

# QUAKE BULLETIN

Monthly Bulletin

Vol.2 No.12 December-2013

Editor: Ramancharla Pradeep Kumar

Associate Editors: Chenna Rajaram  
Raju Sangam

## EARTHQUAKE EVENTS:

This database will give the information about the earthquakes that occurred worldwide and India wide in the month of November-2013. The list of the earthquakes is as follows:

### Worldwide:

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

| Date       | Time (UTC) | Lat      | Long      | Depth (km) | Mw  | Location                 |
|------------|------------|----------|-----------|------------|-----|--------------------------|
| 12/11/2013 | 07:03:51   | 54.681°N | 162.286°E | 47.2       | 6.6 | Kamchatsk Staryy, Russia |
| 16/11/2013 | 03:34:31   | 60.213°S | 47.108°W  | 10.0       | 6.8 | Scotia Sea               |
| 17/11/2013 | 09:04:55   | 60.274°S | 46.401°W  | 10.0       | 7.7 | Scotia Sea               |
| 23/11/2013 | 07:48:32   | 17.114°S | 176.542°W | 371.0      | 6.5 | Fiji region              |
| 25/11/2013 | 06:27:33   | 53.881°S | 54.882°W  | 10.0       | 7.0 | South Atlantic Ocean     |

### 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                                   |
|------------|------------|--------|--------|------------|-----|--|
| 03/11/2013 | 08:18:38   | 36.1°N | 74.6°E | 10         | 4.0 | Gilgit Region, Jammu & Kashmir             |
| 06/11/2013 | 04:16:16   | 26.5°N | 93.5°E | 20         | 5.5 | Karbi Anglong, Assam                       |
| 06/11/2013 | 14:53:08   | 31.4°N | 76.1°E | 10         | 4.9 | Hoshiarpur, Punjab                         |
| 09/11/2013 | 12:46:57   | 17.1°N | 73.9°E | 05         | 3.5 | Koyna, Maharashtra                         |
| 11/11/2013 | 19:11:19   | 28.6°N | 77.2°E | 16         | 3.1 | Delhi                                      |
| 12/11/2013 | 19:52:14   | 24.6°N | 94.5°E | 90         | 4.0 | Myanmar-India(Manipur)Border Region        |
| 13/11/2013 | 23:33:41   | 30.0°N | 79.2°E | 5          | 3.3 | Garhwal, Uttrakhand                        |
| 15/11/2013 | 22:21:02   | 34.2°N | 77.9°E | 10         | 3.8 | Jammu & Kashmir                            |
| 16/11/2013 | 19:22:08   | 35.9°N | 78.0°E | 10         | 3.8 | India(Jammu & Kashmir)-China Border Region |
| 21/11/2013 | 04:23:18   | 26.6°N | 93.2°E | 10         | 3.9 | Nagaon, Assam                              |
| 26/11/2013 | 01:04:18   | 35.2°N | 77.4°E | 10         | 4.0 | Eastern Kashmir                            |
| 29/11/2013 | 01:54:45   | 29.0°N | 95.9°E | 10         | 5.0 | Arunachal Pradesh-Dibang Valley            |
| 30/11/2013 | 11:58:45   | 17.4°N | 74.0°E | 10         | 3.6 | Koyna, Maharashtra                         |

## **GROUND MOTION RECORDS:**

In our centre around 420 ground motion records are available. Since 1973 the ground motions are available with N-S, E-W and U-D components. The updated ground motions are listed.

(Source: PESMOS-IITR)

| <b>S No</b> | <b>Earthquake</b> | <b>Date</b> | <b>Station</b> | <b>Component</b> |
|-------------|-------------------|-------------|----------------|------------------|
| 1           | Bhutan            | 21 Sep 2009 | Boko           | E-W              |
| 2           | Bhutan            | 21 Sep 2009 | Boko           | N-S              |
| 3           | Bhutan            | 21 Sep 2009 | Boko           | U-D              |
| 4           | Bhutan            | 21 Sep 2009 | Bongaigaon     | E-W              |
| 5           | Bhutan            | 21 Sep 2009 | Bongaigaon     | N-S              |
| 6           | Bhutan            | 21 Sep 2009 | Bongaigaon     | U-D              |
| 7           | Bhutan            | 21 Sep 2009 | Darjeeling     | E-W              |
| 8           | Bhutan            | 21 Sep 2009 | Darjeeling     | N-S              |
| 9           | Bhutan            | 21 Sep 2009 | Darjeeling     | U-D              |
| 10          | Bhutan            | 21 Sep 2009 | Diphu          | E-W              |
| 11          | Bhutan            | 21 Sep 2009 | Diphu          | N-S              |
| 12          | Bhutan            | 21 Sep 2009 | Diphu          | U-D              |
| 13          | Bhutan            | 21 Sep 2009 | Gangtok        | E-W              |
| 14          | Bhutan            | 21 Sep 2009 | Gangtok        | N-S              |
| 15          | Bhutan            | 21 Sep 2009 | Gangtok        | U-D              |
| 16          | Bhutan            | 21 Sep 2009 | Goalpara       | E-W              |
| 17          | Bhutan            | 21 Sep 2009 | Goalpara       | N-S              |
| 18          | Bhutan            | 21 Sep 2009 | Goalpara       | U-D              |
| 19          | Bhutan            | 21 Sep 2009 | Guwahati       | E-W              |
| 20          | Bhutan            | 21 Sep 2009 | Guwahati       | N-S              |
| 21          | Bhutan            | 21 Sep 2009 | Guwahati       | U-D              |
| 22          | Bhutan            | 21 Sep 2009 | Nongstoin      | E-W              |
| 23          | Bhutan            | 21 Sep 2009 | Nongstoin      | N-S              |
| 24          | Bhutan            | 21 Sep 2009 | Nongstoin      | U-D              |

The records are available at server ([\\10.2.32.173](http://10.2.32.173))

## **EERC LIBRARY:**

### **Publications:**

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

- ❖ A. H. Akhaveissy (2013), "Limit State Strength of Unreinforced Masonry", Earthquake Spectra, Vol. 29, No. 1, pp.1-31.
- ❖ Andreas J. Kappos, Georgios Panagopoulos, Christos Panagiotopoulos, and Gregorios (2006), "A hybrid method for the vulnerability assessment of R/C and URM Buildings", Bull Earthquake Eng,, Vol. 4, No. 4, pp.391-413.

- ❖ Alper Aldemir, Altug Erberik, Ozan Demirel and Halûk Sucuoglu, (2013), "Seismic Performance Assessment of Unreinforced Masonry Buildings with a Hybrid Modeling Approach", Earthquake Spectra, Vol. 29, No. 1, pp.33-57.
- ❖ Gagan Vignesh Selvaraj and Ramancharla Pradeep Kumar (2013): "Android Based Application for Forest Fire Simulation using 2D Cellular Automata" Proc. of Joint International Workshop on Geospatial Data for Disaster and Risk Reduction, Hyderabad, India.
- ❖ Mohammad Ahmed Hussain, Chenna Rajaram and Ramancharla Pradeep Kumar (2013): "Study on the Correlation between Shear & Rupture Wave Velocity of Chandigarh Fault" Proc. of Joint International Workshop on Geospatial Data for Disaster and Risk Reduction, Hyderabad, India.
- ❖ Katuri Jayanth, Venkata Dilip Kumar Pasupuleti and Ramancharla Pradeep Kumar (2013): "Two dimensional simulation of Tsunami wave propagation using MATLAB" Proc. of Joint International Workshop on Geospatial Data for Disaster and Risk Reduction, Hyderabad, India.

### **Reports:**

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

- ❖ Ranf R, Nelson J, Price Z, Eberhard M and Stanton J (2005)., "Damage Accumulation in Lightly Confined RC Bridge Columns", PEER Report 2005/08, Pacific Earthquake Engineering Research Centre, College of Engineering, Univ. of California, Berkeley.

The publications and reports are available at server ([\\10.2.32.173](http://10.2.32.173))