Exploring Weather Trends

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1 Summary

In this project, I analyzed the temperature data for the city of Riyadh with global temperature data.

I created a visualization of the data, comparing temperature trends in Riyadh city with global temperature trends by the moving average. This data was extracted from the database using a workspace on the Udacity website.

2 Introduction

Temperatures are different around the world, and it is interesting to know your city's temperature trends with world temperature trends.

In this project, we will create a visualization of Riyadh city temperature trends with global temperature trends, and we will compare them.

3 Work steps

3.1 Extract the data

The SQL query shown in Figure 1 was written to get temperature data for Riyadh and temperature data to the world.

```
1   select city_data.year As year,
    global_data.avg_temp As Global_avg_temp,
    city_data.avg_temp As Riyadh_avg_temp
2   from city_data join global_data
3   on city_data.year = global_data.year
4   where city_data.city = 'Riyadh'
```

Success! EVALUATE

Figure 1

3.2 Moving average

The CSV file was opened using Excel, because it is one of the best options for handling data and visualize it easily.

After that, I have calculated the moving average based on five years, to make the trends more smoothly.

3.3 Line chart

A line chart has been created as shown in Figure 2 to compare the temperature of Riyadh city with the global temperatures by moving average.

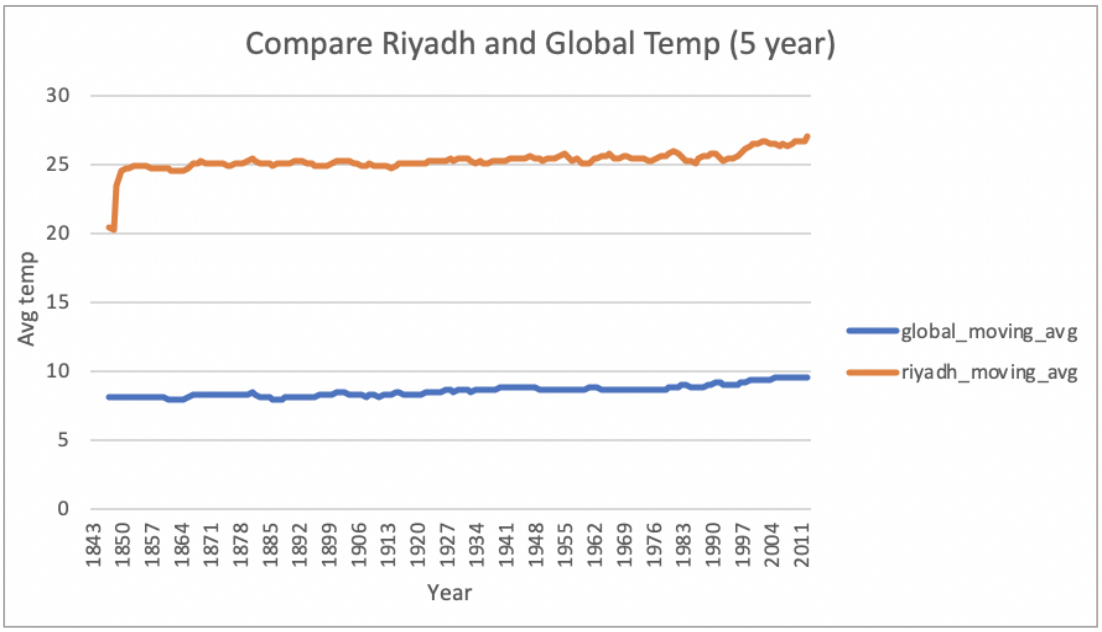


Figure 2

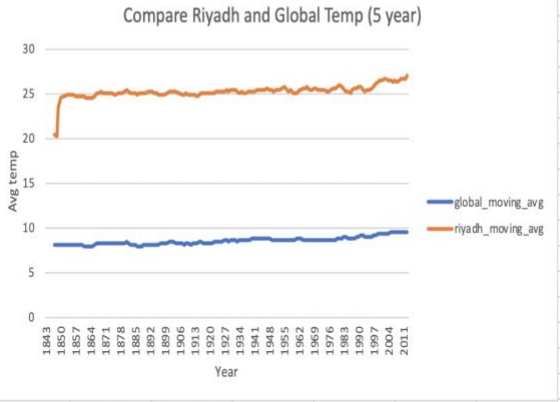
4 Observations

- Riyadh city hotter compared to the world average.
- The difference was almost constant over time.
- The general trends in Riyadh are high (hot).
- After 1992, there was a noticeable rise in temperature.

5 Appendices

SUM =AVERAGE(D2:D6)

	A	B	C	D	E
1	year	global_avg_temp	global_moving_avg	riyadh_avg_temp	riyadh_moving_avg
2	1843	8.17		24.74	
3	1844	7.65		15.45	
4	1845	7.85		20.82	
5	1846	8.55			
6	1847	8.09	8.062		=AVERAGE(D2:D6)
7	1848	7.98	8.024	24.56	20.27666667
8	1849	7.98	8.09	24.8	23.39333333
9	1850	7.9	8.1	24.34	24.56666667
10	1851	8.18	8.026	25.03	24.6825
11	1852	8.1	8.028	24.85	24.716
12	1853	8.04	8.04	24.93	24.79
13	1854	8.21	8.086	24.72	24.774
14	1855	8.11	8.128	24.92	24.89
15	1856	8	8.092	24.57	24.798
16	1857	7.76	8.024	24.26	24.68
17	1858	8.1	8.036	25.01	24.696
18	1859	8.25	8.044	24.95	24.742
19	1860	7.96	8.014	24.94	24.746
20	1861	7.85	7.984	24.13	24.658
21	1862	7.56	7.944	23.77	24.56
22	1863	8.11	7.946	24.28	24.414
23	1864	7.98	7.892	25.03	24.43
24	1865	8.18	7.936	25.23	24.488
25	1866	8.29	8.024	24.92	24.646
26	1867	8.44	8.2	25.22	24.936
27	1868	8.25	8.228	25	25.08
28	1869	8.43	8.318	25.3	25.134
29	1870	8.2	8.322	25.02	25.092
30	1871	8.12	8.288	24.73	25.054
31	1872	8.19	8.238	24.87	24.984
32	1873	8.35	8.258	25.24	25.032
33	1874	8.43	8.258	24.98	24.968
34	1875	7.86	8.19	24.43	24.85
35	1876	8.08	8.182	24.89	24.882
36	1877	8.54	8.252	25.47	25.002
37	1878	8.83	8.348	25.51	25.056
38	1879	8.17	8.296	25.24	25.108
39	1880	8.12	8.348	24.8	25.182
40	1881	8.27	8.386	25.63	25.33
41	1882	8.13	8.304	24.66	25.168
42	1883	7.98	8.134	25.19	25.104
43	1884	7.77	8.054	24.8	25.016
44	1885	7.92	8.014	24.98	25.052
45	1886	7.95	7.95	24.98	24.922
46	1887	7.91	7.906	24.81	24.952
47	1888	8.09	7.928	25.13	24.94
48	1889	8.32	8.038	25.52	25.084
49	1890	7.97	8.048	25.07	25.102
50	1891	8.02	8.062	25.39	25.184



results