GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION No. 2088
TO BE ANSWERED ON THURSDAY, MAY 12, 2016

LOSS OF LIFE AND PROPERTY DURING EARTHQUAKES

2088. SHRI SANJAY RAUT:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) the details of seismic tremors reported during the last two years along with their intensity, location-wise and the loss of life and property reported therein;
(b) whether Government has identified the earthquake prone areas in the country, if so, the details thereof, location-wise; and
(c) the steps taken by Government to minimise the damage due to earthquakes of high intensity?

ANSWER
MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)

(a) Details of earthquakes detected and located in and around the country (covering the area bounded by 6°-38°N Latitude and 68°-98°E Longitude) by the National Seismological Network of National Centre for Seismology(NCS), during the last two years (period 2014, 2015 and up to April 2016) periods is in Annexure-I.

During last two years, Bay of Bengal (275 km South-East of Paradip), Nepal, Afghanistan, Tajikistan, Manipur and Burma earthquake and its aftershocks caused loss of life and property in Indian territory also. 114 deaths have been reported (Bihar-79; Uttar Pradesh -19; West Bengal-3; Rajashthan-1;Jammu&Kashmir-4 and Manipur-8;) and about 13000 houses were reported damaged.

(b) Bureau of Indian Standards [IS-1893 (Part- 1): 2002], based on the past seismic history, grouped the country into four seismic zones, viz. Zone-II, -III, -IV and –V. Of these, Zone V is the most seismically active region, while zone II is the least. The Modified Mercalli (MM) intensity, which measures the impact of the earthquakes on the surface of the earth, broadly associated with various zones, is as follows:

Seismic Zone	Intensity on MM scale
II (Low intensity zone)	VI (or less)
III (Moderate intensity zone)	VII
IV (Severe intensity zone)	VIII
V (Very severe intensity zone)	IX (and above)

Broadly, Zone-V comprises of entire northeastern India, parts of Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Rann of Kutch in Gujarat, parts of North Bihar and Andaman & Nicobar Islands. Zone-IV covers remaining parts of Jammu & Kashmir and Himachal Pradesh, Union Territory of Delhi, Sikkim, northern parts of Uttar Pradesh, Bihar and West Bengal, parts of Gujarat and small portions of Maharashtra near the west coast and Rajasthan. Zone-III comprises of Kerala, Goa, Lakshadweep islands, remaining parts of Uttar Pradesh, Gujarat and West Bengal, parts of Punjab, Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Maharashtra, Orissa, Andhra Pradesh, Tamilnadu and Karnataka. Zone-II covers remaining parts of the country. The List of important towns falling in seismic zone II, III, IV and V is in Annexure-II.

(c) The Government has implemented various programmes to educate and raise awareness amongst school children and general public on various aspects of earthquakes, their impacts and measures to mitigate losses. Following awareness programmes are organized by the Government in preparing communities to respond the earthquake:

- **Earthquake information located by NCS is put on its website for public in general.**

- **School children from different school of NCR region visit the facilities at NCS and get first hand information on earthquake monitoring in the country. School children also visit to the seismological observatories located in different parts of the country.**

- **NCS is regularly participating in MoES exhibition stall at India International Trade Fair(IITF), New Delhi and in Indian National Science Congress yearly event by putting a exhibition stall in seismology under MoES banner for visitors.**

The National Disaster Management Authority (NDMA) has also issued National Disaster Management Guidelines on Management of Earthquakes which contains roles and responsibilities of all stakeholders for effective management of earthquake disaster risk. NDMA runs awareness campaigns on Earthquake through electronic media Doordarshan, All India Radio, Private TV channels, FM Channels, digital cinemas, 139 - Railway Enquiry and print media. Multi State Mega Mock exercises are conducted at regular intervals for creating awareness. Every year during IITF in Delhi, awareness is disseminated among general public by displaying panels on Do's and Don'ts on Earthquakes and by holding live demonstrations on earthquake by National Disaster Response Force (NDRF).

Guidelines have been published by the Bureau of Indian Standards (BIS), Building Materials & Technology Promotion Council (BMTPC), Housing and Urban Development Corporation (HUDCO) and NDMA for the design and construction of earthquake resistant structures to minimize the loss of life and damage to property caused by earthquakes. Loss of life and damage of property due to earthquakes could be considerably reduced through proper planning and implementation of pre- and post-disaster preparedness and management strategies by respective State and Central Government agencies in a coordinated manner following the above mentioned guidelines. These studies involving preparation of geological, geomorphological and land use maps followed by drilling, geological logging, standard penetration test and geophysical studies to demarcate the zones of least to most damage prone areas within the urban areas so as to helps the respective town and country planning agencies to formulate perspective planning within the overall earthquake impact minimization efforts. Based on the above steps it is mandatory for all infrastructure/building/ development agencies (Public and Private) to design appropriate earthquake resistant building plans based on the relevant BIS Codes and other guidelines of BMTPC, HUDCO and NDMA for across the country.

Annexure-I

Details of earthquakes which have been detected and located in and around the country (Covering the area bounded by 6°-38°N Latitude and 68°-98°E Longitude)by the National Seismological Network during 2014, 2015 and current year(up to 30 April, 2016)

Day Year	Mon	day	Origin-TIME (UTC) hr	min	sec	Latitude °N	Longitude °E	Depth (Km)	Magnitude (Richter scale)
2014	01	04	14	27	12.3	36.55	70.68	258	4.4
2014	01	04	15	12	26.7	36.99	68.24	33	4.0
2014	01	05	13	30	46.7	33.07	75.41	4	3.8
2014	01	06	21	10	32.5	36.42	70.92	288	4.1
2014	01	07	11	37	6.3	36.31	69.54	107	4.8
2014	01	07	13	50	22.7	20.70	74.00	15	3.5
2014	01	07	16	32	8.5	22.80	94.20	33	3.1
2014	01	07	21	45	28.7	18.68	77.71	15	2.7
2014	01	10	01	34	58.9	32.76	76.40	5	2.2
2014	01	10	21	40	36.2	28.30	93.25	10	3.9
2014	01	11	02	04	2.2	21.20	93.99	83	4.0
2014	01	11	09	32	27.7	36.54	71.13	262	4.8
2014	01	14	08	36	16.2	8.71	93.52	30	3.3
2014	01	14	15	41	8.5	36.41	71.47	139	5.1
2014	01	15	15	44	36.2	36.47	71.24	145	5.1
2014	01	16	10	15	5.4	37.94	68.68	15	4.3
2014	01	16	17	47	37.4	31.67	90.12	65	5.0
2014	01	18	00	48	49.2	16.01	82.52	7	2.8
2014	01	18	11	55	39.7	36.52	70.82	306	4.3
2014	01	19	15	33	15.1	32.72	93.72	17	4.6
2014	01	20	13	18	25.0	22.12	92.93	15	3.0
2014	01	20	14	40	57.9	29.84	80.55	5	2.8
2014	01	20	23	27	33.5	6.49	95.35	233	3.9
2014	01	21	15	13	55.9	30.59	77.10	16	2.8
2014	01	21	22	25	0.8	36.54	68.88	352	3.6
2014	01	22	00	32	34.7	18.32	77.46	68	2.9
2014	01	23	14	35	8.6	36.71	71.85	92	4.3
2014	01	24	00	51	35.5	24.11	93.72	15	3.3
2014	01	24	18	22	40.4	36.38	71.26	309	4.4
2014	01	24	23	25	24.7	22.65	95.81	10	3.1
2014	01	25	21	36	29.7	34.63	69.80	37	3.4
2014	01	26	12	38	34.0	23.03	96.30	10	5.1
2014	01	27	10	33	20.5	34.97	72.52	33	4.4
2014	01	27	20	12	45.0	14.31	93.04	20	3.3
2014	01	29	13	46	54.2	24.20	93.50	74	5.0
2014	01	30	12	17	14.8	22.78	94.31	40	4.6
2014	01	30	19	49	35.9	6.26	96.07	183	3.6
2014	02	02	16	45	18.7	22.61	96.42	10	3.1
2014	02	02	23	44	0.4	12.54	95.06	10	5.1
2014	02	03	10	52	15.0	36.26	70.18	214	4.3
2014	02	04	15	48	10.6	35.49	70.05	153	4.7
2014	02	04	16	07	15.1	32.81	76.14	5	2.8
2014	02	04	16	09	20.7	32.81	76.18	5	2.6

2014	02	04	16	11	18.2	32.92	76.18	5	3.4
2014	02	04	20	47	31.7	37.44	75.40	357	3.8
2014	02	06	04	13	51.5	38.00	74.93	115	4.4
2014	02	06	15	07	45.0	28.66	96.86	96	3.4
2014	02	07	08	56	43.7	32.00	90.31	27	4.7
2014	02	08	00	16	13.5	36.84	71.44	238	4.1
2014	02	08	04	26	44.4	8.98	92.76	15	3.4
2014	02	08	19	21	6.5	36.69	71.22	323	3.8
2014	02	09	00	52	56.4	36.42	70.01	312	4.2
2014	02	09	23	24	19.2	23.18	96.26	6	3.0
2014	02	09	23	43	50.9	25.93	95.17	143	3.0
2014	02	10	07	24	26.7	36.83	71.20	94	3.7
2014	02	11	01	15	32.0	33.83	89.18	49	5.1
2014	02	11	02	14	50.7	36.51	82.81	10	5.1
2014	02	12	09	19	53.2	35.72	82.61	33	6.4
2014	02	12	09	24	43.0	35.82	82.47	10	5.8
2014	02	13	06	23	37.5	11.57	93.97	114	4.3
2014	02	13	16	08	22.7	22.67	94.44	92	3.5
2014	02	14	13	10	46.4	24.70	89.64	13	4.0
2014	02	15	21	24	44.9	36.44	71.10	229	4.8
2014	02	16	05	19	21.5	9.96	94.33	16	3.9
2014	02	16	19	02	30.7	30.42	79.25	10	3.7
2014	02	17	00	30	42.4	30.30	79.94	10	3.5
2014	02	18	11	58	15.6	36.87	71.39	196	4.4
2014	02	19	15	02	15.1	13.93	93.13	9	3.2
2014	02	21	06	00	35.0	37.96	72.84	150	4.0
2014	02	21	06	46	48.0	29.97	76.19	10	3.9
2014	02	21	07	26	6.9	30.04	76.22	9	3.5
2014	02	22	02	58	41.5	36.78	74.01	66	4.2
2014	02	23	17	04	53.0	26.93	92.59	76	4.5
2014	02	24	08	59	5.0	31.33	69.35	15	3.6
2014	02	24	14	15	5.9	30.46	79.22	10	3.5
2014	02	26	11	04	19.7	36.69	70.67	236	4.1
2014	02	26	20	58	53.4	24.59	93.68	19	4.0
2014	02	28	05	50	35.7	7.43	94.51	72	5.2
2014	02	28	13	11	25.2	23.45	91.61	21	3.7
2014	02	28	17	46	23.2	28.73	77.27	12	2.6
2014	03	01	08	54	53.2	36.80	71.32	399	4.4
2014	03	01	14	17	19.7	37.33	71.94	150	4.0
2014	03	03	19	19	51.0	27.04	70.61	10	3.5
2014	03	04	00	13	0.2	30.69	69.26	10	3.5
2014	03	06	12	39	52.7	26.25	90.14	10	3.5
2014	03	07	08	41	56.5	31.86	90.75	10	4.7
2014	03	07	21	43	56.2	36.75	71.99	217	4.1
2014	03	08	19	01	11.0	23.52	70.22	10	4.0
2014	03	09	11	59	8.1	37.80	72.20	92	4.0
2014	03	09	12	46	4.5	36.51	70.65	150	3.9
2014	03	09	16	03	2.2	19.29	95.74	33	5.0
2014	03	11	11	23	55.7	13.78	92.74	23	4.9
2014	03	13	02	11	59.2	34.32	69.77	10	4.1
2014	03	13	17	02	8.6	29.87	80.30	5	2.9
2014	03	13	20	05	18.7	27.51	92.68	10	3.7
2014	03	14	13	38	7.3	7.64	94.41	21	5.4
2014	03	15	05	11	53.7	29.00	76.53	5	2.7
2014	03	15	06	30	41.7	7.19	94.88	33	4.9
2014	03	17	00	41	51.5	36.24	70.67	270	3.9
2014	03	18	10	11	24.0	37.21	71.92	202	4.1
2014	03	18	19	20	45.4	22.73	96.03	33	3.3
2014	03	19	01	42	51.4	36.46	71.05	130	4.7
2014	03	19	12	24	31.1	30.63	77.86	5	3.1
2014	03	19	14	15	38.2	36.26	69.86	123	5.1
2014	03	20	04	00	20.2	23.33	94.38	109	4.7

2014	03	20	14	14	25.2	31.72	73.61	41	4.1
2014	03	20	19	36	57.0	36.93	70.85	120	4.0
2014	03	21	13	41	9.1	7.66	94.40	28	6.3
2014	03	21	13	41	9.5	7.74	94.33	21	6.2
2014	03	21	14	13	29.1	7.14	94.25	25	5.2
2014	03	21	14	25	10.5	7.50	94.35	10	5.0
2014	03	21	14	36	6.5	7.18	94.51	-	4.1
2014	03	21	14	45	50.2	7.30	94.69	10	4.8
2014	03	21	14	49	54.7	6.93	94.70	10	4.4
2014	03	21	14	53	5.5	7.48	94.08	10	4.5
2014	03	21	15	08	37.2	7.38	94.54	10	4.3
2014	03	21	15	43	27.5	7.49	94.48	1	4.5
2014	03	21	15	48	27.6	7.76	94.12	-	4.8
2014	03	21	18	08	23.6	7.04	94.76	10	4.0
2014	03	21	18	56	7.0	7.33	94.21	10	3.4
2014	03	21	18	50	37.7	7.32	94.20	10	4.6
2014	03	21	18	50	37.7	7.32	94.20	10	4.6
2014	03	21	21	03	40.0	7.39	94.50	10	5.1
2014	03	21	22	57	17.0	7.31	94.42	16	4.6
2014	03	21	23	50	17.0	7.31	94.36	10	4.5
2014	03	22	00	10	33.7	7.48	94.35	10	4.8
2014	03	22	08	35	35.0	23.08	94.24	38	4.3
2014	03	22	12	58	20.6	35.76	82.15	29	5.0
2014	03	23	01	55	4.0	36.58	70.95	176	3.9
2014	03	23	13	47	37.0	36.67	71.36	270	4.0
2014	03	23	17	46	11.6	36.36	70.25	308	4.5
2014	03	24	09	14	53.2	36.76	70.64	164	4.6
2014	03	25	00	54	31.7	18.58	73.69	12	3.2
2014	03	25	17	36	50.7	35.73	70.10	96	3.8
2014	03	25	23	04	36.0	30.35	80.93	37	3.4
2014	03	26	19	52	9.3	33.78	73.18	15	3.9
2014	03	27	07	39	27.7	34.99	73.25	19	4.0
2014	03	28	10	24	10.1	37.08	70.90	102	5.3
2014	03	30	17	10	17.2	31.24	86.35	10	5.2
2014	03	31	07	51	35.0	29.67	82.38	10	3.8
2014	04	01	17	45	2.0	26.11	93.10	33	4.6
2014	04	02	02	03	7.8	17.37	73.63	10	3.4
2014	04	04	06	57	35.5	22.92	93.77	59	4.3
2014	04	06	06	37	49.4	25.98	93.78	33	4.3
2014	04	11	00	45	6.3	12.66	93.22	32	4.9
2014	04	11	17	22	13.6	29.32	81.68	10	3.2
2014	04	13	03	30	11.5	36.39	70.64	38	4.4
2014	04	18	21	34	38.9	17.20	73.90	20	2.8
2014	04	19	08	29	10.8	34.60	75.60	10	4.0
2014	04	19	20	12	35.9	32.44	72.99	39	4.0
2014	04	21	04	49	49.5	35.89	70.66	116	4.5
2014	04	26	17	48	48.2	35.06	69.69	53	4.4
2014	04	27	09	14	9.3	27.63	76.05	10	3.3
2014	04	27	11	58	32.0	35.73	68.60	81	4.0
2014	04	27	14	22	20.7	30.39	83.39	18	3.6
2014	04	30	07	46	58.5	23.28	94.23	33	4.1
2014	05	01	00	56	13.6	13.63	92.82	38	4.4
2014	05	01	13	40	3.4	31.84	69.31	10	4.5
2014	05	01	15	57	56.2	36.20	70.36	33	4.0
2014	05	03	00	05	5.8	36.91	72.49	243	4.2
2014	05	03	18	49	34.5	35.57	72.07	10	4.4
2014	05	03	22	48	50.9	36.32	70.67	118	4.8
2014	05	04	00	59	38.5	32.40	96.43	10	4.0
2014	05	04	02	06	29.2	32.14	95.36	10	4.4
2014	05	05	03	52	18.7	37.48	72.87	314	4.1
2014	05	08	23	50	13.1	26.20	68.65	10	4.2
2014	05	10	23	23	5.0	36.74	71.12	290	4.3

2014	05	14	01	54	5.8	29.88	80.27	19	3.4
2014	05	18	19	33	52.9	26.41	93.18	56	3.7
2014	05	19	21	53	32.2	31.92	77.13	13	4.0
2014	05	21	14	47	50.5	36.91	70.23	167	4.7
2014	05	21	16	21	54.4	18.25	88.09	34	5.8
2014	05	26	00	43	8.5	35.80	69.35	200	4.1
2014	05	28	03	19	10.1	25.32	95.05	126	4.7
2014	05	29	03	23	49.4	24.39	94.46	85	4.5
2014	05	30	06	37	51.2	26.60	90.38	14	4.2
2014	05	31	17	31	45.7	16.45	95.87	10	4.9
2014	06	01	12	25	33.0	36.53	70.08	211	4.6
2014	06	03	02	11	47.9	33.85	69.51	37	4.0
2014	06	03	05	34	47.5	24.71	97.78	-	4.2
2014	06	03	18	00	17.6	36.15	69.47	150	4.9
2014	06	04	07	20	12.6	22.75	93.38	53	4.6
2014	06	08	09	27	21.5	36.36	70.39	230	4.4
2014	06	09	04	46	5.5	27.40	88.15	5	3.9
2014	06	09	17	40	21.1	24.06	91.43	18	3.9
2014	06	11	00	48	28.0	31.41	86.77	10	3.5
2014	06	11	15	07	32.9	23.28	94.15	35	3.7
2014	06	13	13	32	47.4	33.41	75.54	6	5.0
2014	06	13	15	39	9.0	28.61	77.25	18	2.7
2014	06	13	16	16	31.2	29.15	86.03	10	3.3
2014	06	14	03	58	39.0	36.38	70.31	184	5.6
2014	06	14	05	24	31.2	26.88	92.64	10	4.5
2014	06	17	00	11	39.7	36.87	70.86	235	4.6
2014	06	17	17	31	7.8	32.40	76.39	6	4.1
2014	06	19	14	03	36.9	36.54	72.00	247	4.9
2014	06	19	16	42	32.0	35.04	69.61	250	4.2
2014	06	24	14	52	7.5	36.18	70.26	200	4.4
2014	06	28	05	57	4.0	12.09	93.45	33	4.9
2014	07	03	11	34	59.0	30.20	80.20	10	4.1
2014	07	03	20	40	0.0	35.60	75.20	10	5.0
2014	07	04	05	58	39.0	27.80	87.90	19	3.9
2014	07	06	14	48	9.0	30.20	80.30	10	4.5
2014	07	06	21	06	56.0	25.70	91.20	5	3.4
2014	07	08	15	35	40.0	36.20	74.00	97	4.9
2014	07	11	04	14	9.0	36.30	71.20	93	5.1
2014	07	12	00	14	17.0	26.20	91.40	5	3.8
2014	07	12	15	27	50.0	32.60	76.30	5	3.8
2014	07	18	20	44	25.0	28.80	77.20	5	2.5
2014	07	19	06	40	4.0	27.30	88.80	9	3.1
2014	07	22	20	54	41.0	26.10	89.90	10	3.8
2014	07	22	22	58	28.0	26.30	89.80	10	4.4
2014	07	22	23	35	13.0	26.30	89.80	18	4.2
2014	07	24	08	42	35.0	28.60	76.70	5	2.5
2014	07	25	04	56	17.0	33.00	76.10	10	3.9
2014	07	27	05	35	37.0	26.10	90.60	10	3.5
2014	07	29	07	07	11.0	14.30	93.00	35	5.5
2014	08	01	15	01	1.0	23.80	93.60	170	3.6
2014	08	01	20	27	54.0	24.80	94.40	147	4.4
2014	08	02	16	19	0.0	12.10	93.60	96	5.0
2014	08	07	18	44	23.0	26.20	92.10	10	3.4
2014	08	09	03	12	50.0	26.30	93.60	10	3.8
2014	08	12	20	52	0.0	9.70	93.70	100	5.0
2014	08	16	16	39	46.0	24.70	94.60	10	4.8
2014	08	17	20	34	34.0	23.90	91.40	98	4.2
2014	08	20	08	04	59.0	27.60	92.30	10	4.1
2014	08	21	00	32	33.0	26.80	93.20	20	3.5
2014	08	21	08	11	17.0	32.30	76.50	10	5.0
2014	08	22	07	05	48.0	27.00	92.60	15	3.3
2014	08	23	19	58	47.0	8.40	93.60	100	4.8

2014	08	24	08	29	31.0	29.90	79.90	5	4.1
2014	08	31	11	48	24.0	36.50	71.00	204	5.5
2014	09	01	08	31	53.0	25.30	94.90	100	3.7
2014	09	04	00	48	26.0	28.60	94.10	5	3.8
2014	09	04	11	31	29.0	29.30	77.20	16	3.5
2014	09	06	17	12	17.0	25.10	95.20	139	4.6
2014	09	08	13	11	0.0	14.30	92.80	13	4.6
2014	09	09	09	28	21.0	22.10	93.10	7	5.2
2014	09	12	07	56	44.0	26.10	90.20	10	4.2
2014	09	12	13	06	31.0	8.60	92.60	41	5.1
2014	09	13	03	31	25.0	27.80	92.80	10	4.4
2014	09	13	22	31	51.0	36.00	70.70	89	5.3
2014	09	15	21	38	58.0	24.70	94.70	10	3.7
2014	09	17	10	29	12.0	27.80	87.80	20	3.9
2014	09	17	17	03	17.0	33.00	75.60	10	3.5
2014	09	22	20	49	9.0	34.50	73.90	10	4.3
2014	09	26	04	21	26.0	12.50	95.30	36	5.4
2014	09	27	16	22	39.0	35.90	73.20	10	4.6
2014	09	27	22	49	1.0	36.40	69.90	10	5.5
2014	10	06	13	46	5.0	24.30	93.30	10	3.6
2014	10	12	03	32	45.0	13.00	94.00	100	5.4
2014	10	12	21	43	12.0	28.70	94.40	10	3.8
2014	10	13	19	25	22.0	25.60	91.90	10	2.7
2014	10	14	18	36	8.0	7.40	94.40	10	4.8
2014	10	17	09	44	58.0	27.60	96.70	10	4.0
2014	10	18	13	59	41.0	6.90	92.30	19	4.7
2014	10	22	05	18	52.0	23.10	79.60	5	2.8
2014	10	23	04	05	32.0	34.80	74.00	10	4.9
2014	10	24	00	05	23.0	24.10	93.90	10	4.8
2014	10	24	05	11	55.0	23.70	94.70	80	4.0
2014	10	24	17	23	53.0	7.60	94.40	10	4.4
2014	10	26	02	56	31.0	7.60	95.00	60	4.7
2014	10	27	22	05	32.0	27.70	93.80	10	3.8
2014	10	30	03	47	54.0	26.40	90.40	10	3.7
2014	11	02	05	41	4.0	26.80	94.00	30	4.1
2014	11	02	11	38	21.0	7.40	94.40	10	4.4
2014	11	06	15	46	25.0	7.30	94.50	80	4.9
2014	11	11	05	04	48.0	7.60	94.50	16	4.6
2014	11	11	05	38	47.0	8.00	94.70	18	4.7
2014	11	11	07	42	14.0	9.00	93.90	33	4.6
2014	11	11	07	50	9.0	7.50	94.50	33	5.1
2014	11	11	08	04	38.0	7.60	94.30	10	4.8
2014	11	11	15	24	36.0	7.60	94.40	10	4.5
2014	11	14	13	37	36.0	27.40	92.50	10	3.6
2014	11	14	21	19	41.0	7.30	94.40	10	4.4
2014	11	16	20	33	30.0	24.20	93.70	33	4.0
2014	11	18	03	25	43.0	7.40	94.40	10	5.4
2014	11	18	06	06	17.0	6.80	95.00	10	4.8
2014	11	18	06	12	8.0	7.10	94.10	10	4.6
2014	11	18	15	55	26.0	32.70	76.00	5	3.7
2014	11	19	15	26	0.0	24.50	72.40	5	2.9
2014	11	20	06	05	47.0	7.30	94.40	10	4.7
2014	11	20	18	14	32.0	23.80	93.50	33	5.6
2014	11	20	22	45	22.0	23.50	93.60	80	4.3
2014	11	21	08	58	6.0	36.60	71.10	210	5.3
2014	11	21	16	11	15.0	23.60	93.40	46	4.7
2014	11	21	22	45	38.0	34.30	79.00	85	4.3
2014	11	22	11	34	50.0	17.30	73.80	15	3.6
2014	11	25	15	49	8.0	27.80	84.70	7	3.8
2014	11	25	21	32	26.0	27.10	89.00	10	4.5
2014	11	28	01	18	41.0	12.50	92.80	10	5.4
2014	12	02	18	47	2.0	26.30	91.30	15	3.0

2014	12	03	06	28	11.0	24.00	92.70	46	3.6
2014	12	04	23	53	49.0	27.00	92.50	10	4.8
2014	12	08	05	39	4.0	12.10	93.60	33	4.0
2014	12	10	14	44	50.0	24.50	94.10	32	3.6
2014	12	11	19	27	38.0	24.60	94.20	72	3.7
2014	12	18	12	14	29.0	36.50	71.00	165	5.0
2014	12	18	15	32	6.0	27.60	86.40	10	5.2
2014	12	19	02	36	17.0	7.50	94.30	10	4.7
2014	12	19	14	41	46.0	6.80	94.60	35	5.1
2014	12	21	05	37	37.0	24.30	94.50	80	5.0
2014	12	22	23	24	43.0	22.30	92.90	10	4.1
2014	12	25	07	40	49.0	26.40	89.90	10	4.1
2014	12	26	03	30	41.0	23.40	93.80	6	3.3
2014	12	26	07	08	9.0	28.10	87.00	12	5.0
2014	12	26	13	00	5.0	6.70	94.50	10	4.8
2014	12	27	02	02	39.0	23.50	94.40	10	4.2
2014	12	27	15	25	50.0	24.80	94.00	10	3.6
2014	12	29	17	26	57.0	26.40	92.00	10	4.0

Day			Origin-TIME			Latitude	Longitude	Depth	Magnitude
Year	Mon	day	hr	min	sec (UTC)	°N	°E	(Km)	(Richter scale)
2015	01	02	07	23	34.0	24.10	93.90	20	3.5
2015	01	05	09	20	15.0	24.10	93.70	10	3.7
2015	01	05	19	41	40.0	29.00	81.80	5	4.2
2015	01	10	13	06	36.0	11.00	93.50	117	4.9
2015	01	13	06	33	56.0	24.60	94.00	10	3.2
2015	01	14	15	49	52.0	28.90	77.00	5	3.3
2015	01	15	01	33	1.0	22.60	92.50	5	4.0
2015	01	22	07	43	14.0	12.90	93.00	15	4.0
2015	01	23	00	29	44.0	12.90	92.80	38	4.5
2015	01	23	04	48	24.0	30.00	81.60	10	3.2
2015	01	24	16	11	32.0	25.10	95.00	10	4.8
2015	01	26	18	29	27.0	12.50	92.80	50	4.5
2015	01	31	13	59	47.0	28.20	83.80	10	4.6
2015	01	31	21	11	11.0	24.30	94.10	85	3.4
2015	02	01	16	00	47.0	26.40	93.20	10	4.1
2015	02	03	09	28	11.0	25.90	91.20	11	3.5
2015	02	04	10	44	17.0	33.00	83.40	10	5.3
2015	02	06	13	13	9.0	26.90	91.90	10	3.5
2015	02	06	22	39	27.0	25.40	94.60	15	3.5
2015	02	07	23	35	59.0	36.70	73.30	70	4.5
2015	02	09	14	13	10.0	9.20	93.30	10	4.7
2015	02	11	03	30	11.0	13.20	92.20	20	5.3
2015	02	12	08	19	35.0	34.00	74.10	14	3.5
2015	02	12	14	32	59.0	24.20	94.00	90	5.0
2015	02	12	15	32	52.0	24.00	94.00	50	3.5
2015	02	14	17	06	51.0	26.70	87.60	10	3.8
2015	02	15	14	14	16.0	34.10	75.20	10	4.2
2015	02	18	04	07	49.0	24.10	93.70	30	3.6
2015	02	19	09	18	24.0	26.60	96.20	10	3.8
2015	02	21	15	55	38.0	25.20	94.30	28	3.4
2015	02	23	06	31	59.0	10.20	92.10	10	4.8
2015	02	23	06	35	32.0	26.00	95.20	10	3.9
2015	02	23	08	17	49.0	23.80	91.30	25	3.5
2015	02	24	12	54	45.0	25.80	91.70	10	3.0
2015	02	25	00	39	24.0	16.70	80.10	10	4.0
2015	02	26	13	58	10.0	36.40	71.00	96	5.1

2015	02	26	21	59	2.0	34.60	73.20	10	5.3
2015	03	07	10	58	20.0	25.10	94.20	30	3.1
2015	03	17	15	28	37.0	24.50	94.50	96	4.0
2015	03	19	02	14	58.0	36.80	73.50	10	3.8
2015	03	19	03	36	59.0	16.10	80.90	5	3.0
2015	03	19	09	41	55.0	24.00	72.70	5	3.5
2015	03	20	21	44	58.0	24.90	94.60	10	3.1
2015	03	21	17	44	37.0	36.40	71.70	86	5.1
2015	03	22	10	20	19.0	25.40	92.60	44	3.7
2015	03	22	12	06	37.0	22.00	92.90	10	4.0
2015	03	23	11	53	26.0	29.10	77.50	10	3.0
2015	03	23	23	27	45.0	26.10	94.50	20	3.5
2015	03	25	06	41	32.0	36.50	71.50	108	5.1
2015	03	25	10	13	8.0	13.40	91.90	6	4.0
2015	03	27	18	51	49.0	10.10	93.50	70	5.0
2015	03	29	01	03	2.0	27.90	94.30	10	3.4
2015	03	30	19	56	48.0	24.60	93.10	10	3.0
2015	04	01	21	23	54.0	30.20	79.40	10	5.1
2015	04	03	12	45	22.0	10.60	93.20	100	4.0
2015	04	08	01	43	46.0	21.90	89.50	10	4.5
2015	04	09	11	19	55.0	26.60	92.80	10	3.1
2015	04	09	12	58	25.0	25.60	91.50	26	2.8
2015	04	09	22	49	40.0	14.20	92.90	10	5.1
2015	04	12	23	39	37.0	24.10	93.80	60	3.5
2015	04	15	17	57	4.0	24.30	95.90	10	4.1
2015	04	16	22	05	49.0	26.80	92.70	10	4.8
2015	04	17	00	20	14.0	26.30	92.40	20	3.8
2015	04	18	09	48	6.0	26.60	92.40	60	3.2
2015	04	21	00	17	28.0	14.30	92.90	10	5.0
2015	04	21	14	02	16.0	28.90	82.40	5	4.9
2015	04	23	20	26	37.0	27.30	88.10	10	4.0
2015	04	23	23	58	20.0	12.90	95.40	10	5.1
2015	04	25	06	11	25.0	28.10	84.60	10	7.9
2015	04	25	06	37	58.0	28.00	85.70	10	5.5
2015	04	25	06	45	20.0	28.10	84.80	10	6.6
2015	04	25	06	56	35.0	28.00	85.70	10	5.7
2015	04	25	07	08	3.0	27.80	85.60	10	5.0
2015	04	25	07	13	48.0	27.40	85.60	10	4.2
2015	04	25	07	16	59.0	27.70	85.60	10	4.4
2015	04	25	07	39	36.0	27.40	85.60	10	4.1
2015	04	25	07	47	1.0	27.90	85.50	10	5.0
2015	04	25	08	05	37.0	27.60	85.70	5	4.9
2015	04	25	08	17	1.0	27.80	85.70	10	5.0
2015	04	25	08	20	48.0	27.60	84.90	10	5.6
2015	04	25	08	29	28.0	28.10	84.80	20	5.0
2015	04	25	08	49	11.0	27.90	85.00	10	4.4
2015	04	25	08	55	55.0	27.30	85.10	10	5.7
2015	04	25	09	03	16.0	27.60	85.30	6	4.0
2015	04	25	09	17	1.0	28.30	87.30	5	5.8
2015	04	25	09	30	30.0	27.60	85.30	10	5.6
2015	04	25	10	23	19.0	27.40	85.60	10	4.0
2015	04	25	10	40	34.0	27.70	85.80	5	5.0
2015	04	25	10	53	43.0	27.10	85.60	20	4.0
2015	04	25	12	01	13.0	27.80	85.80	10	4.0
2015	04	25	12	12	15.0	27.60	85.70	5	4.4
2015	04	25	12	18	0.0	27.80	85.40	10	4.8
2015	04	25	12	44	5.0	28.10	84.50	10	5.3
2015	04	25	13	30	28.0	28.00	85.00	8	4.9
2015	04	25	13	36	14.0	27.20	85.70	10	4.0
2015	04	25	13	53	9.0	27.70	85.00	10	4.2
2015	04	25	14	10	5.0	27.80	85.90	10	4.7
2015	04	25	15	17	19.0	27.90	85.30	10	4.2

2015	04	25	16	27	25.0	27.70	85.50	10	4.9
2015	04	25	17	42	52.0	28.20	85.80	10	5.6
2015	04	25	18	58	33.0	27.70	85.40	10	4.0
2015	04	25	20	02	53.0	27.20	85.60	10	4.2
2015	04	25	20	23	33.0	28.20	85.80	10	3.6
2015	04	25	21	07	17.0	27.90	85.70	10	4.5
2015	04	25	23	12	52.0	27.80	86.20	10	3.5
2015	04	25	23	16	13.0	27.70	84.90	10	5.6
2015	04	25	23	41	52.0	27.50	85.90	10	4.4
2015	04	26	02	48	39.0	27.90	84.50	10	4.0
2015	04	26	03	21	36.0	27.40	85.40	10	4.5
2015	04	26	04	58	42.0	27.80	84.70	13	4.5
2015	04	26	07	09	8.0	27.60	85.90	10	6.9
2015	04	26	07	26	3.0	27.70	85.80	10	5.0
2015	04	26	07	36	28.0	27.70	85.90	6	4.0
2015	04	26	08	40	57.0	27.80	86.00	14	4.6
2015	04	26	08	46	19.0	27.60	85.60	10	4.0
2015	04	26	13	11	18.0	27.70	85.40	10	4.1
2015	04	26	14	44	51.0	27.50	85.90	15	3.7
2015	04	26	14	57	5.0	28.20	84.70	10	4.1
2015	04	26	15	56	51.0	26.30	92.80	30	3.2
2015	04	26	16	26	5.0	27.60	85.70	10	5.3
2015	04	26	17	38	47.0	27.70	85.30	10	3.4
2015	04	26	18	54	49.0	27.90	84.90	10	3.8
2015	04	26	20	39	20.0	27.90	85.80	10	3.7
2015	04	26	21	52	26.0	27.60	85.10	10	3.2
2015	04	26	22	32	35.0	27.50	85.70	10	3.9
2015	04	26	00	39	11.0	27.70	84.40	20	3.7
2015	04	27	12	35	49.0	26.70	88.10	10	5.1
2015	04	27	14	42	42.0	27.40	85.60	10	4.0
2015	04	27	14	57	1.0	27.80	86.00	10	4.2
2015	04	27	15	51	44.0	27.30	85.10	10	4.0
2015	04	27	17	45	27.0	28.10	84.90	5	3.5
2015	04	27	18	59	54.0	27.90	84.70	10	4.7
2015	04	27	21	27	45.0	27.80	85.60	10	4.2
2015	04	27	22	26	7.0	27.70	84.50	10	3.5
2015	04	27	23	20	33.0	28.00	85.40	10	4.5
2015	04	28	05	03	24.0	37.30	72.10	143	5.1
2015	04	28	19	11	29.0	27.70	85.70	10	3.2
2015	04	28	19	34	59.0	27.70	85.80	10	3.8
2015	04	28	22	29	9.0	27.60	85.80	10	3.3
2015	04	28	23	04	15.0	27.70	85.90	5	3.6
2015	04	29	00	48	17.0	26.80	92.50	5	3.5
2015	04	29	01	22	23.0	27.60	86.00	13	3.3
2015	04	29	09	39	18.0	27.60	84.70	12	3.9
2015	04	29	11	27	47.0	27.70	85.40	15	4.0
2015	04	29	17	16	34.0	27.70	85.50	5	4.0
2015	04	29	22	10	53.0	28.40	87.30	16	4.7
2015	04	30	00	37	11.0	27.70	84.70	10	4.1
2015	04	30	09	00	21.0	28.70	96.50	10	3.8
2015	04	30	19	13	36.0	27.80	85.80	49	3.0
2015	04	30	19	21	20.0	26.50	94.30	10	4.7
2015	04	30	20	19	0.0	26.70	92.60	10	3.4
2015	04	30	20	33	19.0	26.00	94.80	13	3.5
2015	05	01	08	58	45.0	10.80	92.00	10	5.4
2015	05	02	00	11	0.0	27.10	85.00	10	4.5
2015	05	02	05	35	44.0	28.00	84.70	10	4.5
2015	05	02	09	41	18.0	27.60	85.30	10	3.5
2015	05	02	15	16	20.0	27.60	86.00	10	3.5
2015	05	02	21	44	11.0	27.70	85.90	10	4.1
2015	05	02	22	39	32.0	28.00	85.00	10	3.2
2015	05	03	11	35	13.0	27.80	85.10	10	4.3

2015	05	03	23	14	17.0	27.70	85.80	10	3.6
2015	05	04	01	15	7.0	27.60	85.90	10	4.6
2015	05	05	00	54	6.0	28.00	85.00	20	3.2
2015	05	06	12	17	13.0	28.10	84.50	23	3.3
2015	05	06	15	13	20.0	27.40	85.50	10	3.7
2015	05	06	21	56	24.0	27.40	84.90	10	3.1
2015	05	07	11	00	44.0	27.30	92.20	10	3.2
2015	05	07	20	34	44.0	27.40	85.60	10	4.0
2015	05	08	00	32	33.0	27.50	85.90	10	4.8
2015	05	08	02	34	43.0	27.30	85.80	10	3.6
2015	05	08	07	47	54.0	27.50	85.70	12	4.0
2015	05	08	21	23	28.0	28.00	85.10	10	3.3
2015	05	09	01	01	41.0	23.30	70.40	10	3.4
2015	05	10	00	49	52.0	27.50	85.80	10	3.5
2015	05	10	09	38	34.0	27.70	85.50	10	3.5
2015	05	11	14	51	6.0	27.70	85.40	10	3.9
2015	05	12	07	05	19.0	27.70	86.00	10	7.3
2015	05	12	07	34	23.0	27.60	86.20	15	5.4
2015	05	12	07	36	54.0	27.60	86.10	10	6.2
2015	05	12	08	06	6.0	27.60	86.10	10	5.0
2015	05	12	08	13	55.0	27.60	86.00	10	4.8
2015	05	12	08	21	11.0	27.80	86.20	10	4.8
2015	05	12	08	34	23.0	27.80	85.90	10	4.2
2015	05	12	08	59	40.0	27.80	86.30	10	4.0
2015	05	12	10	04	5.0	27.70	86.00	10	3.3
2015	05	12	10	35	39.0	27.40	85.90	10	4.0
2015	05	12	10	41	31.0	27.40	86.20	10	3.9
2015	05	12	11	06	34.0	27.70	86.10	10	3.6
2015	05	12	11	21	31.0	27.60	86.10	10	3.7
2015	05	12	11	58	12.0	27.60	85.80	10	3.7
2015	05	12	12	28	23.0	27.70	85.90	10	3.9
2015	05	12	13	43	17.0	27.50	85.70	10	3.6
2015	05	12	15	28	20.0	27.60	86.20	15	3.7
2015	05	12	16	32	13.0	27.60	85.80	18	3.2
2015	05	12	16	55	23.0	27.60	85.80	10	3.5
2015	05	12	17	28	39.0	27.40	86.10	10	4.1
2015	05	12	18	51	45.0	27.70	86.20	16	3.3
2015	05	12	19	34	58.0	27.70	86.10	10	3.4
2015	05	12	19	37	44.0	27.50	86.00	48	3.8
2015	05	12	20	07	34.0	27.60	86.10	12	3.1
2015	05	12	20	22	15.0	27.60	85.20	10	3.4
2015	05	12	20	44	28.0	27.90	86.20	10	3.3
2015	05	12	21	25	12.0	27.70	84.60	10	5.1
2015	05	12	22	53	18.0	27.20	86.10	10	3.4
2015	05	13	02	23	13.0	27.50	86.20	10	3.7
2015	05	13	02	43	47.0	27.40	86.10	10	3.7
2015	05	13	04	48	9.0	27.50	86.00	10	3.3
2015	05	13	06	26	5.0	27.50	86.10	10	4.7
2015	05	13	06	37	30.0	27.60	86.10	10	4.2
2015	05	13	06	53	59.0	27.70	86.20	10	4.7
2015	05	13	08	45	56.0	27.70	86.20	10	3.3
2015	05	13	09	52	28.0	27.80	86.20	10	3.2
2015	05	13	10	59	44.0	27.50	86.10	10	3.6
2015	05	13	15	51	4.0	27.40	85.80	20	3.4
2015	05	13	18	31	1.0	27.70	86.10	10	3.6
2015	05	13	21	38	5.0	27.70	86.10	10	4.8
2015	05	14	03	07	10.0	27.40	86.00	10	3.8
2015	05	14	03	07	40.0	27.60	86.00	10	4.4
2015	05	14	09	35	31.0	27.60	85.20	10	3.2
2015	05	14	13	58	7.0	27.20	86.10	20	3.4
2015	05	14	14	36	39.0	27.90	85.20	15	3.7
2015	05	14	15	05	41.0	27.60	86.10	10	3.6

2015	05	14	15	55	8.0	27.90	86.00	10	3.5
2015	05	14	21	53	36.0	27.30	86.00	10	3.6
2015	05	14	22	21	16.0	27.50	86.00	10	4.0
2015	05	15	01	42	42.0	27.80	84.70	10	5.0
2015	05	15	05	06	2.0	27.80	84.80	10	3.4
2015	05	15	09	24	14.0	27.40	86.10	5	3.4
2015	05	16	03	39	26.0	27.50	85.70	10	4.2
2015	05	16	03	50	26.0	27.40	84.90	10	3.5
2015	05	16	11	34	10.0	27.50	86.00	10	5.7
2015	05	16	16	23	48.0	27.60	86.00	28	3.6
2015	05	16	20	02	55.0	28.10	84.80	10	3.0
2015	05	16	23	15	25.0	27.50	85.90	10	3.8
2015	05	17	05	45	37.0	27.20	85.90	8	3.9
2015	05	17	14	55	5.0	27.60	86.20	10	3.8
2015	05	18	12	42	12.0	28.00	84.70	30	3.5
2015	05	18	22	49	53.0	27.80	86.00	10	3.6
2015	05	19	10	59	32.0	27.80	85.80	10	3.7
2015	05	20	05	25	10.0	27.50	86.20	10	3.6
2015	05	20	09	02	37.0	27.60	85.10	10	3.9
2015	05	21	08	26	44.0	27.70	86.30	10	3.7
2015	05	22	10	59	37.0	28.10	85.00	10	4.2
2015	05	22	11	45	47.0	27.30	86.00	10	3.7
2015	05	22	19	07	42.0	29.90	81.90	10	4.2
2015	05	22	20	11	35.0	24.70	93.20	10	3.9
2015	05	22	20	52	36.0	24.50	93.40	63	3.2
2015	05	23	11	53	57.0	30.40	79.20	10	3.2
2015	05	23	16	41	19.0	27.40	85.90	10	3.7
2015	05	24	01	21	4.0	27.90	86.30	10	3.5
2015	05	24	17	30	36.0	27.00	85.90	20	3.5
2015	05	24	21	38	43.0	27.90	84.70	10	4.0
2015	05	26	17	07	15.0	27.90	85.10	10	4.5
2015	05	26	17	24	14.0	24.40	93.80	30	4.1
2015	05	27	07	30	44.0	27.90	85.60	10	4.0
2015	05	27	16	44	59.0	28.00	85.10	10	3.4
2015	05	28	11	46	28.0	28.10	93.40	10	4.0
2015	05	28	15	19	29.0	25.80	91.20	10	3.5
2015	05	29	03	57	54.0	25.90	90.20	15	3.9
2015	05	29	06	45	32.0	27.70	84.70	10	3.9
2015	05	29	10	00	0.0	28.00	84.70	10	4.7
2015	05	30	16	28	19.0	27.80	85.00	10	4.0
2015	06	02	20	33	7.0	29.80	81.80	10	4.0
2015	06	02	22	09	8.0	25.80	89.90	10	3.9
2015	06	03	07	52	37.0	27.60	85.60	10	3.8
2015	06	03	11	28	23.0	30.50	79.30	10	4.0
2015	06	03	11	53	32.0	27.70	86.20	10	3.8
2015	06	04	13	43	32.0	27.50	92.90	10	3.2
2015	06	07	05	17	41.0	27.60	85.90	10	3.5
2015	06	11	04	17	46.0	27.50	85.70	10	4.0
2015	06	11	16	12	17.0	27.90	85.70	10	4.7
2015	06	11	19	37	6.0	28.30	84.80	10	4.0
2015	06	12	04	34	7.0	27.80	86.10	10	3.8
2015	06	12	18	29	31.0	14.10	93.50	38	5.2
2015	06	13	01	18	29.0	27.60	86.00	10	4.6
2015	06	14	07	47	52.0	27.50	86.00	10	4.0
2015	06	17	00	13	19.0	27.60	85.20	10	3.6
2015	06	17	00	30	1.0	27.70	85.30	10	4.1
2015	06	17	02	15	16.0	28.10	85.60	10	4.4
2015	06	18	14	36	7.0	22.80	92.20	33	3.8
2015	06	20	12	23	4.0	28.50	82.70	10	4.2
2015	06	23	20	33	21.0	30.40	78.30	10	3.2
2015	06	27	06	04	26.0	29.90	80.30	10	3.0
2015	06	28	01	05	25.0	26.50	90.10	10	5.6

2015	06	28	23	57	14.0	27.60	86.10	10	4.6
2015	06	29	17	27	9.0	26.70	95.00	10	3.5
2015	06	29	22	07	46.0	36.60	71.40	160	5.5
2015	07	02	01	56	12.0	27.80	85.30	10	4.0
2015	07	02	07	18	24.0	34.40	73.80	10	5.1
2015	07	03	00	37	40.0	13.30	93.20	25	4.2
2015	07	03	01	07	45.0	37.50	78.20	10	6.2
2015	07	03	03	16	35.0	11.40	95.00	10	5.8
2015	07	03	20	04	8.0	27.70	85.00	10	4.3
2015	07	10	12	53	22.0	26.80	90.40	10	4.5
2015	07	10	21	13	0.0	27.40	86.00	10	4.5
2015	07	10	22	27	33.0	25.60	90.60	10	4.2
2015	07	14	14	35	50.0	35.90	71.10	80	5.2
2015	07	15	02	30	20.0	36.00	72.00	80	5.2
2015	07	18	23	48	7.0	30.50	79.10	13	4.3
2015	07	23	06	04	14.0	15.80	74.00	9	2.9
2015	07	23	14	36	5.0	21.40	79.90	10	3.9
2015	07	24	20	59	56.0	33.80	73.10	10	5.3
2015	07	26	10	04	5.0	36.60	71.60	10	5.0
2015	07	26	16	59	8.0	30.00	80.40	10	3.4
2015	07	27	07	33	42.0	27.30	91.00	10	4.3
2015	08	03	20	47	48.0	11.80	92.40	28	4.5
2015	08	09	22	30	26.0	28.00	84.70	10	4.4
2015	08	10	10	05	24.0	36.50	71.30	210	6.2
2015	08	15	05	42	24.0	27.40	88.00	36	4.0
2015	08	15	18	11	39.0	27.60	85.90	10	4.6
2015	08	19	19	18	11.0	31.70	77.00	10	4.0
2015	08	23	09	02	3.0	27.60	86.00	10	5.0
2015	08	24	06	53	43.0	27.80	87.10	10	3.7
2015	08	26	01	56	52.0	18.70	84.50	15	3.3
2015	08	28	19	21	56.0	25.50	89.40	10	4.0
2015	08	30	13	17	35.0	27.50	85.60	15	4.0
2015	09	01	19	17	4.0	36.40	71.30	223	5.1
2015	09	03	17	57	50.0	27.60	75.60	10	4.4
2015	09	04	11	49	52.0	36.50	70.90	123	5.4
2015	09	05	05	39	0.0	26.30	92.80	10	4.0
2015	09	06	12	23	14.0	26.20	92.80	10	3.4
2015	09	07	10	13	46.0	24.30	93.20	10	3.3
2015	09	07	12	55	48.0	27.60	87.90	15	4.2
2015	09	09	21	03	20.0	36.00	70.60	98	5.1
2015	09	13	09	45	20.0	28.60	76.40	10	3.3
2015	09	15	22	38	33.0	35.50	78.50	10	4.4
2015	09	16	11	10	10.0	35.50	78.60	15	5.0
2015	09	17	18	34	16.0	24.70	94.50	72	4.5
2015	09	22	06	32	46.0	27.50	85.00	10	4.0
2015	09	25	16	57	38.0	26.60	91.80	15	4.6
2015	09	26	16	54	7.0	26.60	92.20	10	3.5
2015	09	29	09	27	17.0	29.70	80.30	33	4.8
2015	10	02	11	29	20.0	22.50	93.20	5	4.0
2015	10	08	01	04	17.0	31.50	77.00	10	3.8
2015	10	09	20	10	13.0	28.70	77.40	5	3.0
2015	10	10	01	48	43.0	27.20	88.80	15	4.5
2015	10	11	08	34	56.0	25.10	93.80	21	4.1
2015	10	17	06	29	42.0	25.00	94.10	10	3.5
2015	10	19	00	04	38.0	29.50	80.30	10	2.6
2015	10	23	00	27	39.0	29.70	70.40	25	5.6
2015	10	24	04	35	0.0	30.30	80.20	20	3.9
2015	10	26	09	09	31.0	36.50	70.80	190	7.5
2015	10	26	09	49	35.0	36.50	70.20	170	5.0
2015	10	26	10	37	5.0	36.50	70.40	202	4.5
2015	10	27	13	14	7.0	36.60	70.70	187	5.0
2015	10	29	22	15	53.0	24.60	92.30	15	4.9

2015	10	31	05	16	46.0	25.50	91.80	10	4.0
2015	11	08	10	42	8.0	7.00	94.60	35	5.2
2015	11	08	10	53	31.0	6.80	94.60	35	5.0
2015	11	08	11	54	52.0	7.30	94.50	60	5.0
2015	11	08	13	24	3.0	7.50	94.50	35	5.2
2015	11	08	14	34	12.0	6.90	94.80	50	5.0
2015	11	08	14	47	8.0	7.00	94.60	50	4.9
2015	11	08	16	47	7.0	6.90	94.60	10	6.0
2015	11	08	16	59	26.0	7.10	94.60	10	5.6
2015	11	08	17	47	17.0	6.70	94.70	10	4.7
2015	11	08	18	48	47.0	6.60	94.60	10	4.9
2015	11	08	19	14	48.0	6.80	94.30	10	4.9
2015	11	09	06	12	24.0	6.50	94.80	10	5.1
2015	11	09	08	12	53.0	6.70	94.80	60	5.4
2015	11	13	07	44	33.0	29.80	80.20	10	3.0
2015	11	14	16	53	40.0	7.10	94.90	10	4.9
2015	11	18	00	59	10.0	36.50	70.50	184	5.0
2015	11	18	08	25	41.0	29.80	80.50	15	3.3
2015	11	18	14	31	21.0	34.00	74.70	10	3.1
2015	11	19	04	15	52.0	27.80	85.60	20	5.0
2015	11	22	18	16	2.0	36.50	71.60	80	6.0
2015	11	25	16	15	7.0	26.40	92.80	10	4.9
2015	11	27	08	34	2.0	22.50	94.70	47	5.2
2015	11	27	11	40	37.0	34.90	73.80	67	4.8
2015	11	29	02	47	38.0	30.60	79.60	10	4.0
2015	12	06	12	35	17.0	28.80	76.80	5	2.9
2015	12	13	18	24	25.0	26.20	92.30	36	3.3
2015	12	15	02	35	14.0	24.20	86.60	10	4.2
2015	12	16	04	48	16.0	13.50	94.00	10	4.8
2015	12	18	22	16	55.0	29.30	81.70	10	5.4
2015	12	23	13	27	12.0	25.80	94.70	48	4.2
2015	12	25	19	14	46.0	36.50	71.20	186	6.5
2015	12	27	04	42	50.0	25.40	91.90	5	2.7
2015	12	29	15	50	22.0	32.20	79.30	10	2.9
2015	12	30	17	24	54.0	25.10	91.10	10	3.7
2015	12	31	03	23	22.0	7.20	94.40	10	4.5

Day			**Origin-TIME**			**Latitude**	**Longitude**	**Depth**	**Magnitude**
Year	**Mon**	**day**	**hr**	**min**	**sec**	**°N**	**°E**	**(Km)**	**(Richter scale)**
			(UTC)						
2016	01	01	06	54	35.0	29.70	80.70	10	3.0
2016	01	02	08	37	19.0	36.50	70.90	170	5.8
2016	01	03	23	05	16.0	24.80	93.50	59	6.7
2016	01	04	03	57	46.0	24.90	93.40	20	3.6
2016	01	04	09	00	2.0	24.80	93.50	20	3.4
2016	01	06	10	25	8.0	25.20	93.20	40	4.0
2016	01	07	13	42	58.0	27.70	93.30	32	4.5
2016	01	08	09	07	10.0	36.60	71.00	225	5.5
2016	01	12	20	04	58.0	36.60	71.10	220	5.8
2016	01	15	00	25	20.0	25.20	92.70	10	3.0
2016	01	15	19	24	52.0	11.90	92.50	10	4.0
2016	01	18	00	52	40.0	26.20	92.60	10	3.5
2016	01	21	19	22	43.0	28.10	85.10	10	4.8
2016	01	23	04	54	11.0	36.30	71.50	50	5.1
2016	01	24	17	09	26.0	27.00	92.20	10	3.2
2016	01	26	23	19	9.0	36.80	70.00	250	5.4
2016	01	28	22	47	8.0	27.10	75.50	10	3.8
2016	02	01	19	48	37.0	23.80	93.80	111	3.8

2016	02	01	23	49	30.0	26.40	93.40	33	3.7
2016	02	02	16	14	0.0	25.50	91.90	10	2.5
2016	02	04	07	10	27.0	32.70	75.70	10	4.1
2016	02	04	15	30	51.0	14.40	93.20	10	4.8
2016	02	05	16	20	9.0	27.80	85.40	10	5.2
2016	02	08	11	05	56.0	24.70	94.60	118	3.8
2016	02	09	15	13	47.0	32.80	76.40	10	4.4
2016	02	10	22	45	27.0	25.60	92.10	6	2.7
2016	02	15	16	35	29.0	30.20	79.60	10	3.5
2016	02	16	23	06	55.0	26.30	93.30	10	4.4
2016	02	21	03	39	42.0	7.10	92.10	50	4.5
2016	02	21	07	50	56.0	30.90	78.30	5	3.5
2016	02	21	09	12	8.0	36.50	70.90	177	5.7
2016	02	21	16	32	7.0	36.30	78.40	50	4.4
2016	02	21	18	10	0.0	27.80	84.60	30	5.0
2016	02	22	18	20	58.0	7.50	92.00	20	4.8
2016	02	24	02	06	51.0	24.90	72.30	26	3.0
2016	02	24	09	22	17.0	27.60	85.60	19	4.5
2016	02	27	00	31	3.0	13.60	94.00	60	4.6
2016	03	02	04	03	58.0	26.50	95.20	10	4.0
2016	03	02	06	35	14.0	29.90	70.10	10	5.0
2016	03	06	00	50	19.0	24.50	92.80	30	3.5
2016	03	06	08	51	18.0	24.70	92.90	10	3.3
2016	03	10	09	46	59.0	25.60	91.90	8	3.0
2016	03	10	09	50	32.0	25.60	91.90	9	3.2
2016	03	12	16	15	16.0	26.70	89.40	21	3.8
2016	03	13	05	15	36.0	27.80	84.90	25	3.8
2016	03	13	10	30	4.0	26.50	92.30	10	4.3
2016	03	14	21	27	40.0	27.20	86.20	10	3.9
2016	03	17	16	47	4.0	34.20	77.90	10	4.5
2016	03	18	03	37	33.0	25.40	73.40	33	3.5
2016	03	21	02	19	41.0	25.40	92.50	10	3.0
2016	03	22	11	49	12.0	26.10	95.30	49	3.7
2016	03	28	15	42	42.0	24.10	93.10	5	3.7
2016	03	30	02	04	11.0	32.50	76.00	15	3.8
2016	03	30	12	26	42.0	28.00	85.70	10	4.4
2016	04	03	20	31	39.0	24.40	94.30	120	4.0
2016	04	04	04	31	26.0	27.80	86.20	10	4.3
2016	04	05	07	42	27.0	25.90	90.40	10	5.4
2016	04	07	20	03	19.0	27.00	75.10	15	3.5
2016	04	08	14	30	43.0	36.90	71.20	78	5.0
2016	04	09	13	20	14.0	27.60	85.20	10	4.5
2016	04	10	10	28	57.0	36.40	71.20	190	6.8
2016	04	11	10	36	13.0	29.80	80.10	10	3.7
2016	04	12	11	55	48.0	26.50	90.80	10	3.8
2016	04	12	14	41	53.0	27.50	86.10	10	4.5
2016	04	13	03	56	54.0	24.90	94.00	60	4.6
2016	04	13	13	55	13.0	23.00	94.90	134	6.8
2016	04	14	05	41	55.0	23.80	94.00	80	4.5
2016	04	14	16	23	40.0	23.30	93.20	5	3.5
2016	04	19	01	14	46.0	24.80	92.70	10	3.7
2016	04	19	20	32	58.0	10.30	93.80	10	5.1
2016	04	23	20	31	1.0	28.70	85.10	150	4.6
2016	04	24	21	43	9.0	37.00	71.70	100	5.2

Annexure-II

List of important towns falling in seismic zone II, III, IV and V

Town	State/UT	Zone	Town	State/UT	Zone
Agra	Utter Pradesh	III	Chitradurga	Karnataka	II
Ahmedabad	Gujarat	III	Coimbatore	Tamil nadu	III
Ajmer	Rajasthan	II	Cuddalore	Tamil Nadu	III
Allahabad	Utter Pradesh	II	Cuttack	Orissa	III
Almora	Uttrakhand	IV	Darbhanga	Bihar	V
Ambala	Haryana	IV	Darjeeling	West Bengal	IV
Amritsar	Punjab	IV	Dharwad	Karnataka	III
Asansol	West Bengal	III	Dehradun	Uttrakhand	IV
Aurangabad	Maharastha	II	Dharmpuri	Tamil Nadu	III
Baharich	Utter Pradesh	IV	Delhi	Delhi	IV
Bangalore	Karnataka	II	Durgapur	West Bengal	III
Barauni	Bihar	IV	Gangtok	Sikkim	IV
Bareilly	Utter Pradesh	III	Guwahati	Assam	V
Belgaum	Karnataka	III	Goa	Goa	III
Bhatinda	Punjab	III	Gulbarga	Karnataka	II
Bhilai	Chattiagarh	II	Gaya	Bihar	III
Bhopal	Madhya Pradesh	II	Gorakhpur	Utter Pradesh	IV
Bhubaneswar	Orissa	III	Hyderabad	Andhra Pradesh/Telangana	II
Bhuj	Gujarat	V	Imphal	Manipur	V
Bijapur	Karnataka	III	Jabalpur	Madhya Pradesh	III
Bikaner	Rajasthan	III	Jaipur	Rajasthan	II
Bokaro	Jharkhand	III	Jamshedpur	Jharkhand	II
Bulandshahr	Utter Pradesh	IV	Jhansi	Utter Pradesh	II
Burdwan	West Bengal	III	Jodhpur	Rajasthan	II
Cailcut	Kerala	III	Jorhat	Assam	V
Chandigarh	Chandigarh	IV	Kakrapara	Gujarat	III
Chennai	Tamil Nadu	III	Kalapakkam	Tamil Nadu	III
Kanchipuram	Tamil Nadu	III	Pondicherry	Pondicherry	II
Kanpur	Utter Pradesh	III	Pune	Maharastha	III

Karwar	Karnataka	III	Raipur	Chattisgarh	II
Kohima	Nagaland	V	Rajkot	Gujarat	III
Kolkata	West Bengal	III	Ranchi	Chattisgarh	II
Kota	Rajasthan	II	Roorkee	Uttrakhand	IV
Kurnool	Andhra Pradesh	II	Rourkela	Orissa	II
Lucknow	Utter Pradesh	III	Sadiya	Assam	V
Ludhiyana	Punjab	IV	Salem	Tamil Nadu	III
Madurai	Tamil Nadu	II	Simla	Himanchal Pradesh	IV
Mandi	Himanchal Pradesh	V	Sironj	Madhya Pradesh	II
Mangalore	Karnataka	III	Solapur	Maharastha	III
Monghyr	Bihar	IV	Srinagar	Jammu & Kashmir	V
Moradabad	Utter Pradesh	IV	Surat	Gujarat	III
Mumbai	Maharastha	III	Tarapur	Maharastha	III
Mysore	Karnataka	II	Tezpur	Assam	V
Nagpur	Maharastha	II	Thane	Maharastha	III
Nagarjunasagar	Telangana	II	Thanjavur	Tamil Nadu	II
Nainital	Uttrakhand	IV	Thiruvanantha puram	Kerala	III
Nasik	Maharastha	III	Tiruchirappali	Tamil Nadu	II
Nellore	Andhra Pradesh	III	Tiruvennamalai	Tamil Nadu	III
Osmanabad	Maharastha	III	Udaipur	Rajasthan	II
Panjim	Goa	III	Vadodara	Gujarat	III
Patiala	Punjab	III	Varanasi	Utter Pradesh	III
Patna	Bihar	IV	Vellore	Tamil Nadu	III
Pilibhit	Utter Pradesh	IV	Vijayawada	Andhra Pradesh	III
			Vishakhapatnam	Andhra Pradesh	II