Weather trend
Comparison of Pune average temperature to global average temperature

Contents

Synopsis

In this project, I will analyze local and global temperature data and compare the temperature trends of the city (Pune) near to the city (Mumbai) where I live to overall global temperature trends.
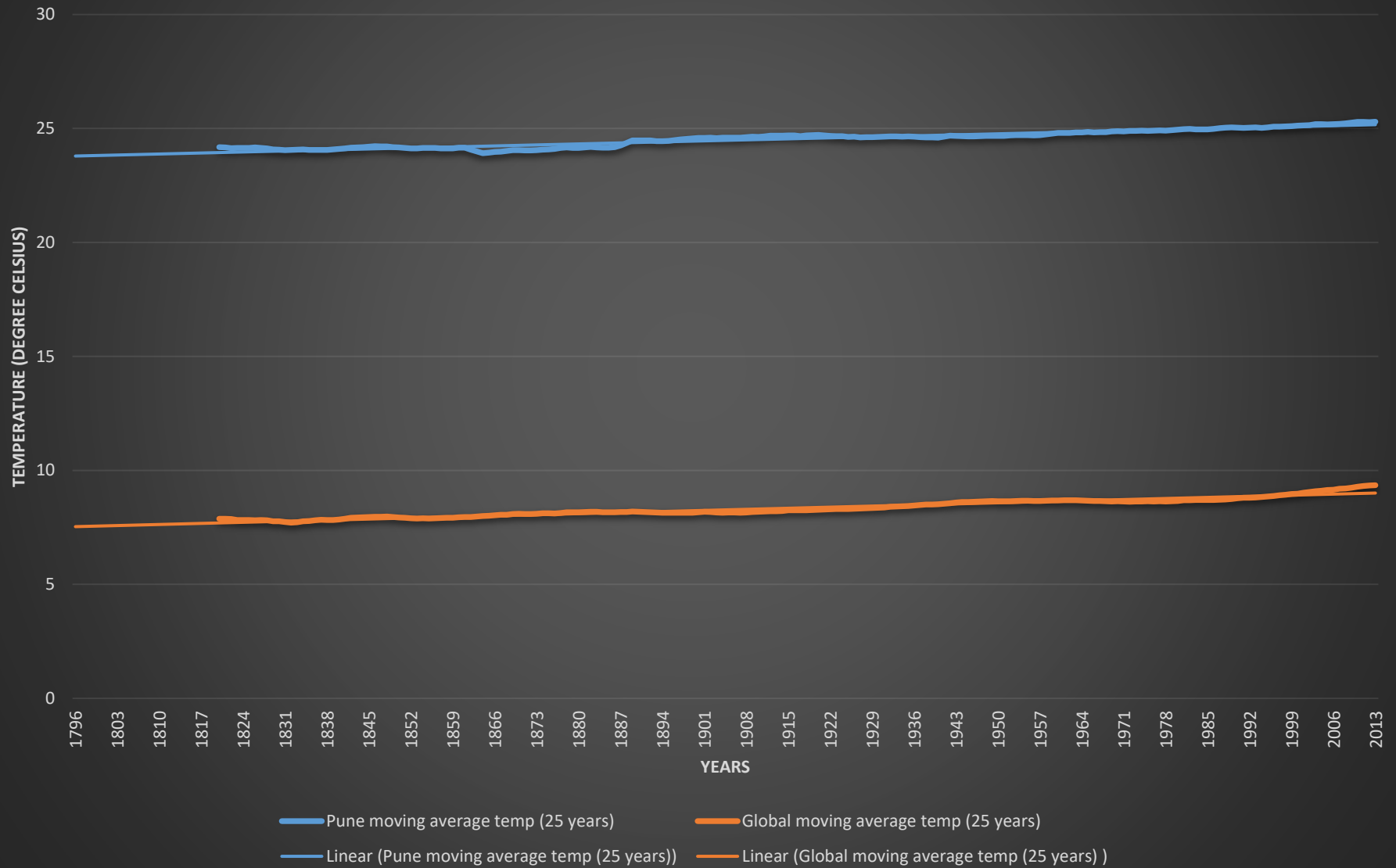
SQL queries used to extract data from the data base.

1) SQL query to know the list of cities from India in database to select the city closest to the city where I live.

> SELECT city
>
> FROM city_list
>
> WHERE country= 'India'

2) SQL query written to get data of average temperature of the city PUNE and then the data was exported to CSV file and then downloaded it in excel file.

> SELECT year, avg_temp
>
> FROM city_data
>
> WHERE city = 'Pune'

3) SQL query used to get data of average global temperature and then the data was exported to CSV file and downloaded it in excel files.

> SELECT year, avg_temp
>
> FROM global_data

4) Then the moving average of 25 years were calculated using the formula in excel file. Eg Formula = average (B26:B2)

Observations

1) The average temperature of Pune is higher than the average global temperature.
   - Taking the moving average of first 25 years in to consideration of both Pune and global average temperature, average temperature of Pune is 33% higher than the global average temperature.
   - Pune is hotter compared to many cities around globe. Few reasons are listed here:
   - Pollution: Pune has four times more polluted air than the standards set by the World Health Organisation (WHO). Ritwick Dutta, a noted environment lawyer and managing

trustee of the organisation legal initiative for forest and environment who has been creating awareness about the national clean air programme (NCAP), sounded the alarm with air pollution-related statistics. He said, " Pune is already showing four times WHO standards of air pollution. What this city requires is at least 30 continuous air monitoring stations, while it currently has only five.*

*   https://www.hindustantimes.com/pune-news/puneites-breathe-air-that-is-4x-more-dangerous-than-normal/story-gAw1WuKh1Z5ZnswPtMsGtK.html

- Its proximity to the equator: Distance between Pune, India and the Equator-2062km=1281miles

2) From the line graph and moving average one can observe that there's gradual linear growth in both Pune's average temperature and global average temperature.
3) One can observe no significant increase in the difference of the average temperatures of Pune and other cities around the globe. (Column 'H' Moving average temperature of the difference between average temperature of Pune and globe)
4) World is becoming hotter and there's a gradual increase in the global average temperature.
- The difference between the average temperatures in 1970 and 2013 is of 1.6 degree Celsius and its impact is huge on the environment.