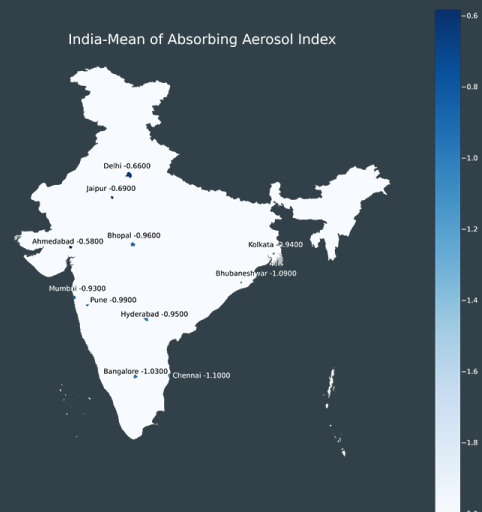


CLIMATE CHANGE PROJECT

Introduction

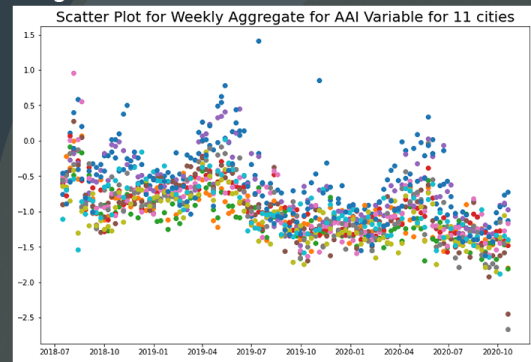
Aerosol Optical Depth (AOD) is a measure of the extinction of the solar beam by dust and haze. In other words, particles in the atmosphere (dust, smoke, pollution) can block sunlight by absorbing or by scattering light. AOD tells us how much direct sunlight is prevented from reaching the ground by these aerosol particles.



The AOD values per major cities of India are plotted. It is observed that Delhi and Ahmedabad are the most affected regions with AOD mean values 0.66 and 0.58 respectively. This signifies the deteriorated climatic condition in these regions.

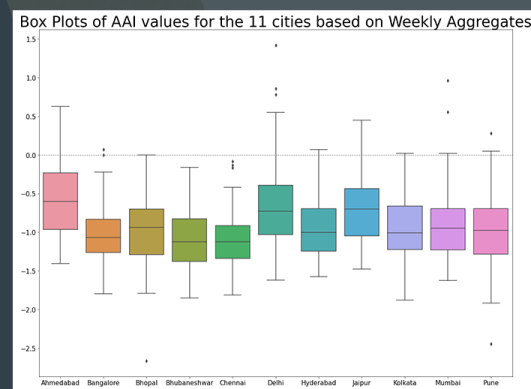
Scatter Plot

Scatter plot of weekly aggregates of all the cities show a seasonal trend signifying peaks in summer and troughs in winter.



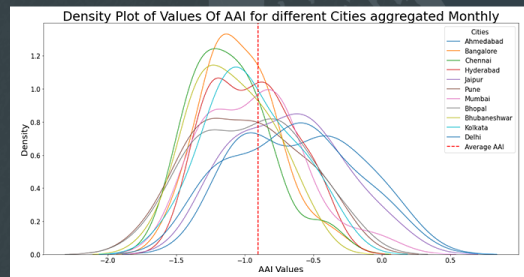
Box Plot

This shows the spread of the AAI values of various cities.



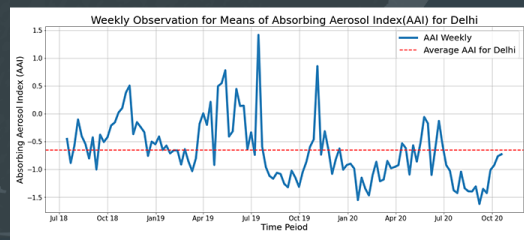
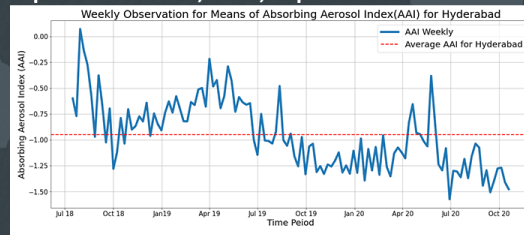
Density Plot

Density plot shows the frequency distribution and signifies the extension/tail of values above 0.0 for cities like Delhi and Ahmedabad.



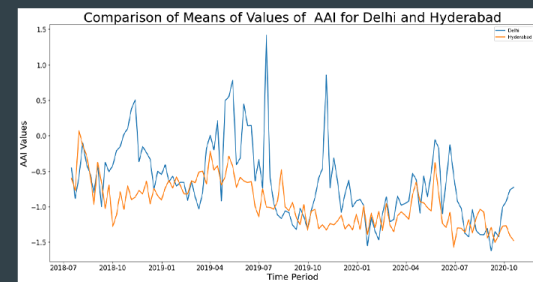
Based on the analysis cities are divided into 2 groups
Grp 1 : Hyderabad, Bangalore & rest of the cities

Grp 2 : Ahmedabad, Delhi, Jaipur

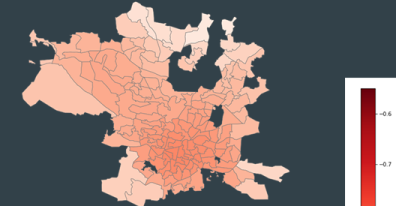


Comparison

Both cities are randomly chosen, one from each group, for a regional comparison. The graph below shows the variation of AAI and the chlorophyll signifies the intensity of AAI values in the chosen cities.



Hyderabad- Ward Wise Mean of Absorbing Aerosol Index



Delhi- Ward Wise Mean of Absorbing Aerosol Index

