

Gina DiMaio
IMGIS
11 July 2021
Lab 5

Setting Scales of Data Frames and Creating Choropleth Maps

Objective: The purpose of this lab was to practice obtaining data from the internet, joining data, assigning scale properties to various data frames, and manipulating classification in choropleth maps.

Figures:

Figure 1. (DiMaioG_Lab5_MapA) This figure displays four data frames focusing on the United States of America each with a different fixed scale (ex. 1:110M, 1:50M, 1:10M, 1:2M).

Figure 2. (DiMaioG_Lab5_Map2) This figure displays 8 different choropleth maps using US census data breaking down the gender demographics classified in four different ways: natural breaks, equal intervals, quantile, and by standard deviation.

Questions:

In Part 1, what features are most altered by generalization, and at what scales?

In Part 1 the levels of detail and area regarding the sizes of the individual states and the details of state borders appears to be most affected by generalization. At 110M and 50M smaller scale maps the details of borders and coastlines are not very defined. In the larger scale maps of 10M and at 2M there details of these border and coasts – specifically NJ’s coastline greatly improve. However, in the smaller scale maps there is more area shown (ex: can see the entire 50 States at 110M) and in the larger scale maps less area is shown (ex: at 2M only NJ is fully in focus in the data frame).

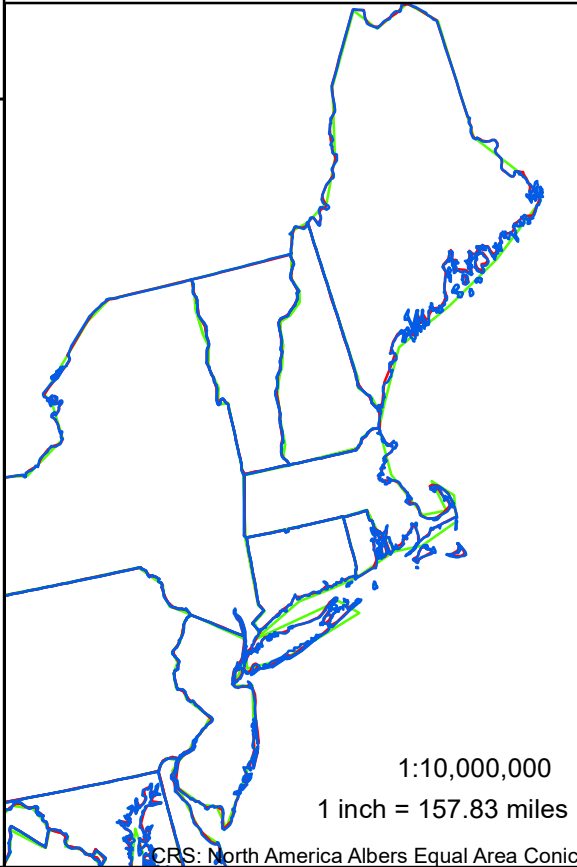
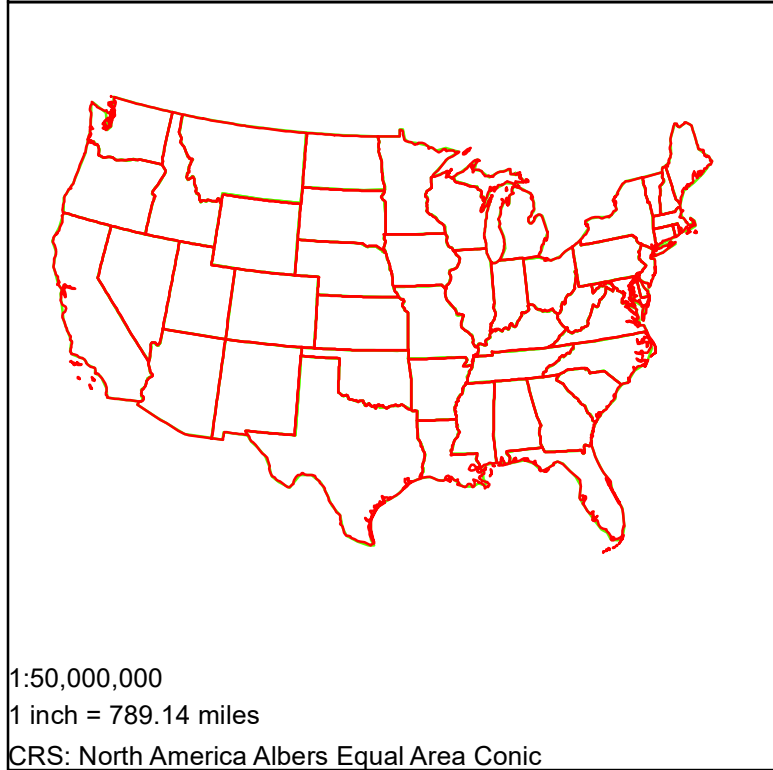
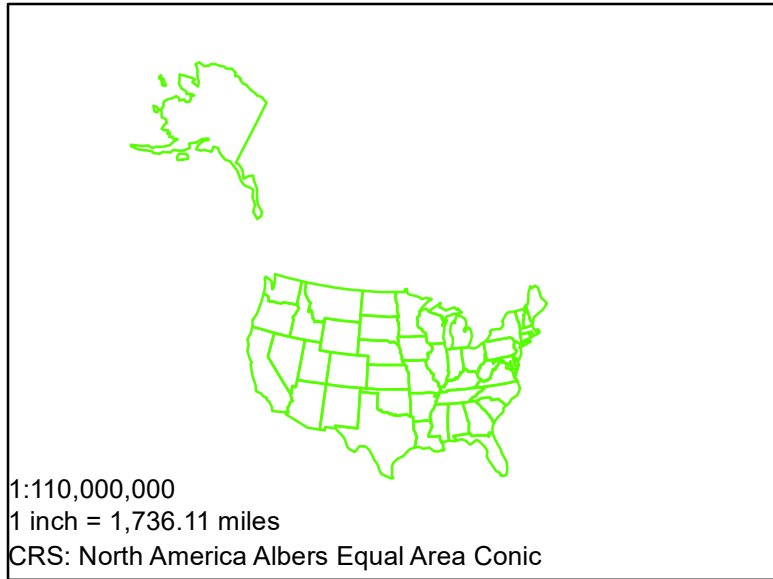
In Part 2, how do classification types change the perception of population proportions?

Among the 8 choropleth maps there are 4 different classification types that each portray a different pattern of population proportions. The first one being “natural breaks” gives the perception that there dramatically more females on the east coast compared to the west coast. The “equal intervals” map appears to show that most states contain a higher proportion of females except for states in the upper mid-west region, Alaska, and Hawaii. In the “quantile” classification there are the same number of data values in each class and in the case of population proportions based on gender this map interestingly looks quite similar to the first map with natural breaks. Lastly, the “standard deviation proportion” shows how far the proportions deviate from the average population and this produces an entirely different pattern of colors on the map.

The United States of America presented at multiple spatial sets

Legend (for all maps)

-  US_states_110m
-  USStates50M
-  USStates10

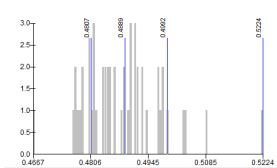
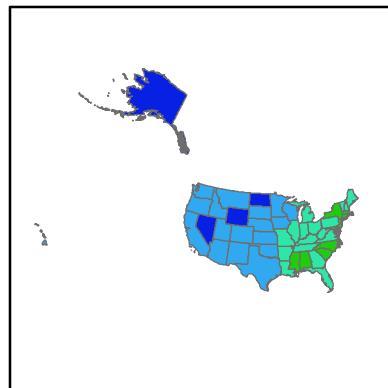
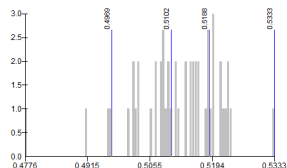
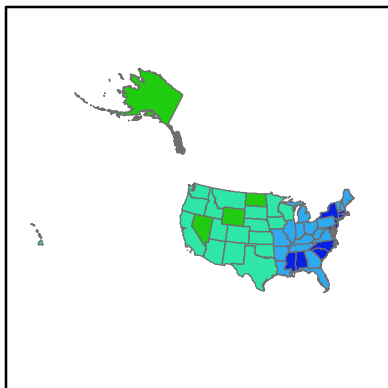


Census Data Found on Gender by Various Classification Types

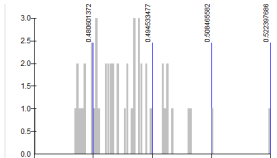
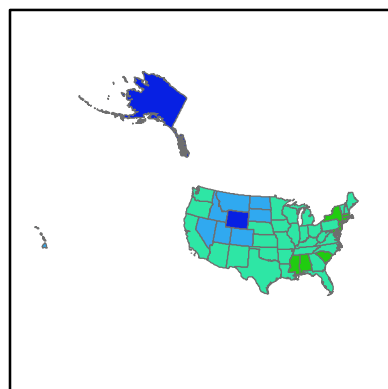
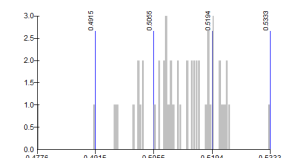
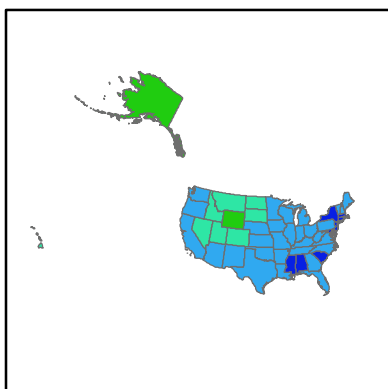
Females

Males

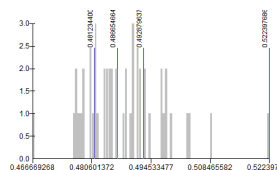
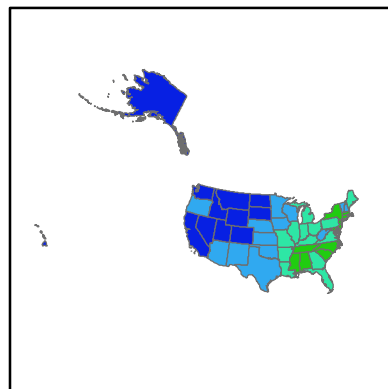
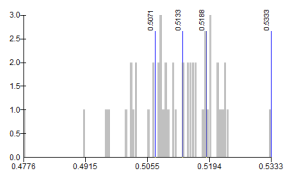
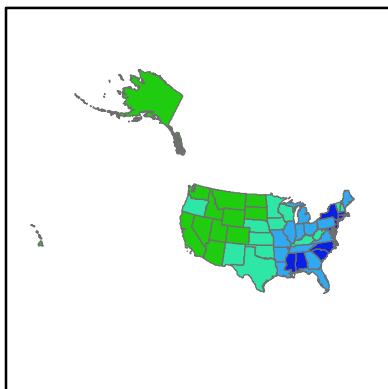
Natural Breaks



Equal Intervals



Quantile



Standard Deviation

