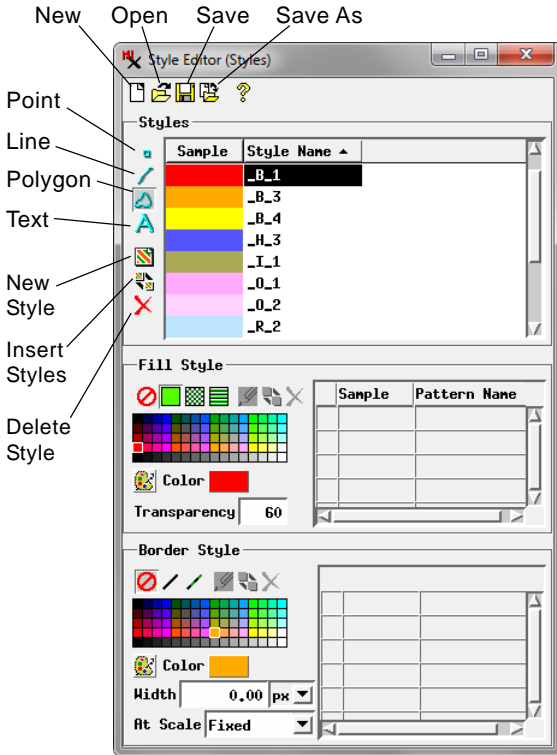


# Managing Styles



Standalone Style Editor

Style Type	Typical Uses
Point	Point elements in vector, shape, and CAD objects; vector and TIN nodes; database pinmap symbols.
Line	Vector and shape lines, CAD lines and arcs, TIN edges.
Polygon	Vector and shape polygons; CAD polygons, rectangles, circles, ellipses, arc chords, and arc wedges.
Text	Vector labels, CAD and shape text, and annotation text in layouts.

*Creating Styles for Polygons, and Setting Text Styles.* Changes made using the style controls apply to whichever style is currently selected in the style list.

Press the New Style icon button to the left of the list to create a new style based on the style that 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. 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.

## Style Methods

You can associate styles with elements in several different ways by selecting a style method from the Style menu in the Layer Controls window for a geometric object. (The Style menu is on the Elements tabbed panel for CAD and shape objects and on the tabbed panel(s) for specific element types in vector and TIN objects).

**All Same Style:** If you don't need to differentiate between elements of the same type in a particular geometric object,

*Styles* in TNTgis define how the spatial elements in a geometric object are drawn on screen and when printing. Appropriately chosen styles improve the appearance of a map display, differentiate map elements, and can symbolize the features the elements represent.

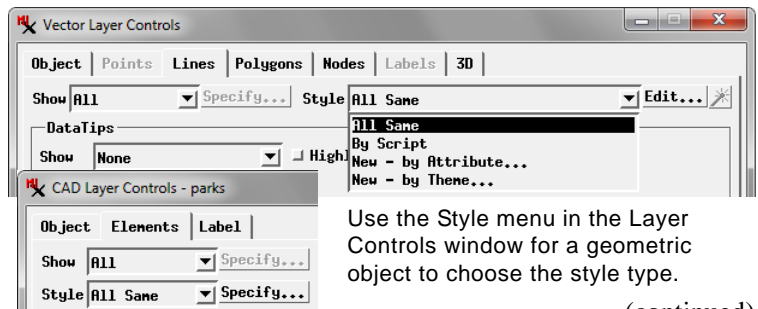
Styles for drawing geometric elements are created, named, and stored separately for different element types: points, lines, polygons, and text (see table below left). Styles can be plain (simple geometric shapes for points and solid colors for lines and polygon fills) or use more complex graphics. Points can be styled using geometric or bitmap symbols, lines can be shown using patterns with multiple parallel lines or repeating dashes and/or dots, and polygons can be filled with bitmap or hatch patterns. TNTgis provides built-in libraries with point symbols, line patterns, and bitmap patterns that you can use, or you can design your own using symbol and pattern editors, as described in the Technical Guides entitled *Point Symbol Editor*, *Line Pattern Editor*, *Bitmap Pattern Editor*, and *Hatch Patterns for Polygon Fills*.

Styles are created using the Style Editor, which assumes different forms depending on the context, object type, and the element type. Style definitions are stored in special style objects or subobjects, and individual styles are *assigned* to the elements in a spatial object using controls in the Display process.

## Style Editor

Style Editor controls are available in the Display process when you are viewing a geometric object so that you can create, modify, and assign styles. You can also use the standalone Style Editor (Tools / Edit Styles from the TNTmips menu) to create or modify styles and to copy them from one style object to another.

The standalone Style Editor is illustrated above left. Use the icon buttons at the top of the window to Open an existing style object to edit its styles, Save the object, or Save As to name and save a different style object. Press the Point, Line, Polygon, or Text icon button to reveal the list of styles available for the specified element type. The list shows a sample and style name for each style. Different controls are shown below the style list depending on the element type selected. Style controls for each element type are described in the Technical Guides *Creating Styles for Points*, *Creating Styles for Lines*,



Use the Style menu in the Layer Controls window for a geometric object to choose the style type.

(continued)

you can assign the same style to all of the elements using the *All Same* style menu option. For example, in a map layer with lines representing streams, you may simply want all lines to be solid, colored blue, and with the same width. After choosing the All Same option, press the Edit button next to the Style menu to open the Style Editor with style controls for the current element type. If the style you create does not include library or custom symbols or patterns, the style settings are simply stored in the geometric object's Display Parameters (DispParm) subobject. If you wish to use symbols or patterns for an All Same style, you must first specify a style object in which to store the styles; press the Styles pushbutton on the Object tabbed panel of the Layer Controls window to choose a style object (see Style Objects section below).

Use the Styles button to select a Style object when using symbols or patterns for All Same styles.



**By Attribute:** Choose the *New - By Attribute* option from the Style menu to associate a separate style with each unique value in a designated database field. The selected field can contain text, such as a soil type, vegetation type, or other category label, or a numeric value. Pressing the Edit pushbutton opens the Style Assignment Table window. You can use this window to automatically generate a set of styles and associate them with the attribute values, or you can manually create styles and assign each one to an attribute value (see the TechGuides entitled *Style By Attribute: Automatic Style Generation* and *Style By Attribute: Manual Assignment* for details). The relationships between styles and attributes are stored in a *style assignment table* in the element type database, and the name of the style assignment table is automatically shown on the Style menu.

**By Theme:** For elements with numeric attributes representing some sort of quantitative measurement such as population, hazard level, and so on, you can use the *New - By Theme* option from the Style menu to automatically divide the range of values into discrete intervals and define a style for each interval. Pressing the Edit button next to the Style menu opens the Theme Mapping Controls window, in which you can specify the number of theme classes, choose a method for distributing values into intervals, and create styles for the intervals (see the TechGuide entitled *Theme Mapping Geometric Elements*). The theme map settings and style assignments are stored in a theme style assignment table in the element type database, and the name of the theme is automatically shown on the Style menu.

**By Script:** You can use the *By Script* style option to use a script to specify element styling. When you initially choose this option the Script Editor window automatically opens (press the Edit button to open it manually). SML style scripts can identify elements using attribute information and specify simple style attributes such as color, line width, and whether or not to fill polygons (see the tutorial *Building and Using Queries* for examples). In addition, a set of CartoScript functions are available

to specify drawing instructions for point symbols and line patterns that can have different geometries and drawing styles based on the element attributes (see the tutorial *Using CartoScripts* for more information).

## Style Objects and Subobjects: Linked versus Embedded Styles

Style information is stored in style objects that can exist at different levels of a Project File: as a main-level object, as a subobject of a parent geometric object, or as a subobject of a style assignment table in one of the object's element databases (see illustration below).

When styles are stored in a main-level style object, spatial objects in this or other Project Files can link to these styles. Linking to styles in a main level style object provides access to the styles without having to copy them to local style objects, so you can use a main-level style object as a custom style library. The advantage of this approach is that if the definition of a style is changed in the main-level style object, those changes appear automatically in subsequent displays of all geometric objects that use those styles. The disadvantage of linked styles is that they are not easily portable; if you copy data to a different computer or provide it to another user, links to the styles may be broken if you forget to include the file containing the styles or if the destination directory structure is different than that of the source computer.

Styles can also be stored in a style object that is a subobject of a style assignment table; these are referred to as *embedded* styles. When you style By Theme, the styles are automatically embedded with the theme table. When you set up styles By Attribute, you have the option to create new embedded styles, to copy styles from another style object and embed them, or to link to styles in a main-level style object (see the TechGuide *Style by Attribute: Manual Assignment*). Embedded styles are always included when the parent object or file is copied, but they can only be used by that parent object. (However, you can copy styles from an embedded style object to other spatial objects.)

Style subobjects of a spatial object are primarily used to store style information for elements in that object with All Same styles that utilize symbols or patterns.

