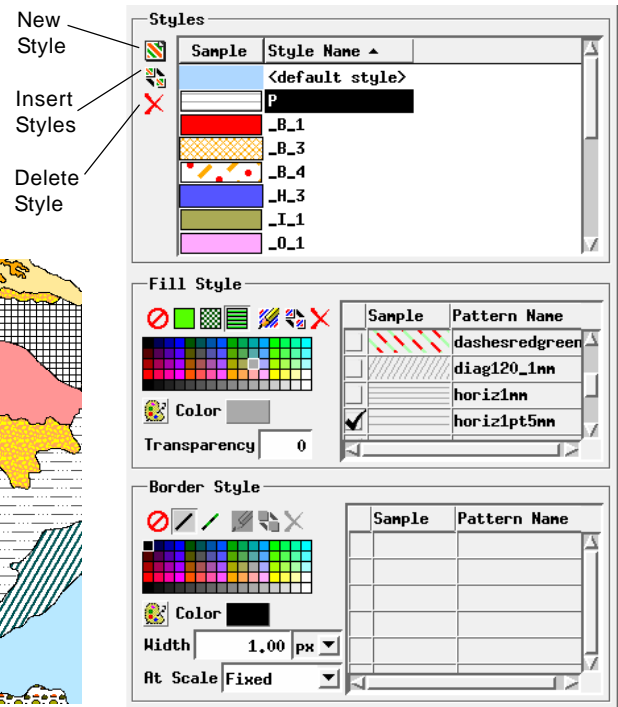
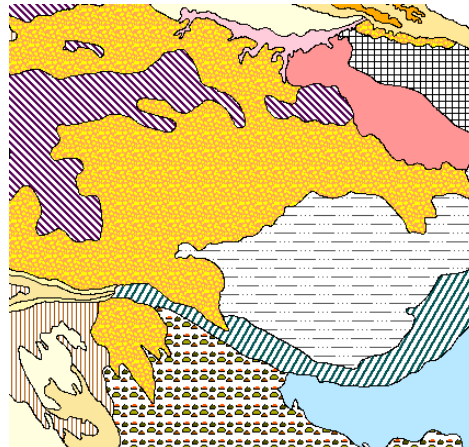


Creating Styles for Polygons

The Style Editor controls for polygons allow you to create and save styles to use in displaying polygon elements in vector, CAD, TIN, and shape objects. Polygons can be styled with a *fill* and/or with a *border*. A polygon fill can be a solid color (with transparency between 0 and 100%), a bitmap pattern, or a hatch pattern. A polygon border can be a solid line with various colors and widths or use a line pattern. Polygon styles can be created and used when you style polygons using the All Same, By Attribute, and By Theme options and can also be referenced and used in style scripts with the By Script option.

The controls for creating and editing polygon styles are illustrated to the right. Separate control sets are provided for Fill Style and Border Style. When you create an All Same polygon style, you can create only a single style, so the Style Editor window contains only the Fill Style and Border Style controls. In the Style Assignment window for By Attribute styling and in the standalone Style Editor (Tools / Edit Styles) you can create and save multiple styles. In these contexts a Styles box above the polygon style controls provides a list of the styles with the name and sample for each. The style list always includes a <default style> entry based on the current All Same style for polygons. Press the New Style icon button to the left of the list to create a new style based on whichever style is currently selected in the list. New styles are automatically assigned a default name, which you can edit in the list to provide a more meaningful name. (If you name the style to match the attribute value of the elements it is designed for, the Style Assignment window provides an option to automatically assign styles by name; see the Technical Guide entitled *Manual Style Assignment*). Changes made with the Fill Style and Border Style controls apply to whichever style is currently selected in the list. You can use the Insert Styles icon button to navigate to and select styles from another style object to copy to the list. The Delete Style icon button deletes the selected style from the current style object.



Bitmap: Turn on the Bitmap icon button to use a bitmap fill pattern. Turning on this button activates the *Create or Edit Pattern* and *Insert Patterns* icon buttons. Bitmap patterns you have created or selected are also shown in the list on the right side of the Fill Style controls. Turn on the checkbox to the left of the pattern that you wish to use for the current style.

Bitmap fills are rendered by repeating a small raster (bitmap) pattern, which can contain fixed-color, variable-color, or transparent cells. The fill is drawn with one pattern cell for each screen pixel, so the size of the pattern elements on screen is fixed regardless of the map scale of the display. Bitmap polygon fills work better for on-screen viewing than in prints because the small size of print elements in high-resolution printers and the dithering applied during printing reduce the scale of the patterns and the distinctions between different colors in the patterns.


Hatch: Turn on the Hatch icon button to use a hatch pattern for the fill. Turning on this button activates the *Create or Edit Pattern* and *Insert Patterns* icon buttons. Hatch patterns you have created or selected are also shown in the list on the right side of the Fill Style controls. Turn on the checkbox to the left of the pattern that you wish to use for the current style.


Hatch patterns are composed of sets of repeated parallel lines with a regular spacing and a transparent background. A hatch pattern can be made up of one or more line sets (*hatch elements*); each hatch element can have its own color, angle, spacing, and thickness. These hatch elements can be assigned a fixed color or a variable color. The elements can be simple solid color lines or more complex line patterns created in the Line Pattern Editor.

(continued)

Fill Style Controls

Use the icon buttons at the top of the Fill Style box to choose whether to use a solid color, bitmap pattern, hatch pattern, or no fill for the current style. Controls are also provided to set the fill color and a transparency value.

 **None:** Turn on the None icon button to disable filling for the polygon style. A polygon style must include either a fill or border. If the fill style is set to None and you then set the Border to None, the fill style is automatically reset to Solid.

 **Solid:** Turn on the Solid icon button to create a polygon fill with a solid color and transparency specified by the color controls described on the next page.

Because hatch patterns have a transparent background, polygons with hatch pattern fills can be overlaid on other data layers without fully obscuring these layers.

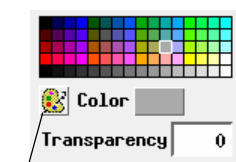
Create or Edit Pattern: Pressing this icon button opens the Bitmap Pattern Editor if Bitmap is selected (see the TechGuide entitled *Bitmap Pattern Editor*) or the Hatch Pattern Editor if Hatch is selected (see the TechGuide entitled *Hatch Patterns for Polygon Fills*). These editors allow you to create or edit fill patterns and save them to the current style object.

Insert Patterns: Pressing the Insert Patterns icon button opens the Select Patterns window, which you can use to copy hatch or bitmap patterns to the current style object. For bitmap patterns this window shows a collection of General patterns provided with TNTgis, and you can use the Pattern Set menu to choose from several other predefined pattern sets. There are no predefined hatch patterns provided with the software, but with either type of pattern you can press the Browse icon button to the right of the Pattern Set menu to navigate to and select any style object in any Project File as the source for the patterns to show in the window.

The list in the Select Patterns window includes the pattern name and a graphic sample. Left click on an entry in the scrolling list to select it (as shown by black highlighting). Hold down the Shift key while left-clicking again to select a contiguous range of patterns, or hold down the Ctrl key while left-clicking to toggle selection on or off for an entry. When you have highlighted one or more patterns in the list, press OK to complete the selection. The selected patterns are copied to the current style object and are added to the pattern list in the Fill Style controls.



Delete Pattern: Press the Delete Pattern icon button to delete a pattern that you have highlighted in the pattern list in the Fill Style controls. (Highlight a pattern by left-clicking on its sample or pattern name field in the list.) The deleted pattern is removed from the current style object.



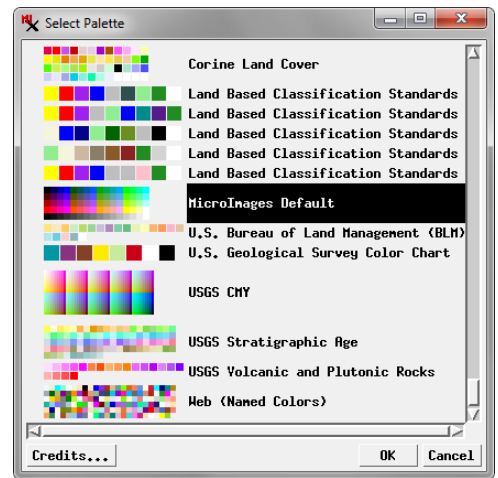
Palette

Color Controls: You can choose a color for a solid fill style by left-clicking on a color tile in the palette shown in the Fill Style controls. The selected color is shown on the Color button below the palette. To choose colors from a different palette, press the Palette icon button.

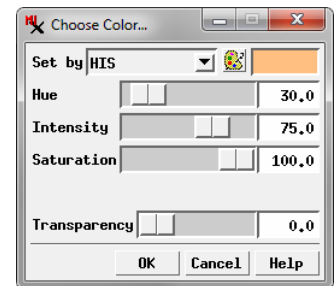
The Select Palette window which opens shows a graphic list of available discrete color palettes. Left-click on the desired palette in the list and press the OK button to show this palette in the Fill Style box.

After selecting a color from the palette, you can enter a value between 0 and 100% in the Transparency field for the selected color.

You can also create a custom color by left-clicking on the color button, which opens the Choose Color window. The Set by menu in this window determines the type of controls that are shown. The menu provides a choice of



color models that you can use for specifying a color, including RGB (0-100), RGB (0-255), HIS, and others. Adjust the color sliders or enter values in the numeric fields for the color components, then set the Transparency value using the slider or numeric field. Press OK to set



the custom color, which is then shown on the color button in the Fill Style controls.

Bitmap and hatch patterns can include components set to use a variable color. Variable-color pattern components are drawn in the color selected for the style in the Fill Style controls. Thus a pattern using variable-color components can be used for several styles with a different color set for each style. The style color selection has no effect on fill pattern components that were set to use a fixed color.

Border Style Controls

Use the icon buttons at the top of the Border Style controls to choose Solid, Pattern, or None for the border style. As mentioned above, a polygon style must include either a fill or border. If the border style is set to None and you then set the fill style to None, the border style is automatically reset to Solid. Except for the None option, the Border Style Controls are identical to the Line Style controls for styling geometric lines (see the TechGuide entitled *Creating Styles for Lines*).

If the geometric object you are styling contains polygons with shared boundaries, using different border styles for different polygon styles is problematic, as the border of one of the adjacent polygons is drawn on top of that of the other polygon. If the border styles use solid lines, one border simply obscures the other. If the border styles use line patterns, the border patterns from the adjacent polygons can interfere with each other.

In vector objects, where polygon borders correspond to line elements, the most flexible approach is to style polygons without borders. You then have the option to display the object with the vector lines overlaying the fills to give the appearance of borders, or to display only the filled polygons without the line overlay.