Predicting of the extreme winds occurrence in the coastal marines (coasts of Bushehr)

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Abstract
Severe winds are a natural occurrence that plays a main role on aquatic animal environment and is desired as a risk for navigators in marine ecosystems. The purpose of this study is to predict the occurrence of extreme winds in the coasts of Bushehr. Therefore, uses a statistical model to analyze the details of the series (Partial series) has been performed. Thus, the statistics of daily maximum wind speed marine meteorological station at Bushehr during 1977-2010 was provided. Data accuracy and homogeneity test sequences (Run test) was conducted. In this model, the average frequency of extreme winds is between 3 to 5 times per year, the forecasts are based. Thus, the basic wind speed of 18 meters per second was determined. Monitored data in the matrix (Matlab), suggesting that the total frequency of occurrence of gusts with speeds equal to or greater than the base rate, the period of 139 days (average annual fourth day), respectively. Meanwhile, in 1992 with a 20-day of extreme wind had the highest frequency of occurrence. The frequency range of monthly and seasonal storms in August and September represent the lowest and May had the windiest days. Most windy Season is winter (39 percent) and the summer has lowest (2%). Windy day forecast shows the probability of occurrence of 99% over the period of a year, so speed gusts of 22 meters per second more. The model for coastal Bushehr fastest winds in a hundred-year return period is predicted to be 35.41 m/s increase.

Keywords: Extreme winds, Coastal marines, Partial series, Bushehr.