

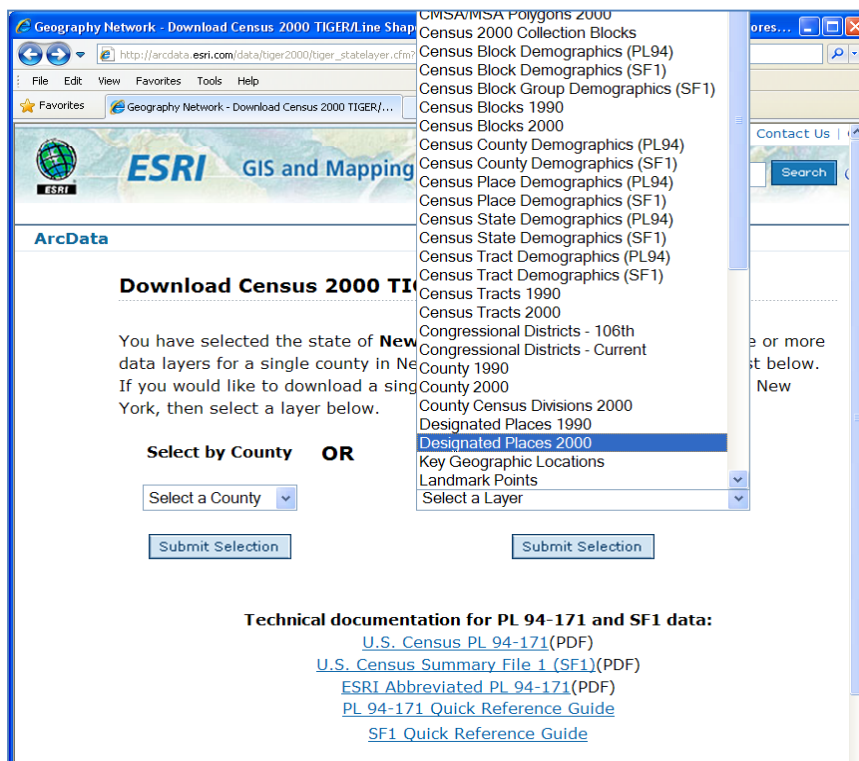
Obtaining a boundary shapefile for use in i-Tree Canopy

This guide walks users through the download of an ESRI shapefile and selection/creation of a specific U.S. place boundary with ArcGIS. Methods for GIS processing are basic and apply to most GIS packages, including free versions such as QGIS (<http://www.qgis.org/>).

Download a boundary file from the ESRI website:

- 1) Use a web browser and navigate to the [ESRI Census 2000 TIGER Data](http://arcdata.esri.com/data/tiger2000/tiger_download.cfm) website (http://arcdata.esri.com/data/tiger2000/tiger_download.cfm).
- 2) Select the State of interest.
- 3) In the **Select By Layer** pull-down menu, select the desired boundary type for analysis (Figure 1).
 - a. Note: this must be an “area” layer. Line features (such as **Hydrography**) will not work.
 - b. The **Designated Places 2000** selection will provide boundaries for cities, towns etc.
- 4) Click **Submit Selection**.
- 5) Check the county of interest and click **Proceed to Download**.
- 6) Click **Download File** to save on your computer
 - a. Take note of the location where the *.ZIP file downloads/saves.
 - b. Navigate to this location and unzip the file to extract all the files within it: *.dbf, *.shp and *.shx.
 - c. It may be necessary to unzip yet another zip file contained *within* the downloaded zip file.

Figure 1



Extract your area of interest :



- 1) Open **ArcMap** and add  the downloaded boundary shapefile. You may see multiple places across the county.
- 2) Right-click the file name in the table of contents and select **Open Attribute Table** (Figure 2).
 - a. Scroll through the table and select the name of your area of Interest:
 - i. Click the gray cell  at the far left side of the record to select it.
 - ii. The boundary polygon will be highlighted in the ArcMap viewer.
- 3) Right-click the file name again in the table of contents but this time select **Data > Export Data**.
 - a. In the **Export Data** window, leave all of the defaults and provide a name and location for the **Output shapefile or feature class** (Figure 3).
 - b. Click **OK**.
- 4) When prompted, add the data to the map as a layer.

Figure 2

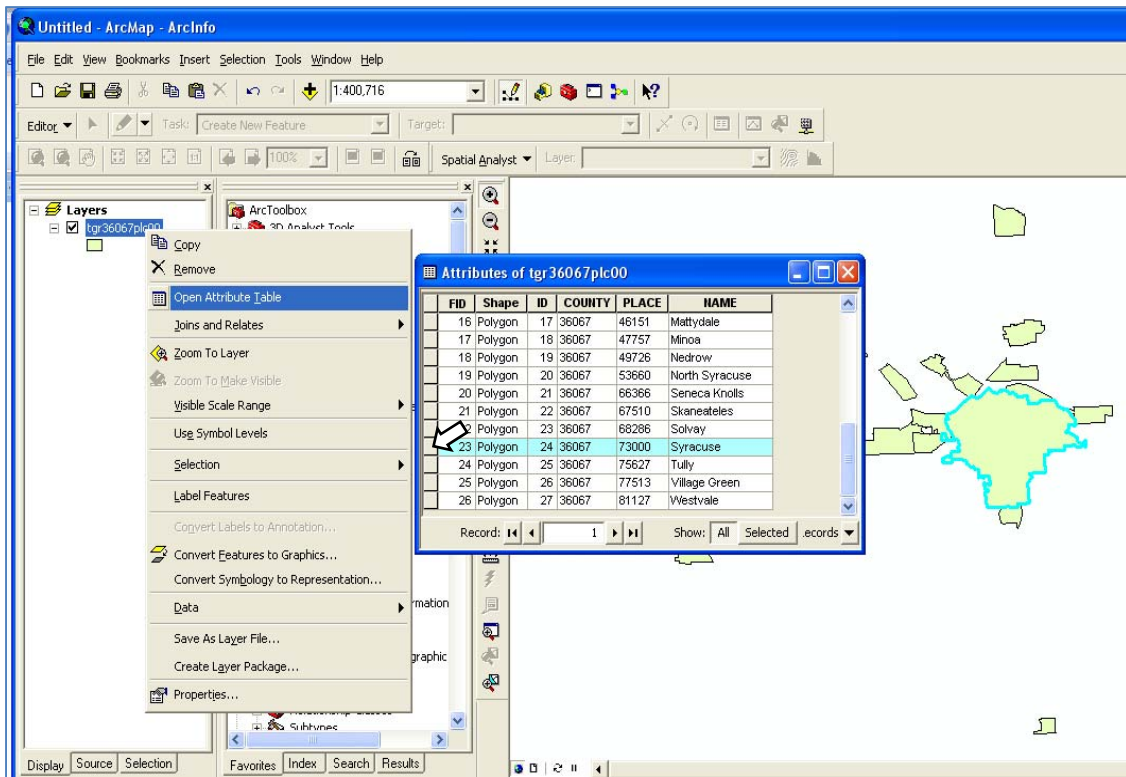
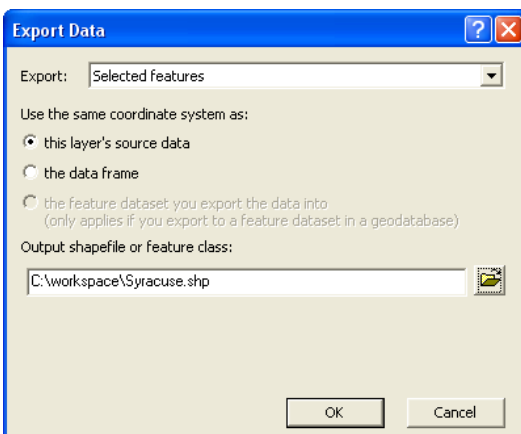


Figure 3



Define the projection of the boundary shapefile created above:


- 1) In ArcToolbox  select **Data Management Tools > Projections and Transformations > Define Projection**.
 - a. From the **Input Dataset or Feature Class** pull-down menu, select the name of the boundary file created above.
 - b. Click the button to the right of the **Coordinate System** entry.
 - i. In the **Spatial Reference Properties** dialog click **Select**.
 1. In the **Browse for Coordinate Systems** dialog, select **Geographic Coordinate Systems > World > WGS 1984.prj**
 2. Click **Add** (Figure 4).
 - ii. Click **OK** back in the **Spatial Reference Properties** dialog
 - c. Click **OK** back in the **Define Projection** dialog.
- 2) Your boundary shapefile is now in a geographic projection system and is ready to be loaded into i-Tree Canopy!

Figure 4

