How to Join Data and Cartographically Display Results In ArcGIS Desktop

Prepare the Excel Spreadsheet

Excel spreadsheets are common resources in ArcMap. The Excel spreadsheet should be formatted and cleaned, prior to use, in order to ease the integration of this resource in ArcMap.

The follow format, or similar, is recommended for spreadsheets to be used in ArcMap:

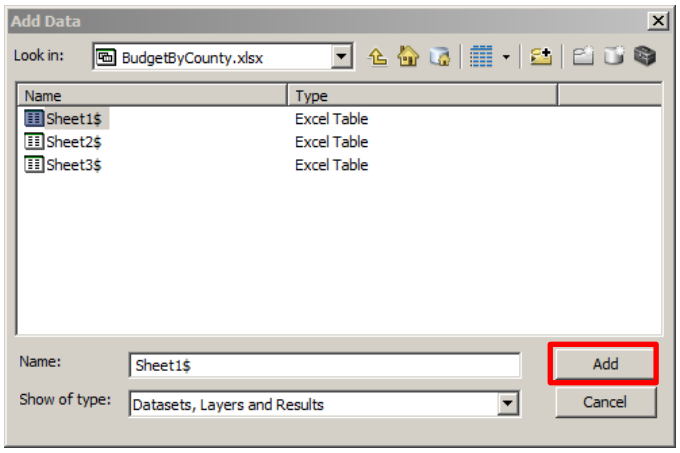
FIELD NAME	FIELD TYPE	FIELD SPECS	DESCRIPTION
Name	Text	255	Name of the feature
Address1	Text	255	Street number and street name
Address2	Text	255	Secondary info. (i.e. – Building, Suite, Unit)
City	Text	255	City of the feature
County	Text	255	County of the feature
State	Text	255	State of the feature
ZIP	Text	255	ZIP code of the feature

Fill in as much detail as possible in the above fields. Additional fields can be included in the Excel spreadsheet and will also be integrated into ArcMap. Please note that field names ***cannot*** *include spaces (underscores "_" are often substituted for spaces).*

Perform a One-to-one Join

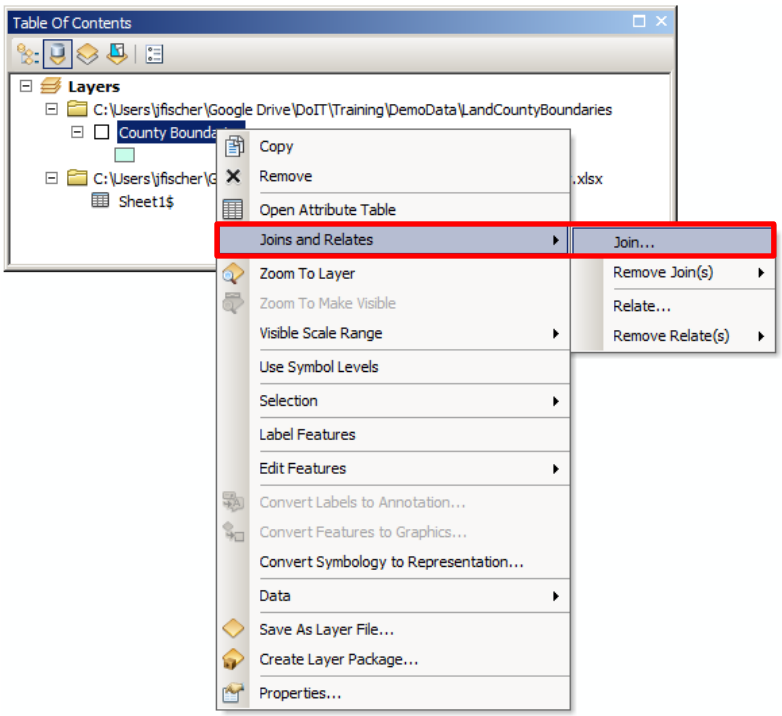
1. In ArcMap, click the Add Data button to navigate to the spreadsheet of interest

2. Select the Excel spreadsheet worksheet to be used and Click Add



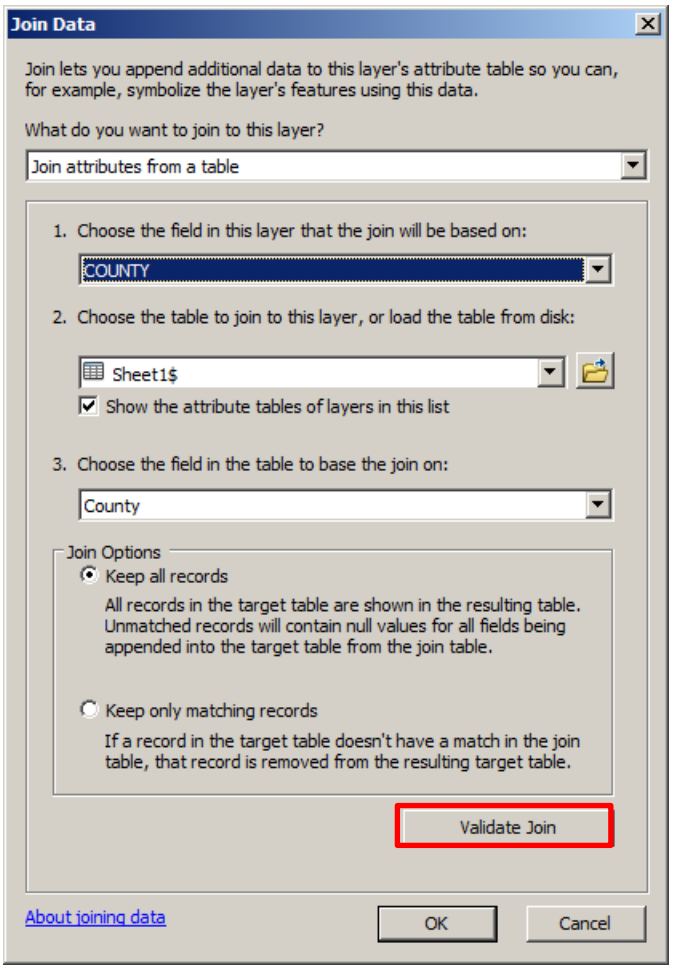
3. Again, click the Add Data button to navigate to the geography of interest, Select it and Click Add

4. In the Table of Contents, Right Click the geography layer, Select Joins and Relates and Select Join…



5. In the Join Data window, fill out the form as shown in the graphic to the right

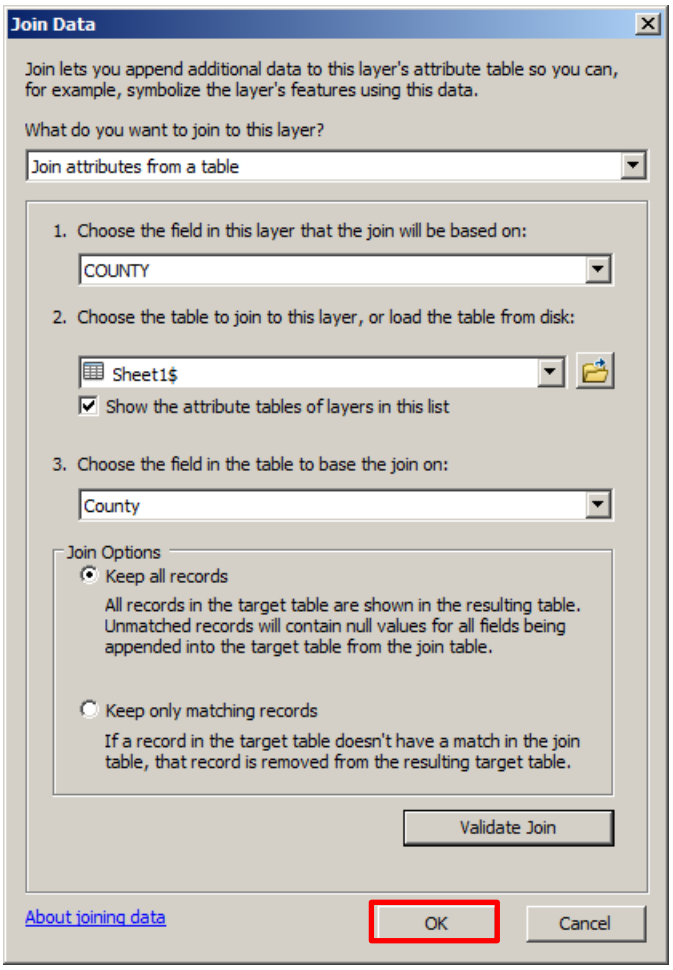
6. Click Validate Join



The result is a report about the success of the joining of fields from the two features.

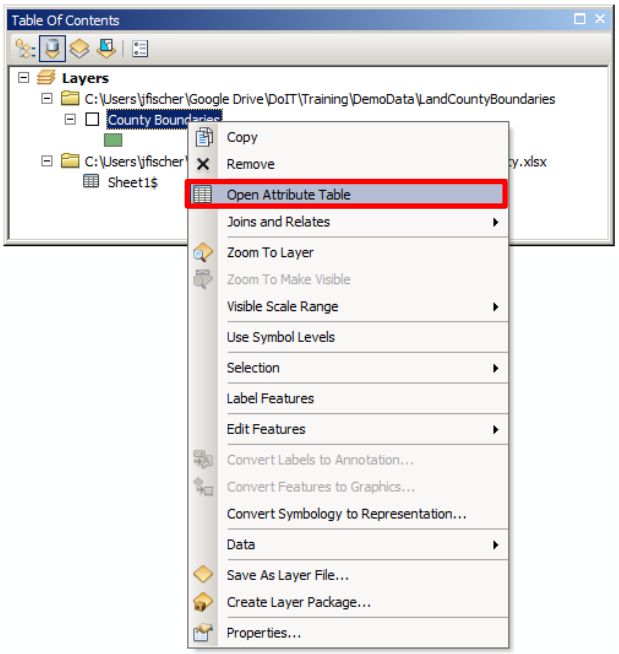
7. Click Close

8. Click OK

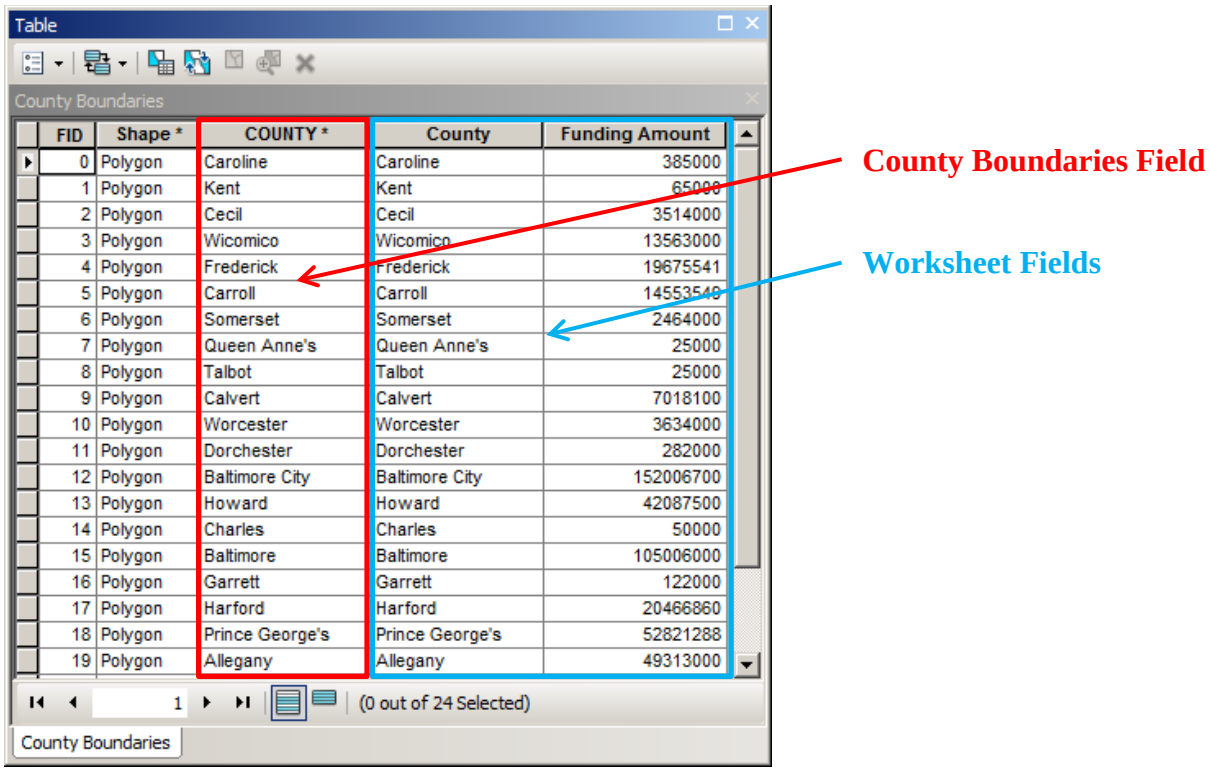


Note: Joins can only be completed on unique fields that contain the same attributes in both tables.

9. In the Table of Contents, Right Click the geography layer and Select Open Attribute Table



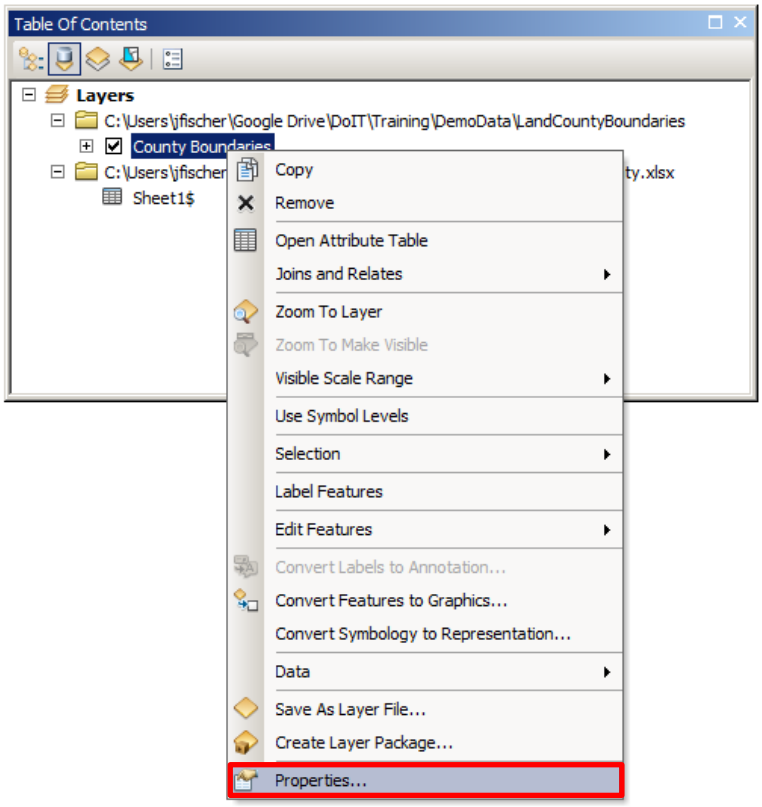
The attribute table shows that the worksheet attribute fields have been joined to the table of the geography layer.



FID	Shape *	COUNTY *	County	Funding Amount
0	Polygon	Caroline	Caroline	385000
1	Polygon	Kent	Kent	65000
2	Polygon	Cecil	Cecil	3514000
3	Polygon	Wicomico	Wicomico	13563000
4	Polygon	Frederick	Frederick	19675541
5	Polygon	Carroll	Carroll	14553540
6	Polygon	Somerset	Somerset	2464000
7	Polygon	Queen Anne's	Queen Anne's	25000
8	Polygon	Talbot	Talbot	25000
9	Polygon	Calvert	Calvert	7018100
10	Polygon	Worcester	Worcester	3634000
11	Polygon	Dorchester	Dorchester	282000
12	Polygon	Baltimore City	Baltimore City	152006700
13	Polygon	Howard	Howard	42087500
14	Polygon	Charles	Charles	50000
15	Polygon	Baltimore	Baltimore	105006000
16	Polygon	Garrett	Garrett	122000
17	Polygon	Harford	Harford	20466860
18	Polygon	Prince George's	Prince George's	52821288
19	Polygon	Allegany	Allegany	49313000

Displaying Counties Based on Joined Data Attributes

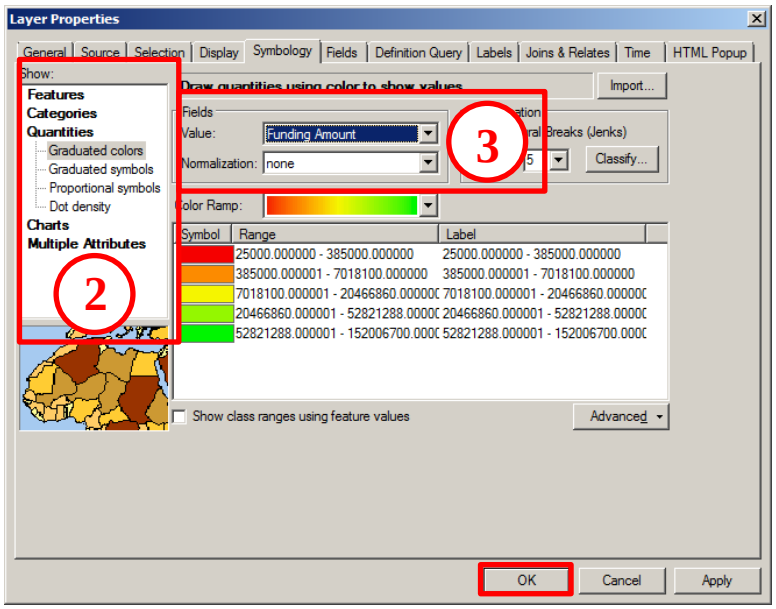
1. In the Table of Contents, Right Click the geography layer and Select Properties



2. In the Layer Properties window, under the Show section, Select Quantities > Graduated Colors

3. In the Field section, use the Value: dropdown to change the field to “Funding Amount”

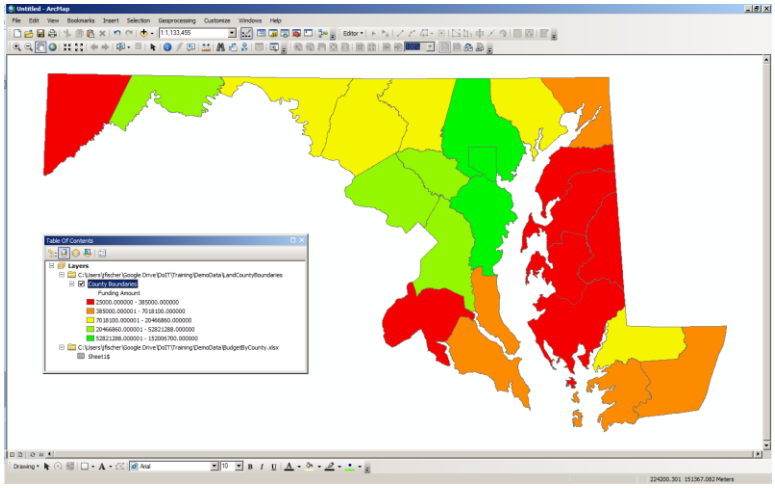
4. Click OK



The results of the symbology settings are shown in the graphic to the right

In the Layer Properties window, Click the “Classify…” button to access the Classification window where adjustments can be made to the classification method, the number of classes and the break values for the ranges.

Also in the Layer Properties window, use the Color Ramp: dropdown to change the colors used to display the classified ranges.



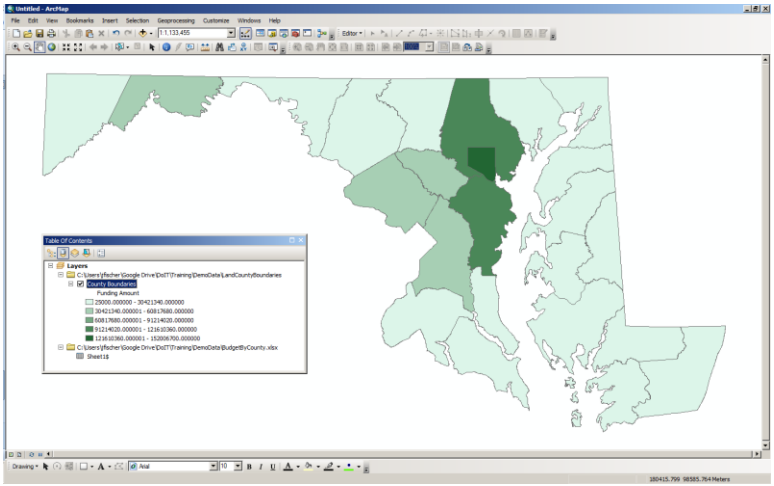
Example 1:

Classification Method = *Equal Interval*

Classes = *5*

Break Values = *default*

Color Ramp = *Green Light to Dark*



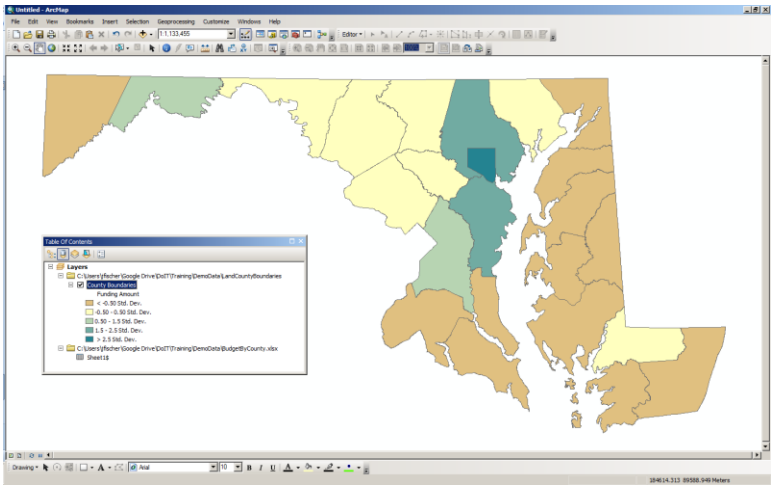
Example 2:

Classification Method = *Standard Deviation*

Classes = *n/a*

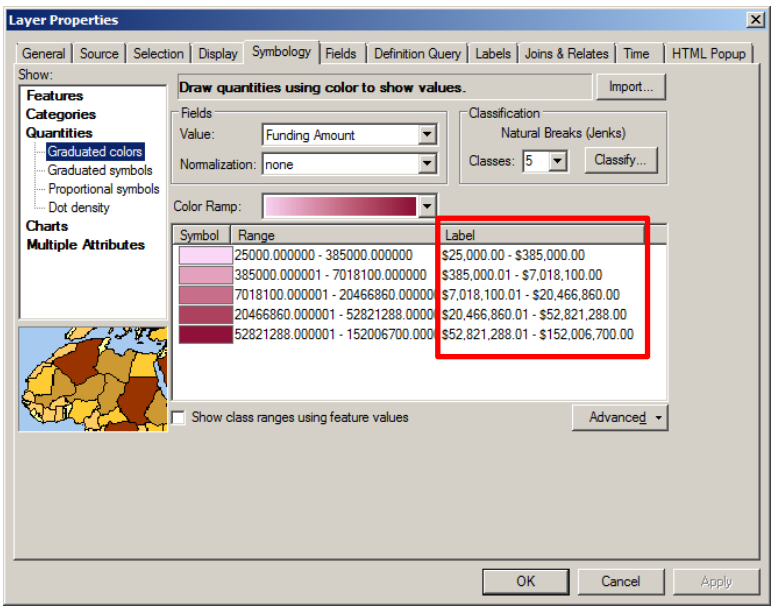
Break Values = *default*

Color Ramp = *Brown to Blue Green Diverging*

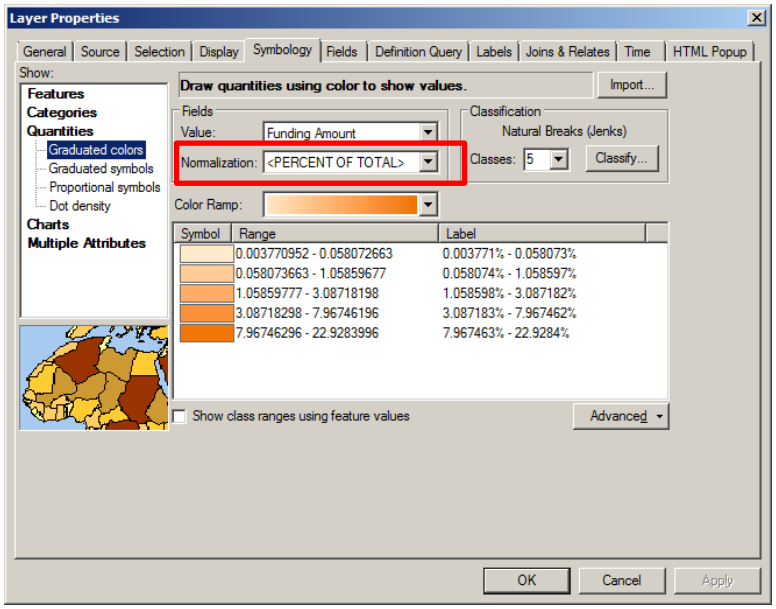


Additional Options

#1 – Manually edit the values under Label to change the text displayed in the map legend.

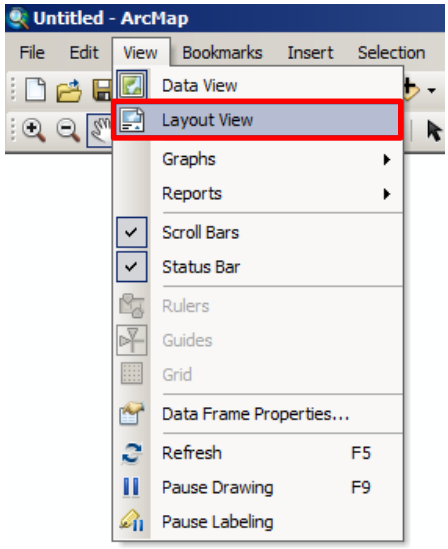


#2 – In the Fields: section, use the Normalization: dropdown to select an option to use to normalize the selected field from the Value: dropdown.

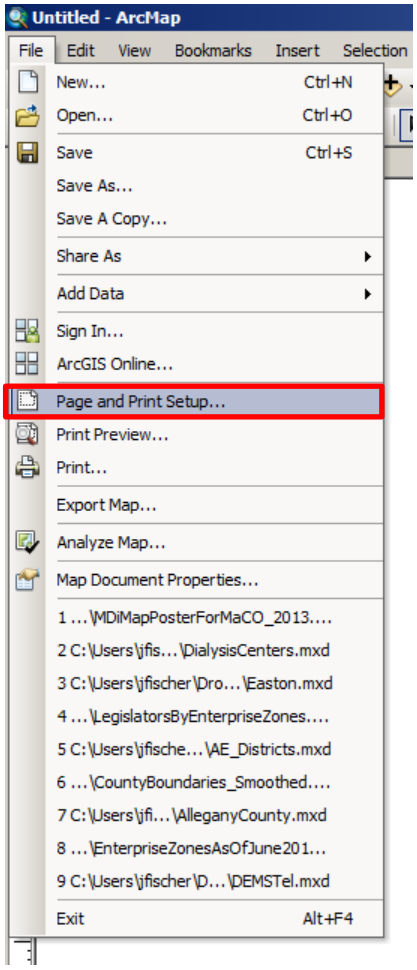


Generating a Map Product to Display Results

1. Under View, Select Layout View

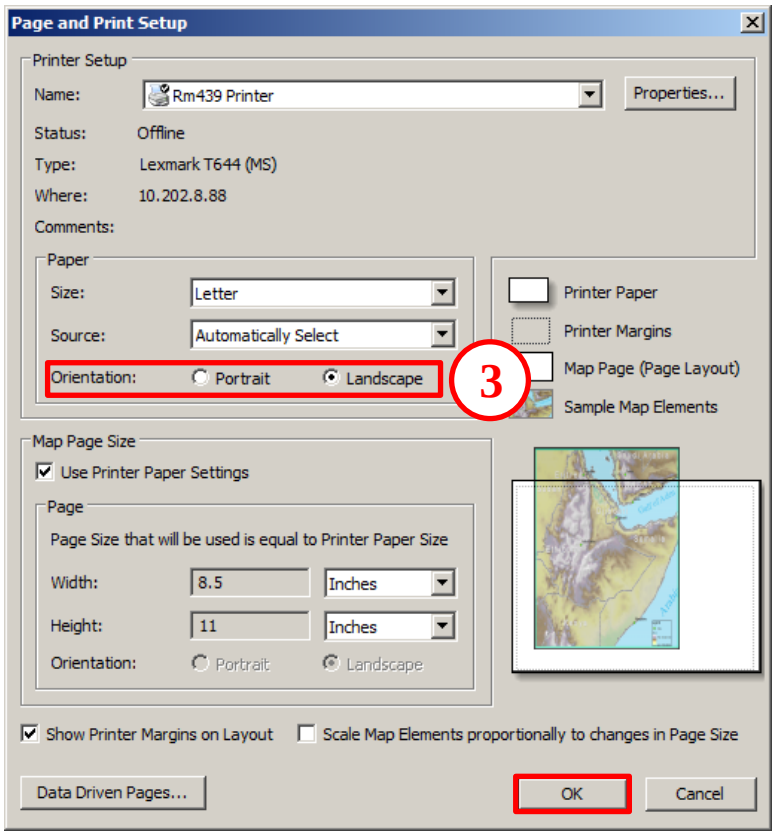


2. Under File, Select Page and Print Setup…

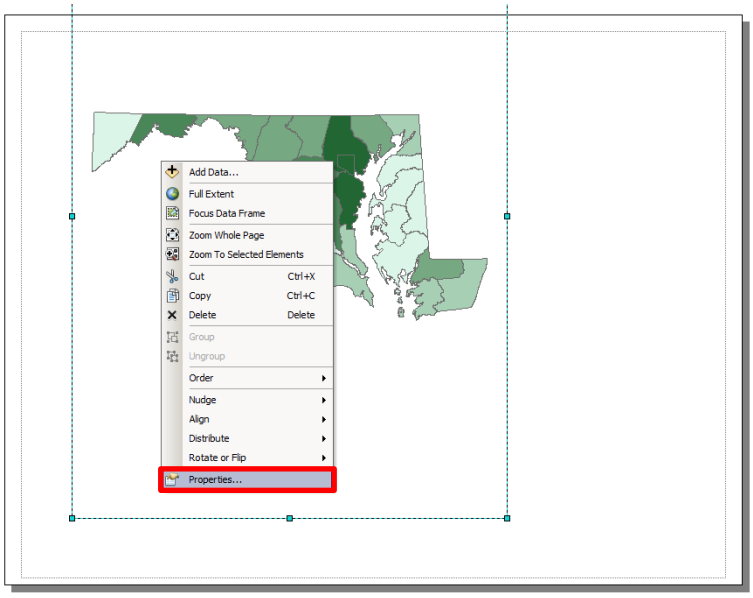


3. In the Page and Print Setup window, in the Paper Section, Select Orientation: Landscape

4. Click OK



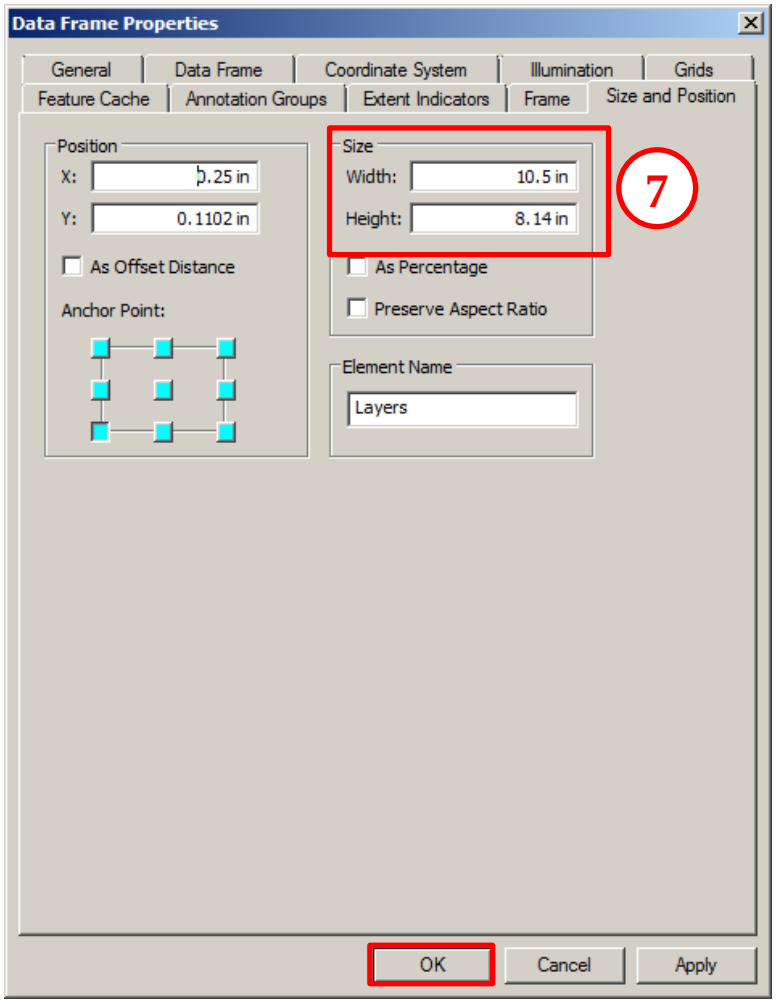
5. Right Click in the Layers data frame and Select Properties



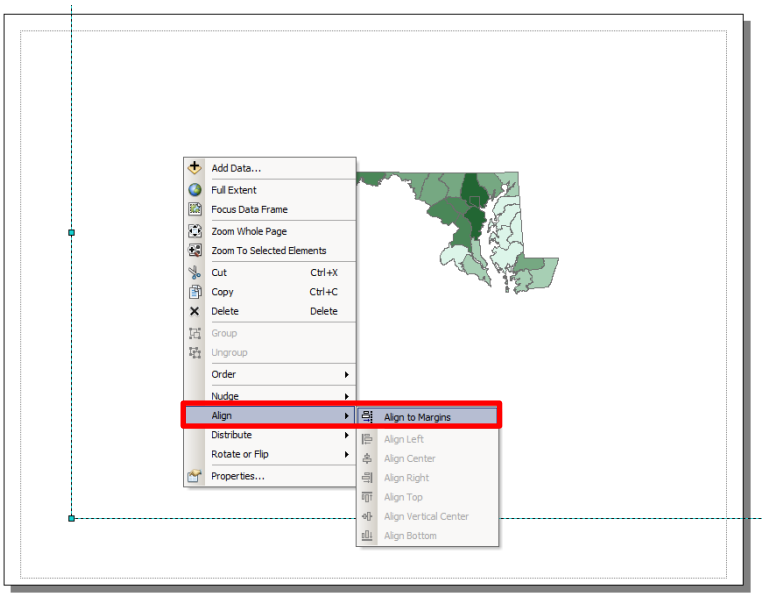
6. In the Data Frame Properties window, Select Size and Position tab

7. In the Size section, use the Size text boxes to manually adjust the width and height of the data frame

8. Click OK

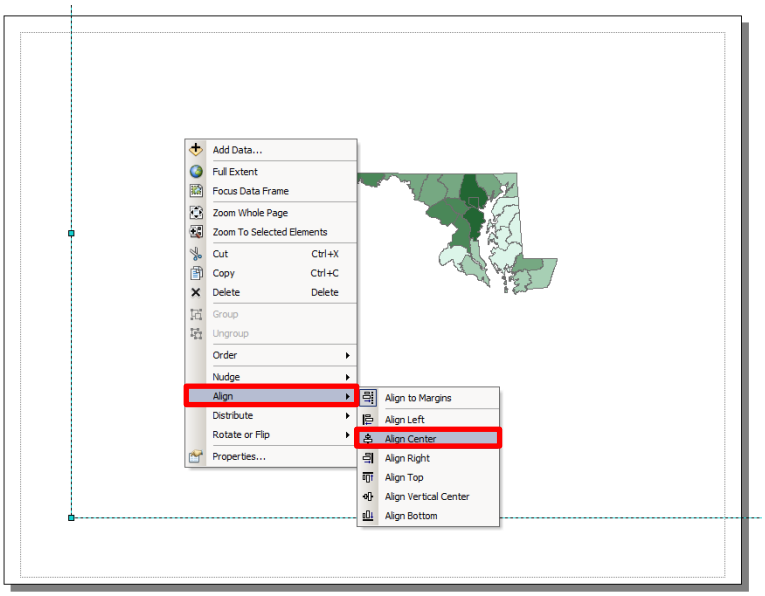


9. Right Click in the Layers data frame and Select Align > Align to Margins

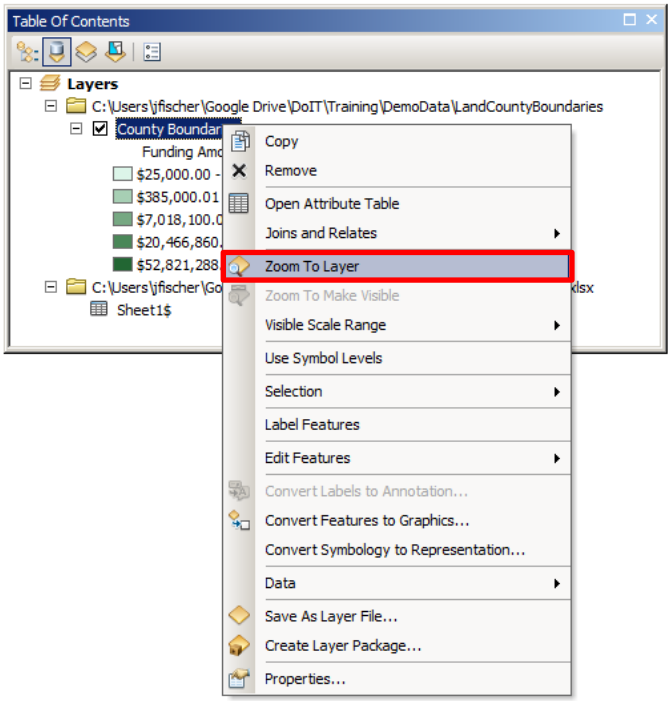


10. Right Click in the Layers extent and Select Align > Align Center

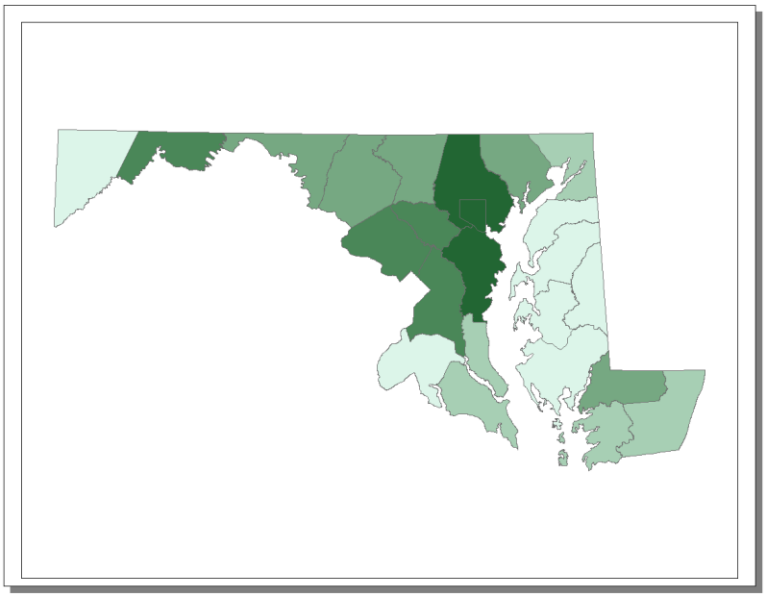
11. Repeat and select Align > Align Vertical Center



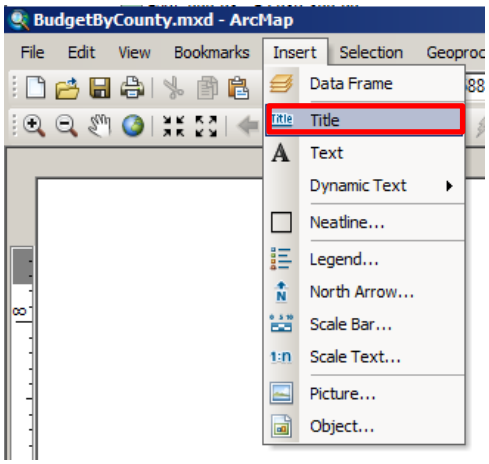
12. In the Table of Contents, Right Click the geography layer and Select Zoom To Layer



The result should look something like the graphic to the right.

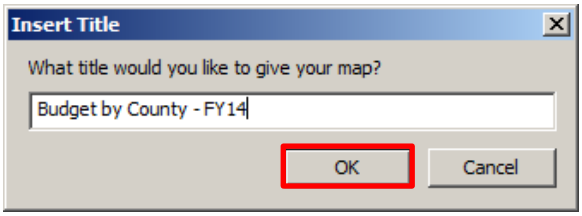


13. Under Insert, Click Title



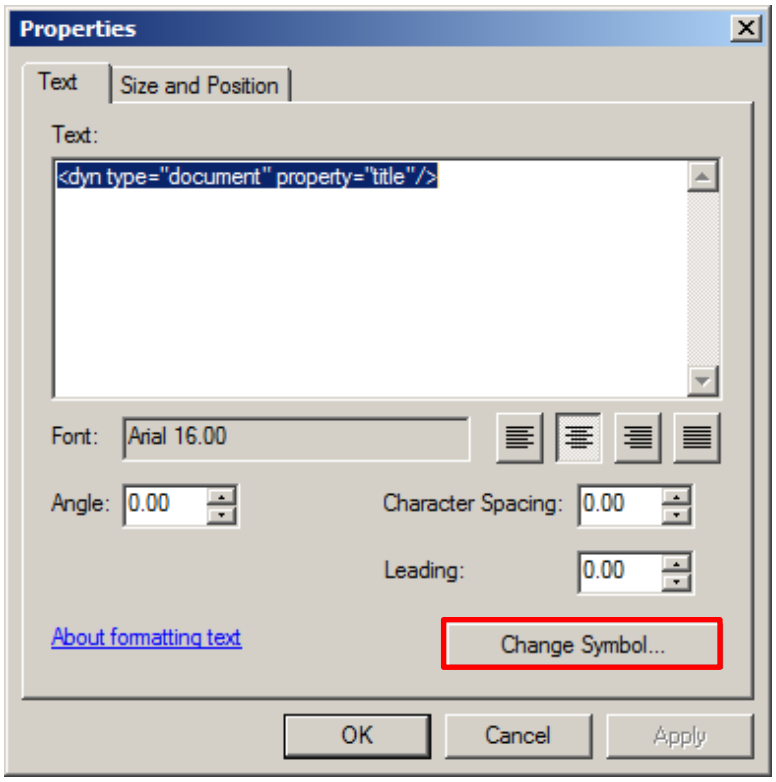
14. Type “Budget by County – FY14” in the text box

15. Click OK



16. Double Click the title

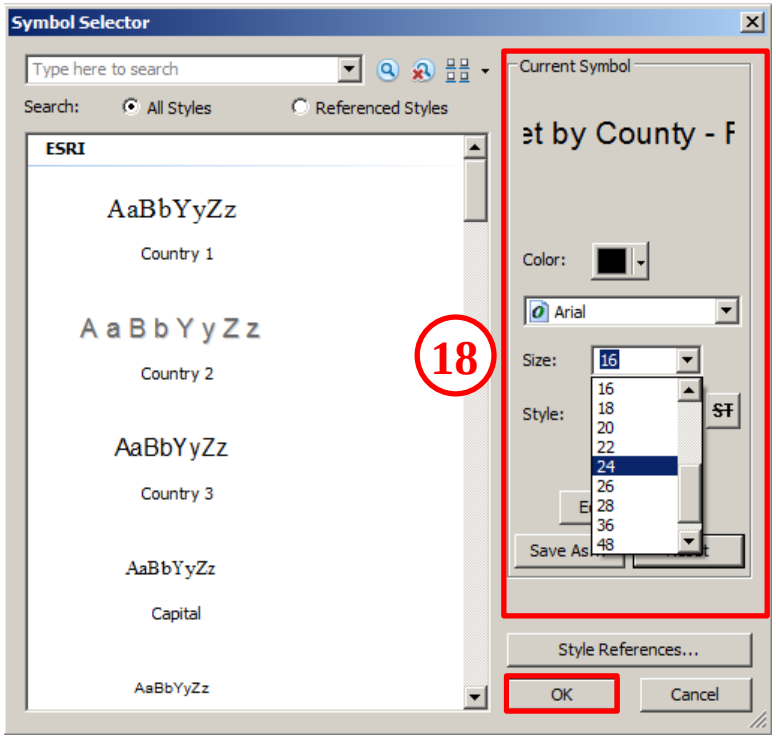
17. In the Properties window, Click Change Symbol…



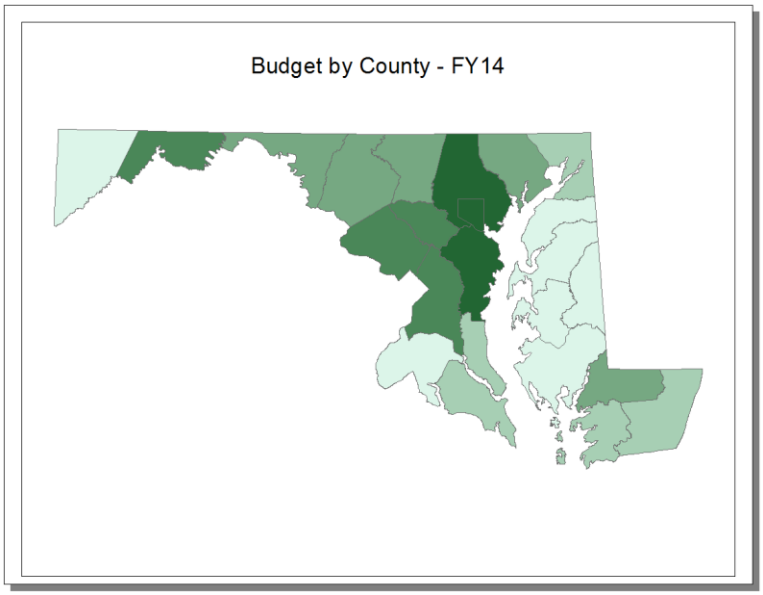
18. In the Current Symbol section, use the Size: dropdown to change the size of the font to 24

19. Click OK on the Symbol Selector window

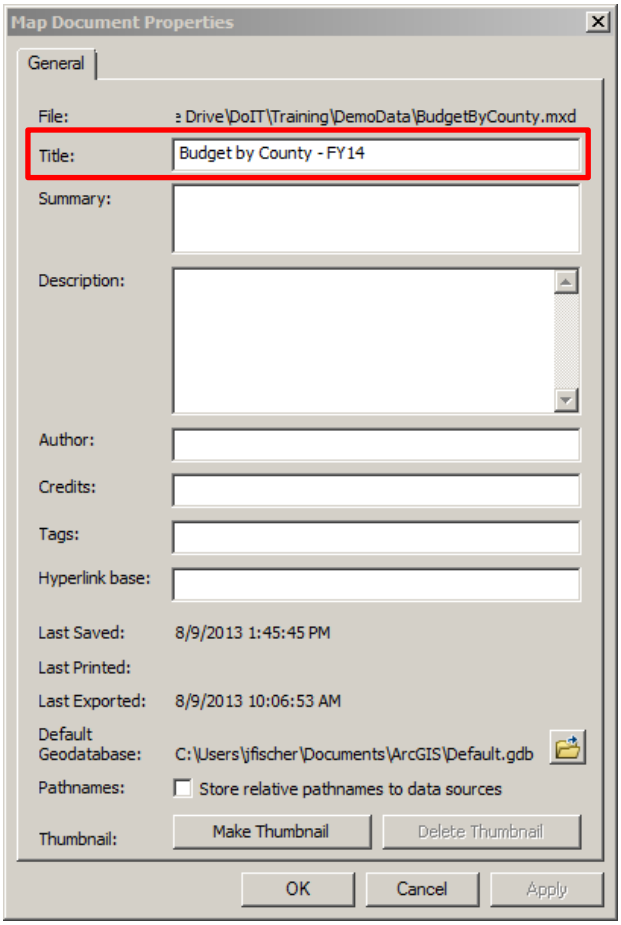
20. Click OK on the Properties window



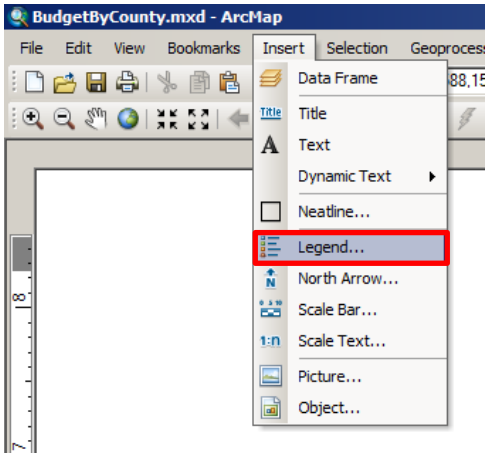
The result should look something like the graphic to the right.



Note: To edit the title go to File > Map Document Properties… and make the edits in the Title text box in the Map Document Properties window.

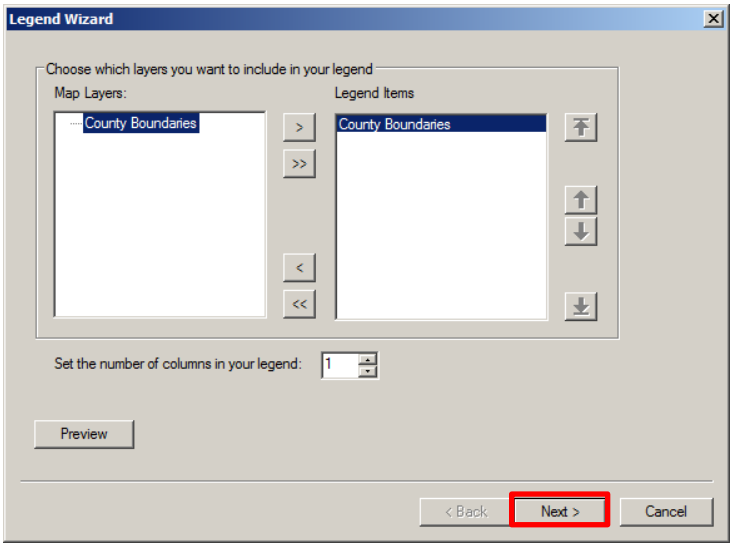


21. Under Insert, Click Legend

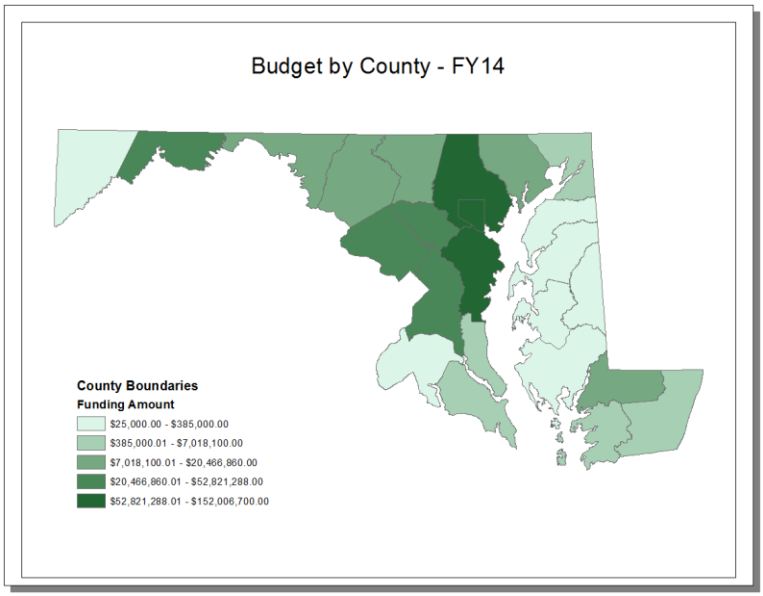


22. Click Next several times to step through the wizard, accepting the default legend parameters

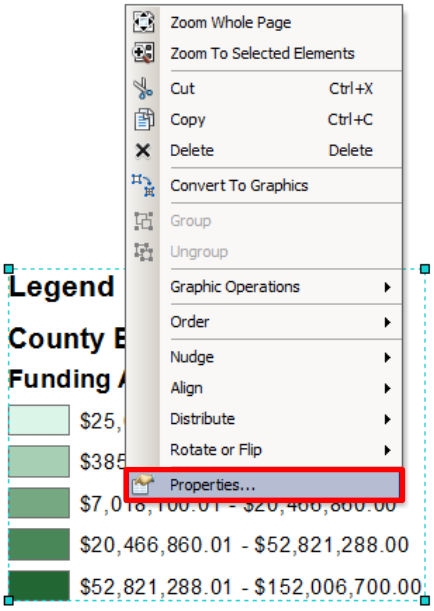
23. Click Finish when done



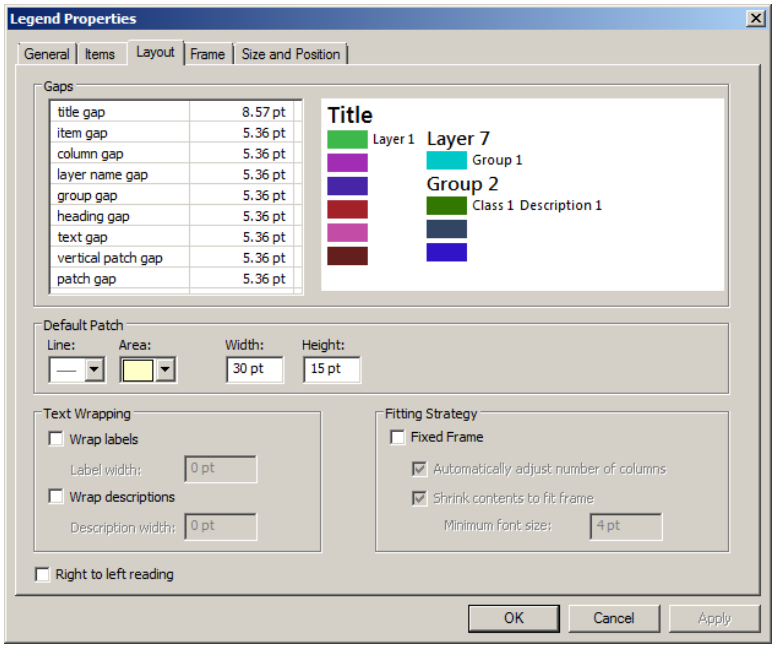
24. Click and drag the legend to the lower-left corner of the data frame



25. Right-click the legend and Click Properties



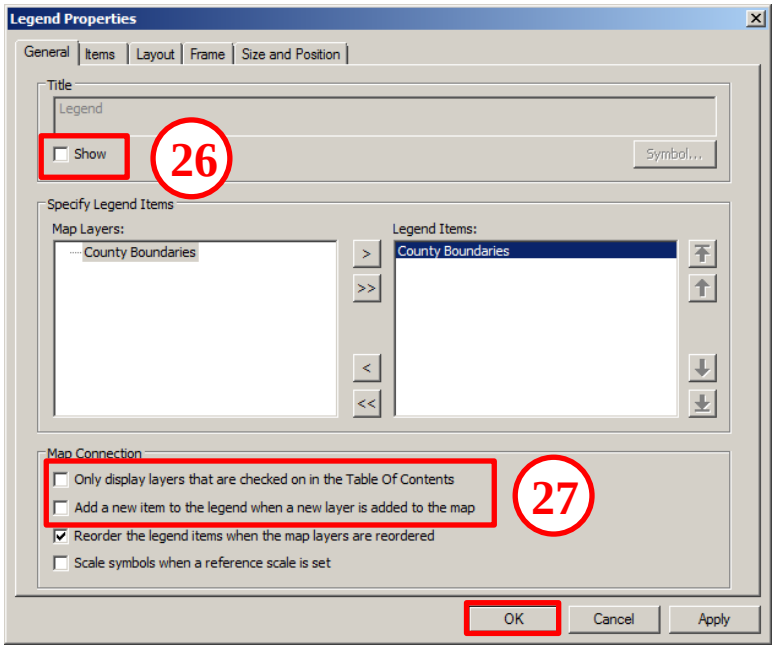
The Legend Properties window is used to make modifications to the look and feel of the legend and the elements which make up the legend.



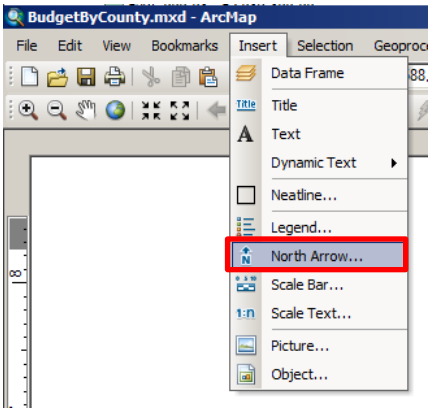
26. Click the General tab and under Title, uncheck “Show”

27. Under Map Connection, uncheck “Only display layers that are checked on in the Table of Contents” **and** “Add a new item to the legend when a new layer is added to the map”

28. Click OK

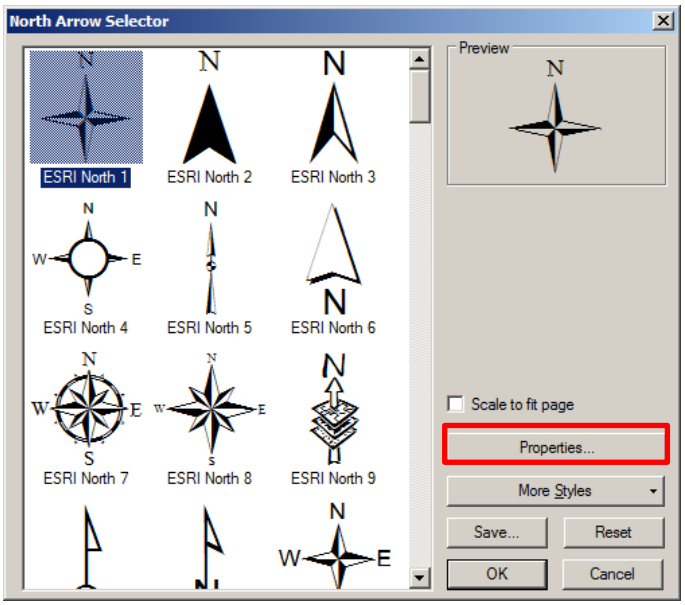


29. Under Insert, Click North Arrow



30. In the North Arrow Selector window, select “ESRI North 1”

31. Click Properties

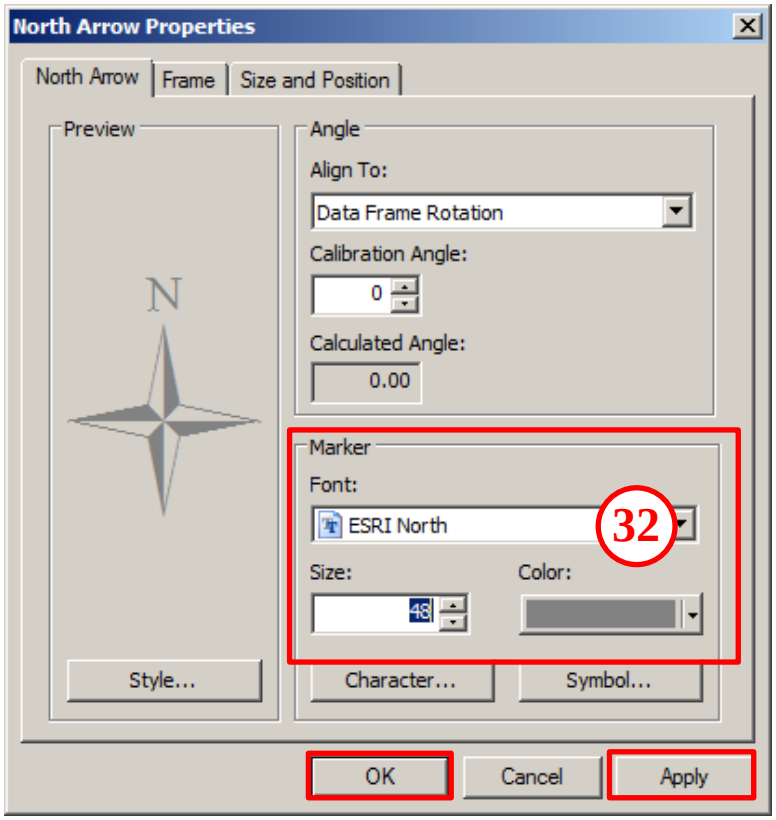


32. In the North Arrow window, under the Marker section, Select the Color: dropdown and change the color to 50% grey

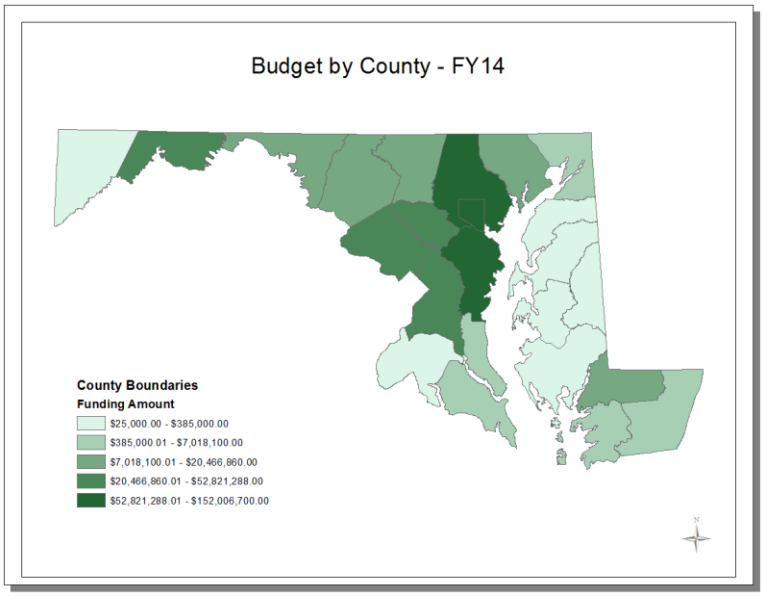
33. Click Apply

34. Click OK in the North Arrow Properties window

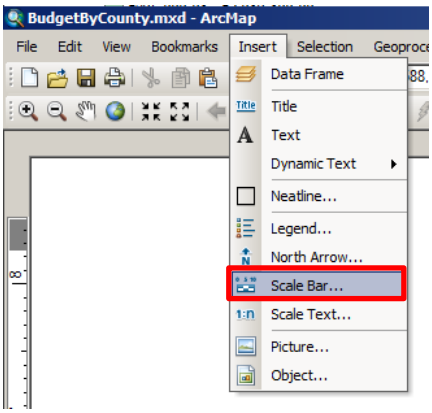
35. Click OK in the North Arrow Selector window



36. Click and drag the North Arrow to the lower-right corner of the data frame

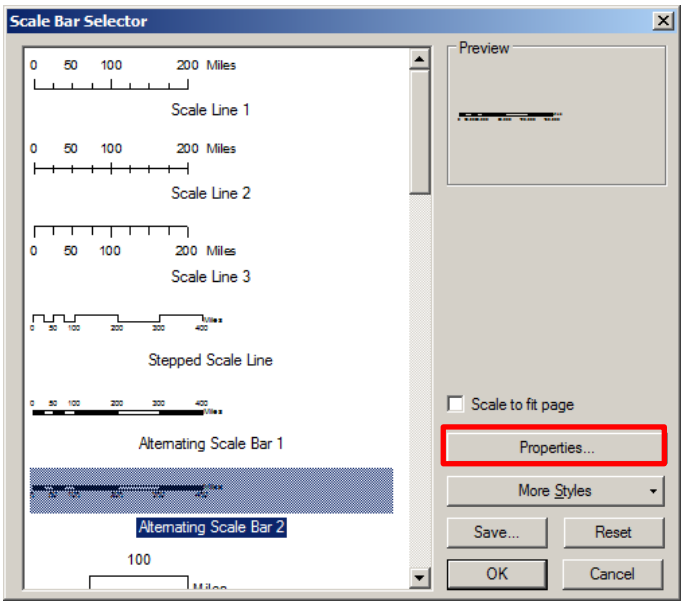


37. Under Insert, Select Scale Bar



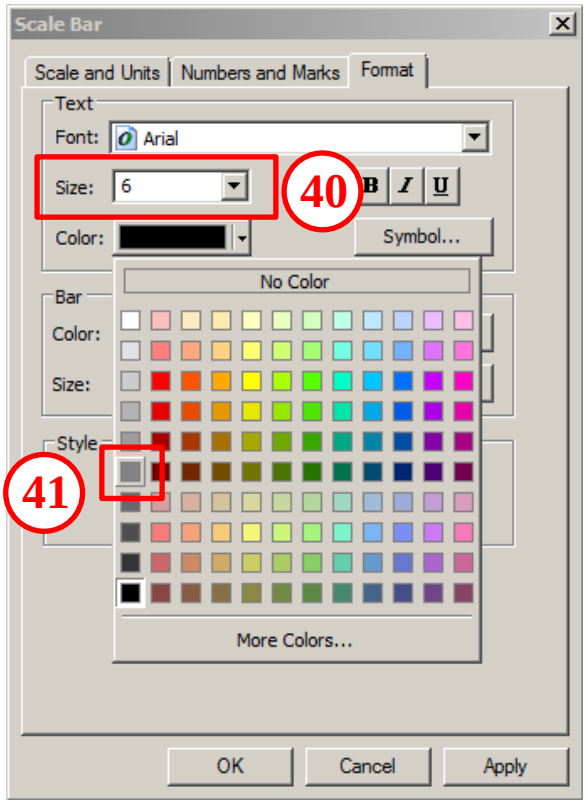
38. In the Scale Bar Selector window, Select “Alternating Scale Bar 2”

39. Click Properties



40. In the Scale Bar window, Select the Format tab, under the Text section, use the Text Size: dropdown to change the size of the font to 6

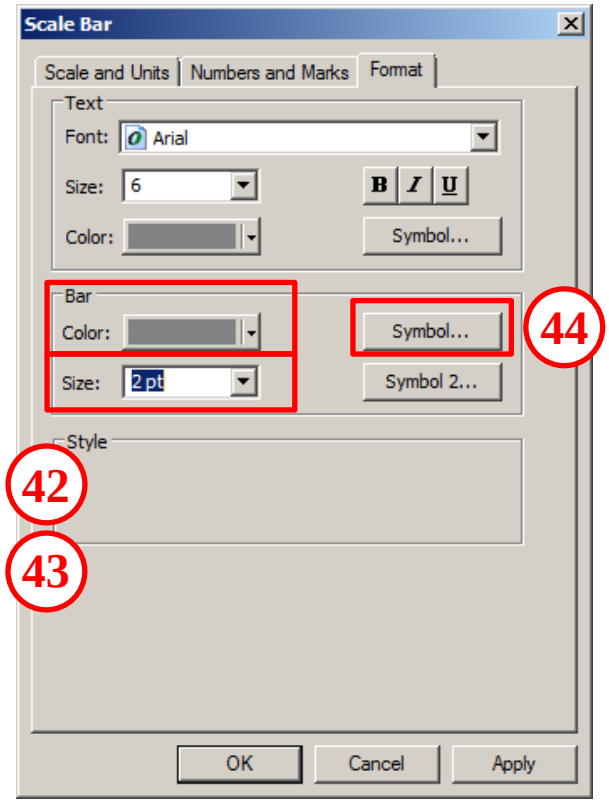
41. Still under the Text Section, use the Text Color: dropdown to change the color of the font to 50% grey



42. Still under the Format tab, under the Bar section, use Bar Color: dropdown to change the color of the bar to 50% grey

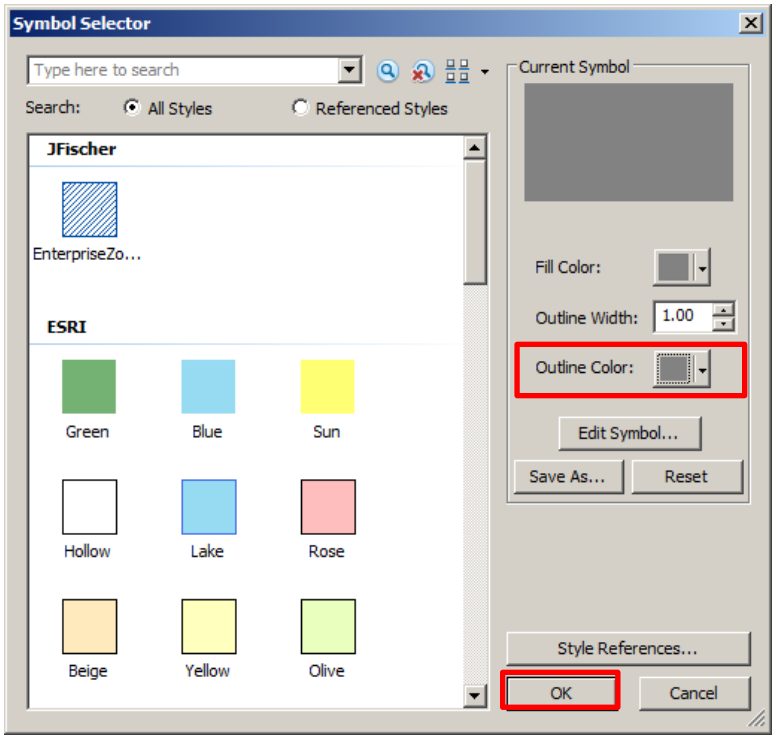
43. Use the Bar Size: manually enter “2 pt” in the text box

44. Click Symbol…

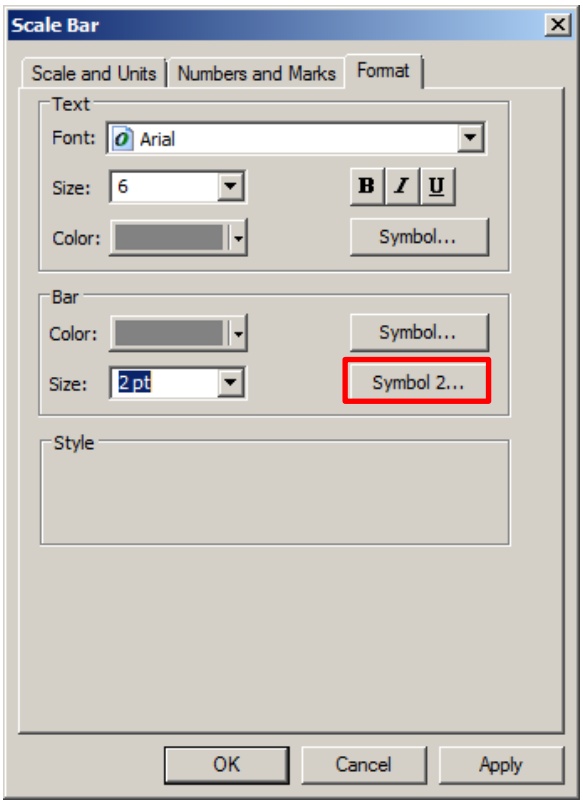


45. Use the Outline Color: dropdown to change the color to 50% grey

46. Click OK



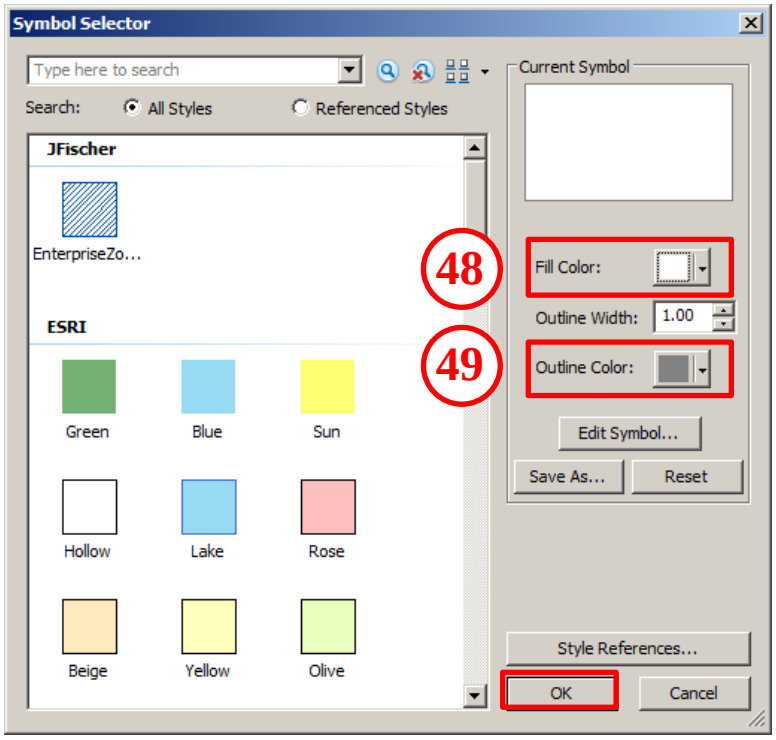
47. Under the Bar section, Click Symbol 2…



48. Use the Fill Color: dropdown to change the color to white

49. Use the Outline Color: dropdown to change the color to 50% grey

50. Click OK

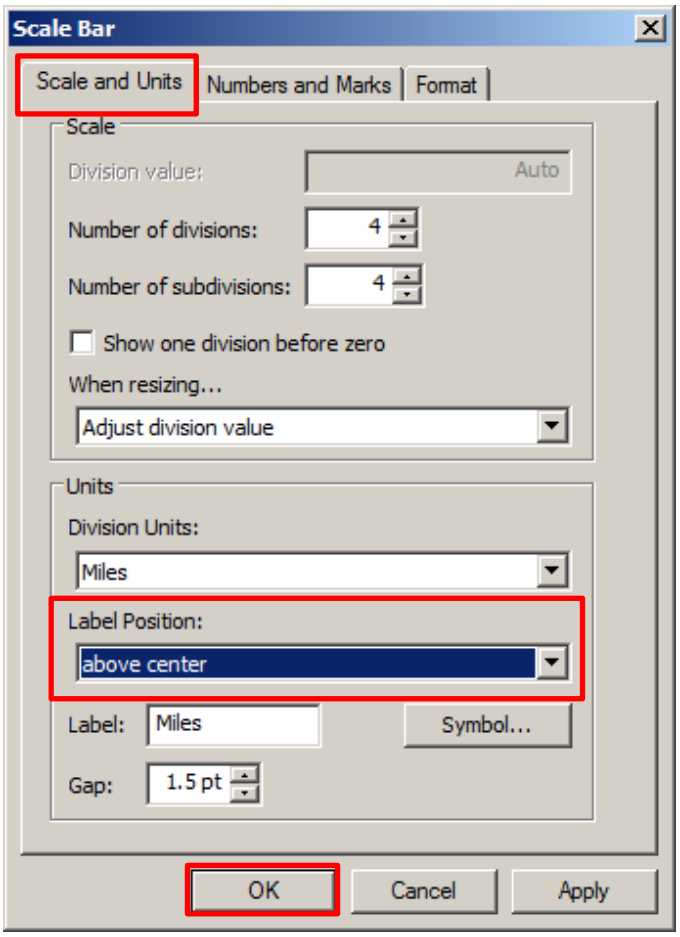


51. Click the Scale and Units tab

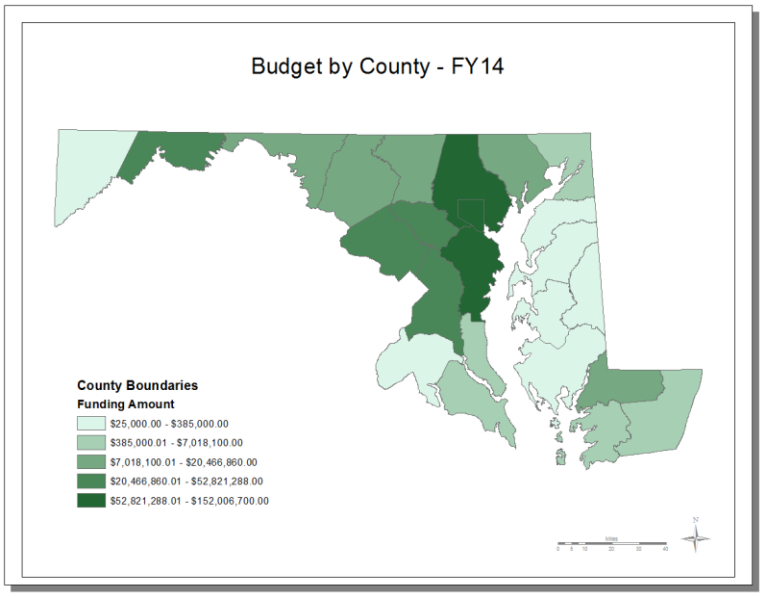
52. Under the Units section, use the Label Position: dropdown to change to “above center”

53. Click OK in the Scale Bar window

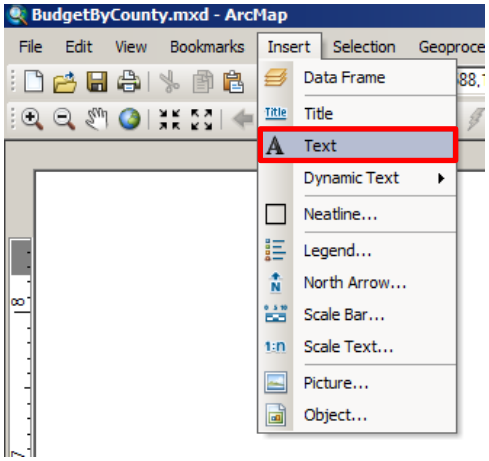
54. Click OK in the Scale Bar Selector window



55. Click and drag the scale bar to the lower-right corner of the data frame



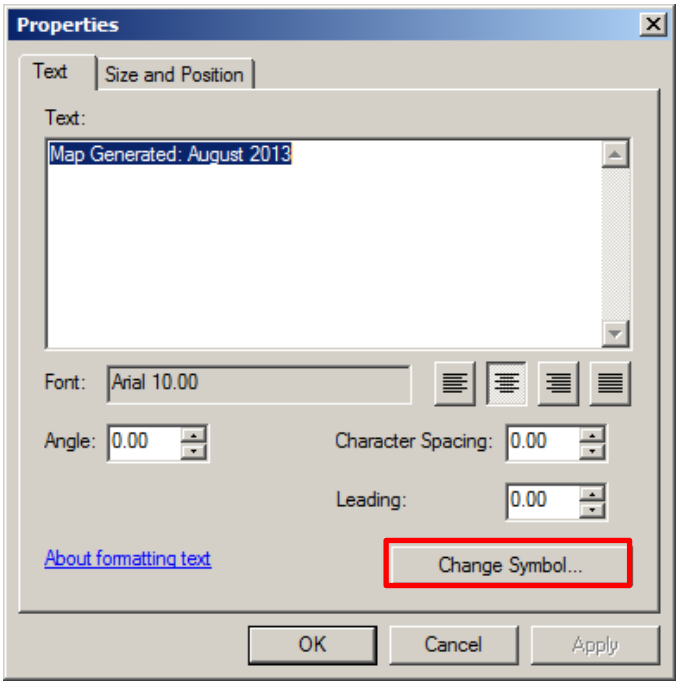
56. Under Insert, Select Text



57. Type “Map Generated: August 2013” and Hit Enter

58. Double Click the text

59. In the Properties window, Select Change Symbol…



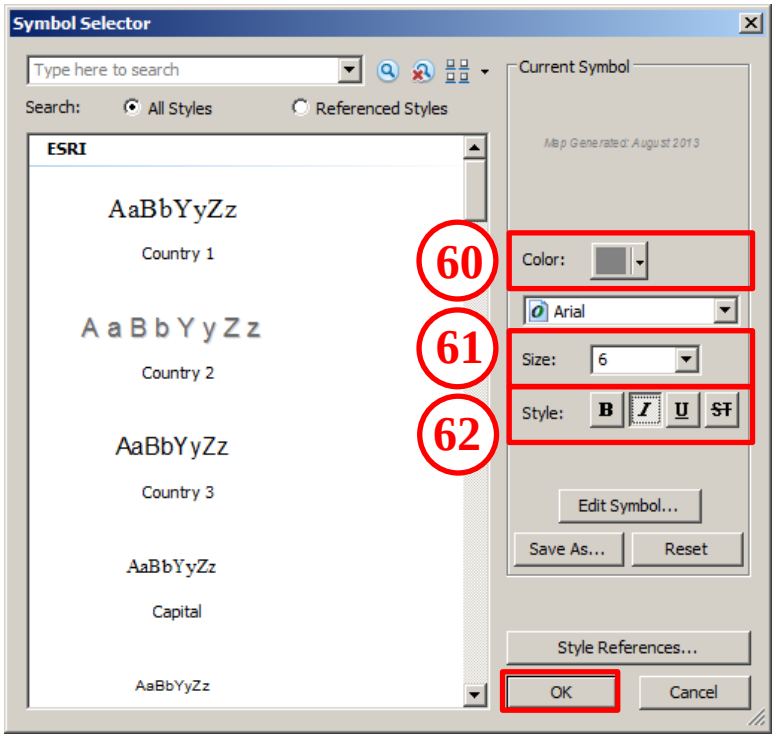
60. In the Symbol Selector window, use the Color: dropdown to change the color to 50% grey

61. Use the Size: dropdown to change the size of the font to 6

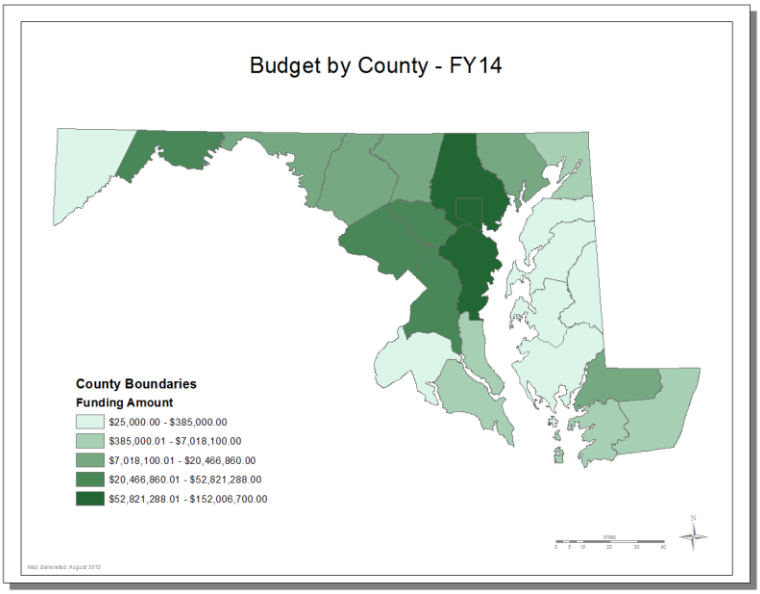
62. Use the Style: buttons and Click *I* for italics

63. Click OK in the Symbol Selector window

64. Click OK in the Properties window

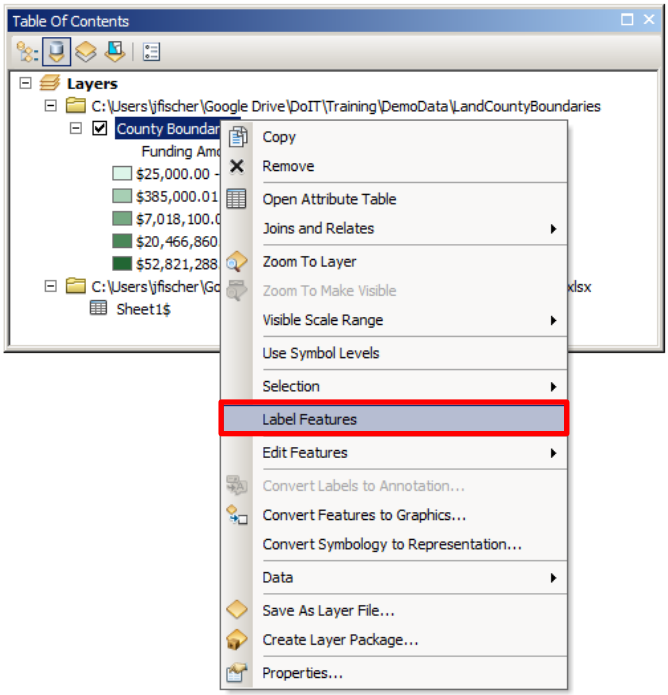


65. Click and drag the text to the extreme lower-left corner of the data frame



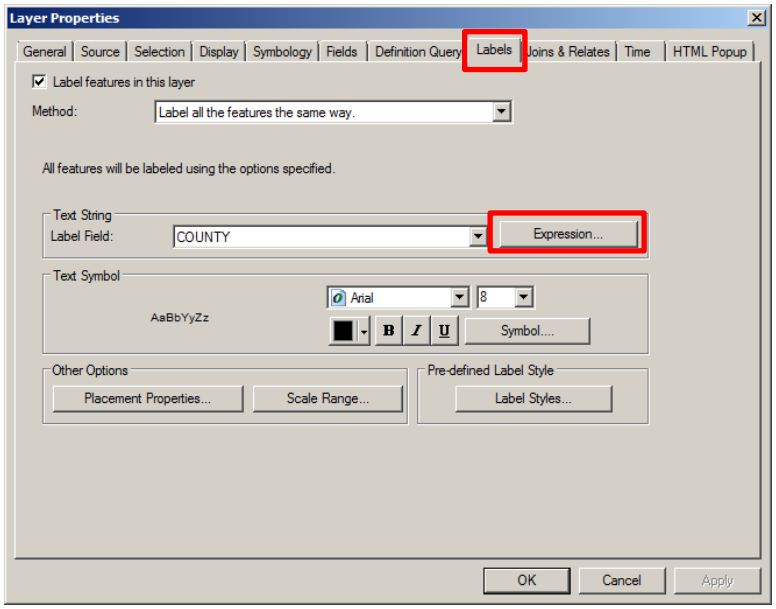
66. In the Table of Contents, Right Click the geography layer and Select Label Features

67. Still in the Table of Contents, Right Click the geography layer and Select Properties



68. In the Properties window, Select the Labels tab

69. Under the Text String section, Click Expression



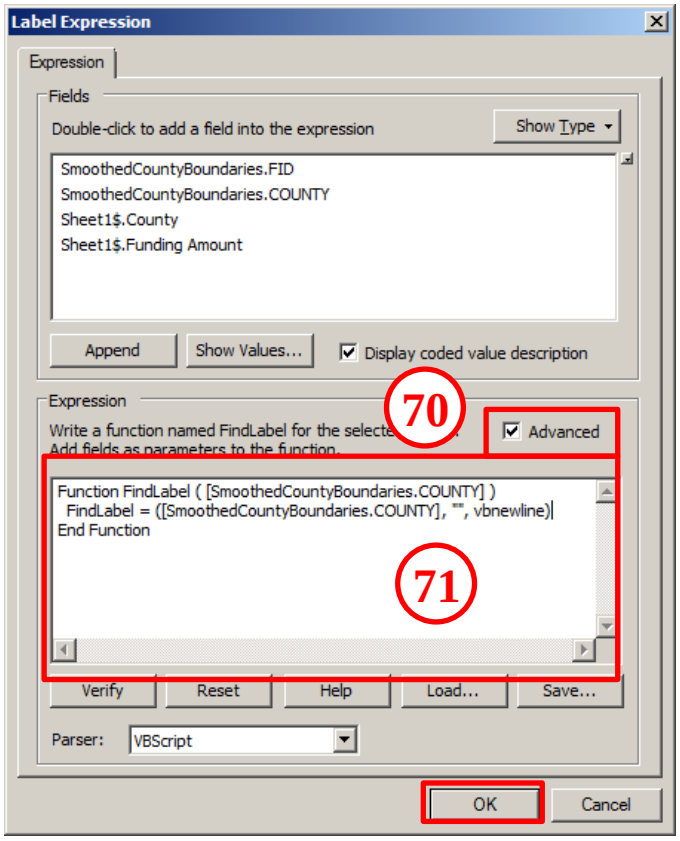
70. In the Label Expression window, under the Expression section, Check Advanced

71. Modify the code in the text box to mimic the following:

Function FindLabel ([<fieldname>])
FindLabel = replace ([<fieldname>], " ", vbnewline)
End Function

**Replace <fieldname> with the name of the attribute field being used for labeling*

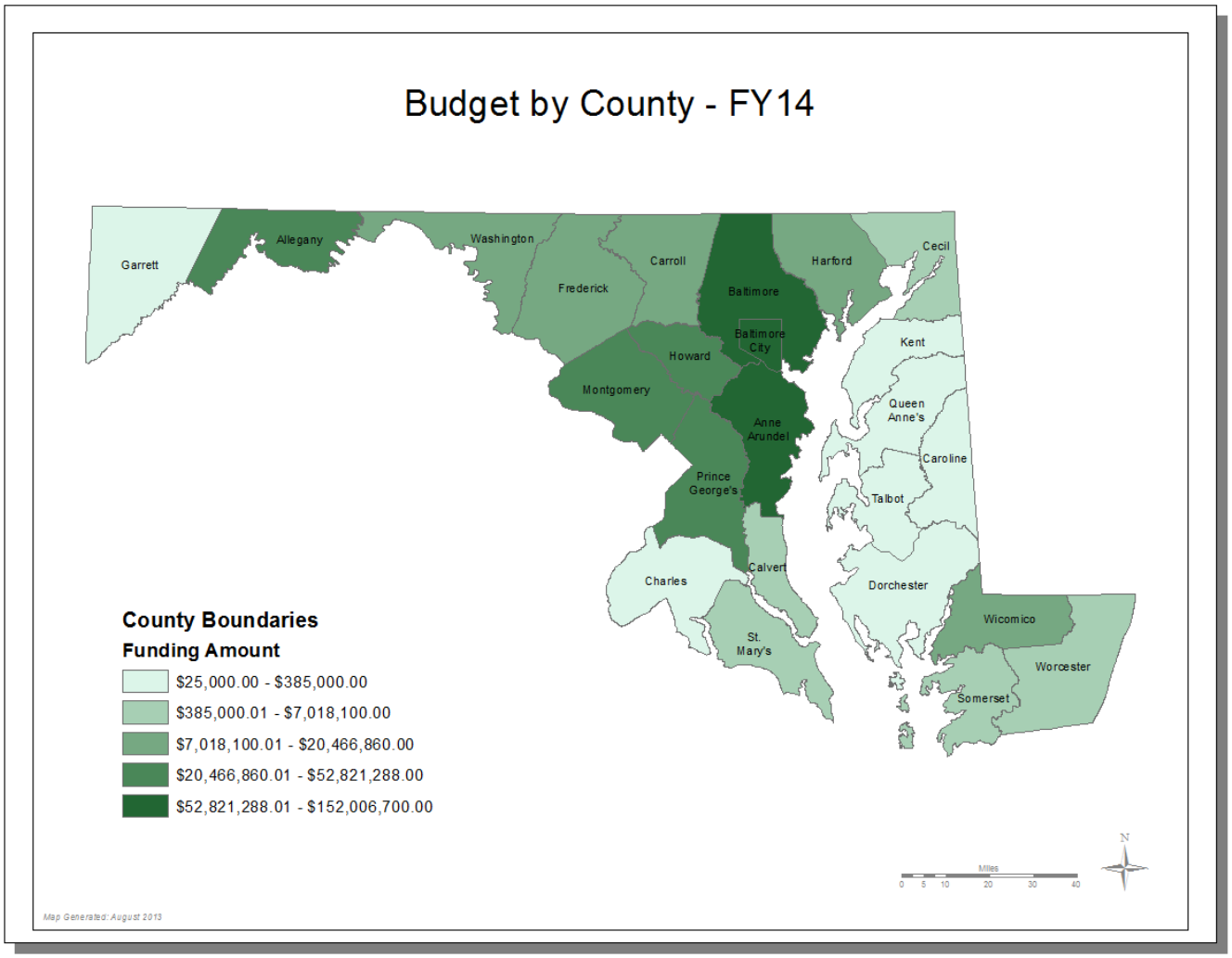
This will stack the labels for counties with a two word name and allow all labels to better fit within the geography boundaries of the counties they represent.



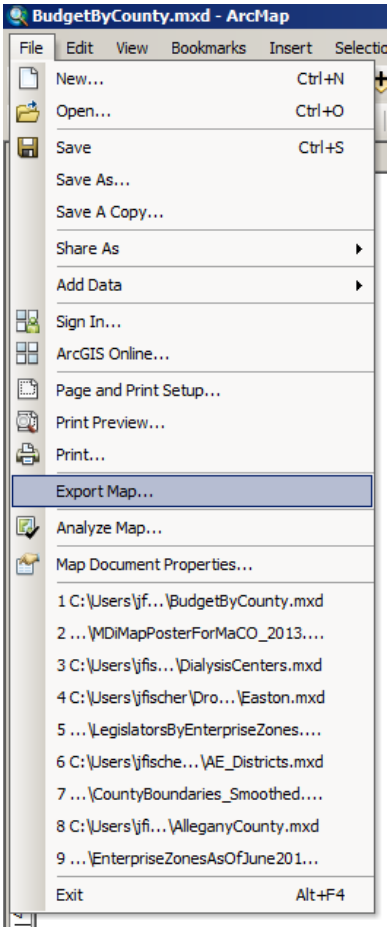
72. Click OK in the Label Expression window

73. Click Apply in the Layer Properties window

74. Click OK in the Layer Properties window



75. Under File, Select Export Map



76. Use the Save in: dropdown to navigate to the location where the exported graphic will be saved

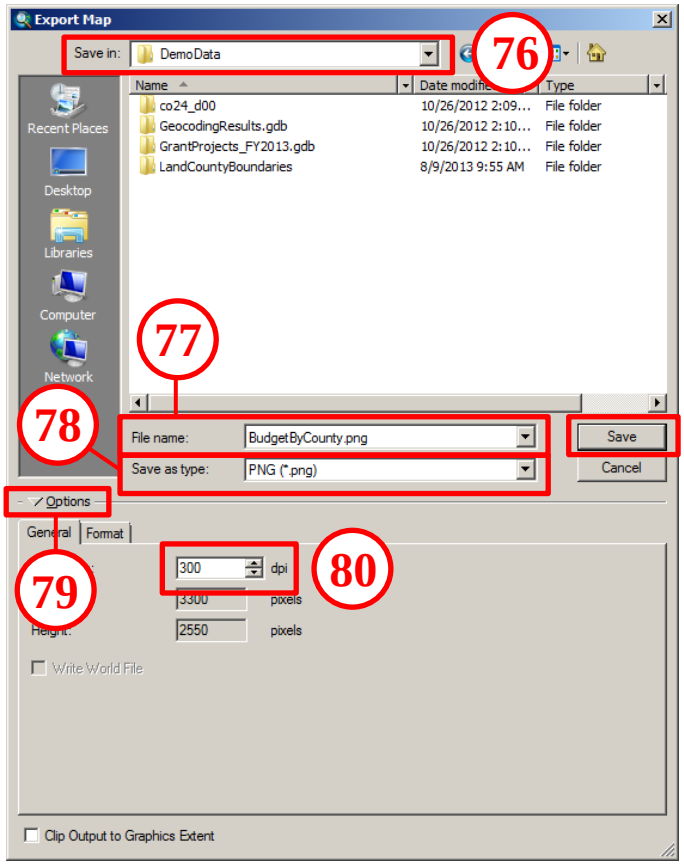
77. In the File name: text box, Edit the name of the graphic

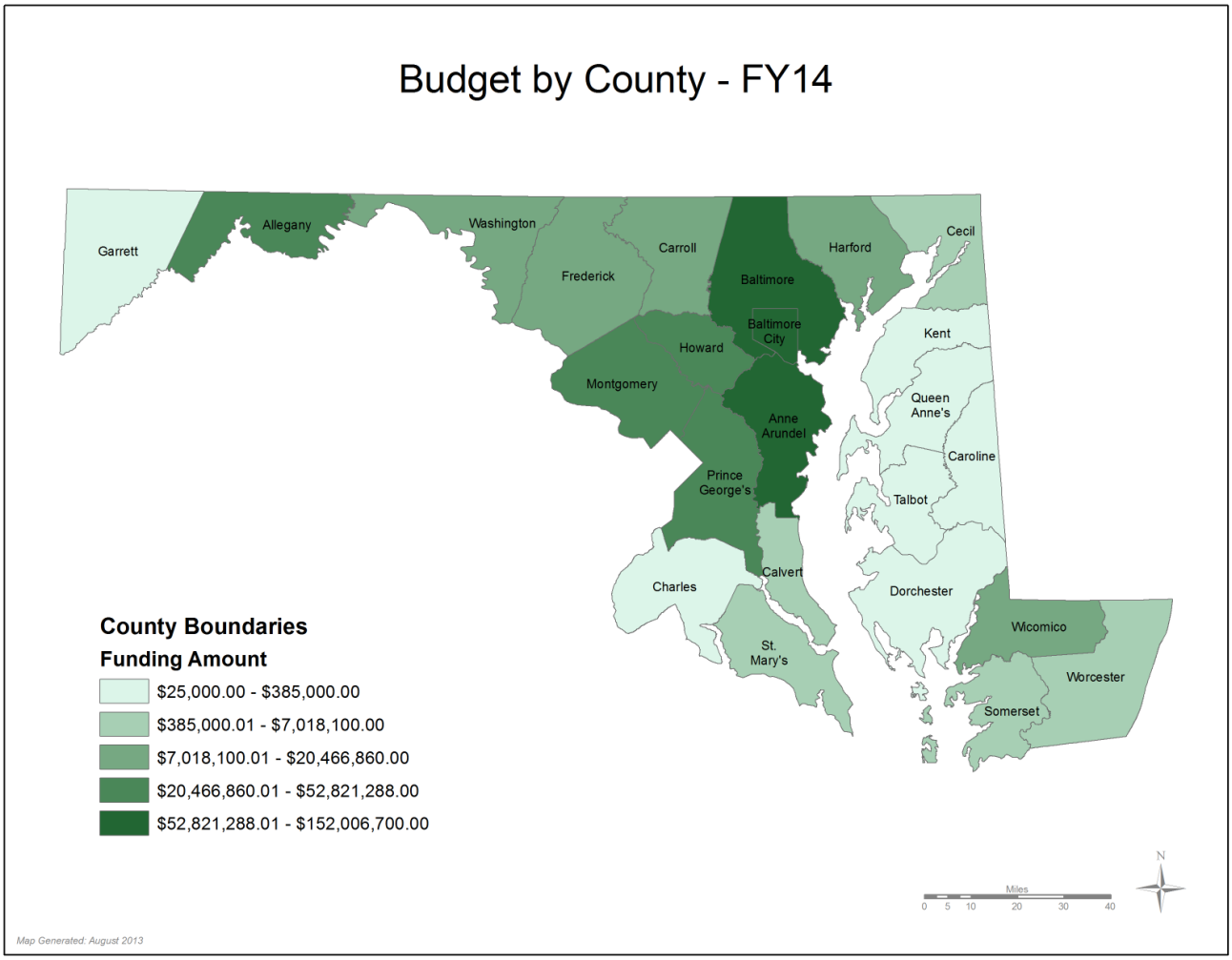
78. Use the Save as type: dropdown to adjust the file format for the exported graphic

79. Click Options, to expand the additional options section

80. Use the Resolution: up and down arrows to adjust the resolution of the exported graphic

81. Click Save




Budget by County - FY14
Garrett
Allegany
Washington
Frederick
Carroll
Baltimore
Harford
Cecil
Baltimore City
Howard
Kent
Montgomery
Queen Anne's
Anne Arundel
Caroline
Prince George's
Talbot
Calvert
Charles
Dorchester
Wicomico
St. Mary's
Worcester
Somerset
County Boundaries
Funding Amount
$25,000.00 - $385,000.00
$385,000.01 - $7,018,100.00
$7,018,100.01 - $20,466,860.00
$20,466,860.01 - $52,821,288.00
$52,821,288.01 - $152,006,700.00
Miles
0 5 10 20 30 40
N
Map Generated: August 2013