Read Me:

Model Name: DM-09_Lake_T_Example_(EE10.1)

Objective: Use EFDC+ Explorer (EE) and EFDC+ to simulate hydrodynamics and ice in Lake T. The model uses temperature and atmospheric data artificially generated for this demonstration.

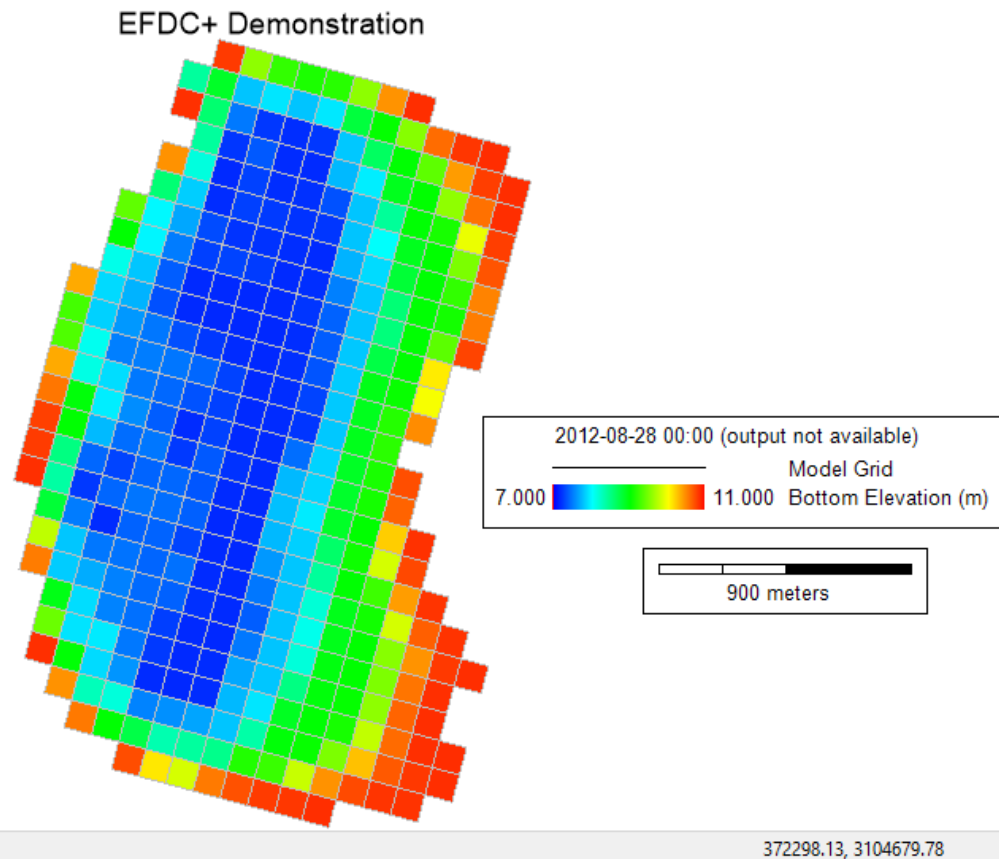**Model Grid:** 356 horizontal grid cells and 5 vertical layers

Figure 1 Model Domain of DM-09_Lake_T_Example.

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

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

- LakeT.jgw
- LakeT.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, ice

Description: This model is designed to demonstrate the formation and melt of ice due to atmospheric temperatures. The inflow boundary is configured for flow and temperature at cell location I = 20, J =9, and an artificial atmospheric data series has been used this model.

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
- Outline.p2d

Boundaries
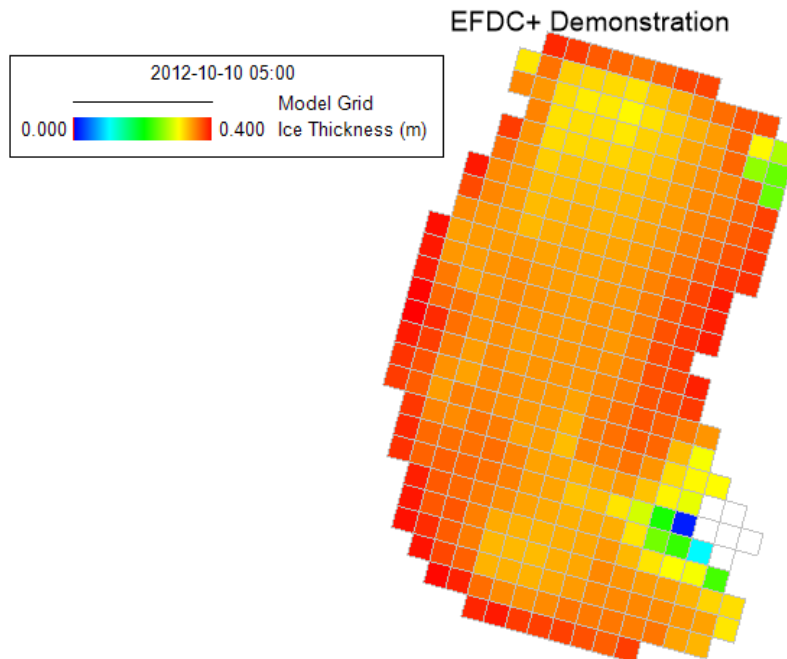- Inflow.dat
- Outflow.dat
- Temp.dat

Model Result:

Figure 2 2DH view of ice thickness from DM-09_Lake_T_Example.