

# Explore Weather Trends

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## 1 Overview

In this project, we analyze local and global temperature data by using SQL to extract data from the temperatures database, And Excel worksheet to calculate the moving averages, Create a line chart. Then we will compare the temperature and trends in specific city to overall global temperature and trends.

## 2 Data

For our analysis, we have used data from the Udacity temperature Database [\[1\]](#). This database contains 3 schemas: city\_list, city\_data and global\_data. We extract the data by writing these queries:

```
select * from city_list where country= 'Saudi Arabia';  
select year, avg_temp from city_data where city = 'Riyadh';  
select * from global_data where year BETWEEN 1843 AND 2013;
```

To find the nearest city, retrieve the average temperatures for Riyadh city by year, And the average global temperatures by the same years. Then we download the result to CSV files.

## 3 Calculation

After pulling the intended data to Excel sheet, the 7 years moving averages are calculated in a new column to be used in the line chart, starting from the seventh year 1849 and by using the function AVERAGE ().

## 4 Visualization

After calculating the moving averages, we created a line chart that shows the years for the x axis and the temperatures for the Y axis, the red color represents the Riyadh moving average and blue for global average.

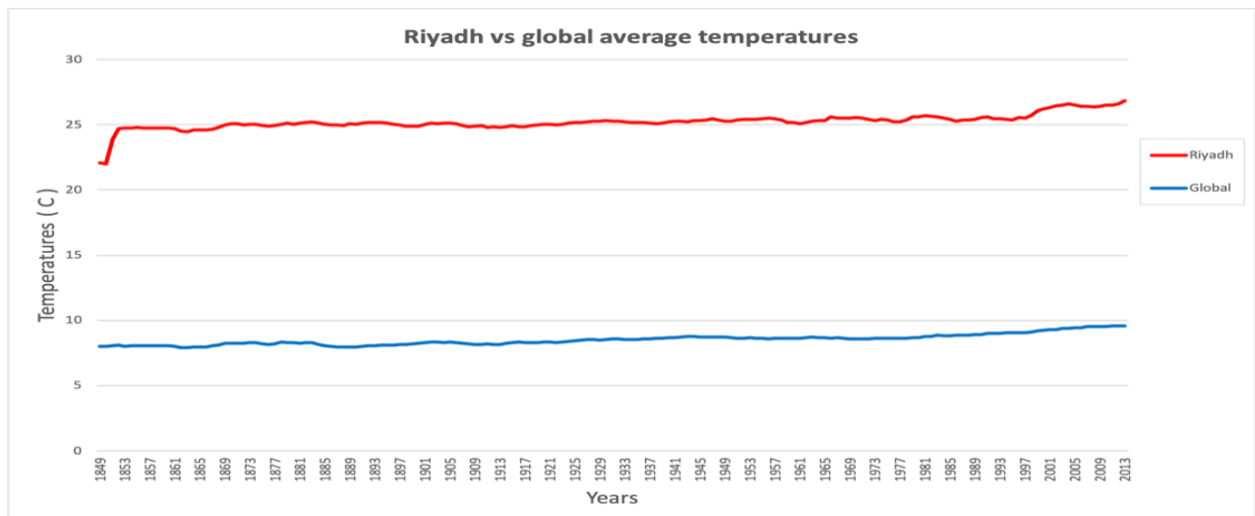


Figure 1: Temperatures in Riyadh city vs global temperatures, 1849–2013

## **5 Observations**

This graph show that Riyadh city temperatures is higher than global temperatures.

Riyadh temperature was the hottest between 2001-2013 by reaching more than 27.00°C.

The global temperature is likely range from a low around 7°C to a high of around 9°C.

Both of Riyadh and globally averaged temperatures have been rising over the time.

## **6 Bibliography**

[1] <https://www.udacity.com/>