Read Me:

Model Name: DM-03_West_Lake_Windwave_Example

Objective: Use EFDC+ Explorer (EE) and EFDC+ to simulate hydrodynamics and internal wind waves in West Lake, Hanoi. Data was collected by DSI.

Model Grid: 5,060 horizontal grid cells and 1 vertical layer

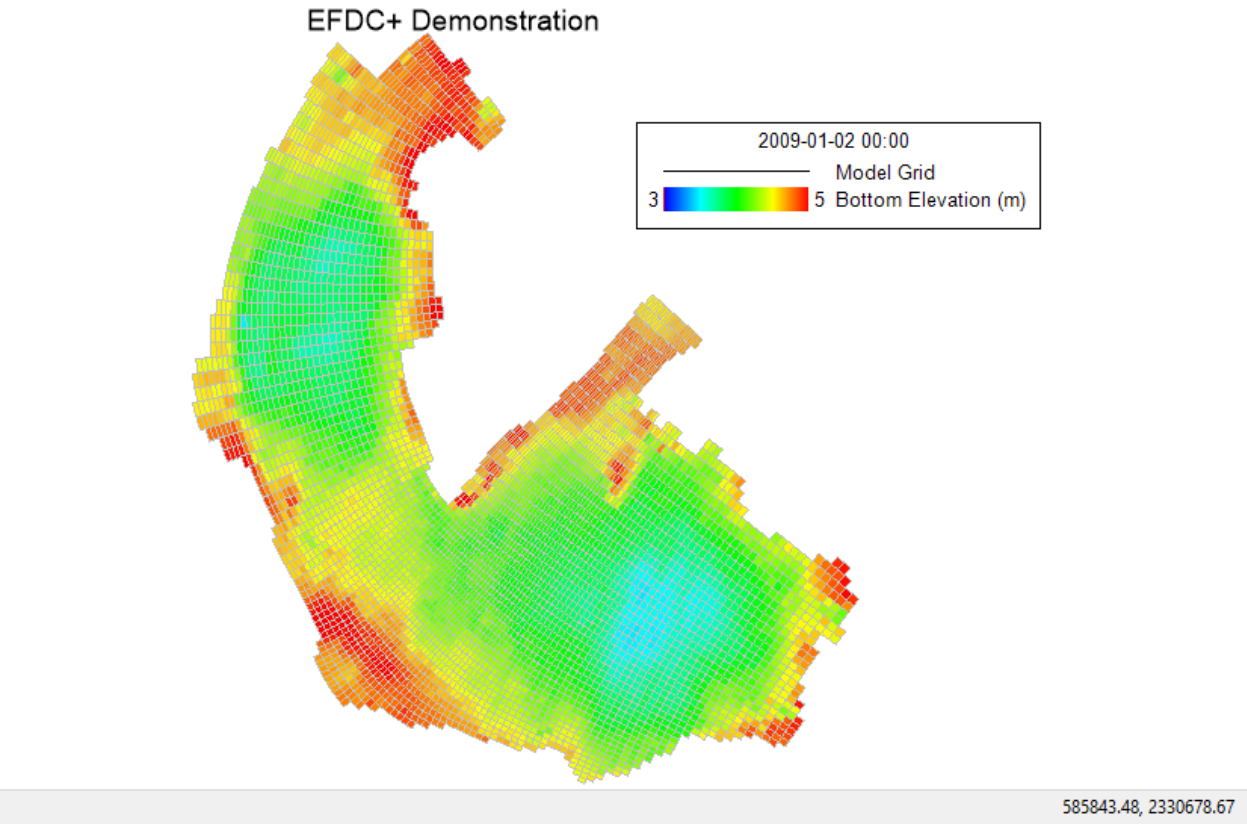

Figure 1 Model Domain of DM-03_West_Lake_Windwave.

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.

Model: EFDC model that can be loaded in EE to pre- and post-process.

Grid: This folder contains grid for building the model

- Westlake.cvl: CVL grid format, EE uses this grid type for building model
- Westlake.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.

- West Lake.geo
- West Lake.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, temperature, sediment (EFDC sub-model) and waves.

Description: This model demonstrates the hydrodynamics and internally generated wind waves in a shallow lake. A temperature time series of an inflow boundary is configured at cell location I = 8, J =85.

Disclaimer: The model is provided to our users to demonstrate that EFDC_Explorer and EFDC+ can be used to better understand how to build this kind of model. The model is running as expected; however, shouldn't be considered final as the model can be modified / refined to obtain improved results.

Files in Data Folder:

Bathymetry

- West Lake Bathymetry Raw Data 2009.p2d
- West Lake Outline.p2d

Boundaries

- Flow.dat
- Temp.dat
- Cohesive Sediments.dat
- Non-cohesive Sediments.dat

References:

Craig, Paul M., Dang Huu Chung. 2009. *A Wave-induced Sub-model Couple to the Environmental Fluid Dynamics Code,* 4th International Conference on Estuaries and Coasts, 8-11 October 2012, Water Resources University, Vietnam.

Model Result:

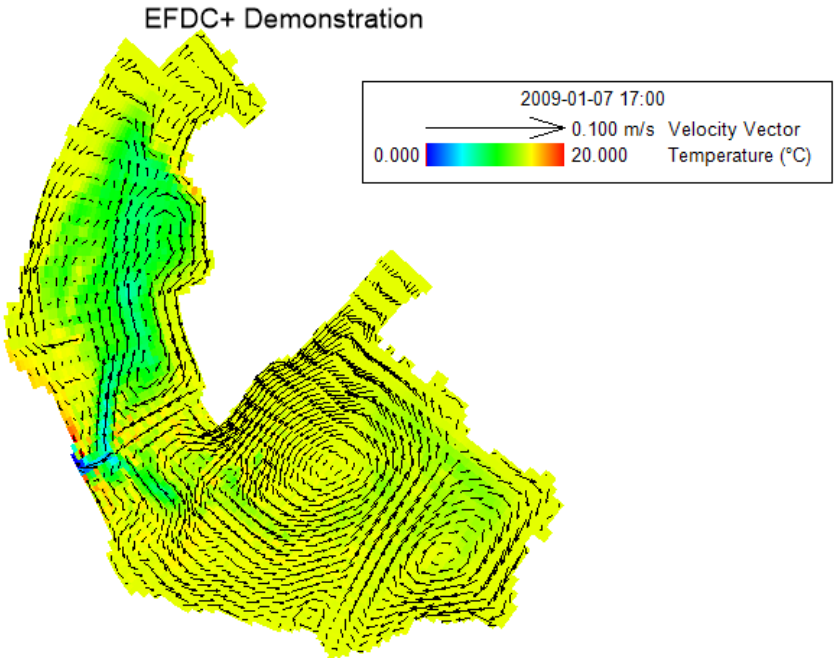

Figure 2 2DH view of temperature and velocity from DM-03_West_Lake_Windwave.