

ES341 GIS: Using ArcScene to Create Flyover Animations of Digital Elevation Models

This tutorial will show the user how to add a DEM to ArcScene and view it in 3 Dimensions. This application is typically used for satellite or aerial photography.

(1) Download the Luckiamute 10-m DEM from the ES341 Class Web Page

Link: http://www.wou.edu/las/physci/taylor/es341/luck_dem_utm.zip

(2) Unzip the DEM to a work folder

(3) Use Spatial Analyst Hillshade Tool to create a default hillshade model for the Luckiamute DEM, save to your work folder.

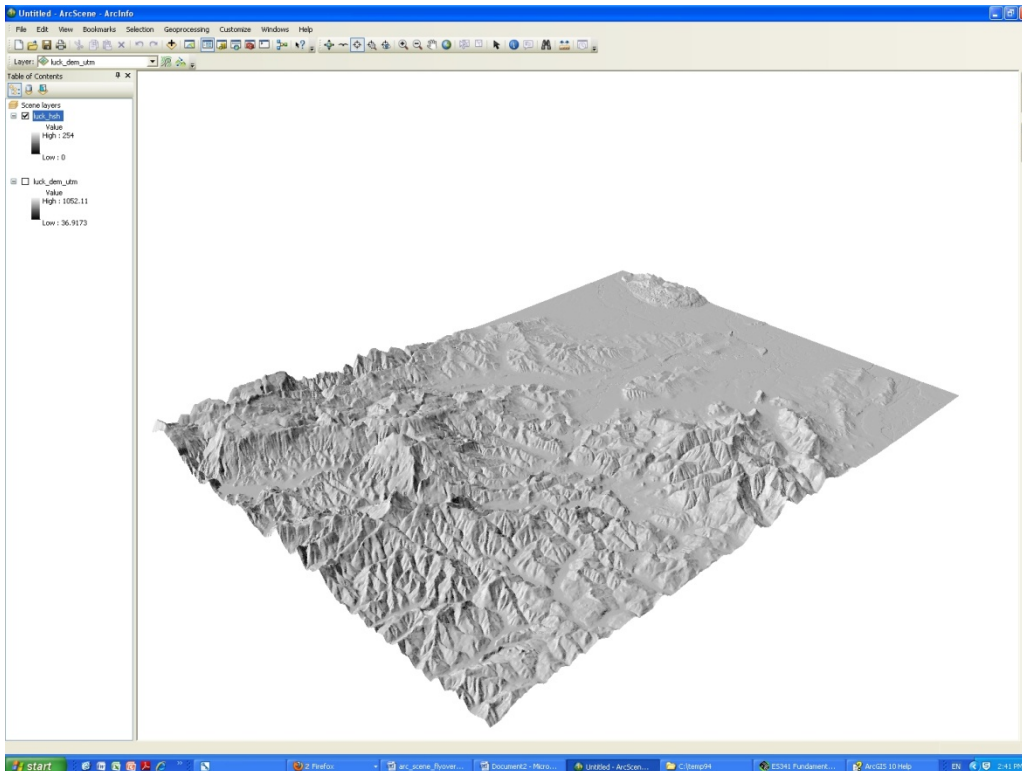
(4) Open ArcScene and add your Luckiamute DEM layer; then add your Luckiamute Hillshade layer

Activate the DEM, Set the symbology of the raster layer to Stretch – Stretch Type = “Standard Deviations”; with gray scale color ramp.

Turn the DEM off, Activate the Hillshade, Right click your raster layer and go to the layer properties.

Select the Base heights tab on the Hillshade layer properties.

Click the radio button for “Floating on a Custom Surface” and choose your Luckiamute DEM from the drop down menu. Click apply. Set “factor to convert units to scene units” = pull down “meters to feet”... Apply



For viewing your data, use the center mouse wheel click to pan. Holding left click and moving the mouse around will allow the user to rotate around the DEM. Zooming in and out can be done by scrolling with the mouse wheel or holding right-click and moving the mouse up or down.

The user should now be able to view their data in 3 dimensions in ArcScene.

Explore the ArcScene Menu Bar; use the “fly” (bird shape) icon to create a fly-over animation effect.

The Fly tool on the Tools toolbar allows you to investigate your scene by flying through it. You can fly in any direction and move forward or backward at different speeds.

The Fly tool primarily controls the target location, moving it forward or backward in the direction of the pointer, while the observer location automatically follows along behind it. This tool will require some practice to master.

To use the Fly tool in ArcScene, do the following:

Steps:

- A. Click the Fly button. The pointer changes to indicate Fly mode is active.
- B. Click once in the center of the 3D view.

The tool enters a suspended state. You can position the pointer to look in all directions, but there is no translational movement. This is sometimes referred to as a "free look" mode.

- C. Click the mouse to move forward, or right-click to move backward.
Successive clicks in either direction increase the speed, which is indicated in the status bar window. A negative speed value indicates backward movement.
- D. Press ESC to immediately stop movement in either direction.

Tip:

- Between mouse clicks, you can fine-tune the fly speed by pressing the Up or Down arrow keys to increase or decrease speed, respectively.
- Hold the SHIFT key while flying to maintain a constant elevation. You can then point without flying underground or out into space.

- (5) Using your favorite online data source, download the USGS 10-m DEM for the Lava Butte 7.5-Minute Quadrangle from the Bend area / east side of Cascades. Repeat the tutorial above; unzip DEM / create hillshade and create a fly-over animation.