

Noise Tomography and Bouguer Anomaly in East Java - Indonesia

Ambient noise seismic tomography study is a new method that uses noise to depict the structure of the surface layer. The purpose of this research is to represent the thickness of sediments in the area of east java and discover faults in east java. This study combined with data on regional gravity anomaly study, to compare the result from ambient noise tomography study. Ambient noise tomography study used data from 24 seismograph installed in east java and surrounding areas, with a range of observation time for 2 years. Gravity anomaly data is derived from measurements performed geological survey center-Indonesia. The study of ambient noise tomography showed a low velocity at a certain depth which indicates a fairly wide hollow in the east java with east-west direction. This study demonstrates the existence of faults buried far away from the subduction zone. The thickness of sediment northern regions thicker than the southern study area. the results of this study are expected to be used for earthquake disaster mitigation and urban development plan study area, so as to minimize losses due to earthquake disaster will happen.

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Track Classification: Theme 1: The Earth as a Complex System