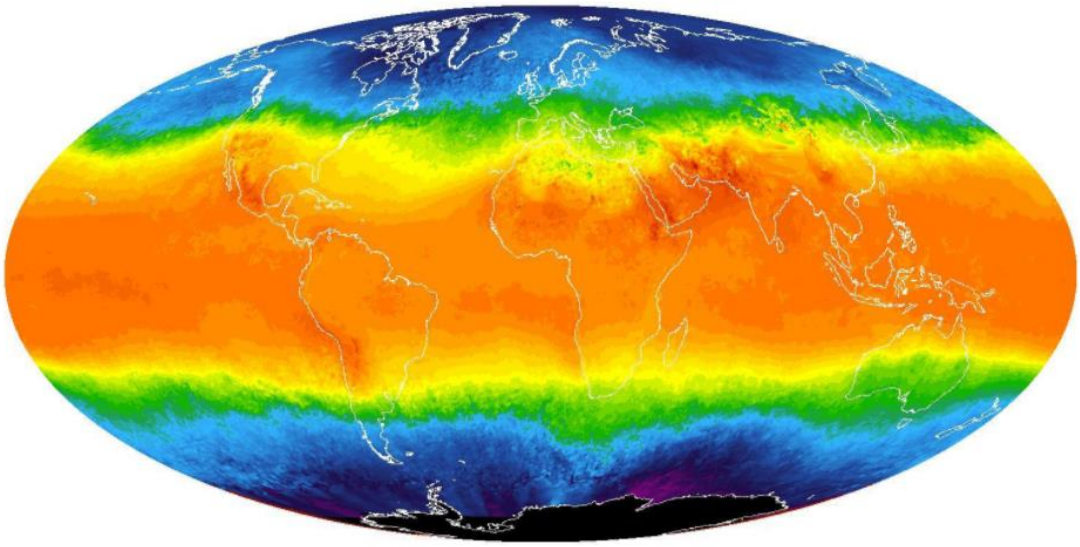
Exploring Weather Trends



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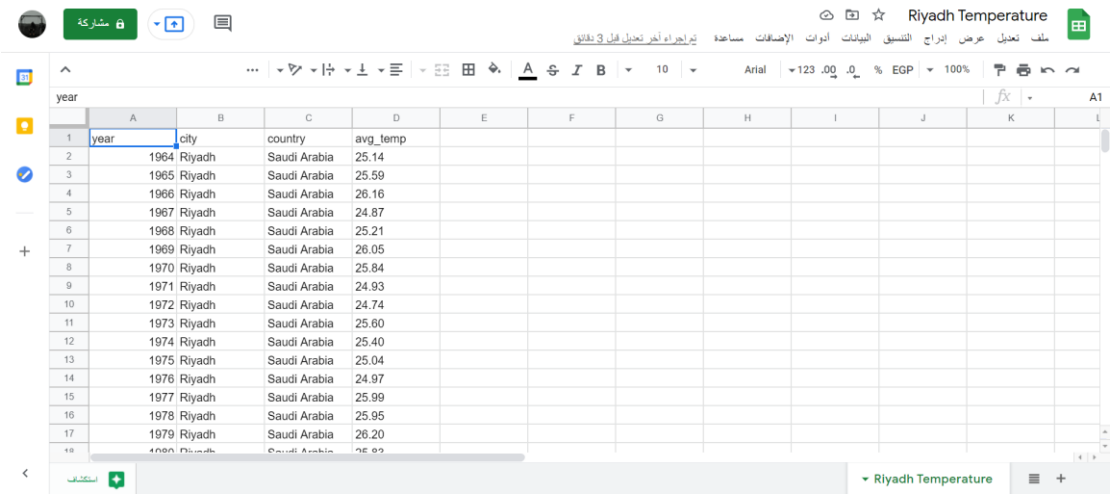
Here we use SQL:

First, we extract the temperature data for closest big city to where I live, which is Riyadh.

And I took the data from 50 years, using this SQL query:

SELECT * FROM city_data where city='Riyadh' and year>1963

This is the csv file for the data:



Riyadh Temperature

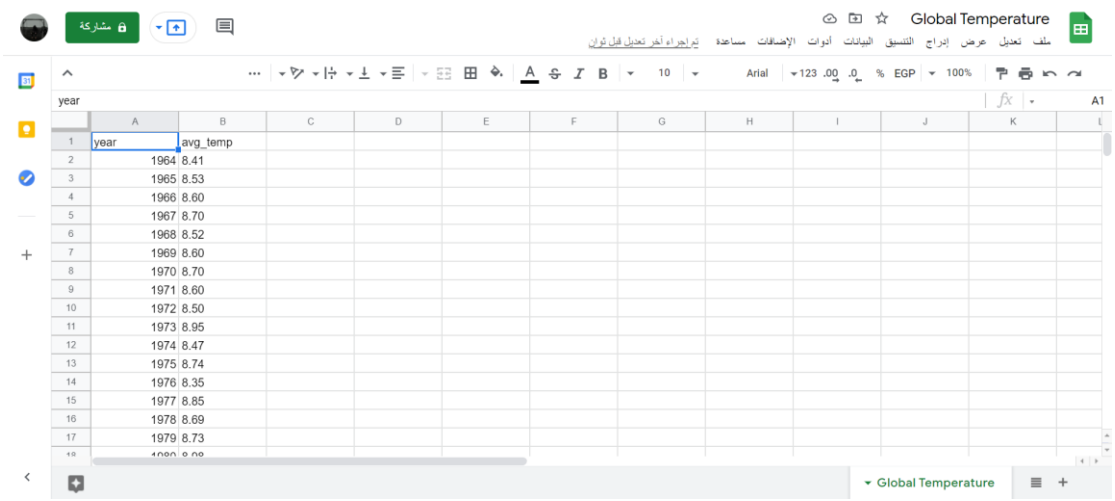
year	city	country	avg_temp
1964	Riyadh	Saudi Arabia	25.14
1965	Riyadh	Saudi Arabia	25.59
1966	Riyadh	Saudi Arabia	26.16
1967	Riyadh	Saudi Arabia	24.87
1968	Riyadh	Saudi Arabia	25.21
1969	Riyadh	Saudi Arabia	26.05
1970	Riyadh	Saudi Arabia	25.84
1971	Riyadh	Saudi Arabia	24.93
1972	Riyadh	Saudi Arabia	24.74
1973	Riyadh	Saudi Arabia	25.60
1974	Riyadh	Saudi Arabia	25.40
1975	Riyadh	Saudi Arabia	25.04
1976	Riyadh	Saudi Arabia	24.97
1977	Riyadh	Saudi Arabia	25.99
1978	Riyadh	Saudi Arabia	25.95
1979	Riyadh	Saudi Arabia	26.20

Second, we extract the data for global temperatures.

And I took the data from 50 years, using this SQL query:

SELECT * FROM global_data where year>1963

This is the csv file for the data:



year	avg_temp
1964	8.41
1965	8.53
1966	8.60
1967	8.70
1968	8.52
1969	8.60
1970	8.70
1971	8.60
1972	8.50
1973	8.95
1974	8.47
1975	8.74
1976	8.35
1977	8.85
1978	8.69
1979	8.73

Here we use Excel:

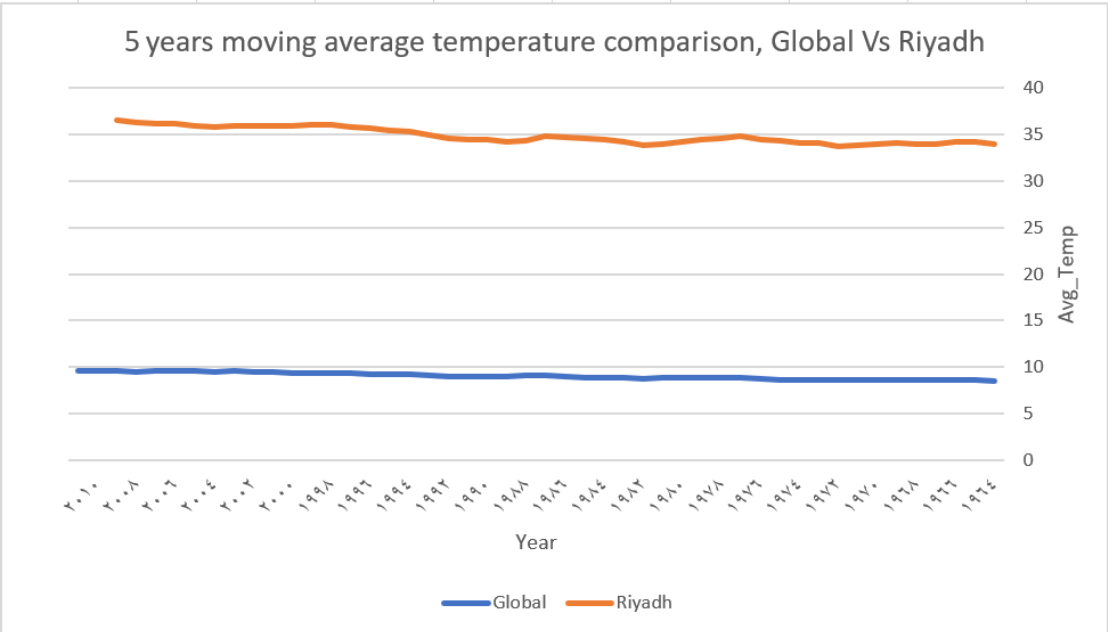
We calculate the moving average for 5 day and by using AVERAGE formula in Excel, like this:

5 Day mov	avg_temp	year
	8.41	1964
	8.53	1965
	8.6	1966
	8.7	1967
=AVERAGE(B2:B6)		1968
8.59	8.6	1969
8.624	8.7	1970
8.624	8.6	1971
8.584	8.5	1972
8.67	8.95	1973
8.644	8.47	1974
8.652	8.74	1975
8.602	8.35	1976
8.672	8.85	1977
8.62	8.69	1978
8.672	8.73	1979
8.72	8.98	1980

My key considerations:

Observable (when anyone see it, they can understand it).

Objective (to compare the temperature between (Riyadh) local and global temperature).



Here we see the line chart that represent local and global temperature and we observe that:

- We see that local temperature is much hotter because in Riyadh the range of temperature between 25.4°C and 27°C in the time period 1964-2013.

- We see that the difference in temperatures is huge when we see that the range of temperature in Riyadh between 25.4°C and 27°C and the global temperature between 8.5°C and 9.6°C in the same period, and I think that because my city is near the equator.

- We see that local and global temperature in last few years it goes up a little so that mean the overall temperature will be hotter and we can see it in the line chart from 2000 the global temperature has been in the range of 9.2 °C and 9.7 °C and in Riyadh the range 26.4 °C and 27 °C.

- We see that the global temperature is more constant than the local temperature.