

# Group No: 13 The Climate Change Project (Landsat 7 Collection 1 Tier 1 8-Day NDVI Composite)

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## Introduction

A century and half of industrialization, deforestation, and large scale agriculture has deeply affected our environment

We focused on the 'vegetation' attribute of environment by doing data analysis of NDVI values collected from Google Earth Engine for the past 20 years to quantify the impact of climate change on our environment

## Objective

Data Analysis and Predicting NDVI for upcoming years using various ML Algorithms to understand changes in Vegetation across the country

Justify whether Climate change is myth or not

## Tools

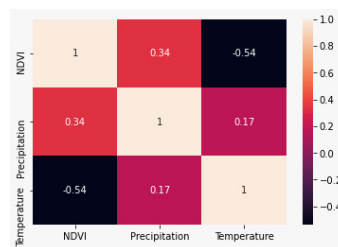
Numpy library  
Pandas library  
Matplotlib library  
Seaborn library  
Scikit-learn library  
Statsmodels library  
Geopandas library

## Dataset

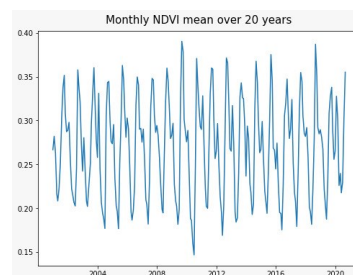
1. Landsat NDVI : Vegetation
2. NEX\_Precip : Precipitation
3. MOD11A1.006 Temperature and Emissivity : Precipitation

## Result

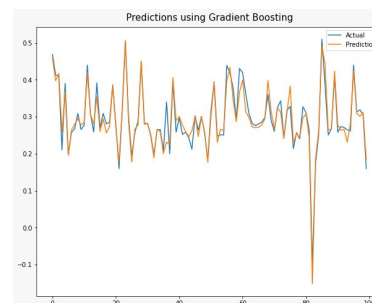
Heatmap representing Correlation between the three variables NDVI, Precipitation, Temperature



A seasonal Trend is observed over NDVI mean



ML model trained on previous data to predict upcoming years



## Conclusion

Climate Change is not a myth.

Green house gases, Global warming, Pollution interlinked with each other finally resulting in increase in temperature.

Max Temperature and NDVI have strong negative correlation. One of the best and beneficial method is to increase our vegetation cover