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Project Exploring Weather Trends

I have developed this first project of my Data Analyst Nanodegree in May of 2019.

The proposal is to analyze data of local and global temperatures and compare their trends. The goal is to create a visualization and prepare a write up describing similarities and contrasts of trends in temperatures from the city where I live at and from another big city. I am supposed to extract the data from a table using SQL queries from the Udacity workspace, prepare the project using MS Excel, Google sheet, Python or R and submit it as a PDF.

In my project, I compare temperatures from Berlin with global temperatures and temperatures from Berlin with temperatures from Hamburg and from Munich considering the moving average (MA) for 10 years and the MA for 100 years using MS Excel.
Results for the comparison of the temperatures in Berlin with global temperatures show that from 2010 the temperatures started to have a continuous increase and the usual 20 years cycle ended. The global temperatures decreased around 2grades (Celsius) just in 1810 and went back up afterwards. Temperatures in Berlin was shown to be more instable than the global temperatures.
The comparison of the temperatures in Berlin with Hamburg and Munich show that the temperatures raised from 1810 in both cities, and this phenomenon got more intense from 1980. It also shows that Munich is around 2 grades colder than the other cities, and Berlin is almost 1 grade hotter than Hamburg.

I also compared the correlation coefficient (CC) for their temperature variations and for three Brazilians cities. The Brazilian cities were shown to have a CC closer to global one than the German cities. The temperature changes in Brazil were higher than in Germany but not as higher as in the global scenarios.

This project can be found at: https://github.com/KC2016/Exploring_Weather_Trends