

Wave climate study Scheveningen

INFLUENCE NEW QUAY WALL ON LOCAL WAVE CLIMATE

For the third harbour basin of Scheveningen, plans are in development for the realisation of a housing project in the former Norfolk area. For this purpose one of the quay walls should be extended. There are also plans to establish sailing yachts in this harbour basin during the sailing season. The extension of the quay may adversely affect the local wave climate and thus the availability of the berths.

From the municipality of The Hague, Svašek Hydraulics was asked to quantify the influence of the extension of the quay wall on the local wave climate. The possible worsening of the wave climate should be investigated for 12 areas in and near the third harbour basin of Scheveningen. For the downtime due to the extended quay wall is analysed for different types of sailing vessels.

First, a SWAN wave model was set up to translate a 20-year time series of wind and wave data from the Europlatform and IJmuiden stations to a time series just before the port entrance.

Then this time series is transferred into the harbour basin with the numerical wave model HARES. For this purpose a transfer matrix has

been set up for many wave conditions (wave height, period and direction) and water levels. These HARES calculations include both direction and frequency spreading. These calculations are performed for the existing and the new situation.

With the 20 years of time series at various locations inside the harbour basin, it has been investigated how often critical wave conditions for moored yachts are exceeded in the existing and new situation. In this way, the worsening of the local wave climate has been made visible.

CLIENT

Municipality of Den Haag

LOCATION

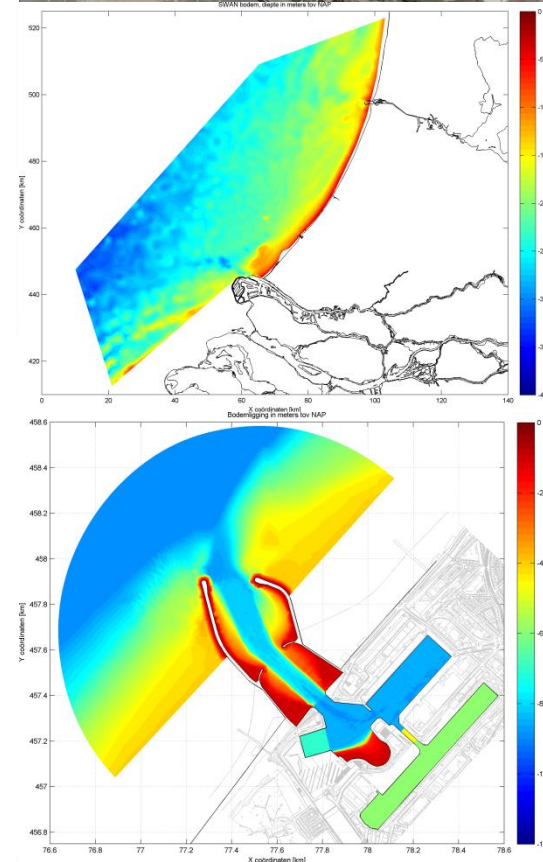
Scheveningen, The Netherlands

DATE

2016

SERVICES

SWAN modelling wave climate outside
HARES modelling wave climate for
locations inside the harbour



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