EXPLORING WEATHER TRENDS

by Nandhitha

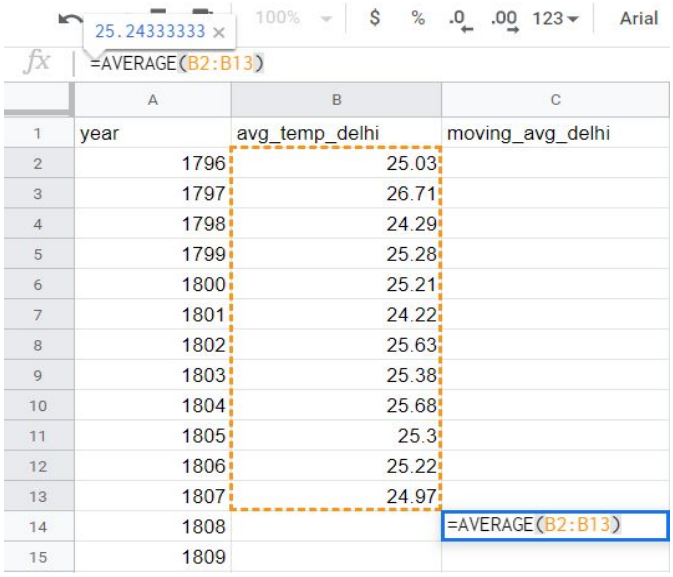
GOAL: The goal is to create a visualization and to prepare a write up describing the similarities and differences between the global temperature trends and the temperature trends of a city.

Steps taken to prepare the data to be visualized in the chart:

1. What tools did you use for each step?
   For extracting the data from the database, SQL is used. The data is downloaded and saved as csv files, from which we proceed to calculate the moving average.

   SELECT* FROM global_data - to extract avg temp globally
   SELECT* FROM city_data WHERE city = 'Delhi' - to extract avg temp for Delhi

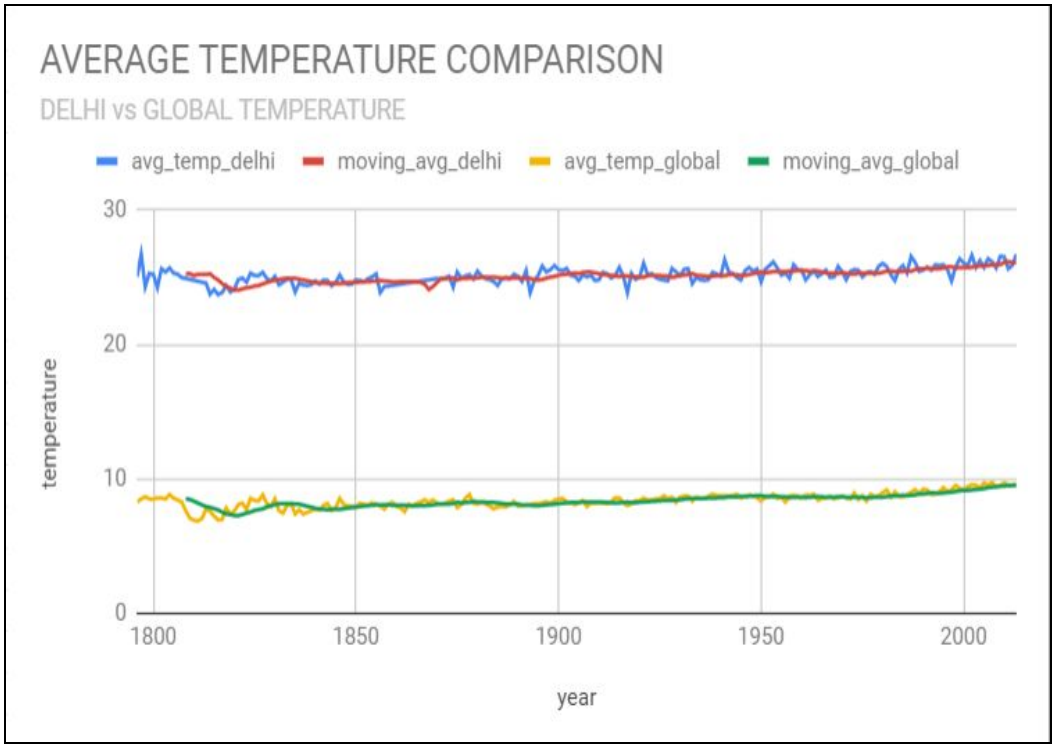
2. How did you calculate the moving average?
   The moving average was calculated for 12 years using the AVERAGE function



	A	B	C
1	year	avg_temp_delhi	moving_avg_delhi
2	1796	25.03	
3	1797	26.71	
4	1798	24.29	
5	1799	25.28	
6	1800	25.21	
7	1801	24.22	
8	1802	25.63	
9	1803	25.38	
10	1804	25.68	
11	1805	25.3	
12	1806	25.22	
13	1807	24.97	
14	1808		=AVERAGE(B2:B13)
15	1809		

3. What were your key considerations when deciding how to visualize the trends?
   - To plot all the trendlines in the same plot for better comparison
   - To differentiate each trendline using colours and legends
   - To make the plot easier to interpret

Line chart with local and global temperature trends:



Observations:

- The average temperature seems to be higher in Delhi when compared to the average temperature globally.
- We can notice that the temperature has increased in a marginal level over the period of time (nearly 200 years of data).
- The lowest temperatures found for Delhi (26℃) is around the year 1820 whereas globally (7.3℃) is the lowest temperature around 1820.
- The graphs show an uptrend pattern, so it can be inferred that it is getting hotter with the years.
- The slopes of Global and Delhi seem to be positive.