

## The Effect of Sumatra Fault Earthquakes on West Malaysia

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**Abstract :** This paper presents the effect of Sumatra fault earthquakes on west Malaysia by calculating the peak horizontal ground acceleration (PGA). PGA is calculated by a probabilistic seismic hazard assessment (PSHA). A uniform catalog of earthquakes for the interest region has been provided. We used empirical relations to convert all magnitudes to Moment Magnitude. After eliminating foreshocks and aftershocks in order to achieve more reliable results, the completeness of the catalog and uncertainty of magnitudes have been estimated and seismicity parameters were calculated. Our seismic source model considers the Sumatran strike slip fault that is known historically to generate large earthquakes. The calculations were done using the logic tree method and four attenuation relationships and slip rates for different part of this fault. Seismic hazard assessment carried out for 48 grid points. Eventually, two seismic hazard maps based PGA for 5% and 10% probability of exceedance in 50 year are presented.

**Keywords :** Sumatra fault, west Malaysia, PGA, seismic parameters

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