WEATHER TRENDS PROJECT

- **An outline** of steps taken to prepare the data to be visualized in the chart, such as:
- What tools did you use for each step? (Python, SQL, Excel, etc)
  Sol: SQL, Excel
- How did you calculate the moving average?
  Sol: Using Excel
- What were your key considerations when deciding how to visualize the trends?
- **Line chart** with local and global temperature trends
- At least **four observations** about the similarities and/or differences in the trends

- I have used the below SQL to extract the data and saved it in .csv files

```
select  cd.city, cd.year, cd.country, cd.avg_temp city_avg, cl.country, gd.avg_temp
from city_data cd, city_list cl, global_data gd
where cd.city=cl.city
and cd.city='Paris'
and gd.year = cd.year
```

- The moving average is calculated using Excel manually. I have taken the moving average of every 10 years.
- I have plotted the line graph to see the visualizations of the moving average of Paris city's temperature and compared with the global temperature. I made sure that the x axis shows the year and y axis shows the temperatures (city and global)

Figure 1:

PARIS CITY TEMPERATURE IN COMPARSION WITH THE 10 YEAR MOVING AVERAGE

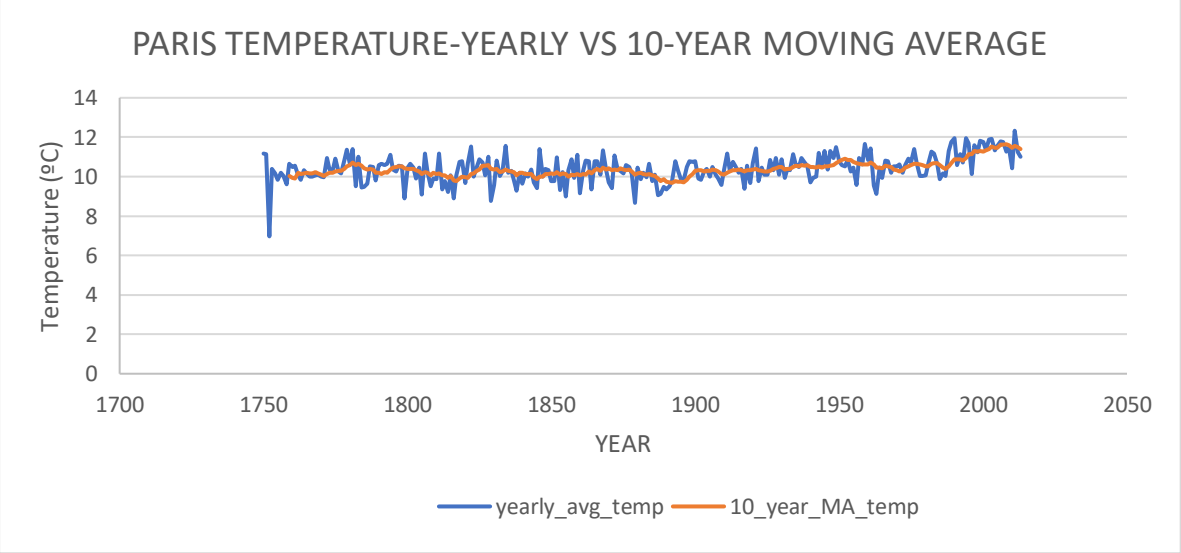


Figure 2:

GLOBAL TEMPERATURE IN COMPARISON TO THE 10-YEAR MOVING AVERAGE

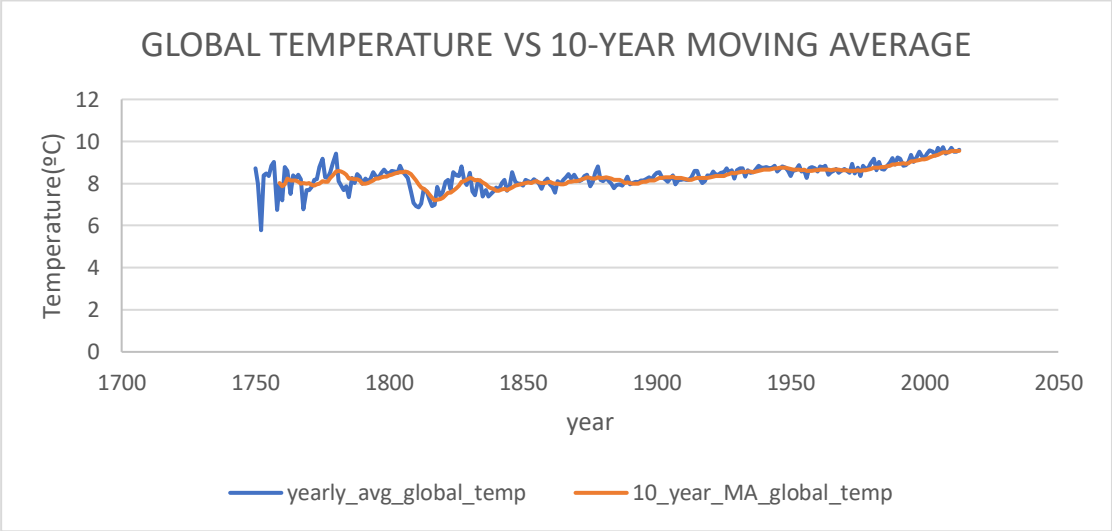


Figure 3:

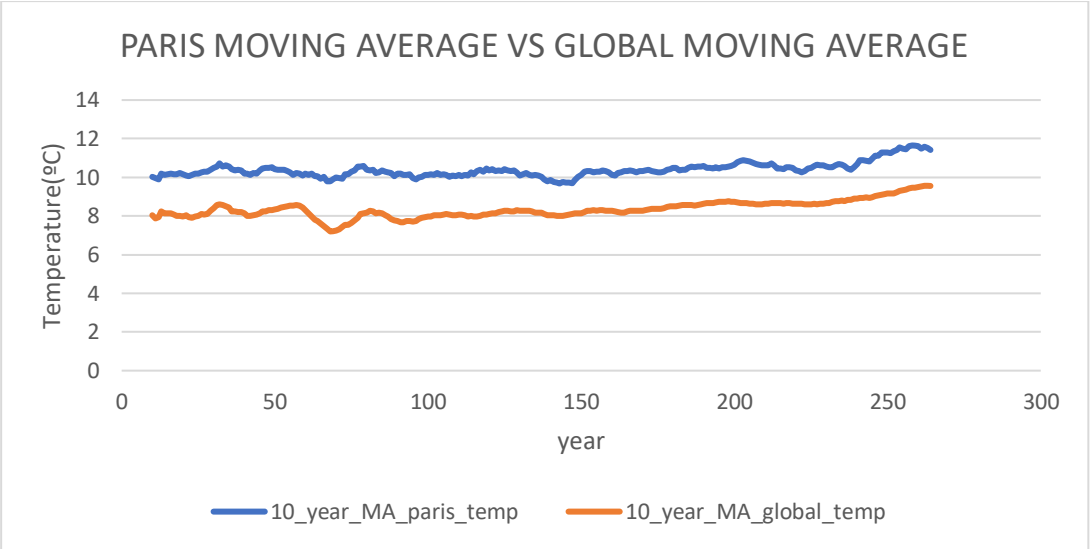
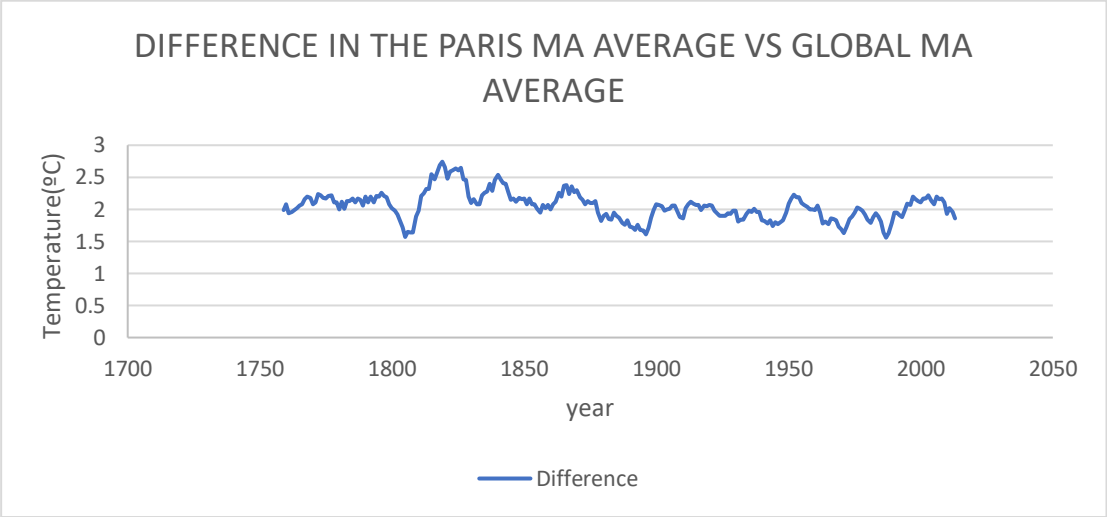


Figure 4:



- Is your city hotter or cooler on average compared to the global average? Has the difference been consistent over time?
  - From the figure 3, it is evident that our city is hotter on average than the global average because the average temperatures(city and 10 year MA) lies between 8 and 12 degree Celsius and the average temperatures(global and 10 year MA) lies between 6 and 10 degree Celsius.
  - The difference between the moving averages of city and global temperatures is not so consistent from the figure 4.

- "How do the changes in your city's temperatures over time compare to the changes in the global average?"
  - The changes looks similar and the trend is increasing as the year progresses.

- 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 overall trend is showing an increase in our city's average temperature as well as the global average temperature by 2 degrees.
  - The world is getting hotter.
  - The trend has been consistent over last few years.
  - The temperature in Paris had a sudden drop in the year 1752 by 4 degrees and had a sudden increase of 3 degrees by the very next year and has been quiet consistent over the years.
  - The global temperatures has not been consistent between 1750 and 1800. The temperatures had a sudden fall and sudden increases and has been consistent over the next years.