

Morphological changes in the scheldt estuary and its consequences on hydrodynamics

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This paper starts with a brief physical description of the estuary and a summary of its historical developments, with emphasis on human interference, such as the loss of storage area in the basin, sediment circulation by dredging and dumping, etc.

Next, the various relevant hydrodynamic processes are described, responsible for the morphodynamic development of the estuary:

- tidal asymmetry, length of ebb and flood period, length of HWS and LWS-period, and
- effect of the hypsometry (cross sectional shape of the estuary) on the tidal propagation.

The impact of morphological changes on the overall tidal movement and on the overtides is treated in the last two sections of the paper. Where possible, the interaction between morphological changes and water movement is discussed.