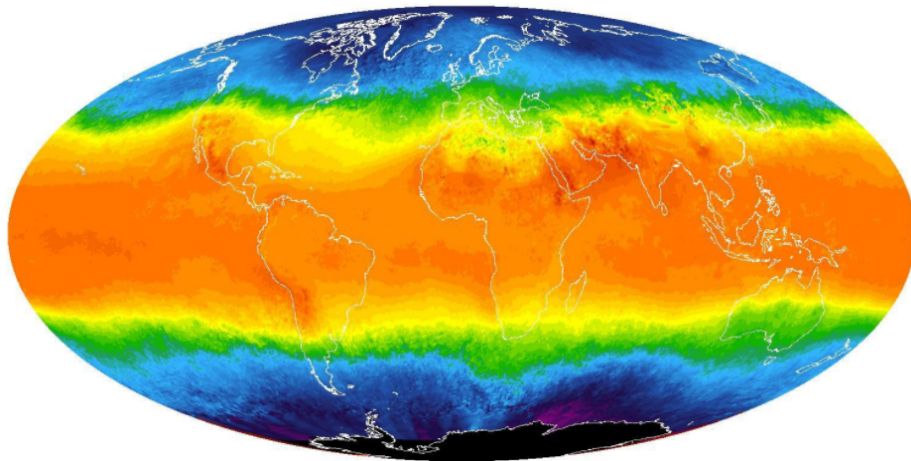# Exploring Weather Trends

Prepared for: Udacity project1

Prepared by: Mohammad Alsawaji

22 March 2019

Proposal number: 1

EXECUTIVE SUMMARY

Objective

Analyze local and global temperature data and compare the temperature trends in Riyadh to overall global temperature trends.

Goals

will be to create a visualization and prepare a write up describing the similarities and differences between global temperature trends and temperature trends in the Riyadh city.

Tool

SQL
IPython Notebooks (IBM Watson Studio)

Solution

- Global data was extracted by SQL Query:

```sql
SELECT * FROM global_data;
```

- Riyadh city data was extracted by SQL Query:

```sql
SELECT * FROM city_data WHERE city = 'Riyadh' AND country = 'Saudi Arabia';
```
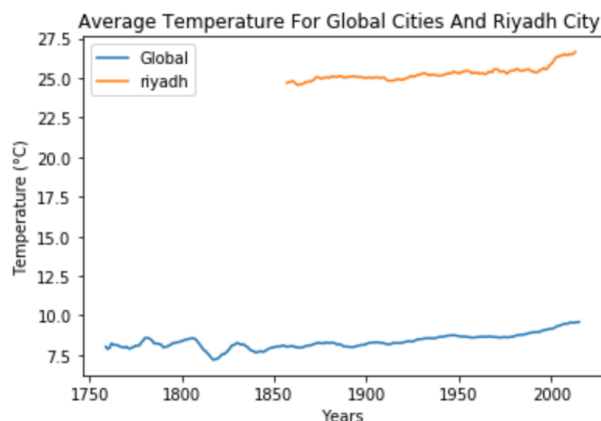
- Moving Average:

  - The rolling average was calculating for every 10 years.

  - Python was use for calculating the "Moving Average" to calculate average temperature for global cities and Riyadh city.

```python
global_moving_average = global_data['avg_temp'].rolling(10).mean()

riyadh_moving_average = riyadh_data['avg_temp'].rolling(10).mean()
```
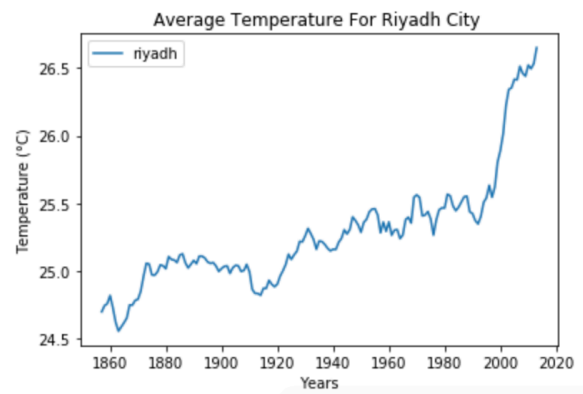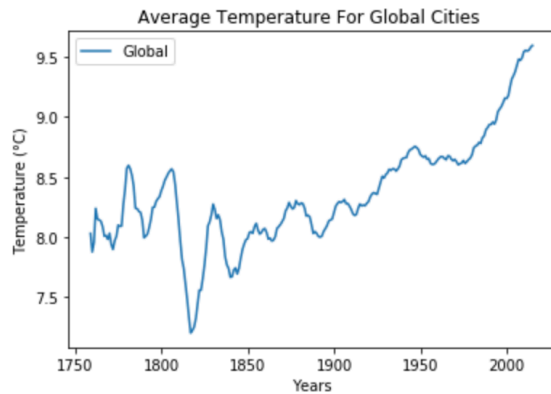
- Line chart:

- The two Lines chart for global cities and Riyadh city:

observations

- Since 2000 the temperature in Riyadh city rising up.

- Riyadh city is getting hotter over time.

- Around 1850 the temperature in global rising up "in general".

- The temperature in Riyadh city between 1860 till 2000 is not stable, after 2000 the temperature extremely rising up.

- The change of the climate between the globe and Riyadh city is slightly small, and both of them are raising.

Conclusion

- The average temperature for Riyadh city is hotter than global in general.
- The global temperature is raising over the years.