Mapping 2001 Census Data Using ArcMap 9.0

These procedures outline:
1. Mapping a theme (making a map)
2. Preparing the layout for printing and exporting the map into various file formats.

In order to use these instructions, you must have an ArcInfo shape file with appropriate census variables and data in the attribute table. In this example, we are going to use a shape file depicting the Toronto CMA along with corresponding 2001 census population data (in the attribute table).

A.   Mapping the Data From the Newly Created File

This example outlines the steps to make a map showing population density.

1) The first step is to open ArcMap. *Double-Click* on the **ArcMap 9.0** icon or *Select* **Start > Programs > ArcGIS > ArcMap**. ArcMap should automatically prompt the option to **Add Data**. Otherwise, *Click* the **Add Data** button. (**Figure 1**) In the **Add data** window, browse to the shape file that you wish to manipulate. (In this example we will create a thematic map using population data from the 2001 census, thus we will chose the **01_popn_age_sex.shp**).
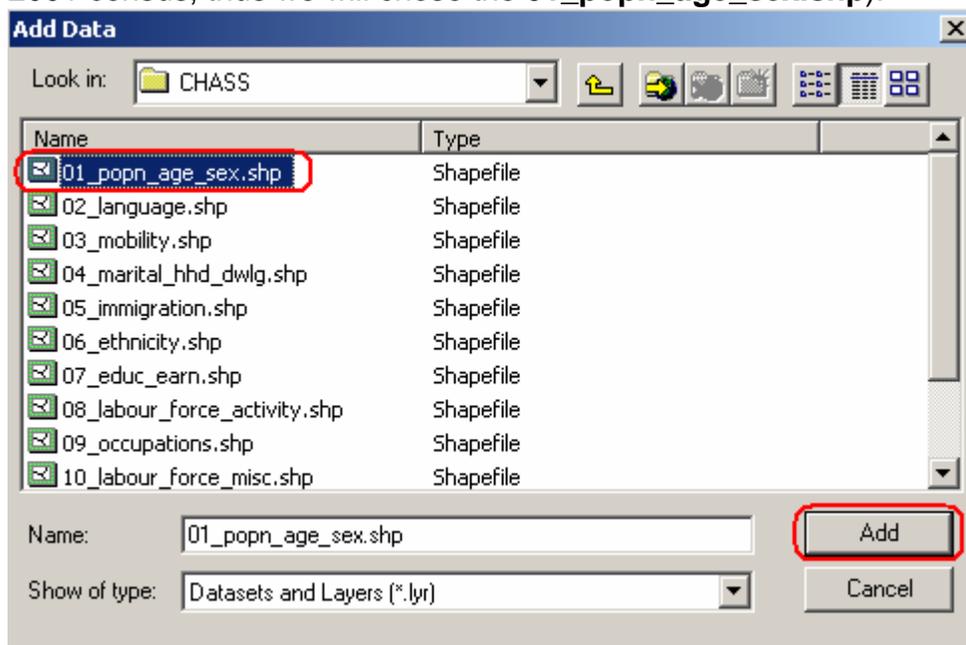

Figure 1

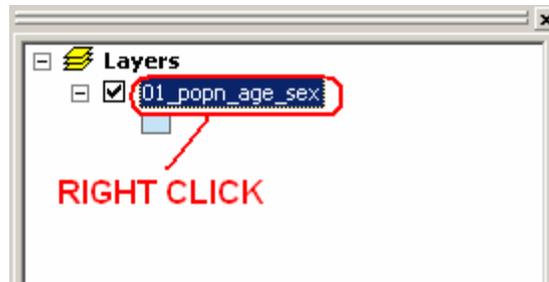2) *Right-click* **01_popn_age_sex** in the **Layers** window (**Figure 2**)**.**

Figure 2

3) In the drop down menu, *Click* **Properties**.
4) From the top of the **Layer Properties** window (**Figure 3**), *Click* the **Symbology** tab.
4) From the **Show** window on the left, *Click* **Quantities > Graduated Colors**.
5) In the **Value** window, *Select* **POPN_2001**.
6) In the **Nominalization** window *select* **LAND_AREA**.
7) If you don't like the current colour you can *click* the **Colour Ramp** option and adjust the colour scheme.
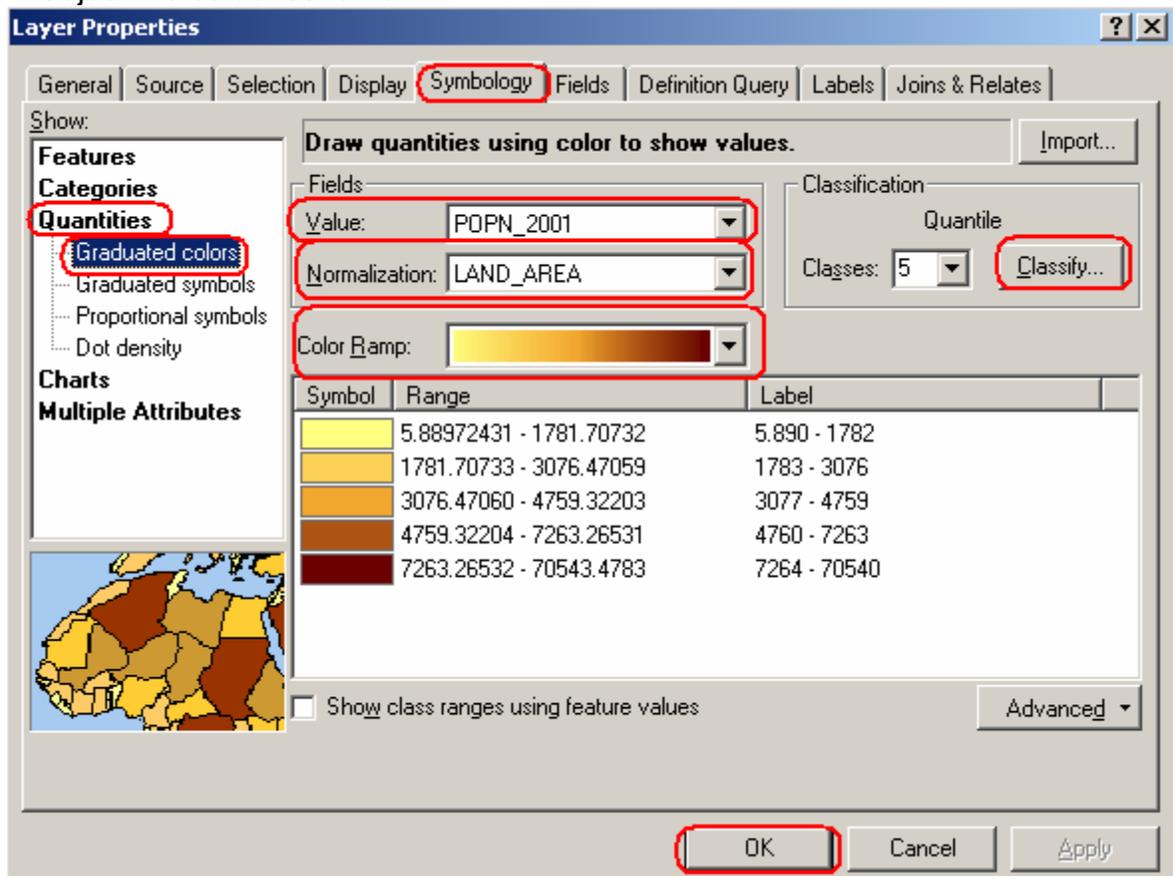

Figure 3

8) Similarly, if you are unsatisfied with the default classification method, then you can *click* the **Classify** button which will bring up the **Classification** window. In this window you can change the classification methods in addition to the number

of classes. For this example we changed the number of classes to **5** and we are using the **Quantile** classification method. When you are satisfied with the classification, *Click* **OK**.

9) When you are satisfied with all of the settings under the **Symbology** tab, *Click* **OK**.

If done correctly the result should be a choropleth map showing the population density by census tract in the Toronto CMA by Census Tract for 2001 (**Figure 4**).
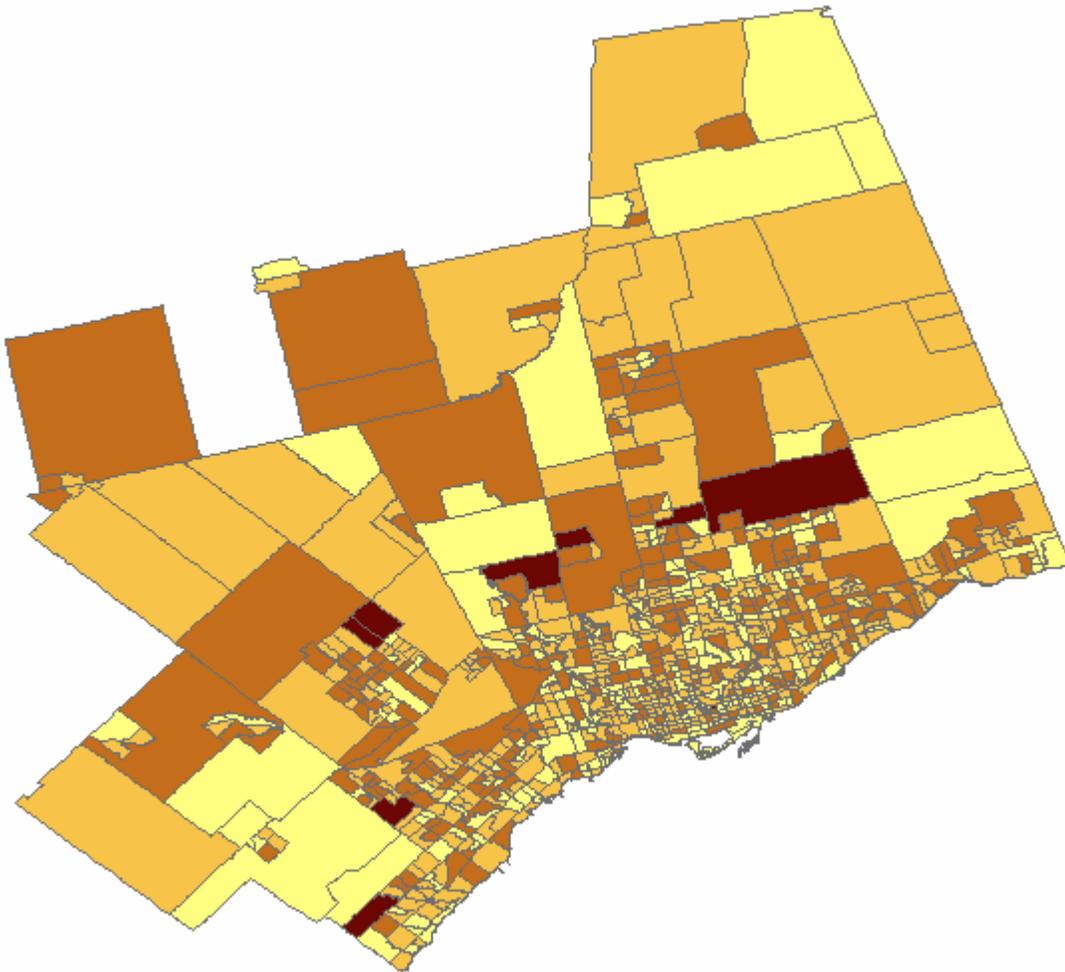.

Figure 4

B.   Preparing the Layout for Printing or Exporting to PDF and other Formats

Compared to other GIS software, creating a layout in ArcMap is a simple task. The following steps describe how to create a basic layout including the fundamental map elements (**Figure 5).**

1. Change the View from **Data View** to **Layout View***. Click* **View** from the main menu and *Select* **Layout View** from the drop down menu.

2. *Click* **Insert** from the main menu. In the ensuing drop down menu, you can add a Title, Neat Line, Legend, North Arrow, and Scale Bar. Once inserted into the layout view, each item can be manipulated by *Double-Clicking* on it. Examples are listed below:

   - Title – *Click* **Insert** from the main menu. Select **Title**. *Double-Click* the Title to open the **Properties** window. In the **Text** textbox type in the title (Population Density by Census Tract in the Toronto CMA (2001). Place the cursor after the word **Tract** and push the enter key (on your keyboard). This will put your title on two lines rather than one long line. *Click* **Change Symbol**. In the **Symbol Selector** window, you can change the properties of the text. *Click* the bolded **B** in order to make the text bold. Change the font size to **26**.

   - Neatline – A neatline is automatically added to the layout view, however, if you would like to add a neatline to other objects in the layout, simply *click* the object, *click* **Insert** from the main menu, then *click* **Neatline**. The **Neatline** window will appear allowing you to change the properties of the neatline. *Click* **Ok**, when you are satisfied with the neatline.

   - Legend - *Click* **Insert** from the main menu. Select **Legend.** The **Legend Wizard** window will appear. *Click* **Next.** Change the legend title, otherwise *click* **Next**. *Click* **Next** two more times, then *click* **Finish**. *Click* and *drag* the legend from the center of the layout and move it to the bottom right corner.

   - North Arrow - *Click* **Insert** from the main menu. Select **North Arrow.** In the **North Arrow Selector** window, chose an appropriate north arrow then *click* **Ok**.   *Click* and *drag* the north arrow from the center of the layout and move it to the bottom left corner.

   - Scale Bar - *Click* **Insert** from the main menu. Select **Scale Bar.** *Click* **Properties** to open the **Scale Bar** window**.** In the **Division Units** textbox, select **kilometers**. *Click* **Ok**. *Click* **Ok.** *Click* and *drag* the scale bar from the center of the layout and move it to an appropriate position underneath the map.
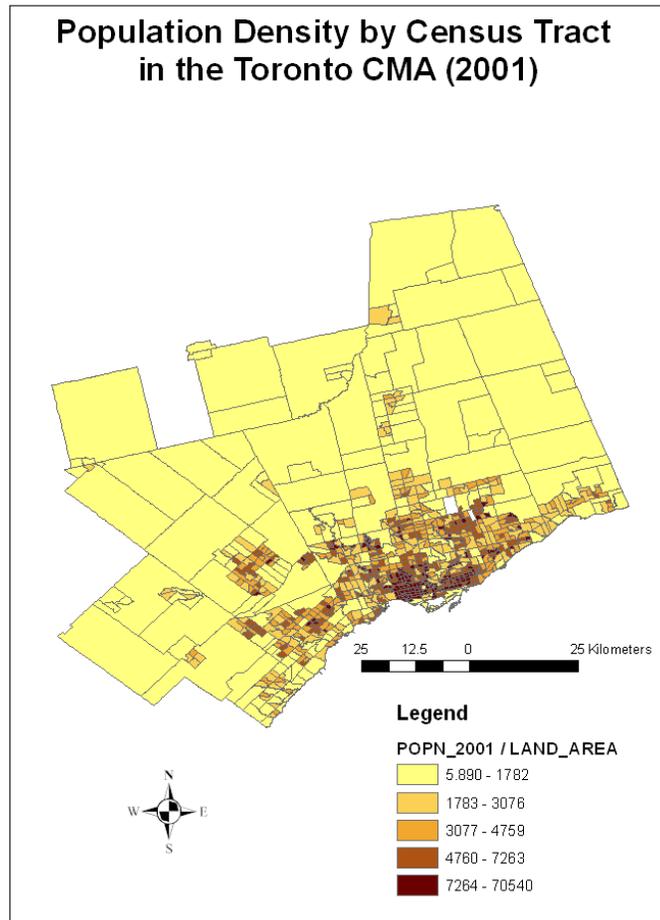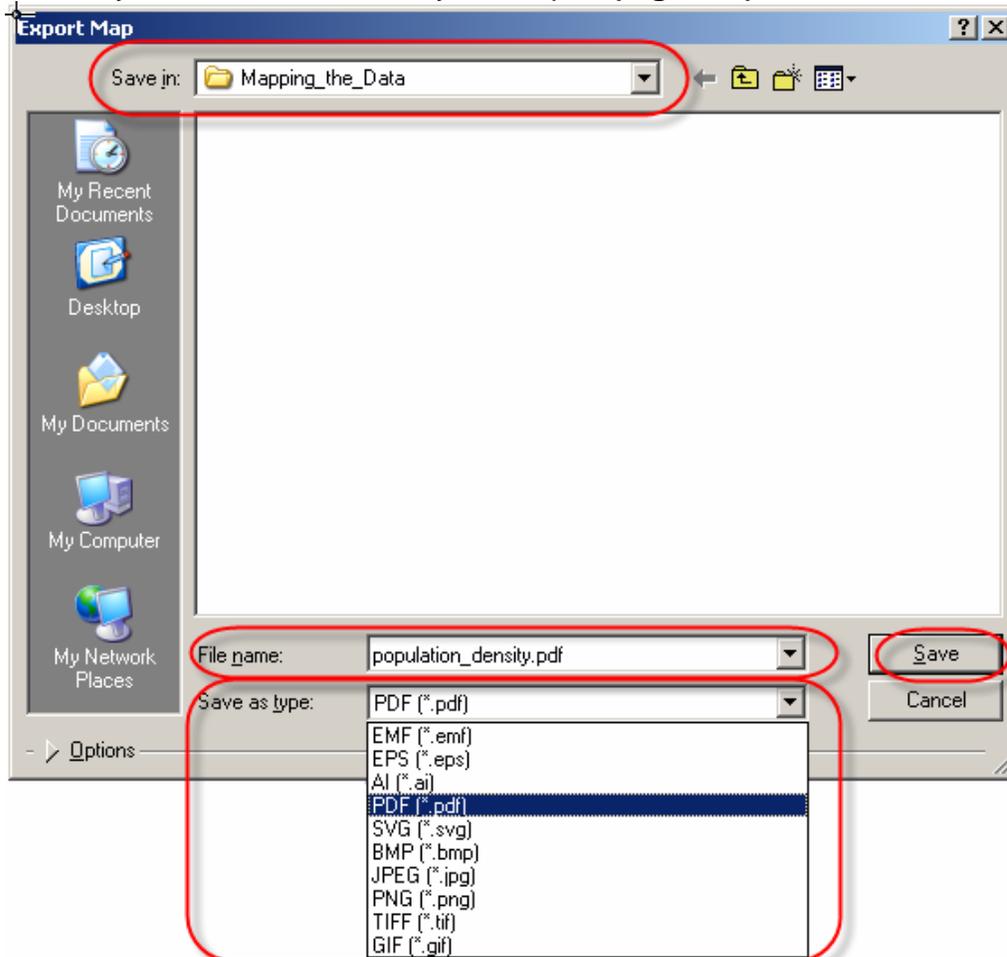
Figure 5

3. To print the map, *Click* **File** from the main menu and *Select* **Print** from the drop down menu. After selecting the appropriate printer and print specifications, *Click* **OK**.

Exporting to PDF or Other Formats

Alternatively, you may opt to export your map and save it for later use rather than printing your map. ArcMap offers a variety of file types that you can save your map as. The following procedure will show you how to export your map, using one of the various file types.

1. Once you have completed *steps 1* and *2* above or you are satisfied with the way that your map looks, you are ready to export. *Click* **File** from the main menu and *Select* **Export Map**.

2. The **Export Map** window will open. In the **Save In window**, *browse* to the location that you wish to save your map. In the **File Name** text box, chose an appropriate name for your map. In the **Save as Type textbox** *select* the format that you would like to save your map in **(Figure 6)**.

(Figure 6)

3. *Click* **Save**.