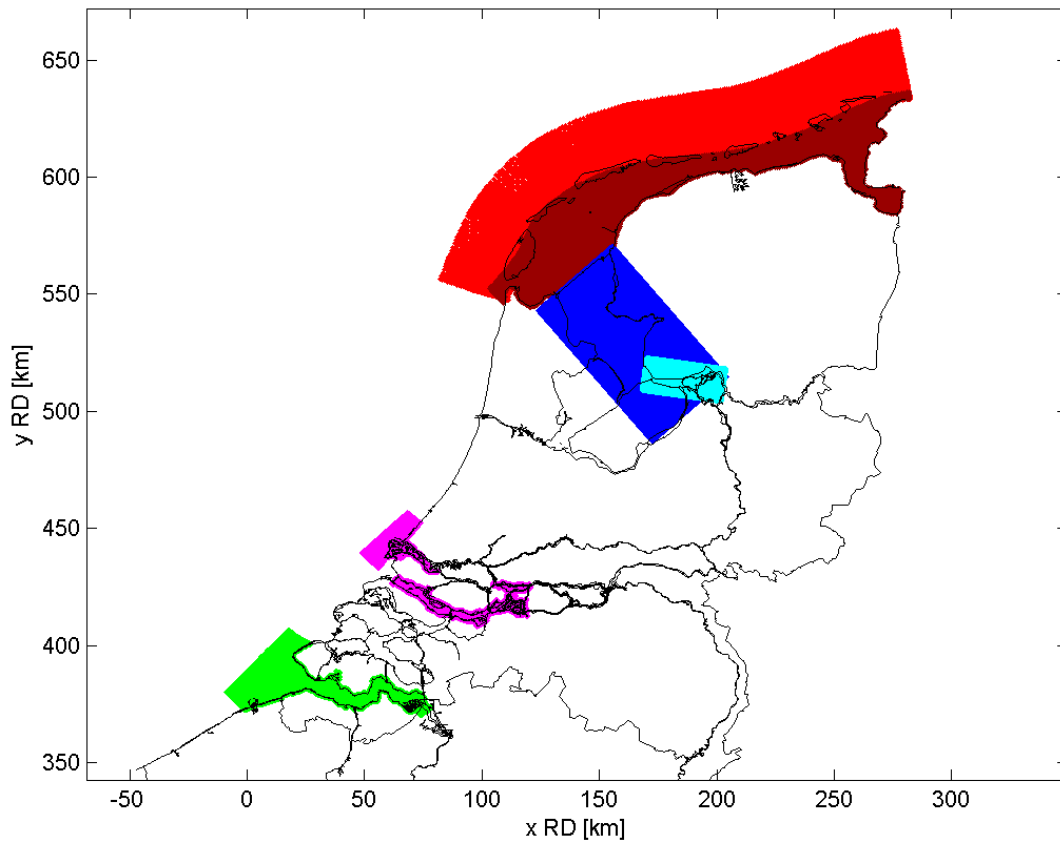


SWAN models used for HBC 2011



SWAN and WAQUA modeling for HBC 2011

Every five or - since 2009 - six years the safety of the Dutch dunes and dikes has to be assessed. As input to that assessment, the Hydraulic Boundary Conditions (HBC), consisting of representative water levels and wave conditions, have to be established.

The HBC are based on a large number of SWAN and WAQUA production calculations which feed into a probabilistic model. For the establishment of the HBC for 2011, Svašek Hydraulics and HKV LIJN IN WATER have been awarded the production and the probabilistic calculations underlying the HBC in four geographical areas.

For SWAN these four geographical areas concern the Waddensea, the Western Scheldt, the Rhine and Meuse Delta, and Lake IJssel together with the Vecht and IJssel Delta. The WAQUA production calculations need 'only' to be performed for the latter two areas. The number of calculations vary from about 700 SWAN calculations for the Rhine and Meuse Delta to 5400 SWAN calculations for the Waddensea and more than 7000 WAQUA calculations for the Rhine and Meuse Delta.

In order to manage such large number of calculations, the preprocessing, quality control, execution and postprocessing of the calculations are fully automated.

Client
Deltares

Location
The Netherlands

Date
2010

Services
SWAN wave modeling
WAQUA modelling

Svašek Hydraulics

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