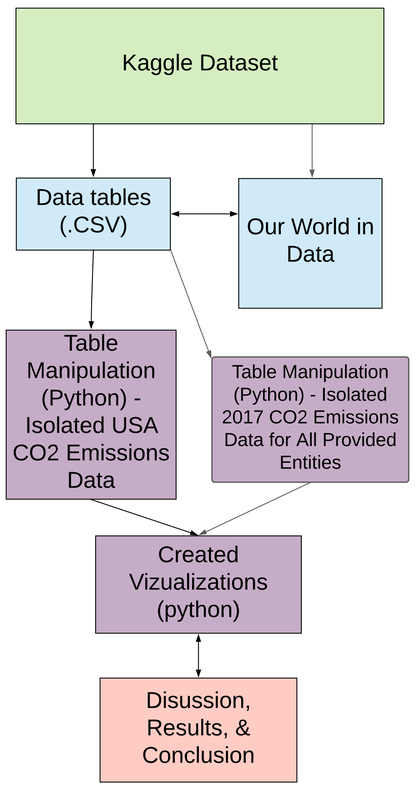
DH100 Data Storyboard

Greenhouse Gas Emissions | Student: Jacob Chow | 5/26/21

Introduction / "Hook"



As modern day society finds itself increasingly burderned by the impact of climate change, we are turning to murn sustainable alternatives to fossil fuels. However, carbon dioxide is still the largest anthroprogenic contributor to climate change. My project intends to track the carbon dioxide emissions of countries worldwide.

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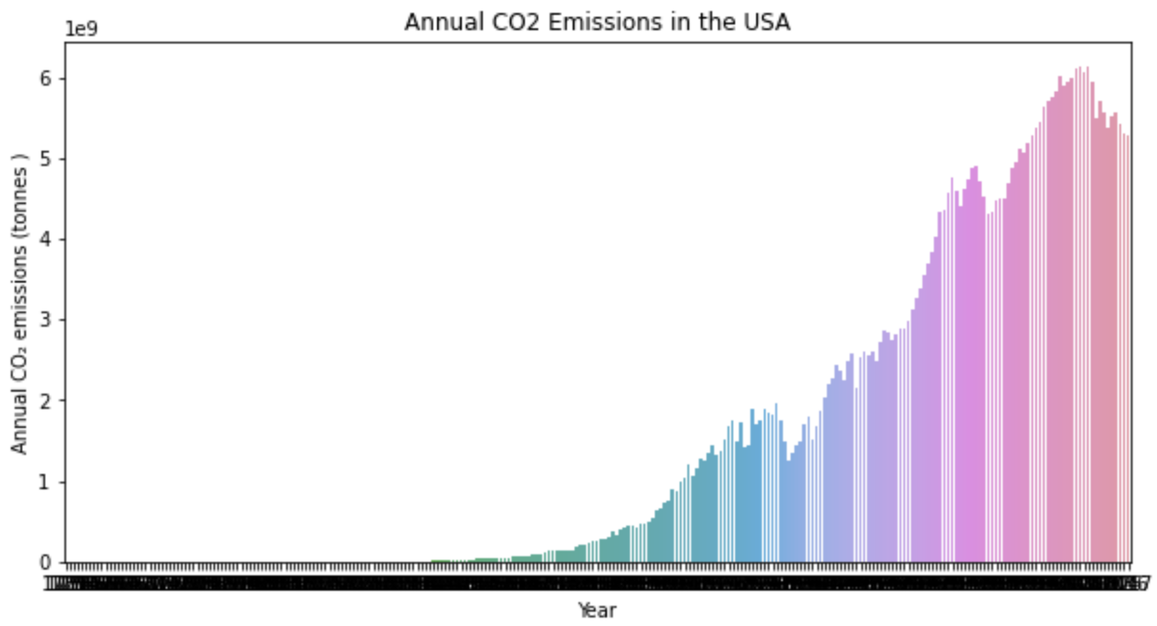


Tools and Methods:

1) I used Kaggle to analyze the data. Panda was the main tool used to manipulate the data.
2) I began with a table sorted by country, which provides the CO2 emssions data for each country across various years. There are many countries, which is why it was difficult to visualize the emissions data per country for a given year. Instead I isolated the USA emissions data so that I could plot it over time.
3)Next, I isolated the CO2 emissions data for 2017 only, condensing the multiple entries for each entity into just one for each. I sorted the table by 'Annual CO2 emissions (tonnes)' in descending orderm, and then I had to drop the World entity because it completely skewed the visualization. I also dropped the 'Year' and 'Code' columns. I then made a pie chart visuzalation of the ten largest CO2 emitters.

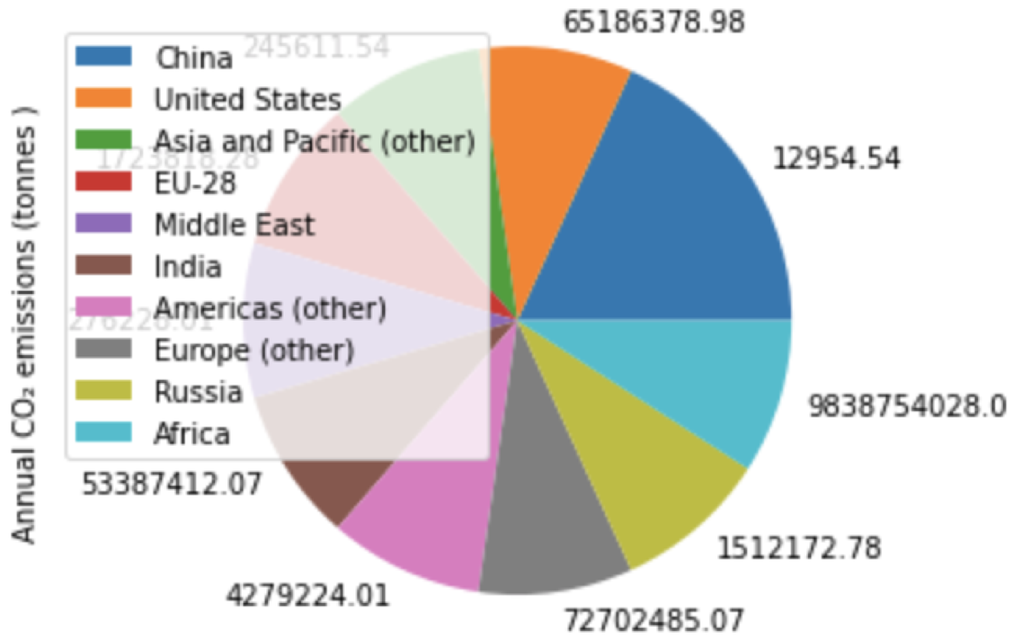
Descriptions:

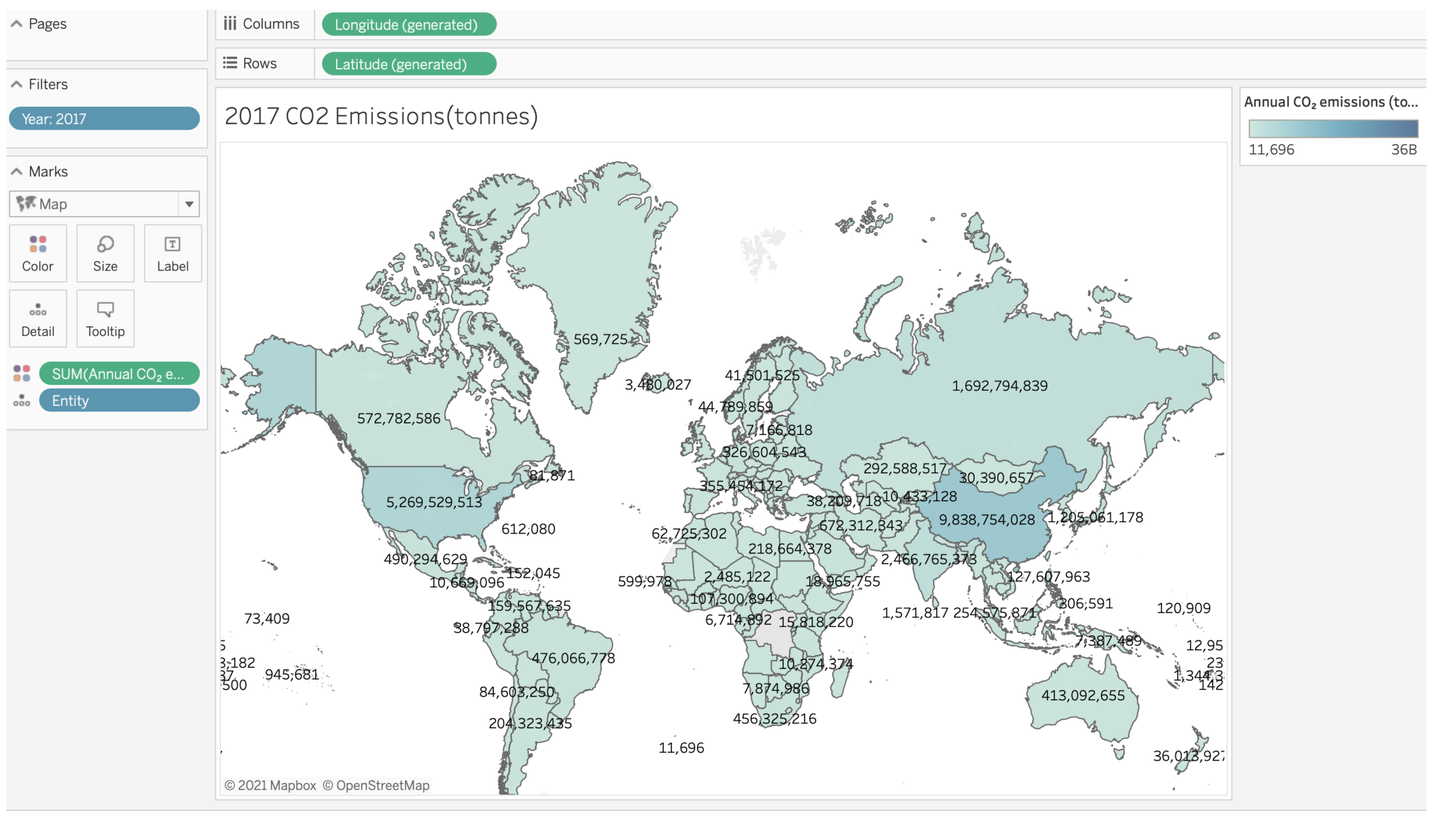
1) Dataset - The data set I will work with is provided by the Kaggle. It is Carbon Dioxide Emissions Data. It is organized by 'Entity', also known as Countries and has multiple rows for each 'Entity' for various years(1750-2017).
2) This data analysis should reflect more on anthropogenic behaviors and acitivities rather than the impact on the environment. It does not take into account for emissons that can be transported to other regions, and only accounts for where/when these emissons are actually being released.

How have carbon dioxide emissions in the USA changed over the past 4 centuries?
How do CO2 emissions compare between countries at a specific point in time? Overtime?

Interpreting your results:

Overall, the CO2 emissions in the USA increased over the last 4 centuries. In particular, emissions were relatively stagnant untl roughly the 1850's, when they began to spike. This is most likely a result of the Industral Revolution, which saw an unprecedented use of fossil fuels to power manufacturing, transportation, technology, etc... As population and per capita energy consumption rise, demand for fossil fuels increase and in turn, CO2 emissions increase.





Discussion of your results:

The colors on BOTH CHARTS are random and do not have significance.
It is apparent from the bar chart visualization above that CO2 emissions have generally increased continously over the last 4 centuries. However, there have been periods of time where CO2 emissions briefly declined, includnig the few years leading up to 2017.
The pie chart visualization below represents the ten largest CO2 emitters. It is important to note that not all entities on the original data set, and subsequently my visualizations, represent official countries but rather regions(ie. Asia and Pacific).

Conclusions:

Although CO2 emissions trends in the USA have demonstrated a decrease in emissions in the years leading up to 2017. Hopefully, as we progress into the Green Revoluton and transition toward renewable energy, our society can begin mitigating our CO2 emissions. These trends of rising CO2 emissios demonstrate an alarming trend that is contributing to climate change.

Work Cited:

https://www.kaggle.com/jacobychow/notebookbe4eb18600

Boyere, Y. (2020, September 14).*CO2_GHG_emissions-data*. Kaggle. https://www.kaggle.com/yoannboyere/co2-ghg-emissionsdata.