Exploring Weather Trends

UDACITY DATA ANALYSIS NANO DEGREE
FIRST PROJECT

Mozoon allkadi

Project Overview

This project is about analyzing and visualizing the provided data about the global and Riyadh city weather trends as well as providing a description of the findings and observation.

USED TOOLS

- SQL to extract the needed data from the provided data set.
- Microsoft Excel to perform calculations and design visualization.

Steps

FIRST STEP: DATA EXTRACTION

I used SQL statements to extract the following data from the provided dataset

- Global weather temperature and years from the global_data table.

```
SELECT year,avg_temp
FROM global_data;
```

- Riyadh city weather temperature and years from the city_data table.

```
SELECT year,avg_temp
FROM city_data
WHERE city='Riyadh';
```

I exported the results as CVS files, then I combined the data in one sheet and removed the years before 1843 from the global data since the Riyadh records started from that year.

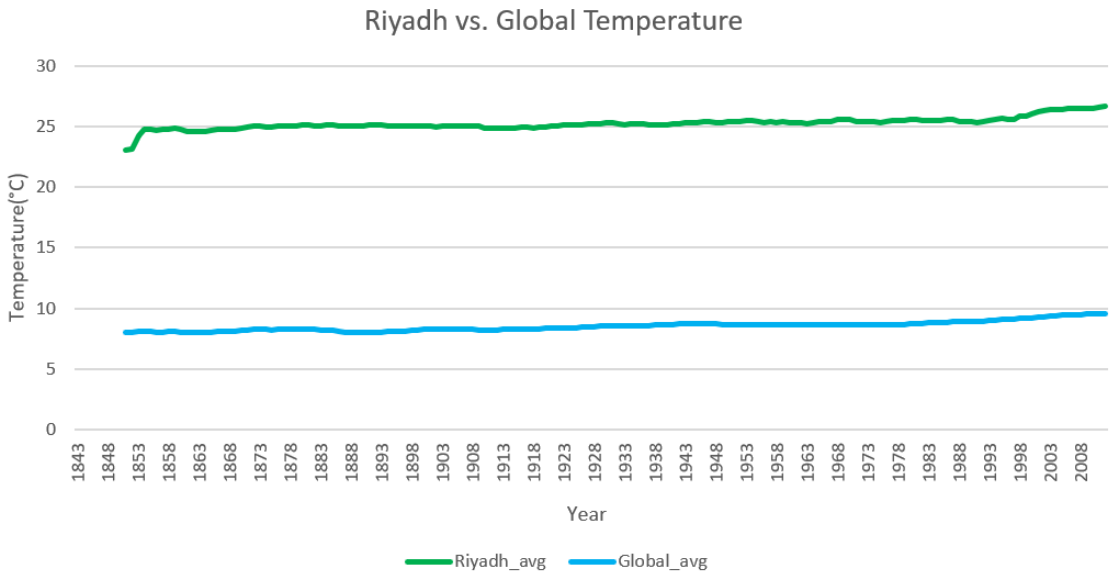
SECOND STEP: CALCULATING THE MOVING AVERAGE

I used the moving average to smooth out the data which helps to observe long-term trends in the visualization more clearly.

I decided to calculate the ten years moving average of each column by using the AVERAGE function in excel.

THIRD STEP: VISUALIZE THE MOVING AVERAGE

I created a line chart using excel visualization tools to visualize the moving average of the Global and Riyadh temperature as a line chart. This facilitates the comparison of Riyadh and the global average and the observation of the trends.



Observations

The chart clearly shows that

- Riyadh's moving average is higher than the global moving average.
- Riyadh's temperature is lower in the first years.
- Both Riyadh and global temperatures are increasing in the last years.
- The global moving average is smoother than Riyadh.