

# Report on Real Time Earthquake Location

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# Report of Earthquakes occurred in the month of March2025

## 1)Introduction:

National Center for Seismology maintains a National Seismological Network of **166 stations** each having state of art equipment and spreading all across the country (**Figure:1**). Using these stations during the period 01<sup>st</sup> – 31<sup>st</sup> March2025 a total number of 174 earthquakes have been located and

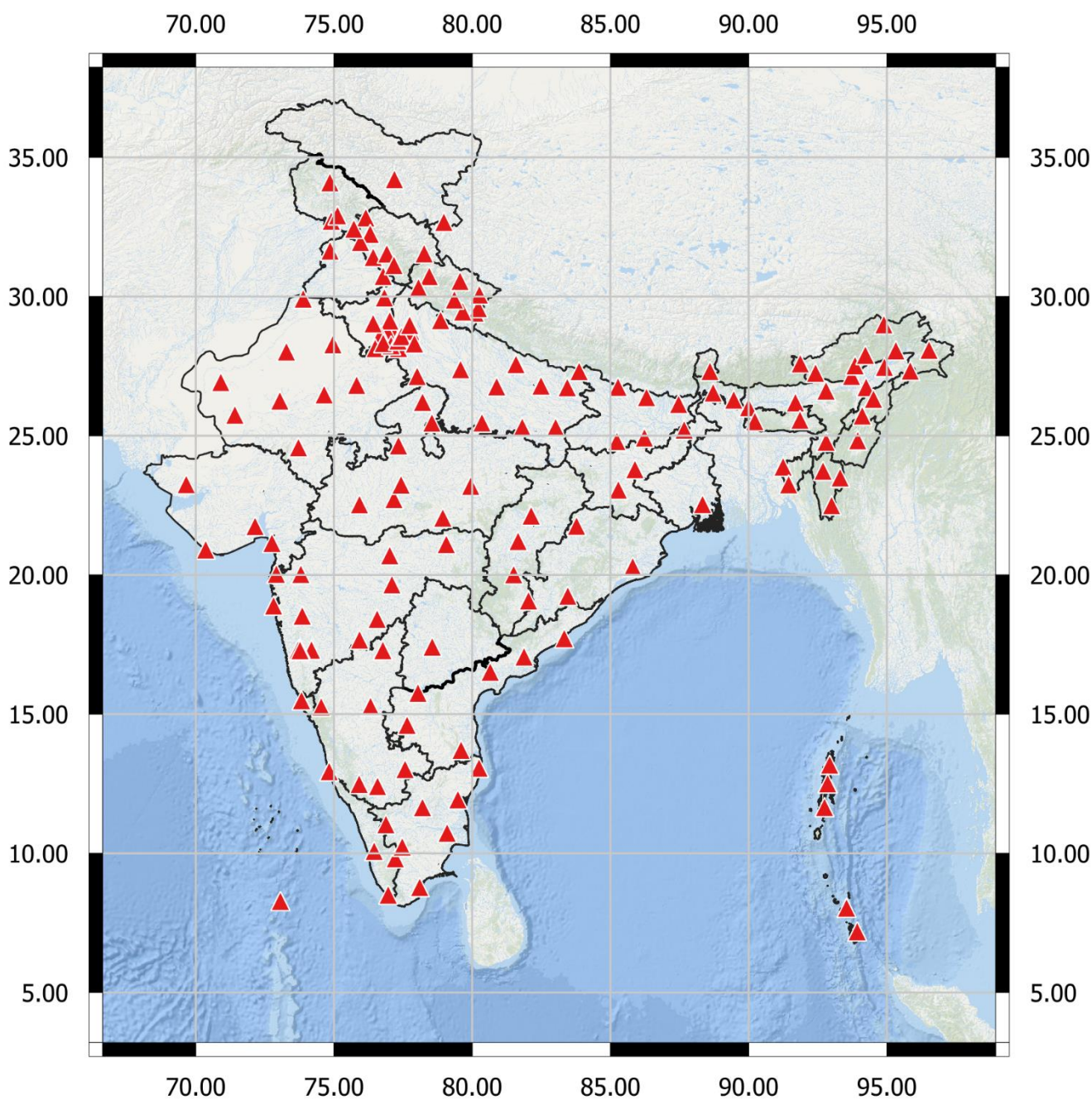


Figure 1: National Seismological Network (NSN) of 166 Stations

disseminated from the center (**Figure:2**), out of which 164 earthquakes has occurred in India and its neighborhood region bounded by the coordinates 0° - 40°N & 60°-100°E (**Figure:3**).

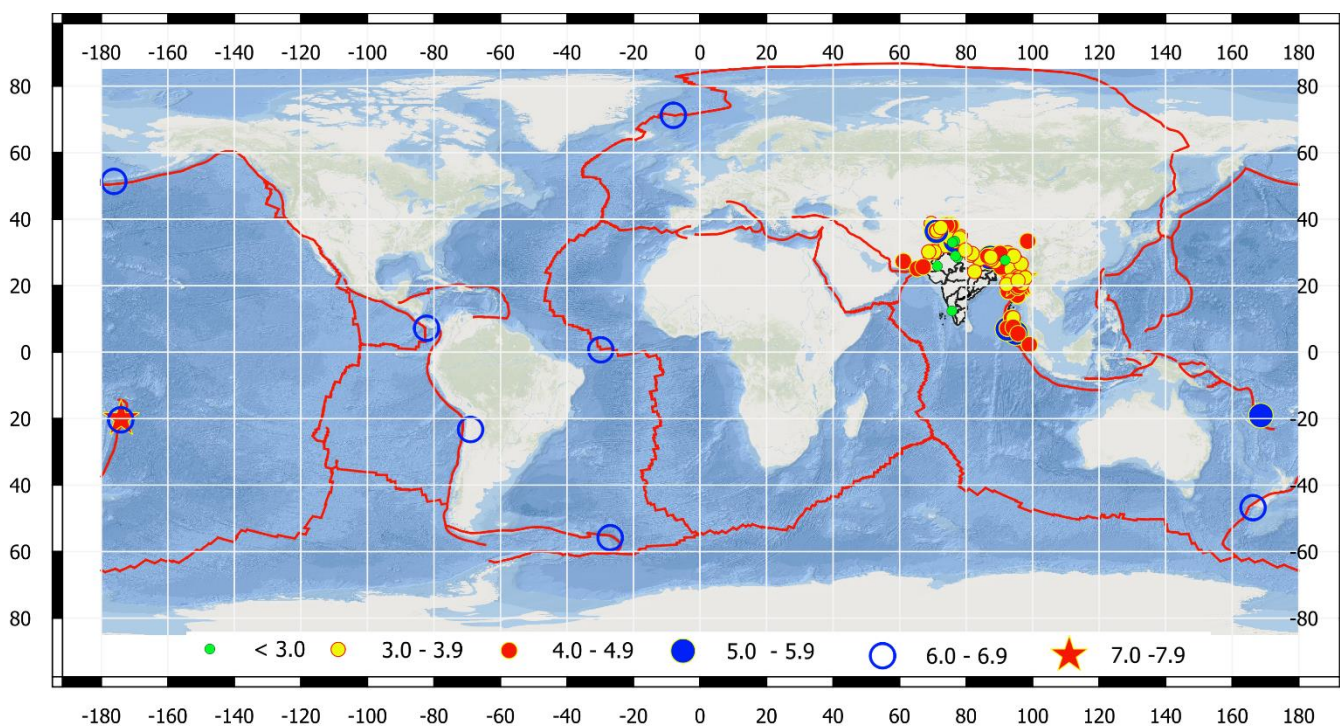


Figure 2: Earthquakes located and disseminated by NCS during 01<sup>st</sup> – 31<sup>st</sup> March 2025

## 2) Seismicity:

During the period, the majority of earthquakes within India and its neighbourhood region bounded by the coordinates 0-40°N & 60-100°E; were located in Hindu Kush region, North India (Jammu and Kashmir, Ladakh, Himachal Pradesh and Uttarakhand), North East India (Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram and Sikkim) as shown in **Figure 3**.

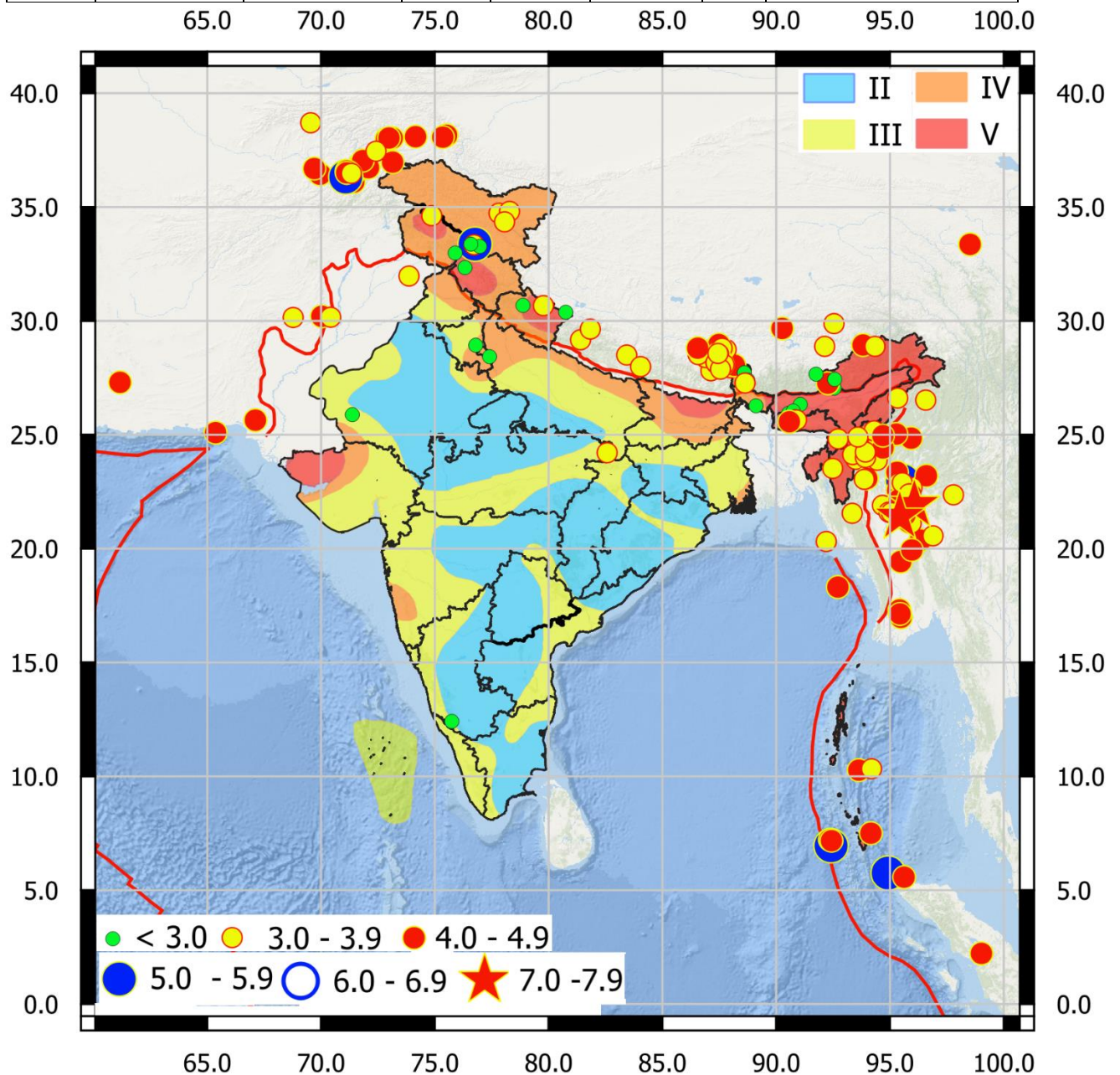
Few earthquakes of smaller magnitudes were also reported in northern (Sonipat and Faridabad in Haryana), central (Singrauli in Madhya Pradesh), western (Barmer in Rajasthan) and southern (Kodagu in Karnataka) part of country. **Twenty** earthquakes of smaller magnitude (**M < 3.0**) comprising **11%** of all earthquakes occurred during 01<sup>st</sup> to 31<sup>st</sup> March 2025. **Nine** earthquakes of magnitude **M:5.0 and above** occurred during the month in the region; as detailed in **Table:1**.

Out of total 174 earthquakes **42%** and **36%** earthquakes occurred in the magnitude range **3.0-3.9** and **4.0-4.9** respectively; whereas **eight** earthquakes in the magnitude range 5.0-5.9 occurred



**Table:1 Earthquakes of  $M \geq 5.0$  occurred during March 2025 within India and its neighbourhood**

SN	Date	Time (IST)	Lat( $^{\circ}$ N)	Long( $^{\circ}$ E)	D (KM)	M	Region
1	2025-03-05	11:06:37 IST	24.75	94.35	110	5.7	Kamjong, Manipur
2	2025-03-07	18:12:49 IST	5.75	94.92	70	5.1	Andaman Sea
3	2025-03-08	14:20:17 IST	28.44	87.24	10	5.2	Tibet
4	2025-03-12	11:12:10 IST	6.95	92.41	10	5.6	Bay of Bengal
5	2025-03-14	02:50:05 IST	33.37	76.76	15	5.2	Kargil, Ladakh
6	2025-03-27	13:58:21 IST	36.32	71.08	180	5.2	Afghanistan
7	2025-03-28	11:50:52 IST	21.93	96.07	35	7.5	Myanmar
8	2025-03-28	12:02:07 IST	21.41	95.43	10	7.0	Myanmar
9	2025-03-28	12:57:53 IST	22.97	95.56	10	5.0	Myanmar



*Figure 3: Map showing the seismicity during the period 01<sup>st</sup> – 31<sup>st</sup> March 2025 occurred in India and its neighbourhood region along with the seismic zone of India.*

during the period of which one was outside the grid of 0- 40°N & 60-100°E as shown in **Figure 2 and Figure 3**. **Eight** earthquakes in the magnitude range 6.0-6.9 occurred during the period were outside the grid of 0- 40°N & 60-100°E as shown in **Figure 2**. **Three** earthquakes in the magnitude range 7.0-7.9 occurred during the period of which one was outside the grid of 0- 40°N & 60-100°E as shown in **Figure 2 and Figure 4(a)**. Detail list of earthquakes occurred during the month is available at [www.seismo.gov.in](http://www.seismo.gov.in) .

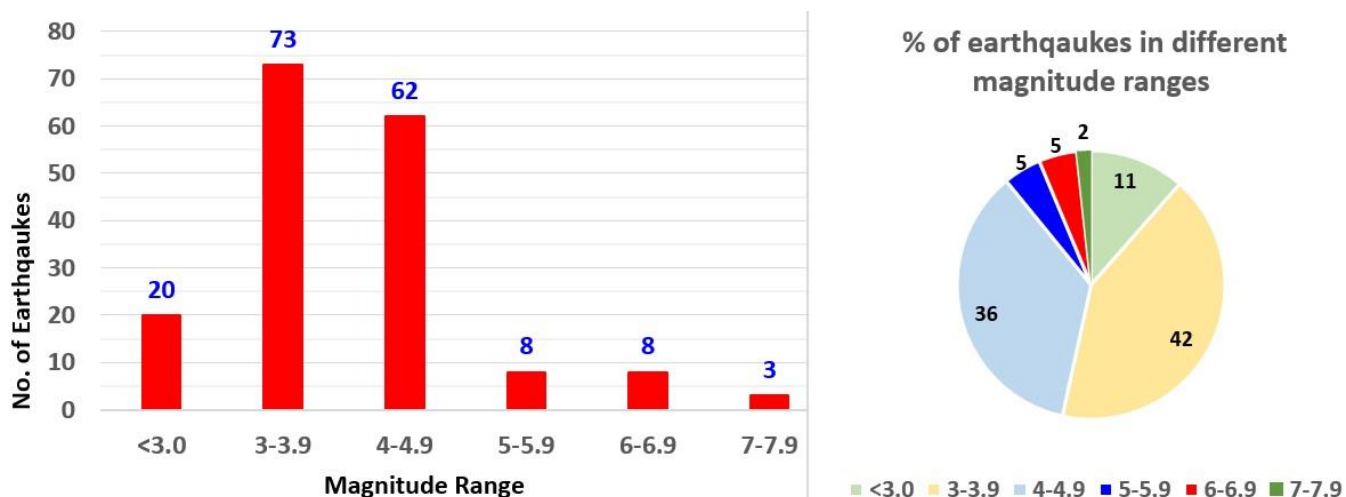


Figure 4 (a) : Distribution of earthquakes in the different magnitude range during 01<sup>st</sup> – 31<sup>st</sup> March 2025.

There is positive change in number of earthquakes with respect to previous month (February 2025) in the all the magnitude range as shown in Figure 4 (b).

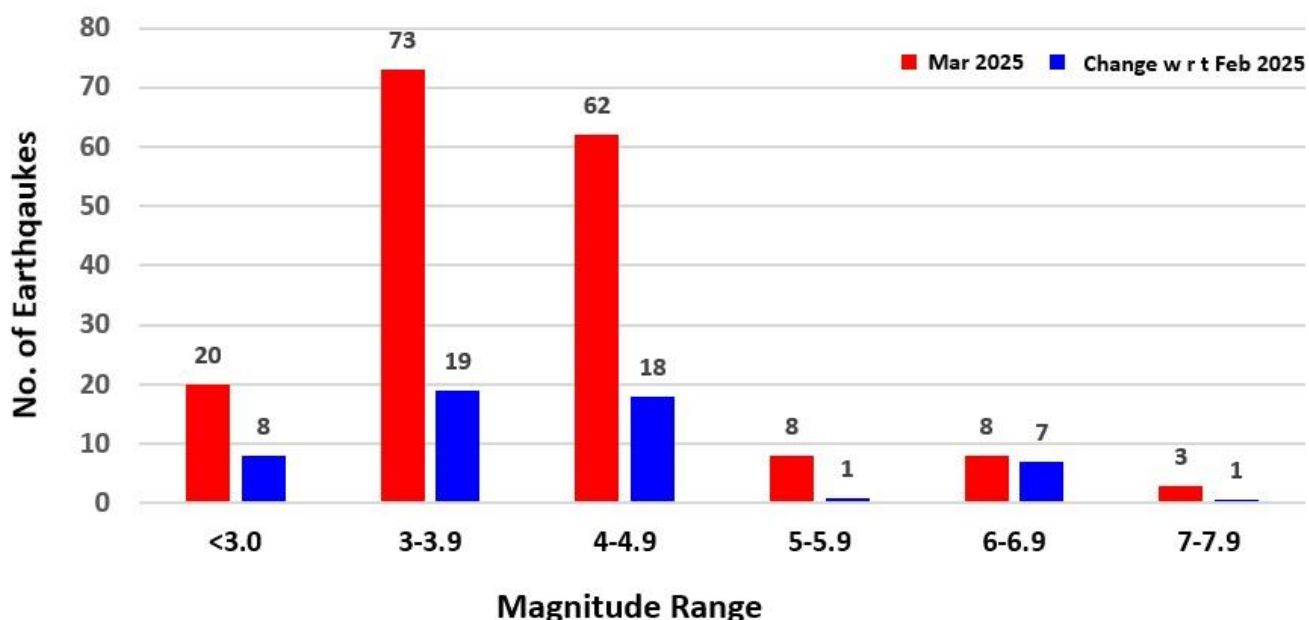


Figure 4 (b) : Change of occurrence of earthquakes in different magnitude ranges w r t previous month

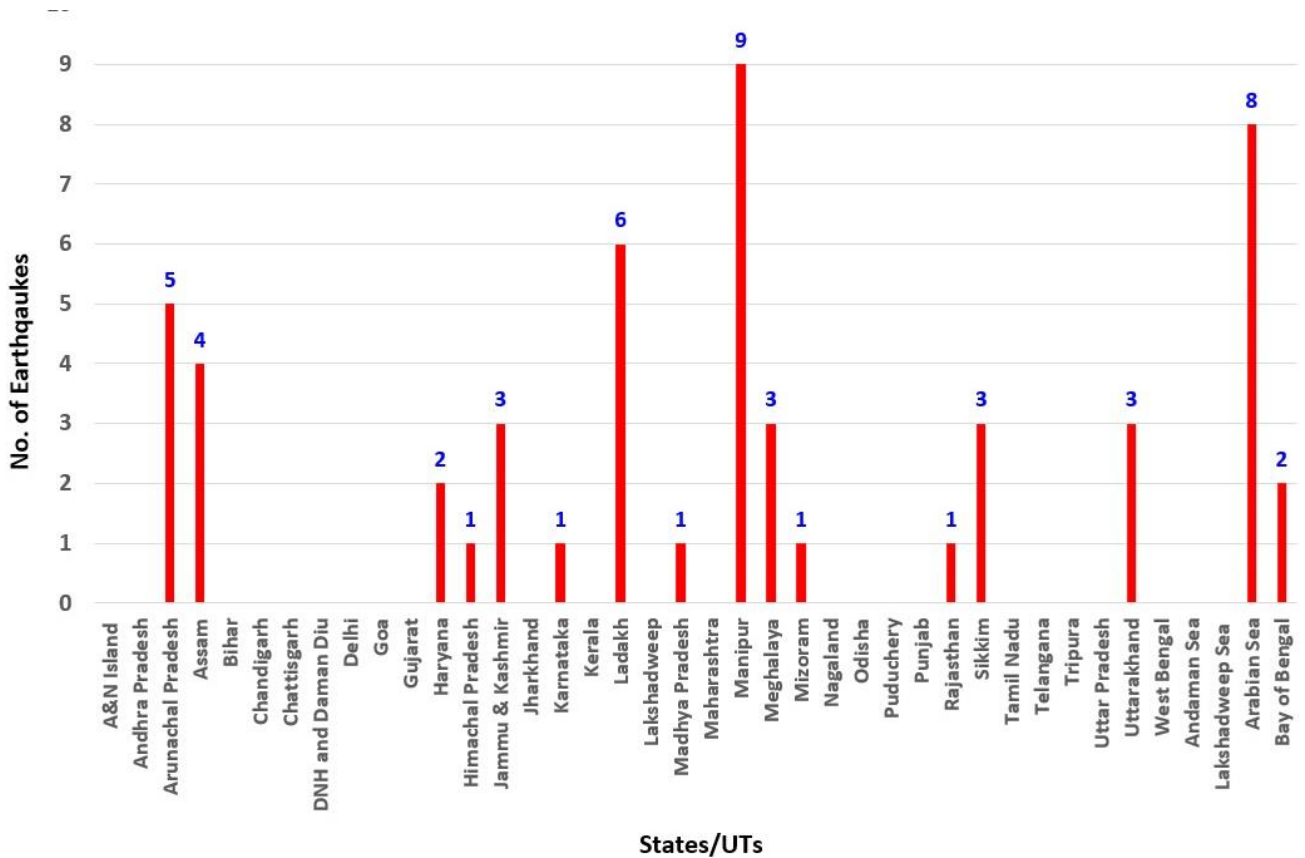


Figure 5: State wise distribution of earthquakes during the period 01<sup>st</sup> – 31<sup>st</sup> March 2025.

Total **53** earthquakes occurred within Indian territory; of which 9 earthquakes occurred in Manipur; 8 were in Andaman Sea and 6 were in Ladakh during the period. Out of 53 earthquakes **15** and **25** earthquakes occurred in **North** and **North-East** region respectively. State/UT and region wise distribution of earthquakes occurred during 01<sup>st</sup> – 31<sup>st</sup> March 2025 is shown in **Figure 5** and **Figure 7** respectively. There was no activity in eastern part of the country and spars activity reported in western ,central and southern part of the country during the 01<sup>st</sup> – 31<sup>st</sup> March 2025 (**Figure 3** and **Figure 6**).

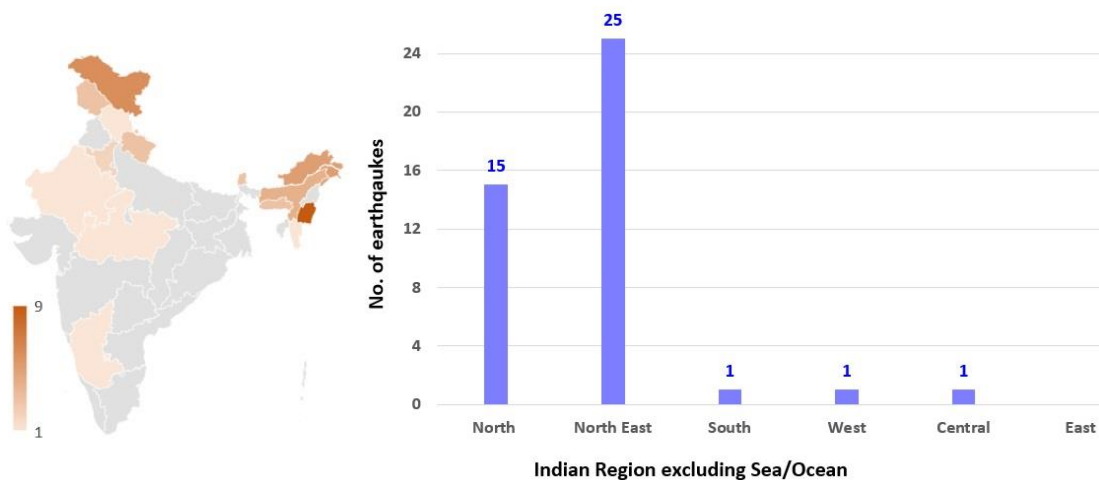


Figure: 6 Earthquake Density map

Figure: 7 Region wise distribution



### 3) Significant Activity:

- A. Manipur Earthquake:** An earthquake of **M:5.7** occurred at **11:06:37 IST** of **05<sup>th</sup> March 2025** in Phugyar, Manipur at **24.75° N** and **94.35° E** with focal depth of 110 km. The epicentre was approximately 43 Km ESE of Imphal; 200 Km NE of Aizwal and 305 Km SE of Guwahati. This earthquake occurred on the Indo-Burmese Wedge. **Figure 8** depicts the expected intensity of this earthquake around the source zone. The earthquake was widely felt in region. URL <https://riseq.seismo.gov.in/riseq/earthquake/event/Smplek5lcmhGZiVienpNQ2NBK1hTdZ09/Reviewe> [d](#) may be visited for more information about this earthquake.

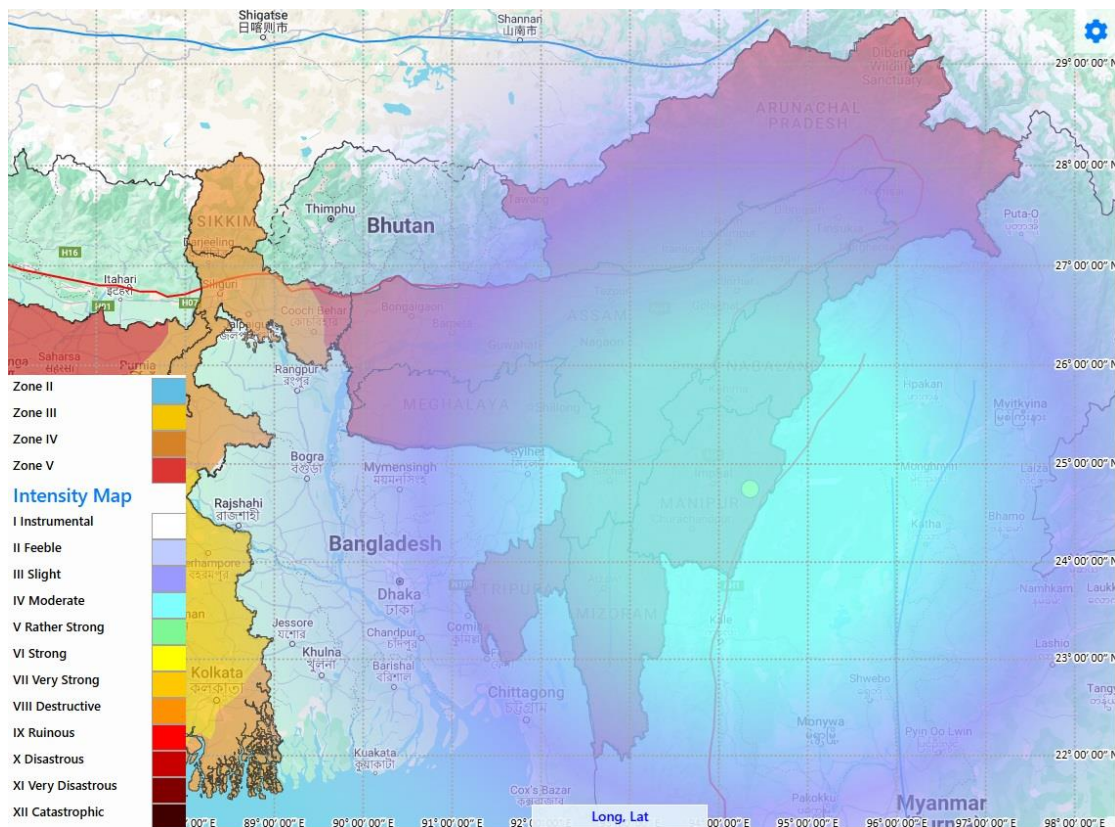


Figure 8: Intensity map of earthquake of M 5.7 occurred on 05<sup>th</sup> March 2025 in Manipur.

- B. Ladakh Earthquake:** An earthquake of **M:5.2** occurred at **02:50:05 IST** of **14<sup>th</sup> March 2025** in Kargil, Ladakh at **33.37° N** and **76.76° E** with focal depth of 15 Km. The epicentre was 115 Km SW of Leh; 140 Km SE of Kargil, 160 Km ENE of Udhampur and 290Km N of Chandigarh. This earthquake was located in the collision zone of Indian and Eurasian plates. The occurrence of earthquakes in the region is attributed mainly to the tectonic sources in the Himalaya such as Himalayan Frontal Thrust (HFT), Main Boundary Thrust (MBT) and Main Central Thrust (MCT).

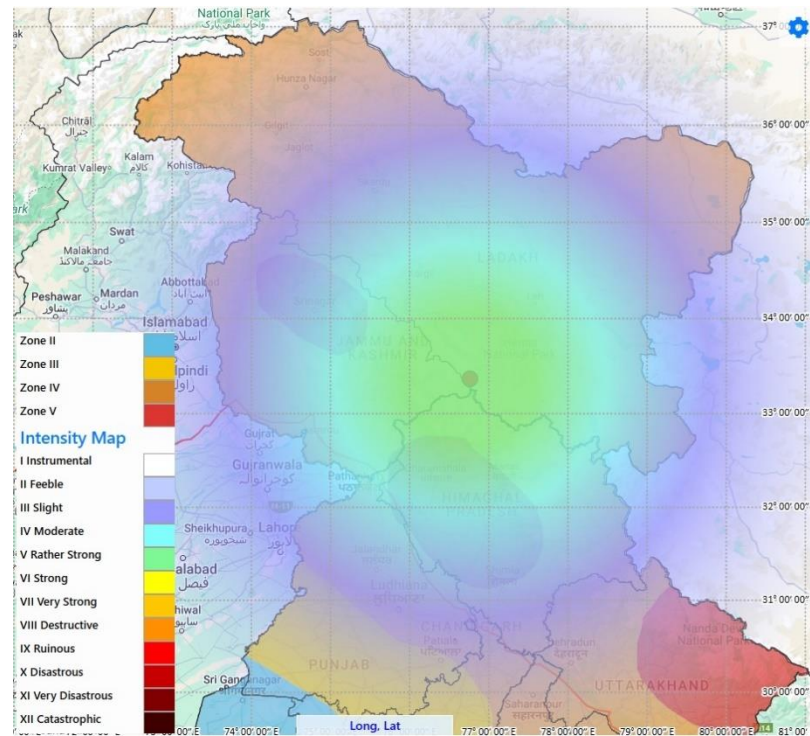


Figure 9: Intensity map of earthquake of M 5.2 occurred on 14<sup>th</sup> March 2025 in Kargil, Ladakah.

Figure 9 depicts the expected intensity of this earthquake around the source zone. The earthquake was widely felt in the Jammu and Kashmir, Ladakh, Punjab, Himachal Pradesh and Uttarakhand. URL More <https://riseq.seismo.gov.in/riseq/earthquake/event/UmxEYkY3bkEyWHVqeHZ6cGc3RTNVZz09/Reviewed> may be visited for more information.

**C. Myanmar Earthquake:** An earthquake of **M:7.5** occurred at **11:50:52 IST** of **28<sup>th</sup> March 2025** in Mandalay, Myanmar at 21.93° N and 96.07° E with focal depth of 35 km. The epicentre was approximately 220 Km N of Npyidaw (Capital of Myanmar); 395 km SE of Aizwal, 430 KM NW of Chianmai (Thailand) and 1010 KM NW of Bangkok (Thailand).

This earthquake, "mainshock," was followed by a secondary earthquake, which occurred approximately **10 minutes later** with a magnitude of **M:7.0**, struck to the south of the mainshock's epicentre. These earthquakes occurred near the Sagaing Fault, which is a well-documented strike-slip fault system. This fault is known to be seismically active, and it has been the source of numerous significant earthquakes in the region in the past. The fault plane solution, derived from waveform inversion, suggests that the mechanism of faulting for both earthquakes was strike-slip in nature.

Figure 10 and Figure 11 depicts the expected intensity of both earthquakes around the source zone. Following URL may be visited for detailed information about **M:7.5** and **M:7.0** earthquakes. <https://riseq.seismo.gov.in/riseq/earthquake/event/YWlYeXBTRDBtNkFYZ0Ftcm5QWU84UT09/Reviewed>.

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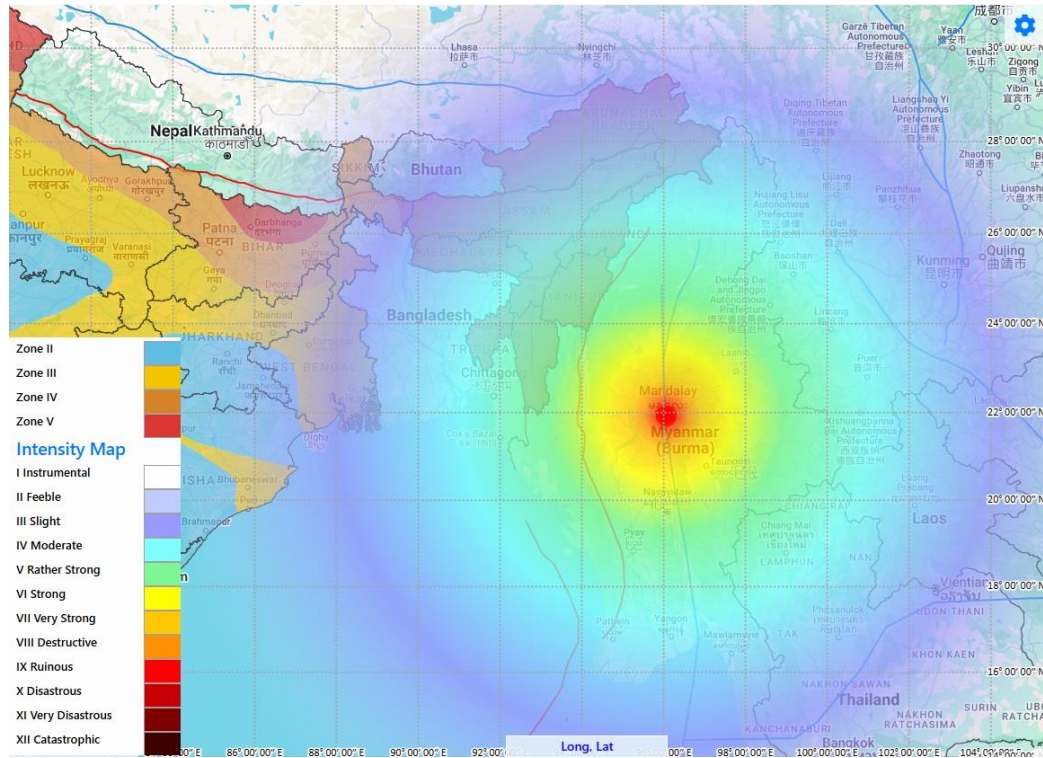


Figure 10: Intensity map of earthquake of M 7.5 occurred on 28<sup>th</sup> March 2025 in Myanmar.

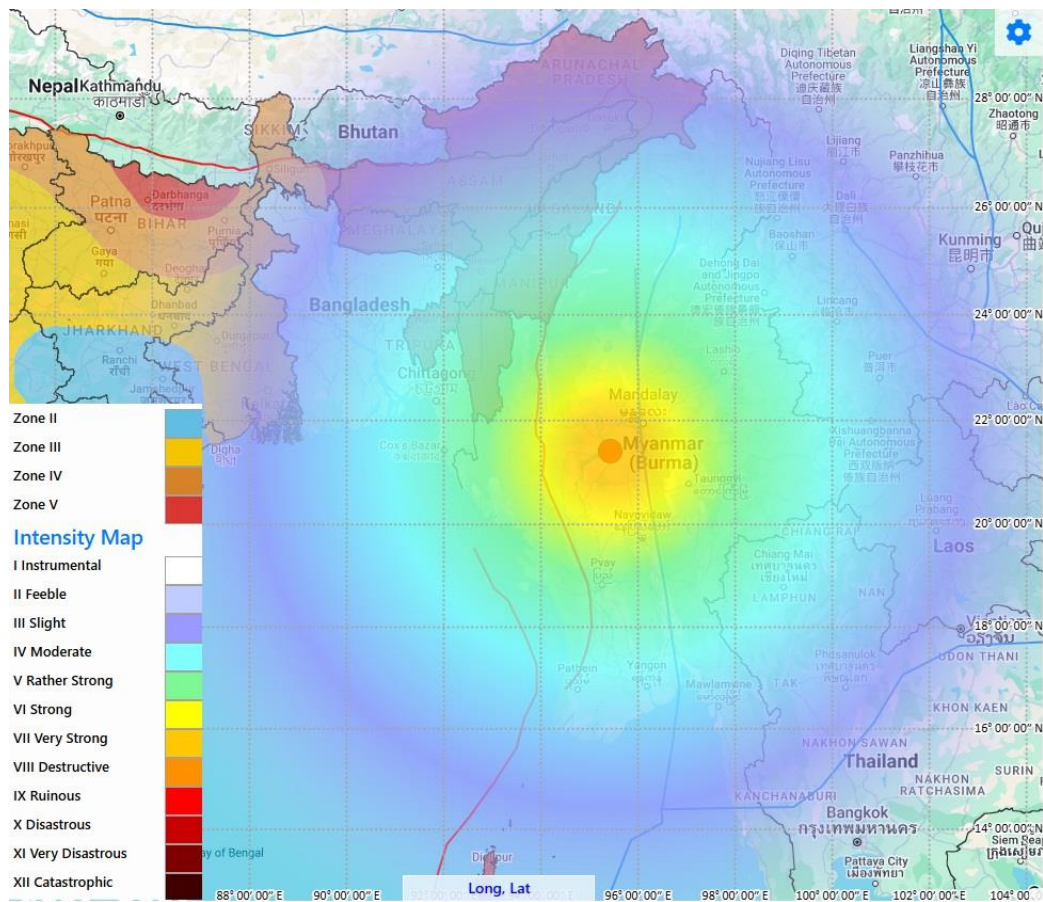
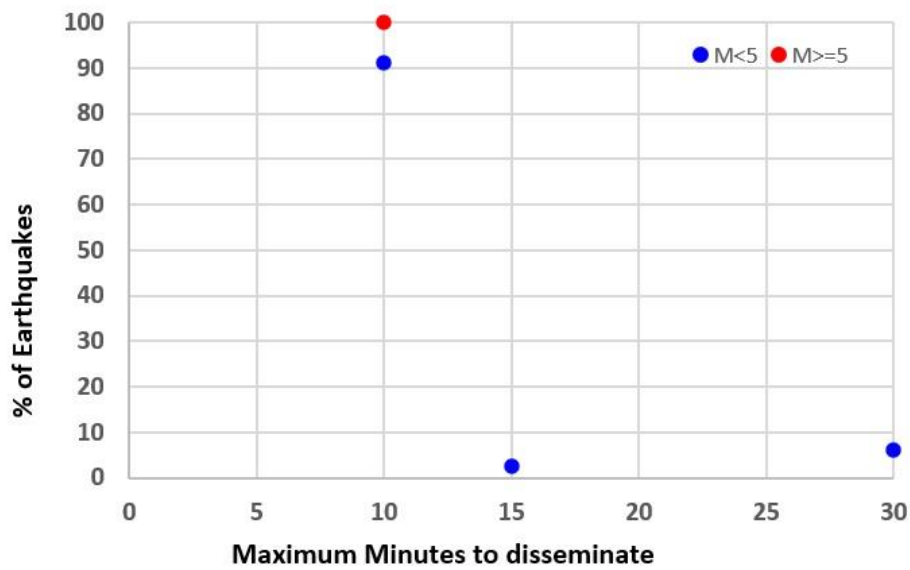


Figure 11: Intensity map of earthquake of M 7.0 occurred on 28<sup>th</sup> March 2025 in Myanmar.

#### 4) Dissemination Performance:



More than **90%** earthquakes of **M<5.0** and **100%** earthquakes of **M>5.0** occurred within India and its neighbourhood region bounded by the coordinates 0-40°N & 60-100°E were disseminated within 10 minutes as shown in **Figure 12**.

Figure 12: Dissemination of earthquakes within different time ranges during 01<sup>st</sup> –31<sup>st</sup> March 2025.