Example of the SOBEK schematisation of the Dutch delta area (SOBEK-NDB).

SOBEK

SOBEK is a 1D hydraulic numerical model. The program carries out one-dimensional hydraulic calculations of an area that is schematised by a network of open water channels. All calculated quantities are cross section averaged values. A network can consist of several branches with bifurcations, cross sections can vary within a branch.

SOBEK can handle:
- Water flow
- Salt intrusion
- Sediment transport and morphology
- Water quality

Because SOBEK is 1D, the calculation times are low, but the usability is restricted to problems without important 2D or 3D effects. It can for example be used for flood protection studies, design of canal systems, determination of dredging strategies for a river, salt intrusion in lower reaches of rivers.

For SOBEK a schematisation of the entire Dutch delta area (NDB = Noordelijk Delta Bekken) is made. This SOBEK-NDB model is used for:
- Support in decision taking about large new river programs like 'Room for the river', or a new control regime of the sluices at Haringvliet.
- Daily prediction of water levels along the rivers.
- Calculation of representative high water levels to check the safety of the dikes.
- Calculation of salt intrusion during dry periods.

Developer
Rijkswaterstaat/WL Delft

Main features
1-D numerical hydraulic modelling

SVASEK
HYDRAULICS
COASTAL, HARBOUR AND RIVER CONSULTANTS