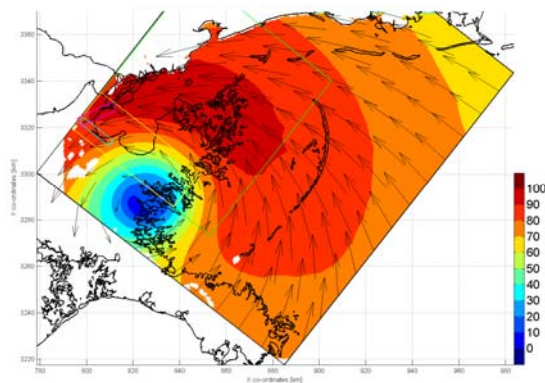
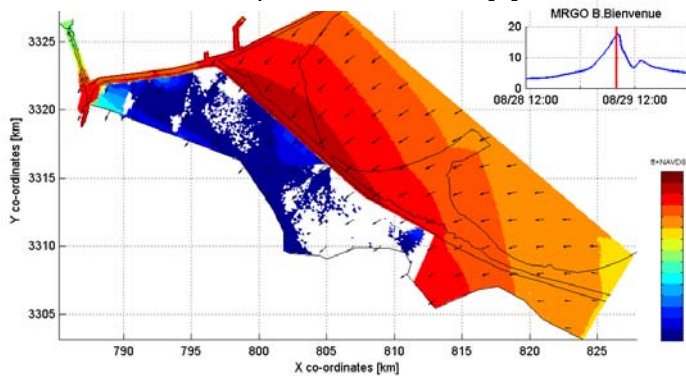


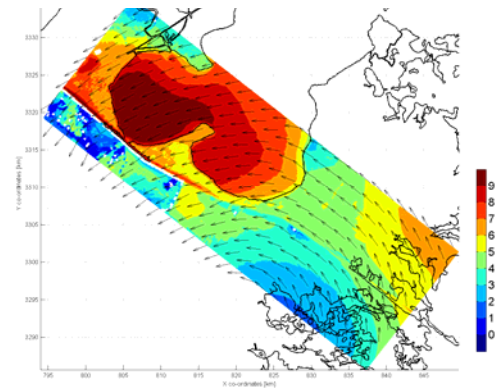
Wind velocity [knots]



With FINEL computed water level [ft]



With SWAN computed wave height [ft]



Wave- and Flow Modeling New Orleans, Hurricane Katrina August 2005

On the morning of August 29, 2005, Hurricane Katrina struck southeast Louisiana. Water rushed into New Orleans and flooded over 80 percent of the city. The levees and floodwalls adjacent to the Mississippi River Gulf Outlet (MRGO) - the canal that connects New Orleans with the Gulf of Mexico - had failed catastrophically.

In order to get a better understanding of the flow dynamics of the surge event during Katrina, Svašek Hydraulics carried out numerical flow computations. Various runs with different MRGO-configurations gave insight in the role that the channel played in this major flood.

Furthermore, Svašek Hydraulics did wave simulations with the numerical SWAN model to decipher what happens in the MRGO during passage of major hurricanes and to assess the influence of waves on the erosion of the levees.

This study was a joint effort by the Delft University of Technology and Svašek Hydraulics.

Client
Delft University of Technology

Location
New Orleans, USA

Date
2007-2008

Services
FINEL flow modeling,
Overtopping simulations,
SWAN wave modeling