Using Hillshade for Slope Visualization
(and converting DEM files to Raster Images)
01
DOWNLOAD DIGITAL ELEVATION MODEL (DEM) FOR THE AREA OF INTEREST.

FREE DOWNLOADS
http://www.vterrain.org
http://data.geocomm.com

THIS IS THE MOST DIFFICULT STEP
02
CONVERT DEM FILE TO RASTER FORMAT USING arcCATALOG.

A. OPEN arcCATALOG
B. CLICK THE arcTOOLBOX ICON
C. OPEN arcTOOLBOX > CONVERSION TOOLS > TO RASTER > DEM TO RASTER
D. INPUT DEM FILE AND LEAVE OUTPUT DATA TYPE AS FLOAT. CLICK OK AND arcCATALOG WILL CONVERT THE FILE.
A. OPEN arcMAP, GO UNDER THE TOOLS TOOLBAR AND CLICK ON EXTENSIONS.

B. UNDER EXTENSIONS, CLICK THE SPATIAL ANALYST BOX
C. GO TO VIEW > TOOLBARS > SPATIAL ANALYST TO OPEN THE SPATIAL ANALYST BAR
D. Click on "Add Data" and choose the Coverted file. If ArcMap ask you to create pyramids, click yes. This is what should come up. If you get nothing but a black area, you have uploaded the original .DEM file.
E. UNDER THE SPATIAL ANALYST TOOLBAR CLICK THE SPATIAL ANALYST DROP DOWN ICON AND CLICK SURFACE ANALYSIS > HILLSHADE
F. The hillshade data will pop up, and you can customize settings or use the default (works just fine). Click OK to create the hillshade.
**Input Surface** specifies the dataset from which the hillshade will be generated.

**Azimuth** specifies the position of the sun relative to the landscape.

**Altitude** specifies the altitude of the sun relative to the horizon.

**Model Shadows** allows the modeling of shadows by assigning a value of zero to areas in shadows. Note that if this is not checked (the default), the output created will show local illumination regardless of shadows.

**Z Factor** specifies the value needed to convert the units in the z direction to the same units of the dataset (x, y units).

**Output Cell Size** specifies the size of each cell in map units in the grid that the hillshade function generates.

**Output Raster** specifies the storage information (name and location) for the generate hillshade. Note that if the default temporary option is used, the generated hillshade will only be available in the current map.
HILLSHADE MODEL WITHOUT CUSTOM VALUES.
HILLSHADE MODEL WITH SOUTHERN SUN AT 30% ALTITUDE.