

Project 1 - Exploring Weather Trends

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1. Write a SQL query to extract the city-level data. Export to CSV.

First and foremost, I used this query to see if the city I was in was included in the city_list data.

The screenshot shows a SQL query interface with a schema on the left and a query editor on the right. The schema includes tables: city_data, city_list, and global_data. The query editor contains the following SQL code:

```
1 select *
2 from city_list
3 where city like 'Lagos%'
4
5
```

Below the query editor, there is a green bar indicating "Success!" and a blue "EVALUATE" button. The output section shows 1 result, which is a table with two columns: city and country. The result is:

city	country
Lagos	Nigeria

I was able to find the city, so I proceeded to extract the data from the city_data by writing this query

The screenshot shows a SQL query interface with a schema on the left and a query editor on the right. The schema includes tables: city_data, city_list, and global_data. The query editor contains the following SQL code:

```
1 select *
2 from city_data
3 where city like 'Lagos%'
4
5
```

Below the query editor, there is a green bar indicating "Success!" and a blue "EVALUATE" button. The output section shows 165 results, which is a table with four columns: year, city, country, and avg_temp. The results are as follows:

year	city	country	avg_temp
1849	Lagos	Nigeria	25.98
1850	Lagos	Nigeria	25.87
1851	Lagos	Nigeria	26.10
1852	Lagos	Nigeria	
1853	Lagos	Nigeria	
1854	Lagos	Nigeria	
1855	Lagos	Nigeria	
1856	Lagos	Nigeria	26.35

3. Write a SQL query to extract the global data. Export to CSV.

The screenshot shows a SQL query interface. On the left, under the 'Input' tab, there is a 'SCHEMA' section with a refresh icon and a list of tables: 'city_data', 'city_list', and 'global_data', each with a dropdown arrow. The main area displays a SQL query:

```
1 select *
2 from global_data
3
4
```

 Below the query, a green bar indicates 'Success!' and a blue 'EVALUATE' button is present. The 'Output' section shows '266 results' and a 'Download CSV' link. Below this, a table displays the results with columns 'year' and 'avg_temp'. The table contains 10 rows of data, with years ranging from 1750 to 1757 and average temperatures ranging from 5.78 to 9.02. At the bottom, there are 'Menu' and 'Expand' icons.

year	avg_temp
1750	8.72
1751	7.98
1752	5.78
1753	8.39
1754	8.47
1755	8.36
1756	8.85
1757	9.02

Open CSV

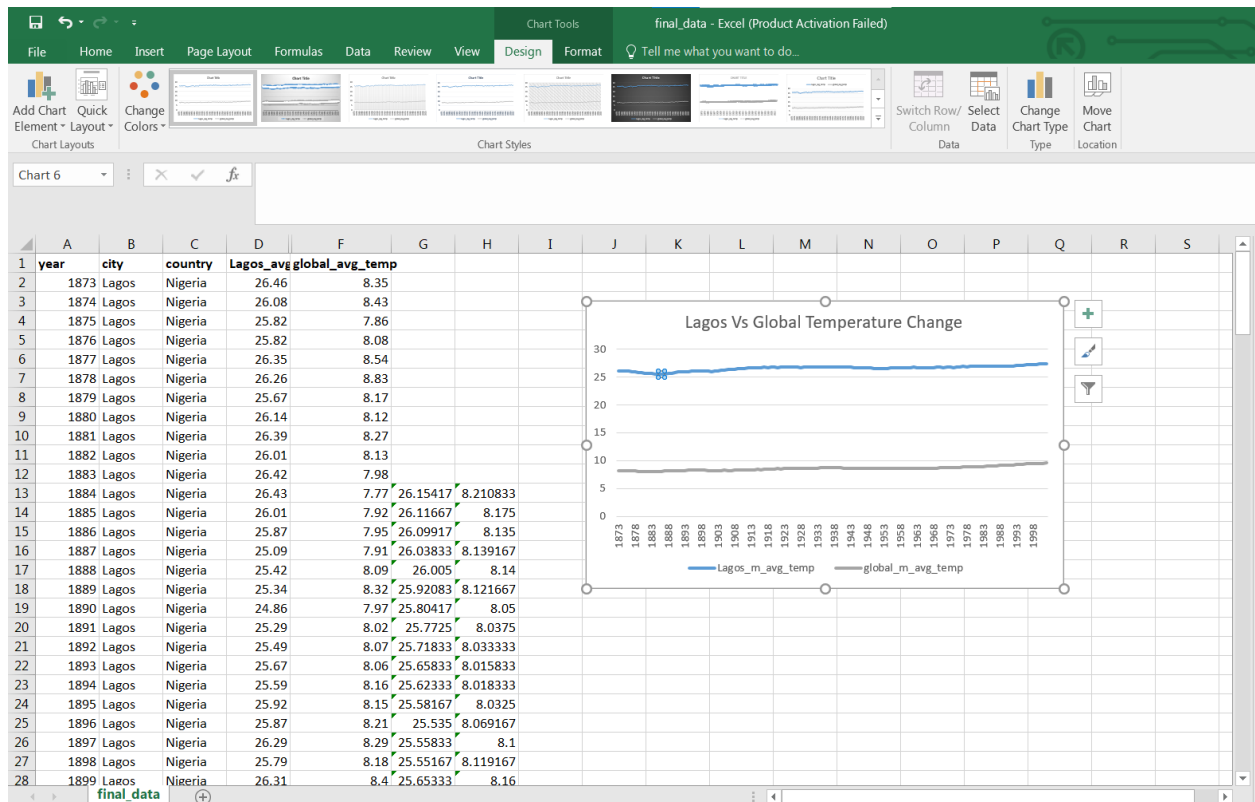
After opening the Lagos_data CSV FILE and the global_data CSV FILE:

- I moved the lagos_data to a new spreadsheet
- The global_data file started from year 1750, but the lagos_data file started from 1849, so I copied the data from global_data starting from 1849 to the master sheet.
- I noticed some years were missing a lot of avg_temp, so I removed those data from the master sheet to have a cleaner data.

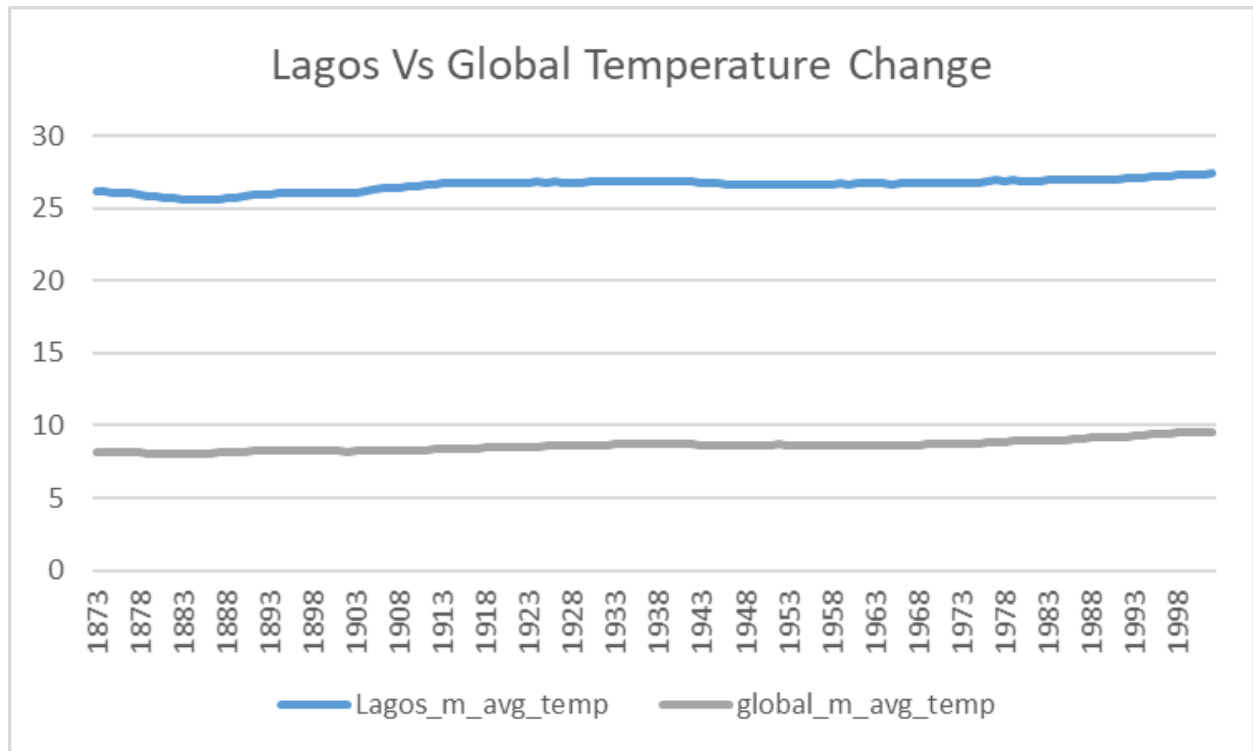
Create a line chart

To create this line chart, I plotted the moving averages `[=AVERAGE(D2:D13)]` and `=AVERAGE(F2:F13)` on an excel sheet in order to smooth out the lines, making trends more observable.

+ Project 1



The image below shows the chart generated.



Make observations

1. The weather in Lagos is warm when compared to the global average based on the fact that the temperatures have always been higher in the past couple of years
2. For both cases, there is an upward trend in the average temperature
3. On the Lagos average temperature chart we can see a spike in the increase of temperatures from the year 1911 at 26.95 degrees, which remained stable until 1994 when it hit 27.13 degrees.

4. In 2002, the global average temperature reached 9.55 degrees, while the lowest average temperature was 8.27 degrees in 1873. At Lagos, the highest average temperature was 27.39 degrees in 2002, and the lowest average temperature was 25.55 degrees in 1887.
5. I would conclude by saying the world is getting hotter over time.