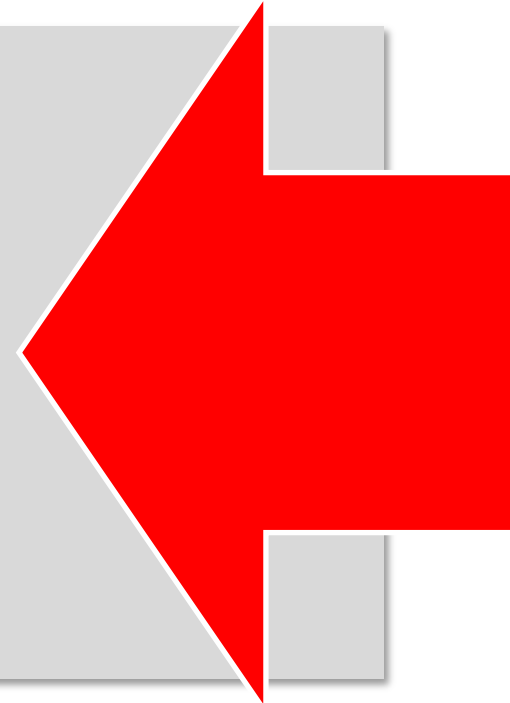


NOTE!

Assignment 4 has 2 questions, but it counts for 10 points in my final grade calculations. Submitting Assignment 4 will earn 10 points if it is complete and on time! Think carefully about what the different shades of gray tell you about the county population and the variation in the density of the population.

You must submit your answers to the questions in Assignment 4 in Blackboard.



Assignment 4: Interpreting Choropleth Maps

Choropleth maps are used to compare information that multiple categories that the mapmaker wants to describe.

→ Both of these maps were created using the exact same data (information). That does not mean that one or the other is right or wrong... we use different methods of displayed spatial data (information that has a geographic feature attached to it, in this case, states) for different purposes.

→ Both of maps look at the percentage, by state, of their African-American population (US Census, 2010).

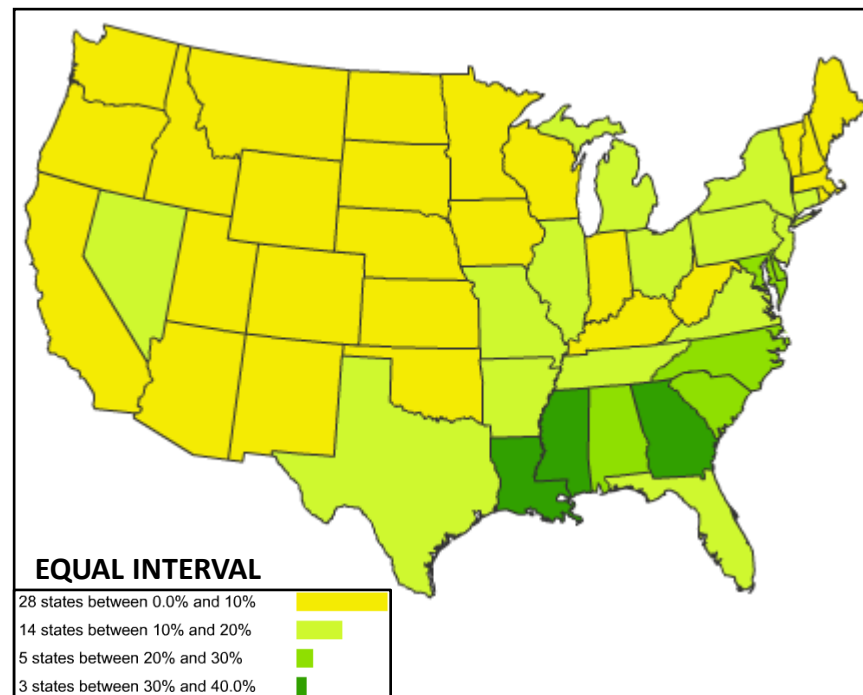
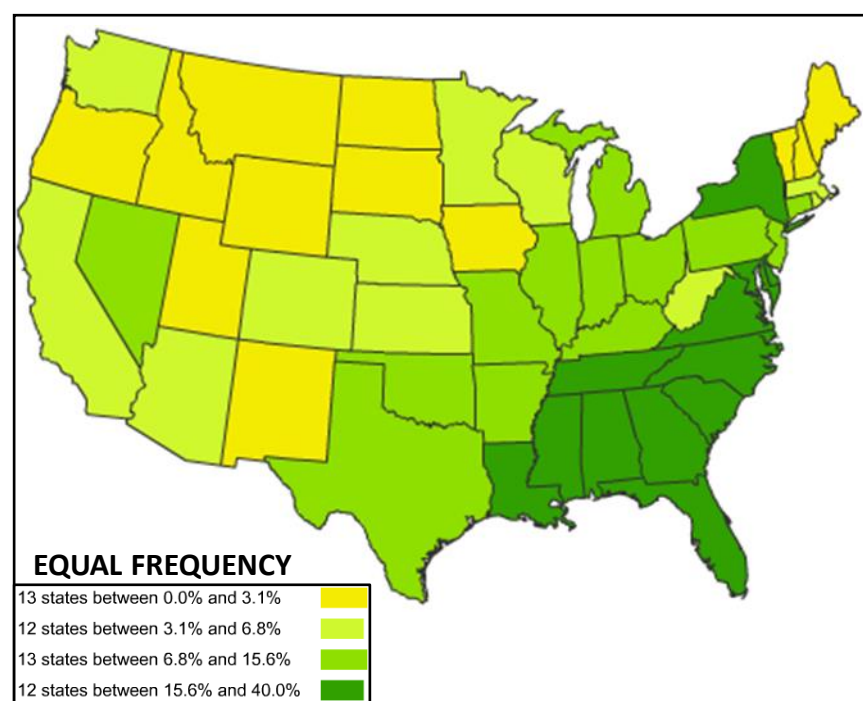
→ Coloring (or use of gray scales) on choropleth maps: Research has shown that people's eyes are drawn to the darkest colors first... and we assume that the darkest colors are those that are of the highest value or are more important.

The top map shows information categorized into 4 class ranges. This is done using the Equal Frequency Method, which groups the same amount of information (in this case, states) in each class. Because there are 50 states (Hawaii and Alaska aren't show here), we can't have the exact same number of states in each category, so there are 12 in two of them and 13 in the other two. This map gives us a "quartile" view. This gives us a broad view, especially if we know that the US population overall is a little more than 12% African-American. The 12 states in dark green (between 15.6% and 40%) are in the upper quartile in terms of what per cent of their population is African-American.

The bottom map shows information categorized into 6 class ranges, using the Equal Interval Method. This method makes the class range for each group the same. In this case, the range across each class is the same (0-10%, 10-20%, 20-30%, 30-40%). This map zeroes in on the states with the highest percent African-American populations. A map like this might be used to look at the history of African-Americans, and where they are concentrated compared to where they started (in the US, as slaves held in Southern states by a very large majority).

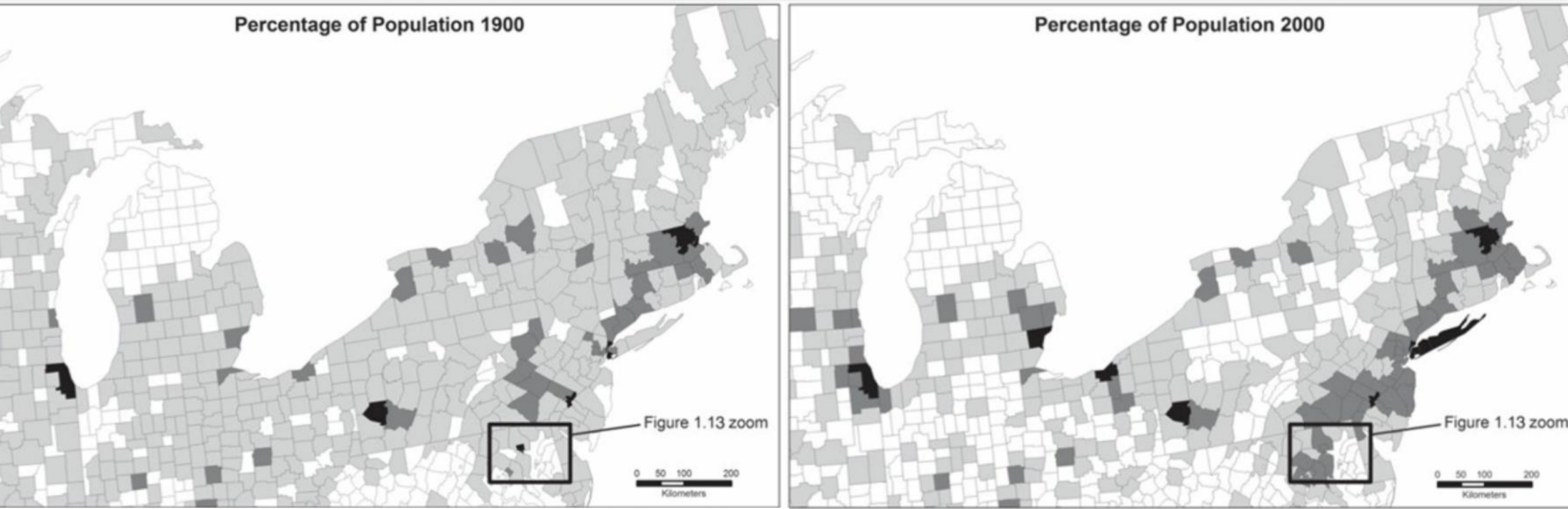
What's the main difference? In the top map, one might wonder why New York is in that upper range. In the early 1900s, there were large numbers of African-Americans who moved into the Northern and MidWestern states to look for better opportunities, especially after it became clear that the Southern states were finding new ways to discriminate against the former slave population for jobs, voting, housing and education. In addition to NY, note that New Jersey, Pennsylvania, Ohio, Michigan, Indiana and Illinois also have relatively high percentages of African-Americans – these are all states in the Manufacturing Belt, where most of the Industrial Revolution development occurred in the US (roughly from Boston down to New Jersey and west to Illinois).

The bottom map really zeroes in on the key states of the South that were engaged in plantation agriculture with Louisiana, Mississippi and Georgia in the upper quartile and Alabama, South Carolina, North Carolina and Maryland in the third quartile. Only Virginia isn't in that group, because the population of Virginia has changed due to its proximity to Washington, DC and the large number of government offices there (bringing in a large number of non-African-Americans).



Assignment 4: Observing the Difference in Scale – Regional versus Urban Population Shifts

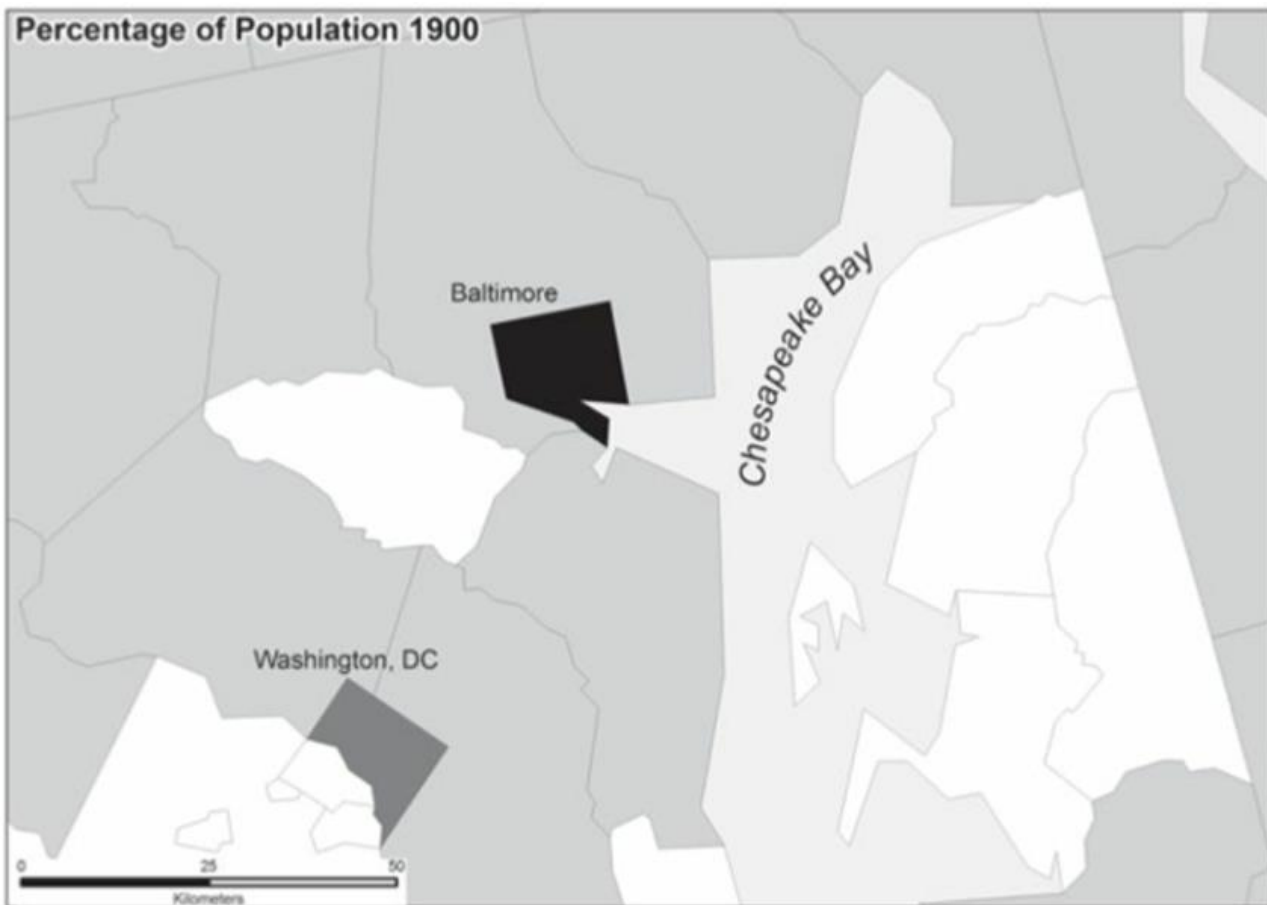
For this assignment, you will be looking at two series of maps. The first set (below), compares the county populations as a percent of the total US population at a regional scale – the Northeast and MidWest. The second set (next page) compares the two inset areas on the maps below, at the urban scale. Look carefully at the map key below the maps... the lowest class (0.002-0.050) means that the counties in white have 0.002 to 0.050% of the US population... the highest class has from 1.101 to 5.0% of the US population. In 1900, there were 76 million people in the US, and the 5 largest cities were New York City (3.4 million), Chicago (1.7 million), Philadelphia (1.3 million), St. Louis (575,000) and Boston (561,000). In 2000, the US population was 282 million and the 5 largest metropolitan areas were New York City (21 million), Los Angeles (16 million), Chicago (9 million), Washington DC/Baltimore (7.6 million) and San Francisco (7 million) – Boston is 7th at 5.8 million and includes the area from the Rhode Island state line to Worcester, and north to Lowell, Lawrence, Nashua (NH), Concord (NH), Portsmouth (NH) and up to Portland (ME).



Note: These percentages are the local county population compared to the total national population.

What differences do you see in the two choropleth maps above?

1. Regional Scale: Describe the change in population from 1900 to 2000 at the regional scale: Would you say that the population over this area from the Northeast through the MidWest as become more spread out, or more clustered together? Explain briefly how you came to that conclusion.



Percentage of Regional Population 0.002-0.050 0.051-0.300 0.301-1.100 1.101-5.000

Note: These percentages are the local county population compared to the total national population.

What differences do you see in the two choropleth maps above?

2. Urban Scale: Describe the change in population from 1900 to 2000 at the urban scale: Would you say that the population in the Washington, DC – Baltimore, MD, metropolitan area became more spread out, or more clustered together? Explain briefly how you came to that conclusion.

Submit your answers in Blackboard. These are essay questions that I will grade manually.