

# QUAKE BULLETIN

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## EARTHQUAKE EVENTS:

This database will give the information about the earthquakes that occurred worldwide and India wide from September 2015. The list of the earthquakes is as follows:

### Worldwide:

(Source: <http://earthquake.usgs.gov/earthquakes/>)

Date	Time (UTC)	Lat	Long	Depth (km)	Mw	Location
01/09/2015	15:25:09	31.1728°N	141.6002°E	07.3	6.0	271km SE of Hachijo-jima, Japan
05/09/2015	13:16:10	49.3544°N	155.6384°E	47.1	5.9	151km SSW of Severo-Kuril'sk, Russia
07/09/2015	14:06:27	32.8256°S	178.1838°W	08.3	5.9	168km SSE of L'Esperance Rock, New Zealand
07/09/2015	9:13:58	32.9323°S	177.891°W	35.4	6.4	191km SSE of L'Esperance Rock, New Zealand
10/09/2015	10:26:47	52.1634°N	169.5813°W	37.8	5.9	92km SE of Yunaska Island, Alaska
13/09/2015	8:14:12	25.1556°N	109.3772°W	10.0	6.6	59km SSW of Topolobampo, Mexico
16/09/2015	23:18:42	31.5874°S	71.4314°W	30.9	7.0	25km W of Illapel, Chile
16/09/2015	23:16:05	31.5887°S	71.9093°W	10.0	6.2	70km W of Illapel, Chile
16/09/2015	23:03:56	31.8414°S	71.5658°W	10.0	6.1	44km WSW of Illapel, Chile
16/09/2015	22:59:13	31.6009°S	71.7847°W	22.0	6.4	58km W of Illapel, Chile
16/09/2015	22:54:32	31.5705°S	71.6703°W	20.7	8.3	48km W of Illapel, Chile
16/09/2015	14:03:22	5.971°S	151.4445°E	06.0	6.1	151km ESE of Kimbe, Papua New Guinea
16/09/2015	7:40:59	1.8523°N	126.38°E	52.7	6.3	140km ENE of Bitung, Indonesia
17/09/2015	4:10:30	31.5386°S	71.7145°W	30.2	6.7	53km W of Illapel, Chile
17/09/2015	3:55:06	31.083°S	71.296°W	35.0	6.5	54km S of Ovalle, Chile
17/09/2015	1:41:09	31.1488°S	71.5533°W	35.0	6.4	64km NW of Illapel, Chile
18/09/2015	15:59:42	15.2337°N	45.9734°W	10.0	6.0	Northern Mid-Atlantic Ridge
18/09/2015	9:10:44	32.4085°S	72.2351°W	08.7	6.3	90km NW of Valparaiso, Chile
19/09/2015	12:52:19	32.3344°S	72.0915°W	10.6	6.2	82km W of La Ligua, Chile
21/09/2015	17:40:00	31.7465°S	71.6294°W	34.3	6.6	45km WSW of Illapel, Chile

21/09/2015	5:39:33	31.5855°S	71.7118°W	22.8	6.3	52km W of Illapel, Chile
22/09/2015	7:12:59	31.4786°S	71.196°W	54.3	6.1	17km N of Illapel, Chile
24/09/2015	15:56:55	10.1737°S	160.5217°E	23.5	6.1	103km SE of Honiara, Solomon Islands
24/09/2015	15:53:27	0.6312°S	131.244°E	18.0	6.6	27km N of Sorong, Indonesia
26/09/2015	2:51:18	30.8199°S	71.3854°W	38.1	6.2	30km SW of Ovalle, Chile

## India wide:

(Source: Indian Meteorological Department, IMD,  
<http://www.imd.gov.in/section/seismo/dynamic/CMONTH.HTM>)

Date	Time (UTC)	Lat	Long	Depth (km)	Mw	Location
01/09/2015	19:17:04	36.4°N	71.3°E	223	5.1	HINDU KUSH REGION AFGHANISTAN
03/09/2015	17:57:50	27.6°N	75.6°E	10	4.4	SIKAR,RAJASTHAN
04/09/2015	11:49:52	36.5°N	70.9°E	123	5.4	HINDUKUSH REGION AFGHANISTAN
05/09/2015	5:39:00	26.3°N	92.8°E	10	4.0	NAGAON,ASSAM
06/09/2015	12:23:14	26.2°N	92.8°E	10	3.4	NAGAON, ASSAM
07/09/2015	10:13:46	24.3°N	93.2°E	10	3.3	DISTT- CHURACHANDPUR, MANIPUR
07/09/2015	12:55:48	27.6°N	87.9°E	15	4.2	NEPAL
09/09/2015	21:03:20	36.0°N	70.6°E	98	5.1	HINDU KUSH REGION AFGHANISTAN
13/09/2015	9:45:20	28.6°N	76.4°E	10	3.3	BHIWANI,HARYANA
15/09/2015	22:38:33	35.5°N	78.5°E	10	4.4	JAMMU & KASHMIR
16/09/2015	11:10:10	35.5°N	78.6°E	15	5.0	JAMMU & KASHMIR
17/09/2015	18:34:16	24.7°N	94.5°E	72	4.5	UKHRUL,MANIPUR
22/09/2015	6:32:46	27.5°N	85.0°E	10	4	NEPAL
25/09/2015	16:57:38	26.6°N	91.8°E	15	4.6	DARRANG, ASSAM
26/09/2015	16:54:07	26.6°N	92.2°E	10	3.5	DARRANG, ASSAM
29/09/2015	9:27:17	29.7°N	80.3°E	33	4.8	DISTT, PITHORAGARH, UTTARAKHAND

## GROUND MOTION RECORDS:

In our centre around 624ground motion records are available. Since 1973 the ground motions are available with N-S, E-W and U-D components. All the available ground motions are listed.

(Source: PESMOS-IITR)

S No	Earthquake	Date	Station	Component		
				NS	EW	UD
1	Gangtok	29 Jan 2010	Gangtok	✓	✓	✓
2	Golpara	15 Feb 2010	Golpara	✓	✓	✓
3	Bageshwar	22 Feb 2010	Bageshwar	✓	✓	✓
			Champawat	✓	✓	✓
			Dharchula	✓	✓	✓
			Kapkot	✓	✓	✓
			Roorkee	✓	✓	✓
			Udham Singh Nagar	✓	✓	✓

4	Rohatak	24 Feb 2010	Rohatak	✓	✓	✓
5	Gangtok	25 Feb 2010	Gangtok	✓	✓	✓
6	Tibet	26 Feb 2010	Bongaigaon	✓	✓	✓
			Darjeeling	✓	✓	✓
			Gangtok	✓	✓	✓
			Goalpara	✓	✓	✓
			Guwahati	✓	✓	✓
			Kokhrajar	✓	✓	✓
Siliguri	✓	✓	✓			

## **EERC LIBRARY:**

### **Publications:**

The following publications are very useful for research and are available in server

- ❖ K. Beyer, M. Tondeli, S. Petry and S. Peloso (2015), "Dynamic testing of a four-storey building with reinforced concrete and unreinforced masonry walls: prediction, test results and data set", Bulletin of earthquake Engineering, October, Vol. 13(10), pp 3015-3064.
- ❖ D. Konstantinidis and nicos Makris (2010), "Experimental and analytical studies on the response of ¼-scale models of freestanding laboratory equipment subjected to strong earthquake shaking", Bulletin of earthquake Engineering, December, Vol. 8(6), pp 1457-1477.
- ❖ M. Preti, L. Migliorati and E. Giuriani (2015), "Experimental testing of engineered masonry infill walls for post-earthquake structural damage control", Bulletin of Earthquake Engineering, July, Vol. 13(7), pp 2029-2049.
- ❖ P. J. Wilkinson and O. Lavan (2015), "Practical Modal Pushover Design of one-way asymmetric-plan reinforced concrete wall buildings for unidirectional ground motion", Bulletin of Earthquake Engineering, October, Vol. 13(10), pp 2915-2944.
- ❖ Chang-Hai Zhai, Wei-Ping Wen, Shuang Li and Li-Li Xie (2015), "Dynamic testing of a four-storey building with reinforced concrete and unreinforced masonry walls: prediction, test results and data set", Bulletin of Earthquake Engineering, October, Vol. 13(10), pp 2893-2914.

### **Reports:**

The following report is very useful for research

- ❖ J. P. Stewart, R. B. Seed and G. L. Fenves (1998), "Empirical Evaluation of Inertial Soil-Structure Interaction Effects", PEER Report 1998/07, Pacific Earthquake Engineering Research Centre, College of Engineering, Univ. of California, Berkeley.