Project Final Deliverable

**1. Project title**

CO2 Emissions and Weather Conditions

**2. Team members and roles**

James Gallier (jmkgallier@gmail.com) - Researcher, Coder

Catherine Onumajuru (catherineonu@gmail.com) - Analyst, Coder

Aparna Ranganathan (aparnarang@gmail.com) - Tester, Coder

Jessica Tang (jtang2246@gmail.com) - Project Manager, Coder

**3. Summary of accomplishments**

For our project, we were able to extract historical data on CO2 emissions, earthquake occurrences, and temperature for countries worldwide. Using this data, we were able to use pandas in order to create a cleaner dataframe, including finding the averages over the years. Using the earthquake occurrences dataset, we were able to graph the earthquake occurrences worldwide by overlaying it over a basemap. For the temperatures dataset, we averaged the temperatures over the years and also created a line graph in order to represent this change over time. Finally, we created a historical CO2 emissions dataset and found the average CO2 emissions per country. Using these averages, we sorted the dataset to show those with the highest average CO2 emissions at the top. The top 30 countries with the highest average CO2 emissions were then represented in a bar graph.

**4. Summary of learning**

During this project, it was an interesting to experience coding with others and finding the best method to communicate with them. Since it was difficult to meet in person, we had to utilize a bunch of different methods, such as google’s colaboratory, in order to work it out. In terms of coding, we used a lot of the concepts we learned in class on pandas and matplotlib, which made it easier for us to clean and manage the datasets. While most of the coding was based off of the basic concepts we learned, there were parts that we learned and expanded upon. For example, we learned how to use imports and matplotlib in order to graph occurrences on top of an imported base map in order to make it more accurate.

**5. Next steps**

*What would you do next for your project (bullet list or 1 paragraph) if you had more time?*

* We would have liked to perhaps have a graph or visual representation that showed the relationship or correlation between CO2 emissions and temperature.
* It would have been interesting to utilize more datasets, such as precipitation rates, snowfall, etc. and use these to compare to CO2 emissions in order to find correlation between these topics.

**6. Individual contributions**

James Gallier

* Main temperature dataset + graph

Catherine Onumajuru

* Main earthquake occurrences/CO2 emissions dataset + graph

Aparna Ranganathan

* Dataset + graph cleanup

Jessica Tang

* Dataset + graph cleanup

**7. Include** everything **for your project in the ZIP file (including previous updates/code-snapshots, where available). Make sure you follow the rubric in the** [**Team Project information doc**](https://docs.google.com/document/d/1WOW4_-ffgIbxwk_4S7slpInMKOWk499h-wG-UR0oKes/edit?usp=sharing)**.**