

**Government of India**  
**Ministry of Earth Sciences**

**PRESS RELEASE**

The National Capital Region of Delhi and its surroundings had experienced minor and small magnitude earthquakes during April to August 2020. The epicentre of these earthquakes were located in areas of NE Delhi, Rohtak, Sonipat, Baghpat, Faridabad and Alwar. The National Center for Seismology (NCS), Ministry of Earth Sciences, New Delhi had consulted with a few experts and it was felt to deploy additional earthquake recording instruments for close monitoring of earthquake activity in and around Delhi and to carry out field studies to characterize the subsurface structures using geophysical techniques such as Magnetotellurics. Accordingly, NCS has taken up the following studies:

1. The earthquake monitoring through 11 additional temporary field stations, which were installed during May and June 2020, continued to function to date for precisely locating the earthquakes for a better understanding of the causative sources. All these stations are operational and providing data in near real-time for locating earthquakes. During the past three months, a total of 09 earthquakes occurred in the Delhi region in the magnitude range between 1.8 and 2.9 and are located mostly in West Delhi, South West Delhi, Rohtak, Sonipat, Baghpat, Bahadurgarh and Ghaziabad regions.
2. Magneto-telluric (MT) geophysical survey which involves measurement of the time-varying electric and magnetic fields to determine the distribution of electrical conductivity in the subsurface has been carried out in collaboration with the Wadia Institute of Himalayan Geology (WIHG), Dehradun, across the Moradabad Fault (in the Moradabad and its surrounding area) and Great Boundary Fault (in the Bareilly and its surrounding area). The MT survey has been completed across major faults of the Delhi region such as Mahendragarh Dehradun Fault, Sohna Fault, Mathura Fault, Moradabad Fault and Great Boundary Fault. The data analysis is in progress.
3. Active fault mapping is another study that has been taken up jointly with the Indian Institute of Technology (IIT), Kanpur. Based on the analysis of satellite imageries, the signatures of active faults have been observed at various locations like Wazirabad, Timarpur and Kamla-Nehru-Ridge in Delhi; Jhunjhunu and Alwar district of Rajasthan; Sonipat, Sohna, Gurugram, Rohtak, Rewari and Nuh districts in Haryana; and Baghpat district in Uttar Pradesh. The geological field survey / ground-truthing at all of these sites has been undertaken to validate the identified features from the satellite data. The analysis pertaining to correlation and interpretation of field evidence and satellite data is in progress. This information along with the results generated through MT survey (orientation, extent and depth of faults) can be utilized for the future seismic-resistant designing of hospitals and schools, industrial units and buildings.