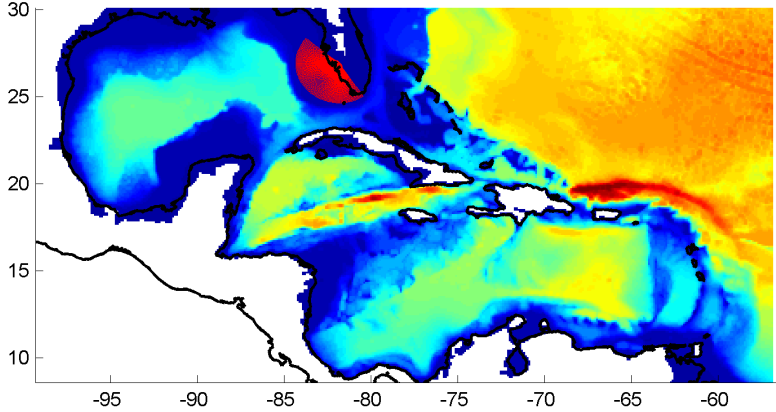


Modeling (approach)

- Ft. Myers model is nested in the Gulf of Mexico Caribbean (GoMC) model

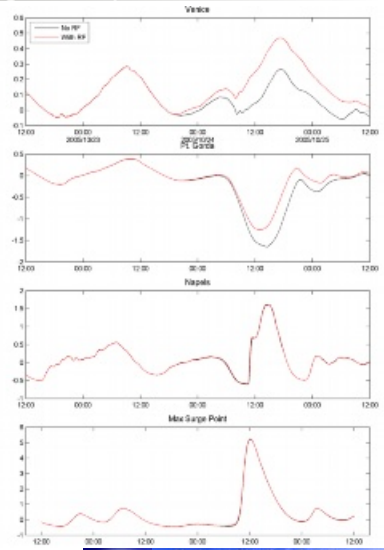


FloridaDisaster.org
Florida Division of Emergency Management

National Weather Service
National Hurricane Center

Deltares

Time series of storm surge – in m (without and including rainfall)

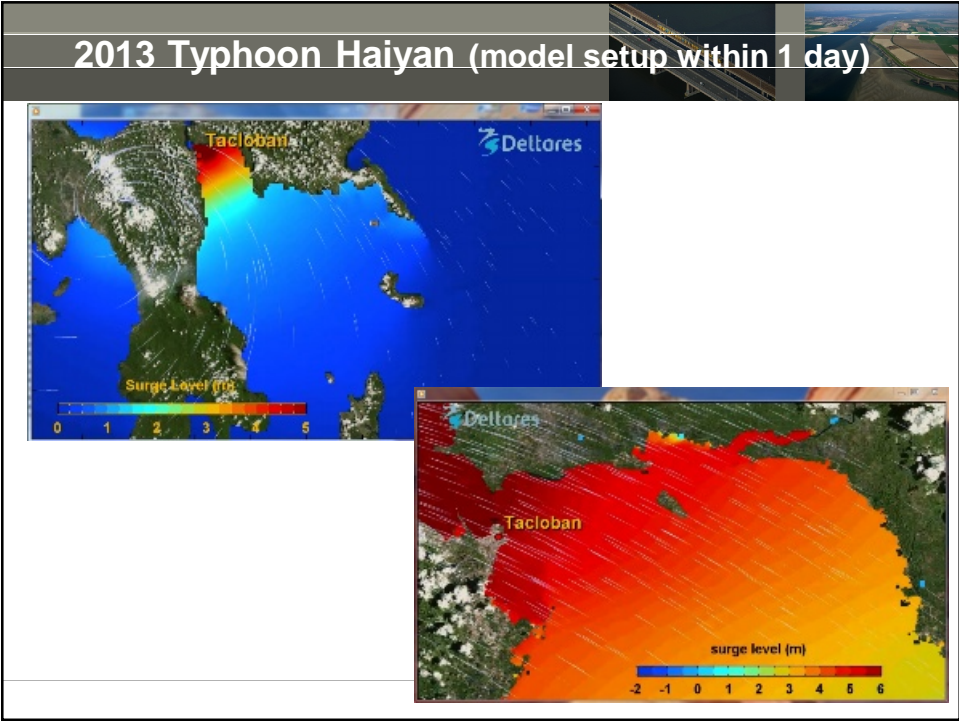
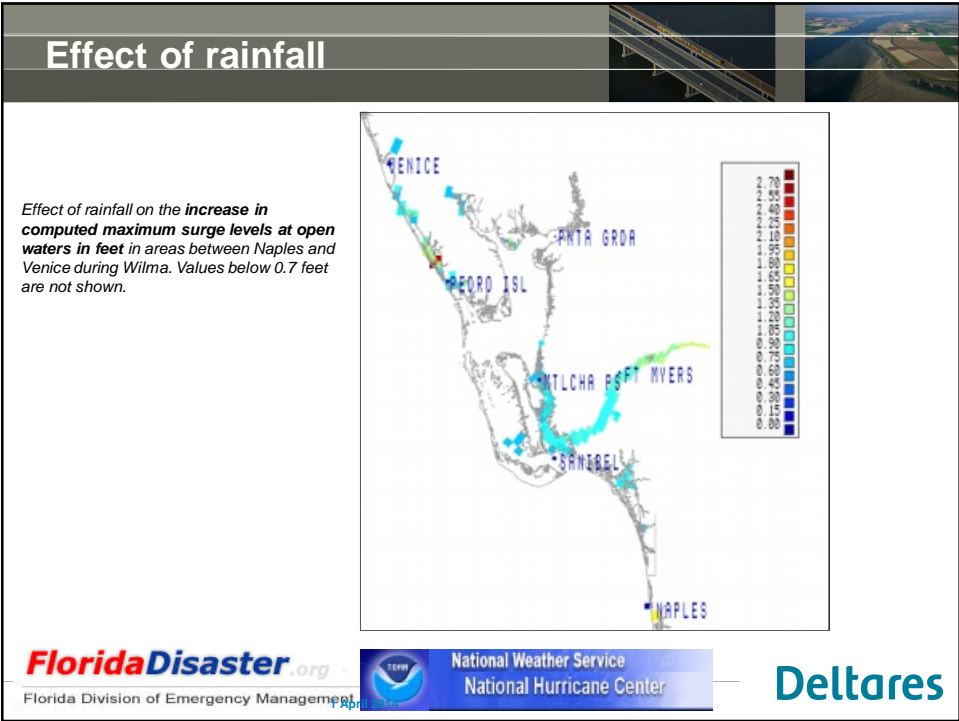


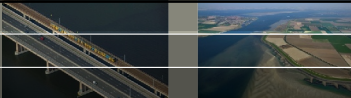
At certain locations difference of up to 40 cm!

FloridaDisaster.org
Florida Division of Emergency Management

National Weather Service
National Hurricane Center

Deltares





Global models

Deltares

GLOBAL FLOOD RISK with IMAGE Scenarios (GLOFRIS)


<http://www.deltares.nl/en/news/news-item/item/17719/a-quick-model-to-assess-current-and-future-global-river-flood-risk>

Demonstrate current and future coastal flood, and river flood risk

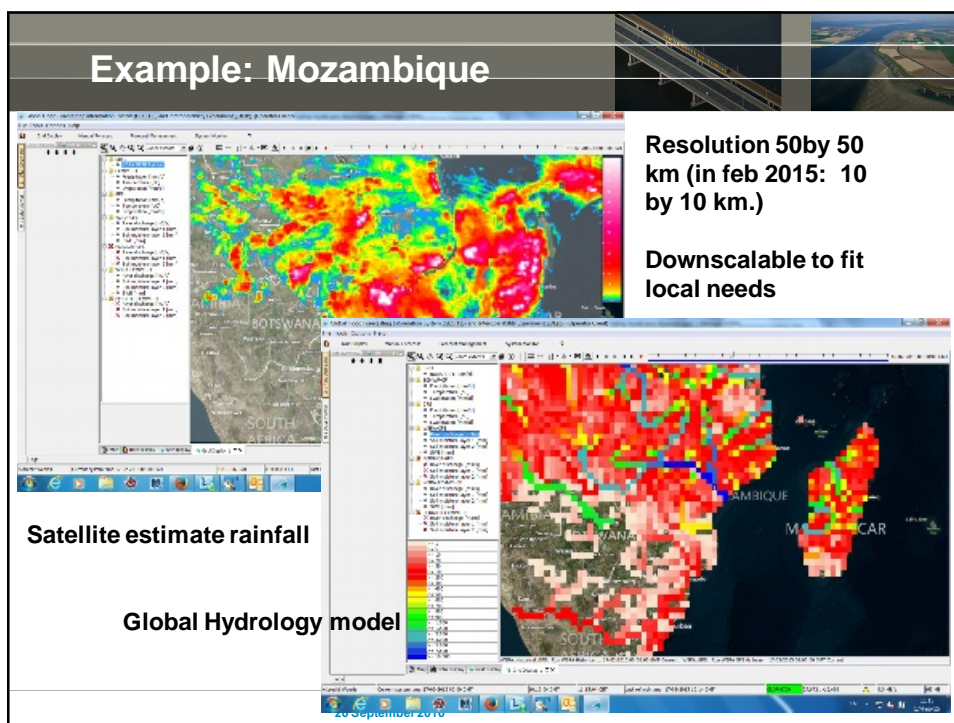
WITH THIS INFORMATION:

- Identify and prioritize at-risk populations and assets
- Determine regional and basin-wide effect of safety measures on coastal and river flood risk
- Perform cost-benefit of safety measures to find optimal solution
- Estimate global cost of climate change induced flooding

Contains Global (Inland) flood and storm surge model



Example: Mozambique



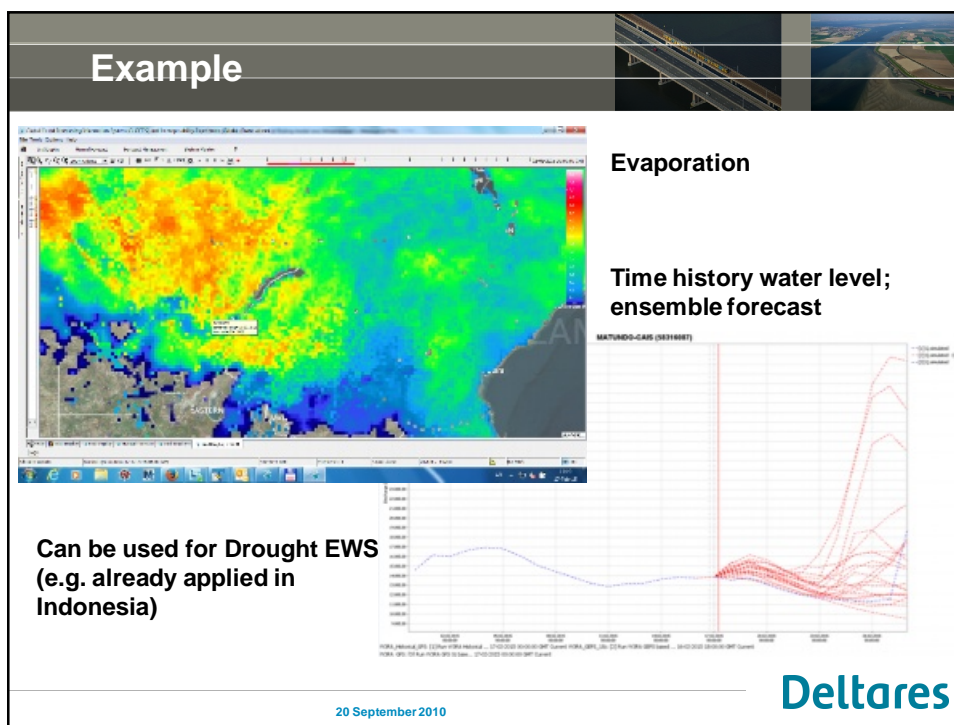
Resolution 50 by 50 km (in feb 2015: 10 by 10 km.)

Downscalable to fit local needs

Satellite estimate rainfall

Global Hydrology model

Example



Evaporation


Time history water level; ensemble forecast

Can be used for Drought EWS (e.g. already applied in Indonesia)

20 September 2010

Deltares

Global tide and surge model

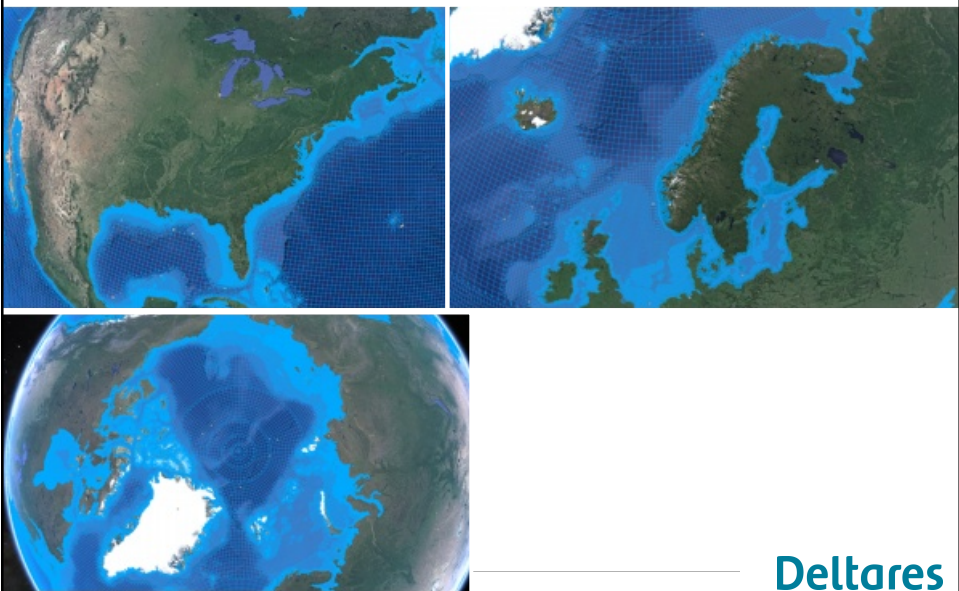


This Dflow-FM grid uses triangles and rectangles for local grid refinement

Deltares

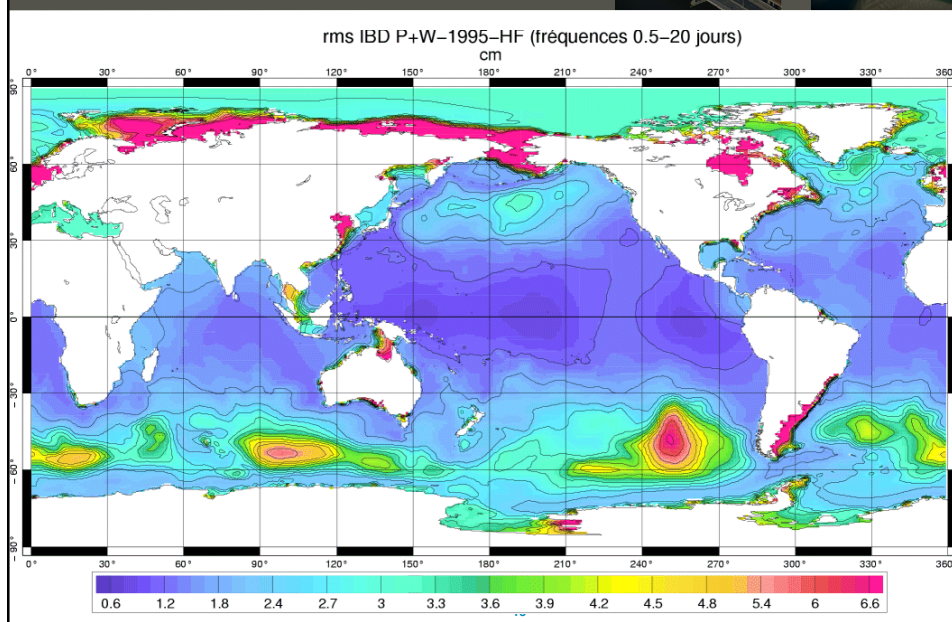
11

Grid North America; Europe, Antarctica



Deltares

Surge – forced by wind and pressure



Global models

- Are up and running
- Uses global data bases (weather forecast input, global bathymetry and DEM)
- Provides surge and an estimates of flooding
- Can be used to compute hazard with certain return periods (not in real time)

Deltares

1 April 2014