Specifying a Scenes Properties: The Viewing Tab

Once the *GridView* module has been launched, the first dialogue to appear is the ***Scene Properties*** dialogue. This dialogue comprises three tabbed windows with settings for *Viewing*, *Surface* and *Lighting and Colour* properties. A preview window provides real-time updated views of the rendered grid file, immediately showing the effect of changing the various settings. Also, the *Grid Layer Control* helps manage the multiple grids and drape files that can be rendered within a scene.

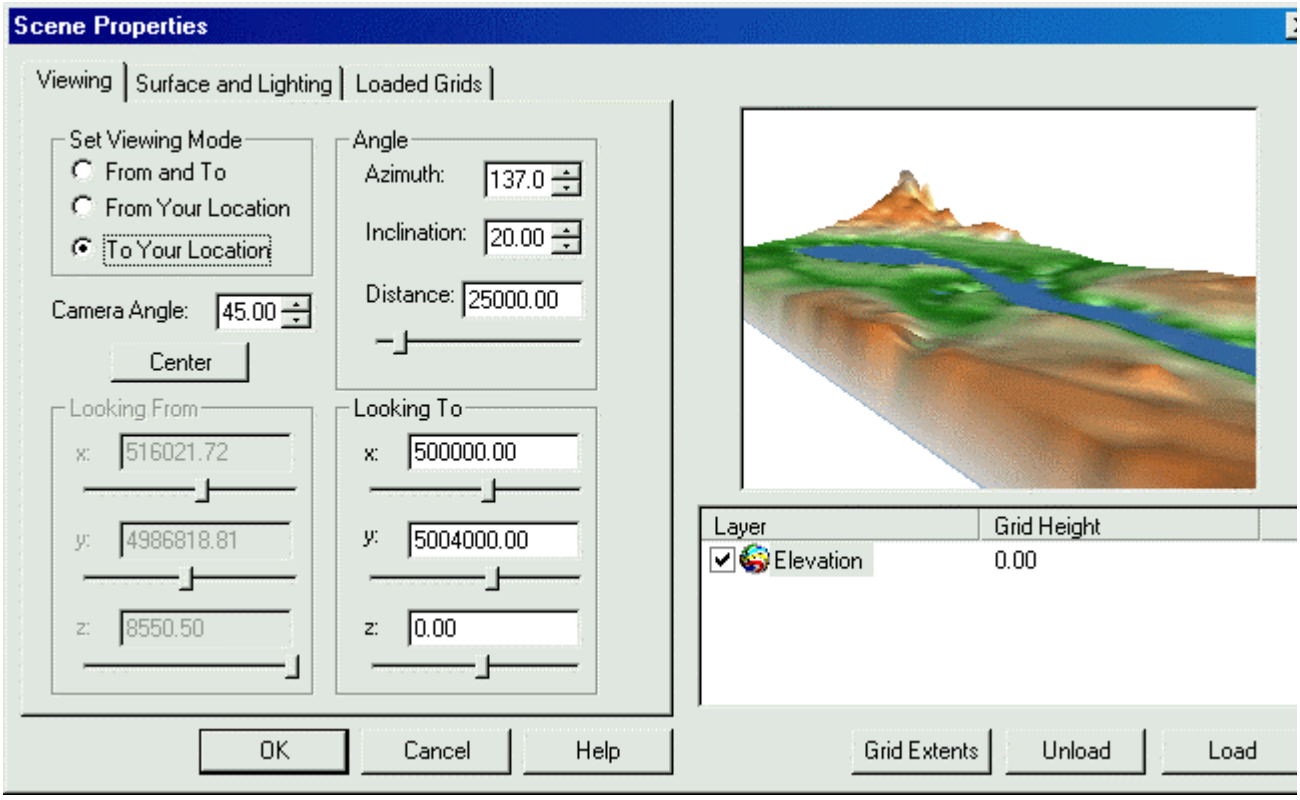

Figure 14.1. The ***Viewing*** Tab contains settings for determining the view perspective of the rendered scene.

1 ***Set Viewing Mode*** determines how the viewing position is located in geographic space. There are three ways in which this location can be defined: a) ***From and To*** mode, b) ***From Your Location*** mode , and c) ***To Your Location*** mode. Depending on which mode is chosen, different settings will be available on the *Viewing* Tab. The default viewing mode is the *From and To* mode.

1 The ***From and To*** mode requires the user to specify the X and Y coordinates of where the viewer is "standing" in the scene and the X and Y coordinates of the location where the viewer is looking towards. Also, the user must specify how far above or below the grid surface these two locations are. In other words, users specify the X, Y and Z location of where they are looking from and the X, Y and Z of where they are looking towards (see Figure 14.2). These locations are entered into the ***Looking From*** and ***Looking To*** sections of the *Viewing* Tab. Values must be expressed in the units determined by the coordinate system of the Master Grid.

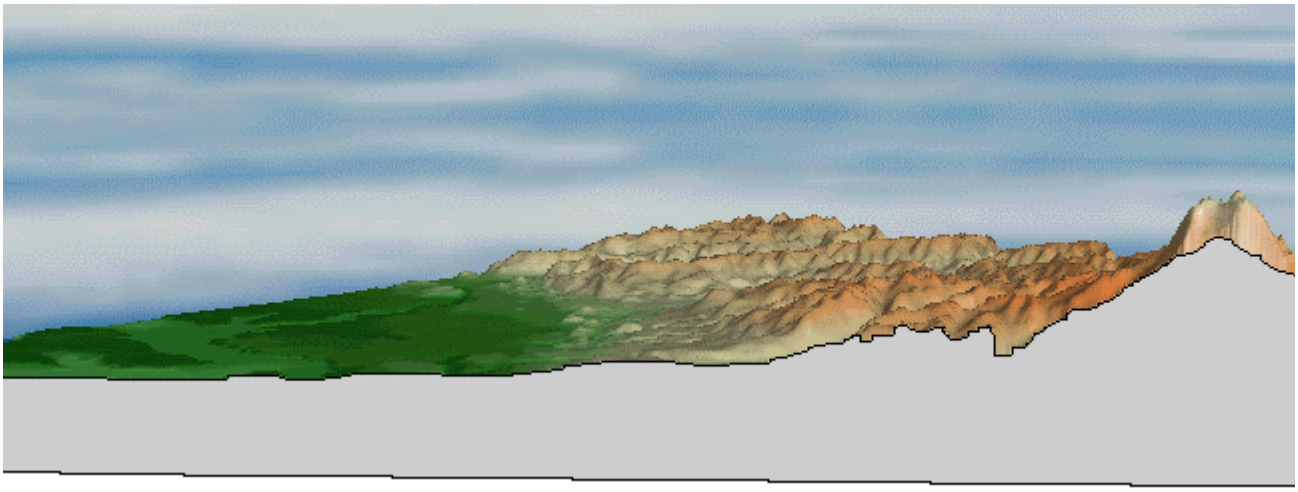

Figure 14.2. This diagram illustrates the ***To and From*** viewing mode. The circle represents the location of the viewer. With this mode the X,Y and Z coordinates of where the viewer is standing and where he/she are looking towards must be specified.

2 The ***From Your Location*** mode requires the user to specify the X and Y coordinates of where the viewer is standing, as well as how far above or below the grid surface this location is. Also, users will need to specify the direction in which they are looking with respect to true north, and the angle from the horizon plain at which the scene is being viewed (see Figure 14.3). The X, Y, and Z location is specified in the *Looking From* section of the dialogue, the view direction is specified in the *Azimuth* setting and the horizon angle is specified in the *Inclination* setting. These latter settings, are found in the *Angle* section of the *Viewing* Tab.

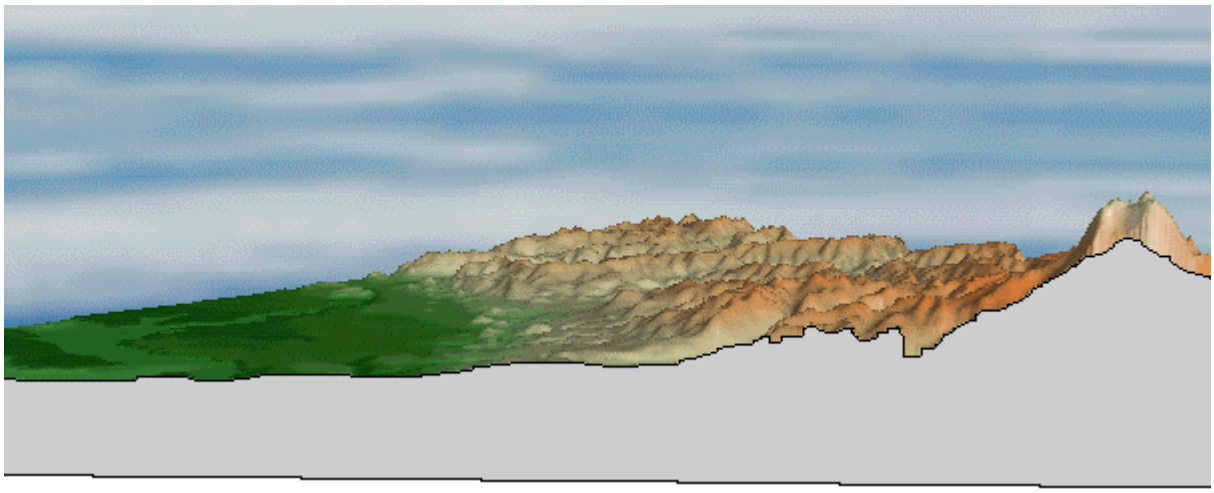

Figure 14.3. This diagram illustrates the ***From Your Location*** viewing mode. With this mode the X, Y and Z coordinates of where the viewer is standing, the direction he/she looking towards, and the angle above or below the horizon plain must be specified.

3 The ***To Your Location*** mode requires the user to specify the X and Y coordinates of where the

viewer is looking towards (focus point), how far above or below the grid surface this location is, the angle from the horizontal plain at which the scene is being viewed, and the distance between the viewing location and the location on the grid that is being viewed (see Figure 14.4). The X, Y, and Z location is specified in the *Looking To* section of the dialogue, the view direction is specified in the *Azimuth* setting, and the angle is specified in the *Inclination* setting. These settings are found in the *Angle* section of the *Viewing* Tab.

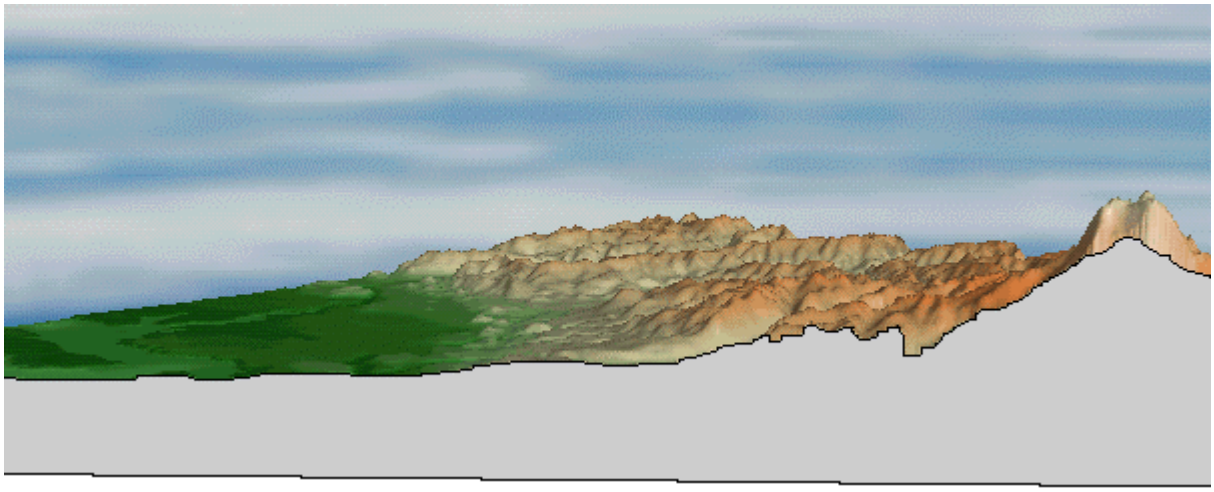

Figure 14.4. This diagram illustrates the ***To Your Location*** viewing mode.

1 ***Looking From*** defines the X, Y and Z coordinates of the location that the viewer is looking from. Where the X,Y coordinate pair specifies the surface position, the Z-value specifies the distance above or below the surface elevation. These values must to be expressed in the units of the coordinate system being used by the Master Grid. The default X-value corresponds to the geographic centre of the Master Grid. The default Y-value defaults to 2.5 times the horizontal distance of the Master Grid. The default Z-value is the lowest value in the Master Grid. Users can modify these settings by entering a new value into the edit window or by moving the slider bar to the left or right. When the slider bar is in use (indicated by the dashed line around it), the arrow keys may be used to modify this value.

2 ***Looking To*** defines the X, Y, and Z coordinates of the location the viewer is looking towards. Where the X,Y coordinate pair specifies the surface position, the Z-value specifies the distance above or below the surface elevation. These values must be expressed in the units of the coordinate system being used by the Master Grid. The default X, Y coordinate pair corresponds to the geographic centre of the Master Grid. The default Z-value is the lowest value in the Master Grid. Users can modify these settings by entering the new value into the edit window or by moving the slider bar to the left or right. When the slider bar is in use (indicated by the dashed line around it), the arrow keys may be used to modify this value.

3 The ***Angle*** section contains view settings required by one or more of the viewing modes. Initially this section is greyed out due to the *From and To* viewing mode being the default.

4 ***Azimuth*** is the angle in the X,Y plane at which the user views the grid. Depending on the viewing mode, this setting will behave differently. For example, when the *From and To* mode is chosen the *Azimuth* setting is not available. When the *From Your Location* mode is chosen, the azimuth is the direction the viewer is looking, with respect to true north, from the viewing location. Therefore a value of 0 degrees will rotate the viewing direction so that the viewer is looking North. Likewise, a value of 90 degrees will rotate the viewing direction to the East,

180 degrees to the South, and 270 degrees to the West. This is illustrated in Figure 14.5. When the *To Your Location* mode is chosen the azimuth is the direction the viewer is looking with respect to true north, in relation to the focus point. The focus point is the location on the grid that is being viewed and is specified by the *Looking To* setting. Therefore if the *Looking To* location is the center of the grid, then a value of 0 degrees will place the viewer in the North looking towards the South. Likewise, a value of 90 degrees places the viewer in the East, looking West; 180 degrees places the viewer in the South, looking North; and a value of 270 degrees places the viewer in the West looking East. This is illustrated in Figure 14.6.

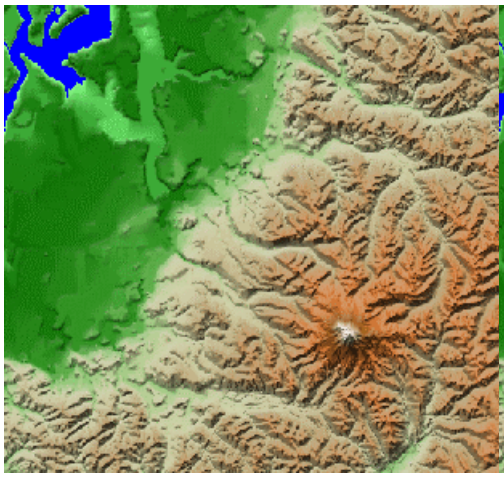

Figure 14.5. In the *From Your Location* mode, the azimuth is the direction the viewer is looking in relation to the viewing location.

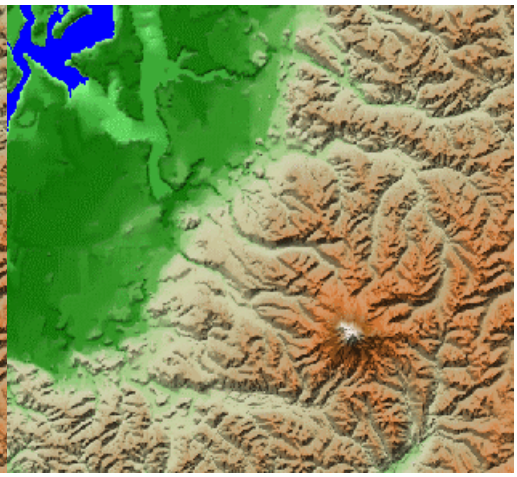

Figure 14.6. In the *To Your Location* mode, the azimuth is the direction the viewer is looking in relation to the focus point.

a)

5 ***Inclination*** is the angle measured from the horizon to the line of sight at either the viewing location or the focus point depending on the selected viewing mode. If the *From and To* mode is chosen the *Inclination* setting is applicable (see Figure 14.2). When the *From Your Location* mode is chosen, the inclination is the angle from the horizon to the line of sight at the viewing location (see Figure 14.3). When the *To Your Location* mode is chosen, the inclination is the angle from the horizon to the line of sight at the focus point (see Figure 14.4).

6 ***Distance*** is the distance between the viewing location and the focus point and is expressed in the coordinate units of the Master Grid. Users can modify this value by entering a new value into the edit window or by moving the slider bar to the left or right. When the slider bar is in

use (indicated by the dashed line around it), the arrow keys may be used to modify this value. This setting is only available for the *To Your Location* viewing mode (see Figure 14.4).

a) ***Camera Angle*** is the width of the view-scene measured in degrees. It controls the field of view similar to using a wide-angle lens on a camera. Using a smaller angle will result in less of the grid being visible.

1. The ***Center*** button restores all default viewing settings.