

Earthquake Report on M 5.1, Bay of Bengal occurred on 25th February, 2025

An earthquake of magnitude M 5.1 occurred at 06:10:25 IST (local time) in the Bay of Bengal, India, with epicentre at 19.52 deg. N and 88.55 deg. E and shallow focal depth of 91 km. The epicentre was about 286 km east of Puri, Odisha, 286 km south of Haldia, West Bengal, 297 km ESE of Bhubaneswar, Odisha and 340 south of Kolkata, West Bengal, India. The epicenter location and intensity map of the earthquake are shown in Figures 1 and 2.

The earthquake was well recorded by the seismological network of the National Center for Seismology (NCS), New Delhi. The epicenter of the earthquake lies in the far interior from the adjoining seismically active belt of the Burma-Andaman subduction zone and closer to 85-degree East ridge. The preliminary fault plane solution obtained from waveform inversion suggests the right lateral strike-slip for the event.

The felt report of maximum intensity V (MMI scale) and minimum intensity of II were reported from a distance around 0 to 350 km from the epicentre (Figure 2). The list of past earthquake events of Magnitude 4.0 and above occurred within the 200 km of radius from today's epicenter during the past 15 is shown in figure 1.

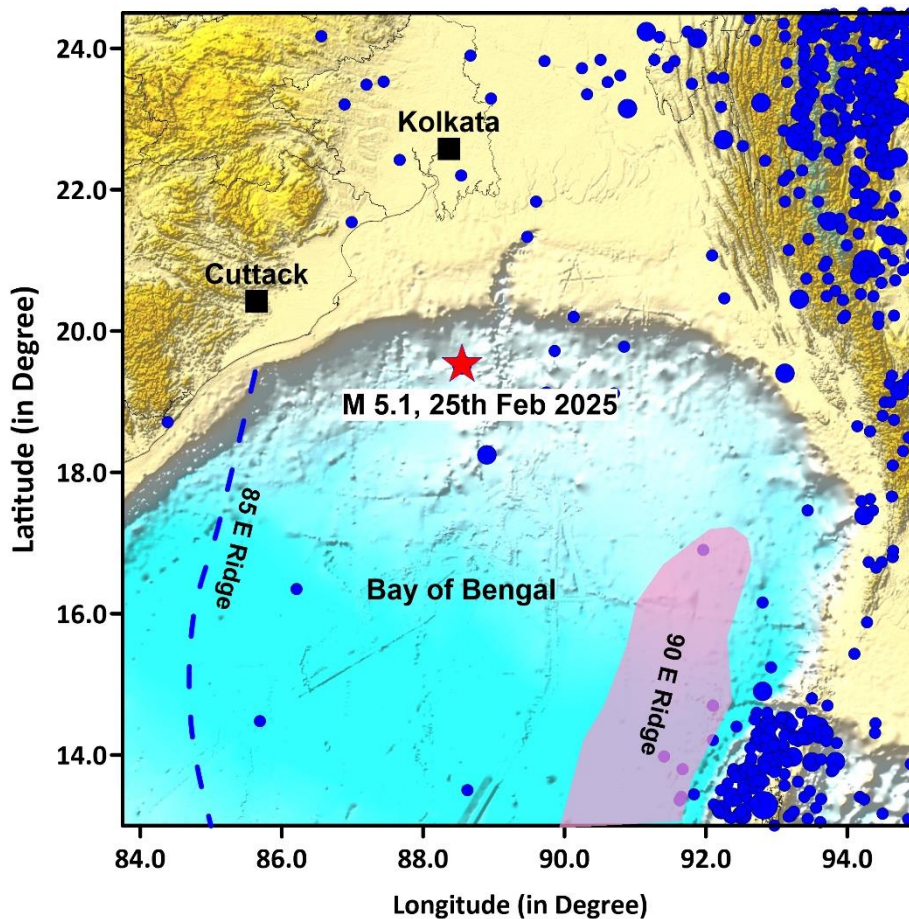


Figure 1: The present earthquake (M 5.1) of 25th February 2025 (Red Star), blue circles are the past seismicity that occurred in the last 15 years (source: www.seismo.gov.in; NCS-MoES).

The recorded earthquakes as per EQ Catalogue of NCS reveals that the region is associated with moderate to large earthquakes with varying magnitude (Fig. 2). The earthquake is widely felt in Odisha, West Bengal and neighboring states. 28 felt reports due to this earthquake have been received from Odisha and West Bengal through the NCS website and Mobile App, having intensity ranging from II to IV on the Modified Mercalli Intensity (MMI) Scale (Figure 3).

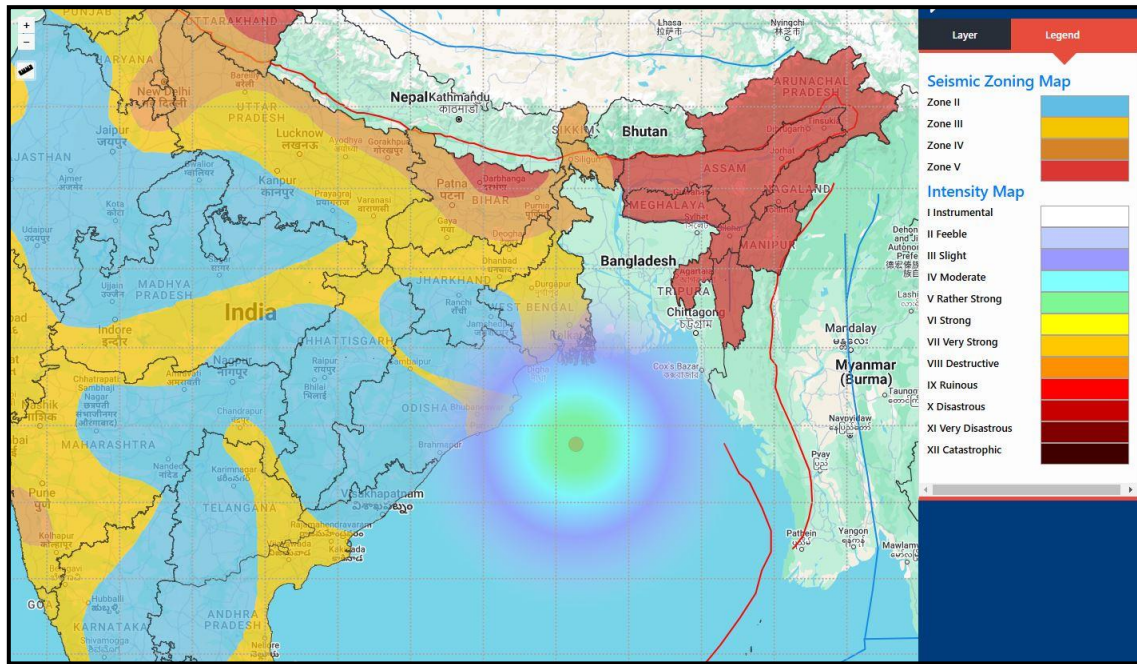


Figure 2: Earthquake intensity map of M 5.1 of 25th February 2025.



Figure 3: Felt responses (squares) of the 25th February 2025 earthquake M 5.1 (circle) from different users reported on www.seismo.gov.in and BhooKamp mobile app. 28 responses were received within three hours from the time of occurrence of an earthquake.