Project: Explore Weather Trends

Outline

Step 1: Extract Data

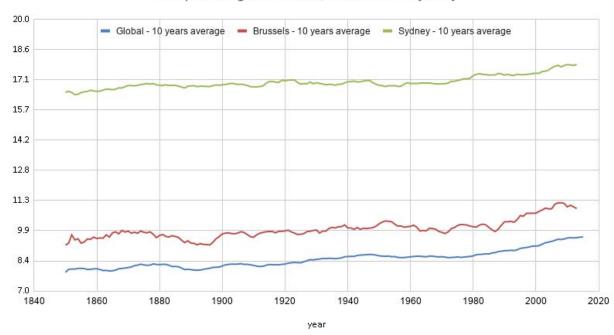1. Global temperature trends:
   > **select * from global_data;**
2. Local area - Brussels:
   > **select * from city_data where country = 'Belgium' and city = 'Brussels';**
3. Other local area from the south of the earth to have better view in other area
   > **select * from city_data where country = 'Australia' and city = 'Sydney';**
- As result, I have 3 CVS files: global.CVS, brussels.cvs and sydney.cvs

Step 2: Create the line chart

- Get to know the data
  - They don't have the same time range for example, Sydney from 1841 and Brussels start from 1743. I believe we would care more about more recent times so I start chart drawing from 1850 - however, I keep the data as it is.
- Using Google Sheet to calculate the moving average in 10 years for the 3 datasets by simply add new column with formula as in the picture below:

● Make a line chart using Google Sheet tool

Temp average of Global, Brussels & Sydney

Step 3: Observation

- Temperature is rising over the years on a global scale and 2 specific locations.
- Comparing global and 2 locations the trend is quite similar, however the global line is smoother probably due to the average of all measurements.
- Focus on the last decade, the temperature starts to slow down its rise in global scale and 2 specific locations.
- Focus on the beginning of the graph the temperature seem flat in all three locations for 2 and 3 decades
- These observations are only based on the given temperatures data. Conclusion is yes, the earth is getting hotter, there is clear evidence for climate change. If we want to dig deep into the root cause of this problem, we must correlate it with the potential root causes, for example the sharp rise from 1990 to 2010 is correlated with the number of flights, number of CO_2 produced by human activities ...