

3D in Geochemistry for ArcGIS

The Geosoft *3D Viewer* tool is included in the Geochemistry for ArcGIS system and provides all of your 3D-mapping tools, functions and settings in an integrated and interactive three-dimensional environment.

This *3D in Geochemistry for ArcGIS* How-To Guide will demonstrate how to work in the 3D Viewer, including how to display a new 3D view, how to add a grid to the 3D view, how to add a plane with a relief surface to a 3D view, and how to display a previously created 3D view.

Grids and images (including bitmaps and jpegs) can be opened and easily located in any specified orthogonal plane. Relief surfaces can also be applied to the gridded data.

Geosoft provides sample data for you to use when working through these How-To Guides. These data files can be found in your "...\\Geosoft\\Oasis montaj\\resourcefiles\\data\\geochemistry" folder.

The *3D Viewer* consists of an interactive dialog, with five main Menus:

- Add to 3D
- Utilities
- Settings
- Export
- Help

Adding 3D Views in the 3D Viewer

Using the *Create an empty 3D View* option from the Geosoft Geochemistry toolbar, you can add a new empty 3D view to your current layout view. Using the 3D Viewer you can add any number views and groups to your map; including; planes, relief surfaces, grids, contours, and a variety of import file formats.

To Open a New 3D view in the 3D Viewer

1. On the *Geosoft Geochemistry* toolbar, select the **Create an empty 3D View**  button.
A new empty 3D view will be created and displayed in the Geosoft 3D Viewer.

 *An empty 3D view will display the following message in the 3D view area, "This 3D View contains No Surfaces or 3D Groups". You can use the Add to 3D menu options to add items to your 3D view.*

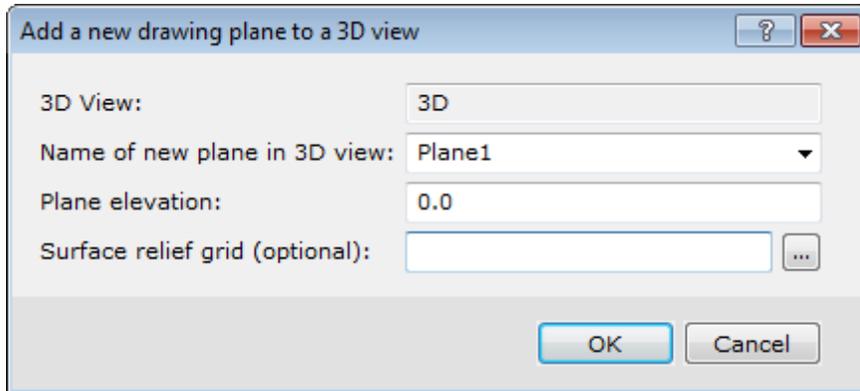
2. When you close the 3D Viewer, your 3D map will be saved inside your MXD.

Adding a Plane with a Relief Surface to a 3D View

A 3D View may contain any number of planes, with or without surface relief. Data can be imported directly into the 3D environment and drawn on any surface displayed in the current 3D view.

To Add a Plane with a Relief Surface to an Existing 3D View

1. With the *3D Viewer* open, select *Add to 3D* and then **Plane**.
The *Add a new drawing plane to a 3D view* dialog will appear.



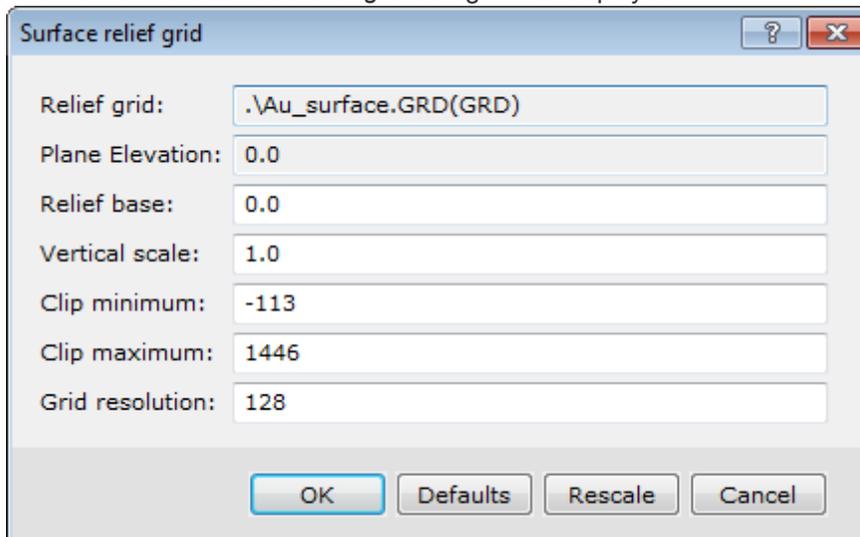
2. Enter the *Name of new plane in 3D view* or you can use the default name.

 *If you enter the name of an existing plane, that plane will be replaced.*

3. Specify the *Plane elevation*.
4. Select a *Surface relief grid (optional)* if you would like the plane to be draped over a relief surface.

 *For more information, click the **Help** button.*

5. Click **OK** and the *Surface relief grid* dialog will be displayed.



6. To enhance the relief of your data, specify the *Relief base*. This is the base value subtracted from the grid value when converting the grid values to "Z" values in the 3D View coordinate systems. The default is zero.

 *If using a non-topographic grid for relief, use the **Rescale** button.*

7. Set the *Vertical scale* for the relief grid. The default is one.
8. The relief grid data can be *Clipped* to the specified minimum and maximum values. The defaults are the limits of the data.
9. Specify the *Grid resolution*. The 3D rendering performance is directly related to how finely the relief surface is resolved. The number you enter here represents the maximum relief grid resolution (in steps of 16) that will be used in either the X or Y direction. The default is 64, but for very detailed grids you may want to increase this to a higher number.

The *Geosoft 3D Viewer* provides an interactive 3D view of your data and is used along with the *3D Tools* and menu items to interactively control the appearance of your 3D view. When you are satisfied with the appearance of your 3D view in the *3D Viewer*, simply close the *3D Viewer* window (click the button in the top-right corner) and the 3D view will be displayed on your current map.

Once a 3D view has been added to a map the 3D view can be modified by opening the 3D view using the *Open 3D Viewer* button, the 3D view will be opened for edit. When you are satisfied with your changes, closing the *3D Viewer* saves your changes and displays the updated view on the current map.

3D Viewing Window

Numerous interactive viewing buttons are provided on the toolbar directly above the *3D Viewing window*.

For more information on the individual 3D Viewing options, see the “*What can I do in the 3D Viewing Window?*” section in the *About the 3D Viewer* Help topic (click the *Help* menu on the *Geosoft 3D Viewer*).

3D Tools

The parameters available in the *3D Tools* window are dependent on the type of 3D group currently selected. Each group enables you modify different aspects of the 3D view within the *3D Viewer*.

For more information on the individual *3D Tools* options, see the “*What can I do with the 3D Viewer Tools?*” section in the *About the 3D Viewer* Help topic (click the *Help* menu on the *Geosoft 3D Viewer*).

Status Bar

The *Status Bar* across the bottom of the 3D Viewer, displays helpful navigation hints, along with the current 3D view's coordinate system, the shadow cursor location, the view's inclination, azimuth and look-at point (centre of rotation).

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