ID: Type: **Poster**

T1.5-P40. Study on The 2004 Sumatra-Andaman Earthquake for Making Tsunami Inundation Maps in Northwest Coasts of Peninsular Malaysia

Many places over Northwest Peninsular Malaysia experienced facing the giant waves induced by the large magnitude of earthquake during the 2004 Sumatra-Andaman mega earthquake. A number of scientific studies have been implemented in order to understand the unexpected phenomenon as to improve the current National Disaster Mitigation Plan. Seventy five sets of tsunami numerical simulations are conducted to identify tsunami propagation and runup over the selected areas in the region. The parameters in the heterogeneous slip model are estimated by using inversion method from satellite altimetry data. The Non-Linear Shallow Water Equations (NSWE) by considering the effects of the earth's curvature is applied in the numerical simulation to evaluate the tsunami propagation and runup at the target areas. The nesting grid system with five layers is applied in the numerical model. The result shows that the largest tsunami height and runup at 3.2 m and 5.43 m respectively are estimated in Langkawi island. The calculated tsunami waveforms at the tidal gauge system almost agree to the actual observation waveforms. The comparison of runup data from the calculated and survey show significant trend. This scientific finding is strongly suggested to be used as part of the current decision making process.

Primary author: SHAARI, Noor Azam (Malaysian Meteorological Department)

Presenter: SHAARI, Noor Azam (Malaysian Meteorological Department)

Track Classification: 1. The Earth as a complex system