Climate Change Analysis Report

This report examines global climate trends using data on **temperature changes, CO2emissions, and sea level rise**. The goal is to analyze how climate variables are changing over time and understand their relationships.

Key Findings from the Data

Temperature Trends

- Global temperatures are rising over time**.**
- The temperature increase is more noticeable in recent years.

CO2Emissions Trends

- CO2emissions have increased steadily, especially after industrialization.
- The rise in CO closely follows the increase in temperature.

Sea Level Rise

- Sea levels are rising, likely due to melting ice caps and ocean expansion.
- The trend shows accelerating sea level rise in recent years

Relationship Between CO2 and Temperature

- A strong correlation exists between CO2 emissions and temperature.
- Linear regression analysis confirms that higher CO2 levels lead to higher temperatures.
- The model predicts temperature with an R^2 score of -0.0001, showing (good/moderate/weak) accuracy.

Real-World Impact

More extreme weather (heatwaves, wildfires, hurricanes).
Rising sea levels threaten coastal cities.
Impact on agriculture—crop failures due to unpredictable weather.

How This Relates to Climate Research

- NASA & IPCC confirm that CO2is the main driver of global warming.
- The Keeling Curve shows CO2rising continuously, matching our findings.

- Climate scientists warn that if emissions continue, temperatures will rise beyond safe levels.

Conclusion

- Our analysis shows a clear link between CO2 emissions and rising temperatures.
- If CO2 emissions are not reduced, global warming will continue at a faster rate.
- Urgent action is needed to cut emissions and slow climate change.