

Seismological Bulletin

*Broadband Iranian National Seismic Network Center
(BIN)*

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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):

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

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 chaîne de collision continentale du Zagros (Iran): structure lithosphérique par analyse de données 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.

July 1 2009 Hour: 22:12 11.7 Lat: 39.78N Lon: 48.88E Depth: 30 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
GRMI	BZ	137	219	EPg		2212	34.41	0.0							1.0
GRMI	BN	137	219	ESg		2212	51.06	0.0							1.0
GRMI	BN	137	219	AML		2212	54.72			2551	0.6				
GRMI	BE	137	219	AML		2212	55.02			1810	0.8				
ZNJK	BZ	345	183	EPn		2213	0.98	-0.1							0.9
MAKU	BZ	364	264	EPn		2213	3.33	0.0							0.9
THKV	BZ	463	157	EPn		2213	15.84	0.2							0.8
THKV	BE	463	157	AML		2214	6.07			388	0.4				
THKV	BN	463	157	AML		2214	9.40			231	0.3				
CHTH	BZ	473	155	EPn		2213	16.74	-0.1							0.8
CHTH	BE	473	155	AML		2214	8.61			80	0.4				
DAMV	BZ	535	148	EPn		2213	24.67	0.1							0.8
ASAO	BZ	589	170	EPN5		2213	31.24	-0.1							0.7

July 2 2009 Hour: 21: 6 15.0 Lat: 27.62N Lon: 55.69E Depth: 15F Agency: INS Local
Magnitudes: 3.6ML INS Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	54	117	EPg		21 6	24.28	-0.4							1.0
BNDS	BE	54	117	AML		21 6	35.37			1680	0.5				
GHIR	BZ	276	286	EPn		21 6	56.82	-0.1							1.0
KRBR	BZ	282	22	EPn		21 6	58.06	0.3							1.0
KRBR	BE	282	22	ESg		21 7	34.18	-0.3							1.0
KRBR	BE	282	22	AML		21 7	34.99			367	0.4				
KRBR	BN	282	22	AML		21 7	35.97			426	0.7				
ZHSF	BZ	544	65	EPn		21 7	31.18	0.9							0.8

July 3 2009 Hour: 5:34 40.3 Lat: 27.70N Lon: 55.81E Depth: 14 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	49	133	EPg		534	49.29	0.0							1.0
KRBR	BZ	269	20	EPn		535	22.09	0.3							1.0
KRBR	BE	269	20	ESg		535	56.38	-0.2							1.0
KRBR	BN	269	20	AML		536	0.69			309	0.6				
GHIR	BZ	285	284	EPn		535	23.25	-0.3							1.0
GHIR	BE	285	284	ESg		536	0.78	0.1							1.0
GHIR	BN	285	284	AML		536	13.86			164	0.5				
GHIR	BE	285	284	AML		536	21.90			167	0.6				

July 5 2009 Hour: 23:48 24.0 Lat: 39.17N Lon: 43.64E Depth: 14 Agency: INS Local
Magnitudes: 3.7ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MAKU	BZ	93	77	EPg		2348	39.81	0.0							1.0
MAKU	BN	93	77	ESg		2348	51.46	0.0							1.0
MAKU	BE	93	77	AML		2348	58.95			3626	0.4				
GRMI	BZ	371	95	EPn		2349	17.88	0.1							0.9
GRMI	BE	371	95	AML		2350	15.31			166	0.7				
GRMI	BN	371	95	AML		2350	27.22			115	0.6				
SNGE	BZ	559	143	EPn		2349	41.24	-0.1							0.8

July 6 2009 Hour: 1: 3 25.8 Lat: 28.26N Lon: 55.78E Depth: 31 Agency: INS Local
Magnitudes: 3.6ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	103	158	EPg		1 3	43.38	0.0							1.0
BNDS	BN	103	158	AML		1 4	7.28			1667	0.4				
BNDS	BE	103	158	AML		1 4	10.14			1809	0.5				
KRBR	BZ	213	26	EPg		1 4	0.28	0.0							1.0
KRBR	BE	213	26	AML		1 4	33.03			472	0.7				
KRBR	BN	213	26	AML		1 4	34.77			550	0.6				
GHIR	BZ	274	271	EPn		1 4	5.94	0.0							1.0
GHIR	BN	274	271	AML		1 4	50.63			344	0.4				

KRBR	BZ	551	69	EPn		1739	30.69	0.1							0.8
KRBR	BE	551	69	AML		1740	32.06			24	0.8				
KRBR	BN	551	69	AML		1740	32.37			26	0.6				
ASAO	BZ	704	349	EPn		1739	50.09	0.4							0.7

July 14 2009 Hour: 11:15 54.8 Lat: 28.40N Lon: 52.29E Depth: 0 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	70	100	EPg		1116	7.71	0.0							1.0
GHIR	BN	70	100	AML		1116	25.95			2630	0.5				
GHIR	BE	70	100	AML		1116	30.54			2656	0.6				
BNDS	BZ	398	105	EPN5		1116	53.81	0.0							0.9
BNDS	BN	398	105	AML		1118	22.33			67	0.6				
KRBR	BZ	469	67	EPn		1117	2.61	-0.1							0.8
KRBR	BE	469	67	AML		1118	0.74			51	0.5				
NASN	BZ	490	6	EPN5		1117	5.28	-0.1							0.8
ASAO	BZ	715	343	EPn		1117	33.28	0.1							0.7
TABS	BZ	742	37	EPn		1117	36.66	0.3							0.6

July 18 2009 Hour: 14:24 31.9 Lat: 30.79N Lon: 57.16E Depth: 15 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
KRBR	BZ	97	203	EPg		1424	48.61	0.0							1.0
TABS	BZ	317	359	EPn		1425	18.60	-0.2							1.0
TABS	BN	317	359	ESg		1426	0.90	0.1							1.0
TABS	BN	317	359	AML		1426	14.87			262	0.1				
BNDS	BZ	388	195	EPn		1425	27.80	0.0							0.9
BNDS	BE	388	195	AML		1426	32.19			74	0.9				
NASN	BZ	468	300	EPn		1425	38.13	0.2							0.8
NASN	BN	468	300	ESg		1426	42.72	-0.1							0.8
NASN	BN	468	300	AML		1426	57.12			40	0.6				

July 18 2009 Hour: 20:32 27.3 Lat: 35.81N Lon: 43.22E Depth: 18 Agency: INS Local
Magnitudes: 4.6ML INS Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SNGE	BZ	383	101	EPn		2033	22.84	0.5							1.0
MAKU	BZ	414	18	EPn		2033	26.03	-0.2							1.0
MAKU	BE	414	18	ESg		2034	23.34	0.2							1.0
MAKU	BE	414	18	AML		2034	26.80			535	0.7				
ZNJK	BZ	501	77	EPn		2033	36.72	-0.3							0.9
GRMI	BZ	532	50	EPn		2033	40.47	-0.3							0.9
GRMI	BZ	532	50	EPg		2033	52.82	0.0							0.9
GRMI	BN	532	50	AML		2035	9.75			415	0.8				
ASAO	BZ	635	101	EPn		2033	54.61	0.9							0.8
ASAO	BE	635	101	AML		2035	36.59			368	0.3				
THKV	BZ	692	87	EPn		2034	0.72	0.0							0.7
GHVR	BZ	746	99	EPn		2034	7.39	0.1							0.7
DAMV	BZ	792	89	EPn		2034	12.82	-0.4							0.7
NASN	BZ	943	108	EPn		2034	31.17	-0.9							0.5
NASN	BN	943	108	Sn		2036	2.59	-0.6							0.5
MRVT	BZ	1167	76	EPn		2034	59.25	-0.3							0.4

July 19 2009 Hour: 18:51 29.1 Lat: 33.62N Lon: 61.02E Depth: 8 Agency: INS Local
Magnitudes: 3.6ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHRT	BZ	68	273	EPg		1851	41.22	0.0							1.0
SHRT	BN	68	273	AML		1851	53.99			3008	0.4				
SHRT	BE	68	273	AML		1851	58.54			3513	0.4				
TABS	BZ	362	272	EPn		1852	22.26	-0.1							0.9
TABS	BN	362	272	AML		1853	28.46			112	0.5				
ZHSF	BZ	445	183	EPn		1852	32.72	-0.1							0.9
ZHSF	BE	445	183	Sn		1853	19.41	0.1							0.9
ZHSF	BE	445	183	AML		1853	38.11			81	0.5				
ZHSF	BN	445	183	AML		1853	47.42			68	0.5				

SHRD BZ	529	301	EPn	1852	43.19	-0.1									0.8
BJRD BZ	559	325	EPn	1852	47.07	0.1									0.8

July 22 2009 Hour: 3:53 2.6 Lat: 26.73N Lon: 55.87E Depth: 14 Agency: INS Local
Magnitudes: 5.2ML INS 5.5MB INS Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	80	22	EPg		353	15.59	-0.9							1.0
BNDS	BN	80	22	ESg		353	26.94	0.3							1.0
BNDS	BN	80	22	AML		353	33.89		90599	0.8					
GHIR	BZ	333	302	EPn		353	51.81	0.1							0.9
GHIR	BN	333	302	ESg		354	36.18	0.1							0.9
GHIR	BN	333	302	AML		354	55.26		9960	0.8					
GHIR	BE	333	302	AML		355	6.22		7131	0.6					
KRBR	BZ	371	13	EPn		353	57.44	0.8							0.9
KRBR	BN	371	13	AML		354	47.07		5671	0.5					
KRBR	BE	371	13	AML		355	4.21		5628	0.8					
NASN	BZ	735	337	EPn		354	41.12	-0.8							0.6
NASN	BN	735	337	Sn		355	54.24	-0.2							0.6
TABS	BZ	777	9	EPn		354	47.21	0.5							0.6
SHRT	BZ	877	28	EPn		354	59.90	0.6							0.5
SHRD	BZ	1029	1	EPn		355	18.02	-0.2							0.4
DAMV	BZ	1055	340	EPn		355	21.61	0.1							0.4
THKV	BZ	1124	336	EPn		355	29.74	-0.3							0.4
MRVT	BZ	1213	1	EPn		355	41.24	0.3							0.3
GRMI	BZ	1533	333	EPn		356	19.97	-0.9							0.1
GRMI	BZ	1533	333	AMb		356	27.85		153	1.4					

July 22 2009 Hour: 4:26 32.5 Lat: 26.85N Lon: 55.74E Depth: 6 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	74	35	EPg		426	45.54	0.0							1.0
BNDS	BN	74	35	ESg		426	55.11	0.0							1.0
BNDS	BN	74	35	AML		427	3.26		1721	0.5					
BNDS	BE	74	35	AML		427	6.97		1813	0.4					
GHIR	BZ	315	301	EPn		427	20.23	0.0							1.0
GHIR	BE	315	301	AML		428	23.33		209	0.7					
KRBR	BZ	361	16	EPn		427	26.23	0.1							0.9
KRBR	BN	361	16	AML		428	14.26		158	0.6					
KRBR	BE	361	16	AML		428	18.96		166	0.6					
NASN	BZ	717	337	EPn		428	10.55	0.1							0.7

July 22 2009 Hour: 6:50 0.1 Lat: 26.95N Lon: 55.74E Depth: 9 Agency: INS Local
Magnitudes: 3.8ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	65	41	EPg		650	11.74	-0.1							1.0
BNDS	BE	65	41	ESg		650	20.38	0.1							1.0
BNDS	BE	65	41	AML		650	29.56		4344	0.5					
GHIR	BZ	309	299	EPn		650	46.96	0.1							1.0
GHIR	BE	309	299	AML		651	53.63		413	0.8					
GHIR	BN	309	299	AML		651	57.24		396	0.4					
KRBR	BZ	350	16	EPn		650	52.20	0.0							0.9
NASN	BZ	707	337	EPn		651	36.23	-0.3							0.7

July 22 2009 Hour: 9:20 59.4 Lat: 34.50N Lon: 49.49E Depth: 15 Agency: INS Local
Magnitudes: 4.2ML INS Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
ASAO	BZ	50	84	EPg		921	8.23	-0.2							1.0
KHMZ	BZ	95	153	EPg		921	15.46	-0.3							1.0
KHMZ	BN	95	153	AML		921	30.98		7654	0.3					
GHVR	BZ	161	90	EPg		921	26.89	0.8							1.0
GHVR	BE	161	90	AML		921	51.60		4673	0.4					
THKV	BZ	201	39	EPg		921	31.96	-0.6							1.0
THKV	BE	201	39	AML		921	58.15		1792	0.3					
ZNJK	BZ	251	343	EPn		921	38.68	0.3							1.0

DAMV BZ 259 60 EPn 921 39.30 0.0 1.0

July 22 2009 Hour: 17:44 55.8 Lat: 26.92N Lon: 55.94E Depth: 27 Agency: INS Local
Magnitudes: 3.7ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	58	23	EPg		1745	6.63	0.0							1.0
BNDS	BE	58	23	ESg		1745	14.50	0.0							1.0
GHIR	BZ	329	298	EPn		1745	43.19	0.0							0.9
GHIR	BE	329	298	AML		1746	49.71			264	0.6				
GHIR	BN	329	298	AML		1746	51.28			307	0.6				
KRBR	BZ	349	13	EPn		1745	45.96	0.0							0.9
KRBR	BN	349	13	AML		1746	55.19			113	0.5				
NASN	BZ	719	336	EPn		1746	31.90	0.0							0.7

July 29 2009 Hour: 9:27 42.7 Lat: 36.17N Lon: 50.43E Depth: 15 Agency: INS Local
Magnitudes: 4.0ML INS Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
THKV	BZ	49	125	EPg		927	51.85	0.1							1.0
DAMV	BZ	151	113	EPg		928	7.73	-0.3							1.0
DAMV	BN	151	113	AML		928	26.20			1967	0.2				
ZNJK	BZ	166	290	EPg		928	9.89	-0.5							1.0
ASAO	BZ	183	192	EPg		928	12.83	-0.3							1.0
GHVR	BZ	201	158	EPg		928	15.58	-0.2							1.0
GHVR	BN	201	158	AML		928	43.01			1764	0.5				
GHVR	BE	201	158	AML		928	47.61			1503	0.3				
KHMZ	BZ	273	189	EPn		928	25.18	0.8							1.0
GRMI	BZ	369	323	EPn		928	36.76	0.4							0.9
NASN	BZ	433	149	EPn		928	44.49	0.1							0.9

July 29 2009 Hour: 18:9 40.8 Lat: 28.48N Lon: 57.44E Depth: 14 Agency: INS Local
Magnitudes: 3.8ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	173	226	EPg		1810	9.61	0.1							1.0
BNDS	BN	173	226	ESg		1810	30.27	-0.1							1.0
BNDS	BE	173	226	AML		1810	41.06			1825	0.4				
BNDS	BN	173	226	AML		1810	43.83			1224	0.4				
KRBR	BZ	179	338	EPg		1810	10.40	-0.1							1.0
KRBR	BE	179	338	AML		1810	36.28			1061	0.5				
KRBR	BN	179	338	AML		1810	44.87			1048	0.4				
ZHSF	BZ	348	68	EPn		1810	31.79	0.0							0.9
GHIR	BZ	437	268	EPn		1810	43.02	0.2							0.9
TABS	BZ	574	357	EPn		1810	59.69	0.0							0.8
TABS	BN	574	357	AML		1812	45.51			68	0.6				

August 5 2009 Hour: 22:55 40.5 Lat: 32.28N Lon: 47.14E Depth: 15 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
KHMZ	BZ	310	58	EPn		2256	26.59	-0.1							1.0
KHMZ	BE	310	58	ESg		2257	7.60	-0.1							1.0
KHMZ	BE	310	58	AML		2257	17.14			147	0.5				
KHMZ	BN	310	58	AML		2257	18.25			127	0.6				
SNGE	BZ	313	3	EPn		2256	26.99	-0.1							1.0
ASAO	BZ	368	46	EPn		2256	34.08	0.1							1.0
ASAO	BN	368	46	ESg		2257	23.81	0.1							1.0
ASAO	BN	368	46	AML		2257	34.57			113	0.6				
GHVR	BZ	453	56	EPn		2256	44.66	0.3							0.9
GHVR	BN	453	56	AML		2257	47.58			54	0.8				
GHVR	BE	453	56	AML		2258	4.02			65	0.7				
ZNJK	BZ	507	16	EPn		2256	51.23	-0.1							0.8
NASN	BZ	536	82	EPn		2256	54.62	-0.3							0.8
GHIR	BZ	716	127	EPn		2257	17.17	0.1							0.7

August 7 2009 Hour: 3: 6 22.4 Lat: 39.57N Lon: 51.10E Depth: 46F Agency: INS Local
Magnitudes: 4.3ML INS Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GRMI	BZ	290	254	EP		3 7	2.74	0.0							1.0
GRMI	BN	290	254	ESg		3 7	42.79	0.1							1.0
GRMI	BN	290	254	AML		3 7	44.87			551	0.2				
ZNJK	BZ	385	214	EPn		3 7	14.49	-0.2							0.9
ZNJK	BE	385	214	AML		3 8	9.91			629	0.7				
ZNJK	BN	385	214	AML		3 8	10.52			675	0.3				
THKV	BZ	406	183	EPn		3 7	17.15	-0.1							0.9
THKV	BN	406	183	AML		3 8	13.70			713	0.2				
THKV	BE	406	183	AML		3 8	13.99			441	0.9				
CHTH	BZ	406	180	EP		3 7	17.77	0.4							0.9
DAMV	BZ	444	170	EPn		3 7	22.05	0.1							0.9
DAMV	BN	444	170	AML		3 8	19.66			592	0.6				
DAMV	BE	444	170	AML		3 8	19.74			384	0.7				
GHVR	BZ	565	179	EPn		3 7	36.70	-0.1							0.8
KHMZ	BZ	655	189	EPn		3 7	47.89	-0.3							0.7

August 7 2009 Hour: 4:54 8.8 Lat: 28.21N Lon: 56.72E Depth: 15 Agency: INS Local
Magnitudes: 4.4ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	105	211	EPg		454	26.33	-0.3							1.0
BNDS	BE	105	211	AML		454	44.23			7871	0.6				
BNDS	BN	105	211	AML		454	44.32			13447	0.1				
KRBR	BZ	197	1	EPg		454	40.96	-0.3							1.0
KRBR	BN	197	1	AML		455	13.77			4297	0.4				
KRBR	BE	197	1	AML		455	14.03			3450	0.2				
GHIR	BZ	367	272	EPn		455	2.40	0.4							0.9
ZHSF	BZ	425	68	EPn		455	9.53	0.3							0.9

August 7 2009 Hour: 7:27 34.0 Lat: 36.82N Lon: 55.23E Depth: 14 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHRD	BZ	114	142	EPg		727	53.10	-0.2							1.0
MRVT	BZ	120	39	EPg		727	53.62	-0.6							1.0
MRVT	BE	120	39	AML		728	16.51			848	0.3				
BJRD	BZ	216	63	EPg		728	10.05	0.6							1.0
BJRD	BN	216	63	AML		728	41.72			312	1.0				
DAMV	BZ	321	247	EPn		728	22.34	0.5							0.9
DAMV	BN	321	247	ESg		729	4.30	-0.1							0.9
GHVR	BZ	445	235	EPn		728	36.70	-0.2							0.9
GHVR	BN	445	235	AML		729	56.47			82	0.9				
GHVR	BE	445	235	AML		729	59.14			83	0.5				

August 7 2009 Hour: 18:59 33.9 Lat: 26.99N Lon: 57.28E Depth: 18 Agency: INS Local
Magnitudes: 4.1ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	119	293	EPg		1859	54.16	0.1							1.0
BNDS	BN	119	293	AML		19 0	21.47			5058					
KRBR	BZ	335	351	EPn		19 0	22.71	-0.4							0.9
KRBR	BN	335	351	ESg		19 1	8.37	0.1							0.9
KRBR	BN	335	351	AML		19 1	27.68			664	0.1				
KRBR	BE	335	351	AML		19 1	28.82			587	0.5				
ZHSF	BZ	449	49	EPn		19 0	37.42	0.3							0.9
TABS	BZ	738	359	EPn		19 1	12.70	-0.2							0.6

August 8 2009 Hour: 6:36 44.8 Lat: 27.61N Lon: 52.90E Depth: 22 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	76	6	EPg		636	57.93	0.0							1.0
GHIR	BE	76	6	ESg		637	7.53	0.0							1.0
GHIR	BN	76	6	AML		637	14.28			3923	0.5				
BNDS	BZ	324	93	EPn		637	32.05	0.0							0.9
KRBR	BZ	459	54	EPn		637	49.00	0.0							0.8
KRBR	BN	459	54	AML		639	1.22			41	0.8				
KRBR	BE	459	54	AML		639	6.08			35	0.6				
NASN	BZ	576	359	EPn		638	3.49	0.0							0.8
NASN	BN	576	359	AML		639	5.58			42	0.6				
NASN	BE	576	359	AML		639	6.29			24	0.5				
TABS	BZ	782	30	EPn		638	28.85	0.1							0.6

August 8 2009 Hour: 14:18 41.9 Lat: 29.51N Lon: 51.34E Depth: 17 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
GHIR	BZ	210	130	EPg		1419	16.46	0.0							1.0
GHIR	BN	210	130	AML		1419	55.63			1482	0.5				
GHIR	BE	210	130	AML		1419	59.28			1865	0.5				
NASN	BZ	390	21	EPn		1419	38.10	0.1							0.9
KHMZ	BZ	487	345	EPn		1419	49.92	0.0							0.8
KRBR	BZ	527	83	EPn		1419	55.14	0.2							0.8
KRBR	BN	527	83	AML		1421	21.99			105	0.7				
KRBR	BE	527	83	AML		1421	27.47			96	0.7				
BNDS	BZ	528	115	EPn		1419	54.86	-0.1							0.8
ASAO	BZ	572	348	EPn		1420	0.46	-0.1							0.8
TABS	BZ	715	49	EPn		1420	17.66	-0.3							0.7

August 9 2009 Hour: 11:43 58.1 Lat: 27.88N Lon: 53.20E Depth: 23 Agency: INS Local
Magnitudes: 4.1ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	50	335	EPg		1144	7.44	0.0							1.0
BNDS	BZ	298	100	EPn		1144	42.07	0.0							1.0
BNDS	BE	298	100	AML		1145	43.85			697	0.5				
BNDS	BN	298	100	AML		1145	45.21			765	0.6				
KRBR	BZ	418	55	EPn		1144	57.21	0.1							0.9
KRBR	BE	418	55	AML		1146	2.86			283	0.6				
KRBR	BN	418	55	AML		1146	9.66			300	0.7				
NASN	BZ	547	356	EPn		1145	13.18	0.0							0.8
TABS	BZ	742	29	EPn		1145	36.86	-0.1							0.6

August 10 2009 Hour: 15:6 12.7 Lat: 27.67N Lon: 53.10E Depth: 20 Agency: INS Local
Magnitudes: 3.8ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	69	351	EPg		15 6	24.87	0.1							1.0
GHIR	BE	69	351	ESg		15 6	33.59	-0.1							1.0
BNDS	BZ	305	95	EPn		15 6	57.79	-0.1							1.0
KRBR	BZ	440	54	EPn		15 7	14.87	0.1							0.9
KRBR	BN	440	54	AML		15 8	22.91			89	0.6				
KRBR	BE	440	54	AML		15 8	32.58			87	0.6				
NASN	BZ	569	357	EPn		15 7	30.77	-0.1							0.8
NASN	BE	569	357	AML		15 8	30.76			58	0.4				
NASN	BN	569	357	AML		15 8	31.88			84	0.6				
GHVR	BZ	775	347	EPn		15 7	56.31	0.1							0.6
DAMV	BZ	889	353	EPn		15 8	10.34	-0.1							0.5

August 11 2009 Hour: 5:42 44.7 Lat: 26.73N Lon: 55.16E Depth: 43 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	124	53	EPg		543	5.94	0.0							1.0
BNDS	BN	124	53	ESg		543	21.43	0.0							1.0
BNDS	BN	124	53	AML		543	26.53			1149	0.6				
BNDS	BE	124	53	AML		543	30.75			891	0.4				
GHIR	BZ	275	309	EPn		543	24.00	0.0							1.0
GHIR	BE	275	309	AML		544	5.50			168	0.3				
GHIR	BN	275	309	AML		544	21.54			188	0.8				
KRBR	BZ	393	23	EPn		543	38.78	0.0							0.9
TABS	BZ	790	13	EPn		544	27.70	0.0							0.6

August 13 2009 Hour: 6:12 44.6 Lat: 31.61N Lon: 49.87E Depth: 15 Agency: INS Local
Magnitudes: 4.1ML INS Rms: 0.4 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
KHMZ	BZ	236	2	EPg		613	22.73	-0.6							1.0
KHMZ	BE	236	2	AML		613	53.13			1961	0.6				
KHMZ	BN	236	2	AML		613	57.56			1059	0.5				
NASN	BZ	307	64	EPn		613	30.82	0.2							1.0
ASAO	BZ	326	2	EPn		613	33.81	0.9							0.9
ASAO	BN	326	2	AML		614	22.10			699	0.5				
SNGE	BZ	452	329	EPn		613	48.57	0.0							0.9
GHIR	BZ	476	140	EPn		613	51.26	-0.1							0.8
THKV	BZ	487	11	EPn		613	52.70	-0.1							0.8
DAMV	BE	487	23	AML		615	14.04			212	0.8				
DAMV	BN	487	23	AML		615	14.59			210	0.6				
THKV	BN	487	11	AML		615	27.98			190	0.8				
DAMV	BZ	487	23	EPn		613	52.77	-0.1							0.8
CHTH	BZ	491	13	EPn		613	53.19	-0.2							0.8
KRBR	BZ	683	104	EPn		614	17.29	-0.1							0.7
TABS	BZ	717	70	EPn		614	21.09	0.0							0.7
SHRD	BZ	749	48	EPn		614	25.61	0.3							0.6
BNDS	BZ	768	126	EPn		614	27.52	-0.2							0.6
MRVT	BZ	880	39	EPn		614	41.33	-0.2							0.5

August 13 2009 Hour: 13:57 45.4 Lat: 36.29N Lon: 51.93E Depth: 14 Agency: INS Local
Magnitudes: 3.9ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DAMV	BZ	73	177	EPg		1357	57.82	-0.5							1.0
CHTH	BZ	84	240	EPg		1357	59.83	-0.2							1.0
THKV	BZ	104	247	EPg		1358	3.08	0.0							1.0
GHVR	BZ	210	197	EPg		1358	20.56	0.6							1.0
GHVR	BN	210	197	AML		1358	51.79			1362	0.5				
GHVR	BE	210	197	AML		1358	52.44			1475	0.8				
ASAO	BZ	260	222	EPn		1358	25.90	0.3							1.0
ASAO	BN	260	222	ESg		1358	58.81	-0.1							1.0
ASAO	BE	260	222	AML		1359	3.99			454	0.4				
NASN	BZ	396	168	EPn		1358	42.38	-0.2							0.9
NASN	BE	396	168	ESg		1359	36.41	0.1							0.9
NASN	BE	396	168	AML		1359	50.77			218	0.6				
NASN	BN	396	168	AML		1359	51.42			208	0.6				

August 14 2009 Hour: 22: 5 3.6 Lat: 36.33N Lon: 52.01E Depth: 14 Agency: INS Local
Magnitudes: 4.2ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
DAMV	BZ	78	183	EPg		22	5	16.97	-0.3						1.0
CHTH	BZ	93	240	EPg		22	5	19.03	-0.6						1.0
THKV	BZ	112	246	EPg		22	5	22.74	0.1						1.0
GHVR	BZ	217	199	EPg		22	5	39.56	0.3						1.0
GHVR	BE	217	199	AML		22	6	12.13		2431	0.8				
GHVR	BN	217	199	AML		22	6	13.82		2394	0.5				
ASAO	BZ	268	223	EPn		22	5	44.94	0.1						1.0

TABS BZ 596 359 EPn 1918 40.93 0.4 0.7
 TABS BN 596 359 AML 1920 26.44 24 0.2

August 23 2009 Hour: 18:51 21.2 Lat: 37.34N Lon: 54.10E Depth: 14 Agency: INS Local
Magnitudes: 4.0ML INS Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MRVT	BZ	180	78	EPg		1851	50.77	-0.1							1.0
MRVT	BN	180	78	ESg		1852	12.62	0.1							1.0
SHRD	BZ	227	130	EPg		1851	58.07	-0.3							1.0
SHRD	BE	227	130	ESg		1852	25.56	0.1							1.0
DAMV	BZ	269	226	EPn		1852	2.42	-0.1							1.0
DAMV	BE	269	226	AML		1852	41.70			703	0.4				
DAMV	BN	269	226	AML		1852	44.97			696	0.5				
BJRD	BZ	296	81	EPn		1852	5.72	0.0							1.0
THKV	BZ	328	242	EPn		1852	9.63	-0.2							0.9
THKV	BE	328	242	AML		1853	1.62			855	0.5				
THKV	BN	328	242	AML		1853	2.78			1022	0.5				
ASAO	BZ	481	231	EPn		1852	29.37	0.6							0.8
ASAO	BE	481	231	AML		1853	40.76			78	0.5				
ASAO	BN	481	231	AML		1853	43.90			101	0.6				

August 24 2009 Hour: 13:44 28.5 Lat: 28.27N Lon: 57.04E Depth: 15 Agency: INS Local
Magnitudes: 3.7ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	129	222	EPg		1344	50.26	0.0							1.0
BNDS	BE	129	222	AML		1345	9.49			1960	0.3				
BNDS	BN	129	222	AML		1345	11.09			1813	0.6				
KRBR	BZ	191	352	EPg		1345	0.19	0.0							1.0
KRBR	BE	191	352	AML		1345	31.54			508	0.2				
KRBR	BN	191	352	AML		1345	33.16			807	0.3				
TABS	BZ	596	1	EPn		1345	50.11	0.0							0.7

August 25 2009 Hour: 15:59 59.6 Lat: 30.25N Lon: 51.78E Depth: 15 Agency: INS Local
Magnitudes: 3.8ML INS Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	247	151	EPN5		16 0	38.25	0.3							1.0
GHIR	BN	247	151	AML		16 1	14.03			819	0.7				
GHIR	BE	247	151	AML		16 1	14.11			811	0.3				
NASN	BZ	300	19	EPn		16 0	45.42	0.7							1.0
KHMZ	BZ	424	337	EPn		16 0	59.62	-0.4							0.9
GHVR	BZ	472	354	EPn		16 1	6.02	0.1							0.8
KRBR	BZ	481	92	EPn		16 1	6.51	-0.7							0.8
KRBR	BE	481	92	AML		16 2	28.47			71	0.7				
KRBR	BN	481	92	AML		16 2	29.50			51	0.7				
ASAO	BZ	505	341	EPn		16 1	9.83	-0.3							0.8

August 26 2009 Hour: 22:22 11.1 Lat: 30.93N Lon: 50.09E Depth: 18 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
KHMZ	BZ	312	358	EPn		2222	57.47	0.1							1.0
KHMZ	BE	312	358	AML		2223	47.49			136	0.7				
NASN	BZ	330	50	EPn		2222	59.69	-0.1							1.0
GHIR	BZ	406	136	EPn		2223	8.70	-0.2							0.9
GHIR	BE	406	136	ESg		2224	4.59	0.1							0.9
GHVR	BZ	408	15	EPn		2223	9.20	0.0							0.9
GHVR	BN	408	15	AML		2224	16.14			87	0.6				
GHVR	BE	408	15	AML		2224	17.55			82	0.7				
SNGE	BZ	528	332	EPn		2223	24.21	0.0							0.8
THKV	BZ	558	7	EPn		2223	27.85	0.0							0.8

August 30 2009 Hour: 14: 4 37.4 Lat: 33.24N Lon: 46.54E Depth: 14 Agency: INS Local
Magnitudes: 4.5ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SNGE	BZ	218	20	EPg		14 5	13.28	0.0							1.0
KHMZ	BZ	323	79	EPn		14 5	25.34	0.0							0.9
KHMZ	BE	323	79	AML		14 6	5.76			1418	0.6				
ASAO	BZ	353	65	EPn		14 5	29.32	0.1							0.9
ASAO	BE	353	65	AML		14 6	14.26			762	0.6				
GHVR	BZ	456	71	EPn		14 5	41.76	-0.1							0.8
GHVR	BN	456	71	AML		14 6	36.38			531	0.7				
GHVR	BE	456	71	AML		14 6	36.64			874	0.8				
THKV	BZ	496	52	EPn		14 5	47.12	0.2							0.8
CHTH	BZ	514	54	EPn		14 5	49.07	-0.1							0.8
CHTH	BE	514	54	ESg		14 7	0.78	0.0							0.8
DAMV	BZ	565	61	EPn		14 5	55.44	-0.1							0.8
GRMI	BZ	630	11	EPn		14 6	3.36	-0.1							0.7

September 1 2009 Hour: 21:29 29.7 Lat: 33.13N Lon: 45.83E Depth: 14 Agency: INS Local
Magnitudes: 4.0ML INS Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SNGE	BZ	258	32	EPg		2130	11.92	0.0							1.0
SNGE	BZ	258	32	AML		2131	31.54			449	0.7				
SNGE	BZ	258	32	AML		2131	31.90			434	1.0				
KHMZ	BZ	390	79	EPn		2130	25.64	-0.3							0.9
KHMZ	BE	390	79	Sn		2131	7.38	0.3							0.9
KHMZ	BE	390	79	AML		2132	11.65			340	1.1				
KHMZ	BN	390	79	AML		2132	15.36			578	0.6				
ASAO	BZ	419	67	EPn		2130	29.56	0.0							0.9
ASAO	BE	419	67	ESg		2131	26.60	-0.2							0.9
ASAO	BN	419	67	AML		2132	16.64			362	0.4				
ASAO	BE	419	67	AML		2132	21.44			379	0.5				
GHVR	BZ	523	72	EPn		2130	42.58	0.2							0.8

September 6 2009 Hour: 1:24 45.6 Lat: 30.17N Lon: 51.71E Depth: 15 Agency: INS Local
Magnitudes: 3.6ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	243	149	EPn		125	23.51	0.0							1.0
GHIR	BN	243	149	AML		126	6.52			453	0.7				
NASN	BZ	309	19	EPn		125	31.90	0.0							1.0
KRBR	BZ	488	91	EPn		125	54.06	0.1							0.8
KRBR	BN	488	91	AML		127	27.14			47	0.3				
BNDS	BZ	533	124	EPn		125	59.43	-0.1							0.8

September 11 2009 Hour: 18: 9 42.3 Lat: 37.64N Lon: 48.75E Depth: 15 Agency: INS Local
Magnitudes: 3.6ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GRMI	BZ	150	330	EPg		1810	7.04	-0.2							1.0
GRMI	BE	150	330	AML		1810	26.76			1529	0.3				
GRMI	BN	150	330	AML		1810	26.85			1135	0.5				
THKV	BZ	270	135	EPn		1810	23.95	0.4							1.0
THKV	BN	270	135	AML		1810	59.56			229	0.9				
CHTH	BZ	286	132	EPn		1810	25.47	-0.2							1.0
SNGE	BZ	310	204	EPn		1810	28.44	-0.1							1.0
ASAO	BZ	362	161	EPn		1810	34.98	-0.1							0.9
MAKU	BZ	403	299	EPn		1810	40.50	0.4							0.9

September 15 2009 Hour: 14:44 10.4 Lat: 28.05N Lon: 57.14E Depth: 26 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	120	233	EPg		1444	30.40	0.0							1.0
BNDS	BN	120	233	AML		1444	53.40			1104	0.4				
BNDS	BE	120	233	AML		1444	59.35			987	0.4				
KRBR	BZ	218	350	EPg		1444	45.58	0.0							1.0

KRBR	BE	218	350	AML		1445	23.80			345	0.6			
KRBR	BN	218	350	AML		1445	23.96			332	0.4			
GHIR	BZ	409	275	EPn		1445	7.83	0.0						0.9
TABS	BZ	621	360	EPn		1445	34.04	0.0						0.7

September 22 2009 Hour: 20:25 33.6 Lat: 35.18N Lon: 59.94E Depth: 17 Agency: INS Local
Magnitudes: 3.5ML INS Rms: 0.1 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
SHRT	BZ	173	169	EPg		2026	2.26	0.1							1.0
SHRT	BE	173	169	AML		2026	27.57			627	0.3				
SHRT	BN	173	169	AML		2026	27.95			766	0.3				
TABS	BZ	310	238	EPn		2026	19.13	-0.2							1.0
TABS	BN	310	238	ESg		2027	0.68	0.1							1.0
TABS	BN	310	238	AML		2027	10.18			173	0.6				
TABS	BE	310	238	AML		2027	10.83			81	0.4				
BJRD	BZ	360	322	EPn		2026	25.93	0.2							0.9
MRVT	BZ	442	310	EPn		2026	35.68	-0.1							0.9

September 24 2009 Hour: 18:11 10.0 Lat: 33.21N Lon: 48.30E Depth: 14 Agency: INS Local
Magnitudes: 3.7ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
KHMZ	BZ	165	69	EPg		18 1	37.38	-0.1							1.0
KHMZ	BN	165	69	ESg		18 1	57.16	-0.3							1.0
ASAO	BZ	217	47	EPN5		18 1	44.62	-0.3							1.0
ASAO	BN	217	47	ESg		18 2	12.22	0.3							1.0
ASAO	BE	217	47	AML		18 2	18.67			631	0.4				
ASAO	BN	217	47	AML		18 2	23.23			706	0.6				
SNGE	BZ	226	337	EPn		18 1	45.88	-0.1							1.0
SNGE	BN	226	337	ESg		18 2	14.16	-0.2							1.0
GHVR	BZ	306	62	EPn		18 1	57.56	1.7							0.0
GHVR	BE	306	62	AML		18 2	46.52			241	0.6				
GHVR	BN	306	62	AML		18 2	52.14			179	0.6				
THKV	BZ	382	38	EPn		18 2	5.63	0.3							0.9
ZNJK	BZ	385	5	EPn		18 2	6.21	0.4							0.9
NASN	BZ	423	95	EPn		18 2	10.79	0.2							0.9

September 26 2009 Hour: 11:16 23.2 Lat: 32.10N Lon: 55.85E Depth: 14 Agency: INS Local
Magnitudes: 4.1ML INS Rms: 0.3 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
TABS	BZ	209	34	EPg		1116	56.91	-0.5							1.0
KRBR	BZ	251	159	EPn		1117	2.72	0.4							1.0
KRBR	BN	251	159	ESg		1117	33.97	-0.3							1.0
NASN	BZ	296	286	EPn		1117	8.06	0.0							1.0
NASN	BE	296	286	AML		1117	48.81			820	0.6				
NASN	BN	296	286	AML		1117	50.76			1084	0.5				
SHRT	BZ	449	66	EPn		1117	27.35	0.6							0.9
GHIR	BZ	505	214	EPn		1117	33.57	-0.1							0.8
GHIR	BE	505	214	AML		1118	55.36			148	0.6				
GHIR	BN	505	214	AML		1119	5.25			138	0.5				
BNDS	BZ	522	177	EPn		1117	35.86	0.0							0.8
BNDS	BE	522	177	AML		1119	6.54			120	0.5				
BNDS	BN	522	177	AML		1119	8.92			168	0.6				

September 26 2009 Hour: 19:44 53.8 Lat: 29.53N Lon: 51.46E Depth: 14 Agency: INS Local
Magnitudes: 3.7ML INS Rms: 0.2 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
GHIR	BZ	203	132	EPg		1945	27.08	-0.2							1.0
GHIR	BE	203	132	AML		1946	1.93			831	0.7				
GHIR	BN	203	132	AML		1946	5.68			750	0.5				
NASN	BZ	385	19	EPN5		1945	49.50	-0.2							0.9
KHMZ	BZ	488	344	EPn		1946	2.40	0.1							0.8
KRBR	BZ	516	83	EPn		1946	5.87	0.0							0.8
KRBR	BE	516	83	AML		1947	26.94			61	0.7				
KRBR	BN	516	83	AML		1947	35.18			70	0.7				

BNDS	BZ	519	116	EPn		1946	6.43	0.4									0.8
ASAO	BZ	573	347	EPn		1946	13.04	0.1									0.8
SNGE	BZ	728	329	EPn		1946	32.08	-0.1									0.6

September 29 2009 Hour: 5: 8 3.7 Lat: 27.04N Lon: 56.34E Depth: 16 Agency: INS Local
Magnitudes: 3.7ML INS Rms: 0.0 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	43	337	EPg		5 8	11.74	0.0							1.0
BNDS	BN	43	337	AML		5 8	23.55			8460	0.3				
GHIR	BZ	358	293	EPn		5 8	55.81	0.0							0.9
GHIR	BE	358	293	ESg		5 9	44.15	0.0							0.9
GHIR	BE	358	293	AML		510	5.00			167	0.4				
NASN	BZ	724	333	EPn		5 9	41.38	0.0							0.6

September 29 2009 Hour: 6:32 4.5 Lat: 36.87N Lon: 55.38E Depth: 14 Agency: INS Local
Magnitudes: 4.0ML INS Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
MRVT	BZ	108	35	EPg		632	22.00	-0.8							1.0
MRVT	BN	108	35	AML		632	42.50			3750	0.7				
SHRD	BZ	111	149	EPg		632	22.58	-0.7							1.0
BJRD	BZ	202	62	EPg		632	38.64	0.9							1.0
BJRD	BN	202	62	AML		633	9.40			1617	0.6				
BJRD	BE	202	62	AML		633	15.90			1468	0.6				
TABS	BZ	390	156	EPn		633	1.56	1.0							0.9
TABS	BE	390	156	AML		634	9.17			193	0.8				
TABS	BN	390	156	AML		634	10.19			376	0.8				
GHVR	BZ	458	236	EPn		633	9.42	0.3							0.8
NASN	BZ	509	208	EPn		633	15.23	-0.4							0.8
ASAO	BZ	548	244	EPn		633	20.46	0.0							0.8
SHRT	BZ	572	127	EPn		633	22.82	-0.4							0.8
SHRT	BE	572	127	AML		635	8.35			61	1.1				
ZNJK	BZ	598	270	EPn		633	26.90	0.2							0.7
KHMZ	BZ	602	236	EPn		633	27.11	0.0							0.7
KHMZ	BZ	602	236	EPg		633	41.24	-0.1							0.7
KHMZ	BN	602	236	ESg		634	52.00	0.0							0.7
GHIR	BZ	977	194	EPn		634	13.79	0.1							0.5

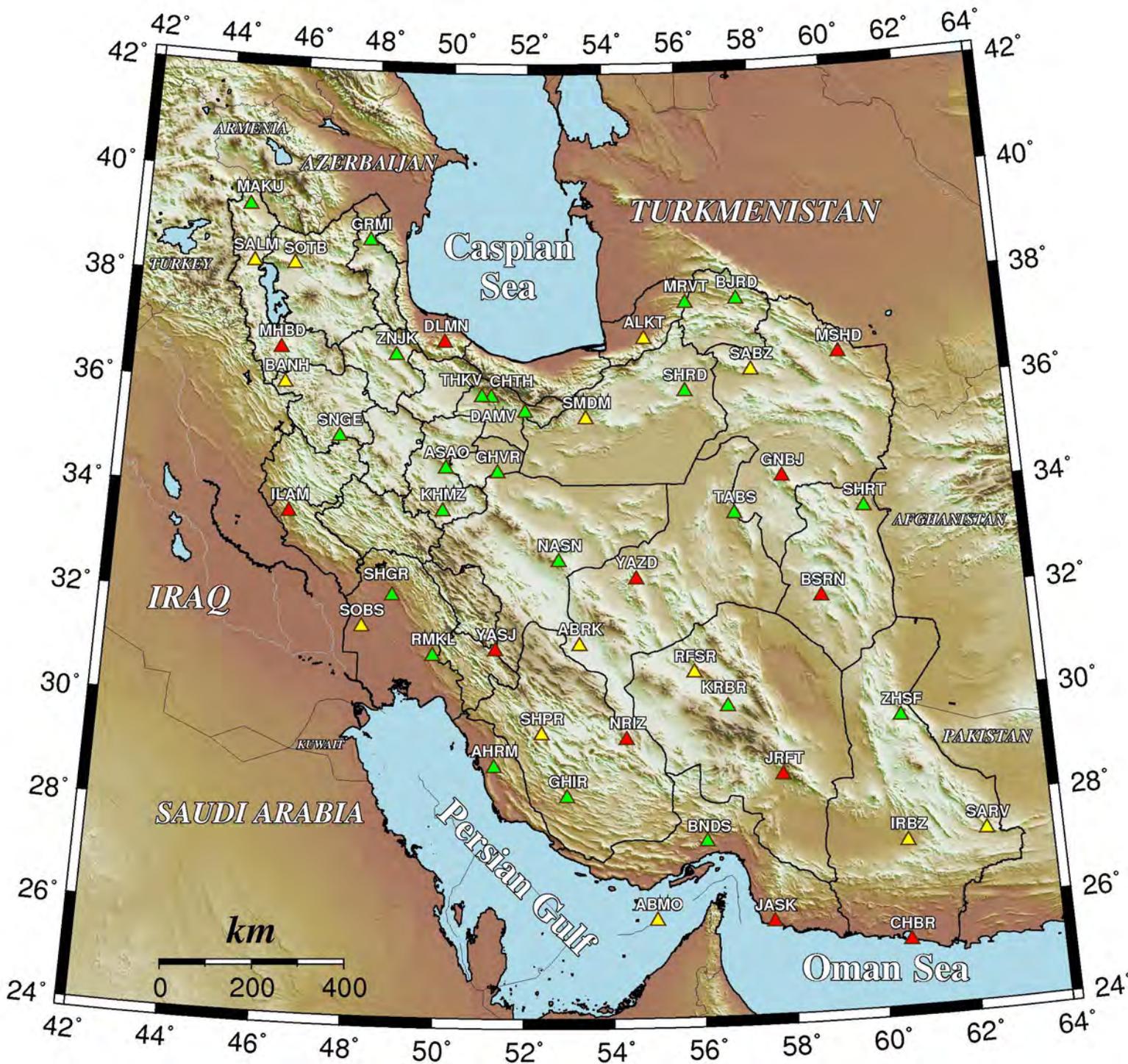
September 30 2009 Hour: 19:39 55.8 Lat: 27.34N Lon: 56.07E Depth: 14 Agency: INS Local
Magnitudes: 4.0ML INS Rms: 0.5 secs

STAT	CO	DIST	AZI	PHASE	P	HRMN	SECON	TRES	CODA	AMPL	PERI	BAZ	ARES	VELO	WT
BNDS	BZ	12	57	EPg		1939	59.34	0.0							1.0
BNDS	BN	12	57	AML		1940	12.30			54785	0.5				
KRBR	BZ	301	13	EPn		1940	41.77	0.6							1.0
KRBR	BN	301	13	ESg		1941	20.35	-0.3							1.0
KRBR	BN	301	13	AML		1941	27.11			632	0.5				
KRBR	BE	301	13	AML		1941	30.96			740	0.8				
GHIR	BZ	321	290	EPn		1940	42.92	-0.6							0.9
GHIR	BN	321	290	ESg		1941	26.33	0.3							0.9
GHIR	BN	321	290	AML		1941	47.01			528	0.6				
GHIR	BE	321	290	AML		1941	50.24			439	0.6				
NASN	BZ	682	333	EPn		1941	28.11	-0.4							0.7
CHTH	BZ	1059	335	EPn		1942	16.24	0.9							0.4

IIES EARTHQUAKE CATALOGUE (July - September 2009)

Year	Month	Day	Hour	Minute	Second	Error	Lat	Error	Long	Error	Depth	Error	NSt	NPh	Gap	D _{min}	Rms	GAP	M _L	Mb
2009	7	1	22	12	11.7	0.38	39.777	4.5	48.883	4.1	30.2	6.3	7	8	245	137.2	0.10	245	4.0	
2009	7	2	21	6	15.0	1.09	27.623	4.6	55.690	6.1	15.1	0.0	4	5	169	53.6	0.46	169	3.6	
2009	7	3	5	34	40.3	0.72	27.701	2.7	55.810	2.6	14.1	6.8	3	5	151	48.9	0.21	151	3.5	
2009	7	5	23	48	24.0	0.37	39.167	8.6	43.640	7.0	14.1	6.4	3	4	294	92.5	0.06	294	3.7	
2009	7	6	1	3	25.8	0.34	28.262	2.1	55.779	5.1	31.9	6.8	4	4	132	103.1	0.00	132	3.6	
2009	7	8	14	44	50.9	1.05	31.712	5.5	51.079	5.9	40.5	8.1	8	8	128	202.6	0.35	128	3.9	
2009	7	10	4	5	12.4	1.16	32.692	5.6	49.922	4.6	14.1	9.4	6	7	152	123.7	0.30	152	4.0	
2009	7	11	10	39	13.9	0.67	38.506	8.7	48.645	13.4	14.1	12.9	5	6	199	73.6	0.18	199	3.5	
2009	7	12	17	38	17.0	0.56	28.313	12.3	51.429	7.9	43.8	0.0	4	5	259	152.8	0.23	259	3.5	
2009	7	14	11	15	54.8	0.44	28.401	7.1	52.288	8.6	0.3	5.1	6	6	238	69.7	0.14	238	3.5	
2009	7	18	14	24	31.9	0.43	30.789	1.3	57.159	3.0	15.4	4.1	4	6	195	97.3	0.12	195	3.5	
2009	7	18	20	32	27.3	0.86	35.809	7.9	43.219	17.7	18.0	13.2	10	13	270	383.1	0.42	270	4.6	
2009	7	19	18	51	29.1	0.40	33.618	2.4	61.023	7.1	8.9	4.8	5	6	218	67.9	0.09	218	3.6	
2009	7	22	3	53	2.6	1.22	26.729	10.6	55.869	5.5	14.2	9.6	11	14	274	80.1	0.53	274	5.2	5.5
2009	7	22	4	26	32.5	0.34	26.854	6.9	55.741	6.0	6.1	5.6	4	5	266	74.0	0.04	266	3.5	
2009	7	22	6	50	0.1	0.45	26.955	10.7	55.736	8.4	9.1	7.5	4	5	258	65.4	0.13	258	3.8	
2009	7	22	9	20	59.4	1.39	34.504	6.3	49.489	12.6	15.0	12.6	6	6	191	49.5	0.44	191	4.2	
2009	7	22	17	44	55.8	0.31	26.915	6.0	55.939	5.0	27.5	3.4	4	5	275	58.4	0.00	275	3.7	
2009	7	29	9	27	42.7	1.21	36.167	6.0	50.431	6.7	15.0	9.5	8	8	149	49.1	0.40	149	4.0	
2009	7	29	18	9	40.8	0.47	28.482	2.2	57.441	3.6	14.2	5.3	5	6	158	173.2	0.12	158	3.8	
2009	8	5	22	55	40.5	0.47	32.280	5.2	47.138	8.2	15.7	14.3	7	9	237	309.7	0.15	237	3.5	
2009	8	7	3	6	22.4	0.56	39.569	10.1	51.103	4.7	46.1	0.0	7	8	276	289.8	0.20	276	4.3	
2009	8	7	4	54	8.8	1.05	28.209	5.0	56.721	8.3	15.0	8.1	4	4	144	104.8	0.31	144	4.4	
2009	8	7	7	27	34.0	1.32	36.823	7.3	55.230	6.4	14.2	13.8	5	6	152	114.4	0.41	152	3.5	
2009	8	7	18	59	33.9	0.79	26.993	6.3	57.282	10.4	18.0	14.9	4	5	244	118.9	0.26	244	4.1	
2009	8	8	6	36	44.8	0.30	27.607	3.4	52.902	5.2	22.5	4.3	5	6	266	75.6	0.03	266	3.5	
2009	8	8	14	18	41.9	0.42	29.513	5.5	51.341	6.6	17.6	7.8	7	7	215	210.4	0.13	215	4.0	
2009	8	9	11	43	58.1	0.34	27.878	6.3	53.199	8.4	23.9	5.6	5	5	236	49.7	0.05	236	4.1	
2009	8	10	15	6	12.7	0.36	27.671	4.7	53.095	5.8	20.4	5.0	6	7	252	68.9	0.09	252	3.8	
2009	8	11	5	42	44.7	0.31	26.733	9.8	55.162	5.1	43.6	5.0	4	5	256	124.4	0.01	256	3.5	
2009	8	13	6	12	44.6	1.01	31.610	6.2	49.872	9.8	15.0	10.4	13	13	189	236.3	0.36	189	4.1	
2009	8	13	13	57	45.4	1.08	36.291	7.8	51.934	7.3	14.1	10.8	6	8	281	73.4	0.33	281	3.9	

Year	Month	Day	Hour	Minute	Second	Error	Lat	Error	Long	Error	Depth	Error	NSt	NPh	Gap	D _{min}	Rms	GAP	M _L	Mb
2009	8	14	22	5	3.6	0.84	36.335	6.0	52.014	4.2	14.1	9.2	8	9	176	78.3	0.26	176	4.2	
2009	8	14	23	6	16.2	1.14	36.218	9.3	51.903	7.9	14.1	11.3	6	7	277	65.6	0.33	277	3.8	
2009	8	15	0	28	41.4	1.09	36.246	7.5	51.897	7.6	14.1	10.5	7	8	247	68.6	0.33	247	3.8	
2009	8	22	4	8	6.7	0.61	28.078	9.4	54.763	5.2	14.2	5.8	6	7	236	176.0	0.23	236	3.6	
2009	8	22	19	17	18.9	0.77	28.278	5.0	57.203	13.4	14.2	0.0	3	4	272	193.8	0.29	272	3.5	
2009	8	23	18	51	21.2	0.78	37.344	4.2	54.095	5.1	14.1	11.0	6	8	196	179.8	0.23	196	4.0	
2009	8	24	13	44	28.5	0.30	28.274	5.0	57.041	16.0	15.0	0.0	3	3	221	129.4	0.01	221	3.7	
2009	8	25	15	59	59.6	1.17	30.245	7.6	51.775	5.9	15.0	0.0	6	6	185	247.0	0.48	185	3.8	
2009	8	26	22	22	11.1	0.37	30.930	2.8	50.091	4.8	18.0	7.9	6	7	196	311.9	0.10	196	3.5	
2009	8	30	14	4	37.4	0.35	33.242	6.1	46.540	3.7	14.1	6.8	8	9	292	218.3	0.10	292	4.5	
2009	9	1	21	29	29.7	0.73	33.135	16.0	45.832	6.7	14.1	10.9	4	6	313	258.2	0.21	313	4.0	
2009	9	6	1	24	45.6	0.30	30.173	2.0	51.708	3.6	15.0	0.0	4	4	231	243.3	0.06	231	3.6	
2009	9	11	18	9	42.3	0.84	37.643	7.9	48.754	7.9	15.0	12.8	6	6	161	149.8	0.27	161	3.6	
2009	9	15	14	44	10.4	0.34	28.046	4.4	57.142	9.3	26.7	3.9	4	4	234	119.5	0.00	234	3.5	
2009	9	22	20	25	33.6	0.54	35.180	4.6	59.943	3.7	17.9	9.6	4	5	208	173.2	0.15	208	3.5	
2009	9	24	18	1	10.0	0.88	33.213	6.9	48.304	4.8	14.2	9.4	7	9	242	165.0	0.27	242	3.7	
2009	9	26	11	16	23.2	1.16	32.102	3.7	55.851	8.2	14.1	12.3	6	7	108	208.6	0.35	108	4.1	
2009	9	26	19	44	53.8	0.53	29.528	7.1	51.455	7.9	14.1	10.4	7	7	197	203.2	0.17	197	3.7	
2009	9	29	5	8	3.7	0.34	27.042	11.8	56.341	3.4	16.1	7.6	3	4	316	43.0	0.00	316	3.7	
2009	9	29	6	32	4.5	1.54	36.866	6.7	55.379	6.6	14.1	11.4	11	13	125	108.2	0.54	125	4.0	
2009	9	30	19	39	55.8	1.31	27.340	8.1	56.068	5.9	14.1	7.5	5	7	232	12.2	0.47	232	4.0	



Iranian National Broadband Seismic Network (INSN)

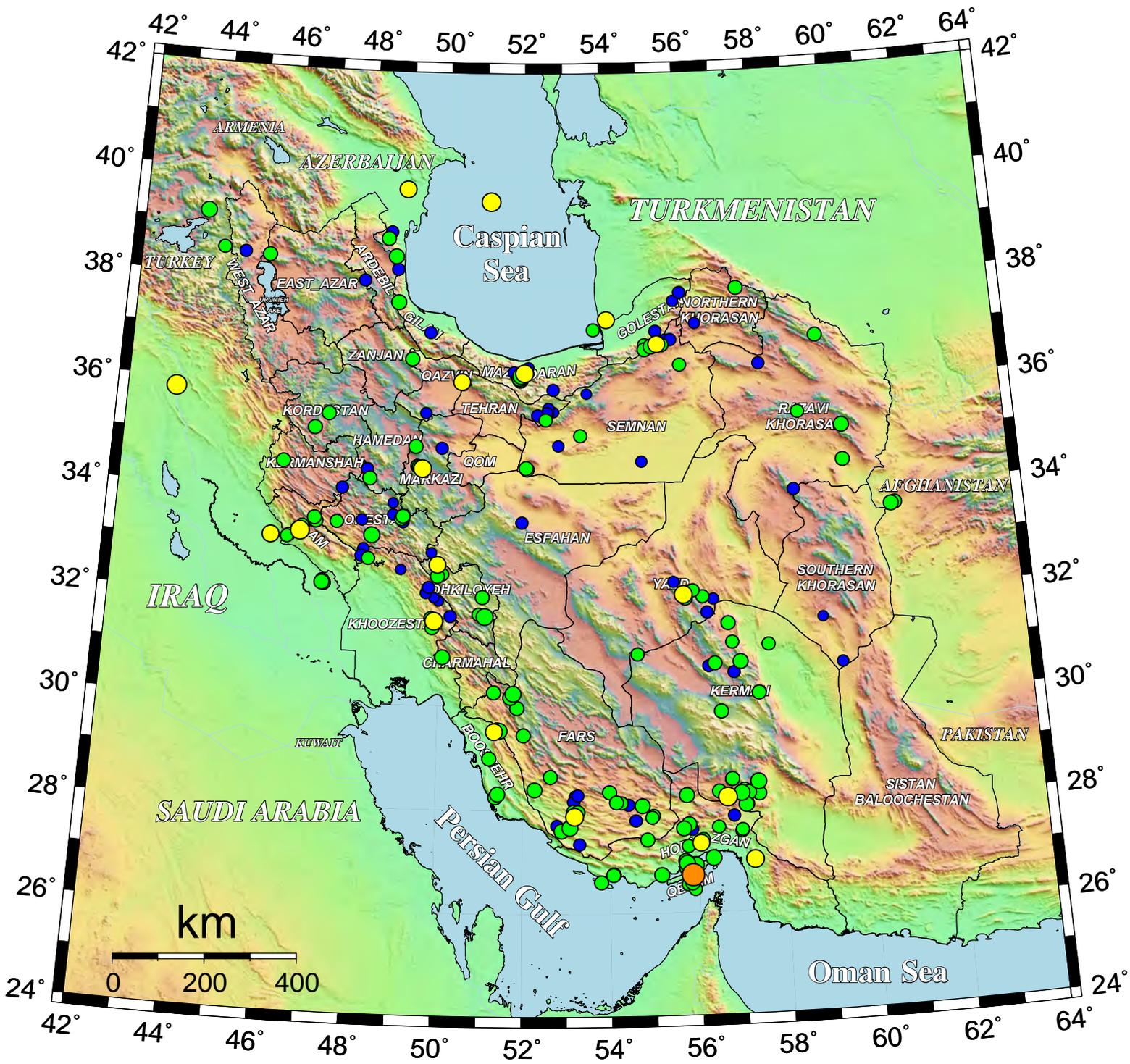
▲ Available Stations
 ▲ Under Construction
 ▲ Future Plan

More information available at :

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



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217 events during 2009/07/01 to 2009/09/30

Magnitude

● $2.5 \leq M < 3$	● $3 \leq M < 4$	● $4 \leq M < 5$	● $5 \leq M < 6$	● $6 \leq M < 7$
N = 73	N = 125	N = 18	N = 1	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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