (PMR).  |
| 31 | 19 | 21 | 20.9* | 33.080 | N | 139.333 | E | 21  | * | 1.4 | 15  | SOUTH OF HONSHU, JAPAN   |
| 31 | 19 | 28 | 43.5* | 18.343 | S | 67.925  | W | 250 | G | 0.7 | 11  | CENTRAL BOLIVIA  |
| 31 | 20 | 02 | 16.6  | 27.946 | N | 85.127  | E | 22  | D | 1.0 | 167 | NEPAL. Some damage to buildings in the Dhunche area. Felt at<br>Kathmandu.   |
| 31 | 20 | 16 | 32.7* | 32.665 | S | 71.080  | W | 10  | G | 0.4 | 9   | NEAR COAST OF CENTRAL CHILE. MD 3.2 (SAN).   |
| 31 | 20 | 22 | 56.0* | 65.691 | N | 145.163 | W | 14  |   |     | 24  | NORTHERN ALASKA. <AEIC>. ML 2.9 (AEIC).  |
| 31 | 20 | 53 | 00.77 | 25.35  | S | 112.66  | W | 10  | G | 0.9 | 5   | EASTER ISLAND REGION   |
| 31 | 20 | 55 | 53.1* | 27.904 | N | 85.120  | E | 10  | G | 0.8 | 13  | NEPAL. Felt at Kathmandu.  |
| 31 | 21 | 05 | 28.9* | 27.146 | N | 142.960 | E | 33  | N | 0.5 | 7   | BONIN ISLANDS REGION   |
| 31 | 21 | 19 | 44.5  | 43.355 | N | 0.647   | W | 10  | G | 1.4 | 8   | PYRENEES. ML 2.6 (LDG). mbLg 2.4 (MDD).  |
| 31 | 21 | 28 | 00.4* | 4.691  | S | 134.251 | E | 27  | D | 1.2 | 12  | IRIAN JAYA REGION, INDONESIA   |
| 31 | 21 | 37 | 00.0* | 46.116 | N | 1.317   | W | 5   | G | 0.6 | 5   | FRANCE. ML 2.2 (LDG).  |
| 31 | 23 | 18 | 39.6  | 26.144 | N | 140.859 | E | 524 | D | 0.9 | 239 | BONIN ISLANDS REGION   |
| 31 | 23 | 44 | 58.5* | 63.146 | N | 151.058 | W | 111 |   |     | 5   | CENTRAL ALASKA. <AEIC>.  |
| 31 | 23 | 46 | 40.67 | 35.07  | S | 70.72   | W | 120 | G | 0.3 | 9   | CHILE-ARGENTINA BORDER REGION  |

Compiled by Pamela J. Benfield, Don L. Blakeman, George L. Choy, Stuart K. Koyanagi, John H. Minsch,  
Waverly J. Person, Stuart A. Sipkin and Madeleine D. Zirbes.

## Earthquake Focal Mechanisms for January 1997

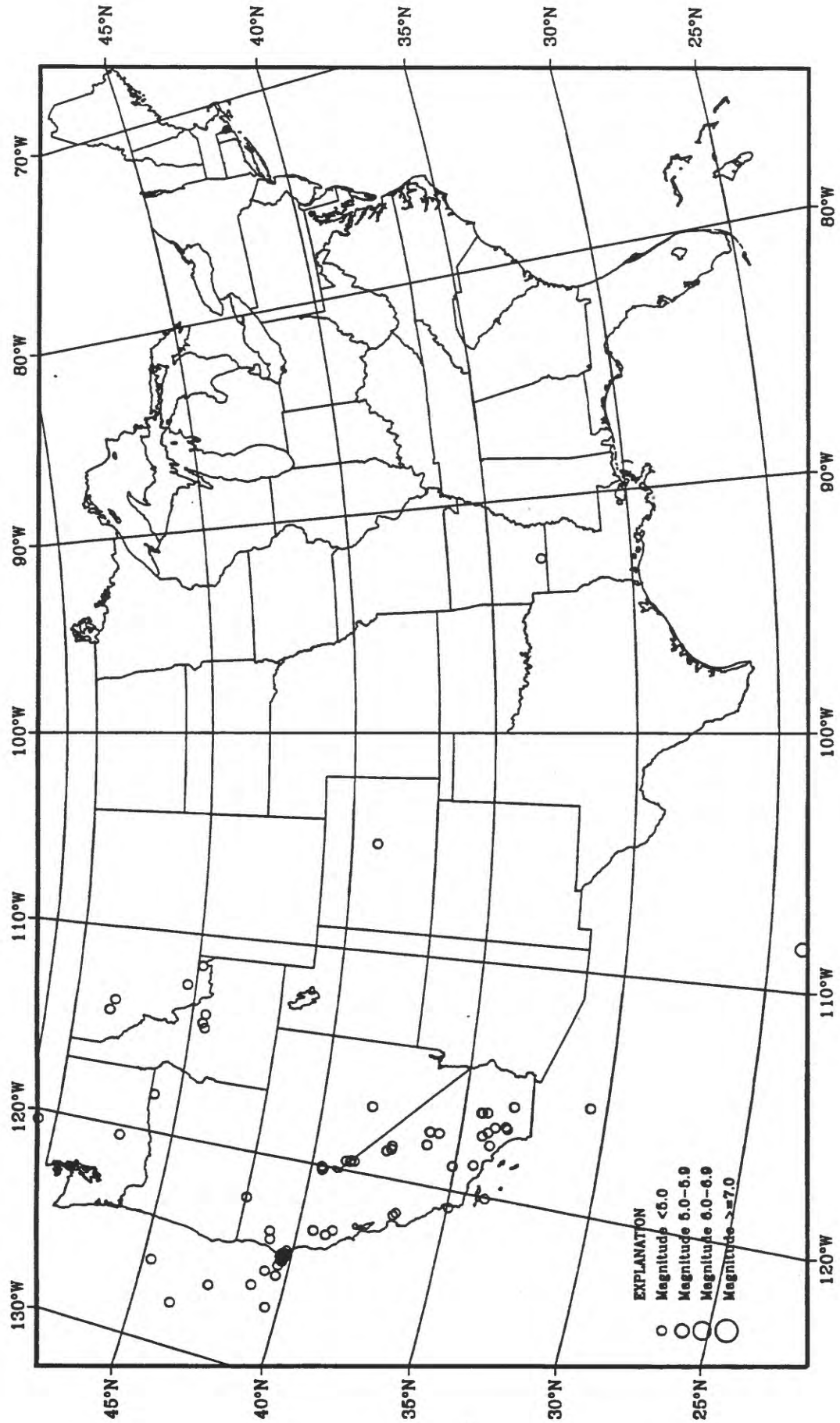


# Earthquake epicenters in Alaska and adjacent regions for January 1997

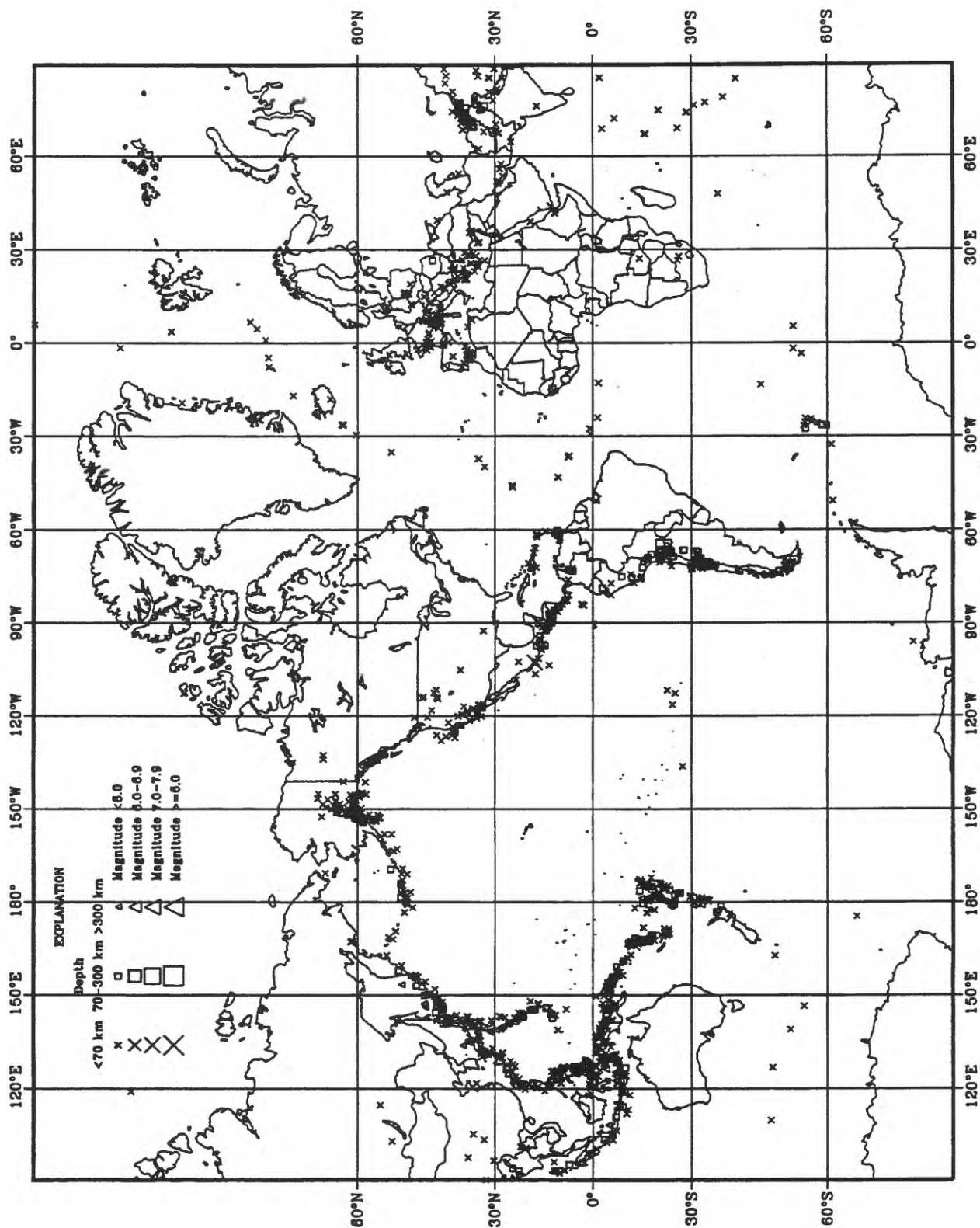




# Earthquake epicenters in the conterminous United States and adjacent regions for January 1997



# Earthquakes located worldwide in January 1997



## SIGNIFICANT EARTHQUAKES OF THE WORLD, 1996

Earthquakes of magnitude 6.5 or greater or ones that caused fatalities, injuries or substantial damage.  
BRK--Berkeley. PAS--Pasadena.

| DATE   | ORIGIN TIME |    |      | GEOGRAPHIC |           | DEPTH | MAGNITUDES |     |     | NO.<br>STA<br>USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS   |
|--------|-------------|----|------|------------|-----------|-------|------------|-----|-----|--------------------|---|
|        | HR          | MN | SEC  | LAT        | LONG      |       | GS         | Ms  | Ms  |                    |   |
| JAN 01 | 08          | 05 | 10.8 | 0.729 N    | 119.931 E | 24 G  | 6.3        | 7.6 | 1.2 | 368                | MINAHASSA PENINSULA, SULAWESI. Mw 7.8 (GS), 7.9 (HRV). Me 7.4 (GS). Ms 7.6 (BRK). Mo=5.1*10**20 Nm (GS). Mo=7.8*10**20 Nm (HRV). Mo=2.6*10**20 Nm (PPT). At least eight people killed, one person missing and more than 350 buildings damaged in the Bangkir-Tolitoli area. A local tsunami with estimated runup heights of one to five meters contributed to the damage in the epicentral area. Two events about 2.4 seconds apart.                    |
| JAN 01 | 09          | 57 | 51.4 | 53.826 N   | 159.586 E | 33 N  | 5.9        | 6.6 | 1.4 | 316                | NEAR EAST COAST OF KAMCHATKA. Ms 6.6 (BRK). Felt (IV) at Petropavlovsk-Kamchatskiy.   |
| JAN 08 | 10          | 04 | 47.8 | 53.304 N   | 142.738 E | 8 G   | 5.6        | 5.3 | 0.9 | 453                | SAKHALIN ISLAND. Mw 5.6 (GS), 5.6 (HRV). Ms 5.1 (BRK). Mo=3.1*10**17 Nm (GS). Mo=3.0*10**17 Nm (HRV). Fourteen houses damaged at Okha. Felt (VII) at Russa; (VI) at Okha and Tungor; (V) at Moskalvo, Nogliki and Vostochnyy; (IV) at Nekrasovka and Rybnoye.   |
| JAN 30 | 22          | 29 | 57.1 | 32.921 S   | 178.298 W | 33 N  | 5.6        | 6.7 | 1.0 | 137                | SOUTH OF KERMADec ISLANDS. Mw 6.4 (HRV). Ms 6.9 (BRK). Mo=4.4*10**18 Nm (HRV). Mo=6.2*10**18 Nm (PPT).  |
| FEB 03 | 11          | 14 | 20.1 | 27.291 N   | 100.276 E | 11 G  | 6.4        | 6.5 | 1.2 | 604                | YUNNAN, CHINA. Mw 6.2 (GS), 6.6 (HRV). Me 6.6 (GS). Mo=2.1*10**18 Nm (GS). Mo=9.9*10**18 Nm (HRV). At least 322 people killed, 3,925 seriously injured and 13,000 slightly injured. About 358,000 housing units collapsed and 654,000 others were damaged. More than 320,000 people were left homeless. Maximum intensity (IX) at Lijiang. Complex event. Depth from broadband displacement seismograms.  |
| FEB 07 | 21          | 36 | 46.3 | 45.324 N   | 149.892 E | 43 G  | 6.3        | 7.0 | 1.1 | 642                | KURIL ISLANDS. Mw 7.1 (GS), 7.2 (HRV). Mo=4.8*10**19 Nm (GS). Mo=6.4*10**19 Nm (HRV). Minor damage (V) on Iturup. Felt (V) at Yuzhno-Kurilsk, Kunashir. Also felt (V) on Simushir and Urup.   |
| FEB 16 | 09          | 44 | 58.4 | 1.496 S    | 15.279 W  | 11 G  | 6.2        | 6.4 | 1.1 | 465                | NORTH OF ASCENSION ISLAND. Mw 6.5 (GS), 6.6 (HRV). Me 6.9 (GS). Mo=7.3*10**18 Nm (GS). Mo=8.3*10**18 Nm (HRV). Mo=6.3*10**18 Nm (PPT).  |
| FEB 16 | 15          | 22 | 58.8 | 37.353 N   | 142.380   | 41 G  | 6.3        | 6.2 | 1.1 | 627                | OFF EAST COAST OF HONSHU, JAPAN. Mw 6.7 (GS), 6.7 (HRV). Me 6.7 (GS). Ms 5.8 (BRK). Mo=1.1*10**19 Nm (GS). Mo=1.3*10**19 Nm (HRV). Mo=1.2*10**19 Nm (PPT). Several people slightly injured in the epicentral area. Felt (IV JMA) at Fukushima, Ichinoseki, Ishinomaki, Mito, Morioka, Ofunato, Sendai and Shirakawa. Felt at Tokyo. Also felt on the Izu Peninsula and on Hokkaido.   |
| FEB 17 | 05          | 59 | 30.5 | 0.891 S    | 136.952 E | 33 N  | 6.5        | 8.1 | 1.3 | 370                | IRIAN JAYA REGION, INDONESIA. Mw 8.1 (GS), 8.2 (HRV). Me 7.7 (GS). Ms 7.8 (BRK). Mo=1.8*10**21 Nm (GS). Mo=2.4*10**21 Nm (HRV). Mo=9.0*10**20 Nm (PPT). At least 108 people killed, 423 injured, 58 missing, 5,043 houses destroyed or damaged in the epicentral area. Extensive damage on Biak and Supiori from the tsunami, which reached heights of 7 meters in many areas. Also damage along the north coast of Irian Jaya from Manokwari to Sarmi. |
| FEB 17 | 14          | 21 | 22.3 | 0.567 S    | 135.840 E | 19 G  | 5.8        | 6.5 | 1.1 | 294                | IRIAN JAYA REGION, INDONESIA. Mw 6.5 (GS), 6.5 (HRV). Me 6.5 (GS). Mo=6.4*10**18 Nm (GS). Mo=6.6*10**18 Nm (HRV).   |
| FEB 17 | 20          | 18 | 07.0 | 0.917 S    | 136.225 E | 32 G  | 6.0        | 6.6 | 1.3 | 127                | IRIAN JAYA REGION, INDONESIA. Mw 6.4 (GS), 6.5 (HRV). Me 6.5 (GS). Ms 6.6 (BRK). Mo=4.8*10**18 Nm (GS). Mo=7.2*10**18 Nm (HRV). Mo=8.9*10**18 Nm (PPT).   |
| FEB 18 | 02          | 25 | 33.3 | 1.336 S    | 136.464 E | 10 G  | 5.9        | 6.3 | 1.4 | 244                | IRIAN JAYA REGION, INDONESIA. Mw 6.0 (GS), 6.4 (HRV). Me 6.6 (GS). Mo=1.3*10**18 Nm (GS). Mo=4.3*10**18 Nm (HRV). Mo=9.0*10**18 Nm (PPT).   |
| FEB 18 | 23          | 49 | 28.1 | 1.266 S    | 14.273 W  | 10 G  | 6.3        | 6.5 | 1.1 | 534                | NORTH OF ASCENSION ISLAND. Mw 6.5 (GS), 6.6 (HRV). Me 7.0 (GS). Mo=7.3*10**18 Nm (GS). Mo=9.7*10**18 Nm (HRV). Mo=6.8*10**18 Nm (PPT).  |
| FEB 21 | 12          | 51 | 01.3 | 9.593 S    | 79.587 W  | 10 G  | 5.8        | 6.6 | 1.2 | 238                | OFF COAST OF NORTHERN PERU. Mw 7.4 (GS), 7.5 (HRV). Ms 6.4 (BRK). Mo=1.5*10**20 Nm (GS). Mo=2.2*10**20 Nm (HRV). Mo=3.0*10**20 Nm (PPT). Four fishermen killed near Chimbote and three others missing near Callao from a regional tsunami. Two people injured at Coishco. About 150 beach huts, some homes and small boats were destroyed by waves in the Chimbote area. Felt (IV) at Chimbote and Huarmey; (III) at Casma; (II) at Huacho and Huaraz.  |

| DATE   | ORIGIN TIME<br>UTC<br>HR MN SEC | GEOGRAPHIC<br>COORDINATES<br>LAT LONG | DEPTH | MAGNITUDES<br>GS<br>MB Msz | SD  | NO.<br>STA<br>USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS  |
|--------|---------------------------------|---------------------------------------|-------|----------------------------|-----|--------------------|--|
| FEB 22 | 13 40 53.4                      | 33.672 S 71.671 W                     | 43 G  | 5.9 5.5                    | 1.1 | 335                | NEAR COAST OF CENTRAL CHILE. Mw 6.0 (GS), 5.9 (HRV). Me 5.7 (GS). MD 5.7 (SAN). Mo-1.1*10**18 Nm (GS). Mo-7.9*10**17 Nm (HRV). One person injured at Santiago. Minor damage (VII) at Papudo. Felt (V) at Coquimbo, Rancagua, Santiago and Valparaiso; (IV) in Maule Province. Mud walls collapsed at Las Cabras and Melipilla. Mudslides blocked roads in the San Antonio area.  |
| FEB 25 | 03 08 15.8                      | 15.978 N 98.070 W                     | 21 G  | 6.1 6.9                    | 1.2 | 403                | OFF COAST OF GUERRERO, MEXICO. Mw 7.1 (GS), 7.1 (HRV). Me 6.5 (GS). Ms 6.6 (BRK). Mo-5.4*10**19 Nm (GS). Mo-3.5*10**19 Nm (HRV). Felt along the Guerrero and Oaxaca coasts. Also felt at Mexico City.  |
| MAR 03 | 14 55 11.8                      | 11.657 N 86.856 W                     | 33 N  | 5.7 6.5                    | 1.3 | 307                | NEAR COAST OF NICARAGUA. Mw 6.6 (GS), 6.6 (HRV). Me 5.9 (GS). Ms 6.4 (BRK). Mo-8.6*10**18 Nm (GS). Mo-9.0*10**18 Nm (HRV). Mo-1.1*10**19 Nm (PPT).   |
| MAR 03 | 16 37 31.5                      | 11.905 N 86.772 W                     | 33 N  | 5.7 6.7                    | 1.2 | 293                | NEAR COAST OF NICARAGUA. Mw 6.7 (GS), 6.7 (HRV). Me 6.0 (GS). Ms 6.7 (BRK). Mo-1.4*10**19 Nm (GS). Mo-1.3*10**19 Nm (HRV). Mo-1.5*10**19 Nm (PPT). Some damage at Chinandega and Granada. Felt strongly at Managua.  |
| MAR 05 | 14 52 28.6                      | 24.092 N 122.215 E                    | 30    | 6.1 6.4                    | 1.0 | 360                | TAIWAN REGION. Mw 6.3 (GS), 6.3 (HRV). Me 6.0 (GS). Ms 5.9 (BRK). Mo-3.5*10**18 Nm (GS). Mo-3.6*10**18 Nm (HRV). Felt strongly at Taipei. Felt in many parts of Taiwan.  |
| MAR 16 | 22 04 06.2                      | 28.983 N 138.944 E                    | 477 D | 5.9                        | 0.9 | 348                | BONIN ISLANDS REGION. Mw 6.7 (GS), 6.7 (HRV). Me 6.4 (GS). mb 6.1 (BRK). Mo-1.2*10**19 Nm (GS). Mo-1.1*10**19 Nm (HRV). Mo-5.6*10**18 Nm (PPT).  |
| MAR 17 | 14 48 56.7                      | 14.705 S 167.297 E                    | 164 D | 5.8 6.0                    | 0.9 | 162                | VANUATU ISLANDS. Mw 6.7 (GS), 6.7 (HRV). Me 6.4 (GS). Mo-1.2*10**19 Nm (GS). Mo-1.2*10**19 Nm (HRV). Mo-1.7*10**19 Nm (PPT).   |
| MAR 19 | 15 00 26.0                      | 39.993 N 76.696 E                     | 28 D  | 5.7 6.0                    | 1.0 | 273                | SOUTHERN XINJIANG, CHINA. Mw 6.1 (GS), 6.3 (HRV). Me 5.7 (GS). Mo-1.5*10**18 Nm (GS). Mo-3.6*10**18 Nm (HRV). At least twenty-four people killed, 128 injured and more than 15,314 houses destroyed in the Artux-Jiashi area. Also felt in the Bachu, Kashi, Wuqia and Yecheng areas.  |
| MAR 22 | 03 24 20.0                      | 51.221 N 178.695 E                    | 20 G  | 5.7 6.6                    | 1.2 | 477                | RAT ISLANDS, ALEUTIAN ISLANDS. Mw 6.8 (GS), 6.7 (HRV). Me 6.3 (GS). ML 6.6 (PMR). Ms 6.5 (BRK). Mo-1.7*10**19 Nm (GS). Mo-1.4*10**19 Nm (HRV). Mo-2.0*10**19 Nm (PPT). Felt on Adak.   |
| MAR 28 | 23 03 49.8                      | 1.036 S 78.737 W                      | 33 N  | 5.8 5.2                    | 0.8 | 296                | ECUADOR. Mw 6.0 (GS), 5.9 (HRV). Me 5.6 (GS). Ms 5.1 (BRK). Mo-9.6*10**17 Nm (GS). Mo-8.4*10**17 Nm (HRV). At least 27 people killed, 100 injured, several thousand homeless and considerable damage and destruction to homes, bridges and water pipes in Cotopaxi, Pastaza and Tungurahua Provinces. Landslides blocked several roads in the epicentral area. Minor damage (VI) at Ambato, Latacunga and San Miguel de Salcedo. Felt (IV) at Quito; (III) at Ibarra; (II) at Cuenca and Guayaquil. Felt in many parts of Ecuador. |
| APR 16 | 00 30 54.6                      | 24.061 S 177.036 W                    | 111 D | 6.4 6.8                    | 1.0 | 376                | SOUTH OF FIJI ISLANDS. Mw 7.2 (GS), 7.2 (HRV). Me 6.9 (GS). Mo-6.5*10**19 Nm (GS). Mo-6.4*10**19 Nm (HRV). Mo-9.5*10**19 Nm (PPT).   |
| APR 19 | 00 19 31.1                      | 23.944 S 70.093 W                     | 50 D  | 6.0 6.1                    | 1.0 | 295                | NEAR COAST OF NORTHERN CHILE. Mw 6.6 (GS), 6.6 (HRV). Me 6.5 (GS). Mo-7.5*10**18 Nm (GS). Mo-8.4*10**18 Nm (HRV). Mo-1.4*10**19 Nm (PPT). Felt (V-VI) at Calama; (V) at Antofagasta, Maria Elena and Tocopilla; (IV) at Taltal.  |
| APR 29 | 14 40 41.0                      | 6.518 S 154.999 E                     | 44 G  | 6.3 7.5                    | 1.0 | 301                | SOLOMON ISLANDS. Mw 7.2 (GS), 7.2 (HRV). Me 6.9 (GS). Mo-6.9*10**19 Nm (GS). Mo-7.6*10**19 Nm (HRV). Mo-4.7*10**19 Nm (PPT). One person killed and several dozen houses collapsed in Bougainville.   |
| MAY 02 | 06 30 24.8                      | 16.130 N 120.600 E                    | 33 N  | 5.2 5.0                    | 1.0 | 113                | LUZON, PHILIPPINE ISLANDS. Mw 5.5 (HRV). Mo-1.8*10**17 Nm (HRV). Three people injured at Dagupan. Felt (V RF) at Dagupan; (IV RF) at Baguio and Manila; (III RF) at Quezon.  |
| MAY 02 | 13 34 28.9                      | 4.548 S 154.833 E                     | 500 G | 5.6                        | 1.0 | 242                | SOLOMON ISLANDS. Mw 6.6 (GS), 6.6 (HRV), Me 6.0 (GS). Mo-9.3*10**18 Nm (GS). Mo-1.0*10**19 Nm (HRV). Mo-9.2*10**18 Nm (PPT).   |
| MAY 03 | 03 32 47.1                      | 40.774 N 109.661 E                    | 26 D  | 5.5 6.0                    | 1.0 | 268                | WESTERN NEI MONGOL, CHINA. Mw 6.0 (GS), 6.0 (HRV). Mo-1.0*10**18 Nm (GS). Mo-1.1*10**18 Nm (HRV). At least 18 people killed, 300 injured and extensive damage in the Baotou area. Felt at Beijing, Hohhot, Taiyuan, Xian and Yinchuan.   |



| DATE   | ORIGIN TIME<br>UTC<br>HR MN SEC | GEOGRAPHIC<br>COORDINATES<br>LAT LONG | DEPTH | MAGNITUDES SD<br>GS<br>MB Msz | NO.<br>STA<br>USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS   |
|--------|---------------------------------|---------------------------------------|-------|-------------------------------|--------------------|---|
| MAY 03 | 04 04 22.66                     | 47.760 N 121.876 W                    | 4     | 5.2                           | 307                | WASHINGTON. <SEA-P>. MD 5.3 (SEA). ML 5.5 (PGC). Two people injured and slight damage in the epicentral area. Felt (V) at Baring, Bothell, Bremerton, Burlington, Carnation, Clinton, Hansville, Kenmore, Kingston, Kirkland, Lake Stevens, Maple Valley, Marblemount, Marysville, Mount Vernon, Pacific, Peshastin, Port Hadlock, Preston, Redmond, Redondo, Ronald, Seattle, Silverdale, Snoqualmie and Woodinville. Felt throughout western Washington, east as far as Wenatchee and south as far as Astoria and Portland, Oregon. Felt at Castlegar, Kelowna, Mission, Nelson, Penticton, Victoria and Vancouver, British Columbia, Canada. |
| MAY 24 | 06 35 58.7                      | 27.847 N 53.594 E                     | 33 N  | 4.9 4.7                       | 0.9 116            | SOUTHERN IRAN. Mw 5.2 (HRV). Mo=7.8*10**16 Nm (HRV). Twenty people injured and some damage in the Khonj area.   |
| JUN 02 | 02 52 09.5                      | 10.797 N 42.254 W                     | 10 G  | 6.1 6.9                       | 1.1 383            | NORTHERN MID-ATLANTIC RIDGE. Mw 6.8 (GS). 7.0 (HRV). Me 7.1 (GS). Es=8.6*10**14 Nm (GS). Mo=2.1*10**19 Nm (GS). Mo=3.0*10**19 Nm (HRV). Mo=4.3*10**19 Nm (PPT).   |
| JUN 08 | 02 55 57.9                      | 41.657 N 88.690 E                     | 0 G   | 5.9 4.3                       | 0.9 368            | SOUTHERN XINJIANG, CHINA. Probable underground nuclear explosion.   |
| JUN 08 | 23 19 15.1                      | 51.491 N 178.128 W                    | 33 N  | 5.9 6.3                       | 0.9 328            | ANDREANOF ISLANDS, ALEUTIAN IS. Mw 6.4 (GS), 6.5 (HRV). Me 6.1 (GS). Ms 6.1 (BRK). ML 5.6 (PMR). Es=2.7*10**13 Nm (GS). Mo=4.0*10**18 Nm (GS). Mo=6.8*10**18 Nm (HRV). Felt strongly on Adak.   |
| JUN 09 | 01 12 16.7                      | 17.444 N 145.458 E                    | 149 D | 6.0 5.9                       | 1.0 220            | MARIANA ISLANDS. Mw 6.4 (GS), 6.5 (HRV). Me 6.6 (GS). Es=2.0*10**14 Nm (GS). Mo=4.8*10**18 Nm (GS). Mo=7.1*10**18 Nm (HRV). Felt strongly on Saipan.  |
| JUN 10 | 01 04 46.9                      | 13.481 S 167.130 E                    | 200 D | 5.8 5.9                       | 1.0 301            | VANUATU ISLANDS. Mw 6.7 (GS), 6.7 (HRV). Me 6.0 (GS). Ms 6.0 (BRK). Es=2.4*10**13 Nm (GS). Mo=1.2*10**19 Nm (GS). Mo=1.2*10**19 Nm (HRV).   |
| JUN 10 | 04 03 35.4                      | 51.564 N 177.632 W                    | 33 N  | 6.6 7.6                       | 0.9 508            | ANDREANOF ISLANDS, ALEUTIAN IS. Mw 7.6 (GS), 7.9 (HRV), 7.5 (OBN). Me 7.4 (GS). Ms 7.4 (BRK). Es=3.2*10**15 Nm (GS). Mo=2.5*10**20 Nm (GS). Mo=8.1*10**20 Nm (HRV). Mo=2.3*10**20 Nm (OBN). Mo=8.6*10**20 Nm (PPT). Felt (VI) on Adak and Atka. Tsunami generated with wave heights (peak-to-trough) recorded at the following selected tide stations: 102 cm on Adak, 15 cm on Shemya, 12.5 cm at Kodiak and 10.2 cm at Sand Point, Alaska; 46 cm on Midway; 55 cm at Kahului, 38 cm at Hilo, 33 cm at Nawiliwili and 10 cm at Honolulu, Hawaii; 30 cm at Crescent City, California; 10 cm at Port Angeles, Washington.                        |
| JUN 10 | 15 24 56.0                      | 51.478 N 176.847 W                    | 26 G  | 5.9 7.1                       | 1.0 333            | ANDREANOF ISLANDS, ALEUTIAN IS. Mw 7.2 (GS), 7.3 (HRV), 7.3 (OBN). Me 6.9 (GS). Ms 6.9 (BRK). Es=5.1*10**14 Nm (GS). Mo=7.4*10**19 Nm (GS). Mo=8.5*10**19 Nm (HRV). Mo=1.1*10**20 Nm (OBN). Mo=1.1*10**20 Nm (PPT). Felt strongly on Adak.  |
| JUN 11 | 18 22 55.7                      | 12.614 N 125.154 E                    | 33 N  | 6.0 7.0                       | 0.9 307            | SAMAR, PHILIPPINE ISLANDS. Mw 7.0 (GS), 7.1 (HRV), 7.1 (OBN). Me 6.6 (GS). Ms 7.2 (BRK). Es=2.0*10**14 Nm (GS). Mo=3.2*10**19 Nm (GS). Mo=4.9*10**19 Nm (HRV). Mo=5.4*10**19 Nm (OBN). Mo=5.7*10**19 Nm (PPT). Felt (V RF) at Catarman; (IV RF) at Bulusan, Luzon and Palo, Leyte; (III RF) at Legaspi, Luzon; (I RF) at Quezon, Luzon.   |
| JUN 17 | 11 22 18.5                      | 7.137 S 122.589 E                     | 587 D | 6.6                           | 1.2 476            | FLORES SEA. Mw 7.7 (GS), 7.9 (HRV). Me 7.9 (GS). Es=1.8*10**16 Nm (GS). Mo=4.7*10**20 Nm (GS). Mo=7.3*10**20 Nm (HRV). Mo=5.6*10**20 Nm (PPT). Some damage at Kupang, Indonesia. Felt at Larantuka and Maumere, Indonesia. Also felt at Putatan, Malaysia.  |
| JUN 21 | 13 57 10.0                      | 51.568 N 159.119 E                    | 20 G  | 6.0 6.6                       | 1.1 350            | OFF EAST COAST OF KAMCHATKA. Mw 6.7 (GS), 6.8 (HRV), 7.0 (OBN). Me 6.5 (GS). Ms 6.5 (BRK). Es=1.1*10**14 Nm (GS). Mo=1.1*10**19 Nm (GS). Mo=1.5*10**19 Nm (HRV). Mo=4.0*10**19 Nm (OBN). Mo=2.4*10**19 Nm (PPT). Felt (IV) in the Petropavlovsk-Kamchatskiy area.   |
| JUL 15 | 00 13 28.6                      | 46.015 N 5.977 E                      | 5 G   | 4.5 4.5                       | 1.2 111            | FRANCE. mbLg 4.3 (MDD). One person slightly injured and minor damage (VI) at Cruseilles. Felt strongly at Annecy. Also felt at Lyon. Widely felt in the French Alps and southwestern Switzerland.   |
| JUL 15 | 21 23 34.0                      | 17.600 N 100.965 W                    | 18 G  | 5.7 6.5                       | 1.2 165            | GUERRERO, MEXICO. Mw 6.8 (GS), 6.6 (HRV). Me 6.1 (GS). Ms 6.4 (BRK). Es=3.3*10**13 Nm (GS). Mo=1.7*10**19 Nm (GS). Mo=9.9*10**18 Nm (HRV). Felt strongly at Acapulco, Ixtapa and Mexico City. Also felt in Oaxaca.  |

| DATE   | ORIGIN TIME<br>UTC<br>HR MN SEC | GEOGRAPHIC<br>COORDINATES<br>LAT LONG | DEPTH | MAGNITUDES<br>GS<br>MB Msz | SD  | NO.<br>STA<br>USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS   |
|--------|---------------------------------|---------------------------------------|-------|----------------------------|-----|--------------------|---|
| JUL 16 | 03 48 28.3                      | 56.084 N 164.998 E                    | 33 N  | 5.8 6.4                    | 1.2 | 205                | KOMANDORSKY ISLANDS REGION. Mw 6.5 (GS), 6.5 (HRV), 6.6 (OBN). Me 6.8 (GS). Es=3.2*10**14 Nm (GS). Mo=5.4*10**18 Nm (GS). Mo=7.2*10**18 Nm (HRV). Mo=9.3*10**18 Nm (OBN). Mo=1.2*10**19 Nm (PPT).   |
| JUL 16 | 10 07 36.6                      | 1.016 N 120.254 E                     | 33 N  | 6.0 6.4                    | 1.0 | 145                | MINAHASSA PENINSULA, SULAWESI. Mw 6.6 (GS), 6.6 (HRV). Me 6.4 (GS). Ms 6.4 (BRK). Es=1.0*10**14 Nm (GS). Mo=8.9*10**18 Nm (GS). Mo=8.4*10**18 Nm (HRV). Some damage in Tolitoli area. Felt widely in northwestern Sulawesi.   |
| JUL 22 | 14 19 35.7                      | 1.000 N 120.450 E                     | 33 N  | 6.0 6.9                    | 1.2 | 214                | MINAHASSA PENINSULA, SULAWESI. Mw 7.0 (GS), 7.0 (HRV). Me 6.6 (GS). Ms 6.9 (BRK). Es=1.6*10**14 Nm (GS). Mo=3.2*10**19 Nm (GS). Mo=3.6*10**19 Nm (HRV). Mo=3.7*10**19 Nm (PPT). Some damage (VIII) in the Tolitoli area. Felt (V) in the Palu area.   |
| JUL 23 | 03 32 12.6                      | 26.753 S 177.199 W                    | 33 N  | 5.8 6.4                    | 1.1 | 208                | SOUTH OF FIJI ISLANDS. Mw 6.3 (GS), 6.5 (HRV). Me 6.7 (GS). Ms 6.4 (BRK). Es=2.6*10**14 Nm (GS). Mo=3.0*10**18 Nm (GS). Mo=5.9*10**18 Nm (HRV). Mo=1.1*10**19 Nm (PPT). Felt (III) on Raoul, Kermadec Islands.  |
| JUL 29 | 01 48 57.8                      | 41.824 N 88.420 E                     | 0 G   | 4.9                        | 0.7 | 97                 | SOUTHERN XINJIANG, CHINA. Probable underground nuclear explosion.   |
| AUG 02 | 12 55 29.3                      | 10.769 S 161.445 E                    | 33 N  | 6.2 7.1                    | 1.1 | 271                | SOLOMON ISLANDS. Mw 6.8 (GS), 6.9 (HRV). Me 6.8 (GS). Ms 7.1 (BRK). Es=4.1*10**14 Nm (GS). Mo=1.6*10**19 Nm (GS). Mo=2.8*10**19 Nm (HRV). Mo=4.3*10**19 Nm (PPT). Felt (IV) at Honiara.   |
| AUG 05 | 02 08 58.2                      | 15.267 S 173.126 W                    | 41 G  | 6.0 6.7                    | 1.4 | 319                | TONGA ISLANDS. Mw 6.6 (GS), 6.7 (HRV). Me 6.0 (GS). Ms 6.8 (BRK). Es=2.3*10**13 Nm (GS). Mo=1.0*10**19 Nm (GS). Mo=1.1*10**19 Nm (HRV). Mo=1.2*10**19 Nm (PPT). Felt (III) at Apia, Western Samoa.  |
| AUG 05 | 22 38 22.0                      | 20.690 S 178.310 W                    | 550 D | 6.4                        | 0.9 | 508                | FIJI ISLANDS REGION. Mw 7.3 (GS), 7.4 (HRV). Me 7.0 (GS). mb 6.8 (BRK). Es=7.4*10**14 Nm (GS). Mo=9.7*10**19 Nm (GS). Mo=1.4*10**20 Nm (HRV). Mo=1.5*10**20 Nm (PPT). Felt (II) on Raoul, Kermadec Islands.   |
| AUG 10 | 18 12 17.3                      | 38.909 N 140.530 E                    | 10 G  | 6.0 5.7                    | 0.9 | 369                | EASTERN HONSHU, JAPAN. Mw 6.0 (GS), 6.0 (HRV). Me 5.9 (GS). Ms 5.5 (BRK). Es=1.7*10**13 Nm (GS). Mo=1.0*10**18 Nm (GS). Mo=9.5*10**17 Nm (HRV). Six people injured in north-eastern Yamagata Prefecture. Four people injured and fifteen houses damaged in Miyagi Prefecture. Felt (V JMA) in the Kurikoma area, (IV JMA) at Shinjo and (III JMA) at Ichinoseki and Oga.  |
| AUG 14 | 01 55 02.5                      | 40.754 N 35.340 E                     | 10 G  | 5.3 5.6                    | 1.1 | 316                | TURKEY. Mw 5.8 (GS), 5.7 (HRV). Ms 5.6 (BRK). Mo=6.6*10**17 Nm (GS). Mo=4.6*10**17 Nm (HRV). Nine people injured by a landslide at Oymaagac. Some damage in Amasya. Felt strongly in Cankiri, Kastamonu, Samsun, Sivas and Tokat.   |
| AUG 25 | 14 09 03.2                      | 1.084 S 78.674 W                      | 51    | 5.1 4.2                    | 0.8 | 158                | ECUADOR. Mw 5.5 (HRV). Mo=1.8*10**17 Nm (HRV). Two people injured and several houses destroyed in the Ambato area. Also felt at Latacunga and Pelileo.  |
| SEP 05 | 08 14 14.4                      | 22.118 S 113.436 W                    | 10 G  | 6.2 7.0                    | 1.1 | 360                | EASTER ISLAND REGION. Mw 6.7 (GS), 6.9 (HRV). Me 6.4 (GS). Ms 7.0 (BRK). Es=9.8*10**13 Nm (GS). Mo=1.4*10**19 Nm (GS). Mo=2.2*10**19 Nm (HRV). Mo=1.7*10**19 Nm (PPT). Local tsunami generated with maximum recorded wave heights (peak-to-trough) of 18 cm on Easter Island.   |
| SEP 05 | 20 44 09.2                      | 42.803 N 17.936 E                     | 10 G  | 5.6 6.0                    | 1.3 | 360                | ADRIATIC SEA. Mw 5.7 (GS), 6.0 (HRV). Me 5.7 (GS). Ms 6.1 (BRK). Es=8.2*10**12 Nm (GS). Mo=3.4*10**17 Nm (GS). Mo=1.2*10**18 Nm (HRV). Several people injured, 2,000 left homeless and extensive damage (VIII) in the Ston-Slano area, Croatia. Felt (VI) at Herceg-Novci, Kotor and Tivat; (V) at Bar, Budva, Niksic and Podgorica, Yugoslavia. Felt (V) in the Shkoder area, Albania and (IV) at Skopje, former Yugoslav Republic of Macedonia. Felt in many parts of Bosnia and Herzegovina, Croatia and Yugoslavia. |
| SEP 05 | 23 42 06.1                      | 21.898 N 121.498 E                    | 20 G  | 6.4 6.6                    | 1.0 | 372                | TAIWAN REGION. Mw 6.6 (GS), 6.8 (HRV). Me 6.9 (GS). Ms 6.4 (BRK). Es=4.9*10**14 Nm (GS). Mo=1.1*10**19 Nm (GS). Mo=1.9*10**19 Nm (HRV). Mo=4.5*10**19 Nm (PPT). Felt on Taiwan. Also felt (III RF) at Pasuquin, Luzon, Philippines.   |
| SEP 20 | 04 10 27.6                      | 9.463 N 126.284 E                     | 33 N  | 5.8 6.4                    | 1.1 | 199                | MINDANAO, PHILIPPINE ISLANDS. Mw 6.5 (GS), 6.6 (HRV). Me 5.9 (GS). Ms 6.4 (BRK). Es=1.6*10**13 Nm (GS). Mo=5.4*10**18 Nm (GS). Mo=7.5*10**18 Nm (HRV). Mo=1.3*10**19 Nm (PPT). Felt at Butuan and Surigao. Also felt on Leyte.  |

| DATE   | ORIGIN TIME<br>UTC<br>HR MN SEC | GEOGRAPHIC<br>COORDINATES<br>LAT LONG | DEPTH | MAGNITUDES<br>GS<br>MB Msz | SD  | NO.<br>STA<br>USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS  |
|--------|---------------------------------|---------------------------------------|-------|----------------------------|-----|--------------------|--|
| OCT 09 | 13 10 52.1                      | 34.556 N 32.126 E                     | 33 N  | 6.4 6.8                    | 1.0 | 482                | CYPRUS REGION. Mw 6.8 (GS), 6.8 (HRV). Me 6.9 (GS). Ms 6.9 (BRK). Es=4.5*10**14 Nm (GS). Mo=1.7*10**19 Nm (GS). Mo=1.9*10**19 Nm (HRV). Mo=5.2*10**19 Nm (PPT). One person died of a heart attack and twenty others injured on Cyprus. One person killed in Egypt. Felt in Egypt, Israel, Jordan, Lebanon and Syria.   |
| OCT 14 | 23 26 20.0                      | 7.133 S 155.568 E                     | 24 G  | 5.9 6.9                    | 1.1 | 263                | SOLOMON ISLANDS. Mw 6.6 (GS), 6.8 (HRV). Me 6.3 (GS). Ms 6.9 (BRK). Es=7.0*10**13 Nm (GS). Mo=9.8*10**18 Nm (GS). Mo=1.7*10**19 Nm (HRV). Mo=1.3*10**19 Nm (PPT). Felt strongly on the Shortland Islands and on the western Solomon Islands.   |
| OCT 18 | 10 50 20.8                      | 30.568 N 131.093 E                    | 10 G  | 6.0 6.6                    | 1.2 | 308                | KYUSHU, JAPAN. Mw 6.6 (GS), 6.6 (HRV). Me 6.3 (GS). Ms 6.3 (BRK). Es=7.1*10**13 Nm (GS). Mo=8.1*10**18 Nm (GS). Mo=1.0*10**19 Nm (HRV). Mo=1.7*10**19 Nm (PPT). Felt (IV JMA) in eastern Kagoshima Prefecture; (III JMA) in Miyazaki and western Kagoshima Prefectures. Also felt (III JMA) on Tanega-shima. Local tsunami generated with wave heights up to 17 cm recorded on Tanega-shima.   |
| OCT 19 | 14 44 40.7                      | 31.885 N 131.468 E                    | 22 G  | 6.3 6.6                    | 1.0 | 396                | KYUSHU, JAPAN. Mw 6.6 (GS), 6.7 (HRV), 7.0 (OBN). Me 6.6 (GS). Ms 6.4 (BRK). Es=2.1*10**14 Nm (GS). Mo=1.0*10**19 Nm (GS). Mo=1.4*10**19 Nm (HRV). Mo=4.0*10**19 Nm (OBN). Mo=2.1*10**19 Nm (PPT). Some damage (V JMA) at Kanoya and Miyazaki. Felt (IV JMA) at Kumamoto, Kurume and Oita. Tsunami generated with recorded wave heights of 110 cm at Miyazaki, 40 cm at Nichinan and 14 cm on Tanega-shima. Minor tsunami also observed on Shikoku.  |
| OCT 19 | 14 53 48.7                      | 20.412 S 178.510 W                    | 591 D | 6.1                        | 0.8 | 558                | FIJI ISLANDS REGION. Mw 6.9 (GS), 6.9 (HRV). Me 6.7 (GS). Es=2.6*10**14 Nm (GS). Mo=2.4*10**19 Nm (GS). Mo=2.6*10**19 Nm (HRV). Mo=3.5*10**19 Nm (PPT).  |
| OCT 24 | 19 31 53.9                      | 66.986 N 173.229 W                    | 20 G  | 6.0 5.9                    | 1.0 | 411                | NEAR N. COAST OF EASTERN SIBERIA. Mw 6.0 (GS), 6.1 (HRV), 6.1 (OBN). Me 6.0 (GS). Ms 5.7 (BRK). Es=2.2*10**13 Nm (GS). Mo=1.2*10**18 Nm (GS). Mo=1.5*10**18 Nm (HRV). Mo=1.8*10**18 Nm (OBN). Mo=2.2*10**18 Nm (PPT). Felt (III) at Evvekinot and Provideniya.   |
| NOV 05 | 09 41 34.7                      | 31.160 S 179.998 E                    | 369 D | 5.9                        | 1.0 | 356                | KERMADEC ISLANDS REGION. Mw 6.8 (GS), 6.8 (HRV). Me 6.3 (GS). Es=6.6*10**13 Nm (GS). Mo=1.7*10**19 Nm (GS). Mo=1.5*10**19 Nm (HRV). Mo=2.7*10**19 Nm (PPT).  |
| NOV 06 | 20 00 58.8                      | 27.999 N 143.538 E                    | 9 G   | 6.4 6.5                    | 0.8 | 388                | BONIN ISLANDS REGION. Mw 6.3 (GS), 6.6 (HRV). Me 6.6 (GS). Ms 6.5 (BRK). Es=2.1*10**14 Nm (GS). Mo=3.6*10**18 Nm (GS). Mo=7.9*10**18 Nm (HRV). Mo=1.3*10**19 Nm (PPT).   |
| NOV 12 | 16 59 44.0                      | 14.993 S 75.675 W                     | 33 N  | 6.5 7.3                    | 1.1 | 365                | NEAR COAST OF PERU. Mw 7.5 (GS), 7.7 (HRV). Me 7.3 (GS). Ms 7.0 (BRK). Es=2.2*10**15 Nm (GS). Mo=2.0*10**20 Nm (GS). Mo=4.6*10**20 Nm (HRV). Mo=7.7*10**20 Nm (PPT). At least 14 people killed, 560 injured and 12,000 homeless from Chincha Alta to Acari. Over 4,000 houses damaged or destroyed (VIII) at Nazca. Felt (VII) in the Marcona area; (VI) at Ica and Palpa; (IV) at Arequipa and Camana; (III) at Lima and Tacna; (II) at Huancaayo and Pucallpa. Felt by people in high-rise buildings at Guayaquil, Ecuador and La Paz, Bolivia. Tsunami generated with maximum recorded wave heights (peak-to-trough) of 25 cm at Callao, Peru; 35 cm at Arica and 21 cm at Caldera, Chile. This thrust earthquake is associated with the subduction of the Nazca Ridge (a major feature of the Nazca plate) beneath the South American plate. Complex earthquake with at least two larger events occurring about 18 and 30 seconds after the onset. It originated near the southern end of a seismic gap between the large Peruvian earthquakes of August 24, 1942 and October 3, 1974, with the aftershock sequence progressing southward into the zone of the 1942 event. |
| NOV 19 | 10 44 46.0                      | 35.345 N 78.133 E                     | 33 N  | 6.1 7.1                    | 1.1 | 339                | EASTERN KASHMIR. Mw 6.9 (GS), 6.9 (HRV), 6.8 (OBN). Me 7.1 (GS). Ms 6.9 (BRK). Es=1.1*10**15 Nm (GS). Mo=2.5*10**19 Nm (GS). Mo=2.4*10**19 Nm (HRV). Mo=1.9*10**19 Nm (OBN). Mo=2.5*10**19 Nm (PPT). Complex earthquake with two events occurring about 6 seconds apart. Felt at Hotan, Shule, Wushi and Yecheng, China.   |
| DEC 02 | 22 17 59.2                      | 31.789 N 131.314 E                    | 49    | 6.0 6.6                    | 1.0 | 332                | KYUSHU, JAPAN. Mw 6.7 (GS), 6.8 (HRV), 6.9 (OBN). Me 6.3 (GS). Es=2.2*10**13 Nm (GS). Mo=1.1*10**19 Nm (GS). Mo=1.2*10**19 Nm (HRV). Mo=2.6*10**19 Nm (OBN). Mo=1.7*10**19 Nm (PPT). Felt (V JMA) in southern Miyazaki Prefecture. Felt from Fukuoka to Kagoshima. Local tsunami observed with maximum recorded wave heights (peak-to-trough) of 21 cm in the Nichinan-Aburatsu area and 4 cm in the Hyuga-Hososhima area.   |



| DATE   | ORIGIN TIME |    |      | GEOGRAPHIC  |           | DEPTH | MAGNITUDES |     | SD  | NO.<br>STA<br>USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS  |
|--------|-------------|----|------|-------------|-----------|-------|------------|-----|-----|--------------------|--|
|        | UTC         |    |      | COORDINATES |           |       | GS         |     |     |                    |  |
|        | HR          | MN | SEC  | LAT         | LONG      |       | MB         | MsZ |     |                    |  |
| DEC 10 | 08          | 36 | 18.7 | 0.870 N     | 30.039 W  | 10 G  | 6.0        | 6.2 | 0.9 | 209                | CENTRAL MID-ATLANTIC RIDGE. Mw 6.6 (GS), 6.7 (HRV). Me 7.0 (GS). Ms 6.1 (BRK). Es=6.6*10**14 Nm (GS). Mo=8.6*10**18 Nm (GS). Mo=1.1*10**19 Nm (HRV). Mo=1.8*10**19 Nm (PPT). Two events about 3.5 seconds apart. Depth based on first event. |
| DEC 22 | 14          | 53 | 27.6 | 43.207 N    | 138.920 E | 227 D | 6.0        |     | 0.9 | 442                | EASTERN SEA OF JAPAN. Mw 6.5 (GS), 6.5 (HRV). Me 6.5 (GS). mb 6.3 (BRK). Es=1.2*10**14 Nm (GS). Mo=6.6*10**18 Nm (GS). Mo=6.8*10**18 Nm (HRV).   |

Compiled by Waverly J. Person

## Corrections to Previous Monthly Listings

1. Delete event at 05:20:58.6 UTC on August 13, 1994. Data belong to event at 05:20:58.9 UTC on August 14.
2. Event in Hokkaido, Japan Region at 19:05:24.8 UTC on August 28, 1994, has been relocated to East of Kuril Islands at 19:05:09 UTC, by ISC.
3. Delete event at 19:14:23.5 UTC on September 20, 1994. Data belong to event at 19:13:55.5 UTC, located by ISC.
4. Event in Southeast Asia at 04:02:50.6 UTC on September 23, 1994, has been relocated to Myanmar at 04:03:44.0 UTC, by ISC.
5. Event in India-Bangladesh Border Region at 16:46:06.4 UTC on September 28, 1994, has been relocated to the Java Sea at 16:39:51.6 UTC.
6. Delete event at 02:55:53.1 UTC on September 29, 1994. Data belong to event at 02:56:16.5 UTC on September 30.
7. Delete event at 02:57:16.3 UTC on September 30, 1994. Data belong to event at 02:56:16.5 UTC.
8. Delete event at 16:44:31.7 UTC on October 1, 1994. Data belong to event at 16:35:20.7 UTC.
9. Delete event at 02:13:24.2 UTC on October 7, 1994. Data belong to event at 02:13:03 UTC, located by ISC.
10. Delete event at 21:55:34.7 UTC on October 8, 1994. Data belong to event at 21:44:07.2 UTC.
11. Delete event at 07:52:16.7 UTC on October 20, 1994. Data belong to event at 07:52:24.7 UTC, located by ISC.
12. Event in Sea of Okhotsk at 16:09:44.7 UTC on November 4, 1994, has been relocated to Kuril Islands at 16:09:13 UTC, by ISC.
13. Delete event at 14:41:23.0 UTC on November 9, 1994. Data belong to events at 14:40:50.1 UTC and 14:41:41.9 UTC.
14. Delete event at 12:36:21.3 UTC on November 11, 1994.
15. Delete event at 12:43:48.5 UTC on November 11, 1994.
16. Delete event at 13:30:10.2 UTC on November 11, 1994.
17. Delete event at 16:05:48.2 UTC on November 11, 1994.
18. Delete event at 03:15:16.9 UTC on December 28, 1994. Data belong to event at 03:15:35.7 UTC.
19. Delete event at 00:47:02.8 UTC on January 1, 1995. Data belong to event at 00:47:02.0 UTC on January 4.
20. Delete misassociated phase readings from EDR: Pdiff from stations ULM and SCHQ and P from ACX for event at 06:39:26.2 UTC on February 6, 1995.
21. Delete event at 06:24:31.4 UTC on March 6, 1995. Data belong to event at 06:23:42.0 UTC. The three closest stations (FBA, PMR and TOA) are secondary phases (PKP) for event at 06:11:39.0 UTC.
22. Event in Halmahera, Indonesia at 13:26:55.1 UTC on March 9, 1995, has been relocated to Minahassa Peninsula, Sulawesi at 13:26:36 UTC, by ISC.
23. Delete event at 17:16:19.1 UTC on March 26, 1995. Data belong to event at 17:13:15.8 UTC.
24. Delete event at 04:15:06.6 UTC on March 30, 1995. Data belong to event at 04:15:08.7 UTC on March 31.
25. Delete event at 08:02:53.9 UTC on April 24, 1995. Data belong to event at 08:02:56.6 UTC on April 21.
26. For event at 01:45:43.2 UTC on February 18, 1996, please remove the felt comment "as far east as Briancon". This information is supplied by Pierre Stahl.
27. Please add the felt comment "Felt (IV) at Briancon and southwestern Switzerland" to event at 04:16:32.9 UTC on February 18, 1996. This information is supplied by Pierre Stahl.
28. Please remove the felt comment "Felt at Ojai" from event at 11:51:32.1 UTC on October 25, 1996.

The corrections shown above (except for numbers 26, 27 & 28) are based on information supplied by R.J. Mittag, W.P. Richardson and D.A. Storchak from the International Seismological Centre.

## EXPLANATION OF ABBREVIATIONS AND SYMBOLS APPEARING IN THIS PUBLICATION

## Abbreviations in Heading

- MB - Body wave magnitudes.  
 Msz - Vertical surface wave magnitudes.  
 UTC - Coordinated Universal Time. HR MN SEC - Hour, minute, second.  
 SD - Standard Deviation from the arithmetic mean of residuals.  
 No. Sta. - Number of stations reporting P or PKP phases used in computation.  
 KEY - (Printed vertically). An "a" in this column indicates additional source parameters are published for this event in a separate section following the list of hypocenters.

## Symbols and Abbreviations Used in Comments

- AEIC Alaska Earthquake Information Center (U.S. Geological Survey and University of Alaska), College.  
 APT University of Connecticut.  
 BGS British Geological Survey, Edinburgh, United Kingdom.  
 BLA Virginia Polytechnic Institute and State University, Blacksburg.  
 BOU University of Colorado, Boulder.  
 BRK University of California, Berkeley.  
 BUT Montana Bureau of Mines and Geology, Butte.  
 DOE U.S. Department of Energy (formerly AEC and ERDA).  
 EXPLO Some or all parameters of explosion (controlled or accidental) supplied by any group or individual other than DOE or its predecessor organizations.  
 GLD U.S. Geological Survey, Golden, Colorado (other than NEIS).  
 GM U.S. Geological Survey, Menlo Park, California.  
 GS U.S. Geological Survey, National Earthquake Information Service (NEIS), Golden, Colorado.  
 HDC Observatorio Vulcanológico y Sismológico de Costa Rica, Universidad Nacional, Heredia, Costa Rica.  
 HRV Harvard University, Cambridge, Massachusetts.  
 HVO Hawaiian Volcano Observatory.  
 JMA Japan Meteorological Agency, Tokyo (also used to indicate 7-point Japanese Intensity Scale).  
 LAK Kansas Geological Survey, University of Kansas, Lawrence.  
 LDG Laboratoire de Detection et de Geophysique, Bruyeres-le-Chatel, France.  
 MACRO Hypocenter based upon macroseismic information.  
 MD Duration magnitude (shown as DUR prior to 1986).  
 MDD Instituto Geografico Nacional, Madrid, Spain.  
 ME Energy Magnitude.  
 MG Contributed local or regional magnitude of unspecified type (see "Contributed Magnitudes" below).  
 MW Moment Magnitude.  
 OTT Geological Survey of Canada, Earth Physics Branch, Ottawa.  
 PAL Columbia University, Lamont-Doherty Geological Observatory, Palisades, New York.  
 PAR Institute de Physique du Globe, Universite Pierre et Marie Curie, Paris, France.  
 PAS California Institute of Technology, Pasadena.  
 PGC Pacific Geoscience Centre, Sidney, British Columbia, Canada.  
 PMR Alaska Tsunami Warning Center, Palmer, Alaska.  
 PPT Laboratoire de Geophysique, Papeete, French Polynesia.  
 REN University of Nevada, Reno.  
 RF Rossi-Forel Intensity Scale.  
 SEA University of Washington, Seattle.  
 SLC University of Utah, Salt Lake City.  
 SLM St. Louis University, Missouri.  
 SPEC An NEIS solution based on use of dense local networks, a local crustal model, or other methods not routinely applied in calculating the hypocenter parameters.  
 TEIC Center for Earthquake Research and Information, Memphis, Tennessee.  
 TUL Oklahoma Geological Survey, Leonard.  
 UVC Universidad del Valle, Cali, Colombia.  
 WES Weston Observatory, Massachusetts.
- Roman Numerals Used to indicate intensity (when not followed by RF or JMA they refer to the Modified Mercalli Scale or any 12-point intensity scale closely related to it).
- " " Geographic degrees, minutes, seconds.  
 -P Supplied hypocenter is a preliminary computation.

Any additional 3 to 5 letter codes enclosed in parentheses or angle brackets refer to individual station codes. These codes may be found in Geological Survey Open File Report 85-714, Seismograph Station Codes and Coordinates (1985). Addenda to OF 85-714 are printed at the end of the Earthquake Data Report for this month.

## Symbols Following Depth

- N Indicates the depth was restrained at 33 km for earthquakes whose character on seismograms indicates a shallow focus but whose depth is not satisfactorily determined by the data.
- D Indicates the depth was restrained by the computer program based on 2 or more compatible pP phases and/or unidentified secondary arrivals used as pP.
- G Indicates the depth was restrained by a geophysicist.
- \* Indicates a less well-constrained free depth. The 90% marginal confidence interval on depth is greater than 8.5 km and less than or equal to 16.0 km.
- ? Indicates a poorly-constrained free depth. The 90% marginal confidence interval on depth is greater than 16.0 km.
- The lack of any symbol indicates that the 90% marginal confidence interval on depth is less than or equal to 8.5 km, or that a contributed hypocenter was computed with a free depth, regardless of the size of the confidence interval.



## Symbols Following Origin Time

- § 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 above.
  - ‡ Indicates a single network solution. A non-furnished hypocenter has been computed using data reported by single network of stations for which the date and/or origin time cannot be confirmed from seismograms available to a NEIS analyst. The geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse is less than or equal to 16.0 km.
  - \* Indicates a less reliable solution. In general, the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse is greater than 8.5 km and less than or equal to 16.0 km.
  - ? Indicates a poor solution, published for completeness of the catalog. In general, the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse is greater than 16.0 km. This includes a poor solution computed using data reported by a single network.
- The lack of any symbol indicates that the geometric mean of the semi-major and semi-minor axes of the horizontal 90% confidence ellipse is less than or equal to 8.5 km.

APPROXIMATE CORRELATION OF GRADES FOR INTENSITY SCALES  
REPORTED IN PRELIMINARY DETERMINATION OF EPICENTERS

| U.S.A. Modified Mercalli (M.M.), 1931     | I | II   | III | IV     | V    | VI     | VII      | VIII          | IX   | X  | XI  | XII |
|---|---|------|-----|--------|------|--------|----------|---------------|------|----|-----|-----|
| Japanese (JMA), 1950 <sup>†</sup>         | 0 | I    | II  | II-III | III  | IV     | IV-V     | V             | V-VI | VI | VII | VII |
| Rossi-Forel (RF), 1873                    | I | I-II | III | IV-V   | V-VI | VI-VII | VIII-VII | VIII+<br>- IX | IX+  | X  | X   | X   |
| European (Mercalli-Cancani-Sieberg), 1917 | I | II   | III | IV     | V    | VI     | VII      | VIII          | IX   | X  | XI  | XII |

<sup>†</sup> Beginning 1993, Japan Meteorological Agency (JMA) intensities for earthquakes felt in Japan may be instrumentally determined.

## TRAVEL-TIME TABLES

In general, all hypocenters have been computed based on the 1940 Jeffreys-Bullen P and 1968 Bolt PKP travel-time tables. Some other earth model or computational procedure may have been used for those hypocenters which have been indicated by an ampersand (&) following the origin time.

## MACROSEISMIC INFORMATION

Macroseismic information is compiled from various sources, including newspaper articles, Foreign Broadcast Information Service messages, U.S. Geological Survey Earthquake Reports and seismological station reports. Macroseismic information for southwestern France is contributed by Dr. Pierre Stahl, Pau. Sources of information for particular events can be supplied on request from: U.S. Geological Survey, National Earthquake Information Center, Stop 967, Box 25046, Denver Federal Center, Denver, CO 80225, U.S.A.

## GEOGRAPHIC REGIONS

The regions shown in the comments column are from the seismic and geographical regionalization of Flinn, Engdahl and Hill (1974), with occasional name changes which have been given in various issues of the Monthly Listing. The boundaries of these regions are defined at one degree intervals and differ slightly from irregular political boundaries.

## DEPTHS FROM BROADBAND DISPLACEMENT SEISMOGRAMS

The NEIS routinely interprets broadband data from the GDSN, USNSN and other global digital seismograph networks for events with MB  $\geq 5.8$ . Records that are flat to displacement between approximately 0.01 and 5.0 Hz are obtained using methods described by Harvey and Choy (1982). The notation that a depth is obtained from broadband seismograms indicates that a depth was obtained by inversion of differential travel times that are clearly identifiable at several stations using methods described by Choy and Engdahl (1987). Depths of selected events may also be constrained by modelling broadband P and transversely polarized S waves using methods described by Choy and Dewey (1988).

Choy, G. L. and Dewey, J. W., 1988, Rupture process of an extended earthquake sequence: Teleseismic analysis of the Chilean earthquake of March 3, 1985: Journal of Geophysical Research, v. 93, p. 1103-1118.

Choy, G. L. and Engdahl, E. R., 1987, Analysis of broadband seismograms from selected IASPEI events: Physics of the Earth and Planetary Interiors, v. 47, p. 80-92.

Harvey, D. and Choy, G. L., 1982, Broadband deconvolution of GDSN data: Geophysical Journal of the Royal Astronomical Society, v. 69, p. 659-668.

## BROADBAND FAULT PLANE SOLUTIONS

A fault plane solution is determined when possible for any earthquake having a magnitude  $\geq 5.8$ . Beginning January 1996, the fault plane solution is determined primarily from least-squares fitting of synthetic waveforms and broadband body waves that are flat to displacement between approximately 0.01 to 5.0 Hz. The fault plane solution derived from broadband data is sensitive to the dynamic or high frequency part of the earthquake. For complex earthquakes, the fault plane solution corresponds to the largest subevent unless otherwise stated. Prior to January 1996, fault plane solutions were constrained primarily by using first motions from P, pP and PKP waves. Polarities were also obtained by using broadband displacement records of surface-reflected body waves (e.g., pP and sP), Hilbert-transformed body waves of certain secondary arrivals (e.g., PP), and transversely polarized S waves.

## FOCAL MECHANISM MAPS

Best double couple focal mechanisms are plotted as lower-hemisphere, equal-area projections for earthquakes having a seismic moment greater than  $1 \times 10^{17}$  Nm. The shaded quadrants represent compressional first motions. For each event, the mechanism shown is selected from either the Fault Plane Solution, Moment Tensor Solution or Centroid, Moment Tensor Solution. All these solutions are given in the Additional Source Parameters section of the Monthly Listing.

## NEIS MAGNITUDES

All magnitudes are NEIS magnitudes unless otherwise indicated. Beginning with August, 1983, average magnitudes are computed by a 25% trimmed mean as described by Rosenberger, J. L. and Gasko, M., 1983, "Comparing location estimators: trimmed means, medians, and trimean" in Understanding Robust and Exploratory Data Analysis, ed. Hoaglin, D.C., Mosteller, F., and Tukey, J. W., John Wiley, New York.

Mw These moment magnitudes are computed from the scalar moment of the moment tensor using the Kanamori (1977) formula:

$$M_w = (2/3) \log M_0 - 10.7$$

where  $M_0$  is the scalar moment of the best double couple in dyne-cm.  $M_0$ , computed from low frequency seismic data, is a measure of the area ruptured by an earthquake. Beginning with January, 1993, a moment magnitude is computed routinely from the USGS moment tensor and Harvard centroid moment tensor solutions.

Me These energy magnitudes are computed from the radiated energy using the Choy and Boatwright (1995) formula (eq. 6):

$$M_e = (2/3) \log E_s - 2.9$$

where  $E_s$  is the radiated seismic energy in Newton-meters.  $M_e$ , computed from high frequency seismic data, is a measure of seismic potential for damage. Beginning from July 1995, an energy magnitude is computed routinely from the USGS radiated energy.

Ms These surface wave magnitudes are computed from the IASPEI formula:

$$M_s = \log (A/T) + 1.66 \log D + 3.3$$

where:

A is the maximum ground amplitude in micrometers (microns) of the vertical component of the surface wave within the period range  $18 \leq T \leq 22$ .

T is the period in seconds.

D is the distance in geocentric degrees (station to epicenter) and  $20^\circ \leq D \leq 160^\circ$ .

No depth corrections are applied, and  $M_s$  magnitudes are not generally computed for depths greater than 50 km. The  $M_s$  value published is the average of the individual station magnitudes from reported T and A data.

If the uncertainty of the computed depth is considered great enough that the depth could be less than 50 km, an  $M_s$  value may still be published, computed by the IASPEI formula and not corrected for depth.

In general, the  $M_s$  magnitude is more reliable than the  $M_b$  magnitude as a means of yielding the relative "size" of a shallow-focus earthquake.

MB These compressional body wave (P-wave) magnitudes are computed according to the formula:

$$M_b = \log (A/T) + Q(D,h)$$

defined by Gutenberg and Richter (1956) except that T, the period in seconds, is restricted to  $0.1 \leq T \leq 3.0$  and A, the ground amplitude in micrometers, is not necessarily the maximum in the P group. Q is a function of distance (D) and depth (h) where  $D \geq 5^\circ$ .

mbLg These Lg body wave magnitudes are computed according to the formula:

$$mbLg = 3.75 + 0.90 \log D + \log (A/T) \text{ for } 0.5^\circ \leq D \leq 4^\circ$$

$$mbLg = 3.30 + 1.66 \log D + \log (A/T) \text{ for } 4^\circ \leq D \leq 30^\circ$$

as proposed by Nuttli (1973) where A is the ground amplitude in micrometers and T is the period in seconds calculated from the vertical component 1-second Lg waves. D is the distance in geocentric degrees.

ML These local magnitudes are computed according to the formula:

$$M_L = \log A - \log A_0$$

defined by Richter (1935) where A is the maximum trace amplitude in micrometers recorded on a standard short-period torsion seismometer and  $\log A_0$  is a standard value as a function of distance where distance  $\leq 600$  km.

## CONTRIBUTED MAGNITUDES

Magnitudes appearing in the comments which have been contributed by organizations operating a network of stations may have been calculated from any one station in the network or may be an average magnitude from a number of stations from the network.

Beginning with January, 1986, a contributed magnitude of unspecified type may be quoted (using the designator MG) for events which have no other magnitudes given or computed. These MG magnitudes either have been reported by the contributor without listing the type (such as "Mag 3.5") or have been computed using procedures which are not defined by the magnitude types routinely reported in this bulletin. Direct inquiries should be made to the contributor (shown in parentheses after the magnitude) concerning the specific details of the computational procedures used to determine these values.

## REFERENCES

- Choy, G. L., and Boatwright, J. L., 1995, Global patterns of radiated seismic energy and apparent stress: *Journal of Geophysical Research*, v. 100, p. 18205-18228.
- Gutenberg, B., and Richter, C. F., 1956, Magnitude and energy of earthquakes: *Annali di Geofisica*, v. 9, no. 1, p. 1-15.
- Kanamori, H., 1977, The energy release in great earthquakes: *Journal of Geophysical Research*, v. 82, p. 2981-2987.
- Nuttli, O. W., 1973, Seismic wave attenuation and magnitude relations for eastern North America: *Journal of Geophysical Research*, v. 78, no. 5, p. 876-885.
- Richter, C. F., 1935, An instrumental earthquake scale: *Bulletin of the Seismological Society of America*, v. 25, p. 1-32.

## USGS RADIATED ENERGY

The energy radiated by an earthquake is estimated from the energy spectral density of the broadband P waves, using the method described by Boatwright and Choy (1986), where the energy flux in the P waves is integrated directly. No correction for source directivity or frequency-dependent interference of the depth phases is incorporated into these estimates of radiated energy. Data used are either direct P waves (for deep earthquakes) or the P wave group consisting of P, pP and sP (for shallow earthquakes) from GDSN and other stations that contribute digital data to the NEIC within two months of the occurrence of an event. The data are processed using the method of Harvey and Choy (1982) so that they are flat to velocity from low frequencies (generally 0.01 Hz) to at least 2.0 Hz. The effect of attenuation is corrected with the frequency-dependent  $t^*$  of Choy and Cormier (1986). The focal mechanism used is either the P-wave first-motion solution (F), the USGS moment tensor solution (M) or the Harvard centroid solution (C).

Boatwright, J. and Choy, G. L., 1986, Teleseismic estimates of the energy radiated by shallow earthquakes: *Journal of Geophysical Research*, v. 91, p. 2095-2112.

Choy, G. L. and Cormier, V. F., 1986, Direct measurement of the mantle attenuation operator from broadband P and S waveforms: *Journal of Geophysical Research*, v. 91, p. 7326-7342.

Harvey, D. and Choy, G. L., 1982, Broadband deconvolution of GDSN data: *Geophysical Journal of the Royal Astronomical Society*, v. 69, p. 659-668.

## EXPLANATION OF THE ENTRIES "MOMENT TENSOR SOLUTION" (USGS)

These solutions have been determined using the body-wave moment tensor inversion method described by Sipkin (1982).

1. NUMBER OF STATIONS: Number of GDSN stations with distances between approximately 30 and 95 degrees found to have suitable P waveforms. Only long-period vertical components are used.
2. DEPTH: The source depth which gives the smallest normalized mean-squared-error. This is the only hypocentral parameter determined since the inversion procedure is insensitive to small errors in both epicenter and origin time.
3. SCALE )
4. PRINCIPAL AXES ) See "Centroid, Moment Tensor (HRV)"
5. BEST DOUBLE COUPLE )

S. A. Sipkin, U.S. Geological Survey, Mail Stop 967, Box 25046, Denver Federal Center, Denver, CO 80225 USA

Sipkin, S. A., 1982, Estimation of earthquake source parameters by the inversion of waveform data: synthetic seismograms: *Physics of the Earth and Planetary Interiors*, v. 30, no. 2-3, p. 242-259.

## EXPLANATION OF THE ENTRIES "GEOSCOPE MOMENT TENSOR (PAR)"

These solutions have been obtained from very long period Rayleigh wave data in the period range 180-310 seconds (R1 and R2 trains) using a two step moment tensor inversion method as described in Romanowicz and Guillemin (1984) and Romanowicz and Monfret (1986). Parameters solved for are centroid time, seismic moment, depth and moment tensor. Origin time and epicentral coordinates are kept fixed as given in the USGS Quick Epicenter Determinations (QED) or PDE. For shallow earthquakes the precision on depth is in general no greater than  $\pm 10$  km.

The data used presently come from GEOSCOPE teletransmitted stations (usually 8 - 10 stations) and are available within a week after the event. The solutions are computed by the Institut de Physique du Globe, Universite Pierre et Marie Curie, Paris, France.

Romanowicz, B. and Guillemin, P., 1984, An experiment in the retrieval of depth and source mechanism of large earthquakes using very long-period Rayleigh wave data: *Bulletin of the Seismological Society of America*, v. 74, no. 2, p. 417-437.

Romanowicz, B. and Monfret, T., 1986, Source process times and depths of large earthquakes by moment tensor inversion of mantle wave data and the effect of lateral heterogeneity: *Annales de Geophysique*, v. B4, no. 3, p. 271-282.

## EXPLANATION OF THE ENTRIES "CENTROID, MOMENT TENSOR (HRV)"

These solutions have been determined using the long period body and mantle wave moment tensor inversion method described by Dziewonski, et.al. (1981) considering corrections due to an aspherical earth structure of model SH8/U4L8 (Dziewonski and Woodward, 1991).

1. DATA USED: currently GDSN, GSN and IDA/IRIS data are used. The numbers following the entries L.P.B. and M.W. indicate the number of stations (S) and total number of records (C) for the long-period body waves and mantle waves, respectively. Mantle waves are routinely used in inversion for sources with moments greater than  $5 \times 10^{18}$  Newton-meters (Nm).

2. CENTROID LOCATION: hypocentral parameters obtained by adding perturbations resulting from inversion to the parameters reported in the PDE; standard errors follow the individual entries. If a given parameter is not perturbed in inversion, this is indicated by the letters FIX. If the depth is fixed to be consistent with waveform matching of reconstructed broad-band body waves (Ekstrom, 1989), this is indicated by the letters BDY. The default depth for shallow earthquakes is increased to 15 km. in order to improve the stability of solutions; it was 10 km. in 1981-1985.
3. PRINCIPAL AXES: rotation of the moment tensor, constrained to have zero trace, into the principal axes system. Most of the solutions are predominantly of the double couple type: the largest positive eigenvalue corresponds to the tension axis (T); the usually small, intermediate eigenvalue is associated with the null axis (N); the smallest negative eigenvalue is identified with the compression axis (P). PLG are the plunges and AZM the azimuths of the axes.
4. BEST DOUBLE COUPLE: If the eigenvalue (T) is  $\sigma_1$  and (P) is  $-\sigma_2$ , then the scalar seismic moment is defined as  $M_0 = 1/2(\sigma_1 + \sigma_2)$ . The strike, dip and slip of the first (NP1) and second (NP2) nodal planes are calculated from the directions of the P, T, and N axes. The remainder is a linear-vector dipole; in most cases the magnitude of LVD is small. Although all such decompositions are highly non-unique, this particular one is the best in estimating the starting solution for the non-linear, constrained double couple inverse problem. The strike, dip, and slip angles are defined using the convention of Aki and Richards (1980, p. 106) and are the angles designated there as  $\phi_s$ ,  $\delta$ ,  $\lambda$ , respectively.

A. M. Dziewonski, G. Ekstrom and M. P. Salganik, Department of Earth and Planetary Sciences, Harvard University, Cambridge, MA 02138

Aki, K. and Richards, P. G., Quantitative Seismology, Volume 1, W. H. Freeman, San Francisco, 1980, 557 pp.

Dziewonski, A. M., Chou, T. A., and Woodhouse, J. H., 1981, Determination of earthquake source parameters from waveform data for studies of global and regional seismicity: Journal of Geophysical Research, v. 86, p. 2825-2852.

Dziewonski, A. M. and Woodward, R.L., 1991, Acoustic imaging at the planetary scale, in Acoustical Imaging, Vol. 19, E. Ermert and H.-P. Harjes, eds., Plenum Press (in press).

Ekstrom, G., 1989, A very broad band inversion method for the recovery of earthquake source parameters: Tectonophysics, v. 166, p. 73-100.

#### OTHER SEISMIC MOMENTS

1. The seismic moment ( $M_0$ ) contributed by the University of California, Berkeley (BRK), is given for regional earthquakes based on Wood-Anderson torsion seismograms recorded within 300 km of the epicenter with peak-to-peak amplitudes of at least 3 mm. This seismic moment ( $M_0$ ) in dyne-cm is defined by  $\log M_0 = 16.74 + 1.22 \log(CDA)$ , where C is the maximum peak-to-peak amplitude in mm, D is the duration in seconds from the time of the S-wave onset to the last time that the peak-to-peak amplitude exceeds C/3, and A is the epicentral distance in km. Seismic moments quoted in "Preliminary Determination of Epicenters" are converted to Newton-meters (1 Newton-meter =  $10^{10}$  dyne-cm).

Bolt, B.A. and Herraiz, M. 1983, Simplified estimation of seismic moment from seismograms: Bulletin of the Seismological Society of America, v. 73, p. 735-748.

2. Beginning with November, 1988, seismic moments for selected events have been contributed by the Laboratoire de Geophysique, Papeete, French Polynesia (PPT). These moments are computed from mantle Rayleigh and Love waves using the method of Talandier, Raymond and Okal (1987 and 1990).

Talandier, J., Raymond, D. and Okal, E.A. 1987, Use of a variable period mantle magnitude for the rapid one-station estimation of seismic moments: Geophysical Research Letters, v. 14, no. 8, p. 840-843.

Okal, E.A., and Talandier, J. 1990, Mm: Extension to Love Waves of the Concept of a Variable-Period Mantle Magnitude: Pure and Applied Geophysics, v. 134, p. 355-384.





# PRELIMINARY DETERMINATION OF EPICENTERS

## MONTHLY LISTING

### U.S. DEPARTMENT OF THE INTERIOR / GEOLOGICAL SURVEY National Earthquake Information Center

FEBRUARY 1997

| ORIGIN TIME |    |        | GEOGRAPHIC |          | COORDINATES |       | DEPTH   | MAGNITUDE |     | SD  | NO. STA USED | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS   |
|-------------|----|--------|------------|----------|-------------|-------|---------|-----------|-----|-----|--------------|---|
| DAY         | HR | MN SEC | UTC        | LAT      | LONG        |       |         | GS        | MsZ |     |              |   |
| 01          | 00 | 37     | 14.37      | 37.54 N  | 20.23 E     | 10 G  |         |           |     | 1.0 | 8            | IONIAN SEA  |
| 01          | 01 | 05     | 53.3       | 42.588 N | 33.694 E    | 33 N  | 4.0     |           |     | 1.1 | 39           | BLACK SEA. MD 3.7 (ISK).  |
| 01          | 01 | 20     | 54.4       | 50.332 N | 176.036 W   | 33 N  | 4.7     | 4.2       |     | 1.0 | 68           | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 01          | 02 | 50     | 15.8*      | 57.351 S | 25.444 W    | 33 N  | 4.7     |           |     | 0.7 | 13           | SOUTH SANDWICH ISLANDS REGION   |
| 01          | 03 | 30     | 06.47      | 23.05 S  | 111.06 W    | 10 G  | 4.4     |           |     | 1.1 | 5            | EASTER ISLAND REGION  |
| 01          | 04 | 26     | 18.27      | 32.15 S  | 70.59 W     | 90 G  |         |           |     | 0.4 | 10           | CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN).  |
| 01          | 05 | 05     | 12.76      | 59.212 N | 152.180 W   | 64    |         |           |     |     | 43           | SOUTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 01          | 05 | 12     | 59.7*      | 34.540 N | 78.708 E    | 33 N  | 3.5     |           |     | 1.2 | 10           | KASHMIR-XIZANG BORDER REGION  |
| 01          | 05 | 26     | 16.2*      | 33.872 S | 70.321 W    | 110 G |         |           |     | 0.4 | 10           | CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN).  |
| 01          | 05 | 55     | 12.67      | 27.90 N  | 85.01 E     | 10 G  |         |           |     | 0.6 | 7            | NEPAL. Felt at Kathmandu.   |
| 01          | 06 | 57     | 01.5       | 8.971 S  | 124.152 E   | 33 N  | 4.7     |           |     | 1.1 | 24           | TIMOR REGION, INDONESIA   |
| 01          | 08 | 17     | 48.9*      | 9.966 N  | 127.171 E   | 33 N  | 4.2     |           |     | 1.4 | 13           | PHILIPPINE ISLANDS REGION   |
| 01          | 08 | 22     | 28.06      | 62.760 N | 150.259 W   | 84    | 2.8     |           |     |     | 101          | CENTRAL ALASKA. <AEIC>.   |
| 01          | 08 | 46     | 44.8*      | 34.374 N | 36.773 W    | 10 G  |         |           |     | 1.1 | 9            | NORTHERN MID-ATLANTIC RIDGE   |
| 01          | 09 | 35     | 44.76      | 61.580 N | 152.275 W   | 120   |         |           |     |     | 45           | SOUTHERN ALASKA. <AEIC>.  |
| 01          | 09 | 36     | 03.67      | 27.80 N  | 100.53 E    | 33 N  |         |           |     | 0.8 | 6            | YUNNAN, CHINA. ML 3.6 (BJI).  |
| 01          | 10 | 08     | 22.4*      | 43.443 N | 146.267 E   | 95 ?  | 3.8     |           |     | 0.5 | 13           | KURIL ISLANDS   |
| 01          | 10 | 11     | 37.3*      | 57.909 S | 25.536 W    | 54 D  | 4.4     |           |     | 1.0 | 17           | SOUTH SANDWICH ISLANDS REGION   |
| 01          | 10 | 26     | 51.1*      | 17.014 S | 178.929 W   | 500 G | 3.8     |           |     | 0.8 | 11           | FIJI ISLANDS REGION   |
| 01          | 10 | 39     | 03.9*      | 40.491 N | 29.290 E    | 10 G  |         |           |     | 0.6 | 8            | TURKEY. MD 3.4 (ISK).   |
| 01          | 10 | 45     | 49.77      | 40.29 N  | 36.53 W     | 10 G  | 3.4     |           |     | 0.6 | 6            | NORTH ATLANTIC OCEAN  |
| 01          | 12 | 22     | 58.6*      | 51.537 N | 16.236 E    | 5 G   |         |           |     | 0.4 | 9            | POLAND. ML 2.3 (CLL).   |
| 01          | 12 | 59     | 32.9*      | 32.703 N | 129.958 E   | 10 G  |         |           |     | 0.6 | 6            | KYUSHU, JAPAN   |
| 01          | 13 | 26     | 42.07      | 34.04 S  | 71.93 W     | 33 N  |         |           |     | 0.6 | 8            | NEAR COAST OF CENTRAL CHILE   |
| 01          | 13 | 58     | 57.57      | 16.87 S  | 178.44 W    | 500 G | 3.6     |           |     | 1.4 | 9            | FIJI ISLANDS REGION   |
| 01          | 14 | 01     | 57.3       | 47.633 N | 7.300 E     | 10 G  |         |           |     | 1.2 | 70           | SWITZERLAND. ML 3.7 (LDG), 3.6 (STR), 3.6 (GRF), 3.5 (FUR), 3.4 (VIE).  |
| 01          | 14 | 02     | 21.6*      | 40.432 N | 29.365 E    | 10 G  |         |           |     | 0.8 | 6            | TURKEY. MD 2.7 (ISK).   |
| 01          | 14 | 19     | 39.1*      | 42.780 N | 1.755 W     | 10 G  |         |           |     | 1.1 | 6            | PYRENEES. ML 2.2 (LDG).   |
| 01          | 14 | 55     | 25.07      | 6.42 S   | 149.83 E    | 100 G | 3.8     |           |     | 1.4 | 8            | NEW BRITAIN REGION, P.N.G.  |
| 01          | 15 | 06     | 10.8*      | 33.595 N | 134.339 E   | 50 *  |         |           |     | 0.7 | 8            | SHIKOKU, JAPAN  |
| 01          | 15 | 45     | 59.57      | 23.40 S  | 170.67 E    | 33 N  |         |           |     | 1.4 | 7            | LOYALTY ISLANDS REGION  |
| 01          | 16 | 04     | 29.67      | 22.29 S  | 168.86 E    | 33 N  |         |           |     | 1.2 | 7            | NEW CALEDONIA   |
| 01          | 16 | 09     | 57.37      | 22.80 S  | 170.63 E    | 33 N  |         |           |     | 1.4 | 7            | LOYALTY ISLANDS REGION  |
| 01          | 16 | 16     | 01.6*      | 51.095 N | 15.768 E    | 10 G  |         |           |     | 1.1 | 6            | POLAND. ML 2.1 (CLL).   |
| 01          | 16 | 20     | 15.7       | 44.030 N | 7.691 E     | 10 G  |         |           |     | 0.6 | 17           | NORTHERN ITALY. ML 2.2 (LDG), 2.2 (GEN).  |
| 01          | 18 | 10     | 08.6       | 14.430 N | 147.195 E   | 33 N  | 3.4     |           |     | 0.7 | 15           | MARIANA ISLANDS REGION  |
| 01          | 18 | 31     | 56.2*      | 34.316 N | 141.458 E   | 33 N  |         |           |     | 0.6 | 10           | OFF EAST COAST OF HONSHU, JAPAN   |
| 01          | 18 | 34     | 37.1       | 19.837 S | 173.819 W   | 33 N  | 5.1 5.3 |           |     | 1.1 | 77           | TONGA ISLANDS. Mw 5.6 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>18:34:39.1; Lat 20.05 S; Lon 173.02 W; Dep 15.0 Bdy; Half-<br>duration 1.7 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=2.86, Plg=60, Azm=305; (N) Val=-0.05, Plg=6, Azm=203;<br>(P) Val=-2.81, Plg=29, Azm=110; Best double couple:<br>Mo=2.8*10**17 Nm; NP1: Strike=182, Dip=17, Slip=67; NP2:<br>Strike=25, Dip=75, Slip=97. |
| 01          | 18 | 53     | 49.97      | 2.79 N   | 129.04 E    | 33 N  | 3.9     |           |     | 1.3 | 6            | HALMAHERA, INDONESIA  |
| 01          | 21 | 33     | 00.97      | 38.20 S  | 93.35 W     | 10 G  | 4.6     |           |     | 1.2 | 10           | WEST CHILE RISE   |
| 01          | 21 | 52     | 12.67      | 34.43 S  | 70.45 W     | 120 G |         |           |     | 0.2 | 9            | CHILE-ARGENTINA BORDER REGION   |
| 01          | 22 | 38     | 32.0*      | 38.626 N | 26.325 E    | 10 G  |         |           |     | 0.4 | 9            | AEGEAN SEA. MD 3.6 (ISK).   |
| 01          | 22 | 55     | 38.1*      | 37.199 N | 3.719 W     | 5 G   |         |           |     | 0.4 | 9            | SPAIN. mbLg 2.5 (MDD).  |
| 01          | 23 | 44     | 14.4*      | 2.225 N  | 80.463 W    | 33 N  | 4.4     |           |     | 0.9 | 10           | SOUTH OF PANAMA   |
| 01          | 23 | 48     | 26.6       | 38.069 N | 23.994 E    | 33 N  | 3.9     |           |     | 1.2 | 30           | GREECE. MD 3.7 (ISK).   |
| 02          | 00 | 19     | 15.4*      | 32.622 N | 115.918 W   | 13    |         |           |     |     | 23           | CALIF.-BAJA CALIF. BORDER REGION. <PAS-P>. MD 3.5 (PAS).<br>Felt in the El Centro area, California.   |
| 02          | 01 | 27     | 54.57      | 35.10 N  | 138.89 E    | 33 N  |         |           |     | 0.6 | 5            | EASTERN HONSHU, JAPAN   |
| 02          | 01 | 46     | 11.0*      | 30.559 N | 138.557 E   | 426   | 3.6     |           |     | 0.7 | 16           | SOUTH OF HONSHU, JAPAN  |
| 02          | 02 | 20     | 20.3*      | 36.192 N | 120.293 W   | 9     |         |           |     |     | 32           | CENTRAL CALIFORNIA. <GM-P>. Mw 4.0 (BRK). MD 3.9 (GM), 3.9 (PAS). ML 4.1 (BRK), 4.0 (GS).<br>Scalar Moment (BRK): Mo=1.1*10**15 Nm.   |
| 02          | 02 | 25     | 47.67      | 29.28 N  | 114.61 W    | 5 G   |         |           |     | 1.2 | 9            | BAJA CALIFORNIA, MEXICO   |

|    |    |    |       |        |   |         |   |     |   |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|--|
| 02 | 03 | 05 | 12.7  | 33.135 | S | 70.155  | W | 102 | D | 0.8 | 24  | CHILE-ARGENTINA BORDER REGION. MD 4.0 (SAN).   |
| 02 | 04 | 09 | 03.2* | 44.742 | N | 148.035 | E | 68  | * | 0.9 | 48  | KURIL ISLANDS  |
| 02 | 04 | 12 | 43.4* | 6.879  | S | 127.559 | E | 100 | G | 1.1 | 17  | BANDA SEA  |
| 02 | 04 | 56 | 09.4  | 0.007  | S | 123.633 | E | 150 | G | 1.0 | 101 | MINAHASSA PENINSULA, SULAWESI  |
| 02 | 05 | 16 | 11.5* | 36.939 | N | 4.809   | W | 10  | G | 1.2 | 15  | STRAIT OF GIBRALTAR. mbLg 3.0 (MDD). Felt (II) in the Ardales area, Spain.   |
| 02 | 05 | 37 | 50.2* | 32.62  | S | 71.70   | W | 20  | G | 0.4 | 8   | NEAR COAST OF CENTRAL CHILE  |
| 02 | 06 | 28 | 11.8* | 2.50   | S | 140.40  | E | 33  | N | 0.6 | 7   | NEAR NORTH COAST OF IRIAN JAYA   |
| 02 | 08 | 07 | 08.2* | 33.695 | N | 140.045 | E | 117 | * | 1.2 | 18  | SOUTH OF HONSHU, JAPAN   |
| 02 | 08 | 58 | 07.9* | 24.30  | S | 179.56  | E | 650 | G | 0.3 | 7   | SOUTH OF FIJI ISLANDS  |
| 02 | 08 | 58 | 48.9* | 36.50  | S | 177.62  | E | 150 | G | 0.7 | 12  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 02 | 09 | 42 | 53.9* | 2.091  | S | 132.643 | E | 33  | N | 1.4 | 17  | IRIAN JAYA REGION, INDONESIA   |
| 02 | 11 | 06 | 53.5* | 32.47  | S | 71.90   | W | 20  | G | 0.3 | 9   | NEAR COAST OF CENTRAL CHILE  |
| 02 | 12 | 01 | 46.4* | 17.071 | N | 147.314 | E | 49  | D | 1.0 | 13  | MARIANA ISLANDS REGION   |
| 02 | 12 | 37 | 33.0* | 16.24  | N | 144.97  | E | 33  | N | 1.0 | 7   | MARIANA ISLANDS REGION   |
| 02 | 12 | 45 | 56.4* | 0.938  | S | 136.725 | E | 33  | N | 0.6 | 10  | IRIAN JAYA REGION, INDONESIA   |
| 02 | 13 | 13 | 11.5* | 36.875 | N | 98.632  | E | 19  | D | 1.2 | 16  | QINGHAI, CHINA. ML 3.8 (BTJ).  |
| 02 | 13 | 21 | 54.2* | 1.62   | S | 136.79  | E | 33  | N | 0.7 | 6   | IRIAN JAYA REGION, INDONESIA   |
| 02 | 13 | 30 | 01.2* | 30.285 | S | 178.634 | W | 155 | D | 0.5 | 11  | KERMADEC ISLANDS, NEW ZEALAND  |
| 02 | 13 | 36 | 04.9* | 20.95  | S | 168.49  | E | 24  | D | 0.9 | 11  | LOYALTY ISLANDS  |
| 02 | 13 | 45 | 07.6* | 42.799 | N | 7.199   | W | 10  | G | 0.7 | 10  | SPAIN. mbLg 3.9 (MDD).   |
| 02 | 14 | 30 | 05.9  | 25.312 | N | 96.522  | E | 63  | * | 0.8 | 18  | MYANMAR  |
| 02 | 15 | 07 | 52.0* | 30.423 | N | 131.273 | E | 33  | N | 0.2 | 6   | KYUSHU, JAPAN  |
| 02 | 15 | 28 | 07.9* | 30.244 | S | 179.878 | W | 550 | G | 0.9 | 20  | KERMADEC ISLANDS REGION  |
| 02 | 16 | 22 | 47.3* | 23.931 | S | 66.597  | W | 196 | * | 0.9 | 20  | JUJUY PROVINCE, ARGENTINA  |
| 02 | 17 | 10 | 51.7* | 0.94   | S | 137.51  | E | 33  | N | 0.7 | 6   | IRIAN JAYA REGION, INDONESIA   |
| 02 | 17 | 18 | 17.2* | 5.214  | N | 126.692 | E | 127 | * | 0.8 | 9   | MINDANAO, PHILIPPINE ISLANDS   |
| 02 | 18 | 19 | 30.0* | 17.82  | S | 177.01  | W | 33  | N | 1.0 | 10  | FIJI ISLANDS REGION  |
| 02 | 18 | 24 | 05.3* | 36.20  | N | 28.91   | E | 10  | G | 1.0 | 16  | DODECANESE ISLANDS. MD 3.6 (ISK).  |
| 02 | 18 | 28 | 15.0* | 5.177  | S | 146.174 | E | 53  | * | 1.1 | 7   | EASTERN NEW GUINEA REG., P.N.G.  |
| 02 | 18 | 48 | 42.4* | 37.655 | N | 134.346 | E | 413 | * | 1.0 | 15  | SEA OF JAPAN   |
| 02 | 19 | 21 | 30.9* | 7.006  | N | 126.971 | E | 50  | ? | 1.1 | 27  | MINDANAO, PHILIPPINE ISLANDS   |
| 02 | 20 | 14 | 40.9* | 47.818 | N | 114.220 | W | 5   |   | 1.2 | 12  | MONTANA. <BUT-P>. MD 3.6 (BUT). Felt at Rollins, Dayton and along the shore of Big Arm Bay, Flathead Lake. Also felt along the east shore of Flathead Lake about 5 km north of Yellow Bay.   |
| 02 | 20 | 28 | 08.3  | 30.492 | N | 131.308 | E | 61  | D | 1.2 | 32  | KYUSHU, JAPAN  |
| 02 | 20 | 32 | 59.8* | 36.15  | N | 26.83   | E | 10  | G | 0.6 | 6   | DODECANESE ISLANDS   |
| 02 | 20 | 42 | 12.4* | 0.721  | S | 134.874 | E | 78  | D | 1.2 | 14  | IRIAN JAYA REGION, INDONESIA   |
| 02 | 21 | 08 | 52.0  | 0.574  | S | 131.552 | E | 33  | N | 1.0 | 23  | IRIAN JAYA REGION, INDONESIA   |
| 02 | 21 | 16 | 28.5* | 31.06  | S | 69.61   | W | 190 | G | 0.4 | 10  | SAN JUAN PROVINCE, ARGENTINA. MD 3.6 (SAN).  |
| 02 | 21 | 37 | 51.2* | 33.464 | S | 70.378  | W | 100 | G | 0.3 | 11  | CHILE-ARGENTINA BORDER REGION. MD 2.7 (SAN).   |
| 02 | 22 | 16 | 27.8* | 37.119 | N | 3.723   | W | 10  | G | 0.8 | 7   | SPAIN. mbLg 2.7 (MDD).   |
| 02 | 22 | 57 | 27.9* | 41.801 | N | 142.373 | E | 33  | N | 1.0 | 8   | HOKKAIDO, JAPAN REGION   |
| 02 | 22 | 57 | 37.1* | 29.90  | S | 179.74  | E | 600 | G | 1.2 | 8   | KERMADEC ISLANDS REGION  |
| 02 | 23 | 10 | 59.3* | 38.58  | N | 25.92   | E | 10  | G | 0.6 | 5   | AEGEAN SEA. MD 3.3 (ISK).  |
| 02 | 23 | 37 | 04.0* | 6.935  | S | 128.088 | E | 100 | G | 1.4 | 11  | BANDA SEA  |
| 02 | 23 | 52 | 02.1* | 33.487 | N | 116.778 | W | 8   |   | 1.8 | 18  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.8 (PAS).  |
| 03 | 00 | 43 | 05.6* | 27.976 | N | 85.049  | E | 18  | D | 1.1 | 11  | NEPAL. Felt strongly in the epicentral area and at Kathmandu.  |
| 03 | 01 | 23 | 46.6* | 32.459 | S | 70.467  | W | 5   | G | 0.5 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.6 (SAN).   |
| 03 | 01 | 56 | 24.0* | 36.51  | N | 141.83  | E | 10  | G | 0.5 | 5   | NEAR EAST COAST OF HONSHU, JAPAN   |
| 03 | 02 | 43 | 59.3* | 19.160 | N | 121.409 | E | 33  | N | 1.4 | 8   | PHILIPPINE ISLANDS REGION  |
| 03 | 02 | 59 | 50.4* | 47.783 | N | 114.223 | W | 1   |   | 0.8 | 6   | MONTANA. <BUT-P>. MD 2.9 (BUT). Felt at Rollins.   |
| 03 | 03 | 28 | 40.0  | 43.290 | N | 0.918   | W | 5   | G | 19  | 6   | PYRENEES. mbLg 2.8 (MDD). ML 2.6 (LDG).  |
| 03 | 04 | 55 | 42.3* | 20.128 | N | 155.765 | W | 23  |   | 6   | 6   | HAWAII. <HVO-P>. MD 3.5 (HVO). Felt at Captain Cook, Hawaiian Ocean View Estates, Hawi and Kona Palisades. Also felt in the Hamakua District.  |
| 03 | 05 | 09 | 12.0  | 80.131 | N | 0.548   | E | 10  | G | 1.1 | 60  | NORTH OF SVALBARD  |
| 03 | 05 | 11 | 59.9* | 18.510 | S | 168.775 | E | 300 | G | 1.0 | 27  | VANUATU ISLANDS  |
| 03 | 05 | 16 | 07.9* | 34.047 | N | 116.396 | W | 1   |   | 26  | 26  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.0 (PAS). Felt in the Yucca Valley area.   |
| 03 | 05 | 57 | 53.8  | 31.162 | N | 141.903 | E | 33  | N | 1.2 | 27  | SOUTH OF HONSHU, JAPAN   |
| 03 | 06 | 37 | 37.3* | 5.56   | S | 147.49  | E | 200 | G | 0.9 | 8   | EASTERN NEW GUINEA REG., P.N.G.  |
| 03 | 06 | 46 | 30.9* | 7.20   | N | 72.24   | W | 33  | N | 0.9 | 8   | NORTHERN COLOMBIA  |
| 03 | 06 | 58 | 01.6* | 32.86  | S | 70.20   | W | 100 | G | 0.3 | 7   | CHILE-ARGENTINA BORDER REGION  |
| 03 | 07 | 25 | 06.7* | 21.398 | S | 177.994 | W | 372 | * | 0.9 | 18  | FIJI ISLANDS REGION  |
| 03 | 07 | 51 | 18.6* | 39.14  | N | 26.54   | E | 10  | G | 0.3 | 5   | TURKEY. MD 3.2 (ISK).  |
| 03 | 07 | 53 | 24.2  | 50.812 | N | 155.382 | E | 158 | D | 0.9 | 178 | KURIL ISLANDS. Mw 5.4 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 07:53:29.5; Lat 50.66 N; Lon 155.72 E; Dep 169.2; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=1.14, Plg=33, Azm=126; (N) Val=0.08, Plg=11, Azm=28; (P) Val=-1.22, Plg=55, Azm=282; Best double couple: Mo=1.2*10**17 Nm; NP1: Strike=252, Dip=16, Slip=-45; NP2: Strike=26, Dip=78, Slip=-102. |
| 03 | 08 | 56 | 08.0* | 4.00   | S | 128.23  | E | 33  | N | 1.2 | 8   | BANDA SEA  |
| 03 | 08 | 57 | 43.4* | 27.802 | N | 143.815 | E | 33  | N | 0.9 | 10  | BONIN ISLANDS REGION   |
| 03 | 09 | 34 | 09.8* | 33.599 | S | 71.589  | W | 33  | N | 0.4 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).   |
| 03 | 09 | 53 | 20.4* | 32.90  | S | 70.21   | W | 110 | G | 0.8 | 7   | CHILE-ARGENTINA BORDER REGION  |
| 03 | 09 | 56 | 19.7* | 19.751 | N | 156.142 | W | 12  |   | 3   | 3   | HAWAII. <HVO-P>. MD 3.7 (HVO). Felt at Kona Palisades.   |
| 03 | 10 | 17 | 58.1* | 33.802 | S | 70.687  | W | 90  | G | 0.2 | 11  | CHILE-ARGENTINA BORDER REGION  |
| 03 | 10 | 31 | 48.6  | 59.162 | N | 144.657 | W | 10  | G | 0.8 | 34  | GULF OF ALASKA. ML 2.9 (AEIC).   |
| 03 | 10 | 38 | 13.8* | 27.758 | N | 85.023  | E | 29  | D | 1.2 | 19  | NEPAL  |
| 03 | 10 | 46 | 33.7* | 5.220  | S | 146.640 | E | 33  | N | 1.3 | 21  | EASTERN NEW GUINEA REG., P.N.G.  |
| 03 | 11 | 04 | 14.3* | 54.300 | N | 118.568 | W | 2   |   | 29  | 29  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.2 (PAS). Felt in the San Fernando Valley.   |
| 03 | 11 | 14 | 55.8* | 36.145 | N | 141.838 | E | 33  | N | 1.3 | 11  | NEAR EAST COAST OF HONSHU, JAPAN   |
| 03 | 13 | 19 | 00.6* | 47.170 | N | 153.920 | E | 33  | N | 0.5 | 13  | KURIL ISLANDS  |
| 03 | 13 | 29 | 32.5* | 9.701  | N | 126.280 | E | 99  | * | 1.2 | 32  | MINDANAO, PHILIPPINE ISLANDS   |
| 03 | 14 | 06 | 48.1* | 33.499 | S | 70.914  | W | 80  | G | 0.5 | 7   | CHILE-ARGENTINA BORDER REGION  |
| 03 | 14 | 55 | 58.8* | 62.036 | N | 152.731 | W | 0   |   | 62  | 62  | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 3.3 (PMR).  |
| 03 | 15 | 08 | 07.3* | 35.89  | S | 53.36   | E | 10  | G | 0.9 | 7   | SOUTHWEST INDIAN RIDGE   |
| 03 | 15 | 25 | 04.8* | 19.75  | S | 169.58  | E | 33  | N | 1.0 | 10  | VANUATU ISLANDS  |

|    |    |    |       |          |           |       |     |     |     |   |  |
|----|----|----|-------|----------|-----------|-------|-----|-----|-----|---|--|
| 03 | 15 | 55 | 57.6* | 11.514 N | 86.452 W  | 33 N  | 4.2 | 1.0 | 31  | NEAR COAST OF NICARAGUA   |  |
| 03 | 17 | 03 | 36.2* | 19.028 S | 174.337 W | 33 N  | 4.8 | 1.1 | 32  | TONGA ISLANDS   |  |
| 03 | 17 | 07 | 07.2* | 33.816 S | 70.986 W  | 70 G  |     | 0.5 | 10  | CHILE-ARGENTINA BORDER REGION   |  |
| 03 | 17 | 46 | 09.7* | 11.415 N | 61.351 W  | 33 N  |     | 0.2 | 6   | WINDWARD ISLANDS. MD 3.1 (TRN). Felt (II) on Trinidad.                                |  |
| 03 | 18 | 21 | 56.3* | 11.801 N | 86.175 W  | 33 N  | 4.0 | 1.0 | 16  | NEAR COAST OF NICARAGUA   |  |
| 03 | 19 | 10 | 56.2* | 62.761 N | 148.949 W | 62    |     |     | 80  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.1 (PMR).                                     |  |
| 03 | 19 | 20 | 58.2* | 42.848 N | 0.259 E   | 5 G   |     | 0.8 | 5   | PYRENEES. ML 1.8 (LDG).   |  |
| 03 | 19 | 29 | 07.2* | 28.258 S | 74.133 E  | 10 G  | 4.4 | 0.6 | 12  | MID-INDIAN RIDGE  |  |
| 03 | 20 | 04 | 32.1* | 30.505 S | 177.613 W | 100 G | 4.9 | 1.1 | 22  | KERMADEC ISLANDS, NEW ZEALAND   |  |
| 03 | 20 | 10 | 07.4  | 44.603 N | 149.668 E | 33 N  | 4.7 | 1.0 | 63  | KURIL ISLANDS   |  |
| 03 | 20 | 53 | 21.1* | 36.949 N | 4.418 W   | 33 N  |     | 1.0 | 9   | STRAIT OF GIBRALTAR. mbLg 2.5 (MDD).  |  |
| 03 | 21 | 51 | 33.3* | 40.406 N | 125.093 W | 9     |     |     | 13  | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 3.2 (GM). ML 3.5 (BRK), 3.3 (GS).        |  |
| 03 | 22 | 09 | 55.4  | 42.924 N | 7.194 W   | 23 *  |     | 1.2 | 54  | SPAIN. ML 4.1 (STR), 3.9 (LDG). mbLg 3.6 (MDD). Felt (V) in the Sarria-Becerrea area. |  |
| 03 | 22 | 20 | 25.5* | 8.23 S   | 116.72 E  | 33 N  | 3.7 | 1.4 | 6   | SUMBAWA REGION, INDONESIA   |  |
| 03 | 23 | 48 | 06.0* | 7.36 S   | 129.32 E  | 150 G | 4.3 | 1.1 | 7   | BANDA SEA   |  |
| 04 | 00 | 42 | 28.1* | 0.88 S   | 131.07 E  | 33 N  | 4.2 | 1.2 | 9   | IRIAN JAYA REGION, INDONESIA  |  |
| 04 | 01 | 54 | 58.2* | 39.607 N | 75.968 E  | 33 N  |     | 1.2 | 9   | SOUTHERN XINJIANG, CHINA  |  |
| 04 | 01 | 55 | 57.9* | 7.209 S  | 125.703 E | 500 G | 4.8 | 1.1 | 16  | BANDA SEA   |  |
| 04 | 02 | 41 | 13.0  | 38.593 N | 24.138 E  | 33 N  | 4.4 | 1.3 | 128 | AEGEAN SEA. MD 4.2 (ISK).   |  |
| 04 | 03 | 02 | 38.7  | 17.097 N | 147.520 E | 38 *  | 4.6 | 0.9 | 30  | MARIANA ISLANDS REGION  |  |
| 04 | 04 | 00 | 40.4  | 29.940 S | 178.307 W | 153 D | 5.0 | 1.1 | 68  | KERMADEC ISLANDS, NEW ZEALAND   |  |
| 04 | 05 | 15 | 04.5* | 25.783 N | 143.334 E | 52 *  | 4.3 | 0.6 | 17  | VOLCANO ISLANDS REGION  |  |
| 04 | 05 | 46 | 12.1* | 0.521 S  | 131.526 E | 33 N  | 4.8 | 1.2 | 21  | IRIAN JAYA REGION, INDONESIA  |  |
| 04 | 05 | 53 | 48.6* | 55.694 N | 164.169 E | 33 N  |     | 0.3 | 9   | KOMANDORSKY ISLANDS REGION  |  |
| 04 | 06 | 10 | 27.8* | 7.834 S  | 115.135 E | 204   | 4.6 | 1.3 | 24  | BALI SEA  |  |
| 04 | 06 | 14 | 00.8* | 33.399 S | 70.819 W  | 80 G  |     | 0.7 | 10  | CHILE-ARGENTINA BORDER REGION   |  |
| 04 | 06 | 35 | 15.6* | 39.620 N | 77.096 E  | 33 N  | 3.7 | 1.1 | 10  | SOUTHERN XINJIANG, CHINA  |  |
| 04 | 06 | 41 | 43.1* | 32.39 S  | 70.99 W   | 70 G  |     | 0.2 | 8   | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).  |  |
| 04 | 06 | 44 | 38.5  | 16.403 N | 145.490 E | 447   | 4.2 | 0.9 | 46  | MARIANA ISLANDS   |  |
| 04 | 07 | 43 | 09.4* | 44.707 N | 6.789 E   | 5 G   |     | 0.3 | 6   | FRANCE. ML 2.0 (GEN).   |  |
| 04 | 08 | 59 | 55.6* | 1.48 N   | 118.14 E  | 33 N  | 4.0 | 0.5 | 8   | BORNEO  |  |
| 04 | 09 | 53 | 55.7  | 37.564 N | 57.295 E  | 10 G  | 5.3 | 5.5 | 0.9 | 256   | TURKMENISTAN-IRAN BORDER REGION. Mw 5.5 (GS), 5.5 (HRV). Felt at Bojnurd and in many parts of northeastern Iran. Moment Tensor (GS): Dep 10; Principal axes (scale 10**17 Nm): (T) Val=-1.89, Plg=12, Azm=300; (N) Val=0.01, Plg=72, Azm=170; (P) Val=-1.91, Plg=13, Azm=33; Best double couple: Mo=1.9*10**17 Nm; NP1: Strike=77, Dip=72, Slip=-1; NP2: Strike=167, Dip=89, Slip=-162. Centroid, Moment Tensor (HRV): Centroid origin time 09:54:00.5; Lat 37.99 N; Lon 57.54 E; Dep 15.0 Fix; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.75, Plg=28, Azm=297; (N) Val=-0.05, Plg=61, Azm=137; (P) Val=-1.70, Plg=9, Azm=32; Best double couple: Mo=1.7*10**17 Nm; NP1: Strike=78, Dip=64, Slip=15; NP2: Strike=342, Dip=77, Slip=153.  |
| 04 | 10 | 36 | 59.1* | 59.838 N | 153.631 W | 151   |     |     | 58  | SOUTHERN ALASKA. <AEIC>.  |  |
| 04 | 10 | 37 | 47.1  | 37.661 N | 57.291 E  | 10 G  | 5.9 | 6.8 | 1.1 | 338   | TURKMENISTAN-IRAN BORDER REGION. Mw 6.5 (GS), 6.5 (HRV), 6.4 (OBN). Me 7.1 (GS). About 100 people killed, nearly 2,000 injured, about 5,500 houses destroyed and 11,000 houses damaged in the Bojnurd-Shirvan area, Iran. Damage estimated at more than 30 million U.S. dollars. Felt in many parts of northeastern Iran, including Esfarayen, Mashhad, Neyshabur, Quchan and Sabzevar. Broadband Source Parameters (GS): Dep 8; Radiated energy 1.1*10**15 Nm. Moment Tensor (GS): Dep 11; Principal axes (scale 10**18 Nm): (T) Val=5.71, Plg=4, Azm=98; (N) Val=0.92, Plg=86, Azm=259; (P) Val=-6.63, Plg=1, Azm=8; Best double couple: Mo=6.2*10**18 Nm; NP1: Strike=143, Dip=86, Slip=178; NP2: Strike=233, Dip=88, Slip=4. Centroid, Moment Tensor (HRV): Centroid origin time 10:37:52.5; Lat 37.82 N; Lon 57.50 E; Dep 15.0 Bdy; Half-duration 4.5 sec; Principal axes (scale 10**18 Nm): (T) Val=6.64, Plg=0, Azm=282; (N) Val=0.17, Plg=77, Azm=14; (P) Val=-6.81, Plg=13, Azm=192; Best double couple: Mo=6.7*10**18 Nm; NP1: Strike=328, Dip=81, Slip=-171; NP2: Strike=236, Dip=81, Slip=-9. Moment Tensor (OBN): Principal axes: (T) Plg=15, Azm=108; (N) Plg=74, Azm=315; (P) Plg=7, Azm=200; Best double couple: Mo=5.2*10**18 Nm; NP1: Strike=245, Dip=75, Slip=6; NP2: Strike=154, Dip=85, Slip=164. |
| 04 | 10 | 52 | 37.1* | 37.94 N  | 57.11 E   | 10 G  |     | 1.2 | 9   | TURKMENISTAN-IRAN BORDER REGION   |  |
| 04 | 11 | 12 | 46.3  | 34.388 N | 141.201 E | 61 D  | 4.8 | 0.8 | 31  | OFF EAST COAST OF HONSHU, JAPAN   |  |
| 04 | 12 | 26 | 38.6* | 63.119 N | 150.514 W | 109   | 2.1 |     | 50  | CENTRAL ALASKA. <AEIC>.   |  |
| 04 | 12 | 34 | 56.7* | 37.776 N | 57.270 E  | 10 G  | 4.9 | 0.6 | 9   | TURKMENISTAN-IRAN BORDER REGION. Felt at Bojnurd, Iran.                               |  |
| 04 | 12 | 41 | 13.0* | 13.947 S | 170.215 E | 600 G | 4.5 | 0.6 | 13  | VANUATU ISLANDS REGION  |  |
| 04 | 13 | 13 | 22.8* | 13.99 N  | 94.78 W   | 33 N  | 3.5 | 1.3 | 17  | OFF COAST OF CHIAPAS, MEXICO  |  |
| 04 | 13 | 13 | 56.9* | 1.799 N  | 126.492 E | 33 N  | 4.3 | 0.9 | 13  | NORTHERN MOLUCCA SEA  |  |
| 04 | 13 | 14 | 35.1* | 2.610 S  | 77.822 W  | 33 N  | 4.1 | 0.8 | 12  | PERU-ECUADOR BORDER REGION  |  |
| 04 | 13 | 30 | 10.8* | 32.643 S | 70.427 W  | 90 G  |     | 0.6 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.2 (SAN).  |  |
| 04 | 13 | 45 | 07.5  | 42.927 N | 7.202 W   | 22    |     | 1.3 | 60  | SPAIN. ML 4.2 (LDG). mbLg 4.2 (MDD). Felt (V) in the Sarria-Becerrea area.            |  |
| 04 | 13 | 46 | 01.1  | 40.054 N | 27.353 E  | 10 G  |     | 0.5 | 9   | TURKEY. MD 3.3 (ISK).   |  |
| 04 | 13 | 55 | 39.7* | 42.80 N  | 7.16 W    | 20 G  |     | 1.2 | 4   | SPAIN. mbLg 3.5 (MDD).  |  |
| 04 | 14 | 14 | 13.5  | 41.904 N | 126.353 W | 22 D  | 3.6 | 0.8 | 87  | OFF COAST OF NORTHERN CALIFORNIA. ML 4.1 (BRK).                                       |  |
| 04 | 14 | 28 | 40.6  | 51.686 N | 16.080 E  | 5 G   |     | 0.8 | 14  | POLAND. ML 3.6 (VIE).   |  |
| 04 | 14 | 37 | 33.8  | 3.537 S  | 135.619 E | 33 N  | 4.6 | 1.1 | 22  | IRIAN JAYA REGION, INDONESIA  |  |
| 04 | 14 | 39 | 51.4* | 8.76 S   | 28.72 E   | 10 G  | 4.5 | 1.7 | 7   | ZAIRE   |  |
| 04 | 14 | 46 | 56.8* | 38.245 N | 57.959 E  | 10 G  | 4.2 | 1.5 | 17  | TURKMENISTAN-IRAN BORDER REGION. Felt at Bojnurd, Iran.                               |  |
| 04 | 15 | 01 | 40.3  | 43.086 N | 0.266 E   | 10 G  |     | 1.0 | 54  | FRANCE. ML 3.9 (LDG), 3.7 (STR). mbLg 3.8 (MDD). Felt (IV) in the Bigorre region.     |  |

|    |    |    |       |        |   |         |   |     |   |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|--|
| 04 | 15 | 05 | 41.77 | 28.13  | S | 64.77   | E | 10  | G | 1.5 | 6   | SOUTH INDIAN OCEAN   |
| 04 | 16 | 21 | 39.07 | 16.53  | S | 172.38  | W | 33  | N | 4.3 | 14  | SAMOA ISLANDS REGION   |
| 04 | 16 | 30 | 33.4  | 5.500  | S | 147.356 | E | 205 |   | 5.3 | 0.7 | 57 EASTERN NEW GUINEA REG., P.N.G.   |
| 04 | 17 | 05 | 05.4  | 17.027 | N | 147.198 | E | 57  | * | 5.0 | 4.9 | 1.0 79 MARIANA ISLANDS REGION  |
| 04 | 17 | 16 | 54.87 | 32.71  | S | 70.07   | W | 120 | G |     | 0.2 | 11 CHILE-ARGENTINA BORDER REGION. MD 4.0 (SAN).  |
| 04 | 17 | 21 | 59.86 | 62.914 | N | 151.323 | W | 105 |   |     |     | 8 CENTRAL ALASKA. <AEIC>.  |
| 04 | 17 | 31 | 11.8  | 6.735  | N | 77.795  | W | 55  |   | 5.0 | 4.7 | 0.9 105 NEAR WEST COAST OF COLOMBIA  |
| 04 | 17 | 41 | 25.16 | 40.303 | N | 124.511 | W | 21  |   |     |     | 5 NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.8 (GM).   |
| 04 | 18 | 22 | 39.78 | 45.929 | N | 6.121   | E | 5   | G |     | 0.6 | 7 FRANCE. ML 2.3 (LDG).  |
| 04 | 18 | 24 | 33.6* | 20.200 | S | 173.646 | W | 33  | N | 4.3 | 1.0 | 27 TONGA ISLANDS   |
| 04 | 18 | 46 | 05.08 | 25.082 | N | 123.268 | E | 180 | ? |     | 0.6 | 8 NORTHEAST OF TAIWAN  |
| 04 | 19 | 08 | 15.97 | 31.68  | S | 70.01   | W | 140 | G |     | 0.4 | 9 CHILE-ARGENTINA BORDER REGION  |
| 04 | 19 | 08 | 43.5* | 17.047 | N | 147.354 | E | 33  | N | 3.3 | 1.0 | 10 MARIANA ISLANDS REGION  |
| 04 | 19 | 54 | 05.7* | 17.781 | N | 147.286 | E | 33  | N | 3.6 | 0.9 | 9 MARIANA ISLANDS REGION   |
| 04 | 20 | 54 | 14.27 | 12.53  | S | 14.65   | W | 10  | G | 4.4 | 1.2 | 11 SOUTHERN MID-ATLANTIC RIDGE   |
| 04 | 21 | 04 | 09.5* | 37.864 | N | 57.123  | E | 10  | G | 4.2 | 1.1 | 29 TURKMENISTAN-IRAN BORDER REGION. Felt at Bojnurd, Iran.   |
| 04 | 22 | 07 | 19.17 | 0.95   | S | 132.22  | E | 33  | N | 3.9 | 1.0 | 8 IRIAN JAYA REGION, INDONESIA   |
| 04 | 23 | 20 | 03.96 | 62.025 | N | 148.332 | W | 15  |   |     |     | 36 CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 04 | 23 | 44 | 14.1  | 43.935 | N | 7.647   | E | 10  | G |     | 0.8 | 20 NEAR SOUTH COAST OF FRANCE. ML 2.7 (GEN), 2.3 (LDG).  |
| 04 | 23 | 45 | 45.26 | 38.361 | N | 122.647 | W | 6   |   |     |     | 20 NORTHERN CALIFORNIA. <GM-P>. Mw 3.6 (BRK). MD 3.4 (GM). ML 3.4 (BRK), 3.4 (GS). Felt at Cotati, Petaluma, Rohnert Park, San Francisco, Santa Rosa and Sebastopol. Scalar Moment (BRK): Mo=3.3*10**14 Nm.  |
| 05 | 00 | 15 | 13.6  | 28.755 | S | 139.214 | E | 10  | G | 4.3 | 1.2 | 19 SOUTH AUSTRALIA   |
| 05 | 00 | 25 | 41.06 | 38.361 | N | 122.651 | W | 7   |   |     |     | 25 NORTHERN CALIFORNIA. <GM-P>. Mw 3.7 (BRK). MD 3.7 (GM). ML 3.9 (BRK), 3.8 (GS). Felt at Cotati, Oakland, Petaluma, Rohnert Park, San Francisco, Santa Rosa and Sebastopol. Scalar Moment (BRK): Mo=4.7*10**14 Nm.   |
| 05 | 01 | 07 | 08.46 | 44.625 | N | 9.346   | E | 10  | G |     | 0.5 | 14 NORTHERN ITALY. ML 2.7 (GEN).   |
| 05 | 01 | 34 | 46.2  | 86.896 | N | 57.619  | E | 10  | G | 4.6 | 1.4 | 30 NORTH OF FRANZ JOSEF LAND   |
| 05 | 01 | 46 | 53.67 | 34.17  | S | 70.49   | W | 15  | G |     | 0.3 | 6 CHILE-ARGENTINA BORDER REGION  |
| 05 | 02 | 28 | 20.0  | 16.998 | N | 147.275 | E | 33  | N | 4.7 | 4.3 | 1.2 60 MARIANA ISLANDS REGION  |
| 05 | 02 | 48 | 25.7* | 37.586 | S | 70.745  | W | 196 |   | 3.6 | 1.1 | 22 SOUTHERN ARGENTINA. MD 3.8 (SAN).   |
| 05 | 03 | 18 | 59.66 | 33.439 | S | 70.119  | W | 115 | G |     | 0.3 | 10 CHILE-ARGENTINA BORDER REGION. MD 3.6 (SAN).  |
| 05 | 03 | 21 | 49.3* | 20.782 | S | 67.344  | W | 200 | G | 3.5 | 1.1 | 12 SOUTHERN BOLIVIA  |
| 05 | 04 | 54 | 19.0* | 22.625 | N | 142.996 | E | 116 | * | 4.0 | 0.9 | 15 VOLCANO ISLANDS REGION  |
| 05 | 06 | 35 | 14.57 | 24.93  | S | 179.44  | E | 650 | G | 4.1 | 0.7 | 11 SOUTH OF FIJI ISLANDS   |
| 05 | 06 | 56 | 37.2  | 42.948 | N | 0.260   | E | 5   | G |     | 0.7 | 12 PYRENEES. mbLg 2.9 (MDD). ML 2.6 (STR). Felt (II) in the Bigorre region, France.  |
| 05 | 07 | 53 | 45.6  | 37.629 | N | 57.594  | E | 10  | G | 5.2 | 5.0 | 1.0 163 TURKMENISTAN-IRAN BORDER REGION. Mw 5.2 (HRV). Felt at Bojnurd, Iran. Centroid, Moment Tensor (HRV): Centroid origin time 07:53:48.4; Lat 37.84 N; Lon 57.58 E; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=6.96, Plg=7, Azm=143; (N) Val=1.64, Plg=78, Azm=267; (P) Val=-8.60, Plg=10, Azm=52; Best double couple: Mo=7.8*10**16 Nm; NP1: Strike=187, Dip=78, Slip=-178; NP2: Strike=97, Dip=88, Slip=-12. |
| 05 | 08 | 57 | 53.17 | 37.00  | S | 96.05   | W | 10  | G | 4.4 | 1.4 | 15 WEST CHILE RISE   |
| 05 | 10 | 09 | 21.8* | 36.259 | N | 23.420  | E | 50  | G | 3.5 | 1.3 | 18 SOUTHERN GREECE   |
| 05 | 10 | 35 | 49.87 | 34.48  | S | 70.39   | W | 10  | G |     | 0.8 | 10 CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).  |
| 05 | 11 | 06 | 28.2  | 48.440 | N | 154.470 | E | 48  | D | 4.5 | 0.8 | 31 KURIL ISLANDS   |
| 05 | 11 | 07 | 42.26 | 59.181 | N | 152.757 | W | 66  |   | 2.5 |     | 52 SOUTHERN ALASKA. <AEIC>. ML 2.8 (AEIC).   |
| 05 | 11 | 14 | 17.07 | 22.71  | N | 143.11  | E | 150 | G | 3.0 | 0.8 | 7 VOLCANO ISLANDS REGION   |
| 05 | 11 | 57 | 07.47 | 14.91  | S | 173.99  | W | 33  | N |     | 0.3 | 6 SAMOA ISLANDS REGION   |
| 05 | 12 | 19 | 22.56 | 62.554 | N | 151.266 | W | 88  |   |     |     | 67 CENTRAL ALASKA. <AEIC>.   |
| 05 | 12 | 30 | 56.2* | 35.790 | N | 79.928  | E | 33  | N | 3.0 | 1.0 | 9 KASHMIR-XIZANG BORDER REGION   |
| 05 | 12 | 54 | 11.46 | 36.480 | N | 4.434   | W | 104 | * |     | 0.6 | 17 STRAIT OF GIBRALTAR   |
| 05 | 13 | 09 | 18.9  | 2.546  | N | 124.466 | E | 250 | G | 4.7 | 1.2 | 46 CELEBES SEA   |
| 05 | 13 | 09 | 35.27 | 10.99  | N | 126.41  | E | 33  | N | 4.8 | 3.9 | 1.5 8 PHILIPPINE ISLANDS REGION  |
| 05 | 13 | 25 | 44.5  | 17.020 | N | 147.350 | E | 33  | N | 4.6 | 1.2 | 49 MARIANA ISLANDS REGION  |
| 05 | 13 | 58 | 15.6* | 14.243 | S | 65.850  | W | 33  | N | 3.9 | 1.2 | 9 CENTRAL BOLIVIA  |
| 05 | 14 | 22 | 24.67 | 31.41  | S | 68.83   | W | 210 | G |     | 0.4 | 10 SAN JUAN PROVINCE, ARGENTINA. MD 3.7 (SAN).   |
| 05 | 14 | 22 | 58.0* | 13.113 | N | 88.428  | W | 100 | G | 4.3 | 1.1 | 25 EL SALVADOR   |
| 05 | 14 | 29 | 47.3  | 16.924 | N | 147.233 | E | 33  | N | 5.0 | 4.4 | 1.1 75 MARIANA ISLANDS REGION  |
| 05 | 14 | 55 | 53.9  | 29.938 | S | 123.237 | E | 10  | G | 3.6 | 0.5 | 9 WESTERN AUSTRALIA  |
| 05 | 15 | 09 | 48.7* | 5.162  | S | 129.306 | E | 200 | G | 4.9 | 1.0 | 14 BANDA SEA   |
| 05 | 16 | 06 | 17.17 | 28.95  | N | 130.55  | E | 33  | N |     | 1.1 | 8 RYUKYU ISLANDS   |
| 05 | 16 | 18 | 22.57 | 27.95  | S | 65.58   | E | 10  | G |     | 0.7 | 8 SOUTH INDIAN OCEAN   |
| 05 | 16 | 29 | 32.7  | 36.225 | N | 141.748 | E | 33  | N | 4.0 | 0.8 | 19 NEAR EAST COAST OF HONSHU, JAPAN  |
| 05 | 17 | 02 | 12.7* | 25.218 | N | 98.665  | E | 33  | N |     | 0.8 | 7 MYANMAR-CHINA BORDER REGION  |
| 05 | 17 | 36 | 56.2* | 17.016 | N | 147.478 | E | 33  | N | 3.8 | 0.9 | 13 MARIANA ISLANDS REGION  |
| 05 | 18 | 14 | 52.37 | 44.40  | N | 128.68  | W | 10  | G | 2.5 | 0.3 | 11 OFF COAST OF OREGON   |
| 05 | 18 | 49 | 04.1* | 7.635  | N | 127.863 | E | 33  | N |     | 1.1 | 6 PHILIPPINE ISLANDS REGION  |
| 05 | 19 | 27 | 24.7  | 51.835 | N | 131.040 | W | 10  | G | 4.6 | 1.3 | 48 QUEEN CHARLOTTE ISLANDS REGION  |
| 05 | 19 | 29 | 04.1  | 51.783 | N | 131.068 | W | 10  | G | 5.0 | 4.7 | 1.0 121 QUEEN CHARLOTTE ISLANDS REGION. Mw 5.2 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 19:29:06.8; Lat 51.46 N; Lon 131.17 W; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=7.66, Plg=3, Azm=122; (N) Val=-0.58, Plg=66, Azm=26; (P) Val=-7.07, Plg=24, Azm=213; Best double couple: Mo=7.4*10**16 Nm; NP1: Strike=255, Dip=71, Slip=-16; NP2: Strike=350, Dip=75, Slip=-160.                      |
| 05 | 19 | 30 | 29.9* | 25.079 | S | 179.207 | W | 450 | G | 4.8 | 1.1 | 35 SOUTH OF FIJI ISLANDS   |
| 05 | 19 | 58 | 01.17 | 3.45   | S | 140.71  | E | 100 | G | 3.7 | 1.1 | 9 IRIAN JAYA, INDONESIA  |
| 05 | 20 | 12 | 46.37 | 17.71  | S | 178.28  | W | 600 | G |     | 0.4 | 6 FIJI ISLANDS REGION  |
| 05 | 21 | 19 | 03.6* | 54.112 | N | 35.127  | W | 10  | G | 4.0 | 1.5 | 21 NORTH ATLANTIC OCEAN  |
| 05 | 21 | 22 | 08.26 | 47.568 | N | 113.940 | W | 19  |   |     |     | 15 MONTANA. <BUT-P>. ML 3.0 (BUT).   |
| 05 | 22 | 17 | 33.7  | 34.602 | S | 70.357  | W | 112 | D | 4.9 | 0.8 | 69 CHILE-ARGENTINA BORDER REGION   |
| 05 | 22 | 22 | 31.07 | 34.31  | S | 70.59   | W | 110 | G |     | 1.6 | 11 CHILE-ARGENTINA BORDER REGION   |
| 05 | 22 | 26 | 10.5* | 39.264 | N | 27.483  | E | 10  | G |     | 0.5 | 5 TURKEY. MD 3.0 (ISK).  |
| 05 | 22 | 45 | 05.0* | 46.740 | N | 152.894 | E | 100 | G |     | 1.3 | 13 KURIL ISLANDS   |
| 05 | 23 | 06 | 36.67 | 34.33  | S | 109.98  | W | 10  | G | 4.0 | 1.4 | 8 SOUTHERN EAST PACIFIC RISE   |



|    |    |    |       |          |           |       |         |     |                         |
|----|----|----|-------|----------|-----------|-------|---------|-----|-------------------------|
| 05 | 23 | 16 | 15.2* | 71.373 N | 9.586 W   | 10 G  | 1.4     | 5   | JAN MAYEN ISLAND REGION |
| 05 | 23 | 46 | 44.9* | 45.917 N | 148.675 E | 33 N  | 0.6     | 9   | KURIL ISLANDS           |
| 05 | 23 | 54 | 23.8  | 14.432 N | 146.653 E | 63 *  | 4.6 4.2 | 1.0 | 37                      |
| 06 | 00 | 46 | 44.8  | 28.178 N | 143.368 E | 35 D  | 4.4     | 1.1 | 37                      |
| 06 | 01 | 16 | 27.6* | 17.038 N | 147.462 E | 50 G  | 4.1     | 1.0 | 21                      |
| 06 | 01 | 27 | 41.4* | 27.612 S | 176.255 W | 50 G  | 4.4     | 0.8 | 15                      |
| 06 | 01 | 53 | 43.4? | 34.52 S  | 70.48 W   | 120 G |         | 0.1 | 10                      |
| 06 | 01 | 54 | 21.8  | 0.027 N  | 122.412 E | 250 G | 4.5     | 1.1 | 44                      |
| 06 | 02 | 33 | 57.0? | 52.00 N  | 168.45 W  | 33 N  | 3.1     | 1.4 | 7                       |
| 06 | 03 | 00 | 09.3  | 38.181 N | 74.466 E  | 163 D | 4.7     | 0.9 | 128                     |
| 06 | 04 | 05 | 25.3* | 29.837 N | 114.432 W | 10 G  |         | 0.8 | 7                       |
| 06 | 04 | 40 | 03.9* | 60.069 N | 139.208 W | 0     |         |     | 13                      |
| 06 | 04 | 40 | 50.2* | 34.587 S | 70.289 W  | 5 G   |         | 0.4 | 10                      |
| 06 | 05 | 26 | 04.1* | 30.665 N | 138.774 E | 400 G | 3.5     | 0.7 | 11                      |
| 06 | 05 | 56 | 30.0* | 31.065 N | 41.382 W  | 10 G  | 4.3     | 1.1 | 18                      |
| 06 | 06 | 23 | 37.8  | 51.670 N | 16.339 E  | 5 G   |         | 1.0 | 8                       |
| 06 | 06 | 39 | 00.1? | 36.74 N  | 21.35 E   | 33 N  |         | 1.0 | 8                       |
| 06 | 08 | 11 | 34.4* | 36.276 N | 141.141 E | 50 G  | 4.0     | 0.8 | 7                       |
| 06 | 08 | 24 | 59.4* | 60.351 N | 150.765 W | 41    |         |     | 79                      |
| 06 | 09 | 14 | 59.5  | 40.912 N | 141.947 E | 74 *  | 4.0     | 1.1 | 27                      |
| 06 | 09 | 52 | 51.5* | 6.974 S  | 154.058 E | 33 N  | 3.8     | 0.8 | 14                      |
| 06 | 10 | 42 | 21.4? | 44.58 N  | 149.08 E  | 50 G  | 3.7     | 1.3 | 7                       |
| 06 | 11 | 44 | 57.1* | 38.460 S | 91.672 W  | 10 G  | 4.6     | 1.0 | 24                      |
| 06 | 11 | 48 | 04.0  | 0.149 N  | 130.698 E | 33 N  | 4.9     | 1.1 | 29                      |
| 06 | 12 | 13 | 40.4? | 17.11 S  | 174.43 W  | 100 G | 3.6     | 1.2 | 8                       |
| 06 | 12 | 43 | 16.1* | 51.762 N | 130.967 W | 10 G  | 3.9     | 0.9 | 11                      |
| 06 | 12 | 45 | 36.1* | 51.656 N | 131.126 W | 10 G  | 4.0     | 1.3 | 11                      |
| 06 | 12 | 55 | 17.1* | 36.480 N | 1.592 E   | 10 G  | 3.5     | 1.0 | 22                      |
| 06 | 12 | 56 | 33.5? | 12.64 S  | 167.33 E  | 33 N  |         | 0.6 | 5                       |
| 06 | 13 | 56 | 13.8? | 29.94 S  | 123.99 E  | 10 G  | 3.8     | 1.7 | 7                       |
| 06 | 14 | 27 | 17.7* | 7.246 S  | 125.612 E | 400 G | 4.3     | 1.0 | 11                      |
| 06 | 14 | 41 | 51.7* | 77.746 N | 7.877 E   | 10 G  | 5.3     | 1.3 | 7                       |
| 06 | 15 | 22 | 25.9* | 34.483 S | 70.445 W  | 10 G  |         | 0.4 | 10                      |
| 06 | 16 | 01 | 01.2? | 44.51 N  | 148.03 E  | 33 N  | 3.5     | 0.6 | 7                       |
| 06 | 16 | 03 | 41.1* | 42.926 N | 47.232 E  | 10 G  |         | 1.1 | 14                      |
| 06 | 16 | 08 | 58.0  | 3.220 S  | 148.474 E | 33 N  | 4.8 4.8 | 1.0 | 30                      |

Centroid, Moment Tensor (HRV): Centroid origin time  
16:08:58.4; Lat 3.21 S; Lon 148.71 E; Dep 20.6; Half-  
duration 1.2 sec; Principal axes (scale 10\*\*16 Nm): (T)  
Val=7.87, Plg=6, Azm=329; (N) Val=1.53, Plg=78, Azm=211;  
(P) Val=-9.40, Plg=11, Azm=60; Best double couple:  
Mo=8.6\*10\*\*16 Nm; NP1: Strike=104, Dip=78, Slip=-4; NP2:  
Strike=195, Dip=87, Slip=-168.

|    |    |    |       |          |           |       |         |     |     |
|----|----|----|-------|----------|-----------|-------|---------|-----|-----|
| 06 | 16 | 42 | 46.7* | 59.216 N | 151.623 W | 47    |         |     | 48  |
| 06 | 17 | 00 | 17.7* | 46.328 N | 7.085 E   | 10 G  |         | 0.8 | 7   |
| 06 | 17 | 07 | 33.4? | 32.54 S  | 71.85 W   | 20 G  |         | 0.5 | 10  |
| 06 | 17 | 11 | 48.6? | 32.52 S  | 71.89 W   | 20 G  |         | 0.5 | 11  |
| 06 | 17 | 21 | 36.5? | 32.58 S  | 71.79 W   | 20 G  |         | 0.5 | 11  |
| 06 | 17 | 30 | 47.4? | 32.52 S  | 71.90 W   | 20 G  |         | 0.5 | 10  |
| 06 | 17 | 45 | 39.2* | 3.257 S  | 134.749 E | 33 N  | 4.6     | 1.1 | 22  |
| 06 | 17 | 56 | 51.0? | 11.23 N  | 145.29 E  | 33 N  | 3.4     | 1.4 | 7   |
| 06 | 17 | 58 | 35.3? | 34.33 S  | 70.44 W   | 20 G  |         | 0.4 | 6   |
| 06 | 18 | 08 | 25.2? | 38.26 N  | 20.33 E   | 50 G  |         | 1.2 | 7   |
| 06 | 18 | 27 | 28.2* | 52.482 N | 160.893 E | 33 N  | 2.9     | 1.1 | 14  |
| 06 | 19 | 05 | 29.0? | 34.99 S  | 70.30 W   | 150 G |         | 0.1 | 10  |
| 06 | 19 | 45 | 16.3? | 52.30 S  | 21.80 E   | 10 G  |         | 1.2 | 5   |
| 06 | 20 | 03 | 31.4? | 3.63 S   | 130.07 E  | 33 N  | 3.8     | 1.4 | 6   |
| 06 | 20 | 37 | 43.7* | 2.227 N  | 129.346 E | 33 N  | 4.4     | 1.0 | 18  |
| 06 | 20 | 41 | 38.1  | 51.690 N | 16.103 E  | 5 G   |         | 1.5 | 13  |
| 06 | 20 | 47 | 48.8? | 37.95 N  | 57.10 E   | 10 G  |         | 1.7 | 5   |
| 06 | 20 | 59 | 05.0* | 52.948 S | 21.075 E  | 10 G  | 4.7     | 1.3 | 29  |
| 06 | 21 | 20 | 38.4* | 37.742 N | 57.384 E  | 10 G  | 3.6     | 1.3 | 16  |
| 06 | 22 | 56 | 20.3? | 52.89 S  | 20.68 E   | 10 G  |         | 1.3 | 12  |
| 06 | 23 | 06 | 35.4? | 17.37 S  | 169.01 E  | 100 G | 4.7     | 1.2 | 11  |
| 07 | 00 | 03 | 09.2? | 31.94 S  | 70.65 W   | 110 G |         | 0.6 | 10  |
| 07 | 00 | 19 | 05.5  | 16.909 N | 147.372 E | 43 *  | 4.8     | 1.1 | 39  |
| 07 | 00 | 27 | 40.0* | 34.521 S | 70.349 W  | 10 G  |         | 0.3 | 10  |
| 07 | 00 | 51 | 23.7  | 6.150 S  | 148.783 E | 32    | 4.8     | 0.9 | 38  |
| 07 | 03 | 11 | 27.3* | 29.789 N | 131.347 E | 33 N  |         | 0.9 | 7   |
| 07 | 03 | 55 | 24.0* | 31.236 N | 141.991 E | 33 N  |         | 1.4 | 16  |
| 07 | 03 | 55 | 27.0  | 24.052 S | 66.763 W  | 200 G | 3.7     | 1.0 | 26  |
| 07 | 04 | 19 | 45.5  | 51.656 N | 16.303 E  | 5 G   | 3.1     | 0.9 | 23  |
| 07 | 05 | 29 | 35.7* | 24.957 S | 179.509 E | 600 G | 4.5     | 1.0 | 28  |
| 07 | 05 | 31 | 17.4* | 62.403 N | 148.118 W | 18    | 2.6     |     | 98  |
| 07 | 05 | 38 | 06.3* | 23.811 S | 179.864 E | 600 G | 3.8     | 1.2 | 13  |
| 07 | 06 | 34 | 47.4* | 44.384 N | 7.343 E   | 10 G  |         | 0.5 | 11  |
| 07 | 06 | 59 | 49.6* | 33.501 N | 116.564 W | 6     |         |     | 31  |
| 07 | 07 | 28 | 10.2* | 40.000 N | 26.113 E  | 10 G  |         | 0.5 | 6   |
| 07 | 08 | 04 | 22.9  | 59.197 N | 145.191 W | 10 G  | 3.6     | 1.1 | 71  |
| 07 | 08 | 12 | 57.5* | 18.162 S | 178.013 W | 600 G | 4.5     | 0.9 | 24  |
| 07 | 08 | 41 | 13.4  | 19.859 S | 173.289 W | 28 G  | 6.0 6.2 | 0.9 | 300 |

TONGA ISLANDS. Mw 6.4 (GS), 6.4 (HRV). Me 6.1 (GS).  
Broadband Source Parameters (GS): Dep 28; NP1: Strike=164,  
Dip=64, Slip=55; NP2: Strike=42, Dip=43, Slip=140; Radiated  
energy 3.6\*10\*\*13 Nm.  
Moment Tensor (GS): Dep 29; Principal axes (scale 10\*\*18  
Nm): (T) Val=3.99, Plg=70, Azm=40; (N) Val=0.04, Plg=11,  
Azm=161; (P) Val=-4.03, Plg=17, Azm=254; Best double  
couple: Mo=4.0\*10\*\*18 Nm; NP1: Strike=0, Dip=30, Slip=112;  
NP2: Strike=155, Dip=63, Slip=78.  
Centroid, Moment Tensor (HRV): Centroid origin time  
08:41:21.5; Lat 19.85 S; Lon 172.85 W; Dep 33.0 Bdy; Half-  
duration 4.0 sec; Principal axes (scale 10\*\*18 Nm): (T)  
Val=5.03, Plg=65, Azm=11; (N) Val=-0.39, Plg=24, Azm=173;

(P) Val=-4.64, Plg=7, Azm=266; Best double couple:  
Mo=4.8\*10\*\*18 Nm; NP1: Strike=21, Dip=43, Slip=126; NP2:  
Strike=156, Dip=56, Slip=61.  
Scalar Moment (PPT): Mo=1.2\*10\*\*19 Nm.

|    |    |    |       |        |   |         |   |     |   |     |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|---|
| 07 | 08 | 44 | 57.4* | 8.088  | S | 119.399 | E | 100 | G | 4.8 | 1.0 | 14  | FLORES REGION, INDONESIA  |
| 07 | 09 | 02 | 04.9  | 40.661 | N | 27.553  | E | 10  | G |     | 0.4 | 8   | TURKEY. MD 3.4 (ISK).   |
| 07 | 09 | 09 | 03.9* | 40.631 | N | 27.295  | E | 10  | G |     | 0.8 | 6   | TURKEY. MD 2.9 (ISK).   |
| 07 | 10 | 30 | 22.7? | 13.40  | N | 88.85   | W | 100 | G | 3.8 | 1.5 | 7   | EL SALVADOR   |
| 07 | 11 | 32 | 05.4% | 33.954 | S | 70.701  | W | 100 | G |     | 0.2 | 9   | CHILE-ARGENTINA BORDER REGION. MD 2.3 (SAN).  |
| 07 | 12 | 50 | 01.9* | 31.101 | N | 141.680 | E | 33  | N | 3.7 | 0.6 | 9   | SOUTH OF HONSHU, JAPAN  |
| 07 | 13 | 19 | 59.2? | 35.27  | S | 71.45   | W | 110 | G |     | 0.3 | 8   | CENTRAL CHILE   |
| 07 | 13 | 32 | 08.9% | 33.130 | S | 70.269  | W | 10  | G |     | 0.3 | 9   | CHILE-ARGENTINA BORDER REGION. MD 3.3 (SAN).  |
| 07 | 13 | 33 | 50.9? | 51.16  | N | 142.41  | E | 33  | N | 3.3 | 0.3 | 5   | SAKHALIN ISLAND   |
| 07 | 13 | 40 | 30.0? | 44.82  | N | 25.44   | E | 10  | G |     | 1.5 | 5   | ROMANIA   |
| 07 | 13 | 51 | 39.5  | 42.308 | N | 143.068 | E | 68  | * | 4.2 | 1.3 | 29  | HOKKAIDO, JAPAN REGION  |
| 07 | 14 | 30 | 14.2% | 40.394 | N | 125.054 | W | 24  |   |     |     | 2   | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 3.1 (GM).  |
| 07 | 14 | 56 | 59.6* | 52.618 | N | 153.632 | E | 450 | G | 3.5 | 0.8 | 16  | NORTHWEST OF KURIL ISLANDS  |
| 07 | 15 | 24 | 56.3? | 32.25  | S | 69.49   | W | 150 | G |     | 0.3 | 7   | MENDOZA PROVINCE, ARGENTINA. MD 2.6 (SAN).  |
| 07 | 18 | 17 | 25.3* | 5.424  | S | 154.423 | E | 33  | N | 4.3 | 1.1 | 11  | SOLOMON ISLANDS   |
| 07 | 19 | 03 | 18.9* | 0.387  | N | 98.762  | E | 50  | G | 4.5 | 1.2 | 20  | NORTHERN SUMATERA, INDONESIA  |
| 07 | 19 | 27 | 40.4  | 5.294  | N | 125.410 | E | 200 | G | 4.4 | 0.6 | 19  | MINDANAO, PHILIPPINE ISLANDS  |
| 07 | 19 | 31 | 17.5  | 36.204 | N | 69.819  | E | 158 | D | 4.7 | 0.9 | 44  | HINDU KUSH REGION, AFGHANISTAN  |
| 07 | 19 | 40 | 03.9% | 38.647 | N | 119.554 | W | 4   |   |     |     | 1   | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.8 (GM).   |
| 07 | 20 | 27 | 14.0* | 3.698  | S | 139.922 | E | 33  | N | 4.7 | 1.1 | 12  | IRIAN JAYA, INDONESIA   |
| 07 | 20 | 39 | 34.1  | 25.875 | N | 142.757 | E | 47  | * | 4.7 | 1.0 | 31  | VOLCANO ISLANDS REGION  |
| 07 | 21 | 28 | 23.7% | 43.868 | N | 7.403   | E | 10  | G |     | 0.4 | 8   | NEAR SOUTH COAST OF FRANCE. ML 1.9 (GEN).   |
| 07 | 21 | 28 | 33.6% | 45.621 | N | 26.450  | E | 157 | ? |     | 0.8 | 11  | ROMANIA   |
| 07 | 22 | 06 | 33.6? | 16.35  | S | 173.47  | W | 33  | N | 4.4 | 0.1 | 5   | TONGA ISLANDS   |
| 07 | 22 | 35 | 25.2* | 35.926 | N | 70.776  | E | 100 | G | 4.4 | 0.8 | 17  | HINDU KUSH REGION, AFGHANISTAN  |
| 07 | 23 | 22 | 05.2* | 18.103 | S | 176.578 | W | 33  | N | 4.7 | 1.0 | 30  | FIJI ISLANDS REGION   |
| 08 | 00 | 07 | 15.4* | 15.495 | N | 145.970 | E | 33  | N | 3.3 | 0.2 | 7   | MARIANA ISLANDS   |
| 08 | 00 | 15 | 02.2* | 31.602 | N | 92.420  | E | 33  | N |     | 0.5 | 9   | XIZANG  |
| 08 | 01 | 50 | 48.8* | 37.749 | N | 27.641  | E | 10  | G |     | 1.3 | 8   | TURKEY. MD 3.5 (ISK).   |
| 08 | 01 | 55 | 55.7  | 8.473  | S | 158.957 | E | 101 | D | 5.8 | 1.0 | 233 | SOLOMON ISLANDS. Mw 5.7 (GS), 5.7 (HRV). Me 5.6 (GS).<br>Broadband Source Parameters (GS): Dep 93; NP1: Strike=120,<br>Dip=35, Slip=100; NP2: Strike=288, Dip=56, Slip=83;<br>Radiated energy 6.1*10**12 Nm.<br>Moment Tensor (GS): Dep 92; Principal axes (scale 10**17<br>Nm): (T) Val=3.43, Plg=66, Azm=152; (N) Val=0.18, Plg=17,<br>Azm=286; (P) Val=-3.61, Plg=16, Azm=21; Best double couple:<br>Mo=3.5*10**17 Nm; NP1: Strike=134, Dip=32, Slip=123; NP2:<br>Strike=277, Dip=63, Slip=71.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>01:55:58.4; Lat 8.29 S; Lon 159.00 E; Dep 83.1; Half-<br>duration 1.8 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=4.25, Plg=61, Azm=147; (N) Val=-0.40, Plg=20, Azm=276;<br>(P) Val=-3.86, Plg=21, Azm=14; Best double couple:<br>Mo=4.1*10**17 Nm; NP1: Strike=135, Dip=30, Slip=132; NP2:<br>Strike=268, Dip=68, Slip=69. |
| 08 | 02 | 23 | 42.9* | 49.887 | N | 156.017 | E | 52  | D | 3.9 | 1.0 | 14  | KURIL ISLANDS   |
| 08 | 02 | 35 | 22.2* | 6.356  | S | 154.850 | E | 100 | G | 3.9 | 0.8 | 12  | SOLOMON ISLANDS   |
| 08 | 02 | 45 | 42.1? | 5.98   | S | 150.54  | E | 33  | N | 4.2 | 1.0 | 9   | NEW BRITAIN REGION, P.N.G.  |
| 08 | 03 | 12 | 36.7* | 25.835 | N | 142.922 | E | 33  | N | 4.2 | 1.3 | 16  | VOLCANO ISLANDS REGION  |
| 08 | 03 | 28 | 23.0  | 30.947 | N | 56.791  | E | 39  | D | 4.7 | 1.1 | 38  | NORTHERN IRAN   |
| 08 | 05 | 19 | 34.8* | 7.856  | S | 108.146 | E | 33  | N | 4.5 | 1.1 | 26  | JAWA, INDONESIA   |
| 08 | 06 | 24 | 18.0? | 32.53  | S | 72.14   | W | 33  | N |     | 0.6 | 11  | OFF COAST OF CENTRAL CHILE. MD 4.5 (SAN).   |
| 08 | 06 | 34 | 06.9* | 36.525 | N | 71.398  | E | 174 | * | 3.1 | 0.9 | 12  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 08 | 07 | 15 | 51.7? | 14.84  | S | 173.91  | W | 33  | N | 3.4 | 0.8 | 9   | SAMOA ISLANDS REGION  |
| 08 | 07 | 41 | 00.1* | 55.493 | N | 162.740 | E | 54  | D | 4.0 | 1.0 | 19  | NEAR EAST COAST OF KAMCHATKA  |
| 08 | 08 | 08 | 46.1? | 27.82  | S | 65.49   | E | 10  | G |     | 0.6 | 7   | SOUTH INDIAN OCEAN  |
| 08 | 09 | 39 | 04.5* | 40.696 | N | 77.317  | E | 33  | N | 3.5 | 1.5 | 9   | KYRGYZSTAN-XINJIANG BORDER REG.   |
| 08 | 10 | 58 | 03.2% | 58.924 | N | 154.476 | W | 115 |   | 2.8 |     | 60  | ALASKA PENINSULA. <AEIC>.   |
| 08 | 12 | 09 | 03.1  | 51.587 | N | 16.205  | E | 5   | G |     | 1.0 | 16  | POLAND. ML 3.4 (VIE), 2.7 (CLL).  |
| 08 | 12 | 18 | 48.7  | 21.509 | S | 66.723  | W | 226 | D | 4.6 | 1.1 | 30  | SOUTHERN BOLIVIA  |
| 08 | 12 | 39 | 41.8  | 1.657  | N | 97.951  | E | 33  | N | 5.3 | 1.0 | 148 | NORTHERN SUMATERA, INDONESIA. Mw 5.2 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>12:39:47.9; Lat 1.65 N; Lon 98.03 E; Dep 33.0 Fix; Half-<br>duration 1.0 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=5.91, Plg=11, Azm=353; (N) Val=2.59, Plg=4, Azm=262;<br>(P) Val=-8.50, Plg=78, Azm=154; Best double couple:<br>Mo=7.2*10**16 Nm; NP1: Strike=88, Dip=34, Slip=-83; NP2:<br>Strike=260, Dip=57, Slip=-95.   |
| 08 | 16 | 21 | 32.2* | 56.815 | N | 33.846  | W | 10  | G | 3.9 | 1.2 | 21  | NORTH ATLANTIC OCEAN  |
| 08 | 16 | 29 | 15.9* | 23.548 | S | 67.765  | W | 150 | G | 4.5 | 1.5 | 10  | CHILE-ARGENTINA BORDER REGION   |
| 08 | 16 | 40 | 44.1* | 31.642 | S | 69.500  | W | 150 | G | 4.2 | 0.5 | 10  | SAN JUAN PROVINCE, ARGENTINA  |
| 08 | 16 | 53 | 05.6* | 38.982 | N | 142.968 | E | 33  | N |     | 0.9 | 10  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 08 | 17 | 12 | 09.1* | 42.340 | N | 86.990  | E | 10  | D | 4.6 | 1.1 | 16  | NORTHERN XINJIANG, CHINA  |
| 08 | 17 | 38 | 10.2% | 62.516 | N | 149.942 | W | 65  |   |     |     | 68  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.0 (PMR).   |
| 08 | 18 | 08 | 07.5% | 44.090 | N | 6.971   | E | 10  | G |     | 0.2 | 9   | FRANCE. ML 2.1 (GEN).   |
| 08 | 18 | 10 | 09.3% | 34.065 | S | 71.581  | W | 50  | G |     | 0.4 | 8   | NEAR COAST OF CENTRAL CHILE   |
| 08 | 19 | 06 | 44.9  | 54.109 | N | 163.768 | W | 40  | D | 4.4 | 1.2 | 44  | UNIMAK ISLAND REGION. ML 4.4 (PMR).   |
| 08 | 19 | 18 | 43.3  | 43.619 | N | 5.611   | E | 5   | G |     | 0.4 | 17  | NEAR SOUTH COAST OF FRANCE. ML 2.9 (STR).   |
| 08 | 19 | 42 | 00.0% | 59.660 | N | 152.463 | W | 80  |   |     |     | 50  | SOUTHERN ALASKA. <AEIC>.  |
| 08 | 19 | 53 | 59.9? | 20.90  | N | 122.60  | E | 200 | G |     | 1.6 | 7   | PHILIPPINE ISLANDS REGION   |
| 08 | 19 | 54 | 43.1? | 21.83  | S | 168.94  | E | 33  | N |     | 0.9 | 10  | LOYALTY ISLANDS   |
| 08 | 20 | 12 | 32.9* | 28.198 | N | 143.467 | E | 33  | N | 4.4 | 1.3 | 25  | BONIN ISLANDS REGION  |
| 08 | 20 | 28 | 30.6? | 33.05  | S | 70.28   | W | 100 | G |     | 1.3 | 8   | CHILE-ARGENTINA BORDER REGION   |
| 08 | 21 | 08 | 36.4% | 36.715 | N | 121.348 | W | 3   |   |     |     | 10  | CENTRAL CALIFORNIA. <GM-P>. MD 3.1 (GM). ML 3.0 (BRK).  |
| 08 | 21 | 20 | 15.8% | 60.059 | N | 152.262 | W | 61  |   |     |     | 51  | SOUTHERN ALASKA. <AEIC>. ML 2.7 (AEIC).   |
| 08 | 22 | 01 | 57.7? | 52.72  | S | 18.42   | E | 10  | G | 4.4 | 1.5 | 14  | SOUTHWEST OF AFRICA   |
| 08 | 22 | 05 | 22.5* | 35.392 | N | 77.685  | E | 33  | N |     | 1.4 | 15  | EASTERN KASHMIR   |
| 08 | 23 | 50 | 44.4* | 12.039 | N | 125.674 | E | 33  | N |     | 1.1 | 9   | SAMAR, PHILIPPINE ISLANDS   |
| 09 | 00 | 24 | 01.3* | 28.178 | N | 143.538 | E | 33  | N | 4.2 | 1.3 | 6   | BONIN ISLANDS REGION  |

|    |    |    |       |        |   |         |   |     |   |     |     |   |  |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|---|--|--|
| 09 | 00 | 55 | 06.5? | 38.26  | N | 29.82   | E | 10  | G | 0.2 | 5   | TURKEY. MD 3.4 (ISK).   |  |  |
| 09 | 01 | 16 | 51.9% | 33.070 | S | 70.354  | W | 100 | G | 0.2 | 9   | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).                                |  |  |
| 09 | 01 | 39 | 24.8? | 32.64  | S | 71.76   | W | 15  | G | 0.4 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.1 (SAN).                                  |  |  |
| 09 | 01 | 54 | 34.0  | 10.426 | S | 123.875 | E | 33  | N | 4.7 | 4.3 | 1.2   | 42   | TIMOR REGION, INDONESIA  |
| 09 | 01 | 58 | 49.5* | 18.753 | S | 69.321  | W | 150 | G | 3.7 | 0.8 | 13  | NORTHERN CHILE                               |  |
| 09 | 02 | 07 | 53.5* | 64.338 | N | 17.811  | W | 10  | G | 1.2 | 7   | ICELAND   |  |  |
| 09 | 02 | 11 | 30.7% | 61.761 | N | 151.648 | W | 91  |   | 4.4 | 132 | SOUTHERN ALASKA. <AEIC>. Felt at Anchorage, Skwentna, Talkeetna and Willow. |  |  |
| 09 | 02 | 47 | 21.8% | 62.200 | N | 149.996 | W | 8   |   |     | 19  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC).                                      |  |  |
| 09 | 03 | 00 | 39.4* | 10.319 | N | 62.431  | W | 10  | G | 3.5 | 1.1 | 10  | NEAR COAST OF VENEZUELA. MD 3.6 (TRN).       |  |
| 09 | 03 | 01 | 04.5* | 27.495 | N | 57.696  | E | 33  | N | 3.1 | 1.1 | 14  | SOUTHERN IRAN                                |  |
| 09 | 03 | 08 | 25.9* | 52.556 | S | 18.507  | E | 10  | G | 4.8 | 1.5 | 33  | SOUTHWEST OF AFRICA                          |  |
| 09 | 03 | 30 | 00.3% | 32.515 | S | 70.674  | W | 80  | G |     | 0.4 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN). |  |
| 09 | 03 | 49 | 35.1  | 47.738 | N | 147.906 | E | 355 | * | 4.3 | 0.8 | 53  | NORTHWEST OF KURIL ISLANDS                   |  |
| 09 | 04 | 33 | 06.8* | 11.180 | N | 124.790 | E | 33  | N | 4.4 | 1.5 | 15  | LEYTE, PHILIPPINE ISLANDS                    |  |
| 09 | 05 | 00 | 34.5% | 60.604 | N | 151.770 | W | 72  |   | 2.8 | 27  | KENAI PENINSULA, ALASKA. <AEIC>.  |  |  |
| 09 | 05 | 37 | 42.2* | 24.238 | S | 115.821 | W | 10  | G | 5.1 | 4.7 | 1.1   | 53   | SOUTHERN EAST PACIFIC RISE. Mw 5.3 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 05:37:50.6; Lat 24.26 S; Lon 115.85 W; Dep 15.0 Fix; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.07, Plg=14, Azm=80; (N) Val=0.01, Plg=35, Azm=340; (P) Val=-1.08, Plg=52, Azm=188; Best double couple: Mo=1.1*10**17 Nm; NP1: Strike=207, Dip=43, Slip=-34; NP2: Strike=323, Dip=67, Slip=-128.  |
| 09 | 05 | 38 | 37.7? | 34.69  | S | 70.39   | W | 130 | G | 0.1 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.0 (SAN).                                |  |  |
| 09 | 05 | 53 | 55.3? | 24.56  | S | 116.20  | W | 10  | G | 4.1 | 0.6 | 7   | SOUTHERN EAST PACIFIC RISE                   |  |
| 09 | 05 | 56 | 48.5? | 24.27  | S | 115.99  | W | 10  | G | 4.0 | 0.7 | 6   | SOUTHERN EAST PACIFIC RISE                   |  |
| 09 | 06 | 38 | 43.3? | 4.87   | S | 131.16  | E | 100 | G | 4.1 | 1.5 | 6   | BANDA SEA                                    |  |
| 09 | 07 | 16 | 23.3* | 21.567 | N | 121.075 | E | 33  | N | 3.9 | 0.9 | 15  | TAIWAN REGION                                |  |
| 09 | 07 | 23 | 47.6* | 15.582 | S | 75.473  | W | 33  | N | 4.4 | 1.0 | 20  | NEAR COAST OF PERU                           |  |
| 09 | 07 | 44 | 21.4? | 35.50  | N | 0.87    | W | 10  | G |     | 0.8 | 15  | NORTHERN ALGERIA. mbLg 3.4 (MDD).            |  |
| 09 | 07 | 56 | 59.9  | 40.362 | N | 25.817  | E | 10  | G |     | 1.3 | 12  | AEGEAN SEA. MD 3.5 (ISK).                    |  |
| 09 | 09 | 20 | 02.9? | 6.19   | S | 155.04  | E | 33  | N | 3.9 | 0.9 | 8   | SOLOMON ISLANDS                              |  |
| 09 | 10 | 03 | 41.4* | 40.146 | N | 19.248  | E | 10  | G |     | 0.6 | 7   | ALBANIA. MG 3.0 (SKO).                       |  |
| 09 | 10 | 26 | 36.8* | 18.849 | S | 177.733 | W | 500 | G | 4.2 | 0.8 | 24  | FIJI ISLANDS REGION                          |  |
| 09 | 10 | 54 | 53.9? | 9.20   | S | 162.91  | E | 33  | N | 4.0 | 0.9 | 6   | SOLOMON ISLANDS                              |  |
| 09 | 11 | 28 | 14.8  | 35.687 | N | 95.819  | E | 10  | G | 4.7 | 5.2 | 0.9   | 69   | QINGHAI, CHINA. Mw 5.5 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 11:28:22.4; Lat 35.70 N; Lon 95.82 E; Dep 15.0 Fix; Half-duration 1.4 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.97, Plg=9, Azm=316; (N) Val=0.06, Plg=69, Azm=69; (P) Val=-2.03, Plg=19, Azm=223; Best double couple: Mo=2.0*10**17 Nm; NP1: Strike=1, Dip=70, Slip=-172; NP2: Strike=268, Dip=83, Slip=-20.  |
| 09 | 12 | 32 | 36.2  | 14.486 | S | 76.276  | W | 33  | N | 5.7 | 5.8 | 1.0   | 187  | NEAR COAST OF PERU. Mw 6.1 (HRV), 6.0 (GS). Me 5.8 (GS).<br>Broadband Source Parameters (GS): Dep 20; NP1: Strike=0, Dip=15, Slip=90; NP2: Strike=180, Dip=75, Slip=90; Radiated energy 9.7*10**12 Nm.<br>Moment Tensor (GS): Dep 19; Principal axes (scale 10**18 Nm): (T) Val=-1.15, Plg=61, Azm=79; (N) Val=-0.04, Plg=1, Azm=171; (P) Val=-1.10, Plg=29, Azm=262; Best double couple: Mo=1.1*10**18 Nm; NP1: Strike=355, Dip=16, Slip=94; NP2: Strike=171, Dip=74, Slip=89.<br>Centroid, Moment Tensor (HRV): Centroid origin time 12:32:41.7; Lat 14.41 S; Lon 76.42 W; Dep 20.0 Bdy; Half-duration 2.9 sec; Principal axes (scale 10**18 Nm): (T) Val=-1.67, Plg=61, Azm=92; (N) Val=0.09, Plg=11, Azm=343; (P) Val=-1.76, Plg=27, Azm=247; Best double couple: Mo=1.7*10**18 Nm; NP1: Strike=313, Dip=21, Slip=59; NP2: Strike=166, Dip=72, Slip=101.<br>Scalar Moment (PPT): Mo=3.2*10**18 Nm. |
| 09 | 12 | 46 | 04.2* | 35.637 | N | 95.901  | E | 10  | G | 3.4 | 1.4 | 9   | QINGHAI, CHINA                               |  |
| 09 | 12 | 50 | 22.4  | 10.766 | S | 162.217 | E | 75  | D | 4.9 | 1.1 | 48  | SOLOMON ISLANDS                              |  |
| 09 | 13 | 56 | 33.4? | 31.66  | S | 70.62   | W | 120 | G |     | 0.5 | 9   | CHILE-ARGENTINA BORDER REGION                |  |
| 09 | 14 | 07 | 19.6? | 24.48  | S | 115.85  | W | 10  | G | 4.4 | 1.3 | 21  | SOUTHERN EAST PACIFIC RISE                   |  |
| 09 | 14 | 37 | 11.5? | 15.14  | N | 93.75   | W | 33  | N | 3.8 | 1.2 | 8   | NEAR COAST OF CHIAPAS, MEXICO                |  |
| 09 | 14 | 54 | 47.6* | 23.010 | S | 169.869 | E | 22  | D | 4.7 | 1.5 | 25  | LOYALTY ISLANDS REGION                       |  |
| 09 | 14 | 54 | 51.1? | 14.24  | S | 76.30   | W | 33  | N | 4.2 | 0.7 | 9   | NEAR COAST OF PERU                           |  |
| 09 | 14 | 57 | 20.3  | 14.534 | S | 76.241  | W | 33  | N | 4.9 | 1.0 | 72  | NEAR COAST OF PERU                           |  |
| 09 | 15 | 09 | 17.9  | 14.466 | S | 76.197  | W | 33  | N | 5.0 | 0.9 | 92  | NEAR COAST OF PERU                           |  |
| 09 | 15 | 17 | 27.4  | 14.486 | S | 76.288  | W | 33  | N | 4.7 | 1.0 | 43  | NEAR COAST OF PERU                           |  |
| 09 | 15 | 43 | 48.7? | 14.52  | S | 76.33   | W | 33  | N | 3.5 | 1.6 | 6   | NEAR COAST OF PERU                           |  |
| 09 | 15 | 44 | 06.0? | 34.47  | S | 70.41   | W | 10  | G |     | 0.2 | 7   | CHILE-ARGENTINA BORDER REGION                |  |
| 09 | 15 | 51 | 39.9  | 14.421 | S | 76.161  | W | 33  | N | 4.9 | 5.1 | 0.8   | 39   | NEAR COAST OF PERU   |
| 09 | 15 | 59 | 24.9  | 40.270 | N | 27.558  | E | 10  | G |     | 1.3 | 8   | TURKEY. MD 3.2 (ISK).                        |  |
| 09 | 16 | 28 | 24.4  | 34.773 | N | 135.236 | E | 388 | D | 4.6 | 1.1 | 88  | NEAR S. COAST OF WESTERN HONSHU              |  |
| 09 | 16 | 59 | 17.4? | 23.99  | S | 115.51  | W | 10  | G | 4.3 | 1.0 | 9   | SOUTHERN EAST PACIFIC RISE                   |  |
| 09 | 17 | 39 | 38.4* | 5.188  | N | 94.350  | E | 49  | D | 4.2 | 1.0 | 14  | NORTHERN SUMATERA, INDONESIA                 |  |
| 09 | 18 | 28 | 05.5? | 32.01  | S | 71.68   | W | 15  | G |     | 0.5 | 10  | NEAR COAST OF CENTRAL CHILE. MD 4.2 (SAN).   |  |
| 09 | 18 | 28 | 36.0  | 85.324 | N | 87.713  | E | 10  | G | 4.4 | 1.2 | 20  | NORTH OF SEVERNAYA ZEMLYA                    |  |
| 09 | 18 | 57 | 37.8  | 55.235 | N | 161.941 | E | 33  | N | 5.9 | 5.3 | 0.8   | 365  | NEAR EAST COAST OF KAMCHATKA. Mw 5.9 (HRV), 5.7 (GS). Me 5.4 (GS). Felt (II) at Klyuchi and Petropavlovsk-Kamchatskiy.<br>Broadband Source Parameters (GS): Dep 27; NP1: Strike=75, Dip=60, Slip=60; NP2: Strike=304, Dip=41, Slip=131; Radiated energy 2.5*10**12 Nm.<br>Moment Tensor (GS): Dep 32; Principal axes (scale 10**17 Nm): (T) Val=-4.00, Plg=76, Azm=297; (N) Val=0.01, Plg=0, Azm=207; (P) Val=-4.01, Plg=14, Azm=117; Best double couple: Mo=4.0*10**17 Nm; NP1: Strike=207, Dip=31, Slip=90; NP2: Strike=27, Dip=59, Slip=90.<br>Centroid, Moment Tensor (HRV): Centroid origin time 18:57:42.8; Lat 54.85 N; Lon 162.86 E; Dep 43.1; Half-duration 2.3 sec; Principal axes (scale 10**17 Nm): (T)  |



Val=6.37, Plg=72, Azm=350; (N) Val=1.70, Plg=14, Azm=214;  
(P) Val=-8.07, Plg=12, Azm=121; Best double couple:  
Mo=7.2\*10\*\*17 Nm; NP1: Strike=194, Dip=35, Slip=66; NP2:  
Strike=43, Dip=59, Slip=106.

09 18 59 53.5 33.166 S 70.326 W 10 G 0.9 8 CHILE-ARGENTINA BORDER REGION  
09 20 48 19.7? 52.38 N 170.50 W 33 N 3.1 1.6 8 FOX ISLANDS, ALEUTIAN ISLANDS  
09 21 09 20.0\* 55.524 N 162.172 E 33 N 3.7 1.2 11 NEAR EAST COAST OF KAMCHATKA  
09 21 42 27.0\* 23.478 N 121.655 E 100 G 3.8 0.8 12 TAIWAN  
09 21 49 13.1 41.413 N 43.894 E 33 N 4.5 3.6 1.2 74 GEORGIA-ARMENIA-TURKEY BORD REG. Felt at Tbilisi, Georgia.  
Also felt at Yerevan, Armenia.

09 22 27 45.7\* 21.358 S 68.616 W 100 G 1.2 7 CHILE-BOLIVIA BORDER REGION  
09 22 54 21.0 42.288 N 125.619 W 10 G 2.7 0.3 23 OFF COAST OF OREGON  
09 23 11 04.6\* 20.235 S 173.629 W 40 D 5.0 1.2 49 TONGA ISLANDS. Mw 5.0 (HRV).  
Centroid, Moment Tensor (HRV): Centroid origin time  
23:11:07.7; Lat 20.06 S; Lon 173.08 W; Dep 40.0 Fix; Half-  
duration 1.0 sec; Principal axes (scale 10\*\*16 Nm): (T)  
Val=3.16, Plg=78, Azm=299; (N) Val=0.49, Plg=0, Azm=209;  
(P) Val=-3.66, Plg=12, Azm=119; Best double couple:  
Mo=3.4\*10\*\*16 Nm; NP1: Strike=209, Dip=33, Slip=90; NP2:  
Strike=29, Dip=57, Slip=90.

09 23 21 53.6? 15.34 S 173.45 W 33 N 3.8 0.4 7 TONGA ISLANDS  
09 23 39 38.3? 8.14 S 130.24 E 150 G 3.6 0.1 5 TANIMBAR ISLANDS REG., INDONESIA  
09 23 41 23.5\* 24.166 N 94.569 E 100 G 4.3 1.0 12 MYANMAR-INDIA BORDER REGION  
09 23 47 18.4? 11.27 S 73.63 W 33 N 1.0 6 CENTRAL PERU  
10 00 15 02.1 45.490 N 6.650 E 10 G 0.9 20 FRANCE. ML 2.7 (GEN).  
10 01 01 31.1& 62.360 N 150.857 W 69 72 CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC), 2.9 (PMR).  
10 02 52 14.3% 37.838 N 3.493 W 10 G 0.9 11 SPAIN. mbLg 2.5 (MDD).  
10 02 53 35.1? 21.99 S 168.65 E 33 N 4.4 1.3 17 LOYALTY ISLANDS  
10 03 12 54.9\* 35.249 N 139.939 E 100 \* 4.4 0.9 14 NEAR S. COAST OF HONSHU, JAPAN  
10 03 33 26.8\* 26.378 S 83.641 E 10 G 5.0 0.9 16 SOUTH INDIAN OCEAN  
10 03 36 38.0% 33.520 S 70.168 W 110 G 0.3 10 CHILE-ARGENTINA BORDER REGION. MD 2.3 (SAN).  
10 04 26 57.6& 47.554 N 122.301 W 0 51 WASHINGTON. <SEA-P>. MD 3.5 (SEA). Felt in the Seattle area.  
10 04 27 25.3\* 31.504 N 49.588 E 33 N 3.8 0.9 19 WESTERN IRAN  
10 04 55 40.1\* 22.384 N 119.175 E 33 N 4.3 0.5 6 TAIWAN REGION  
10 05 00 21.2 7.178 S 106.790 E 33 N 4.6 0.8 35 JAWA, INDONESIA  
10 05 24 26.5? 15.36 N 87.15 W 10 G 3.1 0.9 6 HONDURAS  
10 05 28 59.1\* 1.325 S 15.767 W 10 G 4.3 1.1 20 NORTH OF ASCENSION ISLAND  
10 06 09 39.7? 9.99 N 89.55 W 33 N 3.4 1.4 5 OFF COAST OF CENTRAL AMERICA  
10 07 01 00.6\* 47.439 N 80.892 E 10 G 0.9 12 EASTERN KAZAKHSTAN  
10 07 01 33.8\* 44.733 N 141.039 E 265 \* 3.3 0.9 19 HOKKAIDO, JAPAN REGION  
10 07 22 21.0? 31.81 S 70.06 W 140 G 0.4 10 CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN).  
10 07 46 46.2? 24.62 S 179.71 W 500 G 4.5 1.2 11 SOUTH OF FIJI ISLANDS  
10 09 23 58.1? 31.44 S 178.80 W 33 N 1.1 10 KERMADEC ISLANDS REGION  
10 10 47 23.8? 32.13 S 71.63 W 20 G 0.6 9 NEAR COAST OF CENTRAL CHILE. MD 3.9 (SAN).  
10 10 50 50.5? 17.96 S 177.95 W 500 G 3.7 0.9 7 FIJI ISLANDS REGION  
10 10 52 09.9 32.926 S 68.755 W 149 D 5.0 0.8 78 MENDOZA PROVINCE, ARGENTINA. Mw 5.3 (HRV). MD 4.9 (SAN).  
Centroid, Moment Tensor (HRV): Centroid origin time  
10:52:15.4; Lat 32.98 S; Lon 68.31 W; Dep 151.6; Half-  
duration 1.0 sec; Principal axes (scale 10\*\*17 Nm): (T)  
Val=1.03, Plg=36, Azm=178; (N) Val=0.05, Plg=13, Azm=79;  
(P) Val=-1.08, Plg=51, Azm=333; Best double couple:  
Mo=1.1\*10\*\*17 Nm; NP1: Strike=317, Dip=15, Slip=-31; NP2:  
Strike=77, Dip=82, Slip=-103.

10 12 07 53.0? 31.79 S 70.26 W 140 G 0.2 9 CHILE-ARGENTINA BORDER REGION. MD 2.1 (SAN).  
10 12 17 50.3\* 51.999 N 170.734 W 22 D 3.7 1.2 18 FOX ISLANDS, ALEUTIAN ISLANDS  
10 12 22 33.2? 4.63 N 127.46 E 33 N 4.1 1.1 9 TALAUD ISLANDS, INDONESIA  
10 12 24 57.7% 33.586 S 71.818 W 25 G 0.4 10 NEAR COAST OF CENTRAL CHILE. MD 3.3 (SAN).  
10 13 23 50.8% 44.398 N 7.356 E 10 G 0.6 7 NORTHERN ITALY. ML 1.8 (GEN).  
10 13 31 38.7? 56.11 S 28.82 W 10 G 4.5 1.0 10 SOUTH SANDWICH ISLANDS REGION  
10 15 46 54.4 34.633 N 141.127 E 33 N 4.1 0.9 27 OFF EAST COAST OF HONSHU, JAPAN  
10 16 10 28.6 27.022 S 26.702 E 5 G 5.2 0.9 56 REPUBLIC OF SOUTH AFRICA  
10 16 16 11.2? 24.89 S 179.49 W 400 G 3.8 0.4 7 SOUTH OF FIJI ISLANDS  
10 16 50 13.4 24.131 N 121.849 E 96 D 4.6 1.0 24 TAIWAN  
10 18 33 08.0 36.131 N 139.862 E 81 4.0 1.3 27 EASTERN HONSHU, JAPAN  
10 18 44 16.7? 5.12 S 152.77 E 33 N 4.2 0.4 7 NEW BRITAIN REGION, P.N.G.  
10 19 00 10.3\* 22.311 N 143.490 E 168 ? 3.9 1.2 15 VOLCANO ISLANDS REGION  
10 19 22 50.6? 15.42 S 173.89 W 100 G 3.6 0.5 7 TONGA ISLANDS  
10 19 25 26.9 9.641 S 119.510 E 33 N 5.6 5.6 1.2 112 SUMBA REGION, INDONESIA. Mw 5.9 (HRV), 5.8 (GS). Me 5.6 (GS).  
Broadband Source Parameters (GS): Dep 26; Radiated energy  
5.0\*10\*\*12 Nm. Two events about 1.5 seconds apart. Depth  
based on first event.  
Moment Tensor (GS): Dep 26; Principal axes (scale 10\*\*17  
Nm): (T) Val=6.23, Plg=57, Azm=9; (N) Val=-0.27, Plg=1,  
Azm=277; (P) Val=-5.96, Plg=33, Azm=186; Best double  
couple: Mo=6.1\*10\*\*17 Nm; NP1: Strike=271, Dip=12, Slip=84;  
NP2: Strike=97, Dip=78, Slip=91.  
Centroid, Moment Tensor (HRV): Centroid origin time  
19:25:36.3; Lat 9.77 S; Lon 119.55 E; Dep 44.6; Half-  
duration 2.2 sec; Principal axes (scale 10\*\*17 Nm): (T)  
Val=7.61, Plg=65, Azm=19; (N) Val=2.38, Plg=4, Azm=280; (P)  
Val=-9.99, Plg=25, Azm=188; Best double couple:  
Mo=8.8\*10\*\*17 Nm; NP1: Strike=268, Dip=20, Slip=77; NP2:  
Strike=101, Dip=70, Slip=95.

10 19 54 52.2 30.572 N 141.849 E 33 N 4.2 1.0 24 SOUTH OF HONSHU, JAPAN  
10 20 17 25.3 24.719 N 109.152 W 10 G 5.0 4.3 1.1 112 GULF OF CALIFORNIA  
10 20 28 20.7? 24.71 N 108.94 W 10 G 3.7 0.6 6 GULF OF CALIFORNIA  
10 21 13 56.6\* 24.441 N 109.011 W 10 G 4.4 1.2 27 GULF OF CALIFORNIA  
10 21 26 54.4? 24.68 N 109.04 W 10 G 0.6 5 GULF OF CALIFORNIA  
10 21 35 28.2% 9.642 N 126.250 E 33 N 0.3 7 MINDANAO, PHILIPPINE ISLANDS  
10 21 45 30.9% 37.019 N 4.176 W 10 G 0.6 9 SPAIN. mbLg 2.8 (MDD).  
10 21 45 31.7? 24.90 N 109.09 W 10 G 3.2 0.3 5 GULF OF CALIFORNIA  
10 21 48 37.0? 34.61 S 70.65 W 95 G 0.3 10 CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).  
10 21 57 15.1? 24.91 N 109.07 W 10 G 3.2 1.1 9 GULF OF CALIFORNIA



|    |    |    |       |        |   |         |   |     |   |         |     |                  |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|------------------|--|
| 10 | 22 | 22 | 22.7? | 55.24  | N | 162.15  | W | 33  | N | 1.2     | 7   | ALASKA PENINSULA |  |
| 10 | 22 | 41 | 51.2* | 21.593 | N | 143.178 | E | 336 | ? | 3.8     | 0.9 | 13               | MARIANA ISLANDS REGION   |
| 10 | 22 | 49 | 39.3? | 18.79  | S | 177.99  | W | 500 | G | 4.1     | 1.2 | 9                | FIJI ISLANDS REGION  |
| 10 | 22 | 57 | 17.5  | 42.749 | N | 144.426 | E | 100 | G | 5.2     | 0.9 | 173              | HOKKAIDO, JAPAN REGION. Felt (III) at Yuzhno-Kurilsk, Kunashir.  |
| 10 | 23 | 24 | 10.8  | 51.916 | N | 176.035 | W | 48  | D | 4.7 4.5 | 1.2 | 48               | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.8 (PMR). Felt (IV) on Adak.   |
| 10 | 23 | 26 | 28.8  | 37.565 | N | 118.861 | W | 10  |   |         |     | 60               | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. Mw 4.2 (BRK). MD 4.2 (GM). ML 4.6 (BRK). Felt at Bishop and Mammoth Lakes, California.  |
|    |    |    |       |        |   |         |   |     |   |         |     |                  | Scalar Moment (BRK): Mo=2.1*10**15 Nm.   |
| 11 | 00 | 18 | 20.6  | 63.075 | N | 150.949 | W | 118 |   |         |     | 17               | CENTRAL ALASKA. <AEIC>.  |
| 11 | 00 | 25 | 54.8? | 59.26  | S | 26.22   | W | 33  | N |         | 0.8 | 8                | SOUTH SANDWICH ISLANDS REGION  |
| 11 | 00 | 50 | 11.7? | 27.32  | N | 53.29   | E | 33  | N |         | 1.4 | 8                | SOUTHERN IRAN  |
| 11 | 01 | 06 | 21.6? | 16.95  | N | 147.49  | E | 42  | D | 3.4     | 1.0 | 8                | MARIANA ISLANDS REGION   |
| 11 | 01 | 22 | 08.4* | 6.837  | S | 129.951 | E | 128 | ? | 4.8     | 1.0 | 13               | BANDA SEA  |
| 11 | 01 | 24 | 25.6* | 7.213  | N | 127.507 | E | 33  | N |         | 0.8 | 9                | PHILIPPINE ISLANDS REGION  |
| 11 | 01 | 32 | 24.4* | 15.025 | S | 72.741  | W | 119 | D | 4.6     | 1.1 | 32               | SOUTHERN PERU  |
| 11 | 01 | 58 | 37.9* | 21.305 | N | 95.265  | E | 119 | * | 4.0     | 1.1 | 17               | MYANMAR  |
| 11 | 02 | 48 | 20.9* | 7.656  | N | 126.533 | E | 33  | N |         | 0.5 | 11               | MINDANAO, PHILIPPINE ISLANDS   |
| 11 | 03 | 24 | 41.8? | 2.10   | S | 130.94  | E | 33  | N | 3.7     | 0.8 | 7                | SERAM, INDONESIA   |
| 11 | 03 | 47 | 02.8* | 16.904 | N | 147.777 | E | 40  | D | 3.8     | 1.1 | 14               | MARIANA ISLANDS REGION   |
| 11 | 03 | 58 | 27.5* | 11.775 | N | 86.579  | W | 33  | N | 4.6     | 1.1 | 48               | NEAR COAST OF NICARAGUA  |
| 11 | 04 | 19 | 05.3  | 40.673 | N | 29.969  | E | 10  | G |         | 0.6 | 7                | TURKEY. MD 3.0 (ISK).  |
| 11 | 04 | 55 | 40.4* | 0.924  | N | 121.452 | E | 33  | N | 4.3     | 1.2 | 15               | MINAHASSA PENINSULA, SULAWESI  |
| 11 | 06 | 40 | 43.2? | 5.78   | S | 130.24  | E | 33  | N | 3.7     | 1.4 | 6                | BANDA SEA  |
| 11 | 07 | 04 | 11.7  | 51.490 | N | 176.094 | W | 33  | N | 4.3     | 1.2 | 37               | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.4 (PMR).  |
| 11 | 07 | 13 | 07.8  | 51.438 | N | 176.107 | W | 33  | N | 4.4     | 1.0 | 39               | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.9 (PMR).  |
| 11 | 07 | 14 | 56.5? | 34.89  | S | 71.08   | W | 100 | G |         | 0.1 | 10               | NEAR COAST OF CENTRAL CHILE. MD 3.0 (SAN).   |
| 11 | 07 | 38 | 37.9? | 2.72   | S | 29.11   | E | 10  | G | 4.7     | 1.2 | 11               | LAKE TANGANYIKA REGION   |
| 11 | 08 | 36 | 41.1? | 14.68  | N | 91.06   | W | 200 | G |         | 1.2 | 9                | GUATEMALA  |
| 11 | 09 | 08 | 20.0? | 2.58   | N | 97.08   | E | 33  | N |         | 0.8 | 7                | NORTHERN SUMATERA, INDONESIA   |
| 11 | 09 | 15 | 53.5  | 58.610 | N | 136.310 | W | 1   |   |         |     | 10               | SOUTHEASTERN ALASKA. <AEIC>. ML 3.0 (AEIC).  |
| 11 | 09 | 47 | 00.0* | 33.869 | N | 138.857 | E | 33  | N | 4.0     | 1.4 | 21               | SOUTH OF HONSHU, JAPAN   |
| 11 | 11 | 12 | 44.5  | 39.615 | N | 141.860 | E | 33  | N |         | 0.7 | 13               | EASTERN HONSHU, JAPAN  |
| 11 | 11 | 21 | 03.6? | 15.69  | S | 67.20   | E | 10  | G | 4.1     | 1.2 | 5                | MID-INDIAN RIDGE   |
| 11 | 11 | 32 | 50.7  | 12.906 | N | 143.449 | E | 156 |   | 4.2     | 0.6 | 22               | SOUTH OF MARIANA ISLANDS   |
| 11 | 11 | 48 | 36.6* | 24.313 | N | 124.075 | E | 33  | N | 3.8     | 0.8 | 7                | SOUTHWESTERN RYUKYU ISLANDS  |
| 11 | 11 | 53 | 55.8? | 24.29  | N | 108.94  | W | 10  | G |         | 0.7 | 6                | GULF OF CALIFORNIA   |
| 11 | 11 | 58 | 52.7? | 16.57  | S | 173.30  | W | 45  | D | 4.1     | 0.9 | 12               | TONGA ISLANDS  |
| 11 | 12 | 45 | 40.6  | 47.285 | N | 11.689  | E | 10  | G |         | 0.1 | 5                | AUSTRIA. ML 1.7 (VIE).   |
| 11 | 13 | 59 | 14.6* | 22.158 | S | 67.327  | W | 195 | * | 3.9     | 0.7 | 11               | CHILE-BOLIVIA BORDER REGION  |
| 11 | 15 | 17 | 08.5  | 24.489 | N | 123.993 | E | 33  | N | 4.3     | 0.9 | 16               | SOUTHWESTERN RYUKYU ISLANDS  |
| 11 | 17 | 06 | 41.0* | 41.961 | N | 144.639 | E | 33  | N | 4.5     | 1.2 | 27               | HOKKAIDO, JAPAN REGION   |
| 11 | 17 | 09 | 02.0? | 7.46   | S | 109.57  | E | 33  | N |         | 0.8 | 6                | JAWA, INDONESIA  |
| 11 | 17 | 18 | 14.7? | 72.38  | N | 2.44    | E | 10  | G |         | 1.2 | 5                | NORWEGIAN SEA  |
| 11 | 17 | 21 | 16.5  | 33.056 | S | 71.052  | W | 60  | G |         | 0.4 | 10               | NEAR COAST OF CENTRAL CHILE. MD 2.5 (SAN).   |
| 11 | 17 | 39 | 21.3? | 40.73  | N | 30.26   | E | 10  | G |         | 0.6 | 7                | TURKEY. MD 3.3 (ISK).  |
| 11 | 17 | 53 | 19.7* | 1.088  | S | 100.574 | E | 109 | ? | 4.1     | 1.1 | 18               | SOUTHERN SUMATERA, INDONESIA. Felt at Padang.  |
| 11 | 18 | 42 | 26.9  | 28.170 | N | 57.638  | E | 33  | N | 4.3     | 1.1 | 35               | SOUTHERN IRAN  |
| 11 | 19 | 45 | 43.8* | 37.540 | N | 142.078 | E | 93  | * |         | 0.7 | 7                | OFF EAST COAST OF HONSHU, JAPAN  |
| 11 | 19 | 55 | 45.5  | 59.806 | N | 152.755 | W | 88  |   |         |     | 60               | SOUTHERN ALASKA. <AEIC>.   |
| 11 | 20 | 21 | 00.6  | 39.503 | N | 76.936  | E | 33  | N | 4.7 4.5 | 0.9 | 59               | SOUTHERN XINJIANG, CHINA. Felt in Jiashi County.   |
| 11 | 21 | 20 | 24.1* | 21.244 | S | 179.141 | W | 600 | G | 4.3     | 1.0 | 31               | FIJI ISLANDS REGION  |
| 11 | 22 | 05 | 28.3  | 38.353 | N | 122.638 | W | 6   |   |         |     | 15               | NORTHERN CALIFORNIA. <GM-P>. MD 3.0 (GM). ML 3.0 (BRK). Felt at Rohnert Park.  |
| 11 | 22 | 07 | 30.7* | 26.483 | N | 142.033 | E | 33  | N |         | 1.1 | 9                | BONIN ISLANDS REGION   |
| 11 | 22 | 27 | 27.4* | 37.568 | N | 27.446  | E | 10  | G |         | 1.4 | 6                | TURKEY. MD 3.6 (ISK).  |
| 11 | 23 | 40 | 32.1  | 60.346 | N | 152.270 | W | 80  |   |         |     | 92               | SOUTHERN ALASKA. <AEIC>.   |
| 11 | 23 | 46 | 42.1  | 31.426 | S | 71.003  | W | 59  | D | 4.7     | 1.0 | 34               | NEAR COAST OF CENTRAL CHILE. MD 4.9 (SAN).   |
| 12 | 00 | 01 | 19.8* | 25.751 | S | 70.649  | W | 100 | G | 3.7     | 1.2 | 13               | NEAR COAST OF NORTHERN CHILE   |
| 12 | 00 | 46 | 10.7* | 8.516  | N | 83.049  | W | 14  |   | 3.9     | 1.3 | 18               | COSTA RICA. MD 4.4 (UPA).  |
| 12 | 00 | 46 | 29.5  | 46.838 | N | 145.744 | E | 319 | * | 4.2     | 1.1 | 51               | SEA OF OKHOTSK   |
| 12 | 01 | 46 | 29.8  | 34.059 | S | 70.842  | W | 80  | G |         | 0.2 | 10               | CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN).   |
| 12 | 01 | 51 | 53.0  | 44.844 | N | 111.535 | W | 5   |   |         |     | 10               | HEBGEN LAKE REGION. <BUT-P>. ML 1.9 (BUT). Felt at Wade Lake Resort.   |
| 12 | 01 | 53 | 03.0  | 14.369 | S | 76.303  | W | 22  | D | 4.7     | 0.9 | 44               | NEAR COAST OF PERU   |
| 12 | 01 | 55 | 17.1? | 18.06  | N | 93.64   | W | 33  | N | 3.3     | 0.8 | 6                | BAY OF CAMPECHE  |
| 12 | 02 | 09 | 07.1  | 44.841 | N | 111.547 | W | 4   |   |         |     | 10               | HEBGEN LAKE REGION. <BUT-P>. ML 2.3 (BUT). Felt at Wade Lake Resort.   |
| 12 | 02 | 09 | 41.2  | 59.970 | N | 153.155 | W | 105 |   | 4.4     |     | 148              | SOUTHERN ALASKA. <AEIC>. Felt at Anchorage, Palmer, Seward and Wasilla.  |
| 12 | 03 | 05 | 01.2  | 32.624 | N | 115.919 | W | 6   |   |         |     | 20               | CALIF.-BAJA CALIF. BORDER REGION. <PAS-P>. MD 3.5 (PAS).   |
| 12 | 03 | 15 | 46.2  | 44.839 | N | 111.545 | W | 4   |   |         |     | 10               | HEBGEN LAKE REGION. <BUT-P>. ML 2.5 (BUT). Felt at Wade Lake Resort.   |
| 12 | 03 | 16 | 23.5  | 59.835 | N | 153.195 | W | 119 |   | 2.3     |     | 58               | SOUTHERN ALASKA. <AEIC>.   |
| 12 | 04 | 05 | 49.9  | 60.082 | N | 152.997 | W | 111 |   | 2.6     |     | 51               | SOUTHERN ALASKA. <AEIC>.   |
| 12 | 04 | 23 | 48.1  | 44.849 | N | 111.550 | W | 4   |   |         |     | 10               | HEBGEN LAKE REGION. <BUT-P>. ML 2.6 (BUT). Felt at Wade Lake Resort.   |
| 12 | 04 | 25 | 01.7  | 18.549 | N | 66.715  | W | 25  | G |         | 0.3 | 6                | PUERTO RICO REGION. MD 3.0 (MPR).  |
| 12 | 05 | 19 | 02.9  | 52.063 | N | 171.338 | E | 33  | N | 5.1 4.9 | 0.9 | 257              | NEAR ISLANDS, ALEUTIAN ISLANDS. Mw 5.5 (HRV). ML 4.7 (PMR). Felt on Shemya.  |
|    |    |    |       |        |   |         |   |     |   |         |     |                  | Centroid, Moment Tensor (HRV): Centroid origin time 05:19:03.1; Lat 52.21 N; Lon 171.10 E; Dep 15.0 Fix; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.97, Azm=55; (N) Val=0.01, Plg=21, Azm=149; (P) Val=-1.98, Plg=67, Azm=303; Best double couple: Mo=2.0*10**17 Nm; NP1: Strike=122, Dip=40, Slip=-123; NP2: Strike=343, Dip=57, Slip=-65. |
| 12 | 06 | 20 | 32.1  | 6.642  | S | 131.339 | E | 33  | N | 4.6     | 1.3 | 29               | TANIMBAR ISLANDS REG., INDONESIA   |
| 12 | 06 | 57 | 53.4  | 59.701 | N | 152.885 | W | 97  |   |         |     | 29               | SOUTHERN ALASKA. <AEIC>.   |
| 12 | 07 | 05 | 37.7? | 54.51  | N | 35.34   | W | 10  | G |         | 0.8 | 7                | NORTH ATLANTIC OCEAN   |
| 12 | 07 | 13 | 18.6  | 53.458 | N | 35.397  | W | 10  | G | 4.8 4.5 | 0.9 | 95               | NORTH ATLANTIC OCEAN   |

|    |    |    |       |        |   |         |   |     |   |     |  |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|--|---|
| 12 | 07 | 13 | 45.9% | 51.951 | N | 167.787 | W | 33  | N | 0.8 | 7  | FOX ISLANDS, ALEUTIAN ISLANDS   |
| 12 | 08 | 28 | 14.2  | 42.683 | N | 2.292   | E | 10  | G | 1.3 | 44   | PYRENEES. ML 3.5 (LDG), 3.4 (STR). mbLg 3.4 (MDD). Felt (II) in the Fenouillet region, France.  |
| 12 | 10 | 52 | 22.4% | 42.772 | N | 2.163   | E | 5   | G | 1.3 | 5  | PYRENEES. ML 2.3 (LDG).   |
| 12 | 11 | 09 | 45.2  | 51.705 | N | 16.137  | E | 5   | G | 1.1 | 22   | POLAND. ML 3.7 (VIE).   |
| 12 | 12 | 24 | 55.0% | 32.627 | N | 115.915 | W | 6   | G | 20  | CALIF.-BAJA CALIF. BORDER REGION. <PAS-P>. MD 2.6 (PAS). |   |
| 12 | 12 | 28 | 03.4% | 63.445 | N | 151.082 | W | 9   |   | 63  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.5 (PMR).        |   |
| 12 | 12 | 28 | 32.0  | 14.443 | S | 76.210  | W | 33  | N | 4.6 | 0.9  | NEAR COAST OF PERU  |
| 12 | 12 | 28 | 43.9* | 52.265 | N | 171.159 | E | 33  | N | 4.5 | 1.1  | NEAR ISLANDS, ALEUTIAN ISLANDS  |
| 12 | 12 | 50 | 22.6  | 52.048 | N | 171.303 | E | 33  | N | 5.0 | 4.6  | NEAR ISLANDS, ALEUTIAN ISLANDS. Mw 5.1 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 12:50:20.4; Lat 52.24 N; Lon 171.51 E; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=4.70, Plg=8, Azm=233; (N) Val=0.72, Plg=26, Azm=328; (P) Val=-5.42, Plg=62, Azm=127; Best double couple: Mo=5.1*10**16 Nm; NP1: Strike=296, Dip=43, Slip=-130; NP2: Strike=165, Dip=58, Slip=-59. |
| 12 | 12 | 55 | 49.7? | 22.97  | N | 142.17  | E | 33  | N | 0.7 | 7  | VOLCANO ISLANDS REGION  |
| 12 | 13 | 08 | 34.8? | 40.71  | N | 30.05   | E | 10  | G | 0.6 | 7  | TURKEY. MD 3.2 (ISK).   |
| 12 | 13 | 13 | 52.2? | 40.72  | N | 29.80   | E | 10  | G | 0.7 | 5  | TURKEY. MD 2.7 (ISK).   |
| 12 | 13 | 42 | 50.1% | 27.960 | N | 143.574 | E | 33  | N | 0.9 | 5  | BONIN ISLANDS REGION  |
| 12 | 13 | 57 | 44.7  | 40.688 | N | 30.125  | E | 10  | G | 0.6 | 11   | TURKEY. MD 3.4 (ISK).   |
| 12 | 14 | 19 | 07.6? | 40.69  | N | 29.73   | E | 10  | G | 0.1 | 4  | TURKEY. MD 2.7 (ISK).   |
| 12 | 14 | 21 | 06.1? | 40.71  | N | 30.26   | E | 10  | G | 0.2 | 7  | TURKEY. MD 3.1 (ISK).   |
| 12 | 14 | 42 | 52.6  | 28.325 | N | 55.449  | E | 33  | N | 4.5 | 0.5  | 33 SOUTHERN IRAN  |
| 12 | 15 | 27 | 53.8? | 40.76  | N | 30.18   | E | 10  | G | 0.2 | 7  | TURKEY. MD 3.0 (ISK).   |
| 12 | 15 | 34 | 53.2? | 11.54  | N | 62.07   | W | 100 | G | 0.2 | 6  | WINDWARD ISLANDS. MD 3.4 (TRN).   |
| 12 | 15 | 37 | 45.4? | 11.90  | S | 170.29  | E | 33  | N | 4.3 | 1.4  | 8 SANTA CRUZ ISLANDS REGION   |
| 12 | 15 | 47 | 26.1? | 40.75  | N | 30.22   | E | 10  | G | 0.4 | 7  | TURKEY. MD 3.0 (ISK).   |
| 12 | 15 | 49 | 52.7? | 40.72  | N | 30.20   | E | 10  | G | 0.3 | 7  | TURKEY. MD 3.0 (ISK).   |
| 12 | 16 | 15 | 12.4? | 33.95  | S | 70.72   | W | 100 | G | 0.2 | 4  | CHILE-ARGENTINA BORDER REGION   |
| 12 | 16 | 37 | 59.2* | 53.450 | N | 35.415  | W | 10  | G | 4.0 | 0.9  | 13 NORTH ATLANTIC OCEAN   |
| 12 | 17 | 00 | 04.0  | 28.324 | N | 55.532  | E | 33  | N | 4.3 | 0.7  | 24 SOUTHERN IRAN  |
| 12 | 17 | 18 | 23.4? | 44.22  | N | 146.95  | E | 100 | G | 3.2 | 1.0  | 5 KURIL ISLANDS   |
| 12 | 17 | 21 | 23.4  | 10.263 | N | 121.563 | E | 33  | N | 5.2 | 4.6  | 0.9 72 PANAY, PHILIPPINE ISLANDS. Mw 5.2 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 17:21:22.4; Lat 10.17 N; Lon 121.62 E; Dep 18.0; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=5.42, Plg=29, Azm=50; (N) Val=3.01, Plg=5, Azm=143; (P) Val=-8.42, Plg=61, Azm=243; Best double couple: Mo=6.9*10**16 Nm; NP1: Strike=126, Dip=17, Slip=-109; NP2: Strike=325, Dip=74, Slip=-84.    |
| 12 | 18 | 49 | 14.6* | 51.324 | N | 5.906   | E | 10  | G | 1.3 | 17   | THE NETHERLANDS. ML 3.0 (LDG), 2.6 (DBN), 2.4 (UCC).  |
| 12 | 19 | 41 | 46.0% | 59.852 | N | 153.451 | W | 134 |   | 2.7 | 81   | SOUTHERN ALASKA. <AEIC>.  |
| 12 | 19 | 45 | 23.0? | 40.71  | N | 29.94   | E | 10  | G | 0.5 | 7  | TURKEY. MD 3.0 (ISK).   |
| 12 | 20 | 08 | 58.2% | 36.082 | N | 77.353  | E | 33  | N | 0.8 | 5  | KASHMIR-XINJIANG BORDER REGION  |
| 12 | 20 | 19 | 55.5? | 52.17  | N | 171.15  | E | 33  | N | 3.8 | 0.8  | 5 NEAR ISLANDS, ALEUTIAN ISLANDS  |
| 12 | 20 | 44 | 11.4% | 40.700 | N | 29.713  | E | 10  | G | 0.6 | 7  | TURKEY. MD 2.8 (ISK).   |
| 12 | 21 | 07 | 11.5% | 40.703 | N | 29.801  | E | 5   | G | 0.4 | 6  | TURKEY. MD 3.1 (ISK).   |
| 12 | 21 | 14 | 02.7? | 4.49   | S | 139.30  | E | 33  | N | 3.5 | 1.2  | 7 IRIAN JAYA, INDONESIA   |
| 12 | 21 | 38 | 58.3? | 16.09  | S | 173.22  | W | 33  | N | 4.2 | 0.6  | 8 TONGA ISLANDS   |
| 12 | 22 | 05 | 15.9% | 59.965 | N | 139.208 | W | 0   |   |     | 37   | SOUTHEASTERN ALASKA. <AEIC>. ML 3.7 (AEIC).   |
| 12 | 22 | 55 | 37.7  | 38.808 | N | 21.443  | E | 33  | N | 4.3 | 1.3  | 47 GREECE   |
| 12 | 23 | 53 | 10.7* | 34.947 | N | 100.890 | W | 5   | G | 0.8 | 8  | TEXAS PANHANDLE REGION. mbLg 3.0 (GS).  |
| 13 | 00 | 47 | 36.9  | 38.626 | N | 48.756  | E | 50  | G | 3.6 | 0.5  | 15 ARMENIA-AZERBAIJAN-IRAN BORD REG. Felt in the Ardabil region, Iran.  |
| 13 | 00 | 54 | 51.2? | 28.31  | S | 178.06  | W | 200 | G | 4.1 | 1.4  | 20 KERMADEC ISLANDS REGION  |
| 13 | 00 | 57 | 17.0% | 33.393 | S | 71.665  | W | 25  | G | 0.4 | 10   | NEAR COAST OF CENTRAL CHILE. MD 3.6 (SAN).  |
| 13 | 01 | 29 | 59.0? | 32.50  | S | 71.75   | W | 5   | G | 0.5 | 11   | NEAR COAST OF CENTRAL CHILE. MD 4.2 (SAN).  |
| 13 | 01 | 38 | 09.2% | 62.163 | N | 150.256 | W | 20  |   |     | 78   | CENTRAL ALASKA. <AEIC>. ML 2.9 (AEIC), 3.0 (PMR).   |
| 13 | 01 | 46 | 36.8* | 42.533 | N | 2.205   | E | 5   | G | 1.7 | 13   | PYRENEES. mbLg 3.0 (MDD). ML 2.9 (LDG).   |
| 13 | 02 | 16 | 24.1? | 16.95  | S | 69.96   | W | 176 | * | 0.5 | 6  | PERU-BOLIVIA BORDER REGION  |
| 13 | 02 | 37 | 03.2% | 36.805 | N | 4.414   | W | 33  | N | 0.6 | 5  | STRAIT OF GIBRALTAR. mbLg 2.0 (MDD).  |
| 13 | 02 | 53 | 03.4* | 24.024 | S | 66.766  | W | 200 | G | 1.0 | 7  | SALTA PROVINCE, ARGENTINA   |
| 13 | 04 | 48 | 09.1* | 38.911 | N | 21.361  | E | 33  | N | 3.5 | 1.1  | 22 GREECE   |
| 13 | 05 | 40 | 19.4  | 51.701 | N | 16.184  | E | 5   | G | 0.8 | 15   | POLAND. ML 3.7 (GRF), 3.3 (VIE).  |
| 13 | 06 | 01 | 51.9* | 33.135 | N | 140.871 | E | 33  | N | 1.0 | 6  | SOUTH OF HONSHU, JAPAN  |
| 13 | 06 | 30 | 14.6? | 38.97  | N | 26.65   | E | 10  | G | 1.2 | 5  | AEGEAN SEA. MD 3.1 (ISK).   |
| 13 | 07 | 19 | 53.6% | 61.506 | N | 146.705 | W | 17  |   |     | 79   | SOUTHERN ALASKA. <AEIC>. ML 3.7 (AEIC), 3.8 (PMR). Felt at Valdez.  |
| 13 | 08 | 29 | 53.6* | 23.139 | N | 121.269 | E | 33  | N | 3.8 | 1.0  | 15 TAIWAN   |
| 13 | 09 | 08 | 45.1% | 36.637 | N | 5.498   | W | 10  | G | 0.8 | 6  | STRAIT OF GIBRALTAR. mbLg 2.7 (MDD).  |
| 13 | 09 | 26 | 05.9? | 18.88  | N | 145.54  | E | 300 | G | 3.6 | 1.2  | 11 MARIANA ISLANDS  |
| 13 | 10 | 14 | 53.4? | 24.71  | N | 128.16  | E | 33  | N | 4.2 | 1.3  | 13 SOUTHEAST OF RYUKYU ISLANDS  |
| 13 | 10 | 22 | 22.8  | 80.208 | N | 0.711   | W | 10  | G | 4.6 | 4.2  | 1.0 44 NORTH OF SVALBARD  |
| 13 | 10 | 27 | 50.2* | 38.649 | N | 21.707  | E | 33  | N | 3.8 | 1.6  | 23 GREECE   |
| 13 | 10 | 28 | 55.3% | 60.096 | N | 153.486 | W | 129 |   |     | 52   | SOUTHERN ALASKA. <AEIC>.  |
| 13 | 11 | 11 | 57.6  | 38.853 | N | 21.704  | E | 33  | N | 3.8 | 1.2  | 32 GREECE   |
| 13 | 11 | 40 | 37.0? | 36.41  | N | 70.82   | E | 227 | * | 3.0 | 0.2  | 7 HINDU KUSH REGION, AFGHANISTAN  |
| 13 | 11 | 57 | 38.9? | 60.63  | S | 52.57   | W | 10  | G | 0.8 | 6  | SOUTH SHETLAND ISLANDS  |
| 13 | 12 | 12 | 33.5  | 18.053 | S | 178.370 | W | 584 | D | 4.7 | 1.1  | 68 FIJI ISLANDS REGION  |
| 13 | 12 | 18 | 04.4* | 35.721 | N | 83.253  | E | 10  | G | 0.5 | 6  | XIZANG  |
| 13 | 12 | 18 | 48.1* | 18.067 | S | 178.410 | W | 600 | G | 4.7 | 1.0  | 50 FIJI ISLANDS REGION  |
| 13 | 12 | 25 | 00.7? | 17.94  | S | 178.59  | W | 600 | G | 4.5 | 1.1  | 16 FIJI ISLANDS REGION  |
| 13 | 12 | 51 | 23.7  | 38.819 | N | 21.700  | E | 33  | N | 3.7 | 1.2  | 27 GREECE   |
| 13 | 12 | 58 | 22.6  | 10.778 | S | 165.984 | E | 73  | D | 5.0 | 1.0  | 70 SANTA CRUZ ISLANDS. Mw 5.3 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 12:58:26.7; Lat 10.93 S; Lon 165.77 E; Dep 63.8; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=1.18, Plg=61, Azm=13; (N) Val=-0.14, Plg=26, Azm=222; (P) Val=-1.03, Plg=12, Azm=126; Best double couple: Mo=1.1*10**17 Nm; NP1: Strike=187, Dip=39, Slip=47; NP2: Strike=57, Dip=62, Slip=119.                |

|   |    |    |       |        |   |         |   |     |   |         |     |     |   |
|---|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 13  | 12 | 58 | 29.4  | 8.514  | S | 74.510  | W | 148 | D | 4.8     | 0.8 | 48  | PERU-BRAZIL BORDER REGION   |
| 13  | 13 | 17 | 29.2* | 18.296 | N | 63.359  | W | 50  | G | 3.7     | 1.0 | 9   | LEEWARD ISLANDS   |
| 13  | 13 | 54 | 22.0* | 39.090 | N | 21.925  | E | 33  | N |         | 1.4 | 8   | GREECE  |
| 13  | 14 | 31 | 43.3* | 50.518 | N | 1.216   | E | 5   | G |         | 1.0 | 14  | FRANCE. ML 3.2 (LDG).   |
| 13  | 15 | 58 | 43.5* | 33.21  | S | 69.10   | W | 10  | G |         | 0.3 | 8   | CHILE-ARGENTINA BORDER REGION. MD 2.9 (SAN).                        |
| 13  | 16 | 13 | 29.7* | 31.777 | S | 178.699 | W | 33  | N | 4.3     | 1.3 | 23  | KERMADEC ISLANDS REGION   |
| 13  | 17 | 03 | 30.0* | 21.31  | S | 174.44  | W | 33  | N |         | 0.4 | 5   | TONGA ISLANDS   |
| 13  | 17 | 11 | 05.5* | 39.01  | N | 22.34   | E | 33  | N | 3.2     | 1.3 | 9   | GREECE  |
| 13  | 17 | 42 | 57.6  | 9.057  | N | 82.996  | W | 10  | G |         | 0.5 | 11  | PANAMA-COSTA RICA BORDER REGION. MD 4.4 (UPA).                      |
| 13  | 18 | 36 | 00.7  | 44.365 | N | 7.302   | E | 5   | G |         | 0.7 | 16  | NORTHERN ITALY. ML 2.0 (GEN), 1.8 (LDG).                            |
| 13  | 18 | 54 | 57.5* | 30.14  | S | 179.10  | E | 400 | G | 3.6     | 0.3 | 6   | KERMADEC ISLANDS REGION   |
| 13  | 19 | 12 | 08.6* | 44.840 | N | 111.547 | W | 5   |   |         |     | 12  | HEBGEN LAKE REGION. <BUT-P>. ML 3.0 (BUT).                          |
| 13  | 19 | 26 | 51.5  | 18.787 | N | 145.348 | E | 250 | G | 4.3     | 1.2 | 36  | MARIANA ISLANDS   |
| 13  | 20 | 10 | 24.1  | 40.198 | N | 21.635  | E | 52  | * | 4.0     | 1.0 | 41  | GREECE  |
| 13  | 22 | 03 | 17.6  | 10.242 | N | 121.625 | E | 33  | N | 5.0 4.2 | 0.8 | 54  | PANAY, PHILIPPINE ISLANDS   |
| 13  | 22 | 10 | 07.5* | 37.50  | N | 141.48  | E | 33  | N |         | 0.6 | 6   | NEAR EAST COAST OF HONSHU, JAPAN                                    |
| 13  | 22 | 21 | 26.2  | 19.797 | N | 109.323 | W | 10  | G | 4.6 4.2 | 1.1 | 52  | REVILLA GIGEDO ISLANDS REGION                                       |
| 13  | 22 | 27 | 16.5* | 10.190 | N | 121.628 | E | 33  | N | 4.3     | 0.8 | 21  | PANAY, PHILIPPINE ISLANDS   |
| 13  | 22 | 43 | 23.0* | 43.183 | N | 10.434  | E | 5   | G |         | 1.2 | 23  | CENTRAL ITALY. ML 2.7 (LDG).  |
| 13  | 22 | 48 | 20.1* | 19.896 | N | 121.657 | E | 33  | N | 3.9     | 0.9 | 10  | PHILIPPINE ISLANDS REGION   |
| 13  | 22 | 55 | 32.0* | 16.72  | S | 175.81  | W | 300 | G | 3.4     | 0.8 | 8   | TONGA ISLANDS   |
| 13  | 23 | 31 | 55.0  | 53.916 | N | 160.097 | E | 100 | G | 4.8     | 0.8 | 102 | NEAR EAST COAST OF KAMCHATKA  |
| 14  | 00 | 42 | 13.9* | 46.714 | N | 121.132 | W | 3   |   |         |     | 62  | WASHINGTON. <SEA-P>. MD 2.7 (SEA).                                  |
| 14  | 01 | 04 | 20.5  | 0.052  | S | 125.078 | E | 50  | G | 5.3 4.6 | 1.2 | 96  | SOUTHERN MOLUCCA SEA. Mw 5.4 (HRV).                                 |
| Centroid, Moment Tensor (HRV): Centroid origin time   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 01:04:23.9; Lat 0.02 S; Lon 125.31 E; Dep 37.3; Half-   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| duration 1.0 sec; Principal axes (scale 10**17 Nm): (T)   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Val=1.35, Plg=63, Azm=314; (N) Val=-0.28, Plg=3, Azm=218;   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (P) Val=-1.07, Plg=27, Azm=126; Best double couple:   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Mo=1.2*10**17 Nm; NP1: Strike=208, Dip=19, Slip=80; NP2:  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Strike=39, Dip=72, Slip=93.   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 14  | 02 | 17 | 00.1* | 37.22  | N | 3.67    | W | 10  | G |         | 0.1 | 4   | SPAIN. mbLg 2.0 (MDD).  |
| 14  | 02 | 54 | 25.5* | 6.53   | S | 150.80  | E | 33  | N | 3.9     | 1.1 | 9   | NEW BRITAIN REGION, P.N.G.  |
| 14  | 03 | 06 | 44.3* | 33.243 | S | 70.582  | W | 60  | G |         | 0.9 | 9   | CHILE-ARGENTINA BORDER REGION                                       |
| 14  | 03 | 26 | 46.1* | 24.40  | S | 179.63  | E | 550 | G | 4.0     | 1.1 | 11  | SOUTH OF FIJI ISLANDS   |
| 14  | 03 | 47 | 51.8* | 19.518 | N | 109.381 | W | 10  | G | 3.7     | 0.8 | 17  | REVILLA GIGEDO ISLANDS REGION                                       |
| 14  | 03 | 51 | 36.3* | 61.103 | N | 139.769 | W | 0   |   |         |     | 16  | SOUTHERN YUKON TERRITORY, CANADA. <AEIC>. ML 2.8 (AEIC).            |
| 14  | 06 | 14 | 08.4* | 59.362 | N | 152.478 | W | 70  |   |         |     | 38  | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC).                             |
| 14  | 07 | 57 | 39.9  | 51.725 | N | 16.163  | E | 5   | G | 3.5     | 1.2 | 20  | POLAND. ML 3.9 (GRF), 3.6 (VIE).                                    |
| 14  | 07 | 58 | 16.0* | 31.76  | S | 70.12   | W | 150 | G |         | 0.2 | 9   | CHILE-ARGENTINA BORDER REGION                                       |
| 14  | 07 | 59 | 45.4* | 2.185  | N | 129.451 | E | 33  | N | 4.7     | 1.5 | 27  | HALMAHERA, INDONESIA  |
| 14  | 08 | 37 | 28.6* | 32.136 | N | 123.230 | E | 33  | N | 4.0     | 1.4 | 8   | OFF COAST OF EASTERN CHINA. ML 4.4 (BJI).                           |
| 14  | 10 | 47 | 32.7* | 15.407 | N | 145.941 | E | 167 |   | 4.3     | 0.3 | 13  | MARIANA ISLANDS   |
| 14  | 11 | 03 | 18.8* | 37.675 | N | 20.756  | E | 10  | G |         | 1.3 | 13  | IONIAN SEA  |
| 14  | 11 | 46 | 37.2* | 33.755 | N | 131.085 | E | 33  | N |         | 0.9 | 5   | KYUSHU, JAPAN   |
| 14  | 12 | 17 | 04.4* | 38.726 | N | 119.649 | W | 0   |   |         |     | 13  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.9 (GM). ML 3.0 (BRK). |
| 14  | 13 | 39 | 17.2* | 21.999 | S | 179.508 | W | 600 | G | 4.2     | 0.9 | 16  | FIJI ISLANDS REGION   |
| 14  | 13 | 57 | 01.3* | 4.08   | N | 84.23   | W | 33  | N | 4.1     | 1.5 | 12  | OFF COAST OF CENTRAL AMERICA  |
| 14  | 14 | 05 | 43.0  | 7.670  | S | 119.520 | E | 281 |   | 4.8     | 1.2 | 67  | FLORES SEA  |
| 14  | 14 | 12 | 22.5* | 44.34  | N | 7.27    | E | 10  | G |         | 0.0 | 4   | NORTHERN ITALY. ML 1.6 (GEN).                                       |
| 14  | 14 | 25 | 03.1* | 31.98  | S | 70.41   | W | 120 | G |         | 1.1 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.0 (SAN).                        |
| 14  | 15 | 30 | 27.3* | 45.35  | N | 146.90  | E | 100 | G | 4.0     | 1.2 | 7   | KURIL ISLANDS   |
| 14  | 16 | 20 | 50.5* | 1.53   | N | 86.86   | W | 10  | G | 3.8     | 0.8 | 15  | GALAPAGOS ISLANDS REGION  |
| 14  | 16 | 23 | 34.2  | 34.474 | N | 36.936  | W | 10  | G | 4.7 4.3 | 1.1 | 48  | NORTHERN MID-ATLANTIC RIDGE   |
| 14  | 16 | 30 | 26.5* | 17.44  | S | 178.66  | W | 600 | G | 4.2     | 0.6 | 9   | FIJI ISLANDS REGION   |
| 14  | 16 | 37 | 34.6* | 11.30  | S | 166.41  | E | 100 | G | 4.1     | 1.4 | 12  | SANTA CRUZ ISLANDS  |
| 14  | 17 | 33 | 34.3* | 39.013 | N | 28.051  | E | 10  | G |         | 0.7 | 6   | TURKEY. MD 3.3 (ISK).   |
| 14  | 17 | 36 | 29.5  | 28.237 | S | 176.843 | W | 50  | G | 5.1 5.1 | 1.1 | 84  | KERMADEC ISLANDS REGION. Mw 5.4 (HRV).                              |
| Centroid, Moment Tensor (HRV): Centroid origin time   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 17:36:30.5; Lat 28.14 S; Lon 176.54 W; Dep 33.1; Half-  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| duration 1.4 sec; Principal axes (scale 10**17 Nm): (T)   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Val=1.50, Plg=62, Azm=300; (N) Val=0.21, Plg=6, Azm=199;  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (P) Val=-1.71, Plg=27, Azm=107; Best double couple:   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Mo=1.6*10**17 Nm; NP1: Strike=182, Dip=18, Slip=72; NP2:  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Strike=21, Dip=73, Slip=96.   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 14  | 17 | 39 | 30.4* | 28.32  | S | 176.70  | W | 50  | G |         | 1.3 | 10  | KERMADEC ISLANDS REGION   |
| 14  | 17 | 47 | 58.6* | 4.395  | N | 126.112 | E | 150 | G | 4.0     | 1.3 | 10  | TALAUD ISLANDS, INDONESIA   |
| 14  | 18 | 23 | 02.5* | 37.77  | N | 5.22    | E | 5   | G |         | 0.8 | 14  | WESTERN MEDITERRANEAN SEA. ML 3.6 (LDG).                            |
| 14  | 18 | 35 | 10.3* | 43.27  | N | 147.26  | E | 167 | ? |         | 0.1 | 6   | KURIL ISLANDS   |
| 14  | 18 | 50 | 36.8  | 27.952 | S | 66.614  | W | 155 |   | 4.5     | 0.9 | 48  | CATAMARCA PROVINCE, ARGENTINA                                       |
| 14  | 19 | 29 | 20.8* | 0.93   | N | 87.43   | W | 10  | G | 3.8     | 1.3 | 10  | GALAPAGOS ISLANDS REGION  |
| 14  | 20 | 09 | 01.7* | 15.00  | S | 177.77  | W | 400 | G | 4.1     | 0.4 | 10  | FIJI ISLANDS REGION   |
| 14  | 20 | 13 | 06.1  | 38.848 | N | 21.487  | E | 33  | N | 3.6     | 1.1 | 24  | GREECE  |
| 14  | 20 | 39 | 36.4* | 10.717 | S | 162.074 | E | 50  | G | 4.6     | 1.3 | 18  | SOLOMON ISLANDS   |
| 14  | 20 | 41 | 28.1* | 61.259 | N | 151.187 | W | 61  |   |         |     | 59  | SOUTHERN ALASKA. <AEIC>. ML 2.4 (AEIC).                             |
| 14  | 20 | 46 | 10.3* | 43.990 | N | 7.454   | E | 5   | G |         | 0.1 | 5   | NEAR SOUTH COAST OF FRANCE. ML 1.2 (STR).                           |
| 14  | 21 | 14 | 44.4* | 10.165 | S | 116.514 | E | 33  | N | 4.2     | 1.4 | 12  | SOUTH OF SUMBAWA, INDONESIA   |
| 14  | 21 | 19 | 35.5* | 37.057 | N | 138.443 | E | 10  | G |         | 0.6 | 6   | NEAR WEST COAST OF HONSHU, JAPAN                                    |
| 14  | 21 | 26 | 26.0* | 14.773 | S | 168.257 | E | 33  | N | 4.1     | 0.7 | 13  | VANUATU ISLANDS   |
| 14  | 22 | 04 | 31.2  | 43.976 | N | 7.439   | E | 5   | G |         | 0.2 | 15  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (GEN), 1.7 (LDG), 1.3 (STR).     |
| 14  | 22 | 07 | 17.2  | 36.967 | N | 140.270 | E | 124 |   |         | 1.0 | 20  | NEAR EAST COAST OF HONSHU, JAPAN                                    |
| 14  | 22 | 24 | 27.8* | 6.81   | S | 154.09  | E | 33  | N |         | 0.5 | 5   | SOLOMON ISLANDS   |
| 14  | 22 | 25 | 19.2* | 34.26  | S | 70.45   | W | 115 | G |         | 1.1 | 9   | CHILE-ARGENTINA BORDER REGION                                       |
| 14  | 22 | 27 | 38.9* | 60.677 | S | 24.954  | W | 33  | N | 4.2     | 0.8 | 13  | SOUTH SANDWICH ISLANDS REGION                                       |
| 14  | 23 | 14 | 37.2* | 80.431 | N | 1.959   | E | 10  | G | 3.3     | 1.3 | 7   | NORTH OF SVALBARD   |
| 14  | 23 | 29 | 07.9* | 6.93   | N | 0.83    | W | 10  | G |         | 1.3 | 9   | NORTHWEST AFRICA  |
| 14  | 23 | 32 | 31.8* | 19.028 | S | 169.482 | E | 250 | G | 4.5     | 1.3 | 50  | VANUATU ISLANDS   |
| 14  | 23 | 43 | 43.3  | 56.370 | S | 27.399  | W | 143 | D | 5.4     | 1.0 | 127 | SOUTH SANDWICH ISLANDS REGION. Mw 5.4 (GS), 5.4 (HRV).              |
| Moment Tensor (GS): Dep 142; Principal axes (scale 10**17 Nm): (T) Val=1.54, Plg=80, Azm=286; (N) Val=0.02, Plg=4, Azm=172; (P) Val=-1.56, Plg=9, Azm=81; Best double couple: |    |    |       |        |   |         |   |     |   |         |     |     |   |



Mo=1.5\*10\*\*17 Nm; NP1: Strike=166, Dip=36, Slip=83; NP2: Strike=355, Dip=54, Slip=95.  
Centroid, Moment Tensor (HRV): Centroid origin time 23:43:48.8; Lat 56.51 S; Lon 26.91 W; Dep 141.9; Half-duration 1.2 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=1.36, Plg=70, Azm=296; (N) Val=-0.29, Plg=13, Azm=165; (P) Val=-1.07, Plg=14, Azm=71; Best double couple:  
Mo=1.2\*10\*\*17 Nm; NP1: Strike=143, Dip=33, Slip=65; NP2: Strike=352, Dip=61, Slip=105.

|    |    |    |       |        |   |         |   |     |   |     |     |  |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|--|---|
| 15 | 00 | 11 | 20.7  | 44.003 | N | 7.446   | E | 5   | G | 0.4 | 21  | NORTHERN ITALY. ML 2.2 (GEN), 2.1 (LDG), 1.5 (STR).                                |   |
| 15 | 00 | 22 | 49.1  | 43.984 | N | 7.448   | E | 5   | G | 0.2 | 17  | NEAR SOUTH COAST OF FRANCE. ML 2.0 (GEN), 1.5 (LDG).                               |   |
| 15 | 00 | 30 | 18.8  | 44.006 | N | 7.473   | E | 10  | G | 0.5 | 9   | NORTHERN ITALY. ML 1.5 (LDG), 1.0 (STR).   |   |
| 15 | 00 | 38 | 25.77 | 32.37  | S | 71.61   | W | 10  | G | 0.4 | 10  | NEAR COAST OF CENTRAL CHILE  |   |
| 15 | 00 | 48 | 53.7  | 43.989 | N | 7.447   | E | 5   | G | 0.8 | 8   | NEAR SOUTH COAST OF FRANCE. ML 1.6 (LDG), 1.1 (STR).                               |   |
| 15 | 01 | 17 | 49.0  | 19.169 | N | 146.160 | E | 84  | * | 1.1 | 43  | MARIANA ISLANDS REGION   |   |
| 15 | 01 | 21 | 34.8  | 43.981 | N | 7.444   | E | 5   | G | 0.3 | 16  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (GEN), 1.6 (LDG).                               |   |
| 15 | 01 | 24 | 31.5  | 36.650 | N | 140.401 | E | 33  | N | 0.7 | 6   | NEAR EAST COAST OF HONSHU, JAPAN   |   |
| 15 | 01 | 38 | 06.9  | 38.855 | N | 29.256  | E | 10  | G | 0.6 | 10  | TURKEY. MD 3.6 (ISK).  |   |
| 15 | 01 | 39 | 52.2  | 43.990 | N | 7.439   | E | 5   | G | 0.2 | 10  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (GEN).  |   |
| 15 | 01 | 39 | 59.8  | 43.988 | N | 7.436   | E | 5   | G | 0.3 | 11  | NEAR SOUTH COAST OF FRANCE. ML 1.7 (GEN), 1.0 (STR).                               |   |
| 15 | 01 | 40 | 53.3  | 38.390 | N | 40.318  | E | 33  | N | 0.9 | 18  | TURKEY. MD 4.2 (ISK).  |   |
| 15 | 01 | 57 | 17.1  | 43.998 | N | 7.450   | E | 5   | G | 0.3 | 13  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (GEN).  |   |
| 15 | 02 | 23 | 45.1  | 36.150 | N | 139.842 | E | 33  | N | 0.4 | 5   | EASTERN HONSHU, JAPAN  |   |
| 15 | 02 | 24 | 02.2  | 35.59  | S | 70.19   | W | 180 | G | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION  |   |
| 15 | 02 | 40 | 24.0  | 55.726 | N | 161.121 | W | 179 |   | 1.1 | 63  | ALASKA PENINSULA   |   |
| 15 | 03 | 01 | 16.8  | 44.008 | N | 7.468   | E | 10  | G | 0.5 | 5   | NORTHERN ITALY. ML 1.0 (STR).  |   |
| 15 | 03 | 32 | 43.1  | 14.351 | S | 76.245  | W | 33  | N | 1.0 | 37  | NEAR COAST OF PERU   |   |
| 15 | 04 | 22 | 10.1  | 36.072 | N | 117.634 | W | 3   |   |     | 57  | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.8 (PAS). ML 4.1 (BRK), 3.8 (GS).    |   |
| 15 | 04 | 38 | 46.7  | 59.344 | N | 153.616 | W | 120 |   | 3.4 | 124 | SOUTHERN ALASKA. <AEIC>.   |   |
| 15 | 04 | 59 | 42.8  | 36.085 | N | 117.637 | W | 5   |   |     | 14  | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 2.9 (PAS). ML 3.0 (GS).               |   |
| 15 | 05 | 26 | 09.5  | 39.593 | N | 76.935  | E | 33  | N | 4.8 | 0.9 | 62   | SOUTHERN XINJIANG, CHINA  |
| 15 | 05 | 51 | 56.3  | 44.368 | N | 7.346   | E | 5   | G | 0.4 | 5   | NORTHERN ITALY. ML 1.6 (GEN).  |   |
| 15 | 06 | 25 | 33.1  | 60.207 | N | 153.276 | W | 141 |   | 3.1 | 96  | SOUTHERN ALASKA. <AEIC>.   |   |
| 15 | 06 | 28 | 37.3  | 1.521  | N | 86.532  | W | 10  | G | 4.2 | 1.0 | 21   | GALAPAGOS ISLANDS REGION  |
| 15 | 07 | 07 | 20.7  | 49.161 | N | 156.105 | E | 50  | D | 4.8 | 1.0 | 60   | KURIL ISLANDS   |
| 15 | 07 | 17 | 04.6  | 18.537 | N | 71.385  | W | 33  | N |     | 1.2 | 19   | DOMINICAN REPUBLIC REGION   |
| 15 | 07 | 22 | 24.1  | 50.596 | N | 18.891  | E | 5   | G |     | 1.6 | 10   | POLAND. MG 3.2 (WAR).   |
| 15 | 07 | 32 | 46.9  | 22.391 | S | 68.393  | W | 120 | D | 4.2 | 0.8 | 22   | NORTHERN CHILE  |
| 15 | 08 | 13 | 47.9  | 36.084 | N | 117.637 | W | 4   |   |     | 46  | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.7 (PAS), 3.5 (GM). ML 3.7 (GS).     |   |
| 15 | 08 | 14 | 04.8  | 1.74   | N | 86.44   | W | 10  | G | 4.2 | 1.1 | 17   | GALAPAGOS ISLANDS REGION  |
| 15 | 08 | 27 | 08.4  | 36.085 | N | 117.637 | W | 4   |   |     | 7   | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 2.8 (PAS).                            |   |
| 15 | 09 | 08 | 55.4  | 34.973 | N | 100.569 | W | 5   | G |     | 1.0 | 11   | TEXAS PANHANDLE REGION. mblg 3.2 (GS).  |
| 15 | 09 | 26 | 17.8  | 39.14  | N | 27.56   | E | 10  | G |     | 0.6 | 4  | TURKEY. MD 2.8 (ISK).   |
| 15 | 09 | 48 | 35.7  | 40.293 | N | 124.476 | W | 21  |   |     | 10  | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 3.0 (GM). ML 3.0 (BRK).                   |   |
| 15 | 09 | 58 | 40.1  | 39.16  | N | 27.53   | E | 10  | G |     | 0.4 | 4  | TURKEY. MD 2.7 (ISK).   |
| 15 | 10 | 10 | 49.8  | 44.771 | S | 35.634  | E | 10  | G | 4.7 | 1.2 | 12   | PRINCE EDWARD ISLANDS REGION  |
| 15 | 10 | 13 | 55.8  | 45.395 | N | 6.663   | E | 5   | G |     | 0.8 | 12   | FRANCE. ML 2.3 (GEN), 2.1 (LDG).  |
| 15 | 10 | 27 | 21.2  | 32.35  | S | 71.62   | W | 10  | G |     | 0.4 | 10   | NEAR COAST OF CENTRAL CHILE. MD 4.3 (SAN).  |
| 15 | 10 | 33 | 38.6  | 0.970  | N | 87.044  | W | 10  | G | 4.7 | 1.2 | 47   | GALAPAGOS ISLANDS REGION  |
| 15 | 10 | 40 | 46.2  | 34.849 | N | 135.940 | E | 27  |   |     | 0.9 | 11   | NEAR S. COAST OF WESTERN HONSHU   |
| 15 | 10 | 47 | 37.0  | 0.86   | N | 87.36   | W | 10  | G | 4.0 | 1.1 | 14   | GALAPAGOS ISLANDS REGION  |
| 15 | 11 | 01 | 59.5  | 39.17  | N | 27.45   | E | 10  | G |     | 0.4 | 4  | TURKEY. MD 2.7 (ISK).   |
| 15 | 11 | 16 | 48.1  | 17.126 | N | 100.836 | W | 33  | N | 3.9 | 0.8 | 8  | GUERRERO, MEXICO  |
| 15 | 11 | 27 | 36.2  | 0.33   | N | 87.88   | W | 10  | G |     | 1.4 | 10   | GALAPAGOS ISLANDS REGION  |
| 15 | 11 | 34 | 08.9  | 41.087 | N | 125.568 | W | 3   |   |     | 67  | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. Mw 4.0 (BRK). MD 3.5 (GM). ML 3.8 (BRK). |   |
| 15 | 11 | 55 | 19.3  | 39.15  | N | 27.70   | E | 10  | G |     | 0.1 | 4  | Scalar Moment (BRK): Mo=1.1*10**15 Nm.  |
| 15 | 12 | 06 | 23.4  | 30.774 | N | 141.867 | E | 33  | N |     | 1.1 | 11   | TURKEY. MD 2.8 (ISK).   |
| 15 | 12 | 11 | 14.7  | 7.782  | S | 117.413 | E | 274 | D | 5.6 | 1.2 | 183  | SOUTH OF HONSHU, JAPAN  |
|    |    |    |       |        |   |         |   |     |   |     |     |  | BALI SEA. Mw 5.6 (GS), 5.6 (HRV). Me 5.2 (GS).<br>Broadband Source Parameters (GS): Dep 278; Radiated energy 1.2*10**12 Nm.<br>Moment Tensor (GS): Dep 276; Principal axes (scale 10**17 Nm): (T) Val=3.13, Plg=64, Azm=345; (N) Val=-0.76, Plg=10, Azm=235; (P) Val=-2.37, Plg=24, Azm=141; Best double couple: Mo=2.8*10**17 Nm; NP1: Strike=211, Dip=22, Slip=64; NP2: Strike=59, Dip=70, Slip=100.<br>Centroid, Moment Tensor (HRV): Centroid origin time 12:11:20.7; Lat 7.81 S; Lon 117.51 E; Dep 282.9; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=2.97, Plg=64, Azm=342; (N) Val=-0.34, Plg=3, Azm=79; (P) Val=-2.63, Plg=25, Azm=170; Best double couple: Mo=2.8*10**17 Nm; NP1: Strike=267, Dip=20, Slip=99; NP2: Strike=78, Dip=70, Slip=87. |
| 15 | 12 | 46 | 07.2  | 39.174 | N | 27.500  | E | 10  | G |     | 0.1 | 4  | TURKEY. MD 2.7 (ISK).   |
| 15 | 13 | 20 | 25.3  | 46.283 | N | 13.786  | E | 10  | G |     | 1.4 | 8  | AUSTRIA. ML 2.6 (VIE), 2.5 (LJU). Felt (IV) at Kobariid, Slovenia.  |
| 15 | 13 | 22 | 28.9  | 54.53  | N | 166.43  | E | 33  | N | 3.2 | 1.5 | 7  | KOMANDORSKY ISLANDS REGION  |
| 15 | 14 | 07 | 20.2  | 0.488  | N | 16.666  | W | 10  | G |     | 0.5 | 9  | NORTH OF ASCENSION ISLAND   |
| 15 | 14 | 07 | 33.2  | 43.975 | N | 7.444   | E | 5   | G |     | 0.3 | 9  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (LDG), 1.3 (STR).  |
| 15 | 14 | 11 | 08.4  | 36.082 | N | 117.633 | W | 4   |   |     | 35  | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 2.6 (PAS).                            |   |
| 15 | 14 | 12 | 34.2  | 43.980 | N | 7.445   | E | 5   | G |     | 0.4 | 15   | NEAR SOUTH COAST OF FRANCE. ML 2.0 (GEN), 1.8 (LDG), 1.4 (STR).   |
| 15 | 14 | 21 | 09.4  | 23.861 | N | 94.402  | E | 102 | D | 4.3 | 1.4 | 28   | MYANMAR-INDIA BORDER REGION   |
| 15 | 14 | 45 | 03.8  | 32.29  | S | 70.13   | W | 130 | G |     | 0.4 | 10   | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).  |
| 15 | 15 | 14 | 54.1  | 34.000 | N | 117.581 | W | 4   |   |     |     | 30   | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS).   |
| 15 | 15 | 18 | 08.7  | 36.126 | N | 139.868 | E | 33  | N |     | 0.2 | 6  | EASTERN HONSHU, JAPAN   |
| 15 | 15 | 23 | 31.5  | 44.577 | N | 9.420   | E | 10  | G |     | 1.4 | 25   | NORTHERN ITALY. ML 2.8 (GEN), 2.4 (LDG).  |
| 15 | 15 | 56 | 11.9  | 37.84  | N | 36.91   | E | 33  | N |     | 1.7 | 9  | TURKEY. MD 4.1 (ISK).   |





|    |    |    |       |        |   |         |   |     |     |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|-----|-----|-----|--|
| 17 | 20 | 23 | 23.8? | 31.84  | S | 70.34   | W | 125 | G   | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.7 (SAN).   |
| 17 | 20 | 31 | 53.1  | 44.781 | N | 6.649   | E | 10  | G   | 0.6 | 16  | FRANCE. ML 1.9 (LDG), 1.9 (GEN).   |
| 17 | 20 | 38 | 53.6  | 44.762 | N | 6.668   | E | 5   | G   | 0.7 | 26  | FRANCE. ML 2.0 (LDG).  |
| 17 | 20 | 38 | 58.1  | 44.892 | N | 6.808   | E | 5   | G   | 0.8 | 7   | FRANCE. ML 2.4 (LDG).  |
| 17 | 20 | 50 | 09.8  | 32.800 | S | 70.926  | W | 70  | G   | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.9 (SAN).   |
| 17 | 21 | 15 | 31.1* | 0.778  | N | 25.073  | W | 10  | G   | 0.9 | 16  | CENTRAL MID-ATLANTIC RIDGE   |
| 17 | 21 | 22 | 07.4? | 5.74   | S | 154.51  | E | 400 | G   | 1.4 | 8   | SOLOMON ISLANDS  |
| 17 | 21 | 40 | 37.1* | 7.210  | S | 128.022 | E | 100 | G   | 1.3 | 12  | BANDA SEA  |
| 17 | 21 | 46 | 37.76 | 59.496 | N | 150.195 | W | 23  |     | 0.6 | 9   | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.7 (AEIC).  |
| 17 | 22 | 15 | 56.9? | 33.96  | S | 72.20   | W | 35  | G   | 0.6 | 9   | OFF COAST OF CENTRAL CHILE. MD 3.5 (SAN).  |
| 17 | 22 | 36 | 19.0? | 14.85  | S | 167.13  | E | 33  | N   | 0.3 | 6   | VANUATU ISLANDS  |
| 17 | 22 | 51 | 15.9? | 25.58  | S | 179.90  | W | 450 | G   | 0.9 | 14  | SOUTH OF FIJI ISLANDS  |
| 17 | 22 | 53 | 50.4  | 36.811 | N | 54.670  | E | 33  | N   | 0.8 | 23  | NORTHERN IRAN. Felt in the Gorgan area.  |
| 17 | 22 | 55 | 28.0* | 22.363 | S | 68.895  | W | 33  | N   | 0.3 | 6   | NORTHERN CHILE   |
| 17 | 23 | 04 | 15.4? | 31.70  | S | 69.83   | W | 160 | G   | 0.8 | 10  | SAN JUAN PROVINCE, ARGENTINA   |
| 17 | 23 | 10 | 44.8  | 45.448 | N | 6.145   | E | 10  | G   | 0.4 | 5   | FRANCE. ML 1.8 (LDG).  |
| 17 | 23 | 19 | 38.56 | 65.153 | N | 148.631 | W | 10  |     | 0.4 | 23  | NORTHERN ALASKA. <AEIC>. ML 2.9 (AEIC). Felt in the Hamilton Acres area of Fairbanks.    |
| 17 | 23 | 41 | 05.0  | 43.974 | N | 7.966   | E | 10  | G   | 0.5 | 6   | NEAR SOUTH COAST OF FRANCE. ML 2.0 (GEN).  |
| 18 | 00 | 47 | 03.2  | 43.258 | N | 0.950   | W | 10  | G   | 1.0 | 53  | PYRENEES. ML 3.7 (LDG), 3.5 (STR). mbLg 3.2 (MDD). Felt (IV) in the epicentral area.     |
| 18 | 00 | 54 | 40.2* | 4.543  | N | 76.497  | W | 118 | 3.8 | 1.1 | 17  | COLOMBIA. Felt at Cali.  |
| 18 | 02 | 03 | 19.5* | 80.993 | N | 0.399   | W | 10  | G   | 0.7 | 7   | NORTH OF SVALBARD  |
| 18 | 02 | 15 | 56.76 | 38.793 | N | 122.744 | W | 3   |     | 0.7 | 7   | NORTHERN CALIFORNIA. <GM-P>. MD 3.2 (GM). ML 3.3 (BRK).                                  |
| 18 | 03 | 00 | 52.6? | 13.86  | N | 91.14   | W | 33  | N   | 1.4 | 8   | NEAR COAST OF GUATEMALA  |
| 18 | 03 | 37 | 17.2? | 32.10  | S | 70.85   | W | 100 | G   | 0.5 | 9   | CHILE-ARGENTINA BORDER REGION  |
| 18 | 04 | 11 | 02.6  | 34.550 | S | 70.368  | W | 5   | G   | 0.3 | 9   | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 18 | 04 | 32 | 12.1? | 32.63  | N | 93.91   | E | 33  | N   | 0.8 | 7   | XIZANG   |
| 18 | 05 | 13 | 20.0? | 21.30  | S | 175.99  | W | 33  | N   | 0.7 | 9   | TONGA ISLANDS  |
| 18 | 05 | 29 | 41.5  | 51.675 | N | 16.193  | E | 5   | G   | 0.7 | 21  | POLAND. ML 3.9 (GRF), 3.5 (VIE).   |
| 18 | 06 | 30 | 26.2? | 32.11  | S | 70.71   | W | 100 | G   | 0.3 | 9   | CHILE-ARGENTINA BORDER REGION  |
| 18 | 07 | 27 | 38.1? | 23.47  | S | 176.47  | W | 100 | G   | 0.6 | 9   | SOUTH OF FIJI ISLANDS  |
| 18 | 08 | 43 | 47.4  | 39.421 | N | 26.284  | E | 10  | G   | 1.0 | 31  | TURKEY. MD 3.7 (ISK). Felt at Ayvalik.   |
| 18 | 08 | 47 | 44.8  | 60.977 | N | 149.737 | W | 36  |     | 0.6 | 68  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.6 (AEIC).  |
| 18 | 09 | 21 | 49.26 | 59.955 | N | 140.943 | W | 6   |     | 0.6 | 19  | SOUTHEASTERN ALASKA. <AEIC>. ML 2.8 (AEIC).  |
| 18 | 09 | 55 | 09.9  | 44.528 | N | 114.801 | W | 5   | G   | 0.6 | 51  | WESTERN IDAHO. ML 3.6 (GS), 3.8 (BUT). Felt in the epicentral area.                      |
| 18 | 11 | 28 | 18.9* | 7.031  | S | 129.252 | E | 100 | G   | 1.0 | 9   | BANDA SEA  |
| 18 | 11 | 39 | 42.2? | 33.70  | N | 32.24   | E | 33  | N   | 0.5 | 8   | EASTERN MEDITERRANEAN SEA. MD 3.9 (ISK).   |
| 18 | 11 | 47 | 39.06 | 63.464 | N | 151.195 | W | 11  |     | 0.5 | 88  | CENTRAL ALASKA. <AEIC>. ML 3.8 (AEIC), 4.1 (PMR).  |
| 18 | 12 | 22 | 14.5? | 24.79  | S | 179.39  | E | 500 | G   | 1.0 | 6   | SOUTH OF FIJI ISLANDS  |
| 18 | 12 | 36 | 17.0? | 18.09  | S | 178.01  | W | 550 | G   | 0.8 | 14  | FIJI ISLANDS REGION  |
| 18 | 13 | 31 | 09.4  | 36.303 | N | 70.654  | E | 228 | D   | 0.9 | 25  | HINDU KUSH REGION, AFGHANISTAN   |
| 18 | 13 | 33 | 43.2  | 33.468 | S | 71.314  | W | 50  | G   | 0.9 | 8   | NEAR COAST OF CENTRAL CHILE. MD 3.0 (SAN).   |
| 18 | 14 | 38 | 47.9* | 6.723  | N | 73.055  | W | 178 | *   | 0.9 | 20  | NORTHERN COLOMBIA  |
| 18 | 14 | 44 | 58.8  | 44.849 | N | 9.168   | E | 10  | G   | 0.6 | 11  | NORTHERN ITALY. ML 2.1 (GEN).  |
| 18 | 14 | 48 | 54.0  | 36.601 | N | 2.926   | W | 10  | G   | 0.3 | 5   | STRAIT OF GIBRALTAR. mbLg 2.8 (MDD).   |
| 18 | 14 | 54 | 41.5  | 53.338 | N | 164.665 | W | 33  | N   | 0.5 | 11  | UNIMAK ISLAND REGION   |
| 18 | 14 | 57 | 29.4? | 32.96  | S | 72.14   | W | 20  | G   | 0.6 | 10  | OFF COAST OF CENTRAL CHILE. MD 3.7 (SAN).  |
| 18 | 15 | 26 | 32.0  | 33.149 | S | 70.268  | W | 10  | G   | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 18 | 15 | 39 | 11.9  | 44.827 | N | 9.083   | E | 10  | G   | 0.5 | 12  | NORTHERN ITALY. ML 2.1 (GEN).  |
| 18 | 15 | 55 | 25.1? | 6.53   | S | 155.13  | E | 33  | N   | 1.2 | 12  | SOLOMON ISLANDS  |
| 18 | 16 | 26 | 15.9  | 63.265 | N | 151.097 | W | 8   |     | 0.7 | 47  | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 3.2 (PMR).  |
| 18 | 17 | 01 | 39.5? | 22.73  | S | 174.91  | W | 33  | N   | 1.0 | 7   | TONGA ISLANDS REGION   |
| 18 | 17 | 51 | 36.9* | 52.716 | N | 169.836 | W | 33  | N   | 1.0 | 8   | FOX ISLANDS, ALEUTIAN ISLANDS  |
| 18 | 18 | 01 | 34.9* | 37.676 | N | 57.353  | E | 10  | G   | 1.2 | 26  | TURKMENISTAN-IRAN BORDER REGION  |
| 18 | 18 | 23 | 51.4  | 30.990 | N | 138.461 | E | 405 | 4.0 | 0.5 | 18  | SOUTH OF HONSHU, JAPAN   |
| 18 | 18 | 43 | 16.46 | 38.951 | N | 123.003 | W | 7   |     | 0.5 | 6   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 3.1 (GM). ML 3.0 (BRK).                         |
| 18 | 19 | 22 | 22.2? | 18.53  | N | 66.12   | W | 90  | G   | 0.4 | 8   | PUERTO RICO REGION. MD 3.2 (MPR).  |
| 18 | 19 | 39 | 16.1* | 6.154  | S | 150.418 | E | 33  | N   | 1.2 | 16  | NEW BRITAIN REGION, P.N.G.   |
| 18 | 20 | 02 | 51.7  | 27.781 | N | 143.571 | E | 33  | N   | 1.3 | 8   | BONIN ISLANDS REGION   |
| 18 | 20 | 11 | 48.7* | 36.390 | N | 30.819  | E | 10  | G   | 0.5 | 5   | TURKEY. MD 3.7 (ISK).  |
| 18 | 20 | 56 | 22.26 | 34.097 | N | 117.735 | W | 5   |     | 0.5 | 4   | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.3 (PAS). Felt in the Claremont area.                  |
| 18 | 21 | 05 | 10.2* | 39.594 | N | 73.710  | E | 33  | N   | 0.6 | 15  | TAJIKISTAN-XINJIANG BORDER REG.  |
| 18 | 21 | 09 | 56.6* | 51.114 | N | 15.765  | E | 5   | G   | 0.9 | 7   | POLAND   |
| 18 | 21 | 13 | 47.6  | 22.846 | N | 94.929  | E | 33  | N   | 0.9 | 42  | MYANMAR  |
| 18 | 21 | 39 | 25.5  | 44.441 | N | 7.336   | E | 10  | G   | 0.6 | 45  | NORTHERN ITALY. ML 3.0 (STR), 2.9 (LDG).   |
| 18 | 21 | 42 | 38.9  | 44.572 | N | 10.110  | E | 50  | G   | 1.1 | 139 | NORTHERN ITALY. MD 3.6 (ROM).  |
| 18 | 21 | 43 | 35.9  | 30.664 | N | 70.252  | E | 33  | N   | 0.7 | 18  | PAKISTAN   |
| 18 | 22 | 48 | 46.2  | 25.310 | S | 179.636 | E | 500 | G   | 0.9 | 67  | SOUTH OF FIJI ISLANDS  |
| 18 | 23 | 10 | 47.5* | 51.118 | S | 138.688 | E | 10  | G   | 0.5 | 11  | SOUTH OF AUSTRALIA   |
| 18 | 23 | 22 | 59.5  | 31.310 | S | 71.504  | W | 80  | *   | 0.9 | 26  | NEAR COAST OF CENTRAL CHILE. MD 4.4 (SAN).   |
| 18 | 23 | 24 | 29.4* | 6.807  | S | 154.793 | E | 33  | N   | 1.3 | 23  | SOLOMON ISLANDS  |
| 18 | 23 | 34 | 03.9? | 15.64  | N | 98.25   | W | 33  | N   | 1.3 | 17  | OFF COAST OF GUERRERO, MEXICO  |
| 19 | 01 | 03 | 59.9  | 35.467 | N | 140.279 | E | 67  | D   | 1.0 | 44  | NEAR EAST COAST OF HONSHU, JAPAN. Felt in Chiba Prefecture. Also felt in the Tokyo area. |
| 19 | 01 | 35 | 53.5  | 22.898 | N | 94.983  | E | 33  | N   | 1.1 | 33  | MYANMAR  |
| 19 | 02 | 12 | 48.76 | 32.401 | N | 115.199 | W | 6   |     | 0.7 | 7   | CALIF.-BAJA CALIF. BORDER REGION. <PAS-P>. MD 2.8 (PAS).                                 |
| 19 | 02 | 13 | 37.0* | 22.733 | S | 175.057 | W | 33  | N   | 0.3 | 14  | TONGA ISLANDS REGION   |
| 19 | 03 | 43 | 35.8  | 45.330 | N | 6.507   | E | 5   | G   | 1.3 | 5   | FRANCE. ML 1.7 (LDG).  |
| 19 | 05 | 12 | 55.0  | 45.301 | N | 6.729   | E | 5   | G   | 1.1 | 20  | FRANCE. ML 2.6 (LDG).  |
| 19 | 05 | 13 | 53.1? | 45.30  | N | 6.54    | E | 5   | G   | 0.0 | 4   | FRANCE. ML 1.8 (LDG).  |
| 19 | 05 | 59 | 35.5  | 34.073 | S | 70.492  | W | 100 | G   | 0.5 | 10  | CHILE-ARGENTINA BORDER REGION  |
| 19 | 06 | 19 | 09.4* | 51.340 | N | 156.613 | E | 115 | D   | 0.8 | 17  | KAMCHATKA  |
| 19 | 06 | 26 | 06.0* | 58.082 | N | 142.725 | W | 10  | G   | 0.6 | 21  | GULF OF ALASKA. ML 2.5 (AEIC).   |
| 19 | 06 | 38 | 41.5? | 35.28  | N | 94.10   | E | 33  | N   | 1.4 | 7   | QINGHAI, CHINA   |
| 19 | 07 | 00 | 50.5* | 35.842 | N | 23.255  | E | 50  | G   | 1.2 | 9   | CRETE  |
| 19 | 07 | 09 | 57.3* | 45.329 | N | 55.353  | E | 33  | N   | 1.4 | 5   | WESTERN KAZAKHSTAN   |
| 19 | 08 | 49 | 09.6  | 38.899 | N | 21.506  | E | 40  | *   | 1.0 | 31  | GREECE   |
| 19 | 09 | 49 | 28.9* | 23.806 | N | 121.824 | E | 100 | G   | 1.3 | 9   | TAIWAN   |
| 19 | 09 | 52 | 54.2? | 9.50   | N | 125.74  | E | 33  | N   | 0.9 | 10  | MINDANAO, PHILIPPINE ISLANDS   |

|    |    |    |       |        |   |         |   |     |   |     |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|
| 19 | 10 | 09 | 18.0? | 32.81  | N | 141.87  | E | 100 | G |     |
| 19 | 10 | 11 | 38.28 | 34.546 | S | 70.377  | W | 5   | G |     |
| 19 | 10 | 15 | 41.7? | 21.81  | N | 143.16  | E | 100 | G | 3.4 |
| 19 | 10 | 28 | 57.2  | 19.276 | N | 64.387  | W | 33  | N | 4.8 |
| 19 | 10 | 52 | 24.7* | 30.318 | N | 138.568 | E | 400 | G | 3.8 |
| 19 | 10 | 55 | 12.6* | 11.858 | N | 86.731  | W | 100 | G | 3.9 |
| 19 | 10 | 55 | 36.3* | 40.708 | N | 29.755  | E | 10  | G |     |
| 19 | 10 | 57 | 34.7* | 40.732 | N | 30.350  | E | 10  | G |     |
| 19 | 11 | 13 | 15.3? | 40.71  | N | 29.66   | E | 10  | G |     |
| 19 | 12 | 19 | 15.2? | 31.49  | S | 70.07   | W | 150 | G |     |
| 19 | 12 | 35 | 57.4? | 16.87  | N | 93.74   | W | 150 | G | 3.0 |
| 19 | 12 | 39 | 09.2? | 40.68  | N | 29.83   | E | 15  | G |     |
| 19 | 12 | 52 | 24.2* | 4.694  | S | 144.378 | E | 123 | ? | 4.0 |
| 19 | 13 | 42 | 25.3  | 17.685 | S | 178.924 | W | 600 | G | 4.8 |
| 19 | 13 | 49 | 51.8  | 14.423 | N | 120.772 | E | 100 | G | 4.4 |
| 19 | 13 | 57 | 24.5* | 10.686 | N | 41.237  | W | 10  | G | 3.3 |
| 19 | 14 | 39 | 37.1? | 40.68  | N | 29.72   | E | 10  | G |     |
| 19 | 15 | 54 | 29.6  | 45.325 | N | 150.016 | E | 33  | N | 4.9 |
| 19 | 17 | 38 | 28.9* | 5.007  | S | 150.603 | E | 50  | G | 4.2 |
| 19 | 18 | 08 | 50.9? | 34.83  | S | 106.50  | W | 10  | G | 4.8 |
| 19 | 18 | 25 | 12.5  | 4.564  | N | 76.494  | W | 101 | D | 5.5 |

1.5 5 SOUTH OF HONSHU, JAPAN  
0.5 9 CHILE-ARGENTINA BORDER REGION  
1.3 12 MARIANA-ISLANDS REGION  
1.1 58 VIRGIN ISLANDS. MD 4.7 (TRN), 4.5 (MPR).  
1.0 17 SOUTH OF HONSHU, JAPAN  
1.1 16 NEAR COAST OF NICARAGUA  
0.4 7 TURKEY. MD 3.0 (ISK).  
0.6 8 TURKEY. MD 3.4 (ISK).  
0.1 4 TURKEY. MD 2.7 (ISK).  
0.3 9 CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).  
1.2 7 CHIAPAS, MEXICO  
0.3 6 TURKEY. MD 2.9 (ISK).  
1.5 14 NEAR N COAST OF NEW GUINEA, PNG.  
0.8 50 FIJI ISLANDS REGION  
0.8 20 LUZON, PHILIPPINE ISLANDS  
0.8 9 NORTHERN MID-ATLANTIC RIDGE  
0.3 4 TURKEY. MD 2.6 (ISK).  
1.0 72 KURIL ISLANDS  
1.0 11 NEW BRITAIN REGION, P.N.G.  
1.3 22 SOUTHERN EAST PACIFIC RISE  
0.9 329 COLOMBIA. Mw 5.8 (GS), 5.8 (HRV). MD 5.1 (UPA). Some minor damage to buildings at Armenia and Pereira. Felt in Antioquia, Caldas, Cauca, Quindio, Risaralda and Valle del Cauca Departments.  
Moment Tensor (GS): Dep 105; Principal axes (scale 10\*\*17 Nm): (T) Val=-5.76, Plg=75, Azm=207; (N) Val=-1.08, Plg=4, Azm=311; (P) Val=-6.84, Plg=14, Azm=42; Best double couple: Mo=6.3\*10\*\*17 Nm; NPI: Strike=137, Dip=31, Slip=97; NP2: Strike=308, Dip=60, Slip=86.  
Centroid, Moment Tensor (HRV): Centroid origin time 18:25:19.5; Lat 4.78 N; Lon 76.50 W; Dep 118.1; Half-duration 1.9 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=5.14, Plg=80, Azm=150; (N) Val=-1.32, Plg=10, Azm=307; (P) Val=-6.46, Plg=4, Azm=38; Best double couple: Mo=5.8\*10\*\*17 Nm; NPI: Strike=138, Dip=42, Slip=105; NP2: Strike=299, Dip=50, Slip=77.  
0.3 6 TURKEY. MD 2.8 (ISK).  
0.7 41 SWITZERLAND. ML 2.7 (LDG).  
1.2 13 KURIL ISLANDS  
0.9 14 LOYALTY ISLANDS REGION  
1.0 5 NEAR EAST COAST OF HONSHU, JAPAN  
1.1 24 NEAR COAST OF CENTRAL CHILE. MD 4.6 (SAN).  
1.2 7 SOUTH SHETLAND ISLANDS  
0.9 208 NEAR EAST COAST OF HONSHU, JAPAN. Mw 5.5 (HRV). Felt (IV JMA) in eastern Fukushima and northern Tochigi Prefectures.  
Centroid, Moment Tensor (HRV): Centroid origin time 20:21:49.2; Lat 37.21 N; Lon 141.22 E; Dep 96.1; Half-duration 1.4 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=1.93, Plg=36, Azm=280; (N) Val=0.30, Plg=21, Azm=26; (P) Val=-2.22, Plg=46, Azm=139; Best double couple: Mo=2.1\*10\*\*17 Nm; NPI: Strike=312, Dip=22, Slip=-165; NP2: Strike=208, Dip=85, Slip=-69.  
1.3 18 THE NETHERLANDS. ML 3.0 (UCC).  
86 CENTRAL ALASKA. <AEIC>.  
0.8 7 TURKEY. MD 3.0 (ISK).  
1.4 11 BANDA SEA  
0.8 15 KURIL ISLANDS  
0.1 6 AUSTRIA. ML 1.1 (VIE).  
1.4 9 STRAIT OF GIBRALTAR  
1.0 53 OFF COAST OF JALISCO, MEXICO  
0.8 11 FIJI ISLANDS REGION  
1.3 76 NEAR COAST OF GUATEMALA. MD 4.7 (SSS). Felt (IV) at San Salvador, El Salvador.  
1.1 13 KURIL ISLANDS  
0.9 18 NORTHERN MOLUCCA SEA  
1.1 7 LOYALTY ISLANDS REGION  
1.0 11 ANDREANOF ISLANDS, ALEUTIAN IS.  
0.3 10 CHILE-ARGENTINA BORDER REGION. MD 2.8 (SAN).  
0.6 10 NEAR COAST OF CENTRAL CHILE. MD 2.9 (SAN).  
0.3 9 NEAR COAST OF CENTRAL CHILE. MD 3.3 (SAN).  
0.4 8 PYRENEES. ML 1.7 (LDG).  
58 CENTRAL ALASKA. <AEIC>.  
1.3 10 OFF COAST OF JALISCO, MEXICO  
0.8 6 SOUTHWESTERN SIBERIA, RUSSIA  
0.4 10 CHILE-ARGENTINA BORDER REGION. MD 2.7 (SAN).  
0.7 6 SOUTH OF HONSHU, JAPAN  
0.9 304 HOKKAIDO, JAPAN REGION. Mw 6.0 (GS), 6.0 (HRV). Felt (V JMA) at Urakawa, Honshu. Felt in Aomori and Iwate Prefectures, Honshu. Also felt (III) at Yuzhno-Kurilsk, Kunashir.  
Moment Tensor (GS): Dep 41; Principal axes (scale 10\*\*18 Nm): (T) Val=1.23, Plg=64, Azm=268; (N) Val=-0.07, Plg=12, Azm=24; (P) Val=-1.16, Plg=23, Azm=119; Best double couple: Mo=1.2\*10\*\*18 Nm; NPI: Strike=232, Dip=25, Slip=120; NP2: Strike=19, Dip=69, Slip=77.  
Centroid, Moment Tensor (HRV): Centroid origin time 07:55:03.1; Lat 41.70 N; Lon 143.22 E; Dep 51.0 Bdy; Half-duration 2.5 sec; Principal axes (scale 10\*\*18 Nm): (T) Val=1.15, Plg=67, Azm=289; (N) Val=0.07, Plg=4, Azm=28; (P) Val=-1.22, Plg=23, Azm=119; Best double couple: Mo=1.2\*10\*\*18 Nm; NPI: Strike=217, Dip=23, Slip=100; NP2: Strike=26, Dip=68, Slip=86.  
Scalar Moment (PPT): Mo=1.8\*10\*\*18 Nm.



|    |    |    |       |        |   |         |   |     |   |         |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 20 | 08 | 11 | 06.5  | 24.012 | S | 179.441 | E | 600 | G | 4.3     | 0.5 | 9   | SOUTH OF FIJI ISLANDS   |
| 20 | 09 | 49 | 49.5* | 5.702  | S | 104.872 | E | 50  | G | 4.6     | 1.4 | 27  | SOUTHERN SUMATERA, INDONESIA  |
| 20 | 10 | 03 | 37.7? | 10.07  | N | 60.65   | W | 5   | G | 3.5     | 1.3 | 5   | TRINIDAD. MD 4.0 (TRN).   |
| 20 | 10 | 15 | 58.2? | 9.84   | N | 60.32   | W | 10  | G |         | 0.6 | 6   | NEAR COAST OF VENEZUELA. MD 3.4 (TRN).  |
| 20 | 10 | 31 | 31.5? | 10.34  | N | 60.98   | W | 15  | G |         | 0.7 | 5   | TRINIDAD. MD 3.4 (TRN).   |
| 20 | 10 | 39 | 24.9? | 6.33   | S | 103.89  | E | 50  | G |         | 0.1 | 5   | SOUTHWEST OF SUMATERA, INDONESIA  |
| 20 | 10 | 41 | 53.3? | 24.38  | N | 121.95  | E | 50  | G | 3.4     | 0.3 | 5   | TAIWAN  |
| 20 | 10 | 48 | 43.7? | 51.06  | N | 176.90  | W | 33  | N | 4.1     | 1.1 | 5   | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 20 | 10 | 50 | 08.8* | 24.085 | N | 122.666 | E | 50  | G |         | 0.8 | 9   | TAIWAN REGION   |
| 20 | 11 | 03 | 51.6  | 43.536 | N | 127.076 | W | 10  | G | 3.7     | 0.6 | 91  | OFF COAST OF OREGON   |
| 20 | 11 | 24 | 05.3? | 55.62  | N | 161.08  | W | 33  | N |         | 1.4 | 5   | ALASKA PENINSULA. ML 3.7 (PMR). Felt (III) at Cold Bay.   |
| 20 | 12 | 24 | 47.0? | 61.381 | N | 151.911 | W | 89  |   |         |     | 82  | SOUTHERN ALASKA. <AEIC>.  |
| 20 | 12 | 37 | 38.1  | 43.066 | N | 0.655   | W | 5   | G |         | 0.7 | 17  | PYRENEES. ML 2.7 (LDG), 2.4 (STR). Felt at Issor, France.   |
| 20 | 13 | 58 | 16.3* | 42.882 | S | 82.084  | W | 10  | G | 4.7     | 1.1 | 16  | WEST CHILE RISE   |
| 20 | 14 | 24 | 26.9  | 43.803 | N | 18.300  | E | 10  | G | 3.8     | 1.3 | 70  | NORTHWESTERN BALKAN REGION. ML 3.9 (VIE). Minor damage at Sarajevo, Bosnia and Herzegovina. Also felt at Tuzla, Bosnia and Herzegovina.   |
| 20 | 14 | 48 | 56.8? | 19.02  | S | 177.84  | W | 550 | G |         | 1.0 | 9   | FIJI ISLANDS REGION   |
| 20 | 14 | 50 | 20.0  | 44.357 | N | 7.264   | E | 15  | G |         | 0.3 | 14  | NORTHERN ITALY. ML 2.1 (GEN), 1.6 (STR).  |
| 20 | 15 | 01 | 04.1* | 57.025 | N | 7.446   | E | 10  | G |         | 1.5 | 5   | NORTH SEA   |
| 20 | 15 | 14 | 12.3* | 2.716  | N | 128.421 | E | 219 | * | 4.4     | 0.7 | 17  | HALMAHERA, INDONESIA  |
| 20 | 15 | 39 | 33.4  | 47.754 | N | 7.411   | E | 20  | G |         | 1.2 | 38  | SWITZERLAND. ML 3.2 (LDG), 3.1 (STR), 3.1 (VIE).  |
| 20 | 16 | 29 | 47.3* | 17.605 | N | 119.862 | E | 33  | N | 3.8     | 1.0 | 9   | PHILIPPINE ISLANDS REGION   |
| 20 | 18 | 51 | 48.9? | 15.69  | S | 67.80   | E | 10  | G |         | 1.4 | 6   | MID-INDIAN RIDGE  |
| 20 | 19 | 24 | 21.0? | 40.45  | N | 28.89   | E | 10  | G |         | 1.2 | 4   | TURKEY. MD 2.6 (ISK).   |
| 20 | 19 | 37 | 56.7* | 30.198 | N | 96.552  | E | 33  | N |         | 1.1 | 15  | XIZANG  |
| 20 | 19 | 54 | 08.4  | 37.026 | N | 72.751  | E | 79  | D | 4.3     | 1.0 | 19  | TAJIKISTAN  |
| 20 | 19 | 54 | 27.1* | 10.591 | N | 61.331  | W | 33  | N |         | 0.3 | 6   | TRINIDAD. MD 2.7 (TRN).   |
| 20 | 21 | 18 | 06.0* | 37.552 | N | 2.776   | W | 10  | G |         | 1.0 | 12  | SPAIN. mbLg 2.7 (MDD).  |
| 20 | 21 | 18 | 30.6* | 55.640 | N | 157.147 | W | 33  | N |         | 1.2 | 10  | ALASKA PENINSULA  |
| 20 | 21 | 21 | 34.1  | 23.627 | S | 179.897 | W | 550 | G | 4.9     | 0.8 | 40  | SOUTH OF FIJI ISLANDS   |
| 20 | 22 | 20 | 11.7? | 32.81  | S | 70.15   | W | 100 | G |         | 0.7 | 9   | CHILE-ARGENTINA BORDER REGION   |
| 20 | 23 | 26 | 17.0* | 36.392 | N | 70.770  | E | 250 | * |         | 1.0 | 13  | HINDU KUSH REGION, AFGHANISTAN  |
| 21 | 00 | 03 | 57.5? | 33.11  | S | 71.86   | W | 10  | G |         | 0.3 | 8   | NEAR COAST OF CENTRAL CHILE   |
| 21 | 01 | 51 | 13.1* | 44.261 | N | 7.761   | E | 5   | G |         | 0.3 | 6   | NORTHERN ITALY. ML 1.7 (GEN).   |
| 21 | 02 | 03 | 50.9  | 43.111 | N | 0.690   | W | 5   | G |         | 0.3 | 7   | PYRENEES. ML 0.9 (STR).   |
| 21 | 02 | 32 | 19.8* | 61.005 | N | 146.093 | W | 28  |   |         |     | 58  | SOUTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 21 | 02 | 54 | 34.4  | 38.891 | N | 21.491  | E | 60  | * | 3.9     | 1.0 | 31  | GREECE  |
| 21 | 02 | 59 | 04.8* | 36.371 | N | 71.036  | E | 150 | G | 4.1     | 0.8 | 20  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 21 | 03 | 29 | 45.9? | 22.96  | S | 112.02  | W | 10  | G | 4.1     | 1.5 | 7   | EASTER ISLAND REGION  |
| 21 | 03 | 34 | 58.1? | 52.41  | N | 171.29  | E | 33  | N |         | 0.4 | 7   | NEAR ISLANDS, ALEUTIAN ISLANDS  |
| 21 | 04 | 09 | 05.9* | 45.294 | N | 5.871   | E | 5   | G |         | 1.4 | 8   | FRANCE. ML 2.1 (LDG).   |
| 21 | 04 | 14 | 28.1* | 34.463 | N | 115.887 | W | 6   | G |         |     | 3   | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.7 (PAS). Felt.   |
| 21 | 04 | 33 | 24.5* | 33.726 | S | 70.403  | W | 15  | G |         | 0.2 | 5   | CHILE-ARGENTINA BORDER REGION   |
| 21 | 04 | 33 | 33.7* | 15.244 | S | 167.482 | E | 100 | G |         | 0.9 | 32  | VANUATU ISLANDS   |
| 21 | 04 | 56 | 06.9? | 43.07  | N | 0.53    | W | 5   | G |         | 1.7 | 4   | PYRENEES. ML 2.0 (LDG).   |
| 21 | 04 | 59 | 52.7* | 66.685 | N | 172.596 | W | 10  | G |         | 0.4 | 7   | NEAR N. COAST OF EASTERN SIBERIA  |
| 21 | 05 | 08 | 47.9* | 37.261 | N | 22.722  | E | 50  | G |         | 0.6 | 11  | SOUTHERN GREECE   |
| 21 | 05 | 22 | 07.0* | 60.843 | N | 151.775 | W | 84  |   |         |     | 59  | KENAI PENINSULA, ALASKA. <AEIC>.  |
| 21 | 05 | 28 | 28.3? | 3.20   | S | 148.20  | E | 33  | N | 4.4     | 1.1 | 11  | BISMARCK SEA  |
| 21 | 06 | 07 | 39.7* | 37.587 | N | 2.755   | W | 10  | G |         | 0.6 | 15  | SPAIN. mbLg 2.9 (MDD). Felt (III) in the Baza area.   |
| 21 | 06 | 09 | 09.3? | 4.18   | N | 125.66  | E | 100 | G | 4.2     | 0.4 | 6   | TALAUD ISLANDS, INDONESIA   |
| 21 | 06 | 23 | 07.4? | 43.08  | N | 0.12    | W | 5   | G |         | 0.8 | 4   | PYRENEES. ML 1.9 (LDG).   |
| 21 | 07 | 02 | 42.8* | 61.720 | N | 151.247 | W | 69  |   |         |     | 65  | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC).   |
| 21 | 07 | 13 | 02.4* | 33.128 | S | 70.746  | W | 80  | G |         | 0.6 | 10  | CHILE-ARGENTINA BORDER REGION. MD 1.9 (SAN).  |
| 21 | 08 | 15 | 53.6  | 35.641 | N | 141.122 | E | 33  | N |         | 0.9 | 14  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 21 | 08 | 30 | 06.4  | 51.728 | N | 177.625 | E | 49  | * | 4.9 4.4 | 1.0 | 135 | RAT ISLANDS, ALEUTIAN ISLANDS. Mw 5.3 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 08:30:11.0; Lat 51.91 N; Lon 177.29 E; Dep 27.8; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=1.32, Plg=39, Azm=79; (N) Val=-0.40, Plg=26, Azm=192; (P) Val=-0.92, Plg=39, Azm=306; Best double couple: Mo=1.1*10**17 Nm; NP1: Strike=102, Dip=26, Slip=180; NP2: Strike=192, Dip=90, Slip=64. |
| 21 | 08 | 38 | 39.6* | 34.357 | N | 24.725  | E | 33  | N | 3.9     | 1.1 | 19  | CRETE   |
| 21 | 08 | 54 | 38.9* | 63.975 | N | 150.557 | W | 11  |   | 2.7     |     | 60  | CENTRAL ALASKA. <AEIC>. ML 3.1 (AEIC).  |
| 21 | 09 | 01 | 37.7* | 43.017 | N | 141.087 | E | 170 | * | 4.1     | 1.4 | 20  | HOKKAIDO, JAPAN REGION  |
| 21 | 09 | 30 | 36.0? | 30.84  | S | 178.85  | E | 600 | G | 3.8     | 0.8 | 11  | KERMADEC ISLANDS REGION   |
| 21 | 09 | 37 | 07.0* | 38.534 | N | 73.748  | E | 100 | G |         | 0.8 | 10  | TAJIKISTAN-XINJIANG BORDER REG.   |
| 21 | 10 | 02 | 52.4? | 0.65   | N | 25.32   | W | 10  | G | 4.3     | 1.3 | 7   | CENTRAL MID-ATLANTIC RIDGE  |
| 21 | 10 | 12 | 53.7* | 29.142 | N | 34.652  | E | 10  | G |         | 0.8 | 21  | EGYPT. ML 4.4 (JER).  |
| 21 | 11 | 35 | 10.9? | 14.89  | S | 167.10  | E | 100 | G |         | 0.7 | 20  | VANUATU ISLANDS   |
| 21 | 11 | 44 | 04.3? | 34.60  | S | 70.26   | W | 5   | G |         | 0.7 | 7   | CHILE-ARGENTINA BORDER REGION. MD 3.3 (SAN).  |
| 21 | 12 | 31 | 16.3* | 9.590  | N | 126.417 | E | 132 | * | 4.3.    | 0.8 | 14  | MINDANAO, PHILIPPINE ISLANDS  |
| 21 | 12 | 34 | 48.8  | 18.386 | N | 145.143 | E | 443 |   | 4.5     | 1.0 | 67  | MARIANA ISLANDS   |
| 21 | 13 | 18 | 47.6* | 46.860 | N | 152.738 | E | 33  | N |         | 1.0 | 9   | KURIL ISLANDS   |
| 21 | 13 | 23 | 25.0* | 34.397 | N | 119.697 | W | 2   |   |         |     | 30  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.6 (PAS). Felt at Santa Barbara.  |
| 21 | 13 | 37 | 44.4* | 34.386 | S | 71.353  | W | 70  | G |         | 0.3 | 10  | NEAR COAST OF CENTRAL CHILE. MD 2.2 (SAN).  |
| 21 | 14 | 14 | 31.3* | 20.252 | S | 69.764  | W | 100 | G |         | 1.1 | 8   | NORTHERN CHILE  |
| 21 | 14 | 21 | 09.1* | 7.512  | N | 126.804 | E | 100 | G |         | 1.2 | 12  | MINDANAO, PHILIPPINE ISLANDS  |
| 21 | 14 | 29 | 15.1* | 39.491 | N | 77.352  | E | 59  | * | 4.3     | 1.3 | 17  | SOUTHERN XINJIANG, CHINA. Felt strongly in the epicentral area.   |
| 21 | 14 | 55 | 00.4? | 18.00  | S | 175.37  | W | 300 | G | 4.0     | 0.5 | 12  | TONGA ISLANDS   |
| 21 | 14 | 55 | 33.8* | 55.363 | S | 26.445  | W | 33  | N |         | 0.9 | 12  | SOUTH SANDWICH ISLANDS REGION   |
| 21 | 16 | 01 | 40.7* | 6.936  | S | 128.092 | E | 300 | G | 4.5     | 1.1 | 10  | BANDA SEA   |
| 21 | 16 | 07 | 46.8? | 1.68   | S | 100.42  | E | 33  | N |         | 1.5 | 6   | SOUTHERN SUMATERA, INDONESIA  |
| 21 | 16 | 20 | 22.7? | 17.57  | S | 178.50  | W | 600 | G |         | 0.7 | 5   | FIJI ISLANDS REGION   |
| 21 | 17 | 13 | 22.3  | 58.989 | N | 145.716 | W | 10  | G |         | 0.8 | 70  | GULF OF ALASKA. ML 3.8 (PMR), 3.6 (AEIC).   |
| 21 | 17 | 16 | 54.9* | 12.284 | N | 144.189 | E | 53  | * | 3.8     | 0.8 | 11  | SOUTH OF MARIANA ISLANDS  |
| 21 | 17 | 24 | 11.0  | 48.625 | N | 152.887 | E | 181 | D | 4.6     | 0.8 | 99  | KURIL ISLANDS   |
| 21 | 17 | 31 | 12.2* | 34.538 | S | 70.385  | W | 5   | G |         | 0.4 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.8 (SAN).  |
| 21 | 18 | 16 | 49.5? | 0.20   | S | 26.24   | W | 10  | G | 3.7     | 1.0 | 5   | CENTRAL MID-ATLANTIC RIDGE  |



|    |    |    |       |        |   |         |   |     |   |         |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|---|
| 21 | 18 | 36 | 02.18 | 44.793 | N | 6.698   | E | 5   | G | 0.6     | 8   | FRANCE. ML 1.8 (LDG).   |
| 21 | 19 | 01 | 08.77 | 11.65  | N | 88.37   | W | 33  | N | 4.0     | 0.9 | 8 OFF COAST OF CENTRAL AMERICA  |
| 21 | 19 | 35 | 58.8* | 4.618  | S | 101.962 | E | 100 | G | 4.5     | 1.1 | 17 SOUTHERN SUMATERA, INDONESIA   |
| 21 | 19 | 51 | 32.9  | 44.828 | N | 6.675   | E | 5   | G |         | 0.8 | 53 FRANCE. ML 2.8 (LDG), 2.7 (GEN), 2.6 (STR).  |
| 21 | 20 | 01 | 45.0  | 44.835 | N | 6.679   | E | 5   | G |         | 0.8 | 54 FRANCE. ML 2.8 (LDG), 2.6 (GEN), 2.6 (STR).  |
| 21 | 20 | 24 | 13.8* | 51.621 | N | 16.270  | E | 5   | G |         | 0.9 | 8 POLAND. MG 2.4 (WAR).   |
| 21 | 20 | 39 | 43.77 | 6.26   | S | 103.61  | E | 100 | G |         | 0.6 | 9 SOUTHWEST OF SUMATERA, INDONESIA  |
| 21 | 21 | 15 | 44.8* | 23.949 | N | 122.365 | E | 33  | N |         | 1.4 | 9 TAIWAN REGION   |
| 21 | 22 | 20 | 28.2* | 23.532 | S | 68.141  | W | 100 | G | 4.2     | 1.0 | 9 NORTHERN CHILE  |
| 21 | 22 | 22 | 35.17 | 37.76  | N | 20.99   | E | 33  | N |         | 0.6 | 7 IONIAN SEA  |
| 21 | 22 | 32 | 12.57 | 19.45  | S | 178.19  | W | 550 | G | 4.0     | 0.4 | 8 FIJI ISLANDS REGION   |
| 21 | 23 | 04 | 59.5  | 43.037 | N | 0.685   | W | 5   | G |         | 0.4 | 9 PYRENEES. ML 2.2 (LDG), 1.7 (STR).  |
| 21 | 23 | 05 | 23.3  | 43.043 | N | 0.685   | W | 5   | G |         | 0.4 | 7 PYRENEES. ML 2.0 (LDG), 1.6 (STR).  |
| 21 | 23 | 07 | 17.7  | 6.673  | S | 129.117 | E | 150 | G | 4.5     | 0.9 | 30 BANDA SEA  |
| 21 | 23 | 40 | 24.1  | 43.829 | N | 149.167 | E | 33  | N | 6.1 5.6 | 0.9 | 411 EAST OF KURIL ISLANDS. Mw 6.6 (OBN), 6.1 (HRV), 6.0 (GS). Me 6.8 (GS). Felt (II) at Kurilsk. Broadband Source Parameters (GS): NP1: Strike=140, Dip=70, Slip=0; NP2: Strike=230, Dip=90, Slip=-160; Radiated energy 3.1*10**14 Nm. Moment Tensor (GS): Dep 27; Principal axes (scale 10**18 Nm): (T) Val=1.17, Plg=20, Azm=359; (N) Val=0.00, Plg=69, Azm=188; (P) Val=-1.17, Plg=3, Azm=90; Best double couple: Mo=1.2*10**18 Nm; NP1: Strike=136, Dip=74, Slip=13; NP2: Strike=43, Dip=78, Slip=163. Centroid, Moment Tensor (HRV): Centroid origin time 23:40:26.9; Lat 43.90 N; Lon 149.22 E; Dep 31.3; Half-duration 2.7 sec; Principal axes (scale 10**18 Nm): (T) Val=1.68, Plg=22, Azm=2; (N) Val=-0.35, Plg=62, Azm=224; (P) Val=-1.33, Plg=17, Azm=99; Best double couple: Mo=1.5*10**18 Nm; NP1: Strike=141, Dip=62, Slip=3; NP2: Strike=50, Dip=87, Slip=152. Moment Tensor (OBN): Principal axes: (T) Plg=52, Azm=352; (N) Plg=29, Azm=217; (P) Plg=22, Azm=114; Best double couple: Mo=8.4*10**18 Nm; NP1: Strike=162, Dip=35, Slip=30; NP2: Strike=47, Dip=73, Slip=121. |
| 22 | 01 | 17 | 52.47 | 37.23  | N | 56.90   | E | 10  | G |         | 1.1 | 7 NORTHERN IRAN   |
| 22 | 01 | 44 | 03.28 | 45.709 | N | 26.356  | E | 10  | G |         | 0.2 | 5 ROMANIA   |
| 22 | 01 | 48 | 34.47 | 7.60   | N | 82.42   | W | 10  | G |         | 0.5 | 5 SOUTH OF PANAMA. MD 3.9 (UPA).  |
| 22 | 02 | 57 | 22.7* | 0.666  | N | 25.927  | W | 10  | G | 4.4     | 1.2 | 18 CENTRAL MID-ATLANTIC RIDGE   |
| 22 | 03 | 02 | 08.5* | 3.577  | N | 126.633 | E | 33  | N | 4.4     | 1.1 | 20 TALAUD ISLANDS, INDONESIA  |
| 22 | 03 | 03 | 29.28 | 13.054 | N | 88.999  | W | 33  | N |         | 0.2 | 10 EL SALVADOR. MD 2.8 (SSS). Felt (II) at San Salvador.  |
| 22 | 03 | 22 | 47.1  | 20.995 | S | 179.028 | W | 600 | G | 4.5     | 1.0 | 44 FIJI ISLANDS REGION  |
| 22 | 03 | 56 | 14.78 | 60.075 | N | 152.548 | W | 100 |   |         |     | 52 SOUTHERN ALASKA. <AEIC>.   |
| 22 | 04 | 25 | 45.0  | 51.629 | N | 16.214  | E | 5   | G |         | 0.9 | 18 POLAND. ML 3.5 (GRF), 3.4 (VIE).   |
| 22 | 05 | 20 | 23.78 | 61.014 | N | 150.941 | W | 49  |   |         |     | 63 SOUTHERN ALASKA. <AEIC>. ML 3.3 (AEIC), 3.5 (PMR).   |
| 22 | 05 | 34 | 40.68 | 62.332 | N | 151.023 | W | 78  |   |         |     | 39 CENTRAL ALASKA. <AEIC>.  |
| 22 | 05 | 38 | 04.7* | 36.433 | N | 71.088  | E | 218 | ? | 3.2     | 1.5 | 14 AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 22 | 06 | 09 | 15.9* | 11.732 | S | 74.886  | W | 33  | N | 3.6     | 1.1 | 12 CENTRAL PERU. Felt in the Huancayo area.   |
| 22 | 06 | 17 | 47.08 | 59.410 | N | 152.990 | W | 81  |   |         |     | 30 SOUTHERN ALASKA. <AEIC>.   |
| 22 | 07 | 21 | 44.18 | 58.899 | N | 152.993 | W | 62  |   |         |     | 44 KODIAK ISLAND REGION. <AEIC>. ML 2.9 (AEIC).   |
| 22 | 08 | 20 | 44.8* | 15.772 | S | 124.669 | W | 10  | G | 4.7     | 0.8 | 41 SOUTH PACIFIC OCEAN  |
| 22 | 08 | 48 | 37.87 | 22.09  | S | 126.48  | E | 10  | G | 3.8     | 1.7 | 9 WESTERN AUSTRALIA   |
| 22 | 09 | 19 | 26.88 | 39.640 | N | 28.711  | E | 10  | G |         | 0.7 | 8 TURKEY. MD 2.9 (ISK).   |
| 22 | 10 | 16 | 37.6  | 39.166 | N | 71.652  | E | 90  | D | 4.5     | 0.9 | 45 TAJIKISTAN   |
| 22 | 10 | 21 | 13.17 | 51.04  | N | 178.89  | W | 33  | N | 3.3     | 1.0 | 7 ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 22 | 10 | 52 | 32.7  | 51.625 | N | 16.165  | E | 5   | G | 3.8     | 1.0 | 34 POLAND. ML 4.1 (GRF), 3.9 (FUR), 3.9 (VIE).  |
| 22 | 12 | 05 | 03.17 | 22.74  | S | 177.45  | W | 200 | G | 4.2     | 1.0 | 15 SOUTH OF FIJI ISLANDS  |
| 22 | 12 | 07 | 34.4  | 51.627 | N | 16.182  | E | 5   | G | 3.6     | 0.9 | 31 POLAND. ML 3.9 (GRF), 3.5 (VIE).   |
| 22 | 12 | 19 | 06.97 | 18.24  | S | 177.30  | W | 33  | N | 4.8     | 1.3 | 23 FIJI ISLANDS REGION  |
| 22 | 12 | 29 | 03.7* | 51.648 | N | 16.335  | E | 5   | G |         | 1.2 | 8 POLAND  |
| 22 | 13 | 04 | 40.17 | 51.53  | N | 177.55  | E | 82  | * | 3.6     | 0.6 | 9 RAT ISLANDS, ALEUTIAN ISLANDS   |
| 22 | 13 | 05 | 56.07 | 35.89  | N | 140.93  | E | 33  | N |         | 0.6 | 5 NEAR EAST COAST OF HONSHU, JAPAN  |
| 22 | 13 | 13 | 48.4* | 19.133 | S | 176.710 | W | 33  | N | 4.8     | 0.9 | 25 FIJI ISLANDS REGION  |
| 22 | 13 | 28 | 43.2* | 51.543 | N | 176.815 | W | 50  | G |         | 1.1 | 9 ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 22 | 14 | 31 | 17.5* | 11.783 | S | 166.505 | E | 33  | N | 4.6     | 1.3 | 24 SANTA CRUZ ISLANDS   |
| 22 | 15 | 08 | 55.4  | 6.652  | S | 155.067 | E | 33  | N | 4.4     | 1.0 | 29 SOLOMON ISLANDS  |
| 22 | 15 | 22 | 52.8  | 0.460  | N | 122.236 | E | 164 | * | 5.0     | 1.1 | 50 MINAHASSA PENINSULA, SULAWESI  |
| 22 | 16 | 38 | 32.17 | 34.46  | S | 70.53   | W | 110 | G |         | 0.2 | 10 CHILE-ARGENTINA BORDER REGION. MD 3.4 (SAN).   |
| 22 | 17 | 03 | 54.9* | 13.932 | N | 90.748  | W | 33  | N | 4.3     | 1.3 | 34 NEAR COAST OF GUATEMALA  |
| 22 | 18 | 31 | 19.18 | 60.275 | N | 141.616 | W | 8   |   |         |     | 18 SOUTHEASTERN ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 22 | 18 | 42 | 40.3* | 37.787 | N | 72.992  | E | 200 | G | 3.4     | 1.4 | 11 TAJIKISTAN   |
| 22 | 19 | 13 | 05.67 | 32.84  | S | 68.07   | W | 5   | G |         | 0.5 | 8 MENDOZA PROVINCE, ARGENTINA   |
| 22 | 19 | 16 | 03.08 | 8.264  | N | 126.318 | E | 100 | G |         | 1.2 | 10 MINDANAO, PHILIPPINE ISLANDS   |
| 22 | 19 | 26 | 03.9* | 38.756 | N | 26.542  | E | 10  | G |         | 1.0 | 8 AEGEAN SEA. MD 3.6 (ISK).   |
| 22 | 19 | 31 | 18.6  | 38.423 | N | 22.035  | E | 33  | N | 4.3     | 1.1 | 94 GREECE. ML 4.0 (THE). Felt at Aiyion and Patrai.   |
| 22 | 19 | 39 | 56.88 | 40.695 | N | 29.680  | E | 10  | G |         | 0.4 | 5 TURKEY. MD 3.1 (ISK).   |
| 22 | 19 | 58 | 56.88 | 44.197 | N | 6.123   | E | 5   | G |         | 0.4 | 9 FRANCE. ML 1.6 (LDG).   |
| 22 | 20 | 57 | 31.6  | 5.855  | S | 148.369 | E | 105 | D | 5.0     | 0.8 | 37 NEW BRITAIN REGION, P.N.G.   |
| 22 | 21 | 07 | 29.28 | 36.819 | N | 4.016   | W | 87  | ? |         | 0.6 | 12 STRAIT OF GIBRALTAR  |
| 22 | 22 | 11 | 18.38 | 59.965 | N | 153.262 | W | 124 |   |         |     | 25 SOUTHERN ALASKA. <AEIC>.   |
| 22 | 22 | 28 | 17.98 | 38.251 | N | 22.020  | E | 10  | G |         | 1.3 | 9 GREECE  |
| 22 | 23 | 05 | 11.48 | 36.984 | N | 121.761 | W | 15  |   |         |     | 9 CENTRAL CALIFORNIA. <GM-P>. MD 2.8 (GM). ML 2.9 (GS).   |
| 23 | 00 | 23 | 34.3  | 56.703 | N | 158.609 | W | 95  |   | 4.6     | 1.1 | 39 ALASKA PENINSULA   |
| 23 | 00 | 35 | 47.1  | 63.908 | N | 21.972  | W | 10  | G | 3.9     | 1.1 | 21 ICELAND REGION   |
| 23 | 00 | 40 | 37.1  | 17.597 | S | 178.751 | W | 600 | G | 5.0     | 0.9 | 55 FIJI ISLANDS REGION  |
| 23 | 00 | 54 | 22.7* | 15.739 | N | 93.035  | W | 122 | * | 4.1     | 1.5 | 13 NEAR COAST OF CHIAPAS, MEXICO  |
| 23 | 01 | 39 | 31.2  | 5.295  | S | 34.818  | E | 10  | G | 4.6     | 1.1 | 38 TANZANIA   |
| 23 | 02 | 31 | 01.47 | 38.66  | N | 26.82   | E | 10  | G |         | 0.7 | 4 AEGEAN SEA. MD 3.0 (ISK).   |
| 23 | 02 | 45 | 39.87 | 36.91  | N | 4.11    | W | 50  | G |         | 0.6 | 6 STRAIT OF GIBRALTAR   |
| 23 | 03 | 43 | 33.18 | 33.738 | N | 116.043 | W | 8   |   |         |     | 46 SOUTHERN CALIFORNIA. <PAS-P>. MD 3.8 (PAS). ML 3.9 (GS). Felt in the Coachella Valley.   |
| 23 | 03 | 44 | 59.28 | 33.738 | N | 116.043 | W | 7   |   |         |     | 20 SOUTHERN CALIFORNIA. <PAS-P>. MD 3.5 (PAS). Felt in the Coachella Valley.  |

| 23 | 04 | 48 | 51.1& | 33.738 | N | 116.041 | W | 8         | 31  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS). ML 3.1 (GS). Felt in the Coachella Valley.   |
|----|----|----|-------|--------|---|---------|---|-----------|-----|--|
| 23 | 04 | 24 | 36.8* | 20.859 | S | 68.868  | W | 113 D 4.1 | 1.1 | 9 CHILE-BOLIVIA BORDER REGION  |
| 23 | 04 | 58 | 16.4& | 32.894 | S | 71.454  | W | 70 G 0.8  | 0.8 | 10 NEAR COAST OF CENTRAL CHILE. MD 2.5 (SAN).  |
| 23 | 05 | 09 | 05.5  | 46.742 | N | 7.152   | E | 10 G 0.8  | 0.8 | 18 SWITZERLAND. ML 2.7 (STR), 2.5 (LDG).   |
| 23 | 05 | 19 | 18.0  | 44.362 | N | 7.293   | E | 15 0.3    | 0.3 | 20 NORTHERN ITALY. ML 2.2 (GEN), 1.8 (LDG).  |
| 23 | 08 | 23 | 20.4& | 34.441 | S | 70.696  | W | 90 G 0.2  | 0.2 | 10 CHILE-ARGENTINA BORDER REGION. MD 2.8 (SAN).  |
| 23 | 08 | 24 | 33.3? | 39.06  | N | 27.73   | E | 10 G 0.2  | 0.2 | 4 TURKEY. MD 2.7 (ISK).  |
| 23 | 08 | 45 | 02.4  | 63.986 | N | 21.930  | W | 10 G 4.0  | 1.0 | 19 ICELAND REGION  |
| 23 | 09 | 03 | 47.4* | 16.586 | S | 69.753  | W | 182 4.5   | 1.1 | 21 PERU-BOLIVIA BORDER REGION  |
| 23 | 09 | 40 | 37.5? | 24.00  | N | 122.18  | E | 33 N 3.5  | 1.1 | 6 TAIWAN REGION  |
| 23 | 10 | 00 | 52.2& | 62.695 | N | 148.818 | W | 64        | 59  | CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC), 2.6 (PMR).  |
| 23 | 10 | 40 | 35.4? | 7.59   | S | 117.26  | E | 401 ? 4.1 | 0.9 | 9 BALI SEA   |
| 23 | 11 | 53 | 50.4* | 39.776 | N | 76.755  | E | 33 N 3.5  | 1.2 | 8 SOUTHERN XINJIANG, CHINA   |
| 23 | 11 | 54 | 32.2  | 46.578 | N | 9.595   | E | 10 G 0.3  | 0.3 | 6 SWITZERLAND. ML 2.2 (VIE).   |
| 23 | 12 | 08 | 07.6? | 34.49  | S | 70.38   | W | 10 G 0.2  | 0.2 | 6 CHILE-ARGENTINA BORDER REGION  |
| 23 | 12 | 31 | 01.4? | 40.39  | N | 28.94   | E | 10 G 0.9  | 0.9 | 4 TURKEY. MD 2.6 (ISK).  |
| 23 | 13 | 20 | 54.9? | 39.08  | N | 27.72   | E | 10 G 0.6  | 0.6 | 4 TURKEY. MD 2.9 (ISK).  |
| 23 | 13 | 22 | 44.4* | 36.713 | N | 58.763  | E | 33 N 3.5  | 0.7 | 12 NORTHERN IRAN. Felt at Mashhad.   |
| 23 | 14 | 09 | 09.5  | 50.557 | N | 18.894  | E | 5 G 1.1   | 1.1 | 13 POLAND. ML 3.2 (VIE).   |
| 23 | 14 | 30 | 47.8& | 39.606 | N | 120.162 | W | 4         | 6   | NORTHERN CALIFORNIA. <GM-P>. MD 2.8 (GM).  |
| 23 | 14 | 37 | 51.0& | 34.526 | S | 70.383  | W | 5 G 0.4   | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.5 (SAN).   |
| 23 | 15 | 13 | 31.4& | 42.786 | N | 6.778   | W | 10 G 0.3  | 5   | SPAIN. mbLg 2.8 (MDD).   |
| 23 | 16 | 17 | 17.8& | 43.436 | N | 4.677   | E | 10 G 0.6  | 6   | NEAR SOUTH COAST OF FRANCE. ML 2.2 (LDG).  |
| 23 | 16 | 28 | 45.8? | 30.94  | N | 40.96   | W | 10 G 1.3  | 9   | NORTHERN MID-ATLANTIC RIDGE  |
| 23 | 17 | 06 | 34.0? | 37.74  | N | 3.87    | W | 10 G 0.1  | 4   | SPAIN. mbLg 2.7 (MDD).   |
| 23 | 17 | 09 | 05.8  | 36.066 | N | 70.839  | E | 126 * 4.3 | 1.0 | 28 HINDU KUSH REGION, AFGHANISTAN  |
| 23 | 17 | 09 | 49.5  | 43.725 | N | 6.260   | E | 10 G 0.9  | 15  | NEAR SOUTH COAST OF FRANCE. ML 1.9 (LDG).  |
| 23 | 17 | 26 | 59.8? | 37.53  | N | 56.59   | E | 10 G 4.6  | 1.3 | 6 NORTHERN IRAN  |
| 23 | 18 | 18 | 33.9& | 39.633 | N | 120.082 | W | 5         | 14  | NORTHERN CALIFORNIA. <GM-P>. MD 2.9 (GM). ML 3.1 (BRK).  |
| 23 | 18 | 28 | 02.6? | 16.35  | S | 176.67  | W | 400 G 4.0 | 1.1 | 22 FIJI ISLANDS REGION   |
| 23 | 18 | 32 | 59.1& | 46.507 | N | 2.475   | E | 10 G 0.3  | 5   | FRANCE. ML 1.3 (LDG).  |
| 23 | 18 | 51 | 51.0* | 37.618 | N | 57.342  | E | 10 G 4.4  | 1.3 | 21 TURKMENISTAN-IRAN BORDER REGION   |
| 23 | 19 | 46 | 05.2& | 38.654 | N | 119.610 | W | 5         | 7   | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.8 (GM).  |
| 23 | 19 | 54 | 59.5  | 21.973 | S | 179.589 | W | 612 D 5.0 | 0.9 | 128 FIJI ISLANDS REGION. Mw 5.6 (HRV).   |
|    |    |    |       |        |   |         |   |           |     | Centroid, Moment Tensor (HRV): Centroid origin time 19:55:00.7; Lat 22.12 S; Lon 178.97 W; Dep 619.0; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=-2.76, Plg=42, Azm=80; (N) Val=-0.27, Plg=36, Azm=211; (P) Val=-2.49, Plg=28, Azm=323; Best double couple: Mo=2.6*10**17 Nm; NP1: Strike=103, Dip=37, Slip=166; NP2: Strike=205, Dip=82, Slip=54. |
| 23 | 19 | 55 | 44.6* | 10.872 | N | 126.090 | E | 33 N 4.5  | 0.9 | 11 PHILIPPINE ISLANDS REGION   |
| 23 | 20 | 12 | 59.5  | 9.997  | N |         |   |           |     |  |

|    |    |    |       |        |   |         |   |     |   |         |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|--|
| 24 | 12 | 06 | 17.1  | 43.696 | N | 8.432   | E | 20  | G | 1.0     | 141 | CORSICA. ML 4.5 (STR), 4.2 (LDG), 4.1 (GEN), 4.0 (FUR).  |
| 24 | 12 | 20 | 16.76 | 40.421 | N | 125.058 | W | 1   |   |         | 5   | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 2.8 (GM).   |
| 24 | 14 | 26 | 32.17 | 34.36  | S | 70.46   | W | 15  | G | 0.3     | 6   | CHILE-ARGENTINA BORDER REGION. MD 3.0 (SAN).   |
| 24 | 15 | 13 | 28.57 | 10.45  | S | 123.93  | E | 33  | N | 3.8     | 1.4 | 10 TIMOR REGION, INDONESIA   |
| 24 | 15 | 29 | 47.8* | 51.931 | N | 178.831 | E | 100 | G | 3.7     | 1.0 | 17 RAT ISLANDS, ALEUTIAN ISLANDS   |
| 24 | 15 | 39 | 22.76 | 55.876 | N | 159.828 | W | 123 |   |         | 60  | ALASKA PENINSULA. <AEIC>.  |
| 24 | 16 | 26 | 54.86 | 37.571 | N | 118.852 | W | 10  |   |         | 44  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.5 (GM). ML 3.6 (GS), 3.6 (BRK). Felt at Mammoth Lakes, California.   |
| 24 | 16 | 33 | 48.3  | 43.658 | N | 8.537   | E | 20  | G | 0.3     | 14  | CORSICA. ML 1.9 (GEN), 1.9 (LDG).  |
| 24 | 16 | 43 | 44.5  | 43.679 | N | 8.484   | E | 20  | G | 0.5     | 22  | CORSICA. ML 2.8 (STR), 2.3 (GEN), 2.3 (LDG).   |
| 24 | 16 | 50 | 56.06 | 37.568 | N | 118.853 | W | 9   |   |         | 14  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.2 (GM). ML 3.3 (GS), 3.3 (BRK).  |
| 24 | 16 | 58 | 30.2  | 11.569 | S | 165.753 | E | 33  | N | 4.8 4.7 | 1.0 | 57 SANTA CRUZ ISLANDS. Mw 5.5 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 16:58:35.9; Lat 11.57 S Fix; Lon 165.75 E Fix; Dep 15.0 Fix; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.85, Plg=1, Azm=60; (N) Val=0.10, Plg=21, Azm=150; (P) Val=-1.95, Plg=69, Azm=326; Best double couple: Mo=1.9*10**17 Nm; NP1: Strike=129, Dip=47, Slip=-119; NP2: Strike=349, Dip=50, Slip=-62. |
| 24 | 18 | 01 | 19.6  | 43.674 | N | 8.488   | E | 20  | G | 0.6     | 20  | CORSICA. ML 2.2 (GEN), 2.0 (LDG).  |
| 24 | 18 | 02 | 13.1* | 39.673 | N | 25.142  | E | 10  | G | 0.4     | 6   | AEGEAN SEA. MD 3.4 (ISK).  |
| 24 | 18 | 11 | 58.96 | 37.569 | N | 118.851 | W | 9   |   |         | 12  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.1 (GM). ML 3.1 (BRK), 3.0 (GS).  |
| 24 | 18 | 13 | 25.56 | 37.571 | N | 118.852 | W | 10  |   |         | 69  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. Mw 4.0 (BRK). MD 4.1 (GM). ML 4.5 (GS), 4.5 (BRK). Felt at Mammoth Lakes and Visalia, California. Scalar Moment (BRK): Mo=1.2*10**15 Nm.  |
| 24 | 18 | 19 | 40.0* | 13.096 | S | 167.083 | E | 200 | G | 4.4     | 1.0 | 45 VANUATU ISLANDS   |
| 24 | 18 | 35 | 23.5* | 36.386 | N | 27.209  | E | 10  | G | 4.0     | 1.4 | 12 DODECANESE ISLANDS. MD 3.7 (ISK).   |
| 24 | 18 | 37 | 00.67 | 35.43  | S | 71.48   | W | 100 | G |         | 0.4 | 10 CENTRAL CHILE. MD 2.9 (SAN).  |
| 24 | 18 | 41 | 48.06 | 34.583 | N | 24.690  | E | 10  | G |         | 0.8 | 13 CRETE   |
| 24 | 18 | 43 | 06.3* | 29.364 | N | 105.565 | E | 33  | N | 4.5     | 0.8 | 20 SICHUAN, CHINA  |
| 24 | 19 | 00 | 44.1  | 0.511  | N | 122.207 | E | 140 | D | 4.7     | 1.1 | 29 MINAHASSA PENINSULA, SULAWESI   |
| 24 | 19 | 01 | 52.47 | 24.26  | S | 73.61   | E | 10  | G |         | 0.3 | 6 MID-INDIAN RIDGE   |
| 24 | 19 | 08 | 51.76 | 33.158 | S | 70.337  | W | 5   | G |         | 0.3 | 7 CHILE-ARGENTINA BORDER REGION  |
| 24 | 21 | 01 | 43.36 | 33.755 | S | 71.766  | W | 20  | G |         | 0.4 | 8 NEAR COAST OF CENTRAL CHILE  |
| 24 | 21 | 09 | 27.76 | 33.474 | S | 70.064  | W | 10  | G |         | 0.4 | 10 CHILE-ARGENTINA BORDER REGION   |
| 24 | 22 | 40 | 01.9  | 51.684 | N | 16.177  | E | 5   | G |         | 1.3 | 15 POLAND. ML 3.6 (GRF), 3.6 (VIE).  |
| 24 | 22 | 59 | 08.97 | 15.07  | S | 174.86  | W | 33  | N | 4.6     | 0.8 | 9 TONGA ISLANDS  |
| 24 | 23 | 06 | 09.17 | 10.66  | N | 122.77  | E | 33  | N | 3.7     | 0.6 | 6 PANAY, PHILIPPINE ISLANDS  |
| 24 | 23 | 17 | 04.86 | 37.032 | N | 3.809   | W | 10  | G |         | 0.2 | 5 SPAIN. mbLg 2.2 (MDD).   |
| 24 | 23 | 39 | 11.06 | 33.145 | S | 71.666  | W | 60  | G |         | 0.3 | 9 NEAR COAST OF CENTRAL CHILE. MD 2.5 (SAN).   |
| 25 | 01 | 59 | 43.0* | 42.402 | N | 143.059 | E | 33  | N | 3.6     | 0.7 | 8 HOKKAIDO, JAPAN REGION   |
| 25 | 02 | 03 | 41.1  | 43.683 | N | 8.484   | E | 20  | G |         | 0.7 | 33 CORSICA. ML 2.7 (GEN), 2.6 (LDG), 2.6 (STR).  |
| 25 | 02 | 28 | 44.8  | 8.082  | S | 71.855  | W | 600 | G | 4.1     | 1.1 | 46 WESTERN BRAZIL  |
| 25 | 02 | 51 | 49.5  | 43.700 | N | 8.439   | E | 20  | G |         | 0.7 | 16 CORSICA. ML 2.2 (GEN), 1.8 (LDG).   |
| 25 | 02 | 53 | 54.86 | 33.934 | S | 70.375  | W | 115 | G |         | 0.1 | 10 CHILE-ARGENTINA BORDER REGION. MD 2.6 (SAN).  |
| 25 | 03 | 58 | 36.8  | 3.238  | N | 126.357 | E | 47  | D | 4.8     | 1.0 | 54 TALAUD ISLANDS, INDONESIA   |
| 25 | 05 | 38 | 52.96 | 35.678 | N | 118.107 | W | 2   |   |         | 28  | CENTRAL CALIFORNIA. <PAS-P>. MD 3.1 (PAS).   |
| 25 | 06 | 14 | 10.8* | 6.768  | S | 129.656 | E | 100 | G | 4.7     | 1.2 | 25 BANDA SEA   |
| 25 | 06 | 49 | 08.77 | 4.60   | S | 140.25  | E | 33  | N | 4.2     | 0.7 | 8 IRIAN JAYA, INDONESIA  |
| 25 | 10 | 15 | 35.97 | 32.38  | S | 70.24   | W | 120 | G |         | 0.5 | 10 CHILE-ARGENTINA BORDER REGION. MD 3.4 (SAN).  |
| 25 | 10 | 35 | 48.6* | 14.476 | S | 76.208  | W | 33  | N | 4.1     | 1.0 | 18 NEAR COAST OF PERU. Felt at Chinchá Alta and Ica.   |
| 25 | 11 | 38 | 07.07 | 23.40  | S | 68.10   | W | 100 | G | 3.8     | 1.2 | 10 NORTHERN CHILE  |
| 25 | 11 | 53 | 48.5  | 43.916 | N | 147.734 | E | 33  | N | 4.4     | 1.3 | 30 KURIL ISLANDS   |
| 25 | 13 | 41 | 37.3* | 47.047 | N | 150.884 | E | 200 | G | 3.3     | 0.8 | 9 KURIL ISLANDS  |
| 25 | 13 | 51 | 16.66 | 59.407 | N | 150.906 | W | 38  |   |         | 85  | KENAI PENINSULA, ALASKA. <AEIC>. ML 3.3 (AEIC), 3.7 (PMR).   |
| 25 | 14 | 07 | 47.1* | 21.340 | S | 179.130 | W | 600 | G | 4.0     | 1.1 | 23 FIJI ISLANDS REGION   |
| 25 | 14 | 08 | 44.87 | 44.11  | N | 147.05  | E | 33  | N | 3.1     | 0.9 | 7 KURIL ISLANDS  |
| 25 | 15 | 17 | 54.76 | 61.794 | N | 150.009 | W | 42  |   |         | 80  | SOUTHERN ALASKA. <AEIC>. ML 2.8 (AEIC), 3.2 (PMR).   |
| 25 | 15 | 30 | 21.76 | 61.620 | N | 151.276 | W | 3   |   |         | 60  | SOUTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 25 | 15 | 50 | 02.5* | 38.371 | N | 71.300  | E | 33  | N | 3.7     | 1.3 | 14 AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 25 | 15 | 59 | 18.2  | 38.319 | N | 71.324  | E | 33  | N | 4.0     | 0.8 | 20 AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 25 | 16 | 02 | 42.6* | 25.466 | N | 125.789 | E | 33  | N |         | 1.4 | 8 SOUTHWESTERN RYUKYU ISLANDS  |
| 25 | 16 | 24 | 34.5* | 17.374 | N | 46.376  | W | 10  | G | 3.8     | 0.6 | 13 NORTHERN MID-ATLANTIC RIDGE   |
| 25 | 16 | 34 | 47.5  | 63.162 | N | 24.648  | W | 10  | G | 4.4     | 1.2 | 27 ICELAND REGION  |
| 25 | 16 | 47 | 55.96 | 23.748 | N | 121.760 | E | 100 | G |         | 1.2 | 8 TAIWAN   |
| 25 | 16 | 58 | 05.5  | 36.503 | N | 70.592  | E | 228 | D | 4.5     | 1.1 | 59 HINDU KUSH REGION, AFGHANISTAN  |
| 25 | 17 | 45 | 48.46 | 32.993 | S | 69.996  | W | 120 | G |         | 0.3 | 10 MENDOZA PROVINCE, ARGENTINA. MD 2.6 (SAN).  |
| 25 | 19 | 00 | 03.2* | 32.380 | N | 141.070 | E | 70  | D |         | 1.2 | 25 SOUTH OF HONSHU, JAPAN  |
| 25 | 19 | 00 | 57.9* | 8.269  | S | 127.166 | E | 33  | N | 3.9     | 0.9 | 9 TIMOR REGION, INDONESIA  |
| 25 | 19 | 17 | 05.6* | 21.306 | S | 169.779 | E | 33  | N | 4.3     | 1.1 | 26 LOYALTY ISLANDS REGION  |
| 25 | 19 | 40 | 30.2* | 39.638 | N | 76.506  | E | 33  | N | 3.7     | 1.2 | 10 SOUTHERN XINJIANG, CHINA  |
| 25 | 19 | 45 | 07.0  | 21.186 | S | 169.615 | E | 33  | N | 5.7 5.2 | 1.0 | 144 LOYALTY ISLANDS REGION. Mw 5.7 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 19:45:12.0; Lat 21.16 S; Lon 169.41 E; Dep 32.8; Half-duration 1.6 sec; Principal axes (scale 10**17 Nm): (T) Val=3.82, Plg=9, Azm=291; (N) Val=-0.85, Plg=4, Azm=22; (P) Val=-2.97, Plg=80, Azm=136; Best double couple: Mo=3.4*10**17 Nm; NP1: Strike=16, Dip=36, Slip=-97; NP2: Strike=205, Dip=54, Slip=-85.           |
| 25 | 19 | 48 | 46.86 | 37.046 | N | 3.802   | W | 10  | G |         | 0.3 | 5 SPAIN. mbLg 2.1 (MDD).   |
| 25 | 19 | 51 | 03.47 | 49.52  | S | 7.78    | W | 10  | G | 4.4     | 1.0 | 9 SOUTHERN MID-ATLANTIC RIDGE  |
| 25 | 19 | 53 | 10.5* | 49.983 | S | 7.829   | W | 10  | G | 4.5     | 0.7 | 13 SOUTHERN MID-ATLANTIC RIDGE   |
| 25 | 20 | 48 | 44.6* | 9.834  | N | 126.224 | E | 33  | N | 4.3     | 0.9 | 15 MINDANAO, PHILIPPINE ISLANDS  |
| 25 | 21 | 17 | 07.8* | 9.760  | N | 126.172 | E | 33  | N | 4.3     | 0.8 | 10 MINDANAO, PHILIPPINE ISLANDS  |
| 25 | 21 | 25 | 32.1  | 36.482 | N | 27.028  | E | 33  | N | 4.2     | 1.3 | 24 DODECANESE ISLANDS  |
| 25 | 21 | 46 | 47.5* | 16.704 | N | 98.295  | W | 33  | N | 3.8     | 1.4 | 11 NEAR COAST OF GUERRERO, MEXICO  |
| 25 | 21 | 55 | 28.27 | 37.09  | N | 3.82    | W | 10  | G |         | 0.6 | 4 SPAIN. mbLg 1.2 (MDD).   |
| 25 | 21 | 56 | 01.86 | 32.901 | S | 71.473  | W | 10  | G |         | 0.4 | 7 NEAR COAST OF CENTRAL CHILE  |
| 25 | 21 | 59 | 52.66 | 37.535 | N | 2.673   | W | 10  | G |         | 0.3 | 9 SPAIN. mbLg 2.9 (MDD).   |
| 25 | 23 | 12 | 27.76 | 43.733 | N | 8.459   | E | 10  | G |         | 0.5 | 8 CORSCA. ML 2.0 (GEN).  |



|    |    |          |          |           |       |     |     |     |  |  |
|----|----|----------|----------|-----------|-------|-----|-----|-----|--|--|
| 26 | 17 | 34.7%    | 61.768 N | 149.812 W | 39    |     |     |     | 70   | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC), 3.0 (PMR). |
| 25 | 23 | 49 08.5* | 39.481 N | 15.700 E  | 291 * |     | 1.3 | 17  | SOUTHERN ITALY   |  |
| 26 | 00 | 10 44.4  | 6.761 N  | 73.157 W  | 169 D | 4.3 | 0.9 | 44  | NORTHERN COLOMBIA  |  |
| 26 | 00 | 20 42.5* | 8.942 S  | 108.229 W | 10 G  | 4.6 | 1.0 | 23  | CENTRAL EAST PACIFIC RISE  |  |
| 26 | 00 | 29 03.5? | 1.41 S   | 124.27 E  | 33 N  | 4.9 | 0.6 | 8   | SOUTHERN MOLUCCA SEA   |  |
| 26 | 00 | 45 43.7* | 31.183 N | 139.686 E | 200 G | 4.1 | 1.2 | 6   | SOUTH OF HONSHU, JAPAN   |  |
| 26 | 00 | 52 44.6? | 51.40 N  | 15.97 E   | 5 G   |     | 0.6 | 5   | POLAND   |  |
| 26 | 01 | 09 07.8? | 9.48 S   | 108.98 W  | 10 G  | 4.2 | 1.1 | 18  | CENTRAL EAST PACIFIC RISE  |  |
| 26 | 01 | 14 08.7* | 12.525 N | 87.029 W  | 150 G |     | 0.7 | 12  | NEAR COAST OF NICARAGUA  |  |
| 26 | 02 | 03 49.7? | 40.15 N  | 28.25 E   | 10 G  |     | 1.2 | 4   | TURKEY. MD 2.7 (ISK).  |  |
| 26 | 03 | 31 34.3* | 14.942 S | 178.329 W | 400 G | 4.0 | 1.0 | 17  | FIJI ISLANDS REGION  |  |
| 26 | 04 | 20 17.1% | 39.155 N | 28.029 E  | 10 G  |     | 0.6 | 6   | TURKEY. MD 3.3 (ISK).  |  |
| 26 | 04 | 28 30.2  | 44.625 N | 9.336 E   | 5 G   |     | 0.8 | 25  | NORTHERN ITALY. ML 2.8 (GEN).  |  |
| 26 | 05 | 45 06.6? | 7.12 S   | 129.19 E  | 100 G | 3.7 | 1.1 | 8   | BANDA SEA  |  |
| 26 | 05 | 56 45.0* | 8.605 S  | 112.429 E | 96    | 4.5 | 1.1 | 21  | JAWA, INDONESIA  |  |
| 26 | 06 | 11 08.3? | 11.12 N  | 43.64 W   | 10 G  | 3.4 | 1.5 | 8   | NORTHERN MID-ATLANTIC RIDGE  |  |
| 26 | 06 | 12 39.8% | 18.179 N | 67.013 W  | 33 N  |     | 0.1 | 5   | MONA PASSAGE   |  |
| 26 | 06 | 41 31.5  | 44.040 N | 18.101 E  | 10 G  | 3.7 | 1.5 | 101 | NORTHWESTERN BALKAN REGION. ML 3.9 (ROM), 3.7 (VIE), 3.4 (BRA). Felt in the Sarajevo area, Bosnia and Herzegovina. |  |
| 26 | 06 | 47 57.5* | 3.935 N  | 94.823 E  | 48 D  | 4.4 | 1.2 | 10  | OFF W COAST OF NORTHERN SUMATERA   |  |
| 26 | 06 | 52 24.2* | 51.604 N | 16.088 E  | 5 G   |     | 0.8 | 8   | POLAND. ML 3.6 (GRF).  |  |
| 26 | 06 | 53 40.0% | 62.459 N | 149.315 W | 58    |     |     | 43  | CENTRAL ALASKA. <AEIC>. ML 3.2 (AEIC), 3.0 (PMR).  |  |
| 26 | 07 | 09 43.6  | 29.216 N | 130.281 E | 33 N  |     | 0.6 | 9   | Ryukyu Islands   |  |
| 26 | 07 | 11 08.0? | 24.47 S  | 179.49 E  | 600 G | 4.2 | 0.4 | 8   | SOUTH OF FIJI ISLANDS  |  |
| 26 | 08 | 04 47.4? | 35.42 N  | 77.28 E   | 33 N  |     | 0.8 | 7   | EASTERN KASHMIR  |  |
| 26 | 08 | 19 06.0  | 44.608 N | 9.318 E   | 5 G   |     | 0.9 | 63  | NORTHERN ITALY. ML 3.2 (GEN), 3.2 (LDG), 3.1 (VIE).  |  |
| 26 | 08 | 25 06.5* | 19.455 N | 65.346 W  | 50 G  | 3.7 | 0.9 | 12  | PUERTO RICO REGION   |  |
| 26 | 08 | 47 53.9? | 8.12 S   | 125.61 E  | 70 D  | 3.8 | 1.0 | 11  | MINDANAO, PHILIPPINE ISLANDS   |  |
| 26 | 08 | 55 10.5% | 34.406 N | 120.764 W | 6 G   |     |     | 28  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.9 (PAS).  |  |
| 26 | 09 | 03 03.6% | 34.446 N | 120.713 W | 6 G   |     |     | 33  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.2 (PAS).  |  |
| 26 | 10 | 40 09.8? | 38.90 N  | 21.64 E   | 10 G  |     | 1.4 | 6   | GREECE   |  |
| 26 | 13 | 35 38.7? | 21.38 S  | 169.67 E  | 33 N  |     | 0.9 | 6   | LOYALTY ISLANDS REGION   |  |
| 26 | 13 | 43 55.0  | 41.816 N | 19.012 E  | 10 G  |     | 1.3 | 42  | ALBANIA  |  |
| 26 | 13 | 54 14.0% | 55.749 S | 26.424 W  | 33 N  |     | 0.5 | 8   | SOUTH SANDWICH ISLANDS REGION  |  |
| 26 | 14 | 03 44.2? | 33.16 S  | 72.20 W   | 33 N  |     | 0.6 | 9   | OFF COAST OF CENTRAL CHILE   |  |
| 26 | 14 | 17 43.4% | 47.349 N | 145.753 E | 450 G |     | 1.1 | 13  | SEA OF OKHOTSK   |  |
| 26 | 14 | 27 39.4% | 44.652 N | 6.762 E   | 5 G   |     | 0.4 | 8   | FRANCE. ML 2.0 (GEN).  |  |
| 26 | 14 | 31 36.2* | 8.471 N  | 126.051 E | 33 N  | 4.5 | 1.2 | 12  | MINDANAO, PHILIPPINE ISLANDS   |  |
| 26 | 14 | 57 07.5  | 41.471 N | 142.045 E | 85 D  | 4.5 | 1.2 | 51  | HOKKAIDO, JAPAN REGION   |  |
| 26 | 15 | 09 10.7  | 39.597 N | 76.971 E  | 33 N  | 4.4 | 0.7 | 17  | SOUTHERN XINJIANG, CHINA   |  |
| 26 | 15 | 22 27.5  | 42.804 N | 141.688 E | 176 * | 4.1 | 0.8 | 21  | HOKKAIDO, JAPAN REGION   |  |
| 26 | 15 | 53 42.7* | 49.913 N | 156.303 E | 33 N  |     | 1.0 | 13  | KURIL ISLANDS  |  |
| 26 | 15 | 57 11.2% | 61.918 N | 149.462 W | 41    |     |     | 68  |  |  |



|   |    |    |      |        |   |         |   |     |     |     |     |  |
|---|----|----|------|--------|---|---------|---|-----|-----|-----|-----|--|
| 27  | 03 | 11 | 13.1 | 37.221 | N | 3.683   | W | 10  | G   | 0.2 | 6   | SPAIN. mbLg 1.8 (MDD).   |
| 27  | 03 | 18 | 06.8 | 37.523 | N | 4.497   | W | 33  | N   | 0.2 | 5   | SPAIN. mbLg 2.5 (MDD).   |
| 27  | 03 | 59 | 52.5 | 44.339 | N | 7.323   | E | 10  | G   | 0.5 | 7   | NORTHERN ITALY. ML 2.0 (GEN).  |
| 27  | 05 | 24 | 43.7 | 22.80  | S | 176.83  | W | 100 | G   | 1.3 | 13  | SOUTH OF FIJI ISLANDS  |
| 27  | 05 | 44 | 54.3 | 13.933 | N | 89.315  | W | 201 | *   | 0.7 | 14  | EL SALVADOR  |
| 27  | 06 | 50 | 22.5 | 28.076 | S | 68.987  | W | 103 | *   | 1.3 | 19  | LA RIOJA PROVINCE, ARGENTINA   |
| 27  | 07 | 09 | 33.2 | 59.606 | S | 26.465  | W | 33  | N   | 1.0 | 37  | SOUTH SANDWICH ISLANDS REGION  |
| 27  | 07 | 32 | 56.2 | 8.40   | S | 131.20  | E | 33  | N   | 1.4 | 6   | TANIMBAR ISLANDS REG., INDONESIA   |
| 27  | 08 | 25 | 28.3 | 40.639 | N | 29.541  | E | 10  | G   | 0.3 | 6   | TURKEY. MD 3.1 (ISK).  |
| 27  | 08 | 38 | 23.3 | 27.52  | N | 56.64   | E | 33  | N   | 1.5 | 9   | SOUTHERN IRAN  |
| 27  | 08 | 47 | 27.0 | 39.700 | N | 139.917 | E | 57  | *   | 1.5 | 14  | NEAR WEST COAST OF HONSHU, JAPAN   |
| 27  | 08 | 54 | 06.5 | 36.652 | N | 139.072 | E | 134 |     | 1.5 | 12  | EASTERN HONSHU, JAPAN  |
| 27  | 09 | 50 | 00.0 | 1.96   | N | 128.80  | E | 100 | G   | 0.2 | 6   | HALMAHERA, INDONESIA   |
| 27  | 10 | 17 | 20.9 | 0.81   | S | 134.60  | E | 33  | N   | 1.4 | 7   | IRIAN JAYA REGION, INDONESIA   |
| 27  | 10 | 34 | 53.1 | 30.513 | N | 131.304 | E | 33  | N   | 0.7 | 5   | KYUSHU, JAPAN  |
| 27  | 11 | 37 | 53.8 | 7.99   | S | 158.98  | E | 33  | N   | 1.1 | 6   | SOLOMON ISLANDS  |
| 27  | 12 | 51 | 11.0 | 22.481 | S | 174.872 | W | 33  | N   | 1.1 | 87  | TONGA ISLANDS REGION. Mw 5.5 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 12:51:12.4; Lat 22.80 S; Lon 174.13 W; Dep 15.0 Bdy; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.57, Plg=74, Azm=235; (N) Val=0.45, Plg=14, Azm=26; (P) Val=-2.01, Plg=7, Azm=118; Best double couple: Mo=1.8*10**17 Nm; NP1: Strike=224, Dip=40, Slip=113; NP2: Strike=16, Dip=54, Slip=72. |    |    |      |        |   |         |   |     |     |     |     |  |
| 27  | 13 | 17 | 44.8 | 59.97  | N | 30.07   | W | 10  | G   | 1.0 | 5   | NORTH ATLANTIC OCEAN   |
| 27  | 13 | 28 | 40.0 | 40.24  | N | 29.25   | E | 10  | G   | 0.5 | 4   | TURKEY. MD 2.6 (ISK).  |
| 27  | 13 | 32 | 58.9 | 39.34  | N | 28.68   | E | 10  | G   | 0.0 | 4   | TURKEY. MD 2.7 (ISK).  |
| 27  | 14 | 22 | 16.9 | 41.518 | N | 142.126 | E | 73  | D   | 1.0 | 143 | HOKKAIDO, JAPAN REGION   |
| 27  | 14 | 53 | 08.2 | 38.63  | N | 26.33   | E | 10  | G   | 0.6 | 5   | AEGEAN SEA. MD 3.5 (ISK).  |
| 27  | 14 | 59 | 18.0 | 44.585 | N | 9.320   | E | 5   | G   | 1.0 | 52  | NORTHERN ITALY. ML 3.3 (LDG), 3.2 (STR), 3.0 (VIE), 2.9 (GEN).   |
| 27  | 15 | 16 | 16.6 | 14.29  | S | 166.43  | E | 33  | N   | 1.0 | 12  | VANUATU ISLANDS  |
| 27  | 15 | 44 | 43.0 | 23.847 | N | 121.794 | E | 33  | N   | 1.3 | 15  | TAIWAN. ML 4.3 (BJI).  |
| 27  | 16 | 05 | 35.3 | 36.118 | N | 137.027 | E | 282 | 4.0 | 0.8 | 14  | EASTERN HONSHU, JAPAN  |
| 27  | 17 | 37 | 26.1 | 46.215 | N | 7.708   | E | 5   | G   | 1.1 | 13  | SWITZERLAND. ML 2.4 (LDG).   |
| 27  | 17 | 44 | 52.5 | 12.75  | N | 88.06   | W | 100 | G   | 0.6 | 7   | OFF COAST OF CENTRAL AMERICA   |
| 27  | 17 | 55 | 42.0 | 34.518 | N | 36.994  | W | 10  | G   | 0.7 | 24  | NORTHERN MID-ATLANTIC RIDGE  |
| 27  | 18 | 02 | 59.2 | 36.419 | N | 26.760  | E | 131 | 4.1 | 0.8 | 67  | DODECANESE ISLANDS. MD 3.9 (ISK).  |
| 27  | 19 | 09 | 56.4 | 17.81  | S | 178.42  | W | 650 | G   | 0.4 | 12  | FIJI ISLANDS REGION  |
| 27  | 19 | 23 | 41.1 | 32.60  | N | 139.13  | E | 33  | N   | 0.3 | 5   | SOUTH OF HONSHU, JAPAN   |
| 27  | 19 | 24 | 03.0 | 46.479 | N | 2.439   | E | 5   | G   | 0.4 | 6   | FRANCE. ML 1.7 (LDG).  |
| 27  | 19 | 30 | 59.2 | 29.419 | N | 141.939 | E | 33  | N   | 0.9 | 46  | SOUTH OF HONSHU, JAPAN   |
| 27  | 19 | 50 | 55.1 | 36.808 | N | 5.333   | W | 33  | N   | 0.6 | 4   | STRAIT OF GIBRALTAR. mbLg 2.2 (MDD).   |
| 27  | 20 | 22 | 55.2 | 52.199 | S | 16.789  | E | 10  | G   | 1.2 | 32  | SOUTHWEST OF AFRICA  |
| 27  | 21 | 08 | 02.3 | 29.976 | N | 68.208  | E | 33  | N   | 1.2 | 362 | PAKISTAN. Mw 7.1 (HRV), 7.0 (GS), 6.8 (OBN). Me 6.7 (GS). At least 57 people killed, hundreds injured, thousands homeless, more than 500 houses damaged or destroyed and hundreds of livestock killed in the Harnai-Sibi area. Roads and railroads in the area blocked by landslides. Three people killed and several injured in the Quetta area. Felt throughout much of central Baluchistan. |
| Broadband Source Parameters (GS): Dep 22; NP1: Strike=345, Dip=30, Slip=150; NP2: Strike=102, Dip=76, Slip=63; Radiated energy 2.8*10**14 Nm. Complex earthquake, with two events occurring about 5 seconds apart. Depth based on first event.  |    |    |      |        |   |         |   |     |     |     |     |  |
| Moment Tensor (GS): Dep 7; Principal axes (scale 10**19 Nm): (T) Val=3.97, Plg=48, Azm=3; (N) Val=-0.02, Plg=5, Azm=99; (P) Val=-3.95, Plg=41, Azm=194; Best double couple: Mo=4.0*10**19 Nm; NP1: Strike=334, Dip=7, Slip=145; NP2: Strike=98, Dip=86, Slip=85.  |    |    |      |        |   |         |   |     |     |     |     |  |
| Centroid, Moment Tensor (HRV): Centroid origin time 21:08:13.6; Lat 29.74 N; Lon 68.13 E; Dep 15.3; Half-duration 7.9 sec; Principal axes (scale 10**19 Nm): (T) Val=5.16, Plg=57, Azm=344; (N) Val=0.07, Plg=8, Azm=87; (P) Val=-5.23, Plg=31, Azm=182; Best double couple: Mo=5.2*10**19 Nm; NP1: Strike=298, Dip=15, Slip=122; NP2: Strike=85, Dip=77, Slip=82.      |    |    |      |        |   |         |   |     |     |     |     |  |
| Scalar Moment (PPT): Mo=3.2*10**19 Nm.  |    |    |      |        |   |         |   |     |     |     |     |  |
| Scalar Moment (OBN): Mo=2.0*10**19 Nm.  |    |    |      |        |   |         |   |     |     |     |     |  |
| 27  | 21 | 17 | 25.6 | 29.767 | N | 68.322  | E | 33  | N   | 0.7 | 71  | PAKISTAN   |
| 27  | 21 | 19 | 49.2 | 29.747 | N | 68.375  | E | 33  | N   | 0.7 | 26  | PAKISTAN   |
| 27  | 21 | 21 | 36.2 | 29.804 | N | 68.470  | E | 33  | N   | 1.1 | 12  | PAKISTAN   |
| 27  | 21 | 27 | 34.7 | 29.925 | N | 68.129  | E | 33  | N   | 1.0 | 31  | PAKISTAN   |
| 27  | 21 | 30 | 36.5 | 29.985 | N | 67.977  | E | 33  | N   | 1.0 | 311 | PAKISTAN. Felt in the epicentral area.   |
| 27  | 21 | 42 | 19.1 | 29.624 | N | 68.204  | E | 33  | N   | 0.5 | 9   | PAKISTAN   |
| 27  | 21 | 44 | 02.1 | 29.906 | N | 67.943  | E | 33  | N   | 1.0 | 46  | PAKISTAN   |
| 27  | 21 | 44 | 25.0 | 29.999 | N | 68.180  | E | 33  | N   | 1.4 | 18  | PAKISTAN   |
| 27  | 21 | 47 | 27.5 | 29.824 | N | 67.891  | E | 33  | N   | 0.8 | 24  | PAKISTAN   |
| 27  | 21 | 51 | 55.7 | 30.105 | N | 67.921  | E | 33  | N   | 1.1 | 24  | PAKISTAN   |
| 27  | 21 | 53 | 58.2 | 12.78  | S | 166.62  | E | 100 | G   | 1.1 | 21  | SANTA CRUZ ISLANDS   |
| 27  | 21 | 56 | 41.9 | 30.14  | N | 67.99   | E | 33  | N   | 0.6 | 5   | PAKISTAN   |
| 27  | 22 | 00 | 39.2 | 30.055 | N | 68.064  | E | 33  | N   | 1.3 | 20  | PAKISTAN   |
| 27  | 22 | 02 | 41.1 | 30.14  | N | 68.18   | E | 33  | N   | 1.1 | 6   | PAKISTAN   |
| 27  | 22 | 09 | 47.2 | 29.80  | N | 68.52   | E | 33  | N   | 0.6 | 6   | PAKISTAN   |
| 27  | 22 | 12 | 24.8 | 29.938 | N | 68.121  | E | 33  | N   | 0.9 | 15  | PAKISTAN   |
| 27  | 22 | 17 | 41.5 | 29.958 | N | 68.064  | E | 33  | N   | 1.0 | 23  | PAKISTAN   |
| 27  | 22 | 20 | 19.6 | 29.98  | N | 68.24   | E | 33  | N   | 1.3 | 23  | PAKISTAN   |
| 27  | 22 | 21 | 07.1 | 30.50  | N | 67.63   | E | 33  | N   | 1.0 | 26  | PAKISTAN   |
| 27  | 22 | 31 | 00.0 | 30.046 | N | 68.036  | E | 33  | N   | 1.3 | 16  | PAKISTAN   |
| 27  | 22 | 36 | 51.6 | 29.639 | N | 68.084  | E | 33  | N   | 1.4 | 11  | PAKISTAN   |
| 27  | 22 | 39 | 49.7 | 29.561 | N | 68.546  | E | 33  | N   | 1.2 | 42  | PAKISTAN   |
| 27  | 22 | 41 | 58.7 | 29.527 | N | 68.294  | E | 33  | N   | 0.8 | 68  | PAKISTAN   |

|    |    |    |       |        |   |         |   |     |   |         |     |   |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|---|--|
| 27 | 22 | 49 | 13.3  | 29.654 | N | 68.248  | E | 33  | N | 4.2     | 0.7 | 19  | PAKISTAN   |
| 27 | 22 | 50 | 23.27 | 30.40  | N | 68.02   | E | 33  | N | 4.0     | 1.3 | 11  | PAKISTAN   |
| 27 | 22 | 55 | 59.37 | 29.99  | N | 68.14   | E | 33  | N | 3.8     | 1.5 | 11  | PAKISTAN   |
| 27 | 22 | 56 | 46.1* | 30.162 | N | 68.062  | E | 33  | N | 3.7     | 1.5 | 11  | PAKISTAN   |
| 27 | 23 | 02 | 54.37 | 29.55  | N | 67.64   | E | 33  | N | 3.3     | 1.3 | 10  | PAKISTAN   |
| 27 | 23 | 35 | 12.47 | 30.01  | N | 68.05   | E | 33  | N | 3.5     | 0.3 | 5   | PAKISTAN   |
| 27 | 23 | 36 | 35.57 | 29.02  | N | 67.67   | E | 33  | N |         | 0.8 | 10  | PAKISTAN   |
| 27 | 23 | 39 | 09.4  | 30.051 | N | 67.983  | E | 33  | N | 4.3     | 0.9 | 28  | PAKISTAN   |
| 27 | 23 | 46 | 08.5* | 30.069 | N | 68.041  | E | 33  | N | 3.7     | 0.9 | 12  | PAKISTAN   |
| 27 | 23 | 54 | 14.8* | 29.336 | N | 67.813  | E | 33  | N | 3.8     | 1.2 | 13  | PAKISTAN   |
| 28 | 00 | 03 | 52.7  | 40.730 | N | 35.375  | E | 10  | G | 4.8     | 1.2 | 194   | TURKEY. MD 4.7 (ISK). Slight damage to houses in Corum. Felt in Amasya, Ankara, Cankiri, Corum, Kastamonu, Kayseri, Samsun, Sinop and Tokat.   |
| 28 | 00 | 09 | 21.97 | 29.80  | N | 68.59   | E | 33  | N |         | 1.4 | 9   | PAKISTAN   |
| 28 | 00 | 12 | 16.8* | 29.631 | N | 68.402  | E | 33  | N | 3.8     | 1.1 | 14  | PAKISTAN   |
| 28 | 00 | 18 | 48.5* | 12.592 | N | 141.450 | E | 33  | N | 4.3     | 1.0 | 13  | SOUTH OF MARIANA ISLANDS   |
| 28 | 00 | 28 | 03.3* | 29.981 | N | 68.113  | E | 33  | N | 3.8     | 0.8 | 17  | PAKISTAN   |
| 28 | 00 | 29 | 01.0* | 19.616 | S | 177.952 | W | 600 | G | 4.3     | 0.8 | 19  | FIJI ISLANDS REGION  |
| 28 | 00 | 33 | 25.0* | 29.736 | N | 68.137  | E | 33  | N |         | 1.0 | 10  | PAKISTAN   |
| 28 | 00 | 33 | 50.3  | 29.904 | N | 68.137  | E | 33  | N | 4.0     | 0.9 | 20  | PAKISTAN   |
| 28 | 00 | 36 | 12.7  | 29.596 | N | 68.623  | E | 33  | N | 4.3     | 0.7 | 20  | PAKISTAN   |
| 28 | 00 | 45 | 09.3* | 29.872 | N | 67.825  | E | 33  | N | 4.0     | 1.1 | 10  | PAKISTAN   |
| 28 | 00 | 58 | 28.6* | 29.815 | N | 68.375  | E | 33  | N | 4.5     | 1.2 | 18  | PAKISTAN   |
| 28 | 01 | 02 | 24.67 | 29.42  | N | 68.57   | E | 33  | N |         | 1.0 | 6   | PAKISTAN   |
| 28 | 01 | 04 | 10.6  | 29.674 | N | 68.565  | E | 33  | N | 4.5     | 1.1 | 41  | PAKISTAN   |
| 28 | 01 | 13 | 12.9* | 29.623 | N | 68.258  | E | 33  | N | 3.6     | 1.3 | 12  | PAKISTAN   |
| 28 | 01 | 14 | 41.47 | 29.70  | N | 68.37   | E | 33  | N | 3.8     | 0.8 | 9   | PAKISTAN   |
| 28 | 01 | 26 | 22.0* | 29.933 | N | 68.202  | E | 33  | N | 3.8     | 0.8 | 8   | PAKISTAN   |
| 28 | 01 | 46 | 26.2  | 29.632 | N | 68.200  | E | 33  | N | 4.7     | 0.8 | 67  | PAKISTAN   |
| 28 | 01 | 49 | 26.67 | 29.91  | N | 67.88   | E | 33  | N |         | 0.9 | 9   | PAKISTAN   |
| 28 | 02 | 05 | 28.57 | 29.91  | N | 68.09   | E | 33  | N | 3.8     | 0.9 | 7   | PAKISTAN   |
| 28 | 02 | 06 | 43.27 | 7.19   | S | 129.08  | E | 100 | G | 3.9     | 1.4 | 7   | BANDA SEA  |
| 28 | 02 | 11 | 13.6  | 29.493 | N | 68.323  | E | 33  | N | 4.4     | 0.7 | 24  | PAKISTAN   |
| 28 | 02 | 22 | 04.8  | 29.853 | N | 67.778  | E | 33  | N | 4.1     | 0.6 | 13  | PAKISTAN   |
| 28 | 02 | 28 | 09.27 | 29.55  | N | 68.54   | E | 33  | N | 3.6     | 1.0 | 9   | PAKISTAN   |
| 28 | 02 | 35 | 27.17 | 29.71  | N | 68.36   | E | 33  | N |         | 1.1 | 8   | PAKISTAN   |
| 28 | 02 | 37 | 27.67 | 13.22  | N | 144.32  | E | 100 | G | 3.1     | 0.8 | 5   | MARIANA ISLANDS  |
| 28 | 02 | 43 | 13.0* | 29.467 | N | 68.534  | E | 33  | N | 3.9     | 1.2 | 13  | PAKISTAN   |
| 28 | 02 | 49 | 29.87 | 14.97  | S | 173.95  | W | 33  | N | 4.2     | 0.9 | 10  | SAMOA ISLANDS REGION   |
| 28 | 02 | 51 | 58.6* | 29.556 | N | 68.625  | E | 33  | N | 4.0     | 0.9 | 9   | PAKISTAN   |
| 28 | 03 | 03 | 15.9* | 29.668 | N | 68.618  | E | 33  | N |         | 1.1 | 7   | PAKISTAN   |
| 28 | 03 | 09 | 10.36 | 60.194 | N | 151.154 | W | 41  |   |         | 36  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.6 (AEIC). |  |
| 28 | 03 | 12 | 09.9  | 30.095 | N | 68.164  | E | 33  | N | 4.1     | 0.9 | 21  | PAKISTAN   |
| 28 | 03 | 17 | 35.7  | 29.557 | N | 68.568  | E | 33  | N | 4.7 4.3 | 1.0 | 68  | PAKISTAN   |
| 28 | 03 | 20 | 25.6* | 30.024 | N | 68.173  | E | 33  | N | 4.3     | 0.7 | 12  | PAKISTAN   |
| 28 | 04 | 02 | 07.27 | 37.05  | N | 3.85    | W | 10  | G |         | 0.2 | 4   | SPAIN. mbLg 2.2 (MDD).   |
| 28 | 04 | 58 | 18.4  | 43.126 | N | 0.589   | W | 10  | G |         | 1.3 | 26  | PYRENEES. mbLg 2.9 (MDD). ML 2.5 (LDG), 2.2 (STR).   |
| 28 | 04 | 59 | 34.5  | 29.898 | N | 68.113  | E | 33  | N | 4.3     | 0.8 | 20  | PAKISTAN   |
| 28 | 05 | 25 | 57.17 | 29.61  | N | 68.56   | E | 33  | N | 3.7     | 0.9 | 9   | PAKISTAN   |
| 28 | 05 | 28 | 37.5  | 30.008 | N | 67.836  | E | 33  | N | 4.3     | 0.7 | 23  | PAKISTAN   |
| 28 | 05 | 30 | 53.1* | 3.855  | S | 138.542 | E | 100 | G | 4.4     | 1.3 | 15  | IRIAN JAYA, INDONESIA  |
| 28 | 05 | 34 | 42.1* | 29.477 | N | 68.499  | E | 33  | N | 4.3     | 1.1 | 17  | PAKISTAN   |
| 28 | 05 | 35 | 27.67 | 11.98  | N | 86.42   | W | 100 | G | 3.5     | 1.1 | 6   | NEAR COAST OF NICARAGUA  |
| 28 | 05 | 55 | 53.56 | 46.087 | N | 111.485 | W | 11  |   |         | 9   | MONTANA. <BUT-P>. ML 2.7 (BUT).                 |  |
| 28 | 06 | 01 | 27.87 | 6.17   | S | 149.95  | E | 33  | N | 3.9     | 1.4 | 8   | NEW BRITAIN REGION, P.N.G.   |
| 28 | 06 | 01 | 49.57 | 31.74  | N | 131.88  | E | 33  | N |         | 0.5 | 4   | KYUSHU, JAPAN  |
| 28 | 06 | 06 | 49.1* | 8.800  | S | 107.899 | W | 10  | G | 4.7     | 1.4 | 43  | CENTRAL EAST PACIFIC RISE  |
| 28 | 06 | 25 | 47.5* | 29.627 | N | 68.199  | E | 33  | N | 4.5 4.2 | 1.2 | 28  | PAKISTAN   |
| 28 | 06 | 44 | 53.3* | 29.876 | N | 68.093  | E | 33  | N | 3.8     | 0.8 | 13  | PAKISTAN   |
| 28 | 06 | 47 | 18.4* | 29.593 | N | 67.988  | E | 33  | N |         | 1.1 | 11  | PAKISTAN   |
| 28 | 06 | 54 | 36.1* | 23.065 | S | 170.064 | E | 33  | N | 5.0 5.0 | 1.3 | 48  | LOYALTY ISLANDS REGION   |
| 28 | 07 | 22 | 04.6* | 55.007 | N | 163.044 | E | 38  | D | 4.5     | 0.9 | 20  | OFF EAST COAST OF KAMCHATKA  |
| 28 | 07 | 46 | 15.16 | 61.524 | N | 151.414 | W | 73  |   | 2.9     |     | 90  | SOUTHERN ALASKA. <AEIC>.   |
| 28 | 07 | 52 | 09.9* | 29.729 | N | 68.086  | E | 33  | N | 4.4     | 0.8 | 21  | PAKISTAN   |
| 28 | 07 | 53 | 49.1* | 30.037 | N | 68.164  | E | 33  | N |         | 1.4 | 11  | PAKISTAN   |
| 28 | 08 | 13 | 21.87 | 36.00  | S | 178.84  | E | 33  | N | 4.2     | 0.3 | 9   | OFF E. COAST OF N. ISLAND, N.Z.  |
| 28 | 08 | 23 | 19.1* | 23.216 | S | 175.334 | W | 33  | N | 4.9 5.2 | 1.1 | 38  | TONGA ISLANDS REGION. Mw 5.4 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 08:23:25.4; Lat 23.26 S; Lon 175.09 W; Dep 21.1; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=1.28, Plg=67, Azm=237; (N) Val=0.04, Plg=21, Azm=30; (P) Val=-1.31, Plg=10, Azm=124; Best double couple: Mo=1.3*10**17 Nm; NP1: Strike=237, Dip=40, Slip=123; NP2: Strike=17, Dip=58, Slip=65. |
| 28 | 08 | 27 | 39.0* | 29.694 | N | 68.218  | E | 33  | N | 4.1     | 0.9 | 12  | PAKISTAN   |
| 28 | 08 | 33 | 58.6* | 29.722 | N | 68.319  | E | 33  | N |         | 1.4 | 13  | PAKISTAN   |
| 28 | 09 | 24 | 04.4* | 43.796 | N | 7.328   | E | 10  | G |         | 0.9 | 6   | NEAR SOUTH COAST OF FRANCE. ML 1.2 (STR).  |
| 28 | 09 | 34 | 39.5* | 36.776 | N | 5.468   | W | 10  | G |         | 1.2 | 15  | STRAIT OF GIBRALTAR. mbLg 3.3 (MDD).   |
| 28 | 09 | 35 | 17.1* | 1.900  | N | 128.358 | E | 100 | G | 4.3     | 1.1 | 15  | HALMAHERA, INDONESIA   |
| 28 | 09 | 36 | 30.87 | 37.24  | S | 176.74  | E | 100 | G | 4.6     | 0.9 | 7   | NORTH ISLAND, NEW ZEALAND  |
| 28 | 09 | 47 | 10.97 | 29.78  | N | 68.19   | E | 33  | N | 3.6     | 1.3 | 10  | PAKISTAN   |
| 28 | 09 | 57 | 07.2  | 44.787 | N | 10.516  | E | 5   | G |         | 0.9 | 27  | NORTHERN ITALY. ML 3.0 (LDG), 2.9 (VIE).   |
| 28 | 10 | 12 | 33.2* | 29.362 | N | 68.098  | E | 33  | N | 3.8     | 1.4 | 13  | PAKISTAN   |
| 28 | 10 | 24 | 40.3* | 29.933 | N | 67.769  | E | 33  | N | 3.8     | 1.0 | 10  | PAKISTAN   |
| 28 | 10 | 25 | 14.9* | 34.132 | N | 37.748  | W | 10  | G | 4.7     | 0.8 | 16  | NORTHERN MID-ATLANTIC RIDGE  |
| 28 | 10 | 36 | 30.37 | 8.91   | S | 129.99  | E | 33  | N | 4.1     | 0.7 | 9   | TIMOR SEA  |
| 28 | 10 | 36 | 52.4  | 29.883 | N | 68.099  | E | 33  | N | 4.4     | 1.0 | 20  | PAKISTAN   |
| 28 | 10 | 45 | 24.2* | 3.128  | N | 126.892 | E | 33  | N | 4.3     | 0.6 | 11  | TALAUD ISLANDS, INDONESIA  |
| 28 | 10 | 59 | 14.5* | 17.674 | S | 179.118 | W | 600 | G | 4.7     | 1.0 | 32  | FIJI ISLANDS REGION  |
| 28 | 11 | 01 | 19.17 | 29.75  | N | 68.62   | E | 33  | N |         | 0.9 | 5   | PAKISTAN   |
| 28 | 11 | 32 | 18.9  | 43.921 | N | 147.876 | E | 33  | N | 6.1 5.5 | 0.8 | 421   | KURIL ISLANDS. Mw 5.9 (HRV), 5.7 (GS). Me 5.7 (GS). Felt (IV) at Yuzhno-Kurilsk, Kunashir and (III) at Kurilsk, Iturup.  |

Broadband Source Parameters (GS): Dep 34; NP1: Strike=220, Dip=45, Slip=90; NP2: Strike=40, Dip=45, Slip=90; Radiated energy  $8.4 \times 10^{12}$  Nm.

Moment Tensor (GS): Dep 34; Principal axes (scale  $10^{17}$  Nm): (T) Val=-4.44, Plg=72, Azm=273; (N) Val=-0.87, Plg=8, Azm=28; (P) Val=-3.57, Plg=16, Azm=120; Best double couple: Mo= $4.0 \times 10^{17}$  Nm; NP1: Strike=222, Dip=29, Slip=106; NP2: Strike=23, Dip=62, Slip=81.

Centroid, Moment Tensor (HRV): Centroid origin time 11:32:23.7; Lat 43.95 N; Lon 148.08 E; Dep 37.0 Bdy; Half-duration 2.1 sec; Principal axes (scale  $10^{17}$  Nm): (T) Val=-6.23, Plg=72, Azm=288; (N) Val=0.88, Plg=5, Azm=34; (P) Val=-7.11, Plg=17, Azm=125; Best double couple: Mo= $6.7 \times 10^{17}$  Nm; NP1: Strike=223, Dip=28, Slip=101; NP2: Strike=31, Dip=63, Slip=84.

28 11 44 47.4? 37.23 S 177.22 E 100 G 4.7 1.1 7 OFF E. COAST OF N. ISLAND, N.Z.

28 12 43 19.0\* 39.105 N 118.882 E 33 N 3.5 0.5 6 NORTHEASTERN CHINA. ML 3.9 (BJI).

28 12 57 18.6 38.075 N 48.050 E 10 G 5.5 6.1 1.1 315 ARMENIA-AZERBAIJAN-IRAN BORD REG. Mw 6.1 (HRV), 6.0 (GS). At least 1,100 people killed, 2,600 injured, 36,000 homeless, 12,000 houses damaged or destroyed and 160,000 livestock killed in the Ardabil region of northwestern Iran. Severe damage to roads, electrical power lines, communications and water distribution systems in that area.

Moment Tensor (GS): Dep 23; Principal axes (scale  $10^{17}$  Nm): (T) Val=-9.94, Plg=22, Azm=45; (N) Val=0.02, Plg=68, Azm=220; (P) Val=-9.96, Plg=2, Azm=314; Best double couple: Mo= $1.0 \times 10^{18}$  Nm; NP1: Strike=87, Dip=73, Slip=165; NP2: Strike=182, Dip=76, Slip=17.

Centroid, Moment Tensor (HRV): Centroid origin time 12:57:24.0; Lat 38.30 N; Lon 48.06 E; Dep 15.0 Fix; Half-duration 2.8 sec; Principal axes (scale  $10^{18}$  Nm): (T) Val=-1.62, Plg=13, Azm=50; (N) Val=0.24, Plg=54, Azm=301; (P) Val=-1.85, Plg=33, Azm=149; Best double couple: Mo= $1.7 \times 10^{18}$  Nm; NP1: Strike=184, Dip=57, Slip=-15; NP2: Strike=283, Dip=77, Slip=-146.

28 13 33 37.7 10.307 N 126.239 E 33 N 5.1 5.0 0.9 40 PHILIPPINE ISLANDS REGION

28 13 35 27.5\* 37.486 N 1.915 W 10 G 0.8 14 SPAIN. mbLg 3.1 (MDD).

28 13 38 46.2\* 10.301 N 121.776 E 33 N 4.8 0.9 21 PANAY, PHILIPPINE ISLANDS

28 13 41 31.1? 37.13 S 179.23 E 100 G 0.5 5 OFF E. COAST OF N. ISLAND, N.Z.

28 13 55 57.1\* 37.831 N 47.873 E 10 G 4.5 0.9 23 NORTHWESTERN IRAN. Felt in the Ardabil region.

28 13 59 20.8? 29.83 N 68.05 E 33 N 3.8 0.6 7 PAKISTAN

28 14 18 03.3 6.924 S 155.824 E 50 G 4.9 4.8 1.0 36 SOLOMON ISLANDS

28 14 28 51.4\* 36.091 S 52.721 E 10 G 4.9 0.9 23 SOUTHWEST INDIAN RIDGE

28 14 46 40.3\* 29.361 N 68.317 E 33 N 3.5 0.9 8 PAKISTAN

28 14 54 16.2 15.337 S 173.597 W 100 G 4.9 1.0 96 TONGA ISLANDS

28 15 14 58.1\* 29.831 N 68.212 E 33 N 3.6 0.5 7 PAKISTAN

28 15 17 25.7 29.638 N 68.281 E 33 N 4.1 0.9 20 PAKISTAN

28 15 28 57.3\* 6.153 S 154.872 E 100 G 4.5 0.8 10 SOLOMON ISLANDS

28 15 49 42.2 7.018 S 150.331 E 33 N 4.6 0.8 24 NEW BRITAIN REGION, P.N.G.

28 16 00 20.3\* 18.152 S 177.917 W 600 G 4.9 1.2 41 FIJI ISLANDS REGION

28 16 14 37.2 30.083 N 67.906 E 33 N 4.3 0.8 21 PAKISTAN

28 16 38 04.4\* 13.774 N 143.476 E 33 N 3.8 0.9 10 SOUTH OF MARIANA ISLANDS

28 19 11 09.6 4.976 S 153.052 E 100 G 4.6 1.1 37 NEW IRELAND REGION, P.N.G.

28 19 27 35.3\* 21.594 N 143.161 E 302 \* 3.9 0.9 24 MARIANA ISLANDS REGION

28 19 40 09.8\* 60.585 N 150.630 W 36 88 KENAI PENINSULA, ALASKA. <AEIC>. ML 3.3 (AEIC), 3.5 (PMR).

28 19 43 40.8? 30.08 N 67.87 E 33 N 3.4 1.3 6 PAKISTAN

28 19 46 35.6 35.301 N 140.486 E 31 0.9 19 NEAR EAST COAST OF HONSHU, JAPAN

28 20 20 10.8? 5.82 S 149.61 E 150 G 4.2 1.4 8 NEW BRITAIN REGION, P.N.G.

28 20 29 39.8? 36.94 S 178.16 E 100 G 4.4 1.4 12 OFF E. COAST OF N. ISLAND, N.Z.

28 20 32 11.9\* 44.391 N 7.393 E 10 G 0.3 5 NORTHERN ITALY. ML 1.8 (GEN).

28 20 37 01.2? 30.19 N 67.80 E 33 N 1.0 9 PAKISTAN

28 20 48 16.5\* 36.581 N 4.344 W 89 ? 0.5 11 STRAIT OF GIBRALTAR

28 20 55 09.7\* 37.922 N 47.987 E 10 G 4.2 1.1 15 NORTHWESTERN IRAN. Felt in the Ardabil region.

28 21 12 10.7\* 29.707 N 68.511 E 33 N 4.4 0.9 13 PAKISTAN

28 21 46 20.4\* 38.045 N 47.803 E 10 G 3.9 1.1 17 NORTHWESTERN IRAN. Felt in the Ardabil region.

28 21 54 46.6\* 40.666 N 29.174 E 10 G 0.7 5 TURKEY. MD 2.7 (ISK).

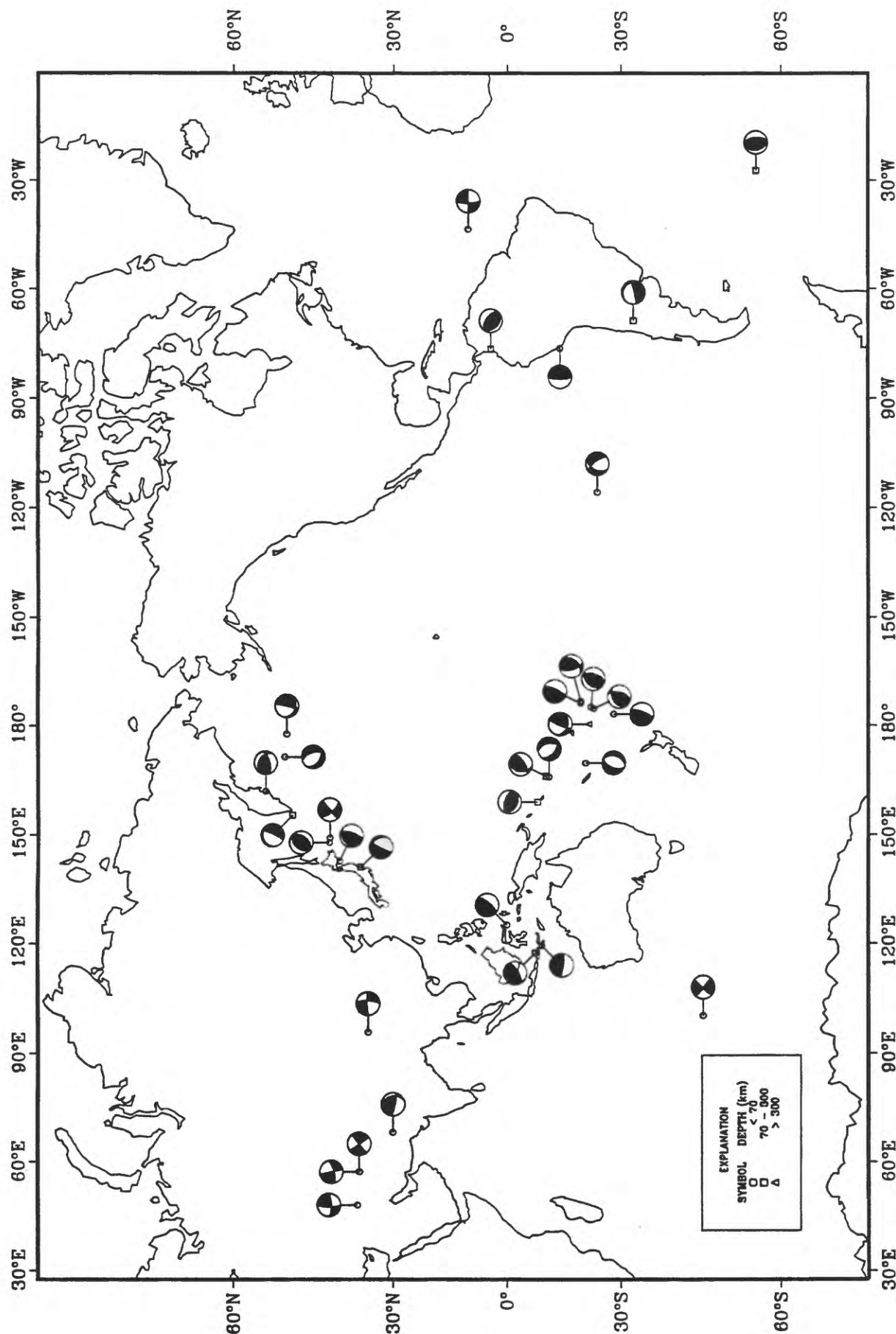
28 22 15 01.9 29.979 N 68.167 E 33 N 4.3 0.9 36 PAKISTAN

28 22 41 26.6\* 16.982 S 176.721 E 33 N 4.2 1.5 12 FIJI ISLANDS REGION

28 22 58 48.1 30.076 N 68.128 E 33 N 4.4 1.0 49 PAKISTAN

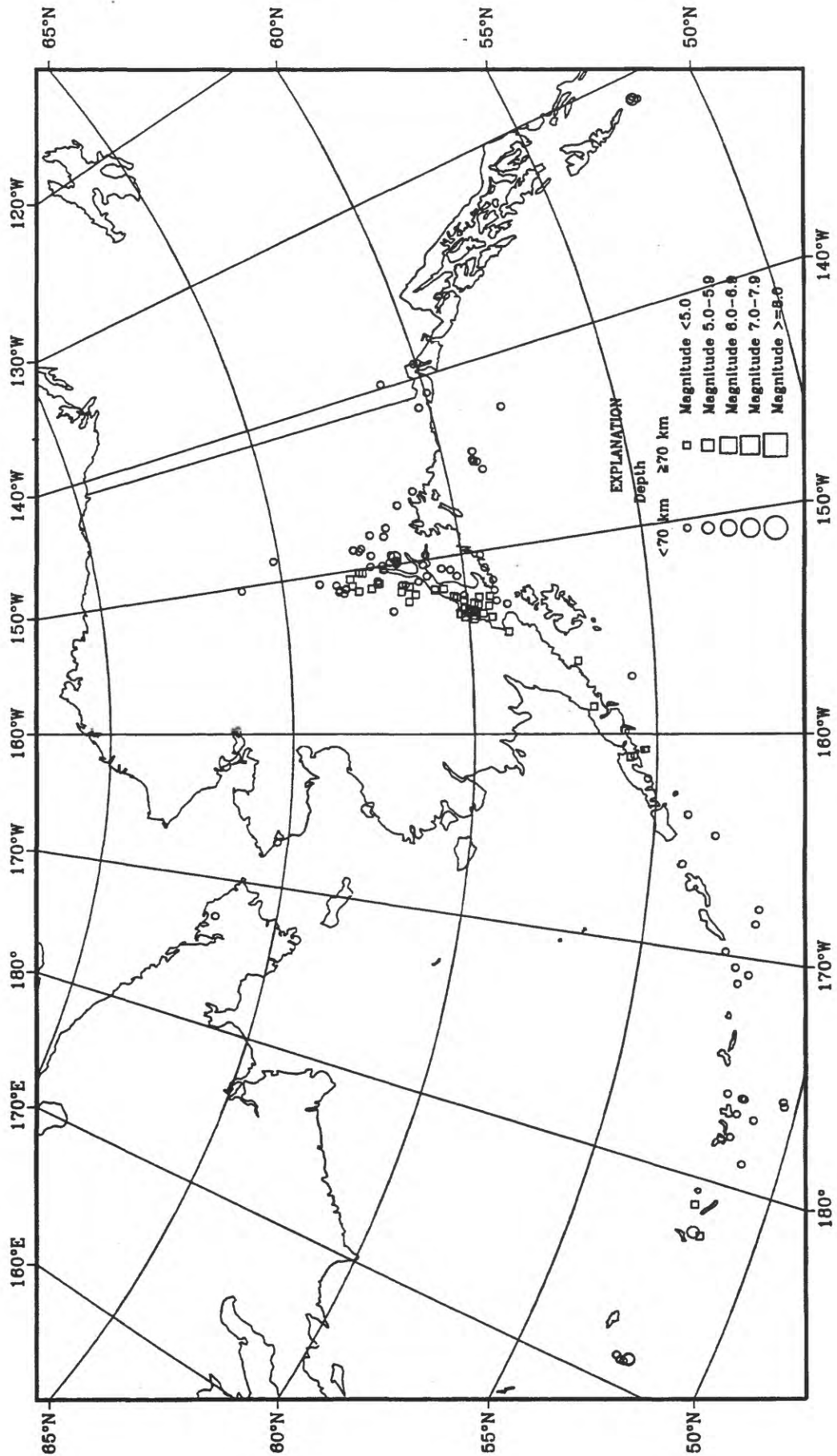
28 23 08 46.8\* 32.423 N 118.149 W 6 G 2 OFF COAST OF CALIFORNIA. <PAS-P>. MD 2.8 (PAS).

# Earthquake Focal Mechanisms for February 1997

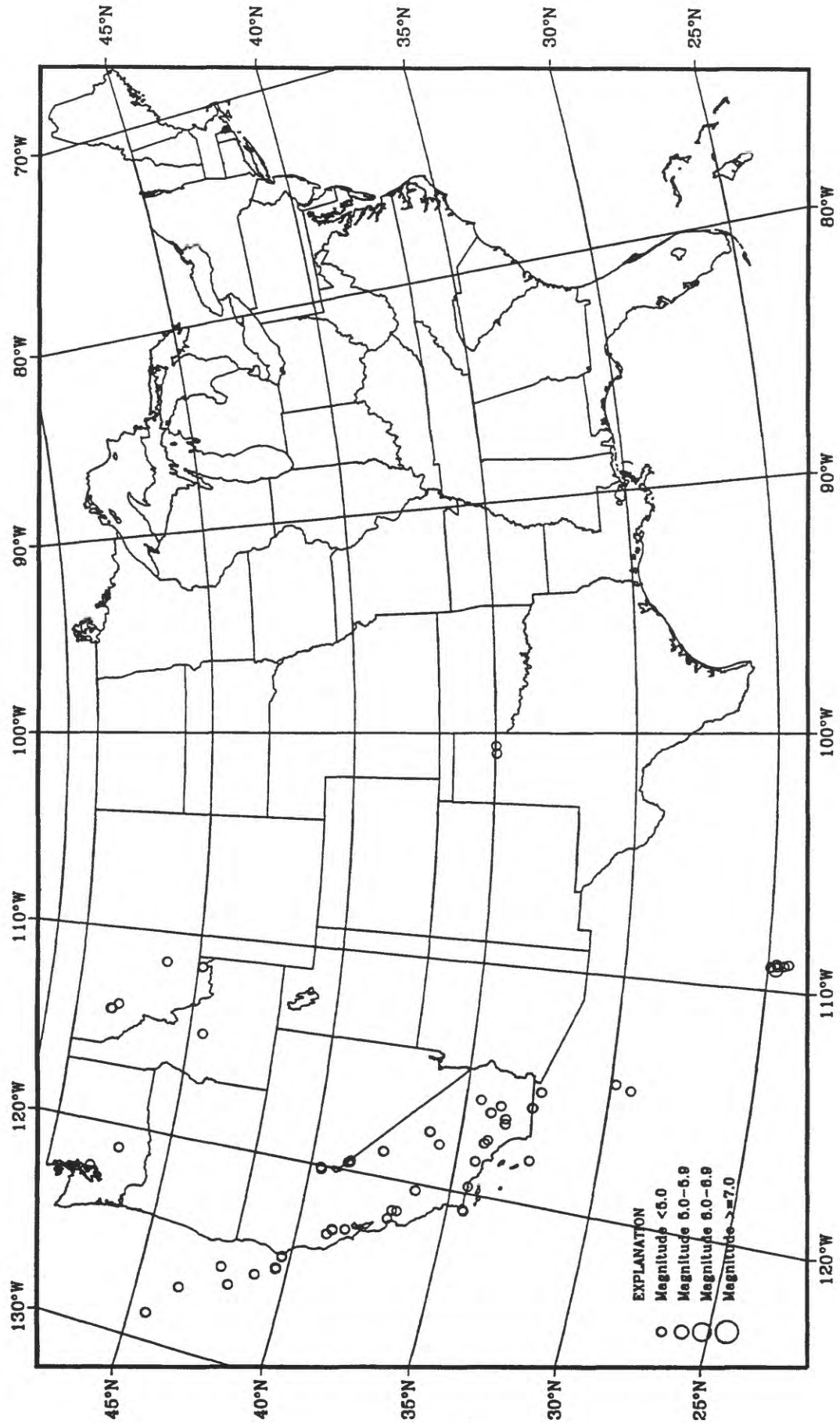




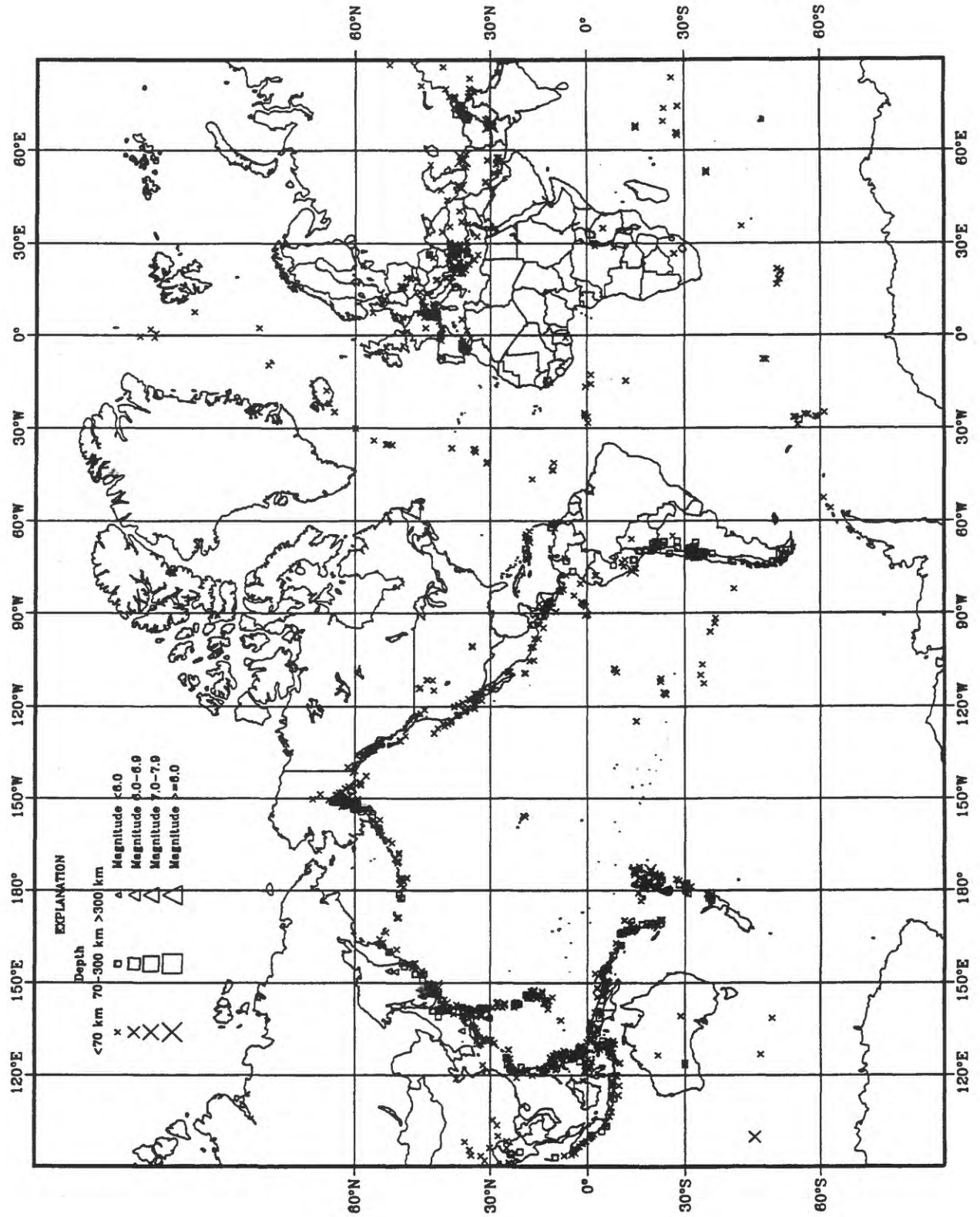
# Earthquake epicenters in Alaska and adjacent regions for February 1997



# Earthquake epicenters in the conterminous United States and adjacent regions for February 1997



# Earthquakes located worldwide in February 1997





# PRELIMINARY DETERMINATION OF EPICENTERS

## MONTHLY LISTING

U.S. DEPARTMENT OF THE INTERIOR / GEOLOGICAL SURVEY

National Earthquake Information Center

MARCH 1997

| ORIGIN TIME   |    |     |      | GEOGRAPHIC  |           | DEPTH |   | MAGNITUDE | SD  | NO.  | REGION, CONTRIBUTED MAGNITUDES AND COMMENTS  |  |  |
|---|----|-----|------|-------------|-----------|-------|---|-----------|-----|------|--|--|--|
| UTC   |    |     |      | COORDINATES |           |       |   | GS        |     | STA  |  |  |  |
| DAY   | HR | MIN | SEC  | LAT         | LONG      |       |   | MB        | MsZ | USED |  |  |  |
| 01  | 00 | 42  | 07.9 | 29.540 N    | 68.354 E  | 33    | N | 4.8       | 1.1 | 102  | PAKISTAN   |  |  |
| 01  | 00 | 45  | 41.4 | 37.014 N    | 4.218 W   | 5     | G |           | 0.6 | 5    | SPAIN. mbLg 2.3 (MDD).   |  |  |
| 01  | 00 | 57  | 07.3 | 29.57 N     | 68.26 E   | 33    | N | 3.8       | 1.8 | 8    | PAKISTAN   |  |  |
| 01  | 01 | 03  | 47.1 | 32.767 S    | 70.231 W  | 110   | G |           | 0.3 | 10   | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).   |  |  |
| 01  | 01 | 14  | 31.2 | 33.006 S    | 68.862 W  | 5     | G |           | 0.6 | 11   | MENDOZA PROVINCE, ARGENTINA. MD 4.0 (SAN).   |  |  |
| 01  | 01 | 22  | 13.7 | 44.795 N    | 10.566 E  | 10    | G |           | 0.9 | 19   | NORTHERN ITALY. ML 2.8 (LDG), 2.8 (VIE).   |  |  |
| 01  | 01 | 35  | 51.1 | 30.018 N    | 67.846 E  | 33    | N | 3.9       | 0.9 | 11   | PAKISTAN   |  |  |
| 01  | 01 | 39  | 08.4 | 29.882 N    | 67.964 E  | 33    | N | 4.1       | 0.8 | 12   | PAKISTAN   |  |  |
| 01  | 02 | 06  | 27.2 | 30.126 N    | 67.992 E  | 33    | N | 4.1       | 1.3 | 14   | PAKISTAN   |  |  |
| 01  | 02 | 16  | 55.7 | 34.159 N    | 26.163 E  | 33    | N | 4.1       | 1.2 | 70   | CRETE  |  |  |
| 01  | 02 | 36  | 15.5 | 29.995 N    | 67.682 E  | 33    | N | 3.6       | 1.8 | 8    | PAKISTAN   |  |  |
| 01  | 03 | 31  | 01.4 | 43.047 N    | 0.456 W   | 5     | G |           | 1.1 | 9    | PYRENEES. ML 1.8 (LDG), 1.3 (STR).   |  |  |
| 01  | 03 | 41  | 46.7 | 36.030 S    | 177.684 E | 100   | G | 4.4       | 0.7 | 10   | OFF E. COAST OF N. ISLAND, N.Z.  |  |  |
| 01  | 03 | 45  | 52.8 | 43.042 N    | 0.445 W   | 5     | G |           | 1.0 | 10   | PYRENEES. ML 1.9 (LDG), 1.3 (STR).   |  |  |
| 01  | 04 | 16  | 25.0 | 30.546 N    | 68.011 E  | 33    | N | 3.9       | 1.4 | 17   | PAKISTAN. Felt at Sibi.  |  |  |
| 01  | 04 | 25  | 07.9 | 37.23 S     | 177.45 E  | 100   | G | 4.7       | 1.4 | 11   | OFF E. COAST OF N. ISLAND, N.Z.  |  |  |
| 01  | 04 | 25  | 26.1 | 39.568 N    | 77.046 E  | 33    | N | 4.5       | 0.7 | 45   | SOUTHERN XINJIANG, CHINA   |  |  |
| 01  | 05 | 35  | 51.3 | 29.90 N     | 68.19 E   | 33    | N | 3.8       | 1.2 | 10   | PAKISTAN   |  |  |
| 01  | 06 | 03  | 08.3 | 32.22 S     | 71.61 W   | 20    | G |           | 0.7 | 10   | NEAR COAST OF CENTRAL CHILE. MD 3.8 (SAN).   |  |  |
| 01  | 06 | 04  | 14.1 | 39.422 N    | 76.839 E  | 22    | D | 5.2 5.5   | 1.1 | 246  | SOUTHERN XINJIANG, CHINA. Mw 5.6 (HRV). Two people killed, six injured, 4,000 houses destroyed and 738 cattle killed in Jiashi County. Also felt at Kashi. |  |  |
| Centroid, Moment Tensor (HRV): Centroid origin time 06:04:19.4; Lat 39.40 N; Lon 76.89 E; Dep 22.0 Fix; Half-duration 1.6 sec; Principal axes (scale 10**17 Nm): (T) Val=3.79, Plg=2, Azm=135; (N) Val=-0.89, Plg=78, Azm=233; (P) Val=-2.90, Plg=12, Azm=44; Best double couple: Mc=3.3*10**17 Nm; NP1: Strike=180, Dip=80, Slip=-173; NP2: Strike=89, Dip=83, Slip=-10. |    |     |      |             |           |       |   |           |     |      |  |  |  |
| 01  | 06 | 15  | 58.6 | 39.501 N    | 77.076 E  | 33    | N |           | 0.7 | 10   | SOUTHERN XINJIANG, CHINA   |  |  |
| 01  | 06 | 28  | 33.2 | 63.260 N    | 151.034 W | 10    |   |           |     | 65   | CENTRAL ALASKA. <AEIC>. ML 2.9 (AEIC), 3.2 (PMR).  |  |  |
| 01  | 06 | 31  | 27.1 | 29.806 N    | 68.041 E  | 33    | N | 4.1       | 1.1 | 22   | PAKISTAN   |  |  |
| 01  | 06 | 38  | 48.2 | 37.22 S     | 176.97 E  | 33    | N | 4.6       | 1.4 | 10   | NORTH ISLAND, NEW ZEALAND  |  |  |
| 01  | 06 | 45  | 14.9 | 51.448 N    | 178.542 W | 33    | N | 4.8       | 1.0 | 102  | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.9 (PMR).  |  |  |
| 01  | 07 | 04  | 08.8 | 42.854 N    | 1.832 W   | 10    | G |           | 0.9 | 27   | PYRENEES. mbLg 3.4 (MDD). ML 2.9 (LDG), 2.7 (STR).   |  |  |
| 01  | 07 | 44  | 31.5 | 29.881 N    | 67.985 E  | 33    | N | 4.4       | 1.1 | 25   | PAKISTAN   |  |  |
| 01  | 07 | 55  | 24.8 | 30.126 N    | 67.872 E  | 33    | N | 3.7       | 1.0 | 12   | PAKISTAN   |  |  |
| 01  | 07 | 59  | 52.5 | 36.409 S    | 176.932 E | 400   | G | 4.2       | 1.0 | 10   | OFF E. COAST OF N. ISLAND, N.Z.  |  |  |
| 01  | 08 | 13  | 32.8 | 29.585 N    | 68.324 E  | 33    | N | 4.3       | 0.9 | 20   | PAKISTAN   |  |  |
| 01  | 08 | 25  | 36.1 | 30.420 N    | 67.419 E  | 33    | N | 4.3       | 1.2 | 10   | PAKISTAN   |  |  |
| 01  | 08 | 30  | 24.1 | 44.609 N    | 9.480 E   | 10    | G |           | 0.7 | 19   | NORTHERN ITALY. ML 2.4 (GEN), 2.3 (LDG).   |  |  |
| 01  | 08 | 43  | 13.6 | 58.900 S    | 16.756 W  | 10    | G | 4.7       | 0.8 | 23   | SOUTHWESTERN ATLANTIC OCEAN  |  |  |
| 01  | 09 | 10  | 26.2 | 29.97 N     | 68.17 E   | 33    | N | 3.9       | 1.1 | 11   | PAKISTAN   |  |  |
| 01  | 09 | 13  | 31.5 | 30.452 S    | 178.011 W | 72    | D | 4.6       | 0.9 | 17   | KERMADEC ISLANDS, NEW ZEALAND  |  |  |
| 01  | 09 | 15  | 23.8 | 30.746 N    | 67.845 E  | 33    | N | 3.8       | 0.7 | 11   | PAKISTAN   |  |  |
| 01  | 09 | 35  | 11.1 | 39.674 N    | 76.649 E  | 33    | N | 4.4       | 1.1 | 22   | SOUTHERN XINJIANG, CHINA   |  |  |
| 01  | 10 | 03  | 58.9 | 43.019 N    | 0.137 E   | 10    | G |           | 0.6 | 6    | FRANCE. ML 2.2 (LDG).  |  |  |
| 01  | 10 | 05  | 17.3 | 40.05 N     | 30.41 E   | 5     | G |           | 0.7 | 5    | TURKEY. MD 3.1 (ISK).  |  |  |
| 01  | 10 | 19  | 14.2 | 17.323 S    | 178.592 W | 400   | G | 4.7       | 1.3 | 34   | FIJI ISLANDS REGION  |  |  |
| 01  | 10 | 53  | 00.6 | 15.053 S    | 76.040 W  | 33    | N | 4.1       | 1.3 | 16   | OFF COAST OF PERU  |  |  |
| 01  | 10 | 57  | 31.6 | 14.89 N     | 94.94 W   | 33    | N | 3.9       | 1.5 | 8    | OFF COAST OF CHIAPAS, MEXICO   |  |  |
| 01  | 11 | 23  | 20.1 | 44.433 N    | 7.052 E   | 10    | G |           | 0.7 | 38   | NORTHERN ITALY. ML 2.7 (GEN), 2.7 (LDG), 2.5 (STR).  |  |  |
| 01  | 11 | 59  | 24.1 | 14.85 S     | 179.30 W  | 500   | G | 4.5       | 0.3 | 10   | FIJI ISLANDS REGION  |  |  |
| 01  | 12 | 00  | 11.1 | 32.002 S    | 70.814 W  | 90    | G |           | 0.5 | 11   | CHILE-ARGENTINA BORDER REGION. MD 3.5 (SAN).   |  |  |
| 01  | 12 | 03  | 24.2 | 40.97 N     | 113.51 E  | 10    | G |           | 0.4 | 5    | NORTHEASTERN CHINA   |  |  |
| 01  | 12 | 13  | 56.5 | 51.640 N    | 16.157 E  | 5     | G |           | 0.8 | 36   | POLAND. ML 4.0 (GRF), 3.7 (VIE), 3.7 (FUR), 3.3 (CLL).   |  |  |
| 01  | 13 | 09  | 41.5 | 60.529 N    | 152.110 W | 83    |   | 2.9       |     | 34   | SOUTHERN ALASKA. <AEIC>.   |  |  |
| 01  | 13 | 16  | 45.6 | 19.19 N     | 144.96 E  | 33    | N | 3.6       | 0.7 | 7    | MARIANA ISLANDS  |  |  |
| 01  | 13 | 17  | 42.7 | 29.925 N    | 68.084 E  | 33    | N | 3.6       | 1.1 | 11   | PAKISTAN   |  |  |
| 01  | 13 | 46  | 58.2 | 29.95 N     | 68.02 E   | 33    | N |           | 1.6 | 5    | PAKISTAN   |  |  |
| 01  | 13 | 52  | 46.0 | 42.608 N    | 17.725 E  | 10    | G | 3.2       | 0.9 | 18   | ADRIATIC SEA   |  |  |



|   |         |   |
|---|---------|---|
| 01 13 58 39.77 36.75 S 177.35 E 33 N 4.7      | 1.7 10  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 01 14 02 47.3* 32.199 N 140.147 E 102 D 4.4   | 1.3 32  | SOUTH OF HONSHU, JAPAN  |
| 01 14 17 30.0* 36.765 N 6.723 W 10 G          | 0.7 14  | STRAIT OF GIBRALTAR. mbLg 3.0 (MDD).  |
| 01 14 27 51.97 40.65 N 30.45 E 5 G            | 0.2 5   | TURKEY. MD 3.1 (ISK).   |
| 01 15 33 22.66 60.022 N 152.888 W 118         | 13      | SOUTHERN ALASKA. <AEIC>.  |
| 01 16 38 31.37 29.81 N 68.48 E 33 N 3.6       | 1.7 6   | PAKISTAN  |
| 01 17 29 27.3* 62.476 N 26.016 W 10 G 4.2     | 1.3 18  | ICELAND REGION  |
| 01 17 52 06.9 39.340 N 76.786 E 33 N 4.4      | 1.2 20  | SOUTHERN XINJIANG, CHINA  |
| 01 17 58 55.0* 36.879 N 121.616 W 7           | 8       | CENTRAL CALIFORNIA. <GM-P>. MD 2.8 (GM).  |
| 01 18 33 25.7* 37.055 N 3.863 W 10 G          | 0.7 9   | SPAIN. mbLg 2.8 (MDD).  |
| 01 19 02 47.7* 30.03 N 67.75 E 33 N 3.6       | 1.4 8   | PAKISTAN  |
| 01 19 02 48.9* 5.474 N 126.444 E 102 * 4.4    | 1.4 25  | MINDANAO, PHILIPPINE ISLANDS  |
| 01 19 05 01.4* 16.261 N 94.737 W 76 D 4.4     | 1.2 33  | OAXACA, MEXICO  |
| 01 19 20 39.5* 61.592 N 150.100 W 44          | 88      | SOUTHERN ALASKA. <AEIC>. ML 3.7 (AEIC), 3.8 (PMR). Felt at Willow.  |
| 01 19 26 05.4 45.779 N 26.602 E 115 4.0       | 0.9 44  | ROMANIA. Felt slightly at Bucharest.  |
| 01 20 21 44.0* 40.439 N 29.099 E 5 G          | 0.4 5   | TURKEY. MD 3.0 (ISK).   |
| 01 20 23 32.3 29.854 N 68.090 E 33 N 4.3      | 1.1 33  | PAKISTAN  |
| 01 20 41 58.07 36.26 S 177.88 E 33 N 4.5      | 0.5 9   | OFF E. COAST OF N. ISLAND, N.Z.   |
| 01 21 23 52.6 29.997 N 68.231 E 33 N 4.2      | 0.9 28  | PAKISTAN  |
| 01 21 38 19.3 32.831 S 70.746 W 80 G          | 0.3 11  | CHILE-ARGENTINA BORDER REGION. MD 4.0 (SAN).  |
| 01 21 41 47.8 50.469 N 19.144 E 5 G           | 1.3 11  | POLAND. MG 2.9 (WAR).   |
| 01 21 55 56.9* 35.93 S 178.01 E 33 N 4.3      | 0.3 7   | OFF E. COAST OF N. ISLAND, N.Z.   |
| 01 22 13 59.9* 59.609 N 152.967 W 109 4.2     | 131     | SOUTHERN ALASKA. <AEIC>.  |
| 01 22 15 25.3 43.065 N 0.596 W 5 G            | 0.5 9   | PYRENEES. ML 1.9 (LDG), 1.3 (STR).  |
| 01 23 01 01.9 44.824 N 10.631 E 10 G          | 1.2 62  | NORTHERN ITALY. ML 3.1 (LDG), 3.1 (FUR), 3.0 (VIE), 2.8 (STR).  |
| 01 23 09 44.3* 36.738 N 3.024 W 10 G          | 1.1 13  | STRAIT OF GIBRALTAR. mbLg 2.7 (MDD).  |
| 01 23 13 46.6* 6.702 N 127.684 E 33 N 4.3     | 1.3 7   | PHILIPPINE ISLANDS REGION   |
| 01 23 17 12.4* 61.496 N 152.036 W 9           | 55      | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC).   |
| 02 00 31 28.4* 11.422 N 62.310 W 100 G        | 1.0 9   | WINDWARD ISLANDS  |
| 02 01 04 15.9 44.001 N 147.850 E 33 N 5.2 4.2 | 0.9 193 | KURIL ISLANDS   |
| 02 01 58 55.3 44.633 N 9.355 E 10 G           | 0.5 31  | NORTHERN ITALY. ML 2.6 (GEN), 2.5 (LDG).  |
| 02 03 09 21.97 30.65 N 69.71 E 33 N 3.5       | 1.1 5   | PAKISTAN  |
| 02 03 58 25.0* 29.656 N 68.116 E 33 N 4.3     | 0.9 28  | PAKISTAN. Felt in the Sibi area.  |
| 02 04 02 59.6* 63.016 N 148.755 W 74          | 70      | CENTRAL ALASKA. <AEIC>.   |
| 02 04 34 18.3* 39.337 N 27.976 E 5 G          | 0.6 7   | TURKEY. MD 3.2 (ISK).   |
| 02 04 38 09.9 38.670 N 25.553 E 10 G 3.5      | 1.1 19  | AEGEAN SEA. MD 3.8 (ISK).   |
| 02 05 26 10.5 8.324 S 121.686 E 10 G 4.7      | 1.2 25  | FLORES REGION, INDONESIA  |
| 02 05 27 10.8 29.783 N 68.229 E 33 N 4.3      | 1.0 36  | PAKISTAN  |
| 02 06 12 10.97 36.23 S 176.97 E 33 N 4.8      | 1.5 10  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 02 06 17 13.7* 36.259 S 177.561 E 300 G 4.1   | 0.6 11  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 02 06 27 49.77 32.15 S 70.18 W 100 G          | 0.3 10  | CHILE-ARGENTINA BORDER REGION. MD 2.9 (SAN).  |
| 02 08 28 32.7* 38.989 N 2.888 W 10 G          | 0.6 9   | SPAIN. mbLg 3.0 (MDD).  |
| 02 08 29 34.2* 61.226 N 148.519 W 29          | 73      | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC), 3.3 (PMR).  |
| 02 08 43 52.3* 29.906 N 68.157 E 33 N 3.6     | 1.1 17  | PAKISTAN  |
| 02 08 46 23.5* 23.363 S 179.809 E 600 G 4.5   | 0.6 16  | SOUTH OF FIJI ISLANDS   |
| 02 09 37 37.7* 30.935 N 67.896 E 33 N         | 1.2 9   | PAKISTAN  |
| 02 10 34 11.27 11.09 N 62.50 W 100 G 3.4      | 1.3 10  | WINDWARD ISLANDS  |
| 02 11 19 16.7* 33.374 S 69.832 W 10 G         | 0.2 10  | CHILE-ARGENTINA BORDER REGION   |
| 02 12 01 40.0* 39.583 N 142.215 E 87 *        | 0.6 8   | NEAR EAST COAST OF HONSHU, JAPAN  |
| 02 12 01 48.5* 29.845 N 68.071 E 33 N 3.9     | 1.1 15  | PAKISTAN  |
| 02 12 05 40.6* 31.44 S 71.94 W 10 G           | 0.2 11  | NEAR COAST OF CENTRAL CHILE. MD 4.3 (SAN).  |
| 02 12 33 07.0* 29.547 N 68.261 E 33 N 3.6     | 0.5 8   | PAKISTAN  |
| 02 12 46 01.0 13.307 N 124.707 E 33 N 4.8 4.1 | 1.0 34  | LUZON, PHILIPPINE ISLANDS   |
| 02 12 54 04.4* 39.13 N 27.56 E 5 G            | 0.5 4   | TURKEY. MD 2.9 (ISK).   |
| 02 14 01 40.9 17.895 N 145.913 E 131 D 5.1    | 1.0 121 | MARIANA ISLANDS   |
| 02 14 32 11.07 36.99 S 176.99 E 350 G 4.2     | 1.1 13  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 02 14 34 28.7* 36.566 S 177.322 E 300 G 4.6   | 1.0 20  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 02 14 59 58.1* 39.669 N 29.093 E 10 G         | 0.5 9   | TURKEY. MD 3.3 (ISK).   |
| 02 16 23 36.2* 36.594 S 177.417 E 300 G 4.4   | 1.0 17  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 02 16 24 49.9 44.808 N 7.635 E 20 G           | 0.8 53  | NORTHERN ITALY. ML 3.0 (GEN), 3.0 (LDG), 2.6 (STR).   |
| 02 16 37 22.4* 22.239 N 142.387 E 337 * 4.0   | 0.6 11  | VOLCANO ISLANDS REGION  |
| 02 16 39 08.7 44.237 N 6.279 E 5 G            | 0.6 41  | FRANCE. ML 2.5 (LDG), 2.4 (STR).  |
| 02 16 48 30.2* 44.250 N 6.231 E 5 G           | 0.4 7   | FRANCE. ML 1.8 (LDG).   |
| 02 17 00 23.5* 44.203 N 6.193 E 5 G           | 0.2 5   | FRANCE. ML 1.7 (LDG).   |
| 02 17 02 58.3 5.695 S 151.968 E 33 N 4.9      | 0.9 28  | NEW BRITAIN REGION, P.N.G.  |
| 02 17 13 07.0* 44.191 N 6.261 E 5 G           | 0.5 9   | FRANCE. ML 1.9 (LDG).   |
| 02 17 18 26.3* 44.240 N 6.214 E 5 G           | 0.7 9   | FRANCE. ML 1.9 (LDG).   |
| 02 17 26 32.6* 44.240 N 6.163 E 5 G           | 0.3 6   | FRANCE. ML 1.9 (LDG).   |
| 02 17 39 22.0 53.543 N 166.593 W 57 D 5.4     | 1.0 298 | FOX ISLANDS, ALEUTIAN ISLANDS. Mw 5.2 (HRV). ML 5.5 (PMR). Felt (IV) at Unalaska. Also felt in the Dutch Harbor area. Centroid, Moment Tensor (HRV): Centroid origin time 17:39:21.0; Lat 53.23 N; Lon 166.06 W; Dep 74.0; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=7.19, Plg=77, Azm=148; (N) Val=-0.15, Plg=12, Azm=311; (P) Val=-7.04, Plg=3, Azm=42; Best double couple: Mo=7.1*10**16 Nm; NPl: Strike=144, Dip=43, Slip=108; NP2: Strike=301, Dip=50, Slip=74. |
| 02 17 48 18.9* 44.254 N 6.251 E 5 G           | 0.2 7   | FRANCE. ML 2.0 (LDG).   |
| 02 18 29 42.5 37.864 N 47.865 E 10 G 5.1 4.6  | 1.1 191 | NORTHWESTERN IRAN. Mw 5.3 (HRV). Additional damage to buildings in the Ardabil region. Centroid, Moment Tensor (HRV): Centroid origin time 18:29:44.6; Lat 37.86 N Fix; Lon 47.87 E Fix; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**17 Nm): (T) Val=0.99, Plg=33, Azm=52; (N) Val=0.28, Plg=41, Azm=287; (P) Val=-1.27, Plg=31, Azm=166; Best double couple: Mo=1.1*10**17 Nm; NPl: Strike=200, Dip=41, Slip=2; NP2: Strike=108, Dip=89, Slip=131.                      |
| 02 18 38 46.4* 39.998 N 76.041 E 33 N 4.3     | 1.5 20  | SOUTHERN XINJIANG, CHINA  |
| 02 19 02 27.4* 36.73 S 177.19 E 300 G 4.3     | 0.9 15  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 02 19 18 47.4* 58.728 N 158.833 W 2           | 24      | BRISTOL BAY. <AEIC>. ML 3.3 (AEIC).   |
| 02 19 24 11.4* 36.79 S 177.23 E 300 G 4.3     | 1.1 12  | OFF E. COAST OF N. ISLAND, N.Z.   |

|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 02 | 19 | 50 | 38.4  | 44.248 | N | 6.263   | E | 5   | G |         | 0.8 | 42  | FRANCE. ML 2.7 (GEN), 2.5 (LDG), 2.4 (STR).  |
| 02 | 20 | 07 | 25.5? | 36.43  | S | 177.50  | E | 300 | G | 4.6     | 1.3 | 17  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 02 | 20 | 39 | 15.7? | 64.27  | N | 166.54  | W | 10  | G |         | 0.8 | 8   | NORTHERN ALASKA. ML 3.7 (PMR).   |
| 02 | 20 | 52 | 12.5* | 9.957  | N | 57.295  | E | 10  | G | 4.4 4.4 | 1.1 | 13  | CARLSBERG RIDGE  |
| 02 | 21 | 11 | 13.0* | 4.893  | S | 152.309 | E | 80  | ? | 4.1     | 0.7 | 14  | NEW BRITAIN REGION, P.N.G.   |
| 02 | 21 | 38 | 03.2* | 51.044 | N | 158.625 | E | 49  | D | 3.4     | 0.9 | 17  | NEAR EAST COAST OF KAMCHATKA   |
| 02 | 22 | 00 | 51.5* | 6.933  | N | 123.923 | E | 600 | G | 4.8     | 0.4 | 12  | MINDANAO, PHILIPPINE ISLANDS   |
| 02 | 22 | 24 | 18.4? | 32.63  | S | 178.18  | W | 33  | N | 4.9     | 0.9 | 13  | SOUTH OF KERMADec ISLANDS  |
| 02 | 23 | 00 | 29.7? | 63.006 | N | 149.110 | W | 74  |   |         |     | 90  | CENTRAL ALASKA. <AEIC>.  |
| 02 | 23 | 28 | 46.7? | 63.365 | N | 145.211 | W | 2   |   |         |     | 36  | CENTRAL ALASKA. <AEIC>. ML 2.6 (AEIC).   |
| 02 | 23 | 54 | 26.5? | 29.703 | N | 68.306  | E | 33  | N |         | 1.3 | 12  | PAKISTAN   |
| 02 | 23 | 59 | 14.9? | 40.732 | N | 29.754  | E | 5   | G |         | 0.6 | 5   | TURKEY. MD 2.7 (ISK).  |
| 03 | 00 | 43 | 44.1* | 19.415 | N | 145.222 | E | 110 | D |         | 1.0 | 11  | MARIANA ISLANDS  |
| 03 | 00 | 44 | 13.4? | 36.41  | S | 178.35  | E | 33  | N | 4.8     | 0.8 | 10  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 03 | 01 | 15 | 15.0? | 43.80  | N | 6.90    | E | 5   | G |         | 0.1 | 4   | NEAR SOUTH COAST OF FRANCE. ML 2.2 (LDG).  |
| 03 | 01 | 39 | 46.1  | 19.495 | N | 120.238 | E | 33  | N | 5.1 4.6 | 0.9 | 123 | PHILIPPINE ISLANDS REGION. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>01:39:44.9; Lat 19.24 N; Lon 120.30 E; Dep 15.0 Fix; Half-<br>duration 1.0 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.41, Plg=30, Azm=322; (N) Val=0.19, Plg=9, Azm=57; (P)<br>Val=-1.60, Plg=58, Azm=162; Best double couple:<br>Mo=1.5*10**17 Nm; NP1: Strike=25, Dip=17, Slip=-123; NP2:<br>Strike=239, Dip=76, Slip=-80. |
| 03 | 01 | 57 | 55.5? | 24.34  | S | 179.40  | E | 650 | G | 4.5     | 0.6 | 15  | SOUTH OF FIJI ISLANDS  |
| 03 | 02 | 25 | 20.8  | 29.892 | N | 67.983  | E | 33  | N | 4.3     | 1.1 | 39  | PAKISTAN   |
| 03 | 02 | 28 | 33.2  | 29.578 | N | 68.511  | E | 33  | N | 4.7 4.5 | 1.2 | 111 | PAKISTAN. Felt in the Harnai-Sibi area and at Quetta.  |
| 03 | 02 | 31 | 31.1* | 29.602 | N | 68.832  | E | 33  | N | 4.5     | 1.4 | 18  | PAKISTAN   |
| 03 | 02 | 35 | 51.6* | 36.560 | S | 177.576 | E | 200 | G | 4.8     | 1.0 | 18  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 03 | 03 | 20 | 12.0  | 44.358 | N | 147.462 | E | 33  | N | 4.4     | 1.1 | 36  | KURIL ISLANDS  |
| 03 | 03 | 35 | 36.2  | 44.230 | N | 6.212   | E | 5   | G |         | 0.6 | 17  | FRANCE. ML 2.4 (GEN), 2.0 (LDG).   |
| 03 | 03 | 52 | 13.0? | 29.79  | N | 67.96   | E | 33  | N |         | 1.1 | 7   | PAKISTAN   |
| 03 | 04 | 02 | 01.3? | 36.92  | N | 3.95    | W | 10  | G |         | 0.0 | 4   | STRAIT OF GIBRALTAR. mbLg 2.7 (MDD).   |
| 03 | 05 | 02 | 43.5* | 20.608 | S | 179.200 | W | 650 | G | 4.5     | 0.7 | 20  | FIJI ISLANDS REGION  |
| 03 | 05 | 20 | 13.0  | 34.839 | N | 139.198 | E | 28  | D |         | 0.6 | 20  | NEAR S. COAST OF HONSHU, JAPAN   |
| 03 | 05 | 47 | 04.5? | 20.45  | N | 94.33   | W | 10  | G | 3.8     | 0.8 | 5   | BAY OF CAMPECHE  |
| 03 | 05 | 51 | 52.1* | 13.280 | N | 120.936 | E | 150 | G | 4.2     | 1.3 | 8   | MINDORO, PHILIPPINE ISLANDS  |
| 03 | 06 | 13 | 05.4? | 52.96  | N | 174.67  | W | 300 | G | 4.4     | 1.2 | 8   | ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 03 | 06 | 31 | 45.4? | 44.794 | N | 6.672   | E | 10  | G |         | 0.2 | 7   | FRANCE. ML 2.0 (GEN).  |
| 03 | 06 | 38 | 40.7  | 33.591 | N | 71.511  | E | 48  | D | 4.5     | 0.9 | 17  | PAKISTAN   |
| 03 | 06 | 51 | 10.6* | 30.341 | N | 67.959  | E | 33  | N | 3.8     | 0.9 | 8   | PAKISTAN   |
| 03 | 07 | 09 | 08.8? | 24.41  | S | 174.94  | W | 33  | N | 4.5     | 1.1 | 10  | SOUTH OF TONGA ISLANDS   |
| 03 | 07 | 15 | 04.7? | 49.701 | N | 119.678 | W | 5   | G |         |     | 24  | BRITISH COLUMBIA, CANADA. <PGC-P>. ML 2.7 (PGC). MD 2.7<br>(SEA). Felt in the Kelowna-Penticton area.  |
| 03 | 07 | 21 | 47.0  | 44.588 | N | 9.351   | E | 5   | G |         | 0.6 | 32  | NORTHERN ITALY. ML 2.7 (GEN), 2.6 (LDG), 2.4 (STR).  |
| 03 | 07 | 23 | 55.9  | 17.745 | S | 178.239 | W | 650 | G | 4.6     | 0.9 | 105 | FIJI ISLANDS REGION  |
| 03 | 07 | 54 | 17.5* | 42.945 | S | 82.889  | W | 10  | G | 4.7     | 1.0 | 18  | WEST CHILE RISE  |
| 03 | 07 | 55 | 19.7  | 23.304 | N | 143.849 | E | 33  | N |         | 1.0 | 11  | VOLCANO ISLANDS REGION   |
| 03 | 08 | 15 | 28.5? | 2.397  | S | 126.644 | E | 33  | N |         | 0.4 | 7   | CERAM SEA  |
| 03 | 08 | 31 | 26.0* | 1.893  | N | 128.154 | E | 33  | N | 4.5     | 0.9 | 9   | HALMAHERA, INDONESIA   |
| 03 | 08 | 45 | 07.0  | 34.816 | N | 139.112 | E | 10  | G | 3.5     | 1.4 | 22  | NEAR S. COAST OF HONSHU, JAPAN   |
| 03 | 09 | 29 | 39.9* | 27.244 | N | 86.082  | E | 45  | D | 4.7     | 1.1 | 29  | NEPAL  |
| 03 | 09 | 52 | 44.3* | 44.078 | N | 147.730 | E | 100 | G | 4.5     | 0.9 | 9   | KURIL ISLANDS  |
| 03 | 11 | 10 | 57.2  | 34.850 | N | 139.270 | E | 10  | G | 4.8     | 1.0 | 66  | NEAR S. COAST OF HONSHU, JAPAN. Felt (IV JMA) at Ito. Also<br>felt on the Miura Peninsula.   |
| 03 | 11 | 11 | 05.7  | 47.290 | N | 11.035  | E | 10  | G |         | 0.7 | 11  | AUSTRIA. ML 2.5 (FUR), 2.3 (VIE).  |
| 03 | 11 | 39 | 15.0* | 2.747  | S | 102.232 | E | 100 | G | 4.6     | 0.5 | 11  | SOUTHERN SUMATERA, INDONESIA   |
| 03 | 12 | 32 | 08.9? | 31.29  | S | 69.55   | W | 190 | G |         | 0.3 | 10  | SAN JUAN PROVINCE, ARGENTINA. MD 3.4 (SAN).  |
| 03 | 12 | 46 | 56.3* | 20.292 | S | 178.493 | W | 650 | G | 4.2     | 0.4 | 12  | FIJI ISLANDS REGION  |
| 03 | 13 | 01 | 36.4* | 37.602 | N | 57.348  | E | 10  | G | 4.1     | 1.3 | 28  | TURKMENISTAN-IRAN BORDER REGION. Additional damage in the<br>Bojnurd area, Iran.   |
| 03 | 13 | 06 | 53.7* | 29.910 | N | 67.801  | E | 33  | N | 3.8     | 0.9 | 15  | PAKISTAN   |
| 03 | 13 | 22 | 54.0* | 29.644 | N | 68.200  | E | 33  | N | 3.9     | 1.0 | 18  | PAKISTAN   |
| 03 | 13 | 39 | 47.8* | 36.441 | N | 140.695 | E | 62  |   |         | 1.2 | 25  | NEAR EAST COAST OF HONSHU, JAPAN   |
| 03 | 14 | 09 | 43.3  | 34.960 | N | 139.145 | E | 10  | G | 4.7     | 1.4 | 65  | NEAR S. COAST OF HONSHU, JAPAN. One house destroyed by a<br>landslide in the Ito area. Felt (V JMA) at Ito and (IV JMA)<br>at Atami. Also felt on the Miura Peninsula and at Chiba,<br>Tokyo and Yokohama.   |
| 03 | 14 | 12 | 33.0? | 3.25   | S | 152.24  | E | 100 | G | 4.2     | 0.9 | 7   | NEW IRELAND REGION, P.N.G.   |
| 03 | 14 | 13 | 35.6* | 36.757 | S | 177.627 | E | 33  | N | 4.8     | 1.0 | 13  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 03 | 14 | 26 | 53.1  | 34.865 | N | 139.214 | E | 10  | G | 3.8     | 1.1 | 22  | NEAR S. COAST OF HONSHU, JAPAN   |
| 03 | 14 | 33 | 25.3* | 2.399  | N | 128.826 | E | 200 | G | 4.7     | 1.1 | 20  | HALMAHERA, INDONESIA   |
| 03 | 14 | 42 | 15.6  | 7.514  | S | 127.809 | E | 150 | G | 5.2     | 0.7 | 18  | BANDA SEA  |
| 03 | 15 | 30 | 20.2  | 34.878 | N | 139.188 | E | 10  | G | 5.0     | 1.1 | 84  | NEAR S. COAST OF HONSHU, JAPAN. Felt on the Miura Peninsula.   |
| 03 | 16 | 09 | 52.8? | 17.79  | S | 178.29  | W | 600 | G | 4.3     | 1.0 | 17  | FIJI ISLANDS REGION  |
| 03 | 17 | 15 | 48.5? | 44.222 | N | 6.157   | E | 5   | G |         | 0.0 | 5   | FRANCE. ML 1.6 (LDG).  |
| 03 | 17 | 27 | 10.9? | 44.18  | N | 6.18    | E | 5   | G |         | 0.1 | 4   | FRANCE. ML 1.7 (LDG).  |
| 03 | 17 | 56 | 43.7? | 44.253 | N | 6.272   | E | 5   | G |         | 0.3 | 5   | FRANCE. ML 2.2 (LDG).  |
| 03 | 18 | 06 | 38.7  | 7.842  | S | 117.635 | E | 33  | N | 5.1     | 1.1 | 70  | BALI SEA. Mw 5.1 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>18:06:46.0; Lat 7.50 S; Lon 117.82 E; Dep 47.0; Half-<br>duration 1.1 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=5.28, Plg=21, Azm=91; (N) Val=0.66, Plg=67, Azm=297;<br>(P) Val=-5.94, Plg=9, Azm=184; Best double couple:<br>Mo=5.6*10**16 Nm; NP1: Strike=229, Dip=68, Slip=9; NP2:<br>Strike=136, Dip=82, Slip=158.                         |
| 03 | 18 | 07 | 19.6? | 44.246 | N | 6.251   | E | 5   | G |         | 0.3 | 7   | FRANCE. ML 1.7 (LDG).  |
| 03 | 18 | 28 | 29.4? | 39.077 | N | 27.936  | E | 10  | G |         | 0.7 | 5   | TURKEY. MD 2.8 (ISK).  |
| 03 | 18 | 58 | 17.8? | 23.01  | S | 176.66  | W | 33  | N | 4.1     | 0.9 | 9   | SOUTH OF FIJI ISLANDS  |
| 03 | 19 | 04 | 31.1* | 45.586 | N | 154.030 | E | 33  | N | 3.5     | 0.4 | 9   | EAST OF KURIL ISLANDS  |
| 03 | 19 | 05 | 49.9? | 59.917 | N | 152.336 | W | 89  |   |         |     | 55  | SOUTHERN ALASKA. <AEIC>.   |
| 03 | 19 | 23 | 31.7* | 56.099 | S | 25.371  | W | 33  | N | 4.8     | 0.9 | 18  | SOUTH SANDWICH ISLANDS REGION  |
| 03 | 19 | 37 | 39.9? | 43.473 | N | 5.475   | E | 5   | G |         | 0.4 | 14  | NEAR SOUTH COAST OF FRANCE. ML 2.1 (STR).  |
| 03 | 19 | 42 | 43.6  | 29.563 | N | 68.253  | E | 33  | N | 4.5     | 1.1 | 49  | PAKISTAN   |

|    |    |    |       |        |   |         |   |     |   |     |     |     |  |   |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|--|---|--|
| 03 | 20 | 15 | 13.46 | 47.838 | N | 114.120 | W | 5   |   |     |     |     |  | 12  | MONTANA. <BUT-P>. ML 2.8 (BUT). Felt at Rollins. |
| 03 | 20 | 40 | 43.67 | 4.62   | S | 76.60   | W | 33  | N | 4.0 | 1.1 | 10  | NORTHERN PERU  |   |  |
| 03 | 21 | 26 | 19.58 | 36.912 | N | 4.222   | W | 20  | G |     | 0.7 | 10  | STRAIT OF GIBRALTAR. mblg 3.0 (MDD).   |   |  |
| 03 | 21 | 32 | 30.06 | 60.216 | N | 151.903 | W | 57  |   |     |     | 72  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.8 (AEIC).  |   |  |
| 03 | 21 | 40 | 42.8* | 14.574 | S | 167.364 | E | 100 | G | 4.8 | 1.0 | 47  | VANUATU ISLANDS  |   |  |
| 03 | 22 | 33 | 43.8  | 6.481  | S | 156.405 | E | 48  | D | 5.6 | 5.1 | 152 | SOLOMON ISLANDS  |   |  |
| 03 | 22 | 44 | 11.4? | 34.55  | N | 139.17  | E | 10  | G |     | 0.8 | 8   | NEAR S. COAST OF HONSHU, JAPAN   |   |  |
| 03 | 23 | 07 | 52.2  | 10.251 | S | 161.143 | E | 101 | * | 4.9 | 0.8 | 42  | SOLOMON ISLANDS  |   |  |
| 03 | 23 | 13 | 42.5? | 36.72  | S | 178.34  | W | 33  | N | 4.4 | 1.0 | 7   | EAST OF NORTH ISLAND, N.Z.   |   |  |
| 03 | 23 | 49 | 04.4? | 49.08  | S | 127.72  | E | 10  | G | 4.2 | 1.2 | 9   | SOUTH OF AUSTRALIA   |   |  |
| 04 | 00 | 01 | 59.3* | 34.933 | N | 139.337 | E | 10  | G |     | 1.2 | 8   | NEAR S. COAST OF HONSHU, JAPAN   |   |  |
| 04 | 00 | 04 | 23.8  | 43.686 | N | 8.489   | E | 20  | G |     | 0.3 | 14  | CORSICA. ML 2.3 (GEN), 2.2 (LDG).  |   |  |
| 04 | 00 | 35 | 42.0* | 33.583 | S | 178.714 | W | 33  | N | 4.4 | 0.7 | 12  | SOUTH OF KERMADEC ISLANDS  |   |  |
| 04 | 01 | 10 | 37.8  | 44.812 | N | 110.936 | W | 5   | G |     | 1.0 | 16  | YELLOWSTONE REGION, WYOMING. ML 2.9 (BUT).   |   |  |
| 04 | 01 | 27 | 46.58 | 40.712 | N | 29.838  | E | 10  | G |     | 0.5 | 7   | TURKEY. MD 3.0 (ISK).  |   |  |
| 04 | 01 | 59 | 11.8  | 50.606 | N | 18.860  | E | 10  | G |     | 0.8 | 6   | POLAND. MG 2.6 (WAR).  |   |  |
| 04 | 02 | 01 | 34.7  | 44.780 | N | 110.939 | W | 5   | G |     | 0.6 | 18  | YELLOWSTONE REGION, WYOMING. ML 3.2 (BUT).   |   |  |
| 04 | 02 | 12 | 47.4* | 14.136 | N | 91.795  | W | 33  | N | 4.5 | 1.2 | 28  | GUATEMALA  |   |  |
| 04 | 02 | 35 | 37.3  | 43.967 | N | 147.731 | E | 66  | * | 4.8 | 0.9 | 86  | KURIL ISLANDS  |   |  |
| 04 | 02 | 49 | 35.0  | 29.658 | N | 68.379  | E | 33  | N | 4.5 | 1.0 | 43  | PAKISTAN   |   |  |
| 04 | 02 | 55 | 57.78 | 35.891 | N | 2.054   | W | 10  | G |     | 0.7 | 9   | STRAIT OF GIBRALTAR. mblg 2.8 (MDD).   |   |  |
| 04 | 02 | 57 | 49.1* | 43.028 | N | 143.931 | E | 130 | * | 3.9 | 0.8 | 18  | HOKKAIDO, JAPAN REGION   |   |  |
| 04 | 03 | 00 | 42.8? | 34.52  | S | 70.38   | W | 5   | G |     | 0.4 | 8   | CHILE-ARGENTINA BORDER REGION. MD 3.4 (SAN).   |   |  |
| 04 | 03 | 51 | 25.8  | 34.892 | N | 139.038 | E | 10  | G | 5.3 | 5.3 | 1.2 | 196  | NEAR S. COAST OF HONSHU, JAPAN. Mw 5.6 (HRV). Three people slightly injured at Ito. Felt (IV JMA) at Ito, (III JMA) at Yokohama and Yokosuka, (II JMA) at Tokyo and (I JMA) at Kofu and Urawa.<br>Centroid, Moment Tensor (HRV): Centroid origin time 03:51:29.3; Lat 34.93 N; Lon 139.21 E; Dep 15.0 Fix; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=2.20, Plg=11, Azm=15; (N) Val=1.20, Plg=65, Azm=261; (P) Val=-3.39, Plg=23, Azm=110; Best double couple: Mo=2.8*10**17 Nm; NP1: Strike=151, Dip=66, Slip=-9; NP2: Strike=244, Dip=82, Slip=-156.  |  |
| 04 | 04 | 40 | 38.4  | 7.249  | S | 129.143 | E | 102 |   | 5.5 | 0.8 | 138 | BANDA SEA. Mw 5.6 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 04:40:43.8; Lat 7.57 S; Lon 129.19 E; Dep 128.5; Half-duration 1.4 sec; Principal axes (scale 10**17 Nm): (T) Val=2.46, Plg=29, Azm=299; (N) Val=-0.19, Plg=54, Azm=160; (P) Val=-2.27, Plg=20, Azm=41; Best double couple: Mo=2.4*10**17 Nm; NP1: Strike=82, Dip=54, Slip=7; NP2: Strike=348, Dip=84, Slip=144. |   |  |
| 04 | 05 | 51 | 42.26 | 38.801 | N | 122.800 | W | 2   |   |     |     | 20  | NORTHERN CALIFORNIA. <GM-P>. MD 3.1 (GM). ML 3.3 (GS), 3.1 (BRK).  |   |  |
| 04 | 06 | 07 | 30.3  | 17.704 | S | 178.831 | W | 550 | G | 4.9 | 0.8 | 159 | FIJI ISLANDS REGION  |   |  |
| 04 | 07 | 19 | 01.6* | 54.635 | N | 161.663 | E | 33  | N | 3.3 | 1.1 | 14  | NEAR EAST COAST OF KAMCHATKA   |   |  |
| 04 | 07 | 21 | 09.5  | 44.796 | N | 110.924 | W | 5   | G |     | 0.7 | 18  | YELLOWSTONE REGION, WYOMING. ML 3.4 (BUT).   |   |  |
| 04 | 07 | 26 | 50.3* | 36.695 | S | 178.192 | E | 33  | N | 4.7 | 0.6 | 11  | OFF E. COAST OF N. ISLAND, N.Z.  |   |  |
| 04 | 07 | 40 | 38.5? | 16.65  | N | 100.47  | W | 10  | G | 3.8 | 1.2 | 13  | NEAR COAST OF GUERRERO, MEXICO   |   |  |
| 04 | 07 | 41 | 13.5* | 26.387 | S | 178.216 | E | 650 | G | 4.5 | 1.0 | 26  | SOUTH OF FIJI ISLANDS  |   |  |
| 04 | 07 | 53 | 10.3  | 24.236 | S | 67.068  | W | 180 | D | 4.9 | 1.1 | 72  | CHILE-ARGENTINA BORDER REGION  |   |  |
| 04 | 07 | 54 | 40.2  | 3.087  | N | 122.287 | E | 33  | N | 4.5 | 1.0 | 17  | CELEBES SEA  |   |  |
| 04 | 09 | 06 | 43.8  | 44.784 | N | 110.952 | W | 5   | G |     | 1.1 | 18  | YELLOWSTONE REGION, WYOMING. ML 3.4 (BUT).   |   |  |
| 04 | 09 | 56 | 28.4? | 30.37  | N | 67.72   | E | 33  | N | 3.6 | 1.2 | 8   | PAKISTAN   |   |  |
| 04 | 09 | 58 | 35.5? | 37.04  | N | 3.77    | W | 10  | G |     | 0.6 | 4   | SPAIN. mblg 2.2 (MDD).   |   |  |
| 04 | 10 | 43 | 49.5? | 34.46  | S | 70.41   | W | 10  | G |     | 0.1 | 7   | CHILE-ARGENTINA BORDER REGION  |   |  |
| 04 | 10 | 54 | 49.56 | 35.580 | N | 117.160 | W | 5   |   |     |     | 9   | CENTRAL CALIFORNIA. <PAS-P>. MD 2.9 (PAS).   |   |  |
| 04 | 11 | 21 | 47.66 | 40.328 | N | 124.629 | W | 23  |   |     |     | 7   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 3.0 (GM).   |   |  |
| 04 | 11 | 24 | 26.5* | 29.566 | N | 68.237  | E | 33  | N | 3.6 | 0.6 | 11  | PAKISTAN   |   |  |
| 04 | 12 | 24 | 59.4* | 10.969 | N | 69.611  | W | 33  | N | 4.3 | 1.2 | 22  | VENEZUELA  |   |  |
| 04 | 12 | 58 | 30.6* | 29.935 | N | 68.385  | E | 33  | N | 3.9 | 1.1 | 9   | PAKISTAN   |   |  |
| 04 | 13 | 02 | 41.16 | 63.159 | N | 151.427 | W | 4   |   |     |     | 40  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 2.8 (PMR).  |   |  |
| 04 | 13 | 03 | 47.8  | 29.422 | N | 68.790  | E | 33  | N | 5.4 | 5.8 | 1.1 | 275  | PAKISTAN. Mw 5.7 (GS), 5.7 (HRV). At least one person injured and additional damage at Sibi. Felt at Quetta.<br>Moment Tensor (GS): Dep 13; Principal axes (scale 10**17 Nm): (T) Val=4.38, Plg=11, Azm=88; (N) Val=0.53, Plg=71, Azm=211; (P) Val=-4.91, Plg=15, Azm=355; Best double couple: Mo=4.6*10**17 Nm; NP1: Strike=132, Dip=72, Slip=-176; NP2: Strike=41, Dip=87, Slip=-19.<br>Centroid, Moment Tensor (HRV): Centroid origin time 13:03:46.7; Lat 28.95 N; Lon 68.65 E; Dep 33.0 Fix; Half-duration 1.8 sec; Principal axes (scale 10**17 Nm): (T) Val=4.31, Plg=16, Azm=96; (N) Val=0.56, Plg=72, Azm=247; (P) Val=-4.88, Plg=8, Azm=4; Best double couple: Mo=4.6*10**17 Nm; NP1: Strike=139, Dip=73, Slip=175; NP2: Strike=231, Dip=85, Slip=17. |  |
| 04 | 13 | 12 | 06.2? | 20.73  | S | 178.10  | W | 550 | G | 4.4 | 0.4 | 9   | FIJI ISLANDS REGION  |   |  |
| 04 | 13 | 52 | 49.78 | 32.988 | S | 71.185  | W | 60  | G |     | 0.3 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.1 (SAN).   |   |  |
| 04 | 14 | 06 | 51.3* | 29.757 | N | 68.241  | E | 33  | N | 3.9 | 1.3 | 18  | PAKISTAN   |   |  |
| 04 | 14 | 22 | 54.2* | 39.157 | N | 41.045  | E | 10  | G | 4.2 | 1.1 | 21  | TURKEY. MD 4.7 (ISK). Felt in Bingol, Erzurum and Tunceli.   |   |  |
| 04 | 14 | 28 | 20.2* | 34.777 | N | 139.019 | E | 10  | G | 3.4 | 1.1 | 8   | NEAR S. COAST OF HONSHU, JAPAN. Felt (III JMA) at Atami and Ito.   |   |  |
| 04 | 14 | 48 | 28.1  | 27.121 | N | 55.338  | E | 33  | N | 4.3 | 0.8 | 29  | SOUTHERN IRAN  |   |  |
| 04 | 16 | 42 | 10.0* | 15.257 | S | 75.585  | W | 45  | ? | 3.7 | 1.2 | 16  | NEAR COAST OF PERU   |   |  |
| 04 | 17 | 03 | 44.7? | 10.54  | S | 66.19   | E | 10  | G |     | 0.4 | 7   | MID-INDIAN RIDGE   |   |  |
| 04 | 17 | 24 | 17.2? | 10.56  | S | 66.30   | E | 10  | G | 5.0 | 1.0 | 15  | MID-INDIAN RIDGE   |   |  |
| 04 | 17 | 49 | 06.6? | 10.50  | S | 66.29   | E | 10  | G |     | 0.3 | 6   | MID-INDIAN RIDGE   |   |  |
| 04 | 18 | 50 | 38.2* | 51.715 | N | 175.095 | W | 33  | N |     | 0.8 | 15  | ANDREANOF ISLANDS, ALEUTIAN IS.  |   |  |
| 04 | 20 | 33 | 06.36 | 40.333 | N | 124.615 | W | 21  |   |     |     | 5   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.9 (GM).   |   |  |
| 04 | 20 | 33 | 19.6* | 29.606 | N | 68.746  | E | 33  | N | 4.0 | 1.2 | 14  | PAKISTAN   |   |  |
| 04 | 20 | 39 | 44.5* | 34.784 | N | 86.563  | E | 33  | N | 4.5 | 1.1 | 18  | XIZANG   |   |  |
| 04 | 21 | 41 | 57.6  | 34.504 | N | 36.591  | W | 10  | G | 5.0 | 4.9 | 1.1 | 154  | NORTHERN MID-ATLANTIC RIDGE   |  |
| 04 | 22 | 11 | 50.7* | 5.668  | S | 130.805 | E | 33  | N | 4.6 | 1.2 | 13  | BANDA SEA  |   |  |



|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 04 | 23 | 31 | 41.8* | 34.712 | N | 86.614  | E | 33  | N |         | 1.4 | 12  | XIZANG   |
| 05 | 00 | 18 | 37.0  | 8.022  | S | 107.286 | E | 33  | N | 4.8 4.4 | 1.2 | 52  | JAWA, INDONESIA  |
| 05 | 00 | 50 | 56.77 | 55.51  | S | 124.32  | W | 10  | G |         | 0.9 | 5   | SOUTHERN EAST PACIFIC RISE   |
| 05 | 01 | 03 | 19.26 | 60.940 | N | 150.354 | W | 36  |   |         |     | 76  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.8 (AEIC), 3.0 (PMR).   |
| 05 | 01 | 27 | 13.57 | 12.44  | S | 86.91   | E | 10  | G | 4.3     | 1.4 | 12  | SOUTH INDIAN OCEAN   |
| 05 | 01 | 30 | 19.37 | 55.37  | S | 123.95  | W | 10  | G | 4.8     | 1.5 | 46  | SOUTHERN EAST PACIFIC RISE   |
| 05 | 02 | 14 | 52.07 | 57.76  | S | 122.16  | W | 10  | G | 4.3     | 1.3 | 9   | SOUTHERN EAST PACIFIC RISE   |
| 05 | 02 | 18 | 06.2* | 10.776 | N | 69.590  | W | 33  | N | 4.0     | 1.4 | 21  | VENEZUELA  |
| 05 | 02 | 28 | 55.3  | 3.687  | S | 80.556  | W | 37  | D | 4.8 5.3 | 0.8 | 89  | PERU-ECUADOR BORDER REGION   |
| 05 | 02 | 44 | 33.3  | 23.267 | S | 179.643 | E | 550 | G | 4.5     | 0.9 | 53  | SOUTH OF FIJI ISLANDS  |
| 05 | 03 | 23 | 31.37 | 7.64   | S | 108.19  | E | 100 | G |         | 1.2 | 9   | JAWA, INDONESIA  |
| 05 | 03 | 28 | 35.0  | 44.600 | N | 9.313   | E | 5   | G |         | 0.8 | 58  | NORTHERN ITALY. ML 2.9 (GEN), 2.6 (LDG), 2.4 (VIE).  |
| 05 | 03 | 36 | 11.1* | 23.986 | N | 143.077 | E | 50  | G |         | 0.6 | 7   | VOLCANO ISLANDS REGION   |
| 05 | 03 | 40 | 59.97 | 30.65  | N | 58.82   | E | 33  | N | 3.6     | 0.7 | 9   | NORTHERN IRAN  |
| 05 | 03 | 57 | 48.9* | 33.899 | S | 70.508  | W | 100 | G |         | 0.6 | 8   | CHILE-ARGENTINA BORDER REGION. MD 2.1 (SAN).   |
| 05 | 04 | 12 | 42.87 | 3.28   | N | 128.27  | E | 33  | N | 3.8     | 1.2 | 8   | NORTH OF HALMAHERA, INDONESIA  |
| 05 | 04 | 15 | 57.5* | 29.532 | N | 68.182  | E | 33  | N | 3.7     | 0.8 | 10  | PAKISTAN   |
| 05 | 04 | 22 | 03.47 | 29.28  | N | 68.39   | E | 33  | N | 3.8     | 0.8 | 7   | PAKISTAN   |
| 05 | 04 | 23 | 47.97 | 7.13   | N | 73.46   | W | 200 | G | 3.8     | 1.3 | 7   | NORTHERN COLOMBIA  |
| 05 | 04 | 43 | 19.87 | 26.33  | N | 111.42  | W | 10  | G |         | 1.3 | 6   | GULF OF CALIFORNIA   |
| 05 | 04 | 58 | 36.5* | 2.695  | S | 140.822 | E | 33  | N | 4.1     | 1.3 | 12  | NEAR NORTH COAST OF IRIAN JAYA   |
| 05 | 05 | 18 | 17.87 | 2.01   | N | 97.76   | W | 10  | G | 4.0     | 1.3 | 20  | WEST OF GALAPAGOS ISLANDS  |
| 05 | 05 | 37 | 51.76 | 57.372 | N | 156.766 | W | 86  |   | 3.2     |     | 66  | ALASKA PENINSULA. <AEIC>.  |
| 05 | 06 | 15 | 17.2  | 33.681 | S | 138.983 | E | 10  | G | 4.8     | 1.2 | 49  | NEAR SOUTH COAST OF AUSTRALIA  |
| 05 | 06 | 35 | 44.47 | 2.45   | S | 127.05  | E | 33  | N | 4.1     | 0.7 | 7   | CERAM SEA  |
| 05 | 07 | 53 | 11.46 | 60.337 | N | 152.122 | W | 79  |   |         |     | 42  | SOUTHERN ALASKA. <AEIC>.   |
| 05 | 07 | 53 | 45.8* | 33.343 | S | 139.120 | E | 10  | G | 4.0     | 1.3 | 5   | NEAR SOUTH COAST OF AUSTRALIA  |
| 05 | 08 | 08 | 59.7* | 51.431 | N | 175.669 | W | 33  | N | 3.0     | 1.2 | 9   | ANDREANOF ISLANDS, ALEUTIAN IS.  |
| 05 | 08 | 19 | 43.6* | 3.776  | S | 11.927  | W | 10  | G | 4.4     | 1.3 | 12  | NORTH OF ASCENSION ISLAND  |
| 05 | 08 | 22 | 09.67 | 34.82  | S | 70.71   | W | 120 | G |         | 0.1 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.2 (SAN).   |
| 05 | 08 | 40 | 01.6* | 3.906  | S | 133.872 | E | 33  | N | 4.3     | 1.2 | 14  | IRIAN JAYA REGION, INDONESIA   |
| 05 | 08 | 40 | 51.6* | 29.771 | N | 68.318  | E | 33  | N | 4.1     | 1.3 | 18  | PAKISTAN   |
| 05 | 09 | 01 | 31.2* | 21.904 | N | 143.562 | E | 207 | ? | 3.6     | 0.9 | 9   | MARIANA ISLANDS REGION   |
| 05 | 09 | 14 | 24.17 | 13.33  | N | 145.78  | E | 33  | N |         | 0.5 | 7   | MARIANA ISLANDS  |
| 05 | 09 | 16 | 46.3  | 43.418 | N | 5.465   | E | 5   | G |         | 0.6 | 17  | NEAR SOUTH COAST OF FRANCE. ML 3.3 (STR).  |
| 05 | 09 | 33 | 03.97 | 11.10  | S | 119.12  | E | 33  | N | 3.6     | 0.9 | 7   | SOUTH OF SUMBA, INDONESIA  |
| 05 | 09 | 35 | 10.2  | 41.195 | N | 75.732  | E | 33  | N | 4.8 4.8 | 1.0 | 103 | KIRGYZSTAN. Felt (V) at Akmuuz and Pogradichnik, (IV) at Naryn and (III) at Bishkek. Also felt (III) at Almaty, Kazakhstan.  |
| 05 | 10 | 23 | 30.17 | 34.77  | N | 139.36  | E | 10  | G |         | 1.0 | 6   | NEAR S. COAST OF HONSHU, JAPAN. Felt (III JMA) at Ito and Kawana.  |
| 05 | 10 | 38 | 25.2* | 3.609  | S | 12.141  | W | 10  | G | 4.3     | 0.6 | 10  | NORTH OF ASCENSION ISLAND  |
| 05 | 10 | 56 | 25.57 | 3.19   | S | 150.32  | E | 33  | N | 3.8     | 1.1 | 7   | NEW IRELAND REGION, P.N.G.   |
| 05 | 10 | 59 | 07.47 | 29.84  | N | 68.38   | E | 33  | N |         | 0.6 | 6   | PAKISTAN   |
| 05 | 11 | 31 | 07.0* | 11.588 | N | 87.244  | W | 50  | G | 4.4     | 1.2 | 31  | NEAR COAST OF NICARAGUA  |
| 05 | 11 | 46 | 17.27 | 27.14  | N | 111.14  | W | 10  | G | 3.9     | 1.0 | 17  | GULF OF CALIFORNIA   |
| 05 | 11 | 46 | 39.4* | 32.462 | S | 70.784  | W | 80  | G |         | 0.4 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.8 (SAN).   |
| 05 | 12 | 15 | 20.1  | 26.504 | S | 66.419  | W | 33  | N | 4.2     | 1.1 | 18  | CATAMARCA PROVINCE, ARGENTINA  |
| 05 | 12 | 17 | 42.57 | 38.90  | N | 27.90   | E | 10  | G |         | 0.1 | 4   | TURKEY. MD 2.9 (ISK).  |
| 05 | 12 | 20 | 15.4  | 52.563 | N | 158.938 | E | 33  | N | 5.0     | 0.9 | 143 | NEAR EAST COAST OF KAMCHATKA. Felt (III) at Petropavlovsk-Kamchatskiy.   |
| 05 | 12 | 40 | 25.6  | 41.768 | N | 2.177   | E | 10  | G |         | 1.2 | 13  | SPAIN. ML 3.1 (LDG). mbLg 3.0 (MDD).   |
| 05 | 12 | 54 | 52.37 | 39.17  | N | 27.64   | E | 10  | G |         | 0.1 | 4   | TURKEY. MD 2.7 (ISK).  |
| 05 | 12 | 57 | 34.1  | 39.431 | N | 75.321  | E | 62  | * | 4.6     | 1.0 | 33  | SOUTHERN XINJIANG, CHINA   |
| 05 | 13 | 10 | 24.1* | 5.375  | S | 153.045 | E | 33  | N | 3.9     | 1.2 | 11  | NEW IRELAND REGION, P.N.G.   |
| 05 | 13 | 43 | 26.3* | 34.784 | N | 139.046 | E | 10  | G | 4.6 4.2 | 1.5 | 35  | NEAR S. COAST OF HONSHU, JAPAN   |
| 05 | 13 | 55 | 52.1  | 13.377 | S | 166.452 | E | 33  | N | 5.5 5.3 | 1.4 | 208 | VANUATU ISLANDS. Mw 5.5 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 13:55:55.9; Lat 13.51 S; Lon 166.24 E; Dep 31.1; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.99, Plg=57, Azm=119; (N) Val=-0.10, Plg=18, Azm=359; (P) Val=-1.89, Plg=26, Azm=260; Best double couple: Mo=1.9*10**17 Nm; NP1: Strike=315, Dip=24, Slip=42; NP2: Strike=185, Dip=74, Slip=109. |
| 05 | 13 | 56 | 39.0* | 22.292 | S | 67.454  | W | 200 | G |         | 1.4 | 6   | CHILE-BOLIVIA BORDER REGION  |
| 05 | 15 | 06 | 16.7  | 37.453 | N | 20.720  | E | 10  | G | 4.3     | 1.3 | 150 | IONIAN SEA. ML 4.4 (THE).  |
| 05 | 15 | 13 | 17.1  | 30.747 | N | 90.273  | E | 33  | N | 4.7     | 1.0 | 44  | XIZANG   |
| 05 | 15 | 14 | 54.17 | 17.53  | S | 178.28  | W | 600 | G | 3.7     | 0.5 | 9   | FIJI ISLANDS REGION  |
| 05 | 15 | 35 | 28.3* | 34.814 | N | 139.330 | E | 10  | G | 3.5     | 1.3 | 10  | NEAR S. COAST OF HONSHU, JAPAN   |
| 05 | 15 | 43 | 29.1* | 43.977 | N | 7.442   | E | 5   | G |         | 0.1 | 5   | NEAR SOUTH COAST OF FRANCE. ML 0.8 (STR).  |
| 05 | 16 | 00 | 03.3* | 36.638 | S | 177.632 | E | 33  | N | 4.6     | 0.9 | 11  | OFF E. COAST OF N. ISLAND, N.Z.  |
| 05 | 16 | 37 | 15.8  | 45.881 | N | 6.191   | E | 5   | G |         | 1.1 | 10  | FRANCE. ML 2.3 (STR).  |
| 05 | 16 | 42 | 07.37 | 29.62  | N | 68.28   | E | 33  | N | 4.0     | 1.3 | 9   | PAKISTAN   |
| 05 | 16 | 50 | 17.7* | 4.158  | N | 95.121  | E | 100 | G | 4.2     | 0.8 | 16  | NORTHERN SUMATERA, INDONESIA   |
| 05 | 16 | 58 | 38.9  | 40.918 | N | 49.507  | E | 33  | N | 4.8     | 0.9 | 158 | EASTERN CAUCASUS   |
| 05 | 17 | 26 | 33.87 | 30.51  | N | 67.69   | E | 33  | N | 3.7     | 1.1 | 8   | PAKISTAN   |
| 05 | 17 | 35 | 22.5* | 39.634 | N | 139.788 | E | 47  | * | 4.6 4.1 | 1.5 | 11  | NEAR WEST COAST OF HONSHU, JAPAN   |
| 05 | 17 | 42 | 45.0* | 33.183 | S | 70.361  | W | 5   | G |         | 0.6 | 8   | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 05 | 17 | 54 | 36.7  | 37.450 | N | 20.666  | E | 33  | N | 4.1     | 0.9 | 30  | IONIAN SEA   |
| 05 | 19 | 12 | 36.0* | 14.643 | N | 52.328  | E | 10  | G |         | 1.0 | 10  | EASTERN GULF OF ADEN   |
| 05 | 19 | 31 | 54.7* | 29.756 | N | 68.354  | E | 33  | N |         | 1.0 | 9   | PAKISTAN   |
| 05 | 19 | 38 | 33.97 | 17.85  | S | 178.78  | W | 600 | G | 4.4     | 1.1 | 16  | FIJI ISLANDS REGION  |
| 05 | 19 | 48 | 03.8* | 39.851 | N | 76.156  | E | 33  | N |         | 0.6 | 5   | SOUTHERN XINJIANG, CHINA   |
| 05 | 20 | 14 | 29.5  | 10.910 | S | 165.400 | E | 33  | N | 5.1 5.1 | 0.7 | 70  | SANTA CRUZ ISLANDS. Mw 5.2 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 20:14:30.2; Lat 11.35 S; Lon 165.44 E; Dep 33.6; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=8.16, Plg=66, Azm=75; (N) Val=-0.10, Plg=0, Azm=345; (P) Val=-8.05, Plg=24, Azm=255; Best double couple: Mo=8.1*10**16 Nm; NP1: Strike=345, Dip=21, Slip=90; NP2: Strike=165, Dip=69, Slip=90. |
| 05 | 20 | 21 | 36.8* | 23.373 | N | 142.988 | E | 33  | N | 4.1     | 1.2 | 22  | VOLCANO ISLANDS REGION   |
| 05 | 21 | 31 | 43.67 | 3.96   | S | 129.71  | E | 33  | N | 3.7     | 1.2 | 13  | SERAM, INDONESIA   |



|    |    |    |       |        |   |         |   |     |   |     |     |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|-----|---|
| 05 | 22 | 33 | 25.2  | 3.109  | N | 126.706 | E | 33  | N | 4.8 | 4.2 | 0.9 | 31  | TALAUD ISLANDS, INDONESIA   |
| 05 | 22 | 46 | 27.47 | 3.21   | N | 127.22  | E | 33  | N |     |     | 0.6 | 7   | TALAUD ISLANDS, INDONESIA   |
| 05 | 22 | 54 | 57.2* | 7.293  | S | 120.968 | E | 500 | G | 4.8 |     | 1.1 | 23  | FLORES SEA  |
| 05 | 23 | 14 | 05.8* | 52.414 | N | 172.734 | W | 78  | D |     |     | 1.1 | 10  | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 05 | 23 | 37 | 18.0? | 31.70  | S | 71.83   | W | 20  | G |     |     | 0.3 | 11  | NEAR COAST OF CENTRAL CHILE. MD 3.7 (SAN).  |
| 05 | 23 | 38 | 05.6* | 28.380 | N | 139.936 | E | 390 | * | 3.8 |     | 0.9 | 16  | BONIN ISLANDS REGION  |
| 05 | 23 | 38 | 08.66 | 37.951 | N | 122.010 | W | 11  |   |     |     |     | 15  | CENTRAL CALIFORNIA. <GM-P>. MD 2.4 (GM). ML 2.3 (BRK). Felt at Concord, Martinez and Walnut Creek.  |
| 05 | 23 | 42 | 03.48 | 54.527 | N | 163.505 | W | 82  |   |     |     |     | 22  | UNIMAK ISLAND REGION. <AEIC>.   |
| 06 | 01 | 05 | 10.5* | 43.027 | N | 0.464   | W | 10  | G |     |     | 0.7 | 5   | PYRENEES. ML 0.9 (STR).   |
| 06 | 01 | 29 | 17.7* | 45.020 | N | 7.253   | E | 10  | G |     |     | 0.6 | 5   | NORTHERN ITALY. ML 1.6 (GEN).   |
| 06 | 01 | 44 | 32.5? | 34.07  | S | 71.63   | W | 40  | G |     |     | 0.3 | 7   | NEAR COAST OF CENTRAL CHILE   |
| 06 | 02 | 06 | 01.1? | 32.15  | S | 70.00   | W | 130 | G |     |     | 0.3 | 9   | CHILE-ARGENTINA BORDER REGION. MD 2.7 (SAN).  |
| 06 | 02 | 24 | 20.6? | 33.13  | S | 69.37   | W | 5   | G |     |     | 0.6 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.8 (SAN).  |
| 06 | 02 | 34 | 19.1  | 1.885  | N | 127.707 | E | 33  | N | 5.2 | 5.1 | 1.1 | 50  | HALMAHERA, INDONESIA. Mw 5.4 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 02:34:26.4; Lat 2.76 N; Lon 127.01 E; Dep 53.8; Half-duration 1.6 sec; Principal axes (scale 10**17 Nm): (T) Val=1.81, Plg=33, Azm=83; (N) Val=-0.51, Plg=49, Azm=304; (P) Val=-1.30, Plg=21, Azm=188; Best double couple: Mo=1.5*10**17 Nm; NP1: Strike=229, Dip=50, Slip=10; NP2: Strike=133, Dip=83, Slip=140. |
| 06 | 02 | 43 | 09.9* | 2.080  | N | 127.977 | E | 33  | N | 4.2 |     | 1.4 | 13  | NORTHERN MOLUCCA SEA  |
| 06 | 03 | 16 | 45.2* | 37.883 | N | 2.556   | W | 5   | G |     |     | 0.8 | 8   | SPAIN. mbLg 2.4 (MDD).  |
| 06 | 03 | 33 | 56.1* | 55.277 | S | 1.690   | W | 10  | G | 4.4 |     | 1.2 | 10  | BOUVET ISLAND REGION  |
| 06 | 03 | 40 | 15.9* | 37.875 | N | 2.552   | W | 10  | G |     |     | 1.1 | 10  | SPAIN. mbLg 2.7 (MDD).  |
| 06 | 03 | 41 | 17.2* | 31.212 | N | 142.353 | E | 33  | N |     |     | 1.2 | 10  | SOUTH OF HONSHU, JAPAN  |
| 06 | 03 | 47 | 14.8  | 36.104 | N | 28.596  | E | 55  | * | 3.6 |     | 1.0 | 40  | DODECANESE ISLANDS. MD 3.7 (ISK).   |
| 06 | 03 | 48 | 16.1? | 36.63  | N | 72.33   | E | 100 | G |     |     | 1.3 | 6   | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 06 | 03 | 52 | 33.5* | 34.844 | N | 138.850 | E | 10  | G | 3.4 |     | 0.4 | 6   | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 04 | 13 | 14.5? | 30.03  | N | 67.65   | E | 33  | N |     |     | 0.3 | 5   | PAKISTAN  |
| 06 | 04 | 24 | 39.8? | 32.64  | S | 71.80   | W | 15  | G |     |     | 0.6 | 7   | NEAR COAST OF CENTRAL CHILE. MD 3.1 (SAN).  |
| 06 | 04 | 25 | 27.1* | 34.959 | N | 139.216 | E | 10  | G | 4.4 |     | 0.9 | 14  | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 04 | 33 | 26.2* | 41.491 | S | 75.274  | W | 33  | N | 4.2 |     | 0.6 | 15  | OFF COAST OF SOUTHERN CHILE   |
| 06 | 04 | 58 | 33.6* | 34.843 | N | 139.165 | E | 10  | G | 3.2 |     | 1.1 | 8   | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 04 | 59 | 22.7* | 11.983 | N | 43.376  | E | 10  | G | 4.5 |     | 1.2 | 16  | ETHIOPIA  |
| 06 | 05 | 51 | 42.1? | 34.92  | N | 139.16  | E | 10  | G |     |     | 1.2 | 6   | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 06 | 00 | 59.6* | 31.204 | N | 141.636 | E | 33  | N |     |     | 1.4 | 17  | SOUTH OF HONSHU, JAPAN  |
| 06 | 06 | 01 | 27.2* | 36.656 | S | 177.721 | E | 33  | N | 4.6 |     | 1.0 | 12  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 06 | 06 | 19 | 32.0  | 52.559 | N | 158.920 | E | 33  | N | 5.1 |     | 0.8 | 162 | NEAR EAST COAST OF KAMCHATKA. Felt (III) at Petropavlovsk-Kamchatskiy.  |
| 06 | 06 | 23 | 26.8* | 3.111  | N | 126.874 | E | 33  | N | 4.7 |     | 1.0 | 22  | TALAUD ISLANDS, INDONESIA   |
| 06 | 06 | 28 | 50.9? | 5.93   | S | 125.09  | E | 600 | G |     |     | 0.9 | 6   | BANDA SEA   |
| 06 | 06 | 32 | 01.6* | 3.103  | N | 126.807 | E | 33  | N | 4.4 |     | 1.0 | 21  | TALAUD ISLANDS, INDONESIA   |
| 06 | 06 | 50 | 47.9  | 40.650 | N | 139.374 | E | 47  | D | 4.9 |     | 0.8 | 119 | NEAR WEST COAST OF HONSHU, JAPAN  |
| 06 | 07 | 27 | 14.4* | 3.087  | N | 126.760 | E | 33  | N | 4.5 |     | 1.4 | 20  | TALAUD ISLANDS, INDONESIA   |
| 06 | 08 | 01 | 47.0* | 33.062 | S | 70.490  | W | 90  | G |     |     | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.2 (SAN).  |
| 06 | 08 | 29 | 00.4  | 3.644  | N | 126.528 | E | 33  | N | 4.7 |     | 0.7 | 20  | TALAUD ISLANDS, INDONESIA   |
| 06 | 09 | 15 | 50.2? | 10.86  | N | 62.00   | W | 40  | G |     |     | 1.0 | 5   | NEAR COAST OF VENEZUELA   |
| 06 | 10 | 00 | 17.2? | 11.06  | S | 165.44  | E | 33  | N |     |     | 1.3 | 9   | SANTA CRUZ ISLANDS  |
| 06 | 10 | 12 | 20.3? | 34.68  | N | 139.21  | E | 10  | G | 3.4 |     | 0.3 | 6   | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 10 | 43 | 34.4* | 63.436 | N | 151.138 | W | 15  |   |     |     |     | 64  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.5 (PMR).   |
| 06 | 10 | 48 | 46.3* | 32.586 | S | 71.653  | W | 15  | G |     |     | 0.3 | 9   | NEAR COAST OF CENTRAL CHILE   |
| 06 | 10 | 50 | 00.0? | 37.72  | S | 177.44  | E | 33  | N | 4.9 |     | 1.3 | 15  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 06 | 10 | 52 | 04.1* | 15.472 | S | 173.107 | W | 33  | N | 4.7 | 4.7 | 1.0 | 50  | TONGA ISLANDS   |
| 06 | 11 | 09 | 24.2  | 38.173 | N | 20.520  | E | 33  | N |     |     | 1.3 | 34  | GREECE  |
| 06 | 11 | 13 | 04.3? | 30.64  | S | 179.71  | W | 500 | G | 4.0 |     | 1.1 | 15  | KERMADEC ISLANDS REGION   |
| 06 | 11 | 35 | 54.0* | 34.779 | N | 139.276 | E | 10  | G | 3.4 |     | 1.0 | 9   | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 11 | 57 | 52.9? | 13.99  | N | 89.66   | W | 100 | G | 4.0 |     | 1.0 | 11  | EL SALVADOR   |
| 06 | 12 | 07 | 16.9* | 33.362 | S | 69.880  | W | 10  | G |     |     | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).  |
| 06 | 12 | 48 | 12.3* | 63.242 | N | 151.023 | W | 13  |   |     |     |     | 62  | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 3.1 (PMR).   |
| 06 | 13 | 02 | 48.7  | 44.323 | N | 6.087   | E | 5   | G |     |     | 0.6 | 28  | FRANCE. ML 2.5 (GEN), 2.2 (STR).  |
| 06 | 13 | 21 | 36.6? | 32.62  | S | 71.43   | W | 30  | G |     |     | 0.4 | 7   | NEAR COAST OF CENTRAL CHILE   |
| 06 | 15 | 13 | 17.8* | 0.703  | N | 99.848  | E | 150 | G | 4.6 |     | 1.0 | 40  | NORTHERN SUMATERA, INDONESIA  |
| 06 | 15 | 16 | 32.0  | 5.518  | N | 0.313   | W | 10  | G | 4.4 |     | 0.7 | 46  | NORTHWEST AFRICA. Seven people injured and power outages occurred in the Accra area, Ghana.   |
| 06 | 15 | 55 | 58.4* | 12.992 | N | 44.885  | W | 10  | G | 4.0 |     | 0.7 | 16  | NORTHERN MID-ATLANTIC RIDGE   |
| 06 | 17 | 16 | 10.9* | 10.119 | N | 121.695 | E | 33  | N |     |     | 1.1 | 8   | PANAY, PHILIPPINE ISLANDS   |
| 06 | 17 | 36 | 07.4? | 34.96  | N | 139.31  | E | 10  | G | 3.5 |     | 1.4 | 10  | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 17 | 37 | 52.9? | 8.86   | S | 124.28  | E | 100 | G | 4.2 |     | 1.4 | 11  | TIMOR REGION, INDONESIA   |
| 06 | 18 | 32 | 13.3* | 36.028 | S | 98.967  | W | 10  | G | 4.8 |     | 1.0 | 23  | SOUTHERN PACIFIC OCEAN  |
| 06 | 18 | 35 | 53.7* | 33.158 | S | 70.355  | W | 5   | G |     |     | 0.5 | 7   | CHILE-ARGENTINA BORDER REGION   |
| 06 | 19 | 12 | 38.7? | 10.06  | N | 84.99   | W | 33  | N | 3.3 |     | 1.6 | 8   | COSTA RICA  |
| 06 | 19 | 59 | 42.3  | 6.209  | S | 155.295 | E | 174 | D | 5.1 |     | 0.9 | 114 | SOLOMON ISLANDS   |
| 06 | 21 | 00 | 15.0* | 59.936 | N | 152.778 | W | 101 |   | 2.4 |     |     | 67  | SOUTHERN ALASKA. <AEIC>.  |
| 06 | 21 | 01 | 32.7? | 17.40  | S | 178.96  | W | 600 | G | 4.4 |     | 0.6 | 11  | FIJI ISLANDS REGION   |
| 06 | 21 | 10 | 07.3* | 6.287  | S | 103.727 | E | 33  | N | 4.6 |     | 1.0 | 19  | SOUTHWEST OF SUMATERA, INDONESIA  |
| 06 | 22 | 00 | 35.8? | 27.83  | S | 177.22  | W | 150 | G | 4.4 |     | 1.4 | 23  | KERMADEC ISLANDS REGION   |
| 06 | 22 | 19 | 31.5  | 22.039 | S | 65.836  | W | 261 |   | 4.2 |     | 0.7 | 24  | JUJUY PROVINCE, ARGENTINA   |
| 06 | 22 | 25 | 20.7* | 54.323 | N | 161.352 | W | 10  |   |     |     |     | 12  | ALASKA PENINSULA. <AEIC>. ML 3.0 (AEIC).  |
| 06 | 22 | 27 | 56.5* | 59.225 | N | 152.923 | W | 80  |   |     |     |     | 85  | SOUTHERN ALASKA. <AEIC>.  |
| 06 | 22 | 29 | 54.9* | 34.819 | N | 139.158 | E | 10  | G |     |     | 0.3 | 5   | NEAR S. COAST OF HONSHU, JAPAN  |
| 06 | 23 | 28 | 37.7? | 39.11  | N | 43.66   | E | 10  | G |     |     | 0.8 | 6   | TURKEY  |
| 07 | 00 | 01 | 40.0  | 23.172 | S | 175.413 | W | 33  | N | 4.9 | 5.1 | 0.8 | 42  | TONGA ISLANDS REGION. Mw 5.2 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 00:01:43.2; Lat 23.68 S; Lon 175.17 W; Dep 40.2; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=6.59, Plg=68, Azm=324; (N) Val=1.35, Plg=9, Azm=212; (P) Val=-7.95, Plg=20, Azm=119; Best double couple: Mo=7.3*10**16 Nm; NP1: Strike=195, Dip=26, Slip=70; NP2: Strike=36, Dip=65, Slip=99.   |
| 07 | 00 | 19 | 22.7* | 29.706 | S | 176.882 | W | 33  | N | 4.4 |     | 1.0 | 12  | KERMADEC ISLANDS REGION   |
| 07 | 00 | 41 | 25.2? | 2.88   | N | 128.34  | E | 100 | G | 4.6 |     | 1.4 | 13  | HALMAHERA, INDONESIA  |

|  |    |    |       |        |   |         |   |     |   |         |     |     |   |
|--|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 07   | 00 | 58 | 11.2? | 19.84  | S | 175.97  | W | 200 | G | 4.3     | 1.1 | 20  | TONGA ISLANDS   |
| 07   | 01 | 20 | 45.8* | 34.952 | N | 139.105 | E | 10  | G | 4.4     | 1.4 | 30  | NEAR S. COAST OF HONSHU, JAPAN                                    |
| 07   | 01 | 21 | 32.0* | 6.595  | S | 129.886 | E | 122 | D | 4.7     | 1.1 | 18  | BANDA SEA   |
| 07   | 02 | 18 | 29.6% | 29.786 | N | 95.335  | E | 33  | N |         | 1.3 | 10  | EASTERN XIZANG-INDIA BORDER REG.                                  |
| 07   | 02 | 23 | 22.9? | 34.93  | N | 32.98   | E | 33  | N |         | 0.5 | 9   | CYPRUS REGION   |
| 07   | 02 | 59 | 05.0* | 23.040 | S | 175.476 | W | 33  | N | 4.8     | 0.8 | 23  | TONGA ISLANDS REGION  |
| 07   | 03 | 03 | 19.3* | 22.330 | S | 175.981 | W | 33  | N | 4.6     | 1.1 | 38  | TONGA ISLANDS REGION  |
| 07   | 03 | 04 | 00.0* | 22.378 | S | 175.895 | W | 33  | N | 5.1 5.7 | 0.9 | 48  | TONGA ISLANDS REGION. Mw 5.9 (GS), 5.7 (HRV).                     |
| Moment Tensor (GS): Dep 3; Principal axes (scale 10**17 Nm): |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (T) Val=-6.86, Plg=47, Azm=294; (N) Val=0.88, Plg=2, Azm=27; |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (P) Val=-7.74, Plg=43, Azm=119; Best double couple:          |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Mo=7.3*10**17 Nm; NP1: Strike=259, Dip=3, Slip=143; NP2:     |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Strike=27, Dip=88, Slip=88.                                  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Centroid, Moment Tensor (HRV): Centroid origin time          |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 03:04:00.5; Lat 22.42 S; Lon 176.24 W; Dep 33.0 Fix; Half-   |    |    |       |        |   |         |   |     |   |         |     |     |   |
| duration 2.0 sec; Principal axes (scale 10**17 Nm): (T)      |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Val=-4.45, Plg=29, Azm=297; (N) Val=-1.23, Plg=32, Azm=187;  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (P) Val=-3.22, Plg=44, Azm=59; Best double couple:           |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Mo=3.8*10**17 Nm; NP1: Strike=77, Dip=33, Slip=-16; NP2:     |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Strike=181, Dip=81, Slip=-122.                               |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 07   | 03 | 26 | 08.6  | 10.258 | N | 125.933 | E | 50  | D | 4.8     | 0.9 | 39  | LEYTE, PHILIPPINE ISLANDS   |
| 07   | 03 | 32 | 17.1* | 45.901 | N | 150.364 | E | 33  | N | 4.0     | 1.3 | 21  | KURIL ISLANDS   |
| 07   | 03 | 52 | 46.9? | 46.60  | N | 150.80  | E | 33  | N | 3.3     | 1.5 | 10  | KURIL ISLANDS   |
| 07   | 04 | 03 | 21.0? | 10.31  | N | 126.01  | E | 33  | N | 4.6     | 1.5 | 9   | PHILIPPINE ISLANDS REGION   |
| 07   | 04 | 09 | 43.0? | 46.51  | N | 148.70  | E | 33  | N |         | 1.5 | 7   | NORTHWEST OF KURIL ISLANDS  |
| 07   | 04 | 13 | 51.9* | 7.512  | N | 77.073  | W | 59  | ? | 3.9     | 1.3 | 19  | PANAMA-COLOMBIA BORDER REGION                                     |
| 07   | 04 | 39 | 12.0* | 65.686 | N | 17.996  | W | 10  | G | 3.0     | 1.3 | 7   | ICELAND   |
| 07   | 05 | 00 | 50.8  | 57.084 | N | 149.669 | W | 10  | G | 3.1     | 0.8 | 94  | GULF OF ALASKA. ML 3.6 (AEIC), 3.7 (PMR).                         |
| 07   | 05 | 01 | 50.4? | 34.81  | N | 139.42  | E | 10  | G |         | 0.6 | 4   | NEAR S. COAST OF HONSHU, JAPAN                                    |
| 07   | 06 | 27 | 34.8* | 11.052 | N | 69.455  | W | 50  | G | 4.2     | 1.3 | 15  | NEAR COAST OF VENEZUELA   |
| 07   | 07 | 31 | 09.1? | 39.57  | N | 29.57   | E | 10  | G |         | 1.2 | 4   | TURKEY. MD 2.5 (ISK).   |
| 07   | 07 | 33 | 19.9  | 34.816 | N | 139.104 | E | 10  | G | 4.6     | 1.4 | 44  | NEAR S. COAST OF HONSHU, JAPAN                                    |
| 07   | 07 | 44 | 48.7? | 39.12  | N | 27.65   | E | 10  | G |         | 0.0 | 4   | TURKEY. MD 2.7 (ISK).   |
| 07   | 07 | 46 | 16.3? | 10.61  | N | 61.12   | W | 33  | N |         | 0.7 | 4   | TRINIDAD. MD 2.7 (TRN).   |
| 07   | 08 | 11 | 40.3? | 54.63  | N | 164.06  | W | 116 | ? |         | 1.4 | 9   | UNIMAK ISLAND REGION  |
| 07   | 08 | 14 | 45.1% | 31.503 | S | 117.588 | E | 5   | G |         | 0.6 | 5   | WESTERN AUSTRALIA   |
| 07   | 08 | 15 | 26.0% | 43.871 | N | 7.321   | E | 10  | G |         | 0.6 | 6   | NEAR SOUTH COAST OF FRANCE. ML 1.2 (STR).                         |
| 07   | 08 | 27 | 36.8? | 38.04  | S | 179.20  | E | 33  | N | 4.3     | 1.1 | 8   | OFF E. COAST OF N. ISLAND, N.Z.                                   |
| 07   | 08 | 31 | 26.7? | 57.98  | N | 33.02   | W | 10  | G |         | 0.7 | 7   | NORTH ATLANTIC OCEAN  |
| 07   | 08 | 32 | 57.3  | 58.022 | N | 32.426  | W | 10  | G | 4.3     | 0.9 | 32  | NORTH ATLANTIC OCEAN  |
| 07   | 08 | 56 | 17.1? | 22.70  | S | 175.20  | W | 33  | N |         | 1.2 | 8   | TONGA ISLANDS REGION  |
| 07   | 09 | 15 | 47.8? | 5.49   | S | 128.69  | E | 300 | G | 3.8     | 1.3 | 11  | BANDA SEA   |
| 07   | 09 | 20 | 55.9? | 39.13  | N | 27.56   | E | 10  | G |         | 0.5 | 4   | TURKEY. MD 2.8 (ISK).   |
| 07   | 09 | 42 | 23.6  | 6.485  | S | 71.217  | W | 628 | D | 4.9     | 0.9 | 224 | WESTERN BRAZIL. Mw 5.4 (HRV).                                     |
| Centroid, Moment Tensor (HRV): Centroid origin time          |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 09:42:28.4; Lat 6.30 S; Lon 71.15 W; Dep 632.1; Half-        |    |    |       |        |   |         |   |     |   |         |     |     |   |
| duration 1.3 sec; Principal axes (scale 10**17 Nm): (T)      |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Val=-1.48, Plg=18, Azm=74; (N) Val=0.26, Plg=18, Azm=338;    |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (P) Val=-1.74, Plg=64, Azm=206; Best double couple:          |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Mo=1.6*10**17 Nm; NP1: Strike=190, Dip=31, Slip=-54; NP2:    |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Strike=330, Dip=65, Slip=-110.                               |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 07   | 09 | 44 | 13.4? | 23.31  | S | 175.76  | W | 33  | N | 4.4     | 1.0 | 13  | TONGA ISLANDS REGION  |
| 07   | 09 | 53 | 19.3? | 6.54   | S | 130.46  | E | 33  | N | 4.5     | 0.7 | 8   | BANDA SEA   |
| 07   | 10 | 00 | 44.9? | 18.81  | S | 168.83  | E | 150 | G |         | 0.8 | 8   | VANUATU ISLANDS   |
| 07   | 10 | 10 | 13.2? | 22.99  | S | 176.83  | W | 46  | D | 4.7     | 1.4 | 15  | SOUTH OF FIJI ISLANDS   |
| 07   | 11 | 12 | 55.6? | 22.90  | S | 170.96  | E | 33  | N |         | 1.1 | 8   | LOYALTY ISLANDS REGION  |
| 07   | 12 | 35 | 44.6  | 34.763 | N | 139.148 | E | 10  | G | 4.3     | 1.3 | 23  | NEAR S. COAST OF HONSHU, JAPAN                                    |
| 07   | 12 | 45 | 45.5* | 57.380 | S | 25.607  | W | 33  | N | 4.8     | 1.0 | 20  | SOUTH SANDWICH ISLANDS REGION                                     |
| 07   | 13 | 52 | 48.6* | 29.827 | N | 67.726  | E | 33  | N | 3.7     | 1.1 | 15  | PAKISTAN  |
| 07   | 14 | 00 | 48.1? | 19.21  | S | 177.53  | W | 550 | G | 4.1     | 1.2 | 10  | FIJI ISLANDS REGION   |
| 07   | 14 | 01 | 57.3? | 40.48  | N | 27.83   | E | 10  | G |         | 0.1 | 4   | TURKEY. MD 2.7 (ISK).   |
| 07   | 14 | 08 | 57.2% | 33.406 | S | 71.213  | W | 60  | G |         | 0.3 | 11  | NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).                        |
| 07   | 15 | 01 | 39.2* | 34.783 | N | 139.302 | E | 10  | G |         | 0.2 | 7   | NEAR S. COAST OF HONSHU, JAPAN                                    |
| 07   | 15 | 15 | 48.7* | 19.402 | S | 69.768  | W | 100 | G | 3.5     | 0.7 | 8   | NORTHERN CHILE  |
| 07   | 16 | 18 | 53.8% | 38.794 | N | 122.781 | W | 2   |   |         |     | 18  | NORTHERN CALIFORNIA. <GM-P>. MD 3.0 (GM). ML 3.0 (GS), 3.0 (BRK). |
| 07   | 16 | 29 | 19.5  | 40.332 | N | 126.751 | W | 10  | G |         | 0.8 | 30  | OFF COAST OF NORTHERN CALIFORNIA. ML 4.3 (GS).                    |
| 07   | 16 | 39 | 42.5* | 25.603 | N | 141.640 | E | 179 | * | 4.3     | 0.4 | 10  | VOLCANO ISLANDS REGION  |
| 07   | 17 | 19 | 25.0% | 60.464 | N | 151.849 | W | 73  |   |         |     | 81  | KENAI PENINSULA, ALASKA. <AEIC>.                                  |
| 07   | 17 | 27 | 55.5  | 6.757  | N | 72.962  | W | 160 | D | 4.7     | 0.8 | 157 | NORTHERN COLOMBIA. Felt in Antioquia and Santander Departments.   |
| 07   | 17 | 55 | 25.4* | 30.898 | S | 177.854 | W | 100 | G | 5.0     | 1.2 | 35  | KERMADEC ISLANDS, NEW ZEALAND. Mw 5.4 (HRV).                      |
| Centroid, Moment Tensor (HRV): Centroid origin time          |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 17:55:23.8; Lat 30.75 S; Lon 177.62 W; Dep 42.3; Half-       |    |    |       |        |   |         |   |     |   |         |     |     |   |
| duration 1.2 sec; Principal axes (scale 10**17 Nm): (T)      |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Val=-1.26, Plg=63, Azm=285; (N) Val=0.11, Plg=1, Azm=193;    |    |    |       |        |   |         |   |     |   |         |     |     |   |
| (P) Val=-1.38, Plg=27, Azm=103; Best double couple:          |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Mo=1.3*10**17 Nm; NP1: Strike=191, Dip=18, Slip=88; NP2:     |    |    |       |        |   |         |   |     |   |         |     |     |   |
| Strike=14, Dip=72, Slip=91.                                  |    |    |       |        |   |         |   |     |   |         |     |     |   |
| 07   | 18 | 18 | 14.2? | 31.25  | S | 178.12  | W | 200 | G | 4.5     | 1.1 | 15  | KERMADEC ISLANDS REGION   |
| 07   | 18 | 33 | 00.9? | 34.63  | N | 71.76   | E | 33  | N |         | 1.4 | 8   | PAKISTAN  |
| 07   | 18 | 39 | 45.9% | 63.459 | N | 148.769 | W | 15  |   |         |     | 53  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 2.9 (PMR).                 |
| 07   | 19 | 00 | 04.9* | 26.022 | S | 69.787  | W | 70  | * | 4.0     | 1.2 | 13  | NORTHERN CHILE  |
| 07   | 19 | 03 | 28.0  | 28.797 | N | 130.046 | E | 33  | N | 4.7     | 1.2 | 30  | RYUKYU ISLANDS  |
| 07   | 19 | 15 | 47.7* | 23.937 | S | 67.059  | W | 231 | ? | 4.4     | 1.3 | 7   | CHILE-ARGENTINA BORDER REGION                                     |
| 07   | 19 | 34 | 42.5  | 11.103 | S | 73.956  | W | 33  | N | 5.1 4.4 | 0.7 | 103 | CENTRAL PERU  |
| 07   | 20 | 39 | 23.8* | 52.247 | N | 30.252  | W | 10  | G | 3.5     | 1.0 | 10  | NORTHERN MID-ATLANTIC RIDGE                                       |
| 07   | 20 | 40 | 57.4% | 63.552 | N | 152.784 | W | 9   |   |         |     | 48  | CENTRAL ALASKA. <AEIC>. ML 3.0 (AEIC), 3.3 (PMR).                 |
| 07   | 21 | 03 | 54.9? | 6.45   | S | 154.74  | E | 33  | N | 4.1     | 0.9 | 6   | SOLOMON ISLANDS   |
| 07   | 21 | 29 | 06.3% | 47.688 | N | 2.333   | W | 5   | G |         | 0.6 | 7   | FRANCE. ML 1.8 (LDG).   |
| 07   | 21 | 40 | 54.7% | 37.051 | N | 3.828   | W | 10  | G |         | 0.2 | 5   | SPAIN. mbLg 2.2 (MDD).  |
| 07   | 21 | 41 | 07.7* | 75.019 | N | 8.714   | E | 10  | G | 4.1     | 1.1 | 11  | GREENLAND SEA   |
| 07   | 21 | 55 | 53.9  | 39.807 | N | 9.896   | W | 10  | G |         | 1.0 | 29  | PORTUGAL. MD 3.9 (MDD).   |

|   |          |           |              |     |     |  |
|---|----------|-----------|--------------|-----|-----|--|
| 07 21 58 54.62  | 58.75 S  | 25.35 W   | 33 N         | 1.5 | 11  | SOUTH SANDWICH ISLANDS REGION  |
| 07 22 51 08.3   | 49.946 N | 18.702 E  | 10 G         | 1.1 | 26  | CZECH AND SLOVAK REPUBLICS. ML 4.0 (GRF), 3.5 (VIE), 3.3 (CLL).  |
| 07 22 56 40.9*  | 3.118 N  | 126.868 E | 33 N 4.6     | 0.9 | 21  | TALAUD ISLANDS, INDONESIA  |
| 07 23 15 33.6*  | 12.573 S | 166.880 E | 250 G 4.4    | 1.3 | 58  | SANTA CRUZ ISLANDS   |
| 07 23 36 08.3*  | 21.837 N | 121.630 E | 33 N         | 0.9 | 7   | TAIWAN REGION  |
| 08 00 41 11.77  | 29.15 N  | 69.17 E   | 33 N 3.6     | 1.5 | 5   | PAKISTAN   |
| 08 00 44 17.66  | 33.999 N | 117.579 W | 3            |     | 27  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.0 (PAS). ML 3.0 (GS). Felt in the Ontario area.   |
| 08 00 59 20.2   | 7.688 S  | 123.411 E | 249 * 5.0    | 0.9 | 32  | BANDA SEA  |
| 08 02 14 02.36  | 60.141 N | 153.024 W | 117          |     | 60  | SOUTHERN ALASKA. <AEIC>.   |
| 08 02 17 37.4*  | 4.403 S  | 145.248 E | 33 N 4.2     | 0.3 | 7   | NEAR N COAST OF NEW GUINEA, PNG.   |
| 08 02 20 21.4*  | 40.934 N | 28.133 E  | 10 G         | 0.6 | 7   | TURKEY. MD 2.8 (ISK).  |
| 08 02 44 41.7*  | 37.725 N | 21.266 E  | 10 G         | 0.4 | 11  | SOUTHERN GREECE  |
| 08 04 25 53.0*  | 10.915 S | 165.323 E | 33 N 4.6     | 1.3 | 28  | SANTA CRUZ ISLANDS   |
| 08 04 29 41.4*  | 10.958 S | 165.374 E | 33 N 4.6     | 0.9 | 27  | SANTA CRUZ ISLANDS   |
| 08 05 52 24.2*  | 37.816 N | 72.664 E  | 163 ?        | 0.4 | 10  | TAJIKISTAN   |
| 08 06 10 47.9   | 58.112 N | 32.347 W  | 10 G 4.6 4.5 | 0.9 | 79  | NORTH ATLANTIC OCEAN   |
| 08 06 12 35.1   | 58.023 N | 32.506 W  | 10 G 4.6     | 1.0 | 33  | NORTH ATLANTIC OCEAN   |
| 08 06 38 18.62  | 5.43 S   | 152.56 E  | 33 N 4.1     | 1.2 | 7   | NEW BRITAIN REGION, P.N.G.   |
| 08 07 15 17.6*  | 44.461 N | 141.969 E | 255 * 4.1    | 0.8 | 16  | HOKKAIDO, JAPAN REGION   |
| 08 08 16 49.76  | 61.487 N | 150.868 W | 60           |     | 46  | SOUTHERN ALASKA. <AEIC>. ML 3.0 (AEIC), 3.0 (PMR).   |
| 08 08 45 56.52  | 10.85 N  | 61.03 W   | 10 G         | 0.4 | 4   | TRINIDAD. MD 2.8 (TRN).  |
| 08 09 08 26.1*  | 17.537 S | 178.989 W | 600 G 4.5    | 0.8 | 22  | FIJI ISLANDS REGION  |
| 08 09 33 16.32  | 36.71 N  | 71.75 E   | 33 N 3.7     | 0.8 | 11  | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 08 09 58 45.3*  | 2.358 S  | 138.786 E | 33 N 4.7     | 0.6 | 15  | IRIAN JAYA, INDONESIA  |
| 08 10 20 35.6*  | 3.039 N  | 126.775 E | 75 * 4.5     | 0.8 | 15  | TALAUD ISLANDS, INDONESIA  |
| 08 10 50 43.3*  | 45.125 N | 6.554 E   | 5 G          | 0.6 | 6   | FRANCE. ML 1.9 (LDG).  |
| 08 11 31 25.36  | 59.664 N | 153.088 W | 105          |     | 39  | SOUTHERN ALASKA. <AEIC>.   |
| 08 12 11 36.7*  | 5.186 S  | 144.893 E | 33 N 4.4     | 1.1 | 20  | NEW GUINEA, PAPUA NEW GUINEA   |
| 08 14 18 18.4   | 51.671 N | 16.292 E  | 5 G          | 0.9 | 10  | POLAND   |
| 08 14 53 19.1*  | 34.844 N | 139.180 E | 10 G 3.6     | 1.3 | 12  | NEAR S. COAST OF HONSHU, JAPAN   |
| 08 14 58 52.0*  | 29.412 N | 68.581 E  | 33 N 4.1     | 1.2 | 10  | PAKISTAN   |
| 08 15 18 13.52  | 19.36 S  | 179.22 W  | 600 G 3.8    | 1.0 | 8   | FIJI ISLANDS REGION  |
| 08 15 21 02.3   | 27.535 N | 34.192 E  | 10 G 4.8     | 0.7 | 41  | RED SEA. MD 4.8 (RYD).   |
| 08 15 24 12.0   | 46.405 N | 12.697 E  | 10 G         | 1.3 | 17  | NORTHERN ITALY. ML 3.4 (GRF), 3.1 (VIE), 3.0 (FUR).  |
| 08 15 36 51.86  | 36.095 N | 117.665 W | 1            |     | 33  | CALIFORNIA-NEVADA BORDER REGION. <PAS-P>. MD 3.6 (PAS). ML 3.4 (GS).   |
| 08 15 51 06.2   | 34.329 N | 32.379 E  | 33 N 4.1     | 0.9 | 45  | CYPRUS REGION. ML 4.2 (JER). MD 4.1 (ISK).   |
| 08 17 20 22.4*  | 22.402 S | 175.031 W | 33 N 4.7     | 1.1 | 25  | TONGA ISLANDS REGION   |
| 08 17 41 57.7   | 58.077 N | 32.392 W  | 10 G 4.8 4.7 | 0.9 | 100 | NORTH ATLANTIC OCEAN   |
| 08 18 05 57.5   | 58.095 N | 32.240 W  | 10 G 4.5 4.2 | 1.1 | 36  | NORTH ATLANTIC OCEAN   |
| 08 18 30 47.1*  | 35.295 N | 77.787 E  | 33 N 3.9     | 1.5 | 14  | EASTERN KASHMIR  |
| 08 18 32 36.5   | 47.247 N | 11.376 E  | 5 G          | 0.7 | 11  | AUSTRIA. ML 2.3 (FUR), 2.0 (VIE).  |
| 08 18 53 37.5   | 45.871 N | 15.714 E  | 10 G         | 0.8 | 15  | NORTHWESTERN BALKAN REGION. MD 3.6 (LJU). ML 3.4 (VIE). Felt (IV) at Brezice and Krsko, Slovenia. Also felt (IV) at Zapresic, Croatia. Felt at Harmica, Croatia. |
| 08 19 00 16.26  | 62.692 N | 150.656 W | 90           |     | 39  | CENTRAL ALASKA. <AEIC>.  |
| 08 20 42 33.12  | 5.93 S   | 126.42 E  | 575 ? 4.3    | 1.4 | 12  | BANDA SEA  |
| 08 21 19 47.1   | 21.636 S | 68.238 W  | 128 D 4.5    | 1.0 | 36  | CHILE-BOLIVIA BORDER REGION  |
| 08 21 21 09.1*  | 49.384 S | 121.648 E | 10 G 4.6     | 1.3 | 12  | SOUTH OF AUSTRALIA   |
| 08 21 28 32.3*  | 42.608 N | 17.939 E  | 10 G         | 1.0 | 31  | ADRIATIC SEA   |
| 08 22 07 33.06  | 62.755 N | 149.494 W | 68           |     | 28  | CENTRAL ALASKA. <AEIC>. ML 2.9 (AEIC), 3.2 (PMR).  |
| 08 22 07 55.0   | 38.870 N | 21.536 E  | 33 N 3.9     | 0.9 | 34  | GREECE   |
| 08 22 14 02.7*  | 51.007 N | 161.478 E | 33 N         | 0.9 | 9   | OFF EAST COAST OF KAMCHATKA  |
| 08 22 41 05.26  | 63.500 N | 151.025 W | 4            |     | 29  | CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC), 3.1 (PMR).  |
| 08 23 00 05.8   | 48.367 N | 153.226 E | 160 D 4.4    | 0.9 | 66  | KURIL ISLANDS  |
| 08 23 12 21.9*  | 46.651 N | 6.431 E   | 5 G          | 0.2 | 5   | SWITZERLAND. ML 2.2 (LDG).   |
| 08 23 29 02.7*  | 11.748 N | 43.263 E  | 10 G 5.1 4.9 | 1.2 | 74  | ETHIOPIA. Mw 5.4 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 23:29:09.0; Lat 11.90 N; Lon 43.64 E; Dep 15.0 Fix; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=1.24, Plg=10, Azm=22; (N) Val=0.03, Plg=36, Azm=119; (P) Val=-1.27, Plg=53, Azm=279; Best double couple: Mo=1.3*10**17 Nm; NP1: Strike=77, Dip=47, Slip=-143; NP2: Strike=320, Dip=64, Slip=-50. |          |           |              |     |     |  |
| 08 23 46 46.4*  | 16.845 S | 173.638 W | 33 N 4.7     | 0.6 | 24  | TONGA ISLANDS  |
| 09 00 05 02.8   | 46.618 N | 6.366 E   | 5 G          | 1.1 | 13  | SWITZERLAND. ML 2.5 (STR), 2.3 (LDG).  |
| 09 00 26 04.8*  | 5.653 S  | 148.921 E | 182 * 4.5    | 0.7 | 16  | NEW BRITAIN REGION, P.N.G.   |
| 09 00 35 46.0   | 44.346 N | 10.084 E  | 10 G         | 0.8 | 50  | NORTHERN ITALY. ML 3.1 (STR), 2.8 (GEN), 2.8 (LDG).  |
| 09 00 37 36.72  | 13.44 S  | 170.38 E  | 500 G 4.1    | 1.1 | 8   | VANUATU ISLANDS REGION   |
| 09 01 24 09.4*  | 0.241 N  | 122.146 E | 172 ? 4.8    | 1.1 | 22  | MINAHASSA PENINSULA, SULAWESI  |
| 09 01 32 11.5*  | 11.819 N | 43.356 E  | 10 G 4.2     | 1.3 | 10  | ETHIOPIA   |
| 09 01 45 18.4   | 37.363 S | 75.477 W  | 33 N 4.5     | 0.7 | 22  | OFF COAST OF CENTRAL CHILE   |
| 09 02 02 01.6*  | 11.962 N | 43.414 E  | 10 G 4.2     | 0.9 | 14  | ETHIOPIA   |
| 09 02 05 32.92  | 22.12 S  | 170.81 E  | 33 N 4.3     | 1.3 | 9   | LOYALTY ISLANDS REGION   |
| 09 02 36 34.76  | 53.477 N | 165.356 W | 23           |     | 9   | FOX ISLANDS, ALEUTIAN ISLANDS. <AEIC>. ML 2.9 (AEIC).  |
| 09 03 19 33.92  | 17.28 S  | 71.47 W   | 116 ? 3.6    | 1.6 | 8   | NEAR COAST OF PERU   |
| 09 03 37 29.7*  | 12.037 N | 43.417 E  | 10 G 4.1     | 1.5 | 12  | WESTERN ARABIAN PENINSULA  |
| 09 03 43 38.2*  | 40.816 N | 73.206 E  | 33 N 3.6     | 1.3 | 10  | KYRGYZSTAN   |
| 09 04 03 41.12  | 46.13 N  | 12.27 E   | 10 G         | 0.2 | 5   | NORTHERN ITALY. ML 2.0 (VIE).  |
| 09 04 13 09.6*  | 15.573 N | 94.377 W  | 33 N 4.4     | 1.1 | 37  | NEAR COAST OF OAXACA, MEXICO   |
| 09 04 16 31.2*  | 37.912 N | 2.563 W   | 5 G          | 0.9 | 11  | SPAIN. mbLg 2.6 (MDD).   |
| 09 04 30 38.8*  | 37.884 N | 48.017 E  | 10 G         | 1.2 | 9   | NORTHWESTERN IRAN  |
| 09 04 50 48.7   | 51.450 N | 178.032 W | 56 D 4.8     | 0.9 | 131 | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.7 (PMR). Felt (III) on Adak.  |
| 09 05 27 32.62  | 51.33 N  | 179.73 E  | 115 ? 3.3    | 0.9 | 7   | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 09 05 59 28.7   | 46.616 N | 6.536 E   | 5 G          | 1.0 | 18  | SWITZERLAND. ML 2.7 (STR), 2.5 (LDG).  |
| 09 06 04 33.4*  | 46.623 N | 6.472 E   | 5 G          | 1.1 | 6   | SWITZERLAND. ML 1.7 (LDG).   |
| 09 06 07 46.3   | 29.663 N | 68.104 E  | 33 N 4.3     | 1.0 | 37  | PAKISTAN   |
| 09 06 11 49.7*  | 40.077 N | 8.818 W   | 10 G         | 0.9 | 8   | PORTUGAL. mbLg 3.1 (MDD).  |
| 09 06 46 44.5*  | 62.950 N | 151.300 W | 126          |     | 93  | CENTRAL ALASKA. <AEIC>.  |
| 09 06 47 57.8*  | 29.240 N | 68.685 E  | 33 N 4.4     | 1.3 | 18  | PAKISTAN   |



|    |    |    |       |          |           |       |         |     |     |   |
|----|----|----|-------|----------|-----------|-------|---------|-----|-----|---|
| 09 | 07 | 33 | 01.5* | 17.713 N | 82.440 W  | 10 G  | 3.9     | 0.8 | 17  | CARIBBEAN SEA   |
| 09 | 07 | 34 | 24.1* | 25.984 S | 178.863 W | 400 G | 4.6     | 1.0 | 23  | SOUTH OF FIJI ISLANDS   |
| 09 | 08 | 16 | 34.3* | 38.840 N | 20.733 E  | 33 N  |         | 1.1 | 15  | GREECE  |
| 09 | 08 | 37 | 19.16 | 55.343 N | 161.471 W | 123   |         |     | 9   | ALASKA PENINSULA. <AEIC>.   |
| 09 | 08 | 39 | 49.77 | 29.81 N  | 67.79 E   | 33 N  | 3.3     | 1.0 | 7   | PAKISTAN  |
| 09 | 09 | 04 | 38.6* | 53.884 S | 1.560 W   | 10 G  | 4.9     | 0.9 | 19  | BOUVET ISLAND REGION  |
| 09 | 11 | 03 | 04.5  | 56.567 N | 136.221 W | 10 G  |         | 0.9 | 43  | OFF COAST OF SOUTHEASTERN ALASKA. ML 3.7 (AEIC).  |
| 09 | 11 | 36 | 34.6  | 38.891 N | 21.594 E  | 33 N  | 4.0     | 1.1 | 53  | GREECE  |
| 09 | 11 | 37 | 02.0* | 38.950 N | 21.519 E  | 33 N  | 3.8     | 1.3 | 22  | GREECE  |
| 09 | 11 | 43 | 43.2  | 29.815 S | 71.147 W  | 33 N  | 5.5 5.7 | 1.0 | 157 | NEAR COAST OF CENTRAL CHILE. Mw 6.2 (HRV), 6.1 (GS). Me 5.6 (GS). Some damage to houses and landslides occurred in the La Serena area. Felt at Santiago. Also felt (II) at Mendoza, Argentina.  |
|    |    |    |       |          |           |       |         |     |     | Broadband Source Parameters (GS): Dep 38; NP1: Strike=180, Dip=45, Slip=105; NP2: Strike=339, Dip=47, Slip=75; Radiated energy 6.2*10**12 Nm.   |
|    |    |    |       |          |           |       |         |     |     | Moment Tensor (GS): Dep 41; Principal axes (scale 10**18 Nm): (T) Val=1.70, Plg=81, Azm=165; (N) Val=0.14, Plg=8, Azm=7; (P) Val=-1.84, Plg=3, Azm=277; Best double couple: Mo=1.8*10**18 Nm; NP1: Strike=358, Dip=42, Slip=78; NP2: Strike=195, Dip=49, Slip=101.  |
|    |    |    |       |          |           |       |         |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 11:43:51.8; Lat 29.91 S; Lon 71.52 W; Dep 43.0 Bdy; Half-duration 3.0 sec; Principal axes (scale 10**18 Nm): (T) Val=2.06, Plg=78, Azm=111; (N) Val=0.05, Plg=2, Azm=10; (P) Val=-2.10, Plg=11, Azm=279; Best double couple: Mo=2.1*10**18 Nm; NP1: Strike=6, Dip=34, Slip=86; NP2: Strike=191, Dip=57, Slip=93.      |
|    |    |    |       |          |           |       |         |     |     | Scalar Moment (PPT): Mo=1.8*10**18 Nm.  |
| 09 | 11 | 44 | 44.4* | 38.876 N | 21.435 E  | 33 N  | 3.3     | 1.3 | 20  | GREECE  |
| 09 | 12 | 07 | 33.1  | 35.563 N | 140.024 E | 63 *  | 4.8     | 1.1 | 48  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 09 | 12 | 48 | 36.8* | 7.682 N  | 82.487 W  | 10 G  | 4.4     | 1.3 | 33  | SOUTH OF PANAMA   |
| 09 | 13 | 06 | 18.07 | 29.41 S  | 71.09 W   | 33 N  | 4.3     | 0.7 | 4   | NEAR COAST OF CENTRAL CHILE   |
| 09 | 13 | 06 | 42.4* | 22.913 N | 142.937 E | 91 ?  | 3.8     | 1.2 | 18  | VOLCANO ISLANDS REGION  |
| 09 | 13 | 28 | 41.7* | 10.582 N | 85.996 W  | 33 N  | 4.7     | 1.4 | 27  | COSTA RICA  |
| 09 | 13 | 34 | 12.9* | 11.970 N | 43.403 E  | 10 G  | 4.6     | 1.1 | 17  | ETHIOPIA  |
| 09 | 13 | 43 | 19.37 | 11.24 N  | 85.43 W   | 33 N  | 3.7     | 1.3 | 12  | NICARAGUA   |
| 09 | 14 | 33 | 22.5  | 66.539 N | 135.873 W | 10 G  | 4.7     | 0.9 | 101 | NORTHERN YUKON TERRITORY, CANADA. ML 4.8 (PGC).   |
| 09 | 14 | 39 | 04.0* | 29.734 N | 51.300 E  | 33 N  | 4.5     | 1.1 | 28  | SOUTHERN IRAN   |
| 09 | 14 | 50 | 50.5* | 29.736 S | 178.760 W | 200 G | 4.6     | 1.2 | 26  | KERMADEC ISLANDS, NEW ZEALAND   |
| 09 | 14 | 53 | 50.2  | 51.811 N | 177.249 W | 64    | 4.2     | 0.7 | 36  | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 09 | 15 | 46 | 56.9* | 34.801 N | 139.268 E | 10 G  |         | 0.7 | 7   | NEAR S. COAST OF HONSHU, JAPAN  |
| 09 | 16 | 12 | 41.66 | 63.395 N | 151.564 W | 6     |         |     | 71  | CENTRAL ALASKA. <AEIC>. ML 3.1 (AEIC), 3.4 (PMR).   |
| 09 | 16 | 44 | 18.9  | 38.825 N | 21.469 E  | 33 N  | 3.6     | 1.0 | 26  | GREECE  |
| 09 | 17 | 21 | 53.4* | 21.502 N | 144.988 E | 33 N  | 3.8     | 0.7 | 9   | MARIANA ISLANDS REGION  |
| 09 | 17 | 26 | 01.77 | 11.87 N  | 43.36 E   | 10 G  | 3.8     | 1.2 | 10  | ETHIOPIA  |
| 09 | 17 | 31 | 35.77 | 11.03 N  | 43.53 E   | 10 G  | 3.7     | 1.3 | 7   | ETHIOPIA  |
| 09 | 17 | 40 | 18.3  | 11.696 N | 43.550 E  | 10 G  | 4.8 5.0 | 1.3 | 66  | ETHIOPIA. Mw 5.5 (HRV). Felt in Djibouti.   |
|    |    |    |       |          |           |       |         |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 17:40:23.4; Lat 12.04 N; Lon 43.75 E; Dep 15.0 Bdy; Half-duration 1.4 sec; Principal axes (scale 10**17 Nm): (T) Val=2.83, Plg=7, Azm=184; (N) Val=-1.28, Plg=51, Azm=85; (P) Val=-1.56, Plg=38, Azm=280; Best double couple: Mo=2.2*10**17 Nm; NP1: Strike=315, Dip=58, Slip=-24; NP2: Strike=58, Dip=70, Slip=-146. |
| 09 | 17 | 41 | 45.0* | 11.687 N | 43.412 E  | 10 G  | 4.7     | 1.1 | 29  | ETHIOPIA  |
| 09 | 17 | 46 | 39.77 | 6.49 S   | 144.41 E  | 33 N  | 3.7     | 0.9 | 7   | NEW GUINEA, PAPUA NEW GUINEA  |
| 09 | 17 | 53 | 17.47 | 11.93 N  | 43.31 E   | 10 G  |         | 1.1 | 6   | ETHIOPIA  |
| 09 | 18 | 01 | 10.37 | 11.26 N  | 43.49 E   | 10 G  | 4.2     | 1.4 | 5   | ETHIOPIA  |
| 09 | 18 | 34 | 45.2* | 34.897 N | 139.227 E | 10 G  | 3.1     | 0.9 | 7   | NEAR S. COAST OF HONSHU, JAPAN  |
| 09 | 18 | 50 | 05.6* | 29.859 N | 68.053 E  | 33 N  | 3.9     | 1.4 | 16  | PAKISTAN. Felt at Sibi.   |
| 09 | 18 | 51 | 43.3  | 21.513 S | 69.669 W  | 49 D  | 4.5     | 1.0 | 24  | NORTHERN CHILE  |
| 09 | 18 | 53 | 29.77 | 44.31 N  | 7.22 E    | 10 G  |         | 0.2 | 4   | NORTHERN ITALY. ML 1.2 (GEN).   |
| 09 | 18 | 54 | 03.4* | 44.354 N | 7.328 E   | 10 G  |         | 0.4 | 9   | NORTHERN ITALY. ML 2.0 (GEN).   |
| 09 | 18 | 54 | 10.2  | 44.376 N | 7.353 E   | 10 G  |         | 0.4 | 14  | NORTHERN ITALY. ML 2.1 (GEN), 1.9 (LDG).  |
| 09 | 18 | 56 | 04.1* | 44.335 N | 7.270 E   | 10 G  |         | 0.5 | 7   | NORTHERN ITALY. ML 1.6 (GEN).   |
| 09 | 18 | 56 | 25.3* | 45.986 N | 6.439 E   | 5 G   |         | 0.3 | 5   | FRANCE. ML 2.3 (LDG).   |
| 09 | 18 | 56 | 45.7* | 44.340 N | 7.294 E   | 10 G  |         | 0.0 | 4   | NORTHERN ITALY. ML 1.4 (GEN).   |
| 09 | 19 | 07 | 07.8  | 44.372 N | 7.338 E   | 10 G  |         | 0.6 | 32  | NORTHERN ITALY. ML 2.6 (GEN), 2.2 (LDG), 2.0 (STR).   |
| 09 | 19 | 09 | 29.7  | 11.579 N | 43.314 E  | 10 G  | 4.9     | 1.3 | 53  | ETHIOPIA  |
| 09 | 19 | 42 | 49.17 | 55.67 S  | 27.73 W   | 33 N  | 4.8     | 0.8 | 9   | SOUTH SANDWICH ISLANDS REGION   |
| 09 | 21 | 25 | 34.57 | 36.51 N  | 11.08 W   | 10 G  |         | 0.7 | 18  | NORTH ATLANTIC OCEAN. MD 3.4 (MDD).   |
| 09 | 21 | 29 | 37.9  | 8.016 N  | 93.762 E  | 111 D | 4.4     | 0.9 | 45  | NICOBAR ISLANDS, INDIA  |
| 09 | 21 | 38 | 47.2  | 4.580 S  | 140.518 E | 100 G | 4.8     | 0.9 | 17  | IRIAN JAYA, INDONESIA   |
| 09 | 21 | 49 | 05.07 | 8.64 S   | 118.71 E  | 33 N  | 3.9     | 1.1 | 6   | SUMBAWA REGION, INDONESIA   |
| 09 | 21 | 56 | 00.7  | 0.663 S  | 127.417 E | 33 N  | 5.1     | 1.3 | 47  | HALMAHERA, INDONESIA  |
| 10 | 01 | 49 | 28.37 | 40.59 N  | 27.54 E   | 10 G  |         | 0.8 | 5   | TURKEY. MD 2.8 (ISK).   |
| 10 | 02 | 10 | 56.7* | 40.880 N | 123.823 W | 25    |         |     | 8   | NORTHERN CALIFORNIA. <GM-P>. MD 2.9 (GM). ML 3.0 (BRK). Felt at Indianola and Trinidad.   |
| 10 | 02 | 13 | 43.3  | 45.695 N | 150.092 E | 140 D | 4.4     | 0.9 | 76  | KURIL ISLANDS   |
| 10 | 03 | 12 | 22.4* | 29.193 N | 103.088 E | 10 G  | 4.5     | 1.2 | 20  | SICHUAN, CHINA  |
| 10 | 03 | 28 | 06.7  | 44.752 N | 6.640 E   | 10 G  |         | 0.9 | 11  | FRANCE. ML 1.7 (STR).   |
| 10 | 03 | 53 | 00.3  | 29.681 S | 71.144 W  | 33 N  | 5.2 5.1 | 1.0 | 110 | NEAR COAST OF CENTRAL CHILE. Mw 5.6 (HRV). Some damage to older buildings at Coquimbo. Felt strongly at La Serena. Landslides occurred near La Serena. Felt (II) at Santiago.   |
|    |    |    |       |          |           |       |         |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 03:53:08.3; Lat 30.11 S; Lon 71.58 W; Dep 49.6; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=3.67, Plg=83, Azm=75; (N) Val=-0.64, Plg=3, Azm=186; (P) Val=-3.03, Plg=7, Azm=277; Best double couple: Mo=3.3*10**17 Nm; NP1: Strike=10, Dip=38, Slip=94; NP2: Strike=184, Dip=52, Slip=87.         |
| 10 | 05 | 01 | 40.5* | 33.232 S | 70.425 W  | 100 G |         | 0.4 | 7   | CHILE-ARGENTINA BORDER REGION   |



|    |    |    |       |        |   |         |   |     |   |     |     |     |  |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|--|---|
| 10 | 05 | 56 | 22.1  | 4.044  | N | 126.852 | E | 50  | G | 4.0 | 0.6 | 17  | TALAUD ISLANDS, INDONESIA  |   |
| 10 | 06 | 08 | 44.9* | 29.591 | N | 68.151  | E | 33  | N | 4.6 | 1.3 | 25  | PAKISTAN   |   |
| 10 | 07 | 33 | 34.2* | 11.732 | N | 43.285  | E | 10  | G | 4.4 | 0.9 | 14  | ETHIOPIA   |   |
| 10 | 07 | 33 | 44.1  | 24.184 | N | 122.360 | E | 84  | D | 4.7 | 0.9 | 30  | TAIWAN REGION  |   |
| 10 | 08 | 34 | 30.9  | 18.930 | N | 104.663 | W | 33  | N | 4.3 | 1.0 | 50  | NEAR COAST OF JALISCO, MEXICO  |   |
| 10 | 08 | 50 | 09.1? | 11.88  | N | 43.54   | E | 10  | G | 4.3 | 1.5 | 8   | ETHIOPIA   |   |
| 10 | 09 | 30 | 14.1? | 34.72  | S | 70.37   | W | 130 | G |     | 0.2 | 10  | CHILE-ARGENTINA BORDER REGION. MD 4.1 (SAN).   |   |
| 10 | 09 | 40 | 39.8? | 12.19  | N | 43.60   | E | 10  | G | 4.3 | 1.6 | 5   | WESTERN ARABIAN PENINSULA  |   |
| 10 | 09 | 56 | 36.6* | 1.788  | S | 136.539 | E | 33  | N | 4.4 | 1.5 | 14  | IRIAN JAYA REGION, INDONESIA   |   |
| 10 | 11 | 16 | 56.9? | 31.75  | S | 69.95   | W | 150 | G |     | 0.3 | 10  | SAN JUAN PROVINCE, ARGENTINA. MD 3.4 (SAN).  |   |
| 10 | 12 | 21 | 10.8* | 35.012 | N | 139.163 | E | 10  | G | 3.1 | 0.8 | 8   | NEAR S. COAST OF HONSHU, JAPAN   |   |
| 10 | 12 | 42 | 00.9% | 33.016 | S | 70.419  | W | 100 | G |     | 0.2 | 10  | CHILE-ARGENTINA BORDER REGION  |   |
| 10 | 13 | 22 | 20.2* | 20.004 | S | 178.418 | W | 600 | G | 4.1 | 0.8 | 30  | FIJI ISLANDS REGION  |   |
| 10 | 13 | 24 | 06.5* | 39.604 | N | 77.100  | E | 50  | G | 3.9 | 1.0 | 10  | SOUTHERN XINJIANG, CHINA   |   |
| 10 | 13 | 28 | 38.6* | 54.574 | N | 88.800  | E | 10  | G | 3.5 | 1.0 | 8   | SOUTHWESTERN SIBERIA, RUSSIA   |   |
| 10 | 14 | 03 | 01.3? | 9.58   | S | 66.82   | E | 10  | G | 4.2 | 0.8 | 7   | MID-INDIAN RIDGE   |   |
| 10 | 14 | 07 | 06.1* | 36.742 | S | 177.663 | E | 33  | N | 4.6 | 1.3 | 17  | OFF E. COAST OF N. ISLAND, N.Z.  |   |
| 10 | 14 | 11 | 35.9  | 38.774 | N | 21.613  | E | 33  | N | 3.5 | 1.2 | 24  | GREECE   |   |
| 10 | 14 | 17 | 44.9  | 5.223  | N | 72.805  | W | 33  | N | 4.9 | 4.8 | 0.9 | 117  | COLOMBIA. Felt at Bogota, Bucaramanga, Sogamoso and Tunja.  |
| 10 | 14 | 18 | 27.6  | 47.795 | N | -7.797  | E | 10  | G |     | 0.3 | 10  | SWITZERLAND. ML 2.0 (STR).   |   |
| 10 | 14 | 41 | 35.5* | 1.755  | S | 12.238  | W | 10  | G | 4.9 | 0.9 | 12  | NORTH OF ASCENSION ISLAND  |   |
| 10 | 14 | 42 | 05.1* | 24.023 | N | 122.348 | E | 100 | G | 3.9 | 0.8 | 13  | TAIWAN REGION  |   |
| 10 | 15 | 06 | 47.5* | 26.230 | N | 62.880  | E | 33  | N | 4.9 | 1.3 | 13  | SOUTHWESTERN PAKISTAN  |   |
| 10 | 17 | 18 | 40.1  | 3.624  | S | 140.191 | E | 33  | N | 4.6 | 1.3 | 16  | IRIAN JAYA, INDONESIA  |   |
| 10 | 17 | 50 | 36.9  | 27.382 | N | 92.710  | E | 33  | N | 4.4 | 1.1 | 33  | EASTERN XIZANG-INDIA BORDER REG.   |   |
| 10 | 17 | 55 | 14.4* | 27.217 | N | 92.417  | E | 33  | N | 4.5 | 1.4 | 38  | EASTERN XIZANG-INDIA BORDER REG.   |   |
| 10 | 18 | 44 | 35.3% | 62.504 | N | 151.240 | W | 87  |   |     |     | 20  | CENTRAL ALASKA. <AEIC>.  |   |
| 10 | 22 | 48 | 56.5? | 6.96   | S | 129.48  | E | 100 | G | 4.2 | 1.4 | 9   | BANDA SEA  |   |
| 10 | 22 | 49 | 41.3? | 30.26  | N | 68.00   | E | 33  | N |     | 1.5 | 10  | PAKISTAN   |   |
| 10 | 23 | 05 | 03.7% | 60.317 | N | 151.980 | W | 83  |   |     |     | 78  | KENAI PENINSULA, ALASKA. <AEIC>.   |   |
| 11 | 00 | 00 | 59.2  | 12.508 | N | 143.624 | E | 18  |   | 4.8 | 4.5 | 1.0 | 37   | SOUTH OF MARIANA ISLANDS  |
| 11 | 00 | 12 | 16.4% | 37.083 | N | 3.592   | W | 10  | G |     | 0.3 | 5   | SPAIN. mbLg 2.3 (MDD).   |   |
| 11 | 00 | 15 | 48.2* | 29.721 | N | 68.200  | E | 33  | N |     | 0.7 | 12  | PAKISTAN   |   |
| 11 | 03 | 13 | 59.4  | 21.134 | S | 178.863 | W | 553 | D | 5.2 | 0.9 | 319 | FIJI ISLANDS REGION. Mw 5.7 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>03:14:04.3; Lat 20.99 S; Lon 178.69 W; Dep 556.8; Half-<br>duration 1.7 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=3.40, Plg=15, Azm=190; (N) Val=0.65, Plg=19, Azm=95;<br>(P) Val=-4.05, Plg=65, Azm=317; Best double couple:<br>Mo=3.7*10**17 Nm; NP1: Strike=305, Dip=34, Slip=-55; NP2:<br>Strike=85, Dip=63, Slip=-111. |   |
| 11 | 03 | 35 | 24.9* | 42.863 | N | 0.164   | E | 5   | G |     | 0.6 | 5   | PYRENEES. ML 2.1 (LDG).  |   |
| 11 | 04 | 02 | 15.2  | 44.506 | N | 7.344   | E | 10  | G |     | 0.9 | 28  | NORTHERN ITALY. ML 2.5 (GEN), 1.9 (LDG).   |   |
| 11 | 04 | 56 | 21.4  | 46.174 | N | 7.742   | E | 10  | G |     | 0.8 | 21  | SWITZERLAND. ML 2.7 (STR), 2.4 (LDG).  |   |
| 11 | 05 | 25 | 57.7  | 31.078 | S | 177.732 | W | 10  | G | 5.6 | 6.2 | 1.0 | 203  | KERMADEC ISLANDS REGION. Mw 6.1 (GS), 6.1 (HRV).<br>Moment Tensor (GS): Dep 12; Principal axes (scale 10**18<br>Nm): (T) Val=1.44, Plg=48, Azm=290; (N) Val=-0.01, Plg=11,<br>Azm=188; (P) Val=-1.43, Plg=40, Azm=89; Best double couple:<br>Mo=1.4*10**18 Nm; NP1: Strike=120, Dip=11, Slip=21; NP2:<br>Strike=9, Dip=86, Slip=101.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>05:26:05.1; Lat 31.12 S; Lon 177.19 W; Dep 15.0 Bdy; Half-<br>duration 2.8 sec; Principal axes (scale 10**18 Nm): (T)<br>Val=1.39, Plg=61, Azm=274; (N) Val=0.10, Plg=3, Azm=10; (P)<br>Val=-1.49, Plg=29, Azm=102; Best double couple:<br>Mo=1.4*10**18 Nm; NP1: Strike=202, Dip=17, Slip=102; NP2:<br>Strike=9, Dip=74, Slip=86.<br>Scalar Moment (PPT): Mo=1.8*10**18 Nm. |
| 11 | 06 | 28 | 44.5? | 12.08  | N | 43.51   | E | 10  | G |     | 1.1 | 7   | WESTERN ARABIAN PENINSULA  |   |
| 11 | 06 | 30 | 16.3% | 37.712 | N | 122.567 | W | 5   |   |     |     | 19  | CENTRAL CALIFORNIA. <GM-P>. MD 3.5 (GM). ML 3.6 (BRK), 3.6 (GS). Felt throughout the San Francisco Bay area from Marin County to Monterey including Corte Madera, Daly City, Larkspur, Little Hollywood, Noe Valley, Oakland, Salinas, San Jose, San Rafael, South San Francisco, Terra Linda and Twin Cities.   |   |
| 11 | 06 | 33 | 53.4% | 37.714 | N | 122.567 | W | 5   |   |     |     | 20  | CENTRAL CALIFORNIA. <GM-P>. MD 3.5 (GM). ML 3.6 (BRK). Felt throughout the San Francisco Bay area from Marin County to Monterey including Corte Madera, Daly City, Larkspur, Little Hollywood, Noe Valley, Oakland, Salinas, San Jose, San Rafael, South San Francisco, Terra Linda and Twin Cities.   |   |
| 11 | 06 | 39 | 34.2  | 5.905  | N | 126.849 | E | 100 | G | 5.1 | 1.0 | 69  | MINDANAO, PHILIPPINE ISLANDS   |   |
| 11 | 07 | 03 | 41.4% | 37.372 | N | 118.581 | W | 10  |   |     |     | 15  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.0 (GM). ML 3.1 (BRK), 3.0 (GS).  |   |
| 11 | 07 | 17 | 03.2* | 32.390 | N | 142.519 | E | 33  | N | 4.4 | 1.3 | 20  | SOUTH OF HONSHU, JAPAN   |   |
| 11 | 07 | 39 | 17.8  | 51.915 | N | 159.322 | E | 33  | N | 5.3 | 5.0 | 0.9 | 255  | OFF EAST COAST OF KAMCHATKA. Felt (III) at Petropavlovsk-Kamchatskiy.   |
| 11 | 08 | 01 | 04.3% | 33.107 | S | 70.297  | W | 100 | G |     | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION  |   |
| 11 | 09 | 46 | 30.2  | 35.648 | N | 95.909  | E | 33  | N | 3.5 | 1.0 | 20  | QINGHAI, CHINA   |   |
| 11 | 10 | 23 | 37.6  | 21.821 | N | 144.035 | E | 200 | G |     | 1.1 | 9   | MARIANA ISLANDS REGION   |   |
| 11 | 10 | 47 | 58.6? | 30.03  | N | 66.99   | E | 33  | N | 3.7 | 1.2 | 6   | PAKISTAN   |   |
| 11 | 10 | 55 | 59.8  | 81.429 | N | 4.440   | W | 10  | G | 3.9 | 1.4 | 14  | NORTH OF SVALBARD  |   |
| 11 | 12 | 48 | 31.6* | 51.719 | N | 16.155  | E | 5   | G |     | 1.4 | 7   | POLAND. MG 2.8 (WAR).  |   |
| 11 | 13 | 03 | 11.3? | 32.40  | S | 71.79   | W | 10  | G |     | 0.3 | 9   | NEAR COAST OF CENTRAL CHILE  |   |
| 11 | 13 | 09 | 47.7% | 44.399 | N | 7.295   | E | 10  | G |     | 0.5 | 11  | NORTHERN ITALY. ML 2.1 (GEN).  |   |
| 11 | 13 | 19 | 28.5* | 51.703 | N | 175.087 | W | 33  | N | 4.1 | 1.3 | 19  | ANDREANOF ISLANDS, ALEUTIAN IS.  |   |
| 11 | 13 | 30 | 30.9  | 34.720 | N | 97.499  | W | 5   | G |     | 0.4 | 8   | OKLAHOMA. mbLg 2.5 (GS). Felt in the area 5 to 10 km south of Maysville.   |   |
| 11 | 13 | 49 | 18.3% | 35.679 | N | 140.581 | E | 33  | N |     | 0.9 | 5   | NEAR EAST COAST OF HONSHU, JAPAN   |   |
| 11 | 13 | 51 | 33.6% | 35.720 | N | 140.564 | E | 33  | N |     | 1.1 | 5   | NEAR EAST COAST OF HONSHU, JAPAN   |   |
| 11 | 14 | 02 | 46.4% | 44.388 | N | 7.348   | E | 10  | G |     | 0.5 | 12  | NORTHERN ITALY. ML 2.4 (GEN).  |   |
| 11 | 14 | 17 | 47.5  | 25.090 | N | 126.645 | E | 43  | D | 4.9 | 4.0 | 0.9 | 45   | RYUKYU ISLANDS  |
| 11 | 14 | 34 | 34.3* | 11.691 | N | 125.360 | E | 33  | N | 3.7 | 0.9 | 12  | SAMAR, PHILIPPINE ISLANDS  |   |

|   |    |    |       |          |           |       |         |     |     |   |
|---|----|----|-------|----------|-----------|-------|---------|-----|-----|---|
| 11  | 15 | 45 | 35.9* | 16.485 S | 69.535 W  | 200 G | 4.3     | 1.3 | 14  | PERU-BOLIVIA BORDER REGION  |
| 11  | 16 | 38 | 59.27 | 20.34 S  | 178.01 W  | 300 G | 3.6     | 0.4 | 11  | FIJI ISLANDS REGION   |
| 11  | 16 | 50 | 46.0* | 16.510 N | 98.347 W  | 33 N  | 4.2     | 1.3 | 35  | NEAR COAST OF GUERRERO, MEXICO  |
| 11  | 16 | 53 | 20.8* | 15.130 N | 122.815 E | 33 N  | 3.8     | 1.3 | 13  | PHILIPPINE ISLANDS REGION   |
| 11  | 17 | 35 | 38.9* | 3.391 S  | 135.242 E | 33 N  | 4.4     | 1.4 | 12  | IRIAN JAYA REGION, INDONESIA  |
| 11  | 17 | 55 | 18.6* | 23.997 S | 66.916 W  | 200 G | 4.2     | 1.1 | 21  | JUJUY PROVINCE, ARGENTINA   |
| 11  | 18 | 17 | 15.8? | 37.13 N  | 3.60 W    | 10 G  |         | 0.4 | 4   | SPAIN. mbLg 2.1 (MDD).  |
| 11  | 18 | 38 | 15.9  | 18.167 S | 176.717 W | 352 D | 5.0     | 1.0 | 100 | FIJI ISLANDS REGION   |
| 11  | 19 | 13 | 15.4  | 51.688 N | 16.120 E  | 5 G   |         | 1.1 | 21  | POLAND. ML 4.0 (GRF), 3.7 (FUR), 3.5 (VIE).   |
| 11  | 19 | 19 | 57.4* | 21.963 S | 179.425 W | 600 G | 5.0     | 1.0 | 22  | FIJI ISLANDS REGION   |
| 11  | 19 | 21 | 23.0  | 8.134 N  | 126.345 E | 88 D  | 5.7     | 1.0 | 221 | MINDANAO, PHILIPPINE ISLANDS  |
| 11  | 19 | 22 | 00.1  | 7.742 N  | 127.647 E | 10 G  | 6.3 6.7 | 1.2 | 210 | PHILIPPINE ISLANDS REGION. Mw 6.9 (GS), 6.9 (HRV). Me 7.2 (GS). Ms 6.7 (BRK). Some damage to buildings in the Cagayan de Oro area. Felt (V RF) at Bislig, (IV RF) at Cagayan de Oro and Davao, (III RF) at Surigao and (II RF) at General Santos. |
| Broadband Source Parameters (GS): NP1: Strike=205, Dip=72, Slip=-35; NP2: Strike=307, Dip=57, Slip=-158; Radiated energy 1.4*10**15 Nm. Complex event.  |    |    |       |          |           |       |         |     |     |   |
| Moment Tensor (GS): Dep 5; Principal axes (scale 10**19 Nm): (T) Val=-2.30, Plg=32, Azm=276; (N) Val=0.11, Plg=5, Azm=9; (P) Val=-2.40, Plg=57, Azm=107; Best double couple: Mo=2.3*10**19 Nm; NP1: Strike=348, Dip=14, Slip=-112; NP2: Strike=190, Dip=77, Slip=-85.   |    |    |       |          |           |       |         |     |     |   |
| Centroid, Moment Tensor (HRV): Centroid origin time 19:22:10.2; Lat 7.64 N; Lon 127.63 E; Dep 15.0 Fix; Half-duration 6.5 sec; Principal axes (scale 10**19 Nm): (T) Val=-2.28, Plg=7, Azm=263; (N) Val=-0.09, Plg=2, Azm=353; (P) Val=-2.19, Plg=83, Azm=97; Best double couple: Mo=2.2*10**19 Nm; NP1: Strike=351, Dip=38, Slip=-93; NP2: Strike=174, Dip=52, Slip=-88. |    |    |       |          |           |       |         |     |     |   |
| Scalar Moment (PPT): Mo=6.7*10**19 Nm.  |    |    |       |          |           |       |         |     |     |   |
| 11  | 20 | 01 | 36.5* | 60.020 N | 141.257 W | 6     |         | 15  | 15  | SOUTHEASTERN ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 11  | 20 | 10 | 32.8* | 56.294 S | 25.566 W  | 33 N  | 4.8     | 0.6 | 6   | SOUTH SANDWICH ISLANDS REGION   |
| 11  | 20 | 11 | 10.5* | 8.876 N  | 125.966 E | 150 G |         | 1.1 | 11  | MINDANAO, PHILIPPINE ISLANDS  |
| 11  | 20 | 57 | 35.0  | 44.099 N | 10.226 E  | 10 G  |         | 1.0 | 21  | NORTHERN ITALY. ML 2.5 (LDG), 2.4 (VIE), 2.1 (GEN).   |
| 11  | 22 | 43 | 46.5? | 31.27 S  | 177.54 W  | 33 N  | 4.3     | 1.0 | 10  | KERMADEC ISLANDS REGION   |
| 12  | 00 | 11 | 26.2? | 52.93 S  | 140.30 E  | 10 G  | 4.3     | 0.8 | 10  | WEST OF MACQUARIE ISLAND  |
| 12  | 00 | 15 | 58.6* | 53.085 S | 141.053 E | 10 G  | 4.8     | 1.2 | 41  | WEST OF MACQUARIE ISLAND  |
| 12  | 00 | 43 | 17.0? | 10.01 N  | 126.21 E  | 33 N  |         | 1.0 | 6   | PHILIPPINE ISLANDS REGION   |
| 12  | 00 | 53 | 23.1? | 36.47 N  | 70.81 E   | 210 ? |         | 0.9 | 6   | HINDU KUSH REGION, AFGHANISTAN  |
| 12  | 01 | 12 | 46.9? | 29.64 N  | 68.41 E   | 33 N  |         | 0.8 | 6   | PAKISTAN  |
| 12  | 01 | 32 | 54.6? | 32.29 S  | 70.08 W   | 120 G |         | 0.4 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.8 (SAN).  |
| 12  | 01 | 55 | 00.9* | 23.452 S | 175.510 W | 33 N  | 5.0 4.9 | 1.1 | 31  | TONGA ISLANDS REGION  |
| 12  | 04 | 13 | 04.9* | 44.264 N | 7.468 E   | 5 G   |         | 0.2 | 9   | NORTHERN ITALY. ML 2.1 (GEN).   |
| 12  | 05 | 49 | 46.3* | 3.265 S  | 135.154 E | 33 N  | 4.9     | 1.4 | 32  | IRIAN JAYA REGION, INDONESIA  |
| 12  | 05 | 50 | 04.0* | 60.108 N | 152.489 W | 97    |         |     | 38  | SOUTHERN ALASKA. <AEIC>.  |
| 12  | 06 | 18 | 14.0* | 29.645 N | 142.042 E | 33 N  | 4.2     | 1.3 | 18  | SOUTH OF HONSHU, JAPAN  |
| 12  | 06 | 26 | 44.8* | 63.353 N | 145.257 W | 4     |         |     | 27  | CENTRAL ALASKA. <AEIC>. ML 2.9 (AEIC).  |
| 12  | 06 | 40 | 49.2? | 40.02 N  | 28.06 E   | 10 G  |         | 0.0 | 4   | TURKEY. MD 2.9 (ISK).   |
| 12  | 07 | 00 | 28.5* | 47.087 N | 0.472 W   | 5 G   |         | 0.9 | 6   | FRANCE. ML 2.3 (LDG).   |
| 12  | 07 | 24 | 39.0? | 34.36 S  | 72.16 W   | 5 G   |         | 0.4 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.9 (SAN).  |
| 12  | 07 | 57 | 01.2? | 20.45 S  | 178.86 W  | 500 G | 3.7     | 0.5 | 9   | FIJI ISLANDS REGION   |
| 12  | 08 | 32 | 00.2? | 37.94 N  | 56.73 E   | 33 N  |         | 1.3 | 8   | NORTHERN IRAN   |
| 12  | 09 | 13 | 37.1* | 50.723 N | 170.707 W | 33 N  |         | 1.2 | 11  | SOUTH OF ALEUTIAN ISLANDS. ML 4.5 (PMR).  |
| 12  | 09 | 18 | 21.7* | 53.072 N | 167.467 W | 33 N  | 4.4     | 0.4 | 11  | FOX ISLANDS, ALEUTIAN ISLANDS   |
| 12  | 09 | 22 | 24.7* | 5.344 S  | 147.404 E | 150 G | 4.9     | 1.3 | 27  | EASTERN NEW GUINEA REG., P.N.G.   |
| 12  | 11 | 00 | 45.9* | 37.295 N | 139.571 E | 10 G  |         | 1.5 | 5   | EASTERN HONSHU, JAPAN   |
| 12  | 11 | 08 | 43.2? | 55.21 N  | 160.18 E  | 100 G |         | 1.0 | 5   | KAMCHATKA   |
| 12  | 11 | 18 | 24.8* | 60.248 N | 151.819 W | 73    |         |     | 28  | KENAI PENINSULA, ALASKA. <AEIC>.  |
| 12  | 11 | 27 | 50.5  | 17.724 N | 145.935 E | 138 * | 4.7     | 1.0 | 48  | MARIANA ISLANDS   |
| 12  | 11 | 36 | 33.0* | 42.367 N | 125.514 W | 10 G  |         | 0.4 | 13  | OFF COAST OF OREGON   |
| 12  | 11 | 38 | 06.5* | 22.535 S | 66.039 W  | 244 * | 4.6     | 0.9 | 30  | JUJUY PROVINCE, ARGENTINA   |
| 12  | 12 | 01 | 23.5? | 34.36 S  | 71.80 W   | 50 G  |         | 0.2 | 7   | NEAR COAST OF CENTRAL CHILE   |
| 12  | 12 | 08 | 14.8  | 29.758 S | 71.294 W  | 60 D  | 4.5     | 0.7 | 39  | NEAR COAST OF CENTRAL CHILE   |
| 12  | 12 | 32 | 22.9* | 57.524 N | 156.165 W | 75    | 2.3     |     | 30  | ALASKA PENINSULA. <AEIC>.   |
| 12  | 13 | 08 | 13.9? | 32.50 S  | 71.81 W   | 20 G  |         | 0.5 | 11  | NEAR COAST OF CENTRAL CHILE. MD 4.5 (SAN).  |
| 12  | 13 | 24 | 05.3* | 7.542 N  | 126.994 E | 81 ?  | 3.7     | 0.9 | 16  | MINDANAO, PHILIPPINE ISLANDS  |
| 12  | 13 | 50 | 06.6* | 22.421 S | 67.314 W  | 172 * | 4.1     | 0.9 | 18  | CHILE-BOLIVIA BORDER REGION   |
| 12  | 13 | 58 | 04.9* | 8.464 N  | 126.442 E | 33 N  |         | 0.9 | 6   | MINDANAO, PHILIPPINE ISLANDS  |
| 12  | 14 | 51 | 49.2  | 13.445 N | 120.991 E | 33 N  | 5.2 5.0 | 1.1 | 93  | MINDORO, PHILIPPINE ISLANDS. Mw 5.4 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 14:51:48.6; Lat 13.55 N; Lon 120.97 E; Dep 15.1; Half-duration 1.2 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.66, Plg=21, Azm=296; (N) Val=-0.23, Plg=30, Azm=39; (P) Val=-1.43, Plg=52, Azm=177; Best double couple: Mo=1.5*10**17 Nm; NP1: Strike=346, Dip=36, Slip=-148; NP2: Strike=229, Dip=72, Slip=-58. |    |    |       |          |           |       |         |     |     |   |
| 12  | 15 | 30 | 26.9* | 36.218 S | 179.451 E | 60 D  | 5.0     | 1.3 | 32  | OFF E. COAST OF N. ISLAND, N.Z.   |
| 12  | 17 | 09 | 25.7  | 27.481 N | 130.415 E | 33 N  | 3.7     | 0.8 | 15  | RYUKYU ISLANDS  |
| 12  | 18 | 01 | 59.7* | 13.230 N | 89.060 W  | 72    |         | 1.2 | 30  | EL SALVADOR. MD 3.9 (SSS). Felt (II) at San Salvador.   |
| 12  | 18 | 29 | 37.6  | 62.891 N | 170.741 W | 10 G  | 4.6     | 1.0 | 83  | BERING SEA. Felt at Gambell, Alaska.  |
| 12  | 18 | 45 | 49.3* | 33.225 S | 70.354 W  | 5 G   |         | 0.3 | 7   | CHILE-ARGENTINA BORDER REGION. MD 3.0 (SAN).  |
| 12  | 20 | 41 | 59.9* | 60.045 N | 153.204 W | 128   |         |     | 23  | SOUTHERN ALASKA. <AEIC>.  |
| 12  | 22 | 07 | 27.5* | 63.504 N | 150.997 W | 6     |         |     | 40  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 3.0 (PMR).   |
| 12  | 22 | 12 | 21.7* | 60.284 N | 152.246 W | 76    |         |     | 65  | SOUTHERN ALASKA. <AEIC>.  |
| 12  | 22 | 12 | 48.6* | 34.233 S | 70.082 W  | 5 G   |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.7 (SAN).  |
| 12  | 22 | 54 | 27.6* | 31.361 S | 178.031 W | 150 G | 4.9     | 1.3 | 29  | KERMADEC ISLANDS REGION   |
| 12  | 23 | 26 | 49.1? | 44.83 N  | 7.19 E    | 5 G   |         | 0.1 | 4   | NORTHERN ITALY. ML 1.4 (GEN).   |
| 12  | 23 | 27 | 25.4* | 61.132 N | 150.218 W | 20    |         |     | 63  | SOUTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).   |
| 13  | 00 | 06 | 48.9* | 31.149 S | 177.637 W | 33 N  | 4.9     | 0.9 | 21  | KERMADEC ISLANDS REGION   |
| 13  | 00 | 16 | 52.6? | 32.44 S  | 176.46 W  | 33 N  | 4.5     | 1.3 | 12  | SOUTH OF KERMADEC ISLANDS   |
| 13  | 00 | 29 | 26.5* | 38.359 N | 27.804 E  | 10 G  |         | 1.1 | 7   | TURKEY. MD 3.2 (ISK).   |

|   |    |    |       |        |   |         |   |       |         |     |     |   |
|---|----|----|-------|--------|---|---------|---|-------|---------|-----|-----|---|
| 13  | 00 | 31 | 04.3? | 30.57  | S | 177.65  | W | 33°N  | 4.2     | 0.7 | 8   | KERMADEC ISLANDS, NEW ZEALAND   |
| 13  | 00 | 33 | 21.5* | 5.038  | N | 95.462  | E | 90°D  | 4.7     | 1.3 | 39  | NORTHERN SUMATERA, INDONESIA. Felt at Banda Aceh.                                   |
| 13  | 01 | 12 | 11.0  | 42.792 | N | 142.962 | E | 130°D | 4.7     | 0.8 | 135 | HOKKAIDO, JAPAN REGION  |
| 13  | 01 | 12 | 50.7? | 32.25  | S | 177.45  | W | 33°N  | 4.5     | 1.5 | 14  | SOUTH OF KERMADEC ISLANDS   |
| 13  | 01 | 24 | 10.2? | 29.63  | S | 178.10  | W | 33°N  | 4.3     | 0.8 | 7   | KERMADEC ISLANDS, NEW ZEALAND   |
| 13  | 01 | 25 | 56.8* | 29.806 | N | 67.928  | E | 33°N  | 3.8     | 1.1 | 14  | PAKISTAN  |
| 13  | 01 | 42 | 01.4* | 29.983 | N | 68.111  | E | 33°N  | 3.6     | 0.9 | 9   | PAKISTAN  |
| 13  | 01 | 53 | 27.3  | 29.961 | N | 68.147  | E | 33°N  | 4.0     | 0.9 | 21  | PAKISTAN  |
| 13  | 02 | 22 | 07.5* | 46.863 | N | 150.319 | E | 250°G | 3.9     | 0.5 | 10  | KURIL ISLANDS   |
| 13  | 02 | 33 | 16.9? | 18.48  | N | 104.47  | W | 33°N  | 3.9     | 0.9 | 9   | NEAR COAST OF JALISCO, MEXICO   |
| 13  | 02 | 46 | 42.4? | 5.52   | S | 154.21  | E | 250°G | 3.7     | 1.5 | 11  | SOLOMON ISLANDS   |
| 13  | 02 | 55 | 25.5  | 51.393 | N | 176.905 | W | 33°N  | 4.4     | 1.2 | 50  | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.7 (PMR).                                       |
| 13  | 02 | 59 | 40.4  | 39.989 | N | 39.949  | E | 10°G  | 4.3     | 1.2 | 35  | TURKEY. MD 4.2 (ISK).   |
| 13  | 03 | 02 | 47.3* | 31.174 | N | 88.958  | E | 33°N  |         | 0.9 | 9   | XIZANG  |
| 13  | 03 | 24 | 29.0* | 36.772 | N | 121.476 | W | 5     |         |     | 11  | CENTRAL CALIFORNIA. <GM-P>. MD 2.9 (GM).  |
| 13  | 03 | 28 | 34.6* | 36.318 | N | 70.126  | E | 243°  | 3.9     | 0.6 | 14  | HINDU KUSH REGION, AFGHANISTAN  |
| 13  | 04 | 01 | 57.3? | 51.27  | N | 15.86   | E | 5°G   |         | 0.3 | 5   | POLAND  |
| 13  | 05 | 48 | 42.2? | 51.39  | N | 174.35  | W | 150°G | 3.0     | 1.2 | 5   | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 13  | 05 | 49 | 24.7* | 36.967 | N | 2.648   | W | 10°G  |         | 0.6 | 7   | STRAIT OF GIBRALTAR. mbLg 2.8 (MDD).  |
| 13  | 05 | 56 | 46.1  | 4.340  | S | 143.815 | E | 78°D  | 4.1     | 0.7 | 15  | NEW GUINEA, PAPUA NEW GUINEA  |
| 13  | 06 | 06 | 16.5  | 58.667 | S | 25.140  | W | 33°N  | 4.9 5.2 | 0.9 | 33  | SOUTH SANDWICH ISLANDS REGION   |
| 13  | 06 | 27 | 58.0  | 36.468 | S | 97.671  | W | 10°G  | 4.9 5.0 | 1.0 | 62  | WEST CHILE RISE. Mw 5.6 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time       |    |    |       |        |   |         |   |       |         |     |     |   |
| 06:28:03.1; Lat 36.52 S; Lon 97.64 W; Dep 15.0 Fix; Half- |    |    |       |        |   |         |   |       |         |     |     |   |
| duration 1.4 sec; Principal axes (scale 10**17 Nm): (T)   |    |    |       |        |   |         |   |       |         |     |     |   |
| Val=2.79, Plg=24, Azm=46; (N) Val=-0.49, Plg=60, Azm=188; |    |    |       |        |   |         |   |       |         |     |     |   |
| (P) Val=-2.29, Plg=16, Azm=308; Best double couple:       |    |    |       |        |   |         |   |       |         |     |     |   |
| Mo=2.5*10**17 Nm; NP1: Strike=85, Dip=61, Slip=174; NP2:  |    |    |       |        |   |         |   |       |         |     |     |   |
| Strike=178, Dip=85, Slip=29.                              |    |    |       |        |   |         |   |       |         |     |     |   |
| 13  | 06 | 55 | 13.3* | 2.487  | N | 95.837  | E | 33°N  |         | 1.0 | 13  | OFF W COAST OF NORTHERN SUMATERA  |
| 13  | 06 | 59 | 38.2  | 14.216 | N | 89.863  | W | 250°G | 4.6     | 1.1 | 49  | GUATEMALA   |
| 13  | 07 | 08 | 45.1* | 27.390 | S | 70.821  | W | 33°N  | 4.6     | 1.1 | 17  | NEAR COAST OF NORTHERN CHILE  |
| 13  | 07 | 08 | 51.0  | 45.076 | N | 6.928   | E | 5°G   |         | 0.9 | 35  | FRANCE. ML 3.0 (GEN), 2.9 (STR).  |
| 13  | 07 | 27 | 29.0  | 5.130  | S | 144.673 | E | 100°G | 4.4     | 1.0 | 30  | NEW GUINEA, PAPUA NEW GUINEA  |
| 13  | 07 | 29 | 53.5? | 34.44  | S | 72.11   | W | 20°G  |         | 0.4 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.6 (SAN).  |
| 13  | 08 | 28 | 06.8  | 6.639  | S | 129.621 | E | 100°G | 4.7     | 1.1 | 32  | BANDA SEA   |
| 13  | 09 | 28 | 14.6* | 31.820 | S | 71.638  | W | 5°G   |         | 0.6 | 11  | NEAR COAST OF CENTRAL CHILE. MD 4.4 (SAN).  |
| 13  | 09 | 56 | 34.7* | 36.846 | N | 2.969   | W | 10°G  |         | 0.1 | 5   | STRAIT OF GIBRALTAR. mbLg 2.7 (MDD).  |
| 13  | 10 | 49 | 00.3* | 29.681 | N | 68.265  | E | 33°N  | 3.7     | 1.1 | 12  | PAKISTAN  |
| 13  | 11 | 26 | 30.9* | 59.393 | N | 152.648 | W | 91    |         |     | 62  | SOUTHERN ALASKA. <AEIC>.  |
| 13  | 11 | 42 | 50.7? | 36.78  | N | 3.84    | W | 10°G  |         | 0.6 | 4   | STRAIT OF GIBRALTAR. mbLg 2.6 (MDD).  |
| 13  | 11 | 51 | 21.7* | 65.296 | S | 177.993 | E | 10°G  | 4.6     | 0.9 | 9   | BALLENY ISLANDS REGION  |
| 13  | 12 | 10 | 14.0* | 34.181 | S | 71.355  | W | 50°G  |         | 0.2 | 8   | NEAR COAST OF CENTRAL CHILE   |
| 13  | 12 | 12 | 42.2* | 13.489 | N | 121.117 | E | 33°N  | 3.9     | 0.9 | 13  | MINDORO, PHILIPPINE ISLANDS   |
| 13  | 12 | 25 | 41.1? | 21.14  | S | 179.10  | W | 600°G |         | 1.0 | 10  | FIJI ISLANDS REGION   |
| 13  | 12 | 49 | 42.3* | 3.487  | S | 129.059 | E | 33°N  | 4.3     | 1.0 | 12  | SERAM, INDONESIA  |
| 13  | 12 | 54 | 27.9? | 33.60  | S | 72.27   | W | 40°G  |         | 0.5 | 10  | OFF COAST OF CENTRAL CHILE. MD 3.6 (SAN).   |
| 13  | 12 | 59 | 52.9* | 44.350 | N | 7.310   | E | 15°G  |         | 0.4 | 10  | NORTHERN ITALY. ML 2.1 (GEN).   |
| 13  | 13 | 07 | 34.2  | 49.145 | N | 156.115 | E | 46°D  | 4.6     | 1.0 | 80  | KURIL ISLANDS   |
| 13  | 13 | 22 | 26.4* | 29.893 | N | 68.194  | E | 33°N  | 4.1     | 1.0 | 22  | PAKISTAN  |
| 13  | 13 | 56 | 27.0* | 36.771 | N | 31.023  | E | 10°G  |         | 0.6 | 11  | TURKEY. MD 3.5 (ISK).   |
| 13  | 14 | 04 | 14.2  | 39.457 | N | 143.644 | E | 35°D  | 4.9     | 1.1 | 21  | OFF EAST COAST OF HONSHU, JAPAN   |
| 13  | 14 | 23 | 35.1? | 31.68  | S | 70.06   | W | 130°G |         | 0.6 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.9 (SAN).  |
| 13  | 14 | 28 | 42.8? | 23.05  | S | 170.65  | E | 33°N  | 4.1     | 1.1 | 11  | LOYALTY ISLANDS REGION  |
| 13  | 14 | 38 | 30.7? | 36.70  | N | 3.85    | W | 10°G  |         | 1.7 | 4   | STRAIT OF GIBRALTAR. mbLg 2.6 (MDD).  |
| 13  | 14 | 40 | 17.5* | 43.367 | N | 147.761 | E | 43°D  | 4.5     | 1.3 | 24  | KURIL ISLANDS   |
| 13  | 14 | 58 | 02.6* | 38.782 | N | 21.748  | E | 30    |         | 0.9 | 14  | GREECE  |
| 13  | 16 | 21 | 31.6* | 59.369 | N | 153.459 | W | 127   |         |     | 56  | SOUTHERN ALASKA. <AEIC>.  |
| 13  | 16 | 29 | 46.5* | 30.499 | N | 132.982 | E | 33°N  |         | 0.5 | 8   | SOUTHEAST OF SHIKOKU, JAPAN   |
| 13  | 16 | 49 | 07.1* | 12.089 | N | 88.562  | W | 33°N  |         | 1.1 | 19  | OFF COAST OF CENTRAL AMERICA. MD 3.8 (SSS). Felt (II) at San Salvador, El Salvador. |
| 13  | 16 | 50 | 39.9* | 34.552 | S | 70.350  | W | 5°G   |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.7 (SAN).  |
| 13  | 16 | 55 | 00.4  | 46.510 | N | 153.395 | E | 33°N  | 4.8 4.5 | 1.0 | 83  | KURIL ISLANDS   |
| 13  | 17 | 03 | 59.5* | 46.405 | N | 153.566 | E | 33°N  | 4.2     | 1.1 | 26  | KURIL ISLANDS   |
| 13  | 17 | 20 | 24.0* | 60.314 | N | 151.478 | W | 49    |         |     | 69  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.7 (AEIC).                                     |
| 13  | 17 | 37 | 36.5? | 11.68  | S | 166.09  | E | 33°N  | 4.8     | 1.5 | 13  | SANTA CRUZ ISLANDS  |
| 13  | 18 | 06 | 09.1  | 25.580 | N | 123.738 | E | 199   | 4.8     | 0.9 | 209 | NORTHEAST OF TAIWAN   |
| 13  | 18 | 09 | 09.7* | 4.319  | N | 62.622  | E | 10°G  | 4.6     | 0.7 | 18  | CARLSBERG RIDGE   |
| 13  | 18 | 17 | 11.4* | 53.485 | N | 153.588 | E | 550°G |         | 0.8 | 15  | SEA OF OKHOTSK  |
| 13  | 19 | 22 | 04.6? | 32.63  | S | 71.54   | W | 25°G  |         | 0.6 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).  |
| 13  | 19 | 37 | 15.7? | 15.07  | S | 172.11  | W | 33°N  | 3.8     | 1.2 | 9   | SAMOA ISLANDS REGION  |
| 13  | 19 | 39 | 23.5* | 30.037 | N | 131.460 | E | 33°N  |         | 1.0 | 6   | KYUSHU, JAPAN   |
| 13  | 19 | 43 | 17.3* | 2.873  | N | 96.306  | E | 33°N  | 4.3     | 1.0 | 11  | NORTHERN SUMATERA, INDONESIA  |
| 13  | 20 | 01 | 40.5* | 13.563 | N | 120.851 | E | 150°G | 3.7     | 0.7 | 9   | MINDORO, PHILIPPINE ISLANDS   |
| 13  | 20 | 26 | 17.7* | 37.097 | N | 3.598   | W | 10°G  |         | 0.6 | 12  | SPAIN. mbLg 2.9 (MDD).  |
| 13  | 20 | 29 | 40.1* | 51.321 | N | 16.086  | E | 5°G   |         | 1.3 | 6   | POLAND. MG 2.6 (WAR).   |
| 13  | 20 | 38 | 12.8  | 30.032 | N | 67.820  | E | 33°N  | 4.6 4.6 | 0.9 | 96  | PAKISTAN. Felt at Harnai.   |
| 13  | 20 | 41 | 21.5  | 4.219  | S | 143.044 | E | 118°D | 5.6     | 0.9 | 149 | NEW GUINEA, PAPUA NEW GUINEA. Mw 5.4 (HRV).   |
| Centroid, Moment Tensor (HRV): Centroid origin time       |    |    |       |        |   |         |   |       |         |     |     |   |
| 20:41:25.5; Lat 4.26 S; Lon 142.90 E; Dep 107.5; Half-    |    |    |       |        |   |         |   |       |         |     |     |   |
| duration 1.3 sec; Principal axes (scale 10**17 Nm): (T)   |    |    |       |        |   |         |   |       |         |     |     |   |
| Val=1.74, Plg=58, Azm=350; (N) Val=-0.37, Plg=8, Azm=92;  |    |    |       |        |   |         |   |       |         |     |     |   |
| (P) Val=-1.37, Plg=31, Azm=187; Best double couple:       |    |    |       |        |   |         |   |       |         |     |     |   |
| Mo=1.5*10**17 Nm; NP1: Strike=301, Dip=16, Slip=120; NP2: |    |    |       |        |   |         |   |       |         |     |     |   |
| Strike=90, Dip=76, Slip=82.                               |    |    |       |        |   |         |   |       |         |     |     |   |
| 13  | 21 | 14 | 07.1* | 36.745 | N | 121.447 | W | 8     |         |     | 13  | CENTRAL CALIFORNIA. <GM-P>. MD 3.1 (GM).  |
| 13  | 21 | 22 | 38.0* | 44.166 | N | 7.571   | E | 5°G   |         | 0.1 | 6   | NORTHERN ITALY. ML 1.9 (GEN).   |
| 13  | 21 | 34 | 44.3  | 12.600 | N | 89.066  | W | 59    | 4.7     | 1.0 | 55  | OFF COAST OF CENTRAL AMERICA. MD 4.4 (SSS). Felt (II) at San Salvador, El Salvador. |
| 13  | 23 | 42 | 42.6* | 29.890 | N | 68.122  | E | 33°N  | 3.9     | 1.3 | 11  | PAKISTAN  |
| 13  | 23 | 42 | 48.8* | 12.589 | N | 89.181  | W | 62°   | 4.6     | 0.9 | 32  | OFF COAST OF CENTRAL AMERICA. MD 3.9 (SSS). Felt (II) at San Salvador, El Salvador. |
| 13  | 23 | 48 | 58.4  | 51.701 | N | 16.120  | E | 5°G   |         | 0.9 | 26  | POLAND. ML 4.1 (GRF), 3.8 (VIE), 3.7 (FUR).   |



|    |    |    |       |        |   |         |   |     |   |         |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|---|
| 14 | 00 | 32 | 47.9* | 51.220 | N | 15.673  | E | 5   | G | 1.5     | 8   | POLAND. ML 3.2 (GRF), 3.0 (VIE).  |
| 14 | 01 | 42 | 52.7  | 6.011  | N | 127.062 | E | 62  | * | 4.9     | 0.6 | 25 PHILIPPINE ISLANDS REGION  |
| 14 | 01 | 43 | 45.1* | 44.361 | N | 7.343   | E | 10  | G |         | 0.2 | 5 NORTHERN ITALY. ML 1.7 (GEN).   |
| 14 | 02 | 29 | 35.27 | 12.46  | N | 125.35  | E | 33  | N | 4.0     | 1.0 | 11 SAMAR, PHILIPPINE ISLANDS  |
| 14 | 02 | 32 | 15.47 | 5.53   | S | 146.00  | E | 33  | N | 4.1     | 0.9 | 7 EASTERN NEW GUINEA REG., P.N.G.   |
| 14 | 03 | 31 | 30.6* | 44.495 | N | 7.336   | E | 5   | G |         | 0.3 | 9 NORTHERN ITALY. ML 1.8 (GEN).   |
| 14 | 03 | 32 | 15.67 | 31.78  | S | 70.12   | W | 140 | G |         | 0.2 | 9 CHILE-ARGENTINA BORDER REGION. MD 3.2 (SAN).  |
| 14 | 04 | 02 | 28.6* | 34.713 | N | 139.385 | E | 10  | G |         | 1.3 | 10 NEAR S. COAST OF HONSHU, JAPAN   |
| 14 | 04 | 59 | 50.1* | 17.468 | S | 178.993 | W | 650 | G | 4.7     | 0.4 | 19 FIJI ISLANDS REGION  |
| 14 | 05 | 02 | 25.67 | 32.96  | S | 72.09   | W | 15  | G |         | 0.3 | 10 OFF COAST OF CENTRAL CHILE. MD 3.6 (SAN).  |
| 14 | 05 | 17 | 29.97 | 12.63  | N | 88.87   | W | 33  | N | 4.1     | 1.4 | 7 OFF COAST OF CENTRAL AMERICA  |
| 14 | 05 | 47 | 53.7* | 79.624 | N | 6.625   | E | 10  | G |         | 1.5 | 7 SVALBARD REGION   |
| 14 | 05 | 58 | 04.6* | 57.774 | N | 142.963 | W | 10  | G |         | 0.6 | 24 GULF OF ALASKA. ML 2.6 (AEIC).   |
| 14 | 06 | 21 | 07.4* | 18.147 | N | 67.137  | W | 15  | G |         | 0.4 | 7 MONA PASSAGE. MD 2.7 (MPR).   |
| 14 | 06 | 24 | 48.8* | 32.796 | S | 71.335  | W | 50  | G |         | 0.4 | 10 NEAR COAST OF CENTRAL CHILE. MD 2.8 (SAN).   |
| 14 | 06 | 53 | 57.6* | 45.621 | N | 14.702  | E | 10  | G |         | 1.2 | 9 NORTHWESTERN BALKAN REGION. MD 3.4 (LTJ). ML 2.9 (VIE). Felt at Grobnik, Croatia.   |
| 14 | 07 | 04 | 29.8* | 38.052 | N | 28.766  | E | 10  | G |         | 0.3 | 5 TURKEY. MD 3.2 (ISK).   |
| 14 | 07 | 14 | 59.77 | 12.51  | N | 89.03   | W | 33  | N | 4.0     | 1.1 | 6 OFF COAST OF CENTRAL AMERICA  |
| 14 | 08 | 39 | 02.0* | 73.506 | N | 8.831   | E | 10  | G |         | 1.0 | 5 GREENLAND SEA   |
| 14 | 08 | 44 | 51.17 | 39.16  | N | 27.49   | E | 10  | G |         | 1.0 | 4 TURKEY. MD 2.8 (ISK).   |
| 14 | 09 | 12 | 29.07 | 32.61  | S | 71.80   | W | 20  | G |         | 0.6 | 10 NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).   |
| 14 | 09 | 21 | 19.8  | 4.667  | N | 97.183  | E | 33  | N | 4.3     | 0.7 | 14 NORTHERN SUMATERA, INDONESIA   |
| 14 | 09 | 34 | 03.0* | 58.838 | N | 152.411 | W | 49  |   |         |     | 27 KODIAK ISLAND REGION. <AEIC>. ML 2.7 (AEIC).   |
| 14 | 09 | 42 | 58.6  | 34.127 | S | 109.529 | W | 10  | G | 5.1 5.1 | 0.9 | 61 SOUTHERN EAST PACIFIC RISE. Mw 5.4 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 09:43:04.1; Lat 34.50 S; Lon 109.28 W; Dep 15.0 Fix; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.39, Plg=0, Azm=98; (N) Val=-0.14, Plg=90, Azm=180; (P) Val=-1.26, Plg=0, Azm=8; Best double couple: Mo=1.3*10**17 Nm; NPl: Strike=143, Dip=90, Slip=-180; NP2: Strike=233, Dip=90, Slip=0. |
| 14 | 09 | 48 | 17.8  | 7.737  | N | 126.785 | E | 81  | * | 5.0     | 1.2 | 61 MINDANAO, PHILIPPINE ISLANDS   |
| 14 | 10 | 00 | 37.37 | 10.62  | N | 126.93  | E | 33  | N | 3.9     | 0.4 | 6 PHILIPPINE ISLANDS REGION   |
| 14 | 10 | 25 | 27.2  | 43.746 | N | 6.955   | E | 10  | G |         | 0.5 | 22 NEAR SOUTH COAST OF FRANCE. ML 2.2 (STR).  |
| 14 | 10 | 47 | 12.6  | 32.197 | S | 71.362  | W | 73  | D | 4.2     | 1.1 | 33 NEAR COAST OF CENTRAL CHILE. MD 4.7 (SAN). Felt (IV) at Chincolco, La Ligua and Papudo; (III) at Quilpue, San Felipe, Santiago, Valparaiso, Villa Alemana, Vina del Mar and Zapallar. Also felt at Rancagua.   |
| 14 | 11 | 45 | 15.7  | 38.105 | N | 29.006  | E | 10  | G | 4.1     | 1.1 | 52 TURKEY. MD 4.0 (ISK). Felt in Denizli.   |
| 14 | 11 | 48 | 17.9  | 38.115 | N | 28.803  | E | 10  | G | 3.9     | 1.0 | 16 TURKEY. MD 3.9 (ISK). Felt in Denizli.   |
| 14 | 11 | 59 | 29.3* | 38.073 | N | 29.178  | E | 10  | G |         | 1.0 | 6 TURKEY. MD 3.1 (ISK).   |
| 14 | 12 | 01 | 02.2* | 38.006 | N | 28.817  | E | 10  | G |         | 0.8 | 6 TURKEY. MD 3.1 (ISK).   |
| 14 | 12 | 12 | 35.3  | 38.095 | N | 29.027  | E | 10  | G |         | 0.3 | 10 TURKEY. MD 3.6 (ISK). Felt in Denizli.   |
| 14 | 12 | 22 | 32.57 | 2.36   | S | 139.69  | E | 33  | N | 3.5     | 1.1 | 5 NEAR NORTH COAST OF IRIAN JAYA  |
| 14 | 12 | 30 | 11.4* | 4.385  | S | 102.034 | E | 33  | N | 4.7 4.3 | 1.2 | 40 SOUTHERN SUMATERA, INDONESIA   |
| 14 | 12 | 46 | 16.67 | 31.01  | S | 177.78  | W | 100 | G | 4.5     | 0.9 | 11 KERMADEC ISLANDS REGION  |
| 14 | 12 | 46 | 52.5* | 31.133 | S | 177.723 | W | 100 | G | 4.8     | 1.1 | 18 KERMADEC ISLANDS REGION  |
| 14 | 12 | 48 | 05.07 | 4.44   | S | 146.49  | E | 33  | N | 3.7     | 1.0 | 7 EASTERN NEW GUINEA REG., P.N.G.   |
| 14 | 12 | 54 | 49.07 | 34.26  | S | 70.11   | W | 10  | G |         | 0.2 | 6 CHILE-ARGENTINA BORDER REGION. MD 3.0 (SAN).  |
| 14 | 12 | 55 | 37.2* | 34.107 | S | 70.276  | W | 10  | G |         | 0.9 | 9 CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).  |
| 14 | 13 | 59 | 20.5* | 38.047 | N | 28.789  | E | 10  | G |         | 0.5 | 5 TURKEY. MD 3.2 (ISK).   |
| 14 | 14 | 04 | 05.9* | 34.168 | S | 70.183  | W | 10  | G |         | 0.3 | 9 CHILE-ARGENTINA BORDER REGION. MD 3.3 (SAN).  |
| 14 | 14 | 08 | 49.07 | 32.33  | S | 71.71   | W | 5   | G |         | 0.3 | 9 NEAR COAST OF CENTRAL CHILE. MD 3.3 (SAN).  |
| 14 | 14 | 16 | 31.8* | 34.218 | S | 70.139  | W | 10  | G |         | 0.2 | 10 CHILE-ARGENTINA BORDER REGION. MD 4.2 (SAN).   |
| 14 | 14 | 49 | 07.4* | 17.746 | S | 178.770 | W | 550 | G | 4.7     | 1.1 | 38 FIJI ISLANDS REGION  |
| 14 | 14 | 50 | 27.0* | 34.220 | S | 70.161  | W | 10  | G |         | 0.4 | 10 CHILE-ARGENTINA BORDER REGION. MD 3.6 (SAN).   |
| 14 | 15 | 51 | 44.67 | 37.93  | N | 29.24   | E | 10  | G |         | 1.1 | 9 TURKEY. MD 3.7 (ISK).   |
| 14 | 15 | 56 | 29.5* | 44.277 | N | 7.557   | E | 5   | G |         | 0.3 | 7 NORTHERN ITALY. ML 2.4 (LDG).   |
| 14 | 15 | 57 | 32.3* | 37.528 | N | 141.924 | E | 73  | * |         | 0.9 | 11 NEAR EAST COAST OF HONSHU, JAPAN   |
| 14 | 17 | 15 | 22.6* | 47.020 | S | 32.893  | E | 10  | G | 4.3     | 1.1 | 19 PRINCE EDWARD ISLANDS REGION   |
| 14 | 17 | 18 | 32.0* | 47.470 | N | 115.780 | W | 2   |   |         |     | 30 MONTANA. <BUT-P>. ML 3.6 (BUT). MD 3.4 (SEA). Felt in the epicentral area.   |
| 14 | 17 | 19 | 38.3* | 10.195 | N | 121.628 | E | 33  | N | 4.4     | 0.3 | 8 PANAY, PHILIPPINE ISLANDS   |
| 14 | 17 | 26 | 53.07 | 32.53  | S | 71.63   | W | 20  | G |         | 0.9 | 8 NEAR COAST OF CENTRAL CHILE. MD 3.6 (SAN).  |
| 14 | 17 | 40 | 27.3* | 51.281 | N | 179.859 | E | 57  | D |         | 0.5 | 8 RAT ISLANDS, ALEUTIAN ISLANDS   |
| 14 | 17 | 51 | 11.9* | 18.387 | S | 177.927 | W | 550 | G | 4.5     | 1.1 | 23 FIJI ISLANDS REGION  |
| 14 | 18 | 27 | 03.7* | 60.396 | N | 149.779 | W | 29  |   |         |     | 29 KENAI PENINSULA, ALASKA. <AEIC>. ML 2.6 (AEIC).  |
| 14 | 18 | 37 | 28.07 | 17.73  | S | 178.06  | W | 550 | G | 3.7     | 0.7 | 9 FIJI ISLANDS REGION   |
| 14 | 18 | 38 | 12.8  | 25.288 | S | 2.703   | E | 10  | G | 5.3 4.4 | 0.7 | 169 SOUTH ATLANTIC OCEAN  |
| 14 | 18 | 43 | 01.0  | 37.026 | N | 118.339 | W | 10  | G |         | 0.8 | 7 CALIFORNIA-NEVADA BORDER REGION. MD 2.7 (GM).   |
| 14 | 19 | 28 | 15.27 | 31.77  | S | 177.43  | W | 33  | N | 4.9     | 1.3 | 17 KERMADEC ISLANDS REGION  |
| 14 | 20 | 06 | 19.3* | 37.986 | N | 28.774  | E | 10  | G |         | 0.4 | 6 TURKEY. MD 3.8 (ISK). Felt in Denizli.  |
| 14 | 20 | 13 | 00.37 | 28.76  | S | 177.94  | W | 33  | N |         | 0.9 | 6 KERMADEC ISLANDS REGION   |
| 14 | 20 | 17 | 10.77 | 5.93   | N | 124.61  | E | 33  | N | 4.3     | 0.7 | 7 MINDANAO, PHILIPPINE ISLANDS  |
| 14 | 20 | 23 | 50.9* | 38.103 | N | 28.983  | E | 10  | G |         | 0.3 | 6 TURKEY. MD 3.5 (ISK).   |
| 14 | 20 | 47 | 50.2  | 44.108 | N | 10.001  | E | 5   | G |         | 0.6 | 29 NORTHERN ITALY. ML 2.8 (GEN), 2.4 (LDG).   |
| 14 | 21 | 04 | 10.4* | 72.920 | N | 117.476 | E | 10  | G |         | 0.9 | 10 NORTHCENTRAL SIBERIA, RUSSIA   |
| 14 | 21 | 22 | 06.2* | 33.104 | S | 70.957  | W | 70  | G |         | 0.8 | 5 CHILE-ARGENTINA BORDER REGION   |
| 14 | 21 | 33 | 07.27 | 17.10  | S | 178.97  | W | 500 | G | 3.8     | 0.3 | 9 FIJI ISLANDS REGION   |
| 14 | 22 | 03 | 00.5* | 7.379  | N | 127.449 | E | 53  | D | 4.7     | 1.0 | 22 PHILIPPINE ISLANDS REGION  |
| 14 | 22 | 34 | 12.17 | 32.37  | S | 71.43   | W | 60  | G |         | 0.3 | 10 NEAR COAST OF CENTRAL CHILE. MD 2.1 (SAN).   |
| 14 | 22 | 46 | 17.27 | 31.33  | S | 69.41   | W | 150 | G |         | 0.6 | 11 SAN JUAN PROVINCE, ARGENTINA. MD 3.2 (SAN).  |
| 14 | 23 | 19 | 32.2  | 38.060 | N | 29.016  | E | 10  | G |         | 0.8 | 29 TURKEY. MD 3.9 (ISK).  |
| 14 | 23 | 32 | 52.8* | 62.975 | N | 151.068 | W | 116 |   |         |     | 37 CENTRAL ALASKA. <AEIC>.  |
| 15 | 00 | 50 | 59.9  | 23.329 | S | 175.555 | W | 33  | N | 4.8 5.3 | 1.2 | 56 TONGA ISLANDS REGION   |
| 15 | 00 | 56 | 58.57 | 1.27   | S | 77.53   | W | 200 | G | 3.9     | 1.1 | 8 ECUADOR   |
| 15 | 01 | 34 | 06.17 | 39.17  | N | 0.74    | W | 5   | G |         | 1.1 | 4 SPAIN. mbLg 2.7 (MDD).  |
| 15 | 02 | 17 | 16.1* | 62.061 | N | 150.214 | W | 47  |   |         |     | 82 CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 3.0 (PMR).  |
| 15 | 03 | 00 | 15.1* | 32.800 | S | 70.548  | W | 33  | N |         | 0.7 | 8 CHILE-ARGENTINA BORDER REGION   |
| 15 | 03 | 46 | 49.2* | 59.544 | N | 48.532  | W | 10  | G | 3.2     | 1.5 | 12 NORTH ATLANTIC OCEAN   |
| 15 | 04 | 16 | 00.0  | 45.059 | N | 6.921   | E | 5   | G |         | 0.9 | 17 FRANCE. ML 2.5 (GEN), 1.9 (LDG).   |
| 15 | 04 | 33 | 55.07 | 39.60  | N | 28.74   | E | 10  | G |         | 0.3 | 4 TURKEY. MD 2.7 (ISK).   |



|    |    |    |       |        |   |         |   |     |   |     |     |     |  |  |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|--|--|
| 15 | 04 | 36 | 50.6* | 57.966 | S | 25.414  | W | 33  | N | 4.6 | 1.3 | 15  | SOUTH SANDWICH ISLANDS REGION  |  |
| 15 | 04 | 54 | 33.1  | 42.805 | N | 144.454 | E | 88  | * | 4.4 | 0.9 | 43  | HOKKAIDO, JAPAN REGION   |  |
| 15 | 05 | 51 | 33.3* | 59.849 | S | 149.902 | E | 10  | G | 5.0 | 5.7 | 1.2 | 31   | WEST OF MACQUARIE ISLAND. Mw 5.9 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>05:51:40.5; Lat 59.91 S; Lon 149.99 E; Dep 15.0 Fix; Half-<br>duration 2.1 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=9.17, Plg=1, Azm=26; (N) Val=0.03, Plg=88, Azm=151; (P)<br>Val=-9.21, Plg=1, Azm=296; Best double couple:<br>Mo=9.2*10**17 Nm; NP1: Strike=71, Dip=89, Slip=-180; NP2:<br>Strike=341, Dip=90, Slip=-1.              |
| 15 | 06 | 59 | 00.77 | 42.80  | N | 7.25    | W | 10  | G |     | 1.2 | 4   | SPAIN. mbLg 2.9 (MDD).   |  |
| 15 | 08 | 31 | 46.2* | 38.592 | N | 119.851 | W | 0   |   |     |     | 7   | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 2.8 (GM).  |  |
| 15 | 09 | 24 | 11.3  | 7.434  | N | 126.985 | E | 33  | N | 5.2 | 4.8 | 1.0 | 85   | MINDANAO, PHILIPPINE ISLANDS. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>09:24:14.5; Lat 7.43 N Fix; Lon 126.99 E Fix; Dep 15.0 Fix;<br>Half-duration 1.0 sec; Principal axes (scale 10**17 Nm):<br>(T) Val=1.58, Plg=51, Azm=307; (N) Val=-0.33, Plg=10,<br>Azm=203; (P) Val=-1.25, Plg=37, Azm=105; Best double<br>couple: Mo=1.4*10**17 Nm; NP1: Strike=149, Dip=13, Slip=35;<br>NP2: Strike=25, Dip=83, Slip=101. |
| 15 | 09 | 57 | 21.6* | 3.139  | N | 127.959 | E | 130 | * | 4.1 | 0.9 | 15  | TALAUD ISLANDS, INDONESIA  |  |
| 15 | 10 | 37 | 35.8  | 15.738 | N | 93.048  | W | 96  | D | 4.5 | 0.8 | 38  | NEAR COAST OF CHIAPAS, MEXICO  |  |
| 15 | 10 | 55 | 36.97 | 37.79  | N | 27.30   | E | 5   | G |     | 0.7 | 5   | TURKEY. MD 3.2 (ISK).  |  |
| 15 | 11 | 14 | 47.0  | 1.491  | S | 145.378 | E | 33  | N | 4.9 | 1.1 | 39  | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 11 | 17 | 34.5  | 1.447  | S | 145.445 | E | 33  | N | 5.0 | 5.4 | 1.1 | 49   | ADMIRALTY ISLANDS REGION, P.N.G. Mw 5.8 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>11:17:38.8; Lat 1.22 S; Lon 145.54 E; Dep 15.0 Fix; Half-<br>duration 1.6 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=5.69, Plg=34, Azm=277; (N) Val=-1.43, Plg=39, Azm=153;<br>(P) Val=-4.27, Plg=32, Azm=32; Best double couple:<br>Mo=5.0*10**17 Nm; NP1: Strike=66, Dip=39, Slip=2; NP2:<br>Strike=334, Dip=89, Slip=129.       |
| 15 | 11 | 32 | 10.1* | 1.413  | S | 145.497 | E | 33  | N | 4.8 | 1.0 | 12  | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 11 | 41 | 19.4* | 1.305  | S | 144.785 | E | 33  | N | 4.3 | 0.6 | 6   | NINIGO ISLANDS REGION, P.N.G.  |  |
| 15 | 12 | 11 | 17.4* | 36.098 | N | 139.897 | E | 10  | G |     | 0.5 | 5   | EASTERN HONSHU, JAPAN  |  |
| 15 | 12 | 16 | 57.97 | 23.78  | S | 179.81  | W | 500 | G | 4.1 | 0.6 | 11  | SOUTH OF FIJI ISLANDS  |  |
| 15 | 12 | 27 | 45.3* | 1.412  | S | 145.335 | E | 33  | N | 4.3 | 1.0 | 14  | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 12 | 32 | 57.4* | 1.364  | S | 145.508 | E | 33  | N | 4.5 | 0.7 | 9   | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 13 | 55 | 03.3* | 15.054 | N | 147.050 | E | 33  | N | 4.3 | 1.1 | 21  | MARIANA ISLANDS REGION   |  |
| 15 | 15 | 53 | 44.1  | 1.513  | S | 145.507 | E | 33  | D | 4.9 | 1.0 | 38  | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 16 | 14 | 49.67 | 1.59   | S | 145.43  | E | 33  | N | 4.0 | 0.8 | 6   | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 16 | 27 | 04.8* | 1.614  | S | 145.391 | E | 33  | N | 4.4 | 0.9 | 17  | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 16 | 57 | 39.8* | 62.979 | N | 150.833 | W | 108 |   |     |     | 59  | CENTRAL ALASKA. <AEIC>.  |  |
| 15 | 17 | 18 | 54.6  | 43.796 | N | 147.163 | E | 33  | N | 4.9 | 0.8 | 108 | KURIL ISLANDS. Felt (IV) on Shikotan.  |  |
| 15 | 18 | 56 | 53.1  | 16.091 | N | 60.918  | W | 40  | D | 4.3 | 0.9 | 38  | LEEWARD ISLANDS. MD 4.4 (TRN). Felt (III) on Guadeloupe and<br>Martinique.   |  |
| 15 | 19 | 45 | 49.27 | 2.37   | N | 83.86   | W | 33  | N | 4.3 | 1.4 | 15  | OFF COAST OF CENTRAL AMERICA   |  |
| 15 | 19 | 47 | 44.07 | 14.26  | N | 91.50   | W | 33  | N | 4.3 | 1.2 | 18  | GUATEMALA  |  |
| 15 | 20 | 46 | 39.9* | 44.379 | N | 6.441   | E | 5   | G |     | 0.5 | 9   | FRANCE. ML 1.8 (LDG).  |  |
| 15 | 20 | 46 | 46.7* | 42.902 | N | 0.143   | E | 5   | G |     | 0.5 | 5   | PYRENEES. ML 1.7 (LDG).  |  |
| 15 | 21 | 06 | 23.97 | 9.05   | S | 76.03   | W | 100 | G |     | 1.2 | 12  | CENTRAL PERU   |  |
| 15 | 21 | 29 | 56.8  | 44.785 | N | 15.778  | E | 10  | G |     | 1.3 | 69  | NORTHWESTERN BALKAN REGION. ML 4.0 (VIE), 3.7 (LDG), 3.5<br>(FUR), 3.3 (LJU). Felt at Gospic and Otocac, Croatia. Also<br>felt at Bihac, Bosnia and Herzegovina. |  |
| 15 | 21 | 33 | 28.5  | 3.871  | S | 128.891 | E | 86  | * | 5.1 | 1.1 | 32  | SERAM, INDONESIA   |  |
| 15 | 21 | 34 | 41.0* | 1.462  | S | 145.674 | E | 33  | N |     | 1.2 | 11  | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 21 | 47 | 57.47 | 24.21  | S | 179.90  | E | 550 | G | 4.3 | 0.5 | 12  | SOUTH OF FIJI ISLANDS  |  |
| 15 | 21 | 48 | 30.07 | 2.07   | S | 145.64  | E | 33  | N | 4.0 | 0.8 | 7   | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 22 | 30 | 56.27 | 1.67   | S | 145.37  | E | 33  | N | 4.5 | 1.5 | 9   | ADMIRALTY ISLANDS REGION, P.N.G.   |  |
| 15 | 23 | 09 | 01.4* | 26.493 | N | 126.562 | E | 150 | G | 4.1 | 1.0 | 15  | RYUKYU ISLANDS   |  |
| 15 | 23 | 15 | 23.2* | 59.604 | N | 152.847 | W | 107 |   |     |     | 34  | SOUTHERN ALASKA. <AEIC>.   |  |
| 15 | 23 | 37 | 55.37 | 24.34  | S | 179.74  | E | 600 | G | 4.2 | 0.3 | 9   | SOUTH OF FIJI ISLANDS  |  |
| 15 | 23 | 39 | 17.07 | 17.17  | S | 178.89  | W | 500 | G | 4.5 | 1.0 | 21  | FIJI ISLANDS REGION  |  |
| 15 | 23 | 49 | 56.2  | 38.737 | N | 21.184  | E | 33  | N | 4.3 | 1.3 | 37  | GREECE. ML 4.1 (ROM).  |  |
| 16 | 00 | 18 | 12.5  | 39.431 | N | 28.377  | E | 10  | G |     | 0.5 | 6   | TURKEY. MD 3.0 (ISK).  |  |
| 16 | 00 | 45 | 00.8* | 37.739 | N | 71.750  | E | 33  | N | 4.0 | 1.2 | 13  | AFGHANISTAN-TAJIKISTAN BORD REG.   |  |
| 16 | 01 | 22 | 41.2* | 37.149 | N | 3.713   | W | 10  | G |     | 0.5 | 14  | SPAIN. mbLg 3.0 (MDD). Felt (III) in the Chimeneas area.   |  |
| 16 | 02 | 09 | 42.3* | 50.016 | N | 179.703 | E | 33  | N | 4.3 | 1.2 | 31  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.0 (PMR).   |  |
| 16 | 02 | 59 | 33.37 | 38.19  | N | 21.44   | E | 33  | N |     | 1.0 | 15  | GREECE   |  |
| 16 | 03 | 19 | 19.9* | 35.750 | N | 30.746  | E | 33  | N | 4.0 | 1.3 | 22  | EASTERN MEDITERRANEAN SEA. MD 3.8 (ISK).   |  |
| 16 | 03 | 27 | 06.1* | 58.391 | N | 154.823 | W | 6   |   |     |     | 31  | ALASKA PENINSULA. <AEIC>. ML 2.9 (AEIC).   |  |
| 16 | 04 | 21 | 00.2* | 13.200 | N | 90.359  | W | 33  | N | 4.3 | 1.3 | 55  | NEAR COAST OF GUATEMALA  |  |
| 16 | 05 | 46 | 06.1  | 42.121 | N | 142.383 | E | 33  | N | 3.7 | 1.0 | 20  | HOKKAIDO, JAPAN REGION   |  |
| 16 | 05 | 46 | 06.5  | 45.049 | N | 7.003   | E | 10  | G |     | 1.2 | 24  | NORTHERN ITALY. ML 2.5 (GEN), 2.1 (LDG).   |  |
| 16 | 05 | 51 | 37.0  | 34.851 | N | 137.445 | E | 36  | D | 5.7 | 5.1 | 0.8 | 339  | NEAR S. COAST OF HONSHU, JAPAN. Mw 5.6 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>05:51:41.0; Lat 34.92 N; Lon 137.34 E; Dep 38.0 Bdy; Half-<br>duration 1.6 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=3.27, Plg=17, Azm=44; (N) Val=0.06, Plg=21, Azm=307;<br>(P) Val=-3.34, Plg=62, Azm=170; Best double couple:<br>Mo=3.3*10**17 Nm; NP1: Strike=164, Dip=33, Slip=-49; NP2:<br>Strike=297, Dip=65, Slip=-113.    |
| 16 | 06 | 04 | 03.7  | 52.696 | N | 160.865 | E | 33  | N | 4.6 | 1.0 | 56  | OFF EAST COAST OF KAMCHATKA  |  |
| 16 | 06 | 23 | 46.3* | 3.808  | S | 145.185 | E | 33  | N | 5.0 | 1.1 | 23  | NEAR N COAST OF NEW GUINEA, PNG.   |  |
| 16 | 07 | 02 | 34.27 | 34.33  | N | 27.22   | E | 33  | N |     | 1.1 | 9   | EASTERN MEDITERRANEAN SEA  |  |
| 16 | 07 | 38 | 30.1* | 42.586 | N | 18.302  | E | 33  | N |     | 0.4 | 6   | NORTHWESTERN BALKAN REGION   |  |
| 16 | 07 | 43 | 00.6* | 24.497 | N | 142.160 | E | 48  | D | 4.2 | 0.9 | 19  | VOLCANO ISLANDS REGION   |  |
| 16 | 09 | 45 | 37.5* | 61.832 | N | 150.588 | W | 55  |   |     |     | 83  | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC), 3.2 (PMR).   |  |
| 16 | 10 | 30 | 45.6* | 19.838 | S | 178.168 | W | 500 | G | 4.2 | 0.9 | 21  | FIJI ISLANDS REGION  |  |
| 16 | 10 | 56 | 08.27 | 7.10   | S | 149.97  | E | 50  | G | 3.6 | 0.7 | 6   | NEW BRITAIN REGION, P.N.G.   |  |
| 16 | 12 | 05 | 20.07 | 23.68  | S | 170.10  | E | 33  | N |     | 1.0 | 7   | LOYALTY ISLANDS REGION   |  |
| 16 | 12 | 11 | 02.4* | 36.220 | N | 71.450  | E | 150 | G |     | 0.8 | 9   | AFGHANISTAN-TAJIKISTAN BORD REG.   |  |
| 16 | 12 | 59 | 35.37 | 18.65  | N | 61.13   | W | 33  | N | 4.0 | 0.8 | 8   | LEEWARD ISLANDS  |  |

|    |    |    |       |        |   |         |   |     |   |         |     |   |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|---|---|
| 16 | 13 | 05 | 43.0* | 4.499  | S | 153.377 | E | 33  | N | 4.3     | 0.9 | 12  | NEW IRELAND REGION, P.N.G.                                  |
| 16 | 14 | 19 | 01.16 | 19.364 | N | 155.080 | W | 8   |   | 4.2     | 26  | HAWAII. <HVO-P>. MD 4.4 (HVO). Felt at Hilo and Volcano.    |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Also felt in the Puna and Kau Districts.                    |   |
| 16 | 14 | 33 | 40.5* | 53.230 | N | 170.170 | W | 139 | * | 3.5     | 0.9 | 15  | FOX ISLANDS, ALEUTIAN ISLANDS                               |
| 16 | 14 | 43 | 07.0* | 43.75  | S | 15.84   | W | 10  | G | 4.6     | 1.2 | 10  | SOUTHERN MID-ATLANTIC RIDGE                                 |
| 16 | 14 | 45 | 08.5* | 5.87   | S | 150.23  | E | 33  | N | 4.2     | 0.9 | 8   | NEW BRITAIN REGION, P.N.G.                                  |
| 16 | 18 | 23 | 36.8* | 41.936 | N | 142.482 | E | 100 | G |         | 1.3 | 8   | HOKKAIDO, JAPAN REGION                                      |
| 16 | 18 | 24 | 35.16 | 38.758 | N | 122.722 | W | 2   |   |         | 10  | NORTHERN CALIFORNIA. <GM-P>. MD 3.0 (GM).                   |   |
| 16 | 19 | 00 | 13.7  | 44.350 | N | 7.284   | E | 5   | G |         | 0.3 | 21  | NORTHERN ITALY. ML 2.3 (GEN), 1.7 (LDG).                    |
| 16 | 19 | 07 | 27.9  | 34.209 | N | 93.435  | W | 5   | G |         | 0.8 | 11  | ARKANSAS. mbLg 3.4 (GS). Felt (IV) at Glenwood.             |
| 16 | 20 | 11 | 45.3* | 45.783 | N | 7.081   | E | 5   | G |         | 1.7 | 10  | NORTHERN ITALY. ML 2.2 (LDG).                               |
| 16 | 21 | 00 | 00.1* | 0.873  | S | 121.237 | E | 33  | N | 4.5     | 0.9 | 10  | MINAHASSA PENINSULA, SULAWESI                               |
| 16 | 21 | 24 | 19.8* | 30.886 | S | 177.634 | W | 33  | N | 4.6     | 1.1 | 20  | KERMADEC ISLANDS, NEW ZEALAND                               |
| 16 | 21 | 54 | 45.0  | 43.134 | N | 1.109   | W | 10  | G |         | 1.0 | 16  | PYRENEES. mbLg 2.7 (MDD). ML 2.6 (LDG).                     |
| 16 | 22 | 24 | 05.5  | 4.309  | N | 126.860 | E | 100 | G | 4.8     | 1.0 | 40  | TALAUD ISLANDS, INDONESIA                                   |
| 16 | 23 | 11 | 01.9  | 44.424 | N | 7.316   | E | 10  | G |         | 0.5 | 22  | NORTHERN ITALY. ML 2.2 (GEN), 1.8 (LDG), 1.6 (STR).         |
| 16 | 23 | 52 | 36.1* | 21.100 | S | 68.578  | W | 100 | G | 4.4     | 0.7 | 24  | CHILE-BOLIVIA BORDER REGION                                 |
| 17 | 00 | 09 | 27.4* | 1.483  | S | 145.426 | E | 33  | N | 4.7     | 1.0 | 19  | ADMIRALTY ISLANDS REGION, P.N.G.                            |
| 17 | 00 | 49 | 03.0* | 8.06   | S | 154.49  | E | 33  | N | 3.9     | 0.4 | 5   | D'ENTRECASTEAUX ISLANDS REGION                              |
| 17 | 00 | 54 | 29.1* | 34.62  | S | 70.76   | W | 100 | G |         | 0.2 | 11  | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).                |
| 17 | 01 | 14 | 54.06 | 55.139 | N | 160.858 | W | 61  |   |         | 12  | ALASKA PENINSULA. <AEIC>. ML 2.5 (AEIC).                    |   |
| 17 | 01 | 55 | 50.0* | 1.271  | N | 99.579  | E | 200 | G | 4.6     | 0.6 | 10  | NORTHERN SUMATERA, INDONESIA                                |
| 17 | 01 | 55 | 58.0* | 38.47  | N | 4.65    | W | 10  | G |         | 0.6 | 4   | SPAIN. mbLg 2.3 (MDD).                                      |
| 17 | 02 | 40 | 21.5* | 33.456 | S | 70.872  | W | 75  | G |         | 0.2 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).                |
| 17 | 03 | 01 | 38.4* | 6.20   | S | 148.70  | E | 54  | D | 4.1     | 0.9 | 9   | NEW BRITAIN REGION, P.N.G.                                  |
| 17 | 03 | 33 | 41.1* | 32.10  | S | 70.37   | W | 110 | G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.6 (SAN).                |
| 17 | 03 | 41 | 37.5* | 33.773 | S | 69.991  | W | 5   | G |         | 0.5 | 11  | CHILE-ARGENTINA BORDER REGION. MD 4.1 (SAN).                |
| 17 | 04 | 17 | 50.3* | 32.47  | S | 71.73   | W | 15  | G |         | 0.6 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).                  |
| 17 | 04 | 31 | 30.5* | 7.63   | N | 73.39   | W | 100 | G |         | 1.1 | 8   | NORTHERN COLOMBIA   |
| 17 | 05 | 02 | 38.6  | 18.889 | N | 62.785  | W | 33  | N | 3.7     | 1.1 | 25  | LEEWARD ISLANDS. MD 4.1 (MPR).                              |
| 17 | 05 | 13 | 43.4  | 18.914 | N | 62.788  | W | 33  | N | 4.9     | 0.9 | 100   | LEEWARD ISLANDS. MD 4.4 (MPR).                              |
| 17 | 05 | 20 | 36.8  | 19.010 | N | 62.839  | W | 33  | N | 5.0 4.9 | 0.9 | 117   | LEEWARD ISLANDS. Mw 5.5 (HRV). MD 4.6 (TRN), 4.6 (MPR).     |
|    |    |    |       |        |   |         |   |     |   |         |     | Centroid, Moment Tensor (HRV): Centroid origin time         |   |
|    |    |    |       |        |   |         |   |     |   |         |     | 05:20:44.3; Lat 19.01 N Fix; Lon 62.84 W Fix; Dep 31.1;     |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Half-duration 1.4 sec; Principal axes (scale 10**17 Nm):    |   |
|    |    |    |       |        |   |         |   |     |   |         |     | (T) Val=1.96, Plg=54, Azm=234; (N) Val=-0.16, Plg=8,        |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Azm=134; (P) Val=-1.80, Plg=35, Azm=39; Best double couple: |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Mo=1.9*10**17 Nm; NP1: Strike=95, Dip=12, Slip=51; NP2:     |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Strike=315, Dip=81, Slip=98.                                |   |
| 17 | 05 | 21 | 30.3* | 2.584  | S | 100.199 | E | 33  | N | 4.6     | 1.0 | 21  | SOUTHERN SUMATERA, INDONESIA                                |
| 17 | 05 | 23 | 43.5* | 36.794 | N | 7.068   | W | 10  | G |         | 0.5 | 9   | STRAIT OF GIBRALTAR. mbLg 2.9 (MDD).                        |
| 17 | 05 | 30 | 01.1* | 20.509 | S | 178.877 | W | 600 | G | 4.4     | 0.6 | 20  | FIJI ISLANDS REGION   |
| 17 | 06 | 45 | 30.9  | 44.246 | N | 6.250   | E | 5   | G |         | 0.6 | 16  | FRANCE. ML 1.9 (LDG), 1.9 (STR).                            |
| 17 | 07 | 00 | 12.7  | 19.054 | N | 62.853  | W | 33  | N | 3.8     | 1.0 | 19  | LEEWARD ISLANDS. MD 4.1 (MPR).                              |
| 17 | 07 | 46 | 27.3* | 53.189 | N | 142.818 | E | 10  | G | 4.5     | 1.1 | 18  | SAKHALIN ISLAND. Felt (IV) at Okha and (III) at Moskalvo.   |
| 17 | 08 | 05 | 48.4  | 6.614  | S | 105.514 | E | 33  | N | 5.8 6.2 | 1.1 | 216   | SUNDA STRAIT. Mw 6.4 (HRV), 6.3 (GS). Me 6.2 (GS). Some     |
|    |    |    |       |        |   |         |   |     |   |         |     | minor damage at Jakarta, Indonesia. Felt throughout western |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Jawa and in southern Sumatera, Indonesia.                   |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Broadband Source Parameters (GS): Dep 35; NP1: Strike=310,  |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Dip=20, Slip=120; NP2: Strike=98, Dip=73, Slip=80; Radiated |   |
|    |    |    |       |        |   |         |   |     |   |         |     | energy 4.1*10**13 Nm. Complex earthquake, with a small      |   |
|    |    |    |       |        |   |         |   |     |   |         |     | event followed by a much larger one about 2 seconds later.  |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Depth based on second event.                                |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Moment Tensor (GS): Dep 37; Principal axes (scale 10**18    |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Nm): (T) Val=3.53, Plg=72, Azm=354; (N) Val=-0.75, Plg=5,   |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Azm=99; (P) Val=-2.78, Plg=18, Azm=191; Best double couple: |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Mo=3.2*10**18 Nm; NP1: Strike=289, Dip=28, Slip=101; NP2:   |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Strike=97, Dip=63, Slip=84.                                 |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Centroid, Moment Tensor (HRV): Centroid origin time         |   |
|    |    |    |       |        |   |         |   |     |   |         |     | 08:05:56.7; Lat 7.27 S; Lon 105.41 E; Dep 42.7; Half-       |   |
|    |    |    |       |        |   |         |   |     |   |         |     | duration 3.8 sec; Principal axes (scale 10**18 Nm): (T)     |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Val=4.16, Plg=69, Azm=1; (N) Val=0.14, Plg=6, Azm=105; (P)  |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Val=-4.30, Plg=20, Azm=197; Best double couple:             |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Mo=4.2*10**18 Nm; NP1: Strike=298, Dip=25, Slip=103; NP2:   |   |
|    |    |    |       |        |   |         |   |     |   |         |     | Strike=103, Dip=66, Slip=84.                                |   |
| 17 | 08 | 07 | 25.6* | 39.043 | N | 27.667  | E | 10  | G |         | 0.5 | 5   | TURKEY. MD 3.1 (ISK).                                       |
| 17 | 08 | 31 | 42.6* | 29.893 | N | 68.137  | E | 33  | N | 4.2     | 1.2 | 12  | PAKISTAN  |
| 17 | 08 | 36 | 09.9* | 39.11  | N | 27.61   | E | 5   | G |         | 0.7 | 4   | TURKEY. MD 2.8 (ISK).                                       |
| 17 | 08 | 36 | 58.8  | 18.760 | S | 69.739  | W | 85  | D | 5.0     | 0.9 | 90  | NORTHERN CHILE. Felt (IV) at Arica, (III) at Putre and (II) |
|    |    |    |       |        |   |         |   |     |   |         |     | at Iquique, Pica, Pisagua and Pozo Almonte.                 |   |
| 17 | 09 | 23 | 17.0  | 41.897 | N | 142.110 | E | 77  | D | 5.1     | 0.9 | 160   | HOKKAIDO, JAPAN REGION. Felt (III JMA) at Shizunai. Also    |
|    |    |    |       |        |   |         |   |     |   |         |     | felt in Aomori and Iwate Prefectures, Honshu.               |   |
| 17 | 10 | 13 | 53.7  | 11.915 | S | 166.260 | E | 33  | N | 4.9 5.0 | 1.0 | 30  | SANTA CRUZ ISLANDS  |
| 17 | 10 | 14 | 52.9* | 39.072 | N | 143.583 | E | 91  | ? | 4.0     | 1.0 | 14  | OFF EAST COAST OF HONSHU, JAPAN                             |
| 17 | 10 | 48 | 24.2* | 44.858 | N | 6.616   | E | 5   | G |         | 0.4 | 6   | FRANCE. ML 1.9 (GEN).                                       |
| 17 | 11 | 01 | 16.2* | 23.400 | N | 94.446  | E | 100 | G |         | 1.3 | 12  | MYANMAR-INDIA BORDER REGION                                 |
| 17 | 11 | 19 | 56.8* | 44.555 | N | 7.310   | E | 5   | G |         | 0.1 | 5   | NORTHERN ITALY. ML 1.8 (GEN).                               |
| 17 | 11 | 20 | 10.0* | 73.768 | N | 142.933 | E | 10  | G | 3.9     | 1.4 | 12  | NEW SIBERIAN ISLANDS, RUSSIA                                |
| 17 | 11 | 42 | 15.4* | 11.32  | N | 87.89   | W | 33  | N | 4.1     | 1.0 | 9   | NEAR COAST OF NICARAGUA                                     |
| 17 | 11 | 44 | 07.0* | 2.71   | N | 126.84  | E | 33  | N | 4.0     | 0.4 | 8   | NORTHERN MOLOCCA SEA  |
| 17 | 11 | 54 | 55.3* | 0.179  | S | 123.379 | E | 33  | N | 4.2     | 1.1 | 7   | MINAHASSA PENINSULA, SULAWESI                               |
| 17 | 12 | 03 | 54.3* | 44.533 | N | 7.277   | E | 10  | G |         | 0.1 | 5   | NORTHERN ITALY. ML 1.8 (GEN).                               |
| 17 | 12 | 13 | 54.0  | 44.119 | N | 7.145   | E | 10  | G |         | 0.3 | 23  | NORTHERN ITALY. ML 2.5 (GEN), 2.3 (LDG).                    |
| 17 | 12 | 19 | 04.9* | 44.092 | N | 7.079   | E | 10  | G |         | 0.3 | 10  | NORTHERN ITALY. ML 2.4 (GEN).                               |
| 17 | 12 | 27 | 33.6  | 58.808 | N | 142.872 | W | 10  | G |         | 0.6 | 49  | GULF OF ALASKA. ML 2.8 (AEIC).                              |
| 17 | 12 | 31 | 01.9* | 33.702 | S | 70.317  | W | 110 | G |         | 0.2 | 11  | CHILE-ARGENTINA BORDER REGION. MD 3.8 (SAN).                |
| 17 | 14 | 23 | 46.16 | 58.682 | N | 153.563 | W | 70  |   | 3.5     | 96  | KODIAK ISLAND REGION. <AEIC>. ML 3.3 (AEIC), 3.9 (PMR).     |   |
| 17 | 14 | 39 | 24.8* | 37.167 | N | 4.343   | W | 10  | G |         | 0.3 | 9   | SPAIN. mbLg 2.7 (MDD).                                      |
| 17 | 15 | 10 | 06.26 | 63.952 | N | 147.402 | W | 5   |   |         | 48  | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 3.3 (PMR).           |   |
| 17 | 15 | 26 | 05.0* | 44.084 | N | 7.093   | E | 10  | G |         | 0.4 | 7   | NORTHERN ITALY. ML 2.0 (GEN).                               |
| 17 | 15 | 44 | 22.46 | 54.334 | N | 161.751 | W | 0   |   |         | 8   | ALASKA PENINSULA. <AEIC>. ML 2.6 (AEIC).                    |   |
| 17 | 16 | 04 | 15.3* | 44.024 | N | 7.466   | E | 5   | G |         | 0.2 | 6   | NORTHERN ITALY. ML 1.5 (STR).                               |
| 17 | 17 | 34 | 40.4  | 43.552 | N | 0.662   | W | 10  | G |         | 0.4 | 25  | PYRENEES. ML 3.0 (LDG), 2.7 (STR). mbLg 2.6 (MDD).          |

|  |    |    |       |        |   |         |   |     |   |         |     |                       |   |
|--|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----------------------|---|
| 17   | 18 | 18 | 35.6% | 43.899 | N | 0.190   | E | 5   | G | 0.9     | 6   | FRANCE. ML 1.9 (LDG). |   |
| 17   | 18 | 41 | 31.5* | 18.050 | S | 178.471 | W | 600 | G | 4.7     | 0.9 | 37                    | FIJI ISLANDS REGION   |
| 17   | 19 | 29 | 15.9% | 37.304 | N | 4.701   | W | 10  | G |         | 0.8 | 8                     | SPAIN. mbLg 2.4 (MDD).  |
| 17   | 19 | 33 | 42.6  | 44.737 | N | 6.686   | E | 10  | G |         | 0.8 | 19                    | FRANCE. ML 2.1 (GEN), 1.9 (LDG).  |
| 17   | 19 | 43 | 17.7? | 52.17  | N | 176.40  | W | 33  | N | 4.0     | 1.3 | 5                     | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 17   | 19 | 56 | 20.2  | 3.759  | N | 126.049 | E | 100 | G | 5.0     | 0.9 | 47                    | TALAUD ISLANDS, INDONESIA   |
| 17   | 19 | 58 | 06.9  | 21.175 | S | 68.493  | W | 100 | G | 4.7     | 0.8 | 34                    | CHILE-BOLIVIA BORDER REGION   |
| 17   | 19 | 58 | 10.5% | 62.094 | N | 150.767 | W | 59  |   |         | 0.9 | 70                    | CENTRAL ALASKA. <AEIC>. ML 2.6 (AEIC).  |
| 17   | 19 | 58 | 38.0? | 4.50   | S | 75.75   | W | 100 | G | 4.3     | 1.0 | 14                    | NORTHERN PERU   |
| 17   | 20 | 43 | 28.4* | 21.578 | N | 143.225 | E | 309 | * | 3.8     | 1.0 | 13                    | MARIANA ISLANDS REGION  |
| 17   | 21 | 53 | 43.1? | 2.15   | S | 124.50  | E | 33  | N | 3.5     | 1.3 | 5                     | CERAM SEA   |
| 17   | 22 | 14 | 31.5? | 23.89  | S | 170.95  | E | 33  | N | 4.0     | 1.0 | 8                     | LOYALTY ISLANDS REGION  |
| 17   | 22 | 15 | 28.0? | 13.25  | N | 89.25   | W | 33  | N | 4.2     | 1.3 | 13                    | EL SALVADOR   |
| 17   | 22 | 31 | 17.1* | 21.579 | N | 143.353 | E | 308 | * | 3.8     | 0.7 | 11                    | MARIANA ISLANDS REGION  |
| 17   | 22 | 45 | 11.4  | 46.399 | N | 13.104  | E | 5   | G |         | 0.6 | 11                    | AUSTRIA. ML 3.1 (GRF), 2.8 (VIE), 2.6 (FUR).  |
| 17   | 23 | 55 | 46.5* | 11.869 | N | 93.719  | E | 100 | G |         | 1.3 | 8                     | ANDAMAN ISLANDS, INDIA  |
| 17   | 23 | 56 | 32.6? | 32.52  | S | 71.62   | W | 33  | N |         | 0.6 | 10                    | NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).  |
| 18   | 00 | 33 | 15.4? | 21.09  | S | 177.79  | W | 500 | G | 4.0     | 0.9 | 10                    | FIJI ISLANDS REGION   |
| 18   | 00 | 50 | 18.0% | 33.845 | S | 71.057  | W | 70  | G |         | 0.6 | 9                     | NEAR COAST OF CENTRAL CHILE   |
| 18   | 00 | 59 | 46.7  | 36.122 | N | 137.469 | E | 258 |   | 4.2     | 1.1 | 28                    | EASTERN HONSHU, JAPAN   |
| 18   | 01 | 10 | 01.3? | 32.10  | S | 70.33   | W | 120 | G |         | 0.2 | 7                     | CHILE-ARGENTINA BORDER REGION   |
| 18   | 01 | 16 | 50.5? | 17.08  | S | 179.03  | W | 500 | G | 4.0     | 0.4 | 10                    | FIJI ISLANDS REGION   |
| 18   | 01 | 20 | 42.7% | 44.549 | N | 7.258   | E | 10  | G |         | 0.6 | 7                     | NORTHERN ITALY. ML 1.9 (GEN).   |
| 18   | 01 | 21 | 57.3% | 47.215 | N | 1.681   | W | 5   | G |         | 0.6 | 7                     | FRANCE. ML 1.9 (LDG).   |
| 18   | 01 | 59 | 44.6* | 19.639 | N | 91.985  | W | 33  | N | 3.9     | 1.3 | 19                    | BAY OF CAMPECHE   |
| 18   | 02 | 47 | 00.0* | 15.110 | S | 173.647 | W | 33  | N | 4.6     | 0.8 | 11                    | TONGA ISLANDS   |
| 18   | 02 | 58 | 27.5? | 37.10  | N | 3.46    | W | 10  | G |         | 0.4 | 4                     | SPAIN. mbLg 1.7 (MDD).  |
| 18   | 03 | 08 | 32.1  | 37.140 | N | 4.278   | W | 33  | N |         | 0.8 | 24                    | SPAIN. mbLg 3.7 (MDD).  |
| 18   | 03 | 09 | 55.0? | 34.85  | S | 70.56   | W | 120 | G |         | 0.3 | 10                    | CHILE-ARGENTINA BORDER REGION. MD 3.3 (SAN).  |
| 18   | 03 | 28 | 47.6? | 31.37  | S | 177.64  | W | 33  | N | 4.6     | 0.7 | 12                    | KERMADEC ISLANDS REGION   |
| 18   | 03 | 43 | 21.3% | 58.318 | N | 153.399 | W | 69  |   |         | 1.1 | 35                    | KODIAK ISLAND REGION. <AEIC>. ML 3.2 (AEIC).  |
| 18   | 04 | 56 | 02.6? | 6.53   | S | 155.16  | E | 33  | N | 3.5     | 1.2 | 6                     | SOLOMON ISLANDS   |
| 18   | 05 | 53 | 50.4  | 66.503 | N | 1.991   | W | 10  | G | 4.0     | 1.2 | 47                    | NORWEGIAN SEA   |
| 18   | 06 | 54 | 10.4? | 5.64   | S | 152.46  | E | 100 | G | 4.1     | 1.3 | 6                     | NEW BRITAIN REGION, P.N.G.  |
| 18   | 07 | 04 | 11.9  | 33.879 | N | 141.719 | E | 54  | D | 4.0     | 0.8 | 20                    | OFF EAST COAST OF HONSHU, JAPAN   |
| 18   | 07 | 44 | 41.3* | 31.120 | S | 177.480 | W | 33  | N | 4.7     | 1.3 | 21                    | KERMADEC ISLANDS REGION   |
| 18   | 07 | 57 | 28.4  | 41.678 | N | 23.789  | E | 10  | G |         | 1.2 | 16                    | GREECE-BULGARIA BORDER REGION. ML 3.2 (SKO).  |
| 18   | 08 | 14 | 55.1? | 20.32  | S | 178.56  | W | 550 | G | 4.2     | 0.7 | 10                    | FIJI ISLANDS REGION   |
| 18   | 08 | 49 | 47.8? | 23.31  | S | 175.46  | W | 33  | N | 4.4     | 1.0 | 13                    | TONGA ISLANDS REGION  |
| 18   | 09 | 33 | 20.8? | 5.44   | S | 147.37  | E | 174 | ? | 4.5     | 1.1 | 10                    | EASTERN NEW GUINEA REG., P.N.G.   |
| 18   | 09 | 47 | 40.4% | 34.969 | N | 116.824 | W | 1   |   |         | 1.1 | 26                    | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS).   |
| 18   | 10 | 50 | 08.2? | 23.43  | S | 169.99  | E | 33  | N | 4.0     | 1.1 | 9                     | LOYALTY ISLANDS REGION  |
| 18   | 11 | 26 | 16.0  | 34.187 | N | 26.154  | E | 20  | G | 5.1     | 1.2 | 287                   | CRETE. MD 4.5 (ISK).  |
| 18   | 11 | 53 | 07.6? | 32.30  | S | 69.87   | W | 130 | G |         | 0.3 | 10                    | MENDOZA PROVINCE, ARGENTINA. MD 3.3 (SAN).  |
| 18   | 11 | 56 | 27.9% | 61.976 | N | 151.123 | W | 63  |   |         | 0.7 | 77                    | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC), 3.2 (PMR).  |
| 18   | 12 | 17 | 09.3% | 37.197 | N | 4.295   | W | 10  | G |         | 1.0 | 11                    | SPAIN. mbLg 2.6 (MDD).  |
| 18   | 12 | 34 | 27.4% | 61.675 | N | 150.159 | W | 38  |   |         | 0.9 | 15                    | SOUTHERN ALASKA. <AEIC>. ML 2.4 (AEIC).   |
| 18   | 13 | 02 | 14.1  | 17.821 | N | 120.205 | E | 33  | N | 5.1 4.5 | 0.9 | 111                   | LUZON, PHILIPPINE ISLANDS. Mw 5.1 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time 13:02:17.1; Lat 17.84 N; Lon 120.01 E; Dep 45.3; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=6.84, Plg=68, Azm=166; (N) Val=-1.83, Plg=19, Azm=317; (P) Val=-5.01, Plg=10, Azm=50; Best double couple: Mo=5.9*10**16 Nm; NP1: Strike=162, Dip=39, Slip=122; NP2: Strike=304, Dip=58, Slip=67. |    |    |       |        |   |         |   |     |   |         |     |                       |   |
| 18   | 13 | 30 | 33.2  | 44.682 | N | 7.272   | E | 10  | G |         | 0.7 | 43                    | NORTHERN ITALY. ML 3.0 (GEN), 3.0 (LDG), 2.8 (STR).   |
| 18   | 13 | 31 | 40.3% | 44.659 | N | 7.181   | E | 10  | G |         | 0.4 | 6                     | NORTHERN ITALY. ML 1.8 (GEN).   |
| 18   | 13 | 34 | 46.8% | 44.658 | N | 7.189   | E | 10  | G |         | 0.3 | 6                     | NORTHERN ITALY. ML 1.9 (GEN).   |
| 18   | 13 | 52 | 09.2% | 47.439 | N | 5.088   | E | 10  | G |         | 0.9 | 8                     | FRANCE. ML 2.5 (LDG).   |
| 18   | 14 | 30 | 56.0% | 37.184 | N | 4.338   | W | 10  | G |         | 0.3 | 5                     | SPAIN. mbLg 2.6 (MDD).  |
| 18   | 14 | 44 | 40.4* | 17.869 | N | 120.319 | E | 33  | N | 3.7     | 0.8 | 11                    | LUZON, PHILIPPINE ISLANDS   |
| 18   | 14 | 47 | 46.8? | 37.15  | N | 3.83    | W | 10  | G |         | 0.0 | 4                     | SPAIN. mbLg 2.0 (MDD).  |
| 18   | 15 | 24 | 47.7% | 34.970 | N | 116.819 | W | 2   |   | 4.7 4.7 | 1.0 | 106                   | SOUTHERN CALIFORNIA. <PAS-P>. MD 5.1 (PAS). Minor damage (VI) in the Barstow area. Felt (V) at Hinkley, Newberry Springs, Oro Grande and Rancho Cucamonga; (IV) at Arcadia, Baker, Boron, El Monte, Fort Irwin, Glendale, Llano, Mojave, Mount Baldy, Newberry Springs, Rosamond, San Bernardino, Seal Beach, Tecopa, West Arcadia and Yermo. Felt in Los Angeles, Orange, Riverside and San Bernardino Counties. |
| 18   | 15 | 39 | 38.5% | 34.973 | N | 116.823 | W | 0   |   |         | 1.2 | 7                     | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.8 (PAS).   |
| 18   | 15 | 48 | 43.2  | 52.620 | N | 167.128 | W | 33  | N | 4.9 4.7 | 1.2 | 64                    | FOX ISLANDS, ALEUTIAN ISLANDS   |
| 18   | 16 | 06 | 45.0? | 22.66  | S | 177.36  | W | 150 | G | 3.9     | 1.1 | 15                    | SOUTH OF FIJI ISLANDS   |
| 18   | 16 | 19 | 23.0% | 34.971 | N | 116.826 | W | 1   |   |         | 1.1 | 32                    | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.7 (PAS). Felt in the Barstow area.   |
| 18   | 16 | 24 | 38.5? | 18.80  | S | 177.76  | W | 600 | G | 3.9     | 0.3 | 8                     | FIJI ISLANDS REGION   |
| 18   | 16 | 40 | 14.6% | 34.974 | N | 116.820 | W | 0   |   |         | 0.3 | 24                    | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.4 (PAS). Felt in the Barstow area.   |
| 18   | 16 | 42 | 08.2  | 46.156 | N | 7.512   | E | 5   | G |         | 0.5 | 29                    | SWITZERLAND. ML 2.9 (STR), 2.5 (LDG).   |
| 18   | 16 | 47 | 26.2% | 44.611 | N | 7.195   | E | 10  | G |         | 0.4 | 10                    | NORTHERN ITALY. ML 2.3 (GEN).   |
| 18   | 17 | 02 | 59.0  | 51.674 | N | 16.164  | E | 5   | G |         | 0.8 | 18                    | POLAND. ML 3.6 (GRF), 3.3 (VIE).  |
| 18   | 17 | 45 | 46.1* | 9.488  | N | 126.369 | E | 33  | N | 4.2     | 0.6 | 12                    | MINDANAO, PHILIPPINE ISLANDS  |
| 18   | 17 | 49 | 55.5% | 44.576 | N | 7.444   | E | 10  | G |         | 0.4 | 9                     | NORTHERN ITALY. ML 2.0 (GEN).   |
| 18   | 19 | 01 | 21.9  | 44.629 | N | 7.224   | E | 10  | G |         | 0.5 | 24                    | NORTHERN ITALY. ML 2.5 (GEN), 2.0 (LDG).  |
| 18   | 19 | 22 | 40.8* | 43.957 | S | 82.244  | W | 10  | G | 4.3     | 1.0 | 15                    | WEST CHILE RISE   |
| 18   | 19 | 51 | 07.3? | 13.91  | N | 93.78   | W | 33  | N | 3.9     | 1.3 | 9                     | OFF COAST OF CHIAPAS, MEXICO  |
| 18   | 19 | 51 | 58.1? | 30.85  | S | 177.99  | W | 33  | N | 4.9 5.2 | 1.3 | 19                    | KERMADEC ISLANDS, NEW ZEALAND   |
| 18   | 20 | 29 | 40.0% | 42.111 | N | 21.265  | E | 10  | G |         | 0.7 | 5                     | NORTHWESTERN BALKAN REGION. ML 2.3 (SKO).   |
| 18   | 20 | 48 | 40.1  | 18.796 | S | 174.054 | W | 33  | N | 5.1     | 1.0 | 41                    | TONGA ISLANDS   |
| 18   | 21 | 16 | 26.2? | 31.71  | S | 69.65   | W | 140 | G |         | 0.5 | 9                     | SAN JUAN PROVINCE, ARGENTINA. MD 3.3 (SAN).   |
| 18   | 21 | 28 | 54.1% | 34.969 | N | 116.827 | W | 1   |   |         | 1.2 | 22                    | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS).   |
| 18   | 22 | 10 | 16.5% | 44.545 | N | 7.272   | E | 10  | G |         | 0.4 | 10                    | NORTHERN ITALY. ML 2.2 (GEN).   |
| 18   | 22 | 33 | 01.5* | 14.182 | N | 145.551 | E | 145 | * | 4.4     | 1.3 | 17                    | MARIANA ISLANDS   |



|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 18 | 22 | 47 | 34.2* | 18.855 | N | 145.483 | E | 400 | G | 3.8     | 0.9 | 11  | MARIANA ISLANDS  |
| 18 | 23 | 08 | 40.2* | 44.730 | N | 6.799   | E | 5   | G |         | 0.4 | 10  | FRANCE. ML 2.3 (GEN).  |
| 19 | 00 | 18 | 17.5* | 59.054 | N | 152.843 | W | 68  |   |         |     | 74  | SOUTHERN ALASKA. <AEIC>. ML 2.7 (AEIC).  |
| 19 | 01 | 27 | 41.3* | 25.70  | S | 178.75  | W | 250 | G |         | 0.9 | 7   | SOUTH OF FIJI ISLANDS  |
| 19 | 01 | 50 | 26.2* | 31.059 | S | 177.693 | W | 33  | N | 4.6     | 0.9 | 15  | KERMADEC ISLANDS REGION  |
| 19 | 02 | 01 | 41.4  | 44.341 | N | 7.263   | E | 10  | G |         | 0.6 | 23  | NORTHERN ITALY. ML 2.4 (GEN), 1.8 (LDG).   |
| 19 | 02 | 39 | 29.3* | 10.03  | N | 126.02  | E | 33  | N | 3.9     | 1.1 | 7   | PHILIPPINE ISLANDS REGION  |
| 19 | 02 | 57 | 42.0* | 36.006 | N | 3.702   | W | 33  | N |         | 0.5 | 13  | STRAIT OF GIBRALTAR. mbLg 2.8 (MDD).   |
| 19 | 03 | 03 | 16.3  | 33.954 | S | 69.642  | W | 115 |   |         | 0.9 | 24  | CHILE-ARGENTINA BORDER REGION. MD 4.3 (SAN).   |
| 19 | 04 | 13 | 13.9* | 42.846 | N | 7.196   | W | 10  | G |         | 0.7 | 6   | SPAIN. mbLg 3.1 (MDD).   |
| 19 | 04 | 32 | 53.8* | 42.787 | N | 7.221   | W | 10  | G |         | 0.6 | 6   | SPAIN. mbLg 2.8 (MDD).   |
| 19 | 04 | 34 | 20.1* | 42.78  | N | 7.24    | W | 10  | G |         | 0.0 | 4   | SPAIN. mbLg 2.8 (MDD).   |
| 19 | 04 | 35 | 00.0* | 42.836 | N | 7.194   | W | 10  | G |         | 0.3 | 5   | SPAIN. mbLg 3.2 (MDD). Felt (III) in the epicentral area.  |
| 19 | 04 | 45 | 19.0* | 34.969 | N | 116.822 | W | 0   |   |         |     | 31  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.4 (PAS). ML 3.3 (GS).   |
| 19 | 05 | 04 | 33.5  | 42.954 | N | 7.144   | W | 10  | G |         | 1.5 | 18  | SPAIN. mbLg 3.1 (MDD). ML 3.0 (LDG). Felt (III) in the Sarria-Becerrea area.   |
| 19 | 05 | 05 | 42.2* | 1.480  | N | 123.532 | E | 50  | G | 4.1     | 1.3 | 11  | MINAHASSA PENINSULA, SULAWESI  |
| 19 | 05 | 18 | 47.8* | 36.69  | N | 138.12  | E | 10  | G |         | 1.5 | 5   | EASTERN HONSHU, JAPAN  |
| 19 | 06 | 02 | 24.0* | 9.975  | S | 124.010 | E | 33  | N | 4.1     | 1.4 | 7   | TIMOR REGION, INDONESIA  |
| 19 | 06 | 47 | 55.5* | 7.090  | S | 125.398 | E | 500 | G | 4.7     | 1.1 | 20  | BANDA SEA  |
| 19 | 06 | 55 | 21.4* | 7.58   | N | 72.67   | W | 150 | G | 4.1     | 0.8 | 13  | NORTHERN COLOMBIA  |
| 19 | 07 | 21 | 46.8* | 38.028 | N | 29.024  | E | 10  | G |         | 0.5 | 5   | TURKEY. MD 3.2 (ISK).  |
| 19 | 07 | 25 | 32.0* | 6.769  | S | 105.355 | E | 33  | N | 4.4     | 0.9 | 18  | SUNDA STRAIT   |
| 19 | 07 | 36 | 47.8  | 55.880 | N | 163.750 | E | 33  | N | 4.9 4.5 | 0.9 | 125 | OFF EAST COAST OF KAMCHATKA  |
| 19 | 07 | 47 | 13.3* | 55.868 | N | 163.783 | E | 33  | N | 3.4     | 0.7 | 11  | OFF EAST COAST OF KAMCHATKA  |
| 19 | 08 | 03 | 10.3* | 33.972 | S | 71.335  | W | 50  | G |         | 0.2 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.0 (SAN).   |
| 19 | 08 | 09 | 32.9* | 39.23  | N | 27.88   | E | 10  | G |         | 1.3 | 4   | TURKEY. MD 2.7 (ISK).  |
| 19 | 08 | 09 | 59.4* | 25.510 | S | 179.985 | E | 481 | ? | 4.3     | 1.1 | 16  | SOUTH OF FIJI ISLANDS  |
| 19 | 08 | 11 | 06.4* | 21.60  | N | 143.48  | E | 300 | G |         | 0.7 | 6   | MARIANA ISLANDS REGION   |
| 19 | 08 | 12 | 01.3* | 55.891 | N | 163.915 | E | 33  | N | 3.3     | 0.6 | 13  | OFF EAST COAST OF KAMCHATKA  |
| 19 | 08 | 23 | 43.8* | 15.093 | S | 173.993 | W | 133 | ? | 3.8     | 0.8 | 13  | TONGA ISLANDS  |
| 19 | 09 | 40 | 41.6* | 43.607 | N | 3.269   | E | 5   | G |         | 1.5 | 8   | NEAR SOUTH COAST OF FRANCE. ML 2.7 (LDG).  |
| 19 | 09 | 53 | 50.1* | 8.397  | N | 125.928 | E | 33  | N | 4.4     | 1.2 | 30  | MINDANAO, PHILIPPINE ISLANDS   |
| 19 | 10 | 42 | 19.6* | 39.15  | N | 27.59   | E | 10  | G |         | 0.5 | 4   | TURKEY. MD 2.7 (ISK).  |
| 19 | 10 | 43 | 02.2* | 15.725 | S | 69.255  | W | 225 | ? | 4.2     | 1.2 | 27  | PERU-BOLIVIA BORDER REGION   |
| 19 | 10 | 56 | 30.6* | 32.06  | S | 71.17   | W | 80  | G |         | 0.3 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.3 (SAN).   |
| 19 | 11 | 15 | 50.5* | 30.326 | N | 67.961  | E | 33  | N | 4.7     | 1.5 | 44  | PAKISTAN. Felt at Quetta.  |
| 19 | 11 | 28 | 11.7  | 47.795 | N | 7.988   | E | 5   | G |         | 0.5 | 9   | SWITZERLAND. ML 2.5 (STR), 2.3 (VIE).  |
| 19 | 11 | 38 | 52.5* | 38.565 | N | 0.965   | W | 10  | G |         | 0.8 | 7   | SPAIN. mbLg 2.8 (MDD).   |
| 19 | 12 | 00 | 50.3* | 45.019 | S | 76.663  | W | 33  | N | 4.6     | 1.1 | 12  | OFF COAST OF SOUTHERN CHILE  |
| 19 | 12 | 18 | 16.2* | 37.10  | N | 3.56    | W | 10  | G |         | 0.4 | 4   | SPAIN. mbLg 2.0 (MDD).   |
| 19 | 12 | 35 | 18.6  | 37.737 | N | 142.825 | E | 33  | N | 4.1     | 0.8 | 21  | OFF EAST COAST OF HONSHU, JAPAN  |
| 19 | 12 | 50 | 58.9  | 5.672  | S | 123.942 | E | 33  | N | 4.6     | 1.3 | 31  | BANDA SEA  |
| 19 | 13 | 02 | 30.7* | 36.159 | N | 139.854 | E | 33  | N |         | 0.8 | 5   | EASTERN HONSHU, JAPAN  |
| 19 | 13 | 20 | 31.6  | 10.685 | S | 112.734 | E | 33  | N | 4.7     | 1.2 | 41  | SOUTH OF JAWA, INDONESIA   |
| 19 | 13 | 37 | 00.4* | 44.40  | N | 7.38    | E | 10  | G |         | 0.0 | 4   | NORTHERN ITALY. ML 1.4 (GEN).  |
| 19 | 13 | 57 | 31.7  | 18.990 | N | 69.657  | W | 84  | D | 4.3     | 1.0 | 46  | DOMINICAN REPUBLIC REGION. MD 4.4 (MPR). Felt (IV) at Cotui, Monte Plata and Santo Domingo; (III) at La Vega and Villa Altagracia.   |
| 19 | 14 | 02 | 35.1  | 44.121 | N | 7.163   | E | 10  | G |         | 0.7 | 38  | NORTHERN ITALY. ML 2.9 (STR), 2.9 (LDG), 2.9 (GEN).  |
| 19 | 14 | 50 | 11.9* | 32.30  | S | 71.79   | W | 5   | G |         | 0.5 | 8   | NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).   |
| 19 | 15 | 08 | 54.4* | 34.172 | S | 70.199  | W | 10  | G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.4 (SAN).   |
| 19 | 15 | 34 | 41.9* | 5.978  | S | 129.796 | E | 197 | ? | 4.1     | 1.3 | 13  | BANDA SEA  |
| 19 | 16 | 22 | 34.0* | 17.411 | N | 147.480 | E | 33  | N | 4.0     | 1.2 | 22  | MARIANA ISLANDS REGION   |
| 19 | 16 | 34 | 21.5  | 13.281 | N | 50.059  | E | 10  | G | 4.7     | 1.0 | 33  | EASTERN GULF OF ADEN   |
| 19 | 17 | 17 | 27.8* | 19.019 | S | 169.458 | E | 33  | N | 4.9 4.7 | 1.0 | 34  | VANUATU ISLANDS  |
| 19 | 17 | 20 | 51.7* | 13.37  | N | 50.04   | E | 10  | G | 4.2     | 1.3 | 11  | EASTERN GULF OF ADEN   |
| 19 | 17 | 28 | 38.6* | 34.459 | S | 70.948  | W | 80  | G |         | 0.2 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.2 (SAN).   |
| 19 | 17 | 37 | 44.5* | 31.791 | S | 70.707  | W | 100 | G |         | 0.4 | 13  | CHILE-ARGENTINA BORDER REGION. MD 4.1 (SAN).   |
| 19 | 17 | 50 | 42.2  | 16.610 | S | 173.898 | W | 99  | D | 5.5     | 0.9 | 214 | TONGA ISLANDS. Mw 5.8 (GS), 5.7 (HRV).<br>Moment Tensor (GS): Dep 87; Principal axes (scale 10**17 Nm): (T) Val=-5.11, Plg=18, Azm=213; (N) Val=-0.08, Plg=28, Azm=313; (P) Val=-5.03, Plg=56, Azm=95; Best double couple: Mo=5.1*10**17 Nm; NP1: Strike=268, Dip=37, Slip=-141; NP2: Strike=145, Dip=68, Slip=-60.<br>Centroid, Moment Tensor (HRV): Centroid origin time 17:50:45.9; Lat 16.51 S; Lon 173.44 W; Dep 92.7; Half-duration 1.7 sec; Principal axes (scale 10**17 Nm): (T) Val=-4.12, Plg=18, Azm=215; (N) Val=-0.19, Plg=24, Azm=314; (P) Val=-3.93, Plg=59, Azm=92; Best double couple: Mo=4.0*10**17 Nm; NP1: Strike=272, Dip=34, Slip=-137; NP2: Strike=145, Dip=67, Slip=-63. |
| 19 | 18 | 10 | 06.1* | 39.185 | N | 21.372  | E | 91  | ? | 4.0     | 1.3 | 24  | GREECE   |
| 19 | 18 | 15 | 06.4* | 2.638  | N | 127.928 | E | 100 | G | 4.7     | 1.3 | 22  | NORTHERN MOLUCCA SEA   |
| 19 | 18 | 16 | 02.6* | 52.909 | N | 34.913  | W | 10  | G | 4.2     | 1.2 | 24  | NORTH ATLANTIC OCEAN   |
| 19 | 18 | 24 | 05.5* | 38.878 | N | 21.853  | E | 50  | G |         | 1.2 | 13  | GREECE   |
| 19 | 18 | 42 | 36.4* | 36.48  | N | 141.17  | E | 33  | N |         | 0.5 | 5   | NEAR EAST COAST OF HONSHU, JAPAN   |
| 19 | 18 | 55 | 34.1* | 5.354  | S | 147.699 | E | 10  | G | 4.1     | 1.1 | 11  | EASTERN NEW GUINEA REG., P.N.G.  |
| 19 | 19 | 22 | 57.2* | 32.37  | S | 69.85   | W | 120 | G |         | 0.2 | 9   | MENDOZA PROVINCE, ARGENTINA. MD 3.0 (SAN).   |
| 19 | 19 | 23 | 26.7* | 14.350 | N | 93.558  | W | 33  | N | 4.6     | 1.2 | 42  | NEAR COAST OF CHIAPAS, MEXICO  |
| 19 | 19 | 27 | 40.5* | 4.99   | N | 127.45  | E | 33  | N | 4.6     | 1.3 | 11  | TALAUD ISLANDS, INDONESIA  |
| 19 | 19 | 29 | 47.3* | 59.682 | N | 152.333 | W | 57  |   |         |     | 77  | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC).  |
| 19 | 19 | 57 | 11.9  | 34.872 | N | 71.620  | E | 50  | G | 4.9     | 0.8 | 88  | PAKISTAN. Fifteen people killed, several injured and damage to houses in the Bajaur region. Felt at Chitral.   |
| 19 | 20 | 09 | 00.2* | 70.609 | N | 132.088 | W | 10  | G |         | 0.9 | 8   | BEAUFORT SEA   |
| 19 | 20 | 16 | 07.9  | 37.710 | N | 142.035 | E | 42  | D |         | 1.0 | 26  | OFF EAST COAST OF HONSHU, JAPAN  |
| 19 | 20 | 16 | 54.2* | 37.709 | N | 142.044 | E | 47  | ? |         | 0.8 | 17  | OFF EAST COAST OF HONSHU, JAPAN  |
| 19 | 20 | 51 | 01.8* | 45.509 | N | 26.376  | E | 130 | G |         | 0.7 | 11  | ROMANIA  |
| 19 | 21 | 51 | 43.9* | 7.11   | S | 106.60  | E | 100 | G |         | 0.8 | 7   | JAWA, INDONESIA  |
| 19 | 22 | 14 | 52.2* | 36.931 | N | 6.820   | W | 33  | N |         | 1.3 | 27  | STRAIT OF GIBRALTAR. mbLg 3.2 (MDD).   |
| 19 | 22 | 31 | 56.1* | 7.585  | N | 127.858 | E | 33  | N | 3.9     | 1.4 | 5   | PHILIPPINE ISLANDS REGION  |
| 19 | 22 | 51 | 05.6* | 43.407 | N | 147.073 | E | 69  | D |         | 1.2 | 10  | KURIL ISLANDS  |
| 19 | 23 | 07 | 11.7  | 55.660 | N | 156.409 | W | 33  | N | 4.4     | 1.1 | 113 | SOUTH OF ALASKA. ML 4.6 (AEIC).  |



|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 19 | 23 | 10 | 49.2  | 41.397 | N | 14.626  | E | 10  | G | 4.6     | 1.3 | 112 | SOUTHERN ITALY. ML 3.9 (LDG). Felt at Benevento.   |
| 19 | 23 | 34 | 44.2  | 47.169 | N | 11.222  | E | 5   | G |         | 1.2 | 30  | AUSTRIA. ML 2.7 (GRF), 2.5 (VIE), 2.5 (FUR), 2.5 (LDG).  |
| 19 | 23 | 37 | 38.2? | 19.58  | S | 178.06  | W | 550 | G | 3.9     | 0.4 | 8   | FIJI ISLANDS REGION  |
| 19 | 23 | 58 | 07.9* | 41.500 | N | 14.319  | E | 10  | G |         | 1.3 | 8   | SOUTHERN ITALY   |
| 20 | 00 | 19 | 19.2  | 39.790 | N | 26.860  | E | 10  | G |         | 0.5 | 17  | TURKEY. MD 3.5 (ISK).  |
| 20 | 00 | 28 | 19.4% | 36.906 | N | 3.878   | W | 10  | G |         | 0.8 | 6   | STRAIT OF GIBRALTAR. mbLg 2.4 (MDD).   |
| 20 | 00 | 47 | 30.7  | 30.156 | N | 68.046  | E | 33  | N | 4.6     | 0.9 | 47  | PAKISTAN   |
| 20 | 01 | 30 | 42.7? | 51.45  | N | 16.40   | E | 5   | G |         | 0.6 | 5   | POLAND   |
| 20 | 02 | 12 | 54.0? | 11.71  | S | 166.17  | E | 33  | N | 3.4     | 1.3 | 9   | SANTA CRUZ ISLANDS   |
| 20 | 02 | 17 | 05.4  | 1.648  | S | 12.999  | W | 10  | G | 5.0 4.8 | 1.0 | 104 | NORTH OF ASCENSION ISLAND. Mw 5.2 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>02:17:09.5; Lat 1.59 S; Lon 12.71 W; Dep 15.0 Fix; Half-<br>duration 1.0 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=5.48, Plg=13, Azm=251; (N) Val=1.90, Plg=24, Azm=346;<br>(P) Val=-7.38, Plg=62, Azm=136; Best double couple:<br>Mo=6.4*10**16 Nm; NP1: Strike=312, Dip=39, Slip=-131; NP2:<br>Strike=180, Dip=62, Slip=-62.  |
| 20 | 02 | 22 | 02.5* | 6.603  | S | 151.474 | E | 33  | N | 4.2     | 0.9 | 11  | NEW BRITAIN REGION, P.N.G.   |
| 20 | 02 | 32 | 26.0? | 38.52  | N | 21.62   | E | 33  | N | 3.3     | 1.4 | 13  | GREECE   |
| 20 | 03 | 08 | 07.2% | 37.490 | N | 118.833 | W | 12  |   |         |     | 21  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.3 (GM). ML 3.4<br>(BRK), 3.3 (GS).   |
| 20 | 03 | 30 | 17.3? | 30.14  | N | 68.19   | E | 33  | N | 3.7     | 1.4 | 12  | PAKISTAN   |
| 20 | 03 | 57 | 25.9  | 42.594 | N | 2.082   | E | 5   | G |         | 1.0 | 28  | PYRENEES. mbLg 3.1 (MDD). ML 3.0 (STR), 3.0 (LDG).   |
| 20 | 04 | 21 | 48.2* | 1.527  | S | 145.598 | E | 33  | N | 4.9 4.4 | 1.0 | 20  | ADMIRALTY ISLANDS REGION, P.N.G.   |
| 20 | 04 | 48 | 26.4* | 1.584  | S | 145.805 | E | 33  | N | 4.0     | 0.7 | 8   | ADMIRALTY ISLANDS REGION, P.N.G.   |
| 20 | 04 | 50 | 00.7% | 34.525 | S | 70.377  | W | 5   | G |         | 0.4 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.7 (SAN).   |
| 20 | 05 | 00 | 29.4? | 5.47   | S | 147.48  | E | 150 | G | 4.3     | 1.0 | 9   | EASTERN NEW GUINEA REG., P.N.G.  |
| 20 | 05 | 00 | 44.3* | 30.000 | N | 67.733  | E | 33  | N | 4.0     | 1.0 | 12  | PAKISTAN   |
| 20 | 05 | 04 | 18.4% | 34.180 | S | 70.207  | W | 10  | G |         | 0.5 | 10  | CHILE-ARGENTINA BORDER REGION. MD 3.3 (SAN).   |
| 20 | 05 | 30 | 58.2  | 42.208 | N | 143.200 | E | 70  | * | 4.2     | 1.0 | 28  | HOKKAIDO, JAPAN REGION   |
| 20 | 05 | 43 | 12.5? | 34.45  | S | 70.41   | W | 10  | G |         | 0.2 | 8   | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 20 | 05 | 52 | 39.6  | 42.012 | N | 142.512 | E | 72  | D | 4.5     | 1.1 | 58  | HOKKAIDO, JAPAN REGION   |
| 20 | 06 | 08 | 10.3* | 4.323  | N | 124.613 | E | 33  | N | 4.3     | 0.7 | 15  | CELEBES SEA  |
| 20 | 06 | 17 | 27.4  | 44.267 | N | 114.113 | W | 5   | G |         | 0.5 | 14  | WESTERN IDAHO. ML 3.0 (BUT).   |
| 20 | 06 | 25 | 38.4? | 18.40  | N | 146.66  | E | 200 | G | 3.2     | 0.8 | 8   | MARIANA ISLANDS  |
| 20 | 06 | 44 | 27.9* | 6.760  | S | 129.573 | E | 150 | G | 4.5     | 1.4 | 12  | BANDA SEA  |
| 20 | 06 | 51 | 26.0* | 32.744 | N | 49.198  | E | 33  | N | 4.5     | 0.9 | 34  | WESTERN IRAN   |
| 20 | 07 | 29 | 43.2% | 44.546 | N | 8.534   | E | 10  | G |         | 0.2 | 8   | NORTHERN ITALY. ML 2.3 (GEN).  |
| 20 | 07 | 30 | 27.0  | 43.769 | N | 148.025 | E | 33  | N | 4.7     | 1.0 | 53  | EAST OF KURIL ISLANDS  |
| 20 | 07 | 44 | 59.7* | 26.807 | S | 26.358  | E | 5   | G | 4.6     | 1.1 | 22  | REPUBLIC OF SOUTH AFRICA   |
| 20 | 07 | 59 | 26.9* | 2.022  | N | 126.819 | E | 33  | N | 4.4     | 1.0 | 14  | NORTHERN MOLUCCA SEA   |
| 20 | 08 | 50 | 40.3  | 30.136 | N | 68.022  | E | 33  | N | 5.5 5.8 | 1.0 | 264 | PAKISTAN. Mw 5.9 (HRV), 5.7 (GS). Me 5.4 (GS). At least<br>three people injured and additional damage to houses in the<br>Harnai area. Felt at Quetta.<br>Broadband Source Parameters (GS): Dep 18; NP1: Strike=75,<br>Dip=85, Slip=85; NP2: Strike=300, Dip=7, Slip=135; Radiated<br>energy 2.4*10**12 Nm. Two events about 1 second apart.<br>Depth based on first event.<br>Moment Tensor (GS): Dep 18; Principal axes (scale 10**17<br>Nm): (T) Val=4.16, Plg=43, Azm=322; (N) Val=-0.02, Plg=19,<br>Azm=71; (P) Val=-4.14, Plg=41, Azm=178; Best double couple:<br>Mo=4.1*10**17 Nm; NP1: Strike=337, Dip=19, Slip=176; NP2:<br>Strike=70, Dip=89, Slip=71.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>08:50:44.7; Lat 30.79 N; Lon 67.79 E; Dep 15.0 Fix; Half-<br>duration 2.0 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=8.13, Plg=38, Azm=346; (N) Val=-0.07, Plg=0, Azm=76;<br>(P) Val=-8.05, Plg=52, Azm=166; Best double couple:<br>Mo=8.1*10**17 Nm; NP1: Strike=76, Dip=7, Slip=-91; NP2:<br>Strike=256, Dip=83, Slip=-90. |
| 20 | 09 | 03 | 13.0* | 30.141 | N | 67.964  | E | 33  | N | 3.6     | 1.1 | 12  | PAKISTAN   |
| 20 | 09 | 34 | 00.5* | 3.324  | S | 134.724 | E | 33  | N | 4.6     | 1.4 | 23  | IRIAN JAYA REGION, INDONESIA   |
| 20 | 09 | 35 | 35.8  | 30.105 | N | 68.016  | E | 33  | N | 4.7     | 1.1 | 43  | PAKISTAN   |
| 20 | 09 | 51 | 19.4* | 36.156 | N | 68.492  | E | 150 | G |         | 0.4 | 6   | HINDU KUSH REGION, AFGHANISTAN   |
| 20 | 10 | 16 | 49.1* | 30.440 | N | 68.019  | E | 33  | N | 3.2     | 0.8 | 11  | PAKISTAN   |
| 20 | 10 | 24 | 32.2* | 55.902 | S | 27.647  | W | 150 | G | 4.5     | 0.8 | 14  | SOUTH SANDWICH ISLANDS REGION  |
| 20 | 10 | 24 | 42.6? | 11.97  | S | 120.09  | E | 33  | N | 4.3     | 1.6 | 13  | SOUTH OF SUMBA, INDONESIA  |
| 20 | 11 | 17 | 19.8  | 30.050 | N | 68.021  | E | 33  | N | 4.6     | 0.9 | 47  | PAKISTAN   |
| 20 | 11 | 27 | 17.6? | 48.17  | N | 155.35  | E | 33  | N |         | 1.0 | 8   | KURIL ISLANDS  |
| 20 | 12 | 37 | 29.6  | 27.840 | N | 130.201 | E | 34  | D | 4.7     | 1.0 | 34  | RYUKYU ISLANDS   |
| 20 | 12 | 46 | 19.7  | 30.093 | N | 68.111  | E | 33  | N | 4.4     | 1.0 | 30  | PAKISTAN   |
| 20 | 13 | 11 | 24.3* | 30.501 | N | 67.910  | E | 33  | N |         | 1.0 | 10  | PAKISTAN   |
| 20 | 13 | 33 | 49.3  | 5.725  | N | 82.408  | W | 10  | G | 4.9 4.8 | 1.0 | 63  | SOUTH OF PANAMA. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>13:33:54.9; Lat 5.60 N; Lon 82.50 W; Dep 15.0 Fix; Half-<br>duration 1.2 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.37, Plg=0, Azm=133; (N) Val=-0.08, Plg=90, Azm=180;<br>(P) Val=-1.29, Plg=0, Azm=43; Best double couple:<br>Mo=1.3*10**17 Nm; NP1: Strike=178, Dip=90, Slip=-180; NP2:<br>Strike=268, Dip=90, Slip=0.  |
| 20 | 13 | 54 | 57.1* | 6.876  | S | 105.628 | E | 33  | N | 4.6     | 1.3 | 22  | SUNDA STRAIT   |
| 20 | 14 | 00 | 46.7* | 3.845  | S | 134.932 | E | 33  | N | 4.6     | 1.5 | 14  | IRIAN JAYA REGION, INDONESIA   |
| 20 | 14 | 30 | 29.3% | 44.801 | N | 6.373   | E | 5   | G |         | 0.4 | 7   | FRANCE. ML 2.1 (GEN).  |
| 20 | 14 | 55 | 30.0* | 16.878 | N | 73.678  | E | 10  | G |         | 1.2 | 8   | SOUTHERN INDIA   |
| 20 | 15 | 04 | 15.1% | 60.901 | N | 159.357 | W | 0   |   |         |     | 17  | SOUTHERN ALASKA. <AEIC>. ML 3.8 (AEIC), 3.6 (PMR).   |
| 20 | 15 | 55 | 44.7% | 60.283 | N | 153.606 | W | 177 |   |         |     | 92  | SOUTHERN ALASKA. <AEIC>.   |
| 20 | 15 | 56 | 35.8* | 3.377  | S | 134.114 | E | 33  | N | 3.9     | 1.0 | 7   | IRIAN JAYA REGION, INDONESIA   |
| 20 | 15 | 59 | 34.3* | 30.047 | N | 67.966  | E | 33  | N | 3.8     | 0.9 | 11  | PAKISTAN   |
| 20 | 16 | 33 | 01.3% | 43.130 | N | 0.681   | W | 5   | G |         | 0.4 | 6   | PYRENEES. ML 1.7 (STR).  |
| 20 | 16 | 50 | 29.1% | 31.437 | S | 117.722 | E | 10  | G |         | 0.6 | 5   | WESTERN AUSTRALIA  |
| 20 | 17 | 01 | 17.0  | 42.118 | N | 21.198  | E | 10  | G |         | 1.2 | 32  | NORTHWESTERN BALKAN REGION. ML 3.8 (SKO). Felt (VI) in the<br>northern part of the former Yugoslav Republic of Macedonia.<br>Also felt (IV) at Kumanovo, Skopje and Tetovo.  |

|    |    |    |       |        |   |         |   |     |   |     |     |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|-----|-----|-----|-----|---|
| 20 | 17 | 03 | 24.4% | 33.429 | S | 70.197  | W | 100 | G |     |     | 0.2 | 9   | CHILE-ARGENTINA BORDER REGION. MD 2.7 (SAN).  |
| 20 | 18 | 02 | 17.3  | 33.961 | N | 8.286   | E | 10  | G | 5.2 | 4.9 | 1.4 | 189 | TUNISIA   |
| 20 | 18 | 12 | 36.4% | 33.808 | N | 116.973 | W | 13  |   |     |     |     | 22  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.1 (PAS). ML 3.2 (GS).  |
| 20 | 19 | 09 | 58.3  | 30.127 | N | 67.991  | E | 33  | N | 4.4 |     | 0.9 | 38  | PAKISTAN  |
| 20 | 20 | 28 | 20.8* | 23.502 | S | 179.245 | E | 600 | G | 4.5 |     | 0.8 | 27  | SOUTH OF FIJI ISLANDS   |
| 20 | 20 | 34 | 36.3% | 61.395 | N | 150.747 | W | 57  |   |     |     |     | 40  | SOUTHERN ALASKA. <AEIC>. ML 3.0 (AEIC).   |
| 20 | 21 | 22 | 45.3  | 3.601  | S | 144.398 | E | 33  | N | 4.0 |     | 0.6 | 15  | NEAR N COAST OF NEW GUINEA, PNG.  |
| 20 | 21 | 58 | 56.6* | 24.219 | S | 66.950  | W | 168 | * | 4.6 |     | 0.9 | 19  | SALTA PROVINCE, ARGENTINA   |
| 20 | 22 | 02 | 47.5% | 62.033 | N | 141.413 | W | 4   |   |     |     |     | 21  | CENTRAL ALASKA. <AEIC>. ML 2.7 (AEIC).  |
| 20 | 22 | 05 | 31.7% | 24.22  | S | 179.80  | E | 550 | G | 4.3 |     | 0.7 | 14  | SOUTH OF FIJI ISLANDS   |
| 20 | 22 | 10 | 43.0% | 7.347  | N | 127.655 | E | 33  | N |     |     | 1.0 | 5   | PHILIPPINE ISLANDS REGION   |
| 20 | 23 | 00 | 01.6  | 36.416 | N | 27.218  | E | 10  | G | 4.1 |     | 1.1 | 36  | DODECANESE ISLANDS. MD 3.7 (ISK).   |
| 20 | 23 | 10 | 16.3* | 23.932 | N | 122.717 | E | 33  | N | 4.3 |     | 0.9 | 8   | TAIWAN REGION   |
| 20 | 23 | 13 | 25.3% | 28.16  | S | 176.89  | W | 33  | N | 4.4 |     | 1.1 | 18  | KERMADEC ISLANDS REGION   |
| 20 | 23 | 47 | 34.9  | 49.344 | N | 6.796   | E | 10  | G |     |     | 1.5 | 21  | GERMANY. ML 2.6 (STR), 2.6 (LDG). Mining induced event in the Lorraine region, France.  |
| 20 | 23 | 50 | 20.4  | 35.185 | N | 25.761  | E | 33  | N | 4.2 |     | 1.3 | 84  | CRETE. MD 4.1 (ISK).  |
| 21 | 00 | 07 | 19.1  | 43.267 | N | 8.134   | E | 10  | G |     |     | 0.2 | 9   | CORSICA. ML 2.0 (LDG), 1.9 (STR).   |
| 21 | 00 | 12 | 59.7% | 50.93  | N | 179.57  | E | 33  | N | 3.4 |     | 1.5 | 8   | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 21 | 00 | 15 | 56.3% | 36.620 | N | 139.484 | E | 10  | G |     |     | 0.9 | 5   | EASTERN HONSHU, JAPAN   |
| 21 | 01 | 10 | 58.1* | 49.371 | N | 153.741 | E | 150 | G |     |     | 1.1 | 12  | KURIL ISLANDS   |
| 21 | 02 | 13 | 41.1% | 5.00   | S | 149.60  | E | 52  | D | 3.6 |     | 0.4 | 7   | NEW BRITAIN REGION, P.N.G.  |
| 21 | 02 | 54 | 28.2% | 53.817 | N | 165.307 | W | 87  |   |     |     |     | 11  | FOX ISLANDS, ALEUTIAN ISLANDS. <AEIC>.  |
| 21 | 04 | 50 | 48.9  | 30.214 | N | 67.952  | E | 33  | N | 4.4 |     | 1.0 | 37  | PAKISTAN  |
| 21 | 05 | 43 | 43.7* | 2.230  | N | 128.082 | E | 150 | G | 4.6 |     | 0.9 | 19  | HALMAHERA, INDONESIA  |
| 21 | 05 | 48 | 44.6% | 44.55  | N | 8.40    | E | 10  | G |     |     | 0.5 | 4   | NORTHERN ITALY. ML 1.6 (GEN).   |
| 21 | 05 | 51 | 37.9* | 0.397  | N | 120.555 | E | 100 | G | 4.4 |     | 0.9 | 22  | MINAHASSA PENINSULA, SULAWESI   |
| 21 | 06 | 01 | 32.3% | 44.514 | N | 8.440   | E | 10  | G |     |     | 0.2 | 8   | NORTHERN ITALY. ML 2.1 (GEN).   |
| 21 | 06 | 05 | 32.8* | 25.418 | S | 66.527  | W | 150 | G | 3.9 |     | 1.0 | 14  | SALTA PROVINCE, ARGENTINA   |
| 21 | 06 | 12 | 18.1% | 44.534 | N | 8.399   | E | 10  | G |     |     | 0.2 | 7   | NORTHERN ITALY. ML 1.9 (GEN).   |
| 21 | 06 | 17 | 07.0  | 39.338 | N | 23.755  | E | 5   |   | 4.3 | 4.5 | 1.5 | 129 | AEGEAN SEA. ML 4.5 (THE). MD 4.3 (ISK). Felt in the Athens and Volos areas, Greece.   |
| 21 | 06 | 20 | 57.7% | 59.080 | N | 152.522 | W | 76  |   |     |     |     | 80  | SOUTHERN ALASKA. <AEIC>.  |
| 21 | 06 | 34 | 38.3* | 16.757 | S | 67.066  | E | 10  | G | 4.4 |     | 0.7 | 13  | MID-INDIAN RIDGE  |
| 21 | 07 | 01 | 46.7% | 44.527 | N | 8.389   | E | 10  | G |     |     | 0.6 | 10  | NORTHERN ITALY. ML 2.1 (GEN).   |
| 21 | 07 | 09 | 04.3* | 25.250 | S | 179.395 | E | 650 | G | 4.2 |     | 0.9 | 20  | SOUTH OF FIJI ISLANDS   |
| 21 | 07 | 24 | 58.3  | 49.247 | N | 6.527   | E | 10  | G |     |     | 1.2 | 16  | GERMANY. ML 2.7 (LDG), 2.6 (STR), 2.5 (DBN). Mining induced event in the Lorraine region, France.   |
| 21 | 08 | 20 | 04.8% | 44.505 | N | 8.431   | E | 10  | G |     |     | 0.3 | 10  | NORTHERN ITALY. ML 2.2 (GEN).   |
| 21 | 08 | 26 | 24.0% | 43.413 | N | 5.438   | E | 7   |   |     |     | 0.5 | 14  | NEAR SOUTH COAST OF FRANCE. ML 2.7 (STR). Mining induced event in the Lorraine region, France.  |
| 21 | 08 | 49 | 38.9% | 44.567 | N | 8.352   | E | 5   | G |     |     | 0.2 | 10  | NORTHERN ITALY. ML 2.1 (GEN).   |
| 21 | 09 | 19 | 28.8  | 51.642 | N | 16.221  | E | 5   | G | 3.4 |     | 0.8 | 20  | POLAND. ML 3.5 (VIE), 3.2 (CLL).  |
| 21 | 10 | 09 | 51.9% | 45.52  | N | 26.60   | E | 150 | G |     |     | 1.4 | 8   | ROMANIA   |
| 21 | 11 | 52 | 20.5% | 5.49   | S | 147.08  | E | 250 | G | 4.0 |     | 1.0 | 8   | EASTERN NEW GUINEA REG., P.N.G.   |
| 21 | 12 | 07 | 17.6  | 31.163 | S | 179.624 | E | 449 | D | 5.6 |     | 0.9 | 300 | KERMADEC ISLANDS REGION. Mw 6.3 (GS), 6.3 (HRV). Me 6.2 (GS). Broadband Source Parameters (GS): NP1: Strike=120, Dip=75, Slip=180; NP2: Strike=30, Dip=90, Slip=-15; Radiated energy 3.8*10**13 Nm.   |
|    |    |    |       |        |   |         |   |     |   |     |     |     |     | Moment Tensor (GS): Dep 442; Principal axes (scale 10**18 Nm): (T) Val=-3.17, Plg=27, Azm=79; (N) Val=-0.07, Plg=51, Azm=209; (P) Val=-3.10, Plg=25, Azm=335; Best double couple: Mo=3.1*10**18 Nm; NP1: Strike=117, Dip=52, Slip=179; NP2: Strike=207, Dip=89, Slip=39.  |
|    |    |    |       |        |   |         |   |     |   |     |     |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 12:07:22.1; Lat 31.18 S; Lon 179.90 E; Dep 452.8; Half-duration 3.5 sec; Principal axes (scale 10**18 Nm): (T) Val=-3.39, Plg=23, Azm=84; (N) Val=-0.34, Plg=54, Azm=210; (P) Val=-3.05, Plg=26, Azm=342; Best double couple: Mo=3.2*10**18 Nm; NP1: Strike=124, Dip=54, Slip=-178; NP2: Strike=33, Dip=88, Slip=-36.   |
|    |    |    |       |        |   |         |   |     |   |     |     |     |     | Scalar Moment (PPT): Mo=3.9*10**18 Nm.  |
| 21 | 13 | 28 | 01.7* | 3.915  | N | 122.834 | E | 550 | G | 4.5 |     | 1.1 | 18  | CELEBES SEA   |
| 21 | 13 | 34 | 38.8% | 44.89  | N | 6.69    | E | 5   | G |     |     | 0.5 | 4   | FRANCE. ML 1.7 (GEN).   |
| 21 | 13 | 37 | 07.2% | 44.883 | N | 6.403   | E | 5   | G |     |     | 0.3 | 6   | FRANCE. ML 2.0 (GEN).   |
| 21 | 13 | 47 | 42.5* | 27.459 | N | 130.071 | E | 33  | N | 3.2 |     | 0.9 | 9   | RYUKYU ISLANDS  |
| 21 | 14 | 58 | 29.3% | 31.39  | S | 69.05   | W | 130 | G |     |     | 0.5 | 10  | SAN JUAN PROVINCE, ARGENTINA. MD 3.6 (SAN).   |
| 21 | 15 | 46 | 34.8  | 30.081 | N | 67.914  | E | 33  | N | 4.4 |     | 1.0 | 27  | PAKISTAN  |
| 21 | 16 | 25 | 45.7% | 46.992 | N | 112.890 | W | 16  |   |     |     |     | 18  | MONTANA. <BUT-P>. ML 3.4 (BUT).   |
| 21 | 16 | 46 | 20.7  | 42.881 | N | 11.685  | E | 10  | G | 3.6 |     | 1.0 | 111 | CENTRAL ITALY. MD 3.5 (ROM). ML 3.3 (LDG).  |
| 21 | 16 | 57 | 28.3  | 51.183 | N | 179.335 | E | 33  | N | 4.3 | 4.2 | 1.0 | 53  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.7 (PMR).  |
| 21 | 17 | 11 | 38.1* | 51.613 | N | 179.693 | E | 33  | N | 3.8 |     | 1.3 | 20  | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 21 | 17 | 13 | 05.6% | 30.36  | N | 68.05   | E | 33  | N | 3.3 |     | 0.9 | 6   | PAKISTAN  |
| 21 | 17 | 35 | 52.1  | 50.588 | N | 18.790  | E | 10  | G |     |     | 1.2 | 10  | POLAND. ML 3.5 (VIE), 3.0 (CLL).  |
| 21 | 18 | 26 | 17.5% | 33.76  | N | 87.00   | E | 33  | N | 3.7 |     | 0.8 | 6   | XIZANG  |
| 21 | 18 | 28 | 13.7% | 49.185 | N | 2.044   | W | 5   | G |     |     | 0.2 | 6   | FRANCE. ML 2.6 (LDG).   |
| 21 | 19 | 14 | 16.3* | 8.154  | S | 117.818 | E | 33  | N | 4.0 |     | 1.2 | 13  | SUMBAWA REGION, INDONESIA   |
| 21 | 20 | 23 | 48.7  | 12.582 | N | 143.716 | E | 33  | N | 4.1 |     | 0.6 | 10  | SOUTH OF MARIANA ISLANDS  |
| 21 | 20 | 49 | 57.3% | 51.13  | N | 179.16  | W | 33  | N | 4.2 |     | 1.4 | 5   | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 21 | 20 | 58 | 24.0  | 50.196 | N | 7.305   | E | 5   | G |     |     | 1.3 | 8   | GERMANY. ML 2.6 (LDG), 2.1 (DBN).   |
| 21 | 21 | 00 | 07.4% | 35.02  | N | 8.02    | E | 10  | G |     |     | 0.3 | 9   | TUNISIA   |
| 21 | 21 | 04 | 48.6  | 32.932 | N | 84.612  | E | 33  | N | 4.9 | 4.9 | 1.0 | 73  | XIZANG. Mw 5.4 (HRV).   |
|    |    |    |       |        |   |         |   |     |   |     |     |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 21:04:57.5; Lat 33.15 N; Lon 85.02 E; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**17 Nm): (T) Val=-1.36, Plg=25, Azm=270; (N) Val=-0.35, Plg=19, Azm=171; (P) Val=-1.01, Plg=58, Azm=48; Best double couple: Mo=1.2*10**17 Nm; NP1: Strike=35, Dip=26, Slip=-43; NP2: Strike=165, Dip=73, Slip=-110. |
| 21 | 21 | 07 | 57.7% | 37.827 | N | 2.551   | W | 10  | G |     |     | 1.4 | 5   | SPAIN. mBlg 2.5 (MDD).  |
| 21 | 22 | 36 | 12.9  | 7.621  | S | 157.786 | E | 35  | D | 5.3 | 5.5 | 1.3 | 150 | SOLOMON ISLANDS. Mw 5.8 (HRV).  |
|    |    |    |       |        |   |         |   |     |   |     |     |     |     | Centroid, Moment Tensor (HRV): Centroid origin time 22:36:16.3; Lat 7.57 S; Lon 158.09 E; Dep 22.3; Half-   |

duration 1.9 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=4.58, Plg=10, Azm=132; (N) Val=0.85, Plg=78, Azm=348; (P) Val=-5.44, Plg=7, Azm=223; Best double couple: Mo=5.0\*10\*\*17 Nm; NP1: Strike=267, Dip=78, Slip=2; NP2: Strike=177, Dip=88, Slip=168.

|    |    |    |       |        |   |         |   |     |   |         |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 21 | 22 | 46 | 55.1? | 18.66  | S | 169.46  | E | 100 | G | 4.9     | 1.0 | 11  | VANUATU ISLANDS   |
| 21 | 23 | 00 | 39.4  | 37.961 | N | 47.911  | E | 10  | G | 4.5     | 1.3 | 60  | NORTHWESTERN IRAN. Felt at Ardebil and Sarab.   |
| 21 | 23 | 17 | 28.1  | 42.565 | N | 2.402   | E | 10  | G |         | 0.6 | 9   | PYRENEES. mbLg 3.0 (MDD). ML 2.6 (LDG).   |
| 21 | 23 | 55 | 13.8? | 3.30   | N | 82.75   | W | 33  | N | 4.1     | 0.9 | 13  | SOUTH OF PANAMA   |
| 22 | 00 | 09 | 02.5* | 7.409  | S | 157.840 | E | 33  | N | 4.4     | 1.0 | 19  | SOLOMON ISLANDS   |
| 22 | 00 | 53 | 33.96 | 34.971 | N | 116.819 | W | 0   |   |         |     | 27  | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.9 (PAS).   |
| 22 | 01 | 11 | 09.0* | 3.567  | N | 82.764  | W | 33  | N | 4.1     | 1.2 | 23  | SOUTH OF PANAMA   |
| 22 | 01 | 13 | 59.36 | 40.395 | N | 125.083 | W | 1   |   |         |     | 13  | OFF COAST OF NORTHERN CALIFORNIA. <GM-P>. MD 3.1 (GM). ML 3.2 (BRK).  |
| 22 | 01 | 26 | 25.6  | 43.109 | N | 0.158   | W | 10  | G |         | 0.7 | 16  | PYRENEES. mbLg 3.1 (MDD). ML 3.0 (LDG). Felt (II) in the Bigorre region, France.  |
| 22 | 01 | 27 | 55.9* | 1.538  | S | 144.740 | E | 56  | D | 4.2     | 1.1 | 17  | NINIGO ISLANDS REGION, P.N.G.   |
| 22 | 01 | 44 | 31.8  | 6.647  | S | 131.059 | E | 33  | N | 4.7     | 1.1 | 51  | TANIMBAR ISLANDS REG., INDONESIA  |
| 22 | 02 | 50 | 01.0? | 25.77  | S | 179.59  | E | 600 | G | 4.3     | 0.8 | 13  | SOUTH OF FIJI ISLANDS   |
| 22 | 03 | 49 | 18.6  | 17.302 | N | 99.526  | W | 76  | D | 4.7     | 0.9 | 102 | GUERRERO, MEXICO. Felt at Acapulco.   |
| 22 | 04 | 05 | 30.0% | 44.405 | N | 7.394   | E | 10  | G |         | 0.3 | 6   | NORTHERN ITALY. ML 1.7 (GEN).   |
| 22 | 04 | 25 | 12.8  | 48.238 | N | 6.557   | E | 10  | G |         | 0.9 | 18  | FRANCE. ML 2.4 (LDG), 2.1 (STR).  |
| 22 | 04 | 28 | 01.7  | 51.630 | N | 16.206  | E | 5   | G |         | 0.7 | 22  | POLAND. ML 3.4 (VIE).   |
| 22 | 04 | 50 | 57.8* | 51.453 | N | 16.073  | E | 5   | G |         | 0.7 | 8   | POLAND. ML 3.3 (VIE).   |
| 22 | 04 | 53 | 26.46 | 63.520 | N | 150.660 | W | 9   |   |         |     | 40  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 2.9 (PMR).   |
| 22 | 04 | 59 | 25.0* | 25.351 | N | 141.326 | E | 33  | N | 4.4     | 0.6 | 11  | VOLCANO ISLANDS REGION  |
| 22 | 05 | 21 | 45.3* | 16.624 | N | 99.673  | W | 33  | N | 4.1     | 0.9 | 29  | NEAR COAST OF GUERRERO, MEXICO  |
| 22 | 05 | 55 | 26.46 | 45.202 | N | 120.065 | W | 1   |   |         |     | 30  | WASHINGTON-OREGON BORDER REGION. <SEA-P>. MD 2.7 (SEA).   |
| 22 | 06 | 05 | 34.96 | 45.190 | N | 120.067 | W | 1   |   |         |     | 43  | WASHINGTON-OREGON BORDER REGION. <SEA-P>. MD 3.9 (SEA).   |
| 22 | 06 | 17 | 24.9  | 0.972  | S | 137.073 | E | 10  | G | 5.5 5.5 | 1.0 | 89  | IRIAN JAYA REGION, INDONESIA. Mw 5.7 (HRV), 5.6 (GS). Moment Tensor (GS): Dep 8; Principal axes (scale 10**17 Nm): (T) Val=3.07, Plg=50, Azm=238; (N) Val=0.00, Plg=18, Azm=125; (P) Val=-3.07, Plg=34, Azm=22; Best double couple: Mo=3.1*10**17 Nm; NP1: Strike=60, Dip=20, Slip=24; NP2: Strike=307, Dip=82, Slip=108. Centroid, Moment Tensor (HRV): Centroid origin time 06:17:30.4; Lat 0.97 S; Lon 137.23 E; Dep 15.0 Fix; Half-duration 1.7 sec; Principal axes (scale 10**17 Nm): (T) Val=3.64, Plg=54, Azm=217; (N) Val=0.04, Plg=4, Azm=121; (P) Val=-3.68, Plg=36, Azm=28; Best double couple: Mo=3.7*10**17 Nm; NP1: Strike=98, Dip=10, Slip=67; NP2: Strike=302, Dip=81, Slip=94. |
| 22 | 06 | 19 | 52.1  | 30.075 | N | 67.930  | E | 33  | N | 4.8 4.7 | 0.8 | 87  | PAKISTAN. Felt in the Harnai area and at Quetta.  |
| 22 | 07 | 27 | 36.1* | 9.998  | N | 126.204 | E | 33  | N | 4.2     | 0.9 | 10  | MINDANAO, PHILIPPINE ISLANDS  |
| 22 | 08 | 28 | 00.4? | 5.40   | S | 146.96  | E | 200 | G | 4.7     | 1.0 | 13  | EASTERN NEW GUINEA REG., P.N.G.   |
| 22 | 08 | 41 | 49.9* | 29.311 | N | 143.029 | E | 33  | N | 3.7     | 1.2 | 9   | SOUTH OF HONSHU, JAPAN  |
| 22 | 09 | 03 | 43.6* | 18.792 | S | 168.553 | E | 47  | D | 4.3     | 1.3 | 16  | VANUATU ISLANDS   |
| 22 | 09 | 55 | 19.8  | 46.447 | N | 6.304   | E | 10  | G |         | 1.3 | 12  | SWITZERLAND. ML 2.4 (LDG).  |
| 22 | 10 | 22 | 28.4? | 40.24  | N | 29.75   | W | 10  | G |         | 0.8 | 6   | AZORES ISLANDS REGION   |
| 22 | 10 | 26 | 54.8* | 24.308 | N | 143.130 | E | 33  | N | 4.0     | 0.7 | 12  | VOLCANO ISLANDS REGION  |
| 22 | 10 | 44 | 00.1? | 17.87  | N | 65.95   | W | 33  | N |         | 0.6 | 7   | PUERTO RICO REGION. MD 3.3 (MPR).   |
| 22 | 11 | 11 | 57.2* | 0.488  | S | 135.273 | E | 33  | N | 4.6     | 1.2 | 17  | IRIAN JAYA REGION, INDONESIA  |
| 22 | 11 | 14 | 24.1* | 6.096  | S | 146.912 | E | 33  | N | 4.2     | 1.2 | 12  | EASTERN NEW GUINEA REG., P.N.G.   |
| 22 | 11 | 31 | 49.26 | 36.838 | N | 121.409 | W | 10  |   | 3.8     |     | 62  | CENTRAL CALIFORNIA. <GM-P>. Mw 4.2 (BRK). MD 4.1 (GM). ML 4.4 (GS), 4.4 (BRK). Felt from San Francisco and Marin County to Monterey and Salinas. Scalar Moment (BRK): Mo=2.3*10**15 Nm.   |
| 22 | 12 | 25 | 14.6* | 51.695 | N | 16.224  | E | 5   | G |         | 1.4 | 9   | POLAND. ML 3.0 (VIE).   |
| 22 | 12 | 28 | 58.4? | 37.41  | N | 2.25    | W | 5   | G |         | 0.9 | 4   | SPAIN. mbLg 2.6 (MDD).  |
| 22 | 12 | 36 | 50.7* | 30.245 | N | 68.122  | E | 33  | N | 3.7     | 1.1 | 16  | PAKISTAN  |
| 22 | 12 | 53 | 50.0  | 29.755 | N | 67.780  | E | 33  | N | 4.3     | 0.8 | 35  | PAKISTAN  |
| 22 | 12 | 55 | 28.4  | 43.061 | N | 0.626   | W | 5   | G |         | 0.8 | 13  | PYRENEES. ML 2.6 (LDG). mbLg 2.6 (MDD).   |
| 22 | 12 | 56 | 39.6* | 7.458  | S | 157.812 | E | 33  | N | 4.3     | 0.9 | 16  | SOLOMON ISLANDS   |
| 22 | 13 | 37 | 50.76 | 36.831 | N | 121.407 | W | 9   |   |         |     | 14  | CENTRAL CALIFORNIA. <GM-P>. MD 2.6 (GM).  |
| 22 | 13 | 54 | 11.8% | 37.657 | N | 6.214   | W | 5   | G |         | 0.3 | 6   | SPAIN. mbLg 2.8 (MDD).  |
| 22 | 13 | 54 | 26.6* | 58.664 | S | 24.991  | W | 33  | N | 5.0     | 1.1 | 60  | SOUTH SANDWICH ISLANDS REGION. Mw 5.3 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 13:54:34.3; Lat 58.66 S Fix; Lon 24.99 W Fix; Dep 15.0 C Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=8.81, Plg=55, Azm=308; (N) Val=-0.28, Plg=15, Azm=196; (P) Val=-8.54, Plg=31, Azm=97; Best double couple: Mo=8.7*10**16 Nm; NP1: Strike=149, Dip=20, Slip=41; NP2: Strike=19, Dip=77, Slip=105.   |
| 22 | 13 | 57 | 04.7? | 58.27  | S | 25.55   | W | 33  | N |         | 1.3 | 13  | SOUTH SANDWICH ISLANDS REGION   |
| 22 | 14 | 14 | 41.7% | 44.708 | N | 7.620   | E | 33  | N |         | 0.2 | 10  | NORTHERN ITALY. ML 1.9 (GEN).   |
| 22 | 15 | 59 | 24.4  | 32.744 | N | 49.100  | E | 33  | N | 4.4     | 0.7 | 33  | WESTERN IRAN  |
| 22 | 16 | 01 | 50.8* | 23.034 | N | 142.168 | E | 100 | G | 4.1     | 0.8 | 13  | VOLCANO ISLANDS REGION  |
| 22 | 16 | 43 | 02.5* | 56.048 | S | 26.750  | W | 33  | N | 5.0     | 1.2 | 26  | SOUTH SANDWICH ISLANDS REGION   |
| 22 | 17 | 12 | 29.3  | 32.659 | S | 69.739  | W | 100 | G | 4.4     | 1.0 | 48  | MENDOZA PROVINCE, ARGENTINA   |
| 22 | 18 | 36 | 32.46 | 61.164 | N | 151.767 | W | 82  |   |         |     | 64  | SOUTHERN ALASKA. <AEIC>.  |
| 22 | 19 | 29 | 26.6* | 38.510 | N | 73.279  | E | 100 | G | 3.2     | 0.9 | 7   | TAJIKISTAN-XINJIANG BORDER REG.   |
| 22 | 20 | 00 | 36.2  | 5.268  | S | 152.925 | E | 33  | N | 4.4     | 0.9 | 25  | NEW BRITAIN REGION, P.N.G.  |
| 22 | 20 | 32 | 58.3* | 14.349 | N | 91.373  | W | 73  | D | 4.0     | 1.3 | 20  | GUATEMALA   |
| 22 | 20 | 48 | 00.4  | 38.798 | N | 0.712   | W | 10  | G |         | 1.0 | 23  | SPAIN. mbLg 3.0 (MDD). ML 2.7 (LDG). Felt (III) in the epicentral area.   |
| 22 | 21 | 14 | 39.1* | 30.168 | N | 87.803  | E | 33  | N | 3.4     | 0.6 | 6   | XIZANG  |
| 22 | 21 | 16 | 04.8* | 29.895 | N | 88.151  | E | 33  | N | 4.4     | 1.4 | 24  | XIZANG  |
| 22 | 21 | 50 | 16.6% | 37.481 | N | 1.929   | W | 5   | G |         | 0.7 | 6   | SPAIN. mbLg 2.5 (MDD).  |
| 22 | 23 | 44 | 25.5* | 41.059 | N | 142.605 | E | 50  | G |         | 1.0 | 8   | HOKKAIDO, JAPAN REGION  |
| 22 | 23 | 48 | 50.1* | 29.944 | N | 67.590  | E | 33  | N | 3.9     | 0.8 | 18  | PAKISTAN  |
| 22 | 23 | 57 | 24.4? | 37.22  | N | 4.00    | W | 5   | G |         | 0.1 | 4   | SPAIN. mbLg 1.9 (MDD).  |
| 23 | 00 | 00 | 00.0% | 37.192 | N | 4.040   | W | 10  | G |         | 0.6 | 12  | SPAIN. mbLg 2.8 (MDD).  |
| 23 | 00 | 04 | 52.1* | 6.238  | N | 126.630 | E | 100 | G | 4.0     | 1.2 | 15  | MINDANAO, PHILIPPINE ISLANDS  |



|    |    |    |       |        |   |         |   |     |   |         |     |   |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|---|---|
| 23 | 00 | 48 | 34.0? | 37.20  | N | 4.00    | W | 5   | G | 0.1     | 4   | SPAIN. mblg 2.0 (MDD).                                  |   |
| 23 | 01 | 05 | 08.0? | 11.16  | N | 86.07   | W | 33  | N | 1.3     | 13  | NEAR COAST OF NICARAGUA                                 |   |
| 23 | 01 | 12 | 34.36 | 61.979 | N | 150.464 | W | 54  |   |         | 79  | SOUTHERN ALASKA. <AEIC>. ML 2.9 (AEIC), 3.3 (PMR).      |   |
| 23 | 01 | 16 | 19.76 | 63.158 | N | 150.581 | W | 125 |   |         | 41  | CENTRAL ALASKA. <AEIC>.                                 |   |
| 23 | 01 | 21 | 49.7* | 37.494 | N | 1.916   | W | 5   | G | 1.0     | 5   | SPAIN. mblg 2.5 (MDD).                                  |   |
| 23 | 01 | 57 | 00.0  | 40.483 | N | 141.445 | E | 100 |   | 1.0     | 32  | NEAR EAST COAST OF HONSHU, JAPAN                        |   |
| 23 | 02 | 24 | 28.4  | 44.781 | N | 6.959   | E | 5   | G | 0.8     | 22  | FRANCE. ML 2.3 (GEN), 2.1 (LDG).                        |   |
| 23 | 02 | 30 | 04.9  | 51.603 | N | 16.386  | E | 5   | G | 1.1     | 11  | POLAND. MG 2.5 (WAR).                                   |   |
| 23 | 02 | 40 | 21.5* | 30.279 | N | 67.947  | E | 33  | N | 1.2     | 11  | PAKISTAN  |   |
| 23 | 02 | 55 | 25.6* | 35.324 | N | 140.427 | E | 61  | * | 1.1     | 17  | NEAR EAST COAST OF HONSHU, JAPAN                        |   |
| 23 | 03 | 05 | 56.5  | 20.733 | S | 178.352 | W | 573 | * | 4.6     | 0.9 | 37  | FIJI ISLANDS REGION   |
| 23 | 04 | 09 | 19.0? | 37.76  | N | 2.50    | W | 5   | G | 0.6     | 4   | SPAIN. mblg 2.5 (MDD).                                  |   |
| 23 | 04 | 26 | 31.1* | 34.146 | S | 109.341 | W | 10  | G | 5.0 4.9 | 1.0 | 54  | SOUTHERN EAST PACIFIC RISE. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>04:26:36.0; Lat 34.60 S; Lon 109.35 W; Dep 15.0 Fix; Half-<br>duration 1.2 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.33, Plg=2, Azm=97; (N) Val=0.25, Plg=68, Azm=192; (P)<br>Val=-1.58, Plg=22, Azm=6; Best double couple: Mo=1.5*10**17<br>Nm; NP1: Strike=144, Dip=73, Slip=-165; NP2: Strike=49,<br>Dip=76, Slip=-18.   |
| 23 | 04 | 39 | 51.56 | 45.200 | N | 120.069 | W | 1   |   |         | 26  | WASHINGTON-OREGON BORDER REGION. <SEA-P>. MD 3.4 (SEA). |   |
| 23 | 05 | 58 | 55.5  | 35.942 | N | 139.992 | E | 83  |   | 5.1     | 0.9 | 188   | NEAR S. COAST OF HONSHU, JAPAN. Mw 5.2 (HRV). Felt (III JMA)<br>in the Tokyo area. Also felt at Nikko and Yokohama.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>05:59:00.0; Lat 36.03 N; Lon 140.14 E; Dep 71.0; Half-<br>duration 1.0 sec; Principal axes (scale 10**16 Nm): (T)<br>Val=7.16, Plg=62, Azm=242; (N) Val=-0.29, Plg=12, Azm=356;<br>(P) Val=-6.87, Plg=25, Azm=92; Best double couple:<br>Mo=7.0*10**16 Nm; NP1: Strike=207, Dip=23, Slip=123; NP2:<br>Strike=352, Dip=71, Slip=77.  |
| 23 | 06 | 00 | 58.2* | 5.876  | N | 126.978 | E | 90  | ? | 4.2     | 1.2 | 15  | MINDANAO, PHILIPPINE ISLANDS  |
| 23 | 06 | 15 | 35.7* | 5.998  | N | 127.633 | E | 33  | N | 4.2     | 1.0 | 12  | PHILIPPINE ISLANDS REGION   |
| 23 | 06 | 17 | 52.7  | 3.399  | N | 128.073 | E | 33  | N | 4.6     | 1.2 | 28  | NORTH OF HALMAHERA, INDONESIA   |
| 23 | 06 | 21 | 25.0* | 37.409 | N | 2.265   | W | 5   | G |         | 0.6 | 10  | SPAIN. mblg 2.0 (MDD).  |
| 23 | 06 | 49 | 22.0  | 2.325  | S | 138.489 | E | 33  | N | 4.6     | 1.0 | 21  | IRIAN JAYA, INDONESIA   |
| 23 | 07 | 00 | 08.3? | 17.60  | S | 173.63  | W | 33  | N | 3.8     | 1.1 | 9   | TONGA ISLANDS   |
| 23 | 07 | 07 | 45.7? | 17.62  | S | 173.52  | W | 33  | N | 4.4     | 1.1 | 11  | TONGA ISLANDS   |
| 23 | 07 | 15 | 38.0* | 26.224 | N | 64.493  | E | 33  | N |         | 1.3 | 11  | SOUTHWESTERN PAKISTAN   |
| 23 | 07 | 42 | 16.8? | 23.46  | N | 108.46  | W | 10  | G | 3.5     | 0.6 | 8   | GULF OF CALIFORNIA  |
| 23 | 09 | 28 | 54.9* | 36.340 | N | 71.278  | E | 100 | G |         | 0.4 | 7   | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 23 | 11 | 09 | 53.6? | 5.76   | S | 150.80  | E | 33  | N | 4.0     | 0.9 | 7   | NEW BRITAIN REGION, P.N.G.  |
| 23 | 11 | 22 | 14.16 | 60.009 | N | 153.175 | W | 131 |   |         |     | 76  | SOUTHERN ALASKA. <AEIC>.  |
| 23 | 11 | 56 | 11.66 | 64.003 | N | 149.365 | W | 12  |   |         |     | 67  | CENTRAL ALASKA. <AEIC>. ML 3.6 (AEIC), 3.9 (PMR).   |
| 23 | 12 | 57 | 42.6? | 34.59  | S | 72.25   | W | 20  | G |         | 0.8 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.5 (SAN).  |
| 23 | 13 | 04 | 45.1* | 59.615 | S | 25.810  | W | 33  | N | 4.4     | 1.4 | 20  | SOUTH SANDWICH ISLANDS REGION   |
| 23 | 15 | 23 | 48.5* | 12.909 | N | 88.765  | W | 63  |   | 3.8     | 1.1 | 27  | OFF COAST OF CENTRAL AMERICA. MD 3.5 (SSS). Felt (III) at<br>San Salvador, El Salvador.   |
| 23 | 15 | 49 | 39.6  | 19.169 | S | 168.736 | E | 33  | N | 5.3 5.0 | 1.1 | 214   | VANUATU ISLANDS. Mw 5.5 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>15:49:48.0; Lat 19.02 S; Lon 168.33 E; Dep 53.2; Half-<br>duration 1.4 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.74, Plg=80, Azm=171; (N) Val=0.89, Plg=10, Azm=0; (P)<br>Val=-2.63, Plg=2, Azm=270; Best double couple:<br>Mo=2.2*10**17 Nm; NP1: Strike=350, Dip=44, Slip=76; NP2:<br>Strike=190, Dip=47, Slip=104.  |
| 23 | 16 | 00 | 01.6? | 13.75  | N | 89.31   | W | 78  |   |         | 1.2 | 16  | EL SALVADOR. MD 3.6 (SSS). Felt (III) at San Salvador.  |
| 23 | 16 | 41 | 25.1  | 43.535 | N | 127.278 | W | 10  | G | 4.1     | 0.8 | 167   | OFF COAST OF OREGON   |
| 23 | 18 | 11 | 30.7* | 52.870 | N | 142.850 | E | 10  | G | 4.0 4.0 | 1.2 | 21  | SAKHALIN ISLAND. Felt (IV) at Okha and Russa, (III) at<br>Ekhabi and (II) at Nikolayevsk-na-Amure.  |
| 23 | 18 | 30 | 08.2* | 19.949 | S | 177.965 | W | 500 | G | 4.1     | 0.6 | 10  | FIJI ISLANDS REGION   |
| 23 | 18 | 42 | 27.8* | 46.590 | N | 6.478   | E | 5   | G |         | 1.0 | 8   | SWITZERLAND. ML 1.9 (LDG).  |
| 23 | 18 | 47 | 55.3* | 35.569 | N | 66.118  | E | 33  | N |         | 1.0 | 11  | HINDU KUSH REGION, AFGHANISTAN  |
| 23 | 19 | 09 | 52.9* | 6.751  | S | 129.776 | E | 33  | N | 4.5     | 1.3 | 18  | BANDA SEA   |
| 23 | 19 | 35 | 19.36 | 62.015 | N | 148.342 | W | 35  |   |         |     | 66  | CENTRAL ALASKA. <AEIC>. ML 2.6 (AEIC).  |
| 23 | 19 | 35 | 29.4* | 62.613 | S | 159.284 | W | 10  | G | 3.8     | 1.1 | 9   | PACIFIC-ANTARCTIC RIDGE   |
| 23 | 20 | 23 | 16.3  | 17.547 | N | 100.647 | W | 63  | D | 4.9     | 1.0 | 124   | GUERRERO, MEXICO  |
| 23 | 20 | 48 | 48.8  | 30.984 | N | 41.542  | W | 10  | G | 5.4 5.9 | 1.2 | 279   | NORTHERN MID-ATLANTIC RIDGE. Mw 5.9 (HRV), 5.8 (GS).<br>Moment Tensor (GS): Dep 4; Principal axes (scale 10**17 Nm):<br>(T) Val=6.84, Plg=11, Azm=156; (N) Val=-1.17, Plg=29,<br>Azm=60; (P) Val=-5.66, Plg=58, Azm=265; Best double couple:<br>Mo=6.2*10**17 Nm; NP1: Strike=278, Dip=42, Slip=-44; NP2:<br>Strike=43, Dip=62, Slip=-123.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>20:48:56.6; Lat 31.21 N; Lon 41.20 W; Dep 15.0 Fix; Half-<br>duration 2.0 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=7.69, Plg=7, Azm=277; (N) Val=-0.94, Plg=0, Azm=7; (P)<br>Val=-6.75, Plg=83, Azm=98; Best double couple:<br>Mo=7.2*10**17 Nm; NP1: Strike=7, Dip=38, Slip=-90; NP2:<br>Strike=187, Dip=52, Slip=-90. |
| 23 | 20 | 58 | 56.9* | 30.838 | N | 41.280  | W | 10  | G | 4.4     | 1.3 | 29  | NORTHERN MID-ATLANTIC RIDGE   |
| 23 | 21 | 04 | 59.2* | 30.931 | N | 41.558  | W | 10  | G | 4.2     | 1.2 | 28  | NORTHERN MID-ATLANTIC RIDGE   |
| 23 | 21 | 25 | 10.5? | 30.37  | N | 41.10   | W | 10  | G | 3.8     | 0.8 | 6   | NORTHERN MID-ATLANTIC RIDGE   |
| 23 | 21 | 57 | 34.9  | 7.325  | S | 129.201 | E | 33  | N | 4.9     | 1.1 | 53  | BANDA SEA   |
| 23 | 22 | 19 | 04.76 | 60.057 | N | 153.024 | W | 118 |   | 2.6     |     | 73  | SOUTHERN ALASKA. <AEIC>.  |
| 23 | 23 | 01 | 55.5* | 24.798 | N | 122.381 | E | 117 | D | 4.1     | 0.4 | 10  | TAIWAN REGION   |
| 23 | 23 | 05 | 21.0* | 31.095 | N | 41.500  | W | 10  | G | 4.7     | 0.7 | 18  | NORTHERN MID-ATLANTIC RIDGE   |
| 23 | 23 | 12 | 14.3* | 42.908 | N | 0.038   | W | 5   | G |         | 1.1 | 5   | PYRENEES. ML 2.1 (LDG).   |
| 23 | 23 | 33 | 02.2* | 44.923 | N | 6.634   | E | 5   | G |         | 0.5 | 8   | FRANCE. ML 1.8 (LDG).   |
| 23 | 23 | 56 | 16.3? | 31.97  | N | 42.07   | W | 10  | G | 4.4     | 1.3 | 9   | NORTHERN MID-ATLANTIC RIDGE   |
| 24 | 00 | 09 | 09.6* | 37.215 | N | 4.268   | W | 10  | G |         | 0.4 | 5   | SPAIN. mblg 2.5 (MDD).  |
| 24 | 00 | 23 | 21.0? | 32.35  | N | 41.80   | W | 10  | G | 4.4     | 0.8 | 10  | NORTHERN MID-ATLANTIC RIDGE   |
| 24 | 01 | 33 | 29.4* | 36.048 | N | 139.987 | E | 33  | N |         | 0.5 | 5   | EASTERN HONSHU, JAPAN   |
| 24 | 01 | 49 | 24.2  | 44.347 | N | 7.257   | E | 10  | G |         | 0.2 | 12  | NORTHERN ITALY. ML 1.9 (LDG), 1.6 (STR).  |



|    |    |    |       |          |           |       |     |     |     |     |   |
|----|----|----|-------|----------|-----------|-------|-----|-----|-----|-----|---|
| 24 | 02 | 20 | 36.0* | 1.464 S  | 15.727 W  | 10 G  | 4.5 | 3.9 | 1.0 | 16  | NORTH OF ASCENSION ISLAND   |
| 24 | 02 | 56 | 05.0* | 16.012 S | 69.625 W  | 208 * | 3.9 |     | 1.0 | 18  | PERU-BOLIVIA BORDER REGION  |
| 24 | 03 | 14 | 19.6* | 47.090 N | 14.313 E  | 5 G   |     |     | 1.0 | 7   | AUSTRIA. ML 2.9 (GRF), 2.7 (VIE). Felt (IV) in the Metnitz Valley.  |
| 24 | 03 | 21 | 03.7% | 47.398 N | 113.133 W | 21    |     |     |     | 17  | MONTANA. <BUT-P>. MD 3.1 (BUT).   |
| 24 | 03 | 38 | 30.0* | 23.159 S | 175.559 W | 23 D  | 4.8 |     | 0.8 | 22  | TONGA ISLANDS REGION  |
| 24 | 03 | 55 | 36.9  | 34.687 N | 140.583 E | 86    | 4.7 |     | 0.9 | 32  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 24 | 04 | 34 | 55.1  | 39.877 N | 13.609 E  | 454   |     |     | 0.9 | 71  | TYRRHENIAN SEA  |
| 24 | 05 | 45 | 52.7? | 5.96 S   | 145.60 E  | 33 N  | 3.8 |     | 0.3 | 6   | EASTERN NEW GUINEA REG., P.N.G.   |
| 24 | 06 | 34 | 44.3  | 51.464 N | 168.235 W | 33 N  | 5.0 | 4.4 | 1.3 | 143 | FOX ISLANDS, ALEUTIAN ISLANDS. ML 5.0 (PMR), 4.8 (AEIC).  |
| 24 | 06 | 56 | 13.6  | 67.075 N | 173.412 W | 10 G  | 5.1 | 4.6 | 1.0 | 133 | NEAR N. COAST OF EASTERN SIBERIA. Mw 5.1 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 06:56:17.8; Lat 67.08 N; Lon 174.16 W; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=6.15, Plg=13, Azm=183; (N) Val=-2.74, Plg=49, Azm=288; (P) Val=-3.41, Plg=38, Azm=82; Best double couple: Mo=4.8*10**16 Nm; NPl: Strike=230, Dip=53, Slip=160; NP2: Strike=127, Dip=74, Slip=-39.  |
| 24 | 08 | 50 | 07.4% | 40.336 N | 124.634 W | 24    |     |     |     | 5   | NEAR COAST OF NORTHERN CALIF. <GM-P>. MD 2.6 (GM).  |
| 24 | 08 | 53 | 00.3? | 2.04 S   | 146.65 E  | 33 N  | 3.6 |     | 1.2 | 6   | ADMIRALTY ISLANDS REGION, P.N.G.  |
| 24 | 10 | 00 | 03.5  | 43.463 N | 0.635 W   | 5 G   |     |     | 0.4 | 14  | PYRENEES. ML 2.4 (LDG), 2.0 (STR).  |
| 24 | 10 | 05 | 27.4* | 26.676 N | 143.047 E | 33 N  | 4.4 |     | 1.3 | 10  | BONIN ISLANDS REGION  |
| 24 | 10 | 17 | 29.4% | 63.405 N | 144.553 W | 8     |     |     |     | 56  | CENTRAL ALASKA. <AEIC>. ML 3.1 (AEIC).  |
| 24 | 10 | 26 | 06.2* | 22.389 N | 121.453 E | 33 N  | 4.0 |     | 1.0 | 9   | TAIWAN REGION   |
| 24 | 10 | 47 | 40.1? | 10.55 N  | 92.56 E   | 33 N  | 4.2 |     | 0.4 | 7   | ANDAMAN ISLANDS, INDIA  |
| 24 | 11 | 54 | 18.1  | 17.515 N | 145.907 E | 105 D | 5.2 |     | 0.9 | 117 | MARIANA ISLANDS   |
| 24 | 12 | 35 | 44.6* | 17.445 S | 178.648 W | 600 G | 3.8 |     | 0.5 | 9   | FIJI ISLANDS REGION   |
| 24 | 14 | 35 | 53.3  | 35.380 N | 78.300 E  | 33 N  | 4.6 |     | 1.0 | 45  | EASTERN KASHMIR   |
| 24 | 15 | 29 | 05.2* | 23.640 S | 179.837 E | 600 G | 4.4 |     | 0.7 | 12  | SOUTH OF FIJI ISLANDS   |
| 24 | 15 | 37 | 01.4% | 35.578 N | 78.357 E  | 33 N  |     |     | 1.4 | 9   | EASTERN KASHMIR   |
| 24 | 16 | 10 | 34.3* | 6.663 S  | 130.451 E | 150 G | 4.7 |     | 1.2 | 10  | BANDA SEA   |
| 24 | 16 | 47 | 32.8? | 6.95 N   | 72.92 W   | 158 * |     |     | 0.8 | 11  | NORTHERN COLOMBIA   |
| 24 | 17 | 38 | 54.1% | 54.259 N | 165.541 W | 107   |     |     |     | 20  | FOX ISLANDS, ALEUTIAN ISLANDS. <AEIC>.  |
| 24 | 17 | 41 | 34.0* | 42.562 N | 143.485 E | 74 *  |     |     | 0.9 | 13  | HOKKAIDO, JAPAN REGION  |
| 24 | 19 | 54 | 33.9  | 38.850 N | 119.638 W | 5 G   |     |     | 0.8 | 15  | CALIFORNIA-NEVADA BORDER REGION. ML 3.3 (GS), 3.4 (BRK). MD 3.2 (GM).   |
| 24 | 20 | 18 | 18.1  | 51.640 N | 16.244 E  | 5 G   |     |     | 0.6 | 23  | POLAND. ML 3.4 (GRF), 3.2 (VIE).  |
| 24 | 21 | 18 | 01.1? | 5.72 S   | 150.86 E  | 33 N  | 4.2 |     | 0.9 | 8   | NEW BRITAIN REGION, P.N.G.  |
| 24 | 21 | 21 | 10.9  | 42.018 N | 20.142 E  | 10 G  |     |     | 0.6 | 27  | NORTHWESTERN BALKAN REGION. ML 3.5 (ROM).   |
| 24 | 21 | 28 | 06.0  | 27.887 N | 84.987 E  | 33 N  | 4.5 |     | 1.2 | 28  | NEPAL-INDIA BORDER REGION. Felt in the epicentral area and at Kathmandu, Nepal.   |
| 24 | 21 | 53 | 41.5  | 26.125 N | 128.798 E | 33 N  | 4.7 |     | 1.0 | 27  | RYUKYU ISLANDS  |
| 24 | 22 | 08 | 21.3? | 33.07 S  | 71.70 W   | 40 G  |     |     | 1.3 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.7 (SAN).  |
| 24 | 22 | 21 | 56.0  | 0.825 N  | 125.884 E | 33 N  | 5.3 | 5.1 | 1.1 | 82  | NORTHERN MOLOCCA SEA. Mw 5.7 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time 22:22:02.2; Lat 1.21 N; Lon 126.15 E; Dep 43.0; Half-duration 1.6 sec; Principal axes (scale 10**17 Nm): (T) Val=3.78, Plg=81, Azm=156; (N) Val=0.39, Plg=6, Azm=29; (P) Val=-4.17, Plg=7, Azm=298; Best double couple: Mo=4.0*10**17 Nm; NPl: Strike=22, Dip=38, Slip=81; NP2: Strike=213, Dip=52, Slip=97.   |
| 24 | 22 | 31 | 34.5? | 27.72 N  | 98.05 W   | 5 G   |     |     | 1.1 | 8   | SOUTHERN TEXAS. mbLg 3.8 (GS). Felt (V) at Agua Dulce, Alice and Orange Grove; (III) at Edroy.  |
| 24 | 23 | 15 | 48.2% | 37.056 N | 4.139 W   | 10 G  |     |     | 1.0 | 6   | SPAIN. mbLg 2.3 (MDD).  |
| 24 | 23 | 16 | 45.6* | 0.668 N  | 125.790 E | 33 N  | 4.5 |     | 0.7 | 11  | NORTHERN MOLOCCA SEA  |
| 24 | 23 | 21 | 47.9* | 12.067 N | 88.406 W  | 33 N  | 4.7 |     | 1.1 | 19  | OFF COAST OF CENTRAL AMERICA  |
| 24 | 23 | 32 | 24.9* | 24.058 N | 121.648 E | 100 G | 4.2 |     | 1.2 | 21  | TAIWAN. Felt (IV JMA) at Nan-ao. Felt at Taipei and in much of northern and eastern Taiwan.   |
| 25 | 00 | 14 | 44.6  | 33.480 S | 70.548 W  | 84 D  | 5.5 |     | 0.9 | 173 | CHILE-ARGENTINA BORDER REGION. Mw 5.5 (HRV). MD 5.4 (SAN).<br>Some buildings slightly damaged (VI) and power outages at Santiago, Chile. Felt in many parts of central Chile. Landslides occurred along mountain roads east of Santiago, Chile. Also felt (III) at Mendoza, Argentina.<br>Centroid, Moment Tensor (HRV): Centroid origin time 00:14:50.6; Lat 33.45 S; Lon 70.62 W; Dep 89.9; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=2.16, Plg=10, Azm=111; (N) Val=0.03, Plg=54, Azm=215; (P) Val=-2.19, Plg=34, Azm=14; Best double couple: Mo=2.2*10**17 Nm; NPl: Strike=158, Dip=59, Slip=-161; NP2: Strike=58, Dip=74, Slip=-33. |
| 25 | 00 | 32 | 13.2? | 32.70 S  | 70.15 W   | 120 G |     |     | 0.3 | 9   | CHILE-ARGENTINA BORDER REGION. MD 2.9 (SAN).  |
| 25 | 00 | 46 | 13.8  | 36.930 N | 16.033 E  | 33 N  | 4.7 |     | 1.3 | 53  | CENTRAL MEDITERRANEAN SEA   |
| 25 | 01 | 03 | 46.8* | 17.345 S | 178.880 W | 500 G | 4.6 |     | 1.0 | 24  | FIJI ISLANDS REGION   |
| 25 | 01 | 23 | 00.3* | 0.915 N  | 126.128 E | 33 N  | 4.3 |     | 1.2 | 16  | NORTHERN MOLOCCA SEA  |
| 25 | 02 | 18 | 00.8  | 37.018 S | 177.651 E | 100 G | 5.2 |     | 1.2 | 76  | OFF E. COAST OF N. ISLAND, N.Z. Mw 5.3 (HRV). Felt at Gisborne and Whakatane.<br>Centroid, Moment Tensor (HRV): Centroid origin time 02:18:07.4; Lat 36.94 S; Lon 177.22 E; Dep 136.4; Half-duration 1.1 sec; Principal axes (scale 10**17 Nm): (T) Val=1.22, Plg=58, Azm=290; (N) Val=-0.27, Plg=32, Azm=110; (P) Val=-0.95, Plg=0, Azm=200; Best double couple: Mo=1.1*10**17 Nm; NPl: Strike=318, Dip=53, Slip=131; NP2: Strike=82, Dip=53, Slip=49.   |
| 25 | 02 | 31 | 21.2* | 51.278 N | 179.383 E | 33 N  | 4.6 |     | 0.9 | 19  | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 25 | 03 | 24 | 25.1? | 51.15 N  | 178.68 W  | 33 N  | 4.1 |     | 1.0 | 6   | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 25 | 03 | 53 | 59.5  | 14.599 S | 167.290 E | 150 G | 5.1 |     | 1.0 | 84  | VANUATU ISLANDS   |
| 25 | 04 | 02 | 47.8? | 25.08 N  | 98.27 E   | 33 N  | 4.3 |     | 1.1 | 5   | MYANMAR-CHINA BORDER REGION   |
| 25 | 04 | 33 | 33.3* | 2.750 N  | 128.697 E | 100 G | 4.6 |     | 0.9 | 24  | HALMAHERA, INDONESIA  |
| 25 | 05 | 08 | 55.7* | 19.433 S | 69.645 W  | 120 * | 4.0 |     | 0.9 | 19  | NORTHERN CHILE  |
| 25 | 05 | 55 | 42.1  | 7.725 S  | 108.036 E | 76 *  | 4.7 |     | 1.1 | 60  | JAWA, INDONESIA   |
| 25 | 05 | 58 | 12.1? | 32.43 S  | 71.69 W   | 20 G  |     |     | 0.8 | 7   | NEAR COAST OF CENTRAL CHILE. MD 3.3 (SAN).  |
| 25 | 06 | 04 | 08.3? | 32.43 S  | 71.71 W   | 10 G  |     |     | 0.4 | 9   | NEAR COAST OF CENTRAL CHILE. MD 3.9 (SAN).  |
| 25 | 06 | 04 | 12.0% | 36.277 N | 71.195 E  | 33 N  |     |     | 0.6 | 6   | AFGHANISTAN-TAJIKISTAN BORD REG.  |

|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 25 | 06 | 05 | 07.5? | 25.34  | S | 178.99  | E | 600 | G | 4.3     | 1.1 | 13  | SOUTH OF FIJI ISLANDS  |
| 25 | 06 | 11 | 30.1? | 32.32  | S | 71.82   | W | 10  | G |         | 0.5 | 6   | NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).   |
| 25 | 08 | 09 | 19.2  | 4.520  | S | 105.265 | W | 10  | G | 5.0 5.3 | 0.9 | 71  | CENTRAL EAST PACIFIC RISE. Mw 5.7 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>08:09:25.3; Lat 4.48 S; Lon 105.49 W; Dep 15.0 Fix; Half-<br>duration 1.6 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=3.37, Plg=16, Azm=320; (N) Val=0.39, Plg=64, Azm=194;<br>(P) Val=-3.76, Plg=20, Azm=56; Best double couple:<br>Mo=3.6*10**17 Nm; NP1: Strike=97, Dip=65, Slip=-3; NP2:<br>Strike=188, Dip=87, Slip=-154.  |
| 25 | 08 | 28 | 12.9* | 5.751  | N | 127.319 | E | 61  | ? | 4.8 4.7 | 1.3 | 26  | PHILIPPINE ISLANDS REGION  |
| 25 | 08 | 44 | 21.4* | 51.968 | N | 106.101 | E | 10  | G |         | 1.3 | 6   | LAKE BAYKAL REGION, RUSSIA   |
| 25 | 09 | 48 | 55.7? | 8.36   | S | 157.75  | E | 33  | N | 4.2     | 1.3 | 6   | SOLOMON ISLANDS  |
| 25 | 10 | 12 | 41.0* | 23.331 | N | 142.994 | E | 33  | N | 4.3     | 1.2 | 11  | VOLCANO ISLANDS REGION   |
| 25 | 10 | 20 | 08.1* | 23.601 | S | 179.991 | W | 500 | G | 4.4     | 1.1 | 20  | SOUTH OF FIJI ISLANDS  |
| 25 | 11 | 18 | 23.6* | 61.463 | N | 148.211 | W | 33  |   |         |     | 78  | SOUTHERN ALASKA. <AEIC>. ML 3.6 (AEIC), 3.7 (PMR). Felt<br>(III) at Eagle River.   |
| 25 | 11 | 30 | 50.0  | 7.555  | N | 127.545 | E | 33  | N | 4.6     | 1.3 | 38  | PHILIPPINE ISLANDS REGION  |
| 25 | 12 | 11 | 29.0* | 65.172 | N | 150.302 | W | 9   |   |         |     | 17  | NORTHERN ALASKA. <AEIC>. ML 2.5 (AEIC).  |
| 25 | 12 | 21 | 15.9* | 0.750  | N | 126.139 | E | 33  | N | 4.5     | 1.2 | 17  | NORTHERN MOLOCCA SEA   |
| 25 | 13 | 16 | 04.4* | 47.740 | N | 2.829   | W | 5   | G |         | 1.4 | 8   | FRANCE. ML 2.9 (LDG).  |
| 25 | 13 | 18 | 07.3? | 18.67  | S | 178.83  | E | 650 | G | 3.9     | 0.7 | 9   | FIJI ISLANDS   |
| 25 | 13 | 45 | 14.1  | 53.869 | N | 163.581 | W | 33  | N | 5.0     | 1.1 | 36  | UNIMAK ISLAND REGION. ML 4.4 (PMR).  |
| 25 | 14 | 17 | 26.4  | 17.318 | N | 94.634  | E | 33  | N | 4.2     | 1.0 | 28  | MYANMAR  |
| 25 | 14 | 20 | 48.6  | 30.914 | N | 41.597  | W | 10  | G | 5.2 5.0 | 0.8 | 160 | NORTHERN MID-ATLANTIC RIDGE. Mw 5.4 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>14:20:54.3; Lat 30.90 N; Lon 40.83 W; Dep 15.0 Fix; Half-<br>duration 1.0 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=1.52, Plg=32, Azm=291; (N) Val=-0.12, Plg=7, Azm=26;<br>(P) Val=-1.40, Plg=57, Azm=127; Best double couple:<br>Mo=1.5*10**17 Nm; NP1: Strike=357, Dip=14, Slip=-120; NP2:<br>Strike=208, Dip=77, Slip=-83.  |
| 25 | 14 | 31 | 09.7  | 48.271 | N | 157.456 | E | 33  | N | 4.8 4.7 | 1.1 | 82  | EAST OF KURIL ISLANDS  |
| 25 | 15 | 46 | 25.8? | 17.34  | S | 178.64  | W | 500 | G | 4.0     | 0.3 | 7   | FIJI ISLANDS REGION  |
| 25 | 16 | 11 | 58.6  | 43.931 | N | 11.751  | E | 10  | G |         | 1.3 | 34  | CENTRAL ITALY. ML 3.0 (LDG), 3.0 (VIE).  |
| 25 | 16 | 28 | 03.4* | 44.423 | N | 8.174   | E | 10  | G |         | 0.6 | 12  | NORTHERN ITALY. ML 2.5 (STR), 2.1 (LDG).   |
| 25 | 16 | 36 | 47.5  | 23.165 | N | 125.967 | E | 33  | N | 4.8     | 1.3 | 50  | SOUTHWESTERN RYUKYU ISLANDS  |
| 25 | 16 | 43 | 32.0* | 9.000  | S | 71.316  | W | 609 | * | 4.2     | 0.9 | 29  | PERU-BRAZIL BORDER REGION  |
| 25 | 16 | 44 | 32.6  | 9.063  | S | 71.295  | W | 603 | D | 5.4     | 0.9 | 333 | PERU-BRAZIL BORDER REGION. Mw 6.1 (GS), 6.0 (HRV).<br>Moment Tensor (GS): Dep 601; Principal axes (scale 10**18<br>Nm): (T) Val=1.47, Plg=16, Azm=249; (N) Val=-0.16, Plg=1,<br>Azm=340; (P) Val=-1.31, Plg=74, Azm=73; Best double couple:<br>Mo=1.4*10**18 Nm; NP1: Strike=338, Dip=29, Slip=-92; NP2:<br>Strike=160, Dip=61, Slip=-89.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>16:44:37.7; Lat 8.86 S; Lon 71.25 W; Dep 618.0; Half-<br>duration 2.4 sec; Principal axes (scale 10**18 Nm): (T)<br>Val=1.21, Plg=15, Azm=246; (N) Val=0.09, Plg=8, Azm=338;<br>(P) Val=-1.30, Plg=73, Azm=94; Best double couple:<br>Mo=1.3*10**18 Nm; NP1: Strike=325, Dip=31, Slip=-105; NP2:<br>Strike=162, Dip=61, Slip=-81.  |
| 25 | 17 | 47 | 29.7* | 37.404 | N | 2.164   | W | 10  | G |         | 0.9 | 6   | SPAIN. mbLg 2.9 (MDD).   |
| 25 | 18 | 27 | 40.8? | 0.32   | S | 124.68  | E | 33  | N | 3.8     | 1.2 | 11  | SOUTHERN MOLOCCA SEA   |
| 25 | 19 | 05 | 14.2? | 20.42  | S | 178.65  | W | 500 | G | 3.9     | 0.7 | 9   | FIJI ISLANDS REGION  |
| 25 | 19 | 16 | 01.3? | 2.51   | S | 101.07  | E | 33  | N |         | 0.8 | 9   | SOUTHERN SUMATERA, INDONESIA   |
| 25 | 19 | 25 | 53.9  | 8.993  | S | 71.314  | W | 600 | D | 4.9     | 0.8 | 176 | WESTERN BRAZIL   |
| 25 | 20 | 07 | 57.7* | 24.550 | N | 122.114 | E | 33  | N | 4.3     | 1.0 | 6   | TAIWAN REGION  |
| 25 | 21 | 06 | 06.0* | 24.718 | N | 123.004 | E | 100 | G | 4.2     | 1.0 | 12  | SOUTHWESTERN RYUKYU ISLANDS  |
| 25 | 21 | 13 | 09.9* | 36.080 | N | 70.812  | E | 133 | * | 4.1     | 0.6 | 10  | HINDU KUSH REGION, AFGHANISTAN   |
| 25 | 21 | 56 | 38.7? | 24.76  | N | 121.97  | E | 33  | N | 4.0     | 1.1 | 6   | TAIWAN   |
| 25 | 22 | 37 | 43.9  | 51.357 | N | 178.034 | W | 33  | N | 4.8 4.5 | 0.8 | 108 | ANDREANOF ISLANDS, ALEUTIAN IS. ML 4.7 (PMR). Felt (IV) on<br>Adak.  |
| 25 | 23 | 29 | 51.9  | 51.709 | N | 16.340  | E | 5   | G |         | 0.7 | 8   | POLAND. MG 2.5 (WAR).  |
| 26 | 00 | 01 | 18.6* | 36.226 | N | 70.652  | E | 222 | * | 3.8     | 1.3 | 15  | HINDU KUSH REGION, AFGHANISTAN   |
| 26 | 00 | 32 | 40.7* | 7.702  | S | 108.170 | E | 100 | G | 4.8     | 1.1 | 33  | JAWA, INDONESIA  |
| 26 | 01 | 15 | 39.8  | 17.010 | N | 85.521  | W | 10  | G | 4.6     | 1.1 | 45  | CARIBBEAN SEA  |
| 26 | 01 | 31 | 34.7? | 49.93  | N | 87.78   | E | 33  | N | 3.4     | 0.8 | 7   | KAZAKHSTAN-XINJIANG BORDER REG.  |
| 26 | 01 | 49 | 37.6* | 0.930  | N | 126.757 | E | 33  | N | 4.3     | 1.4 | 12  | NORTHERN MOLOCCA SEA   |
| 26 | 02 | 08 | 57.2  | 51.277 | N | 179.533 | E | 33  | N | 6.0 6.5 | 1.0 | 434 | RAT ISLANDS, ALEUTIAN ISLANDS. Mw 6.7 (HRV), 6.6 (GS). Me<br>6.1 (GS). ML 6.3 (PMR). Felt (IV) on Adak. This shallow-<br>dipping thrust earthquake is located very near the eastern<br>end of the rupture zone of the February 4, 1965 magnitude<br>8.7 (Mw) earthquake, which is also the eastern boundary of<br>the Rat Island block.<br>Broadband Source Parameters (GS): Dep 28; NP1: Strike=255,<br>Dip=15, Slip=90; NP2: Strike=75, Dip=75, Slip=90; Radiated<br>energy 3.2*10**13 Nm. Complex earthquake, with two events<br>occurring about 3 seconds apart. Depth based on first event.<br>Moment Tensor (GS): Dep 12; Principal axes (scale 10**18<br>Nm): (T) Val=9.08, Plg=63, Azm=323; (N) Val=-0.14, Plg=3,<br>Azm=60; (P) Val=-8.94, Plg=26, Azm=152; Best double couple:<br>Mo=9.0*10**18 Nm; NP1: Strike=250, Dip=19, Slip=101; NP2:<br>Strike=59, Dip=72, Slip=86.<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>02:09:03.9; Lat 51.23 N; Lon 179.54 E; Dep 31.1; Half-<br>duration 5.2 sec; Principal axes (scale 10**19 Nm): (T)<br>Val=1.12, Plg=67, Azm=317; (N) Val=0.09, Plg=8, Azm=65; (P)<br>Val=-1.21, Plg=22, Azm=159; Best double couple:<br>Mo=1.2*10**19 Nm; NP1: Strike=263, Dip=24, Slip=109; NP2:<br>Strike=62, Dip=67, Slip=82.<br>Scalar Moment (PPT): Mo=2.0*10**19 Nm. |
| 26 | 02 | 27 | 56.9  | 33.475 | S | 72.305  | W | 10  | G |         | 0.4 | 9   | OFF COAST OF CENTRAL CHILE. MD 4.4 (SAN).  |
| 26 | 02 | 29 | 23.6* | 51.782 | N | 179.567 | E | 33  | N | 4.1     | 1.1 | 20  | RAT ISLANDS, ALEUTIAN ISLANDS  |

|    |    |    |       |        |   |         |   |     |   |         |     |     |   |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|---|
| 26 | 02 | 32 | 43.8  | 51.372 | N | 179.349 | E | 33  | N | 4.7     | 1.0 | 89  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 5.2 (PMR).  |
| 26 | 02 | 38 | 33.8* | 51.321 | N | 179.322 | E | 33  | N | 3.5     | 1.1 | 14  | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 26 | 02 | 47 | 48.3* | 51.093 | N | 179.529 | E | 33  | N | 4.1     | 1.4 | 16  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.0 (PMR).  |
| 26 | 03 | 06 | 46.1* | 51.757 | N | 179.464 | E | 33  | N | 3.9     | 1.4 | 23  | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 26 | 03 | 13 | 27.7* | 37.626 | N | 19.706  | E | 10  | G |         | 1.3 | 19  | IONIAN SEA. MD 3.4 (ATH).   |
| 26 | 03 | 13 | 50.5? | 2.54   | N | 84.40   | W | 33  | N | 4.3     | 1.3 | 16  | OFF COAST OF CENTRAL AMERICA  |
| 26 | 04 | 02 | 35.06 | 37.377 | N | 118.579 | W | 9   |   |         |     | 34  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.2 (GM). ML 3.2 (BRK), 3.0 (GS).   |
| 26 | 04 | 22 | 51.6  | 33.386 | N | 35.452  | E | 10  | G | 5.0 4.6 | 1.2 | 190 | JORDAN - SYRIA REGION. ML 5.6 (JER). MD 5.3 (RYD). About 50 buildings slightly damaged in the Beirut area, Lebanon. Felt throughout Lebanon. Also felt in northern and central Israel and parts of Syria.   |
| 26 | 05 | 45 | 11.0% | 40.699 | N | 29.020  | E | 10  | G |         | 0.4 | 5   | TURKEY. MD 2.6 (ISK).   |
| 26 | 05 | 51 | 09.8? | 9.35   | N | 125.99  | E | 33  | N |         | 1.5 | 10  | MINDANAO, PHILIPPINE ISLANDS  |
| 26 | 06 | 21 | 34.3% | 45.018 | N | 152.148 | E | 33  | N |         | 1.0 | 8   | EAST OF KURIL ISLANDS   |
| 26 | 07 | 07 | 43.0  | 46.167 | N | 143.269 | E | 250 | G | 4.0     | 0.9 | 27  | SAKHALIN ISLAND   |
| 26 | 07 | 33 | 49.0% | 15.159 | N | 59.762  | W | 33  | N |         | 0.6 | 7   | LEEWARD ISLANDS. MD 3.8 (TRN).  |
| 26 | 08 | 03 | 38.1? | 4.49   | N | 85.54   | W | 33  | N |         | 0.8 | 6   | OFF COAST OF CENTRAL AMERICA  |
| 26 | 08 | 04 | 43.1? | 50.90  | N | 179.74  | E | 33  | N |         | 0.8 | 6   | RAT ISLANDS, ALEUTIAN ISLANDS   |
| 26 | 08 | 31 | 47.1  | 31.920 | N | 130.429 | E | 10  | G | 5.6 5.9 | 1.3 | 275 | KYUSHU, JAPAN. Mw 6.1 (HRV), 6.0 (GS). At least 22 people injured, many houses damaged and landslides occurred in Kagoshima Prefecture. Railway services interrupted in Kagoshima Prefecture and airports temporarily closed at Kagoshima, Kumamoto and Miyazaki. Felt (VI JMA) at Akune, Togomachi and Tsuruda; (V JMA) at Miyanojo and Sendai; (IV JMA) at Hitoyoshi, Miyakonojo, Okuchi and Yatsushiro; (III JMA) at Kurume, Makurazaki, Miyazaki, Oita and Saga. Felt (IV JMA) at Ushibuka, Amakusa-Shimo-jima. Also felt in much of Shikoku and parts of western Honshu. Moment Tensor (GS): Dep 25; Principal axes (scale 10**18 Nm): (T) Val=1.14, Plg=7, Azm=321; (N) Val=0.18, Plg=81, Azm=176; (P) Val=-1.32, Plg=5, Azm=52; Best double couple: Mo=1.2*10**18 Nm; NP1: Strike=97, Dip=81, Slip=2; NP2: Strike=7, Dip=88, Slip=171. Centroid, Moment Tensor (HRV): Centroid origin time 08:31:53.0; Lat 32.04 N; Lon 130.09 E; Dep 29.8; Half-duration 2.8 sec; Principal axes (scale 10**18 Nm): (T) Val=1.88, Plg=2, Azm=323; (N) Val=-0.23, Plg=88, Azm=142; (P) Val=-1.65, Plg=0, Azm=233; Best double couple: Mo=1.8*10**18 Nm; NP1: Strike=8, Dip=89, Slip=179; NP2: Strike=98, Dip=89, Slip=1. |
| 26 | 08 | 38 | 58.9* | 32.105 | N | 130.653 | E | 10  | G | 4.6     | 1.5 | 19  | KYUSHU, JAPAN   |
| 26 | 08 | 47 | 18.1* | 14.609 | N | 145.177 | E | 33  | N |         | 0.6 | 8   | MARIANA ISLANDS   |
| 26 | 08 | 48 | 22.1% | 39.213 | N | 27.221  | E | 10  | G |         | 0.4 | 5   | TURKEY. MD 2.8 (ISK).   |
| 26 | 09 | 04 | 58.7  | 31.950 | N | 130.328 | E | 10  | G | 4.2     | 1.3 | 29  | KYUSHU, JAPAN   |
| 26 | 09 | 19 | 16.5  | 34.916 | N | 33.059  | E | 53  |   | 4.1     | 0.9 | 44  | CYPRUS REGION. MD 3.9 (ISK).  |
| 26 | 09 | 30 | 42.0  | 35.413 | N | 139.855 | E | 33  | N | 4.5     | 0.6 | 11  | NEAR S. COAST OF HONSHU, JAPAN  |
| 26 | 09 | 31 | 37.4  | 54.740 | N | 160.345 | E | 75  | D | 4.3     | 1.0 | 60  | NEAR EAST COAST OF KAMCHATKA  |
| 26 | 09 | 48 | 01.1  | 31.963 | N | 130.259 | E | 10  | G |         | 1.0 | 14  | KYUSHU, JAPAN   |
| 26 | 09 | 55 | 14.2? | 23.97  | N | 123.13  | E | 33  | N |         | 1.0 | 6   | SOUTHWESTERN RYUKYU ISLANDS   |
| 26 | 10 | 22 | 43.2% | 37.221 | N | 3.718   | W | 10  | G |         | 1.0 | 5   | SPAIN. mbLg 2.3 (MDD).  |
| 26 | 10 | 36 | 43.1* | 11.109 | N | 85.988  | W | 33  | N | 4.3     | 1.4 | 27  | NICARAGUA   |
| 26 | 10 | 45 | 24.8% | 31.962 | N | 130.398 | E | 10  | G |         | 0.3 | 5   | KYUSHU, JAPAN   |
| 26 | 11 | 21 | 36.9  | 51.209 | N | 179.463 | E | 33  | N | 5.0 4.8 | 0.9 | 150 | RAT ISLANDS, ALEUTIAN ISLANDS. Mw 5.3 (HRV). ML 5.2 (PMR). Centroid, Moment Tensor (HRV): Centroid origin time 11:21:38.3; Lat 51.19 N; Lon 179.64 E; Dep 43.4; Half-duration 1.0 sec; Principal axes (scale 10**16 Nm): (T) Val=9.67, Plg=64, Azm=272; (N) Val=-0.79, Plg=20, Azm=50; (P) Val=-8.88, Plg=16, Azm=146; Best double couple: Mo=9.3*10**16 Nm; NP1: Strike=263, Dip=34, Slip=127; NP2: Strike=40, Dip=64, Slip=68.  |
| 26 | 12 | 07 | 00.5  | 30.837 | S | 177.572 | W | 33  | N | 5.0     | 1.0 | 38  | KERMADEC ISLANDS, NEW ZEALAND   |
| 26 | 12 | 15 | 29.5  | 31.853 | N | 129.959 | E | 10  | G | 4.3     | 1.2 | 20  | KYUSHU, JAPAN   |
| 26 | 12 | 17 | 44.6? | 3.40   | N | 129.12  | E | 150 | G | 3.6     | 0.8 | 6   | NORTH OF HALMAHERA, INDONESIA   |
| 26 | 12 | 28 | 53.1% | 47.519 | N | 13.922  | E | 10  | G |         | 0.6 | 5   | AUSTRIA. ML 2.2 (VIE).  |
| 26 | 12 | 35 | 18.2  | 40.083 | N | 21.644  | E | 5   | G | 3.6     | 1.1 | 16  | GREECE. MD 3.2 (ATH).   |
| 26 | 12 | 35 | 52.8? | 31.96  | N | 130.29  | E | 10  | G |         | 0.1 | 4   | KYUSHU, JAPAN   |
| 26 | 12 | 38 | 36.2? | 31.96  | N | 130.35  | E | 10  | G |         | 0.3 | 4   | KYUSHU, JAPAN   |
| 26 | 12 | 44 | 11.1% | 39.112 | N | 27.664  | E | 10  | G |         | 0.4 | 5   | TURKEY. MD 2.8 (ISK).   |
| 26 | 12 | 57 | 04.6? | 11.42  | N | 86.14   | W | 100 | G | 4.0     | 1.5 | 10  | NEAR COAST OF NICARAGUA   |
| 26 | 13 | 09 | 31.7% | 39.226 | N | 27.685  | E | 10  | G |         | 1.0 | 5   | TURKEY. MD 2.7 (ISK).   |
| 26 | 13 | 20 | 21.9  | 33.738 | N | 35.464  | E | 10  | G | 4.7     | 0.9 | 88  | JORDAN - SYRIA REGION. ML 5.0 (JER), 5.0 (BHL). MD 4.7 (ISK). Felt in parts of Lebanon. Also felt in northern and central Israel.   |
| 26 | 13 | 24 | 02.4  | 31.882 | N | 130.283 | E | 10  | G | 4.5     | 1.5 | 26  | KYUSHU, JAPAN   |
| 26 | 13 | 48 | 02.1? | 31.97  | N | 130.20  | E | 10  | G |         | 0.1 | 4   | KYUSHU, JAPAN   |
| 26 | 13 | 49 | 31.3* | 39.944 | N | 142.457 | E | 65  | * |         | 0.7 | 12  | NEAR EAST COAST OF HONSHU, JAPAN  |
| 26 | 13 | 59 | 14.0* | 34.260 | N | 26.268  | E | 50  | G | 4.2     | 1.2 | 26  | CRETE   |
| 26 | 15 | 11 | 43.3* | 7.307  | S | 128.860 | E | 100 | G | 3.9     | 0.8 | 9   | BANDA SEA   |
| 26 | 15 | 30 | 19.0% | 41.118 | N | 28.756  | E | 10  | G |         | 0.6 | 5   | TURKEY. MD 2.6 (ISK).   |
| 26 | 15 | 48 | 46.2* | 52.159 | N | 171.868 | W | 33  | N |         | 0.8 | 7   | FOX ISLANDS, ALEUTIAN ISLANDS   |
| 26 | 15 | 57 | 08.7* | 53.021 | N | 158.561 | E | 489 | ? | 3.8     | 1.1 | 14  | NEAR EAST COAST OF KAMCHATKA  |
| 26 | 16 | 04 | 13.7% | 60.134 | N | 153.036 | W | 130 |   |         |     | 81  | SOUTHERN ALASKA. <AEIC>.  |
| 26 | 16 | 30 | 22.3* | 16.951 | N | 146.808 | E | 100 | G | 4.0     | 1.1 | 12  | MARIANA ISLANDS   |
| 26 | 16 | 33 | 26.0? | 9.82   | N | 73.06   | W | 100 | G | 3.4     | 1.1 | 7   | NORTHERN COLOMBIA   |
| 26 | 16 | 40 | 25.6% | 31.419 | S | 117.761 | E | 10  | G |         | 0.5 | 6   | WESTERN AUSTRALIA   |
| 26 | 16 | 55 | 45.1? | 47.12  | N | 1.89    | W | 5   | G |         | 0.1 | 4   | FRANCE. ML 2.2 (LDG).   |
| 26 | 17 | 27 | 00.7* | 35.409 | N | 78.429  | E | 33  | N |         | 0.9 | 11  | EASTERN KASHMIR   |
| 26 | 17 | 27 | 40.4* | 58.126 | S | 26.025  | W | 150 | G | 4.3     | 0.9 | 22  | SOUTH SANDWICH ISLANDS REGION   |
| 26 | 18 | 03 | 29.6% | 10.858 | N | 61.149  | W | 33  | N |         | 0.3 | 6   | TRINIDAD. MD 3.3 (TRN).   |
| 26 | 18 | 18 | 34.7  | 2.803  | N | 128.237 | E | 127 |   | 5.7     | 1.0 | 211 | HALMAHERA, INDONESIA. Mw 5.8 (GS), 5.8 (HRV). Felt at Tomohon and Tondano, Sulawesi. Moment Tensor (GS): Dep 113; Principal axes (scale 10**17  |



Nm): (T) Val=5.83, Plg=52, Azm=341; (N) Val=0.76, Plg=34, Azm=192; (P) Val=-6.59, Plg=15, Azm=91; Best double couple: Mo=6.2\*10\*\*17 Nm; NP1: Strike=143, Dip=42, Slip=34; NP2: Strike=27, Dip=68, Slip=127.

Centroid, Moment Tensor (HRV): Centroid origin time 18:18:39.4; Lat 2.94 N; Lon 128.25 E; Dep 131.4; Half-duration 2.0 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=6.12, Plg=47, Azm=332; (N) Val=0.30, Plg=41, Azm=174; (P) Val=-6.42, Plg=11, Azm=74; Best double couple: Mo=6.3\*10\*\*17 Nm; NP1: Strike=126, Dip=49, Slip=30; NP2: Strike=15, Dip=68, Slip=135.

26 18 31 34.9 54.088 N 165.980 W 92 13 FOX ISLANDS, ALEUTIAN ISLANDS. <AEIC>.

26 18 47 58.1 10.849 N 61.141 W 33 N 0.1 5 TRINIDAD. MD 2.3 (TRN).

26 19 05 48.9 37.51 N 72.24 E 185 ? 3.4 1.3 12 TAJIKISTAN

26 19 21 15.2 20.097 S 173.906 W 33 N 4.7 4.9 1.1 41 TONGA ISLANDS

26 20 19 23.0 32.046 N 130.458 E 10 G 1.4 17 KYUSHU, JAPAN. Felt (III JMA) at Miyanojo.

26 20 24 56.7 12.776 S 166.762 E 100 G 4.1 0.9 10 SANTA CRUZ ISLANDS

26 20 43 47.5 31.963 N 130.433 E 10 G 1.5 7 KYUSHU, JAPAN

26 21 06 48.7 63.438 N 150.974 W 159 29 CENTRAL ALASKA. <AEIC>.

26 21 27 06.7 51.219 N 179.438 E 33 N 4.9 0.9 149 RAT ISLANDS, ALEUTIAN ISLANDS. Mw 5.2 (HRV). ML 5.2 (PMR). Centroid, Moment Tensor (HRV): Centroid origin time 21:27:06.1; Lat 51.38 N; Lon 180.00 E; Dep 15.0 Fix; Half-duration 1.0 sec; Principal axes (scale 10\*\*16 Nm): (T) Val=7.08, Plg=51, Azm=356; (N) Val=0.12, Plg=9, Azm=255; (P) Val=-7.20, Plg=37, Azm=158; Best double couple: Mo=7.1\*10\*\*16 Nm; NP1: Strike=205, Dip=11, Slip=39; NP2: Strike=76, Dip=83, Slip=99.

26 21 53 49.4 44.128 N 7.093 E 5 G 0.3 5 NORTHERN ITALY. ML 2.1 (LDG).

26 22 08 50.0 17.74 N 146.64 E 100 G 1.4 5 MARIANA ISLANDS

26 23 02 49.1 68.13 N 160.38 W 10 G 1.2 5 NORTHERN ALASKA

26 23 05 28.8 31.06 S 69.28 W 140 G 0.7 10 SAN JUAN PROVINCE, ARGENTINA. MD 2.7 (SAN).

26 23 05 43.6 44.110 N 7.121 E 5 G 0.5 18 NORTHERN ITALY. ML 2.1 (STR), 1.9 (LDG).

26 23 34 56.7 44.096 N 7.111 E 5 G 0.3 6 NORTHERN ITALY. ML 1.6 (LDG).

26 23 54 04.0 51.136 N 179.471 E 33 N 4.8 0.8 95 RAT ISLANDS, ALEUTIAN ISLANDS. ML 5.2 (PMR).

27 00 16 41.9 51.235 N 179.445 E 33 N 4.8 0.8 116 RAT ISLANDS, ALEUTIAN ISLANDS. ML 5.3 (PMR).

27 00 30 30.7 0.096 S 124.954 E 50 G 4.7 1.1 22 SOUTHERN MOLUCCA SEA

27 01 30 18.8 44.360 N 7.286 E 5 G 0.1 9 NORTHERN ITALY. ML 2.2 (LDG).

27 01 31 19.4 39.347 N 27.967 E 10 G 0.5 5 TURKEY. MD 2.8 (ISK).

27 02 01 03.2 12.984 N 89.660 W 33 N 0.2 11 OFF COAST OF CENTRAL AMERICA. MD 4.0 (SSS). Felt (IV) at San Salvador, El Salvador.

27 02 09 29.1 51.232 N 179.412 E 33 N 4.2 0.9 18 RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.0 (PMR).

27 02 17 34.5 37.850 N 2.560 W 10 G 1.0 7 SPAIN. mblg 2.7 (MDD).

27 02 38 49.9 6.500 N 127.083 E 33 N 4.1 0.8 5 PHILIPPINE ISLANDS REGION

27 02 52 54.0 46.349 N 6.295 E 5 G 0.9 12 SWITZERLAND. ML 2.2 (LDG).

27 03 12 17.1 51.21 N 179.38 E 33 N 3.7 1.4 13 RAT ISLANDS, ALEUTIAN ISLANDS

27 03 14 37.8 12.88 N 89.67 W 33 N 0.6 9 OFF COAST OF CENTRAL AMERICA. Felt (III) at San Salvador, El Salvador.

27 03 33 20.8 19.835 S 178.049 W 400 G 3.7 0.8 10 FIJI ISLANDS REGION

27 03 43 24.2 50.146 N 14.120 E 10 G 1.2 7 CZECH AND SLOVAK REPUBLICS. ML 2.8 (VIE).

27 03 48 00.6 51.26 N 179.37 E 33 N 3.3 1.0 8 RAT ISLANDS, ALEUTIAN ISLANDS

27 03 52 33.1 31.395 S 117.798 E 10 G 1.2 9 WESTERN AUSTRALIA

27 03 56 59.5 45.30 N 6.51 E 5 G 0.2 4 FRANCE. ML 1.6 (LDG).

27 04 13 04.3 22.039 S 176.501 W 139 D 5.0 0.9 70 SOUTH OF FIJI ISLANDS

27 04 43 03.6 38.591 N 24.701 E 10 G 1.5 10 AEGEAN SEA. MD 3.3 (ATH), 3.2 (ISK).

27 04 46 08.2 3.01 N 131.48 E 33 N 0.9 5 WESTERN CAROLINE ISLANDS

27 05 46 11.1 19.175 N 63.000 W 33 N 3.3 1.0 5 LEEWARD ISLANDS. MD 3.6 (TRN).

27 06 02 37.9 47.274 N 11.615 E 5 G 1.3 10 AUSTRIA. ML 2.7 (FUR), 2.3 (VIE).

27 06 09 34.3 44.820 N 10.498 E 5 G 0.9 24 NORTHERN ITALY. ML 3.0 (VIE), 2.8 (LDG).

27 06 14 09.8 59.419 N 150.812 W 38 40 KENAI PENINSULA, ALASKA. <AEIC>. ML 2.5 (AEIC).

27 06 14 16.2 31.410 S 117.869 E 10 G 0.9 7 WESTERN AUSTRALIA

27 07 00 44.4 11.41 N 145.02 E 33 N 3.7 0.9 7 SOUTH OF MARIANA ISLANDS

27 07 20 34.7 22.263 S 68.497 W 122 D 4.4 1.0 32 NORTHERN CHILE

27 07 58 03.2 31.408 S 117.860 E 10 G 0.7 7 WESTERN AUSTRALIA

27 08 25 48.2 39.14 N 27.41 E 10 G 1.0 4 TURKEY. MD 2.8 (ISK).

27 08 43 42.8 39.75 N 29.46 E 10 G 0.5 4 TURKEY. MD 2.6 (ISK).

27 09 12 01.8 38.658 N 1.130 W 10 G 0.6 8 SPAIN. mblg 2.9 (MDD). Felt (III) in the Yecla area.

27 09 26 24.5 51.34 N 179.63 E 33 N 3.8 1.6 6 RAT ISLANDS, ALEUTIAN ISLANDS

27 09 37 32.4 16.963 N 100.033 W 10 G 0.8 6 NEAR COAST OF GUERRERO, MEXICO

27 10 02 09.4 23.800 S 179.840 E 550 G 4.5 1.0 14 SOUTH OF FIJI ISLANDS

27 10 02 16.2 4.006 N 82.452 W 10 G 5.0 4.5 0.9 119 SOUTH OF PANAMA. Mw 5.3 (HRV). Centroid, Moment Tensor (HRV): Centroid origin time 10:02:20.7; Lat 4.01 N Fix; Lon 82.45 W Fix; Dep 15.0 Fix; Half-duration 1.1 sec; Principal axes (scale 10\*\*16 Nm): (T) Val=8.67, Plg=32, Azm=305; (N) Val=-0.08, Plg=52, Azm=160; (P) Val=-8.59, Plg=17, Azm=46; Best double couple: Mo=8.6\*10\*\*16 Nm; NP1: Strike=90, Dip=54, Slip=12; NP2: Strike=353, Dip=80, Slip=143.

27 10 05 32.1 55.230 N 165.401 E 65 D 4.1 0.7 26 KOMANDORSKY ISLANDS REGION

27 10 10 45.2 38.150 N 121.938 W 21 10 NORTHERN CALIFORNIA. <GM-P>. MD 3.2 (GM). Felt at Concord, Fairfield and Pittsburg.

27 10 23 07.3 51.261 N 179.477 E 33 N 4.4 1.0 43 RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.5 (PMR).

27 10 26 35.3 38.149 N 121.934 W 22 9 NORTHERN CALIFORNIA. <GM-P>. MD 2.8 (GM). ML 2.7 (GS).

27 10 42 26.3 51.232 N 179.338 E 33 N 5.0 5.1 1.1 168 RAT ISLANDS, ALEUTIAN ISLANDS. Mw 5.6 (HRV). ML 5.4 (PMR). Centroid, Moment Tensor (HRV): Centroid origin time 10:42:29.3; Lat 51.15 N; Lon 179.63 E; Dep 18.5; Half-duration 1.6 sec; Principal axes (scale 10\*\*17 Nm): (T) Val=2.82, Plg=65, Azm=313; (N) Val=0.22, Plg=9, Azm=63; (P) Val=-3.04, Plg=23, Azm=157; Best double couple: Mo=2.9\*10\*\*17 Nm; NP1: Strike=265, Dip=24, Slip=113; NP2: Strike=60, Dip=68, Slip=80.

27 10 55 05.0 51.044 N 179.480 E 33 N 4.2 1.0 17 RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.0 (PMR).

27 11 06 57.7 51.120 N 179.397 E 33 N 4.3 0.9 28 RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.4 (PMR).

27 11 11 24.5 38.149 N 121.941 W 22 8 NORTHERN CALIFORNIA. <GM-P>. MD 2.8 (GM). ML 2.5 (GS).



|    |    |    |       |          |           |              |     |     |  |
|----|----|----|-------|----------|-----------|--------------|-----|-----|--|
| 27 | 11 | 15 | 43.5* | 48.257 N | 9.909 E   | 10 G         | 0.4 | 8   | GERMANY. ML 2.6 (VIE).   |
| 27 | 11 | 16 | 38.1  | 51.127 N | 179.540 E | 33 N 4.5     | 0.9 | 61  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.6 (PMR).   |
| 27 | 11 | 30 | 07.06 | 38.147 N | 121.945 W | 21           |     | 25  | NORTHERN CALIFORNIA. <GM-P>. MD 3.4 (GM). ML 3.3 (BRK), 3.2 (GS). Felt at Concord, Fairfield, Martinez and Pittsburg.                          |
| 27 | 11 | 34 | 22.4* | 37.280 N | 71.945 E  | 150 G        | 0.1 | 5   | AFGHANISTAN-TAJIKISTAN BORD REG.   |
| 27 | 11 | 37 | 38.67 | 51.00 N  | 179.37 E  | 33 N 4.0     | 1.4 | 14  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.0 (PMR).   |
| 27 | 11 | 43 | 01.97 | 50.90 N  | 179.40 E  | 33 N 4.0     | 1.4 | 8   | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 27 | 12 | 07 | 47.27 | 0.67 N   | 128.86 E  | 33 N         | 1.0 | 5   | HALMAHERA, INDONESIA   |
| 27 | 12 | 08 | 04.6  | 51.157 N | 179.533 E | 33 N 4.5     | 1.0 | 35  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.5 (PMR).   |
| 27 | 12 | 10 | 00.7  | 51.065 N | 179.492 E | 33 N 4.5     | 1.0 | 37  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.4 (PMR).   |
| 27 | 12 | 13 | 03.4* | 51.159 N | 179.552 E | 33 N 4.3     | 1.2 | 12  | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 27 | 12 | 16 | 55.87 | 39.15 N  | 27.51 E   | 10 G         | 0.0 | 4   | TURKEY. MD 2.8 (ISK).  |
| 27 | 12 | 17 | 33.7* | 51.219 N | 179.511 E | 33 N 3.9     | 1.3 | 22  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.2 (PMR).   |
| 27 | 12 | 41 | 24.5* | 50.942 N | 179.563 E | 33 N 4.3     | 1.0 | 23  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.2 (PMR).   |
| 27 | 12 | 49 | 16.97 | 0.20 S   | 126.94 E  | 33 N 3.8     | 0.7 | 8   | SOUTHERN MOLUCCA SEA   |
| 27 | 13 | 33 | 08.1* | 2.622 N  | 128.727 E | 33 N 4.0     | 1.1 | 8   | HALMAHERA, INDONESIA   |
| 27 | 13 | 35 | 40.67 | 51.09 N  | 179.63 E  | 33 N 4.1     | 1.2 | 11  | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 27 | 13 | 38 | 08.86 | 38.148 N | 121.934 W | 21           |     | 22  | NORTHERN CALIFORNIA. <GM-P>. MD 3.2 (GM). ML 3.0 (BRK), 3.0 (GS). Felt at Concord, Fairfield, Martinez and Pittsburg.                          |
| 27 | 14 | 01 | 24.26 | 38.147 N | 121.936 W | 21           |     | 23  | NORTHERN CALIFORNIA. <GM-P>. MD 3.4 (GM). ML 3.2 (BRK), 3.0 (GS). Felt at Concord, Fairfield, Martinez and Pittsburg.                          |
| 27 | 14 | 16 | 11.1  | 39.817 N | 143.681 E | 33 N 4.9     | 0.9 | 45  | OFF EAST COAST OF HONSHU, JAPAN  |
| 27 | 14 | 58 | 43.3* | 39.835 N | 143.640 E | 33 N 4.4     | 1.0 | 15  | OFF EAST COAST OF HONSHU, JAPAN  |
| 27 | 15 | 03 | 27.6* | 2.969 N  | 128.312 E | 50 G 4.3     | 1.3 | 12  | HALMAHERA, INDONESIA   |
| 27 | 15 | 39 | 49.06 | 38.147 N | 121.947 W | 21           |     | 36  | NORTHERN CALIFORNIA. <GM-P>. MD 3.7 (GM). ML 3.5 (BRK), 3.4 (GS). Felt at Concord, Fairfield, Martinez, Pittsburg and as far as San Francisco. |
| 27 | 16 | 55 | 27.8  | 43.102 N | 0.628 W   | 10 G         | 0.3 | 7   | PYRENEES. ML 1.9 (LDG), 1.2 (STR). Quarry blast.   |
| 27 | 16 | 58 | 16.4* | 31.422 S | 117.881 E | 10 G 4.6     | 0.8 | 7   | WESTERN AUSTRALIA  |
| 27 | 17 | 01 | 39.7* | 5.430 S  | 142.400 E | 33 N 4.5     | 1.1 | 13  | NEW GUINEA, PAPUA NEW GUINEA   |
| 27 | 17 | 16 | 42.86 | 38.155 N | 121.948 W | 23           |     | 7   | NORTHERN CALIFORNIA. <GM-P>. MD 3.3 (GM). Felt at Concord, Fairfield and Pittsburg.  |
| 27 | 17 | 35 | 06.5  | 19.307 N | 145.694 E | 133 * 4.6    | 1.1 | 65  | MARIANA ISLANDS  |
| 27 | 17 | 48 | 41.7  | 35.353 N | 78.253 E  | 33 N 4.6     | 1.0 | 43  | EASTERN KASHMIR  |
| 27 | 17 | 51 | 52.7* | 32.088 N | 130.370 E | 10 G 3.6     | 1.5 | 16  | KYUSHU, JAPAN  |
| 27 | 18 | 01 | 43.16 | 38.152 N | 121.946 W | 22           |     | 17  | NORTHERN CALIFORNIA. <GM-P>. MD 3.3 (GM). ML 3.0 (BRK), 2.9 (GS). Felt at Concord, Fairfield, Martinez and Pittsburg.                          |
| 27 | 18 | 16 | 02.1* | 45.399 N | 26.159 E  | 144          | 1.1 | 17  | ROMANIA  |
| 27 | 18 | 38 | 16.27 | 50.78 N  | 179.52 E  | 33 N 3.1     | 1.5 | 6   | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 27 | 18 | 56 | 18.7  | 31.941 N | 130.327 E | 10 G         | 0.6 | 8   | KYUSHU, JAPAN  |
| 27 | 19 | 05 | 28.67 | 32.15 S  | 177.37 W  | 33 N 4.3     | 1.1 | 10  | SOUTH OF KERMADEC ISLANDS  |
| 27 | 19 | 33 | 54.8  | 6.805 S  | 155.270 E | 76 * 4.4     | 0.9 | 38  | SOLOMON ISLANDS  |
| 27 | 19 | 37 | 36.2* | 33.460 S | 70.794 W  | 80 G         | 0.3 | 8   | CHILE-ARGENTINA BORDER REGION  |
| 27 | 20 | 02 | 19.07 | 15.35 N  | 120.11 E  | 33 N         | 0.8 | 5   | LUZON, PHILIPPINE ISLANDS  |
| 27 | 20 | 32 | 07.6* | 24.662 N | 122.245 E | 56 * 4.1     | 0.8 | 14  | TAIWAN REGION  |
| 27 | 20 | 34 | 56.2* | 54.683 N | 161.137 E | 33 N 3.6     | 1.0 | 9   | NEAR EAST COAST OF KAMCHATKA   |
| 27 | 20 | 40 | 59.2  | 30.171 N | 131.645 E | 10 G 3.9     | 1.1 | 14  | KYUSHU, JAPAN  |
| 27 | 21 | 15 | 27.0* | 6.662 S  | 154.568 E | 200 G 4.3    | 1.5 | 18  | SOLOMON ISLANDS  |
| 27 | 21 | 31 | 48.1* | 4.005 S  | 135.494 E | 33 N 4.1     | 1.2 | 8   | IRIAN JAYA REGION, INDONESIA   |
| 27 | 21 | 38 | 02.87 | 1.67 S   | 145.23 E  | 33 N 3.9     | 0.4 | 5   | ADMIRALTY ISLANDS REGION, P.N.G.   |
| 27 | 21 | 39 | 42.0  | 51.718 N | 16.112 E  | 5 G          | 0.8 | 27  | POLAND. ML 4.1 (GRF), 3.7 (VIE).   |
| 27 | 21 | 42 | 16.7* | 37.807 N | 2.534 W   | 10 G         | 0.7 | 5   | SPAIN. mbLg 2.7 (MDD).   |
| 27 | 21 | 47 | 33.87 | 19.94 N  | 122.23 E  | 33 N 4.3     | 0.6 | 6   | PHILIPPINE ISLANDS REGION  |
| 27 | 21 | 48 | 41.9* | 43.994 N | 148.009 E | 100 G        | 0.6 | 7   | EAST OF KURIL ISLANDS  |
| 27 | 22 | 05 | 02.6* | 37.101 N | 3.585 W   | 10 G         | 1.5 | 5   | SPAIN. mbLg 2.0 (MDD).   |
| 27 | 22 | 44 | 00.4* | 20.724 S | 178.283 W | 500 G 4.3    | 1.0 | 20  | FIJI ISLANDS REGION  |
| 27 | 22 | 47 | 53.06 | 38.149 N | 121.939 W | 22           |     | 22  | NORTHERN CALIFORNIA. <GM-P>. MD 3.5 (GM). ML 3.4 (BRK), 3.3 (GS). Felt at Concord, Fairfield, Martinez and Pittsburg.                          |
| 27 | 22 | 53 | 07.66 | 38.149 N | 121.941 W | 22           |     | 23  | NORTHERN CALIFORNIA. <GM-P>. MD 3.4 (GM). ML 3.2 (BRK), 3.1 (GS). Felt at Concord, Fairfield, Martinez and Pittsburg.                          |
| 27 | 23 | 47 | 59.6  | 55.511 S | 27.683 W  | 33 N 5.0 4.7 | 1.1 | 55  | SOUTH SANDWICH ISLANDS REGION  |
| 28 | 00 | 08 | 49.8* | 5.889 S  | 146.460 E | 100 G 3.5    | 0.9 | 10  | EASTERN NEW GUINEA REG., P.N.G.  |
| 28 | 00 | 27 | 07.5* | 5.345 S  | 102.248 E | 33 N 4.6     | 1.0 | 13  | SOUTHERN SUMATERA, INDONESIA   |
| 28 | 00 | 44 | 39.9* | 37.042 N | 3.917 W   | 10 G         | 0.5 | 6   | SPAIN. mbLg 2.5 (MDD).   |
| 28 | 00 | 54 | 43.5* | 36.248 N | 139.773 E | 33 N         | 0.4 | 6   | EASTERN HONSHU, JAPAN  |
| 28 | 01 | 58 | 23.76 | 61.787 N | 150.207 W | 0            |     | 55  | SOUTHERN ALASKA. <AEIC>. ML 3.0 (AEIC), 3.5 (PMR).   |
| 28 | 02 | 01 | 09.67 | 13.36 N  | 89.51 W   | 100 G 3.9    | 1.5 | 18  | EL SALVADOR  |
| 28 | 03 | 14 | 46.77 | 13.64 N  | 89.45 W   | 100 G 4.0    | 1.4 | 10  | EL SALVADOR  |
| 28 | 03 | 45 | 17.87 | 36.59 N  | 7.55 W    | 50 G         | 0.6 | 7   | STRAIT OF GIBRALTAR. mbLg 2.4 (MDD).   |
| 28 | 04 | 01 | 22.8* | 40.691 N | 29.719 E  | 10 G         | 0.1 | 6   | TURKEY. MD 3.0 (ISK).  |
| 28 | 04 | 26 | 31.56 | 37.305 N | 122.099 W | 6            |     | 9   | CENTRAL CALIFORNIA. <GM-P>. MD 2.5 (GM). Felt in the epicentral area.  |
| 28 | 04 | 32 | 02.0* | 33.921 S | 70.699 W  | 80 G         | 0.2 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.5 (SAN).   |
| 28 | 04 | 33 | 18.67 | 19.76 S  | 179.70 E  | 600 G 4.0    | 1.1 | 13  | SOUTH OF FIJI ISLANDS  |
| 28 | 04 | 47 | 24.2* | 32.964 S | 72.224 W  | 5 G          | 0.4 | 9   | OFF COAST OF CENTRAL CHILE. MD 3.7 (SAN).  |
| 28 | 04 | 55 | 14.07 | 54.22 S  | 133.79 W  | 10 G 4.4     | 0.9 | 13  | PACIFIC-ANTARCTIC RIDGE  |
| 28 | 05 | 15 | 09.3  | 4.615 S  | 153.130 E | 33 N 4.9 4.4 | 0.9 | 123 | NEW IRELAND REGION, P.N.G.   |
| 28 | 05 | 24 | 33.6* | 4.460 S  | 153.214 E | 33 N 4.2     | 0.7 | 10  | NEW IRELAND REGION, P.N.G.   |
| 28 | 05 | 42 | 27.26 | 62.920 N | 148.225 W | 67           |     | 55  | CENTRAL ALASKA. <AEIC>. ML 2.8 (AEIC), 2.9 (PMR).  |
| 28 | 06 | 08 | 13.1  | 51.238 N | 179.436 E | 33 N 4.7     | 1.1 | 68  | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 28 | 06 | 20 | 34.2  | 39.376 N | 143.518 E | 33 N 4.2     | 1.1 | 25  | OFF EAST COAST OF HONSHU, JAPAN  |
| 28 | 06 | 48 | 11.06 | 58.008 N | 156.931 W | 151 2.7      |     | 45  | ALASKA PENINSULA. <AEIC>.  |
| 28 | 07 | 14 | 58.57 | 51.10 N  | 178.95 E  | 33 N 3.8     | 0.7 | 7   | RAT ISLANDS, ALEUTIAN ISLANDS  |
| 28 | 07 | 22 | 31.57 | 16.44 S  | 173.41 W  | 33 N         | 0.2 | 5   | TONGA ISLANDS  |
| 28 | 07 | 28 | 02.06 | 45.201 N | 120.056 W | 2            |     | 36  | WASHINGTON-OREGON BORDER REGION. <SEA-P>. MD 2.6 (SEA).  |
| 28 | 07 | 28 | 38.7* | 0.040 S  | 16.812 W  | 10 G 4.5     | 1.4 | 13  | NORTH OF ASCENSION ISLAND  |
| 28 | 07 | 52 | 21.7* | 5.439 S  | 144.303 E | 100 G 4.0    | 1.4 | 8   | NEW GUINEA, PAPUA NEW GUINEA   |
| 28 | 08 | 15 | 11.0* | 49.945 N | 157.386 E | 33 N 4.3     | 1.1 | 25  | EAST OF KURIL ISLANDS  |
| 28 | 08 | 30 | 52.77 | 34.83 S  | 71.28 W   | 70 G         | 0.2 | 8   | NEAR COAST OF CENTRAL CHILE. MD 2.9 (SAN).   |
| 28 | 08 | 40 | 59.5* | 33.441 S | 70.765 W  | 80 G         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.1 (SAN).   |
| 28 | 08 | 46 | 57.27 | 39.10 N  | 27.59 E   | 10 G         | 0.2 | 4   | TURKEY. MD 2.7 (ISK).  |
| 28 | 08 | 54 | 56.5* | 33.685 S | 71.358 W  | 50 G         | 0.3 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.4 (SAN).   |
| 28 | 09 | 14 | 38.07 | 39.10 N  | 27.63 E   | 10 G         | 0.8 | 4   | TURKEY. MD 2.8 (ISK).  |

|   |    |    |       |          |           |       |     |     |     |   |
|---|----|----|-------|----------|-----------|-------|-----|-----|-----|---|
| 28  | 09 | 22 | 01.4* | 7.629 N  | 127.684 E | 50 G  | 3.9 | 1.1 | 7   | PHILIPPINE ISLANDS REGION   |
| 28  | 09 | 24 | 24.7% | 7.618 N  | 127.490 E | 50 G  |     | 1.0 | 5   | PHILIPPINE ISLANDS REGION   |
| 28  | 09 | 45 | 42.8* | 55.700 N | 163.232 W | 159 * | 3.7 | 1.5 | 20  | UNIMAK ISLAND REGION  |
| 28  | 10 | 12 | 19.0  | 50.576 N | 18.818 E  | 10 G  |     | 1.0 | 6   | POLAND. MG 2.9 (WAR).   |
| 28  | 10 | 13 | 45.1  | 36.113 N | 139.865 E | 69    | 3.8 | 0.8 | 22  | EASTERN HONSHU, JAPAN   |
| 28  | 10 | 13 | 56.4% | 44.431 N | 7.450 E   | 5 G   |     | 0.4 | 7   | NORTHERN ITALY. ML 2.3 (LDG).   |
| 28  | 10 | 30 | 30.3? | 40.56 N  | 29.30 E   | 10 G  |     | 0.8 | 4   | TURKEY. MD 2.6 (ISK).   |
| 28  | 10 | 41 | 27.0? | 35.24 S  | 71.14 W   | 110 G |     | 0.3 | 9   | CENTRAL CHILE. MD 3.1 (SAN).  |
| 28  | 10 | 43 | 08.5? | 21.00 S  | 178.63 W  | 600 G | 4.4 | 1.0 | 13  | FIJI ISLANDS REGION   |
| 28  | 10 | 48 | 08.0* | 44.326 N | 8.286 E   | 5 G   |     | 0.9 | 12  | NORTHERN ITALY. ML 2.2 (LDG), 2.0 (STR).                                      |
| 28  | 11 | 02 | 23.6  | 5.665 S  | 150.927 E | 53 D  | 5.0 | 0.9 | 35  | NEW BRITAIN REGION, P.N.G.  |
| 28  | 11 | 57 | 57.8? | 39.20 N  | 27.51 E   | 10 G  |     | 0.3 | 4   | TURKEY. MD 2.8 (ISK).   |
| 28  | 11 | 59 | 13.9  | 41.571 N | 142.505 E | 66 D  | 4.1 | 1.2 | 33  | HOKKAIDO, JAPAN REGION  |
| 28  | 12 | 20 | 27.9* | 7.171 S  | 128.946 E | 100 G | 4.0 | 0.5 | 10  | BANDA SEA   |
| 28  | 13 | 25 | 04.5? | 17.00 S  | 173.60 W  | 200 G | 4.1 | 1.4 | 19  | TONGA ISLANDS   |
| 28  | 13 | 48 | 38.5? | 18.93 S  | 168.86 E  | 150 G | 4.2 | 0.5 | 7   | VANUATU ISLANDS   |
| 28  | 14 | 10 | 09.8* | 6.953 S  | 130.393 E | 100 G | 4.2 | 1.3 | 11  | BANDA SEA   |
| 28  | 14 | 33 | 57.0* | 15.314 N | 144.730 E | 32    | 4.2 | 0.7 | 17  | MARIANA ISLANDS REGION  |
| 28  | 15 | 27 | 49.1* | 2.009 N  | 128.059 E | 150 G | 4.0 | 1.1 | 17  | HALMAHERA, INDONESIA  |
| 28  | 15 | 44 | 29.8? | 24.07 S  | 179.43 E  | 600 G | 4.2 | 0.9 | 11  | SOUTH OF FIJI ISLANDS   |
| 28  | 16 | 09 | 31.7? | 37.77 N  | 2.56 W    | 10 G  |     | 0.6 | 5   | SPAIN. mbLg 2.6 (MDD).  |
| 28  | 16 | 15 | 14.4* | 36.306 N | 70.400 E  | 226 * | 3.6 | 0.6 | 14  | HINDU KUSH REGION, AFGHANISTAN  |
| 28  | 16 | 18 | 07.7* | 51.231 N | 179.615 E | 33 N  | 4.0 | 1.1 | 18  | RAT ISLANDS, ALEUTIAN ISLANDS. ML 4.3 (PMR).                                  |
| 28  | 16 | 19 | 07.7? | 36.08 N  | 68.82 E   | 100 G |     | 0.2 | 5   | HINDU KUSH REGION, AFGHANISTAN  |
| 28  | 16 | 23 | 05.1* | 26.961 N | 55.185 E  | 50 G  | 3.8 | 0.6 | 10  | SOUTHERN IRAN   |
| 28  | 17 | 20 | 59.8* | 43.058 N | 127.923 W | 10 G  | 2.7 | 0.8 | 49  | OFF COAST OF OREGON   |
| 28  | 18 | 59 | 20.8% | 47.805 N | 6.294 E   | 5 G   |     | 0.6 | 6   | FRANCE. ML 2.1 (LDG).   |
| 28  | 19 | 08 | 34.8* | 34.472 N | 141.721 E | 33 N  |     | 0.6 | 9   | OFF EAST COAST OF HONSHU, JAPAN   |
| 28  | 19 | 21 | 21.0  | 39.432 N | 143.349 E | 33 N  | 4.8 | 1.1 | 67  | OFF EAST COAST OF HONSHU, JAPAN   |
| 28  | 20 | 54 | 18.1? | 10.57 N  | 62.77 W   | 100 G | 3.7 | 1.2 | 16  | NEAR COAST OF VENEZUELA   |
| 28  | 21 | 25 | 21.3? | 22.50 S  | 177.69 W  | 250 G | 4.0 | 1.5 | 18  | SOUTH OF FIJI ISLANDS   |
| 28  | 21 | 52 | 25.9  | 30.078 N | 67.989 E  | 33 N  | 4.1 | 0.9 | 28  | PAKISTAN. Felt at Quetta.   |
| 28  | 22 | 27 | 39.9* | 30.234 N | 68.004 E  | 33 N  | 3.9 | 1.2 | 22  | PAKISTAN. Felt at Quetta.   |
| 28  | 22 | 40 | 25.2  | 17.805 S | 178.952 W | 554 D | 5.0 | 0.9 | 145 | FIJI ISLANDS REGION. Mw 5.3 (HRV).  |
| Centroid, Moment Tensor (HRV): Centroid origin time         |    |    |       |          |           |       |     |     |     |   |
| 22:40:35.1; Lat 17.20 S; Lon 179.04 W; Dep 557.9; Half-     |    |    |       |          |           |       |     |     |     |   |
| duration 1.1 sec; Principal axes (scale 10**17 Nm): (T)     |    |    |       |          |           |       |     |     |     |   |
| Val=-1.15, Plg=45, Azm=343; (N) Val=-0.20, Plg=29, Azm=107; |    |    |       |          |           |       |     |     |     |   |
| (P) Val=-0.95, Plg=31, Azm=216; Best double couple:         |    |    |       |          |           |       |     |     |     |   |
| Mo=1.1*10**17 Nm; NP1: Strike=0, Dip=30, Slip=165; NP2:     |    |    |       |          |           |       |     |     |     |   |
| Strike=102, Dip=83, Slip=61.                                |    |    |       |          |           |       |     |     |     |   |
| 28  | 22 | 54 | 34.8? | 40.69 N  | 29.83 E   | 10 G  |     | 0.9 | 6   | TURKEY. MD 2.8 (ISK).   |
| 28  | 22 | 57 | 10.0* | 23.458 S | 175.603 W | 33 N  | 4.3 | 1.0 | 22  | TONGA ISLANDS REGION  |
| 28  | 23 | 23 | 14.9? | 43.69 N  | 7.29 E    | 5 G   |     | 0.6 | 4   | NEAR SOUTH COAST OF FRANCE. ML 1.6 (LDG).                                     |
| 29  | 00 | 33 | 57.9% | 17.190 N | 100.936 W | 33 N  |     | 1.1 | 6   | GUERRERO, MEXICO  |
| 29  | 02 | 35 | 43.1? | 14.76 N  | 126.75 E  | 33 N  | 4.2 | 0.2 | 5   | PHILIPPINE ISLANDS REGION   |
| 29  | 03 | 29 | 32.8? | 24.24 S  | 179.76 E  | 550 G | 4.3 | 0.8 | 17  | SOUTH OF FIJI ISLANDS   |
| 29  | 05 | 00 | 59.9% | 63.506 N | 147.270 W | 8     |     |     | 58  | CENTRAL ALASKA. <AEIC>. ML 2.5 (AEIC), 3.0 (PMR).                             |
| 29  | 05 | 04 | 27.4? | 19.84 S  | 178.78 E  | 500 G | 4.5 | 0.9 | 12  | SOUTH OF FIJI ISLANDS   |
| 29  | 05 | 15 | 09.9  | 51.723 N | 16.277 E  | 5 G   |     | 1.1 | 12  | POLAND. ML 3.4 (GRF), 3.2 (VIE).  |
| 29  | 05 | 31 | 03.8  | 14.583 N | 146.887 E | 33 N  | 4.3 | 1.0 | 25  | MARIANA ISLANDS   |
| 29  | 05 | 31 | 05.9* | 22.248 S | 179.436 W | 500 G | 4.4 | 1.1 | 25  | SOUTH OF FIJI ISLANDS   |
| 29  | 05 | 43 | 44.6% | 40.054 N | 28.657 E  | 10 G  |     | 0.5 | 6   | TURKEY. MD 2.7 (ISK).   |
| 29  | 05 | 45 | 45.7  | 50.744 N | 129.486 W | 10 G  |     | 0.8 | 43  | VANCOUVER ISLAND REGION   |
| 29  | 07 | 33 | 34.6* | 30.011 N | 139.072 E | 429   |     | 0.3 | 11  | SOUTH OF HONSHU, JAPAN  |
| 29  | 07 | 50 | 18.9? | 7.26 S   | 125.68 E  | 453 ? | 4.4 | 0.9 | 12  | BANDA SEA   |
| 29  | 08 | 09 | 08.5* | 5.299 S  | 146.644 E | 33 N  | 3.6 | 1.2 | 8   | EASTERN NEW GUINEA REG., P.N.G.   |
| 29  | 08 | 17 | 25.9? | 31.68 S  | 69.80 W   | 150 G |     | 0.3 | 11  | SAN JUAN PROVINCE, ARGENTINA. MD 4.0 (SAN).                                   |
| 29  | 09 | 13 | 32.4* | 23.014 S | 175.494 W | 33 N  | 4.4 | 1.1 | 23  | TONGA ISLANDS REGION  |
| 29  | 09 | 15 | 13.0? | 22.85 S  | 175.54 W  | 33 N  |     | 1.3 | 18  | TONGA ISLANDS REGION  |
| 29  | 09 | 46 | 01.9% | 38.745 N | 119.655 W | 8     |     |     | 23  | CALIFORNIA-NEVADA BORDER REGION. <GM-P>. MD 3.1 (GM). ML 3.3 (BRK), 3.3 (GS). |
| 29  | 10 | 27 | 47.4  | 25.714 N | 128.911 E | 33 N  | 4.4 | 0.9 | 28  | RYUKYU ISLANDS  |
| 29  | 10 | 43 | 39.8* | 36.298 S | 97.059 W  | 10 G  |     | 1.0 | 12  | WEST CHILE RISE   |
| 29  | 10 | 57 | 31.4? | 16.62 S  | 167.30 E  | 33 N  | 4.3 | 1.1 | 9   | VANUATU ISLANDS   |
| 29  | 11 | 24 | 41.8* | 12.269 N | 125.275 E | 33 N  | 4.2 | 0.6 | 12  | SAMAR, PHILIPPINE ISLANDS   |
| 29  | 11 | 55 | 38.6  | 43.772 N | 148.409 E | 33 N  | 4.7 | 1.0 | 69  | EAST OF KURIL ISLANDS   |
| 29  | 12 | 13 | 49.9? | 17.46 S  | 167.54 E  | 33 N  | 4.5 | 1.2 | 8   | VANUATU ISLANDS   |
| 29  | 12 | 30 | 20.7% | 37.283 N | 3.635 W   | 10 G  |     | 0.9 | 6   | SPAIN. mbLg 2.1 (MDD).  |
| 29  | 12 | 54 | 39.5? | 32.44 S  | 71.39 W   | 20 G  |     | 0.7 | 10  | NEAR COAST OF CENTRAL CHILE. MD 3.1 (SAN).                                    |
| 29  | 13 | 18 | 31.6% | 39.337 N | 27.987 E  | 10 G  |     | 1.4 | 5   | TURKEY. MD 2.7 (ISK).   |
| 29  | 14 | 02 | 01.5* | 35.407 N | 78.357 E  | 33 N  | 3.4 | 0.9 | 13  | EASTERN KASHMIR   |
| 29  | 14 | 02 | 02.2% | 61.711 N | 151.127 W | 76    | 3.1 |     | 103 | SOUTHERN ALASKA. <AEIC>.  |
| 29  | 14 | 20 | 04.8* | 16.489 S | 69.756 W  | 183   | 4.3 | 0.9 | 18  | PERU-BOLIVIA BORDER REGION  |
| 29  | 14 | 26 | 07.9% | 61.384 N | 150.119 W | 43    |     |     | 75  | SOUTHERN ALASKA. <AEIC>. ML 2.6 (AEIC).                                       |
| 29  | 14 | 57 | 27.8  | 34.982 N | 26.891 E  | 63 *  | 3.9 | 1.2 | 27  | CRETE. MD 3.9 (ATH), 3.8 (ISK).   |
| 29  | 16 | 26 | 00.1  | 31.201 S | 68.706 W  | 115 D | 4.6 | 0.9 | 50  | SAN JUAN PROVINCE, ARGENTINA. MD 4.6 (SAN).                                   |
| 29  | 17 | 43 | 41.5  | 29.580 N | 68.642 E  | 33 N  | 4.3 | 0.5 | 27  | PAKISTAN  |
| 29  | 18 | 16 | 22.4% | 60.409 N | 152.291 W | 84    |     |     | 63  | SOUTHERN ALASKA. <AEIC>.  |
| 29  | 18 | 24 | 55.0* | 4.234 S  | 139.839 E | 33 N  | 5.1 | 1.5 | 19  | IRIAN JAYA, INDONESIA   |
| 29  | 20 | 37 | 47.9? | 17.62 S  | 174.47 E  | 33 N  | 4.2 | 0.3 | 6   | FIJI ISLANDS REGION   |
| 29  | 21 | 07 | 24.1% | 37.260 N | 3.678 W   | 10 G  |     | 0.6 | 9   | SPAIN. mbLg 2.6 (MDD).  |
| 29  | 21 | 20 | 58.3? | 40.72 N  | 29.96 E   | 10 G  |     | 0.4 | 7   | TURKEY. MD 3.5 (ISK).   |
| 29  | 21 | 50 | 48.7* | 5.075 S  | 129.726 E | 200 G | 4.7 | 1.1 | 12  | BANDA SEA   |
| 29  | 21 | 59 | 14.7? | 42.57 N  | 143.14 E  | 33 N  |     | 1.6 | 5   | HOKKAIDO, JAPAN REGION  |
| 29  | 23 | 37 | 10.0% | 38.017 N | 28.932 E  | 10 G  |     | 0.6 | 5   | TURKEY. MD 3.3 (ISK).   |
| 29  | 23 | 49 | 21.5% | 46.906 N | 1.254 W   | 10 G  |     | 0.5 | 6   | FRANCE. ML 1.9 (LDG).   |
| 30  | 02 | 03 | 45.4  | 45.334 N | 0.239 W   | 5 G   |     | 1.0 | 27  | FRANCE. ML 3.1 (LDG), 2.9 (STR).  |
| 30  | 02 | 53 | 43.3* | 39.073 N | 144.165 E | 33 N  |     | 1.3 | 13  | OFF EAST COAST OF HONSHU, JAPAN   |
| 30  | 03 | 14 | 46.3? | 3.76 S   | 148.58 E  | 33 N  | 3.3 | 1.1 | 8   | BISMARCK SEA  |
| 30  | 03 | 30 | 48.1* | 25.331 S | 67.238 W  | 50 G  | 3.9 | 1.1 | 8   | CATAMARCA PROVINCE, ARGENTINA   |
| 30  | 03 | 44 | 59.1% | 34.158 N | 116.423 W | 2     |     |     | 5   | SOUTHERN CALIFORNIA. <PAS-P>. MD 2.6 (PAS). Felt at Yucca Valley.             |

|    |    |    |       |          |           |       |         |     |     |   |
|----|----|----|-------|----------|-----------|-------|---------|-----|-----|---|
| 30 | 04 | 08 | 44.8* | 19.189 S | 168.987 E | 33 N  | 4.3     | 0.9 | 16  | VANUATU ISLANDS   |
| 30 | 04 | 11 | 36.8* | 45.342 N | 0.178 W   | 10 G  |         | 1.0 | 8   | FRANCE. ML 2.1 (LDG).   |
| 30 | 04 | 18 | 02.8* | 47.657 N | 16.043 E  | 5 G   |         | 0.7 | 12  | AUSTRIA. ML 3.2 (CLL), 3.1 (VIE), 2.8 (FUR). Felt (IV) at Ternitz.  |
| 30 | 04 | 36 | 16.4* | 52.144 N | 173.849 W | 33 N  | 4.1     | 1.2 | 30  | ANDREANOF ISLANDS, ALEUTIAN IS.   |
| 30 | 04 | 46 | 06.5* | 29.162 S | 178.165 W | 33 N  | 4.5     | 0.9 | 12  | KERMADEC ISLANDS, NEW ZEALAND   |
| 30 | 04 | 46 | 59.4  | 33.010 N | 141.187 E | 33 N  | 4.5     | 0.7 | 11  | OFF EAST COAST OF HONSHU, JAPAN   |
| 30 | 04 | 49 | 23.0? | 28.91 S  | 177.60 W  | 33 N  | 4.4     | 1.0 | 11  | KERMADEC ISLANDS REGION   |
| 30 | 05 | 00 | 14.7* | 44.401 N | 149.439 E | 74 *  | 4.4     | 0.9 | 43  | KURIL ISLANDS   |
| 30 | 05 | 45 | 27.5? | 32.08 S  | 70.03 W   | 120 G |         | 0.3 | 7   | CHILE-ARGENTINA BORDER REGION. MD 2.1 (SAN).  |
| 30 | 06 | 11 | 54.9? | 2.56 N   | 128.53 E  | 33 N  | 3.6     | 1.6 | 6   | HALMAHERA, INDONESIA  |
| 30 | 06 | 50 | 44.9  | 50.814 N | 129.310 W | 10 G  | 4.1     | 1.0 | 56  | VANCOUVER ISLAND REGION   |
| 30 | 07 | 20 | 13.4* | 36.906 N | 95.507 E  | 33 N  |         | 1.1 | 12  | QINGHAI, CHINA  |
| 30 | 07 | 28 | 04.6* | 5.590 S  | 102.444 E | 33 N  | 4.6     | 1.0 | 10  | SOUTHERN SUMATERA, INDONESIA  |
| 30 | 07 | 33 | 39.6? | 39.12 N  | 27.58 E   | 10 G  |         | 0.6 | 4   | TURKEY. MD 2.7 (ISK).   |
| 30 | 08 | 24 | 03.3* | 33.143 N | 118.674 W | 9     |         |     | 29  | SOUTHERN CALIFORNIA. <PAS-P>. MD 3.4 (PAS).   |
| 30 | 08 | 38 | 27.4  | 16.249 S | 173.341 W | 33 N  | 5.0 5.5 | 1.0 | 114 | TONGA ISLANDS. Mw 5.7 (GS), 5.7 (HRV).<br>Moment Tensor (GS): Dep 26; Principal axes (scale 10**17 Nm): (T) Val=3.57, Plg=59, Azm=188; (N) Val=0.21, Plg=27, Azm=333; (P) Val=-3.79, Plg=16, Azm=71; Best double couple: Mo=3.7*10**17 Nm; NP1: Strike=194, Dip=37, Slip=137; NP2: Strike=320, Dip=66, Slip=61.<br>Centroid, Moment Tensor (HRV): Centroid origin time 08:38:33.0; Lat 16.23 S; Lon 172.87 W; Dep 19.7; Half-duration 1.7 sec; Principal axes (scale 10**17 Nm): (T) Val=3.76, Plg=67, Azm=215; (N) Val=0.51, Plg=10, Azm=329; (P) Val=-4.26, Plg=20, Azm=63; Best double couple: Mo=4.0*10**17 Nm; NP1: Strike=169, Dip=26, Slip=112; NP2: Strike=325, Dip=66, Slip=80.        |
| 30 | 09 | 12 | 19.5* | 2.067 N  | 127.580 E | 33 N  | 4.3     | 1.0 | 15  | NORTHERN MOLUCCA SEA  |
| 30 | 10 | 36 | 55.7? | 30.24 S  | 177.11 W  | 33 N  | 4.5     | 0.8 | 9   | KERMADEC ISLANDS, NEW ZEALAND   |
| 30 | 10 | 38 | 44.5  | 5.588 N  | 73.891 W  | 136   | 4.4     | 0.9 | 29  | COLOMBIA  |
| 30 | 10 | 49 | 55.3  | 18.451 N | 147.329 E | 33 N  | 4.5     | 1.4 | 32  | MARIANA ISLANDS REGION  |
| 30 | 10 | 50 | 39.1* | 44.381 N | 9.997 E   | 5 G   |         | 1.0 | 21  | NORTHERN ITALY. ML 2.7 (STR), 2.6 (LDG).  |
| 30 | 11 | 35 | 52.0? | 30.64 S  | 177.50 W  | 200 G | 4.1     | 0.9 | 13  | KERMADEC ISLANDS, NEW ZEALAND   |
| 30 | 12 | 00 | 57.9* | 16.277 N | 98.291 W  | 33 N  | 4.4     | 1.4 | 40  | NEAR COAST OF GUERRERO, MEXICO  |
| 30 | 12 | 06 | 54.0* | 18.510 N | 147.034 E | 33 N  | 3.9     | 0.7 | 12  | MARIANA ISLANDS REGION  |
| 30 | 12 | 57 | 44.2  | 37.661 N | 19.920 E  | 33 N  | 4.3     | 1.2 | 134 | IONIAN SEA. ML 4.3 (THE), 4.3 (ATH).  |
| 30 | 13 | 08 | 50.2* | 33.857 N | 136.938 E | 400 G | 3.9     | 1.5 | 19  | NEAR S. COAST OF WESTERN HONSHU   |
| 30 | 14 | 05 | 40.1  | 21.978 S | 177.197 W | 217 D | 5.3     | 0.8 | 216 | FUJI ISLANDS REGION. Mw 5.4 (HRV), 5.3 (GS).<br>Moment Tensor (GS): Dep 206; Principal axes (scale 10**16 Nm): (T) Val=9.94, Plg=19, Azm=140; (N) Val=-0.46, Plg=47, Azm=251; (P) Val=-9.48, Plg=37, Azm=34; Best double couple: Mo=9.7*10**16 Nm; NP1: Strike=183, Dip=49, Slip=165; NP2: Strike=83, Dip=79, Slip=42.<br>Centroid, Moment Tensor (HRV): Centroid origin time 14:05:43.0; Lat 22.06 S; Lon 176.88 W; Dep 219.4; Half-duration 1.3 sec; Principal axes (scale 10**17 Nm): (T) Val=1.39, Plg=37, Azm=141; (N) Val=0.25, Plg=32, Azm=259; (P) Val=-1.64, Plg=37, Azm=17; Best double couple: Mo=1.5*10**17 Nm; NP1: Strike=169, Dip=32, Slip=180; NP2: Strike=79, Dip=90, Slip=58. |
| 30 | 15 | 36 | 07.5* | 39.688 N | 20.119 E  | 33 N  |         | 1.6 | 10  | GREECE-ALBANIA BORDER REGION. MD 3.2 (ATH).   |
| 30 | 16 | 01 | 05.5* | 43.730 N | 7.245 E   | 10 G  |         | 0.9 | 9   | NEAR SOUTH COAST OF FRANCE. ML 2.1 (LDG).   |
| 30 | 16 | 08 | 55.0* | 37.041 N | 3.939 W   | 10 G  |         | 0.3 | 7   | SPAIN. mblg 2.5 (MDD).  |
| 30 | 16 | 23 | 36.7? | 30.97 S  | 177.74 W  | 150 G | 4.2     | 0.7 | 12  | KERMADEC ISLANDS, NEW ZEALAND   |
| 30 | 17 | 19 | 59.5  | 40.054 N | 23.661 E  | 10 G  |         | 0.6 | 10  | GREECE. MD 3.1 (ATH).   |
| 30 | 17 | 27 | 18.5? | 5.00 S   | 145.68 E  | 33 N  | 3.7     | 1.5 | 7   | EASTERN NEW GUINEA REG., P.N.G.   |
| 30 | 18 | 49 | 09.8? | 4.49 S   | 126.62 E  | 33 N  | 3.8     | 0.8 | 5   | BANDA SEA   |
| 30 | 18 | 52 | 09.3? | 32.96 S  | 178.80 W  | 33 N  | 4.9     | 1.0 | 16  | SOUTH OF KERMADEC ISLANDS   |
| 30 | 19 | 13 | 18.3* | 29.222 N | 131.162 E | 33 N  | 4.3 4.2 | 1.3 | 19  | SOUTHEAST OF RYUKYU ISLANDS   |
| 30 | 19 | 27 | 55.2* | 7.118 N  | 82.135 W  | 33 N  | 3.7     | 0.8 | 16  | SOUTH OF PANAMA   |
| 30 | 19 | 33 | 39.4* | 46.398 N | 3.449 E   | 10 G  |         | 0.2 | 6   | FRANCE. ML 1.9 (LDG).   |
| 30 | 19 | 47 | 52.8* | 46.407 N | 3.454 E   | 10 G  |         | 0.3 | 6   | FRANCE. ML 1.4 (LDG).   |
| 30 | 20 | 13 | 47.6* | 59.238 N | 154.029 W | 0     |         |     | 15  | SOUTHERN ALASKA. <AEIC>. ML 2.8 (AEIC).   |
| 30 | 20 | 23 | 23.6? | 33.41 S  | 179.20 W  | 33 N  | 4.3     | 0.8 | 8   | SOUTH OF KERMADEC ISLANDS   |
| 30 | 20 | 53 | 48.5  | 41.410 N | 73.221 E  | 33 N  | 4.1     | 0.8 | 22  | KYRGYZSTAN  |
| 30 | 20 | 58 | 28.5  | 36.887 N | 27.858 E  | 10 G  |         | 1.3 | 8   | DODECANESE ISLANDS. MD 3.9 (ATH), 3.6 (ISK).  |
| 30 | 20 | 58 | 28.6* | 46.214 N | 3.500 E   | 20 G  |         | 0.6 | 6   | FRANCE. ML 1.4 (LDG).   |
| 30 | 23 | 05 | 57.3  | 51.369 N | 176.090 W | 33 N  | 5.4 4.9 | 0.9 | 330 | ANDREANOF ISLANDS, ALEUTIAN IS. Mw 5.5 (HRV). ML 5.5 (PMR).<br>Felt on Adak.<br>Centroid, Moment Tensor (HRV): Centroid origin time 23:05:57.8; Lat 51.20 N; Lon 177.75 W; Dep 46.7; Half-duration 1.5 sec; Principal axes (scale 10**17 Nm): (T) Val=1.83, Plg=48, Azm=304; (N) Val=0.17, Plg=29, Azm=71; (P) Val=-1.99, Plg=28, Azm=179; Best double couple: Mo=1.9*10**17 Nm; NP1: Strike=317, Dip=32, Slip=158; NP2: Strike=65, Dip=79, Slip=60.  |
| 30 | 23 | 41 | 46.1* | 36.214 N | 71.010 E  | 150 G | 3.2     | 0.8 | 10  | AFGHANISTAN-TAJIKISTAN BORD REG.  |
| 31 | 00 | 45 | 21.8  | 43.893 N | 7.700 E   | 10 G  |         | 0.7 | 14  | NEAR SOUTH COAST OF FRANCE. ML 2.1 (GEN), 1.8 (LDG).  |
| 31 | 01 | 11 | 51.3* | 33.478 S | 72.383 W  | 10 G  |         | 0.4 | 11  | OFF COAST OF CENTRAL CHILE. MD 4.5 (SAN).   |
| 31 | 01 | 14 | 55.2* | 0.216 N  | 123.692 E | 120 ? | 4.5     | 0.8 | 17  | MINAHASSA PENINSULA, SULAWESI   |
| 31 | 01 | 29 | 56.0* | 38.037 N | 1.262 W   | 10 G  |         | 0.9 | 7   | SPAIN. mblg 2.5 (MDD).  |
| 31 | 02 | 01 | 42.6* | 52.760 N | 116.168 W | 0     | 4.1     |     | 43  | ALBERTA, CANADA. <PGC-P>. ML 4.2 (PGC).   |
| 31 | 02 | 07 | 47.3* | 44.300 N | 6.115 E   | 5 G   |         | 0.6 | 5   | FRANCE. ML 1.5 (LDG).   |
| 31 | 02 | 14 | 51.4* | 41.141 N | 20.541 E  | 10 G  |         | 0.7 | 6   | ALBANIA. MD 2.9 (ATH). ML 2.7 (SKO).  |
| 31 | 02 | 30 | 08.8* | 37.515 N | 2.627 W   | 10 G  |         | 0.7 | 9   | SPAIN. mblg 2.7 (MDD).  |
| 31 | 02 | 42 | 45.1? | 32.49 S  | 70.08 W   | 120 G |         | 0.3 | 10  | CHILE-ARGENTINA BORDER REGION. MD 2.8 (SAN).  |
| 31 | 03 | 22 | 49.5* | 15.086 S | 167.631 E | 100 G | 4.6     | 1.2 | 16  | VANUATU ISLANDS   |
| 31 | 04 | 57 | 10.1* | 24.094 S | 66.733 W  | 206 * |         | 1.0 | 9   | SALTA PROVINCE, ARGENTINA   |
| 31 | 05 | 22 | 35.0? | 8.56 N   | 34.32 W   | 10 G  | 3.7     | 1.1 | 5   | CENTRAL MID-ATLANTIC RIDGE  |
| 31 | 05 | 43 | 33.4* | 60.229 N | 151.998 W | 58    |         |     | 63  | KENAI PENINSULA, ALASKA. <AEIC>. ML 2.6 (AEIC).   |
| 31 | 07 | 34 | 48.9  | 35.534 N | 111.993 W | 5 G   |         | 0.9 | 21  | EASTERN ARIZONA. ML 3.7 (GS). Felt at Flagstaff, Grand  |

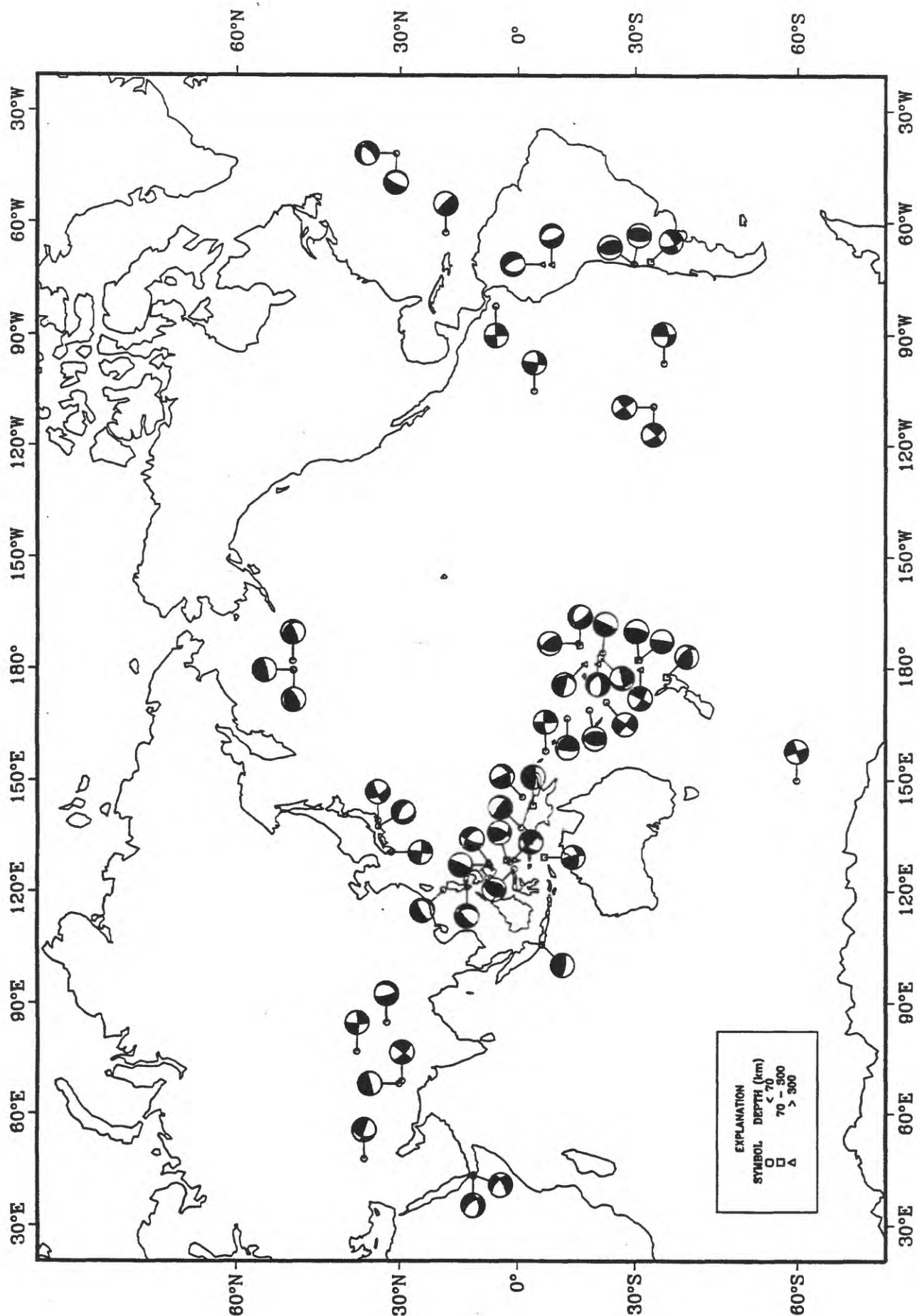


|    |    |    |       |        |   |         |   |     |   |         |     |     |  |
|----|----|----|-------|--------|---|---------|---|-----|---|---------|-----|-----|--|
| 31 | 07 | 51 | 48.9* | 31.837 | N | 129.943 | E | 10  | G |         | 1.0 | 9   | Canyon Village and Valle.  |
| 31 | 08 | 59 | 51.9* | 10.955 | N | 122.345 | E | 33  | N | 4.8 4.1 | 1.3 | 33  | KYUSHU, JAPAN  |
| 31 | 10 | 04 | 03.7? | 4.65   | S | 151.71  | E | 100 | G | 4.3     | 0.9 | 10  | PANAY, PHILIPPINE ISLANDS  |
| 31 | 11 | 12 | 46.7? | 7.19   | S | 154.33  | E | 33  | N | 3.6     | 0.8 | 5   | NEW BRITAIN REGION, P.N.G.   |
| 31 | 11 | 26 | 35.5  | 23.307 | S | 170.867 | E | 33  | N | 5.1 5.0 | 1.1 | 34  | SOLOMON ISLANDS  |
|    |    |    |       |        |   |         |   |     |   |         |     |     | LOYALTY ISLANDS REGION. Mw 5.5 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>11:26:38.7; Lat 23.40 S; Lon 170.76 E; Dep 34.7; Half-<br>duration 1.3 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=2.11, Plg=3, Azm=351; (N) Val=-0.26, Plg=86, Azm=211;<br>(P) Val=-1.85, Plg=2, Azm=81; Best double couple:<br>Mo=2.0*10**17 Nm; NP1: Strike=126, Dip=86, Slip=0; NP2:<br>Strike=36, Dip=90, Slip=176.         |
| 31 | 11 | 39 | 28.5  | 51.670 | N | 158.066 | E | 56  | D | 5.0     | 0.7 | 150 | NEAR EAST COAST OF KAMCHATKA. Felt (II) at Severo-Kurilsk,<br>Paramushir.  |
| 31 | 12 | 57 | 25.3? | 41.08  | N | 28.79   | E | 10  | G |         | 0.0 | 4   | TURKEY. MD 2.6 (ISK).  |
| 31 | 14 | 36 | 34.4? | 10.97  | N | 84.89   | W | 33  | N | 4.2     | 0.9 | 16  | COSTA RICA   |
| 31 | 14 | 58 | 18.6* | 16.444 | N | 99.725  | W | 24  | * | 3.3     | 0.8 | 10  | NEAR COAST OF GUERRERO, MEXICO   |
| 31 | 15 | 46 | 09.9  | 35.503 | N | 112.036 | W | 5   | G |         | 0.7 | 15  | WESTERN ARIZONA. ML 3.3 (GS). Felt at Valle.   |
| 31 | 15 | 51 | 11.6  | 33.316 | N | 132.340 | E | 43  | D | 4.8 4.5 | 1.2 | 70  | SHIKOKU, JAPAN   |
| 31 | 16 | 25 | 15.2  | 42.968 | N | 17.885  | E | 10  | G |         | 1.3 | 16  | ADRIATIC SEA   |
| 31 | 16 | 33 | 06.8? | 31.83  | S | 178.70  | W | 33  | N | 4.0     | 0.6 | 7   | KERMADEC ISLANDS REGION  |
| 31 | 16 | 48 | 11.7? | 33.149 | S | 70.274  | W | 10  | G |         | 0.2 | 8   | CHILE-ARGENTINA BORDER REGION. MD 3.1 (SAN).   |
| 31 | 17 | 00 | 58.7? | 44.710 | N | 7.367   | E | 10  | G |         | 0.6 | 9   | NORTHERN ITALY. ML 2.0 (GEN).  |
| 31 | 17 | 32 | 20.1  | 16.132 | N | 92.673  | W | 179 | D | 4.8     | 1.1 | 55  | CHIAPAS, MEXICO  |
| 31 | 17 | 51 | 36.3  | 36.183 | N | 27.138  | E | 53  | * | 3.6     | 1.3 | 23  | DODECANESE ISLANDS. MD 4.0 (ATH), 3.8 (ISK).   |
| 31 | 18 | 21 | 12.5* | 18.021 | N | 67.412  | W | 10  | G |         | 0.7 | 7   | MONA PASSAGE. MD 3.4 (MPR). Felt (IV) at Mayaguez, Puerto<br>Rico.   |
| 31 | 19 | 12 | 49.2* | 39.645 | N | 76.652  | E | 33  | N | 4.6 4.2 | 1.3 | 15  | SOUTHERN XINJIANG, CHINA   |
| 31 | 19 | 31 | 01.8  | 33.581 | N | 121.249 | E | 33  | N | 4.2     | 0.9 | 22  | YELLOW SEA   |
| 31 | 19 | 36 | 06.2  | 53.278 | N | 161.555 | E | 33  | N | 5.4 4.9 | 0.8 | 248 | OFF EAST COAST OF KAMCHATKA. Mw 5.3 (HRV).<br>Centroid, Moment Tensor (HRV): Centroid origin time<br>19:36:09.8; Lat 53.16 N; Lon 161.88 E; Dep 38.6; Half-<br>duration 1.1 sec; Principal axes (scale 10**17 Nm): (T)<br>Val=0.83, Plg=75, Azm=354; (N) Val=0.22, Plg=12, Azm=215;<br>(P) Val=-1.05, Plg=10, Azm=123; Best double couple:<br>Mo=9.4*10**16 Nm; NP1: Strike=199, Dip=37, Slip=70; NP2:<br>Strike=43, Dip=56, Slip=104. |
| 31 | 19 | 43 | 40.1? | 48.01  | N | 7.17    | E | 5   | G |         | 0.2 | 4   | FRANCE. ML 2.0 (LDG).  |
| 31 | 19 | 58 | 26.4  | 37.109 | N | 3.907   | W | 10  | G |         | 0.7 | 24  | SPAIN. mbLg 3.5 (MDD). ML 3.4 (LDG). Felt (II) in the<br>Chimeneas area.   |
| 31 | 20 | 13 | 28.7* | 19.910 | S | 176.721 | W | 300 | G | 4.2     | 1.1 | 28  | FIJI ISLANDS REGION  |
| 31 | 20 | 22 | 57.4* | 22.082 | N | 143.077 | E | 259 | * | 3.0     | 0.6 | 11  | VOLCANO ISLANDS REGION   |
| 31 | 20 | 40 | 38.3* | 32.204 | N | 93.911  | E | 33  | N | 3.9     | 1.3 | 15  | XIZANG   |
| 31 | 21 | 05 | 51.5? | 15.83  | N | 98.19   | W | 33  | N |         | 1.4 | 7   | OFF COAST OF GUERRERO, MEXICO  |
| 31 | 21 | 53 | 46.0? | 11.06  | N | 122.21  | E | 33  | N | 4.6     | 1.0 | 10  | PANAY, PHILIPPINE ISLANDS  |
| 31 | 22 | 03 | 55.6* | 4.388  | S | 142.893 | E | 118 | D | 4.5     | 0.9 | 12  | NEW GUINEA, PAPUA NEW GUINEA   |
| 31 | 22 | 19 | 26.9? | 35.96  | S | 71.60   | W | 140 | G |         | 0.4 | 10  | CENTRAL CHILE. MD 4.1 (SAN).   |
| 31 | 23 | 38 | 39.1  | 5.607  | S | 149.771 | E | 150 | G | 4.7     | 1.0 | 38  | NEW BRITAIN REGION, P.N.G.   |

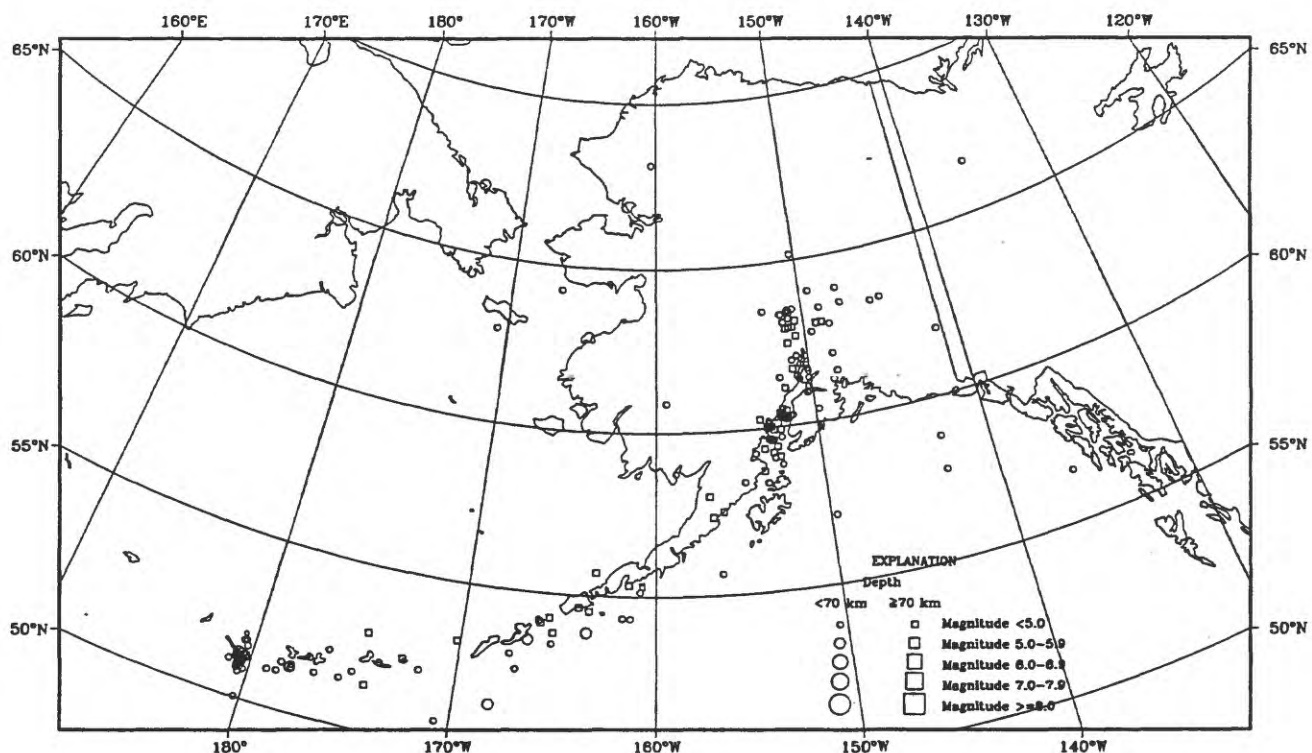
Compiled by Pamela J. Benfield, Don L. Blakeman, George L. Choy, Stuart K. Koyanagi, John H. Minsch,  
Waverly J. Person, Stuart A. Sipkin, William K. Smith and Madeleine D. Zirbes.



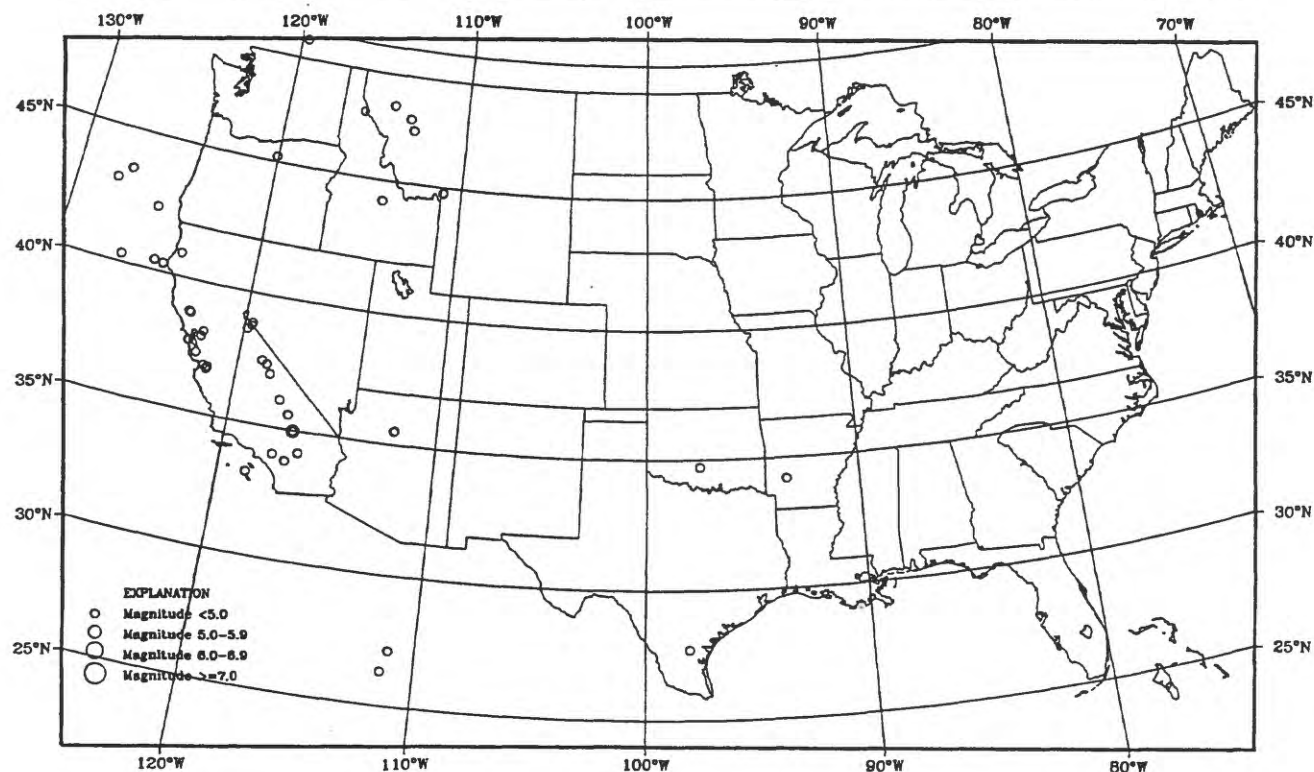
# Earthquake Focal Mechanisms for March 1997



### Earthquake epicenters in Alaska and adjacent regions for March 1997



### Earthquake epicenters in the conterminous United States and adjacent regions for March 1997



# Earthquakes located worldwide in March 1997

