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T1.5-P30. PRELIMINARY STUDY OF THE STATIC COULOMB STRESS ANALYSIS ON DOUBLET EARTHQUAKE IN INDIAN OCEAN (CASE STUDY : WEST COAST OF SUMATERA REGION EQ on 11 APRIL 2012)

Two shallow great earthquakes Mw 8.5 and Mw 8.1 (h < 60 km) occurred in outer rise of the Indian Ocean Ridge on April 11, 2012 with elapse time around 2 hours. These earthquakes are classified as doublet earthquakes. Referring of the earthquake parameters only (location, depth and magnitude), the first earthquake was estimated to trigger of the great tsunami event. These earthquakes felt and cause the exceptional panic for the people in Banda Aceh city and its vicinity (north of Sumatera island). Based on the tsunami field observation using tide gauge in Banda Aceh and its vicinity, the tsunami height is only 20-80 cm. The source of tsunami height is depended on the focal mechanism of the source and quantity of vertical displacement of the sea floor deformation beside the earthquake parameters. This study learn of the vertical displacement of sea floor deformation using the coulomb stress analysis, so for estimating of the tsunami certainty. Using the USGS data is result the vertical displacement of the sea floor deformation around 10 cm and the shear stress change about 5 bars with west-southwest direction. Keywords: doublet, outer rise, coulomb stress, vertical slip, shear stress.

Primary author: MURJAYA, Jaya (BMKG)

Presenter: MURJAYA, Jaya (BMKG)

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