

Report on Real Time Earthquake Location

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Month: Oct 2021
Technical Report No: NCS/2021/10

Report of Earthquakes occurred in the month of Oct 2021

1) Introduction:

National Center for Seismology maintains a National Seismological Network of 150 stations each having state of art equipment and spreading all across the country **(Figure:1)**. Using these stations during the period 01st – 31st Oct 2021 a total number of 137 earthquakes have been

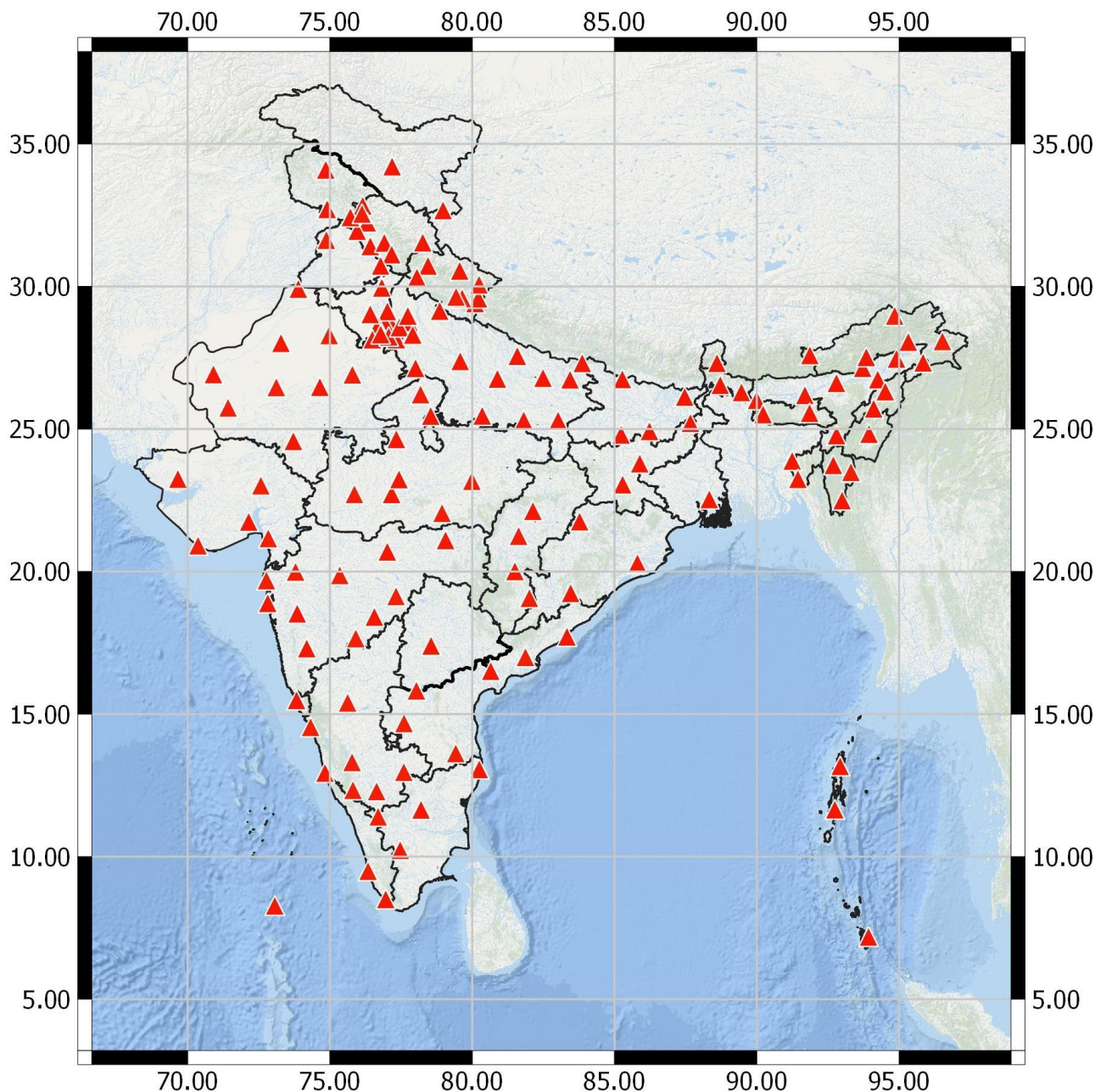


Figure 1: National Seismological Network (NSN) of 150 Stations

located and disseminated from the center **(Figure:2)**, out of which 128 earthquakes has occurred in India and its neighborhood region bounded by the coordinates 0° - 40°N & 60°-100°E **(Figure:3)**.

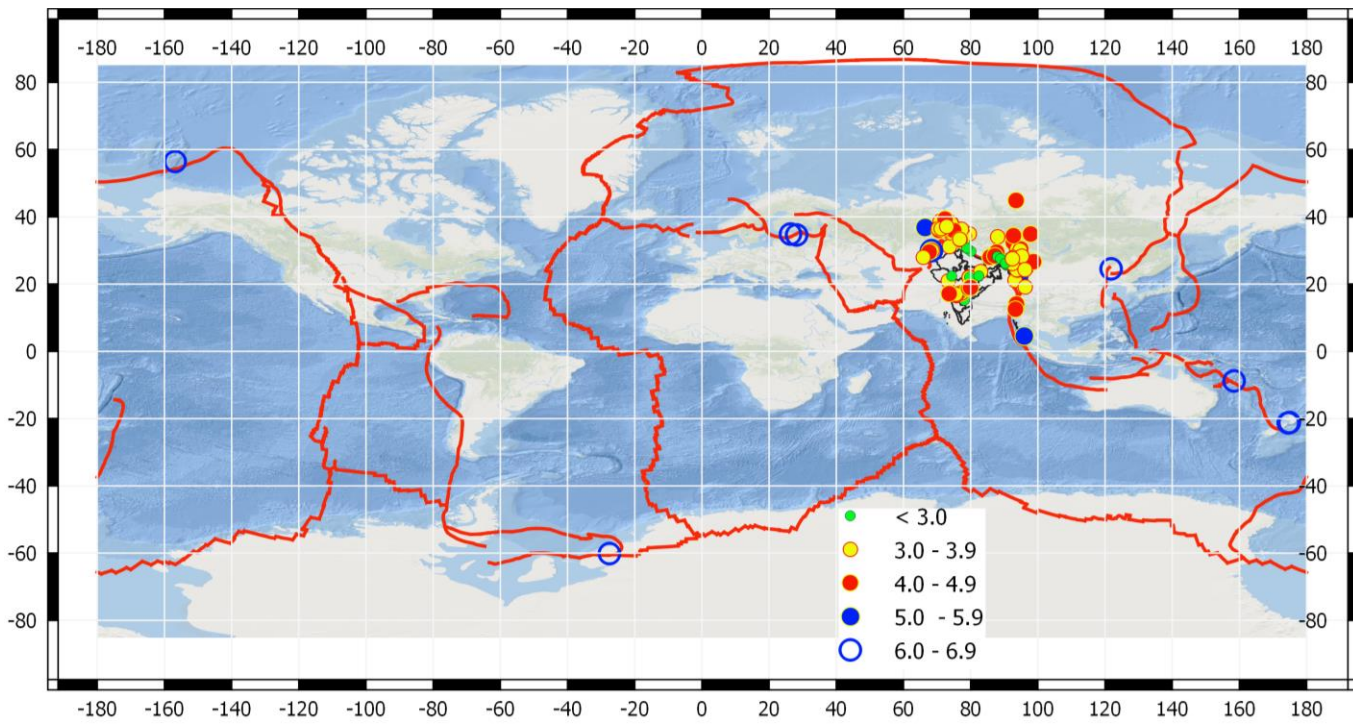


Figure 2: Earthquakes located and disseminated by NCS during 01st – 31st Oct 2021

2) Seismicity:

During the period, the density of earthquakes in India and its neighborhood region bounded by the coordinates 0- 40°N & 60-100°E; can largely be seen in Hindu Kush region, North Eastern part of India and Andaman-Nicobar Island region as shown in **Figure:3**. Few earthquakes of smaller magnitudes were also reported in Laddakh, Himachal Pradesh, Uttarakhand, Central (Chhindwara, MP and Bilaspur in Chhatisgarh), Western (Palghar and Gadchiroli in Maharashtra) and Southern (Vijayapua, Gulbarga in Karnataka and Peddapalle in Telangana) part of country. **Five** earthquakes of magnitude **M:5.0 and above** occurred during the month in the region; as detailed in following table.

SN	Date	Time (IST)	Lat(°N)	Long(°E)	Depth (KM)	M	Region
1	2021-10-05	05:50	36.36	71.31	150	5	Afghanistan
2	2021-10-05	13:29	36.83	66.46	166	5.2	Hindu Kush, Afghanistan
3	2021-10-07	03:31	29.94	68.34	10	6	Pakistan
4	2021-10-07	23:58	22.25	94.6	90	5.5	Myanmar
5	2021-10-08	15:34	04.53	95.97	125	5	Northern Sumatra, Indonesia

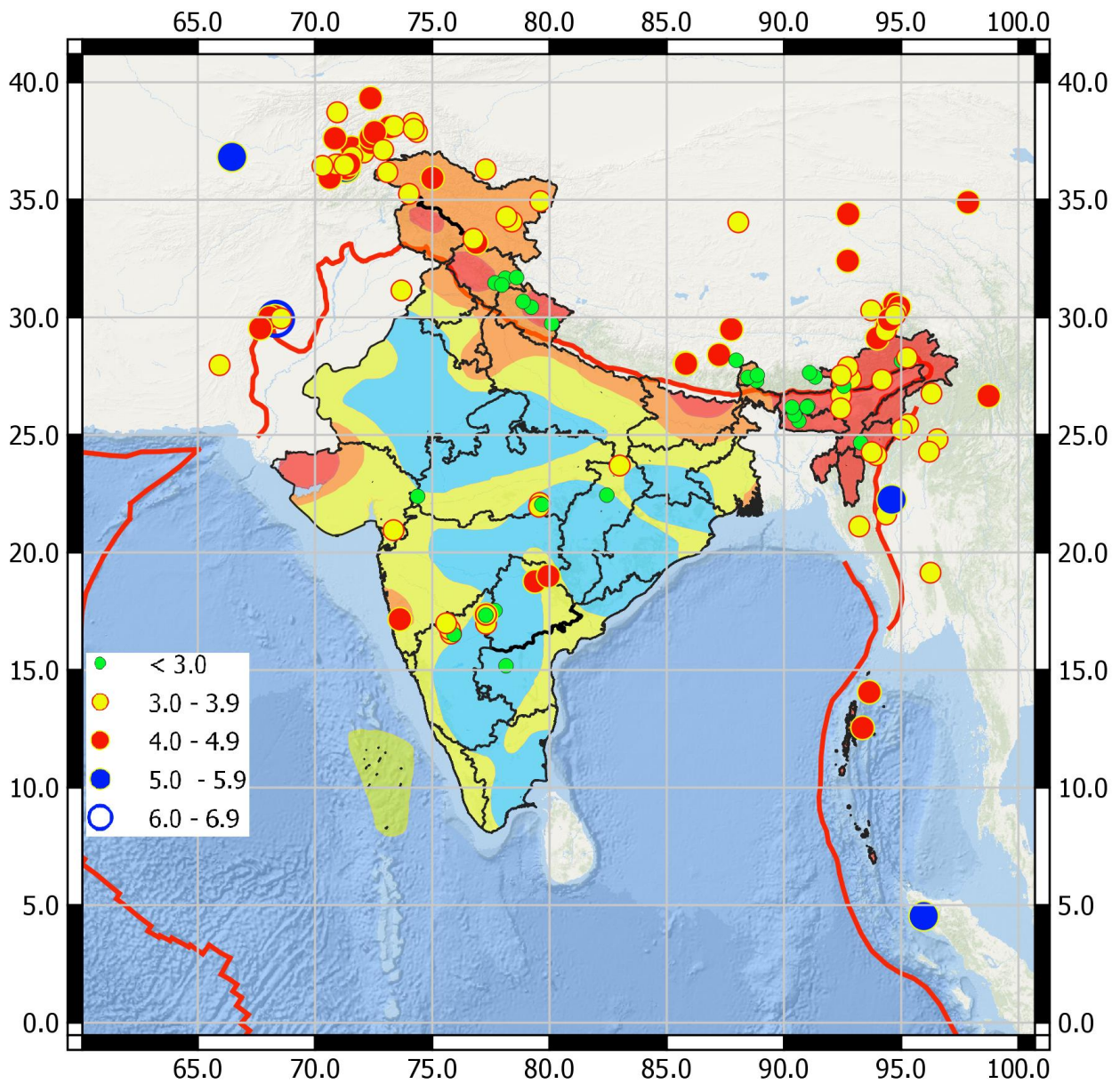


Figure 3: Map showing the seismicity during the period 01st – 31st Oct 2021 occurred in India and its neighbourhood region along with the seismic zone of India.

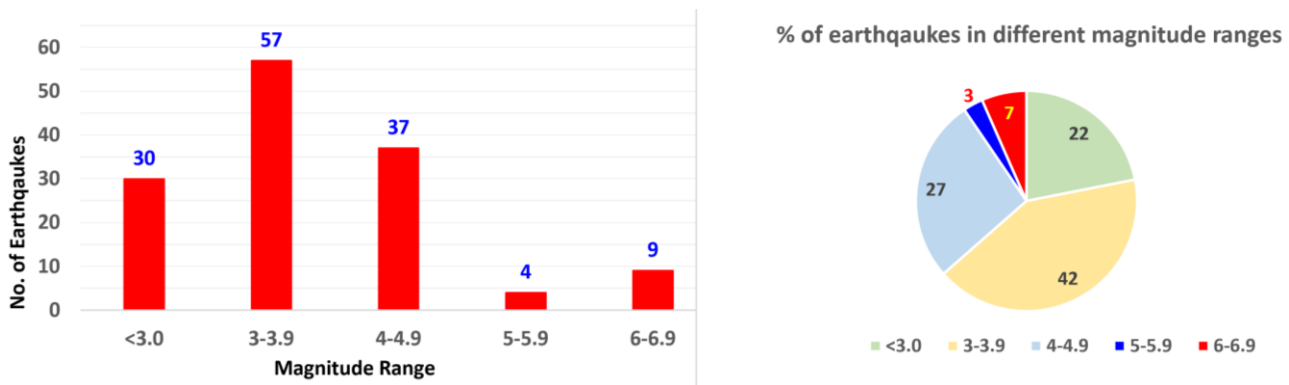


Figure 4: Pie-Chart and Bar-Diagram showing the number of earthquakes occurred in the magnitude range during the period 01st – 31st Oct 2021 that was disseminated.

Out of total 137 earthquakes, **42%** and **27%** of events occurred in the magnitude range **3.0-3.9** and **4.0 - 4.9** respectively, whereas **four** and **nine** earthquakes occurred in each magnitude range of **5.0-5.9** and **6.0-6.9** respectively as shown in Figure:4. Detail list of earthquakes occurred during the month is available at www.seimso.gov.in.

3) Significant Activity:

A. Myanmar Earthquake of M:5.5 An earthquake of **M: 5.5** occurred in Myanmar at 22.250 N and 94.600 E with focal depth of 90 km at **23:58:04 IST** on **07th Oct 2021**. The epicenter was on the major plate boundary and of about 180 km South-East from Champai, 170 km East from Siaha, 250 km South-East from Aizwal, 520 km South-East from Guwahati and 640 km East from Kolkata.

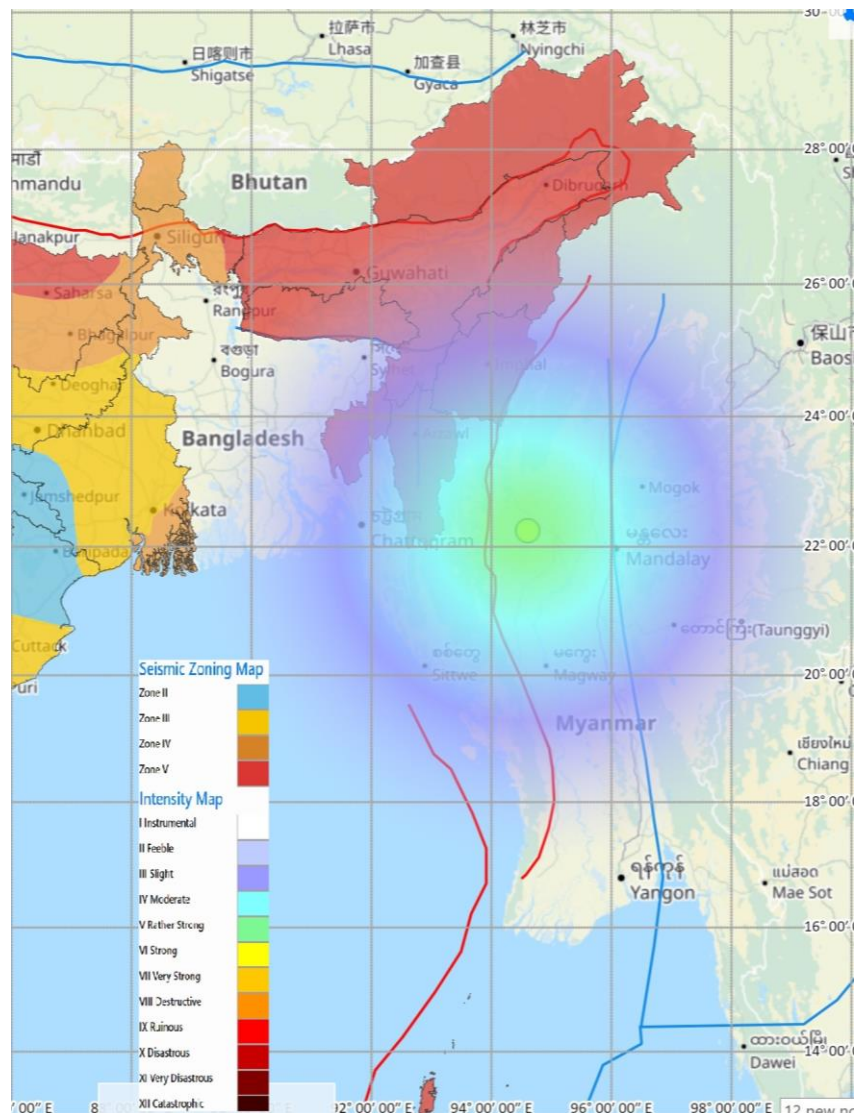


Figure 5: Map showing the epicentre (circle) and intensity of Myanmar earthquake of M:5.5, occurred on 2021-10-07 at 23:58:04(IST).

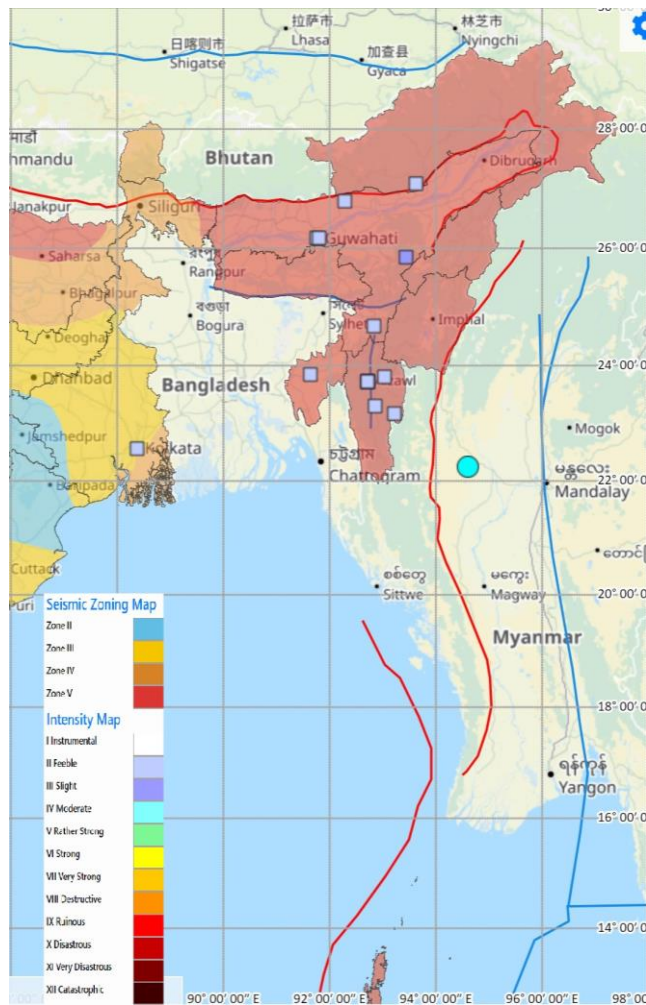


Figure 6: Map showing the felt responses received from different locations.

Location and intensity map of earthquake are shown in **Figure 5**. About 15 felt responses varying from MMI I to MMI III within the range of 180 to 650 km from the epicentre were received for this earthquake through website and BhooKamp App. This earthquake was widely felt in North Eastern Part of country (**Figure 6**).

B. Two earthquakes of **M:4.0** and **M:4.3** occurred in Paddapalle, Telengana and Gadchiroli, Maharashtra at **14:03:30 IST of 23rd Oct 2021** and **18:48:47 IST of 31st Oct 2021** respectively. Both the earthquakes were felt locally within 100 km from the epicentre.