

عنوان مقاله:

hindcasting of significant wave height in Gulf of Mexico using neural network and M5' model tree

محل انتشار:

هجدهمین همایش صنایع دریایی (سال: 1395)

تعداد صفحات اصل مقاله: 12

نویسنده:

Homayoon Ahmadvand - *Department of Physical oceanography, Faculty of Marine Science, Khoramshahr university of Marine Science and Technology, Khoramshahr, Iran*

خلاصه مقاله:

Hindcasting of wave parameters is necessary for many applications in coastal and offshore engineering and is generally made with the help of sophisticated numerical models. Different forecasting methodologies have been developed using the wind and wave characteristics. In this paper, artificial neural network (ANN) and M5' model tree is used to forecast the wave height for the next 3, 6, 12 and 24 lead number in the East Gulf of Mexico. The data set used for developing models comprises of wind and wave data gathered in 2011. To determine the effective parameters, different models with various combinations of input parameters were considered. Parameters such as wind speed, direction and wave height, direction were found to be the best inputs. Furthermore, using the wind and wave directions showed better performance. Results indicate that error statistics of model trees and ANN were similar, while ANN was marginally more accurate than model tree. In addition, if wind speed as well as wind and wave direction are used as model inputs, the accuracy of the forecasting is highest in 24 lead number.

کلمات کلیدی:

Significant wave height- Neural Network, model tree, Gulf of Mexico

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/564978>

