DATA 608 – Final Project Proposal
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Data Overview

For my final project, I am planning to create visualizations related to the topic of climate change.

I will be using a few datasets provided by the World Bank, which can easily be downloaded on Kaggle:
https://www.kaggle.com/theworldbank/world-bank-climate-change-data

Within this file, there's information about:
- The projected change in the average monthly change in precipitation (in mm), compared to the control period of 1961-1999 for most countries in the world. This projected change is based on a few global circulation models (GCMs).
- The projected change in the average monthly change in temperature (in degrees Celsius), compared to the same control period of 1961-1999. This is also based on projections from global circulation models (GCMs).

The projections for both average monthly change in temperature and precipitation are calculated for four future time periods:
- 2020-2040
- 2040-2060
- 2060-2080
- 2080-2100

Plan for Data Tidying

Within these datasets I am planning on isolating the projections for the United States, as well as the top 5 countries with the largest and smallest changes in their precipitation and temperature projections across the four separate time periods (11 in total for both datasets). This will require filtering, grouping, and modifying the dataset by adding columns consisting of change values over time.

Tools for Visualization

I plan to create all of my visualizations using D3.js. I have previous experience in web development creating front-end applications with Angular 2+ (Javascript framework), so I'll set up a single page application, convert the data from csv to json format (through D3.js), and then attempt to use some animation to show the change over the 4 time periods, so we can see the differences from 2020 to 2100.

I think the main visualization will utilize geojson data which I found here: https://gist.github.com/phil-pedruco/10447085#file-countries-geo-json for many countries across the world. I think it would be a

neat visualization to set up the polygons for the 11 countries and show color change animation over time, based on the degree of change.

Additionally, I'd like to create a visual (likely a scatterplot or bar chart) that documents these changes for all countries in the datasets.

Reason for Creating this Visualization

These visualizations would be relevant to the climate change issue since it would be a graphic representation of how countries will likely be affected by this phenomenon in the 21st century. By animating and using maps, it'll be easier to visualize and compare changes over time across many countries throughout the world. Additionally, it'll highlight countries that are either projected to be in a better or worse position to mitigate this issue.