Koyna,located in the Deccan Volcanic Province in western India, is the most significant site of reservoir triggered seismicity (RTS) globally. The largest RTS event of M6.3 occurred here on December 10, 1967 and hence has continued till date, including 22 earthquakes of M ≥ 5.0 and thousands of smaller events over the past 50 years. The annual loading and unloading cycles of the Koyna Reservoir and the nearby Warna Reservoir influence RTS.

In a recent concerted effort, several geophysical investigations were carried out to characterize the seismic zone, including 5000 line kilometres of airborne gravity gradiometry and magnetic surveys, high-quality magnetotelluric data from 100 stations, airborne LiDAR surveys over 1064 km2, drilling of 8 boreholes of approximately 1500 m depth and geophysical logging. To improve the earthquake locations a unique network of borehole seismometers was installed in six of these boreholes.

The first results from these observations, along with a pilot borehole drilling plan, intended for longer term monitoring of seismic activities at depth, are presented in this paper.