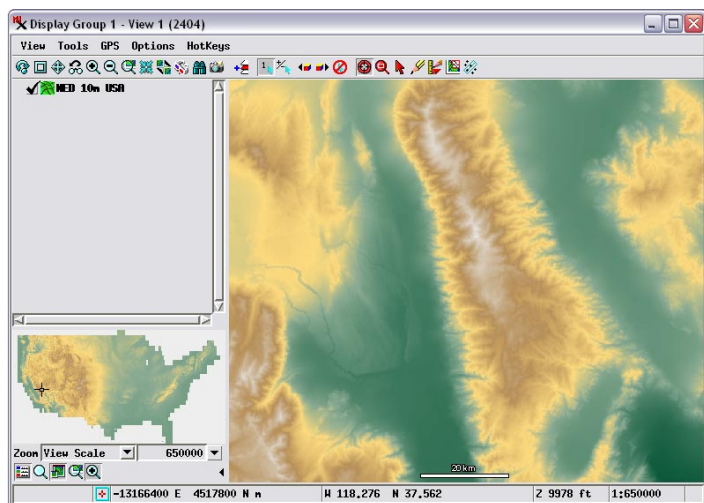
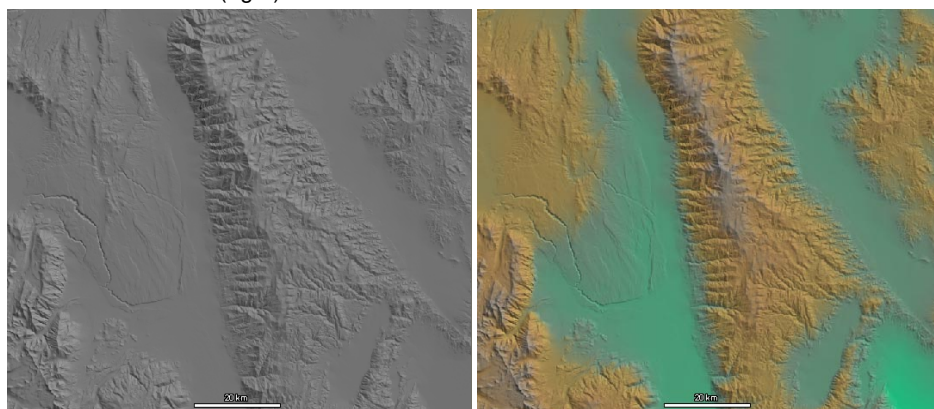


Visualizing Terrain Layers

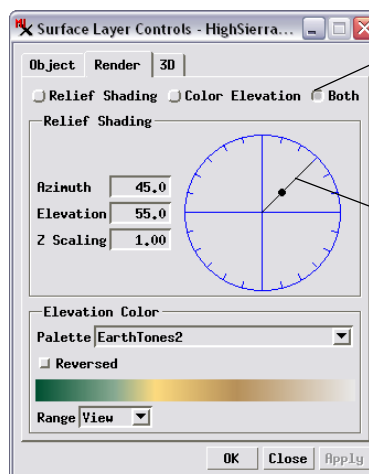
Elevation data in the form of a raster object or a web terrain tileset (see the Technical Guide entitled *Tilesets: Web Terrain Structures*) can be added to Spatial Display views as *terrain surface layers*, which are used primarily to visualize satellite or aerial images in stereoscopic or 3D perspective renderings. But terrain surface layers can also be visualized directly as independent layers, with your choice of adjustable relief shading, color-coded elevation, or a combination (color shaded relief) as illustrated below.



View zoomed into a portion of terrain surface layer using the NED 10m USA web terrain tileset hosted at microimages.com. The surface is rendered above by color-coding elevation values using a color palette selected in the Surface Layer Controls window. The illustrations below show two alternative renderings of the same portion of the terrain: relief shading (left) and combined shading and elevation colors (right).



The Render tabbed panel on the Surface Layer Controls window (illustrated at the top right of this page) provides a set of radio buttons at the top of the panel to select the rendering mode. The Relief Shading grouping on the panel provides numeric fields and a graphic control for setting the Azimuth (compass direction to the virtual illumination source), the Elevation (vertical angle to the illumination source), and Z Scaling multiplier for the elevation values. To change the illumination azimuth using the shading graphic, drag the radius line to different positions around the circle. Drag the black dot on the radius line inward toward the center of the circle to increase the Elevation angle and outward to decrease it.

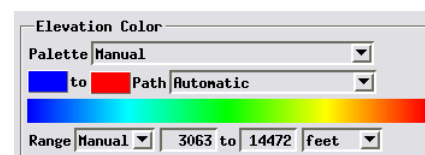


The Render tabbed panel provides radiobuttons for setting Relief Shading, Elevation Color, or a combination of both modes for the terrain surface.

Rotate the radial line of the shading graphic control around the circle to change the shading illumination azimuth value. Drag the black dot on the line inward or outward to change the illumination elevation angle.

The Elevation Color control grouping provides a Palette menu that you can use to choose any standard raster color palette to apply to the surface, or you can choose Manual from the menu to design a new color spread to apply (see illustration below). The Manual mode provides color buttons to choose the starting and ending colors for the spread and a Path menu to select the type of color spread (Automatic, RGB HIS Clockwise, HIS Counter-Clockwise, HBS Clockwise, or HBS Counter-Clockwise). The color spread bar below these controls updates automatically to show the result of changes in the spread settings.

The Range menu in the Elevation Color grouping determines the range of elevation values over which the color palette or spread is applied. The Object option uses the full range of values from the surface object, while the View option uses only the value range



Choosing Manual from the Palette menu in the Elevation Color grouping lets you set up a custom color spread to apply to the terrain surface's elevation range.

from the portion of the surface within the current view, which can accentuate local details in the surface. The Manual option provides numeric fields for setting the minimum and maximum values so you can customize the elevation range to use.

A DataTip is automatically provided for terrain surface layers using settings shown on the Object tabbed panel. You can set the number of decimal places to show, the elevation units, and prefix and suffix to show. The elevation units and suffix are set automatically for web terrain tilesets and for raster surfaces for which the value units have been set (see the QuickGuide entitled *Terrain Layer Value Type and Units*).

