Term Project 2: Data Visualization

Points: 100 Points

Prompt: The two term projects are meant to be more involved than the class projects. In this second term project, you will generate a series of maps, text, and graphics to summarize real data. The data used is up to you. Some appropriate examples include socioeconomic data (for example, Census data in the United States or Eurostat data in the European Union), climate/climate change data, watersheds/hydrology, land cover/land use, geohazards, flooding, erosion, agriculture, resource extraction, etc. You may also choose to use multiple datasets. However, they must be linked or related.

In order to explore, visualize, and summarize the data, you will make a series of maps and graphics with associated text. You must produce:

- ❖ At least five maps using at least three different types of symbology (choropleth, proportional symbol, graduated symbol, dot density, isopleth, flow map, etc.). Make sure the symbology used is appropriate for the data being displayed.
- ❖ At least three graphs of at least two different types (for example, histograms, boxplots, bar graphs, scatter plots, etc.).
- ❖ The product should be delivered as a PDF report that includes the following:
  - o All maps and graphics imbedded as figures. Figure captions must be provided for all figures. All figures must be referenced in the text.
  - o At least two tables representing or summarizing the dataset. Table captions must be provided for all tables. All tables must be referenced in the text.
  - o Text including (1) an introduction describing the data and goals of the report, (2) the findings of the data analysis (i.e., explain your maps, tables, and graphics), and (3) a conclusion highlighting the key findings of the study/analysis.

Rubric:

- ❖ Report is well organized, well written, well formatted, and grammatically polished. (15 Points)
- ❖ All tables are well formatted and represent the data accurately and appropriately. Make sure to use appropriate layouts and number of significant figures. All measurement units should be clearly defined. (10 Points)
- ❖ All maps will be judged based on the quality of the layout, visual hierarchy, data symbology, and presentation. All maps should be polished and of professional quality. Make sure to symbolize data using appropriate symbology. (20 Points)
- ❖ All graphs will be judged based on the quality of the layout, visual hierarchy, data symbology, and presentation. All graphics should be polished and of professional quality. (15 Points)
- ❖ The text should be well structured and correctly describe the data used, goals of the analysis, and findings as presented in the tables, graphics, and maps. (15 Points)
- ❖ The conclusions should be clearly defined and supported by the data, analysis, and visualizations. (5 Points)
- ❖ Appropriate credit and citations should be provided for all sources and data. (10 Points)
- ❖ The report, tables, graphics, and maps should use a consistent theme. (10 Points)