

Importing MRLC Landsat Images into ERMapper

The Multi-Resolution Land Characteristics (MRLC) Consortium is a group of federal agencies that joined together to purchase satellite images. They have developed a standard protocol for obtaining, projecting, and transforming data to provide a consistent set of data for the entire country. These available data are targeted for the years 1992 and 2001. The MRLC Consortium sells these individual scenes to the public for \$45 plus a shipping and handling fee for each order.

MRLC 1992

The Landsat TM images from between 1990 and 1994 contain the six reflective bands of TM data corresponding to bands 1 – 5 and 7. The data use the NAD83 datum and UTM projection. The data are supplied as six separate files in MRLC format. You should use ENVI software to import these data into ERMapper as described for the Landsat ETM+ data below. Specific information about MRLC 1992 image processing can be found at: http://www.mrlc.gov/mrlc2k_mrlc92_info.asp#mrlc17

MRLC 2001 Terrain Corrected Dataset

These data consist of three Landsat ETM+ images centered on the year 2001, representing three seasons, per path and row scene. The data have a datum of NAD83 and the projection is Albers Conical Equal Area.

There have been several processing steps to convert the reflective bands into at-satellite reflectances and the thermal bands into degrees Kelvin. These bands of data are then rescaled into 8-bit integers to conserve data storage requirements. Details of the image processing can be found at:

http://landcover.usgs.gov/pdf/image_preprocessing.pdf

Each band of data is stored as a separate file in NLAPS format. There are three sets of header files for these images. One for each spatial resolution:

H1 - for the six reflective bands – 30 meter

H2 – for the two thermal bands – 60 meter

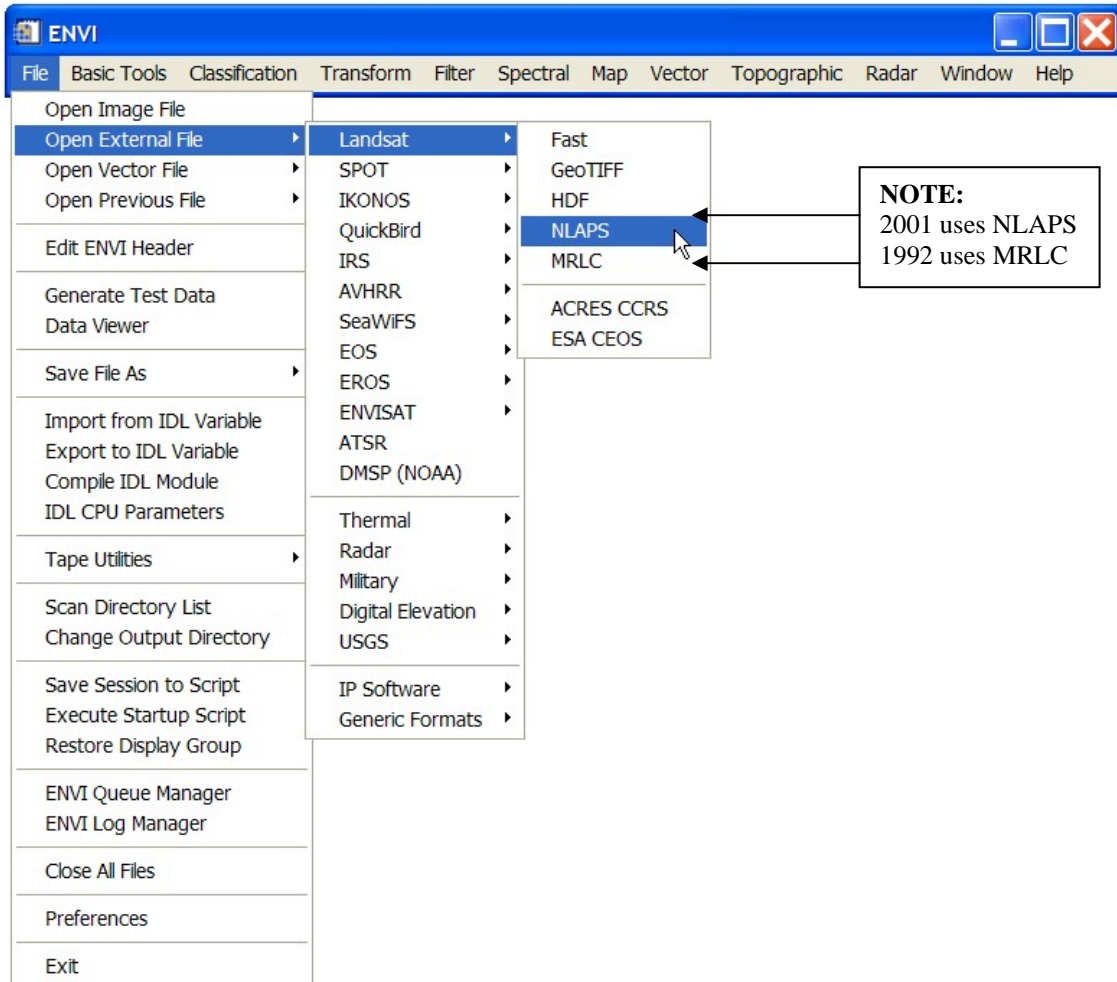
H3 – for the one panchromatic band – 15 meter

While it is possible to import these images into ERMapper, it is a difficult process that requires a great deal of subsequent processing. It is *much* easier to use the software package ENVI to import and reproject the scenes, then save them as ERMapper format. You will find an icon on the desktop for the program.

Once you have started the ENVI program, from the ENVI Main Menu:

Pick the file to work with:

File | Open External File | Landsat | NLAPS (for 2001 data or MRLC for 1992 data)
Navigate to the files (on CD?) and select one of the header files H1 , H2, or H3
(DDA for 1992 data)



After you load the file into ENVI you may need to reproject the image.

To reproject an image:

Map | Convert Map Projection

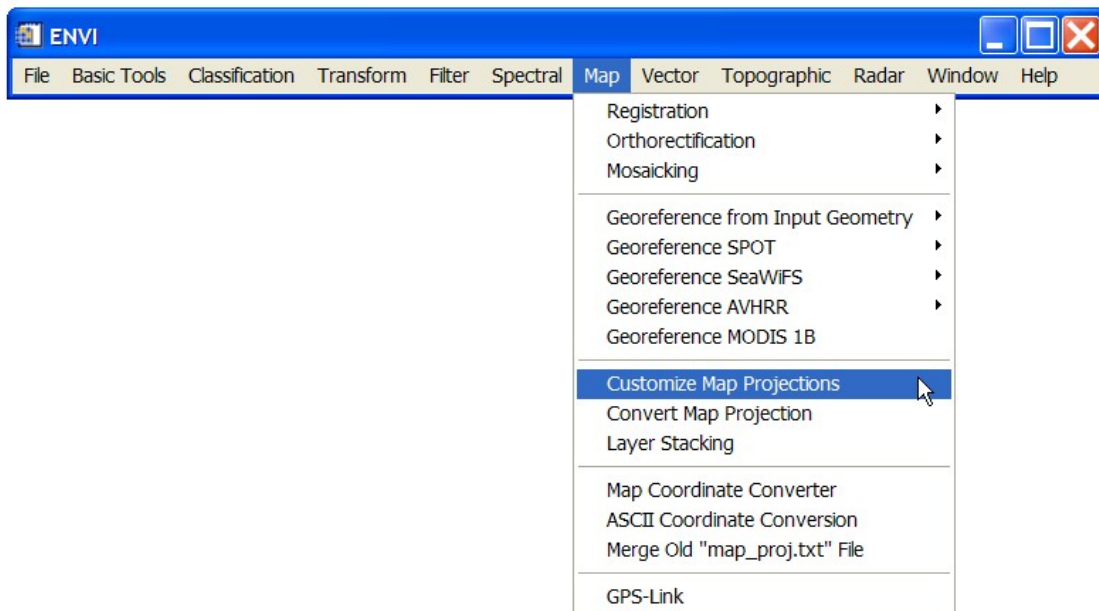
Select the file that you just loaded into ENVI

Set output datum and projection

Click on OK

Enter an output file name and location

Click on OK **Note:** This will take awhile



To export the file to ERMapper:

File | Save File As | ER Mapper File

Select the **reprojected** file created in the step above (if you reprojected the image)

Enter an output file name and location

Note: the filename should NOT have an extension (.ers)

and it should be different than the name used above

Click on OK

When you open the file in ERMapper make sure to change the NULL value to 0 (zero).