



Numerical simulation and observations in Ems-Dollart estuary

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The unstructured numerical model SELFE is used to simulate hydrodynamics in the Ems-Dollart estuary. Its variable resolution enables resolving the different dynamical scales ranging from the North Sea ones, which are dominated by the basic circulation up to scales characteristic for the tidal river's dynamics. The model is validated against continuous observations of elevation and velocity at data stations, as well using observations from measuring campaigns in the Ems region. These include ADCP and CTD profiles. It is shown that the simulations reproduce the typical physical processes in the region. In addition observations of sediment concentration in the Ems-Dollart estuary are presented.