

Project: Explore Weather Trends

A. Outline of steps:

1. SQL query was used to explore the database and extract temperature data for both global and San Jose (United States) into csv files. (see attached sql files)
2. Temperature data from year 1849 to 2013 of both Global and San Jose were combined in a single Excel spreadsheet for analysis. This time range of 1849–2013 was used because both Global and San Jose have available data in the original database for this time range.
3. 10-year moving average temperature was calculated for both Global and San Jose data using Excel. A 10-year moving average was used for data visualization because it smooths the data, but also keeps enough details of the information.
4. A line chart comparing the trends of both Global and San Jose temperature was generated in the Excel spreadsheet using different colors and legends for easy comparison. The temperature is the y axis and the year is the x axis. The line chat is showed below:

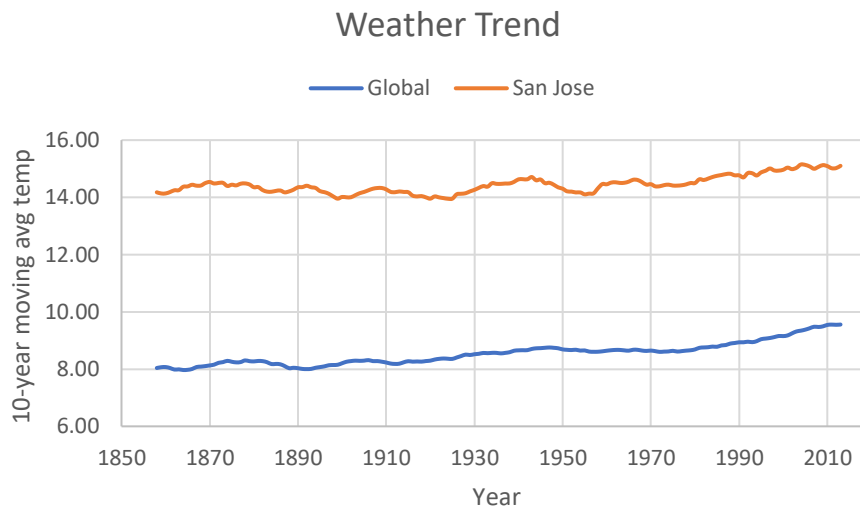


Figure 1. Comparison of the 10-year moving average temperature between the Global data and Local data of San Jose from 1849 to 2013.

B. Observations on the Weather Trend line chart:

1. Figure 1 clearly shows that San Jose is about 6 degrees hotter than the global average temperature over the 164 years from 1849 to 2013. This difference has been consistent over time.
2. The temperature of San Jose is varying within a range of 0.5 degree from 1849 to 1960 with obvious overall increase. However, there was a continuous increase from 1960 to 2013. The world average temperature shows similar trend but shows a continuous increase since as early as 1910.
3. The overall trend of both global and local temperature in San Jose shows an increase of temperature of about 2 degrees over the past 164 years. This suggests that the world is getting hotter and this trend is consistent over the past 164 years.
4. Another observation is that the temperature variation in San Jose is larger than that of the global average temperature.