



FACULTY OF ENGINEERING AND
ARCHITECTURE

Storm surges

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Devastating storm surges are reported through years. Lately, Hurricane Katrina destroyed large parts at the US golf coast. With increasing global mean sea level and expected higher storminess the risk of a storm surge also increases.

A theoretical understanding of the key processes leading to a storm surge is important to identify areas of risk and to prevent coastal areas from flooding, reducing its effect on people and property.

Therefore, prediction of storm surges using field measurements and numerical tools is of relevance to enable early protection measures to be deployed at right time and location.

HURRICANE KATRINA

Timeline of Storm Surge Event

Gulfport, Mississippi

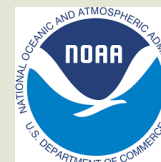
August 29th, 2005

Video Copyright:

Mike Theiss

www.UltimateChase.com







Hydraulic model experiments using the 30 m long wave flume facility are conducted at Ghent University. It is the objective to investigate the effect of structural countermeasures to prevent flooding.

Numerical models are applied to simulate wave propagation processes and wave-structure interaction.

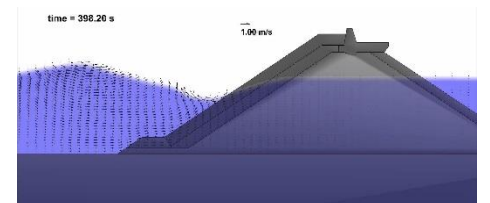
Lately, the CREST (Climate REsilient coaST) project funded by the Flemish government was initiated to investigate wave action in a changing climate and effects on the dynamics of the coast as well as implications for future safety strategies.



Storm surge at the Belgian coast



Wave flume facility at Ghent University



Simulation of porous flow field within a breakwater in Flow3D