DATA ANALYST NANODEGREE -Project 1

Explore Weather Trends

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Overview

I have been provided the global temperature data in the Udacity portal from where I have extracted the temperature data associated with the closest big city to where I live i.e. Los Angeles. I have analyzed the extracted data with the global data to see trends using graphs.

Goals

- View the city and country list from the ‘city_list’ database
- Extract the city level data from the from the closest big city that you live in from the ‘city_list’ database
- Extract the global temperature data from the ‘global_data’ database

Tools Used

- SQL Queries
    - To view and extract data
- Google Sheets and Google Docs
    - To calculate the moving averages
    - To plot the line chart
    - To document the writeup

SQL Queries

1. To view the closest big city near I live

```
SELECT * FROM city_list
WHERE country = ‘United States’
```

2. To extract the city level data

```
SELECT * FROM city_list
WHERE country = ‘United States’
AND city = ‘Los Angeles’
```

3. To join the city level data and global data based on the common field and download the file as ‘results.csv’

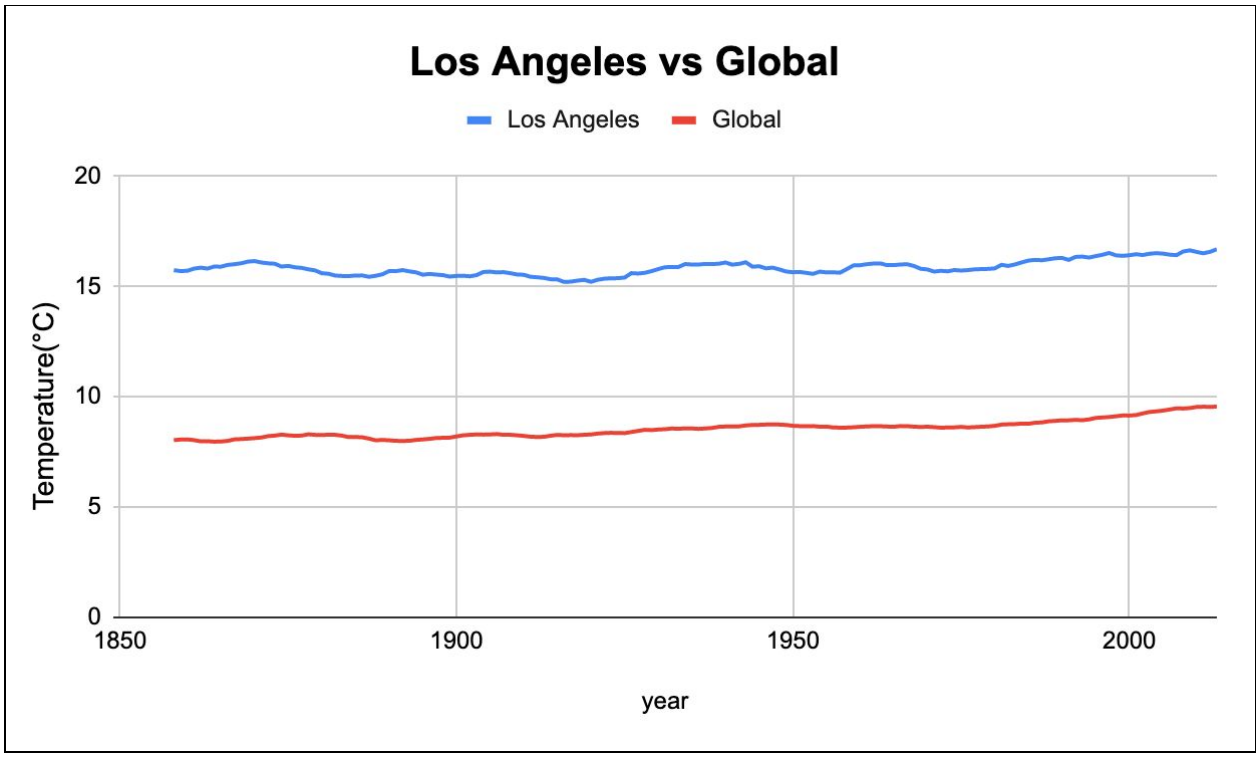
```
SELECT city_data.avg_temp as city_avg_temp,
global_data.avg_temp as global_avg_temp, global_data.year
FROM global_data
JOIN city_data
ON global_data.year = city_data.year
```

```
WHERE country = 'United States'
AND city = 'Los Angeles'
```

Calculate the Moving Averages

In order to smooth out the lines and make trends more observable, I have calculated the moving average value over the 10 years. I have used the average function =AVERAGE(B2:B11) to calculate the moving average values.

Below is the line chart to represent the moving average temperature of Los Angeles vs Global over the 10 years.



Observations

- There is a big difference between the moving average temperature of Los Angeles and Global
- Los Angeles has higher temperature than that of Global
- Los Angeles moving average temperature over 10 yrs ranges from 15.12 °C to 16.70 °C
- Global moving average temperature over 10 yrs ranges from 7.97 °C to 9.56 °C

- Los Angeles has fluctuations in the temperature over the years but has gotten hotter over the years. Global temperature has increased gradually while peaking after 2000. In conclusion, the world is getting hotter over the years.