Data Analyst Nanodegree

Project-1. Explore Weather Trends

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Approach to get the desired data:

- After running SQL queries :
  a. To find out the closest city (select * from city_list where country = 'Saudi Arabia')
  b. To get the closest city data (select * from city_data where city = 'Mecca')
  c. To get Global data (select * from global_data ;)

- I download the global data and CSV file of closest city (Mecca) to get the desired data for analysis.
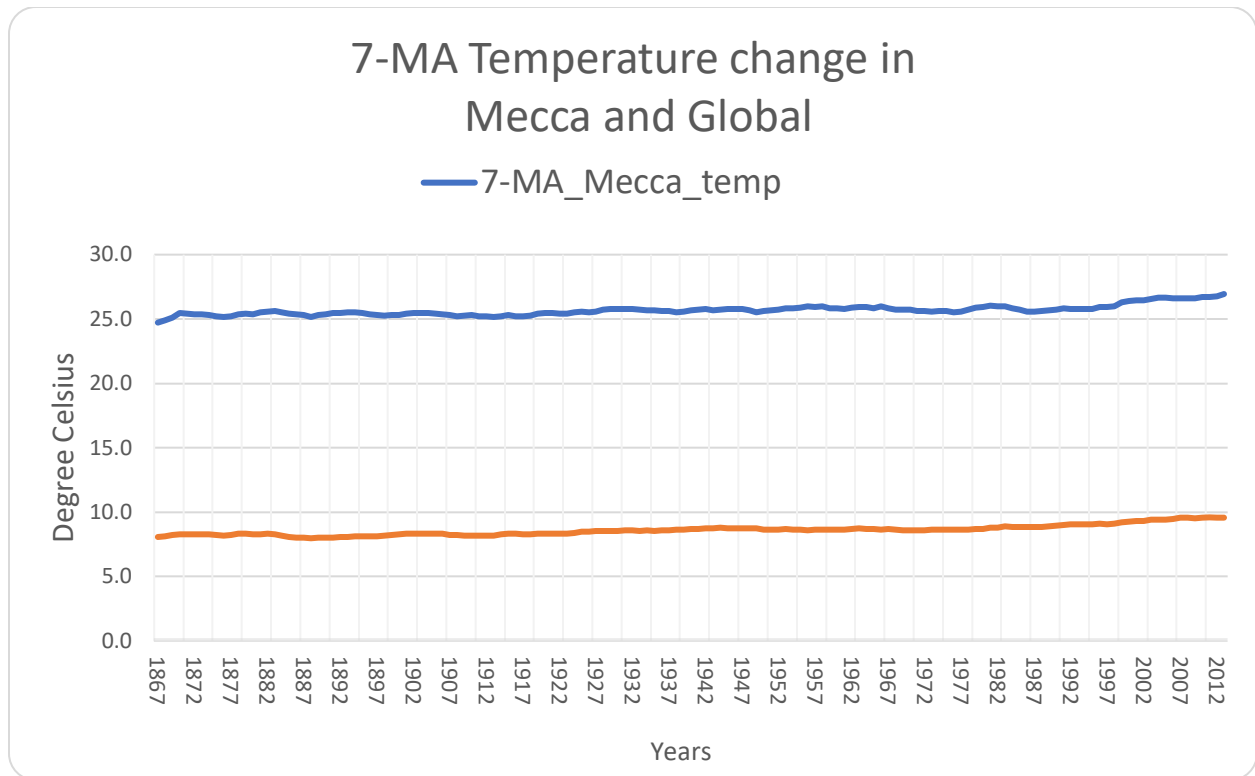- I used Microsoft Excel for the analysis.

Moving Averages:

- To make trends more observable I calculated moving average(MA).
- I used 7 years Moving Average to get the smooth line chart.

Excel commands for moving averages:

–For 7-years moving average   =AVERAGE(B2:B8)

The line chart for 7-MA Mecca and Global temp:

7-MA Temperature change in Mecca and Global

7-MA_Mecca_temp

Degree Celsius (y-axis: 0.0 to 30.0)

Years (x-axis: 1867 to 2012)

Observations:

1.   According to above chart the difference between **Global average temperature and Mecca average temperature** is been **consistent over time**.

2.   **Mecca** average temperature comparing with Global average temperature is always **hotter than Global average temperature**.

3.   The **highest Global average temperature is 9.73 in 2007**. While **Mecca highest average temperature is 27.57 in 2013**.

4.   The **lowest Global average temperature is 7.56 in 1862**. While **Mecca lowest average temperature is 22.87 in 1863**.

5.   **Global** average temperature **varies** between **7.56 to 9.73 Degree Celsius**. On the other hand, **Mecca** average temperature **varies** between **22.87 to 27.57 Degree Celsius**.

The line chart for Mecca and Global temperature:

Global vs Mecca temperature
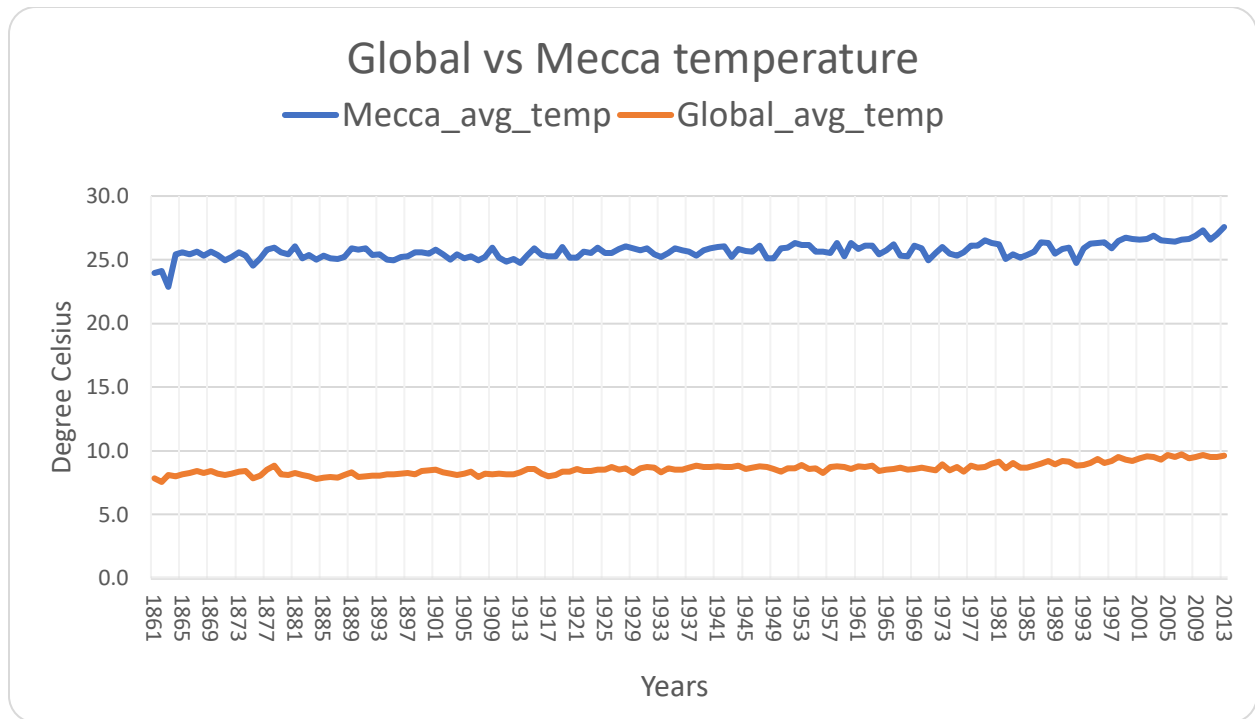
From This line chart we can see that eventually the graph is moving upwards which means the global temperature is rising which is directly proportional to increase in temperatures of the city.

Global Temperature ∞ Mecca Temperature

Final Conclusion:
The world is getting hotter.