



TIN Modeling your Magnetometer Data

By Joe Burnett

To take your Quick View of your Magnetometer data one step further, you can take your *.xyz file (actually, X, Y, gamma) into the TIN MODEL program and create an even more impressive view of your data.

1. **Select FINAL PRODUCTS-TIN MODEL** (or the “Pyramid” button).

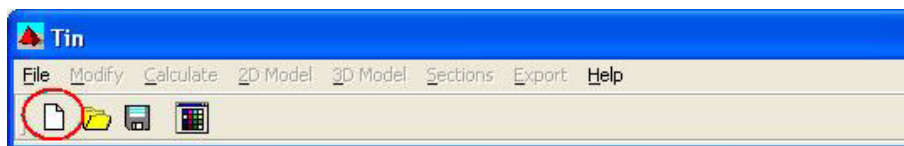
FIGURE 1.



Note: If you don't see the red pyramid on your tool bar, your hardlock may not be set up for running the TIN MODEL program. If this is the case, contact our Sales Department to upgrade your license.

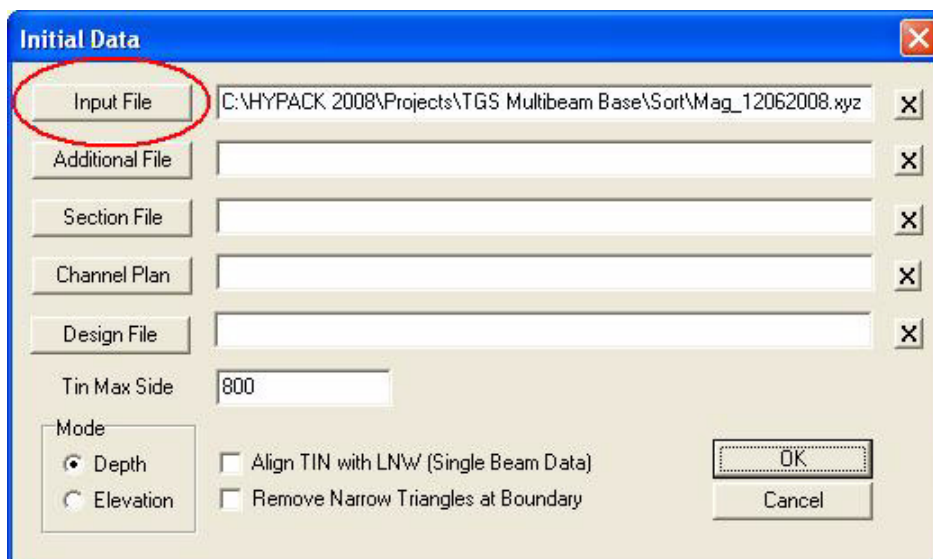
You will now see the TIN MODEL tool bar appear on your screen.

FIGURE 2.



2. **Select FILE-NEW** (or “File” button (above)). This will open the Initial Data Window.

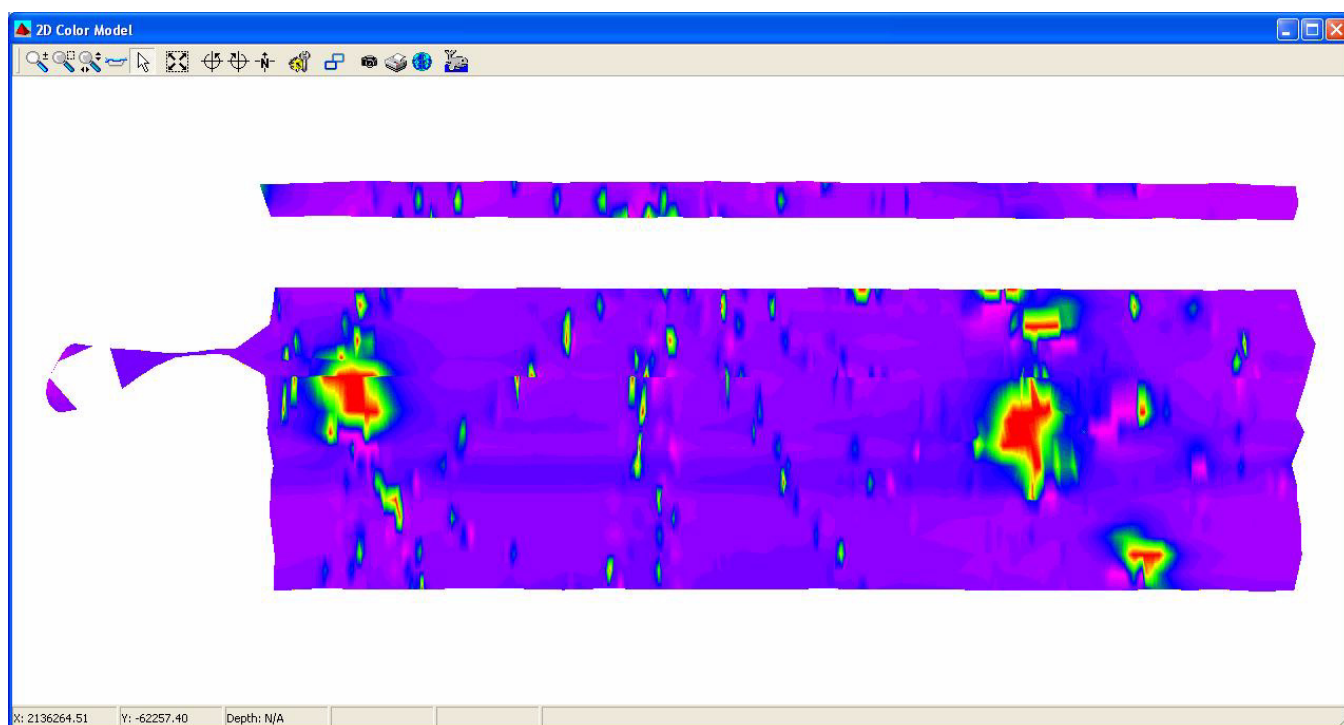
FIGURE 3. TIN MODEL Initial Data Dialog



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3. **Click [Input File] and select the *.XYZ (X, Y, gamma) file** that you want to TIN.
 4. **Enter the appropriate TIN Max Side.** This is the maximum distance that the program will use to create triangles between data points. For example, if your run-line spacing was 500', you may want to set your TIN Max Side distance to about 750' or 1.5 times your line spacing for any offline running due to structures or avoiding other vessels.
 5. **Click [OK].** The TIN program will quickly create the triangles for the TIN Model.
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Note: On larger files, such as Multibeam XYZ data, it will take longer to create these triangles, but it should still occur relatively quickly.

6. After the triangles have been created, **select 2D MODEL-FILL AREA** to preview your model.

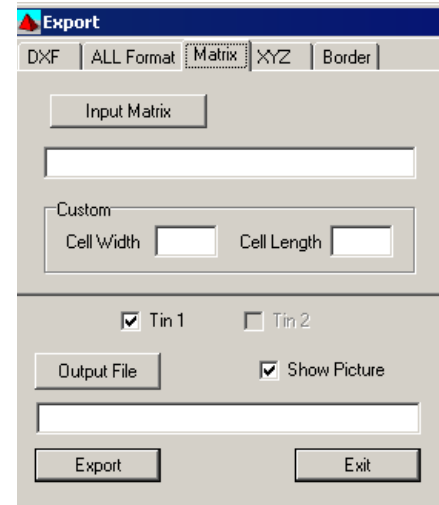


CONVERTING YOUR TIN MODEL TO A MATRIX

You can now turn this TIN model into a matrix file that can be displayed in HYPACK® and overlaid on other files (such as Pipeline or Target files) that you may have of the Survey area.

1. Click on the Export pull-down button and select the Matrix Tab.

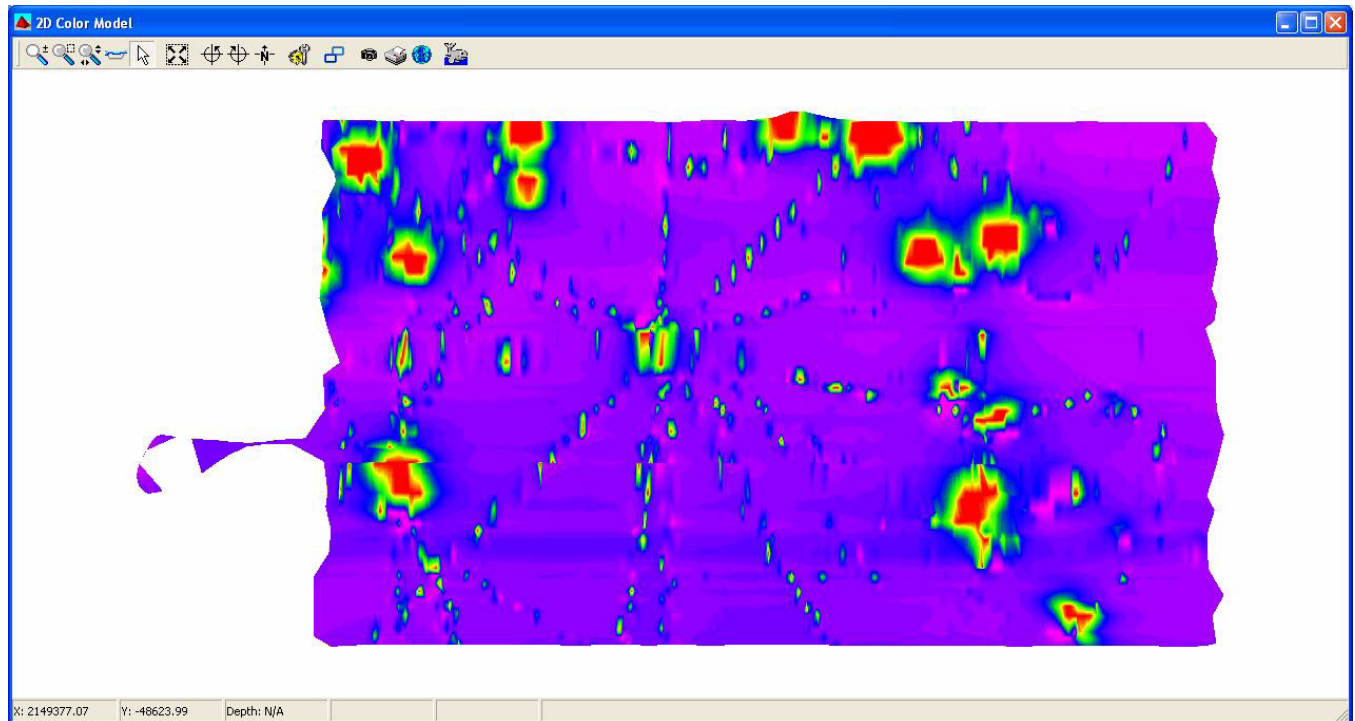
2. Enter your matrix information.
 - If you already have a matrix of the area, you can select it here by clicking [Input Matrix] and choosing the matrix file.
 - If you do not have an existing matrix, enter the values for the cell width and cell length.
3. Click [Output File] and name your DXF chart.
4. Click [Export]. This may take some time depending on the size of the matrix and the cell dimensions.
5. Click [Exit], close the TIN MODEL program and load your new matrix to HYPACK®.



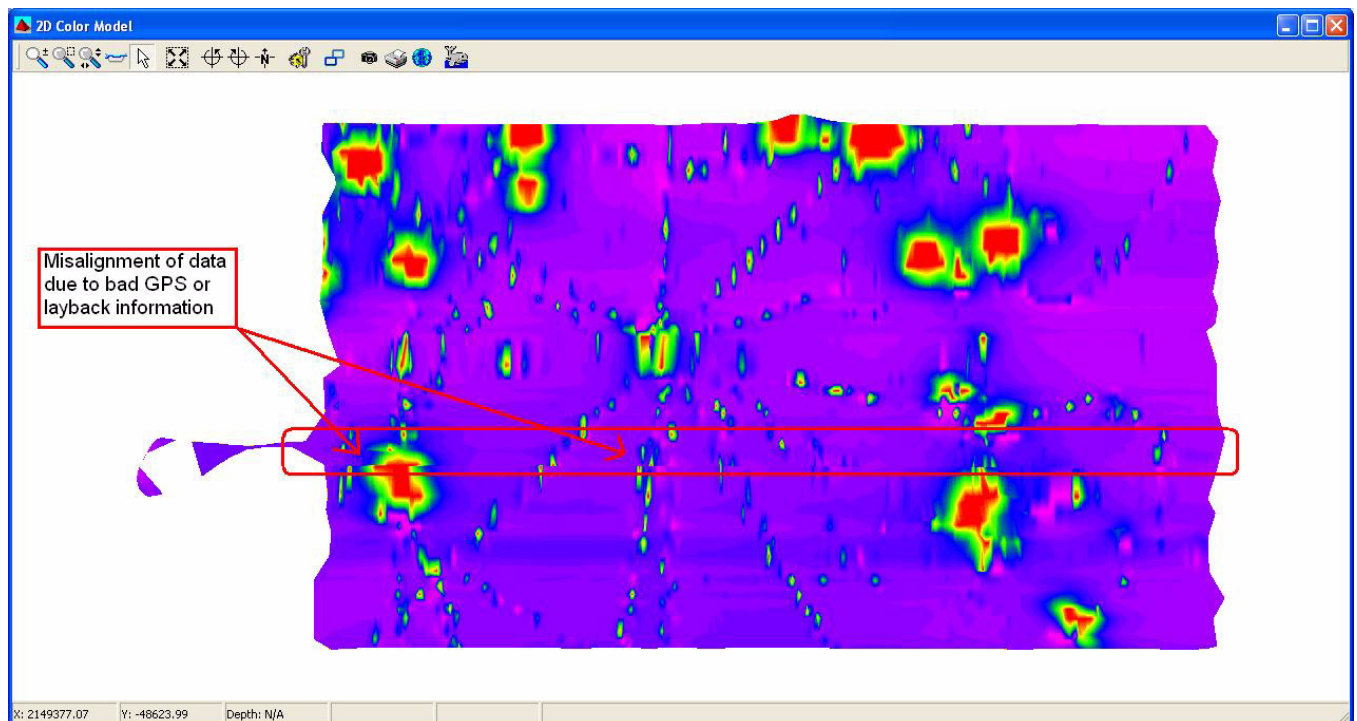
EXPORTING YOUR TIN MODEL TO A DXF CHART

This can also be done to create a DXF chart file in the EXPORT program.

This is what you should see, if you had created an *.xyz file for the entire area, then this is what you would see:



Upon closer review, you would notice this:



If your Survey Crew used this procedure, it would now allow them time to either re-collect the data for this run-line before leaving the Survey Area, or to make a Note that this run-line will need a positional adjustment in post-processing to correct for the misalignment.

This procedure would be time well spent, if the Survey Area is at a distance or location that is not easily accessed from your Home Office, especially if you are leasing the equipment, vessel, and crew.