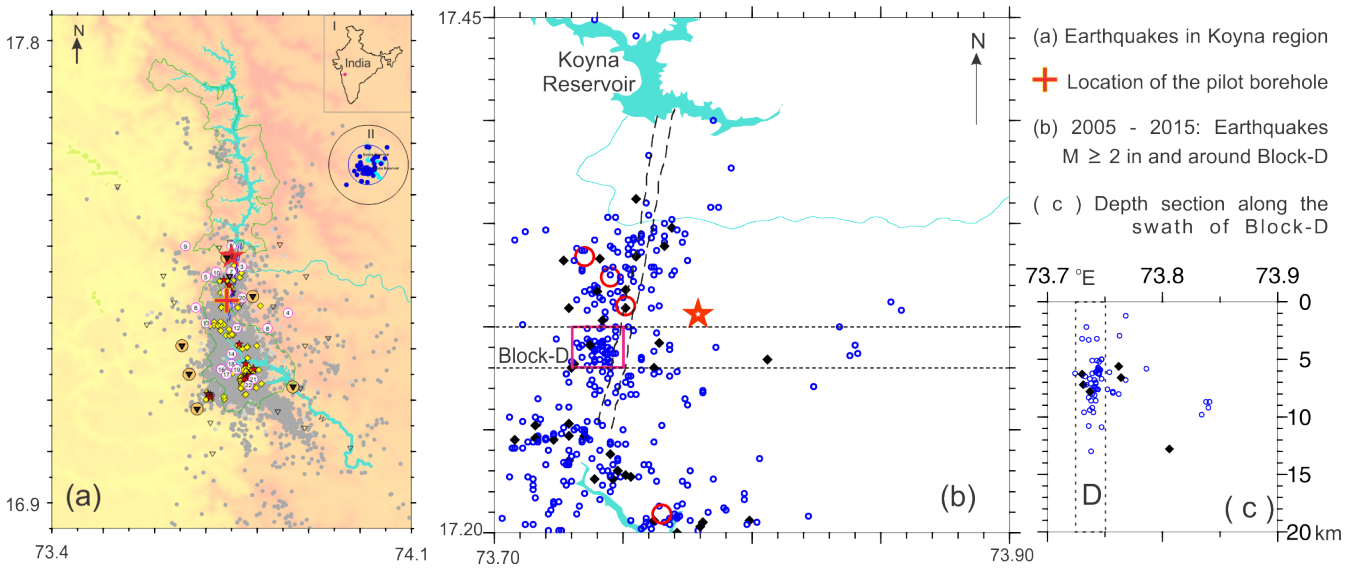
Location of the pilot borehole for investigations of reservoir triggered seismicity at Koyna, India

Artificial water reservoir triggered earthquakes are now known to have occurred at over 120 sites globally. The part played by the reservoirs in triggering is not exactly known due to lack of near field observations of triggered earthquakes. Koyna, located near the west coast of India, where triggered earthquakes have been occurring since 1962 provides an excellent site for near field observations of the target M≥2 earthquakes. A 6 borehole seismic network has been deployed recently in the Koyna region at depths of 981 - 1522 m to improve the hypocentre locations. During May – December 2015, a total of 1039 earthquakes of M_L≥0.5 were located using the borehole seismic network. The region is also monitored through a dense network of 23 surface broad-band stations. Our analysis indicates a significant improvement in the estimation of absolute locations of earthquakes with errors of the order of ± 300 m, combining both the networks. Based on seismicity, and logistics, a block of 2 x 2 km^2 area has been chosen for drilling the first pilot borehole of ~ 3 km depth, where M≥2 earthquakes have been occurring frequently since 2005.



For Further Details:

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