



# Phenology Campaign Project

## 12/5/2024



# How does climate change affect plants?

Air pollution can affect cloud formation.

# How does air pollution affect cloud formation?

Depending on the climate it can be both beneficial and not . It forces plants to migrate and will go extinct.



# Discussion

We had use a green board to put information in like what kind of tree you is examining see how the tree leaves color is reacting over time some had color changes some didn't. We also had examined on the weather september - october.



# List of Materials

We used a green board, leaves, thermometer, markers, glue, color carnation, cardboard, camera, and a smart board.



[illegible][illegible]



# Research Trees





# Research Trees





# Abstract

Our research focuses on the impact of climatic variations on the phenological changes in tree foliage. Since August, our team has been systematically collecting and analyzing data regarding the color transformations of tree leaves throughout the changing seasons. Our observations indicate a significant correlation between temporal changes and the color dynamics of the leaves, revealing notable shifts as we progress through the months. This study aims to enhance our understanding of the interplay between climate patterns and ecological responses in forest ecosystems.



# Introduction

The Phenology Campaign Project focuses on the relationship between Earth's climate and the changes observed in tree leaves. Our team has been actively gathering data and capturing photographs of various trees to analyze how their leaves undergo color transformations throughout different seasons. By studying these changes, we aim to understand the broader implications of climate variations on tree phenology. This project not only enhances our knowledge of ecological patterns but also raises awareness about the impacts of climate change on our natural environment.



# Discussion

Discuss their observations of temperature impact on plant life (specifically tree leaves).

Discuss if their observations support their assumptions.

Prepare a summary of the data results.



# Globe Badge Descriptions

## Student Researcher

All students who submit a report to the IVSS receive a badge.

## Data Scientist

Students discuss limitations of the data, make inferences about past, present or future events; or use data to answer questions or solve problems in the represented system.



# Globe Badge Descriptions

## Earth Scientist

The research team clearly explains the dynamic and interconnected nature of Earth's systems and the processes that influence and depend on one another.

## Problem Solver

Students learn how they can be part of possible solutions to problems through investigating.

## Collaborator

All team members are listed.





Raw Data



# Artificial Surfaces Data

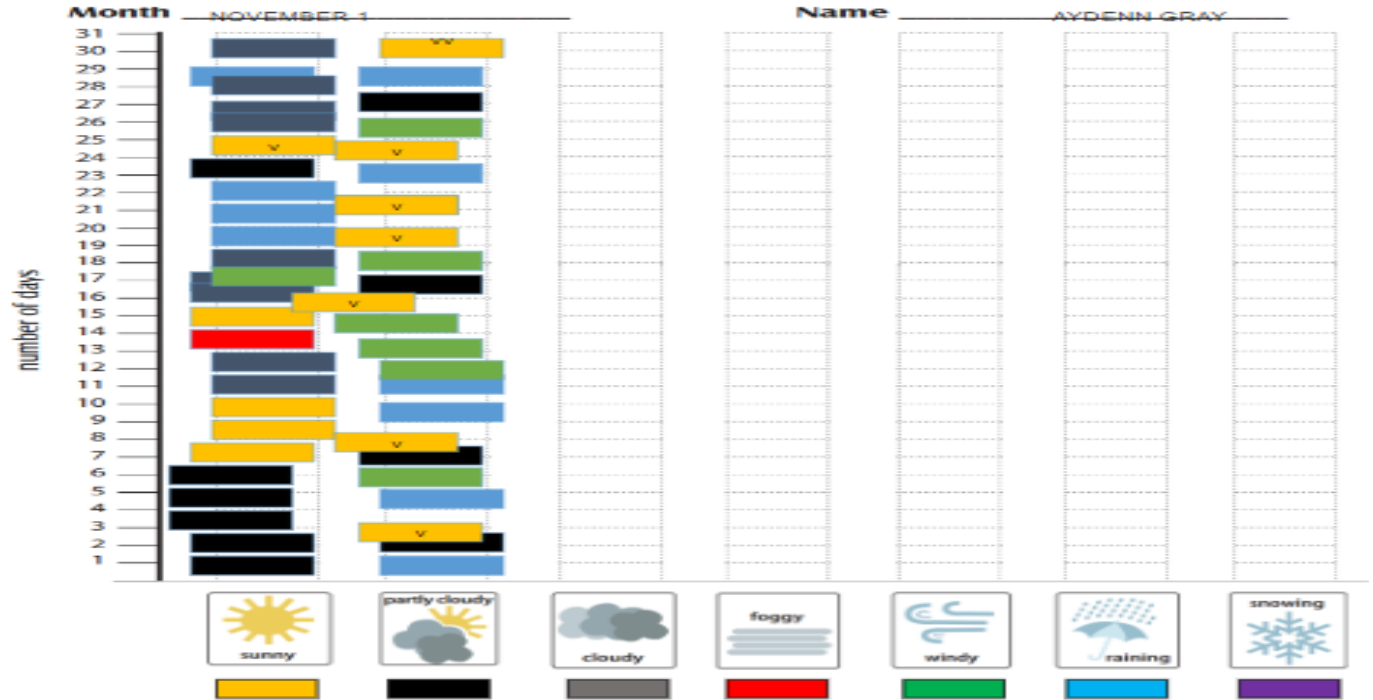
<https://docs.google.com/spreadsheets/d/1dSE4eF6ckYkjO9I-rEqAXDL38rRPA73L5JHrMZ1sWzo/edit?gid=0#gid=0>



# Cloud Data



# Raw Cloud Data





# Cloud Raw Data

[https://docs.google.com/spreadsheets/d/1Jm2CJECJEA-Bq4Yk0z6TuCxIABCE-TkMKAJypTwG\\_KMw/edit?gid=397587041#gid=397587041](https://docs.google.com/spreadsheets/d/1Jm2CJECJEA-Bq4Yk0z6TuCxIABCE-TkMKAJypTwG_KMw/edit?gid=397587041#gid=397587041)



# Surface Temperature Raw Data



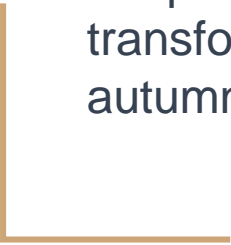
# Surface Temperature Raw Data

[https://docs.google.com/spreadsheets/d/1rm\\_OL4kG3luLWRYhC\\_-TTrbb5WZb2dEs8\\_rayD7IYcA/edit?gid=392621559#gid=392621559](https://docs.google.com/spreadsheets/d/1rm_OL4kG3luLWRYhC_-TTrbb5WZb2dEs8_rayD7IYcA/edit?gid=392621559#gid=392621559)





# Summary



In October, the average and median air temperatures experienced a notable decline compared to those recorded in September. This temperature fluctuation had a profound effect on flora, resulting in a transformation of tree foliage from a vibrant army green to a palette of autumnal hues, including shades of orange, yellow, and brown.





# Bibliography

Dallas, Lisa. "The Globe Program." <https://www.globe.gov/globe-data/retrieve-data>. 18, November 2024.

