Global CO_2 Emissions in 1997

true true true

Abstract

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Background

Carbon Emissions

Carbon emissions refer to the release of carbon, particularly carbon dioxide (CO_2), into the atmosphere. This process primarily occurs through the burning of fossil fuels such as coal, oil, and natural gas, as well as through deforestation and various industrial processes. CO_2 is a greenhouse gas, meaning it traps heat in the Earth's atmosphere and contributes to the greenhouse effect, which leads to global warming and climate change.

In our report we are trying to understand the trend of the atmospheric CO2 by asking the following research question:

> *Is there a significant upward trend in atmospheric CO2 levels over time?*

Null Hypothesis

There is no significant upward trend in atmospheric CO2 levels over time. $H_0 : \beta_1 \leq 0$ Where: β_1 is the trend coefficient over time in a linear regression model of the form $CO2_t = \beta_0 + \beta_1 \cdot t + \epsilon_t$. $CO2_t$ is the atmospheric CO_2 level at time t.

Measurement and Data

Measuring Atmospheric Carbon

Historical Trends in Atmospheric Carbon

Models and Forecasts

Linear Models

ARIMA Models

Forecasts

Conclusions

Refrences