

Explore Weather Trends



**Project for Data Analyst
Nanodegree by Odai Alsaliati 2021**



The Summary of Project

Based on the data included in the tables, we will analyze the data by visualizing it with graphs to compare the local temperatures in the Kingdom of Saudi Arabia and the global average temperatures.

Instructions :

- 1- Create a visualization and prepare writing describing the similarities and differences between global temperature trends and temperature trends in the city where I live
- 2- Extract the data from the database.
- 3- export the temperature data for the world as well as for the city where I live.
- 4- Make sure to plot the moving average rather than the yearly averages in order to smooth out the lines
- 5- observations about the similarities and differences between the world averages and my city's averages

Tools :

- SQL



- THE NUMBERS SPREADSHEET



STEPS:

- Extract data from city_data

```
SELECT year, avg_temp FROM city_data
WHERE country = 'Saudi Arabia' AND city = 'Riyadh';
```

- Extract data from global_data

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

- Join the two tables:

```
SELECT
  my_city.year,
  my_city.avg_temp AS avg_my_city_temp,
  global.avg_temp AS avg_global_temp
FROM city_data AS my_city
JOIN global_data AS global
ON my_city.year = global.year
WHERE my_city.city = 'Riyadh';
```

- Download CSV using 'Download CSV' button:

The screenshot shows a SQL query editor interface. On the left, a 'SCHEMA' panel lists tables: city_data, city_list, and global_data. The main editor contains a SQL query that joins city_data (aliased as my_city) and global_data (aliased as global) on the year column, filtering for city = 'Riyadh'. Below the query, a 'Success!' message is displayed. To the right of the message is an 'EVALUATE' button. Below the editor, the 'Output' section shows '171 results' and a 'Download CSV' button. The first row of the result set is visible, showing columns year, avg_my_city_temp, and avg_global_temp with values 1843, 24.74, and 8.17 respectively.

year	avg_my_city_temp	avg_global_temp
1843	24.74	8.17

Riyadh Moving average for 10 years :

Using Average Method in numbers app for exemple:
AVERAGE(B2:B3)= 26.41

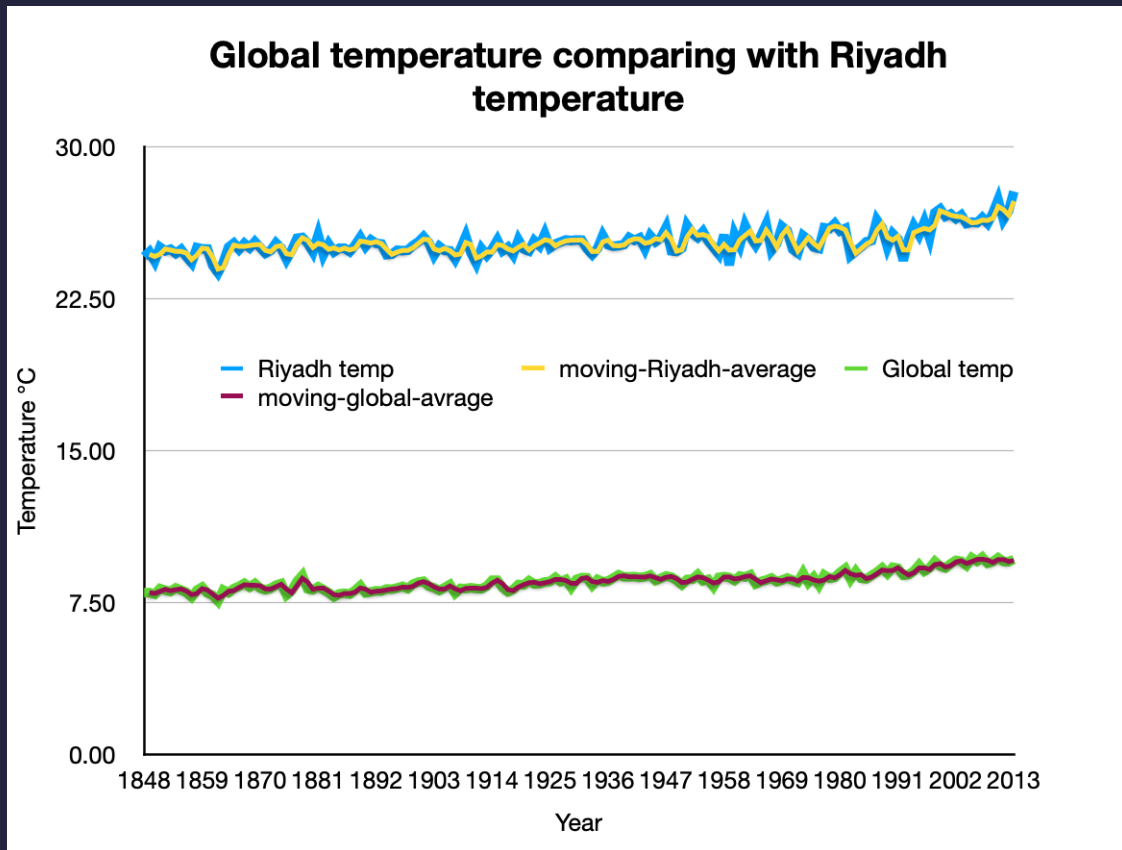
	year	avg_my_city_temp	moving_avrage_Riyadh
1			
2	2003	26.62	
3	2004	26.20	26.41
4	2005	26.27	
5	2006	26.24	26.33
6	2007	26.49	26.36
7	2008	26.21	26.34
8	2009	26.71	26.39
9	2010	27.37	26.51
10	2011	26.40	26.50
11	2012	26.83	26.53
12	2013	27.78	26.65

Formula bar: f_x AVERAGE B2:B3

Global Moving average for 10 years :
Using Average Method in numbers app for
exemple:
AVERAGE(B2:B5)= 9.52

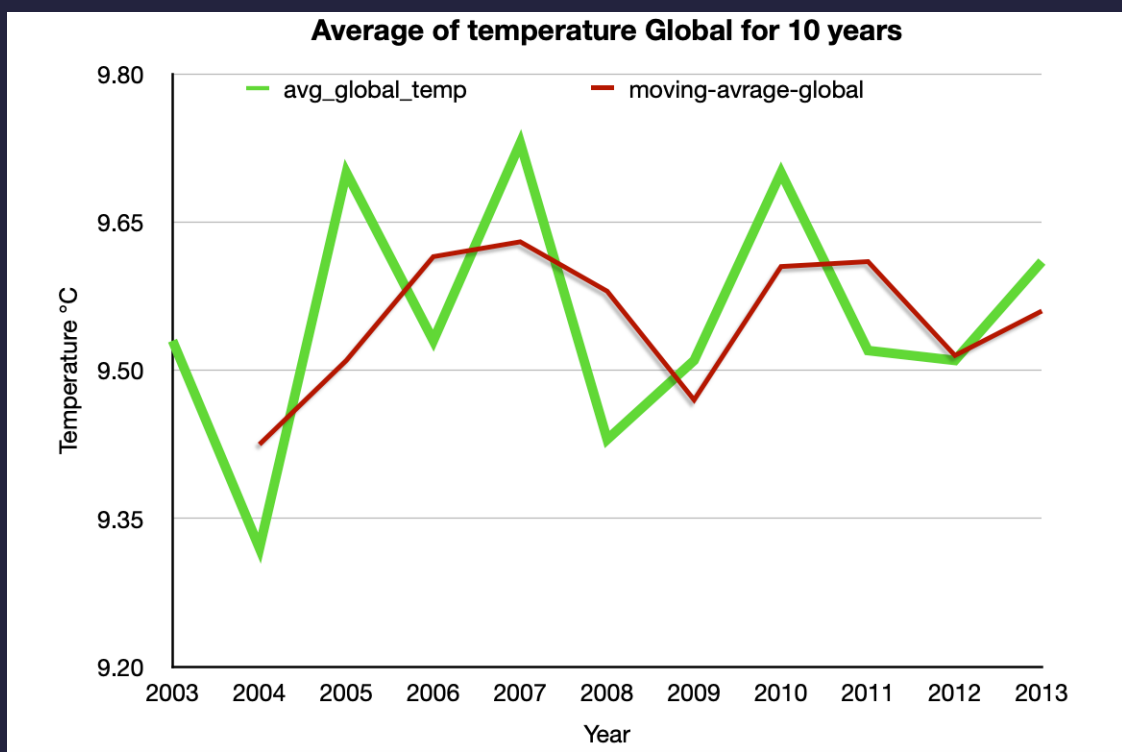
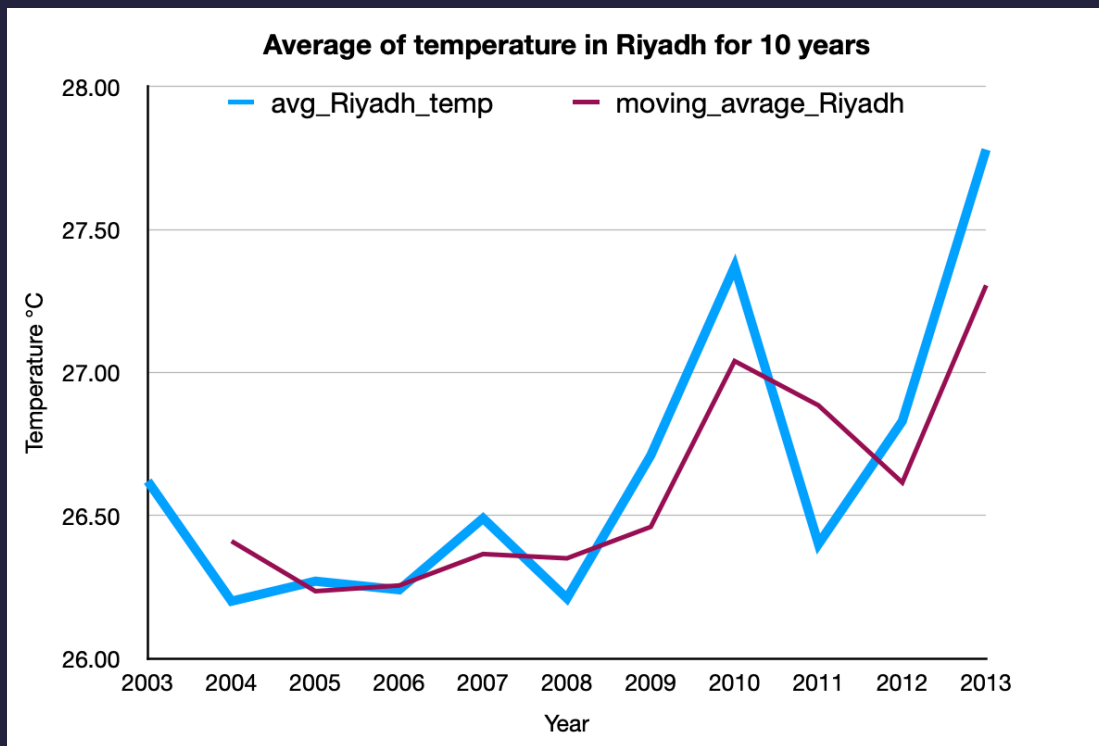
	year	avg_global_temp	moving_avrage_Global
1			
2	2003	9.53	
3	2004	9.32	9.43
4	2005	9.70	9.52
5	2006	9.53	9.52
6	2007	9.73	9.56
7	2008	9.43	9.51
8	2009	9.51	9.54
9	2010	9.70	9.56
10	2011	9.52	9.55
11	2012	9.51	9.55
12	2013	9.61	9.55

Formula bar: f_x AVERAGE B2:B5



Observations:

- 1- From the above plot we saw that the temperature in Riyadh was highest then global temperature
- 2- Riyadh temperatures are between 22.50°C and 30.00°C
- 3- Global temperatures are between 7.50°C and less then 15.00 °C



4- From the '[Average of temperature Riyadh for 10 years](#)' plot In the beginning, the temperature level is characterized by fluctuation, and it quickly increases dramatically after the year 2008. Then it will be descending until 2011 and then rising again

5- From the '[Average of temperature Global for 10 years](#)' plot Between 2004 and 2005 there was a noticeable increase in temperatures

6- From the '[Average of temperature Global for 10 years](#)' Since 2008, temperatures have returned to rise in the following two years, to witness a decrease in temperatures in the year 2011 .

