Exploring Weather Trends

Steps taken to prepare the data:

1. Search the closest big city to where I live:
   Extract the city_list table to see which is the closest city, using SQL:
   SELECT *
   FROM city_list;
   Export to CSV and search by country (Romania). The closest and the biggest city is Bucharest.

2. Export the city level data.
   SELECT *
   FROM city_data
   WHERE city = 'Bucharest';
   Export to CSV

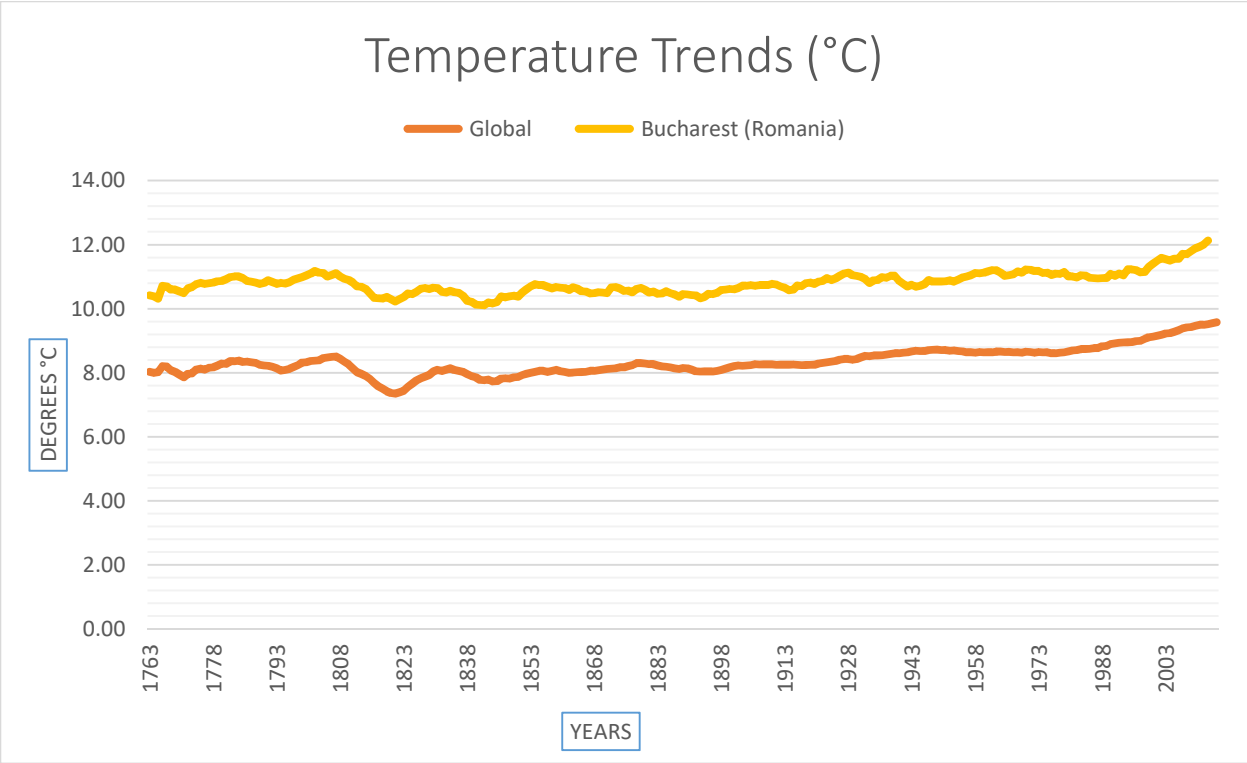
3. Export the global level data.
   SELECT *
   FROM global_data;
   Export to CSV

4. Open excel to analyze the CSVs exported previously. Bring the local data into the global data in order to perform the analysis, using VLOOKUP function.

5. Insert chart line in order to see how the trends look like at this stage. Since the data is very difficult to be observed we need to calculate a moving average.

6. Analyze which moving average calculation is the best to smoother the data. I checked 10-year moving average, 15-year moving average, 30-year moving average and 50-year moving average. I believe the suitable one which makes the data and the trend more observable is the **15-year moving average**.

7. I added the title to the chart and also formatted the horizontal axis so that we can see a 15 units interval between labels.



- In this chart we see a growing trend in temperatures over the years. Nowadays the weather is clearly warmer than it was two hundreds years ago and we can say that there has been a general increase by 2 degrees.
- Bucharest is the capital of Romania, based in Europe. Its continental climate and the presence of the 4 seasons have an influence on the temperature averages that fall between 10 and 12 degrees.
- We can say that Bucharest is undoubtedly hotter than the global average. There is also an influence from the Black Sea that has an impact over the temperature. We can also see a difference of 2 degrees between them.
- The general tendency is going upward. The 2 lines are decreasing and increasing at the same time. For example, if we look at year 1820, there is clear decrease for both temperatures and a clear increase from year 2000. The temperature is continuously growing and these are clearly the long-term effects of global warming.