Explore Weather Trends

By Ghadah Alotaibi

1. I wrote an SQL query to extract Riyadh city level data as shown in Figure 1, and another SQL query to extract the global data as shown in Figure 2.

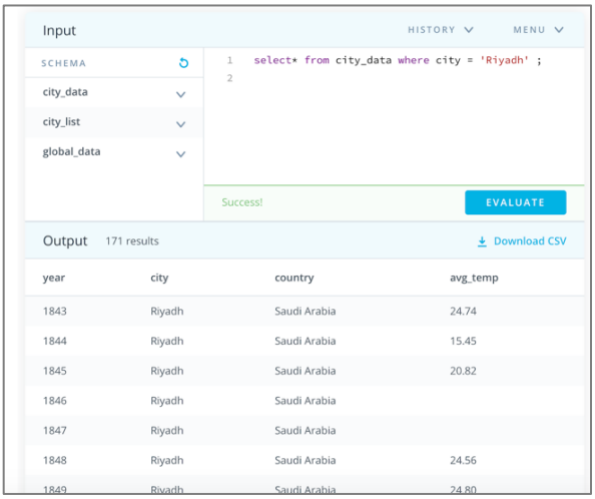

Figure 1. Riyadh city level data.

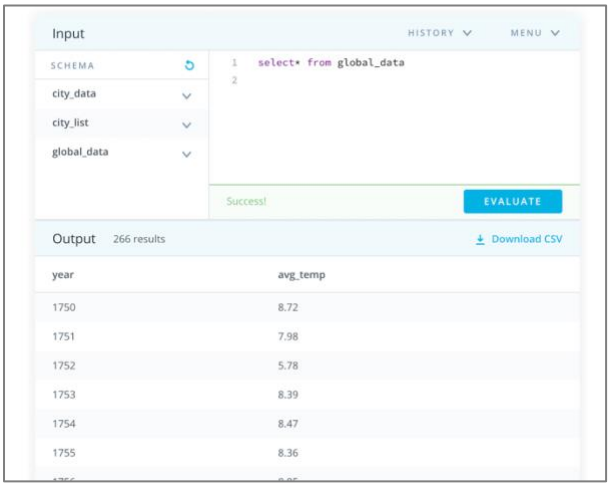

Figure 2. Global city level data.

2. After downloading the two CSV files to fully access the data, I calculated **5** years moving average for both city temperature and global using Excel as shown in Figure 3 and 4. For the missing data in Riyadh city, I handled it by deleting it, since it has only two missing data.

D6 =AVERAGE(B2:B6)

	A	B	C	D	E	F
1	year	City_avg_ten	Global_avg_	City_moving_	Global_moving_avg_te	
2	1843	24.74	8.17			
3	1844	24.74	7.65			
4	1845	20.82	7.85			
5	1848	24.56	7.98			
6	1849	24.8	7.98	23.932	7.926	

Figure 3. Riyadh city moving average.

E6 =AVERAGE(C2:C6)

	A	B	C	D	E	F
1	year	City_avg_ten	Global_avg_	City_moving_	Global_moving_avg_temp	
2	1843	24.74	8.17			
3	1844	24.74	7.65			
4	1845	20.82	7.85			
5	1848	24.56	7.98			
6	1849	24.8	7.98	23.932	7.926	

Figure 4. Global city moving average.

3. I created a line chart for Riyadh city temperature and global temperature moving average, the x-axis represents the years, and the y-axis represents the average temperate in Celsius.

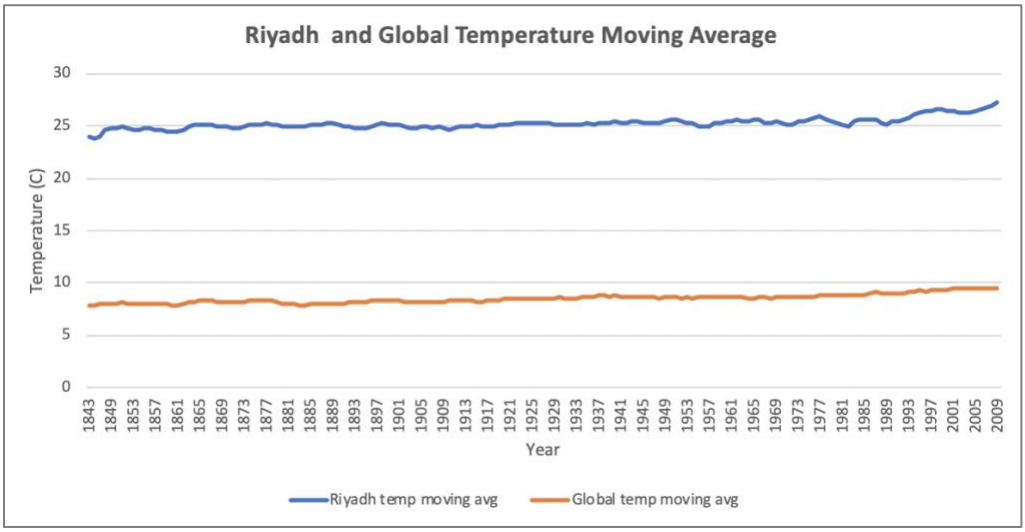

Figure 5. Riyadh and Global Temperature Moving Average.

4. I observed the following:

a. In figure 5, it was found that since **1843**, Riyadh has been hotter on average than the global average.

b. The temperature in Riyadh will continue to rise over the next four years.
c. The temperature in Riyadh is increasing faster than the global temperature.
d. The highest global average temperature was **9.58** C° in **2009** and **2010**, for Riyadh, it was **27.212** C° in **2013**.