SOC 4650/5650: Lab-04

Christopher Prener, Ph.D.

February 7th, 2017

Directions

Please complete all steps below. Your final map image and markdown file with answers should be uploaded to your GitHub assignment repository by 4:20pm on Tuesday, February 14th, 2017. This lab uses data found in `KansasCity.gdb`, a geodatabase featuring data on public safety in Kansas City.

Create a Basemap

1. Create a save a new map document to your `Lab-04` subfolder. Make sure that you set the "relative paths" option.
2. Rename the data frame to "Basemap".[1]
3. Add the following layers to your map from `KansasCity.gdb` in this order and symbolize them with the listed attributes:
   (a) City Boundary - no fill, Dark Navy outline with width = 1.6
   (b) Major Bodies of Water - "Lake" pre-set symbol
   (c) Council Districts - no fill, Dark Navy outline with width = 0.8
   (d) Street Centerlines - 20% Gray color with width = 0.1
   (e) City Council Districts - white fill with no outline (width = 0)
   (f) Surrounding Counties - 10% Gray fill, 60% Gray outline with width = 0.4
4. Label the council districts using the top council district layer using the `DISTRICT` attribute. Use Arial size 10 font and the halo mask style. Use the expression creator to add the word "District" to the label for each council district.
5. Zoom to the city boundary layer.
6. Export the map as a `pdf` file at 300 dpi.[2]

[1] *Hint:* Double click on the data frame and choose the General tab. The name can be edited in the Name field.

[2] *Hint:* File ▷ Export Map...

Map Dangerous Buildings

7. Add a new data frame to your map document[3] and name it "Dangerous Buildings"
8. Copy and Paste all of the layers from your "Basemap" data frame into the "Dangerous Buildings" data frame.
9. Add the dangerous buildings layer from `KansasCity.gdb` to the top of your layer hierarchy. Symbolize it with the "Circle 2" pre-set symbol. Change the color to Mars Red and the size to 6.
10. Zoom to the city boundary layer.
11. Export the map as a `pdf` file at 300 dpi.

[3] *Hint:* Insert ▷ Data Frame

Map Buildings in Council District 3

7. Add a new data frame to your map document and name it "District 3"
8. Copy and Paste all of the layers from your "Dangerous Buildings" data frame into the "District 3" data frame. Remove the county boundaries layer.
9. Re-symbolize the dangerous buildings layer with 60% Gray. You can keep the size the same.
10. Open the properties for the *lower* council districts layer and go to the Definition Query tab. In the Definition Query field, type `DISTRICT = '3'` and click Apply. Make sure no errors are generated by ArcGIS.[4]
11. Switch to the Symbology tab and choose the "Rose" pre-set symbol.
12. Zoom to the *lower* council districts layer so that you are focused in on District 3.
13. Add another copy of the dangerous buildings layer from `KansasCity.gdb` to the *top* of your layer hierarchy.
14. Use the Select by Rectangle tool along with your Shift key to select *all* of the dangerous buildings within the District 3 boundary using this *top* dangerous buildings layer.
15. Right click on this *top* dangerous buildings layer and choose Selection ▷ Create Layer from Selected Features.[5]

[4] You have just restricted the view of this layer to only show Council District 3. This is one technique for *subsetting* spatial data.

[5] This is another technique for *subsetting* spatial data.

16. Delete what is now the *middle* dangerous buildings layer so that you are left with the city-wide layer that you symbolized as 60% Gray earlier, and a second *top* dangerous buildings layer that only covers "District 3."

17. Change the *top* dangerous buildings layer color to the "Circle 2" pre-set symbol. Change the color to Mars Red and the size to 8.

18. Switch to the "General" tab and rename this "District 3 Dangerous Buildings".

19. Export the map as a `pdf` file at 300 dpi.