



Udacity: data analyst nanodegree  
Project-1 - Exploring Weather Trends  
March 2021

Goals

Data Extraction - Data Cleaning – Data Visualizations - observations

Tools used:

SQL: to extract the data.

Excel: calculate the Moving Average & Line chart.

## 1- Data Extraction:

- To see what cities are in the list:

```
SELECT *  
FROM city_list  
WHERE country='Saudi Arabia'
```

- For Riyadh city:

```
SELECT year,avg_temp  
FROM city_data  
WHERE city='Riyadh'
```

- For Mecca city:

```
SELECT year,avg_temp  
FROM city_data  
WHERE city='Mecca'
```

- For the Globle:

```
SELECT * FROM global_data;
```

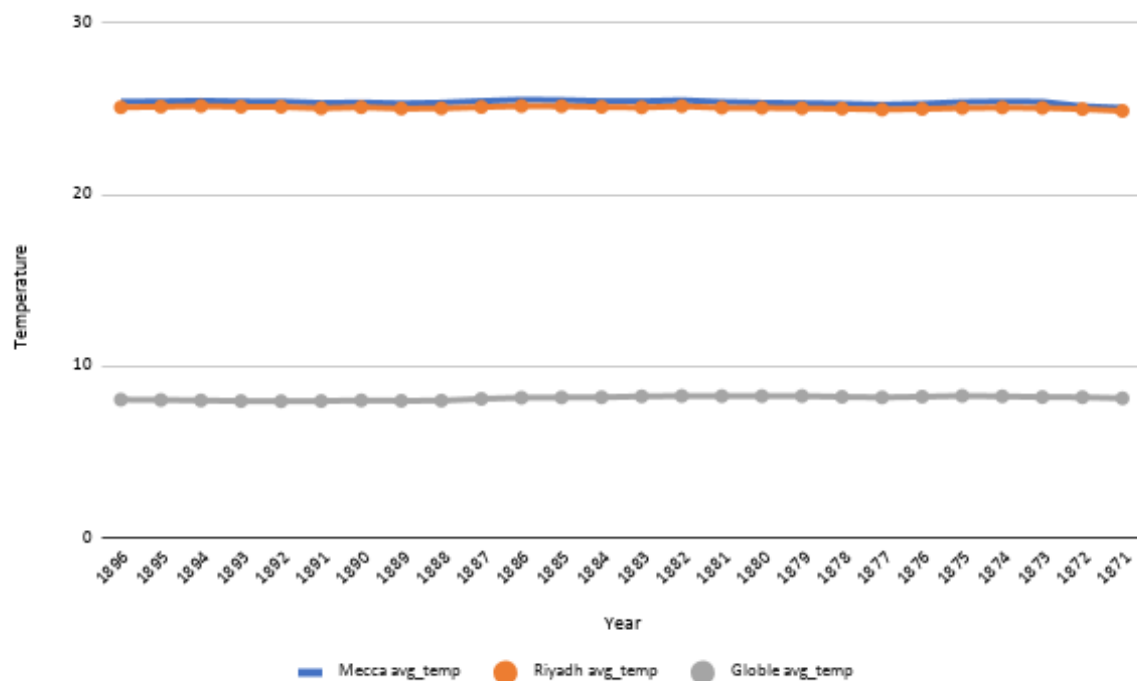
## 2 - Data Cleaning & Visualizations:

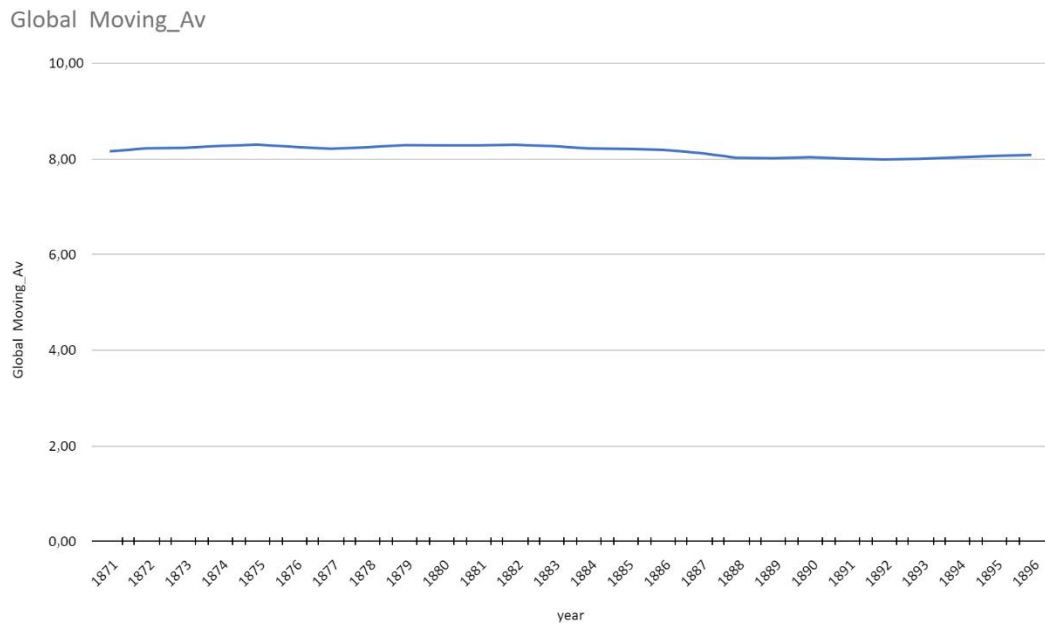
Moving average:

I calculate 10 Years for (Riyadh, Mecca, Global)

	A	B	C	D	E	F	G
1	year	Mecca avg_temp	Riyadh avg_temp	Globe avg_temp	Mecca Moving_Av	Riyadh Moving_Av	Global Moving_Av
21	1862	24.13	23.77	7.56			
22	1863	22.87	24.28	8.11			
23	1864	25.43	25.03	7.98			
24	1865	25.6	25.23	8.18			
25	1866	25.42	24.92	8.29			
26	1867	25.62	25.22	8.44			
27	1868	25.3	25	8.25			
28	1869	25.65	25.3	8.43			
29	1870	25.35	25.02	8.2			
30	1871	24.97	24.73	8.12	25.04	24.86	=AVERAGE(D11:D19)
31	1872	25.2	24.87	8.19	25.13	24.97	AVERAGE(number1; [number2]; ...)
32	1873	25.57	25.24	8.35	25.39	25.04	8.23
33	1874	25.32	24.98	8.43	25.41	25.06	8.27
34	1875	24.53	24.43	7.86	25.38	25.03	8.30
35	1876	25.13	24.89	8.08	25.28	24.98	8.25
36	1877	25.81	25.47	8.54	25.22	24.94	8.21
37	1878	25.94	25.51	8.83	25.28	24.99	8.24
38	1879	25.57	25.24	8.17	25.31	25.02	8.29
39	1880	25.42	24.8	8.12	25.34	25.04	8.29
40	1881	26.06	25.63	8.27	25.39	25.05	8.29
41	1882	25.09	24.66	8.13	25.48	25.13	8.29
42	1883	25.36	25.19	7.98	25.43	25.07	8.27
43	1884	25.03	24.8	7.77	25.43	25.09	8.22
44	1885	25.33	24.98	7.92	25.49	25.13	8.21

Line chart:





### Observations:

- Global Average Temperature for 10 years varies between 8.21 to 8.30.
- The chart shows the big difference in temperatures between Riyadh and the Global.
- The weather in Riyadh and Makkah is hotter than the global average.
- Mecca has the highest temperatures in Saudi Arabia.