

Project 01

**Explore Weather Trends for Port Harcourt, Nigeria and
New York, USA**

Name: Egwebe Oreva R.

Date: February 28, 2022

SQL QUERY

1. I used this SQL query for the database to get the average temperature for Port Harcourt and to remove null values from the data.

The screenshot shows a web-based SQL query editor. On the left, under the 'Input' tab, there is a 'SCHEMA' section with a list of tables: 'city_data', 'year', 'city', 'country', and 'avg_temp'. The 'city_data' table is selected. To the right of the schema is a text area containing a SQL query:

```
1 SELECT city_data.avg_temp, city_data.year
2 FROM city_data
3 WHERE city LIKE 'Port Harcourt'
4 AND avg_temp IS NOT NULL
5 ORDER BY year;
6
```

Below the query text is a blue 'EVALUATE' button. Below the input section, the 'Output' section shows '148 results' and a 'Download CSV' link. The output table has two columns: 'avg_temp' and 'year'. The first two rows of data are visible:

avg_temp	year
26.19	1856
25.16	1857

2. 1. I used this SQL query for the database to get the average temperature for New York and to remove null values from the data. I chose New York City because it's my favorite city and has a different climate from Nigeria.

The screenshot shows the same web-based SQL query editor. The 'city_data' table is still selected in the schema. The SQL query in the text area is:

```
1 SELECT city_data.avg_temp, city_data.year
2 FROM city_data
3 WHERE city LIKE 'New York'
4 AND avg_temp IS NOT NULL
5 ORDER BY year;
6
```

Below the query text is a green 'Success!' message and a blue 'EVALUATE' button. Below the input section, the 'Output' section shows '266 results' and a 'Download CSV' link. The output table has two columns: 'avg_temp' and 'year'. The first two rows of data are visible:

avg_temp	year
3.26	1743
11.66	1744

3. 1. I used this SQL query for the database to get the global average temperature and to remove null values from the data.

The screenshot shows a SQL query editor interface. The 'Input' section on the left contains a schema list with columns: avg_temp, city_list, global_data, year, and avg_temp. The main editor displays a SQL query:

```
1 SELECT *
2 FROM global_data
3 WHERE avg_temp IS NOT NULL
4 ORDER BY year;
5
```

Below the query, a green 'Success!' message is visible, and an 'EVALUATE' button is present. The 'Output' section shows '266 results' and a 'Download CSV' link. The output table has two columns: 'year' and 'avg_temp'. The first two rows of data are:

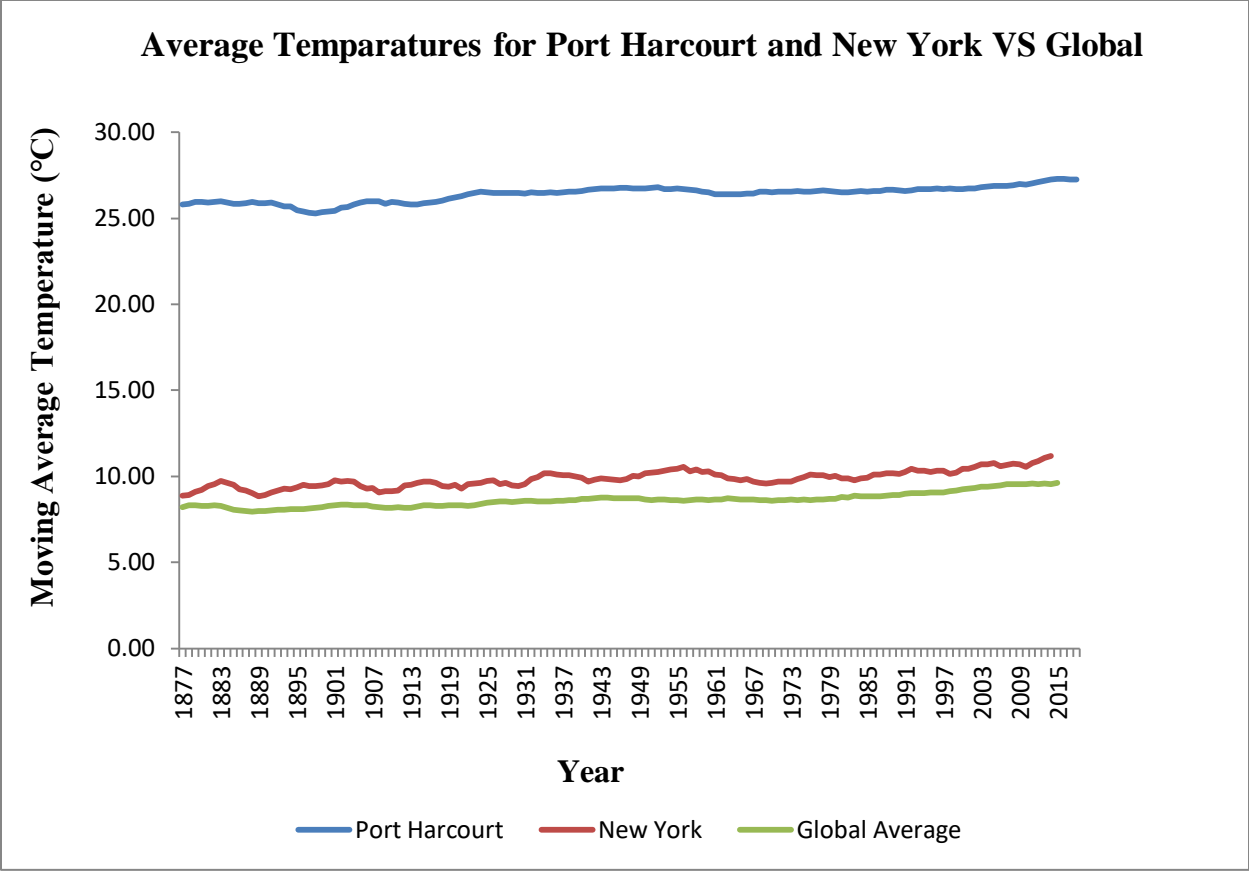
year	avg_temp
1750	8.72
1751	7.98

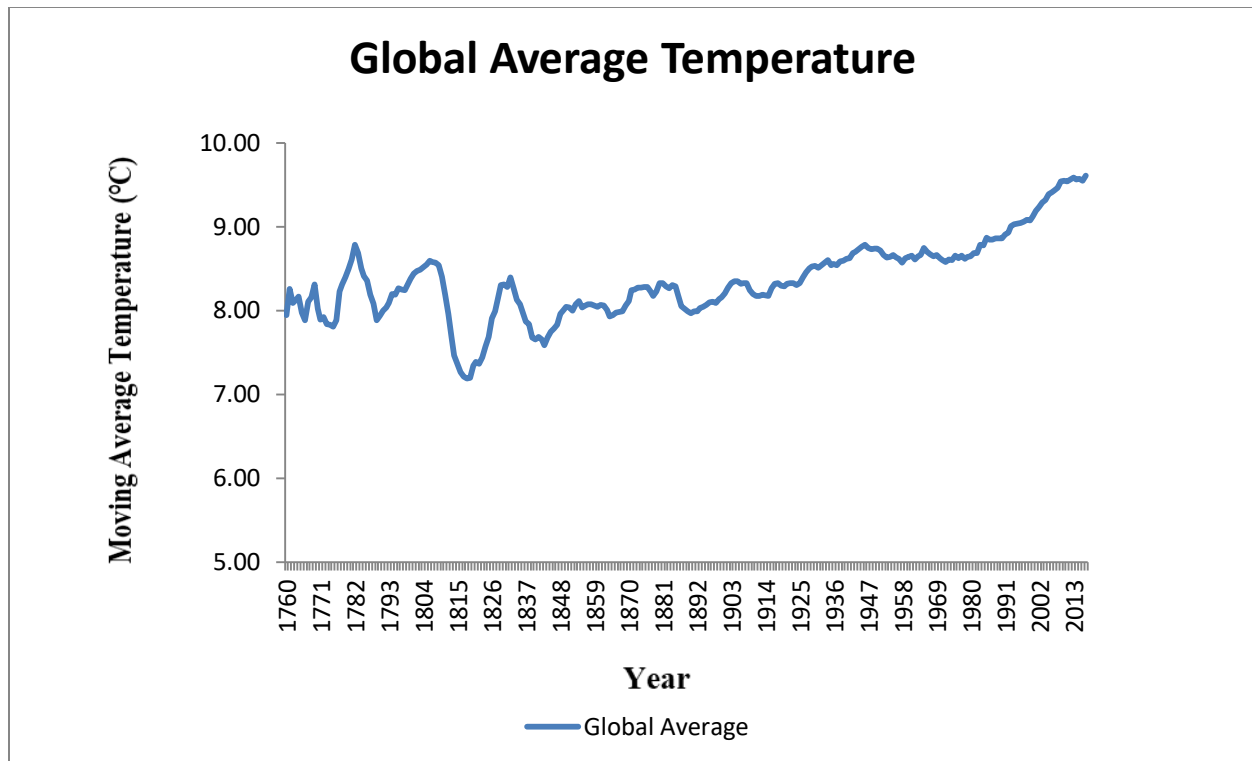
MOVING AVERAGE

I calculated the moving average of the average temperatures using Excel by calculating the average temperature for the first 7 years and then repeated the procedure throughout the data. This is done in order to smooth out the data and make the trends easier to observe.

VISUALIZATION

I plotted a line chart of the average temperature for Port Harcourt, New York and the global average temperature. The moving average temperatures was plotted on the y-axis and the year range on the x-axis





OBSERVATIONS

1. Port Harcourt is hotter when compared to the global average.
2. The global average temperature shows a steady rise since 1914 which supports global warming.
3. New York's average temperature has also been on a steady increase since in the past 2 decades despite having a colder climate.
4. New York's average temperature is slightly higher when compared to the global average temperature.
4. The overall trend of both cities shows that the world is getting hotter and this has been consistent over time.