

Read Me:

**Model Name:** DM-01\_Ohio\_River\_Example

**Objective:** Use EFDC+ Explorer (EE) and EFDC+ to simulate an example of Ohio River.

**Model Grid:** 510 horizontal grid cells and 1, 4 vertical layers in two versions of the model

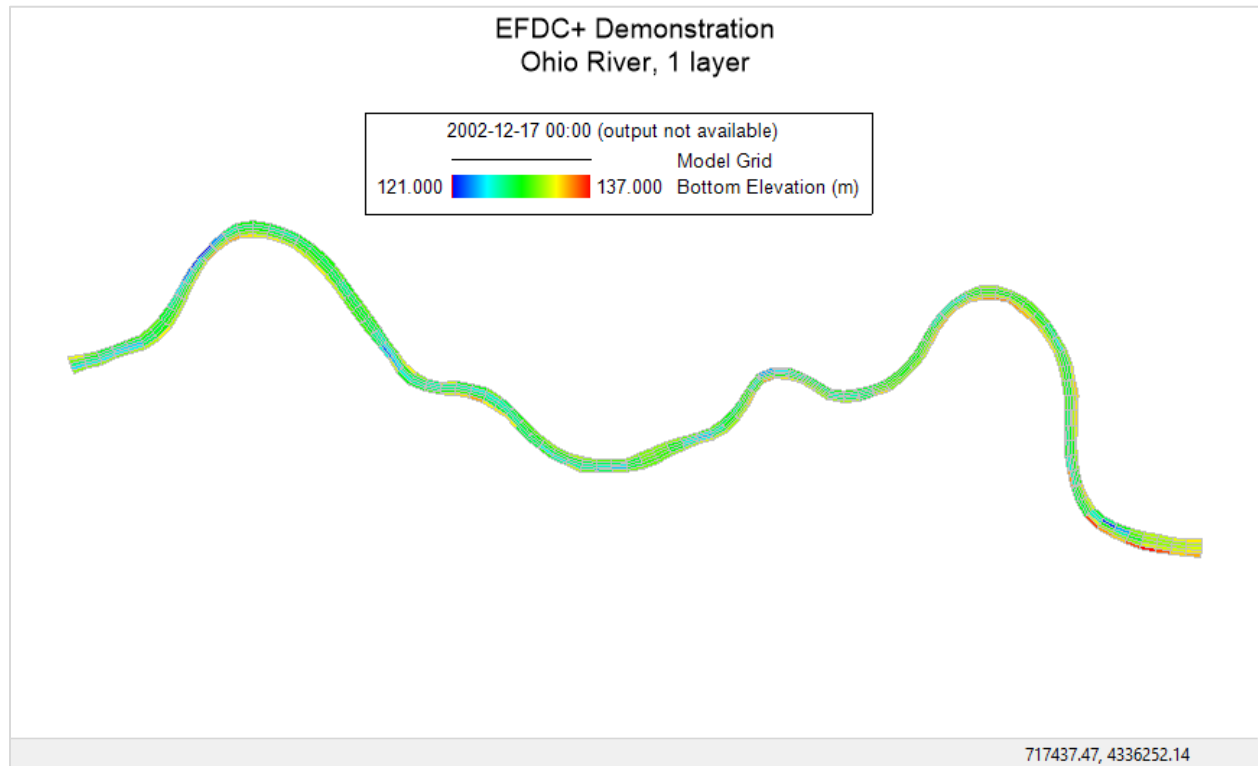


Figure 1 Model Domain of DM-01\_Ohio\_River.

**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.

**EFDC\_Model\_01:** EFDC model with one vertical layer that can be loaded in EE to pre- and post-process.

**EFDC\_Model\_04:** EFDC model with four vertical layer that can be loaded in EE to pre- and post-process.

**Grid:** This folder contains grid for building the model

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

- OhioRiver.jgw
- OhioRiver.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, dye.

**Description:** Dye is released from a flow boundary (Mill Creek) configured at cell location I = 62, J =3. The model may be used to see how dye can be configured in a river model and compare the results between single and multiple layer models.

**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:**

- Bottom Elevation.dat

**Boundaries:**

- Cincinnati Flows\_TS.dat
- DS Head.dat
- Mill Creek\_Dye.dat

**Calibration:**

- Cincinnati Gage Location.dat: UTM coordinates of Cincinnati Gage.
- Cincinnati Gage\_WSEL.dat: Measured water surface elevation at Cincinnati Gage. This file is used for calibrating model.
- Mill Creek\_Dye.dat

### Model Result:

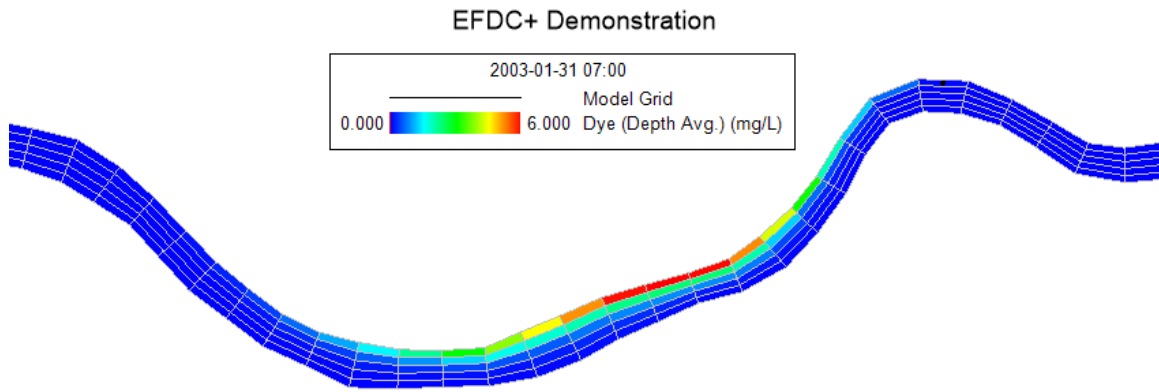
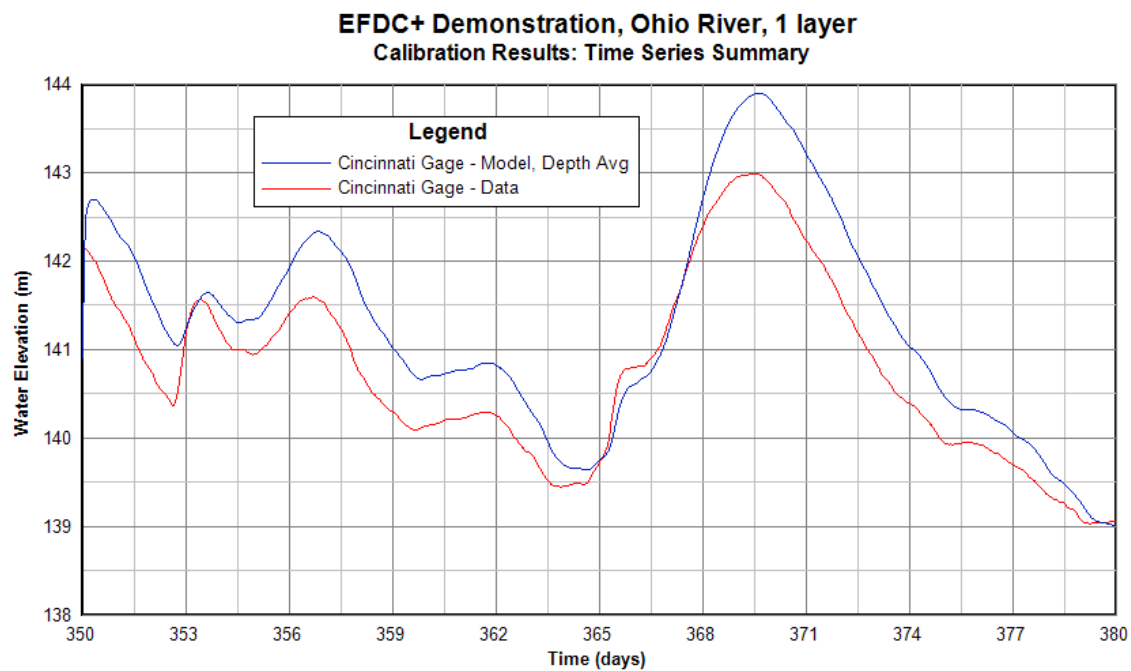


Figure 2 2DH view of dye from DM-01\_Ohio River.



**Figure 3 Modeled and data water surface elevation comparison.**