

## Subsetting an Image in ERMapper

It is often a good practice to subset an image; for both your research goals, and for processing considerations. Perhaps you want to work only within a single watershed or town, or one half of a scene is covered by ocean or clouds. By subsetting the image you remove the less useful data and retain that portion of the scene that you are interested in.

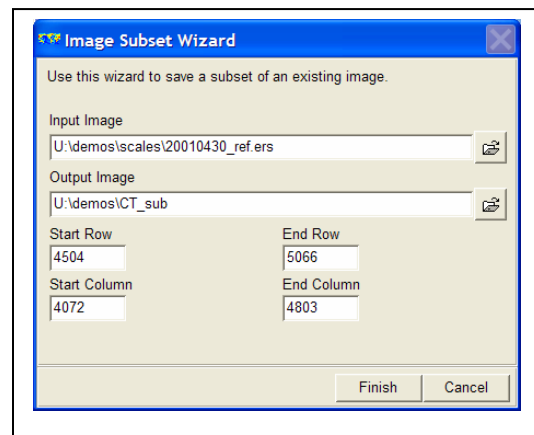
You should also consider subsetting a scene to simplify and speed up processing. Often we are only interested in what is happening in a section of a scene. It will be easier to develop a comprehensive classification scheme of just a focus area than it would be for an entire 30,000 km<sup>2</sup> Landsat TM scene. Additional benefits of subsetting images are that all processing will be much faster and disk storage requirements will be greatly reduced.

There are several ways to subset an image in ERMapper. You can use the File Maintenance utility to cut out a rectangular area from an image. You can size a display window covering your region then create a layer stack and save this as a new file. You can also use a vector file to subset irregular shaped areas such as a watershed or political boundary. These techniques will be described below in more detail. Before proceeding you should read the document [Creating a multi-band image or mosaic in ERMapper](#) found on the CEO FAQ web page.

### ***File Maintenance Utility***

This is the easiest way to subset an image in ERMapper. From the main menu select: **Utility | File Maintenance | Datasets | Save a subset of an image**. This will open the Image Subset Wizard. You need to enter as input the dataset you wish to cut, the new output dataset name, and the starting and ending row and column *cell numbers*. These are the cells from the original dataset.

To obtain these cell numbers, load the full image and zoom in to the area you wish to save. Resize the sides of the window to frame your area. While ERMapper typically creates a square window, you can reshape this to a long and thin window, a short wide window, or any rectangular shape you wish. Once you have the shape and zoom to your satisfaction, use **View | Geoposition** then Extents to display the Cell X and Y values. X values are columns and Y values are rows. Finally click Finish in the wizard to create your subset image.



On occasion ERMapper will not successfully subset an image using this technique. If this happens, follow the steps described next to create a layer stack image.

## **Layer Stack**


A second method of subsetting an image is to create a layer stack of pseudo layers, one for each band of data desired in the output file, and save this as a new file. As described in the File Maintenance section, you should size the window to frame the “zoomed in” region of your interest. You should follow the directions in the document “Creating a multi band image” listed above, to construct this layer stack.

### **Vector file subsetting**

The layer stack technique should be used when you are subsetting an irregular area using a vector file. Students who have taken the course *Observing Earth From Space* will have applied this technique to a single classification data layer in Lab 6. You would perform the same steps for each data band of your new output image.

### **Cutting a Second Image to the Same Area**

After you have subset an image, you can easily subset a second image to exactly the same area. Both images must use the same datum and projection before you proceed.

Load the image that has previously been subset, making sure to zoom out to the full extents of the image. You can use the “Link a second window” tool  to open a new window with an image with the same footprint as the first image.

From the first prompt select an ERMapper dataset, not an algorithm. Enter the name of the dataset and a single pseudo layer will be loaded into the new window with exactly the same coordinates. You can duplicate this layer in the algorithm window, changing the band label and data source as described to create a multi-band image. Finally save this file as a new ERMapper raster dataset.