

Report on Real Time Earthquake Location

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Report of Earthquakes occurred in the month of Aug 2021

1) Introduction:

National Center for Seismology maintains National Seismological Network of 115 stations each having state of art equipment and spreading all across the country **(Figure:1)**. Using these stations during the period 01st – 31st Aug 2021 a total number of 125 earthquakes have been

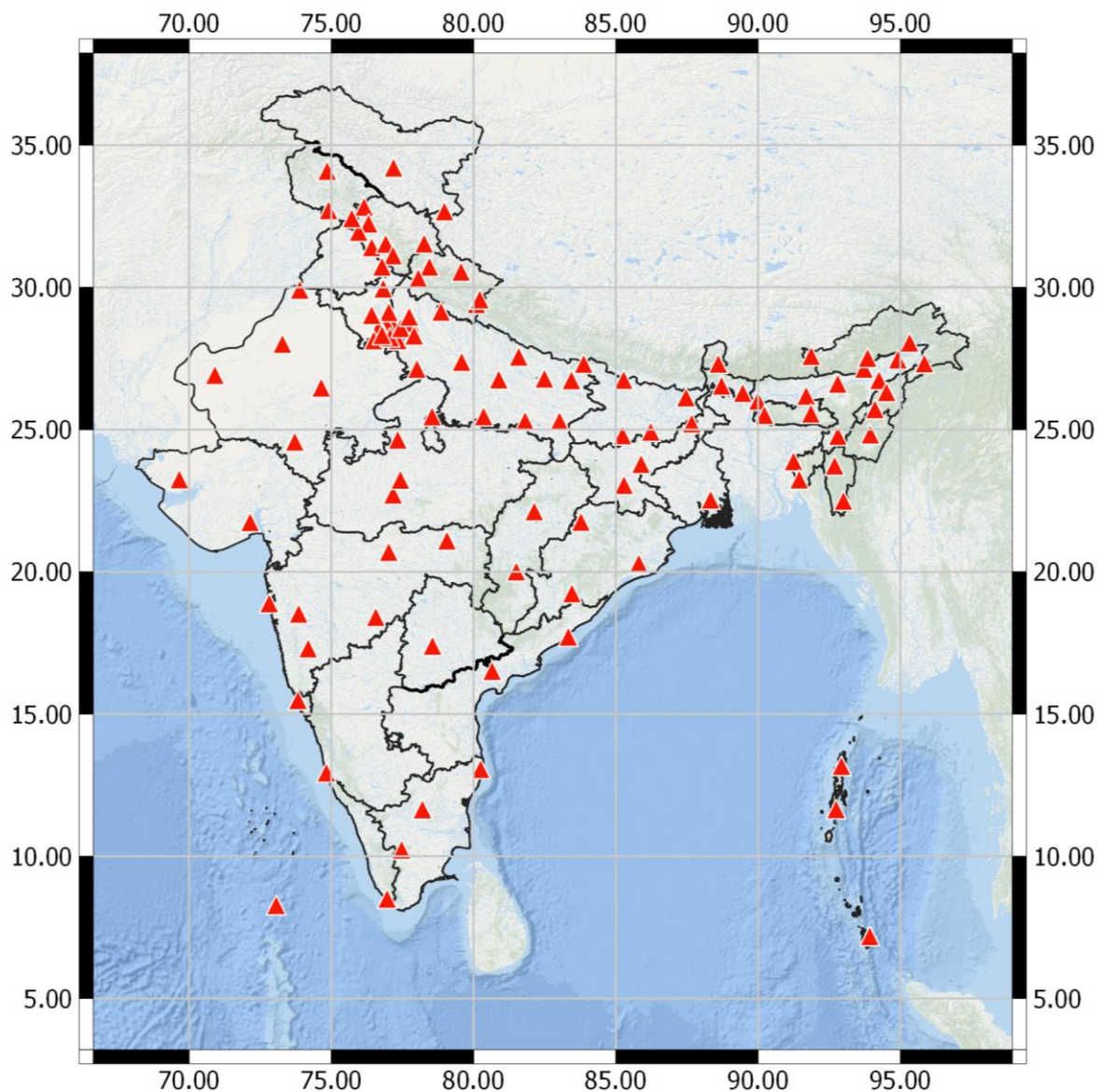


Figure 1: National Seismological Network (NSN) of 115 Stations

located and disseminated from the center **(Figure:2)**, out of which 113 earthquakes has occurred in India and its neighborhood region bounded by the coordinates 0°- 40°N & 60°-100°E **(Figure:3)**.

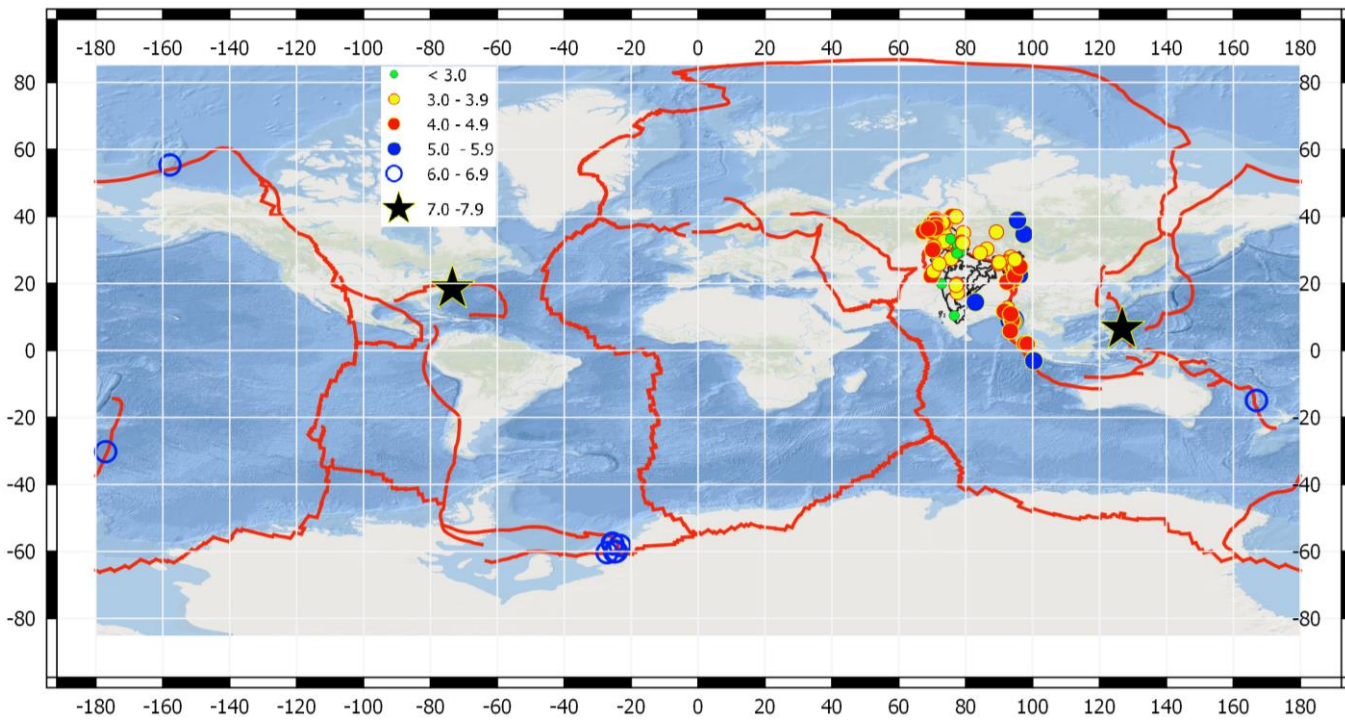


Figure 2: Earthquakes located and disseminated by NCS during 01st – 31st Aug 2021

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 Himachal Pradesh, Uttarakhand, Central and Western part of country. **Eleven** 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	2021-08-03	09:12:12	9.05	93.91	10	6.1	Nicobar Islands
2	2021-08-03	09:13:55	9.19	93.94	10	5.9	Nicobar Islands
3	2021-08-04	11:02:25	36.17	69.79	130	5.3	Hindu Kush, Afghanistan
4	2021-08-04	23:27:50	8.76	94.22	13	5.6	Nicobar Islands
5	2021-08-05	18:16:04	8.73	94.07	100	5	Nicobar Islands, India
6	2021-08-10	08:48:13	22.47	96.06	10	5.2	Myanmar
7	2021-08-13	09:51:37	34.71	97.45	10	5.4	Qinghai, China
8	2021-08-15	16:11:14	37.45	69.88	43	5.5	Afghanistan
9	2021-08-24	12:35:50	14.40	82.91	10	5.1	Bay of Bengal
10	2021-08-26	05:08:22	38.87	95.49	10	5.1	Qinghai, China
11	2021-08-30	23:53:32	36.31	68.77	143	5	Hindu Kush, Afghanistan

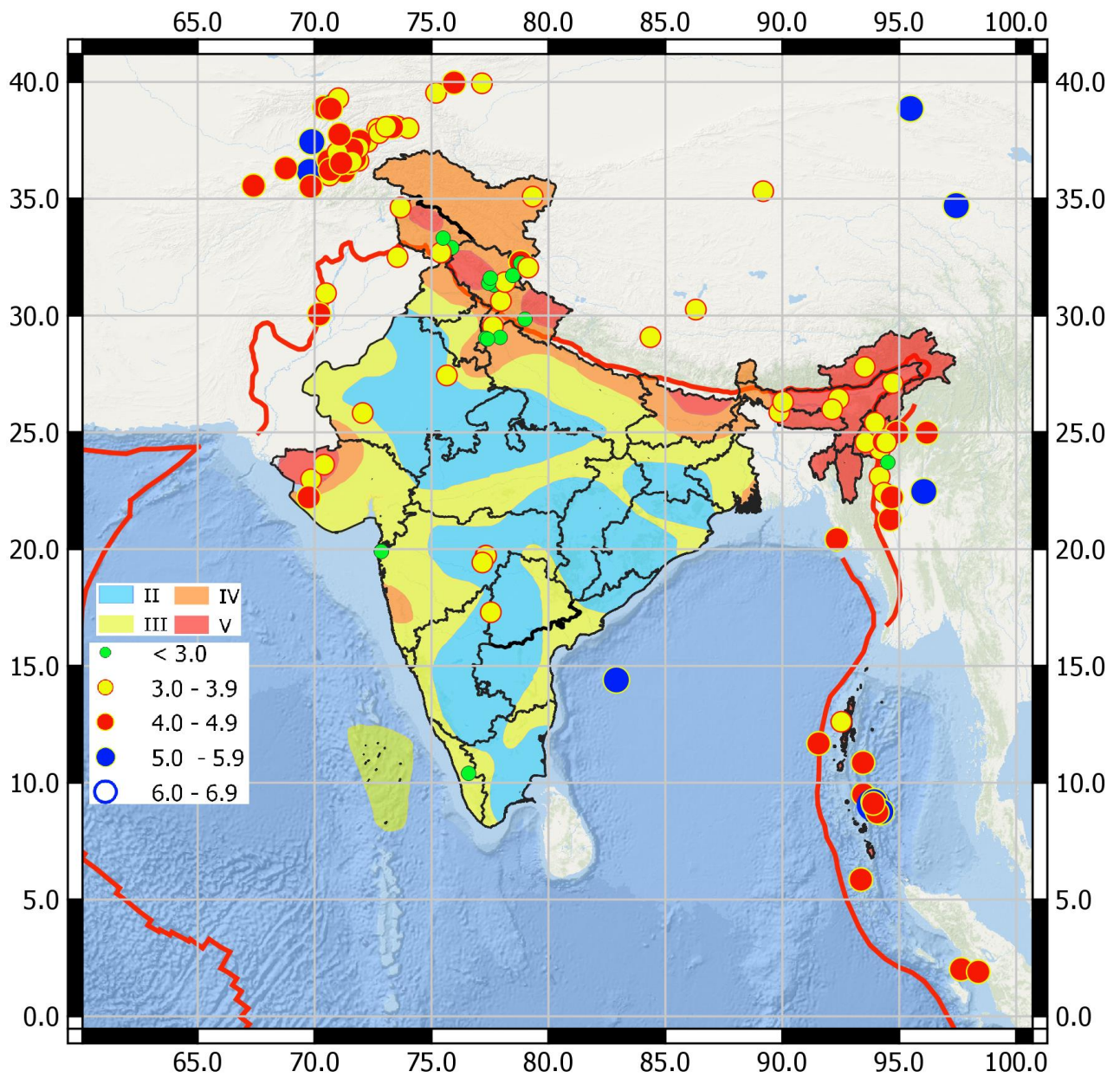


Figure 3: Map showing the seismicity during the period 01st – 31st Aug 2021 occurred in India and its neighbourhood region along with the seismic zone of India.

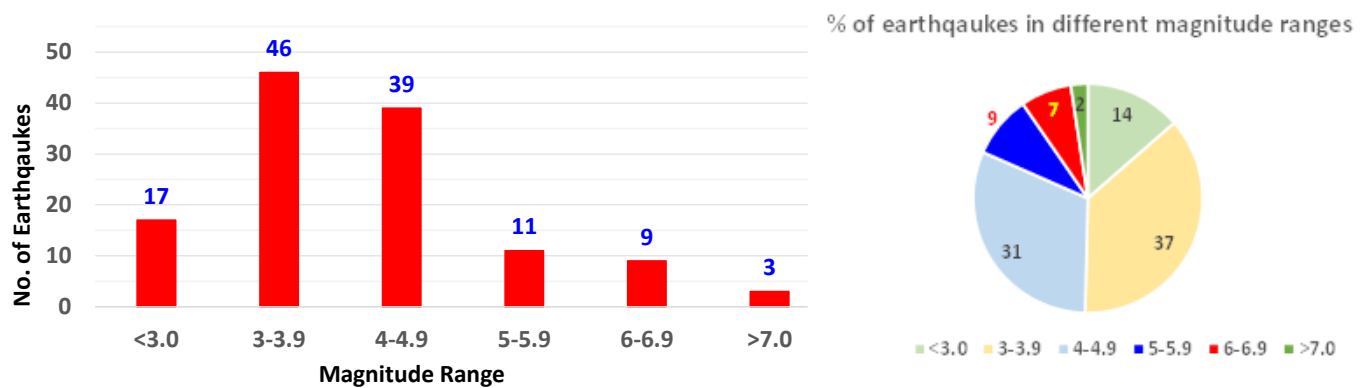


Figure4: Pie-Chart and Bar-Diagram showing the number of earthquakes occurred in the magnitude range during the period 01st – 31st Aug 2021 that was disseminated.

Out of total 125 earthquakes, **37%** and **31%** of events occurred in the magnitude range **3.0-3.9** and **4.0 - 4.9** respectively, whereas **nine** earthquakes occurred in the magnitude range, **6.0-6.9** and **three** earthquakes of **M > 7.0** as shown in **Figure:4**. Detail list of earthquakes occurred during the month is available at <https://seismo.gov.in/>

3) Significant Activity:

A. Bay of Bengal Earthquake of M:5.1 An earthquake of **M: 5.1** occurred in Bay of Bengal at 14.40° N and 82.91° E with focal depth of 5.1 km at **12:35:50 IST** on **24th Aug 2021**. The epicenter was about 310 km East of Nellore, 345 km South-East from Vijayawada, 372 km South from Visakhapatnam and 320 km North-East from Chennai. This earthquake is

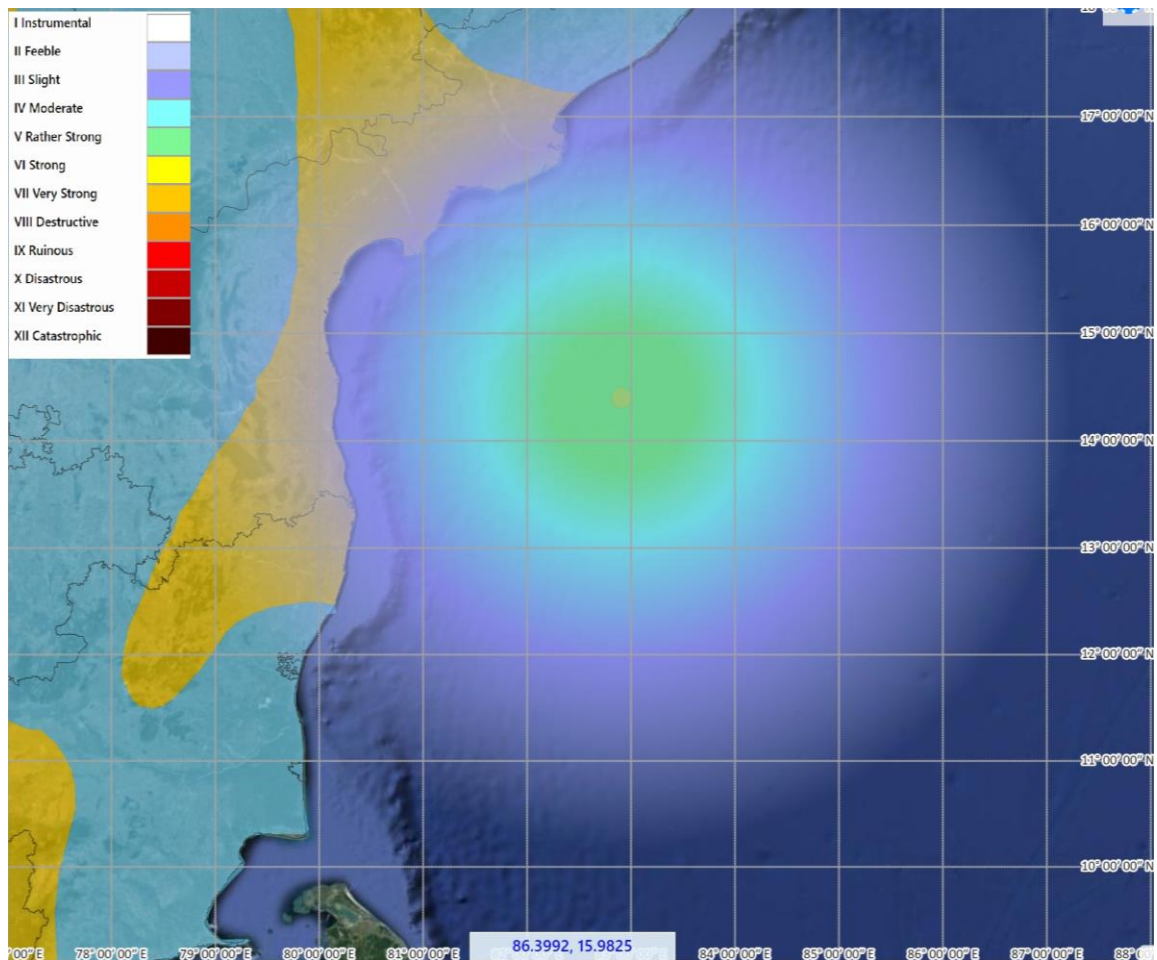


Figure 5: Map showing the epicentre (circle) and intensity of Bay of Bengal earthquake of M:5.1, occurred on 2021-08-24 at 12:35:50(IST).

occurred at distance of about 100 km in the North East of the 03rd Nov 2014 earthquake of M:4.4. Location and intensity map of earthquake are shown in **Figure 5**. More than 100 felt responses varying from MMI I to MMI IV within the range of 300 to 1000 km from the epicentre were received for this earthquake through website and BhooKamp App. This

earthquake was widely felt in Chennai at 320 km east from the epicenter (**Figure 6**).

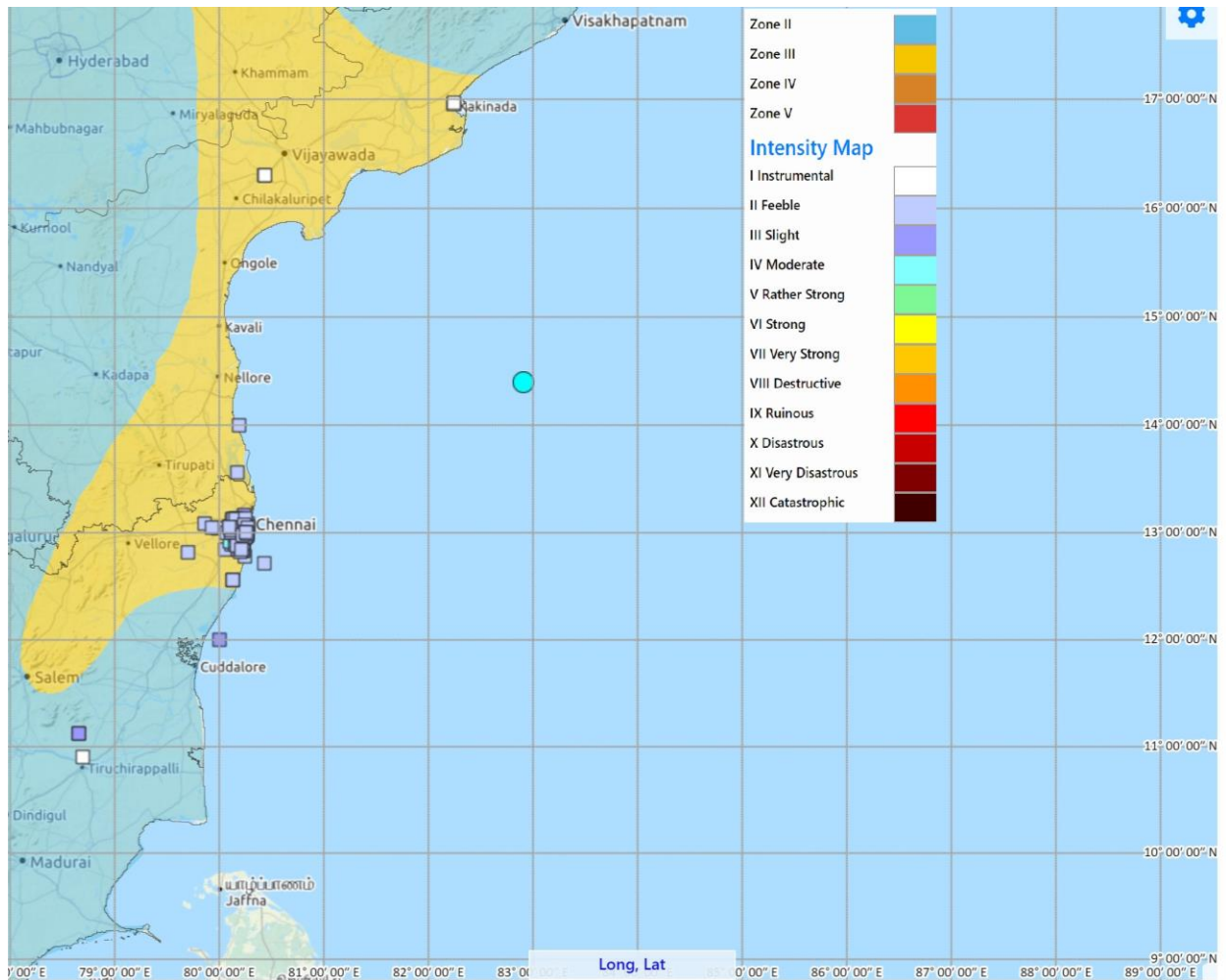


Figure 6: Map showing the felt responses received from different locations.

B. Haiti Earthquake: An earthquake of **M:7.2** occurred on 14th Aug 2021 at 17:59:09 IST in the Haiti one of Carrabin countries around 110 km east of Port-au-Prince the capital city of Haiti; having epicenter at 18.51°N, 73.43°W at 10 km depth(**Figure7**). Moment tensor details of the earthquake are detailed below.

Latitude	18.51°N	Nodal Plane 1			Nodal Plane 2		
		S(°)	D(°)	R(°)	S(°)	D(°)	R(°)
Longitude	73.43°W	139	58	117	274	40	52
Depth	10 Km						
Moment	6.46x10 ¹⁹ NM						
Mw	7.2						

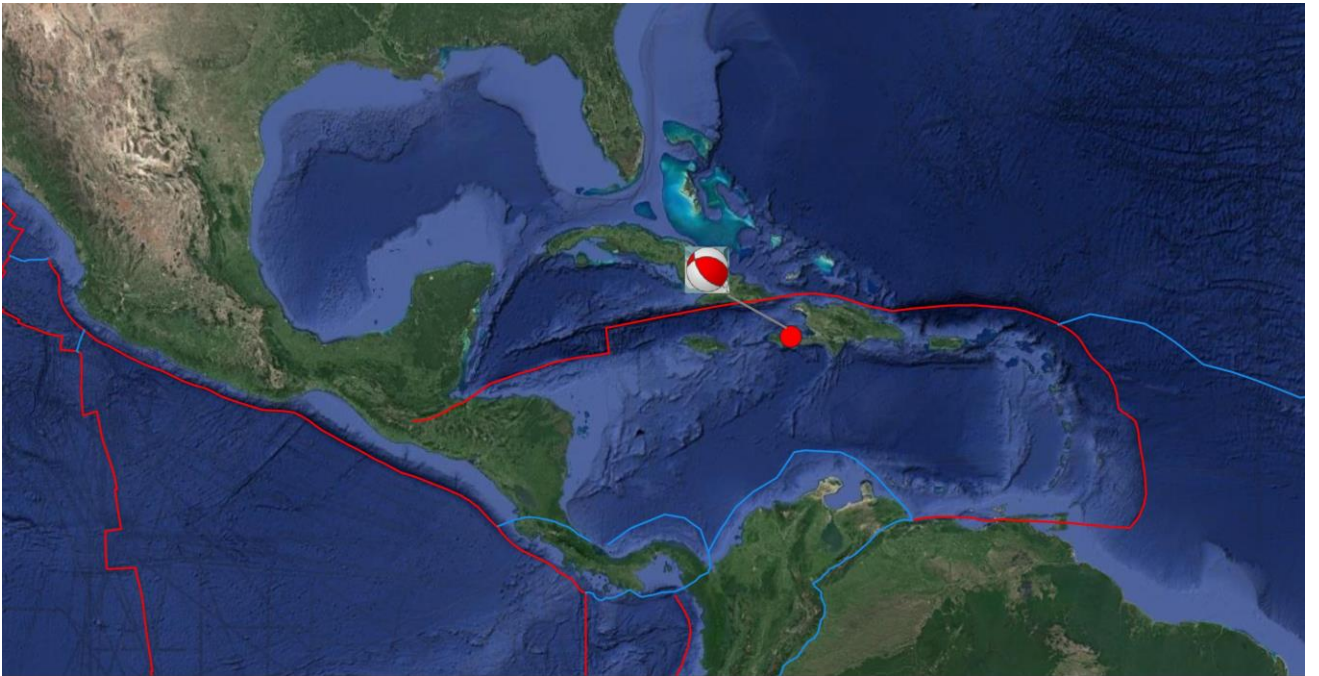


Figure 7: Map showing the epicentre (circle) and CMT solution of Haiti earthquake of M:7.2, occurred on 2021-08-14 at 17:59:09(IST).