

Analysis Report

Conclusions:

- Temperature Fluctuations Over Time (2005-2014):
 - A line graph represents the significant ups and downs in record high and low temperatures throughout the year. This space between these two temperatures emphasizes their variability, revealing how far apart each day's temperature can be.
- The 2015 Temperature Records:
 - The scatter plot for 2015 data shows a few points where temperatures exceeded their historical records from 2005 through 2014. This is indicative of remarkable temperature anomalies and possible climate changes.
- Leap Day Removal:
 - Therefore, by not including leap days in the dataset, it ensures that temperature results are consistent and comparable among different years so as to avoid any bias resulting from an extra day.
- Weather Stations' Locations on a Map:
 - This map visualization demonstrates weather stations near Ann Arbor, Michigan, giving useful geographic context regarding distribution and density of temperature recording stations within this region.
- Summary of Temperatures in 2015:
 - This summary plot highlights the main temperature trends and outliers for that particular year which can then be compared directly with historical data to determine if there were abnormally hot or cold patterns experienced in 2015.

Insights and Observations:

- There is a lot of variation in the temperatures recorded, with some days having high range temperature than others. This is important to know about the extreme temperatures that are experienced during different seasons.
- The data points for 2015 that exceeded former records might suggest a climate change or anomaly worth investigating further on.

- Mapping out these weather stations aids in understanding how such temperature data is distributed geographically thereby helping locate and analyze regional climatic patterns.
- Eliminating this extra day allows for a more accurate analysis as such comparisons and trends are based on consistent information.