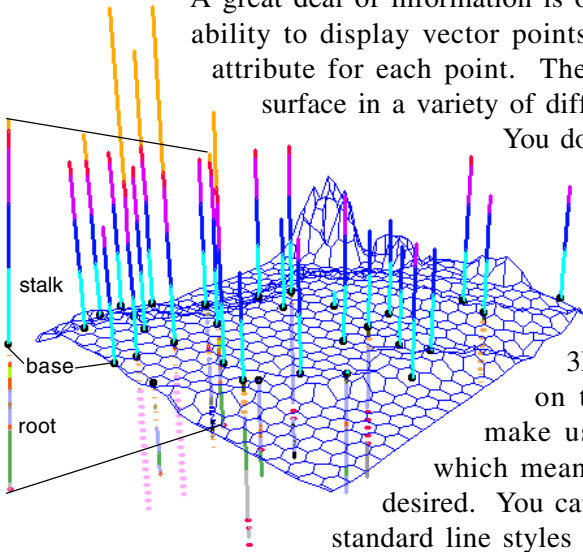


Vector Points on Stalks in 3D Views

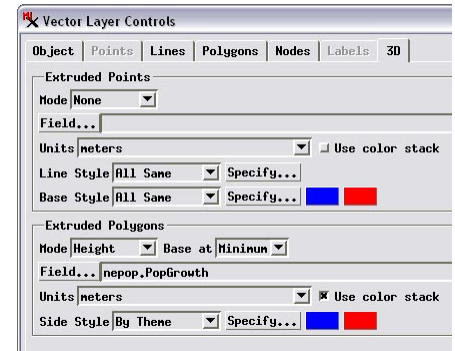
A great deal of information is often associated with individual vector points. TNTmips provides the ability to display vector points in 3D perspective views in a manner that conveys more than one attribute for each point. The points are essentially displayed as lines above and/or below a 3D surface in a variety of different styles using the height or elevation supplied by a selected field.

You do not have to supply a surface to go with the point data—the surface is represented as a flat plane if not supplied.

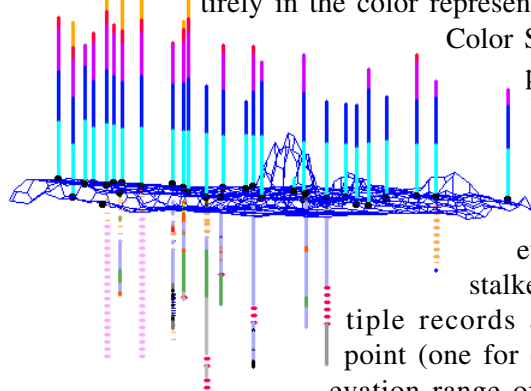
These 3D point representations have three components: the stalk or root, the base, and the billboard. Each of these components can have a different drawing style (All Same, By Attribute, By Theme, or By Script). The style of the stalk and the base point are designated on the



3D panel of the Vector Layer Controls. The billboard symbol is selected on the Points panel. Stalk styles make use of any TNTmips line style, which means you can design new styles if desired. You can also choose from a number of standard line styles or copy a line pattern from any existing style object.



ground level view of same points



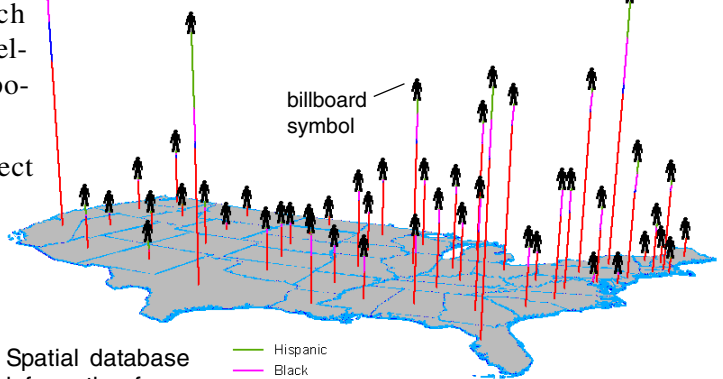
When displaying by theme or by attribute, you have the added option of using a color stack to represent the stalk. With the Use Color Stack option toggled off, a theme stalk will be drawn entirely in the color representing its highest value. With the Use

Color Stack option toggled on, each of the theme classes through which the point passes are also displayed on the stalk (as shown above ground at the left). When displaying by attribute with the Use Color Stack option off, the attribute value in the first record attached to the point is used for the entire stalk. When the option is toggled on, all attached records are assigned the line determined by their cumulative height or elevation value. The stalked points, such as

multiple records attached to each point (one for each height or elevation range of uniform composition). A separate class table is also required.

The illustrations above at left have the same vector object added twice with different fields used to provide the height values and different stalk styles. Above ground the pumping capacity of each well is theme mapped. Below ground, the well log information is displayed by attribute. The Use Color Stack option is turned on in both cases (as it is for the population example on the right).

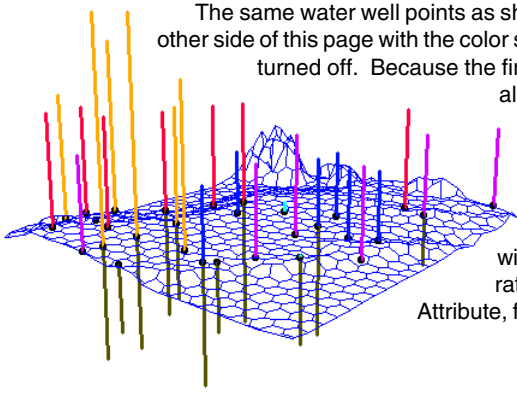
The stalked point feature is available only when working with 3D groups. The stalk and root length can be specified by height (distance above or below the surface) or elevation (distance above or below sea level). The length is also sensitive to the Elevation Scale setting for the group as a whole. Additional examples of vector points on stalks are shown on the next page.



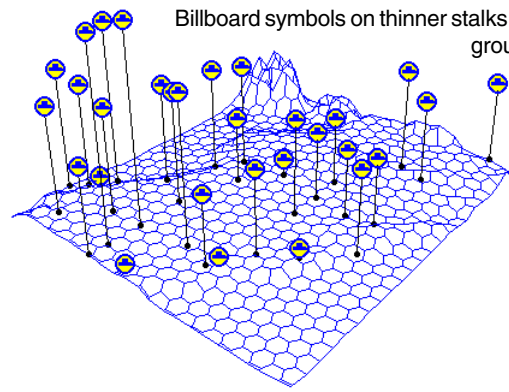
Spatial database information for an area is often

provided with the location of a single point within that area, such as the state centroid provided with this population data for the USA. Population data is not cumulative data, which is required for display by attribute along the stalk. A new table can be generated using an SML script to put the data in the correct form for 3D display. This script is described on another Technical Guide (*Creating Cumulative Data*). Note that billboard symbols should have their origins at the base of the symbol or part of the stalk will be obscured.

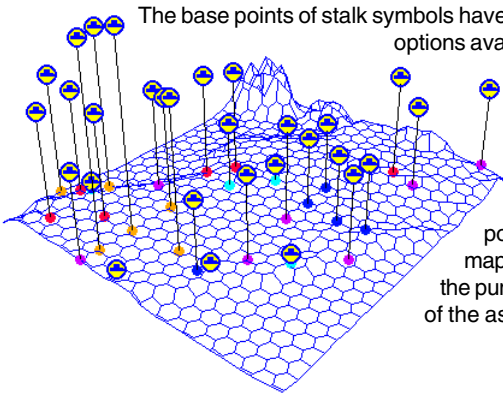
The same water well points as shown on the other side of this page with the color stack option turned off. Because the first record of all well logs is some form of topsoil, the roots appear as if drawn with All Same, rather than By Attribute, for the style.



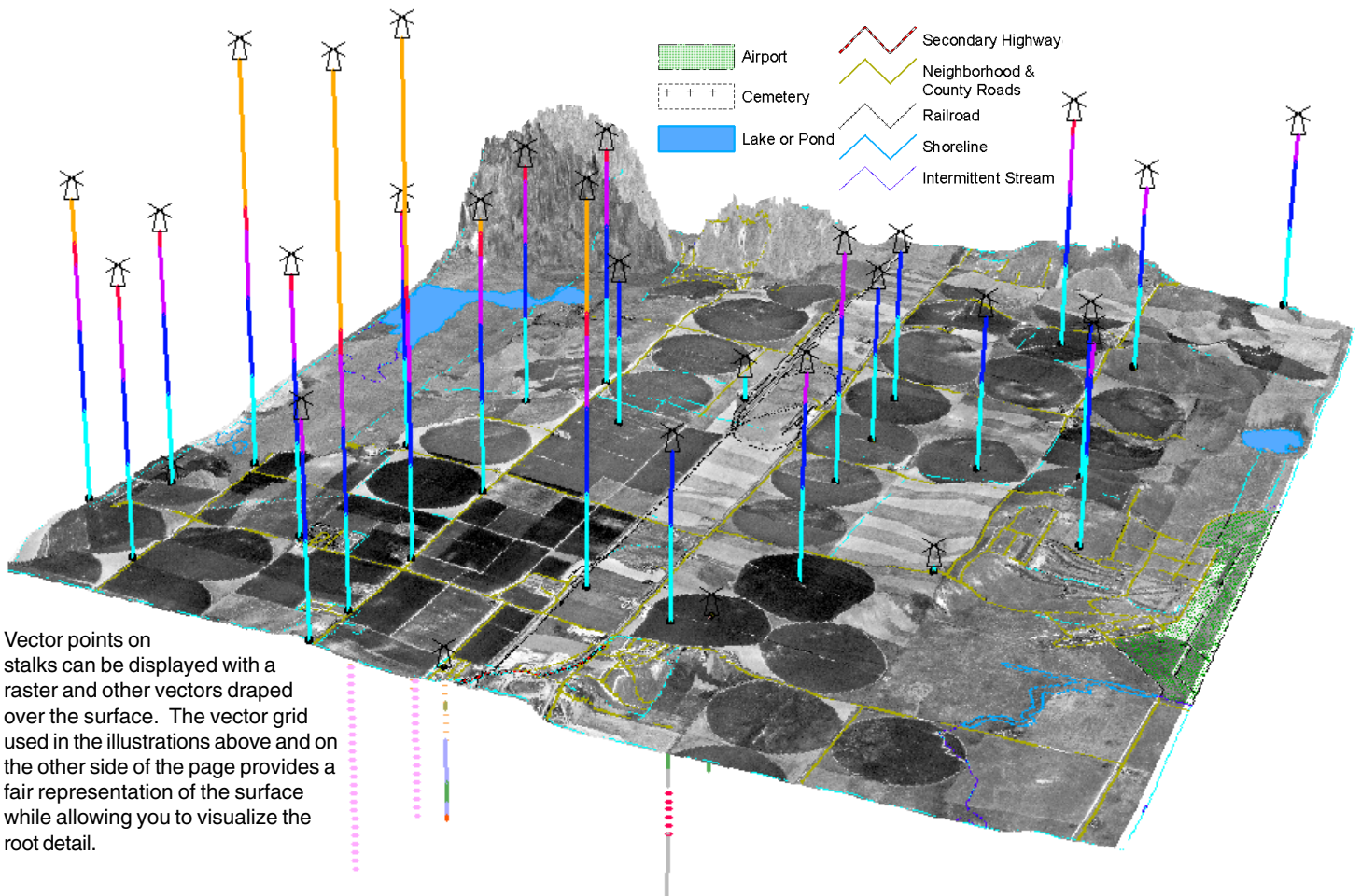
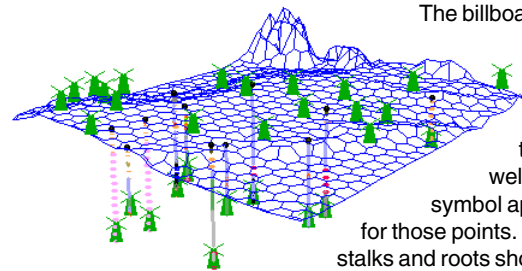
Billboard symbols on thinner stalks used to simply mark the ground location of the point. The height of the stalk still conveys the pumping capacity of the well.



The base points of stalk symbols have all the display options available for other points: All Same, By Attribute, By Theme, and By Script. Here the base points are theme mapped to indicate the pumping capacity of the associated well.



The billboard symbol for a root is placed at the bottom, rather than at the top as for a stalk. Here, a number of the points do not have well logs, so the billboard symbol appears on the surface for those points. Billboard symbols for stalks and roots should have their origins (hot spots) at the bottom and top, respectively, so the information conveyed by the root or stalk is not obscured as it is here. The symbols for the points without well logs would then appear below the surface.



Vector points on stalks can be displayed with a raster and other vectors draped over the surface. The vector grid used in the illustrations above and on the other side of the page provides a fair representation of the surface while allowing you to visualize the root detail.