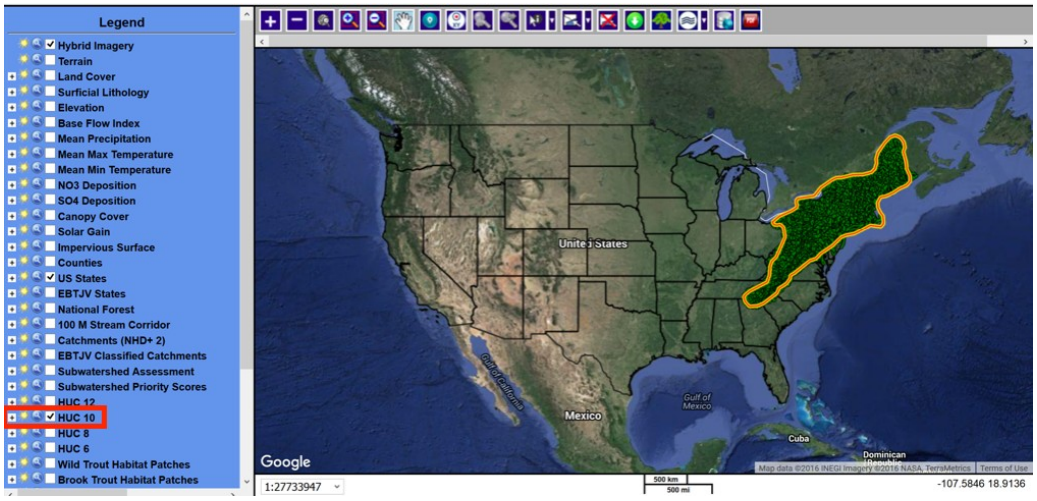
RPCCR: How-to Instructional Exercise for Technical Users

Objective: The objective of this exercise is to familiarize you with the RPCCR and to assist each participant in utilizing the tool for a set of user-defined parameters.

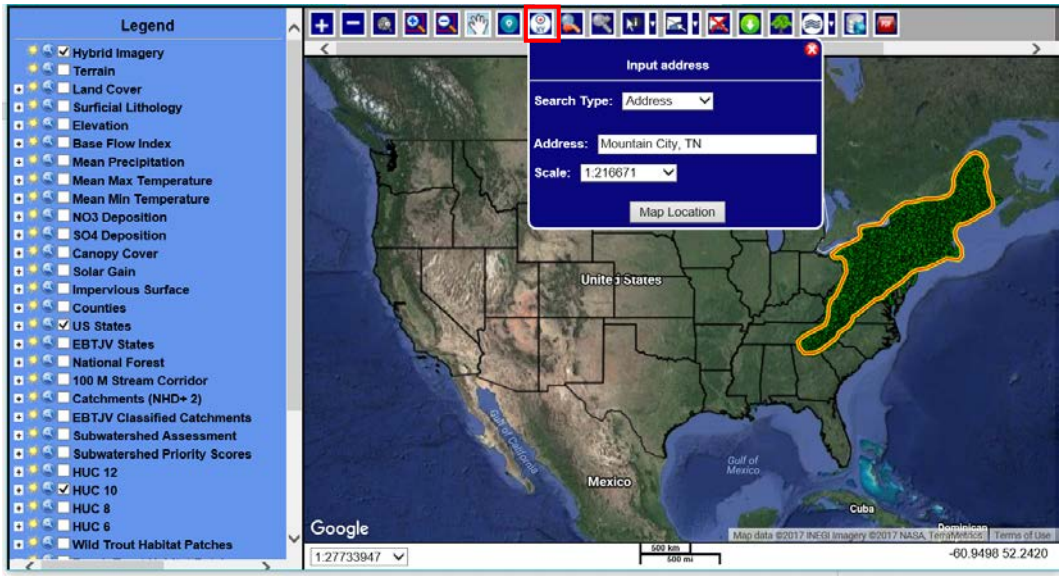
Instructions:

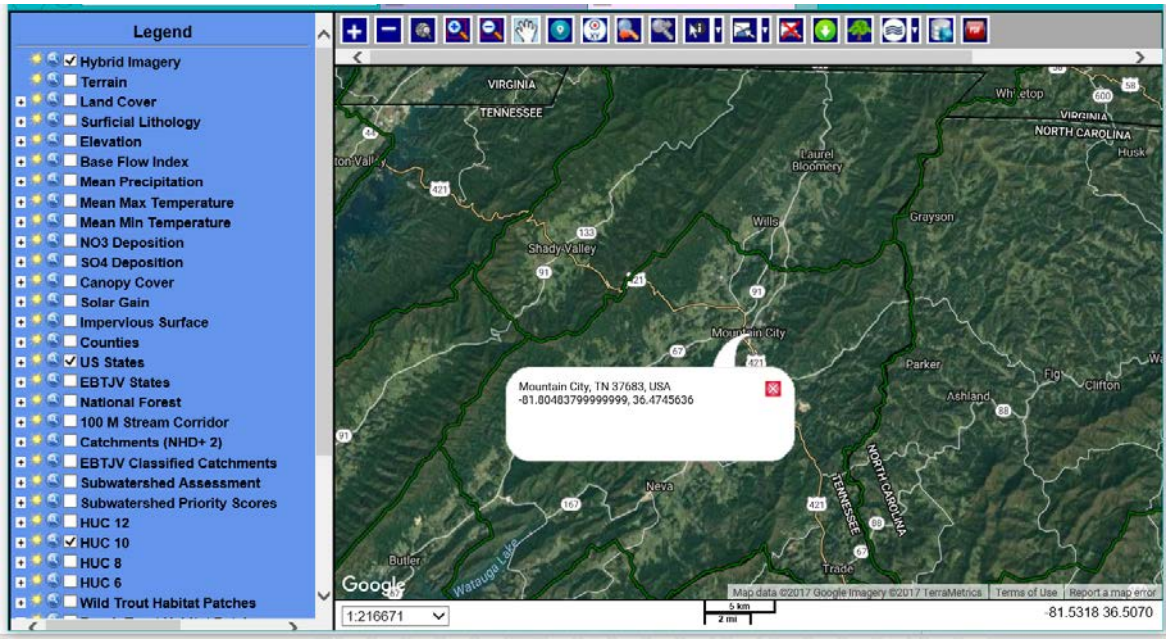
1. Access the Riparian Prioritization for Climate Change Resilience Tool:
   http://felek.cns.umass.edu:8080/geoserver/www/Web_Map_Viewer.html
   Chrome or Firefox browsers are preferred

2. Choose a HUC layer from the Legend check box list. The map will change, showing the HUC boundaries. For this example, select HUC10.



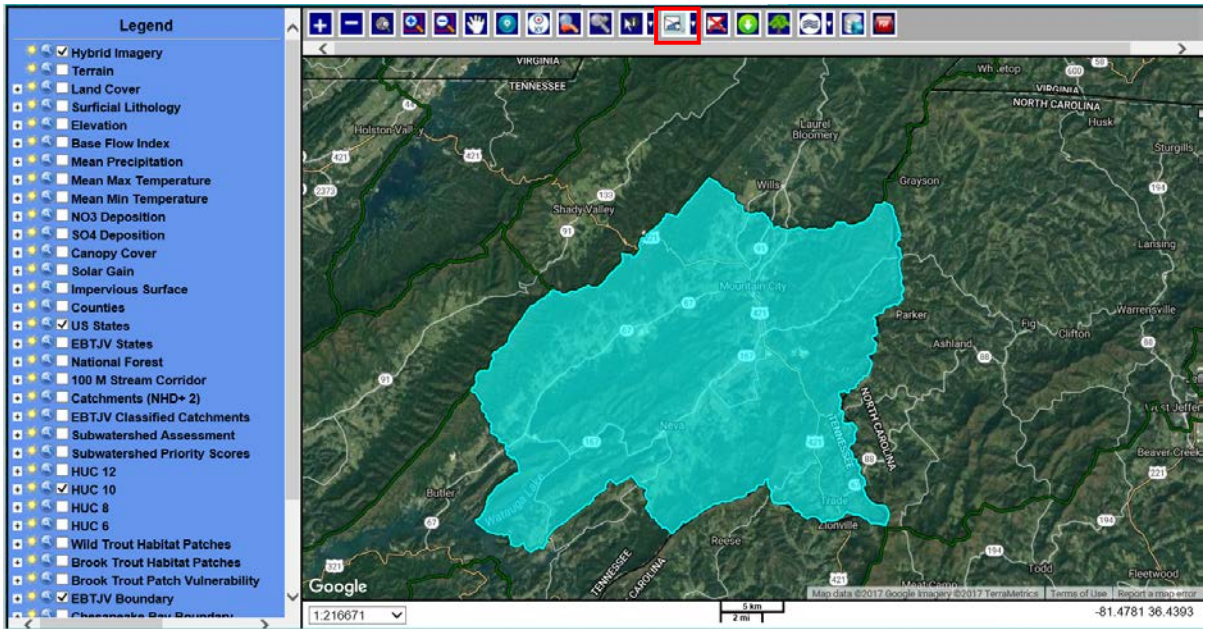
3. Zoom to area of interest to select the polygon (or state) that you want to analyze. Click on the Zoom to Address tool  and enter a location, either by name (Address) or by Coordinates. Example data has been provided for Roane Creek HUC 10 watershed (0601010301). To navigate to this area, search for Mountain City, TN. Alternatively, you can manually navigate to the area of interest using the buttons on the upper-left hand section of the mapwindow.



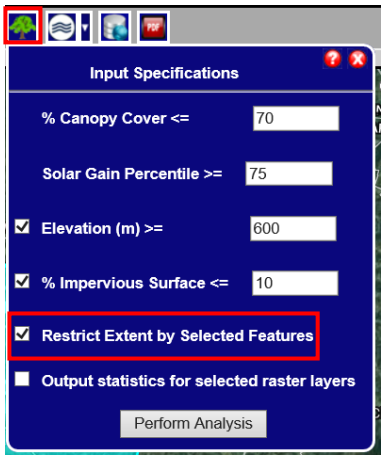


4. Select the polygon (area) that you are interested in. First, you need to select the layer (HUC 10) by selecting the drop-down menu from the Select Features  

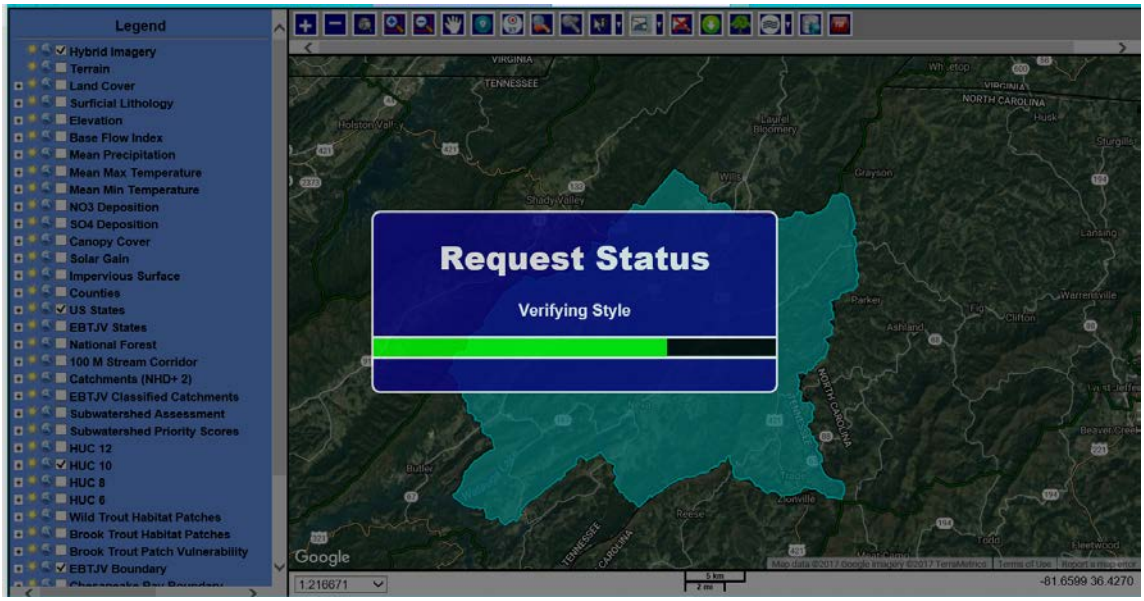
The map will not change. Then, click on the map in the HUC you are interested in. For this example, click near Mountain City, TN. The watershed of interest will be highlighted in blue. If you select the wrong HUC, click on the Clear Selected Features and then click in the watershed of interest. If it takes more than 10 seconds to select the feature, you are probably trying to select the entire state. Refresh your browser and start again at step 2.



5. Click on the RPCCR tool  , which looks like a tree. Fill out the selection fields, including minimum canopy cover and maximum solar gain. A default value of 70 for % Canopy Cover and 75 for Solar Gain Percentile is automatically entered for these parameters, but this can be adjusted. The parameters for elevation and impervious surface are optional. To use these parameters in the analysis, click the check box to the left of those criteria and adjust the default values as necessary. Always select Restrict Extent by Selected Features; otherwise, the analysis will run for the entire Eastern Brook Trout area from Maine to Georgia. For this example, fill in the values in the box shown here.

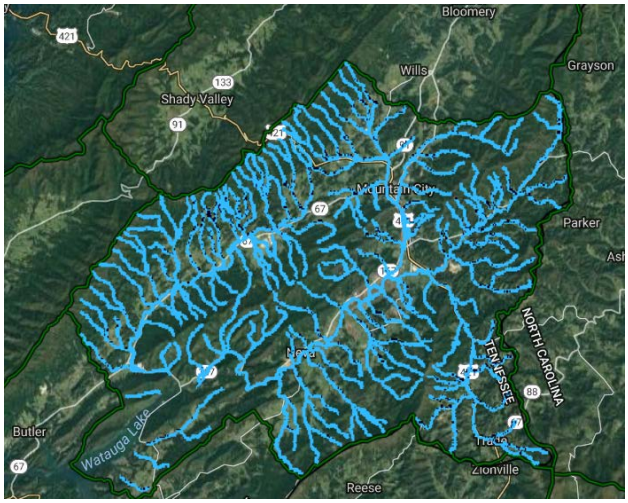


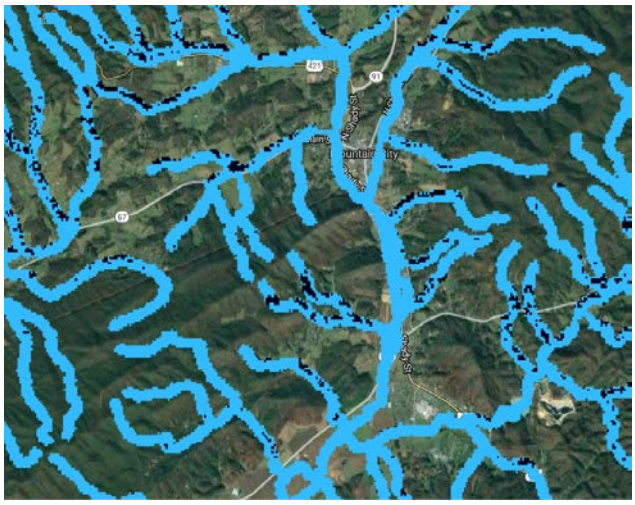
6. Click Perform Analysis. After you click Perform Analysis, you will see the status bar listing the different steps and showing progress. When the analysis is complete, the status bar will disappear.



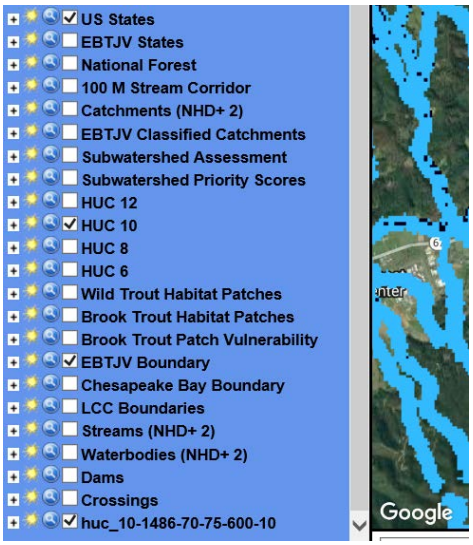
Note: The analysis can take some time to complete, especially for large areas such as a state. For one HUC the analysis should take less than a minute.

7. To see the RPCCR analysis, first remove the feature selection by clicking on the Clear Selected Features tool.  All the riparian zones in the selected area will be displayed in light blue. The portions which match the selection criteria of canopy cover, solar gain, etc. will be displayed in dark blue.



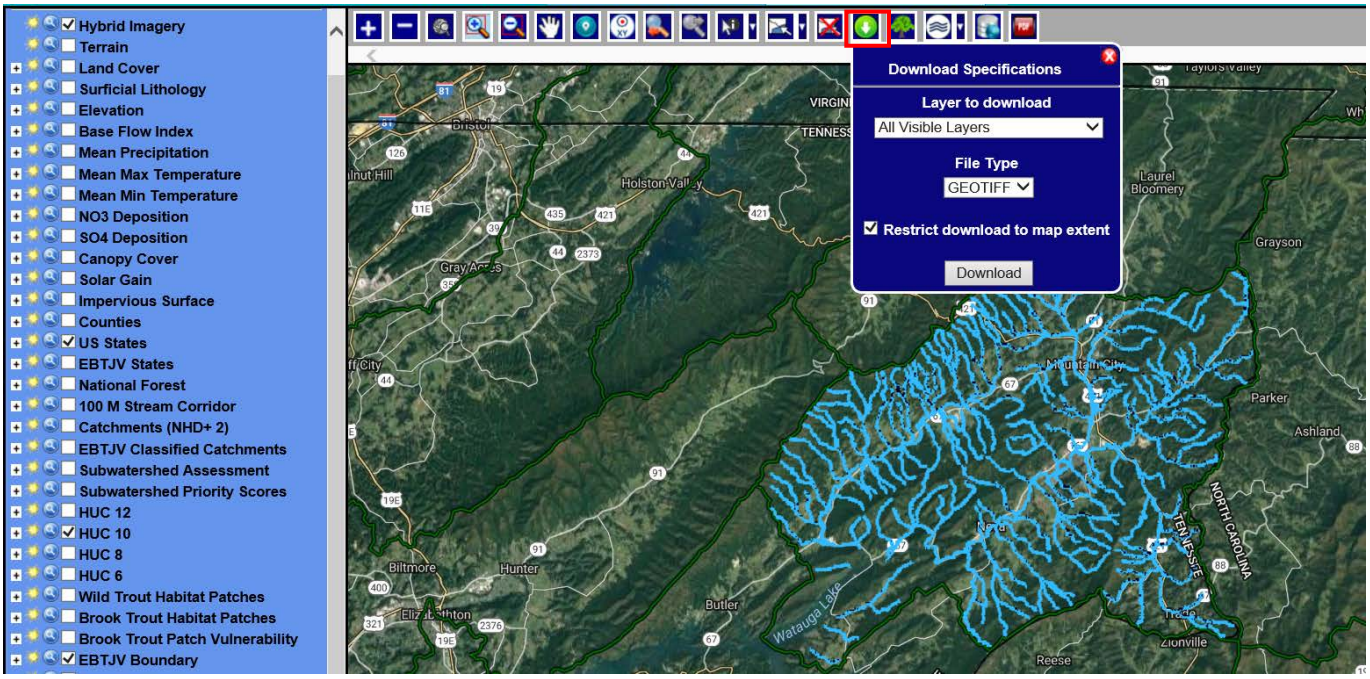


8. The resulting layer is added to the list of layers that you can view to the left of the map. This new layer is at the bottom of the list. Each layer has a unique name listing the HUC fid and the selection criteria. For example, huc_10-1486-70-75-600-10 was created by selecting area HUC 10 fid 1486 with canopy cover less than 70% and solar gain of 75% or more with elevation of 600 and 10% Impervious surface.

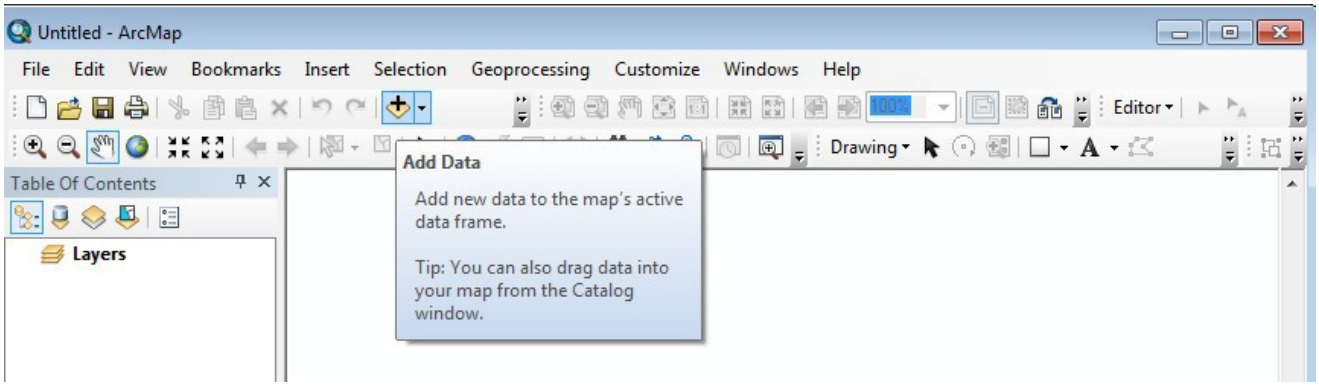


9. Run the analysis several times with different parameter values to compare the results.

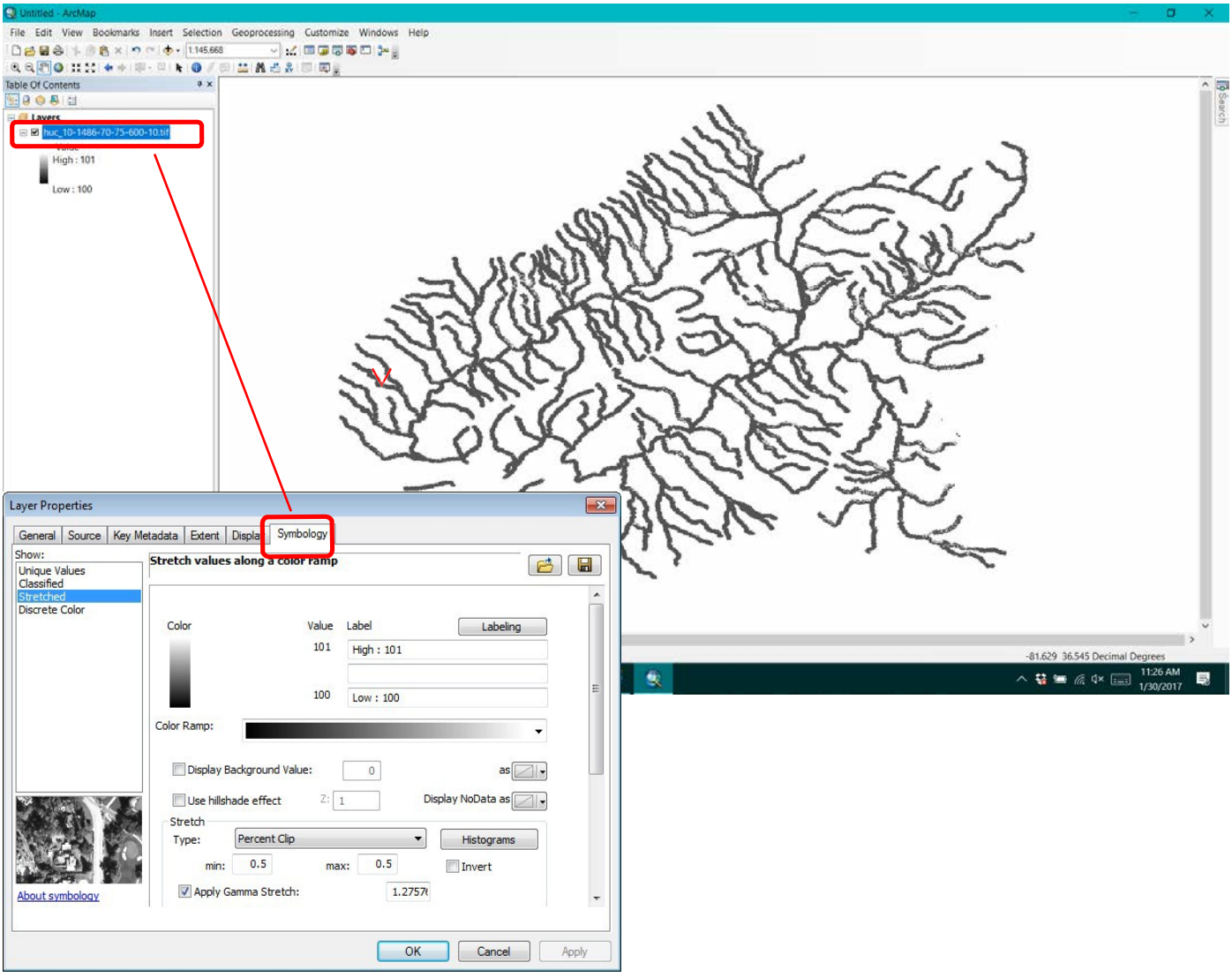
10. Download the analysis results layer by clicking on Download tool.  You can choose to download all the layers, or just the RPCCR analysis layer, which you will find by scrolling to the bottom of the All Visible Layers list. Choose GEOTIFF so that you can upload the layer to a GIS system.



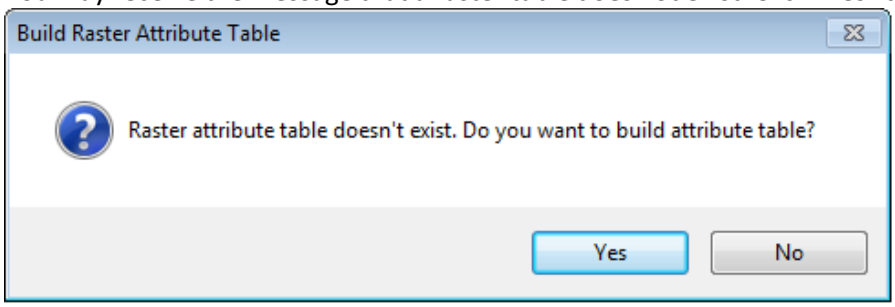
1. The next steps will guide users through the process of importing the output from RPCCR into ArcGIS. Any GIS software which is compatible with the geotiff format can also be used. First, open ArcGIS software and click on the "Add Data" button to insert the RPCCR data layer downloaded in Step 10.



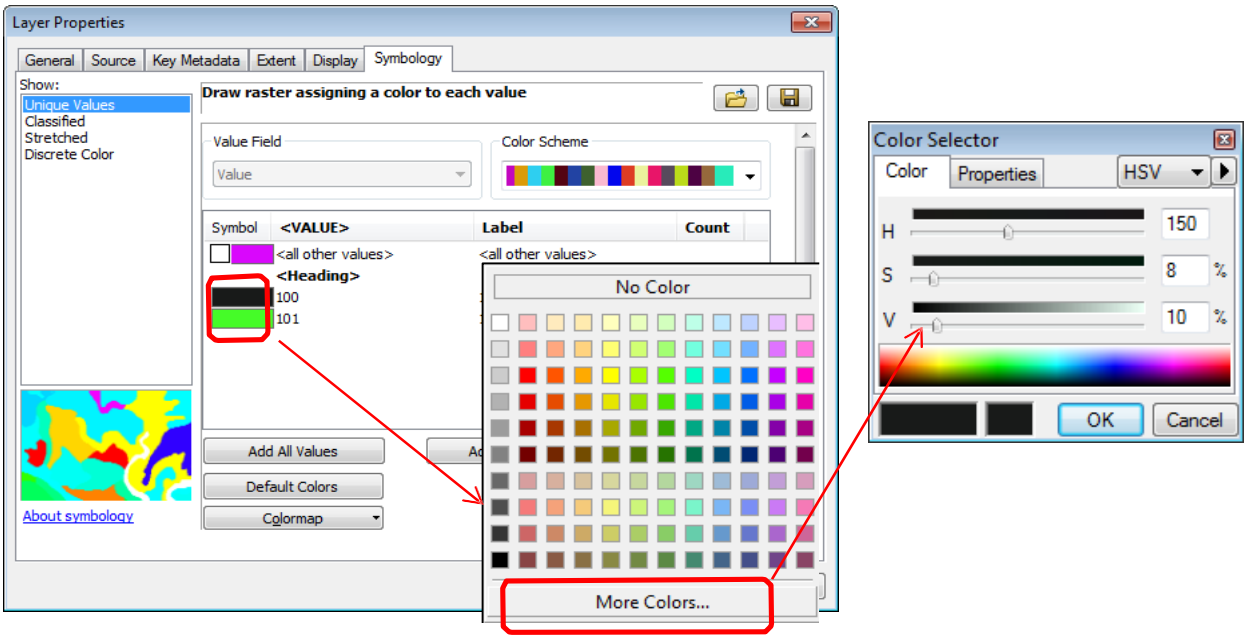
2. After importing the layer, it will be displayed using the "Stretched" color scheme. To better represent the data, we will change the symbology to unique values. This will display all the values that are represented in the RPCCR layer. To change the symbology, double click on layer name in the Table of Contents to open the Layer Properties dialog. Select the "Symbology" tab and click on "Unique Values".



3. You may receive the message that a raster table does not exist. Click “Yes” to build an attribute table.



4. Areas with a value of 101 represent locations which meet all the criteria set when using RPCCR. These areas were represented as dark blue when using the RPCCR web based tool. Areas with a value of 100 are within the riparian corridor, but did not meet all of the criteria specified when using RPCCR. The default colors displayed below may be different for other users. They can be changed to resemble the color scheme used in RPCCR or to individual user preference. To change the symbology, double-click on the icon for each layer (see below) and select desired color.



5. When you are satisfied with the symbology, click “OK”.