

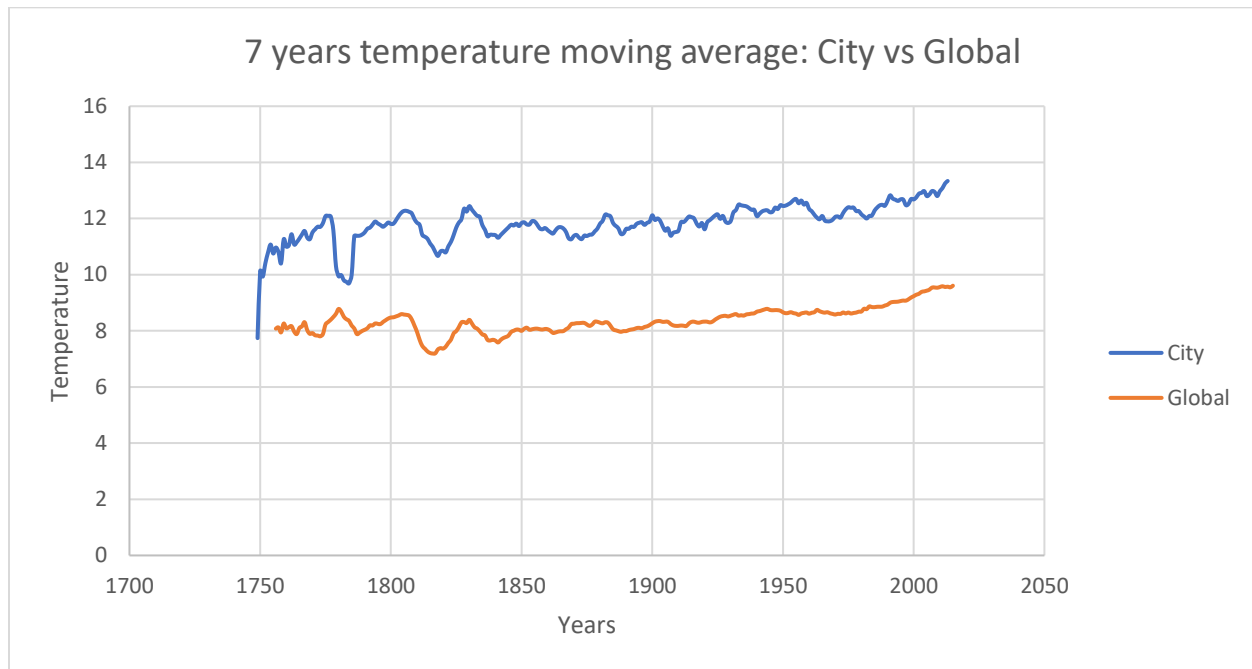
SQL used:

The screenshot shows a web-based SQL query interface. At the top, there is a header bar with the word "Input" on the left, "HISTORY" with a dropdown arrow in the center, and "ME" on the right. Below the header, a white box contains a list of five SQL queries: "select * from global_data", "select * from city_data where city = 'Alexandria' and country = 'United States'", "select * from city_data where city = 'Alexandria'", "select * from city_data", and "select * from city_list". To the right of this list, a blue button with the text "EVALUATE" is partially visible. Below the queries, there is a section labeled "Output" on the left and "No data to do" on the right. At the bottom of the interface, there is a message "No query requested yet. Start your query above!" with a magnifying glass icon. In the bottom right corner, there is a blue circular chat icon. The bottom of the screen shows a dark bar with a small upward arrow, the text "ENG", and the date and time "11:35 AM 6/5/2020".

Excel used:

- In order to get the 7 year average, I use excel's average() formula to calculate the average temperature for every seven year (For instance, =AVERAGE(D2:D8) then drag down until the end of the columns, excel will refractor that formula accordingly)
- For graph, I insert scatter graph base on the calculated data

Graph:



Observation:

- Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?
 - Both of the graphs show the city and global temperature keep rising. However, the rate of which temperature is rising is getting larger over time as we can see on the graph, the slope is getting steeper.
- “How do the changes in your city’s temperatures over time compare to the changes in the global average?”
 - The temperature of the city rises at a faster pace when compare to global temperature. Initially, both start at approximately 8. However, the city temperature overtook the global one when the city raised from 8 to 12, the global was only rise from 8 to 9 at that point of time. As of the last 7 year moving average temperature, city’s 7 years moving average was at nearly 14 while global temperature was at near 10.
- What does the overall trend look like? Is the world getting hotter or cooler? Has the trend been consistent over the last few hundred years?
 - The world is getting hotter as the overall trend looks positively linear. However, with the global warming issue lead to ice melting, ozone hole and greenhouse effect, it could potentially develop to exponential.

- Overall, the trend has been consistent for the right half of the graph when it's slowly rising. As for the left half, both of the graphs are fluctuating.