

Shape Layer Controls

The Shape Layer Controls window provides display settings for shape layers. You can open the Shape Layer Controls window by left-clicking on the layer's icon button in the Display Manager or by right-clicking on the layer name and choosing Controls from the popup menu.

The layer controls are organized in a set of tabbed panels. The Object panel provides settings that pertain to the entire layer. The Elements tabbed panel provides control settings for the shape elements, and the Labels panel provides controls to set up dynamic display labels.

After changing display settings, press the Apply button to apply the changes to the View while the Shape Layer Controls window remains open. Press the OK button to apply the changes and close the window. The Close button cancels any changes in settings not already applied and closes the window.

Object Panel

The Object tabbed panel is exposed by default when the Shape Layer Controls window opens (see illustration to the right).

Object: The Object field shows the filename and object name of the shape object being displayed.

Styles: Press the Styles pushbutton to select a style subobject of the current shape object or a main-level style object in a Project File as a source of styles to use to display the elements. 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. Styles assigned to elements by attribute can be stored in a style subobject of the style assignment table, which is independent of the style object selected on the Object panel. See the Technical Guide entitled *Managing Styles* for more information about style objects.

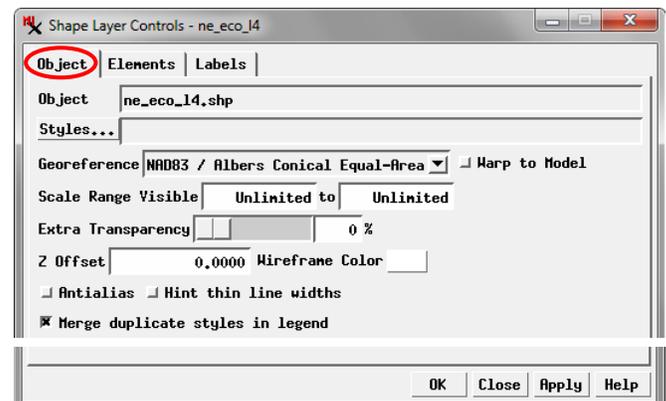
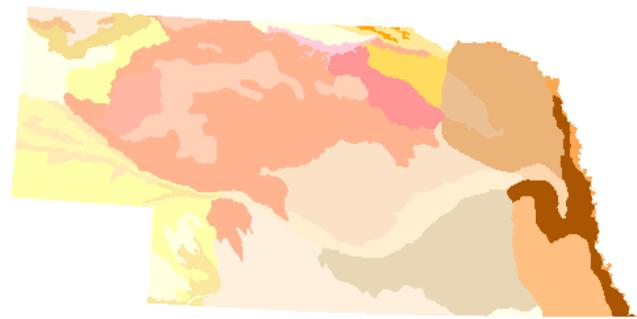
Georeference: The Georeference menu defaults to the georeference subobject that was last used. If the object has more than one georeference subobject (not recommended), you can use the Georeference menu to choose the desired georeference to use for the display.

If the shape object has control point georeference, turn on the *Warp to Model* toggle button to use the object-to-map coordinate transformation model stored with the georeference information when rendering the layer in the View.

Scale Range Visible: The Scale Range Visible fields let you limit the range of map scales over which the layer is displayed. For example, you may wish to hide a detailed layer when the View is zoomed out beyond a certain scale.

You set up scale control by specifying a minimum (field on the left) and maximum (field on the right) map scale. The minimum map scale controls how far out you can zoom and still show the layer, while the maximum map scale controls how far you can zoom in.

The Scale Range Visible fields by default are initially set to Unlimited, in which case the layer is shown at all map scales.



Object panel on the Shape Layer Controls window.

You can change both scale limits, just one, or neither. To set a map scale for either field, you can enter the full scale fraction (e.g., 1:10000) or just the denominator of the scale fraction (e.g., 10000); the resulting map scale fraction is then shown in the field. To reset a map scale field to Unlimited, enter 0. For more information about scale ranges, see the TechGuide entitled *Display Layers, Elements and Groups by Scale*.

Extra Transparency: Use the Extra Transparency slider and numeric field to set a transparency percentage for the entire layer (all elements). Transparency applied to the entire layer is in addition to any transparency set for particular element styles, such as partially-transparent polygon fill colors. Layer transparency can also be adjusted using the Transparency controls in the View window sidebar (see the TechGuide *Easily Vary Transparency for Any Layer*). Each transparency control is updated when the setting on the other control is changed.

Z Offset: The value in the Z Offset field applies when displaying in a 3D Perspective View. It sets the vertical offset (in meters) of the layer from the surface determined by the terrain layer. This setting can be used to "float" the 3D layer surface above the terrain (and any other layers draped on that terrain surface; see the *3D Perspective Visualization* tutorial).

The *Wireframe Color* button shows the mesh color used for the layer in wireframe display in the 3D View. Press the color button to open a Choose Color window to select a different wireframe color.

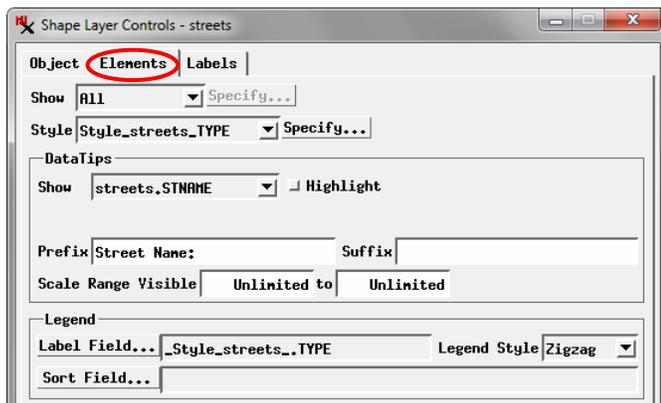
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Antialias and Hint: Turning on the *Antialias* toggle button applies antialiasing to lines or polygon borders to reduce the stairstep effect on diagonal and curving lines in the View. Antialiasing is applied to any line that has a width of less than 1.5 pixels on screen. Turning on the *Hint thin line widths* toggle applies partial transparency to lines that would be less than one pixel wide on screen at the current scale. The degree of transparency is proportional to the intended scaled width of the lines. For information and illustrations of antialiasing and hinting see the TechGuide entitled *Enhanced Line Rendering*.

Merge Duplicate Styles: When elements are styled by attribute, a style sample can be shown in the sidebar legend for each attribute. If the same style is assigned to different attributes, turning on the *Merge duplicate styles in legend* toggle shows only a single style sample for each set of duplicates and the legend label lists up to two attributes associated with that style, separated by commas. If there are more than two attributes, an ellipsis (...) follows the second attribute name.

Elements Panel

The Elements panel includes display settings for the shape elements, including DataTips and legend settings. A shape object can contain only one type of element: point, line, or polygon. The controls on the Elements panel vary slightly depending on which type of element is present. The illustration below shows the Elements panel for a shape object containing lines.



Elements tabbed panel

Show: The Show menu provides choices governing which elements to display. The options are All, By Attribute, By Map Scale, and By Query. Choosing an option other than All activates the *Specify* button next to the menu.

The *By Attribute* option lets you display only elements that have selected values in a specified database attribute field. After choosing this option from the Show menu, pressing the Specify button opens the Select by Attribute window (see illustration at the top of the next column). This window allows you to choose an associated database table and field by pressing the *Attribute* button; the selected table.field reference is shown in the text field next to the button. If the elements are displayed using styling by attribute, the field on which the styles are based is selected by default.

The scrolling list in the Select by Attribute window shows all

of the attribute values in the specified field; turn on the checkbox for each value whose elements are to be displayed. *Select All* and *Deselect All* icon buttons are provided above the list.

The *Table* combobox shows the name of the table in which the attribute selections are recorded. If you are using the “style by attribute” field, the associated style table is selected by default. If you are using a different attribute field, a selection table is created to record the element selections. You can create and save more than one selection table; all available selection tables are listed on the Table combobox.



Select by Attribute window

The *By Map Scale* option on the Show menu lets you set scale ranges for groups of elements by attribute value; the display scale in the View then determines which of these elements are displayed. Pressing the Specify button after selecting this option opens the Scale Ranges window, which is described and illustrated in the TechGuide entitled *Display Layers, Elements and Groups by Scale*.

The Specify button for the *By Query* option from the Show menu opens the Script Editor window so you can enter a selection query to specify the elements to display. Examples of selection queries are provided in the *Building and Using Queries* tutorial.

Style: The Style menu provides choices for styling the elements; the options include All Same, New - By Attribute, New - By Theme, and By Script. Press the *Edit* button next to the menu to set up the styles.

When you select *All Same*, pressing the Edit button opens the Style Editor with style controls for the relevant element type. The style you create or select is applied to all of these elements.

Choose *New - By Attribute* to set up different styles for different values in a specified attribute field. Styles can be created and assigned to attribute values manually or using an automated procedure. Associations between attribute values and styles are saved in a style assignment table. The names of any previously-created style assignment tables are automatically listed in the Style menu. For information on setting up styling by attribute see the TechGuides entitled *Style By Attribute: Manual Assignment* and *Style By Attribute: Automatic Style Generation*.

The *New - By Theme* style option lets you assign elements to a specified number of theme classes, each with its own drawing style, based on the values in a numerical attribute field. The class range boundaries can be set automatically or manually, and you can specify color and size spreads to automatically generate drawing styles. After you save a theme for an element, the

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name of the theme appears as an option on the Style menu. For information about theme maps see the TechGuide entitled *Theme Mapping Geometric Elements* and the *Theme Mapping* tutorial.

The *By Script* style option lets you use a script to set drawing styles based on element attributes and to use CartoScripts to create custom cartographic renderings for point and line elements. For more information see the *Building and Using Queries* tutorial for examples of simple style scripts and the *Using CartoScripts* tutorial.

DataTips: Use the DataTips controls on the Elements panel to specify an attribute field as the source for information to show in the View when the cursor is paused over or near the element. You can also set Prefix and Suffix text and set the DataTips to appear over a limited range of map scales. For more information on these controls see the TechGuides entitled *DataTips* and *DataTip Highlighting of Geometric Elements*.

Legend: When the style option for the elements is set to All Same, the View sidebar legend shows a single style sample with no label. If the elements are styled by attribute, the *Legend* controls are active on the Elements tabbed panel in the Shape-Layer Controls window. In this case the legend has a separate entry for each style with a style sample and a label. The default legend label is set from the database field that is the basis for assigning the styles. Press the *Label Field* button to choose a different field as the source for the sidebar legend labels; the selected table and field name are shown in the text field to the

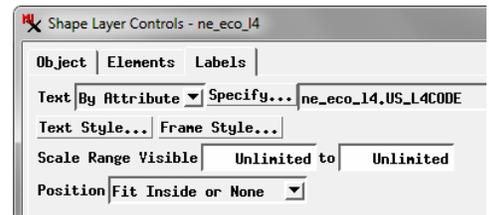
right of the button. When the elements are styled by theme the legend automatically includes labels showing the numeric range of each style sample.

Legend entries by default are sorted based on the label text. You can choose to have the legend entries sorted by the entries in a different field; press the *Sort Field* button to select the field. For more information see the TechGuide entitled *Vector and Shape Layer Legends*.

When the shape object contains line elements, the *Legend Style* menu to the right of the Legend Label button and field lets you choose to show line samples in the sidebar legend in either a Straight or Zigzag style.

Labels Panel

The controls on the Labels panel let you configure the layer to show automatic display labels for the shape elements using information in the element database. You can set text style options and choose to enclose the dynamic labels in frames with your choice of fill and border colors. Dynamic labels can also be set to display only within a specific scale range. For more information on these controls see the Technical Guide entitled *Dynamic Labels for Geometric Elements*.



Labels tabbed panel

