

# Volcanoes, Energy Consumptions, and Carbon Dioxide for All Species

## Introduction

The eccentric system of ever-changing atmospheres, human infrastructure, and animalistic environments creates a demand for growth in knowledge. By understanding the basis of consumption, cumulative growth, and interpolation, the underlying correlation can lead to possibilities for causation. However, impact can be nuanced into several categories, creating complexities that take time to understand. So, via research and data collection from highly trustworthy institutions, it answers not only the concept of correlation but also the impact of increased carbon dioxide density on intellectual performance losses of humans and all species.

## Body

As a student with viewpoints that continue to change as new information flourishes into my mind, my standpoint now can change over time. Therefore, this information could be overrun with data provided that can disprove the currently gained data due to human error of professionals gathering the data in either the devices or data-gathering procedure/process.

To ensure the highest quality of data, thorough research was done about how the data was gathered as well as where the data was collected. The sources are highly reliable, and the data will follow results from Harvard, NASA, Scripps, Energy Information Administration, and OpenDataSoft.



ENERGY INFORMATION ADMINISTRATION



SITU ON-SITE: SCRIPPS

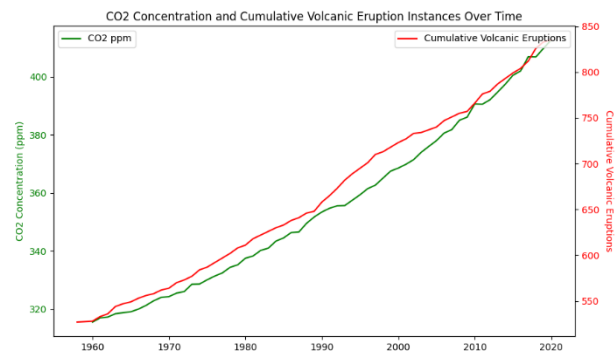
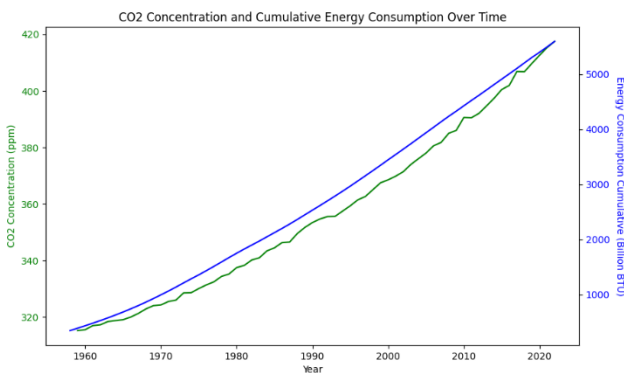
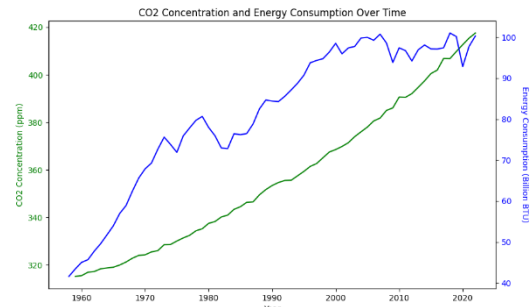
Considering the demand for scientific data not only for governmental agencies but for corporate and public organizations, these institutions decree to provide unbiased and up-front information without conflict-of-interests, but rather for scientific discovery.

CO<sub>2</sub> level data will be retrieved from the live .csv report directly from Scripps's research team to ensure that the data is untampered. This information is forwarded and used by NASA for their live reports. Additionally, energy consumption will be gathered live from a concurrently

updating .csv report from the Energy Information Administration, alongside volcanic eruption reports from OpenDataSoft. A report from the National Institute of Health (NIH) will be utilized to correlate carbon dioxide density and cognitive function.

The data will then be processed using pandas, NumPy, and matplotlib in Python to use computational calculations to provide comprehensive, empirical correlations. The correlation between energy consumption and CO<sub>2</sub> concentration can be found when processing the results after gathering data from accredited sources.

However, the data needs to be corrected accurately to correlation as CO<sub>2</sub> concentration is cumulative, while energy consumption data is not. So, the data needs to be integrated concerning the time differential. Code for the integration and graphing can be shown on GitHub. This was also done to measure volcanic eruption activities with CO<sub>2</sub> concentrations.



Alas, there are two strong correlations between CO<sub>2</sub> concentrations with cumulated energy consumption. However, compared to the cumulative number of erupted volcanoes, there is a correlation paradigm compared to causation. Because of this paradigm, there exists the capability to argue a correlation between energy consumption and CO<sub>2</sub> levels, as well as a correlation between volcanic eruptions and CO<sub>2</sub> levels. Both correlate with CO<sub>2</sub> levels. Another concept is survivorship bias, where technological advancements and the increasing growth of data-gathering cause inadequate coincidences of deferred accurate data compared to a lack of technical capabilities in the past. It is important to note that this problem is essential to be solved, as carbon dioxide levels increasing from 315ppm in 1960 to 422ppm in 2024 (NASA) correlates to decreased cognitive capabilities of humanity and all species alike (NIH).

## Conclusion

Studying and pinpointing the root cause is crucial to a system that can be threatened for a century in the future. Therefore, the research is not to be in vain, as the data being collected is paramount for a better understanding of the earth. Society may not understand the root cause of a

problem, but it is up to scientists, with the rest of humanity, to solve the depths of concurrent issues faced.

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