

Report on Real Time Earthquake Location

**From: Earthquake Monitoring Center (EMC) of NCS
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Report of Earthquakes occurred in the month of January 2024

1) Introduction:

National Center for Seismology maintains a National Seismological Network of **156 stations** each having state of art equipment and spreading all across the country (**Figure:1**). Using these stations during the period 01st – 31st January 2024 a total number of 140 earthquakes have

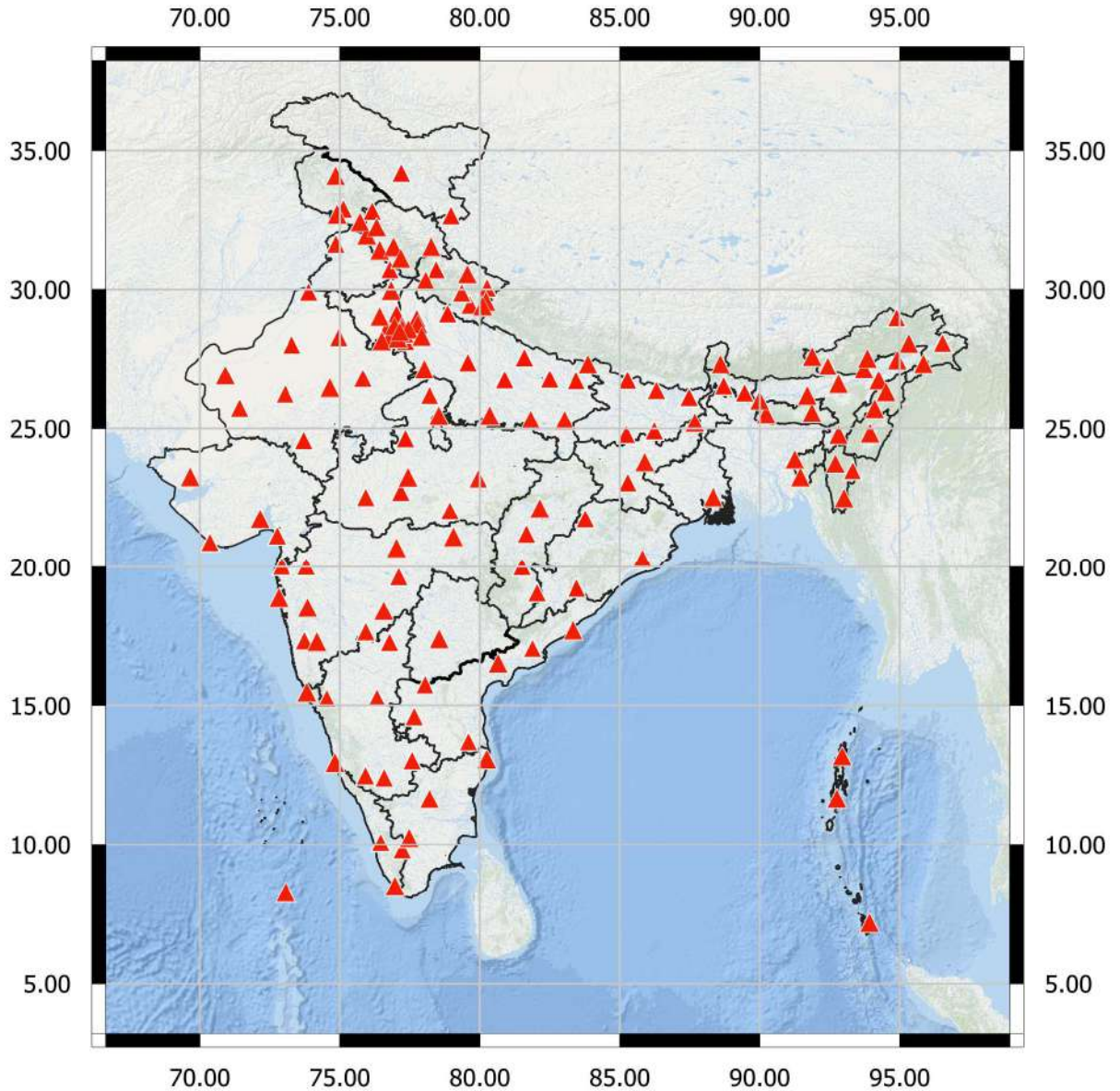


Figure 1: National Seismological Network (NSN) of 156 Stations

been located and disseminated from the center (**Figure:2**), out of which 129 earthquakes has occurred in India and its neighborhood region bounded by the coordinates 0°- 40°N & 60°-100°E (**Figure:3**).

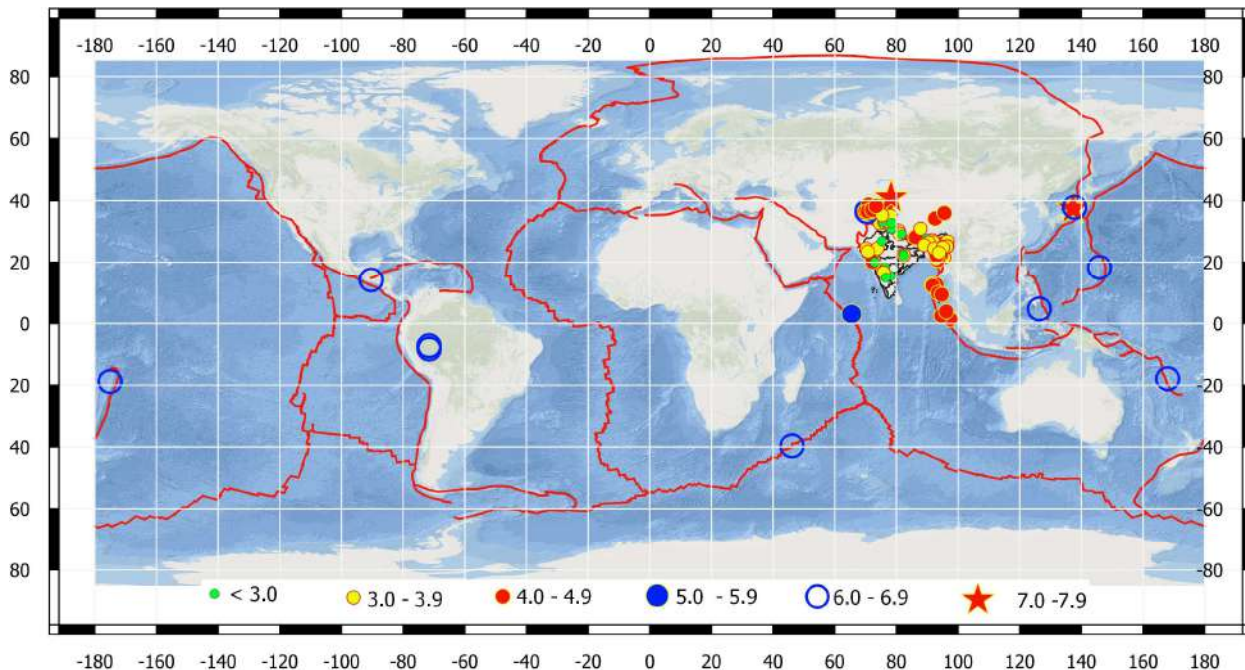


Figure 2: Earthquakes located and disseminated by NCS during 01st – 31st January 2024

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 (Assam, Meghalaya, Manipur, Mizoram and Nagaland) and Andaman sea as shown in **Figure 3**.

Few earthquakes of smaller magnitudes were also reported in western (Kachhch in Gujrat; Jaipur and Udaipur in Rajasthan; Palghar and Latur in Maharashtra), central (Bilaspur, Korba and Janjgir Champa in Chattishgarh) and southern (Vijayapura and Ballari in Karnatka; Kurnool in Andhra Pradesh) part of country. **Twenty-five** earthquakes of smaller magnitude (**M < 3.0**) comprising **18%** of all earthquakes occurred during 01st to 31st January 2024. **Four** earthquakes of magnitude **M:5.0 and above** occurred during the month in the region; as detailed in **Table:1**.

Out of total 140 earthquakes **42%** and **29%** 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

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

SN	Date	Time (IST)	Lat($^{\circ}$ N)	Long($^{\circ}$ E)	D (KM)	M	Region
1	2024-01-03	14:54:16	36.60	71.57	29	5.1	Afghanistan
2	2024-01-06	06:42:47	37.24	71.74	80	5.1	Tajikistan
3	2024-01-06	17:16:34	03.06	65.51	10	5.4	Carlsbergb Ridge
4	2024-01-11	14:50:24	36.48	70.45	220	6.1	Afghanistan

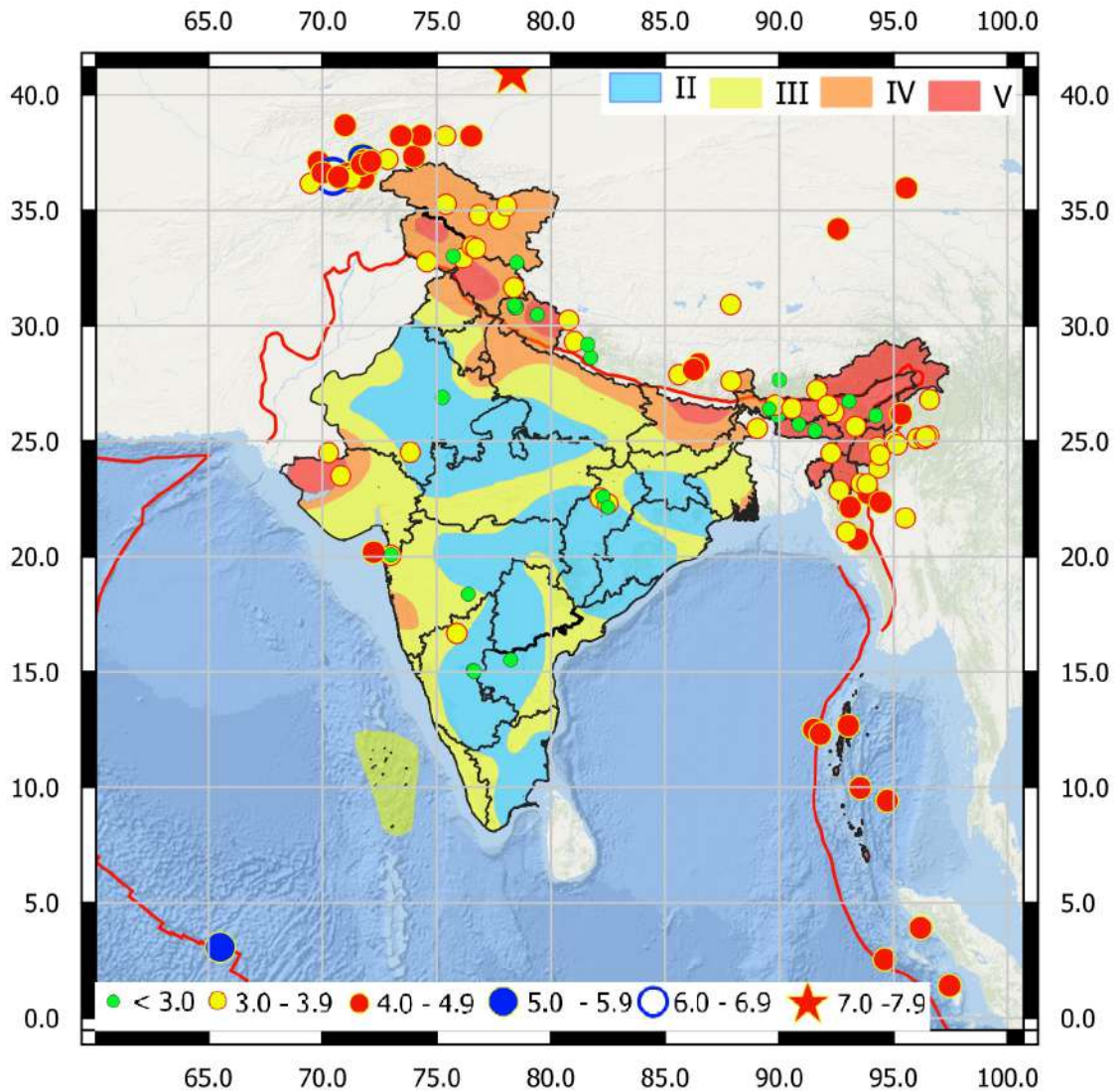


Figure 3: Map showing the seismicity during the period 01st – 31st January 2024 occurred in India and its neighbourhood region along with the seismic zone of India.

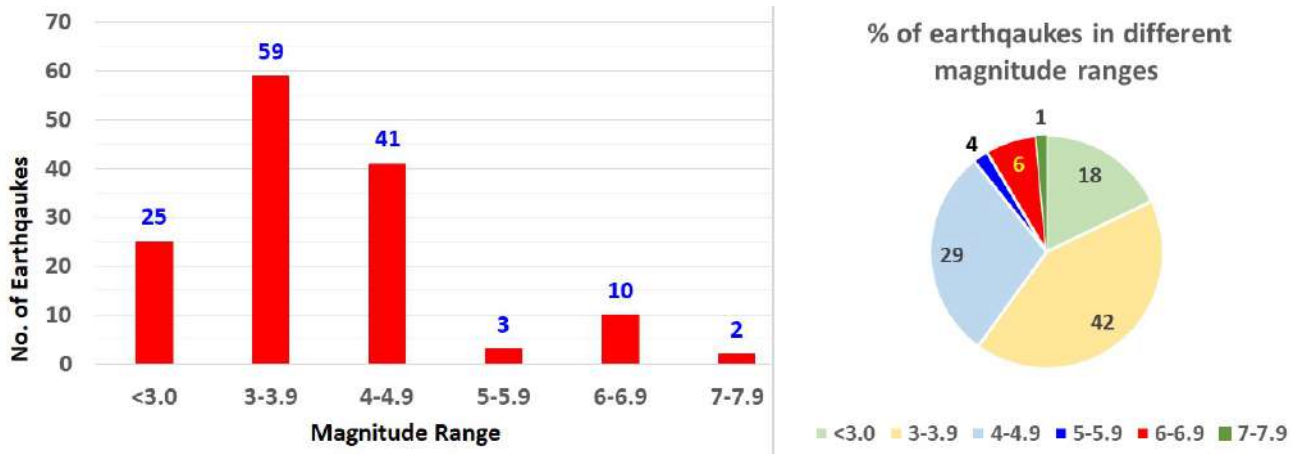


Figure 4: Distribution of earthquakes in the different magnitude range during 01st – 31st January 2024.

during the period were inside the grid of 0- 40⁰N & 60-100⁰E as shown in **Figure:3**. Ten earthquakes occurred in the magnitude range of 6.0-6.9 of which nine were outside the grid of 0- 40⁰N & 60-100⁰E; as shown in **Figure:2** and **Figure:4**. Two earthquakes occurred in the magnitude range of 7.0-7.9 were also outside the grid of 0- 40⁰N & 60-100⁰E. Detail list of earthquakes occurred during the month is available at www.seismo.gov.in

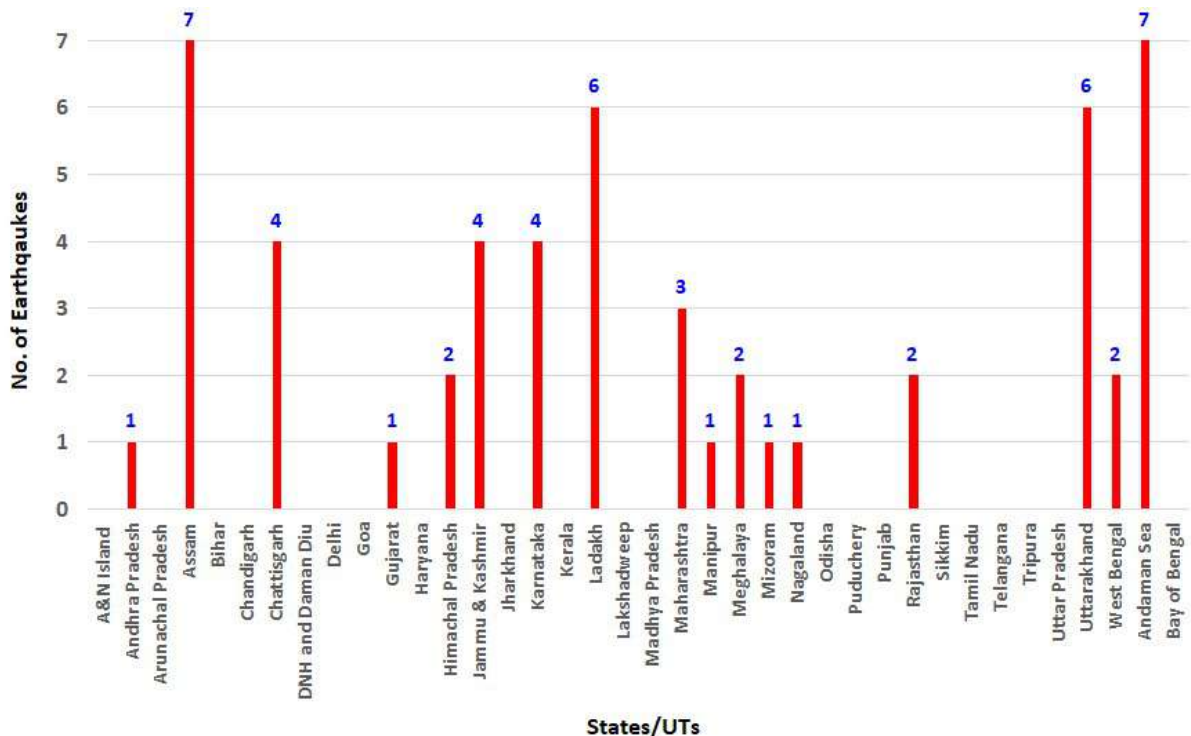


Figure 5: State wise distribution of earthquakes during the period 01st – 31st January 2024.

Total **54** earthquakes occurred within Indian territory; of which 7 earthquakes occurred each in Assam and Andaman Sea and 6 each were in Uttarakhand and Ladakh during the period. Out of 54 earthquakes **18** and **12** earthquakes occurred in **North** and **North-East** region respectively. State/UT and region wise distribution of earthquakes occurred during 01st – 31st January 2024 is shown in **Figure 5** and **Figure 6** respectively.

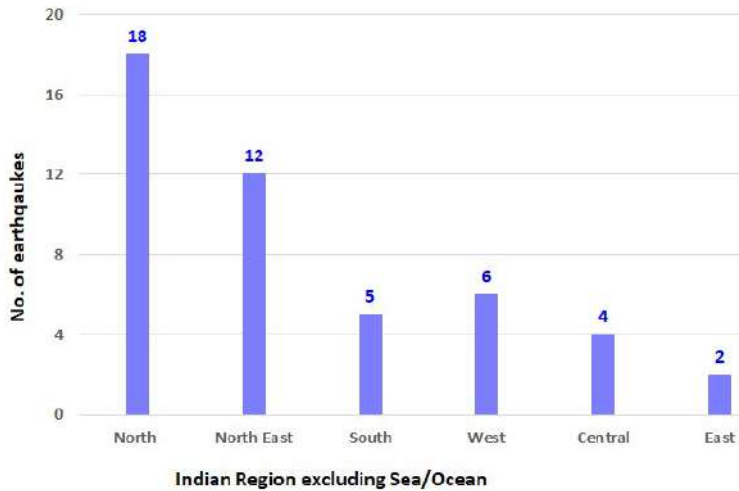


Figure: 6 Region wise distribution

3) Significant Activity:

Afghanistan Earthquake: An earthquake of **M:6.1** occurred at **14:50:24 IST** of **11th January 2024** in North Eastern Afghanistan at 36.48°N and 70.454°E with focal depth of 220 km. The epicentre is about 135 Km E of Kunduz, Afghanistan; 245 Km NW of Kabul, Afghanistan and 480 Km NE of Srinagar. This earthquake occurred in HinduKush region which is situated within an actively seismic zone. **Figure 7** depicts the expected intensity of this earthquake around the source zone. This earthquake was widely felt in Delhi and surrounding regions including Haryana and Rajasthan as per the felt responses received through our website and mobile app. More detailed information about this earthquake is available at the URL <https://riseq.seismo.gov.in/riseq/earthquake/event/bUttTHhsUIFVTnhkeGZqU0tvTVIEZz09/Reviewed> .

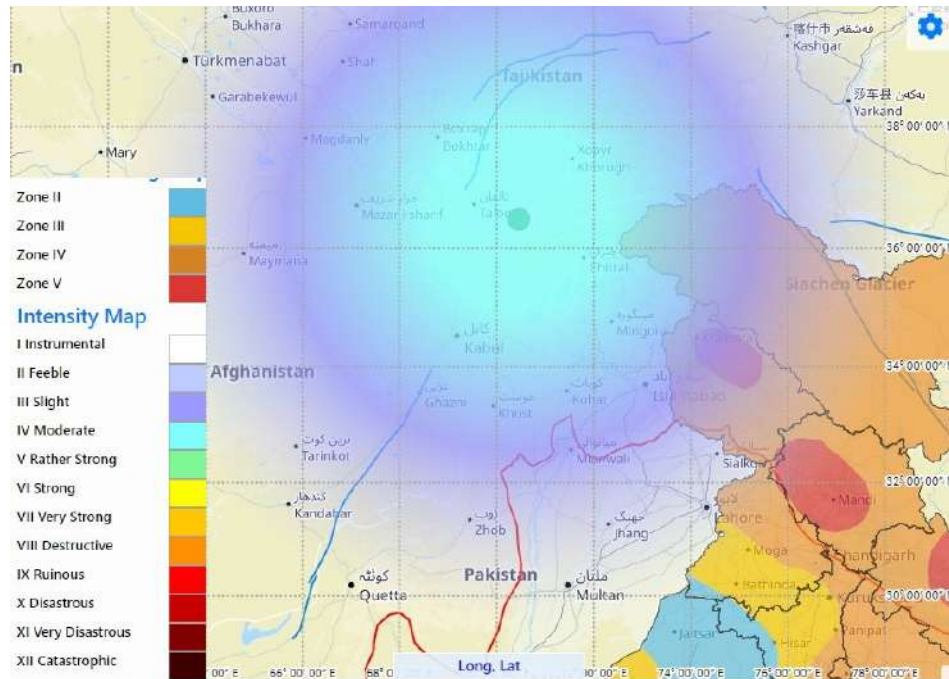


Figure 7: Intensity map of M: 6.1 Afghanistan Earthquake occurred on 11th January 2024

4) Dissemination Performance:

About 65% earthquakes of $M < 5.0$ and 80% earthquakes of $M \geq 5.0$ occurred within India and its neighbourhood region bounded by the coordinates $0-40^{\circ}N$ & $60-100^{\circ}E$ were disseminated within 10 Minutes as shown in Figure 8.

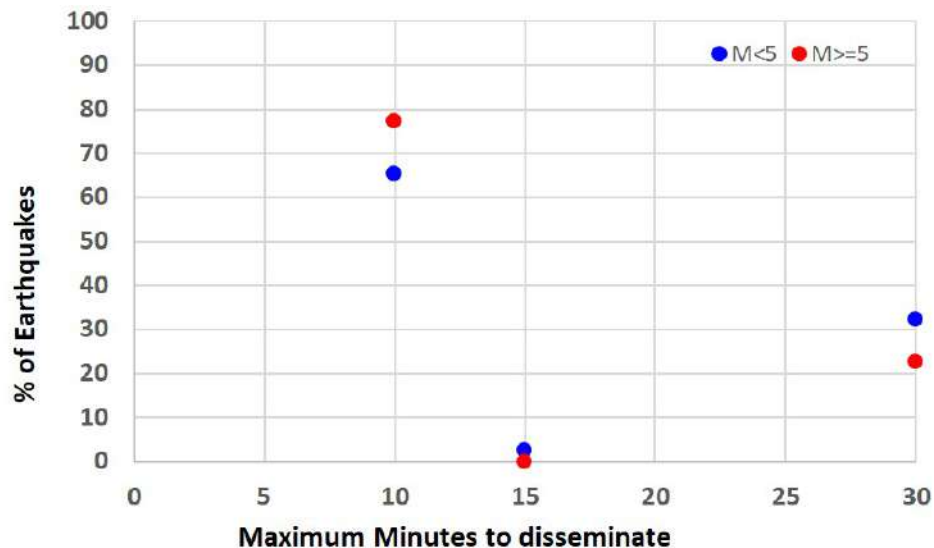


Figure 8: Dissemination of earthquakes within different time ranges (in minutes) during 01st –31st January 2024.