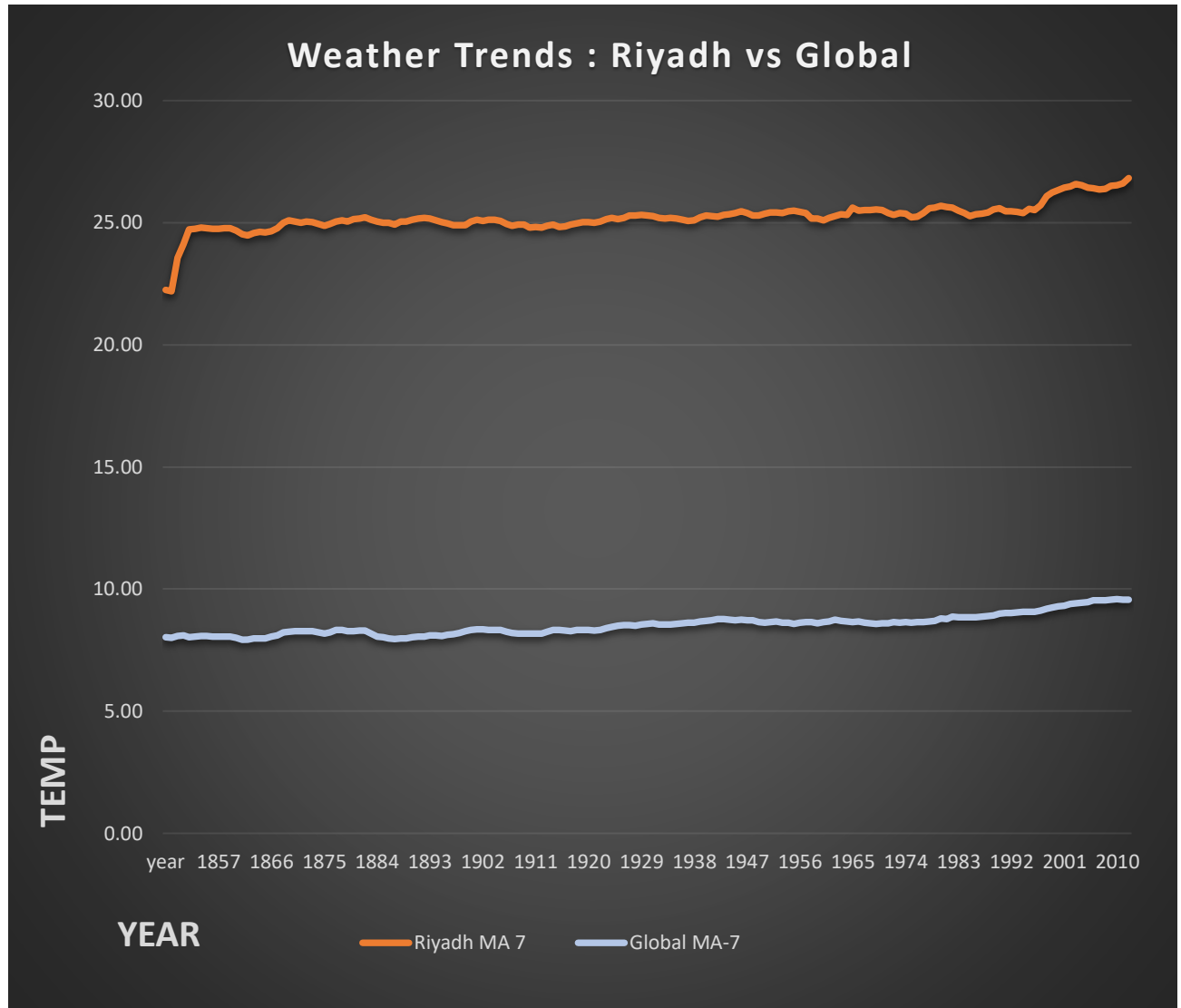


Exploring Weather Trends – Project 1



- Outline:**

I have used SQL to explore the Databases and their entities, then did a search for my country “Saudi Arabia” to see what cities are in the database then extracted my city’s data using these separate codes on the SQL workplace:

```
SELECT *  
FROM city_list  
WHERE city LIKE '%Saudi%';
```

```
SELECT *  
FROM city_data  
WHERE city LIKE '%Riyadh%';
```

exported as CVS

After that I extracted the global average data using this code:

```
SELECT *  
FROM global_data  
WHERE year >= 1843 AND < 2014;
```

Exported at CSV

The condition aimed to filter out the extra years that was in the global average database to make sure the data we are looking at is within the same time frame.

I have then added a column in the excel file for the Riyadh's excel spreadsheet and copied the global average temps into it.

The moving average?

I have then added two extra columns to calculate and input the Moving Average values for Riyadh avg and Global avg columns for each 7 readings (years) using the formula:

MA7= AVERAGE(D2:D8) then autofill for the rest of the column, the same way for the Global MA7.

Then used the chart Line to visualize those Moving average columns.

- **key considerations:**

- it was important to have enough recorded data and for longer period of time to be able to have a reasonable visualization that can be used to extract meaningful trends from.
- the data visualized to be for the same period of time for more accurate indications and trends.
- the data details recorded should be almost complete in the sense that there is no much missing data that can affect our visualization or the meaning of it.

- **Observations:**

- The chart shows clearly over time that's consistently Riyadh is much hotter than the global average by almost 2.75 times.
- The changes over a long period of time have been on a similar trend, steady with a small fluctuating increment. However, within the past 40-50 years the global average temperatures took a more steadily increment whereas Riyadh picked up that trend 25 years later.
- Those more increasing trends in temperatures (global warming) in recent years locally and globally have already been a subject for researches and debates around the globe.
- The increment percentage (not surprisingly) has been quite similar over the years recorded which is around 19%.
- On the previous observation, it is predicted the global temperatures will continue on the trend unless something is done about the subject.
- Overall, we can see similar trends between Riyadh and the globe regarding the temperature's changes. Wherever in the globe we are subject to similar circumstances and it's no surprising that it has similar affects.