

# **TSUNAMI EARLY WARNING SYSTEM IN MALAYSIA**

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## **ABSTRACT**

This study is on how to make the database for tsunami using the tsunami simulation, input into the database, retrieve and apply it to the Tsunami Early Warning System including the issuance of the warning. Firstly, we have to search the seismicity of Malaysia, compare the earthquake event with the tsunami event for the tsunamigenic earthquake. The earthquake event shallower than 100km and trench area is considered the potential area of tsunami source, and epicenters are set on this area. Forecast points are set up as 4 cases along the coast of Malaysia, each of which has 4-minutes, 10-minutes, 20-minutes distance from the coast and is with the 10-minutes intervals along the coast. Among these 4 cases, the best position of forecast points is searched, tsunami simulation used and the results were compared by the graph of these cases. Later, magnitude and depth interval are set up considering the historical event. The magnitude intervals are 6.6, 7.2, 7.8, and 8.4, and depth intervals are 30km, 50km, 70km and 90km. The tsunami simulation is run for all the set up epicenters and the result of tsunami height and arrival time for all the forecast points are input into the database. The location of epicenter is calculated using interpolation or extrapolation and the method to retrieves the data using SQL and C program. Fortran77 is used to make the formats of the issuance tsunami warning.

Keywords: Tsunamigenic earthquake, Forecast point, Source point, Travel time,  
Tsunami height.

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