Exploring Weather Trends between local and global temperature

Imtiyaz Sharif

Prerequisites

SQL – to access the database with specific query

Google Sheets – To calculate the average of the moving average temperature between the global temperature data and city data nearest to me (London).

SQL

To collect the set of data an SQL query had to be created in order to extract exact sets of data that is selected from **[city_data]** that was provided by Udacity.

Inside the SQL query that was created, other queries were also attached in order for the query to pin point the exact set of information that is needed **[WHERE city = 'London' AND country = 'United Kingdom';]**

This will extract all relevant information that is going to give the temperature of United Kingdom and city being London.

Extracting data from **[global_data]** will also provide the temperatures globally that has been collected and imported within global_data that has been provided.

Exporting the data to CSV, Excel was used to access the data which was then moved over to Google Sheets.

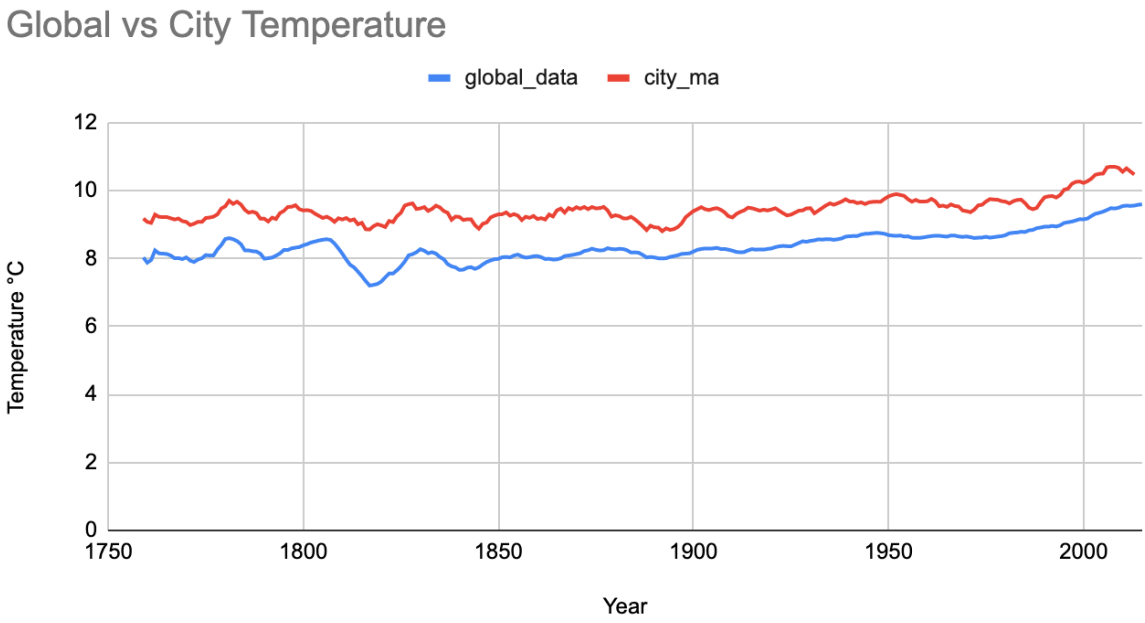
```
SELECT * FROM city_data

WHERE city = 'London' AND country = 'United Kingdom';

SELECT * FROM global_data
```

Google Sheets

Google sheets was used to open up the SQL queries being; city_data and global_data and calculating the average temperature between local (London) and global temperature, creating two columns that states the global data and city data by using the average function; **=AVERAGE(B2:B11**) and highlighting the relevant years that needs to be averaged. Then creating a line chart to analyse and compare the temperature trends.



Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?

The nearest city moving average temperature (London) is hotter than the global moving average temperature. After analysing the data within the line graph, the global temperature is lower than the temperature that is in the nearest city.

"How do the changes in your city's temperatures over time compare to the changes in the global average?"

Between the years 1800 and 1850 there had been a drop on the graph both average global temperature and city data (London) but not as much e.g., the global average moving temperature in the year 1850 is at 8.387°C and London is 9.414°C and after 50 years moving average global data's moving average temperature reduced to 7.988°C yet London reduced to 9.298°C which is 0.116°C.

What does the overall trend look like? Is the world getting hotter or cooler? Has the trend been consistent over the last few hundred years?

The moving average temperatures in the last 200 years are getting hotter despite the average temperature globally being cooler in general, In the years 1800 – 1850 there was a big temperature drop and rise within the 10 years compared to the years 1950 – 2000 the temperature had increased;

Year 1800

Global Moving Average Temperature – 8.387 °C

Year 2000

Global Moving Average Temperature – 9.153 °C

The last 200 years the global average moving temperature had a slow increase by 0.766°C.

Conclusion

Overall, the global weather trend had been increasing slowly over the last 250 years but not a dramatic increase but between the years 1800 -1850 there was a big decrease but over the years the graph and data has shown that the trend has been increasing consistently.