

Analysis of Relationship Between Deformation Area and Moment Magnitude (M_w) of Earthquake in Subduction Zone of Indo-Australian Plate

Indonesia is known as a region that has a unique structure and complex geology. This because Indonesia is a located at triple junction plate convergence: Indo-Australian plate relative moves to north, Euarasian Plate to south and Pasific plate to west. As a result of these condition, in this junction between plate and the area of the active faults frequently earthquakes. In this study, the data used from USGS 1977-2009. From the data sources can be collected the earthquakes with magnitude $M \geq 5.0$ that occurred along the Indo-Australian plate. From the calculations, the constants a and b in this equation either use the moment magnitude and surface magnitude is equal to 5.67, 0.573682673. So the equation be: $\log A = 5.87 - 0.573682673 M$.

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