

# **The Storm Effects to Wave Height at Bangkhuntien Shoreline and the Upper Gulf of Thailand**

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From the past, we have many problems about the shoreline erosion at the Upper Gulf of Thailand especially Bangkhuntien shoreline due to wave height increased and attacked to the beach. Linda was one of the worst storms passing the Gulf of Thailand on 3 November 1997 and effected to the wave at the Bangkhuntien coastline and the Upper Gulf of Thailand. In this study, Simulating WAVes Nearshore (SWAN) [1] is applied to generate the wave height at Bangkhuntien shoreline and the Upper Gulf of Thailand during the attack of typhoon Linda (1997). SWAN is a numerical wave model to estimate the wave parameters in coastal areas under current conditions. The model based on the the wave action balance equation with sources and sinks. The model used the bathymetry and generated wave by wind. Energy dissipation by whitecapping, depth-induced wave breaking and bottom friction are determined. The resolution of model is 4 x 4 kilometers. The model are forced by wind field from U.S. Navy operation Global Atmosphere Prediction System (NOGAPS) which is available every 12 hours. The model predicted an increased wave from the effect of the storm. The increased wave occurred about 3-4 meters at Bangkhuntien and about 3-8 meters at the Upper Gulf of Thailand. The calibration and verification of this model results used the wave observation data from Rayong and Huahin buoys [2]. The results indicated that the wave height from the model is agreement with the wave height from the observation which referred that the model is suitable for predicting the wave height at Bangkhuntien shoreline and the wave height at the Upper Gulf of Thailand.

## **References:**

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