CREATING A RASTER DATASET

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FLATTENING FILES

- Files may be in multi-band format, you can use the application IrfanView to convert them into single band. You can do a Google search or download the application from the following location:

    http://www.irfanview.com/main_download_engl.htm

    Once the application is installed, when you open it, you'll see the screen below.
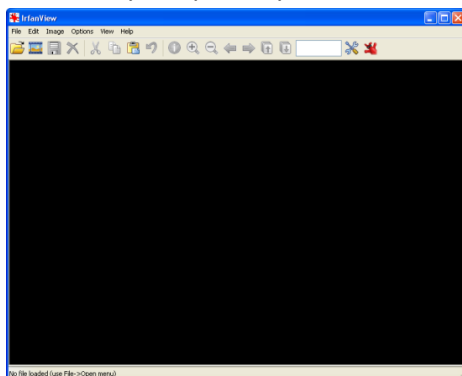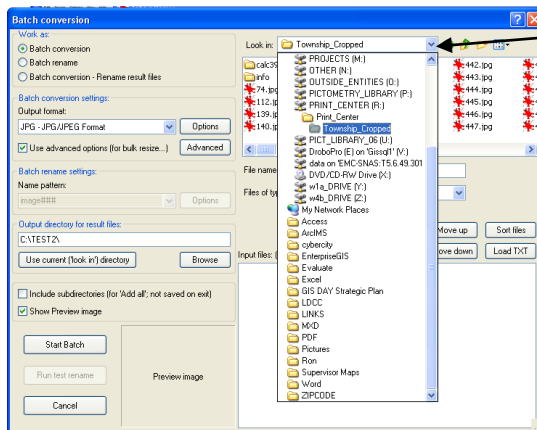

- Next, create a folder to copy and store files that need to be processed from multi-band to single band images (for example C:\TEST\)

- Now, click on "File", then scroll down to and click on "Batch Conversion/Rename".
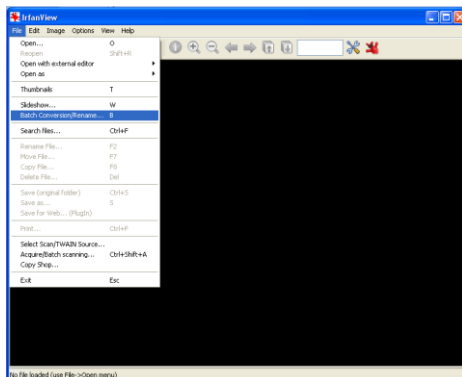

- In the Batch Conversion window, you'll see a drop-down box in the upper right hand corner. Click on and navigate to the location where the files you want to flatten are stored.
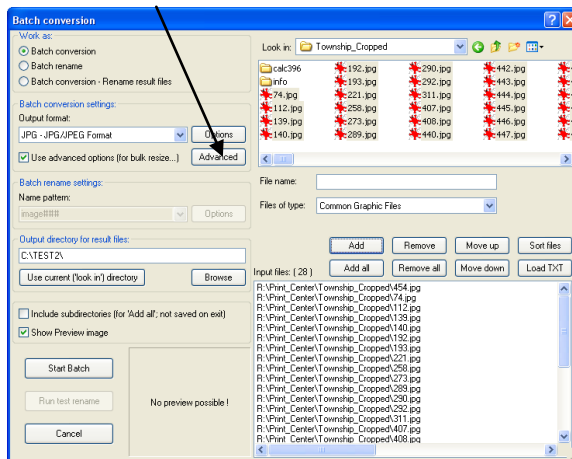
- Highlight the files you want to work on. It's easiest to click on the first file and move the scroll bar over, click and hold the SHIFT key, and then click on the last file. When you have the files you want to process click on "Add" button. This will place the information for the files to process in the input window.
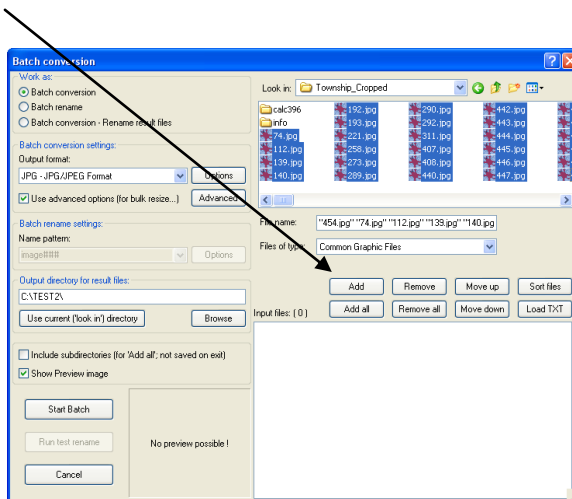

- Make sure you have your parameters set before proceeding. Start by setting your output file type (ex. JPG) and your output directory (ex. C:\TEST\). Next, if you want to be more detailed about your output format, click on the "Advanced" button.
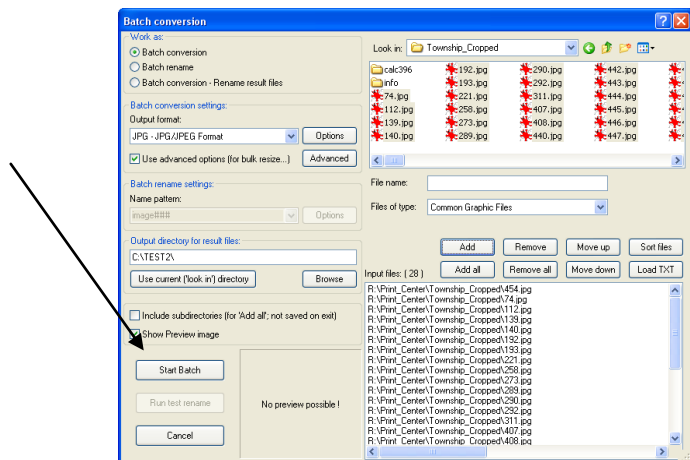
- In the Advanced settings window, you have the ability to change a wide variety of parameters. Click the checkbox next to the "Convert to grayscale" option to convert your images to a single band image. Click "OK" when you're finished.
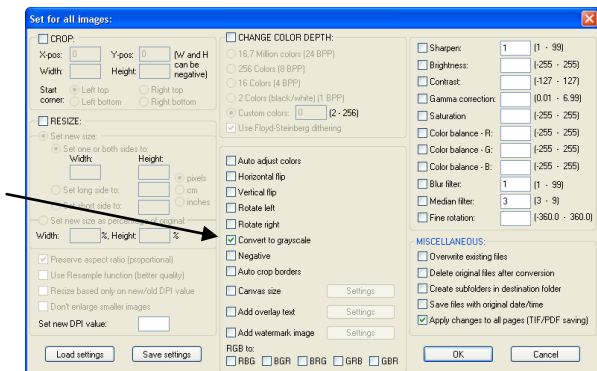
- This will take you back to the Batch Conversion window. If you feel your settings are correct, click on the "Start Batch" button to begin.

- The batch conversion process will begin and a popup will open up to show you where you are in the process. When you finish, you can click on "Return to batch" or "Exit batch".
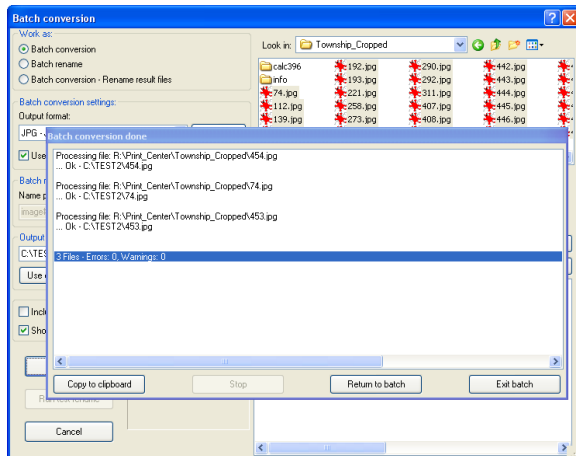
CREATING RASTER DATASET

- Before we create our Raster Dataset, which is essentially the "file cabinet" where our rasters will be stored, we need to take care of two tasks. First, we must copy our spatial reference files (world files or .JGW's) to our new location and second, we need to check the pixel size of our rasters.

- To start, we need to navigate to the location of the original georeferenced sources files. Once we're there, we need to sort by "TYPE" (see image below) and highlight the all the JGW files. It's easiest to click on the first JGW file and then move the scroll bar down, click on and hold the SHIFT key, and then click on the last JGW file.

- Once you have all the JGW files highlighted, right-click and scroll to copy (Ctrl+C) and then navigate to the location of your flattened files (C:\TEST\) and paste all the JGW files there.
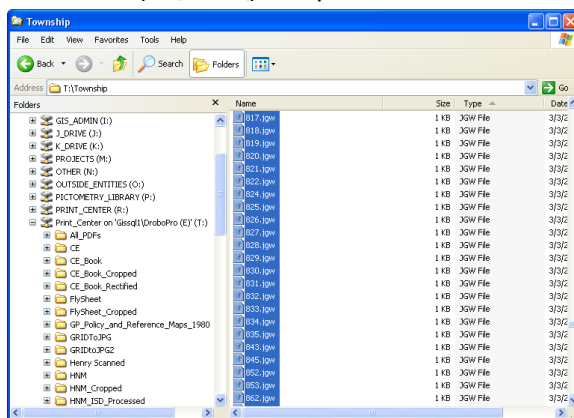

- Next, we need to check the pixel size on the rasters we've already copied over. To do this, we need to open a sample of the world files (.JGW) that accompany our JPGs. Right-click on a file and open it in WordPad. The first line is the pixel size for the raster. In this instance, our pixel size is .315.
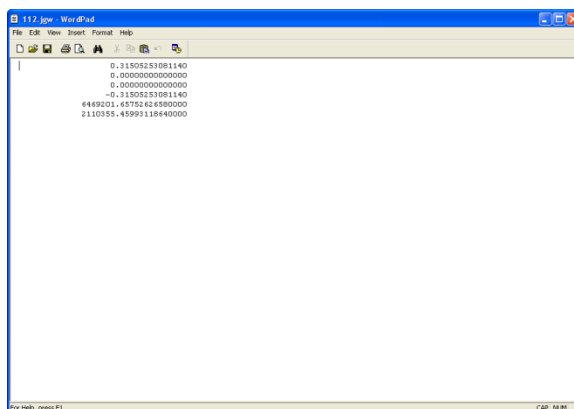
- Opening a number of other .jgw's led us to believe that in this example .315 was an outlier and that we would use a pixel size of 1 instead. Remember, the smaller the setting, the larger the data set. If setting the pixel size higher does not affect the clarity of the image to any large degree, then that is the size you should work with. However, if the dataset is small enough and important enough to have the clarity maintained, then, if it is feasible that a smaller setting can be used.

- Now that we have the pixel size we want to use, we can go ahead and run the "Create Raster Dataset". Open the tool and set the parameters. Your Output location should be an SDE database that you have access to and the name should be something relevant to your data or project.
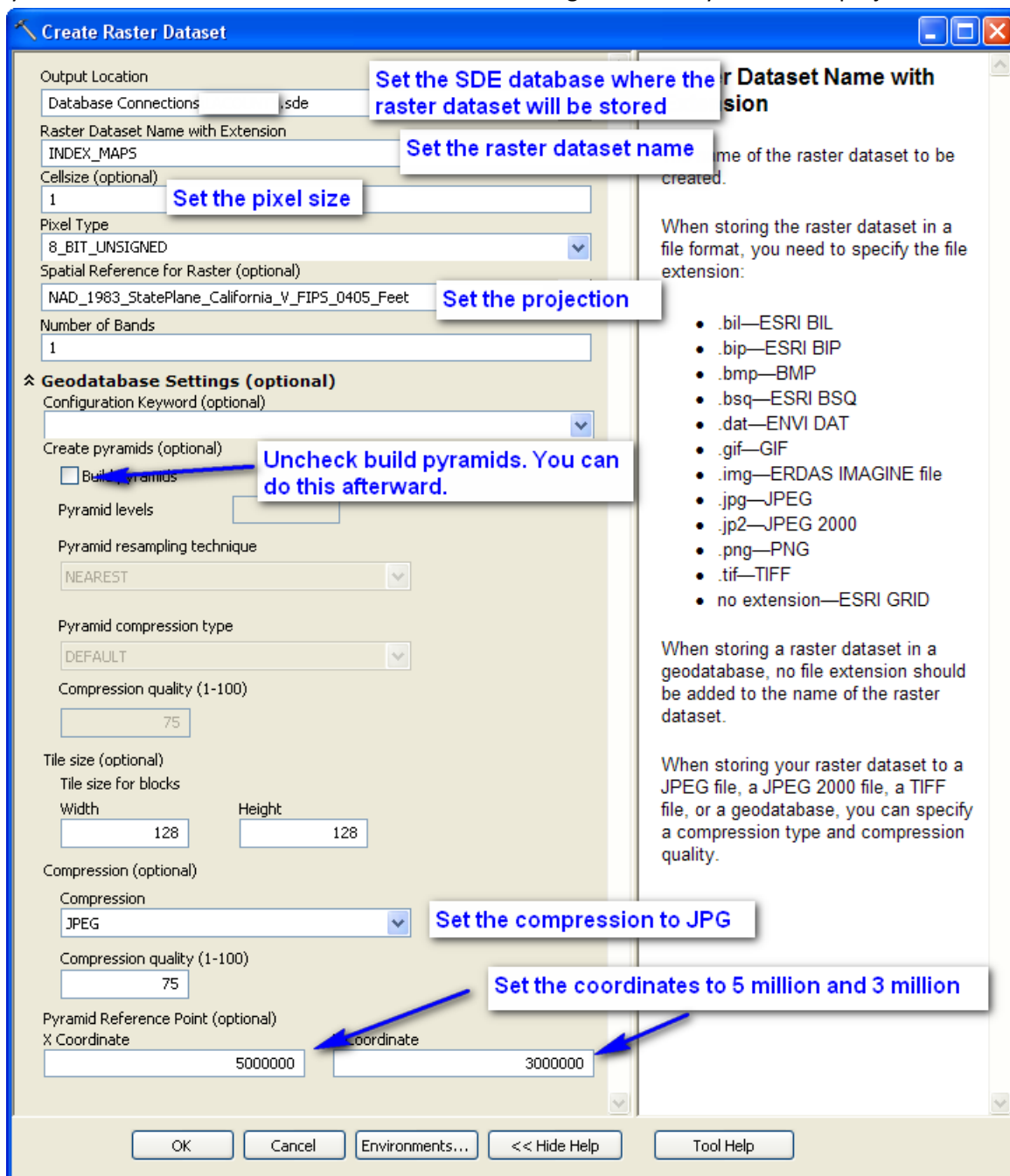

- When the process is finished, refresh your ArcCatalog window to make sure the process has run successfully and that you can see the new database.

WORKSPACE TO RASTER DATASET

- Now that we have run the "Create Raster Dataset" process, we have a place ("file cabinet") to store our data. The next step is run the **"Workspace to Raster Dataset"** tool. This will take the data from where it is presently stored (where we "flattened it") and create a raster dataset in the SDE database. Open the tool and set the parameters accordingly:
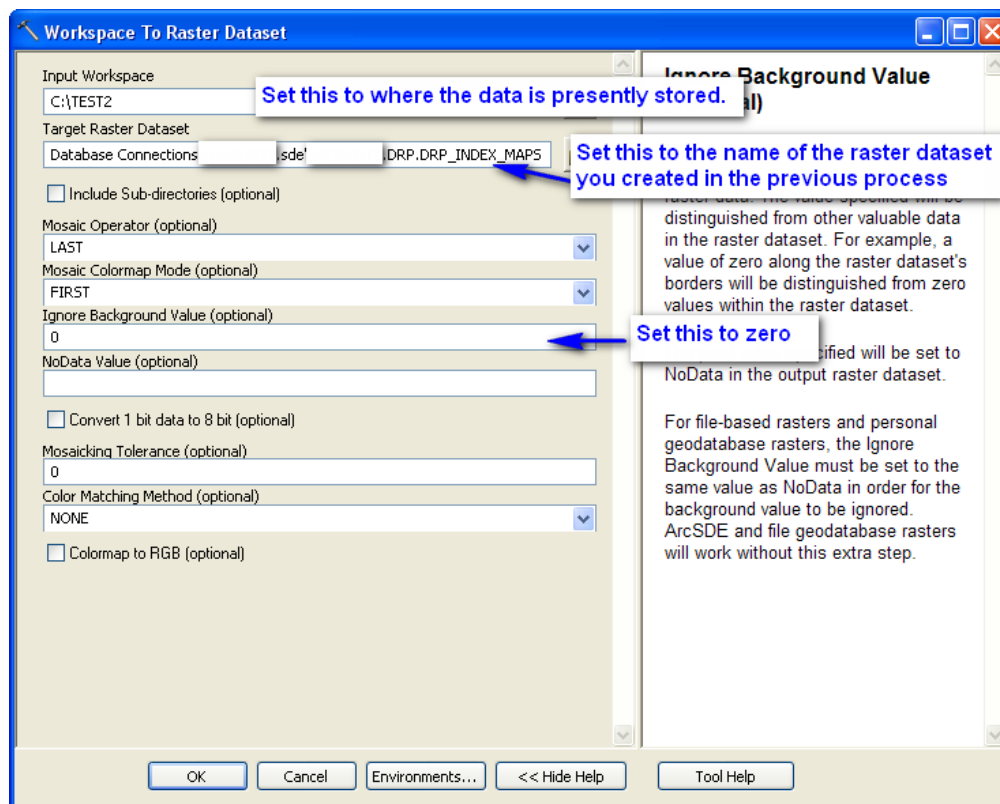
- When your process is finished, you can go ahead and build pyramids.

BUILDING PYRAMIDS

Using the command line syntax appears to work much more efficiently than using what is available in ArcCatalog. In one example, right-clicking in ArcCatalog on the raster dataset created in SDE and then scrolling and clicking on "build pyramids" ran for 24 hours and showed no sign of where it was in the process. **Alternatively, using the command line process took all of 20 minutes to complete**.

To use the command line to build a pyramid, you need to be on the server (probably with remote desktop).

Open notepad and dopy the text below into a new file. Save it with a .bat extension (i.e. **build_pyramids.bat**). Note that generally notepad appends a .txt extension to everything the first time, so you need to ensure the extension is .bat.

In the file, you will want to replace the following values with the relevant values for your server:

<RASTER_DATASET_NAME> - Replace with the name of the raster dataset
<SERVERNAME> - Replace with the IP address or server name
<CONNECTION_INFO> - Replace with the sde port number (e.g. 5151)
<DATABASE> - the database name (e.g. LACOUNTY)
<USERNAME> - the username that has write access to the database
<PASSWORD> - the password for the username

```
set table_name=<RASTER_DATASET_NAME>
set connection=-s <SERVERNAME> -i <CONNECTION_INFO> -D <DATABASE> -u <USERNAME> -p <PASSWORD>

echo %TIME%
sderaster -o pyramid -l %table_name%,raster -v 1 -L -1skiplevel1 %connection% -I bilinear

echo %TIME%
sdetable -o update_dbms_stats -m "with fullscan" -t %table_name% %connection%
```

Once done, you can open a command prompt and type "build_pyramids.bat" or you can double-click on the file.

FINAL STEPS

When you've completed processing the files, don't forget to go back and clean up after yourself. Do you want to keep your original rasters, the flattened rasters, or just the raster dataset? Keeping the original files makes sense since you can always go back in and flatten the rasters again. Saving both sets of data will take up disc space and you'll have to make the choice on what you'd like to keep.