**CIVIC Binary Thresholding Workflow**

Manual

1. Download the imagery from the ArcGIS Online group. At the moment I have it set up as a map package but I might change that later
   1. Select image, correctly assign bands and adjust contrast
   2. Make sure crs of project is in WGS 1984 (A geographic coordinate reference system which is native to the imagery
2. Isolate the near infrared band to make new layer. This is the only way to allow you to adjust the symbology using the Classified option.
   1. Select the image in the contents pane→ Imagery tab→ Raster functions→ search the raster function window for Extract Bands→ Select the raster in the drop down menu under “Raster”. State the single band in question in the “Combination” box→ “Create new layer”
3. Initial thresholding to create binary image.
   1. We need one for water, one for land
   2. Right click on extracted layer in the contents pane to the left→symbology→Change primary symbology to classify→Classes to 2, play with the lower number of the upper values.
   3. We want water feature to be within 1 pixel of water (30m)

Automated

1. Open the “Binary Raster Automated Sections.ipynb” script from the catalog pane to the right. **Refer to Module 1**, fill in the relevant details in Parts 1-3 and run the first cell only:
   1. Adjust directory, make file for binary output
   2. Fill in landcover value thresholds from extract bands label
   3. Make sure band set to near infrared
   4. This will output an initial binary raster called “shapefiletemp’ and a StudyArea file (Previously known as the “blob”)
2. Isolate the Kanektok shape on the ‘shapefiletemp’ vectorized image
   1. Map, select, hold shift and click on water, continue until all river is highlighted
   2. After selected, right click the vector layer, data, export features, export selected records only, title it “IRS\_\*year\*” (which stands for isolated river shapefile) or similar.
   3. Also select all the features of the binary vector and export to new layer, then combine them all using edit, and merge[[1]](#footnote-0). Save. This will be our “StudyArea” shapefile.

Manual

1. Make the grid!
   1. Geoprocessing tool called Create Fishnet.
   2. Output name “grid2022”
   3. Template extent, use blob
   4. Only adjust cell size width and height,
      1. Right click on original landsat, properties, source, raster information, cell size X and Y
   5. Deselect create label points, change geometry type to polygon
   6. Run!
2. Manually go through and rectify the IRS isolated river shapefile to have only the river and sand banks, within 1 pixel.
   1. If you want to add river area, do edit and create. You can use the trace tool with the grid to create polygons more easily.
   2. If you want to remove polys, use the edit, then split feature. Then split off the section you want to delete then select and delete it.
   3. After you are happy with your river polygons, merge them all into one poly using the Dissolve geoprocessing tool, under View→ Geoprocessing→ search for dissolve

Automated

1. Run Module 2 only, of the automated workflow. This will generate the final products. In this module, fill in parts 1-3 to direct the script to the dissolved IRS.

1. https://pro.arcgis.com/en/pro-app/latest/help/editing/merge-features-into-one-feature.htm [↑](#footnote-ref-0)