

# How to use MODIS-Today images in GIS software.

(featuring ArcGIS – for Windows and AEJEE – for MacOS X)

## For all GIS applications:

**1) Make sure you have downloaded all 4 files.**

You will need the image file (.jpg), the corresponding “worldfile” (.jgw), the “projection” file (.prj), and the metadata (.txt) file.

**2) Make sure your four files are named correctly on your hard drive.** The files should be kept together, have the same base name, but different extensions. For example:

t1.08098.USA\_Composite.143.4000m.jpg (image)

t1.08098.USA\_Composite.143.4000m.jgw (worldfile)

t1.08098.USA\_Composite.143.4000m.prj (projection)

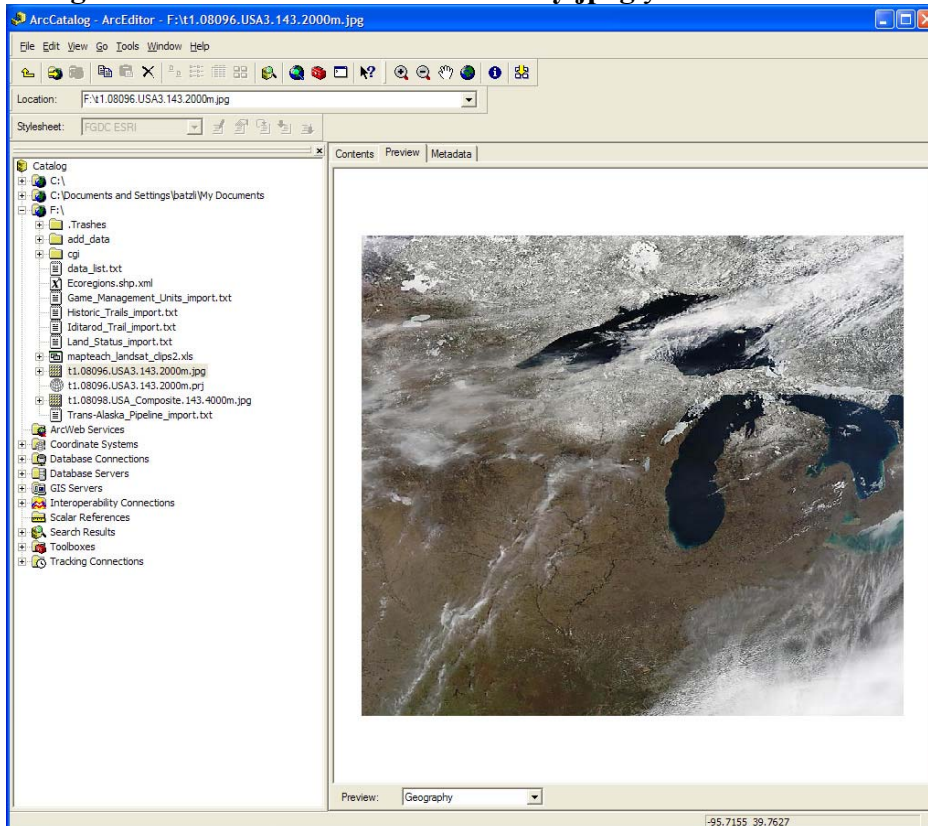
t1.08098.USA\_Composite.143.4000m.metadata.txt (metadata)

[NOTE on downloading the worldfile: it is a text file with a .jgw extension. On Windows computers, some browsers such as Internet Explorer append a ".txt" to the ".jgw" when you download it with the default "Save as type:" set to "Text Document." However, if the worldfile is saved with a ".txt" extension, the GIS program will not recognize that it is a worldfile. To prevent this problem when downloading the worldfile in a Windows environment, change "Save as type": to "All Files". Also be aware that, when checking the worldfile name using Windows Explorer, in some versions you can't see the ".txt" extension if the "Hide extensions for known file types" box is checked in Folder Options. In this case, with a hidden .txt extension, the file name looks correct, but it is not.]

## ArcGIS (ArcCatalog/ArcMap – Windows Only)

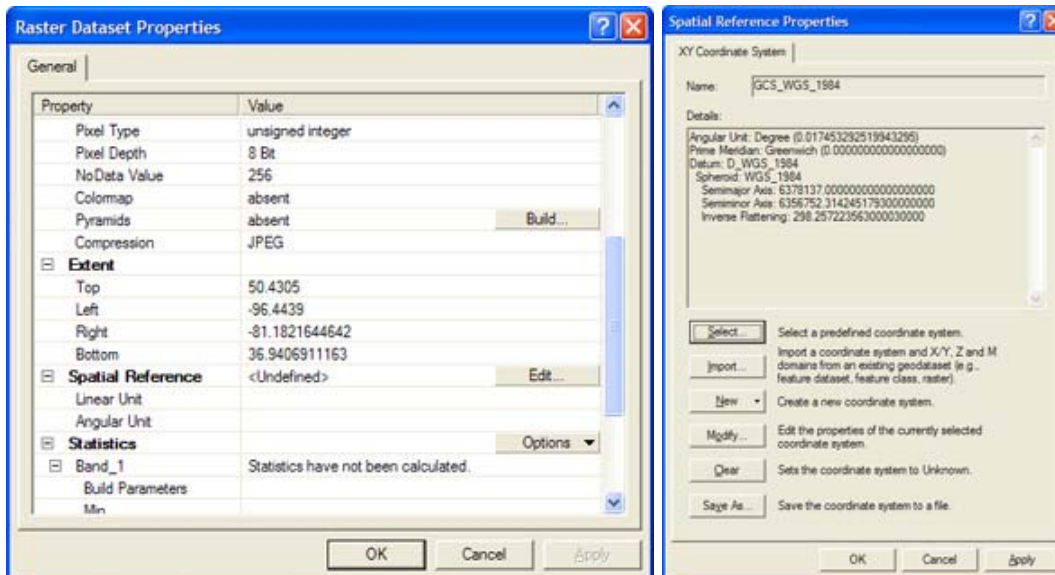
**1) Set projection** for the image using ArcCatalog. Open ArcCatalog.

**2) Navigate to and select the MODIS-Today jpeg you have downloaded.**



*Navigate to the jpeg you have downloaded and select “Preview.”*

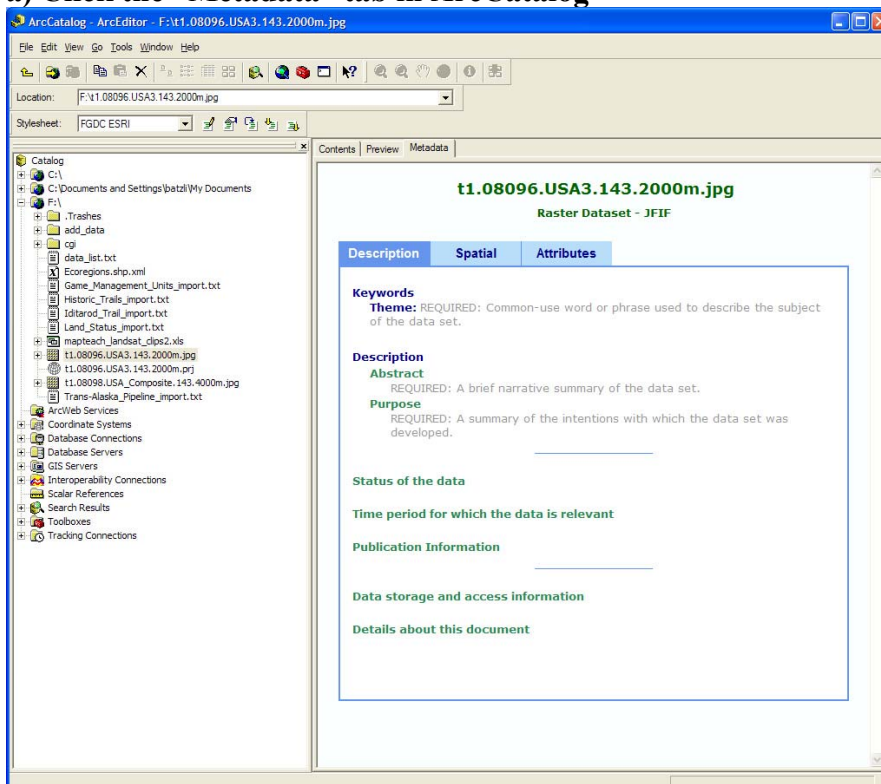
- 3) Apply the projection information to the image:
  - a) Right-click on the file name in the “Catalog” and select “Properties.”
  - b) Scroll down to “Spatial Reference” and click the “Edit” button.



*Click on the “Edit” button to set the “Spatial Reference”*

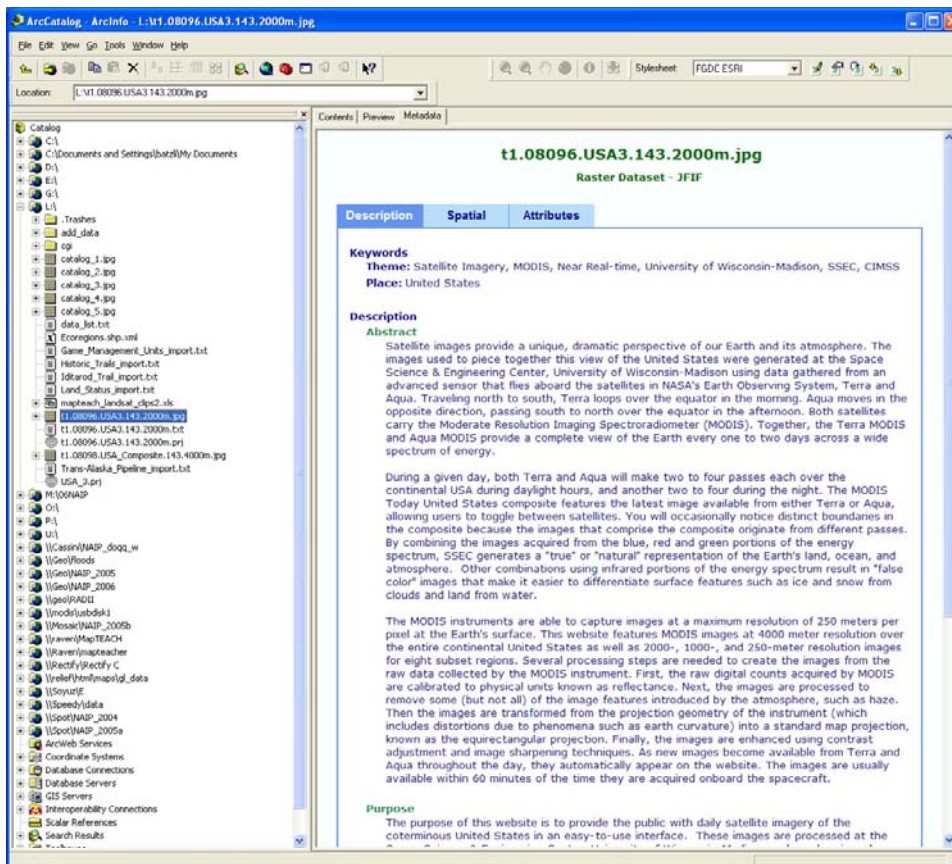
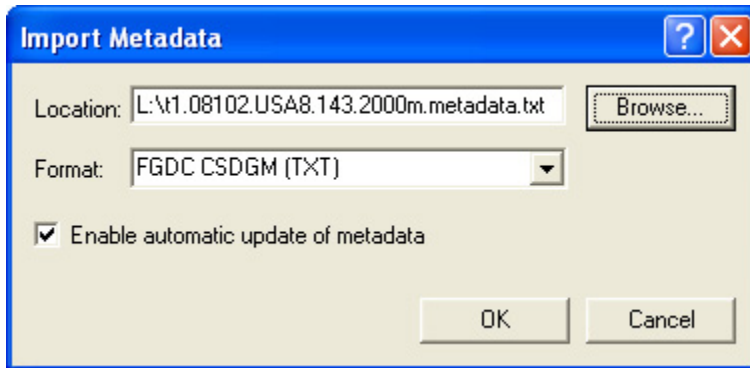
- c) In the Spatial Reference dialogue box, click “Select” and navigate to the .prj file you downloaded, click “Apply” and “OK.”

- 4) Recommended additional step: Import metadata!
  - a) Click the “Metadata” tab in ArcCatalog



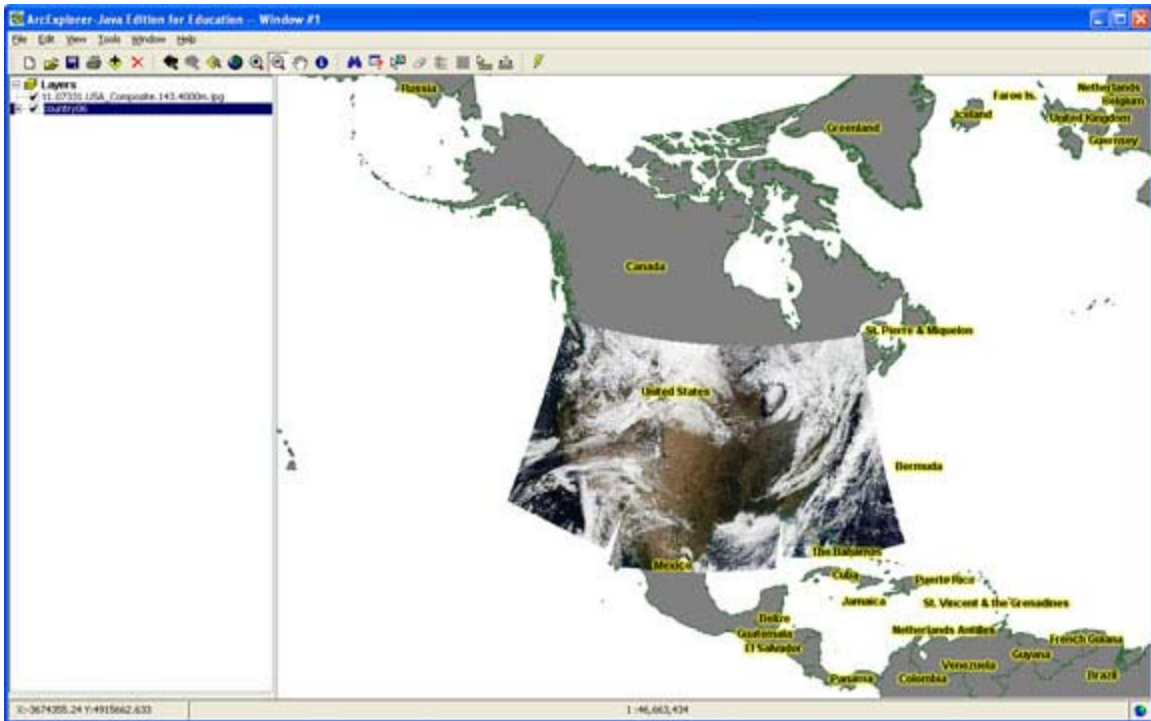
*Select the “Metadata” tab.*

- b) Click on the “Import Metadata” button** (you may have to turn on the “Metadata” tool bar from the View menu if it is not visible).
- c) Choose “FGDC CSDGM (TXT)” from the “Format:” dropdown menu** and use the “Browse” button to navigate to the metadata file you downloaded (the .metadata.txt file with the same name as your image). Click “OK”




*Metadata is now present in the “Metadata” tab.*

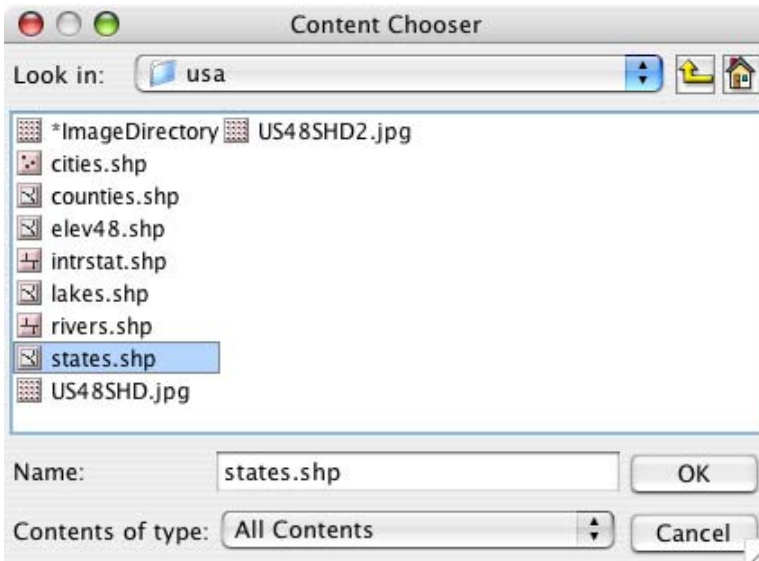
- 5) The image is now ready to use in ArcMap and can be re-projected to match any other dataset.**



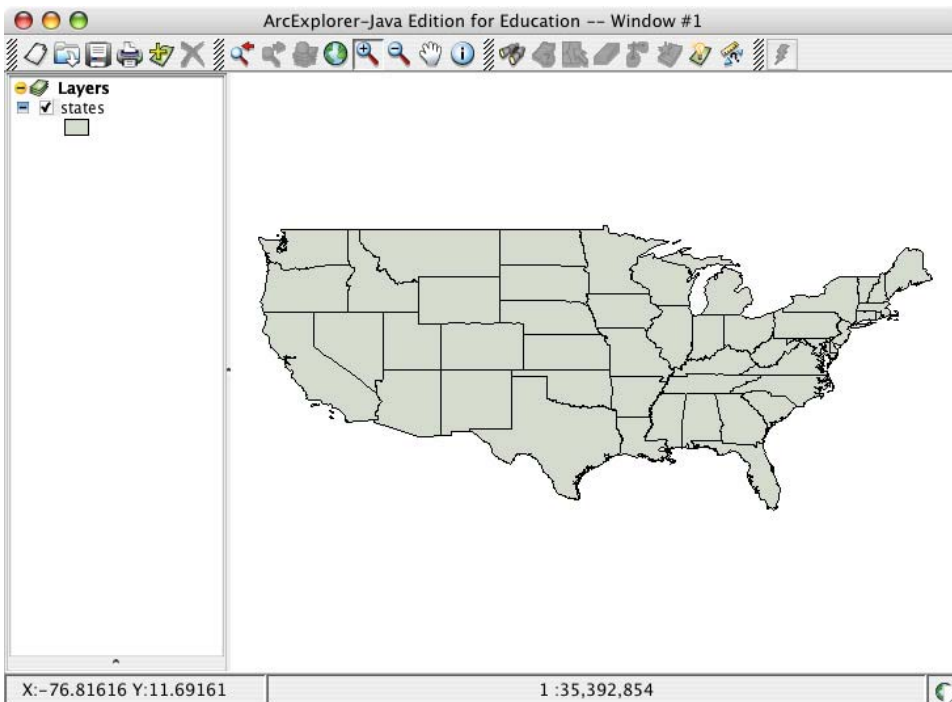
*Example of a MODIS-Today image displayed in ArcMap in combination with an outline of North America and reprojected to Albers Equal Area.*

## ArcExplorer Java Education Edition (Mac OS X or Windows)


- 1) Open AEJEE (for Mac or PC).
- 2) Click on the “Add data” button 
- 3) Now add a polygon layer of “states” from the included AEJEE data. It is a “shapefile” located on Windows versions at C:\ESRI\AEJEE\Data\usa\states.shp and on a Mac at /ESRI/AEJEE/Data/usa/states.shp

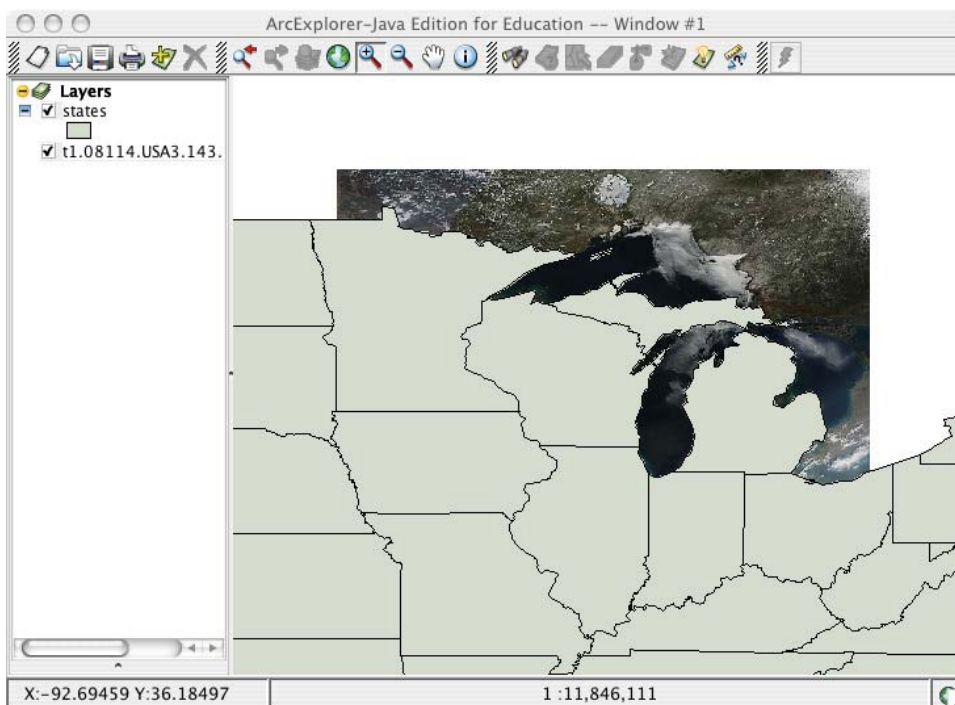
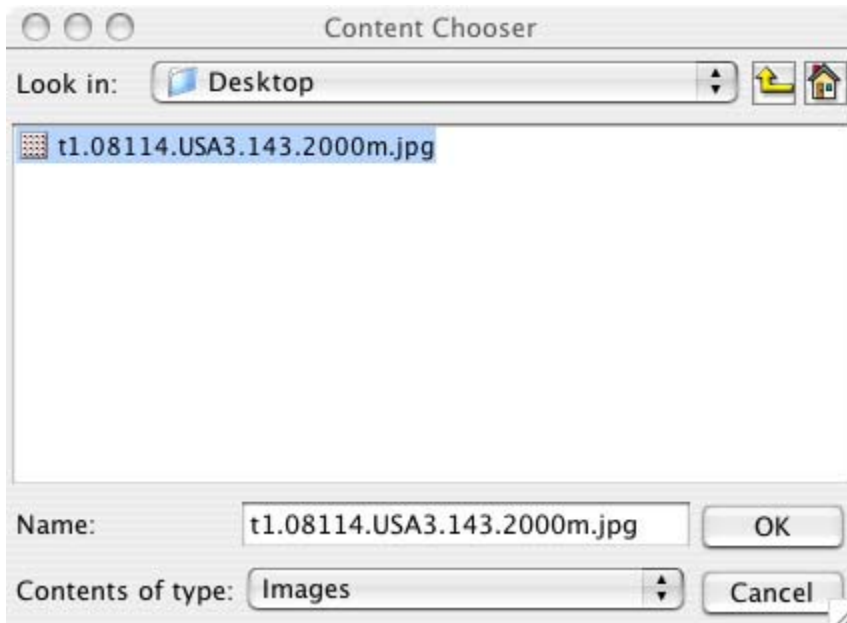


- 4) Center the map on the coterminous 48 states.



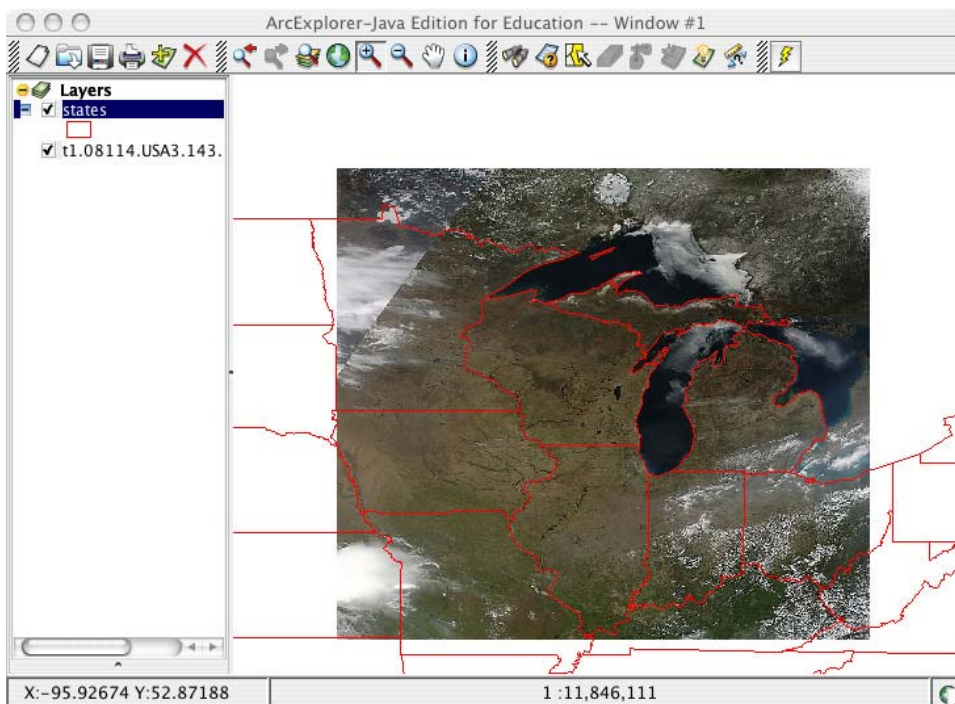
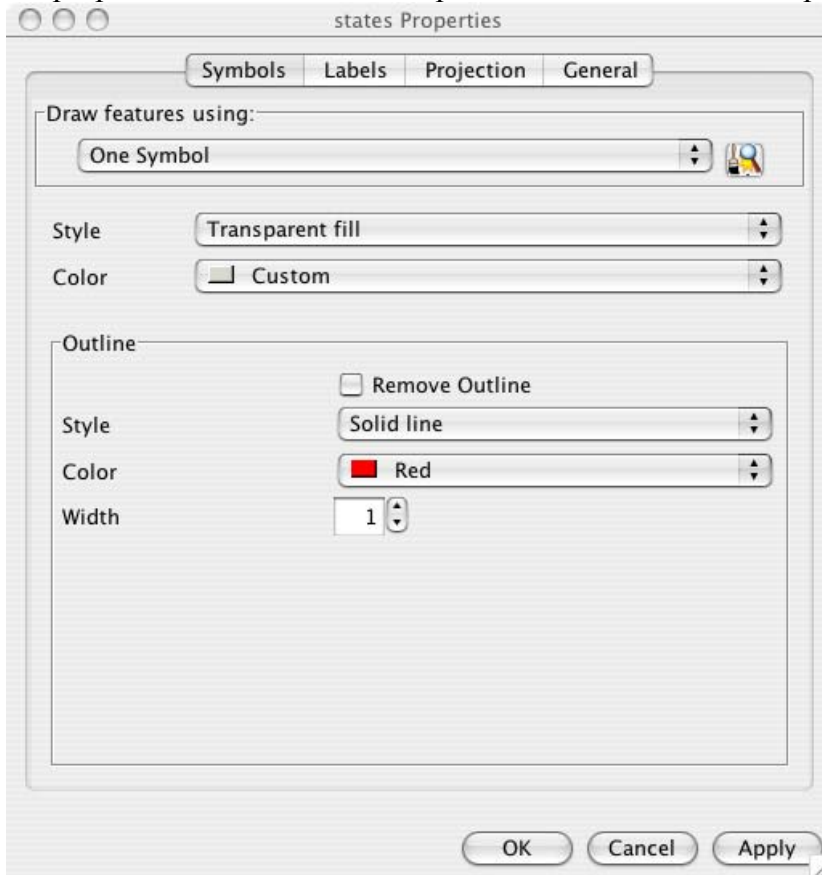
*Your map should look like this.*

- 5) Now use the “Add data” button  to add the MODIS-today jpeg you downloaded by navigating to the file.



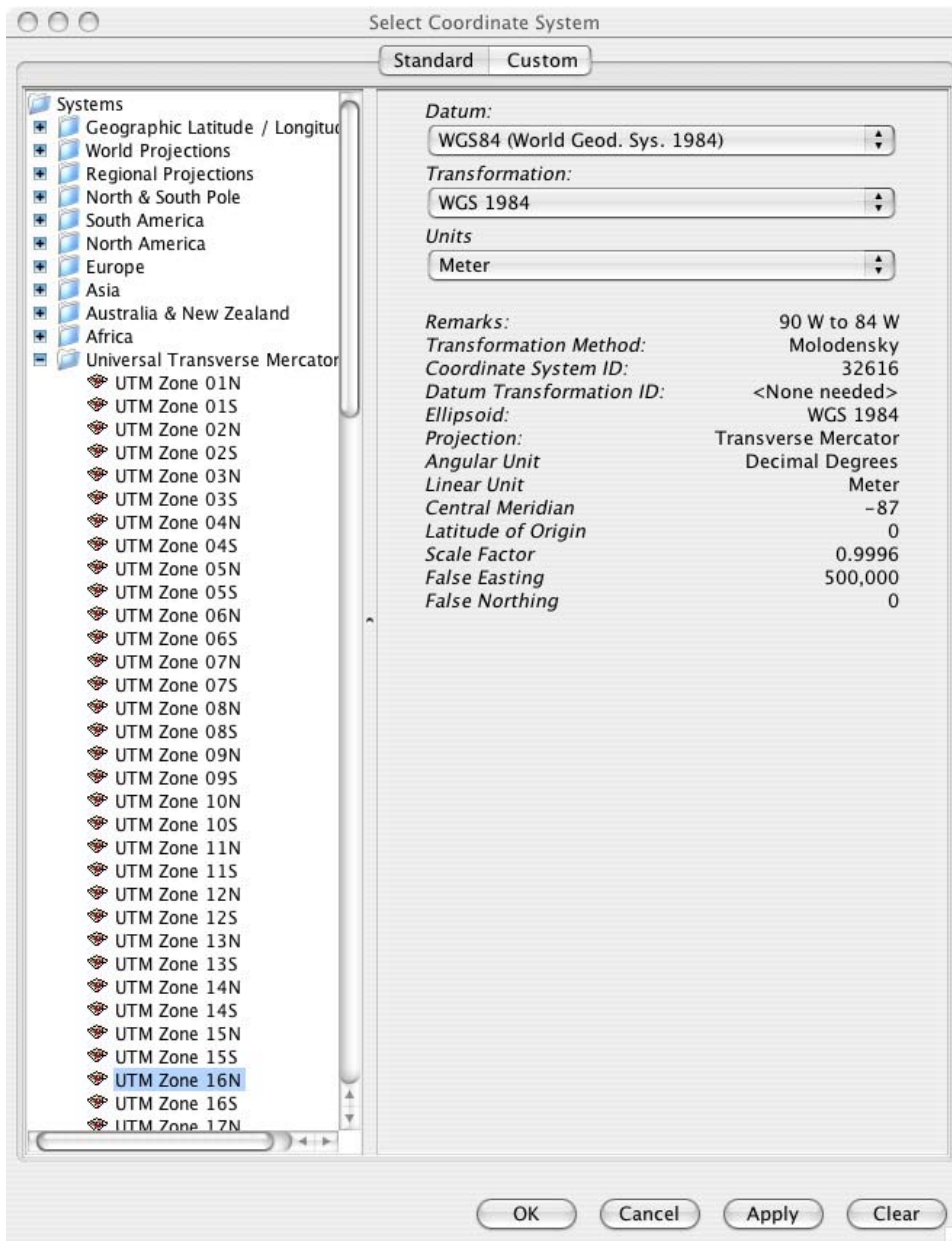
*Your map should now look something like this. Make sure the states layer is on top of the image layer. If necessary, you can re-arrange the vertical stacking order of the layers in the panel on the left by dragging the layer name up or down.*

- 6) Now right-click (or “ctrl-click”) the “states” layer name and select “Properties...” Adjust the properties of the “states” to represent the states with “transparent fill” and a “red” outline.



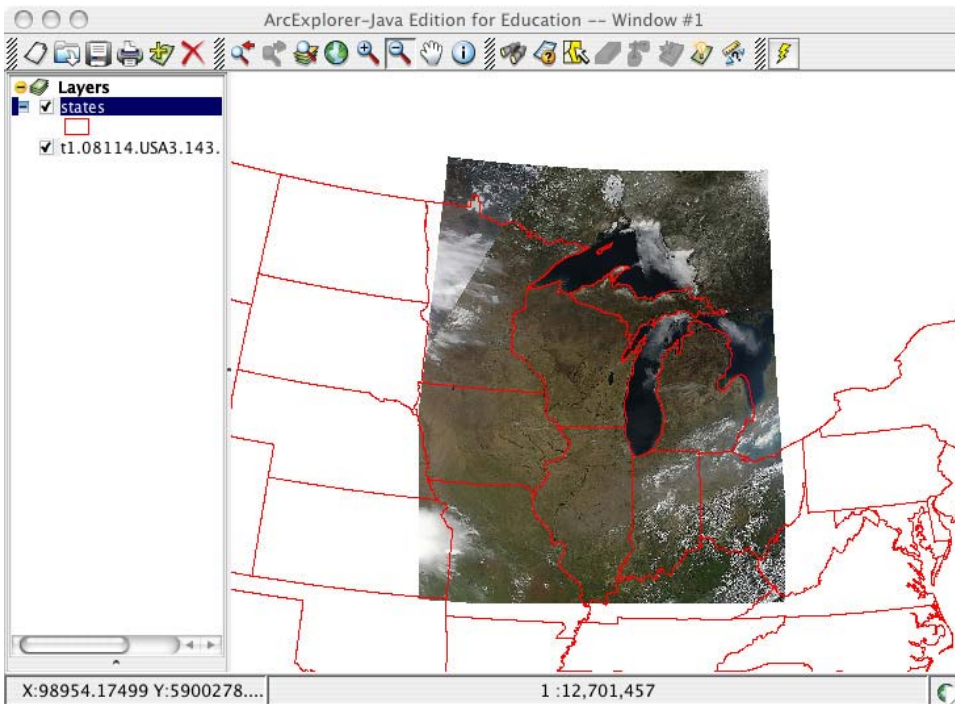
*You map should now look like this:*

- 7) Now, you can change the projection of the map and the imagery will warp to fit the new projection [note: AEJEE's projection engine loses accuracy when projecting imagery, especially when zoomed-in. Use with caution.] Try applying UTM Zone 16N to the map by selecting "Projection" from the "Tools" menu.



Select UTM Zone 16N from the "Universal Transverse Mercator" directory and click "OK."





*Your map should now look like this. Note the misalignment of the eastern Michigan state boarder. This frequently results when re-projecting imagery in AEJEE and may limit accuracy in some areas of your map.*