

Creating a RAS Terrain Workshop


1 Objective

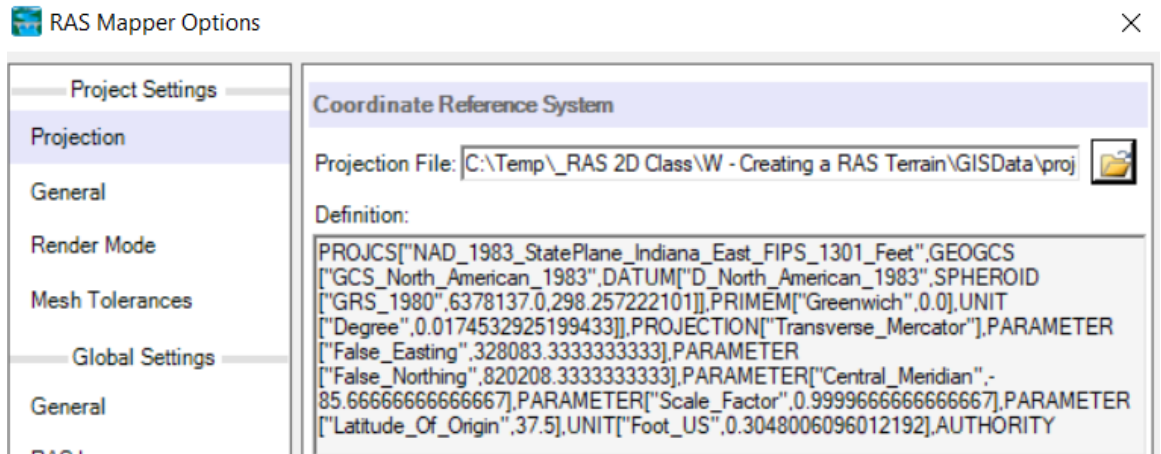
In this workshop, you will learn how to create how to create a RAS Terrain from a raster representing ground surface elevations.

2 Background

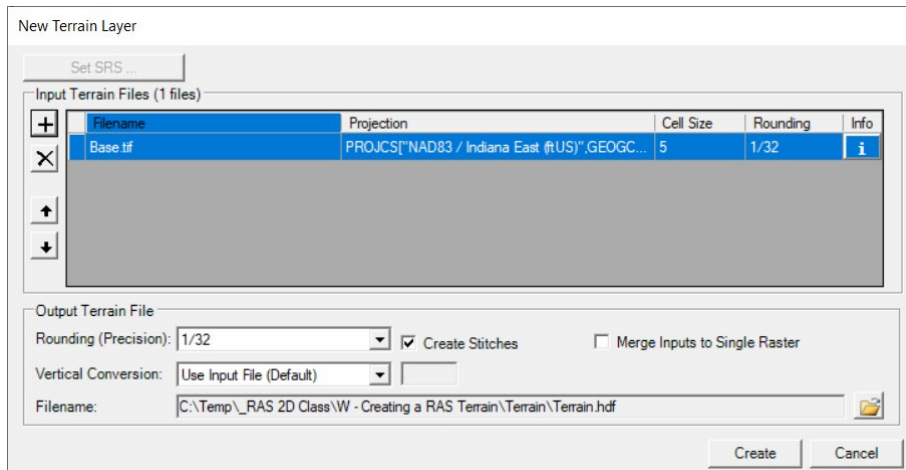
You will be working with a section of the White River at Muncie, IN.

3 Creating a RAS Terrain

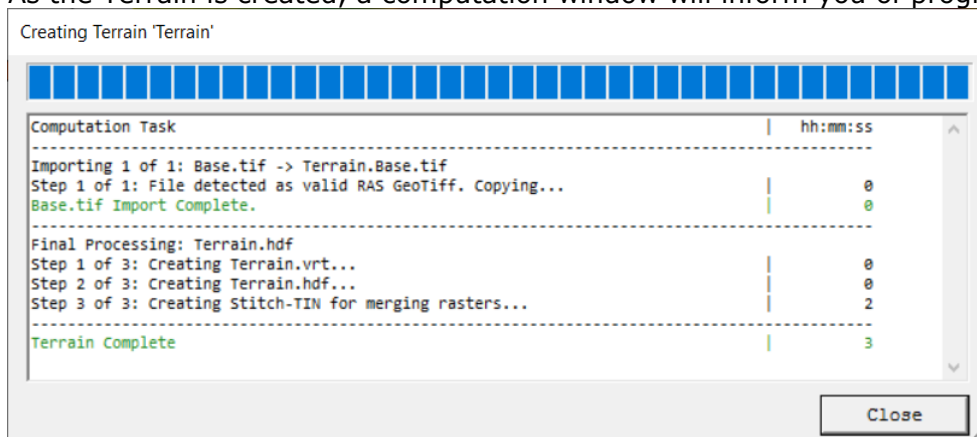
1. **Start HEC-RAS.**
2. Save the project using **File | New Project** and providing a project name.
3. Launch **RAS Mapper** .
4. Select **Project | Set Projection for Project** and navigate to the "**projection.prj**" provided in the "GISData" folder. This sets the coordinate system for all the data you will view in RAS.



5. Press **OK** to accept the file.
6. Select the **Project | Create New RAS Terrain** menu item (or **right-click Terrains** and choose the **Create a New RAS Terrain** menu item) to import the terrain model.
7. Click the "+" button to add files and navigate to the "Terrain" folder. Select the "**base.tif**" file.

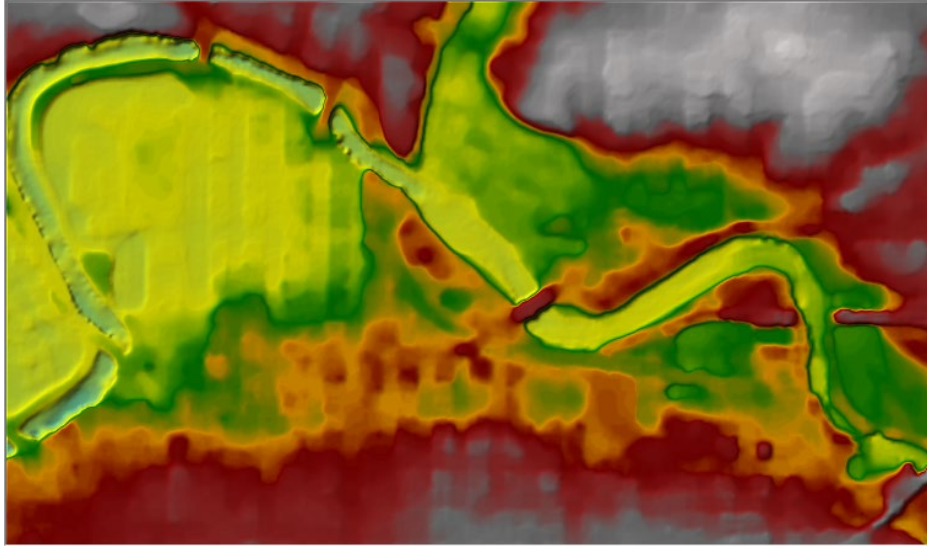


- Press the **Create** button.
As the Terrain is created, a computation window will inform you of progress.



- Double-click** on the **Terrain** Layer to access its Properties.
- Click on the **Plot Hillshade** option.
Play with the **Z Factor** to find a value you prefer.
- Click on the **Plot Contours** option. Play with the **Interval**.
Experiment with the option until the terrain looks good to you.

12. Note the presence of high ground in the middle of the channel at bridge locations.

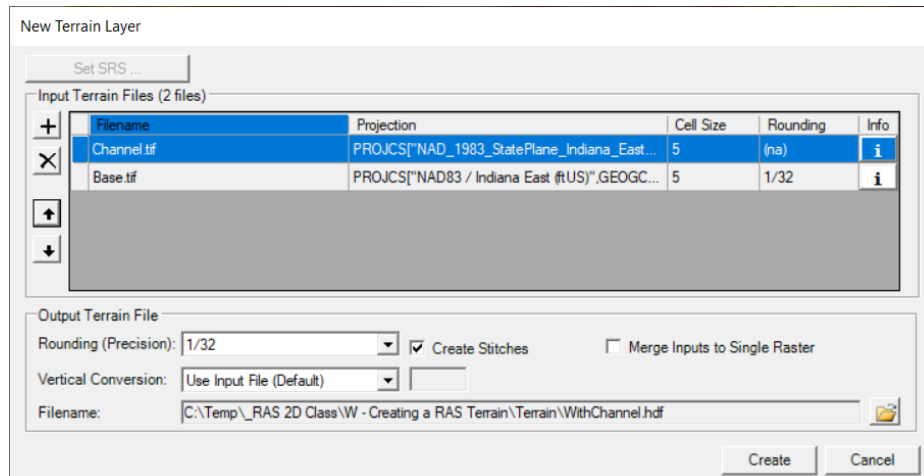


4 Creating a RAS Terrain from Multiple Datasets

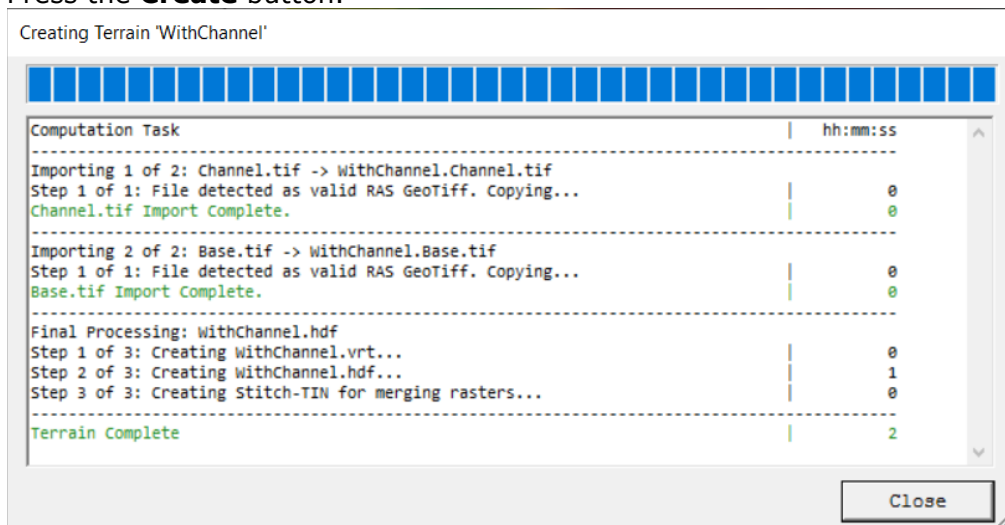
This task will take you through the process of creating a RAS Terrain from 2 different terrain models: channel data and overbank terrain, in order to capture the channel geometry where there is currently high ground at the bridge locations.

4.1 Create Grid of Channel Data

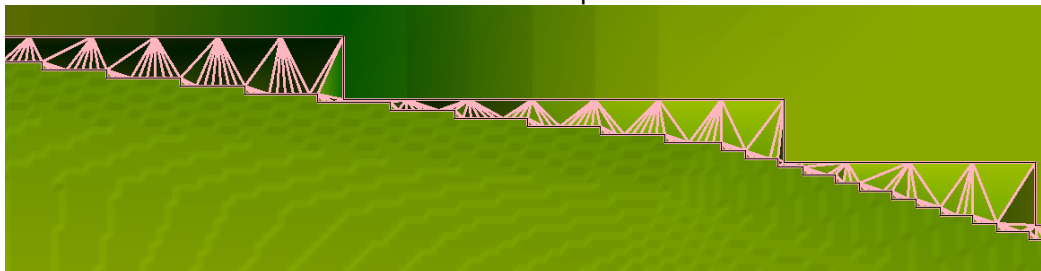
1. Open **RAS Mapper**
2. Select the **Project | Create New RAS Terrain** menu item
3. You will have to add to 2 different files. Make sure that the "priority" is set properly. The top layer should be the channel geometry, followed by the overbank. If you add them in the wrong order, you can reprioritize them by highlighting one of them, and clicking the up or down arrows on the left-hand side of the menu.
 - a. Add the "**Channel.tif**"
 - b. Add the "**Base.tif**"



- Change the output filename to **"WithChannel"** by clicking the open folder icon in the bottom right corner of the menu. Enter the new name, and click save.
- Press the **Create** button.



- Change the **Layer Properties** for the "WithChannel" Terrain.
- Turn on the **Plot stitch TIN edges** for the "WithChannel" Terrain.
- Investigate the stitching – a TIN which is the interpolation between the in-channel data and the overbank data. Compare with the base Terrain model.



9. Compare the two terrain models (with and without bridge elevations).

