

Organizing Principles: An Introduction to GIS

Exercise 3: Displaying Data

*** Files needed for exercise: *id_counties.shp*

Goals: Our goal for this exercise is to create a simple population map of Idaho counties. An attribute field (total population) will be displayed and symbolized for general, visual analysis.

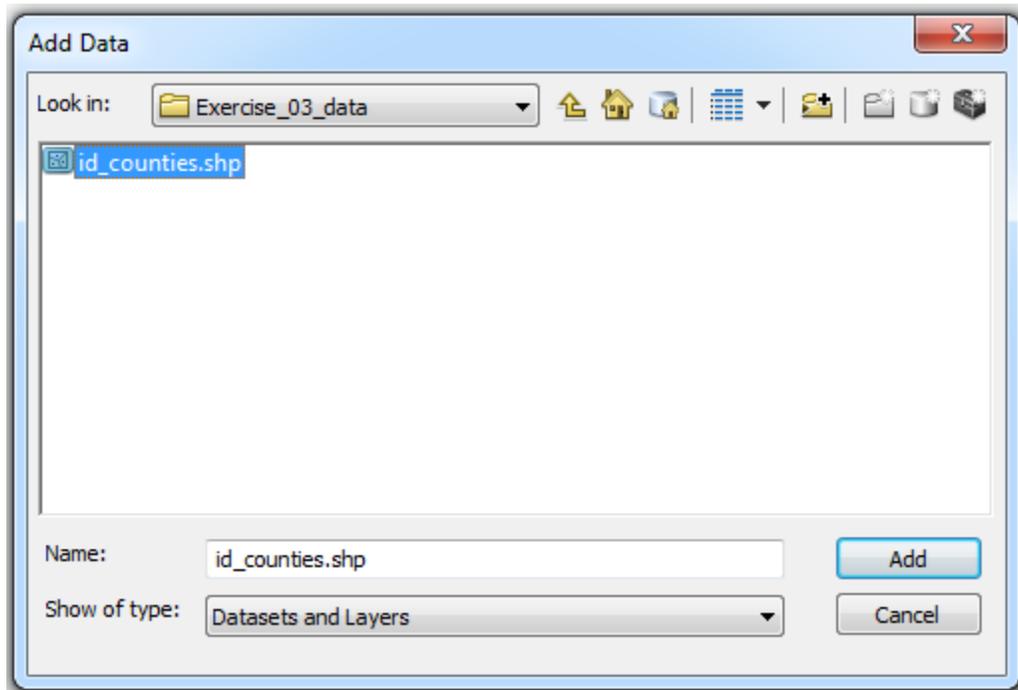
Skills: After completing this exercise, you will have a basic understanding of working with ArcMap's data view and layout view. You will be introduced to adding shapefiles into an ArcMap project, symbolizing attributes, inserting map elements, and exporting a map into PDF format.

Create a new ArcMap project

1. In the Windows Explorer Start Menu, open ArcMap.
2. Start a new, blank document.

Working in data view

1. Add data to the blank project. Click the **Add Data** icon to add data . In the Add Data window, navigate to the data folder for the Displaying Data exercise (Exercise_03_data).
2. Click the shapefile named *id_counties.shp*. Click **Add**.



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- After the Add Data window closes, the state of Idaho and counties should appear in the map display view. The counties should all be displayed with one color corresponding to one symbol in the Table of Contents. Colors will vary.



- View the *id_counties* layer's attribute table. Right-click the layer name in the Table of Contents (TOC), select **Open Attribute Table**.
- A new window should appear, *Attributes of id_counties*. Look for a field name indicating population.

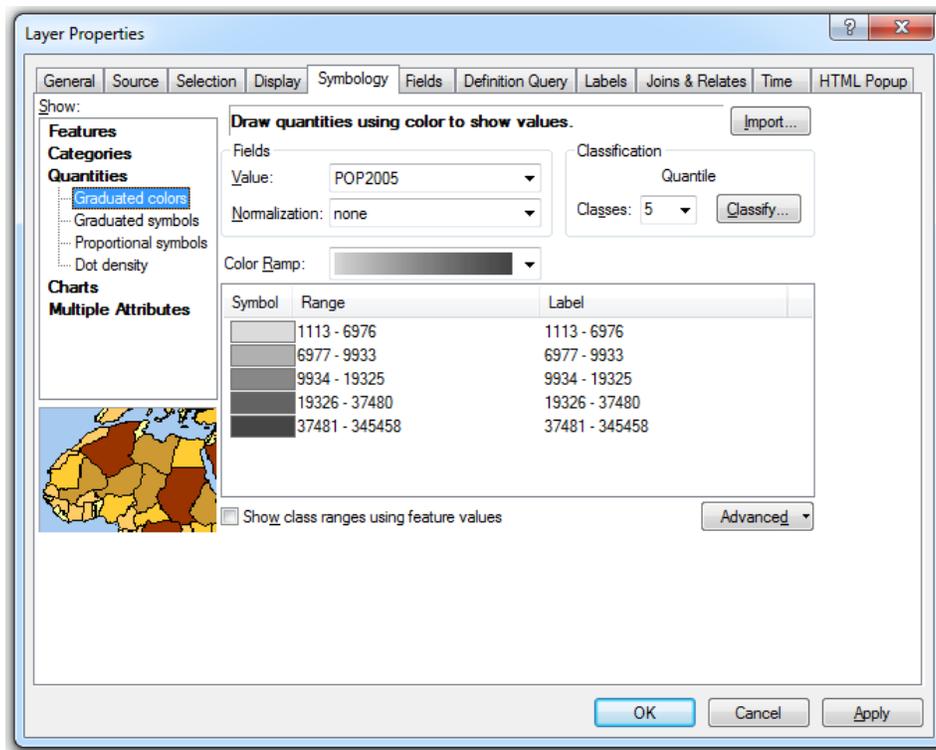
FID	Shape *	NAME	STATE_NAME	STATE_FIPS	CNTY_FIPS	FIPS	POP2000	POP2005	POP00_SQMI
0	Polygon	Ada	Idaho	16	001	16001	300904	345458	283.8
1	Polygon	Adams	Idaho	16	003	16003	3476	3758	2.5
2	Polygon	Bannock	Idaho	16	005	16005	75565	76968	65.9
3	Polygon	Bear Lake	Idaho	16	007	16007	6411	6976	6
4	Polygon	Benewah	Idaho	16	009	16009	9171	9324	11.6
5	Polygon	Bingham	Idaho	16	011	16011	41735	42752	19.6

- Optional.* Sort fields by right-clicking a field name and selecting a **Sort** function. Using the attribute table, explore what counties have high and low population counts. Close the attribute table.

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7. Symbolize Idaho counties by population. Right-click the *id_counties* layer in the TOC, select **Properties**.
8. A new window should appear, Layer Properties. Navigate to the **Symbology** tab. This tab shows the current symbolization of the selected layer.
9. Modify the selections to show quantities of population. In the **Show** menu, select **Quantities > Graduated colors**. In the **Fields > Value** menu, select the population field.
10. Change the classification. Click the **Classify** button. A new window should appear. Use the **Method** drop-down menu and select **Quantile**. In the **Classes** drop-down menu, select **5**. Click **OK** to close the window.
11. *Optional*. Change the **Color Ramp** to the color(s) of your choice.
12. Leave all other values and menus to their default settings. If needed, use the image below for guidance. When all symbology fields are complete, click **OK**.

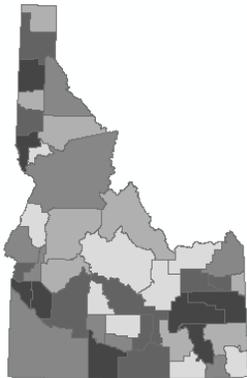


View project with symbolized data

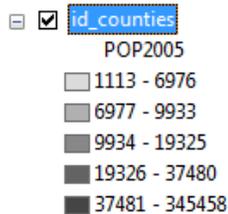
1. The Idaho polygon should now have different values/colors for each county.

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- Also, notice the values in the TOC. The total population number values should be listed under the *id_counties* layer.

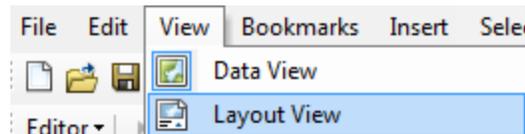


- Take some time to look at the map display. Use the data tools to **Zoom/Pan** around the counties to see what areas of the state have higher and lower population counts.



Working in layout view

- Switch views from data to layout view. Click **View**, select **Layout View**.



- Insert map elements to your project. Click **Insert** to add a **Title**, **Text**, **Legend**, **North Arrow**, and **Scale Bar**.
- After adding all desired map elements, export the map as a PDF (for printing later, for emailing, adding to a document, etc.). Click **File**, select **Export Map**. In the Export Map window, navigate to where you would like to save the file and use the **Save as type** drop-down menu to select **PDF (*.pdf)**. Keep all options default and click **Save**.

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