# **Project: Explore Weather Trends**

# **Outline**

#### Step 1: Extract Data

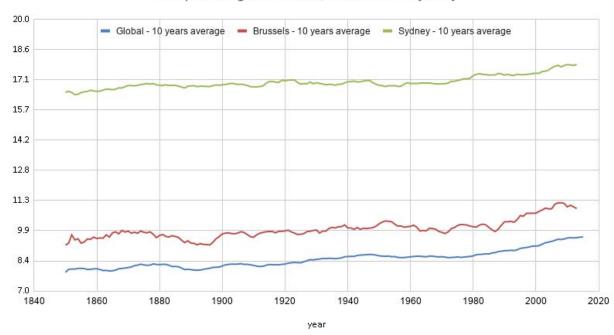
- 1. Global temperature trends:
  - select \* from global\_data;
- Local area Brussels:
  - select \* from city\_data where country = 'Belgium' and city = 'Brussels';
- 3. Other local area from the south of the earth to have better view in other area select \* from city\_data where country = 'Australia' 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:

fx	=AVERAGE(D90:D99)				
	Α	В	C -	D	E
85	1826	Brussels	Belgium	10.37	10.034
86	1827	Brussels	Belgium	9.63	10.038
87	1828	Brussels	Belgium	10.44	10.056
88	1829	Brussels	Belgium	8.09	9.837
89	1830	Brussels	Belgium	9.09	9.847
90	1831	Brussels	Belgium	10.48	9.891
91	1832	Brussels	Belgium	9.26	9.726
92	1833	Brussels	Belgium	9.71	9.762
93	1834	Brussels	Belgium	11.2	9.877
94	1835	Brussels	Belgium	9.79	9.806
95	1836	Brussels	Belgium	9.84	9.753
96	1837	Brussels	Belgium	9.24	9.714
97	1838	Brussels	Belgium	8.53	9.523
98	1839	Brussels	Belgium	9.74	9.688
99	1840	Brussels	Belgium	9.03	9.682
100	1841	Brussels	Belgium	9.88	9.622

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 CO2 produced by human activities ...