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Country: Germany

05th April, 2020

Project 1 - weather data

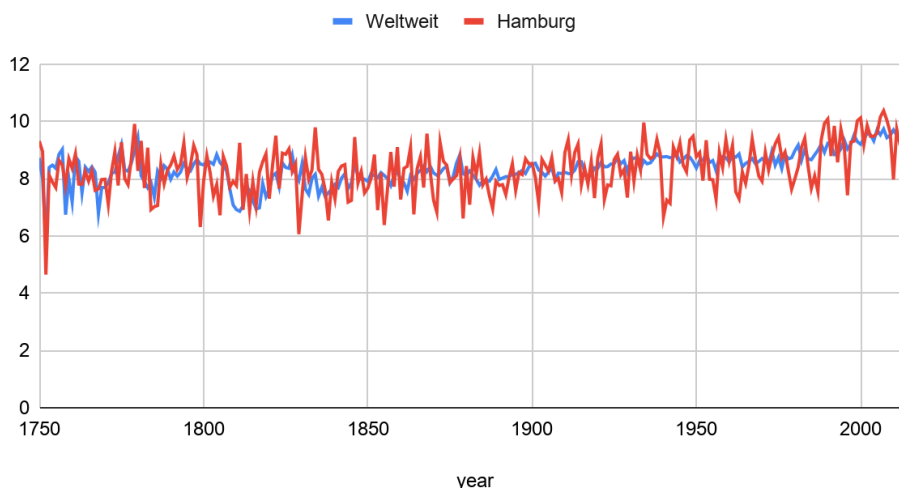
1. What tools did you use for each step? (Python, SQL, Excel, etc)

For the diagramm it was Google Speadsheet (Google Tabellen).

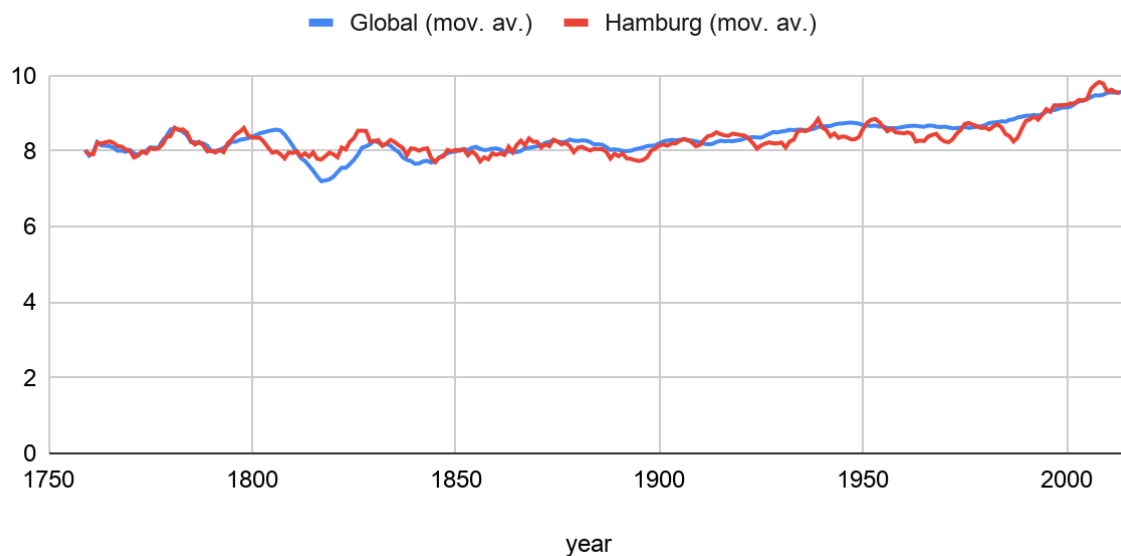
Steps:

- Import the .csv file with Google Speadsheets
- Change the dot (".") to a colon (",") for that Google can interpret the temperature data as numbers
- Make 3 coloumns (A = date, B = global temperature, C = local temperature of Hamburg)
- Add 2 coloums for the moving average of the last 10 years
 - D=moving average global >>> "=average(B2:B11)" respective "Mittelwert(B2:B11)"
 - E = moving average Hamburg (=average(C2:C11)" respective "Mittelwert(C2:C11)"
- Pull the command for all cells in coloums D and E
- With the tool Google Speadsheets you can insert a diagram

Temperatur Global vs. Hamburg



Temperature global vs. Hamburg (moving average of the last 10 years)



2. How did you calculate the moving average?

- Add 2 columns for the moving average of the last 10 years
 - D=moving average global >>> *=average(B2:B11)" respective "Mittelwert(B2:B11)"
 - E = moving average Hamburg (=average(C2:C11)" respective "Mittelwert(C2:C11)"

3. What were your key considerations when deciding how to visualize the trends?

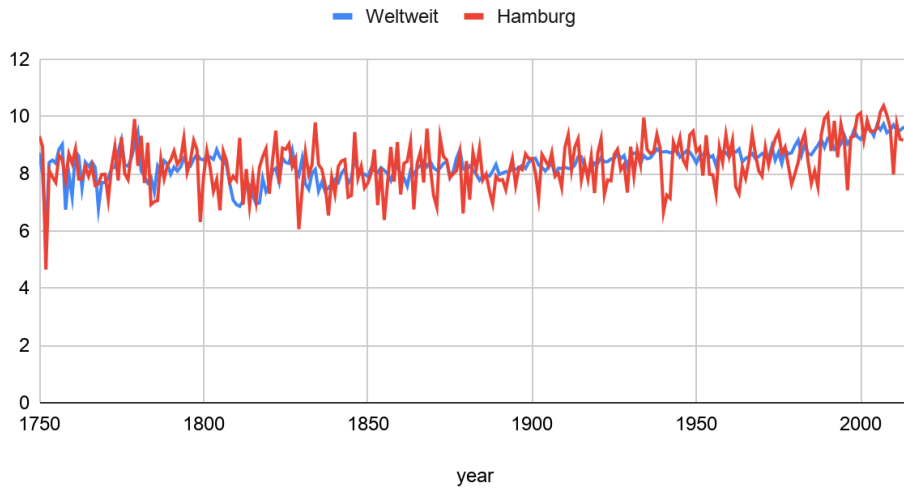
The raw data curve of the temperature in Hamburg shows that the temperature fluctuates more than the global temperature curve.

A moving average of 10 years can compensate the higher fluctuations.

4. Line chart with local and global temperature trends

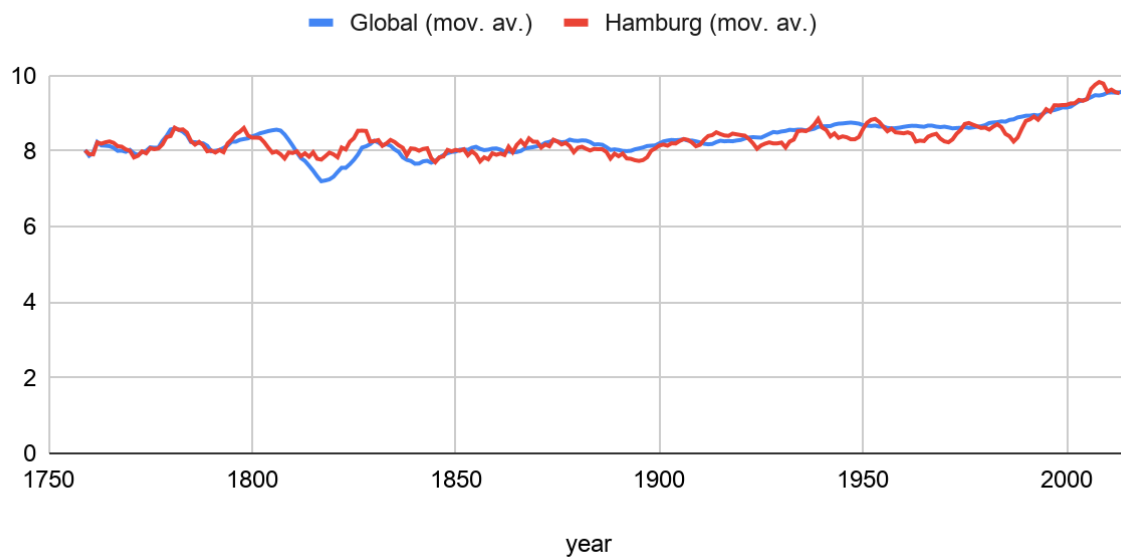
a. raw data chart

Temperatur Global vs. Hamburg



b. moving average data chart

Temperature global vs. Hamburg (moving average of the last 10 years)



5. At least four observations about the similarities and/or differences in the trends

- a. in the beginning of the 18th century the global curve differs more
- b. The curves seems to increase since the beginning of the 20th century
- c. Both curves (global and local) increase in the last (about) 30 years rapidly.
- d. In the last (about) 30 years the curve of the temperatures of Hamburg is equal or higher than the global temperature curve.