EnvSci 360 – Computer and Analytical Cartography
Spring 2017

- Lab 7 -

Exercise 1: Diverging Color Scheme Choropleth Map

Task: Create an 11"x17" layout showing Massachusetts population change from 1980 to 2010. Symbolize the layer using a **diverging color scheme**, with negative values (pop. decrease) in "warm" colors (reds, oranges, yellows), and positive values (pop. increase) in "cool" colors (greens and blues). Refer to the ColorBrewer website for suggested color schemes.

- The data for this map is the **TOWNSSURVEY_POLYM.shp** shapefile that you used in Lab 1.
- **NOTE**: You will need to **add and calculate a long integer field called POPCH80_10** to store the population change from 1980 to 2010 because the attribute table does not contain this information.
- Add an inset map for the metro Boston area zoomed in to show detail.
- Label all cities and towns in both data frames (in the statewide map you can leave out labels in the metro Boston area if they are too crowded).
- Include a good title, a legend and other supporting elements.
- Export the layout as a PDF named **Lab7_Map1_*yourname*.pdf** and email it to michael.trust@umb.edu.

Also, **print the map** on the color printer outside room 20. (You will need to log in to one of the PCs in the lab to print since the printer is not available via WiFi; Zip your entire folder for the lab – data, MXD saved to store relative paths – and transfer it to the PC).

- Print the map directly from ArcMap AND print the PDF, in order to compare how the colors appear when printed from two different applications vs. how they appear on screen. If the colors look good on screen but do not look good when printed, adjust the colors and try again so that they do look good when printed. This may not be best for viewing the PDF on screen, so if need be, save your map as a second MXD that has colors set for printing.
- HAND IN copies of your printed maps (from ArcMap and Adobe Reader).

Exercise 2: Black and White Choropleth and Point Maps of Uninsured Population Compared to Minority Populations in Texas

Redo the Lab 4, Exercise 2 map but use ONLY black, white and grays (no colors).
Export the map layout as a PDF file named **Lab7_Map2_*yourname*.pdf** and email it to michael.trust@umb.edu.

Exercise 3: Cartographic Representations Tutorial

1. Read http://desktop.arcgis.com/en/arcmap/10.4/map/working-with-layers/what-are-representations-.htm.
2. Download and unzip http://faculty.www.umb.edu/michael.trust/data360/Representations.zip.
3. Complete all the steps in Exercises 1 through 5 in the tutorial located at http://desktop.arcgis.com/en/arcmap/10.4/map/working-with-layers/introduction-to-the-cartographic-representations-tutorial.htm. (Read the Introduction first).
4. Zip your Representations folder to **Lab7_Representations_*yourname*.zip** and email it to michael.trust@umb.edu.