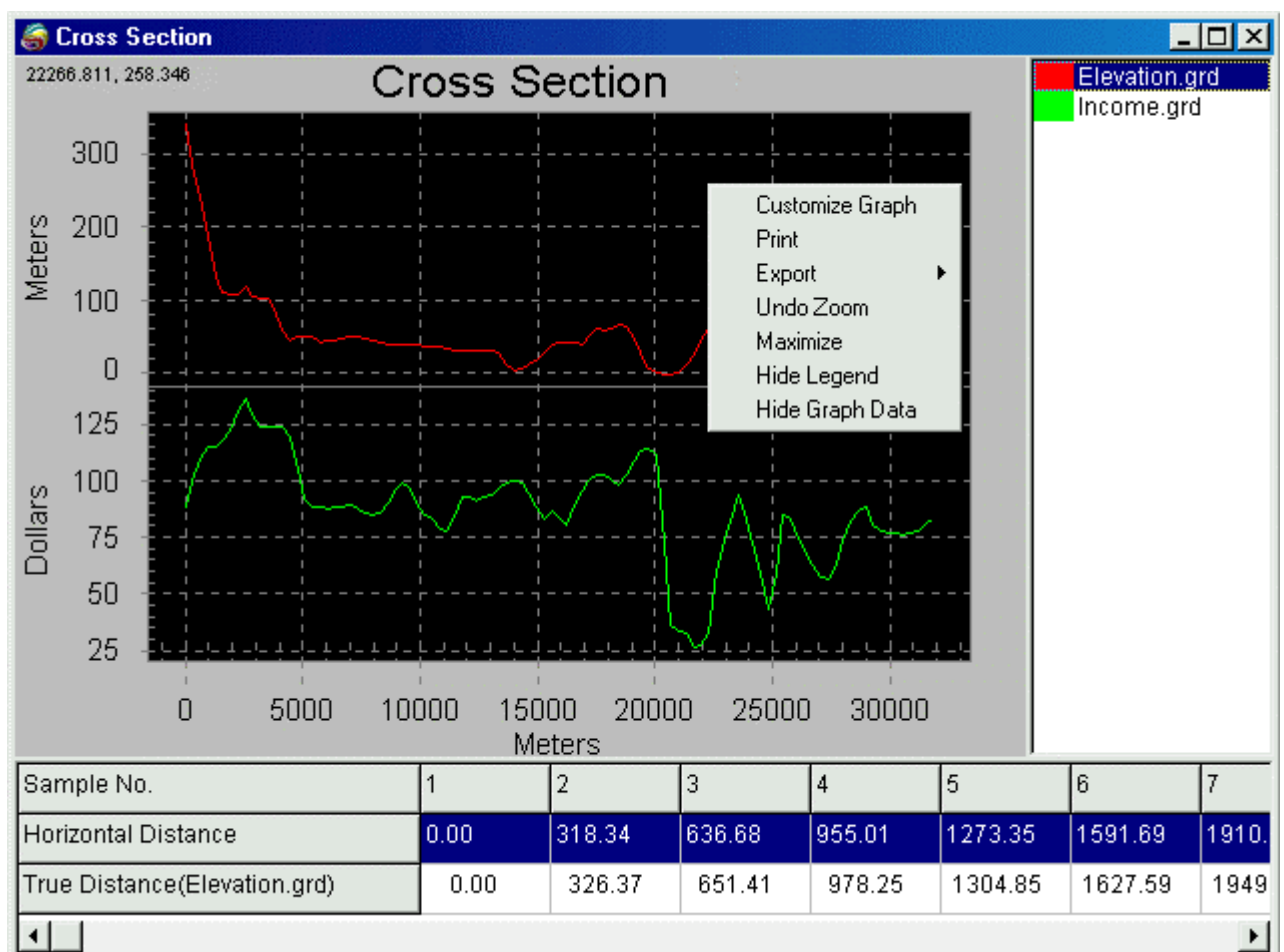# The Graph Window

The graphing component in *Vertical Mapper* appears as part of three features, namely the frequency histogram in the *Grid Manager*, the *Cross Section* tool, the *Point-to-Point Visibility* tool, and the semivariogram in the *Kriging* interpolation. Each of these features employ some, if not all of the available graphing capabilities. This section will cover the fundamental components of the *Vertical Mapper* graphing feature.

- In any of the three cases where graphs appear in *Vertical Mapper*, the graph view can be modified by clicking on the right mouse, while the cursor is over top of the graph, exposing the Graph menu.

Customizing a Graph

Selecting the **Customize Graph** command brings up the **Graph Customization** dialogue box. The dialogue is divided into four tabbed windows that control settings for general graph layout and plot style.

Modifying Titles, Fonts and Grid Lines
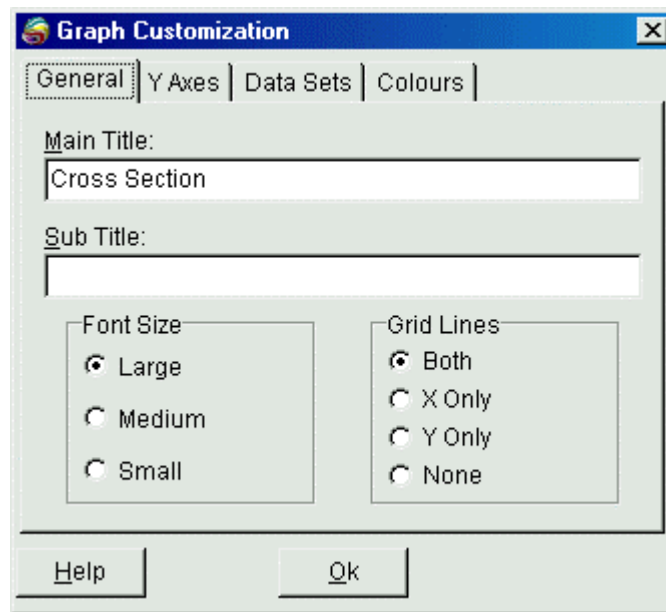
The *General Tab* window contains settings that control the text displayed on the graph as well as the graph lines.

1. Use the *Main Title* and *Subtitle* edit boxes to enter appropriate titles for the Graph window.

2. Use the *Font Size* radio buttons to control the font size for all text entities in the Graph window.

3. The *Grid Lines* radio buttons are used to select grid lines parallel to *Both* the X and Y axes; the X axis only; *X Only;* the Y axis only, *Y Only* axis; or *None* at all.

Modifying the Y Axis

The *Y Axis Tab* window contains settings that control how the labels for each graph in the Graph window are presented.
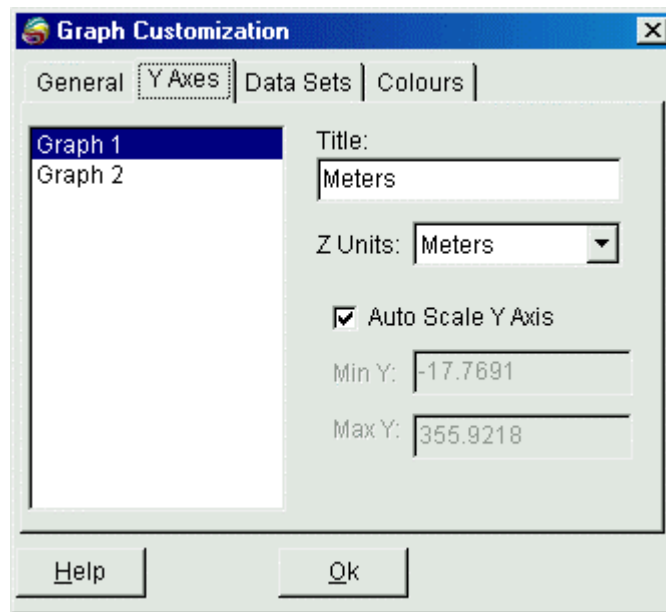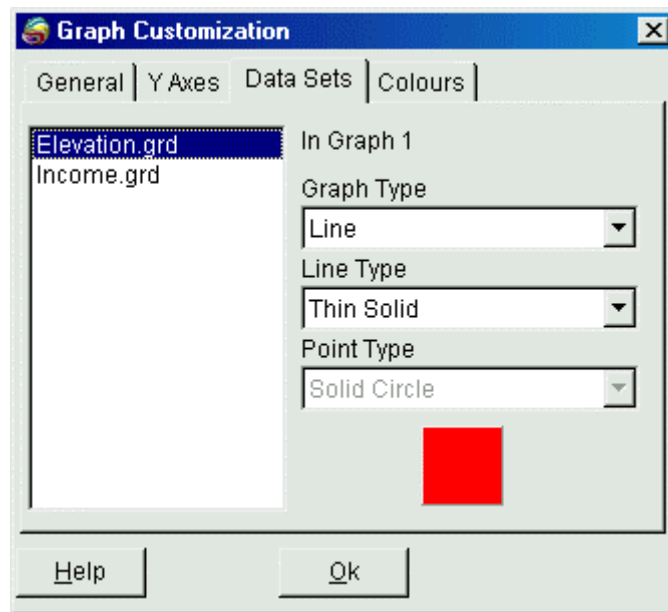
4. The window to the left of the dialogue displays the number of different graphs that appear in the Graph window. The numbering convention represents the number of graphs that appear in the Graph window starting from the top of the window.

5. The *Title* edit box provides the user with the ability to change the title of the Y-axis for the selected graph. The default is the units of the grid(s) that appear in the graph.

6. The *Z Units* option converts the units used on the Y axis. This is only available when the Z-units of the grids displayed in the graph are a linear measurement.

7. If the *Auto scale Y-axis*, check box is checked, then the Y-axis labels default to the range of data values found in the grid file. When unchecked, the user may enter a custom *Min Y* and *Max Y* value for the axis label. If this range is customized so that it is smaller than the range of values used to create the graph, then graph lines may be drawn into adjacent graphs.

Modifying the X Axis

The X-axis values can only be edited for the *Cross Section* tool. The modification is made to the *X Axis Units* setting found in the *Preferences* dialogue. To access the *Preferences* dialogue, select the *Vertical Mapper > Preferences* menu item. For more information on other *Vertical Mapper Preference* settings see Chapter 15.

Modifying Plot Styles

The *Data Sets Tab* window contains settings that control the style and colour of individual plot(s) in the Graph window.

8. To the left of the dialogue is a listing of all the grids that have been plotted in the Graph window. By selecting any of the grids in the list the appropriate graph number will appear to the right.

9. The *Graph Type* drop-down displays all the different plot styles that can be applied to the lines in the graph.

10. The *Line Style* drop-down displays all the available line styles for *Graph Types* that have line components.

11. The *Point Style* drop-down displays all the available point styles for *Graph Types* that have symbol component to it.

12. When selected, the coloured button near the the bottom of the dialogue brings up the standard Windows colour dialogue, providing a way of changing the plot colour of the selected grid.

Modifying the Graph Window

The *Colours Tab* window contains settings that control the colours of the different components of the Graph window.
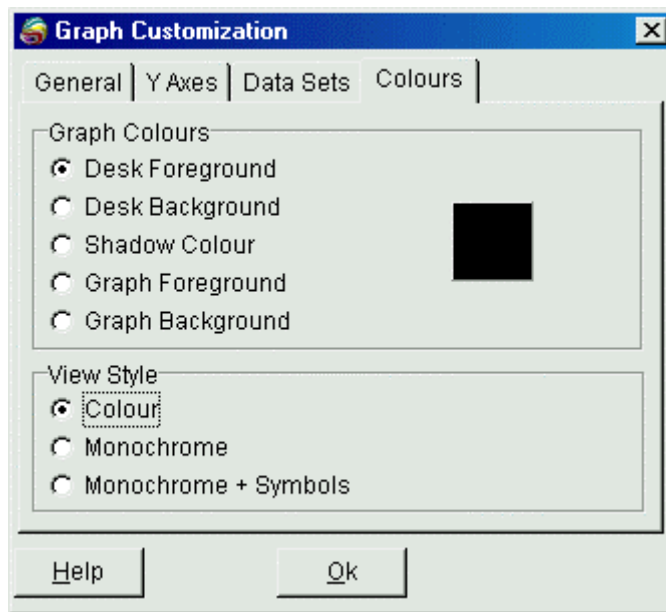
13. The *Graph Colours* section of the dialogue is used to control the colour of the *Desk Foreground* (text entities), *Desk Background* (the area outside the graph axes), *Shadow Colour* (the drop shadow for the graph area), *Graph Foreground* (all grid lines and axes lines), and *Graph Background* (the area within the graph axes). Colours are modified by selecting the radio button to right of each option and then selecting the colour buttond to the right of these options. Note that the *Graph Colours* section is non-selectable if one of the *Monochrome* view styles is chosen.

14. The *View Style* setting is used to select a *Colour* plot, a *Monochrome* plot (black line on white backgroud), or a *Monochrome + Symbols* plot.

Exporting a Graph

Selecting the *Export* command from the *Graph* menu produces a drop-down menu with three export options: Text File, Bitmap & Tab, and Windows Meta File.
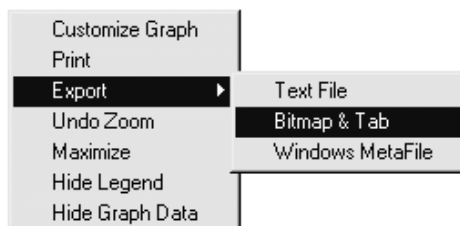
1. The *Text File* option saves all the information used in constructing the graph to a comma delimited ASCII text file with a .TXT extension. The information saved includes the sample number, the distance from the starting point of the line, the X and Y coordinate of each sample, the overland distance between earch sample, and the value at each sample location found on all grids plotted in the graph. The overland distance value is only available when the projection of the grids being graphed is in a Cartesian coordinate system and has not crossed a null data region. When this menu item is chosen the user will be prompted for the name of the text file.

2. The ***Bitmap & Tab*** option saves the Graph window to a 24-bit Bitmap image with an associated .TAB file. This allows the graph to be opened in MapInfo and placed inside a Layout window. When this menu item is chosen the user will be prompted for the name of the text file. Note that MapInfo Professional versions prior to 5.5 do not support 24-bit images.

3. The ***Windows MetaFile*** option saves the Graph window as a Windows MetaFile .WMF.

Other Commands

There are four other commands available in the *Graph Window* menu.

- The ***Print*** command prints the current graph directly to the default printer as set by the computer's operating system.

- The ***Maximize*** command is used to maximize the graph window to full screen size. The graph may be reduced to the original size by selecting the ESC key or clicking with the left mouse button in the upper left corner of the maximized window.

- Any time the curser is in the *Graph Window*, it can be used as a zoom tool by clicking and dragging with the left mouse button. The ***Undo Zoom*** command is used to return the graph to the original zoom level.

- The ***Hide/Show Legend*** command is used to toggle on or off a legend window placed along the right edge of the graph. Since two or more graphs may be displayed in the same *Graph Window*, the legend indicates the colour assigned to each grid file. Note that the line or symbol colour of the graph can be modified by double clicking on the grid filename entry in the legend box. This brings up the standard Windows colour dialogue.

- The ***Hide/Show Graph Data*** command is used to toggle on or off the data window that appears along the bottom edge of the Graph window. This window will display the the crowfly and true horizontal distance between each of the sample points used to produce the graph. This feature is only available for the *Cross Section* tool.

- Note that the *Vertical Mapper* Graph window can support multiple plots as shown in the figure at the beginnign of this section.   This can only be performed with the *Cross Section* tool covered in Chapter 10.