

# Report on Real Time Earthquake Location

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Month: December 2020  
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# Report of Earthquakes occurred in the month of December 2020

## 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. Using these stations during the period 01<sup>st</sup> -31<sup>st</sup> December 2020 a total number of 110 earthquakes have been located and disseminated from the center, out of which 100 earthquakes has occurred in India and its neighborhood region bounded by the coordinates 0°- 40°N & 60°-100°E.

## 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

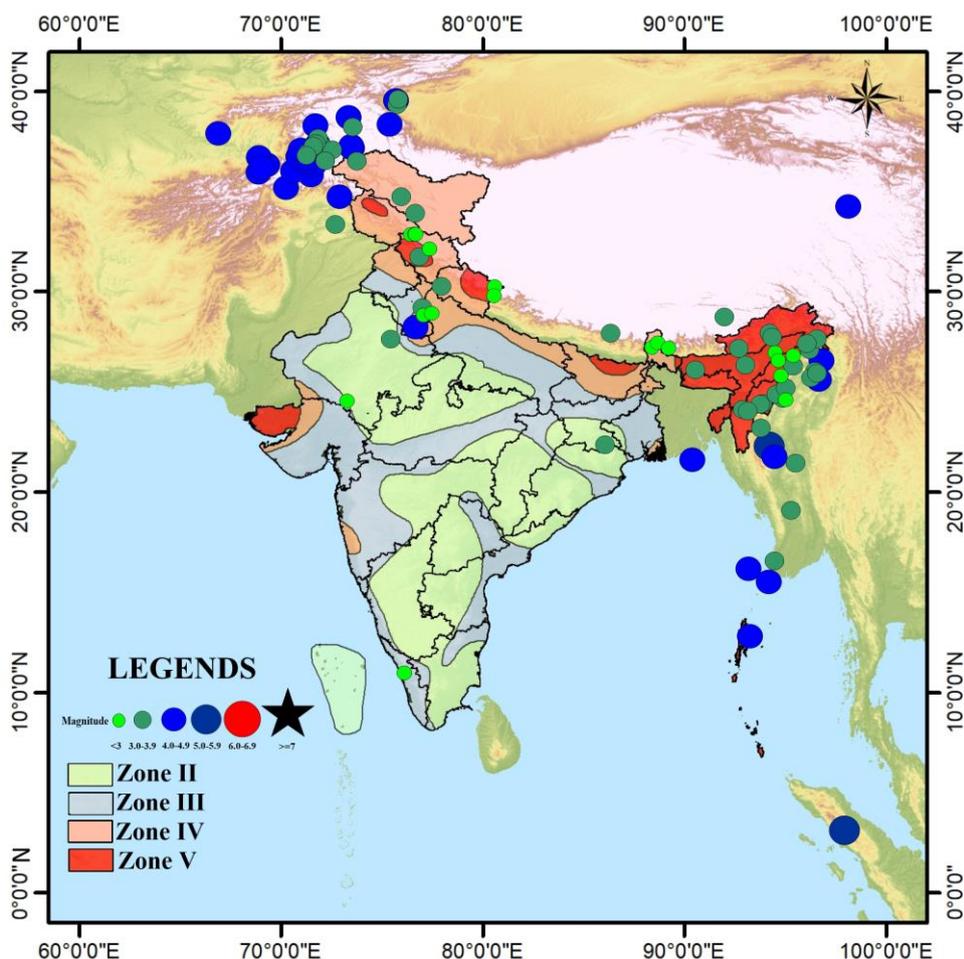


Figure No: 1 Map showing the seismicity during the period 01<sup>st</sup> – 31<sup>st</sup> December 2020 occurred in India and its neighbourhood region along with the seismic zone of India.

of India as shown in Fig1. Few earthquakes also occurred in and around Delhi Region with

maximum having **M 4.2**. Unlike last two months no earthquakes were passed from the two regions namely Palghar, Maharashtra and Seoni, Madhya Pradesh.

Out of total 110 earthquakes, around 31% of events occurred in the magnitude range **4.0-4.9** and around 58% occurred with magnitude less than **4.0**, whereas only two and ten earthquakes occurred in the magnitude range, **5.0-5.9** and **6.0-6.9** respectively as shown in Fig 2. Detail list of earthquakes occurred during the month is available at <https://seismo.gov.in/>

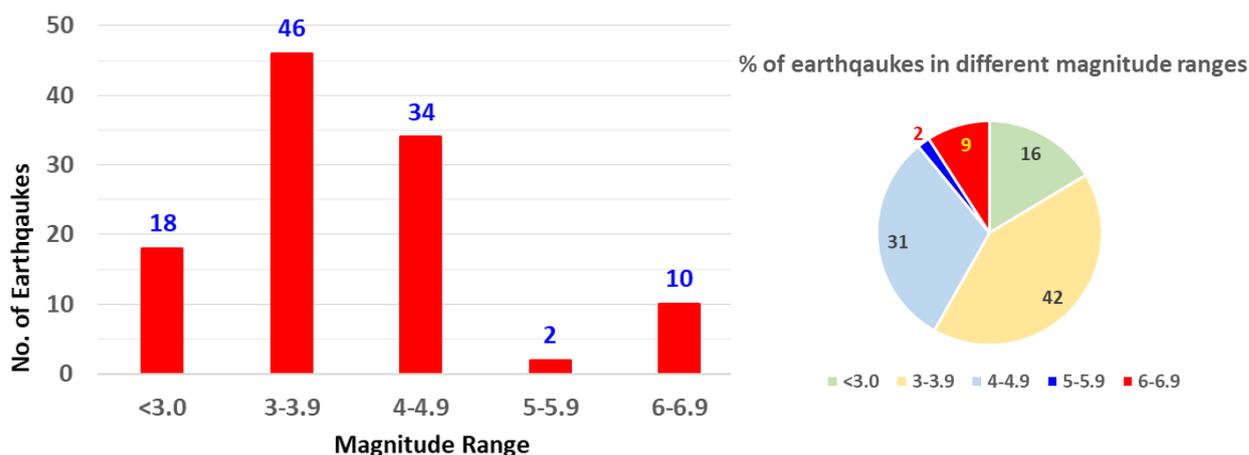


Figure 2: Bar-Diagram and Pie chart showing the number of earthquakes and their distribution in terms of percentages occurred in the magnitude range during the period 01<sup>st</sup> – 31<sup>st</sup> December 2020 that was disseminated.

### 3) Significant Earthquakes:

During the period 01<sup>st</sup> -31<sup>st</sup> December 2020 few earthquakes occurred in and around Delhi with the maximum **M:4.2**, on 2020-12-17 at 18:16:46(UTC) in Rewari, Haryana.

#### I) Rewari, Haryana:

An earthquake of **M:4.2** occurred on **17<sup>th</sup> December 2020 (18:16:46 UTC)** near Rewari, Haryana. The epicentre of the earthquake is 28.19°N and 76.67°E with a focal depth 25km. The epicentre was about 46km SW (South West) of Gurugram, Haryana and the epicentral area lies in Zone-IV as per seismic zoning map of India. The epicentre location and intensity map of the earthquake are given in Figure 3. Total 51 felt responses were reported in the range of II to IV (Maximum IV at 56km away from epicentre) on the scale of Modified Mercalli Intensity (MMI) within 28 hours at a distance 81 km from the epicentre (Figure 4).

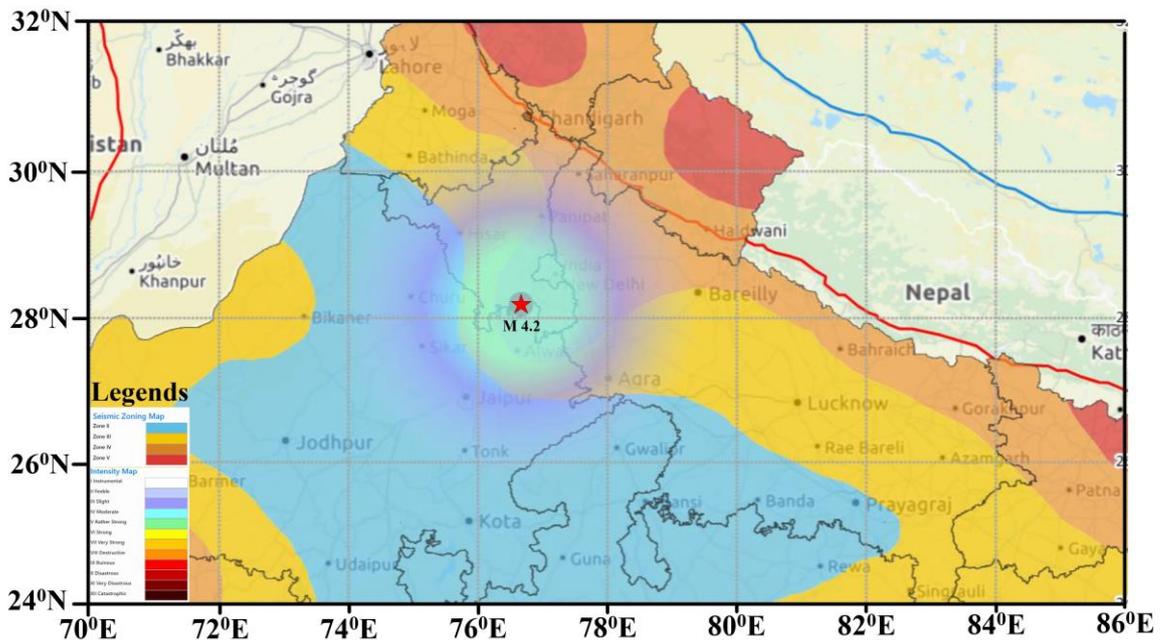


Figure 3: Map showing the epicentre (red star) and intensity of Rewari, Haryana earthquake occurred on 17<sup>th</sup> December 2020. Zonation (zone IV) of the region can also be seen.

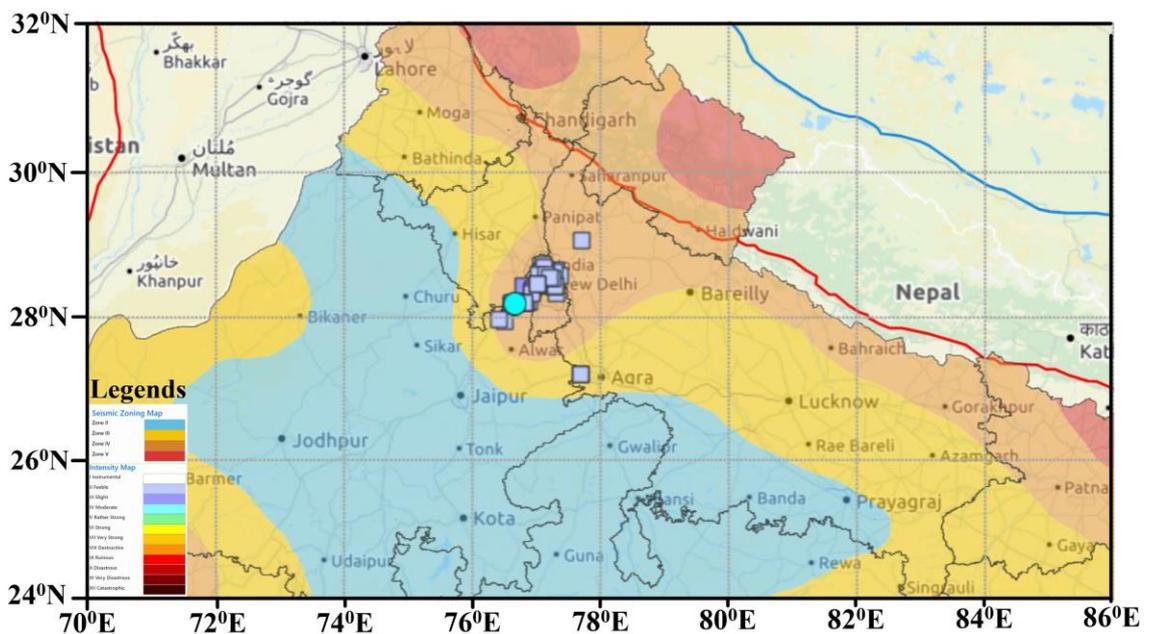


Figure 4: Map showing the epicentre of the earthquake (blue circle) and felt responses (squares) received within 28 hours from the occurrence of the Rewari, Haryana earthquake.