



## Global modelling and forecasting of tides and storm surges

Deltares has developed the Global Tide and Surge Model (GTSM). GTSM is a depth-averaged hydrodynamic model with global coverage. GTSM can be used to dynamically simulate water levels and currents, that arise from tides and storm surges. The model uses the Delft3D FM Suite, and has a spatially varying resolution. Because of this, GTSM has a uniquely high resolution at the coast, which makes that coastal water levels are accurately resolved while being computationally efficient. There is a broad range of applications and (research) projects that make use of GTSM, which include operational forecasting, reanalysis of historical extremes, and climate change projections. Using GTSM as a basis, the Global Storm Surge Information System (GLOSSIS) provides 10-day tide and surge forecasts that are updated four times a day with global coverage. These forecasts can be used for early warning in those areas currently lacking any forecasting capability, or can provide boundary conditions for more refined local models.

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