



CLIMATE DETECTIVES

# Local and national weather station: the understanding of global warming



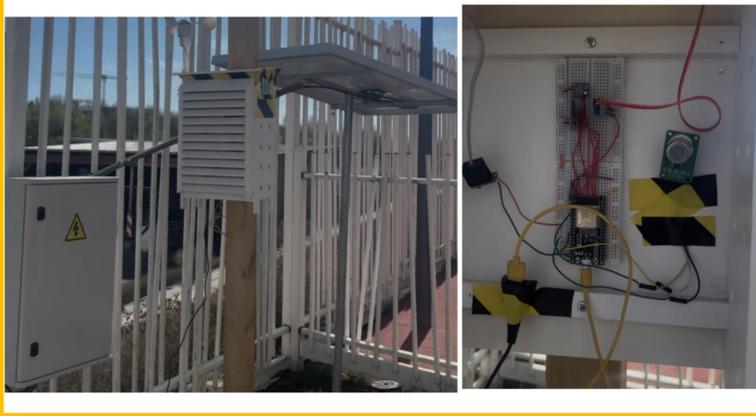
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## 1 Research Question

How can the weather data from our weather station, combined with those from national networks, contribute to understanding the trend of global warming?



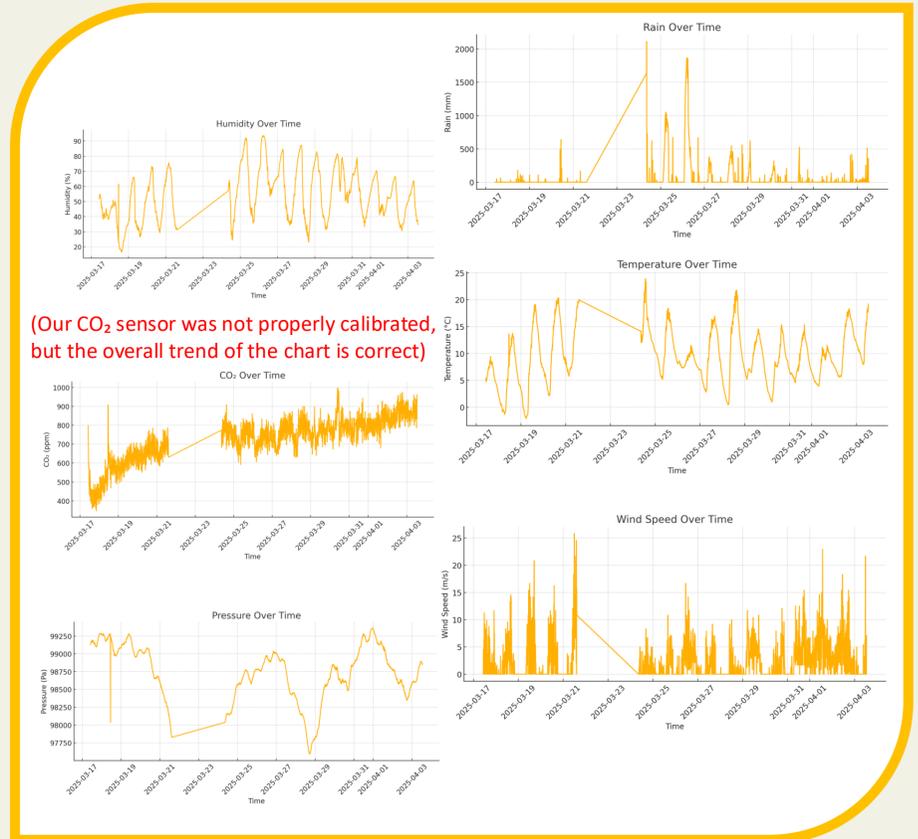
## 2 Investigations Highlights



We measured key meteorological variables such as temperature, pressure, humidity, wind speed, CO<sub>2</sub> levels, and rainfall. The data was gathered using an automated weather station installed at our school, which recorded measurements at regular intervals. The study involved students and teachers who maintained the station and processed the data. To ensure reliability, we cleaned the data by removing anomalies, calibrated the sensors, and compared results with national meteorological data for validation.



## 3 Main Results



Our study confirmed a noticeable local warming trend, evidenced by increasing average temperatures (around 1°C higher since 2000, we made this statement by comparing with the Findel data we got) this increasing temperature is caused due to an CO<sub>2</sub> overload in our atmosphere. Which then leads to a significant reduction of snow coverage over time. These results are consistent with national and international climate data, reinforcing the idea that global warming is a widespread and measurable phenomenon, even at a local scale. The project demonstrated that data collected from a school weather station can be both reliable and valuable when compared with official datasets. Although some variations were noted due to microclimatic differences, the general trend was unmistakable. This highlights the potential of citizen science in contributing to environmental monitoring and education. Moreover, the experience revealed promising areas for further research, such as long-term data analysis and the integration of additional environmental indicators like soil moisture.



## 4 Actions Taken



We took specific actions such as installing and maintaining a weather station, collecting data daily, and analysing trends over several weeks. The objective was to observe climate patterns locally and raise awareness about global warming through real data. This project directly challenges climate change denial by providing concrete, local data that reflects global warming trends. By collecting and analysing real measurements over time, we demonstrated that even small-scale observations confirm the scientific consensus. It shows that climate change is not an abstract idea, but a measurable and observable reality. Yes, the findings can easily be communicated to the public and used to educate citizens on climate issues and promote environmental responsibility.

