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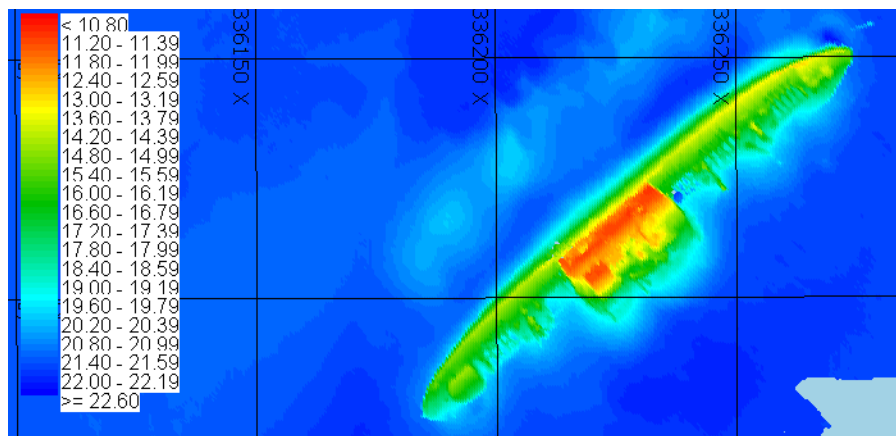
Optimizing the 3D MESH Model

By Ivan Izaak

There is an [old article from January 2018](#) that I wrote about the new program called 3D MESH developed at the end of 2017. This time I've decided to talk about optimization of the model. Specifically, how to set the color table to see the model in the best way.

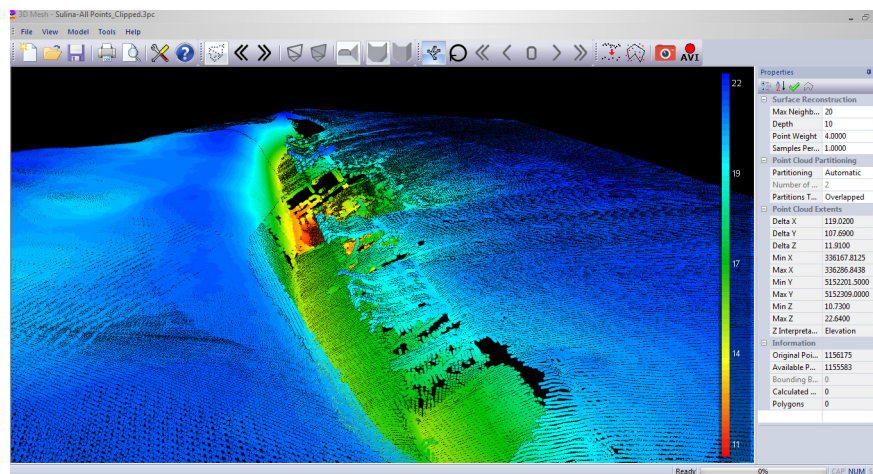
Here is the Color.HCF file currently active in the project. Note the range is from 10.8 to 22.6 (not a standard one!) as I've used the 'Auto Scale Colors' option from the context menu over the enabled XYZ file in the Project Items List.

Fig. 1 Initial Color Table for the XYZ Dataset



When the XYZ file is opened in 3D MESH, it is originally displayed in Elevation mode (don't ask me why) thus the data looks inverted:

Fig. 2 Initial XYZ Dataset After Loading into the 3D MESH Program



1. **Let's invert the data to the Depth Mode** as I want them to be. Select **MODEL – Z INTERPRETATION** and click **Depth** instead of **Elevation**.

Fig.3 Inverting the Data in 3D MESH—Before

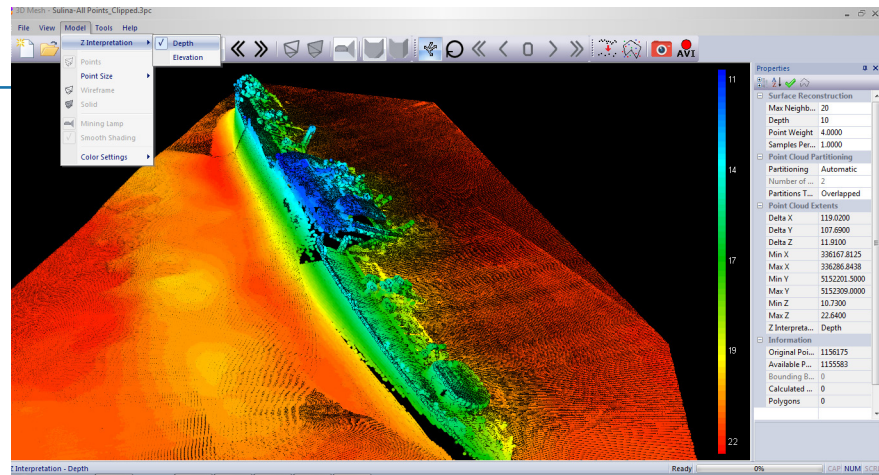
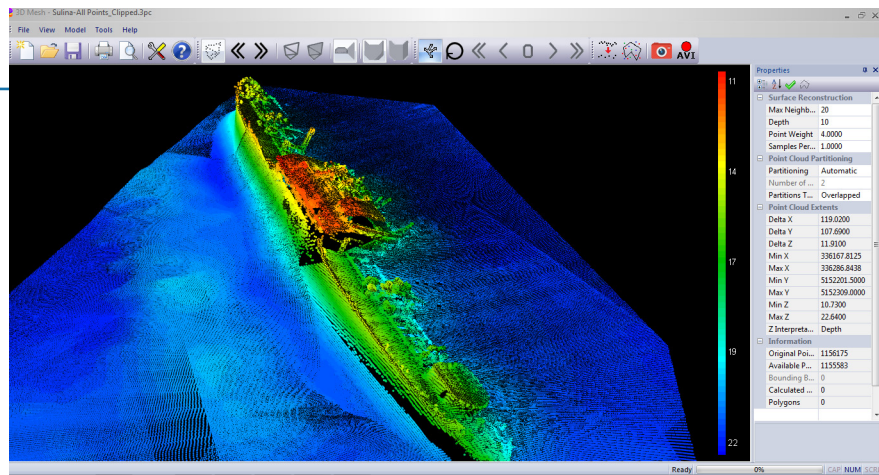


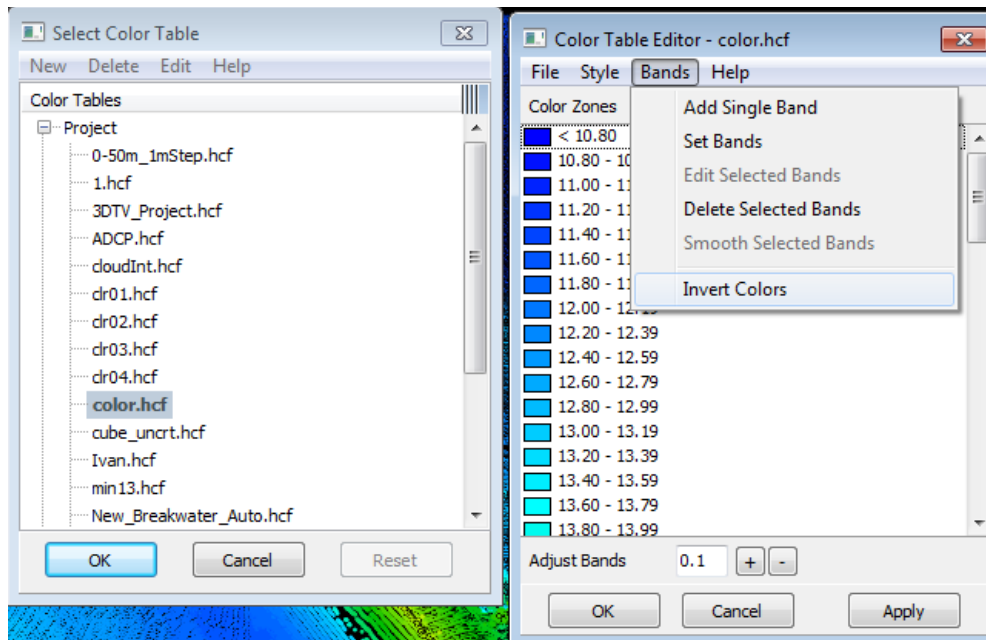
Fig.4 Inverting the Data in 3D MESH—After



Now note that our color table is inverted, the colors are not what I want them to be (Figure 3). Time to do the next step!

2. In the menu, select **MODEL – COLOR SETTINGS** menu and select **Custom Settings**. (You can't edit the color table if the default, HYPACK Colors option is selected.)
3. Select **MODEL-COLOR SETTINGS** again and pick **Edit Colors** to call the Select Color Table (Color Manager) dialog.
4. In the dialog, pick the **Color.hcf** file as this one is currently used by the 3D MESH.
5. Click **Edit** to open another dialog called Color Table Editor.
6. Select **BANDS-INVERT COLORS** as shown in the [Figure 5](#).

Fig. 5 Inverting the colors in the Color Table



7. Click [Apply] and close both color windows. Now the dataset looks exactly as it was in the Main HYPACK Shell, except it is a 3D Cloud for now (Figure 4).
8. Start the modelling. Click the small green checkmark in the Properties tool panel to the right as shown in the Figure 6.

Fig. 6– Executing the Model

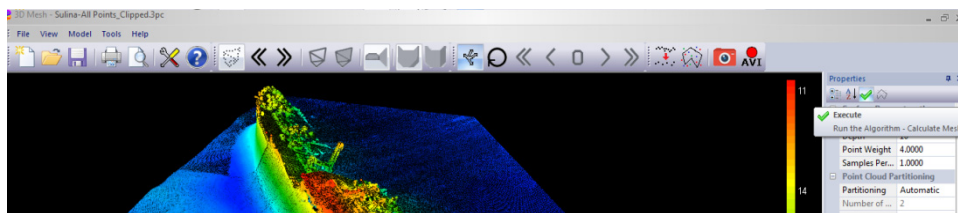
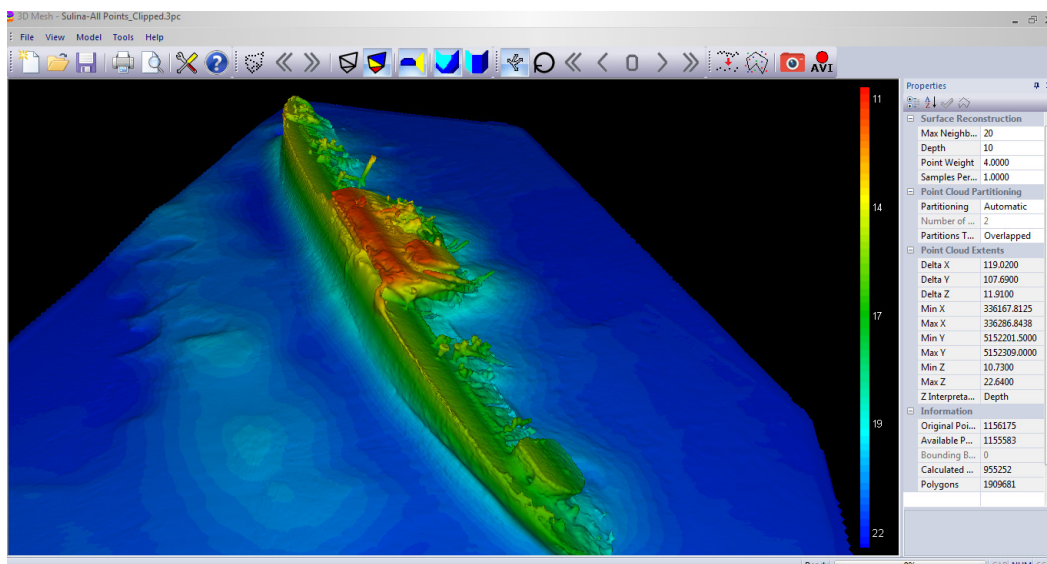


Fig. 7 3D MESH Model



I have used 1156175 points and it took 2 minutes for the program to construct the model. If you have many more points, you may need to tweak the modelling settings, such as Partitioning, etc., further.

You can use the Wireframe icon on the tool panel on top to see the model wire itself – if you zoom in, it looks really cool compared to the TIN model, especially if it is a complicated area.

Fig 9 Finished 3D MESH Model

