

Demonstration Video

Surfer – Part 4

Wire Frame and Surface

PART 1

1. Introduction
 2. Creating a Surface Map
 3. Creating a Wireframe
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1. Welcome to the Surfer Demonstration Video Part 4. In this part I will demonstrate how to create a Surface Map and a Wireframe Map.
2. Surface Maps are three-dimensional shaded renderings of a grid file.
 - a. To create the surface I will select Map | Surface. Select the file you wish to use and click on Open. I will use the file HELENS2.GRD located in the surfer samples folder.
 - b. To get a better view of the map I will fit it to the window by going to View | Fit to window
 - c. To Change the orientation of the Surface Map click on the surface to select it, then click on the Trackball icon
 - d. Click on the map and drag it in the direction you wish to rotate the map, a blue bounding box will appear to show the outline of the map and will change orientation as you drag the mouse. The bounding box will be replaced with the new orientation of the Surface Map after the mouse button is released.
 - e. To stop using the trackball tool either press the escape key or click on the select tool.
 - f. To change the properties of the surface right click on the surface in the object manager and click on properties.
 - g. Under the General tab you can change the Input Grid File Location and the Material color. To change the color click on the sample of the colors. The color Spectrum Properties dialog box will open.
 - h. This color spectrum can be change the same way the color spectrum was changed in part 2.
 - i. You can click on a color node in the color spectrum and change its color,
 - j. To delete a node select the node and press the delete key.
 - k. You can also move the color nodes by click on them and dragging them to the new position.
 - l. You can add color nodes by holding the ctrl key on the keyboard and clicking where you wish to add a node Then select the color for that node..

- m. When done click on the ok button and click on apply to apply the changes to the surface.
 - n. You can change the Lighting Properties by clicking on the lighting tab. The lighting Tab allows you to change settings such as the light position angle and the light color.
 - o. To change the light Position click and drag the sun to move the light source
 - p. You can also change the Light Position by clicking on the Up or down arrows on the Horizontal and Vertical Position.
 - q. The light color can be changed by clicking on the example of the color and selecting the new color from the colors below.
 - r. Click on apply to view these changes when done.
 - s. I will change the light color back to white.
 - t. The orientation of the Surface can also be changed in the properties window by selecting the view tab and adjusting the tilt and the rotation and the Field of view.
 - u. To do this select the up or down arrows on the Field of view or tilt bars or click on the box in the slider bar and drag it up or down.
 - v. To change the rotation either click on the left or right arrows or move the box in the slider bar to the left or right.
 - w. To view the changes made once again I will click on apply.
 - x. When done changing the surface properties click on ok to close the properties dialog box.
3. Wire Frames Are the 3D representation of a grid file. Lines are drawn representing the X and Y values. Where these X and Y lines meet, the height of the line represents the z value in the grid file.
- a. I will first start a new Plot document by going to File | New and select Plot document and click on Ok.
 - b. To create the wireframe select the Map | Wireframe
 - c. Select the file demogrid.grd from the surfer samples folder. And click Open
 - d. A Wireframe Map will appear in the Plot Window, to view it better go to View | Fit To Window
 - e. To change the properties of the Wireframe right click on the Wireframe in the object manager and select properties.
 - f. The X, Y, and Z scales can be changed by selecting the scale tab and changing the Map Units and the length.
 - g. I will change the X Map units to 2

- h. Because the Proportional XY Scaling checkbox is checked the Y Map units will be updated automatically.
- i. To add color zones select the color zones tab. To change the color zones click on the line heading.
- j. To select the colors you wish to use click on the example color under minimum line and select the new color I will select Red,
- k. Then Click on the example color under Maximum and select the new color. I will select Blue
- l. Click OK. Click on the check boxes in the Apply zones to lines of constant XYZ section to specify which lines to use for the color zones. I'll click X and Y. Click Apply to view the changes.
- m. The individual values can have their own color to change this select the example line next to the value you wish to change and double click to open the line properties dialog box and select the new color. I will change the level 85 to yellow, click apply when finished.
- n. This concludes part 4 of the surfer demonstration video.