Exploring Weather Trends

- What tools did you use for each step? (Python, SQL, Excel, etc)

Answer :

In the first, I used the SQL to pull a data by using the queries in below:-

1-select city_data.city,city_data.country,city_data.year,city_data.avg_temp

from city_data join city_list

on city_list.city=city_data.city

where city_data.city ='Riyadh';

2-select * from global_data

after that I used the Excel to prepare and dealing with data .

(Figure2) of data that are extract (initial raw data with 5_years moving average.

	city	country	year	avg_temp	with_5_years_mov_avg
2	Riyadh	Saudi Arabia	1843	24.74	
3	Riyadh	Saudi Arabia	1844	15.45	
4	Riyadh	Saudi Arabia	1845	20.82	
5	Riyadh	Saudi Arabia	1846		
6	Riyadh	Saudi Arabia	1847		20.34
7	Riyadh	Saudi Arabia	1848	24.56	20.28
8	Riyadh	Saudi Arabia	1849	24.8	23.39
9	Riyadh	Saudi Arabia	1850	24.34	24.57
10	Riyadh	Saudi Arabia	1851	25.03	24.68
11	Riyadh	Saudi Arabia	1852	24.85	24.72
12	Riyadh	Saudi Arabia	1853	24.93	24.79
13	Riyadh	Saudi Arabia	1854	24.72	24.77
14	Riyadh	Saudi Arabia	1855	24.92	24.89
15	Riyadh	Saudi Arabia	1856	24.57	24.80
16	Riyadh	Saudi Arabia	1857	24.26	24.68
17	Riyadh	Saudi Arabia	1858	25.01	24.70
18	Riyadh	Saudi Arabia	1859	24.95	24.74
19	Riyadh	Saudi Arabia	1860	24.94	24.75
20	Riyadh	Saudi Arabia	1861	24.13	24.66

Exploring Weather Trends

In below, sample finale of row data (with 5 years moving average calculations separate for two categories), data are preprocessed by Excel to combine all data for : Riyadh city and global .

(Figure2)

with_5_years_mov_avg_Riyadh	year	mov_avg_ for _5year_global_avg
	1843	
	1844	
	1845	
	1846	
20.34	1847	8.06
20.28	1848	8.02
23.39	1849	8.09
24.57	1850	8.10
24.68	1851	8.03
24.72	1852	8.03
24.79	1853	8.04
24.77	1854	8.09
24.89	1855	8.13
24.80	1856	8.09
24.68	1857	8.02
24.70	1858	8.04
24.74	1859	8.04
24.75	1860	8.01
24.66	1861	7.98
24.56	1862	7.94

- How did you calculate the moving average?

Answer :

Moving average calculated for 5 years

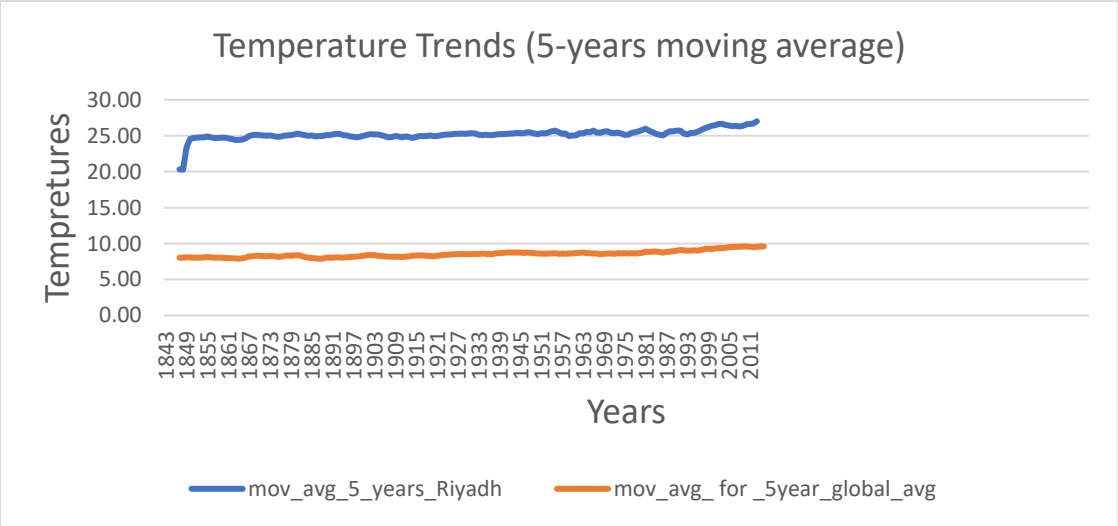
- What were your key considerations when deciding how to visualize the trends?

Answer:

should be to align the data for all the 2categories (Global , Riyadh).

As 5year moving average is taken for all the 3 categories, hence a line / trend chart is populated.

(Figure3) below, Line chart with local(Riyadh city) and global temperature trends:



observations about the similarities and/or differences between the world averages and my city's averages:

1- Global temperatures are very less compared to Riyadh.
2- The temperatures for all the 2categories have increased marginally in the last 200 years data
3- The lowest temperatures found for Global (7.56 deg C) around 1862, whereas for Riyadh (15.45 deg C) around 1844.
4- Riyadh temperature increment is more at present compared to Global.
5- the the average of temperature in Riyadh it's hotter than the global.
6- The global temperature not consistent, we can see the disparity until 1922, the global temperature began increasing, the seems to be a lot of change in temperatures are.