

GEOG 245: Geodemographics

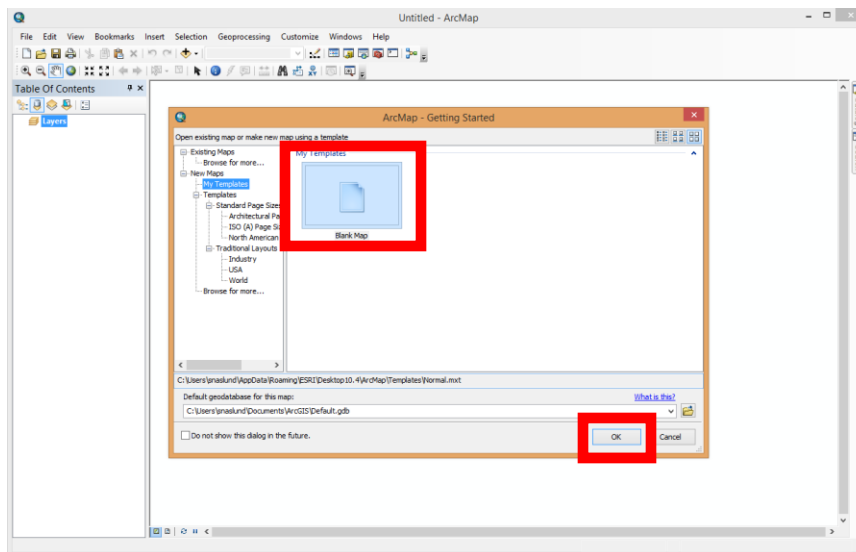
Autumn 2016

Using ArcGIS

ArcGIS is a geographic information systems (GIS) software package produced by ESRI that is the most common way for people to work with GIS. ArcGIS accounts for about half of the market share of GIS products. Like other GIS software, ArcGIS is a system for storing, managing, and displaying geographic information. In order to complete Assignment 2, you will need to use ArcGIS to make a map of demographic data.

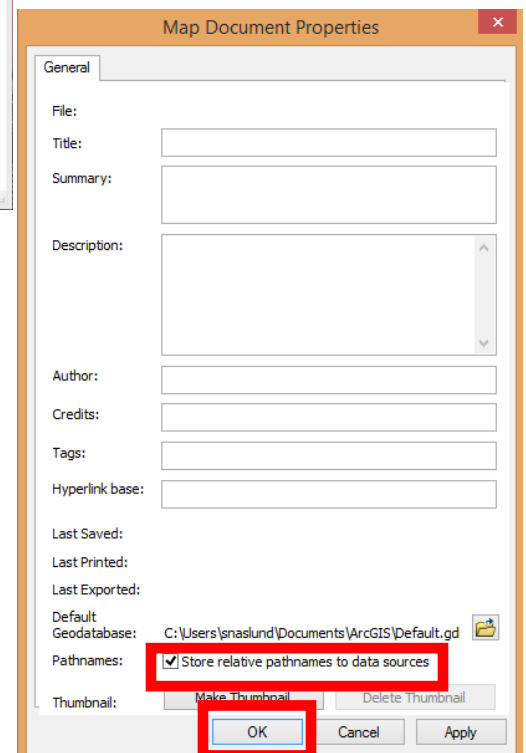
1. Open ArcMap

- a. Start→Programs→ArcMap
- b. Click on “Blank Map” and click OK.



2. Prepare your map

- a. Open Map Document Properties (File→Map Document Properties) and make sure that “Store relative pathnames to data sources” is checked and then click OK. This will enable you to save your map without having to reconnect the data each time you use it.
- b. Save your map (File→Save As). Call your file whatever you like, but be sure to save your map document in the same folder as you are storing all of your GIS data for this class

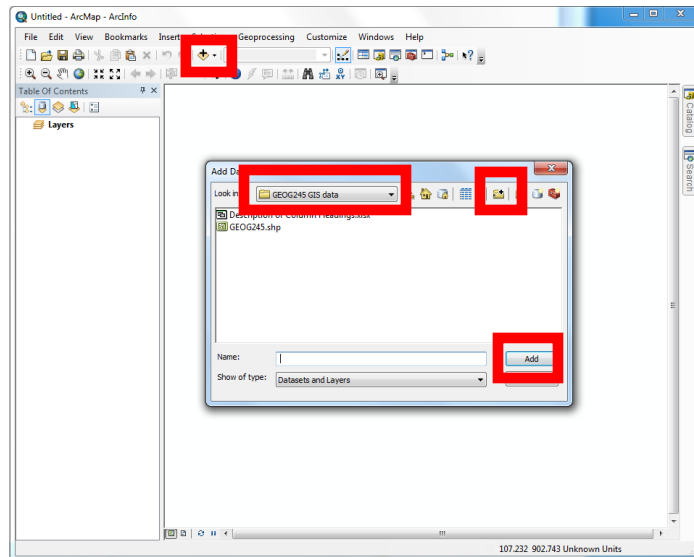


on your thumb drive. As long as you save all of your stuff (maps and data) in the same folder, it should all work regardless of the computer you are working on.

3. Add data

- a. Click the “Add Data” button on the Standard toolbar. (If that toolbar is not visible, right click in the open space where the toolbars should be and make sure “Standard” is selected.)

- b. Navigate to the folder where your data is stored. (If you plan to be adding data often, click on the “Connect To Folder” button and navigate to your Geography 245 GIS folder and click OK. This will create a shortcut in the Add Data dropdown menu directly to your folder.)

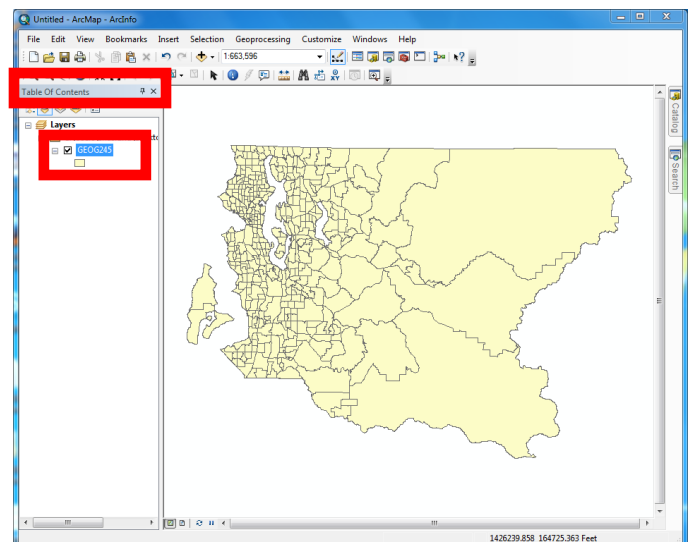


- c. Select the shapefile or data layer you wish to add and click “Add.” (If you cannot find your data and you know it is in that folder, make sure that you have unzipped the data you downloaded in the folder itself, and that it is not open in another window, before you will be able to access it within ArcGIS.)

4. Remember to save often! ArcMap has a habit of doing its own thing every once in a while, so be sure that you save your work frequently.

5. Examine your data

- a. Right click on your shapefile data layer. (Data layers should be displayed in the Table of Contents on the left hand side of the window.) Choose “Open Attribute Table” from the drop down menu. This will open the table associated with that data layer and you can see what data



variables are included in the shapefile. (Most data layers come with a legend to explain what the column headings mean.)

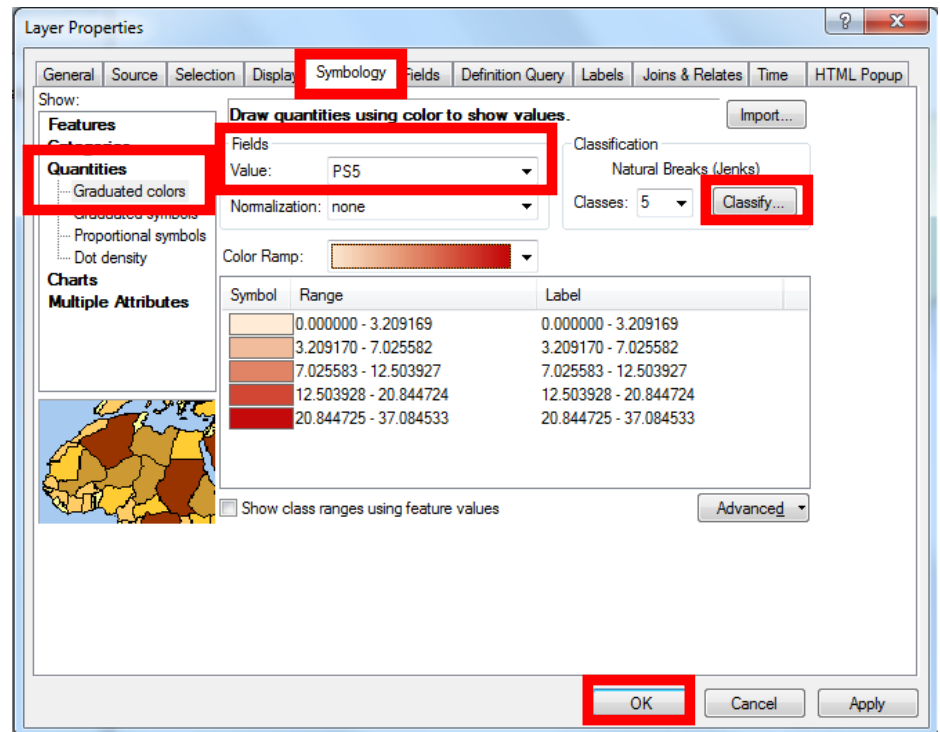
6. Classify and visualize your data

a. Right click on your shapefile and select “Properties.”

b. Click on the “Symbology” tab at the top of the popup.

c. On the left hand side, where you have the options of “Features,” “Categories,” “Quantities,” etc., select “Quantities” by clicking on it.

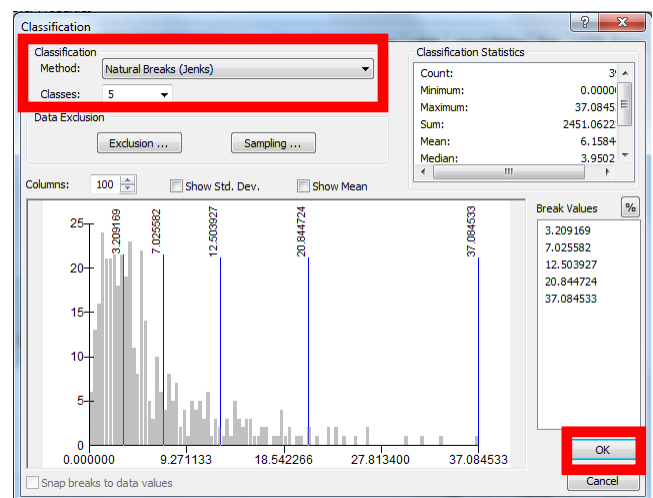
d. Click “Graduated colors” from the expanded menu under “Quantities.”



e. In the center of the popup, you should see a box called “Fields” with the options of “Value” and “Normalization.” Click the drop down menu after “Value” and select the category you want to map.

f. Next to the “Fields” box, is a “Classification” box. Click on the “Classify...” button.

g. At the top, choose your classification method and the number of classes you would like to use and click OK. You can also use this window to manually set categories by either clicking and dragging the breaks in the bar chart or by entering break values along the right hand side of the window.



- h. Select a color ramp from the options provided.
 - i. Click OK and your classification and visualization choices should be applied to your map. It may take a minute for it to be visible.
7. Professionalize your map
- a. Switch to layout view. (View→Layout View)
 - b. Add cartographic elements from the Insert drop down menu
 - i. Insert→Title
 - ii. Insert→Text (This is a great way to add a textbox with your data source and/or the name of the map author).
 - iii. Insert→North Arrow
 - iv. Insert→Scale Bar
 - v. Insert→Legend
 - 1. On the first page of the popup window, choose which layers you wish to include in your legend and select “Next.”
 - 2. Give your legend a descriptive title and click “Next.”
 - 3. Decide if you want a border around your legend and/or if you want your legend to have a background and click “Next.”
 - 4. I recommend leaving all other settings in their default modes by clicking “Next” and then “Finish.” (If you decide later you want to change them, you can make changes to any added cartographic elements by right clicking on the element and selecting “Properties.”)
8. When you are happy with the final version of your map, click File→Export Map and save your map as a JPEG.
9. Don’t forget to save your work so that you can go back to the ArcMap map document if you notice any necessary changes!

Note: A list of GIS resources on campus is available on the course canvas site.