Project 1 – Exploring Weather Trend

Analysis Methodologies:

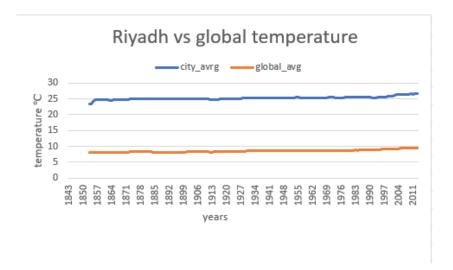
- 1- SQL Queries was used to extract needed data then download CSV files that contains yearly average temperature of the city Riyadh and Global temperature.
 - To select the nearest city in my country
 - ❖ Select*
 - From city_list
 - Order by country, city;
 - To select the city data (Riyadh)
 - ❖ Select *
 - from city_data
 - where country ='Saudi Arabia' and city= 'Riyadh'
 - order by year;
 - to select the global data:
 - ❖ select *
 - from global_data
 - where year between '1843' and '2013';
- 2- I used Excel to analyze the data.
- 3- I copied the global and city data CSV files to get required data.

MOVING AVERAGE:

- I calculated the moving average (MA) of city data and global data to observe long-term trends in temperature
- I used 10 years moving average to smooth the line chart
- Excel command for ten years average: =average(b2:b11) then I dragged the right corner of the first moving average to the last data point in the column.
- The new column heading names for the moving average are global_avg and city_avrg

H1	L2	-	× ✓	f _{sc} =A∨E	RAGE(G2:G12)		
4	Α	В	С	D	E	F	G	Н
1		_	_	avg temp 🔻			avg_temp <	
2			Saudi Arabia	24.74	city_avig	1843	8.17	giobai_i
3			Saudi Arabia	15.45		1844	7.65	
4			Saudi Arabia	20.82		1845	7.85	
5		-	Saudi Arabia	24.21		1846		
6			Saudi Arabia	24.37		1847	8.09	
7			Saudi Arabia	24.56		1848	7.98	
8			Saudi Arabia	24.8		1849	7.98	
9			Saudi Arabia	24.34		1850	7.9	
10			Saudi Arabia	25.03		1851	8.18	
11			Saudi Arabia	24.85		1852	8.1	
12	1853	Riyadh	Saudi Arabia	24.93	23.46363636	1853	8.04	8.044545
13	1854	Riyadh	Saudi Arabia	24.72	23.46181818	1854	8.21	8.048182
14	1855	Riyadh	Saudi Arabia	24.92	24.32272727	1855	8.11	8.09
15	1856	Riyadh	Saudi Arabia	24.57	24.66363636	1856	8	8.103636
16	1857	Riyadh	Saudi Arabia	24.26	24.66818182	1857	7.76	8.031818
17	1858	Riyadh	Saudi Arabia	25.01	24.72636364	1858	8.1	8.032727
18	1859	Riyadh	Saudi Arabia	24.95	24.76181818	1859	8.25	8.057273
19	1860	Riyadh	Saudi Arabia	24.94	24.77454545	1860	7.96	8.055455
20	1861	Riyadh	Saudi Arabia	24.13	24.75545455	1861	7.85	8.050909
21	1862	Riyadh	Saudi Arabia	23.77	24.64090909	1862	7.56	7.994545

Line chart for Riyadh city and global average temperature:



Observation:

- Riyadh city is hotter than the global average. this trend is consistent over time as it stays above the global average for years
- The change in Riyadh temperature over time has direct relationship with the global temperature. Both increased in a stable way.
- The chart shows between 1852 to 1997 the global and Riyadh temperature was steady until 1997 the weather has been change, the temperature is increased in an obvious way.
- The world is getting hotter.