

QUAKE BULLETIN

Monthly Bulletin

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EARTHQUAKE EVENTS:

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

Worldwide:

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

Date	Time (UTC)	Lat	Long	Depth (km)	M _w	Location
02/04/2015	4:10:10	17.883° S	178.596° W	560	5.9	269km SE of Lambasa, Fiji
03/04/2015	21:17:55	6.293° S	147.756 E	30	5.9	36km NNW of Finschhafen, Papua New Guinea
07/04/2015	0:46:22	15.157° S	173.198° W	30	6.3	105km NE of Hihifo, Tonga
16/04/2015	18:07:43	35.136° N	26.827° E	20	6	52km E of Palaikastron, Greece
17/04/2015	15:52:52	15.907° S	178.585° W	10	6.5	183km SSW of Sigave, Wallis and Futuna
20/04/2015	12:00:00	24.066° N	122.512° E	29	6.1	66km SW of Yonakuni, Japan
20/04/2015	11:45:13	24.068° N	122.462° E	29	6	70km SW of Yonakuni, Japan
20/04/2015	1:42:59	24.194° N	122.327° E	29	6.4	66km SE of Su'ao, Taiwan
22/04/2015	22:57:16	12.025° S	166.424° E	72	6.3	158km SSE of Lata, Solomon Islands
24/04/2015	13:56:16	51.769° N	130.695° W	10	6.2	182km WSW of Bella Bella, Canada
24/04/2015	3:36:43	42.063° S	172.999° E	55	6.1	68km NW of Kaikoura, New ealand
25/04/2015	6:45:21	28.192° N	84.864° E	14.62	6.6	49km E of Lamjung, Nepal
25/04/2015	06:11:26.27	28.147° N	84.707° E	15	7.8	34km ESE of Lamjung, Nepal
26/04/2015	7:09:10	27.782° N	85.9971° E	17.26	6.7	19km SSE of Kodari, Nepal
28/04/2015	16:39:39	20.866° S	178.638° W	579.4	6.1	24km SSE of Ndoi Island, Fiji
30/04/2015	10:45:05	5.392° S	151.818° W	48.9	6.7	125km SSW of Kokopo, Papua New Guinea

India wide:

(Source: Indian Meteorological Department, IMD,

<http://www.imd.gov.in/section/seismo/dynamic/CMONTH.HTM>)

Date	Time (UTC)	Lat	Long	Depth (km)	M _w	Location
01-04-2015	21:23:54	30.2°N	79.4°E	10	5.1	DISTRICT-CHAMOLI, UTTARAKHAND
03-04-2015	12:45:22	10.6°N	93.2°E	100	4	ANDAMAN ISLANDS
08-04-2015	01:43:46	21.9°N	89.5°E	10	4.5	BANGLADESH
09-04-2015	11:19:55	26.6°N	92.8°E	10	3.1	SONITPUR,ASSAM
09-04-2015	12:58:25	25.6°N	91.5°E	26	2.8	WEST KHASI HILLS,MEGHALAYA
09-04-2015	22:49:40	14.2°N	92.9°E	10	5.1	ANDAMAN ISLANDS

12-04-2015	23:39:37	24.1°N	93.8°E	60	3.5	CHANDEL, MANIPUR
15/04/2015	17:57:04	24.3°N	95.9°E	10	4.1	MYANMAR
16/04/2015	22:05:49	26.8°N	92.7°E	10	4.8	SONITPUR, ASSAM
17/04/2015	0:20:14	26.3°N	92.4°E	20	3.8	MARIGAON, ASSAM
18/04/2015	9:48:06	26.6°N	92.4°E	60	3.2	SONITPUR, ASSAM
21/04/2015	0:17:28	14.3°N	92.9°E	10	5	NORTH OF ANDAMAN ISLANDS
21/04/2015	14:02:16	28.9°N	82.4°E	5	4.9	NEPAL
23/04/2015	20:26:37	27.3°N	88.1°E	10	4	WEST, SIKKIM
23/04/2015	23:58:20	12.9°N	95.4°E	10	5.1	ANDAMAN SEA
25/04/2015	6:11:25	28.1°N	84.6°E	10	7.9	NEPAL
25/04/2015	6:37:58	28.0°N	85.7°E	10	5.5	NEPAL
25/04/2015	6:45:20	28.1°N	84.8°E	10	6.6	NEPAL
25/04/2015	6:56:35	28.0°N	85.7°E	10	5.7	NEPAL
25/04/2015	7:08:03	27.8°N	85.6°E	10	5	NEPAL
25/04/2015	7:13:48	27.4°N	85.6°E	10	4.2	NEPAL
25/04/2015	7:16:59	27.7°N	85.6°E	10	4.4	NEPAL
25/04/2015	7:39:36	27.4°N	85.6°E	10	4.1	NEPAL
25/04/2015	7:47:01	27.9°N	85.5°E	10	5	NEPAL
25/04/2015	8:05:37	27.6°N	85.7°E	5	4.9	NEPAL
25/04/2015	8:17:01	27.8°N	85.7°E	10	5	NEPAL
25/04/2015	8:20:48	27.6°N	84.9°E	10	5.6	NEPAL
25/04/2015	8:29:28	28.1°N	84.8°E	20	5	NEPAL
25/04/2015	8:49:11	27.9°N	85.0°E	10	4.4	NEPAL
25/04/2015	8:55:55	27.3°N	85.1°E	10	5.7	NEPAL
25/04/2015	9:03:16	27.6°N	85.3°E	6	4	NEPAL
25/04/2015	9:17:01	28.3°N	87.3°E	5	5.8	CHINA - NEPAL BORDER REGION
25/04/2015	9:30:30	27.6°N	85.3°E	10	5.6	NEPAL
25/04/2015	10:23:19	27.4°N	85.6°E	10	4	NEPAL
25/04/2015	10:40:34	27.7°N	85.8°E	5	5	NEPAL
25/04/2015	10:53:43	27.1°N	85.6°E	20	4	NEPAL
25/04/2015	12:01:13	27.8°N	85.8°E	10	4	NEPAL
25/04/2015	12:12:15	27.6°N	85.7°E	5	4.4	NEPAL
25/04/2015	12:18:00	27.8°N	85.4°E	10	4.8	NEPAL
25/04/2015	12:44:05	28.1°N	84.5°E	10	5.3	NEPAL
25/04/2015	13:30:28	28.0°N	85.0°E	8	4.9	NEPAL
25/04/2015	13:36:14	27.2°N	85.7°E	10	4	NEPAL
25/04/2015	13:53:09	27.7°N	85.0°E	10	4.2	NEPAL
25/04/2015	14:10:05	27.8°N	85.9°E	10	4.7	NEPAL
25/04/2015	15:17:19	27.9°N	85.3°E	10	4.2	NEPAL
25/04/2015	16:27:25	27.7°N	85.5°E	10	4.9	NEPAL
25/04/2015	17:42:52	28.2°N	85.8°E	10	5.6	NEPAL
25/04/2015	18:58:33	27.7°N	85.4°E	10	4	NEPAL
25/04/2015	20:02:53	27.2°N	85.6°E	10	4.2	NEPAL
25/04/2015	20:23:33	28.2°N	85.8°E	10	3.6	NEPAL
25/04/2015	21:07:17	27.9°N	85.7°E	10	4.5	NEPAL
25/04/2015	23:12:52	27.8°N	86.2°E	10	3.5	NEPAL
25/04/2015	23:16:13	27.7°N	84.9°E	10	5.6	NEPAL
25/04/2015	23:41:52	27.5°N	85.9°E	10	4.4	NEPAL
26/04/2015	2:48:39	27.9°N	84.5°E	10	4	NEPAL
26/04/2015	3:21:36	27.4°N	85.4°E	10	4.5	NEPAL
26/04/2015	4:58:42	27.8°N	84.7°E	13	4.5	NEPAL
26/04/2015	7:09:08	27.6°N	85.9°E	10	6.9	NEPAL
26/04/2015	7:26:03	27.7°N	85.8°E	10	5	NEPAL
26/04/2015	7:36:28	27.7°N	85.9°E	6	4	NEPAL

26/04/2015	8:40:57	27.8°N	86.0°E	14	4.6	NEPAL
26/04/2015	8:46:19	27.6°N	85.6°E	10	4	NEPAL
26/04/2015	13:11:18	27.7°N	85.4°E	10	4.1	NEPAL
26/04/2015	14:44:51	27.5°N	85.9°E	15	3.7	NEPAL
26/04/2015	14:57:05	28.2°N	84.7°E	10	4.1	NEPAL
26/04/2015	15:56:51	26.3°N	92.8°E	30	3.2	NAGAON,ASSAM
26/04/2015	16:26:05	27.6°N	85.7°E	10	5.3	NEPAL
26/04/2015	17:38:47	27.7°N	85.3°E	10	3.4	NEPAL
26/04/2015	18:54:49	27.9°N	84.9°E	10	3.8	NEPAL
26/04/2015	20:39:20	27.9°N	85.8°E	10	3.7	NEPAL
26/04/2015	21:52:26	27.6°N	85.1°E	10	3.2	NEPAL
26/04/2015	22:32:35	27.5°N	85.7°E	10	3.9	NEPAL
26/04/2015	0:39:11	27.7°N	84.4°E	20	3.7	NEPAL
26/04/2015	2:48:39	27.9°N	84.5°E	10	4	NEPAL
26/04/2015	3:21:36	27.4°N	85.4°E	10	4.5	NEPAL
26/04/2015	4:58:42	27.8°N	84.7°E	13	4.5	NEPAL
26/04/2015	7:09:08	27.6°N	85.9°E	10	6.9	NEPAL
26/04/2015	7:26:03	27.7°N	85.8°E	10	5	NEPAL
26/04/2015	7:36:28	27.7°N	85.9°E	6	4	NEPAL
26/04/2015	8:40:57	27.8°N	86.0°E	14	4.6	NEPAL
26/04/2015	8:46:19	27.6°N	85.6°E	10	4	NEPAL
26/04/2015	13:11:18	27.7°N	85.4°E	10	4.1	NEPAL
26/04/2015	14:44:51	27.5°N	85.9°E	15	3.7	NEPAL
26/04/2015	14:57:05	28.2°N	84.7°E	10	4.1	NEPAL
26/04/2015	15:56:51	26.3°N	92.8°E	30	3.2	NAGAON,ASSAM
26/04/2015	16:26:05	27.6°N	85.7°E	10	5.3	NEPAL
26/04/2015	17:38:47	27.7°N	85.3°E	10	3.4	NEPAL
26/04/2015	18:54:49	27.9°N	84.9°E	10	3.8	NEPAL
26/04/2015	20:39:20	27.9°N	85.8°E	10	3.7	NEPAL
26/04/2015	21:52:26	27.6°N	85.1°E	10	3.2	NEPAL
26/04/2015	22:32:35	27.5°N	85.7°E	10	3.9	NEPAL
26/04/2015	0:39:11	27.7°N	84.4°E	20	3.7	NEPAL
27/04/2015	12:35:49	26.7°N	88.1°E	10	5.1	NEPAL - INDIA (WEST BENGAL)BORDER REGION
27/04/2015	14:42:42	27.4°N	85.6°E	10	4	NEPAL
27/04/2015	14:57:01	27.8°N	86.0°E	10	4.2	NEPAL
27/04/2015	21:21:44	27.3°N	85.1°E	10	4.2	NEPAL
27/04/2015	22:26:07	27.7°N	84.5°E	10	3.5	NEPAL
27/04/2015	23:20:33	28.0°N	85.4°E	10	4.5	NEPAL
28/04/2015	5:03:24	37.3°N	72.1°E	143	5.1	TAJIKISTAN
28/04/2015	19:11:29	27.7°N	85.7°E	10	3.2	NEPAL
28/04/2015	19:34:59	27.7°N	85.8°E	10	3.8	NEPAL
28/04/2015	22:29:09	27.6°N	85.8°E	10	3.3	NEPAL
28/04/2015	23:04:15	27.7°N	85.9°E	5	3.6	NEPAL
29/04/2015	0:48:17	26.8°N	92.5°E	5	3.5	SONITPUR,ASSAM
29/04/2015	1:22:23	27.6°N	86.0°E	13	3.3	NEPAL
29/04/2015	9:39:18	27.6°N	84.7°E	12	3.9	NEPAL
29/04/2015	11:27:47	27.7°N	85.4°E	15	4	NEPAL
29/04/2015	17:16:34	27.7°N	85.5°E	5	4	NEPAL
29/04/2015	22:10:53	28.4°N	87.3°E	16	4.7	NEPAL
30/04/2015	0:37:11	27.7°N	84.7°E	10	4.1	NEPAL
30/04/2015	9:00:21	28.7°N	96.5°E	10	3.8	ARUNACHAL PRADESH (INDIA) - CHINA BORDER REGION
30/04/2015	19:13:36	27.8°N	85.8°E	49	3	NEPAL

30/04/2015	19:21:20	26.5°N	94.3°E	10	4.7	JORHAT,ASSAM
30/04/2015	20:19:00	26.7°N	92.6°E	10	3.4	SONITPUR,ASSAM
30/04/2015	20:33:19	26.0°N	94.8°E	13	3.5	TUENSANG,NAGALAND

GROUND MOTION RECORDS:

In our centre around 579 ground 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)

Sr No	Earthquake	Date	Station	Component		
				NS	EW	UD
1	Bageshwar	03 Oct 2009	Bageshwar	✓	✓	✓
			Champawat	✓	✓	✓
			Kapkot	✓	✓	✓
2	Hindukush	22 Oct 2009	Dehra	✓	✓	✓
			Kasauli	✓	✓	✓
			Keylang	✓	✓	✓
			Nathpa	✓	✓	✓
			Rampur	✓	✓	✓
3	Patiala	27 Oct 2009	Patiala	✓	✓	✓

EERC LIBRARY:

Publications:

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

- ❖ Harinadha Babu Raparla and Ramancharla Pradeep Kumar (2015), "Progressive collapse analysis of RC buildings subjected to seismic loads", Indian Concrete Journal, Vol. 89, Issue 5, pp.13-25.
- ❖ Silva V., Crowley H., Varum H., Pinho R. and Souse L. (2015), "Investigation of the characteristics of Portuguese regular moment-frame RC buildings and development of a vulnerability model ", Bulletin of Earthquake Engineering, Vol. 13, pp. 1455-1490.
- ❖ Cavaleri L. and Trapani F. D. (2015), "Prediction of the additional shear action on frame members due to infills", Bulletin of Earthquake Engineering, Vol. 13, pp. 1425-1454.
- ❖ Magliulo G., Ercolino M. and Manfredi G. (2015), "Influence of cladding panels on the first period of one-story precast buildings", Bulletin of Earthquake Engineering, Vol. 13, p. 1531-1555.
- ❖ F. D. Luca, G. M. Verderame and G. Manfredi (2015), "Analytical versus observational fragilities: the case of Pettino (L'Aquila) damage data database", Bulletin of Earthquake Engineering, Vol. 13 , pp. 1161-1181.

- ❖ M. Moisi, F. Vallianatos, S. Kershaw and P. Collins (2015), "Seismic site characterization of the Kastelli (Kissamos) Basin in northwest Crete (Greece): assessments using ambient noise recordings", Bulletin of Earthquake Engineering, Vol. 13, pp. 725-753.

❖ Reports:

The following report is very useful for research

- ❖ Taghavi S. and Miranda E. (2003), "Response Assessment of nonstructural Building Elements", PEER Report 2003/05, Pacific earthquake Engineering Research Centre, College of Engineering, Univ. of California, Berkeley.

Latest Earthquake Recorded:

The following Ground motion was recoded at CDG00 station.

