

Remote Sensing of the Environment
GEOG/GEOL 4093/5093
Spring Semester 2008

Exploring Some ENVI Features

04/15/2008, Due: 04/15/2008

You have to show me your work for grading!

The objective of this lab is to practice some other ENVI features.

Launch Internet Explorer and type [\nyx\rs4093](http://nyx\rs4093) into address bar and hit enter, that takes you to the remote sensing class folder “rs4093” in CIRES server. Copy the folder “Lab-11” to “C:” drive.

1) Open the files in C:/Lab_11

- a. Open the aerial photos (*40105A3NE.tif*; *40105A3NW.tif*; *40105A3SE.tif*; *40105A3SW.tif*) in ENVI.
- b. Open the Digital Elevation Model (DEM) file “*Boulder.dem*” using *File>Open External File>USGS>DEM> USGS DEM Input Parameters* window appears, select *Output Result to Memory*, and hit OK.

2) Mosaicking

The photos represents 4 parts (NE, NW, SE, SW) of Boulder, to combine them in one image we can use the mosaicking feature in ENVI. The Georeferenced Mosaicking is used to automatically overlay multiple georeferenced images.

Select *Map>Mosaicking>Georeferenced*, Map Based Mosaic window appears, Select *Import> Import Files*, import the 4 photos one after another or all at once. To mosaic select *File>Apply* and add the image to Memory and load it into a separate window.

3) Associate *Boulder* image to *Boulder.dem*

Select *File>Edit ENVI Header>Input File* (*Boulder* mosaic image in memory), hit ok, Header Info window appears, from *Edit Attributes* select *Associate DEM File> DEM Image*. Display *Boulder* mosaic image.

4) Add color scheme to your image

Select *Tools>Color Mapping>ENVI Color Tables*, select a color scheme that is suitable to identify the features in your image.

5) Display the colored image in 3 dimensions

Display the image in 3 dimensions by selecting *Tools>3D SurfaceView*, 3D SurfaceView Input parameters window appears, check 512 and uncheck 64 and hit ok. In 3D SurfaceView window select *Options>Surface Controls*, make fun with different features (e.g. change vertical exaggeration, let it moves, etc...).

6) Overlay Grid Lines (Latitudes and Longitudes)

Select *Overlay (Image Window)> Grid Lines*, Grid Line Parameters Window appears, turn off Pixel Grid (if not already) and Map Grid, and place 1 instead of 5 in *Spacing* of the *Geographic Grid*, and hit apply. Select *Options (Grid Line Parameters)> Edit Geographic Grid Attributes*, Turn *Lines* and *Box* on and play with it (Change the color of lines, Font of text, etc...)