Weather Trends

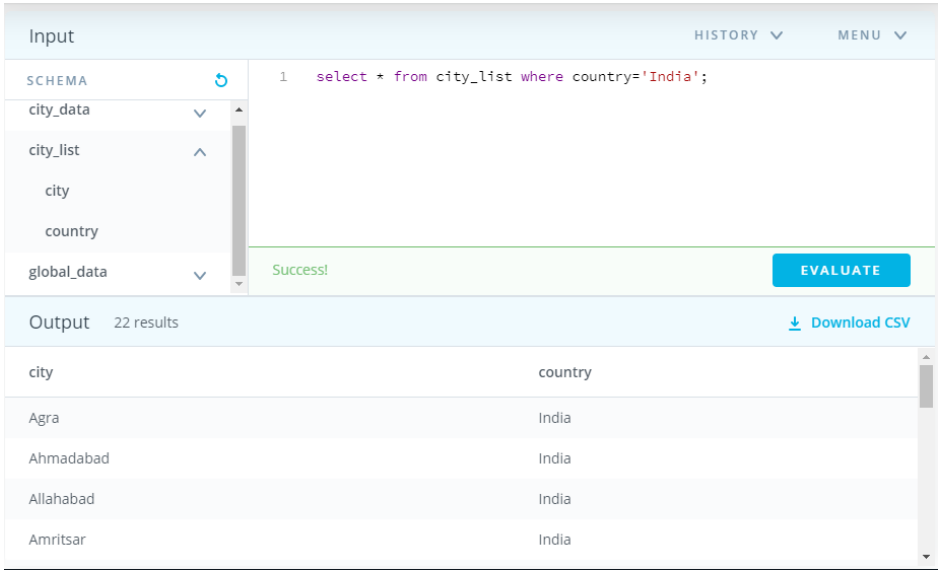
I am Shubh. I belong to Bareilly, Uttar Pradesh, India. So I selected Delhi (India) to be my near most city. The climate of Delhi is an overlap between monsoon-influenced, humid subtropical and semi-arid , with high variation between summer and winter temperatures and precipitation. To compare these trends let's retrieve the data.

Data Retrieval

There are three tables in the database:

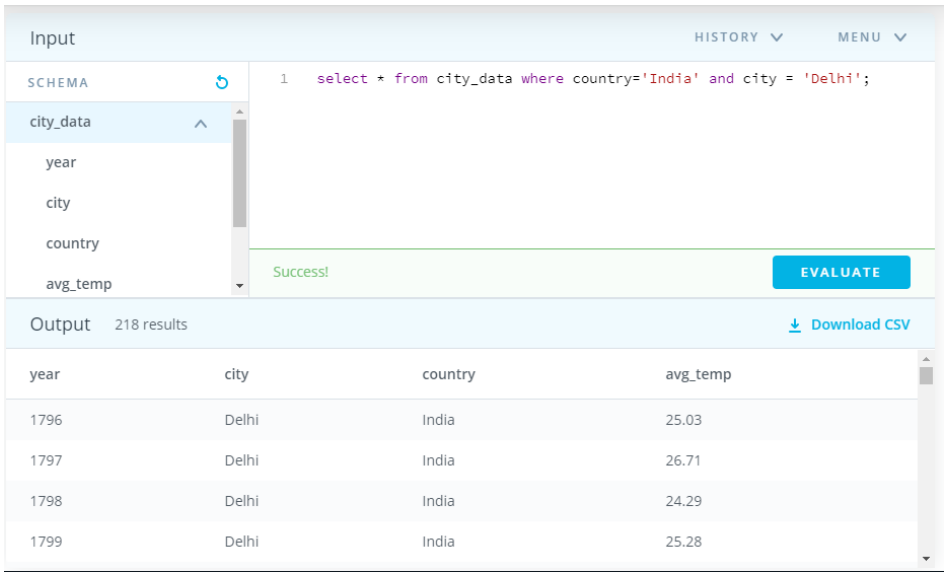
- city_list - This contains a list of cities and countries in the database. Look through them in order to find the city nearest to you.
- city_data - This contains the average temperatures for each city by year (ºC).
- global_data - This contains the average global temperatures by year (ºC).

1. Since I live in India, so I made query by searching my country name from the city_list table which is having all the country and city names.

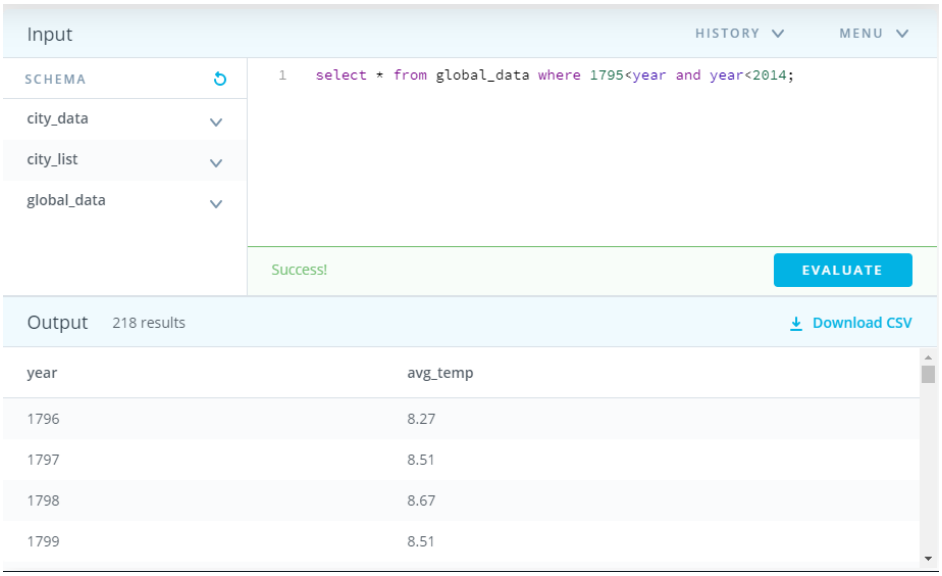


From above csv file I had find my nearby city and it was Delhi.

2. Later wards, I made a query in city_data table to retrieve data about average temperature across Delhi.



3. And finally, I made query across the global_data table to retrieve all the data available in years 1796-2013(since we are having that much data for Delhi).

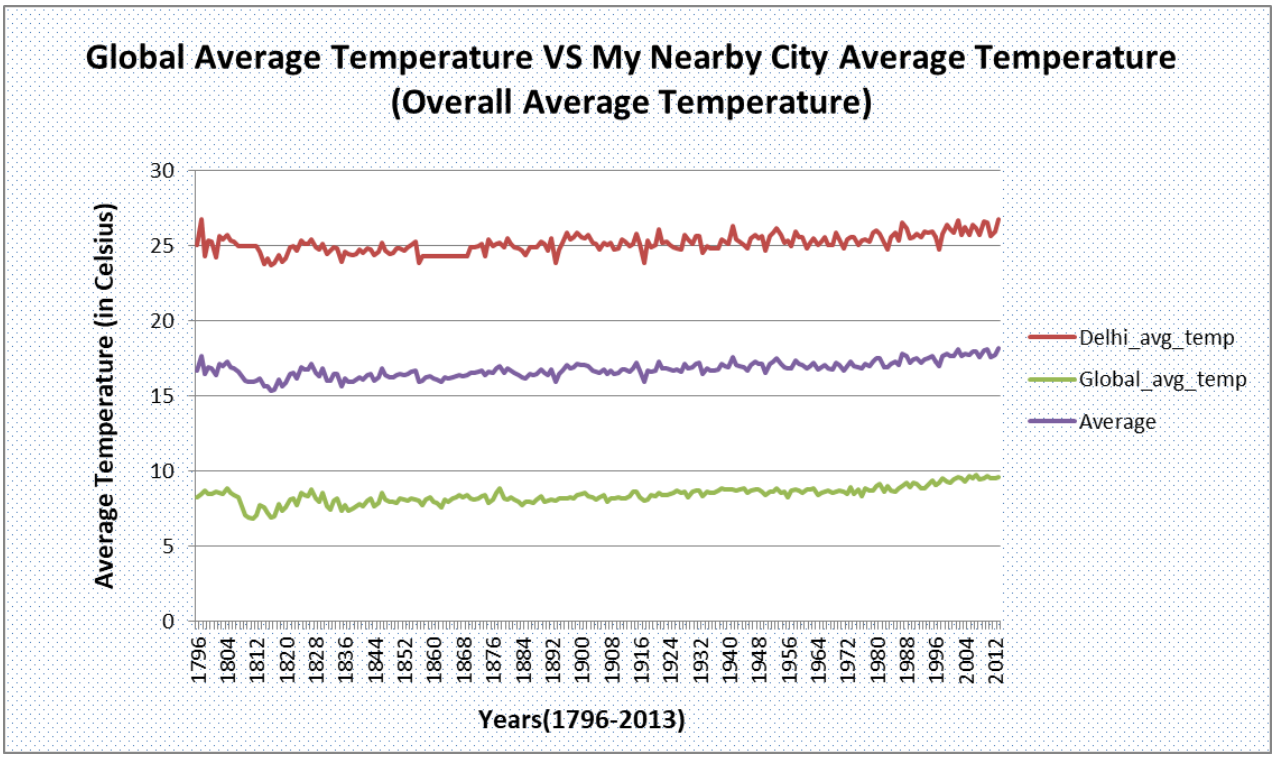


Comparison

So now I am going to compare weather trends between Delhi and the global information with the help of average temperatures (in Celsius), respectively, in 4 parts.

To visualize the data I had used **MS Excel.**

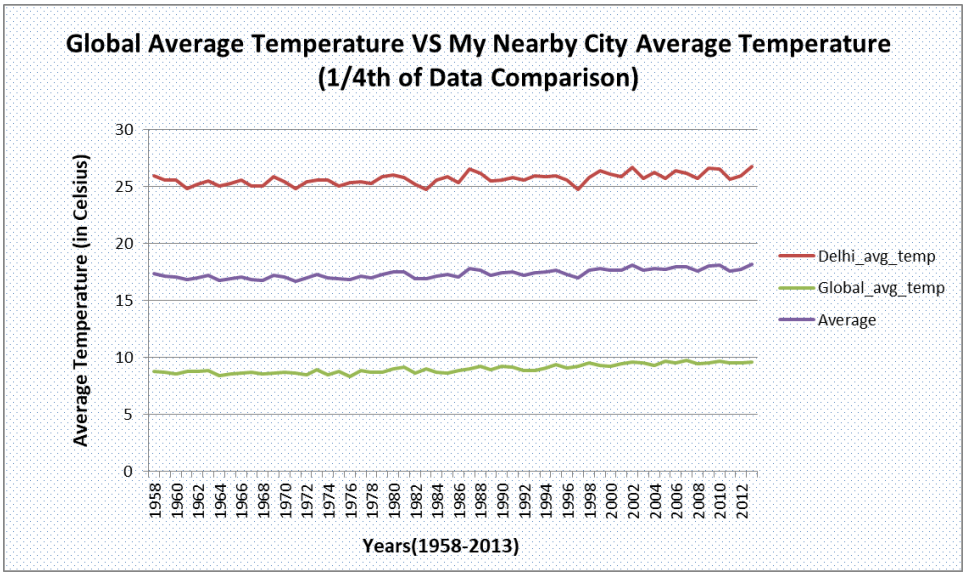
1. General Overview



The above data is showing a huge variation between global average temperature and Delhi (India) average temperature. It is crystal clear that Delhi's average temperature is higher than the global average temperature, i.e., about the difference of 16.7 degree Celsius.

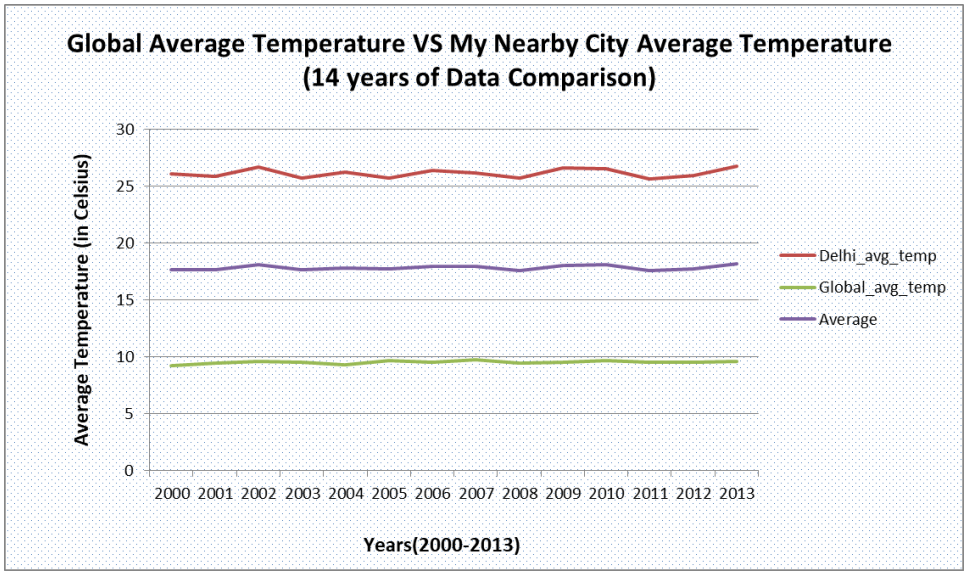
For more details let's consider other observations as given below:-

2. 1/4th Data Comparison



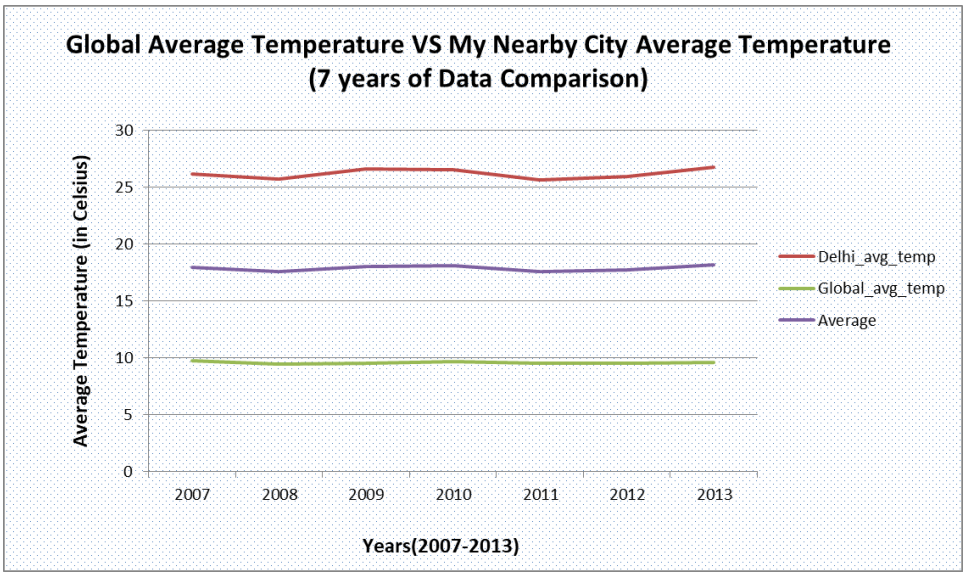
The above data of about 55 years resembles very less fluctuations in global average temperature change, while there are many fluctuations or changes in Delhi's average temperature. Both are increasing with a period of time (in year).
For clear cut image let's compare 14 years of data.

3. Past 14 Years of Data



The above line graph is showing nearly constant temperature of global average temperature, i.e., about 9.51929 degrees Celsius and on the other hand Delhi average temperature is showing gradual changes in its temperature, and on the average it is 26.1229 degree Celsius.

4. Past 7 years of Data



The above line graph is showing nearly constant temperature of global average temperature, i.e., about 9.57286 degrees Celsius and on the other hand Delhi average temperature is also showing constant behavior in its temperature, and on the average it is 26.1614 degree Celsius. The average difference between both the temperatures is 16.588 degree Celsius (0.112 degree Celsius less than the overall comparison).

Observations:-

- Delhi is hotter than overall average compared to the global average (about 16.7 degree Celsius).
- The difference been consistent over time.
- On the basis of 2nd line chart, we can say that there are more certain changes in temperature in compare to the global temperature.
- On the basis of overall chart we can say that the overall trend is increasing with low rate.
- The world is getting hotter.
- The trend seems to be consistent over the last few hundred years as it maintained the overall average temperature to 8.36 degree Celsius globally (max. 9.83 and min. 5.78 degree Celsius).