Project 1: Explore Weather Trends

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1. Data Extraction

Tool used: SQL

```
select * from city_data where city='Riyadh'
select * from global_data;
```

2. Data Preparation

Tool used: Excel

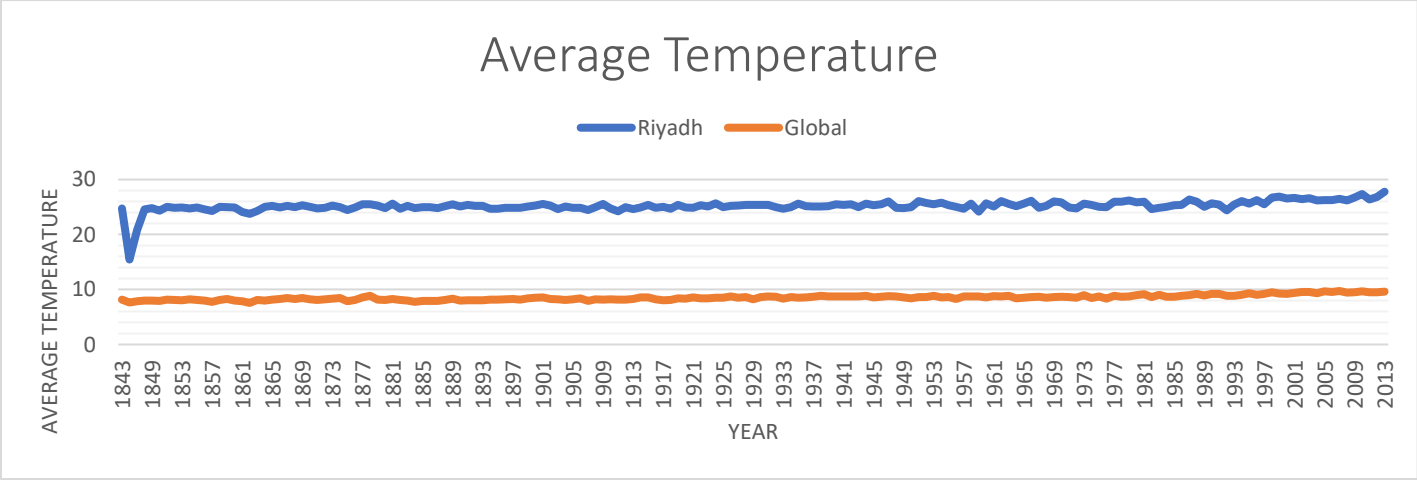
Approach to get the needed data:

- I copied global data from global_data.cvs and paste in the city_data.cvs.
- I noticed that there are 2 years missing in Riyadh data 1846,1847, and these 2 years match with years 1936 where it was in Riyadh 25.15 and was in global 8.55 just as the year 1846, and year 1888 where it was in Riyadh 25.13 and global 8.09 just as year 1847. But I decided to eliminate them from both global and city data to improve the quality of the trends.

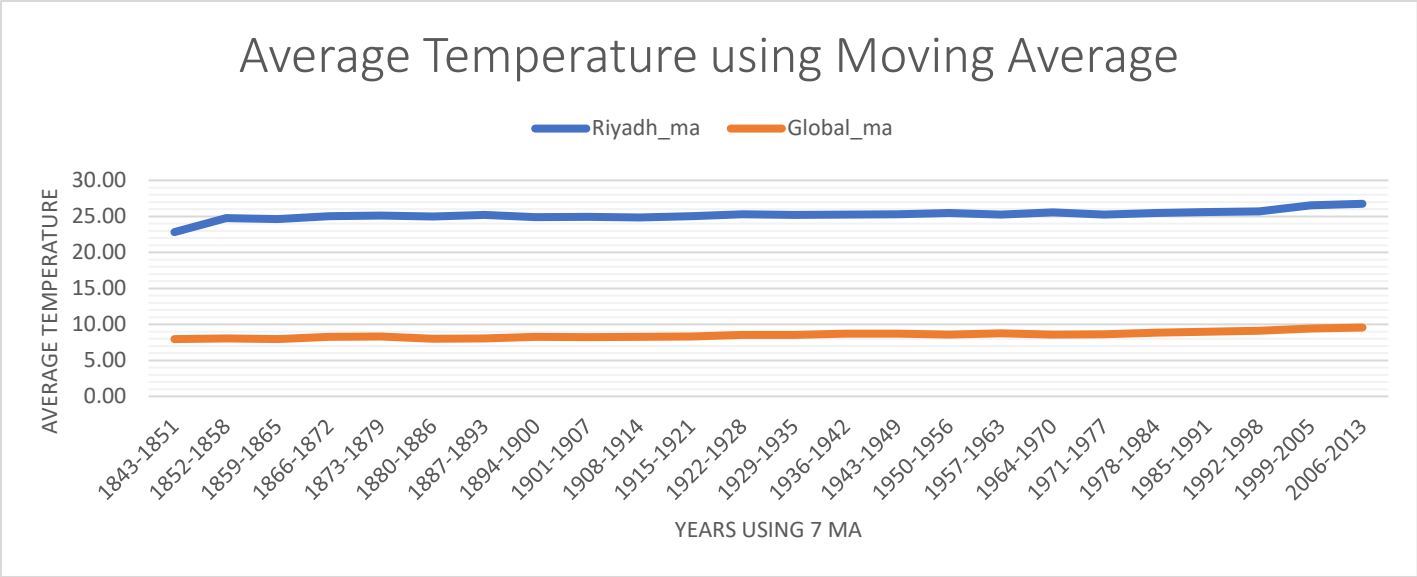
3. Data Visualization

Tool used: Excel

Results:



After using ***moving average***:



The ***moving average*** formula in excel calculated by 7 ma:

```
=AVERAGE(D2:D8)
```

4. Observations

From the data and the charts above we can conclude that:

1. Global data between 1843 and 2013 varies between 7.56 and 9.73 while Riyadh in the other hand varies between 15.45 and 27.78.
2. The hottest year for Riyadh was 2013 while it is 2007 in global.
3. According to the charts, we can conclude that Riyadh is **three times** hotter than global average.
4. The change of global average temperature had increased by more than 2 degrees in 170 years.
5. Riyadh had a significant average temperature increase in the years 1844 and 1845 from 15.45 to 20.82.