


# BROCK UNIVERSITY MAP LIBRARY

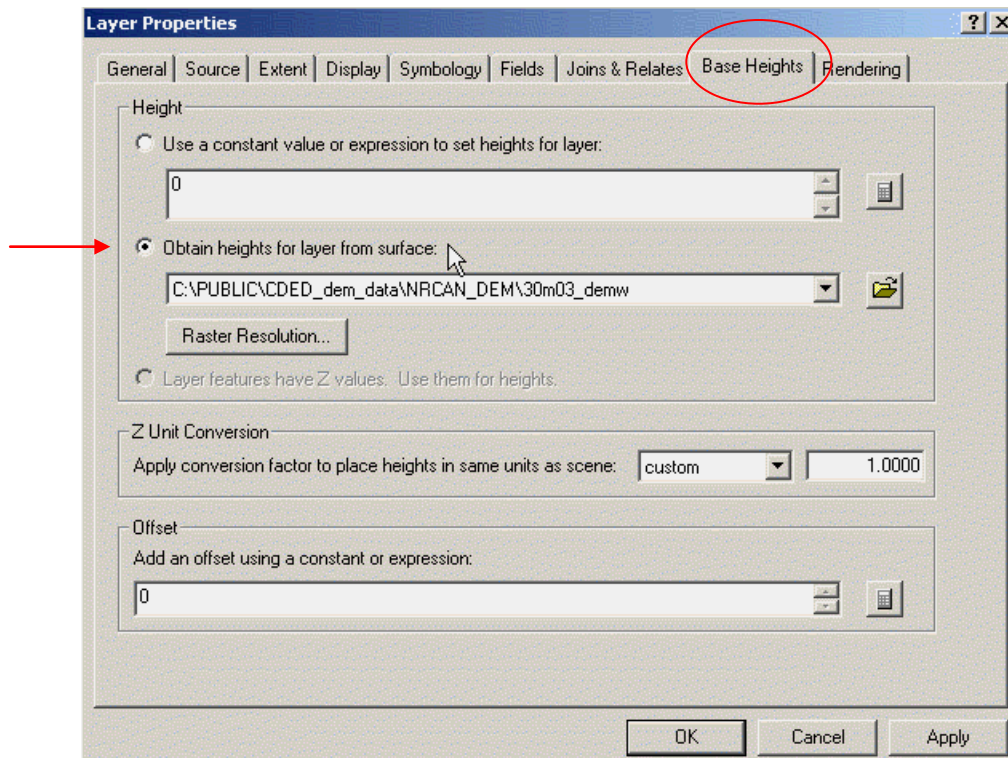
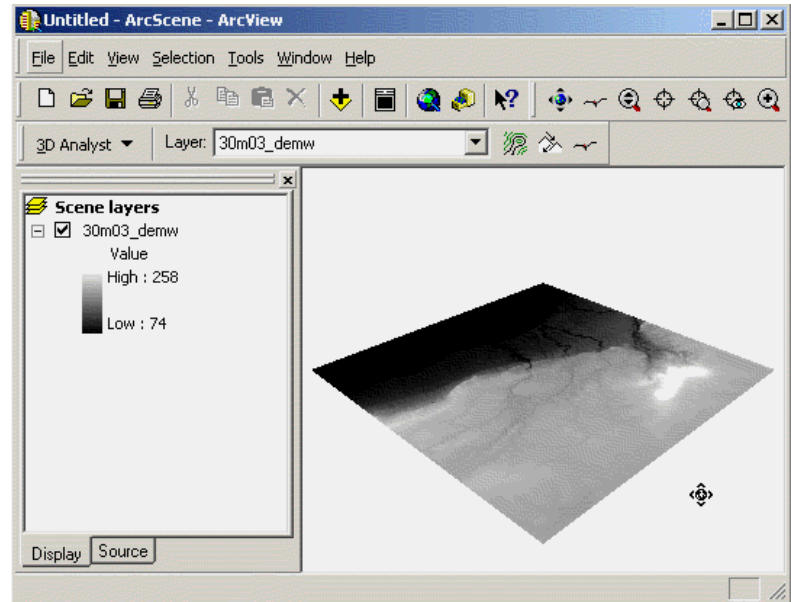
## Viewing DEM Data in 3D

### Introduction

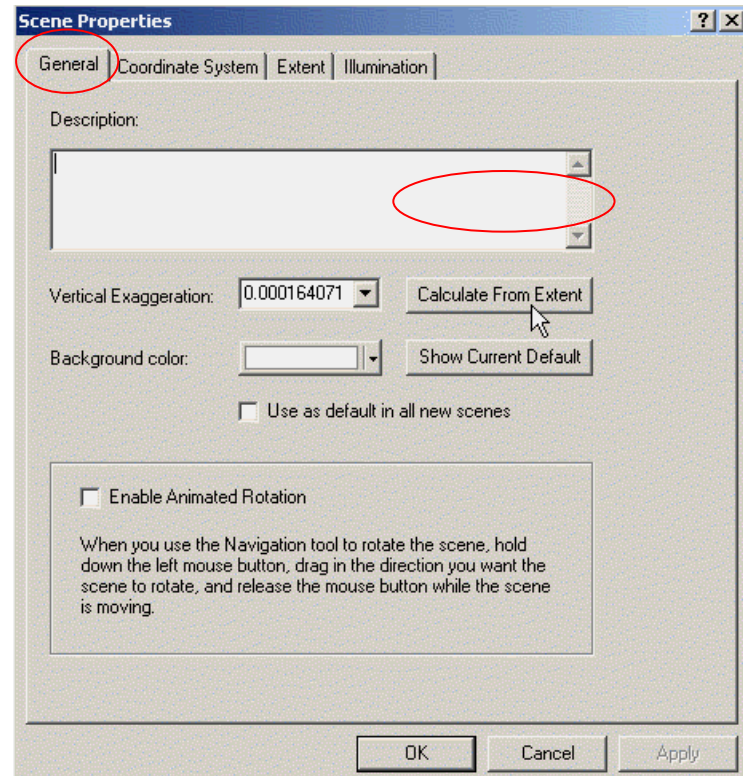
This procedure details the steps necessary for viewing DEM data in 3-dimensions using ArcGIS - ArcScene. The 3D Analyst extension is required.

### Working with DEMs

1. Run ArcScene from START > Program Files > ArcGIS > ArcScene
2. Click the Add Data button  and navigate to the location of a DEM. Select the file and click OK to add the DEM file to the view.
3. If prompted to "create pyramids", click OK. This process occurs the first time a raster file is opened and will provide faster re-draw.
4. Right click the layer in the legend and choose *Properties*. The "Layer Properties" dialogue box appears.
5. Click on the "Base Heights" tab and click the radial select box beside **Obtain heights for layer from surface**.
6. Click OK. Don't panic if your view is blank. Continue on with the next step.

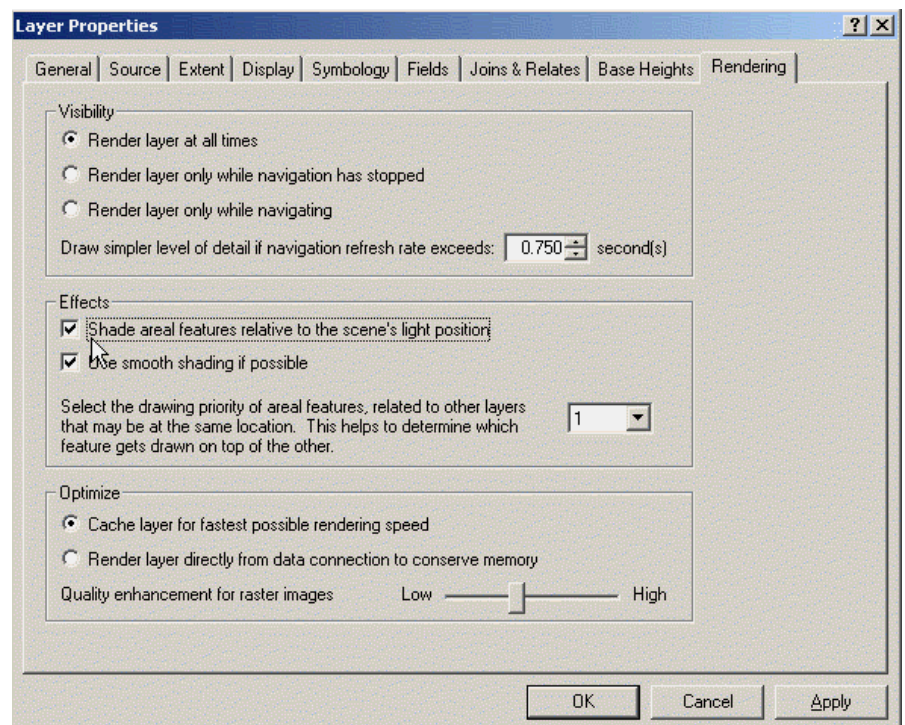


7. Right click *Scene Layers* and select *Scene Properties*. The "Scene Properties" dialogue box appears.
8. Under the "General tab" click *Calculate From Extent*. The number in the Vertical Exaggeration box changes to a calculated value.
9. Click OK. The DEM now appears in 3-dimensions.

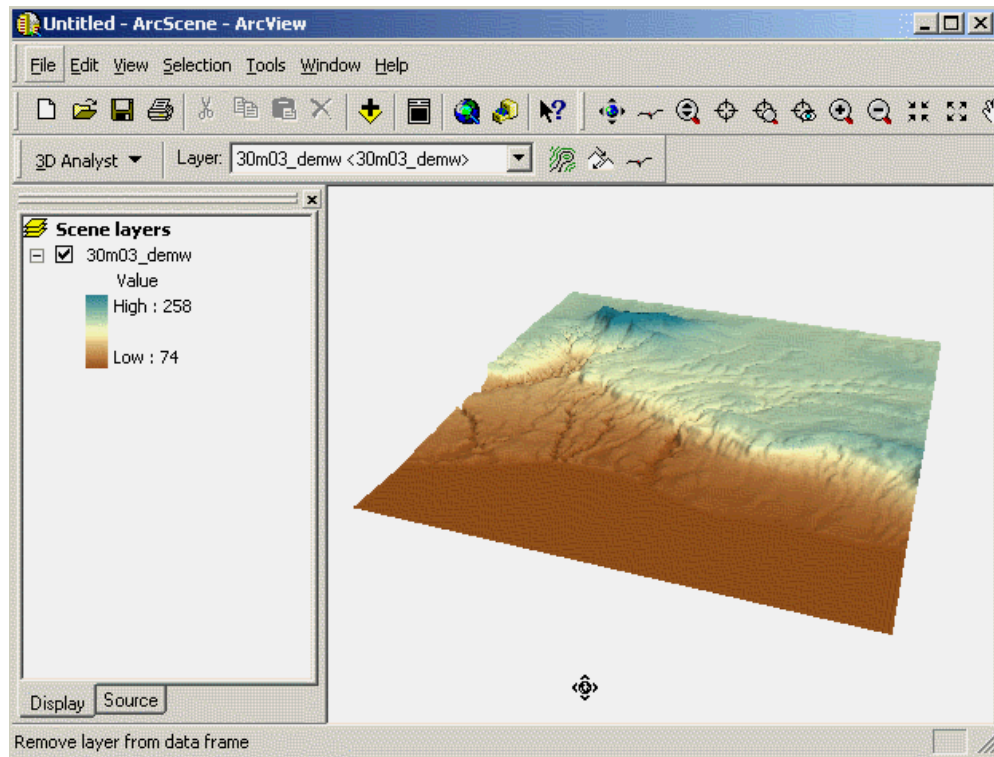


## Symbology

1. To change the colours representing elevation, right-click the DEM layer, select *Properties*.
2. Select the **Symbology** tab and choose a different colour scheme from the colour ramps dropdown list.
3. Click *Apply* but don't close the Properties dialogue box.
4. Click the **Rendering** tab.
5. In the **Effects** section click the box beside *Shade areal features relative to the scene's light position*.
6. Click OK to accept these changes and return to the ArcScene window.

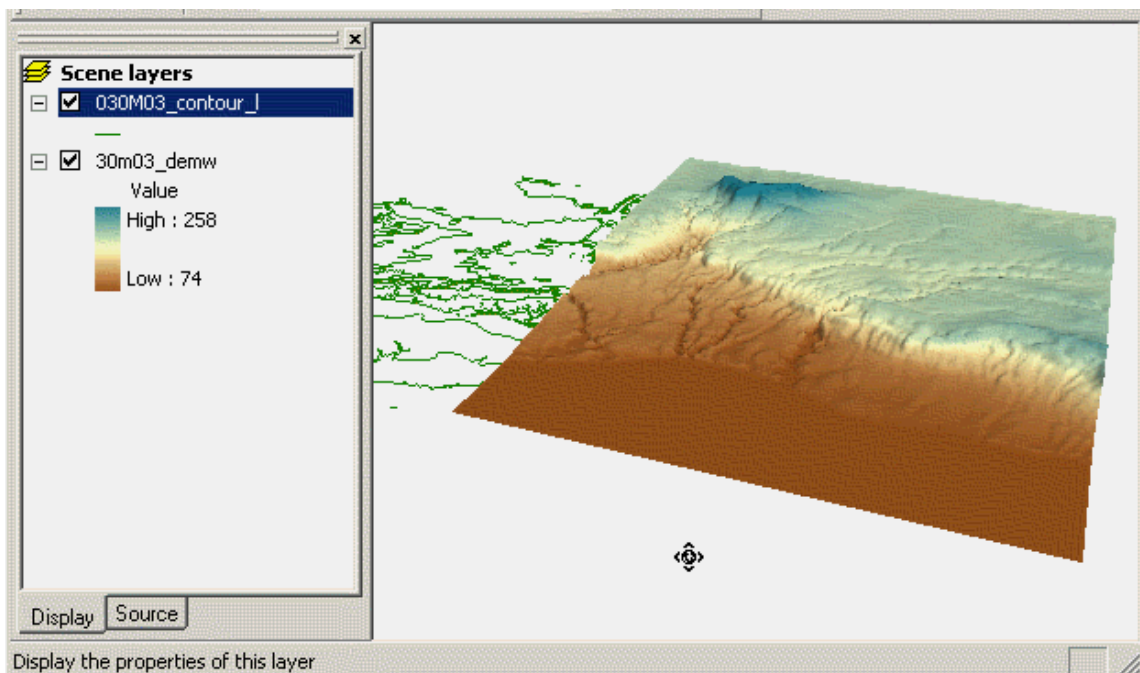


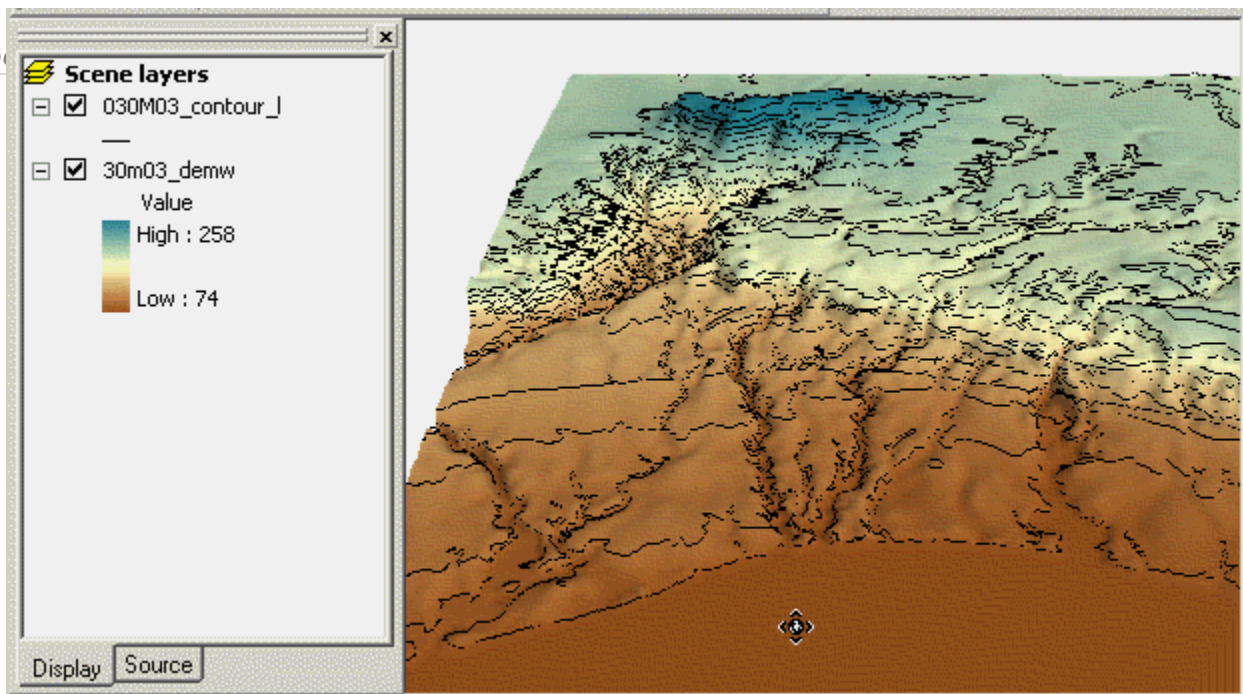
- Click in the scene window and drag the mouse to pivot the 3D image.
- To zoom in or out use the Right Click option. Hold both mouse buttons down to pan the window.



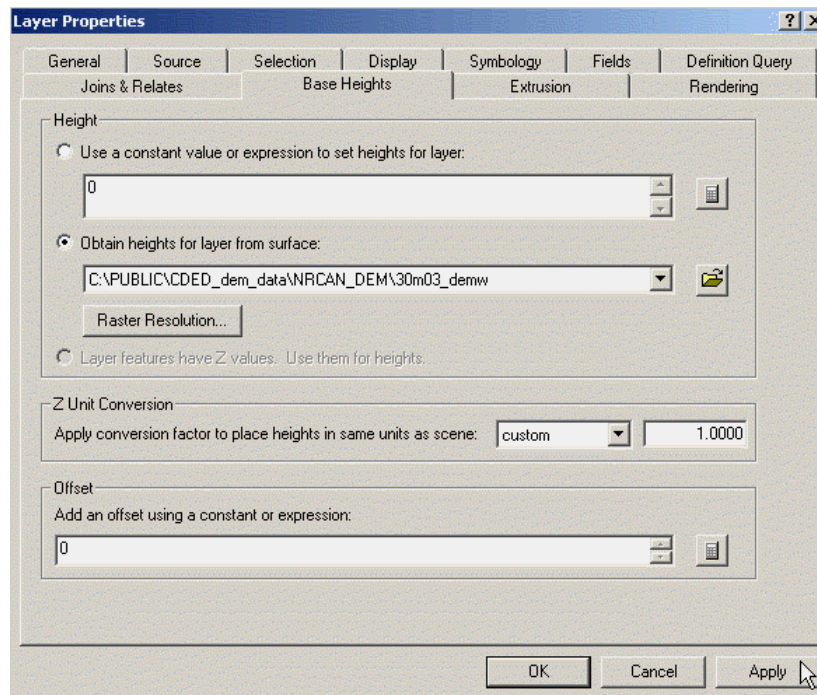
### Adding vector data to the scene

- Click the *Add Data* button. Navigate to the directory holding the vector data files.
- Select a file to open and click *Add*. The new data layer will appear in the window BELOW the 3D image.
- Right click the vector data layer and select *Properties*.
- Click the **Base Heights** tab.



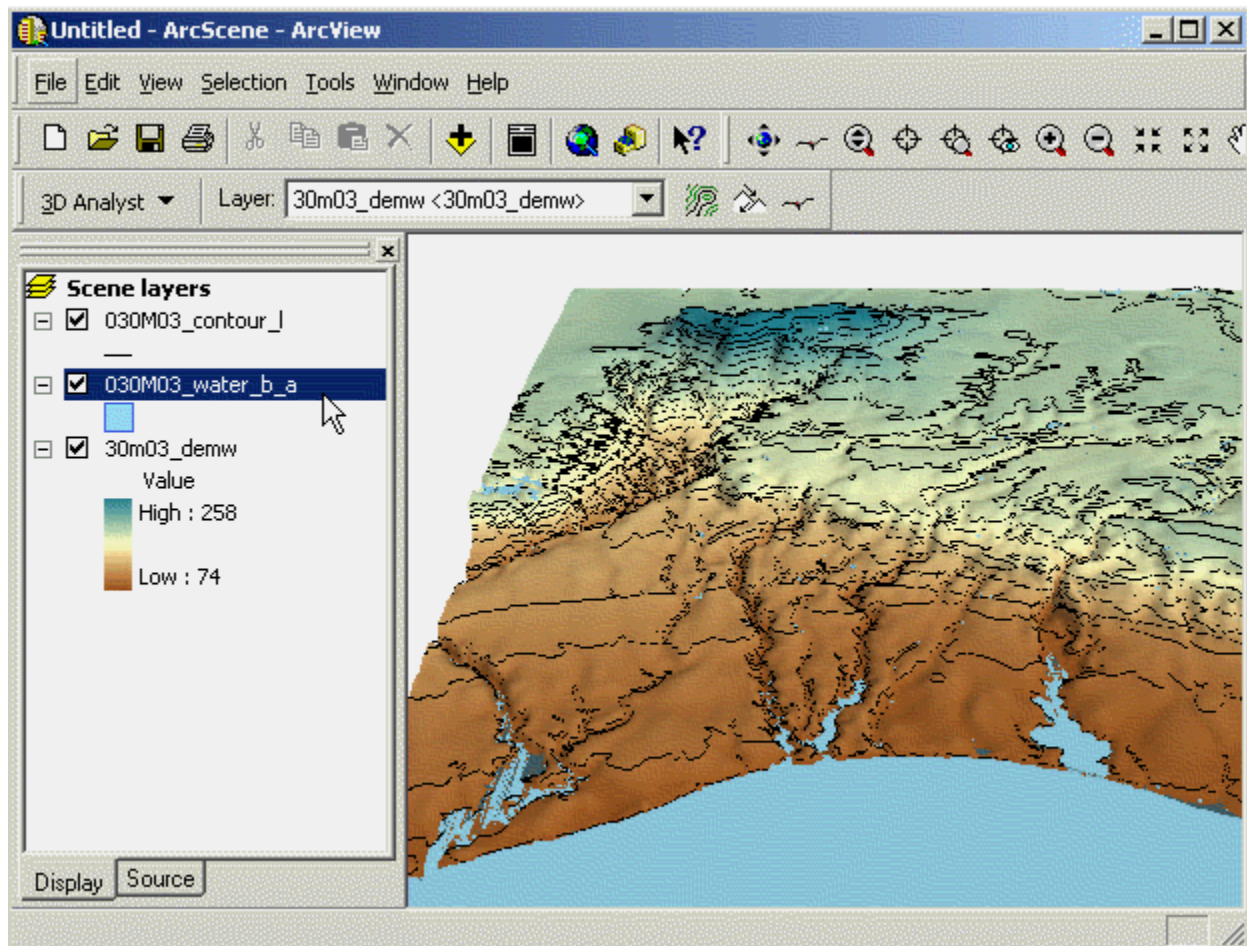


5. Select the radial button beside *Obtain heights for layer from surface*. The program automatically selects the DEM open in ArcScene.
6. Click Apply, then move to the **Extrusion** tab.



7. Put a check in the box beside **Extrude features in layer** and change the extrusion value to 2 or 3. Test different values to see the changes on the map.
8. Click Apply to view the changes or OK to return to the ArcScene map window.

- Repeat the above steps to add more layers to the map. The image below shows waterbodies and contours overlaid with the DEM.



Consult the ArcScene help files for further assistance with rendering 3D images and analysis.