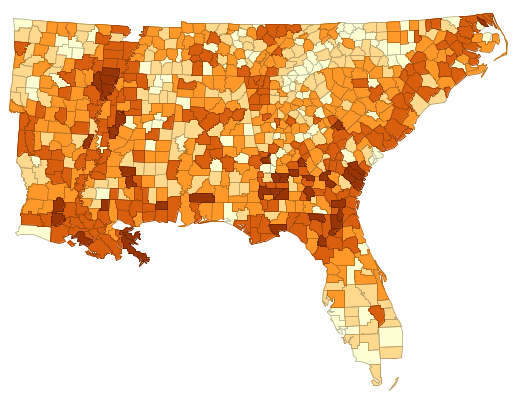
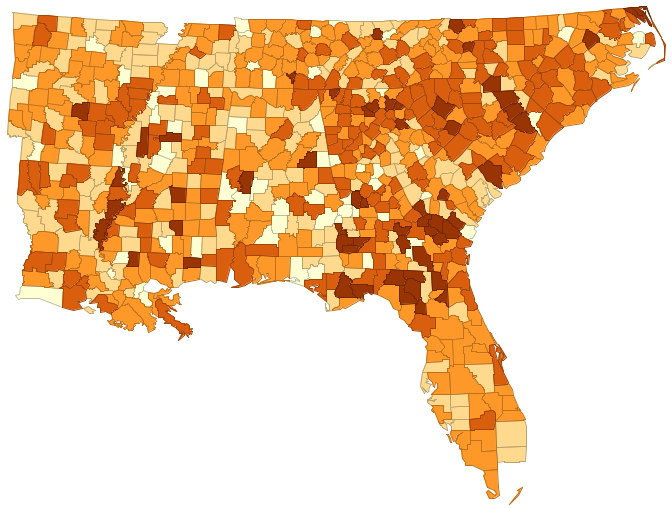
**GGR372 Lab 2 Report**

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**Question 1**

I chose to explore the rate of prostate cancer among males (variable name “PROM\_RATE”) across the Southeast US. Visually, it seems that in the eastern part of the region (i.e. Florida, Georgia, North Carolina, South Carolina), there is a higher rate of prostate cancer relative to the 20 kinds of cancer in the US Geological Survey dataset. However as we move further west, the rate of prostate cancer goes down.

Map 2. Prostate cancer rate among males

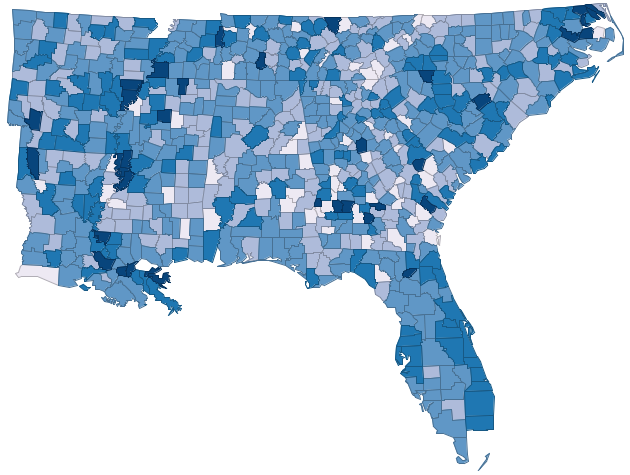
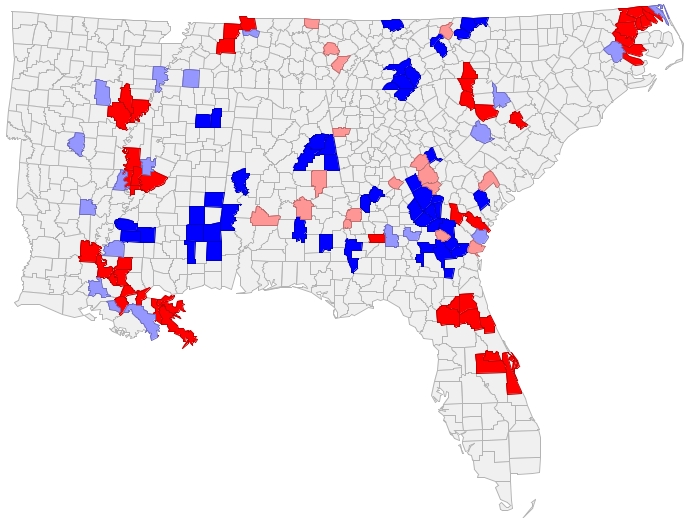
Map . Cancer rate among males

**Question 2**

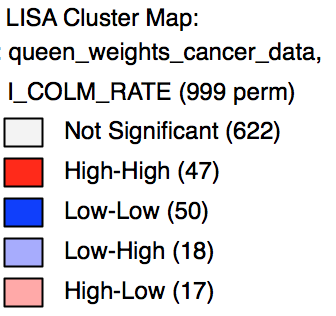
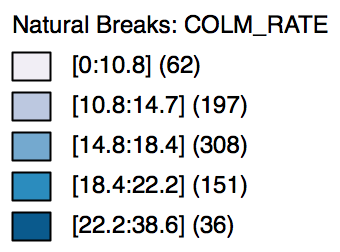
Cartograms are appropriate to emphasize extreme values on a map. Rates can be used to size geographic areas in a cartogram if the values are extreme enough. Hence, even though the rates in our data could have a possible range of 0 to 100,000, the actual values are too close together. On the other hand, the values for count range from as little as 5 and as large as 6,000 (i.e. the extremes are further apart).

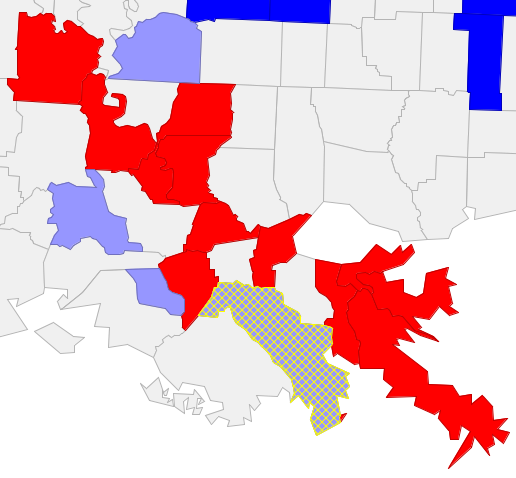
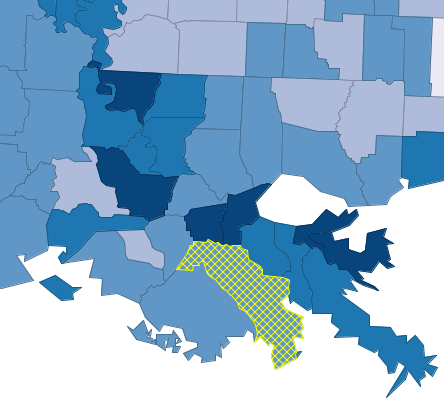
**Question 3**

I decided to categorize the data using 5 classes of natural breaks. Below is the resulting choropleth map, as well as the LISA cluster map for reference:



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 The choropleth map generally corresponds well to the cluster map. For example, the map on the right tells us that we should see clusters in the area around New Orleans, with Lafourche Parish seeing a low-high relationship with its neighbours. Exploring the choropleth map on the left confirms this relationship (see below; Lafourche Parish is highlighted). It is important to show what clusters are significant because we see a lot of clustering in the choropleth map with the naked eye; however, a lot of these “clusters” do not have an important spatial correlation regarding the rate of colon cancer.