



# How to Compare the Bathymetry of Multiple Data Sets in Cross Sections

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Recently, a user wanted to compare three XYZ datasets through cross sections cut over specific locations and export them to DWG. This article suggests a method to accomplish that.

The suggested steps are as follows:

1. **Make a line file with the lines where you want to make the cross sections.**
2. **With each dataset and the line file created in step 1, do the following:**
  - a. **Produce a model in the TIN MODEL program.**
  - b. **Export the data over the lines to HYPACK® All format.**You have now obtained three sets of line data files—one for each data set.
3. **Compare the bathymetry from the three data sets in CSV (CROSS SECTIONS AND VOLUMES).**
4. **Export your results from CSV to DXF format.**

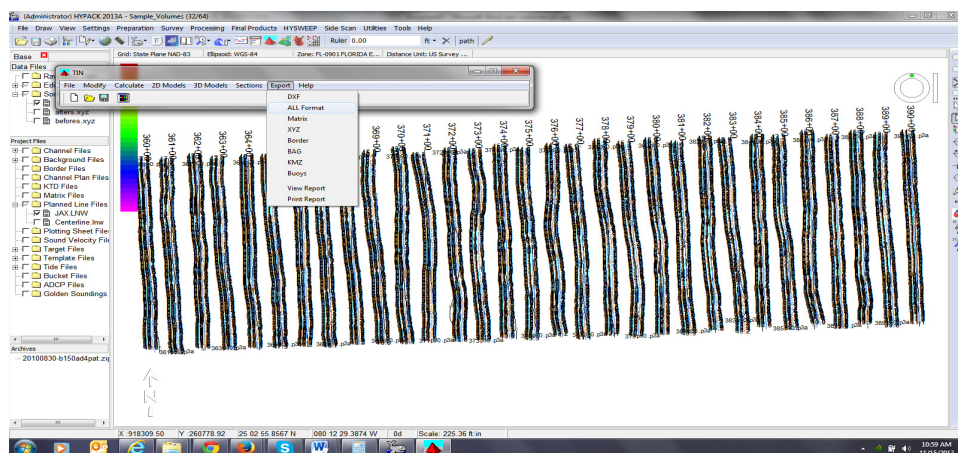
And that's it.

**Note:** You can also compare three or more cross sections in SBMAX (SINGLE BEAM EDITOR), but you can't export the display to a DXF file from there.

Well, now a few more details:

## *CONVERTING THE XYZ DATA TO HYPACK® ALL FORMAT IN TIN MODEL*

*FIGURE 1. Exporting to ALL Format in TIN MODEL*

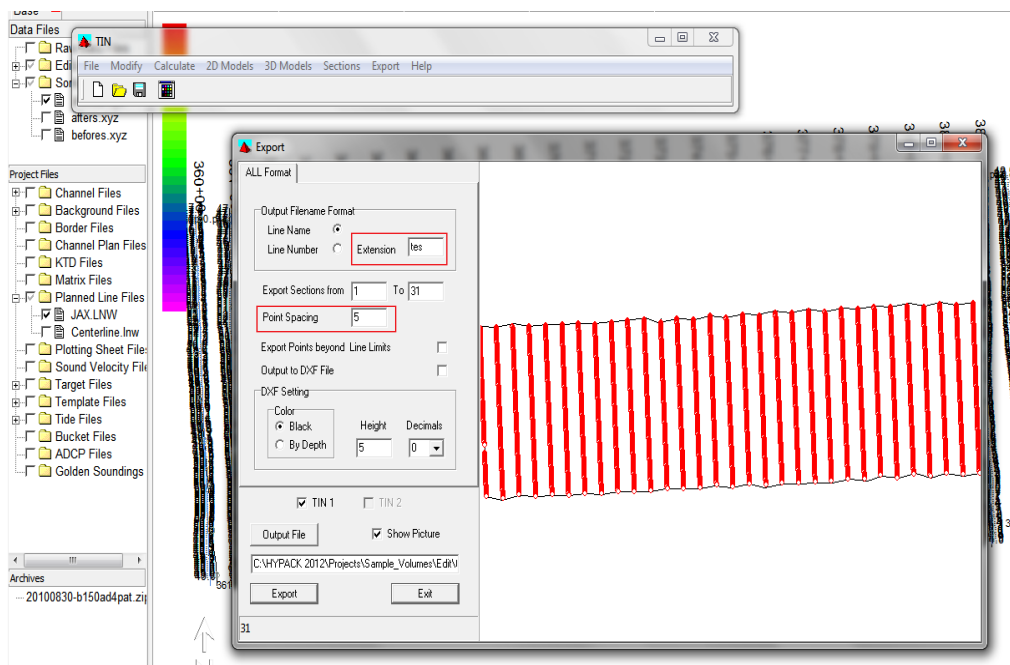


1. **Use TIN MODEL to make a model with the line file and one of the XYZ datasets selecting the appropriate TIN Max Side.**
2. **Select EXPORT-ALL FORMAT.**

3. **Enter the extension for your line files.**
4. **Define a spacing along the line for your depth data** using the Point Spacing option. A point spacing value of 0.0, it will generate a depth value every time the TIN model crosses the line, which will give you an irregular spacing.
5. **Repeat the same procedure with the other datasets.**

**Important:** Remember to change the extension for each set so if the lines have the same filename you won't overwrite them.

**FIGURE 2.** Setup the Extension and the Spacing of your Data Files.—Change the File Extension for the second and third data set to prevent overwriting. Specify a Point Spacing to get depths at a regular spacing along the line.

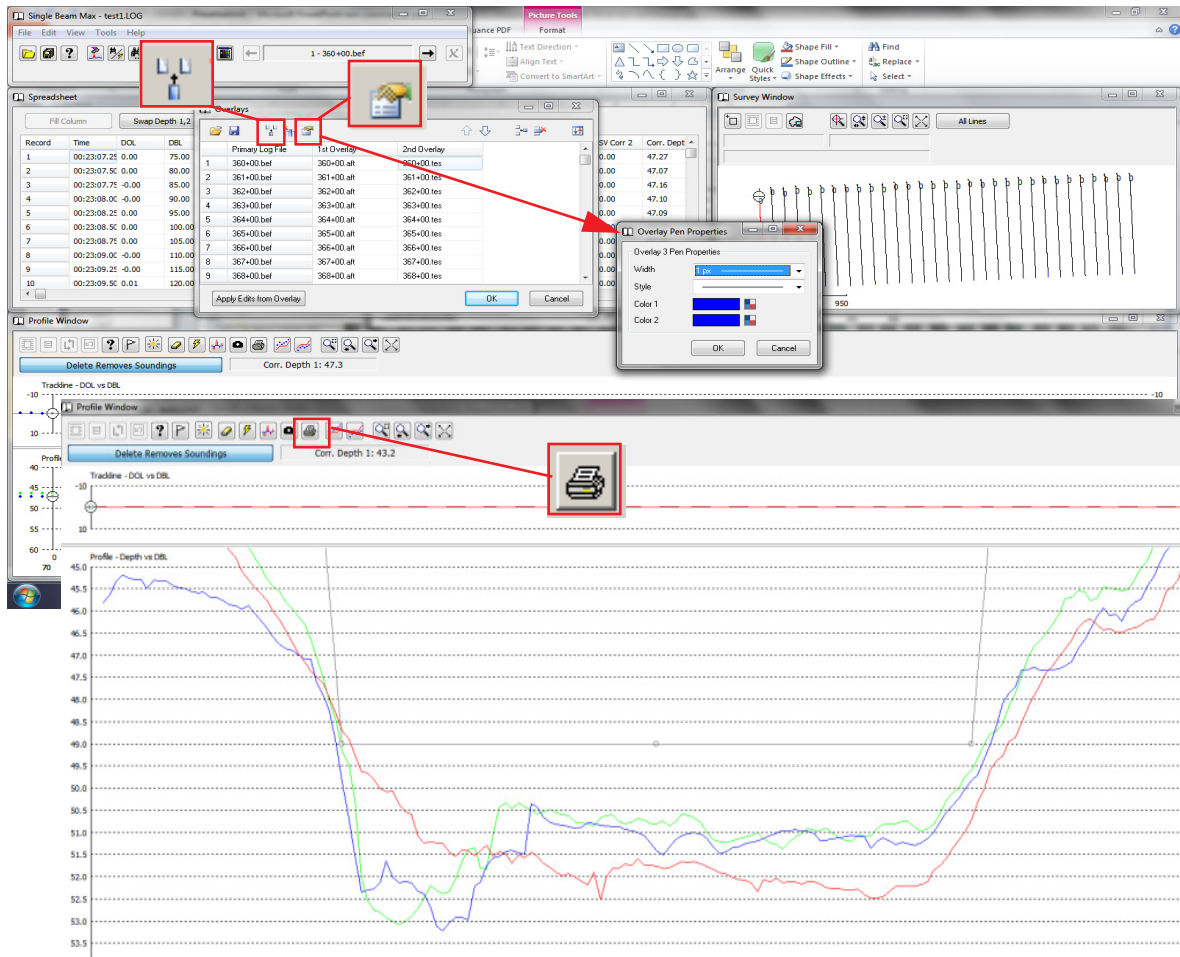


Now with the three datasets of edited files, you can either enter into SBMAX or CSV or compare them.

## ***COMPARING YOUR DATA SETS IN THE SINGLE BEAM EDITOR***

1. **Load the first data set.**
2. **Select FILE-OVERLAY.** A new dialog appears.
3. **Click in the first row of the column '1st Overlay',** click the **File Open icon** and select the log file that you want to compare with the first.

**FIGURE 3. The Overlay Function in SINGLE BEAM EDITOR**



To load the third dataset, select the Add Overlay icon and a new column should appear. Follow the same procedure as before.



To change the colors of a profile, the line weight, or the line style, click in one of the rows of the overlay column then click the Overlay Drawing Parameters icon and make your selections in the Overlay Pen Properties dialog that appears.

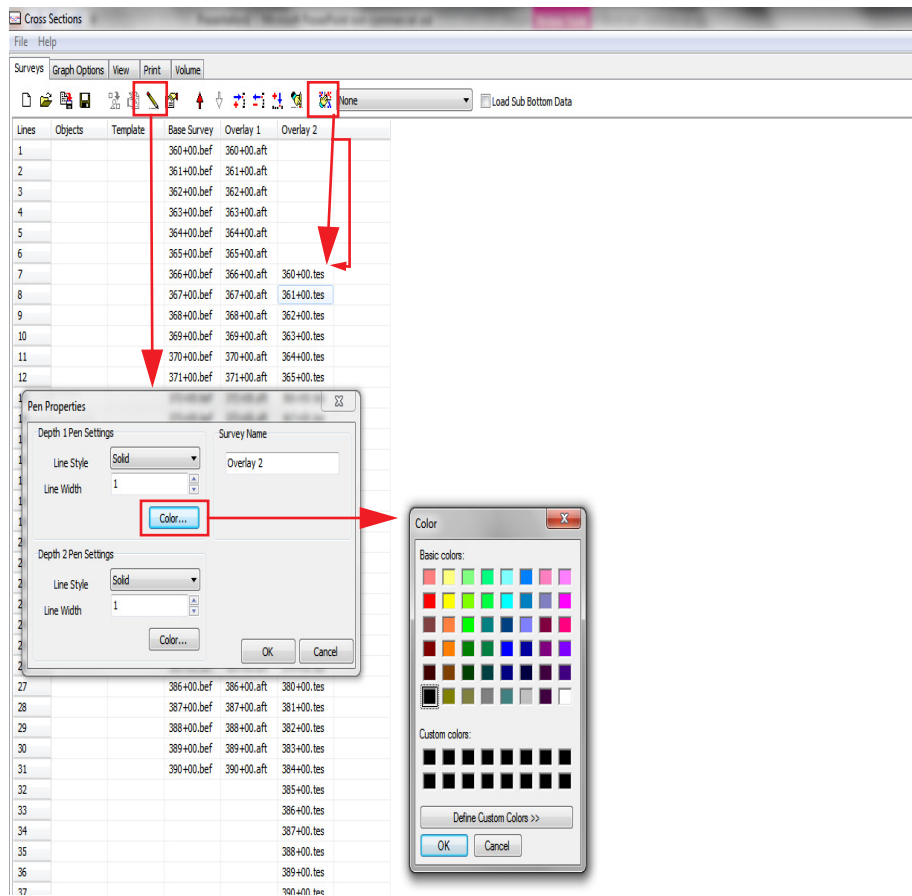


*Tip:* In View Options of the SINGLE BEAM EDITOR, if you have selected the Solid Fill option, you may want to change it to lines or points to facilitate the visual comparisons of the lines overlaid.

## COMPARING PROFILES IN CROSS SECTIONS AND VOLUMES

You can also compare cross sections with the CSV program, to do so, just load the log files that you want to compare in the program (Figure 4).

**FIGURE 4. Comparing Cross Sections in CSV**



As you can see in Figure 6, you can send this comparison to a printer or a PDF file.

When you load the first log file and the data files appear on the screen, and a new column appears for you to enter the next log file.

A good practice is to always select the Sort Files icon, to make sure that you are comparing the right line files (apples with apples), and you are not misplacing them when you were loading them, or to make sure you are not missing one or several data files.



**To change the colors of a profile, the line weight, or the line style**, click in one of the columns of data then click the Pen Properties icon and make your selections in the Pen Properties dialog that appears.



**FIGURE 5. Results in CSV**



**To export this comparison to DXF:** Go to the 'print' tab and select the DXF Output button, as shown in Figure 6.

**FIGURE 6. Exporting to DXF.**

