

An Overview of Earthquake Science in Malaysia

ABSTRACT

This paper highlights the level of earthquake hazard in Malaysia, the challenges in mitigating earthquake hazard and the way forward on how to strengthen earthquake science in Malaysia. Earthquake hazard is regarded as low throughout Malaysia, with the exception of Sabah where it is considered moderate. This elevated level of a hazard was reinforced during the 2015 Ranau Earthquake, which killed 18 people. Despite this and other recent sizeable earthquakes, the earthquake hazard in Malaysia is poorly understood, yet the population has increased, and growth in buildings and infrastructure has risen. While much progress has been made since the 2015 Ranau earthquake in terms of the development of (i) national seismic hazard map; (ii) national seismic building code; and (iii) planning guideline in a high-risk earthquake area, there are still many challenges faced in mitigating earthquake hazard in Malaysia. There is still a lack of seismic, geological, geodetic and engineering data; insufficient seismic and geodetic monitoring network system; lack of trained human resources; and lack of public awareness. To ensure that earthquake hazard is properly quantified and mitigated some steps have to be taken, which includes (i) comprehensive geological, geotechnical and engineering studies; (ii) coordinated seismic and geodetic monitoring; (iii) human resource capacity building; (iv) coordinated public education; (v) allocation of special research and development grant; and (vi) setting up of a National Earthquake Research Centre.