



Data Analyst Nanodegree Project #1

Exploring Weather Trends Project

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Solving Project Steps:

1- Extract the data from dataset

From a workspace in classroom, I export the temperature data for the world as well as for the closest big city me. To interact with the database, I to write a SQL query to extract the city and global data then export it as CSV file.

The Place	SQL Query for Extracting Data
Riyadh	<pre>SELECT year, city, country, avg_temp FROM city_data WHERE country LIKE 'Saudi Arabia' AND city LIKE 'Riyadh';</pre>
Global	<pre>SELECT * FROM global_data;</pre>

2- Create Line Chart for Moving Average (MA)

I used Microsoft Excel as tool for analysis. I have copied the global temperatures column to the local temperature file. My local city is Riyadh. The I have created line chart for 'Riyadh' city column and the Global column. Then calculating moving average to observe the trends in the temperature.

Moving Average (MA)	Command
8 years moving average	<code>=AVERAGE(B2:B9)</code>

Figure 1 shows the chart line for Riyadh city with 8 years moving average. Whereas Figure 2 shows the chart line for the global with 8 years moving average. The comparison of Riyadh city with Global temperature trend shows in the Figure 3.

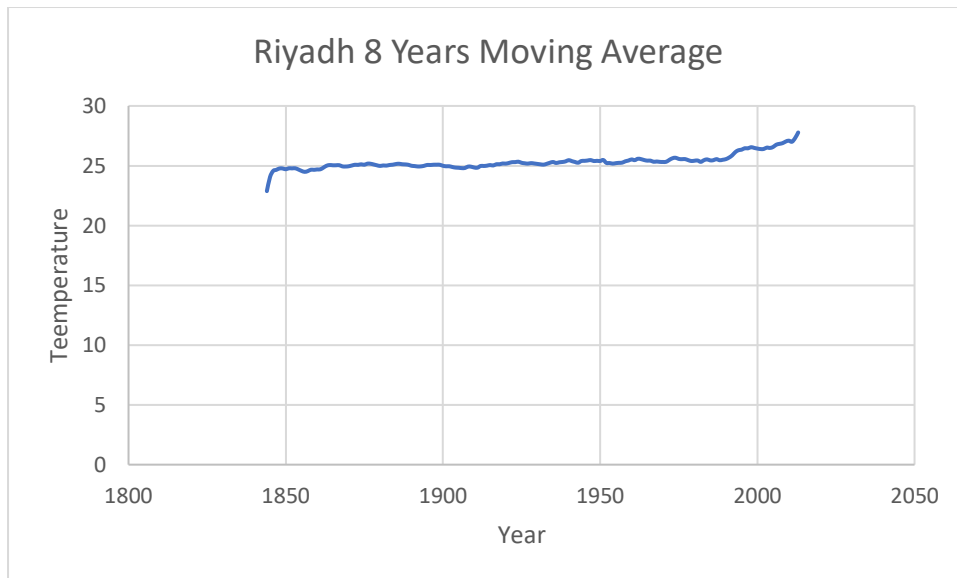


Figure 1:Riyadh temperature changes with 8 years MA.

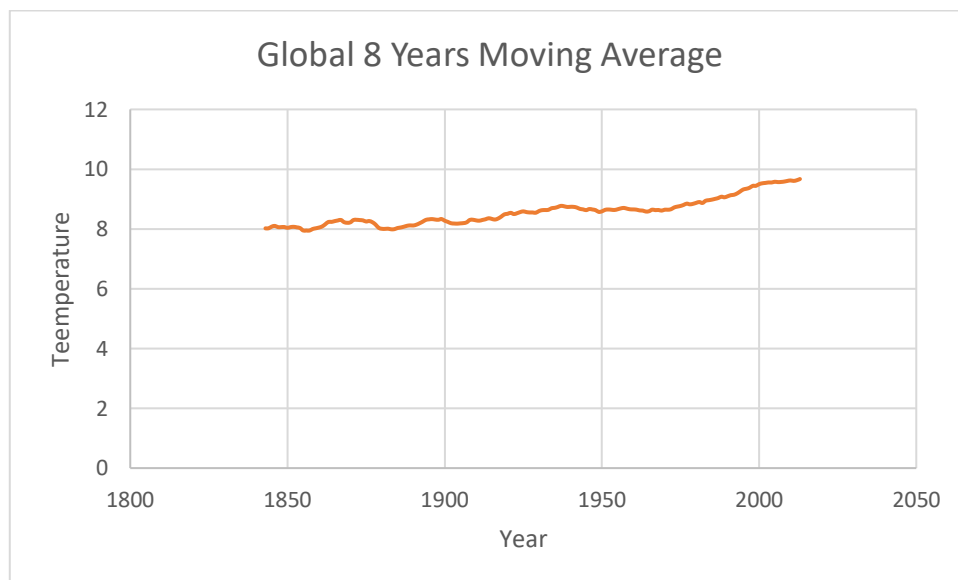


Figure 2: Global temperature changes with 8 years MA.

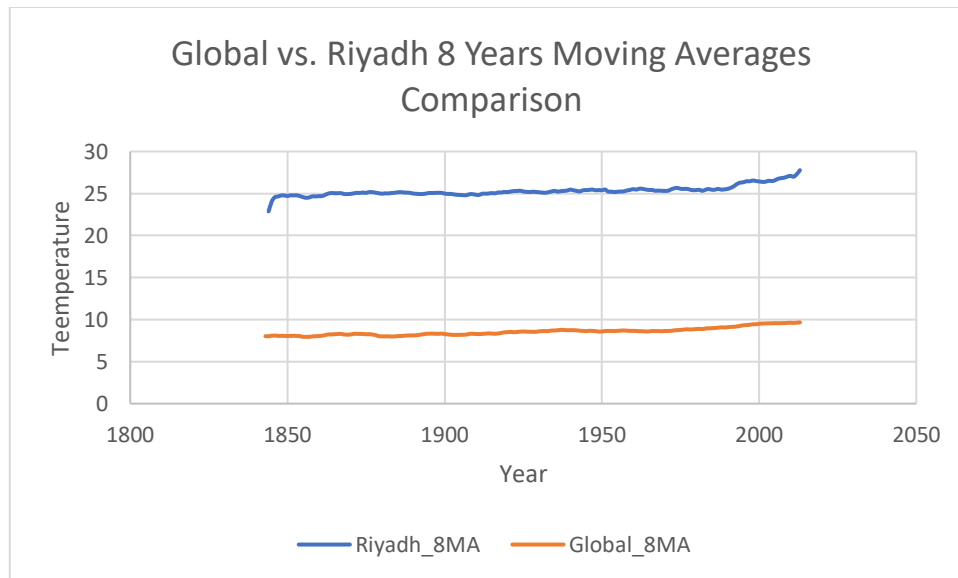


Figure 3: Global and Riyadh temperature changes with 8 years MA.

3- Observations and Finding

The following observation based on moving average over the years that illustrated in the above section.

- i. Riyadh city has higher temperature compared to the global average temperature trends.
- ii. Riyadh city becomes hotter over time.
- iii. The trend shows increase in the global temperature, it means the world become hotter over time.
- iv. Before 1950 (during the last 100 years) the world saw a very slight rise (consistent) in temperature but after 1950 the temperatures were rising very significantly in a few years (nearly 60 years).
- v. The rise in global temperatures in the last few years indicates a change in our behaviour in life. The introduction of environmental pollutants into our world, such as plastics, global warming, and pollution of the seas, is one of the reasons for rising temperatures.