Project 2 Proposal

Nicholas Cerny | Jesus Serna | Rijul Saxena

Premise:

An analysis of the 1) effects of the COVID-19 virus on the current state of climate change 2) how the measures taken by different countries to combat the virus/avoid spread changed CO2 emissions 3) how differing industries' production (and lack thereof) affects the local and world ecosystems, both historically and currently.

Method:

Using both recent and historical climate data from 11 different countries, we will match the emissions data to its corresponding COVID-19 data and seek to answer the above questions. This will be done by importing CSV/JSON data into a more parsable format (lists/dictionaries). Once our data is imported, graphs and tables will be created in the report to visually show their relationship. This project will rely on functional programming to clean, organize, and analyze the data we collect. In order to collaborate in realtime, we will utilize Google Colab to run our Jupyter notebooks.

Datasets and Past Research:

Global Monitoring Laboratory - Carbon Cycle Greenhouse Gases

> --CO2 Emissions (Hawaii, East Coast, World) -- also addresses COVID effects

https://www.sciencedaily.com/releases/2020/07/200709141538.htm

> --Socioeconomic and Environmental effects of COVID-19 related emissions

Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018 | US EPA

> -- Historical (Doesn't include 2019-2020)

https://climate.nasa.gov/

> -- could be helpful supplementary data

Supplementary data: Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement

> -- Data by Country, State, and Province

NASA Probes Environment, COVID-19 Impacts, Possible Links

> -- atmospheric data (from Space)
>
> -- NO2 levels also included in the data.

- US
- UK
- Brazil
- Russia
- Kenya
- India
- Australia
- Japan
- Indonesia
- Saudi Arabia

Graph of emissions historically since 1900

https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions

Average temperature anomaly, Global
Global average land-sea temperature anomaly relative to the 1961-1990 average temperature.

Source: Hadley Centre (HadCRUT4)   OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY
Note: The red line represents the median average temperature change, and grey lines represent the upper and lower 95% confidence intervals.