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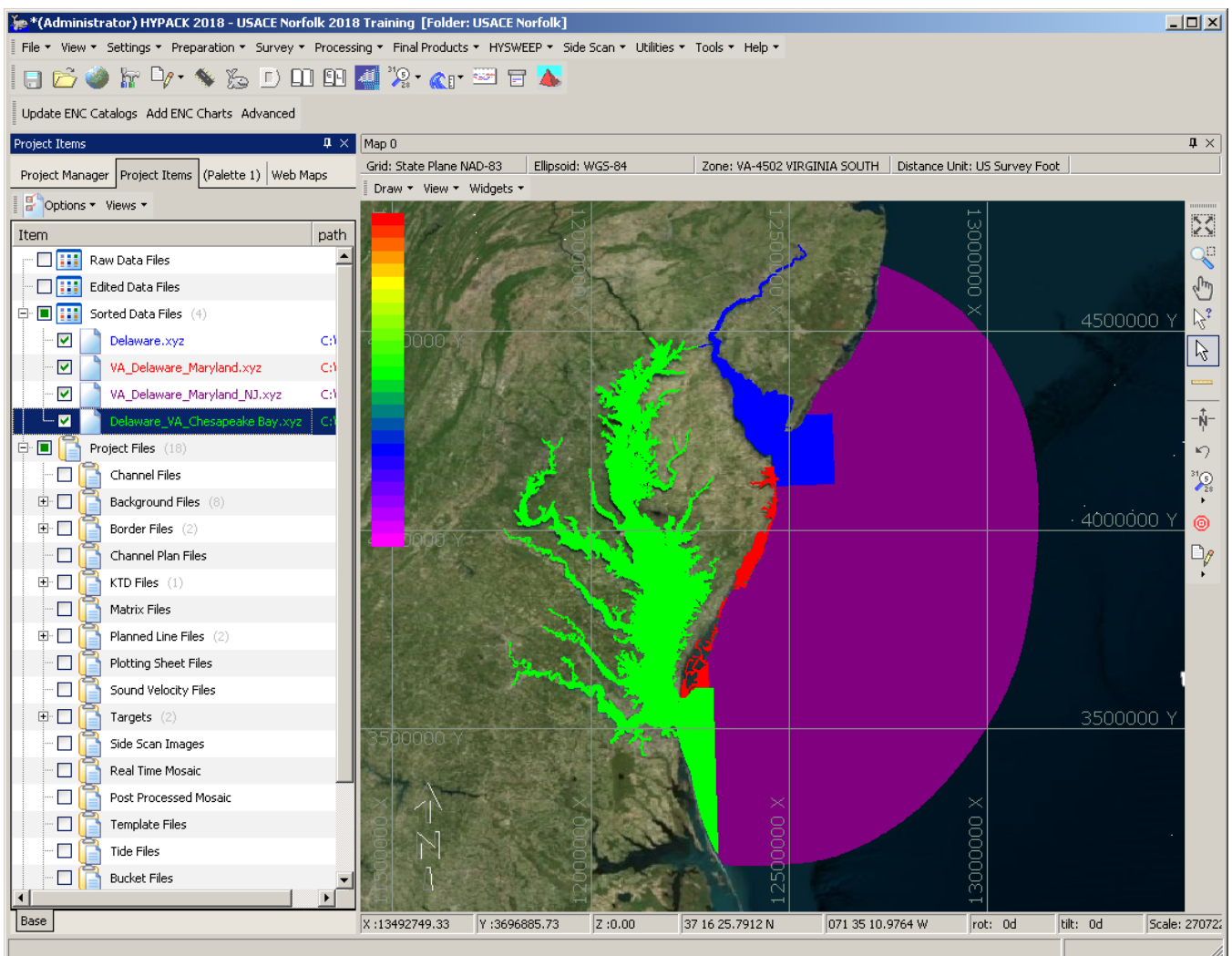
Sounding Better!

Creating Merged and Large Area VDatum KTD Files

By Joe Burnett

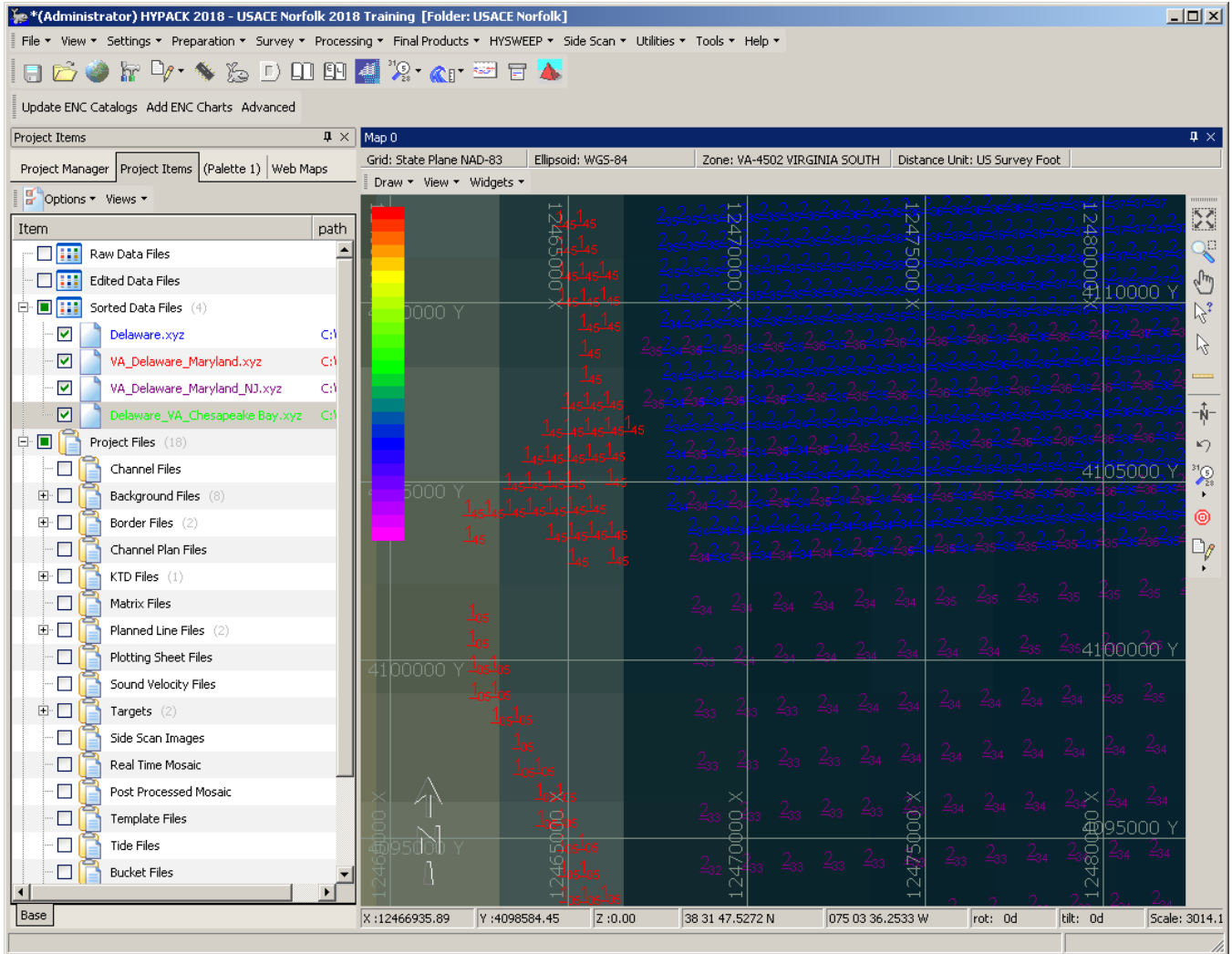
In a recent training, I was asked about the best procedure for surveying an area where multiple VDatum files converged together. I asked them to show me what they were dealing with, and this is what they showed me:

FIGURE 1. Sample Project



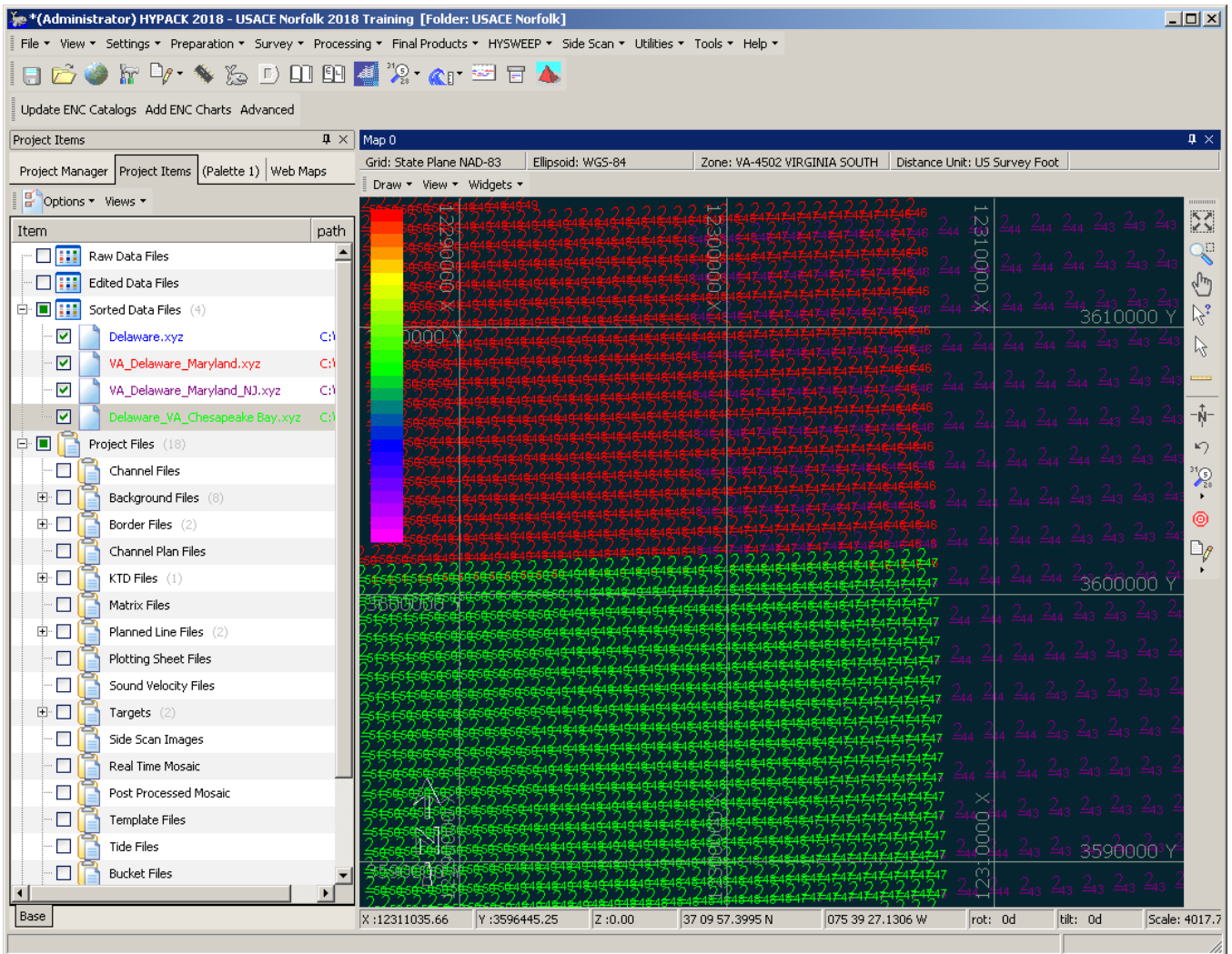
Zooming in, we can see the areas where multiple VDatum areas converge together:

FIGURE 2. Area of VDatum Convergence



And this:

FIGURE 3. Area of VDatum Convergence



In order to generate these VDatum XYZ files, use the “Creation Method # 2” procedure that is outlined in a previous article: [Creating VDatum Coverage Maps](#).

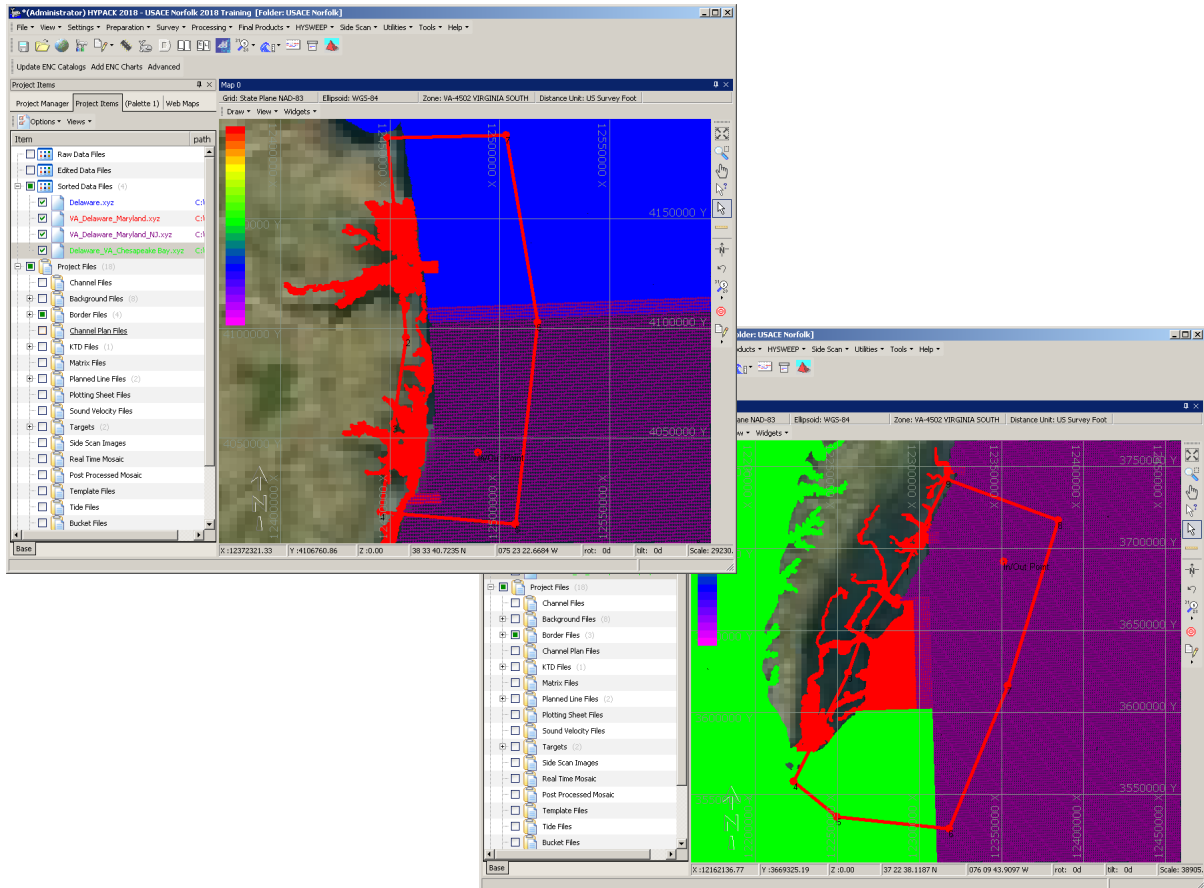
This will allow you to display the VDatum, as shown in Figures 2 and 3.

Now, how do we proceed from here?

CREATE BORDER FILES

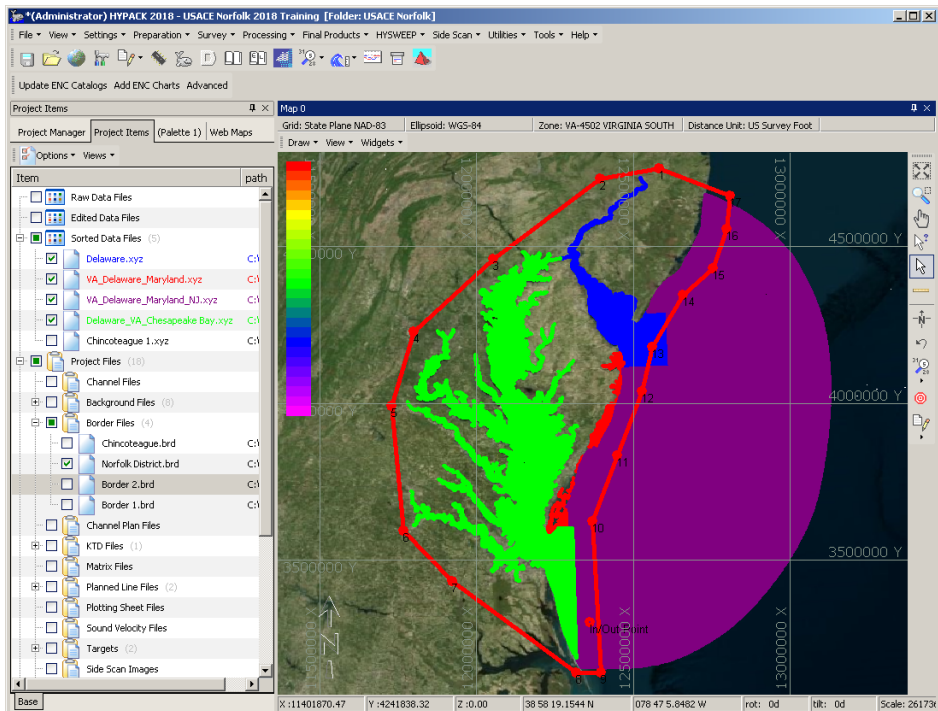
1. Using the BORDER EDITOR, create border files that encompass the areas that you will be surveying:

FIGURE 4.



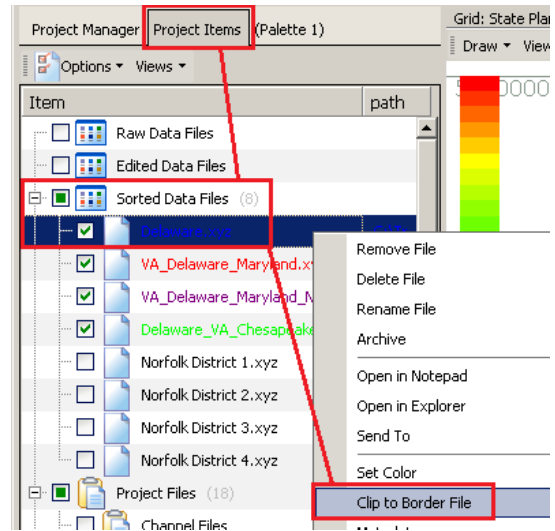
If possible, you can create a single, all-encompassing Border file:

FIGURE 5. Border File for the Whole Project Area

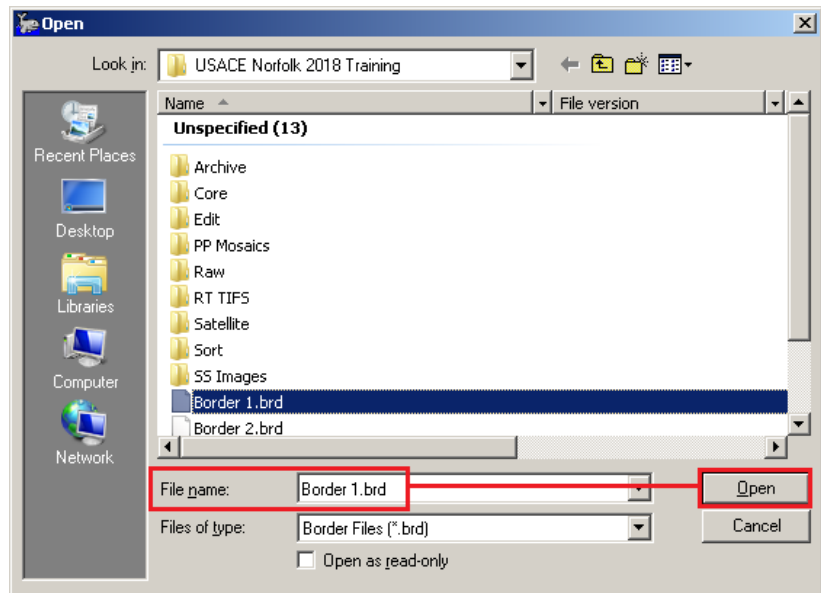


2. **Clip the VDatum XYZ files using these border files in the HYPACK interface:**

- a. In the Project Items list under Sorted Data Files, **right-click on XYZ file and select Clip to Border File.**

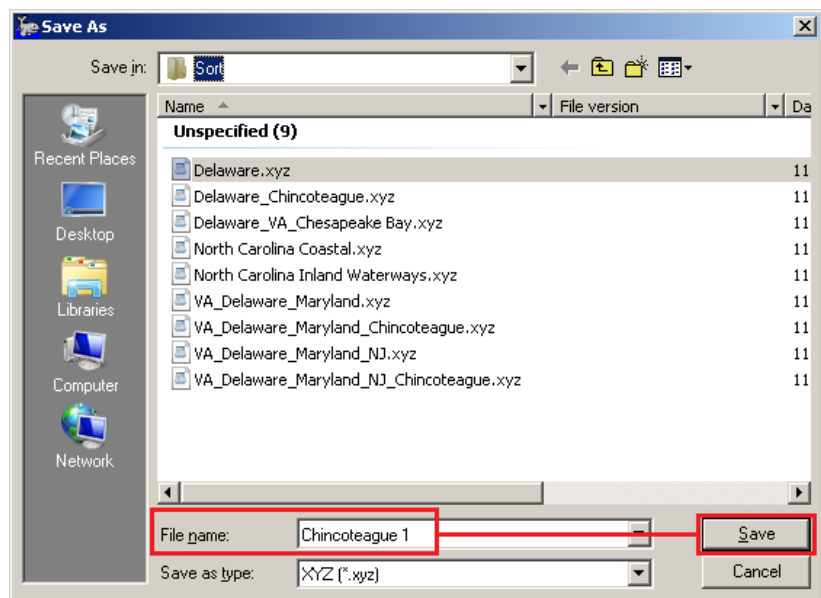


- b. **Select the border file and click [Open].**



- c. **Name the new XYZ file and click [Save].**

- d. **Repeat for ALL XYZ files.**

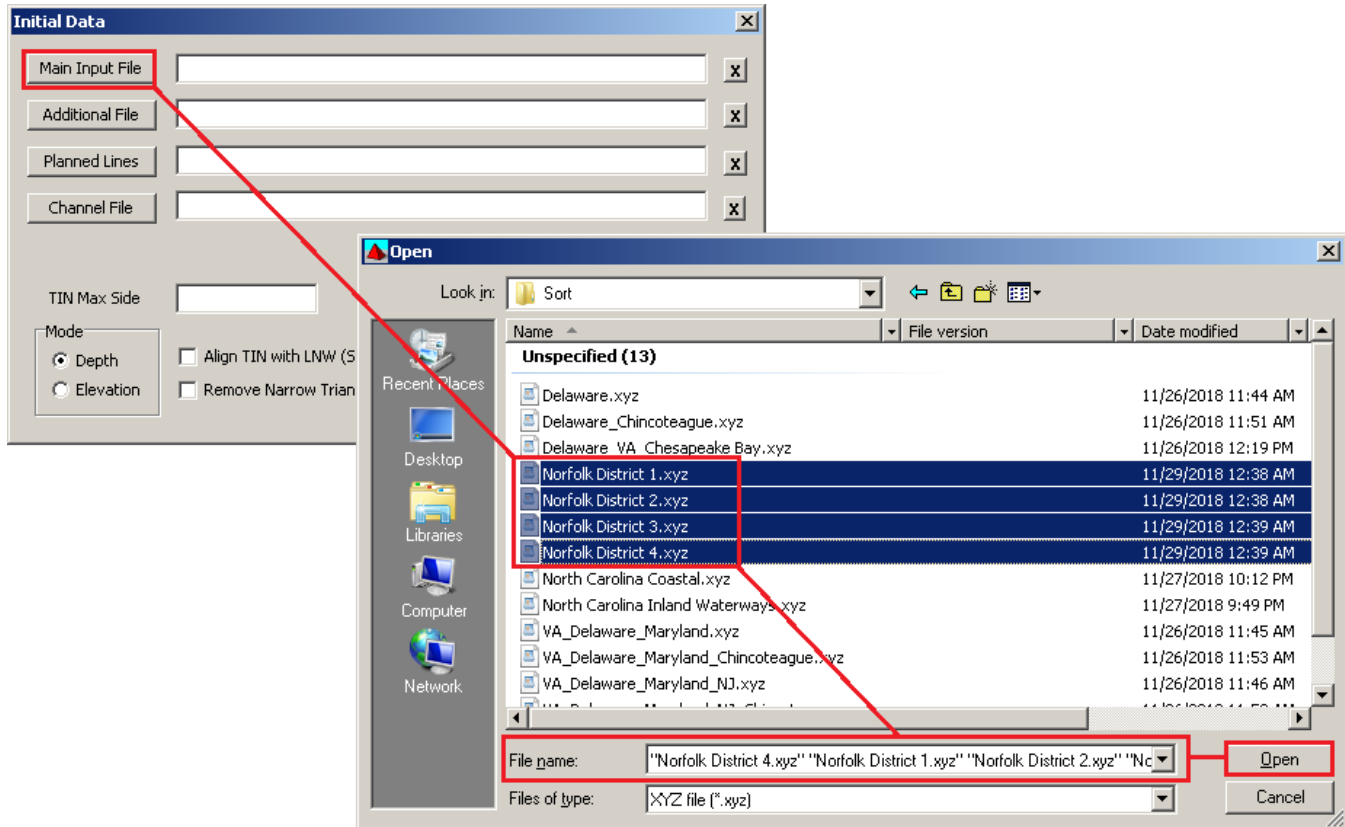


CREATE THE VDATUM KTD FILE

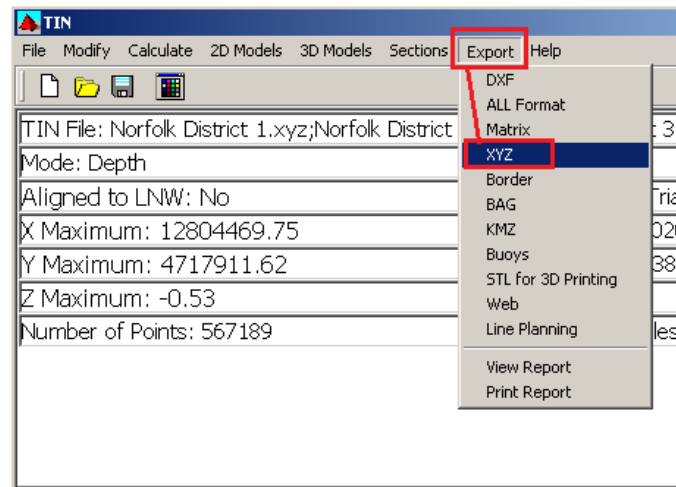
The proprietary HYPACK® KTD (Kinematic Tidal Datum) file is a way to apply vertical undulation adjustments to your RTK Tide data, just the same as the VDatum files do.

1. Start the TIN MODEL program.
2. Load the clipped XYZ files (all together).

FIGURE 6. Loading All XYZ Files

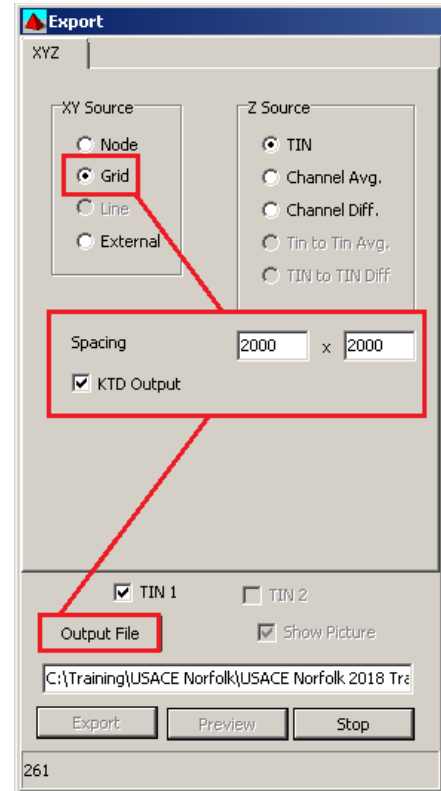


3. Select EXPORT - XYZ.

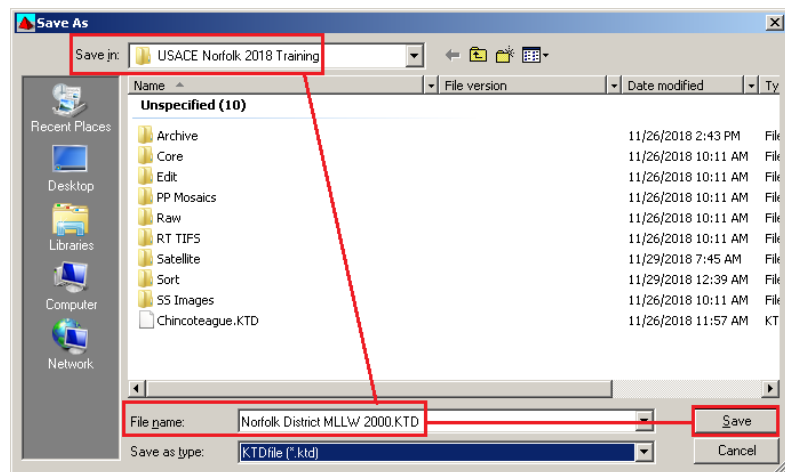


4. Set the following parameters.

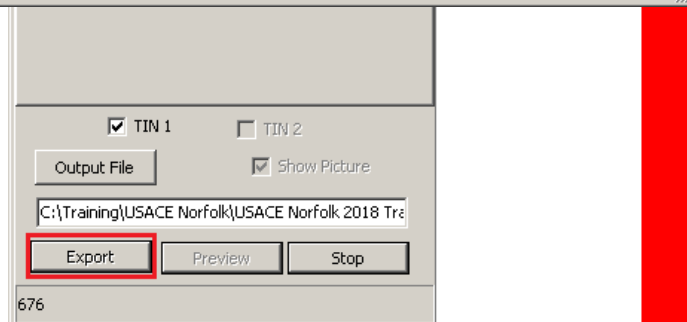
- **XY Source:** Grid
- **KTD Output:** selected.
- **Spacing:** This is going to be the tricky part. Taking measurements of the spacing in the VDatum files showed that 2 of them had approximately 700' spacing between adjustment points, while the other 2 had approximately 1500' spacing between points. Since this is going to cover an extremely large area (approximately 200 miles wide by 300 miles long), we will increase the spacing to 2000' x 2000'. The resulting KTD file was 2.5MB.



5. Name your KTD File. Click [Output File], select the directory for the KTD file, enter the name of the new KTD file and click [Save].



6. Click [Export].



Once the KTD file is created, you can load it into the Geodetic Parameters window, so that your RTK Tide data will be adjusted accordingly.

FIGURE 7. Loading your KTD File in the GEODETIC PARAMETERS

