

Report on Real Time Earthquake Location

**From: Earthquake Monitoring Center (EMC) of NCS
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Month: July 2024
Technical Report No: NCS/2024/07

Report of Earthquakes occurred in the month of July 2024

1) Introduction:

National Center for Seismology maintains a National Seismological Network of **160 stations** each having state of art equipment and spreading all across the country (**Figure:1**). Using these stations during the period 01st – 31st July 2024 a total number of 90 earthquakes have

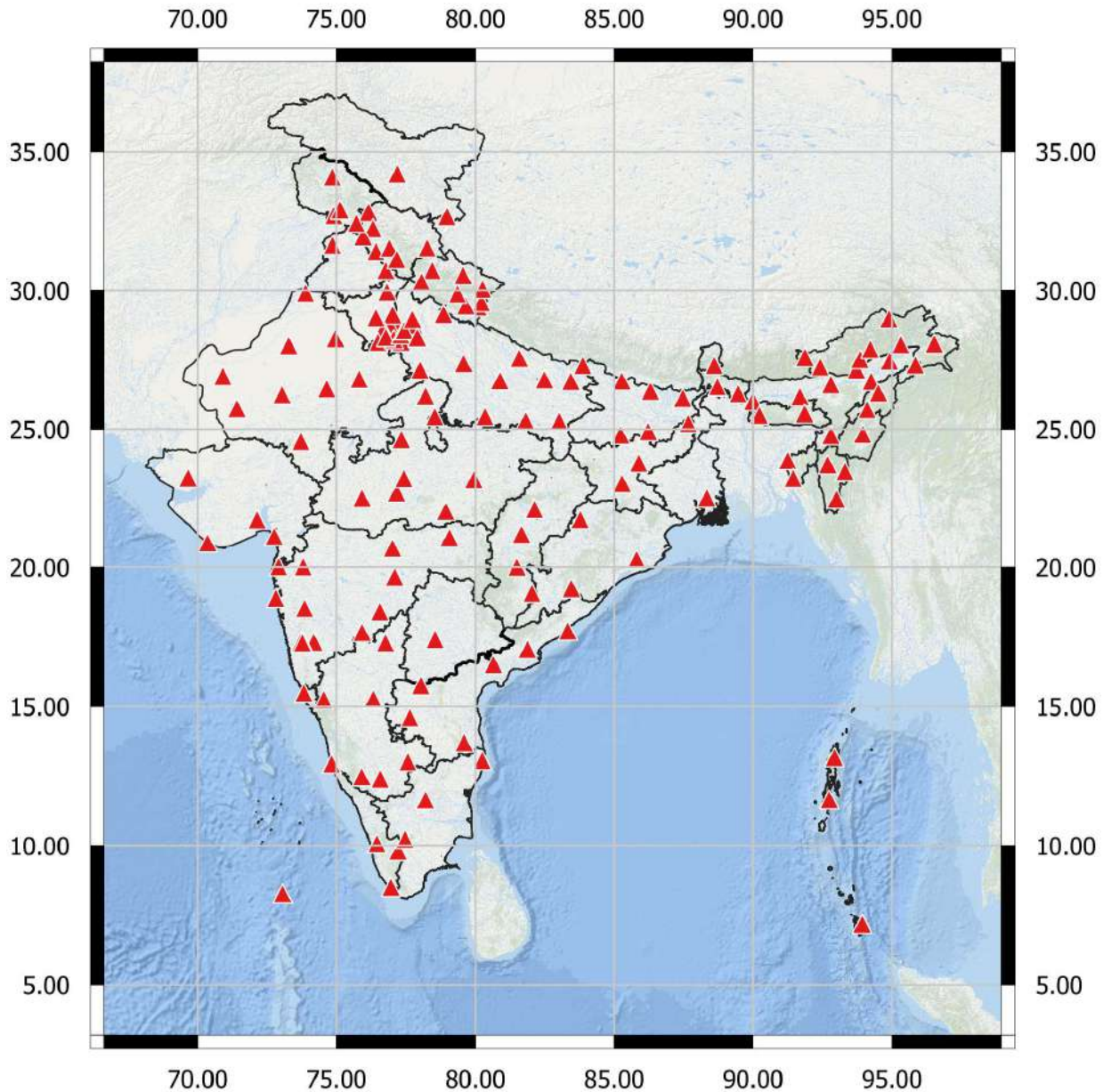


Figure 1: National Seismological Network (NSN) of 160 Stations

been located and disseminated from the center (**Figure:2**), out of which 82 earthquakes has occurred in India and its neighborhood region bounded by the coordinates 0°- 40°N & 60°-100°E (**Figure:3**).

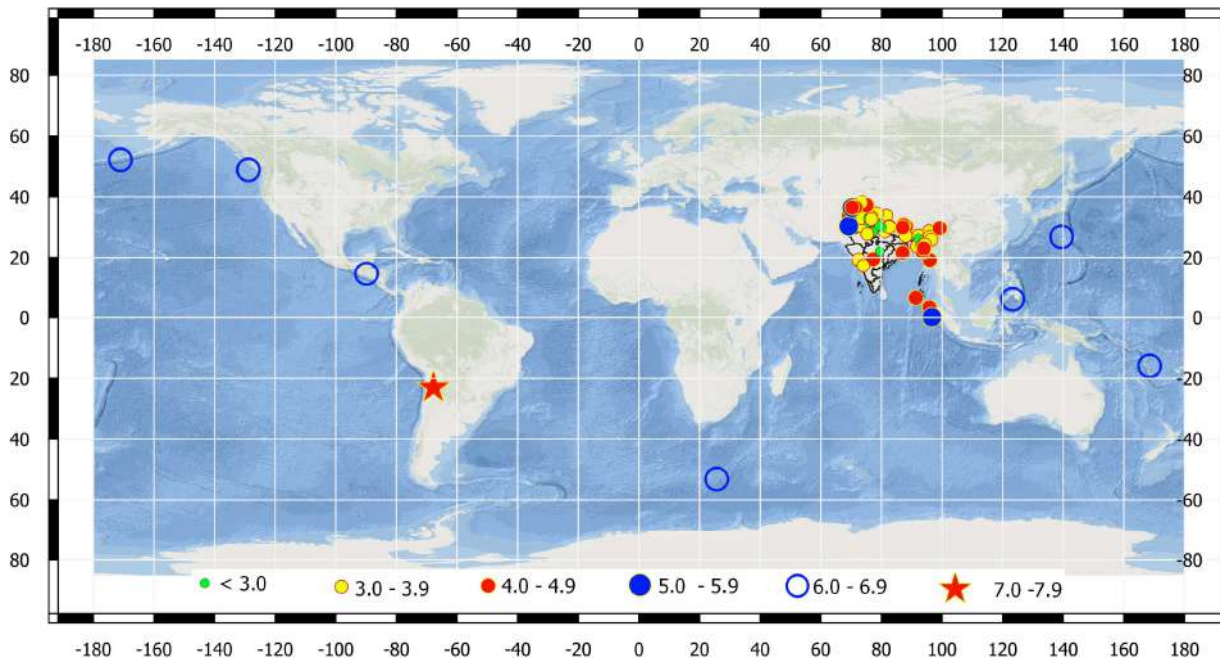


Figure 2: Earthquakes located and disseminated by NCS during 01st – 31st July 2024

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 (Ladakh, Jammu and Kashmir, Himachal Pradesh and Uttarakhand), North East India (Arunachal Pradesh, Assam, Manipur, Nagaland and Tripura) as shown in **Figure 3**.

Few earthquakes of smaller magnitudes were also reported in northern (Faridabad in Haryana; Hoshiarpur in Punjab and Jhunjhunu in Rajasthan), central (Seoni in Madhya Pradesh), western (Hingoli, Satara and Sangli in Maharashtra) and eastern (Baleswar in Odisha) part of country. **Sixteen** earthquakes of smaller magnitude (**M < 3.0**) comprising **18%** of all earthquakes occurred during 01st to 31st July 2024. **Three** earthquakes of magnitude **M:5.0 and above** occurred during the month in the region; as detailed in **Table:1**.

Table:1 Earthquakes of $M \geq 5.0$ occurred during July 2024 within India and its neighbourhood

SN	Date	Time (IST)	Lat($^{\circ}$ N)	Long($^{\circ}$ E)	D (KM)	M	Region
1	2024-07-15	03:03:17	30.34	69.23	10	5.0	Pakistan
2	2024-07-18	23:44:38	36.38	70.30	30	5.0	Afghanistan
3	2024-07-20	17:35:00	0.11	96.68	10	5.4	Indian Ocean

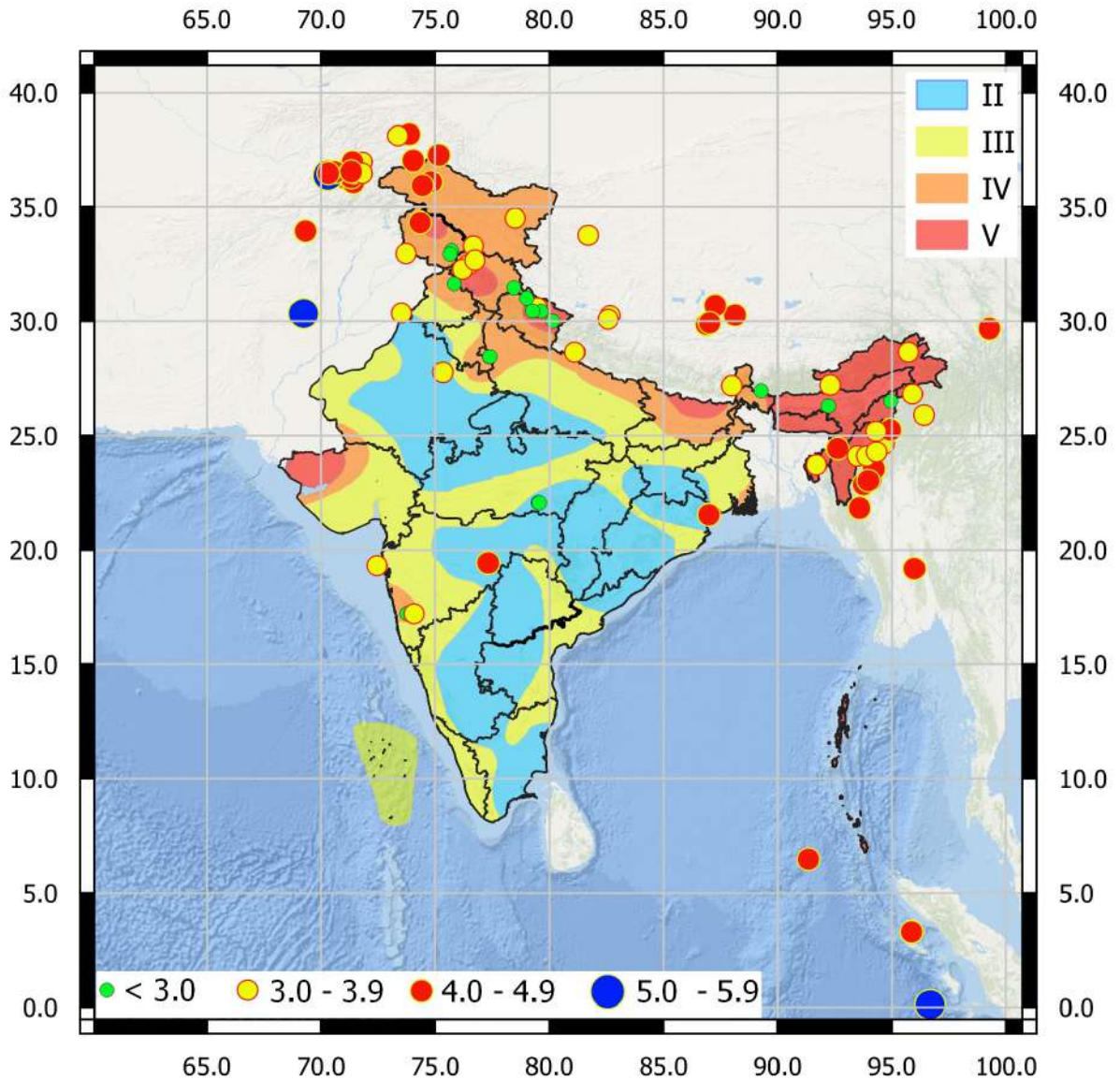


Figure 3: Map showing the seismicity during the period 01st – 31st July 2024 occurred in India and its neighbourhood region along with the seismic zone of India.

Out of total 90 earthquakes **34%** and **36%** earthquakes occurred in the magnitude range **3.0-3.9** and **4.0-4.9** respectively; whereas three earthquakes in the magnitude range 5.0-5.9 occurred during the period were inside the grid of 0- 40 $^{\circ}$ N & 60-100 $^{\circ}$ E as shown in **Figure 3**. All the **seven** earthquakes in the magnitude range of **6.0-6.9** and **one** earthquake of magnitude **7.1** were

occurred outside the grid of 0- 40⁰N & 60-100⁰E; as shown in **Figure 2** and **Figure 4**. Detail list of earthquakes occurred during the month is available at www.seismo.gov.in

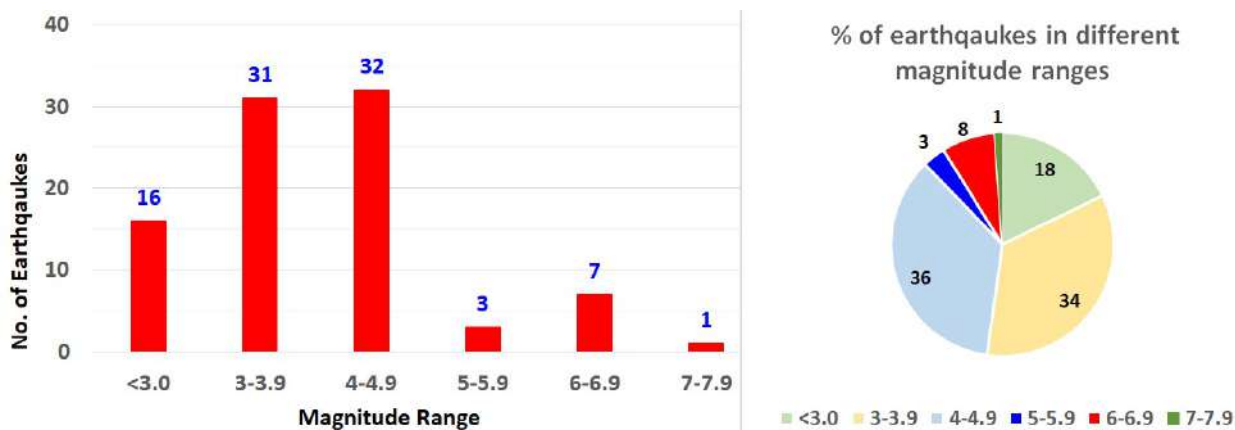


Figure 4: Distribution of earthquakes in the different magnitude range during 01st – 31st July 2024.

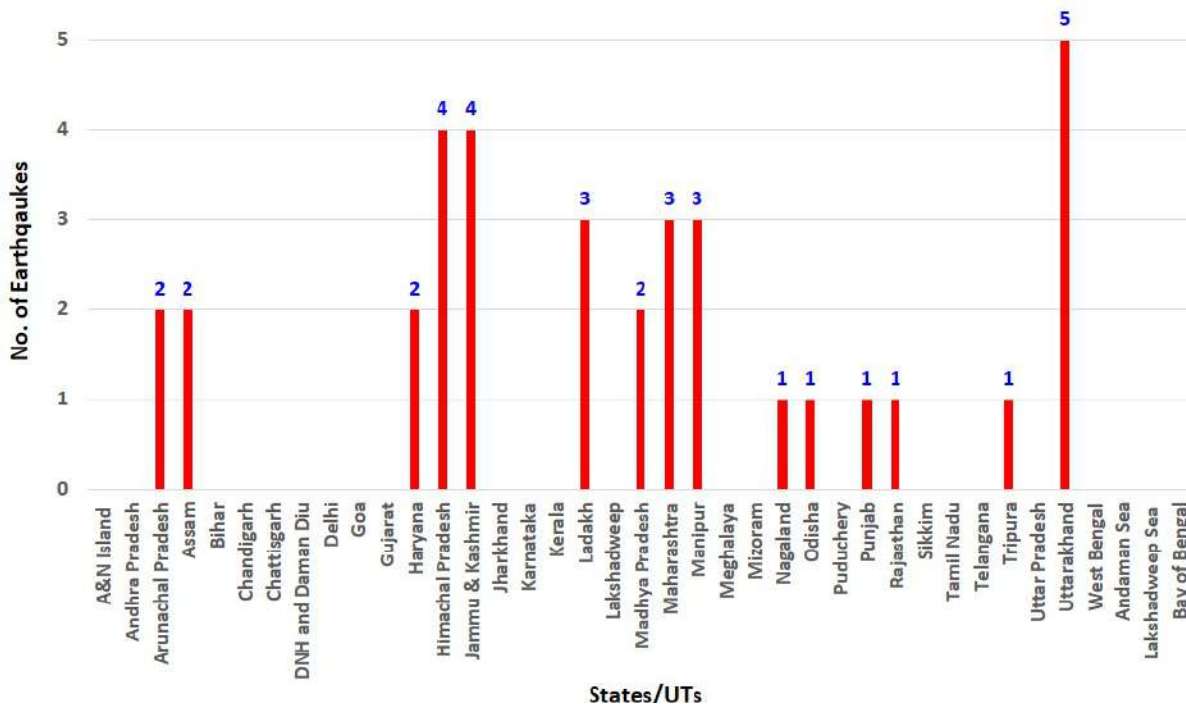


Figure 5: State wise distribution of earthquakes during the period 01st – 31st July 2024.

Total **35** earthquakes occurred within Indian territory; of which 5 earthquakes occurred in Uttarakhand and 4 each in Himachal Pradesh and Jammu & Kashmir during the period. Out of 35 earthquakes **19** and **9** earthquakes occurred in **North** and **North-East** region respectively. State/UT and region wise distribution of earthquakes occurred during 01st – 31st July 2024 is shown in **Figure 5** and **Figure 6** respectively.

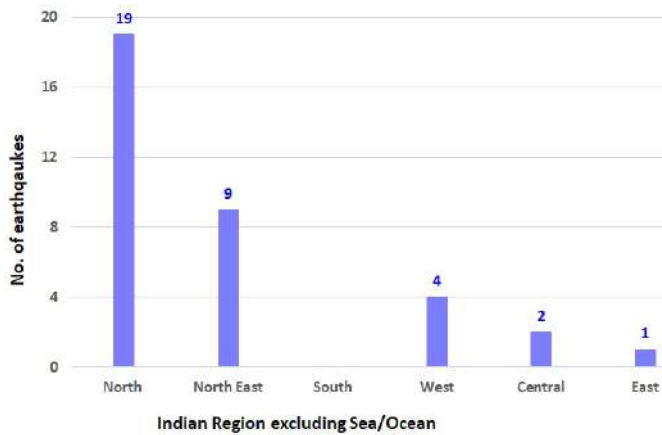


Figure: 6 Region wise distribution

3) Significant Activity:

Hingoli Earthquake: An earthquake of **M:4.5** occurred at **07:14:53 IST** of **10th July 2024** in Hingoli, Maharashtra at 19.43°N and 77.32°E with focal depth of 10 km. The epicentre is about 250 Km NE of Solapur; 260 Km NW of Hyderabad; 180 Km SW of Amravati. **Figure 7** depicts the expected intensity of this earthquake around the source zone. This earthquake was widely felt in the region. <https://riseq.seismo.gov.in/riseq/earthquake/event/cDFNU0IhcVpXSkpYWjZjbXJuVDNoZz09/Review> [ed](#) may be visited for more information about this event.

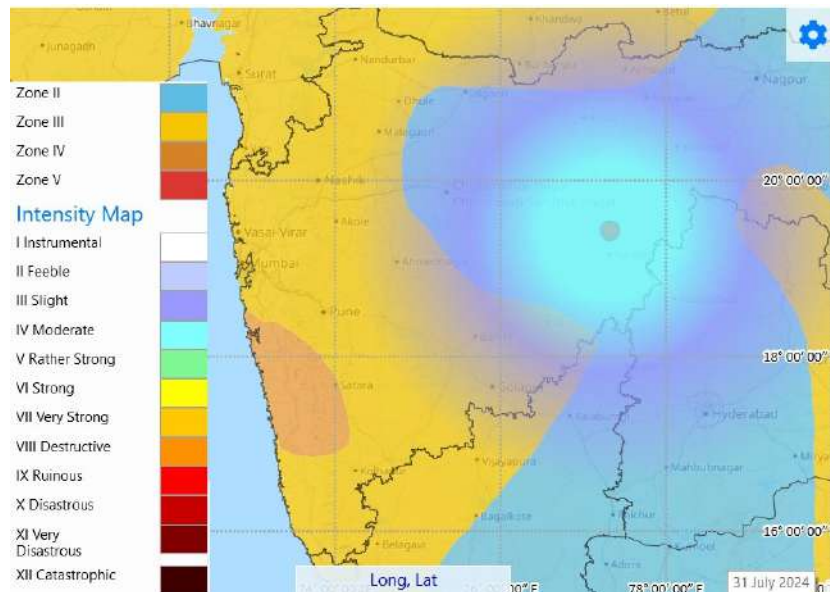


Figure 7: Intensity map of M: 4.5 Myanmar Earthquake occurred on 10th July 2024

4) Dissemination Performance:

More than **80%** 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 and all the 3 (100%) earthquakes of **M≥5.0** were disseminated within 10 minutes as shown in **Figure 8**.

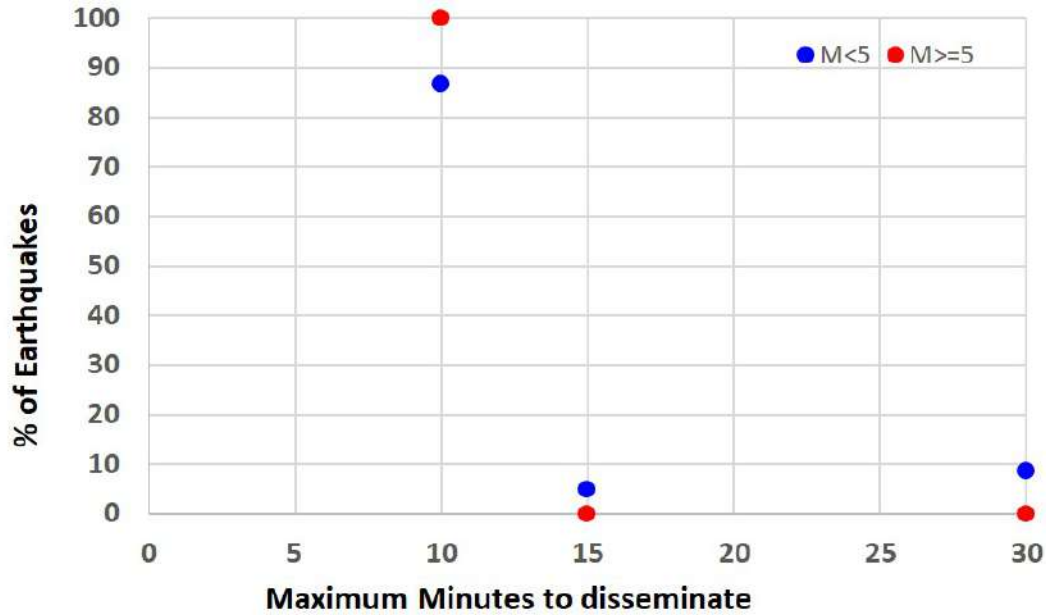


Figure 8: Dissemination of earthquakes within different time ranges during 01st –31st July 2024.