

Revisiting The 2018 Kalibening Earthquake Sequence In Central Java: Call for the Revision of Earthquake Hazard

As moderate devastating earthquake that impacted the economic loss was about \$ 1.68 million US, the 2018 Kalibening earthquake quite shocked where the faulting mechanism still unconfirmed. There was no reference indicating the existence of the faulting zone exactly on the earthquake sequence. We take a benefit from seismic temporary network with the density ± 2 km, which deployed while a macroseismic survey in purposing to evaluate the 2018 Kalibening earthquake sequence. Earthquake relocation using double difference combined with cross-correlation and determining earthquake moment tensor inversion solution using near source seismograms were applied. We suggested the deformation scheme of this earthquake with a thrust faulting with 307.5/ 28.8/ 118.5 (Strike/ Dip/ Rake) as a result from mainshock and supported by aftershock moment tensor solutions. This parameter consistent to aftershocks relocation results which formed a lineation trending NW-SE appropriate with Strike = 307.5. The cross-section exhibits aftershocks pattern which elongated deeper and formed a slope from SW to NE approximately fit to Dip = 28.8. The results from investigating the background seismicity in Banjarnegara Region using combined catalog (ISC-USGS-BMKG) compared to BJI (single station) showed the sparse and the lacking of InaTEWS seismic network configurations.

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