Introduction

In this project, I will analyze local and global temperature data and compare the temperature trends where I live to overall global temperature trends. So I started by extracting the data from the database, starting by extracting the list of cities from the database, then choosing the city (which is Riyadh), then extracting the data for Riyadh, such as (avg_temp & year) and then extracting global temperature for every year from 1750 to 2015. Then calculating the moving average for 20 years for Riyadh avg_temp and global avg_temp then visualize them in a line chart and based on that I noticed 4 observations.

First step it was extracting the data from the database by suing **SQL**:

For extracting the city_list I wrote:

```
select * from city_list;
```

And for extracting the data of local temp for Riyadh I wrote:

```
select * from city_data
where city='Riyadh';
```

finally for extracting the data of global temp I wrote:

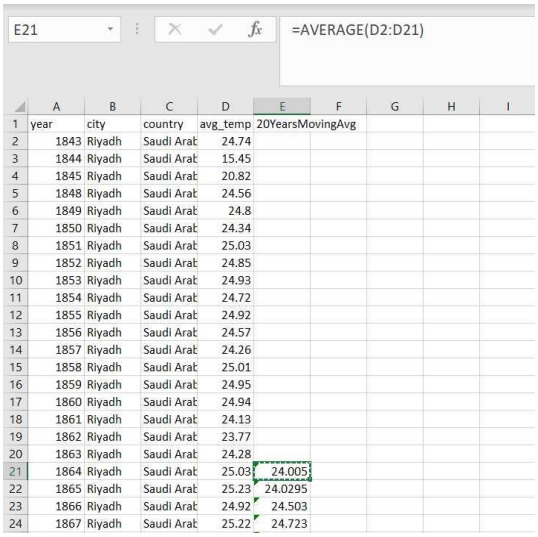
```
select * from global_data;
```

second step it was calculating the moving average for 20 years so, I used **excel** so I can use

average function and in order to smooth out the lines, I plotted the 20 years moving averages rather than yearly averages.

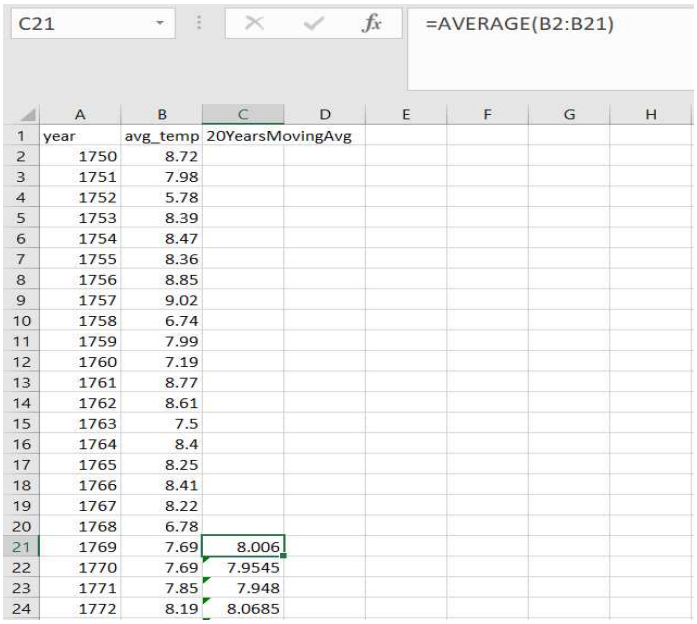
*The equation used to calculate the average is also shown in the pictures.

1. Moving averages column for Riyadh avg_temp.



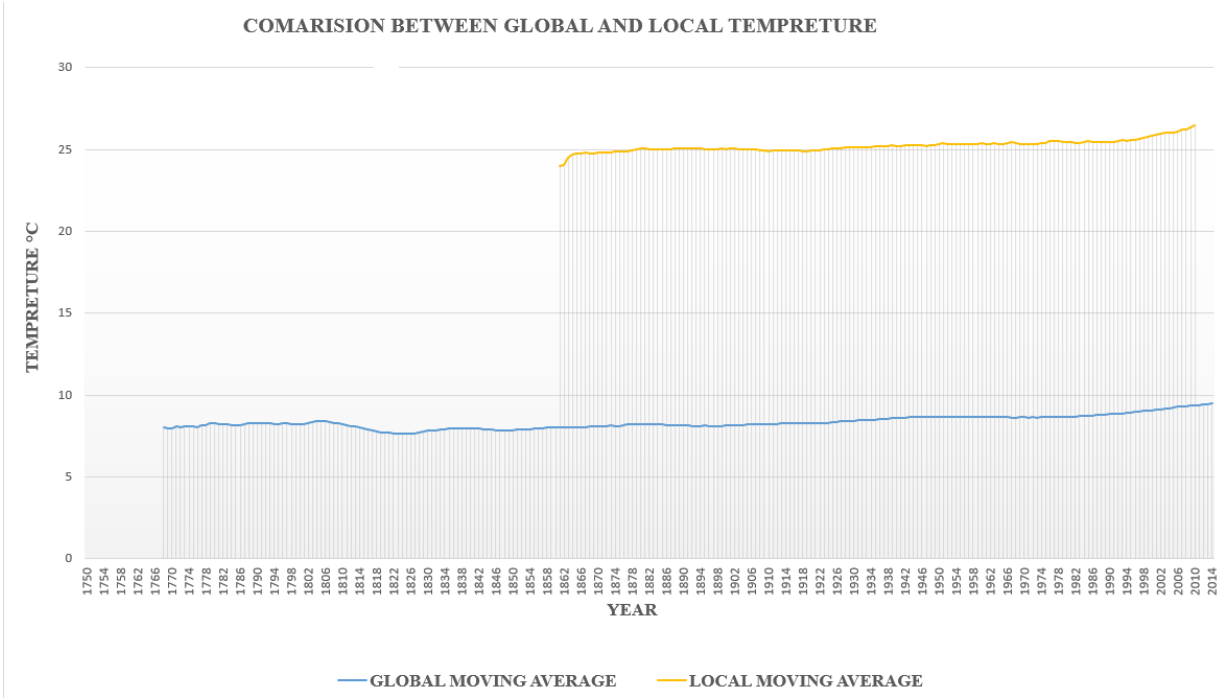
	A	B	C	D	E	F	G	H	I
1	year	city	country	avg_temp	20YearsMovingAvg				
2	1843	Riyadh	Saudi Arab	24.74					
3	1844	Riyadh	Saudi Arab	15.45					
4	1845	Riyadh	Saudi Arab	20.82					
5	1848	Riyadh	Saudi Arab	24.56					
6	1849	Riyadh	Saudi Arab	24.8					
7	1850	Riyadh	Saudi Arab	24.34					
8	1851	Riyadh	Saudi Arab	25.03					
9	1852	Riyadh	Saudi Arab	24.85					
10	1853	Riyadh	Saudi Arab	24.93					
11	1854	Riyadh	Saudi Arab	24.72					
12	1855	Riyadh	Saudi Arab	24.92					
13	1856	Riyadh	Saudi Arab	24.57					
14	1857	Riyadh	Saudi Arab	24.26					
15	1858	Riyadh	Saudi Arab	25.01					
16	1859	Riyadh	Saudi Arab	24.95					
17	1860	Riyadh	Saudi Arab	24.94					
18	1861	Riyadh	Saudi Arab	24.13					
19	1862	Riyadh	Saudi Arab	23.77					
20	1863	Riyadh	Saudi Arab	24.28					
21	1864	Riyadh	Saudi Arab	25.03	24.005				
22	1865	Riyadh	Saudi Arab	25.23	24.0295				
23	1866	Riyadh	Saudi Arab	24.92	24.503				
24	1867	Riyadh	Saudi Arab	25.22	24.723				

2. Moving averages column for global avg_temp.



	A	B	C	D	E	F	G	H
1	year	avg_temp	20YearsMovingAvg					
2	1750	8.72						
3	1751	7.98						
4	1752	5.78						
5	1753	8.39						
6	1754	8.47						
7	1755	8.36						
8	1756	8.85						
9	1757	9.02						
10	1758	6.74						
11	1759	7.99						
12	1760	7.19						
13	1761	8.77						
14	1762	8.61						
15	1763	7.5						
16	1764	8.4						
17	1765	8.25						
18	1766	8.41						
19	1767	8.22						
20	1768	6.78						
21	1769	7.69	8.006					
22	1770	7.69	7.9545					
23	1771	7.85	7.948					
24	1772	8.19	8.0685					

Thread step it was visualizing the moving average of Riyadh and global temperature by using **Line chart.**



So now I noticed 4 observations:

1- The weather in Riyadh it’s much hotter than the global temperature .

2- The moving average of the global temperature less than Riyadh moving average by around three times.

3- Since 1970 until 2013 the moving average of the global temperature and Riyadh moving average courteously rising.

4- Overall the weather trends looks like the temperature keep increasing so it seems for all the global and Riyadh weather going to be hotter.