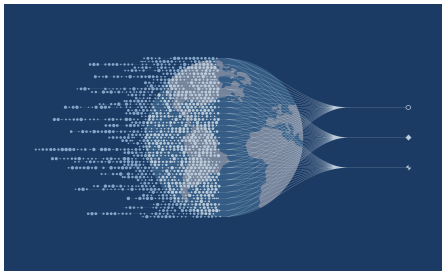

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Wave Height Modelling Using COMCOT Software 3 Based on Maximum Earthquake Scenario in Bali Island

Bali Island is one of the areas in Indonesia that is categorised as a tsunami-prone area due to the existence of the Java Megathrust in the southern segment of Bali, which holds a maximum magnitude of up to M 9.0, which can trigger a tsunami. This study aims to model tsunami wave heights and wave arrival times based on the maximum earthquake scenario in the southern Bali megathrust zone. The modelling is done using COMCOT (Cornell Multi-grid Coupled Tsunami Model) software. The data used in the tsunami modelling consists of earthquake parameter data from the Global CMT Catalogue, as well as bathymetry and topographic data from GEBCO, BATNAS and DEMNAS. The simulation results show that the tsunami generated can reach a maximum height of up to 18 metres in southern Bali. From the tide gauge points that have been made, the point located at the Nusa Penida location shows a maximum amplitude of up to 5 metres. In addition, the simulation of tsunami wave propagation also shows that the waves take about 15-20 minutes to reach the mainland of the south coast of Bali and Nusa Penida after an earthquake.

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