



## Color Tables: Questions and Answers

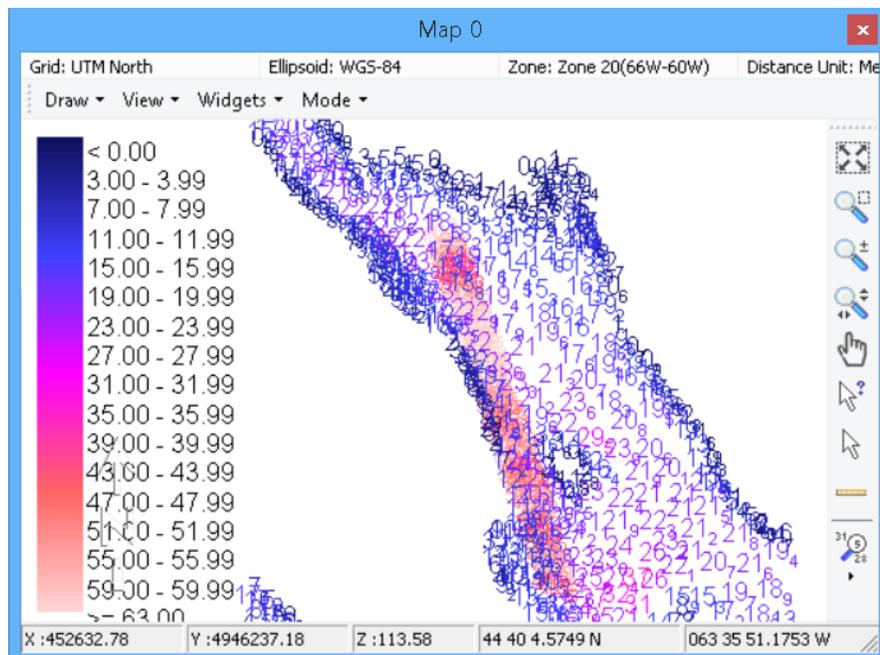
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### **WHAT IS A COLOR TABLE? HOW DOES IT WORK?**

Color tables provide the mechanism to colorize a range of values. They consist of a table of values and associated RGB (red, green, blue) colors. Two successive values in the table define a range. The low end of the range is inclusive while the high end is necessarily exclusive (as start of next range is inclusive!). So when color-coding a particular value, we choose the color that is greater than or equal to the low part of a range and less than the high part of the range. The color used is the RGB value associated with the low end of the range.

### **WHAT IS A COLOR TABLE USED FOR?**

A color table aids in data visualization. They are often used to draw color-coded soundings to convey information to the user by it's appearance. Typically a Color Bar will be displayed in the drawing area to help quickly associate the color with a say a Depth value. One simple usage might be setting up a color table



to draw any sounding value below a minimum acceptable depth in a color that jumps out of the display. Perhaps these are shoal areas that need investigation or areas too shallow for safe navigation of your vessel. They can be used to color the cells of a matrix, provide intensity coloring from sensor data or colorize the gamma from magnetometers; the uses are limited only by your imagination.

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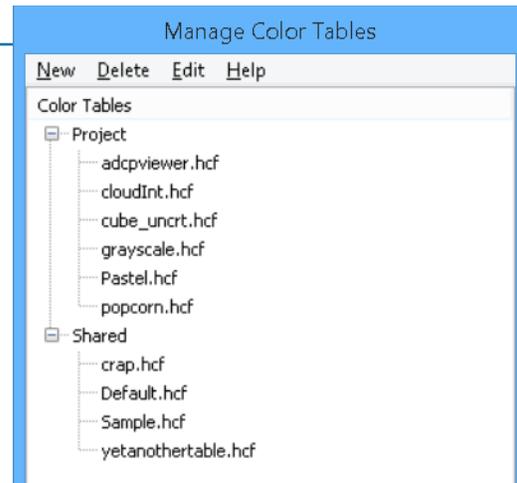
## WHERE ARE COLOR TABLES STORED? HOW ARE THEY MANAGED?

Color tables may be specific to a project or shared between projects. Project specific tables are stored in the project folder, while shared tables are stored in the C:\HYPACK Store\Color Tables folder.

The Color Table Manager (SETTINGS-COLOR TABLES) makes accessing these tables a snap. It also provides the tools to create, delete and modify the tables used in your project:

### Color Table Manager

- **[New]** to create a new color table
- **[Edit]** to edit an existing color table selected in the Color Manager treeview.  
Both the New and Edit operations open the Color Editor dialog explained in the following sections.
- **[Delete]** of course removes the selected table permanently.



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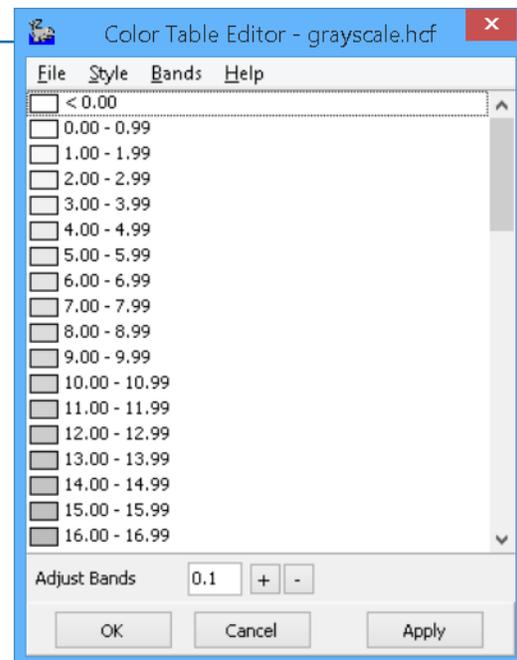
## HOW DOES THE COLOR EDITOR WORK?

The Color Editor provides the tools to quickly build your perfect color table.

### Color Editor

- The **Set Bands** menu allows you to create an entire table in 1 step by providing the minimum and maximum values and an increment step. You may fine tune this generated table by using the **Add** or **Delete Bands** menu items.
- The **Style** menu allows you to quickly assign nice looking colors to your data bands. There are many predefined styles to choose from. They represent useful colors indicated by customer feedback over the years. Certain Styles, most notably the RGB Colors style, allows you to custom select the RGB value for a band. A simple double-click opens a Color Select dialog, if the style allows color editing.

**New Feature: Save and Restore the Custom Colors** shown in the Color Select dialog is a new feature, added by request. You may specify up to 16 custom colors and save them for future use and restore them on demand. The File menu options SAVE CUSTOM COLORS and LOAD CUSTOM COLORS provide this functionality, respectively.



- There is an **Adjust Bands** area at the bottom of the editor to easily numerically move all the bands in a given direction, either up or down.
- **Color Zones:** Certain Styles show a Color Zones area at the top of the editor. There are 5 boxes which divide all the bands into Zones. Click any Zone box to assign a custom color, then the editor smoothly transitions your Zone colors 1 band to the next.

## HOW DO I ASSIGN A TABLE TO MY DATA?

The Select Color Table dialog, which is an extension of the Color Manager, shows a list of available color tables and applies your selection to that part of the software from which it opened; the software records your selection and assigns it to the appropriate place.

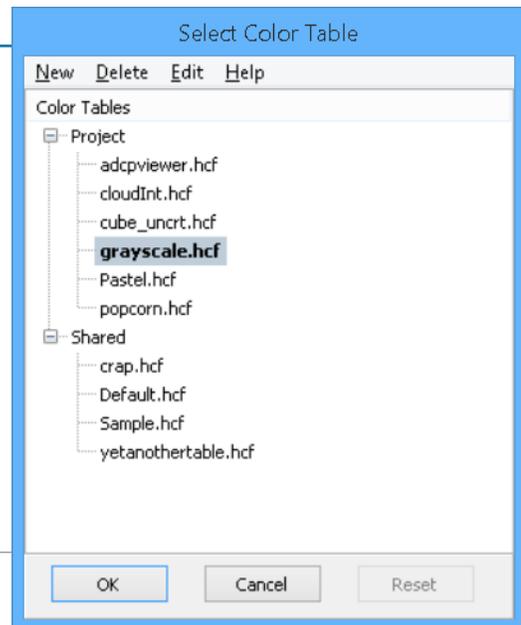
### Select Color Table Dialog

For example, every HYPACK project has one important assignment known as the Soundings Color Table. This table is the default color table color-coding soundings by depth. The color table used for Soundings is shown in the Sounding Colors tab of the HYPACK Shell.

#### To change the assignment:

1. Click **[Select Color Table]** to open the Select Color Table dialog.
2. **Choose another color table.** The currently assigned table is shown in bold text in the Select Color Table dialog.

**NOTE:** As you click on different tables, the Shell updates its display to preview the data display using the selected table. This feature is known as Live Preview.



3. Select **[OK]** to change your table or **[Cancel]** to keep your original table.

#### There are two other areas of the Shell to perform this same operation:

- Right-click on the color bar in the Map window and choose Select Color Table, or
- ccln the Soundings tab of the Settings dialog, click [Color Table].

All 3 areas perform the same action but are spread around the user interface for convenience.

## ARE THERE OTHER WAYS TO ASSIGN TABLES TO MY PROJECT?

The Soundings Color Table is the default table used for all colorized drawing operations in the software unless specific tables have been assigned for another purpose. You may, for instance, assign an alternate table to be used for drawing a specific matrix file.

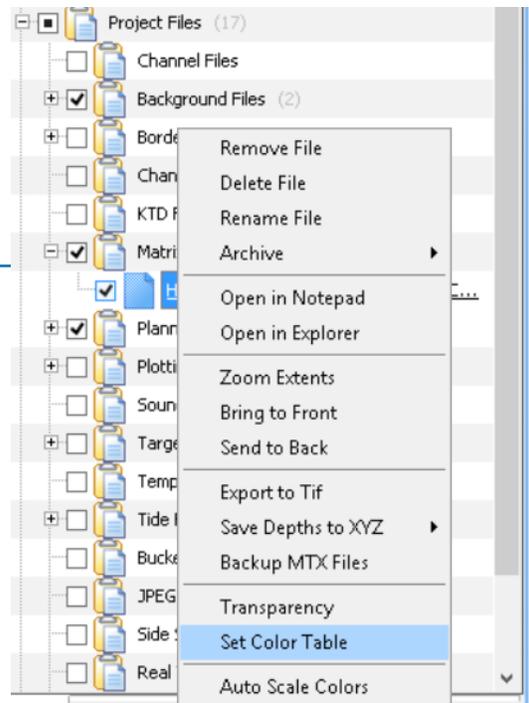
## ASSIGNING COLOR TABLES TO PROJECT FILES

Certain data types (like matrix or XYZ files) are “Color Table Aware” and accept using a specific color table assignment, but default to using the Soundings Color Table in its absence. Color Table Aware files include a **Set Color Table** menu item in their context menu.

### *Matrix File Context Menu*

To assign a specific color table, simply right-click on an item in the Project Items list and select Set Color Table to open the Select Color Table dialog. Any files with specific tables assigned display the name of the color table next to the file name in the Project Items list.

To remove the color table assignment and return to the default Soundings Color Table, simply open the Select Color Table dialog again and, this time, click [Reset].



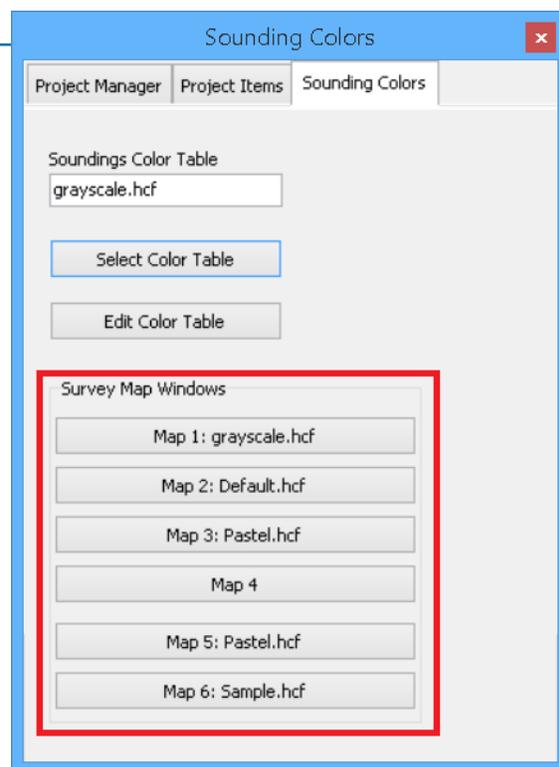
## SURVEY COLORS BY MAP NUMBER

Another color table assignment you may make are the tables to be used by SURVEY for any or all of its Survey windows. In the Sounding Colors tab, you will find a Survey Map Windows area.

### *Assigning Color Tables to Survey Map Windows*

Here you may override the default Sounding Color Table, using one that better suits your needs in each Map window during surveying:

Simply click the button corresponding to the Map window of interest and use the Select Color Table dialog to assign a table. In this example, you will notice Map 4 doesn't have a specific assignment, so it uses the Soundings Color Table, by default.



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## ***WHY CAN'T I SEE THE FILE "COLOR.HCF" IN THE SELECTION WINDOW?***

Older versions of HYPACK® had a fixed Soundings Color Table always pointing at the "color.hcf" file. It was laborious to test how different color settings would affect your display as one needed to continuously modify that file. It was a customer request that prompted this new system of having as many predefined tables as you like and switching between them quickly by simply selecting it. Great idea customer! However, in an effort to support older software e.g. previous versions of HYPACK® accessing a project for instance, we decided that copying the current Soundings table to "color.hcf" would help minimize difficulties. Since this file is not reliably safe from being modified, we felt simply making it unavailable as a project usable color table name was the safe way to go. This restriction is expected to be removed in future updates of the HYPACK® software.

Until next time!