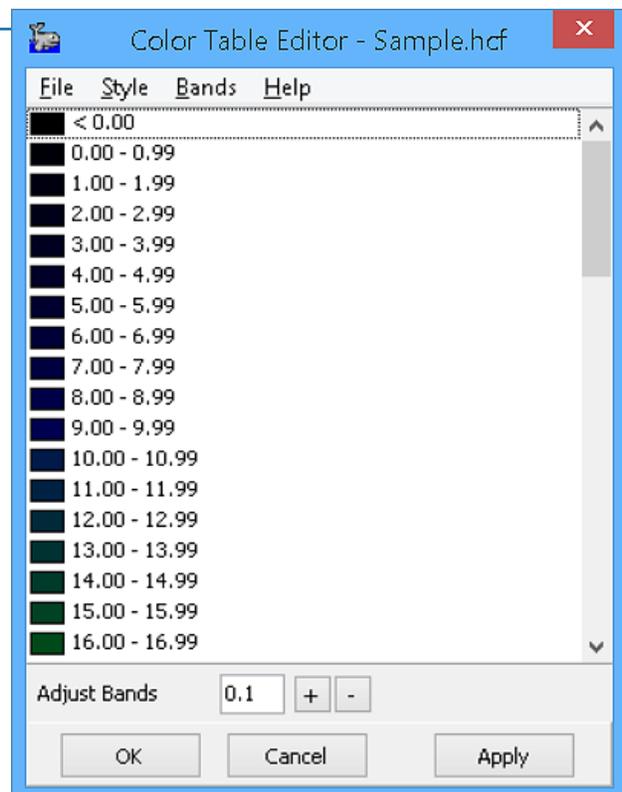By Will Bergmann

WHAT IS A COLOR TABLE?

A Color Table is the mechanism HYPACK® uses to assign a color to a value for display purposes. A value is typically regarded as a depth, but might also be a magnetometer reading or other sensor value. The table itself consists of a series of (value, color) entries, called bands, in ascending order from least to greatest value. A band represents a color transition point. All values greater than or equal to a band up to the next band will thus be assigned the same color. The first table entry provides a default color for all values less than the minimum defined band, while the last entry provides the color for all values greater than the highest defined band. In this way we ensure a color is output for any given input value.

FIGURE 1. *The Color Table Editor*

The color table editor provides the tools to quickly and easily create and modify your table. No changes have been made to the editor from previous versions of HYPACK® except that the **Palette menu** has been removed as this is no longer relevant. More about that later.

The **Style menu** choices will distribute predefined colors along the existing bands. You may also double-click on a band to set a specific color or select a number of bands and smoothly transition colors among them.

The **Bands menu** provides control for adding, editing and deleting bands. Of special note is the **Set Bands** choice where you may populate the table simply by giving **Minimum** and **Maximum** values and specifying a desired increment between bands. There is also a utility option here named **Invert Colors**, which swaps all the Color assignments for all the bands from top to bottom. Finally the **Adjust Bands** option at the bottom of the dialog allows adding an increment to all values in the table.

COLOR TABLE USAGE

There is always a Color Table in effect for coloring the display of Soundings. This is used when the Color option for Soundings (found under the Soundings Tab of the Settings dialog) is set to **Color by Depth**, **Color by Seabed ID** or **Color by CHN difference**.

In earlier versions of HYPACK®, this color table was locked to Palette 0. There were 4 other Palette slots where Color Tables could be defined, but were rarely used.
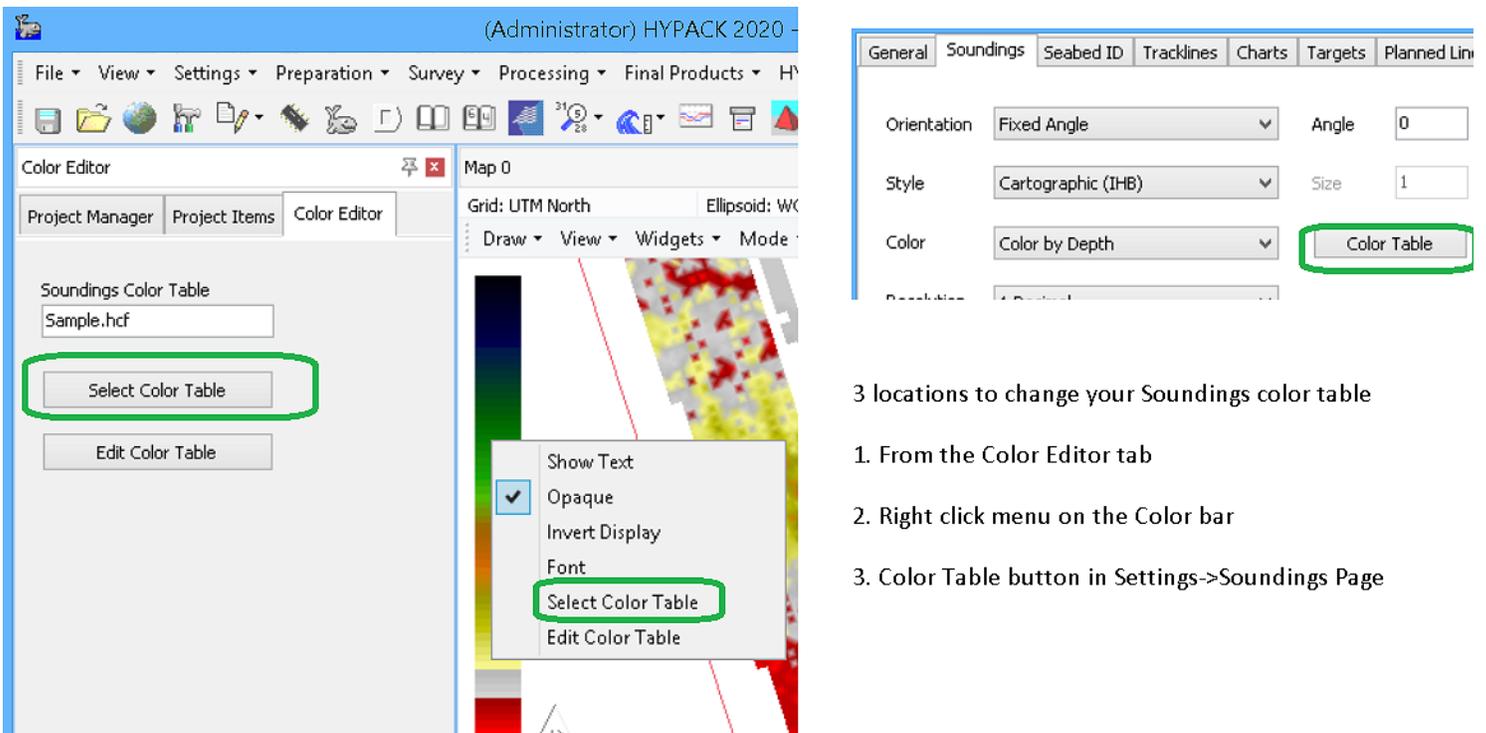
In the new system you assign the Color Table you wish by directly specifying the name of the *.HCF file. This makes switching tables a snap and allows you to assign meaningful names to as many tables as desired.

The Sounding table is the default for coloring all sounding files and matrices.

If you wish **to use a different Color Table for coloring specific data items**, simply right-click the item in the Project Items list and choose Select Color Table. When a data item is using a table other than the Soundings table, the name of the file it is using is displayed in parenthesis next to its name. This visual cue lets you readily see coloring overrides.

To switch back to the default table simply Select Color Table option again and choose the Reset button. You may select multiple items in the Project Items list before choosing this option to quickly override or reset many items in one operation.

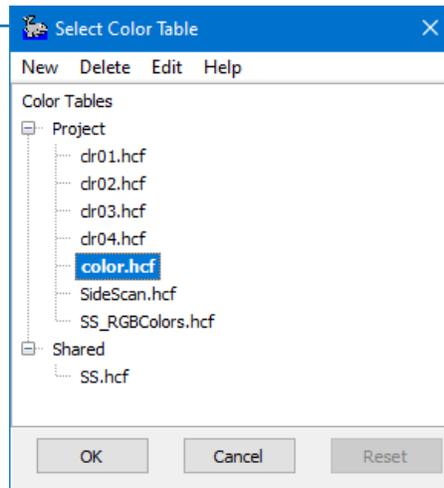**FIGURE 2.** *Selecting the Soundings Color Table*

The Soundings Color Table is a core element of HYPACK® so, in regards to its importance, we have provided multiple locations from which to change it. They all open the Select Color Table dialog described in the next section.

During the selection process we have added live updating so you can instantly see the current choice reflected on screen. To keep the choice, click [OK]. Press [Cancel] to keep the existing table in effect. In the previous picture, you will notice Edit Color Table options both in

the Color Editor tab and the right-click menu on the Color Bar. Either of these choices open the Color Table Editor for Soundings. Click [Apply] to again see your modifications on screen without the need to close the dialog first.

FIGURE 3. *The Color Table Selection Dialog*

Color Table files may be project specific or shared among multiple projects. The Select Color Table dialog finds these and lists them for you in a convenient layout. When choosing Select Color Table for either a data item or the Soundings Color Table, the current selection will be shown in Bold text. This dialog also provides general table management functions for Creating, Editing and Deleting tables. If you wish to simply manage color tables, you can select SETTINGS-COLOR TABLES directly from the menu.

This article has used many words to describe the new Color Table functionality in HYPACK® but I think you will find, in practice, that it is both easy and intuitive to use. Customer feedback on improving this area is always welcome and I hope you find it both easier and less confusing to use than the previous system.