

Seismological Bulletin

Broadband Iranian National Seismic Network Center
(BIN)

April to June

2009

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GENERAL BULLETIN INFORMATION

LOCATION PROGRAM AND VELOCITY MODEL

The location program used for locating earthquakes is Hypocenter (Lienert et al., 1986). As a general policy, neither depths nor epicenters are fixed unless stated. No station corrections are used for travel time calculations.

Plane parallel layers are assumed for local and regional events, while the IASPEI travel time tables are used for distant events (Epicentral distance larger than 15 degrees). The model used for all local and regional events, is:
(Doloei and Roberts, 2003; Kaviani, 2004; Tatar, 2001):

| P-wave velocity (km/sec) | depth to top of layer (km) |
|--------------------------|----------------------------|
| 5.4 | 0.0 |
| 5.9 | 6.0 |
| 6.3 | 14.0 |
| 6.5 | 18.0 |
| 8.05 | 46.0 (Moho) |
| 8.1 | 80.0 |

The Vp/Vs velocity ratio used in layered models above is 1.73 (Tatar, 2001).

MAGNITUDE RELATION

After instrumental correction the maximum ground amplitudes A(nm) is used to calculate local magnitude Ml applying the following formula (Hutton and Boore, 1987):

$$Ml = \log(A) + 1.1 * \log(D) + 0.00189 * D - 2.09$$

where D is the hypocentral distance in km. This relation is valid for hypocentral distances between 10 and 700 km. All available amplitudes are used for magnitude calculations. No station corrections are used for magnitude calculations.

STATION COORDINATES

The stations listed below are those operated by Seismology Department of the International Institute of Earthquake Engineering and Seismology (IIEES).

| STATION | LATITUDE | LONGITUDE | ALTITUDE(m) | NAME |
|---------|----------|-----------|-------------|---------------|
| ASAO | 3432.88N | 5001.52E | 2217 | Ashtian |
| BJRD | 3741.98N | 5724.49E | 1337 | Bojnoord |
| BNDS | 2723.96N | 5610.28E | 1500 | Bandar Abbas |
| CHTH | 3554.48N | 5107.56E | 2250 | Charan |
| DAMV | 3537.82N | 5158.26E | 2300 | Damavand |
| GHIR | 2817.13N | 5259.20E | 1200 | Ghir |
| GHVR | 3428.80N | 5114.72E | 0927 | Qom |
| GRMI | 3848.59N | 4753.63E | 1300 | Germi |
| KHMZ | 3344.38N | 4957.85E | 1985 | Khomein |
| KRBA | 2958.93N | 5645.63E | 2576 | Bardsir |
| MAKU | 3921.29N | 4441.00E | 1730 | Maku |
| MRVT | 3739.56N | 5605.36E | 0870 | Maraveh tapeh |
| NASN | 3247.95N | 5248.50E | 2800 | Naein |
| SHGR | 3206.50N | 4848.08E | 0150 | Shushtar |
| SHRD | 3600.51N | 5600.78E | 1264 | Shahrud |
| SHRT | 3338.77N | 6017.46E | 0837 | Shah-rakht |
| SNGE | 3505.55N | 4720.82E | 1940 | Sanandaj |
| TABS | 3338.94N | 5707.14E | 0000 | Tabas |
| THKV | 3554.94N | 5052.73E | 1795 | Kavosh |
| ZHSF | 2936.66N | 6046.52E | 1575 | Zahedan |
| ZNJK | 3640.25N | 4841.11E | 2200 | Zanjan |

ABBREVIATIONS

TIME: Origin time in UTC (hour, minute, and seconds)
LAT: Latitude of epicenter (degree-minute)
LON: Longitude of epicenter (degree-minute)
DEPTH: Focal depth in kilometer (F indicates fixed depth)
AGENCY: Hypocenter reporting agency
MAGNITUDES: Up to 3 different magnitudes can be given followed by type and reporting agency
RMS: Root mean square value of travel time residuals (seconds)
STAT: Station code
CO: Component,S:short period,L:long period,B:broadband,
DIST: Epicentral distance (km)
AZI: Azimuth from source to station
PHAS: Phase; The first letter characterizes onset E(mergent) or I(mpulsive)
P: Polarity (C for compression, D for dilatation)
HR: Hour
MN: Minute
SECON: Seconds
TRES: Residual (seconds)
CODA: Signal duration in seconds
AMPL: Ground Amplitude (0.5*(peak to peak)), (nm) at period PERI
PERI: Period where amplitude is measured
BAZ: Back azimuth (station to event)
ARES: Back azimuth residual
VELO: Apparent phase velocity (km/sec)
WT: Weight of phase in the location
*: An asterix before the phase arrival time implies a potential timing error. If an S phase is read, differential S-P times will be used in the hypocenter location.

REFERENCES

- Doloei, J. and R. Roberts (2003). Crustal and uppermost mantle structure of Tehran region from teleseismic P-waveform receiver function analysis, Tectonophysics, 364, 115-133.
- Hutton, L. K. and D. M. Boore (1987). The ML scale in Southern California, Bull. Seism. Soc. Am., 77, No. 6, pp. 2074-2094.
- Kaviani, A. (2004). La chaine de collision continentale du Zagros(Iran): structure litospherique par analyse De donnees sismologiques. Ph.D.Thesis,University of Joseph Fourier-Grenoble I.
- Lienert, B.R.,E. Berg, and L.N. Frazer (1986). Hypocenter: An earthquake location method using centered, scaled, and adaptively least squares, Bull. Seism. Soc. Am., 76.,pp 771-783.
- Tatar M. (2001). Etude sismotectonique de deux zones de collision continentale: le Zagros Central et l'Alborz, Ph.D. thesis, University of Joseph Fourier-Grenoble I.

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|--------------------------------------|--|-------|------|------|------|------|-----|------|------|-----|
| April 2 2009 Hour: 7:17 36.7 | Lat: 33.68N Lon: 48.80E Depth: 15 Agency: INS Local Rms: 0.4 secs | | | | | | | | | |
| Magnitudes: 3.5ML INS | | | | | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
| SHGR BZ 175 180 EPg | 718 | 5.54 | 0.1 | | | | | | | 1.0 |
| SHGR BN 175 180 AML | 718 | 32.63 | | 693 | 0.5 | | | | | 1.0 |
| SNGE BZ 205 320 EPg | 718 | 10.19 | -0.3 | | | | | | | 1.0 |
| SNGE BN 205 320 AML | 718 | 46.99 | | 381 | 0.6 | | | | | 1.0 |
| GHVR BZ 243 68 EPg | 718 | 15.60 | -0.7 | | | | | | | 1.0 |
| GHVR BE 243 68 AML | 718 | 46.90 | | 316 | 0.5 | | | | | 1.0 |
| GHVR BN 243 68 AML | 718 | 54.87 | | 251 | 0.5 | | | | | 1.0 |
| THKV BZ 312 37 EPn | 718 | 23.90 | 0.7 | | | | | | | 1.0 |
| THKV BN 312 37 AML | 719 | 7.58 | | 128 | 0.6 | | | | | 0.9 |
| CHTH BZ 326 40 EPn | 718 | 25.35 | 0.4 | | | | | | | 0.9 |
| DAMV BZ 362 53 EPn | 718 | 29.45 | 0.0 | | | | | | | 0.9 |
| TABS BZ 772 88 EPn | 719 | 19.96 | -0.1 | | | | | | | 0.6 |
| April 2 2009 Hour: 13:19 36.1 | Lat: 37.07N Lon: 54.35E Depth: 15 Agency: INS Local Rms: 0.4 secs | | | | | | | | | |
| Magnitudes: 3.5ML INS | | | | | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
| MRVT BZ 167 67 EPN5 | 1320 | 4.92 | 0.3 | | | | | | | 1.0 |
| MRVT BE 167 67 AML | 1320 | 30.57 | | 532 | 0.2 | | | | | 1.0 |
| MRVT BN 167 67 AML | 1320 | 31.02 | | 539 | 0.2 | | | | | 1.0 |
| DAMV BZ 267 234 EPn | 1320 | 17.18 | 0.1 | | | | | | | 1.0 |
| CHTH BZ 316 247 EPn | 1320 | 23.75 | 0.5 | | | | | | | 1.0 |
| GHVR BZ 402 225 EPn | 1320 | 33.64 | -0.1 | | | | | | | 0.9 |
| GHVR BE 402 225 AML | 1321 | 37.77 | | 112 | 0.8 | | | | | 0.9 |
| GHVR BN 402 225 AML | 1321 | 39.96 | | 109 | 0.6 | | | | | 0.8 |
| TABS BZ 456 146 EPn | 1320 | 40.32 | 0.0 | | | | | | | 0.8 |
| GRMI BZ 599 291 EPn | 1320 | 57.50 | -0.8 | | | | | | | 0.7 |
| SHRT BZ 660 123 EPn | 1321 | 5.01 | -0.8 | | | | | | | 0.7 |
| April 4 2009 Hour: 18:59 20.2 | Lat: 31.76N Lon: 50.39E Depth: 15 Agency: INS Local Rms: 0.5 secs | | | | | | | | | |
| Magnitudes: 4.0ML INS | | | | | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
| SHGR BZ 155 285 EPg | 1859 | 46.19 | 0.2 | | | | | | | 1.0 |
| SHGR BN 155 285 AML | 19 0 | 19.29 | | 2324 | 0.9 | | | | | 1.0 |
| SHGR BE 155 285 AML | 19 0 | 19.51 | | 2323 | 0.8 | | | | | 1.0 |
| NASN BZ 255 63 EPn | 19 0 | 0.13 | 0.3 | | | | | | | 1.0 |
| NASN BN 255 63 ESG | 19 0 | 32.29 | -0.2 | | | | | | | 1.0 |
| GHVR BZ 312 15 EPn | 19 0 | 6.57 | 0.0 | | | | | | | 1.0 |
| GHVR BN 312 15 AML | 19 0 | 56.50 | | 553 | 0.1 | | | | | 1.0 |
| GHIR BZ 459 146 EPn | 19 0 | 24.50 | -0.5 | | | | | | | 0.8 |
| THKV BZ 463 5 EPn | 19 0 | 26.35 | 0.8 | | | | | | | 0.8 |
| CHTH BZ 465 8 EPn | 19 0 | 25.08 | -0.7 | | | | | | | 0.8 |
| SNGE BZ 466 323 EPn | 19 0 | 25.26 | -0.6 | | | | | | | 0.8 |
| KRBR BZ 640 106 EPn | 19 0 | 47.92 | 0.3 | | | | | | | 0.7 |
| TABS BZ 664 70 EPn | 19 0 | 50.69 | 0.4 | | | | | | | 0.7 |
| April 6 2009 Hour: 19:45 16.8 | Lat: 35.16N Lon: 58.57E Depth: 15 Agency: INS Local Rms: 0.6 secs | | | | | | | | | |
| Magnitudes: 3.5ML INS | | | | | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
| TABS BZ 214 219 EPn | 1945 | 51.69 | 0.7 | | | | | | | 1.0 |
| TABS BE 214 219 AML | 1946 | 25.46 | | 328 | 0.4 | | | | | 1.0 |
| TABS BN 214 219 AML | 1946 | 28.24 | | 613 | 0.5 | | | | | 1.0 |
| SHRT BZ 230 136 EPn | 1945 | 52.80 | -0.3 | | | | | | | 1.0 |
| SHRT BE 230 136 AML | 1946 | 27.62 | | 490 | 0.3 | | | | | 1.0 |
| SHRT BN 230 136 AML | 1946 | 31.69 | | 466 | 0.7 | | | | | 1.0 |
| SHRD BN 250 293 EPn | 1945 | 55.41 | -0.2 | | | | | | | 1.0 |
| BJRD BZ 301 340 EPn | 1946 | 2.71 | 0.8 | | | | | | | 1.0 |
| MRVT BZ 356 322 EPn | 1946 | 7.99 | -0.7 | | | | | | | 0.9 |
| NASN BZ 593 245 EPn | 1946 | 37.67 | -0.8 | | | | | | | 0.7 |
| NASN BN 593 245 AML | 1948 | 26.62 | | 12 | 0.7 | | | | | 0.7 |

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| April 7 2009 Hour: 6:032.6 | Lat: 37.20N Lon: 56.43E Depth: 6 | Agency: INS Local Rms: 0.1 secs |
| Magnitudes: 3.7ML INS | | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| MRVT BZ 60 330 EPg 6 0 43.16 -0.1 | | 1.0 |
| BJRD BZ 103 57 EPg 6 0 50.68 0.0 | | 1.0 |
| BJRD BN 103 57 AML 6 1 11.27 | 1725 0.6 | |
| SHRD BZ 137 196 EPg 6 0 56.37 0.0 | | 1.0 |
| TABS BZ 399 171 EPn 6 1 30.53 -0.1 | | 0.9 |
| THKV BE 517 256 AML 6 3 19.17 | 81 0.5 | |
| THKV BN 517 256 AML 6 3 24.20 | 89 0.6 | |
| NASN BZ 589 215 EPn 6 1 54.91 0.2 | | 0.7 |
| April 7 2009 Hour: 11:10 37.0 | Lat: 27.83N Lon: 56.64E Depth: 14 | Agency: INS Local Rms: 0.3 secs |
| Magnitudes: 3.9ML INS | | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| BNDS BZ 66 224 EPg 1110 48.55 -0.1 | | 1.0 |
| BNDS BN 66 224 AML 1111 5.98 | 4599 0.6 | |
| BNDS BE 66 224 AML 1111 6.50 | 4191 0.5 | |
| KRBR BZ 239 3 EPg 1111 15.99 -0.3 | | 1.0 |
| KRBR BN 239 3 AML 1111 48.88 | 2156 0.4 | |
| KRBR BE 239 3 AML 1111 48.88 | 2211 0.6 | |
| ZHSF BZ 450 63 EPn 1111 40.83 0.1 | | 0.9 |
| ZHSF BE 450 63 AML 1112 49.89 | 64 0.5 | |
| ZHSF BN 450 63 AML 1112 54.79 | 64 0.6 | |
| NASN BZ 663 327 EPn 1112 7.84 0.5 | | 0.7 |
| April 7 2009 Hour: 17:32 52.5 | Lat: 32.71N Lon: 48.00E Depth: 14 | Agency: INS Local Rms: 0.2 secs |
| Magnitudes: 4.3ML INS | | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| SHGR BZ 101 131 EPg 1733 9.58 0.0 | | 1.0 |
| SHGR BE 101 131 AML 1733 45.33 | 11022 0.6 | |
| SNGE BZ 271 347 EPn 1733 33.85 -0.2 | | 1.0 |
| SNGE BE 271 347 AML 1734 16.03 | 1238 0.7 | |
| THKV BZ 443 36 EPn 1733 55.78 0.3 | | 0.9 |
| NASN BZ 451 87 EPN5 1733 56.43 -0.1 | | 0.9 |
| DAMV BZ 489 47 EPN5 1734 1.35 0.2 | | 0.8 |
| DAMV BN 489 47 ESG 1735 8.73 -0.2 | | 0.8 |
| April 8 2009 Hour: 13:36 21.7 | Lat: 34.01N Lon: 47.05E Depth: 17 | Agency: INS Local Rms: 0.3 secs |
| Magnitudes: 3.6ML INS | | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| SNGE BZ 123 13 EPg 1336 42.50 0.0 | | 1.0 |
| SNGE BE 123 13 ESG 1336 57.78 0.1 | | 1.0 |
| SHGR BZ 267 142 EPn 1337 2.15 0.0 | | 1.0 |
| SHGR BN 267 142 AML 1337 51.29 | 328 0.8 | |
| SHGR BE 267 142 AML 1337 53.60 | 256 0.5 | |
| GHVR BZ 390 81 EPn 1337 18.26 0.7 | | 0.9 |
| GHVR BN 390 81 ESG 1338 10.79 0.0 | | 0.9 |
| GHVR BN 390 81 AML 1338 15.91 | 126 0.5 | |
| GHVR BE 390 81 AML 1338 17.13 | 124 0.6 | |
| THKV BZ 409 58 EPn 1337 19.56 -0.4 | | 0.9 |
| DAMV BZ 485 67 EPn 1337 29.07 -0.4 | | 0.8 |
| April 9 2009 Hour: 11:32 38.9 | Lat: 27.81N Lon: 57.54E Depth: 18 | Agency: INS Local Rms: 0.1 secs |
| Magnitudes: 4.2ML INS | | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| BNDS BZ 142 251 EPg 1133 2.77 0.1 | | 1.0 |
| BNDS BE 142 251 AML 1133 22.74 | 5449 0.5 | |
| BNDS BN 142 251 AML 1133 29.58 | 3866 0.7 | |
| KRBR BZ 252 343 EPn 1133 17.84 0.1 | | 1.0 |
| KRBR BE 252 343 ESG 1133 50.31 0.0 | | 1.0 |
| KRBR BN 252 343 AML 1133 57.63 | 1392 0.5 | |
| KRBR BE 252 343 AML 1133 58.15 | 1832 0.4 | |

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| May 7 2009 Hour: 22:44 | 4.0 | Lat: 25.73N Lon: 56.98E Depth: 14 | Agency: INS Local Rms: 0.3 secs |
| Magnitudes: 4.9ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| BNDS BZ 202 337 EPg | 2244 36.83 -0.4 | | 1.0 |
| BNDS BN 202 337 ESG | 2245 1.66 0.2 | | 1.0 |
| BNDS BN 202 337 AML | 2245 18.46 | 6413 0.4 | |
| KRBR BZ 472 357 EPn | 2245 10.82 0.2 | | 0.8 |
| KRBR BE 472 357 AML | 2246 8.34 | 976 0.6 | |
| KRBR BN 472 357 AML | 2246 30.43 | 865 0.8 | |
| GHIR BZ 487 306 EPn | 2245 12.62 0.3 | | 0.8 |
| GHIR BN 487 306 Sn | 2246 1.96 -0.2 | | 0.8 |
| GHIR BE 487 306 AML | 2246 9.76 | 2111 0.8 | |
| GHIR BN 487 306 AML | 2246 15.14 | 1681 0.5 | |
| ZHSF BZ 570 40 EPn | 2245 22.67 0.0 | | 0.8 |
| THKV BZ 1271 334 EPn | 2246 49.92 0.2 | | 0.2 |
| May 10 2009 Hour: 1:7 34.0 | Lat: 25.62N Lon: 56.97E Depth: 14 | Agency: INS Local Rms: 0.0 secs | |
| Magnitudes: 4.1ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| BNDS BZ 213 338 EPg | 1 8 8.97 0.0 | | 1.0 |
| BNDS BN 213 338 AML | 1 8 50.79 | 1115 0.3 | |
| KRBR BZ 484 358 EPn | 1 8 42.10 0.0 | | 0.8 |
| KRBR BN 484 358 AML | 1 9 59.88 | 155 0.5 | |
| KRBR BE 484 358 AML | 110 0.28 | 246 0.3 | |
| GHIR BZ 494 308 EPn | 1 8 43.14 0.0 | | 0.8 |
| GHIR BN 494 308 AML | 1 9 39.44 | 167 0.2 | |
| GHIR BE 494 308 AML | 1 9 40.82 | 180 0.4 | |
| ZHSF BZ 580 39 EPNS | 1 8 53.88 0.0 | | 0.8 |
| May 11 2009 Hour: 2:14 5.1 | Lat: 30.29N Lon: 57.50E Depth: 17 | Agency: INS Local Rms: 0.2 secs | |
| Magnitudes: 4.7ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| KRBR BZ 79 245 EPg | 214 19.01 0.1 | | 1.0 |
| KRBR BN 79 245 ESG | 214 29.12 0.1 | | 1.0 |
| KRBR BN 79 245 AML | 214 29.79 | 41401 0.3 | |
| ZHSF BZ 325 103 EPn | 214 52.99 0.1 | | 0.9 |
| BNDS BZ 346 202 EPn | 214 55.40 0.0 | | 0.9 |
| TABS BZ 374 355 EPn | 214 58.72 -0.1 | | 0.9 |
| TABS BE 374 355 ESG | 215 49.62 0.0 | | 0.9 |
| TABS BN 374 355 AML | 216 0.44 | 1686 0.6 | |
| GHIR BZ 492 244 EPn | 215 13.03 -0.5 | | 0.8 |
| NASN BZ 525 303 EPn | 215 18.19 0.3 | | 0.8 |
| May 12 2009 Hour: 1:37 6.3 | Lat: 32.38N Lon: 58.99E Depth: 15 | Agency: INS Local Rms: 0.3 secs | |
| Magnitudes: 4.5ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| SHRT BZ 185 41 EPg | 137 37.04 0.2 | | 1.0 |
| SHRT BE 185 41 AML | 138 3.75 | 5421 0.7 | |
| TABS BZ 224 309 EPg | 137 42.40 -0.6 | | 1.0 |
| TABS BN 224 309 ESG | 138 9.98 0.3 | | 1.0 |
| TABS BE 224 309 AML | 138 16.00 | 1823 0.6 | |
| TABS BN 224 309 AML | 138 21.37 | 3046 0.5 | |
| KRBR BZ 341 219 EPn | 137 56.52 0.0 | | 0.9 |
| KRBR BE 341 219 ESG | 138 42.23 0.2 | | 0.9 |
| KRBR BN 341 219 AML | 138 55.12 | 2084 0.5 | |
| KRBR BE 341 219 AML | 138 56.01 | 1550 0.5 | |
| NASN BZ 582 276 EPn | 138 26.37 -0.2 | | 0.8 |
| NASN BN 582 276 AML | 139 57.10 | 218 0.6 | |
| NASN BE 582 276 AML | 140 10.15 | 184 0.5 | |
| BNDS BZ 616 207 EPn | 138 30.22 -0.3 | | 0.7 |
| DAMV BZ 742 301 EPn | 138 46.24 0.0 | | 0.6 |
| GHVR BZ 757 290 EPn | 138 48.53 0.6 | | 0.6 |
| CHTH BZ 824 300 EPn | 138 56.50 0.0 | | 0.6 |

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| May 18 2009 Hour: 5:36 4.4 | Lat: 40.66N Lon: 50.97E Depth: 15 Agency: INS Local Rms: 0.3 secs |
| Magnitudes: 3.6ML INS | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
| GRMI BZ 335 233 EPn 536 53.76 0.1 | 1.0 |
| ZNJK BZ 486 205 EPn 537 12.39 -0.2 | 0.9 |
| CHTH BZ 528 179 EPn 537 17.49 -0.3 | 0.8 |
| MRVT BZ 554 125 EPn 537 20.71 -0.1 | 0.8 |
| MRVT BE 554 125 AML 538 16.99 43 0.2 | 0.8 |
| DAMV BZ 565 171 EPn 537 22.97 0.5 | |
| DAMV BN 565 171 AML 538 21.29 28 0.3 | 0.5 |
| TABS BZ 950 143 EPn 538 9.92 0.0 | 0.5 |
| May 22 2009 Hour: 10:32 21.4 | Lat: 27.10N Lon: 55.85E Depth: 14 Agency: INS Local Rms: 0.0 secs |
| Magnitudes: 3.6ML INS | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
| BNDS BZ 46 44 EPg 1032 29.82 0.0 | 1.0 |
| GHIR BZ 311 296 EPn 1033 7.78 0.0 | 1.0 |
| GHIR BE 311 296 ESG 1033 48.75 0.0 | 1.0 |
| GHIR BE 311 296 AML 1034 22.34 307 0.4 | |
| GHIR BN 311 296 AML 1034 23.02 296 | |
| KRBR BZ 331 15 EPn 1033 10.57 0.1 | 0.9 |
| KRBR BE 331 15 AML 1034 7.32 121 0.5 | |
| May 22 2009 Hour: 18: 5 9.3 | Lat: 28.81N Lon: 51.51E Depth: 15 Agency: INS Local Rms: 0.2 secs |
| Magnitudes: 3.7ML INS | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
| GHIR BZ 155 112 EPg 18 5 35.09 0.0 | 1.0 |
| GHIR BE 155 112 AML 18 6 1.39 1529 0.5 | |
| GHIR BN 155 112 AML 18 6 1.75 1480 0.6 | |
| BNDS BZ 484 108 EPn 18 6 17.21 0.1 | 0.8 |
| KRBR BZ 525 74 EPn 18 6 22.33 -0.1 | 0.8 |
| KRBR BE 525 74 AML 18 7 53.48 51 0.7 | |
| KRBR BN 525 74 AML 18 7 54.17 38 0.9 | |
| KHMZ BZ 566 345 EPn 18 6 27.57 0.2 | 0.8 |
| SNGE BZ 800 332 EPn 18 6 56.12 -0.3 | 0.6 |
| May 23 2009 Hour: 12:22 45.6 | Lat: 30.90N Lon: 49.84E Depth: 39 Agency: INS Local Rms: 0.1 secs |
| Magnitudes: 4.0ML INS | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
| SHGR BZ 167 324 EPg 1223 12.88 0.0 | 1.0 |
| SHGR BN 167 324 AML 1223 35.74 3059 0.4 | |
| SHGR BE 167 324 AML 1223 36.48 2141 0.6 | |
| KHMZ BZ 316 2 EPn 1223 30.49 0.2 | 1.0 |
| KHMZ BE 316 2 ESG 1224 12.42 0.0 | 1.0 |
| KHMZ BE 316 2 AML 1224 17.06 229 0.8 | |
| GHVR BZ 419 18 EPn 1223 43.07 0.1 | 0.9 |
| SNGE BZ 520 334 EPn 1223 55.56 -0.2 | 0.8 |
| TABS BZ 751 64 EPn 1224 23.97 -0.1 | 0.6 |
| May 26 2009 Hour: 10:39 5.2 | Lat: 27.32N Lon: 53.56E Depth: 14 Agency: INS Local Rms: 0.2 secs |
| Magnitudes: 4.2ML INS | |
| STAT CO DIST AZI PHASE P HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
| GHIR BZ 121 333 EPg 1039 25.84 0.2 | 1.0 |
| GHIR BN 121 333 ESG 1039 40.37 -0.2 | 1.0 |
| GHIR BN 121 333 AML 1039 46.10 3749 0.4 | |
| BNDS BZ 259 87 EPg 1039 47.30 -0.2 | 1.0 |
| BNDS BE 259 87 AML 1040 44.92 1214 0.5 | |
| KRBR BZ 431 46 EPn 1040 6.90 0.2 | 0.9 |
| KRBR BN 431 46 Sn 1040 51.61 0.1 | 0.9 |
| KRBR BE 431 46 AML 1041 19.61 480 0.6 | |

| | | | | | | |
|------------------------------|-------------------------|--------------------|--------------------|-------------------|--------------------|----------------------------|
| May 26 2009 | Hour: 23:52 45.8 | Lat: 34.01N | Lon: 48.52E | Depth: 15F | Agency: INS | Local Rms: 0.6 secs |
| Magnitudes: 4.7ML INS | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI BAZ ARES VELO WT |
| SNGE BZ 161 318 EPg | 2353 | 12.05 | -0.6 | | | 1.0 |
| SNGE BE 161 318 AML | 2353 | 40.92 | | 6508 | 0.4 | |
| SHGR BZ 213 173 EPg | 2353 | 20.55 | -0.1 | | | 1.0 |
| SHGR BE 213 173 AML | 2353 | 49.16 | | 8192 | 0.6 | |
| SHGR BN 213 173 AML | 2353 | 52.12 | | 13641 | 0.6 | |
| GHVR BZ 256 78 EPn | 2353 | 25.61 | 0.3 | | | 1.0 |
| GHVR BN 256 78 ESG | 2353 | 57.33 | -0.8 | | | 1.0 |
| GHVR BN 256 78 AML | 2354 | 5.43 | | 5378 | 0.7 | |
| GHVR BE 256 78 AML | 2354 | 6.48 | | 4773 | 0.6 | |
| CHTH BZ 317 48 EPn | 2353 | 34.07 | 1.0 | | | 1.0 |
| DAMV BZ 363 59 EPn | 2353 | 39.19 | 0.4 | | | 0.9 |
| DAMV BN 363 59 AML | 2354 | 30.32 | | 1328 | 0.5 | |
| May 27 2009 | Hour: 0:10 48.8 | Lat: 34.00N | Lon: 48.49E | Depth: 14 | Agency: INS | Local Rms: 0.3 secs |
| Magnitudes: 4.0ML INS | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI BAZ ARES VELO WT |
| SNGE BZ 161 319 EPg | 011 | 15.55 | 0.0 | | | 1.0 |
| SNGE BE 161 319 ESG | 011 | 34.94 | -0.2 | | | 1.0 |
| SNGE BN 161 319 AML | 011 | 39.18 | | 1654 | 1.0 | |
| SHGR BZ 211 172 EPg | 011 | 23.10 | -0.3 | | | 1.0 |
| SHGR BE 211 172 AML | 011 | 52.21 | | 1410 | 0.3 | |
| SHGR BN 211 172 AML | 011 | 54.82 | | 1851 | 0.4 | |
| GHVR BZ 259 77 EPn | 011 | 28.88 | 0.2 | | | 1.0 |
| GHVR BN 259 77 AML | 012 | 7.97 | | 911 | 0.5 | |
| GHVR BE 259 77 AML | 012 | 9.28 | | 961 | 0.7 | |
| ZNJK BZ 297 3 EPn | 011 | 34.03 | 0.4 | | | 1.0 |
| THKV BZ 305 45 EPn | 011 | 34.90 | 0.4 | | | 1.0 |
| THKV BN 305 45 ESG | 012 | 13.97 | -0.6 | | | 1.0 |
| CHTH BZ 321 48 EPn | 011 | 36.77 | 0.3 | | | 0.9 |
| DAMV BZ 366 59 EPn | 011 | 41.93 | -0.3 | | | 0.9 |
| May 27 2009 | Hour: 8:29 18.6 | Lat: 33.98N | Lon: 48.44E | Depth: 15F | Agency: INS | Local Rms: 0.2 secs |
| Magnitudes: 3.8ML INS | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI BAZ ARES VELO WT |
| SNGE BZ 159 321 EPg | 829 | 45.05 | 0.0 | | | 1.0 |
| SHGR BZ 211 171 EPg | 829 | 53.06 | -0.1 | | | 1.0 |
| SHGR BE 211 171 AML | 830 | 23.25 | | 686 | 0.5 | |
| SHGR BN 211 171 AML | 830 | 23.44 | | 1764 | 0.6 | |
| GHVR BZ 265 77 EPn | 829 | 59.09 | 0.0 | | | 1.0 |
| GHVR BE 265 77 AML | 830 | 32.30 | | 488 | 0.6 | |
| GHVR BN 265 77 AML | 830 | 36.69 | | 470 | 0.3 | |
| CHTH BZ 325 48 EPn | 830 | 7.03 | 0.1 | | | 0.9 |
| DAMV BZ 371 60 EPn | 830 | 12.33 | -0.3 | | | 0.9 |
| DAMV BE 371 60 AML | 831 | 5.17 | | 149 | 0.6 | |
| DAMV BN 371 60 AML | 831 | 11.73 | | 137 | 0.6 | |
| GHIR BZ 766 144 EPn | 831 | 1.63 | 0.2 | | | 0.6 |
| TABS BZ 804 90 EPn | 831 | 6.42 | 0.3 | | | 0.6 |
| May 28 2009 | Hour: 12:44 9.9 | Lat: 32.45N | Lon: 48.21E | Depth: 18 | Agency: INS | Local Rms: 0.3 secs |
| Magnitudes: 3.5ML INS | | | | | | |
| STAT CO DIST AZI PHASE P | HRMN | SECON | TRES | CODA | AMPL | PERI BAZ ARES VELO WT |
| SHGR BZ 67 124 EPg | 1244 | 21.78 | 0.1 | | | 1.0 |
| SNGE BZ 304 345 EPn | 1244 | 55.26 | 0.1 | | | 1.0 |
| SNGE BN 304 345 AML | 1245 | 44.03 | | 228 | 0.6 | |
| SNGE BE 304 345 AML | 1245 | 44.33 | | 155 | 0.6 | |
| GHVR BZ 361 51 EPn | 1245 | 2.43 | 0.3 | | | 0.9 |
| GHVR BN 361 51 AML | 1246 | 1.73 | | 126 | 0.6 | |
| GHVR BE 361 51 AML | 1246 | 4.79 | | 96 | 0.8 | |
| NASN BZ 433 84 EPn | 1245 | 11.06 | -0.3 | | | 0.9 |
| ZNJK BZ 470 5 EPn | 1245 | 15.89 | 0.0 | | | 0.8 |

| | | |
|---------------------|-----------------|-----|
| TABS BZ 825 152 EPn | 1441 21.72 0.2 | 0.6 |
| NASN BZ 830 181 EPn | 1441 21.98 -0.6 | 0.6 |

June 2 2009 Hour: 22:34 33.7 Magnitudes: 3.7ML INS

| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
|--------------------------|---|----------|
| GHIR BZ 151 317 EPg | 2234 59.12 0.2 | 1.0 |
| GHIR BN 151 317 ESG | 2235 17.28 -0.1 | 1.0 |
| GHIR BE 151 317 AML | 2235 22.17 | 1456 0.8 |
| GHIR BN 151 317 AML | 2235 29.59 | 1333 0.4 |
| BNDS BZ 210 86 EPn | 2235 4.51 -0.2 | 1.0 |
| KRBR BZ 398 41 EPn | 2235 28.39 0.2 | 0.9 |
| KRBR BN 398 41 AML | 2236 28.86 | 135 0.6 |
| KRBR BE 398 41 AML | 2236 33.48 | 125 0.5 |
| NASN BZ 621 349 EPn | 2235 55.91 0.0 | 0.7 |
| ZHSF BZ 707 67 EPn | 2236 6.53 0.2 | 0.7 |
| TABS BZ 763 22 EPn | 2236 12.96 -0.2 | 0.6 |
| SHRT BZ 924 39 EP | 2236 33.26 0.0 | 0.5 |

June 4 2009 Hour: 14:20 1.2 Magnitudes: 4.5ML INS

| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
|--------------------------|---|----------|
| GRMI BZ 317 228 EPn | 1420 46.87 0.0 | 1.0 |
| GRMI BE 317 228 AML | 1421 19.32 | 1209 0.5 |
| THKV BZ 538 177 EPn | 1421 14.49 0.0 | 0.8 |
| CHTH BZ 541 175 EPn | 1421 14.50 -0.3 | 0.8 |
| CHTH BE 541 175 AML | 1422 8.73 | 224 0.2 |
| MRVT BZ 586 124 EPn | 1421 20.28 0.0 | 0.8 |
| MRVT BE 586 124 AML | 1422 19.54 | 394 0.3 |
| MRVT BN 586 124 AML | 1422 20.26 | 324 0.3 |
| ASAO BZ 691 184 EPn | 1421 33.61 0.1 | 0.7 |
| GHVR BZ 699 175 EPn | 1421 34.56 0.2 | 0.7 |
| GHVR BN 699 175 Sn | 1422 42.31 0.0 | 0.7 |
| SHRD BZ 709 136 EPn | 1421 35.54 0.0 | 0.7 |
| NASN BZ 905 167 EPn | 1422 0.29 0.1 | 0.5 |

June 7 2009 Hour: 12:43 32.9 Magnitudes: 3.5ML INS

| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
|--------------------------|---|---------|
| TABS BZ 115 36 EPg | 1243 52.16 -0.1 | 1.0 |
| KRBR BZ 316 173 EPn | 1244 20.13 0.0 | 1.0 |
| KRBR BN 316 173 ESG | 1245 1.93 0.0 | 1.0 |
| KRBR BN 316 173 AML | 1245 3.84 | 256 0.6 |
| KRBR BE 316 173 AML | 1245 9.43 | 235 0.6 |
| NASN BZ 335 271 EPn | 1244 22.46 0.0 | 0.9 |
| NASN BN 335 271 AML | 1245 5.71 | 94 0.3 |
| NASN BE 335 271 AML | 1245 8.83 | 94 0.5 |
| SHRD BZ 356 355 EPN5 | 1244 24.95 0.1 | 0.9 |
| SHRT BZ 376 75 EPN5 | 1244 27.39 0.1 | 0.9 |

June 8 2009 Hour: 18:13 57.6 Magnitudes: 3.7ML INS

| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | |
|--------------------------|---|----------|
| BNDS BZ 175 354 EPg | 1814 26.56 0.1 | 1.0 |
| BNDS BN 175 354 ESG | 1814 47.53 -0.1 | 1.0 |
| BNDS BE 175 354 AML | 1814 53.23 | 900 0.5 |
| BNDS BN 175 354 AML | 1814 55.84 | 1229 0.6 |
| GHIR BZ 431 310 EPn | 1814 58.66 -0.1 | 0.9 |
| GHIR BN 431 310 AML | 1815 58.39 | 91 0.7 |
| GHIR BE 431 310 AML | 1816 22.16 | 83 0.5 |
| KRBR BZ 462 5 EPn | 1815 3.08 0.3 | 0.8 |
| KRBR BN 462 5 Sn | 1815 50.32 0.0 | 0.8 |
| ZHSF BN 604 45 EPn | 1815 20.11 -0.2 | 0.7 |

| | | | |
|---------------------------------|---|--|--|
| June 9 2009 Hour: 22:55 | 15.1 | Lat: 35.77N Lon: 52.60E Depth: 14 | Agency: INS Local Rms: 0.2 secs |
| Magnitudes: 3.7ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| CHTH BZ 134 277 EPg | 2255 37.36 -0.3 | | 1.0 |
| THKV BZ 156 276 EPg | 2255 41.31 0.2 | | 1.0 |
| THKV BN 156 276 AML | 2256 13.71 | 1052 0.6 | |
| THKV BE 156 276 AML | 2256 14.55 | 1014 0.8 | |
| GHVR BZ 189 221 EPg | 2255 46.20 -0.1 | | 1.0 |
| GHVR BN 189 221 AML | 2256 22.64 | 996 0.4 | |
| GHVR BE 189 221 AML | 2256 22.92 | 1138 0.6 | |
| ASAO BZ 271 241 EPn | 2255 56.73 0.1 | | 1.0 |
| ASAO BN 271 241 ESG | 2256 31.75 0.0 | | 1.0 |
| ASAO BN 271 241 AML | 2256 41.22 | 460 0.5 | |
| KHMZ BZ 330 228 EPn | 2256 3.94 -0.1 | | 0.9 |
| SNGE BZ 483 263 EPn | 2256 23.18 0.2 | | 0.8 |
| June 11 2009 Hour: 12:38 | 20.7 | Lat: 29.82N Lon: 57.69E Depth: 14 | Agency: INS Local Rms: 0.4 secs |
| Magnitudes: 3.5ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| KRBR BZ 92 281 EPg | 1238 36.25 -0.3 | | 1.0 |
| ZHSF BZ 299 94 EPn | 1239 6.44 0.8 | | 1.0 |
| ZHSF BN 299 94 ESG | 1239 44.36 -0.5 | | 1.0 |
| BNDS BZ 307 209 EPn | 1239 6.63 0.0 | | 1.0 |
| BNDS BE 307 209 AML | 1239 56.05 | 166 0.5 | |
| BNDS BN 307 209 AML | 1240 3.87 | 137 0.6 | |
| TABS BZ 428 353 EPn | 1239 21.24 -0.1 | | 0.9 |
| TABS BN 428 353 Sn | 1240 5.82 0.1 | | 0.9 |
| TABS BN 428 353 AML | 1240 27.89 | 135 0.7 | |
| TABS BE 428 353 AML | 1240 31.24 | 74 0.7 | |
| June 12 2009 Hour: 4:1 | 27.8 | Lat: 31.83N Lon: 49.42E Depth: 15 | Agency: INS Local Rms: 0.4 secs |
| Magnitudes: 3.7ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| SHGR BZ 66 298 EPg | 4 1 39.71 0.3 | | 1.0 |
| KHMZ BZ 217 13 EPg | 4 2 2.80 -0.7 | | 1.0 |
| KHMZ BE 217 13 ESG | 4 2 30.02 0.4 | | 1.0 |
| KHMZ BN 217 13 AML | 4 2 31.67 | 614 0.6 | |
| KHMZ BE 217 13 AML | 4 2 39.19 | 665 0.6 | |
| ASAO BZ 306 10 EPn | 4 2 13.95 0.3 | | 1.0 |
| ASAO BE 306 10 AML | 4 2 58.26 | 253 0.6 | |
| ASAO BN 306 10 AML | 4 3 1.15 | 294 0.6 | |
| NASN BZ 336 71 EPn | 4 2 17.65 0.2 | | 0.9 |
| GHVR BZ 339 30 EPn | 4 2 17.77 0.3 | | 0.9 |
| GHVR BN 339 30 AML | 4 3 14.62 | 297 0.7 | |
| GHVR BE 339 30 AML | 4 3 16.26 | 201 0.8 | |
| SNGE BZ 410 332 EPn | 4 2 26.08 -0.3 | | 0.9 |
| SNGE BE 410 332 AML | 4 3 12.12 | 115 0.6 | |
| SNGE BN 410 332 AML | 4 3 31.59 | 152 0.4 | |
| THKV BZ 472 16 EPn | 4 2 34.41 0.2 | | 0.8 |
| THKV BE 472 16 AML | 4 3 52.69 | 78 0.6 | |
| THKV BN 472 16 AML | 4 3 58.92 | 64 0.6 | |
| DAMV BZ 483 29 EPn | 4 2 35.09 -0.5 | | 0.8 |
| DAMV BN 483 29 AML | 4 3 52.78 | 69 0.5 | |
| DAMV BE 483 29 AML | 4 3 55.30 | 82 0.5 | |
| ZNJK BZ 541 353 EPn | 4 2 42.25 -0.5 | | 0.8 |
| June 14 2009 Hour: 10:32 | 49.9 | Lat: 36.68N Lon: 61.49E Depth: 14 | Agency: INS Local Rms: 0.2 secs |
| Magnitudes: 4.5ML INS | | | |
| STAT CO DIST AZI PHASE P | HRMN SECON TRES CODA AMPL PERI BAZ ARES VELO WT | | |
| SHRT BZ 354 198 EPn | 1033 41.61 0.0 | | 1.0 |
| SHRT BE 354 198 ESG | 1034 29.04 -0.1 | | 1.0 |
| SHRT BN 354 198 AML | 1034 32.47 | 1148 0.4 | |
| SHRT BE 354 198 AML | 1034 36.60 | 1436 0.6 | |

NASN BE 562 305 ESG 2052 58.53 -0.2 0.8

June 25 2009 Hour: 15: 4 49.0 Lat: 32.71N Lon: 45.88E Depth: 46 Agency: INS Local Magnitudes: 4.5ML INS Rms: 0.4 secs

| STAT | CO | DIST | AZI | PHASE | P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
|------|----|------|-----|-------|---|------|-------|-------|------|------|------|-----|------|------|-----|
| SHGR | BZ | 283 | 103 | EPg | | 15 | 5 | 34.14 | -0.1 | | | | | | 1.0 |
| SHGR | BE | 283 | 103 | AML | | 15 | 6 | 18.75 | | 2385 | 0.5 | | | | |
| SHGR | BN | 283 | 103 | AML | | 15 | 6 | 27.64 | | 1637 | 0.2 | | | | |
| SNGE | BZ | 298 | 27 | EPn | | 15 | 5 | 30.27 | -0.1 | | | | | | 1.0 |
| SNGE | BN | 298 | 27 | AML | | 15 | 6 | 3.01 | | 1976 | 0.4 | | | | |
| SNGE | BE | 298 | 27 | AML | | 15 | 6 | 7.52 | | 3048 | 0.7 | | | | |
| KHMZ | BZ | 398 | 72 | EPn | | 15 | 5 | 42.97 | 0.2 | | | | | | 0.9 |
| ASAO | BZ | 436 | 61 | EPn | | 15 | 5 | 47.52 | 0.0 | | | | | | 0.9 |
| GHVR | BZ | 536 | 67 | EP | | 15 | 5 | 59.91 | 0.1 | | | | | | 0.8 |
| GHVR | BZ | 536 | 67 | EPg | | 15 | 6 | 13.68 | 0.7 | | | | | | 0.8 |
| NASN | BZ | 649 | 87 | EPn | | 15 | 6 | 14.46 | 0.3 | | | | | | 0.7 |
| NASN | BN | 649 | 87 | Sn | | 15 | 7 | 16.03 | -0.4 | | | | | | 0.7 |
| DAMV | BZ | 649 | 58 | EPn | | 15 | 6 | 13.28 | -0.7 | | | | | | 0.7 |

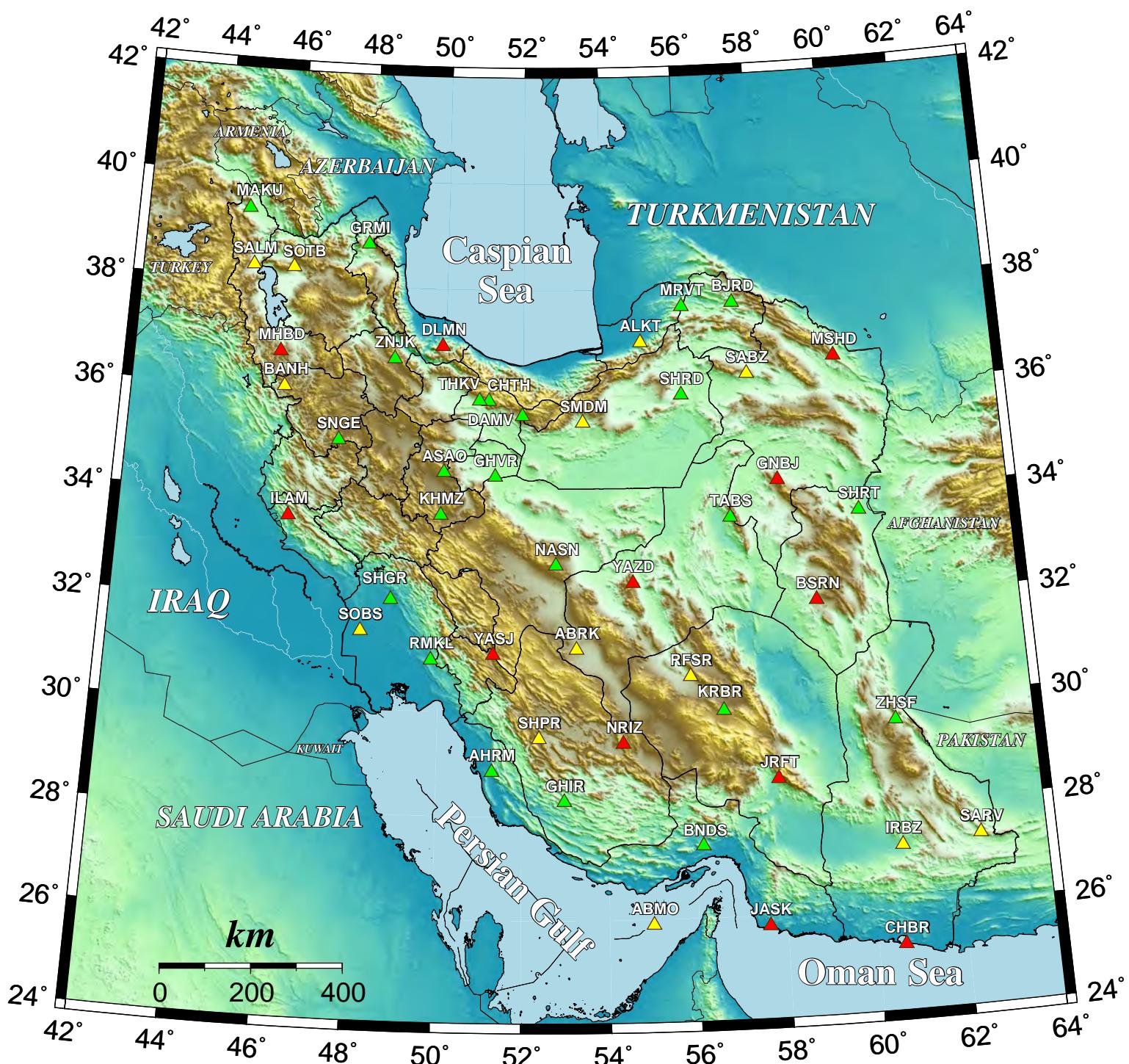
June 25 2009 Hour: 17: 8 42.9 Lat: 33.27N Lon: 46.53E Depth: 14 Agency: INS Local Magnitudes: 4.0ML INS Rms: 0.1 secs

| STAT | CO | DIST | AZI | PHASE | P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
|------|----|------|-----|-------|---|------|-------|-------|------|------|------|-----|------|------|-----|
| SNGE | BZ | 216 | 20 | EPg | | 17 | 9 | 18.36 | 0.0 | | | | | | 1.0 |
| SNGE | BE | 216 | 20 | ESg | | 17 | 9 | 44.20 | -0.1 | | | | | | 1.0 |
| SNGE | BN | 216 | 20 | AML | | 17 | 9 | 51.36 | | 948 | 1.3 | | | | |
| SNGE | BE | 216 | 20 | AML | | 17 | 9 | 56.22 | | 1186 | 0.2 | | | | |
| SHGR | BZ | 249 | 121 | EPg | | 17 | 9 | 23.40 | -0.2 | | | | | | 1.0 |
| SHGR | BE | 249 | 121 | AML | | 17 | 9 | 58.90 | | 966 | 0.4 | | | | |
| KHMZ | BZ | 324 | 80 | EPn | | 17 | 9 | 31.18 | 0.2 | | | | | | 0.9 |
| ASAO | BZ | 353 | 65 | EPn | | 17 | 9 | 34.82 | 0.1 | | | | | | 0.9 |

June 26 2009 Hour: 15:49 46.4 Lat: 31.14N Lon: 56.84E Depth: 15 Agency: INS Local Magnitudes: 4.2ML INS Rms: 0.1 secs

| STAT | CO | DIST | AZI | PHASE | P | HRMN | SECON | TRES | CODA | AMPL | PERI | BAZ | ARES | VELO | WT |
|------|----|------|-----|-------|---|------|-------|------|------|------|------|-----|------|------|-----|
| TABS | BZ | 279 | 5 | EPn | | 1550 | 28.68 | 0.0 | | | | | | | 1.0 |
| TABS | BN | 279 | 5 | ESg | | 1551 | 4.85 | -0.1 | | | | | | | 1.0 |
| TABS | BN | 279 | 5 | AML | | 1551 | 15.39 | | 1326 | 0.8 | | | | | |
| BNDS | BZ | 420 | 189 | EPn | | 1550 | 46.09 | -0.2 | | | | | | | 0.9 |
| NASN | BZ | 423 | 297 | EPn | | 1550 | 46.93 | 0.1 | | | | | | | 0.9 |
| NASN | BN | 423 | 297 | AML | | 1551 | 52.55 | | 344 | 0.5 | | | | | |
| SHRT | BZ | 427 | 49 | EPn | | 1550 | 47.39 | 0.2 | | | | | | | 0.9 |
| GHIR | BZ | 489 | 231 | EPn | | 1550 | 54.76 | -0.1 | | | | | | | 0.8 |
| GHIR | BE | 489 | 231 | ESg | | 1552 | 2.78 | 0.1 | | | | | | | 0.8 |
| GHVR | BZ | 641 | 307 | EPn | | 1551 | 13.73 | 0.0 | | | | | | | 0.7 |
| DAMV | BZ | 673 | 319 | EPn | | 1551 | 17.64 | -0.2 | | | | | | | 0.7 |
| ASAO | BZ | 741 | 302 | EPn | | 1551 | 26.42 | 0.1 | | | | | | | 0.7 |
| THKV | BZ | 766 | 315 | EPn | | 1551 | 29.30 | 0.0 | | | | | | | 0.6 |

| Year | Month | Day | Hour | Minute | Second | Error | Lat | Error | Long | Error | Depth | Error | NSt | NPh | Gap | D _{min} | Rms | M _L |
|------|-------|-----|------|--------|--------|-------|--------|-------|--------|-------|-------|-------|-----|-----|-----|------------------|------|----------------|
| 2009 | 5 | 23 | 12 | 22 | 45.6 | 0.43 | 30.897 | 4.3 | 49.838 | 5.0 | 39.4 | 5.6 | 5 | 6 | 260 | 166.6 | 0.12 | 4.0 |
| 2009 | 5 | 26 | 10 | 39 | 5.2 | 0.62 | 27.316 | 10.6 | 53.557 | 9.6 | 14.2 | 9.6 | 3 | 5 | 245 | 121.3 | 0.18 | 4.2 |
| 2009 | 5 | 26 | 23 | 52 | 45.8 | 1.78 | 34.012 | 8.2 | 48.522 | 7.8 | 15.0 | 0.0 | 5 | 6 | 145 | 161.2 | 0.61 | 4.7 |
| 2009 | 5 | 27 | 0 | 10 | 48.8 | 1.03 | 33.996 | 3.5 | 48.495 | 4.4 | 14.1 | 8.1 | 7 | 9 | 147 | 160.9 | 0.32 | 4.0 |
| 2009 | 5 | 27 | 8 | 29 | 18.6 | 0.46 | 33.983 | 2.1 | 48.437 | 3.1 | 15.0 | 0.0 | 7 | 7 | 151 | 158.6 | 0.17 | 3.8 |
| 2009 | 5 | 28 | 12 | 44 | 9.9 | 0.78 | 32.450 | 4.1 | 48.209 | 7.4 | 18.0 | 9.0 | 6 | 7 | 221 | 67.4 | 0.26 | 3.5 |
| 2009 | 5 | 29 | 16 | 17 | 16.0 | 0.30 | 28.069 | 1.1 | 57.470 | 1.1 | 17.9 | 2.2 | 6 | 9 | 179 | 148.1 | 0.07 | 3.8 |
| 2009 | 5 | 30 | 12 | 21 | 20.3 | 1.29 | 32.554 | 4.7 | 48.292 | 18.2 | 15.0 | 11.3 | 5 | 6 | 229 | 68.9 | 0.44 | 3.6 |
| 2009 | 5 | 30 | 16 | 6 | 34.2 | 0.37 | 32.576 | 3.3 | 47.828 | 5.0 | 29.9 | 4.0 | 6 | 6 | 232 | 105.3 | 0.10 | 3.9 |
| 2009 | 6 | 2 | 14 | 39 | 31.5 | 0.77 | 40.284 | 13.0 | 52.919 | 6.7 | 15.0 | 0.0 | 12 | 12 | 245 | 400.4 | 0.38 | 5.7 |
| 2009 | 6 | 2 | 22 | 34 | 33.7 | 0.48 | 27.298 | 9.2 | 54.048 | 10.3 | 46.0 | 10.8 | 7 | 8 | 230 | 151.4 | 0.15 | 3.7 |
| 2009 | 6 | 4 | 14 | 20 | 1.2 | 0.39 | 40.761 | 8.8 | 50.593 | 4.0 | 30.4 | 17.3 | 8 | 9 | 256 | 316.8 | 0.14 | 4.5 |
| 2009 | 6 | 7 | 12 | 43 | 32.9 | 0.33 | 32.815 | 1.1 | 56.382 | 2.4 | 14.2 | 3.5 | 5 | 6 | 99 | 115.2 | 0.05 | 3.5 |
| 2009 | 6 | 8 | 18 | 13 | 57.6 | 0.53 | 25.833 | 3.8 | 56.358 | 5.6 | 15.5 | 4.3 | 4 | 6 | 265 | 174.5 | 0.16 | 3.7 |
| 2009 | 6 | 9 | 22 | 55 | 15.1 | 0.57 | 35.772 | 3.8 | 52.602 | 7.2 | 14.2 | 5.7 | 6 | 7 | 304 | 134.2 | 0.16 | 3.7 |
| 2009 | 6 | 11 | 12 | 38 | 20.7 | 1.31 | 29.824 | 6.4 | 57.693 | 4.7 | 14.2 | 10.6 | 4 | 6 | 116 | 91.8 | 0.42 | 3.5 |
| 2009 | 6 | 12 | 4 | 1 | 27.8 | 1.49 | 31.833 | 10.9 | 49.423 | 9.9 | 15.7 | 13.8 | 9 | 10 | 227 | 66.2 | 0.41 | 3.7 |
| 2009 | 6 | 14 | 10 | 32 | 49.9 | 0.59 | 36.684 | 4.9 | 61.493 | 8.8 | 14.1 | 10.2 | 7 | 9 | 270 | 354.4 | 0.22 | 4.5 |
| 2009 | 6 | 16 | 16 | 21 | 18.6 | 0.44 | 38.691 | 5.5 | 48.270 | 17.6 | 15.2 | 9.7 | 5 | 6 | 324 | 227.2 | 0.12 | 3.7 |
| 2009 | 6 | 18 | 12 | 52 | 42.2 | 0.80 | 32.022 | 11.4 | 47.073 | 6.7 | 42.4 | 8.9 | 7 | 9 | 278 | 163.5 | 0.25 | 3.8 |
| 2009 | 6 | 19 | 8 | 16 | 4.6 | 0.75 | 27.573 | 3.6 | 56.382 | 6.3 | 14.1 | 6.1 | 4 | 5 | 166 | 28.4 | 0.22 | 3.7 |
| 2009 | 6 | 19 | 8 | 48 | 47.9 | 1.42 | 32.881 | 5.7 | 48.464 | 9.4 | 15.3 | 11.4 | 9 | 10 | 178 | 91.4 | 0.44 | 3.5 |
| 2009 | 6 | 20 | 2 | 28 | 54.0 | 0.30 | 30.786 | 4.5 | 49.557 | 4.5 | 36.8 | 3.9 | 6 | 7 | 281 | 163.3 | 0.04 | 3.6 |
| 2009 | 6 | 23 | 5 | 2 | 41.7 | 1.16 | 28.319 | 5.9 | 56.473 | 6.6 | 45.7 | 9.0 | 8 | 9 | 188 | 106.2 | 0.54 | 4.4 |
| 2009 | 6 | 24 | 20 | 50 | 22.0 | 0.79 | 29.960 | 4.1 | 57.710 | 4.8 | 18.0 | 9.4 | 6 | 8 | 112 | 91.7 | 0.26 | 4.0 |
| 2009 | 6 | 25 | 15 | 4 | 49.0 | 0.89 | 32.706 | 14.2 | 45.878 | 17.1 | 46.1 | 7.9 | 7 | 9 | 284 | 297.6 | 0.35 | 4.5 |
| 2009 | 6 | 25 | 17 | 8 | 42.9 | 0.48 | 33.272 | 2.7 | 46.525 | 13.4 | 14.1 | 5.0 | 4 | 5 | 260 | 215.7 | 0.12 | 4.0 |
| 2009 | 6 | 26 | 15 | 49 | 46.4 | 0.38 | 31.142 | 1.4 | 56.837 | 2.5 | 15.0 | 3.6 | 9 | 11 | 140 | 279.3 | 0.13 | 4.2 |



Iranian National Broadband Seismic Network(INSN)

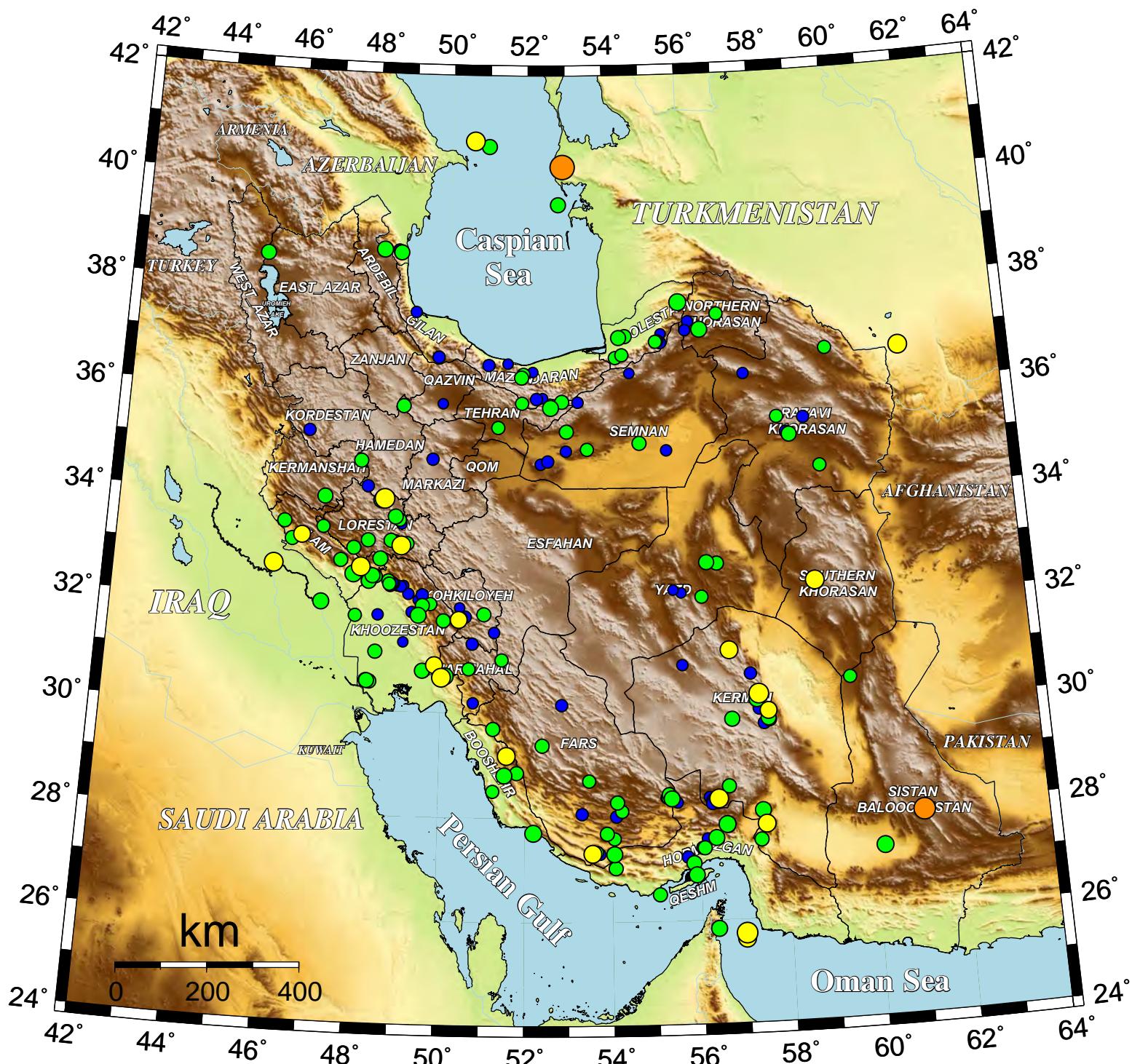
| | | |
|--------------------|--------------------|-------------|
| Available Stations | Under Construction | Future Plan |
|--------------------|--------------------|-------------|

More information available at :

http://www.iiees.ac.ir/Seismology/seis_stations.html/



International Institute of Earthquake Engineering and Seismology(IIEES)



196 events during 2009/04/02 to 2009/06/30

Magnitude

| | | | | |
|---------------|-------------|-------------|-------------|-------------|
| ● 2.5 ≤ M < 3 | ● 3 ≤ M < 4 | ● 4 ≤ M < 5 | ● 5 ≤ M < 6 | ● 6 ≤ M < 7 |
| N = 69 | N = 104 | N = 21 | N = 2 | N = 0 |

The events are located at:

Iranian National Broadband Seismic Network (INSN)

More information available at: <http://www.iiees.ac.ir/EQsearch/EventQuery.aspx>



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