Project 01
Exploring Weather Trends

- I used ‘SQL’ to extract data from the database. I extracted data from the three database tables i.e. city_list, city_data and global_data.

Some of the SQL queries that are used in extracting data from the database:

- SELECT *
  FROM city_list
  WHERE country='India' AND city='Delhi'
- SELECT *
  FROM city_data
  WHERE country='India' AND city='Delhi'
- SELECT *
  FROM global_data

- I used ‘MS Excel’ to visualize data in the chart. I calculate Moving Average of the local city and the world by using ‘Average Function’ and then dragging it down with CTRL. I also used ‘Scatter Chart’ to visualize data in form of chart with smooth lines.
- My key considerations are:
  1. Analyzing Moving Average of next 50 years from the previous 50 years.
  2. Studying the similarities and dissimilarities of average temperatures of both Delhi and the world.

Here are some of the points that are observed in exploring weather trends i.e. Temperature in my own city Delhi and around the world.

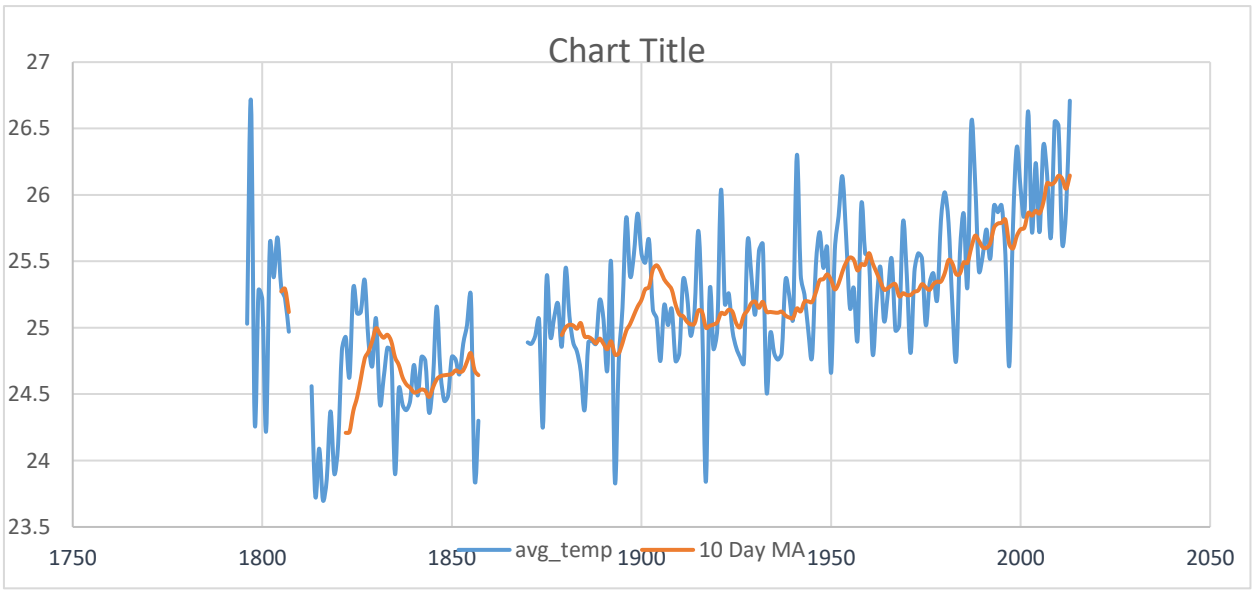
1. From 1850 to 1900, the Moving Average (10 year) of temperatures of Delhi shows that the average temperature of city increases at very

small rate. This shows that city doesn't affect from the Industrialization that goes around the world at that time. Whereas, the global data shows that the average temperature of the earth begun to rise. The reason must be the Industrialization that goes in Europe and America at that time.

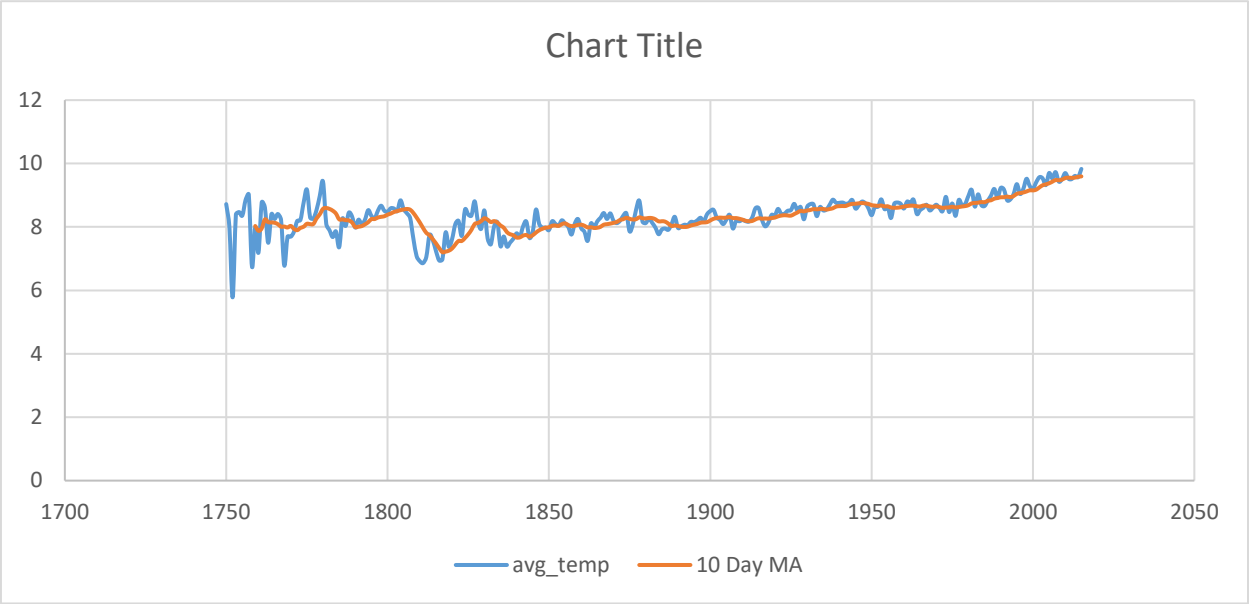
2. From 1900 to 1950, the temperature of Delhi shows that the city gets hotter in these years which will be the effect of Leather factories that are setting up in Delhi and across that area at that time. This is similar to the global data which is also getting hotter. The world average temperature also going up from the normal. This was also the effect of 2 world wars that goes around in that period.
3. From 1950 to 2000, the earth is getting hotter at much faster rate than ever in history. Both Delhi and world went to the much faster rate of Industrialization due to which the yearly average temperature of Delhi and the world increases at much faster rate.
4. From 2000 to 2015, the data shows that the increasing rate of temperature goes at same rate as it was in late 20th Century .
5. The future trend shows that the earth is getting hotter year by year.

Line Chart:

I. Year vs Average Temperature(Delhi)



II. Year vs Average Temperature(World)



III. Year vs Average Temperature(Delhi,World)