Outline of steps taken to prepare the data to be visualized in the chart

Data extraction and manipulation

For extracting the global and local temperatures data by years, I used SQL, this query below.

SQL Query:

```
SELECT g.year AS YEAR,
       g.avg_temp AS global_avg_temp,
       c.avg_temp AS paris_france_avg_temp
FROM global_data AS g,
     city_data AS c
WHERE g.year = c.year
  AND c.city='Paris'
  AND c.country='France'
```

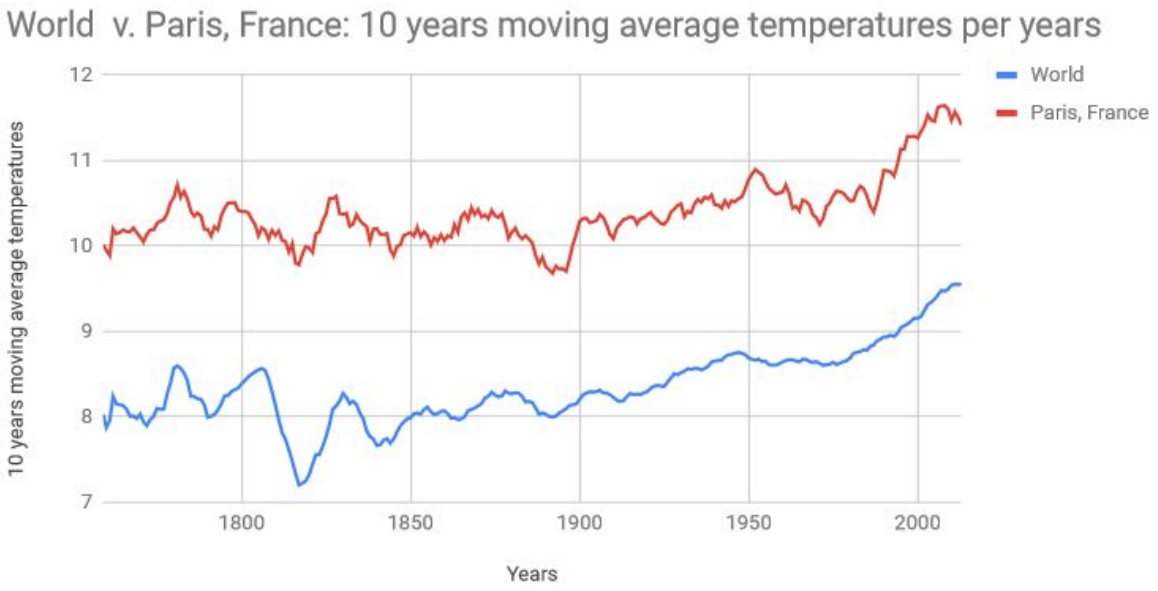
I extracted the data as csv. Later import the csv files on google spreadsheets.
For calculating the moving average, I selected to calculate 10 years moving average. In order to calculate moving average, I selected first 10 years and by average function, I calculated their average on google sheets for the 10th year by this formula =AVERAGE(B2:B11). For 11th year the formula was AVERAGE(B3:B12) . I continued my calculations till the end, year 2013 by using same function. I calculated 10 years moving average for both global and local temperatures data by this way.

Key Considerations for visualization

Firstly, line chart for the visualization is chosen because we have time series data, and usually line charts are very good to show time series. Comparison of world's global temperatures with local temperatures, in my case with Paris, France is aimed. Years in x-axis and global, local temperatures in y-axis are selected. I used 10 years moving average data for both data in y-axis in order to smooth out the lines and to have better visualisation and understanding of data while making the trends more observable for both. I selected in 7 as min and 12 as max temperature at y-axis for zooming on the comparison between global temperature and local temperature by facilitating the comprehension of data. For the x-axis, I choose to have 50 years intervals again to ease the understanding of the visualization. Grid lines are used to show axis divisions. Because there are many years, and many temperatures and we have intervals in years, grid lines here are helpful to give valuable cues to the viewer.

Line Chart

Please find below the chart from this analysis.



Observations

My city, Paris in France is hotter on average compared to the global average.
The difference is consistent over time.
The world globally is getting hotter.
The general trend is temperature increase both globally and locally.
This trend is better observed for global average temperatures after 1850s, however locally for Paris, the trend increase is better observed after 1900s.
The difference between world and Paris average temperatures are the biggest between 1800 and 1850. After this period, the difference between global and local average temperatures tend to decrease.
There is a sharper increase in average temperatures of Paris at the the last decade between 1950 and 2000 compared to world's average temperatures at the same time.