

# **Storm surges: Phenomena, modelling and forecasting**

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Storm surges are behind the geophysical risk of short term and abrupt inundating low-lying coastal regions known along most coasts of the world. They are related to meteorological phenomena, mostly wind storms. Storm surges are expected to become more severe in the coming decades and centuries because of ongoing and expected accelerated mean sea level.

A few cases, from recent and from historical times will be reviewed to highlight different conditions for instance in the tropics or in the Baltic Sea.

Storm surges represent a major challenge for science and risk management with respect to short-term forecasts of specific events but also with long-term changes of the statistics of storm surges due to anthropogenic global climate change, sinking coasts and estuarine water works.