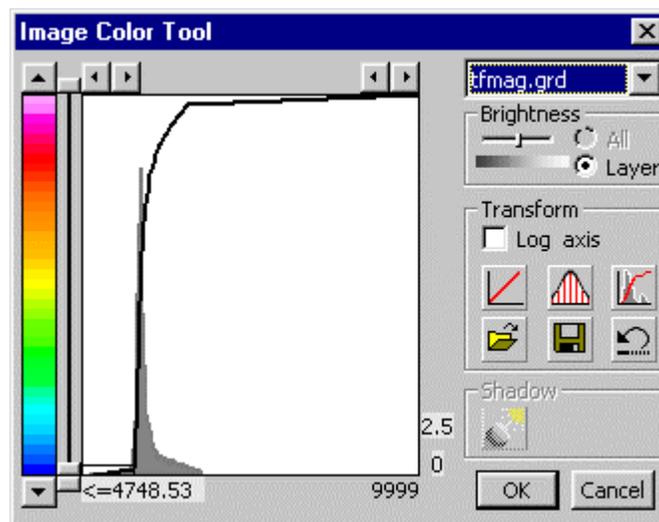


# Image Colour Tool and Geosoft Colour Tables

*Sample Colour Table Guide and  
Image Colour Tool Tutorial  
for use with Oasis montaj*

## TECHNICAL NOTE

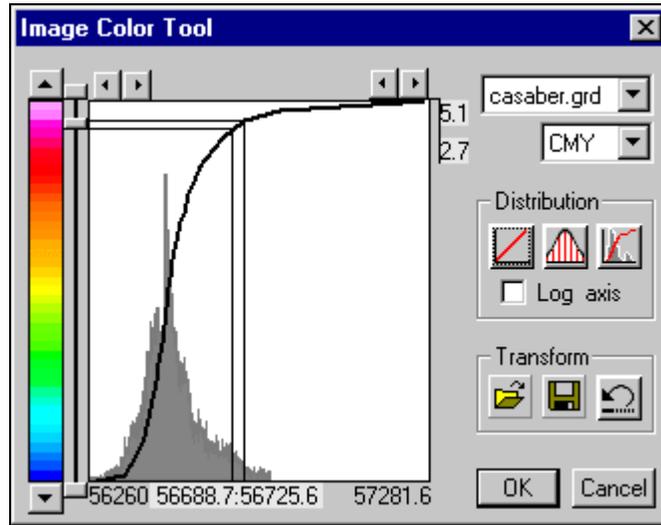


[www.geosoft.com](http://www.geosoft.com)

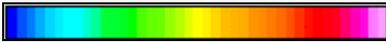
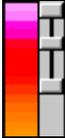
# Geosoft Image Colour Tool

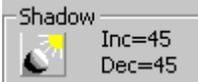
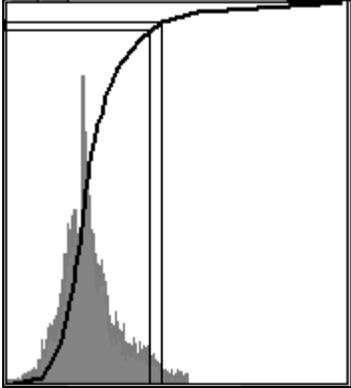
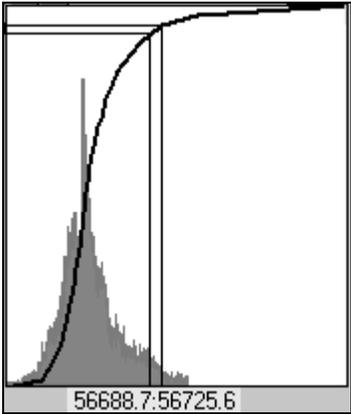
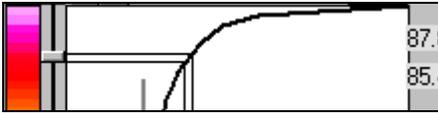
The **Image Colour Tool** in **Oasis montaj** enables you to interactively edit/modify the colour zoning of your gridded data.

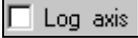
This technical note provides a short description of the different parts of the **Image Colour Tool** as well as a short explanation on how to use this tool.



The following table summarizes the different parts of the **Image Colour Tool**:

<p><b>Colour bar:</b></p> 	<p>Displays a palette of colours corresponding to the full range of grid values. Note: palette rotated 90° to fit the page .</p>
<p><b>Colour Rotation buttons:</b></p> 	<p>Change the colours in the palette, enabling you to rotate through the colour spectrum and view the resulting grid image interactively</p>
<p><b>Slider bar:</b></p> 	<p>Positions the cursor on a specific colour. Note: slider bar rotated 90° to fit the page .</p>
<p><b>Slide bar anchor buttons:</b></p> 	<p>Locks the palette to a specified range of colours. This enables you to edit/modify the selected range of colours, without modifying the colours outside this range.</p>
<p><b>Grid Name dropdown box:</b></p> 	<p>Shows the currently selected grid. If the image aggregate is composed of multiple grids, enables you to select another grid for colour manipulation</p>

<p><b>Brightness control:</b></p> 	<p>Determine the brightness level of the selected <i>Layer</i> or <i>All</i> layers of your aggregate.</p>
<p><b>Dynamic shadowing button:</b></p> 	<p>Enables you to change the inclination declination, scale, brightness and contrast of a colour-shaded grid.</p> <p>Note: The current inclination and declination are displayed to the right of the Dynamic shadowing button.</p>
<p><b>Transform window:</b></p> 	<p>Displays a transform curve (corresponding to the transform of the current colour zoning method) plus a histogram of the grid values for the current image</p>
<p><b>Transform window buttons:</b></p>  <p>(left) (right)</p>	<p>Use these buttons to reduce or increase the range of data to which the colour table is applied. The right set of buttons controls the upper range of data values. The left set of buttons controls the lower range of data values.</p>
<p><b>Palette-to-Grid values:</b></p> 	<p>Display mapping of colour palette to grid values.</p> <p>Horizontal line shows the currently selected colour and vertical line shows the corresponding grid values in the Palette Mapping bar. The horizontal line moves along the transform curve and displays corresponding grid values dynamically..</p>
<p><b>Cummulative percentile:</b></p> 	<p>Indicates the range of the cummulative percentile of the colour specified by the position of the cursor on the slider bar.</p>

<p><b>Equal-area transform method button:</b></p> 	<p>The tool evaluates your grid values and statistically determines the zones, such that each colour occupies a roughly equal area on the map. (Default).</p>
<p><b>Linear transform method button:</b></p> 	<p>The tool divides the range of grid values linearly into even increments.</p>
<p><b>Normal transform method button:</b></p> 	<p>The tool assumes that your data is normally distributed and determines zones based on the standard distribution for a standard bell curve.</p>
<p><b>Log axis box:</b></p> 	<p>The tool displays the X axis logarithmically.</p>
<p><b>Aggregate load button:</b></p> 	<p>Retrieve a previously stored aggregate zoning file (*.ITR, *.AGG, *.ZON, *.TBL, *.LUT).</p>
<p><b>Aggregate save button:</b></p> 	<p>Save the current colour settings in an aggregate zoning file (*.ITR, *.AGG, *.ZON, *.TBL, *.LUT).</p>
<p><b>Reset button:</b></p> 	<p>Restores the colour palette to the previous version (i.e. the last version stored in the aggregate file).</p>

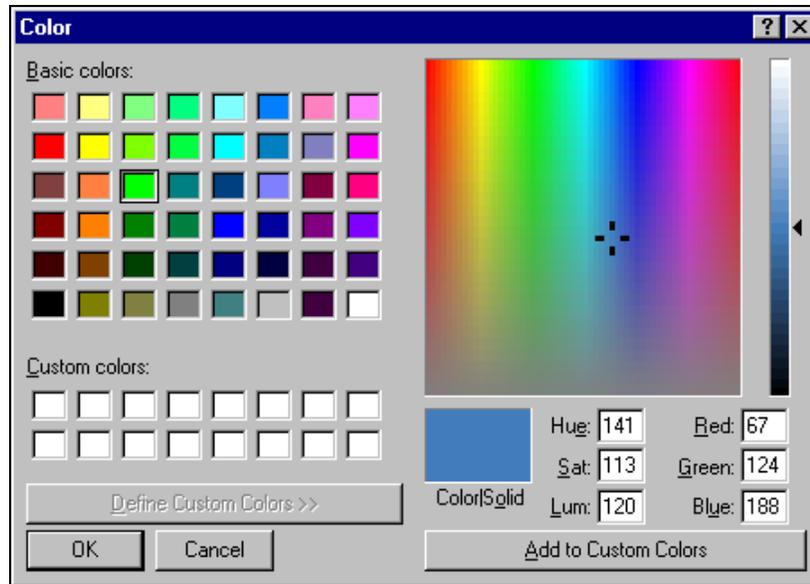
## Modify Colour Palette

The **Image Colour Tool** enables you to modify the current colour palette. Some of the methods you can use to modify the current colour palette are as follows:

- Scroll through the colour palette by clicking on the colour rotation buttons.
- Stretch the range of a specific colour in the colour palette by left clicking on a colour, hold down the mouse button, and stretch the selected colour up or down on the colour bar.
- You can create a custom colour palette and apply it to your gridded data.

## Custom Colouring

The **Image Colour Tool** enables you to customize a colour palette to your own colouring specifications. You can then save your customized colour palette in (\*.ITR, \*.AGG, \*.ZON, \*.TBL and \*.LUT) file formats. This section illustrates how to customize a colour palette. Also, included at the end of this section is a short video demonstrating how to use this tool.



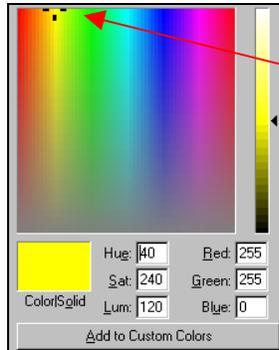
### CREATING A CUSTOM COLOUR TABLE

The procedure below will show you how to add your own custom colours to an existing colour table. You will also learn how to stretch the colour palette to create a new colour table and then save this new table.

1. To begin, you must have your map opened and a grid selected (using the *Select a Group* button).
2. Place the cursor on the grid image and click the right mouse button. Select *Image Colour Tool* from the popup menu.
3. Using the Slider bar, position the cursor on the specific colour on the colour bar you want to customize.

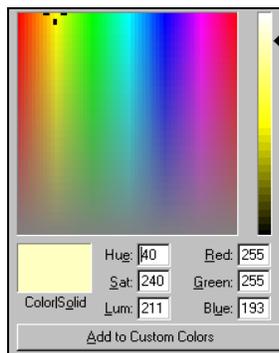


4. Click the right mouse button. The *Colour* dialog box is displayed. Click the **[Define Custom Colors>>]** button, to display the *Custom Colour Palette*.
5. To select a new colour to add to your *Custom Colour* boxes, click the crosshair cursor on a colour in the *Custom Colour Palette*.



Move the crosshair cursor to select a colour from the custom colour palette box.

6. You can change the brightness of the colour from the *Colour Brightness* bar on the right hand side of the *Custom Colour Palette*.



Move the arrow to change the colour brightness.

- To add this colour to the *Custom Colour* box, click the **[Add to Custom Colours]** button. The colour is added the top left box in the *Custom Colours* boxes.



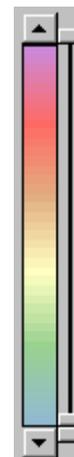
- Continue selecting your colours from the *Custom Colour Palette* by repeating the above steps. The selected colours will be displayed in the *Custom Colour* boxes.



- Click **[OK]** to apply the currently selected custom colour to the *Colour Bar*.
- Move the cursor to the next colour you want to replace, right click and select the custom colour from the custom colour boxes. Click **[OK]** to apply the custom colour.
- Repeat this process until you have applied your custom colours to your colour bar.



- To stretch the custom colours to fill the colour bar, left click on the top colour, hold down the mouse button, and stretch the selected colour up to the top of the colour bar.
- Then left click on the bottom colour, hold down the mouse button and stretch the selected colour down to the bottom of the colour bar.



Slide this bar up and down to stretch the custom colours and create a gradient. You may need to experiment with this a few times to get the hang of it.



Click the projector icon to view a video of this procedure. This links to **custom.avi** file (2.2 MB).

A copy of this document with the movie file is available at:

[www.geosoft.com/support/technote/pdf/colourtables.pdf](http://www.geosoft.com/support/technote/pdf/colourtables.pdf)

## Geosoft Colour Tables

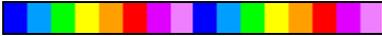
The **Image Colour Tool** in **Oasis montaj** uses colour table files (\*.tbl) to determine the colour palette that is used to colour a grid. There are 76 colour table files in your **Geosoft** directory.

This technical note provides a quick description of each colour table and shows its palette. The subheadings in this document are used to group similar colour tables. Note that the palettes shown in this technical note were rotated 90° clockwise from how they appear in the image colour tool to fit the page. These palettes are only samples and may not always reflect what your grid will look like using a particular colour table. The only way to see what a particular colour table will look like is to apply it to your grid.

You can use the Image Colour tool to modify any of the colour table files to suit your own needs. However, if you do change a colour table, save it using a different name to ensure that when you upgrade your software by applying a service pack, you do not overwrite your custom files.

### 8-Colour Table Palettes

8.tbl, 16.tbl, 32.tbl are tables which contain a standard 8-colour palette which is repeated as many times as necessary to fill the table.

Table file	Palette sample	
	low values	high values
128.tbl		
16.tbl		
32.tbl		
64.tbl		
8.tbl		

For example, if you view the **8.tbl** using a text editor, you will see that the colour table file is composed of 8 lines of numbers under 4 columns of colours:

```
{ blk  cyn  mag  yel}
000 255 255 000
000 255 096 000
000 255 000 255
000 000 000 255
000 000 096 255
000 000 255 255
000 032 255 000
000 016 128 000
```

## Geosoft Colour Table Palette

A Geosoft standard full intensity colour table.

Table file	Palette sample
	low values                      high values
colour.tbl	

## Colour Table Palettes

The following three sets of colour tables (**clra**, **clrb**, **clrc**) represent variations of the default Geosoft colour table (**colour.tbl**). Each set of colour tables includes four separate tables that split the colour spectrum into 32,64,128, and 256 colours.

The **clra** colour tables below are based on the full intensity colour spectrum.

Table file	Palette sample
	low values                      high values
clra_32.tbl	
clra_64.tbl	
clra_128.tbl	
clra_256.tbl	

The **clrb** colour tables below contain a modified colour spectrum with a lighter blue and extended violet section. These tables contain brighter colours than the normal spectrum and are more useful for shadow colour maps because subtle shading differences can be seen more easily.

Table file	Palette sample
	low values                      high values
clrb_32.tbl	
clrb_64.tbl	
clrb_128.tbl	
clrb_256.tbl	

The **clrc** colour tables below contain no violet colour range, increasing the contrast between the warm and cold colours in the spectrum.

Table file	Palette sample	
	low values	high values
clrc_32.tbl		
clrc_64.tbl		
clrc_128.tbl		
clrc_256.tbl		

### Standard Colour Table Palettes

The table below contains low to high intensity colour tables corresponding to their titles. This means that the high data values in a grid are tinted more white. These can be used together with the other single colour tables to produce a ternary colour map.

Table file	Palette sample	
	low values	high values
red.tbl		
green.tbl		
blue.tbl		
cyan.tbl		
magenta.tbl		
yellow.tbl		

The table below contains the same colour values as the previous table, but in reverse order. The values range from high to low (low values are tinted more white). These can be used together with the other single colour tables to produce a ternary colour map.

Table file	Palette sample	
	low values	high values
redi.tbl		
greeni.tbl		
bluei.tbl		
cyani.tbl		
magentai.tbl		
yellowi.tbl		

### Grey Colour Table Palettes

Grey.tbl is a full grey scale and lgrey.tbl is a light grey scale. Both are suitable for shaded relief maps.

Table file	Palette sample	
	low values	high values
grey.tbl		
lgrey.tbl		

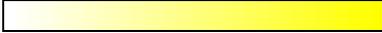
### GSC Colour Table Palette

Geologic Survey of Canada standard colour table.

Table file	Palette sample	
	low values	high values
gsc.tbl		

## Geosoft CMY Table Palettes

The tables below are the Geosoft Colour tables that the CMY (Cyan-Magenta-Yellow) colour model uses for Ternary images. These tables range from whites representing lows in the grid to the indicated primary colour for highs.

Table file	Palette sample	
	low values	high values
w-c.tbl		
w-m.tbl		
w-y.tbl		

The tables below are the inverted colour tables that the CMY (Cyan-Magenta-Yellow) colour model uses for Ternary images. These tables range from the indicated primary colour representing lows to whites for highs in the grid.

Table file	Palette sample	
	low values	high values
c-w.tbl		
m-w.tbl		
y-w.tbl		

## Geosoft CMYK Table Palettes

The tables below are the Geosoft Colour tables that the CMYK (Cyan-Magenta-Yellow-black) colour model uses for Ternary images. These tables range from a black tint representing lows in the grid to the indicated primary colour for highs.

Table file	Palette sample	
	low values	high values
k-c.tbl		
k-m.tbl		
k-y.tbl		

The tables below are the inverted colour tables that the CMY (Cyan-Magenta-Yellow) colour model uses for Ternary images. These tables range from the indicated primary colour representing lows to black for highs in the grid.

Table file	Palette sample	
	low values	high values
c-k.tbl		
m-k.tbl		
y-k.tbl		

## Geosoft RGB Table Palettes

### Colour to White RGB Tables

The tables below are the Geosoft Colour tables that the RGB (Red-Green-Blue) colour model uses for Ternary images. These tables range from whites representing lows in the grid to the indicated primary colour for highs.

Table file	Palette sample	
	low values	high values
w-r.tbl		
w-g.tbl		
w-b.tbl		

The tables below are the reversed colour tables that RGB (Red-Green-Blue) colour model uses for Ternary images. These tables range from the indicated primary colour representing lows to whites for highs in the grid.

Table file	Palette sample	
	low values	high values
r-w.tbl		
g-w.tbl		
b-w.tbl		

### Colour to Black RGB Tables

The tables below are the inverted Geosoft Colour tables that the RGB (Red-Green-Blue) colour model uses for Ternary images. These tables range from

a black tint representing lows in the grid to the indicated primary colour for highs.

Table file	Palette sample	
	low values	high values
k-r.tbl		
k-g.tbl		
k-b.tbl		

The tables below are the inverted colour tables that RGB (Red-Green-Blue) colour model uses for Ternary images. These tables range from the indicated primary colour representing lows to black for highs in the grid.

Table file	Palette sample	
	low values	high values
r-k.tbl		
g-k.tbl		
b-k.tbl		

## Geosoft HSV Table Palettes

The HSV (Hue, Saturation, and Value) colour tables are listed below. The HSV tables are intended to be used to create “wet-look” shaded colour images. In such images, the hue is controlled by the original data grid and the saturation and value are controlled by the shaded grid. The shaded component of the image is then able to vary the colour intensity from dark, through full saturation, to light.

You will note that the **hsvc.tbl** and **hsvcolor.tbl** have the saturation and value set to 0. These colour tables can only be used in a shaded-colour image together with **hsvg.tbl** or **hsvgrey.tbl**. The **hsvcolor1.tbl** has all saturation set to 255 and can be used without a shaded image.

Table file	Palette sample	
	low values	high values
<b>hsvc.tbl</b>		
<b>hsvcolor.tbl</b>		
<b>hsvcolor1.tbl</b>		
<b>hsvg.tbl</b>		
<b>hsvgrey.tbl</b>		

The GRIDIMGS GX, which displays shaded-colour images, will use the **hsvc.tbl** and **hsvg.tbl** tables when the “wet-look (HSV)” shading effect is displayed.

## Bimodal Colour Table Palette

The bimodal colour table contains two contrast lines. This table works well when displaying magnetic data values.

Table file	Palette sample	
	low values	high values
<b>bimodal.tbl</b>		

## Hot-Cold Colour Table Palette

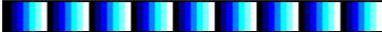
The colour table below contains a spectrum that shifts from cold to warm colours with black in the middle for contrast.

Table file	Palette sample	
	low values	high values

hot-cold.tbl 

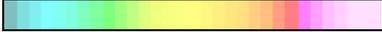
## Cycle Colour Table Palettes

These colour tables contain part of a full spectrum but are condensed into colour bars that are repeated. The **cold cycle** and **hot cycle** tables are from the **hot-cold** colour table palette and the cycle table is uses the colours from the Geosoft colour table. All of these tables provide a good base for creating your own custom colour tables.

Table file	Palette sample
	low values <span style="float: right;">high values</span>
coldcycl.tbl	
hotcycle.tbl	
cycle.tbl	

## Pastel Colour Table Palette

The pastel colour table is a lighter version of the Geosoft colour table. The lighter colours make it easier to read lines on your map such as contours.

Table file	Palette sample
	low values <span style="float: right;">high values</span>
pastel.tbl	

## Resistivity Colour Table Palette

This colour table is an inverted version of the Geosoft colour table and is useful for presenting resistivity data.

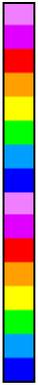
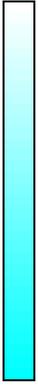
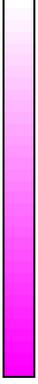
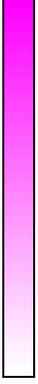
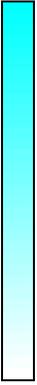
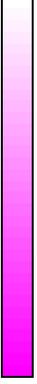
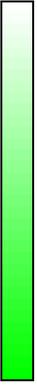
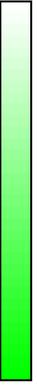
Table file	Palette sample
	low values <span style="float: right;">high values</span>
resis.tbl	

## Other Table Files

The following list contains table files located in your Geosoft directory that are **not** colour tables. If you try to load any of these files as a colour table you will get an error message.

<b>rpsbackg.tbl</b>	Atmospheric radon correction table for backgnd_table method
<b>rpszero.tbl</b>	Correction Table for Applying Aircraft/Cosmic Corrections Only (i.e. Turning Off Radon Corrections). This table is provided to assist you in evaluating the effect of AIRCRAFT and/or COSMIC corrections on your data.
<b>Speclev2.tbl</b>	Atmospheric Radon correction table for OverWater2 method. When using this method, select the background corrections from the FILTERed channels. Do not apply AIRCRAFT or COSMIC backgrounds — select 0 for these parameters.
<b>stroke.tbl</b>	An internal Oasis montaj drawing file.

# Index of Geosoft Colour Tables

128.tbl		colour.tbl		lgrey.tbl	
16.tbl		c-w.tbl		magenta.tbl	
32.tbl		cyan.tbl		magentai.tbl	
64.tbl		cyani.tbl		m-k.tbl	
8.tbl		cycle.tbl		m-w.tbl	
bimodal.tbl		g-k.tbl		pastel.tbl	
b-k.tbl		green.tbl		red.tbl	
blue.tbl		greeni.tbl		redi.tbl	
bluei.tbl		grey.tbl		resis.tbl	
b-w.tbl		gsc.tbl		r-k.tbl	
c-k.tbl		g-w.tbl		r-w.tbl	
clra_128.tbl		hot-cold.tbl		w-b.tbl	
clra_256.tbl		hotcycle.tbl		w-c.tbl	
clra_32.tbl		hsvc.tbl		w-g.tbl	
clra_64.tbl		hsvcolor.tbl		w-m.tbl	
clrb_128.tbl		hsvcolor1.tbl		w-r.tbl	
clrb_256.tbl		hsvg.tbl		w-y.tbl	
clrb_32.tbl		hsvgrey.tbl		yellow.tbl	
clrb_64.tbl		k-b.tbl		yellowi.tbl	
clrc_128.tbl		k-c.tbl		y-k.tbl	
clrc_256.tbl		k-g.tbl		y-w.tbl	
clrc_32.tbl		k-m.tbl			
clrc_64.tbl		k-r.tbl			
coldcycl.tbl		k-y.tbl			