



Morphological computations Western Scheldt Estuary

The Western Scheldt is an estuary in the south west part of the Netherlands and is the gateway to the port of Antwerp. A large amount of dredging is necessary to maintain the required depth of the shipping route to the port of Antwerp.

The morphological developments of this estuary are complex and are influenced by the dredging activities. Svašek was asked to build a morphological model using FINEL2d. The goal was to see if this model could reproduce the morphological developments of the last decades in an accurate way.

First the model was calibrated over the period 1995 till 2002. The validation of FINEL2d took place over the period 1965 till 2002. After the calibration and validation stage 4 different dredging and sand mining scenarios were calculated over the period 1965 till 2002.

The figure above shows the measured sedimentation/erosion pattern versus the pattern of FINEL2d over the period 1995 - 2002. The agreement is fairly accurate. It was concluded that FINEL2d can be used to calculate future developments and possible dredging and sand mining alternatives.

Client

Administratie Waterwegen en
Zeewezen (Belgium)

Location

Western Scheldt, the Netherlands

Date

2006

Services

Building morphological model
using FINEL2d

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