# Spring 2024 GLOBE Workshop: Atmosphere Changes during the Solar Eclipse in Charleston, SC

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#### Abstract:

On April 8, 2024, Charleston, SC experienced a partial solar eclipse that impacted air temperature. The air temperature was 6 degrees C lower during the partial eclipse.

## **Background Information:**

The energy from the Sun warms up our planet. When there are changes in the amount of sunlight we get, there are also changes in the air temperature, clouds, and wind. A total solar eclipse occurs when the Moon blocks the Sun completely, as on April 8, 2024 in North America. This research was conducted at Charleston, SC, which experienced 69.7% eclipse cover at 3:10 pm ET.

#### **Research Question:**

How does air temperature change during a solar eclipse?

#### Claim/Hypothesis:

As the Sun gets blocked by the Moon, the air temperature drops.

Dataset: https://docs.google.com/spreadsheets/d/13 Frtqt6GMqx25\_NmtOS90QuN0y19Wqw3LPXO4Rx2XE k/edit?usp=sharing

# Graph



#### **Evidence/Conclusions:**

The measurements made with liquid-filled thermometers in the Aquarium showed that the temperature decreased one degree from the time that we started measuring to the time of maximum eclipse, and then the temperature increased about 6 degrees C.

#### Next Steps/Future Research:

In future research, I would have a full team dedicated to making temperature measurements to have more data for a more impactful analysis to compare with other eclipses like 2017.

## Bibliography/Sources:

The GLOBE Program. *GLOBE Educator One-Week Pacing Guide: Experiencing a Solar Eclipse*. https://www.globe.gov/documents/18527/37661214/Solar+Eclipses

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