

## عنوان مقاله:

Modeling of wind driven waves and estimation of wave energy in Chabahar Bay

## محل انتشار:

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## خلاصه مقاله:

Sea waves are one of the main characteristics of water areas in the world, which are mainly produced by wind. Waves are the main boundary condition in the dynamic loading and hydraulic calculations of coastal structures. Numerical models are being developed to bring the sea and ocean conditions closer to the real conditions. In this research, the SW model from MIKE21 software is used to simulate wind waves in the Chabahar Bay and the energy extracted from these waves is estimated. The SW model simulates the growth, transmission and decay of wind waves in offshore and coastal areas. Chabahar Bay is a semi-closed and subtropical bay with an average depth of 7.5 m, which is located in the southeast of Iran. The model was implemented for a period of one year (2017) with a spatial resolution of maximum 5 km for offshore regions and less than 500 m in the interior parts of Chabahar Bay. ECMWF model wind data with a time step of 6 hours and a spatial resolution of 0.125 minutes were used. Comparison of model results for hourly averages with measured data shows a correlation coefficient of 0.84 for significant wave height. The annually average and maximum of wave height due to wind in the entrance of Chabahar Bay is 0.82 m and 2.19 m, respectively. The direction of the dominant waves is from south and the largest share of energy is related to waves with a period of around 11. The average of annual extractable power related to wind waves in the southern parts of Chabahar Bay was calculated from the order of 3 kW/m

## کلمات کلیدی:

Chabahar Bay, MIKE21-SW model, Wave height, Wave energy

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1172304>



