SOC 4650/5650: Lab-05

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Directions

Please complete all steps below. Your two final map images should be uploaded to your GitHub assignment repository by 4:20pm on Tuesday, February 21st, 2017. This lab uses data from the `UnitedStates.gdb` in the folder `/SOC5650/Data/GISTutorial/Data/`. It also uses data from the `JeffCity.gdb` in the folder `/SOC5650/Data/CourseData/`.

Create a County Population Map

1. In a new map document, set the projected coordinate system to `North America Albers Equal Area Conic`.
2. Add the `USCounties` layer from `UnitedStates.gdb`.
3. Zoom in to the continental United States.
4. Open the attribute table and calculate the square miles for each county.
5. Create a thematic map showing graduated colors for the attribute `POP_2010`. Normalize this by square miles.
6. Use the "Quantile" classification method with 5 classes.
7. Select a color ramp that is not overly distracting.
8. Finally, overlay state boundaries and select a color that clearly delineates those boundary lines against the color ramp you have chosen.
9. Export the map as a `pdf` file at 300 dpi.

Map Tornado Warning Sirens in Jefferson City, MO

10. In a new map document, add the city boundary feature class from `JeffCity.gdb`. Select the largest area of the city (the north-eastern most area) and create a new layer symbolizing only that section of the city.[1]

[1] *Hint:* Select the polygon, right click on the layer in the Table of Contents, and choose Selection ▷ Create Layer from Selected Features.

11. Rename your new selection layer as `JeffCity Main` and rename the original city layer as `JeffCity Ground`. Make sure `JeffCity Main` is positioned above `JeffCity Ground` in your Table of Contents.

12. Symbolize `JeffCity Ground` as a ground layer by using a light gray fill.

13. Symbolize `JeffCity Main` as a feature layer by using white, which will offer high contrast to the data we will add next.

14. Add the streets feature class *on top* of the city boundary layers.

15. Select the streets within `JeffCity Main` and create a new layer of just those streets. Name this layer `JeffCity MainStreets`.

16. Rename the citywide streets layer `JeffCity GroundStreets`.

17. Make sure that both of the city streets layers are above the city layers and that `JeffCity MainStreets` is above `JeffCity GroundStreets` in the Table of Contents.

18. Symbolize `JeffCity MainStreets` with a black line that has a width of 0.8.

19. Symbolize `JeffCity GroundStreets` with a line that has a width of 0.4. The color of this line should have the RGB values of 104,104,104.

20. Add the warning sirens feature class on to of the streets layers in the Table of Contents.

21. Select the warning sirens that are in the main part of Jefferson City (within the `JeffCity Main` layer) and create a new layer for these sirens. Symbolize these sires as points sized 8. The fill color of these points should have the RGB values of 225,0,0.

22. The other warning sires in the city should be symbolized as a ground layer. They should be size 4 points with a fill color that has the RGB values of 78,78,78.

23. Make sure that the final order of your layers is as follows:

    (a) tornado warning sirens in `JeffCity Main`
    (b) other tornado warning sirens
    (c) `JeffCity MainStreets`
    (d) `JeffCity GroundStreets`
    (e) `JeffCity Main`
    (f) `JeffCity Ground`

24. Zoom to the `JeffCity Main` layer.

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