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Model name: DM-25_Florida Bay_Time Varying Fields

Objective: Use EFDC+ Explorer (EE) and EFDC+ to replicate storm surge resulting from Hurricane Katrina (2005) in Florida Bay using wind field and pressure field. Time varying fields record the distribution of wind and pressure in space and time.

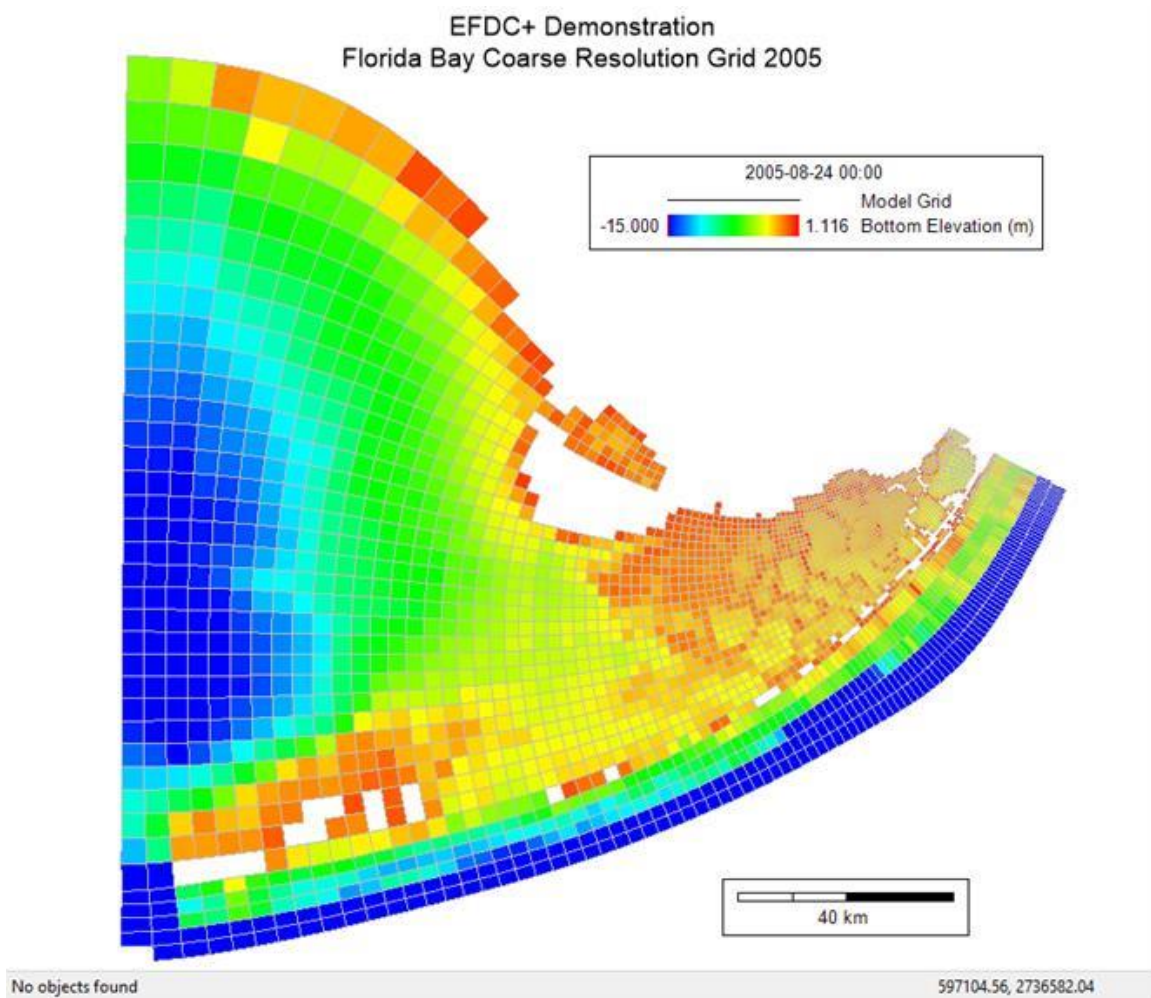**Model grid:** 3372 horizontal grid cells and 1 vertical layer.

Figure 1 Model Domain of DM-25_Florida Bay_Time Varying Fields.

Folder Structure:

Data: This folder contains data that can be used with the model. These data can be measured data or output from model or derived from analytical equations.

Models: EFDC+ models that can be loaded in EE to pre- and post-process.

Grid: This folder contains grid for building the model

- Florida Bay.cvl: CVL grid format, EE uses this grid type for building the model
- Florida Bay.kml: This file can be opened with Google Earth

Maps-Images: This folder contains the maps / images of the study area. The formats of the maps / images can be *.geo (geo-referenced file), *.jgw, *.jpg etc.

- Satellite Image.jgw
- Satellite Image.jpg
- Topo Image.jgw
- Topo Image.jpg

Test_record file: This file is just a record file that informs which EFDC+ executable was used to run the model.

Modules Activated: Hydrodynamics, salinity

Description: This model is designed to demonstrate how EFDC_Explorer and EFDC+ can be used to simulate storm surge using wind field and air pressure field.

Disclaimer: The model is provided to our users to demonstrate how EFDC_Explorer and EFDC+ can be used to simulate storm surge from wind field and air pressure field.

Files in Data Folder:

Bathymetry
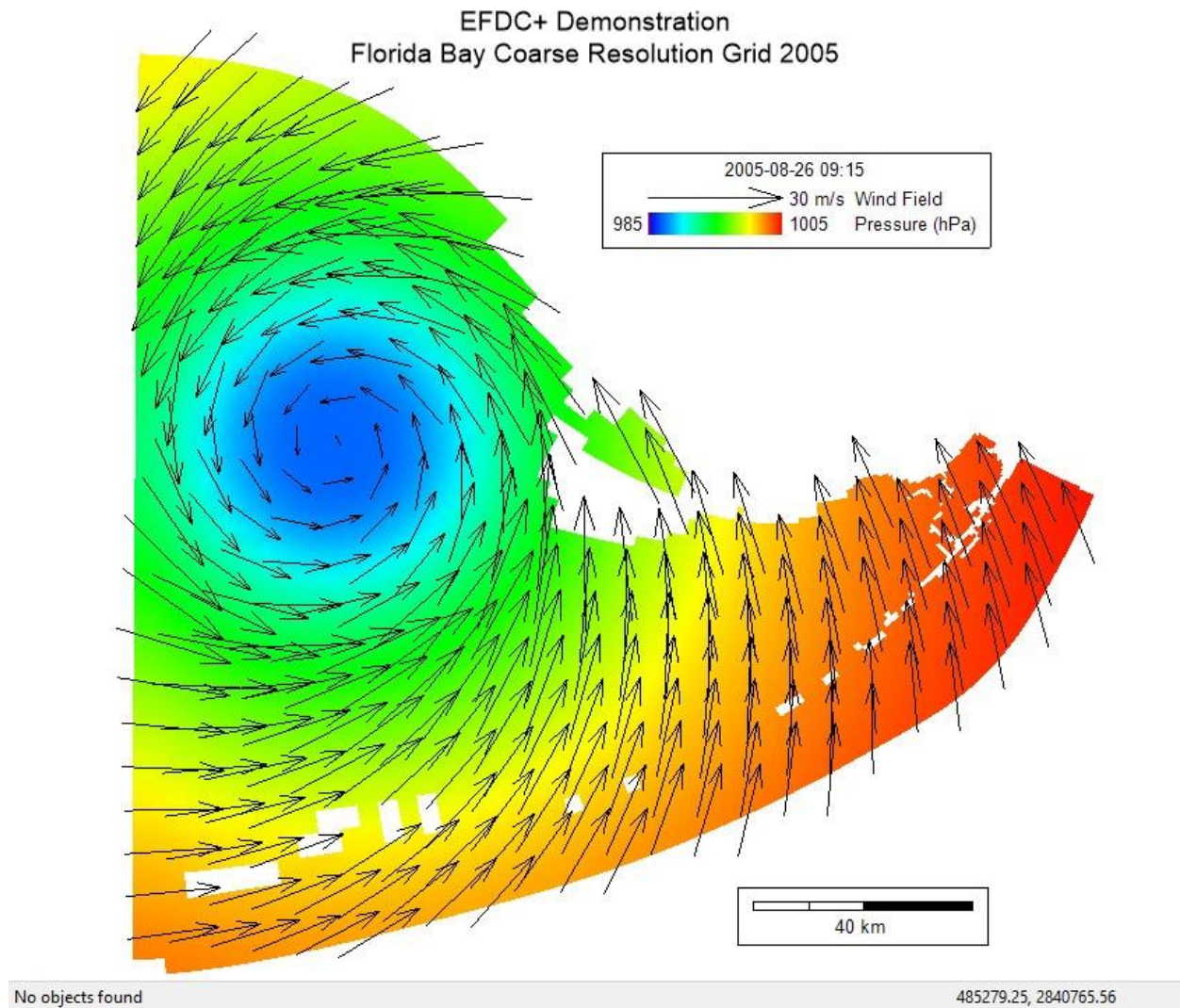- Bathymetry.dat

Boundaries
- Containing 13 inflow time series and four water surface elevation time series

Time Varying Fields

- Windfld.dat: wind field ASCII file:

- Pressfld.dat: air pressure field ASCII file

Data sources: The data provided in the "Data" folder are calculated from Cyclone by using storm track of Katrina hurricane (2005).

Model Result:

Figure 2. Wind field and air pressure of the hurricane.