

## SEISMICITY OF PENINSULAR MALAYSIA

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A detailed study of the historical and instrumental seismicity record for the general area located between latitudes 10°N and 10°S, and longitudes 95°E and 110°E, shows that the distribution of earthquake epicentres is consistent with the present-day plate tectonic setting; the majority of epicentres defining a broad, curvilinear zone that parallels the trends of Sumatra and Java. Within this zone, earthquakes with body wave magnitudes of up to 7 are found and show foci of variable depths that demarcate a dipping Benioff zone marking subduction of the Indo-Australian lithosphere plate beneath the Eurasian plate. Some of the earthquakes in the Andaman Sea area are also associated with this subduction, though others are associated with minor divergent tectonic plate boundaries as well as displacements along major faults. Within the island of Sumatra furthermore, several earthquakes with low body wave magnitudes and shallow foci are considered to be associated with displacements along several major faults, particularly the Sumatran fault zone. Within Peninsular Malaysia furthermore, earthquake epicentres are only found centred around the Kenyir Dam in Trengganu State. These earthquakes, with low body wave magnitudes and shallow foci, have occurred during the period 1983 to 1988, and are considered to reflect induced seismicity associated with infilling of the Kenyir Dam. It is concluded that, although Peninsular Malaysia appears to be a seismically stable area, it is important that the design of large engineering structures takes into consideration seismic waves generated by earthquakes with epicentres located in Sumatra or in the Andaman Sea, as well as induced earthquakes associated with major dam projects within the country.

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