HBC 2011, RHINE AND MEUSE DELTA

SWAN AND WAQUA MODELLING

In 2011 the safety of the Dutch dunes and dikes has to be assessed regularly by the Dutch government. As an input to the next round of this assessment, the Hydraulic Boundary Conditions (HBC) have been updated in 2011. The HBC, consisting of representative wave and water level conditions are determined by means of a large number of SWAN (wave) and WAQUA (water levels) calculations. In this way a matrix is filled with a wide range of conditions that feeds a probabilistic model (Hydra) to determine the hydraulic load on the sea defences.

The establishment of the 2011 HBC was a joint effort of Svašek Hydraulics and HKV LIJN IN WATER. Over 10000 calculations were done in 4 months of time. In the same time the results were extensively checked. So unacceptable flaws in the model were recognised and repaired 'on the flow'.

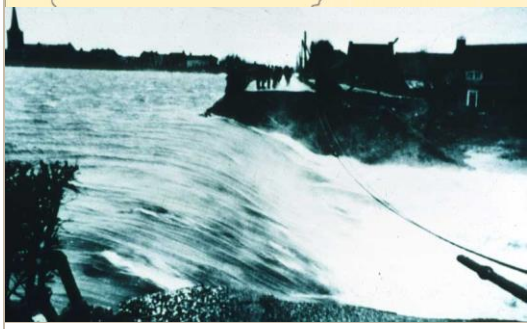
In order to manage the large number of calculations, the pre-processing, quality control, execution and post-processing of the calculations are fully automated. Besides there is also a great need for processor capacity on the one hand, and processor flexibility on the other hand. Our privately owned high-performance Linux computing cluster is proved to be well suited to manage this high number of calculations in the given short time frame.

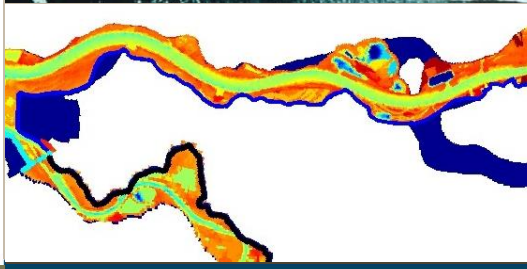
CLIENT
Deltares

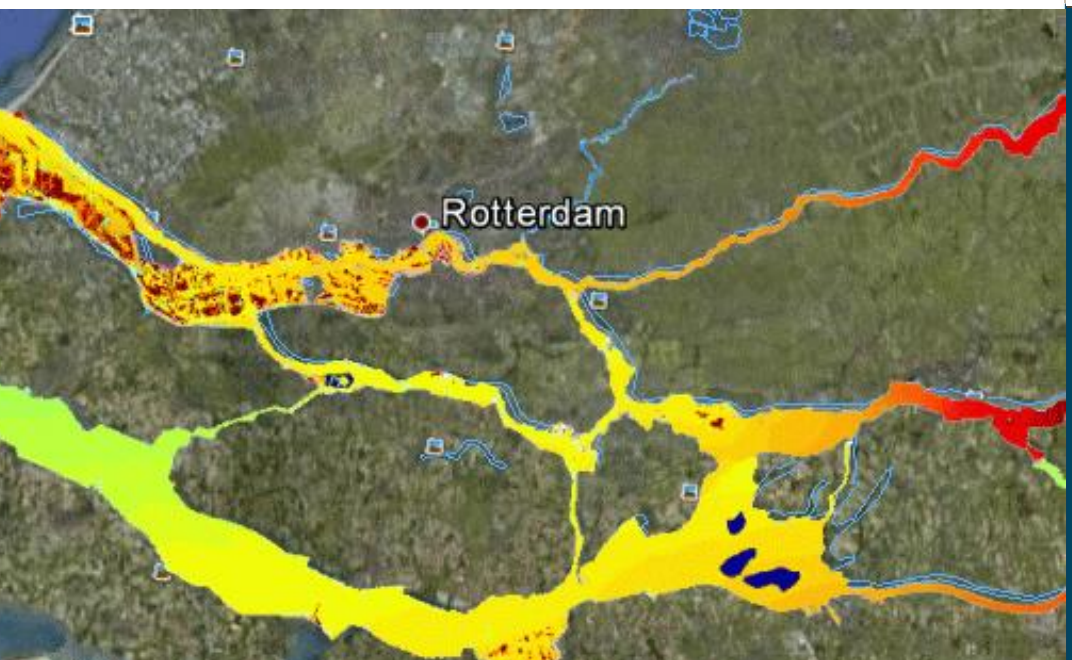
LOCATION
The Netherlands

DATE
2010 - 2011

SERVICES
SWAN and WAQUA modelling







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