



Data Analyst Nanodegree

Project-1: Exploring Weather Trends

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Summary

In this project, I analyzed the Riyadh city and global temperature data and compared Riyadh temperature trends to overall global temperature trends.

1. Tools that I used in this project

- Sql
- Microsoft Excel

2. Extracting the data from the database:

- SQL query to extract the city level data

Select * from city_list where city = 'Riyadh'

- SQL query to extract the global data

Select * from global_data

3. Calculating the moving average

I used Excel for calculating the moving average temperature for the period of 6 years. However, before calculating the moving average, I have two two years with missing values of Riyadh average temperature(1846 and 1847), so I deleted them to clean the data. After that, I started the calculation from 1848 to 2013 as shown in figure 1 for Riyadh temperature and figure 2 for the global temperature .

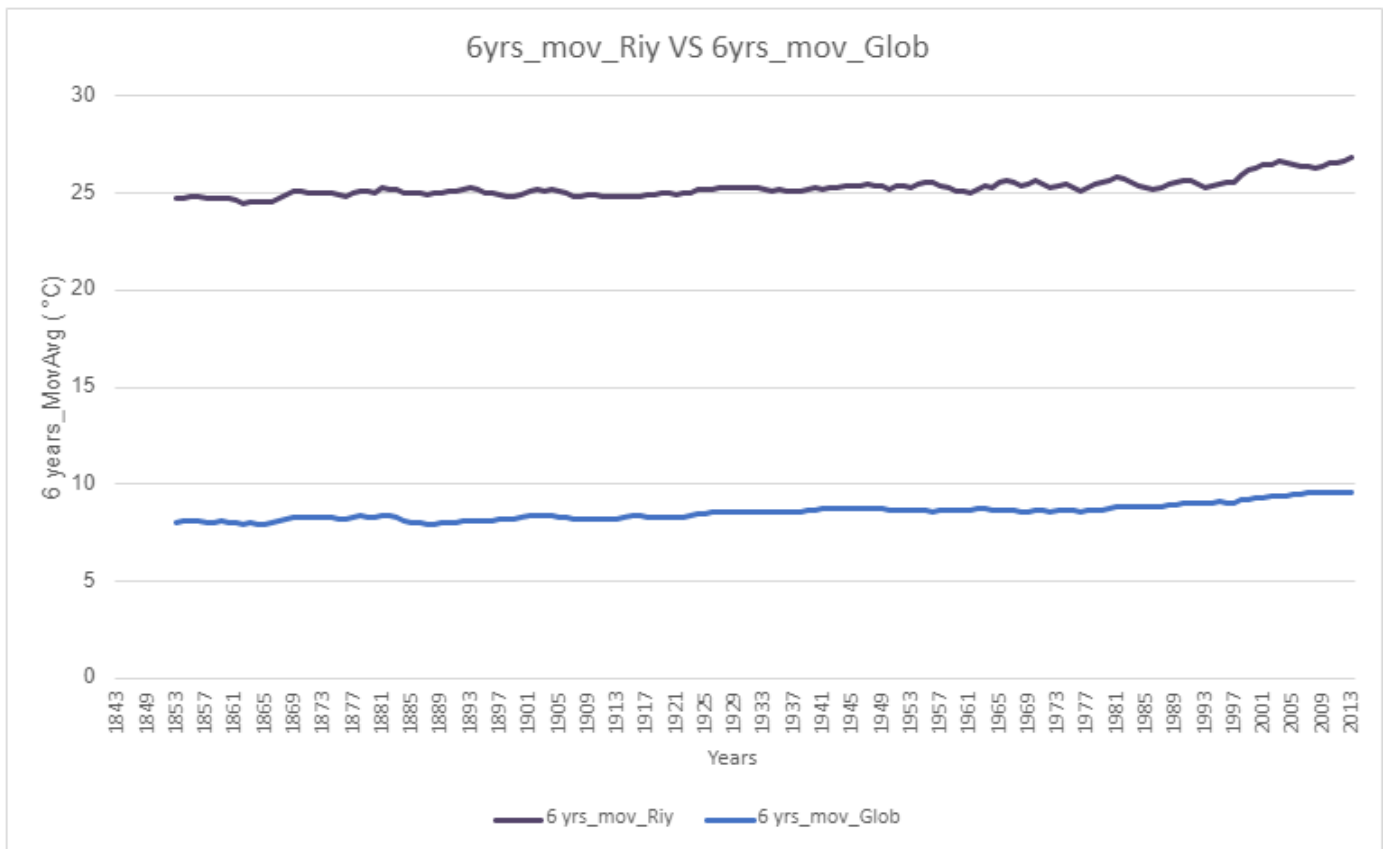
1	year	Riy_avg_temp	Glob_avg_temp	6 yrs_mov_Riy	6 yrs_mov_Glob
2	1843	24.74	8.17		
3	1844	15.45	7.65		
4	1845	20.82	7.85		
5	1848	24.56	7.98		
6	1849	24.8	7.98		
7	1850	24.34	7.9		
8	1851	25.03	8.18		
9	1852	24.85	8.1		
10	1853	24.93	8.04	=AVERAGE(C5:C10)	8.03
11	1854	24.72	8.21	24.78	8.07
12	1855	24.92	8.11	24.80	8.09
13	1856	24.57	8	24.84	8.11
14	1857	24.26	7.76	24.71	8.04

Figure 1: 6 years moving average of Riyadh temperature

1	year	Riy_avg_temp	Glob_avg_temp	6 yrs_mov_Riy	6 yrs_mov_Glob
2	1843	24.74	8.17		
3	1844	15.45	7.65		
4	1845	20.82	7.85		
5	1848	24.56	7.98		
6	1849	24.8	7.98		
7	1850	24.34	7.9		
8	1851	25.03	8.18		
9	1852	24.85	8.1		
10	1853	24.93	8.04	24.75	8.03
11	1854	24.72	8.21	24.78	=AVERAGE(D6:D11)
12	1855	24.92	8.11	24.80	8.09
13	1856	24.57	8	24.84	8.11
14	1857	24.26	7.76	24.71	8.04
15	1858	25.01	8.1	24.74	8.04
16	1859	24.95	8.25	24.74	8.07

Figure 2: 6 years moving average of the global temperature

4. The Line Chart:



5. observations

- I observed that The temperature of Riyadh is higher than the global average.
- Also, I observed that both Riyadh's temperature and the global temperature are increasing over the time.
- Also, the Riyadh average temperature is between 15.45 - 27.78, but the global temperature is between 7.56 - 9.73.
- The temperature of Riyadh is consistent from the year 1922 to 1931