

T1.5-P39. Study of the M 2.7 Merbabu Earthquake on February 17th 2014 : Is it a volcano or tectonic activities?

On February 17th 2014, an earthquake occurred around the mountain of Merbabu in Central of Java Indonesia. According to the Meteorological Climatological and Geophysical Agency of Indonesia (BMKG) the earthquake was about M= 2.7 of magnitude with 10 km of the depth. However, this small earthquake was strong enough to be felt by people surrounding the source and also caused 46 homes in five hamlets suffered damage. The earthquake also caused a controversial issued whether it was a volcano earthquake or a tectonic activity. A relocation method was carried out in this study to review whether the source was close to magma chamber of the Merbabu Mountain. A tomography beneath the mountain was also implemented in this study to find out the flow of the magma. The result of this study will give an obvious answer whether the earthquake was caused by volcano or tectonic activity. Due to the small energy of the earthquake, we also implemented the moment tensor inversion that might be able to revise the magnitude of the earthquake

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