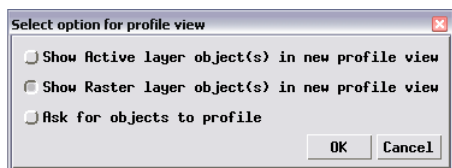
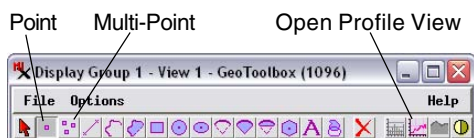


Graph Values from Multiple Rasters/Terrains by Location

The GeoToolbox Profile View allows you to create cell value plots from corresponding positions in multiple raster objects or web terrain tilesets. These graphs, which plot cell value (y-axis) versus object number in the list of selected objects (x-axis), can have many applications. For example, you might have a time series of vegetation index rasters for the same area and want to plot variations in the index over time for one or more locations. Or you might want to make simple “spectral” plots for selected locations in broadband multispectral images, such as SPOT, Landsat, or WorldView.

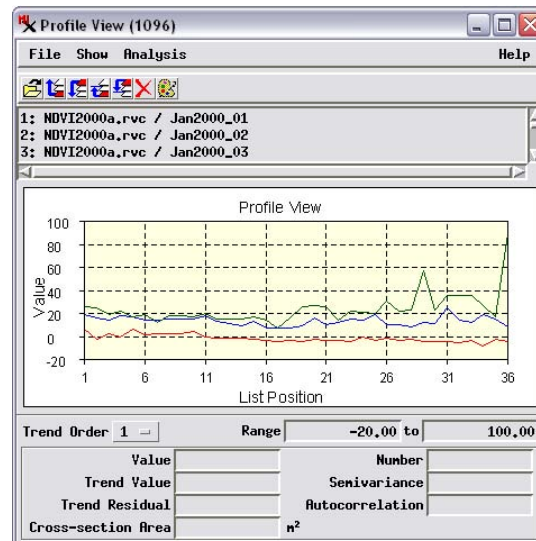
To make such graphs:

- display the desired objects in the View
- use the GeoToolbox Point tool to specify a cell location in the View (or use the Multi-Point tool to specify several locations for multiple profiles)
- press the Open Profile View icon button on the GeoToolbox toolbar
- in the popup option dialog, choose “Show Raster layer object(s) in new profile view”.

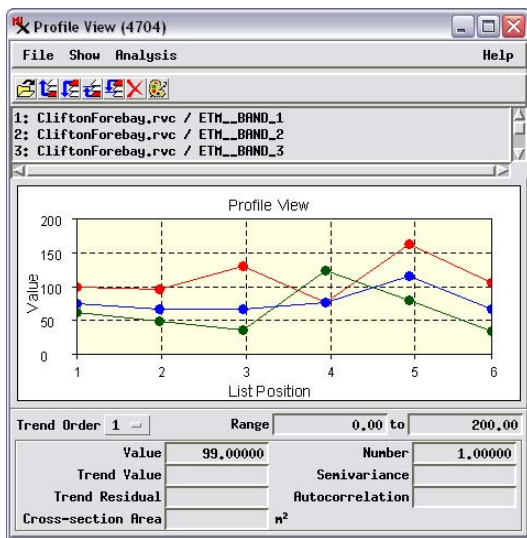


If multiple useable objects are in the View when you press the Open Profile View icon button, a dialog window opens automatically so you can choose which objects to use for the profile (including selecting objects not currently being displayed).

Point positions in the profiled objects are computed independently from each object’s georeference information, so the objects need not match in projection, cell size, or geographic extent. (You can use a series of ungeoreferenced raster objects if all have the same number of lines and columns.) You can also mix objects of any integer or floating-point data type. If you display an RGB color image (single color-composite raster or separate red-green-blue raster objects), each color component is shown as a separate entry in the Profile View. The raster objects that you wish to graph do not need to be loaded for display; you can display a reference object, such as a reference image or vector map, and choose raster or terrain objects not currently displayed to provide the values for the plot(s) (see the Technical Guide entitled *GeoToolbox: View Raster and Web Terrain Profiles*). The data for all currently-shown profiles can be saved in a comma-delimited text file for easy import into a spreadsheet or other software application.



Plots of variation in Normalized Difference Vegetation Index (NDVI, scaled from -100 to +100) from January through December 2000 for three locations in southeastern New Mexico, from a set of 36 AVHRR 10-day composites.



Left, “spectral” plots of six Landsat7 ETM bands in order of increasing wavelength (bands 1, 2, 3, 4, 5, and 7) for three locations specified in the View using the GeoToolbox Multi-Point tool (shown by the cross symbols, right). The View shows an RGB layer using three of the Landsat bands. When the *Select option* window opened after the Open Profile View button was pressed, the *Ask for objects to profile* option was chosen, allowing selection of all six ETM bands in the desired order. The plots on the left are shown with markers (“nodes”) for each raster value, an option set using the Node option on the Show menu. You can also choose various combinations of filled plots, markers, and stair-step plots.

