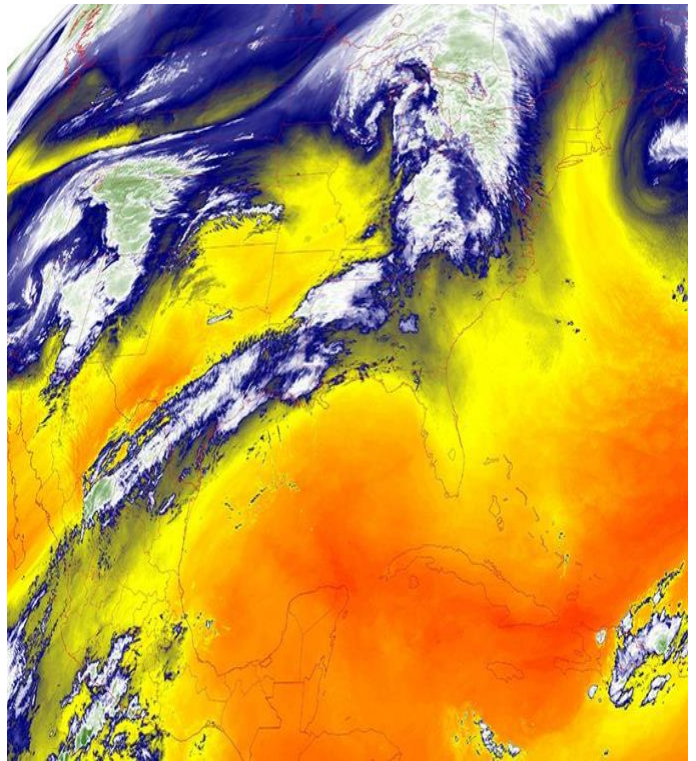




UDACITY

EXPLORE WEATHER TRENDS

Data Analyst – Nanodegree



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Overview:

In this project I analyzed local and global temperature data and compare the temperature trends where I live (Riyadh, Saudi Arabia) to overall global temperature trends. The goal was to create a visualization and describe the similarities and differences between global temperature trends and Riyadh temperature trends

Tools used:

I used Excel to calculate the moving average and create the Line Chart.

Extracting the data:

We have three tables in the database:

- city_list - This contains a list of cities and countries in the database. Look through them in order to find the city nearest to you.
- city_data - This contains the average temperatures for each city by year (°C).
- global_data - This contains the average global temperatures by year (°C).

To extract the data I needed, I used these SQL query:

- ```
SELECT c.year, c.avg_temp
FROM city_data c
WHERE city = 'Riyadh';
```
- ```
SELECT *
FROM global_data;
```

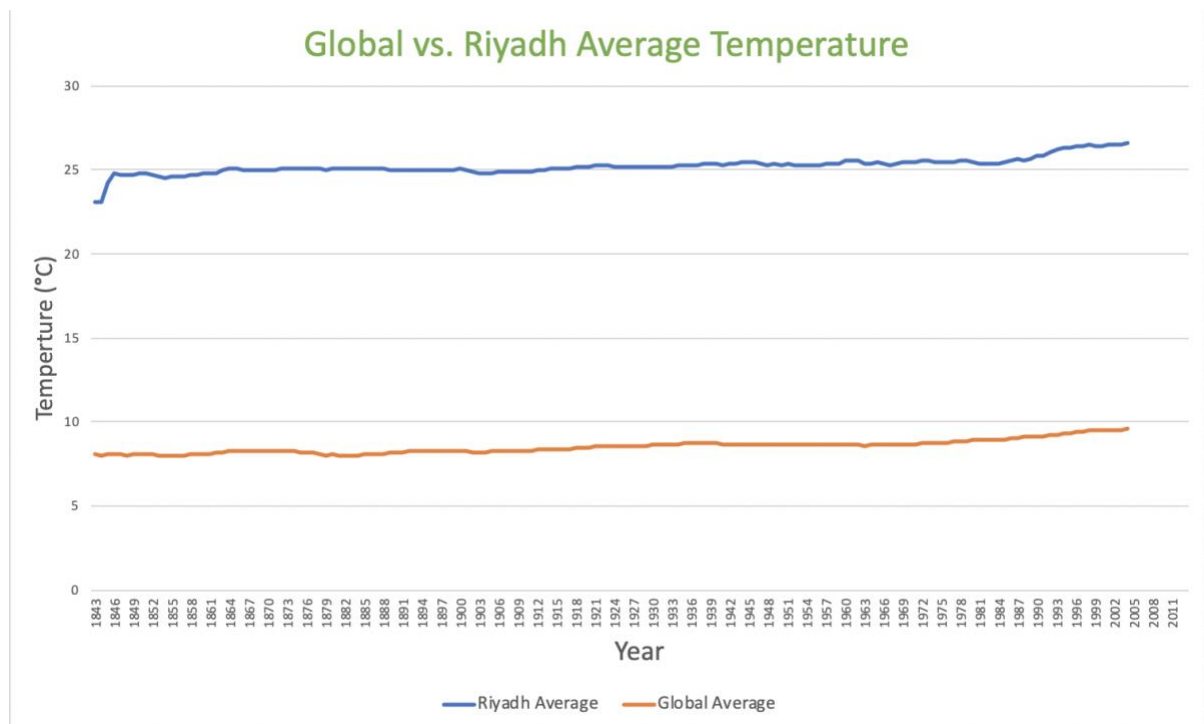
After downloading the datasets, I proceeded to calculate the moving average.

Moving average:

I calculated 10-year moving average, this is because I thought 10-year moving average will give a smooth and easy to understand line chart. I started by using the AVERAGE function on the B3 to B12 cells and then I added the ROUND function to round the numbers to 2 decimal places and dragged the formula down. I also did the same thing on the Riyadh moving average calculation which was (ROUND(AVERAGE(E3:E12),2)).

SUM ✖ ✔ fx =ROUND(AVERAGE(B3:B12),2)						
	A	B	C	D	E	F
1	Global			Riyadh		
2	year	avg_temp	10-year MA	year	avg_temp	10-year MA
3	1843	8.17		1843	24.74	
4	1844	7.65		1844	15.45	
5	1845	7.85		1845	20.82	
6	1846	8.55		1846		
7	1847	8.09		1847		
8	1848	7.98		1848	24.56	
9	1849	7.98		1849	24.8	
10	1850	7.9		1850	24.34	
11	1851	8.18		1851	25.03	
12	1852	8.1	=ROUND(AVERAGE(B3:B12),2)			23.07
13	1853	8.04	8.03	1853	24.93	23.1
14	1854	8.21	8.09	1854	24.72	24.26

Line chart:



Observations:

We can observe by this line chart that there is a significant difference between the global temperature and the temperature in Riyadh.

- Riyadh average is hotter than the global average this is because Riyadh is in the desert so of course it is going to be hotter.
- We can see Riyadh average temperature increases over time from 2000-2013 the temperature has increased from being 25.8 °C to 26.6 °C.
- The global temperature is also increasing over time from 1995-2013 the temperature has increased from 8.9 °C to 9.5 °C.
- Both the global and Riyadh averages started at a low temperature and has been increasing at a consistent rate over the years.
- Overall, the world seems to get hotter as the years pass.