Group project 1

GRA4157

20. October 2022

Visualization of data on maps

In this project you will visualize a dataset of choice on a map. You are free to choose the data set and location of your visualizations. You will work in groups of 1-3 students. Your efforts will be presented in a 10-20 minute presentation, depending on the group size. Every group member needs to contribute equally to the presentation, but it is ok if each group member has responsibility of different tasks within the project.

You will receive feedback on the following

- Did you find a rich data set suitable to be displayed on a map?
- The raw data should be presented in an easily readable format. Table, map(?), statistics?
- You should do some calculations/interpretations on the data. If you e.g. have data on position and time, you can compute velocity. If you e.g. have sales per day, you can compute sales per year. Try to be creative!
- The visualization of the results you obtained from the data should be visually appealing
- Examples: Temperature data (over time), elevation data, population data, GDP data.

To plot maps you are encouraged to use ipyleaflet in juptyer notebook. The group presentations will be held Friday 28th of October. The presentations are not graded, but you will use material from the presentation to write part of a report for the final assignment/exam in the course.

The templates below are located under /GRA4157/lectures/06-visualization-project/templates/

Template 1

We have previously worked with the Oslo city bike dataset. In the Bicycle template you will find examples on how to plot markers for each bike station, create lines between each bike station, as well as creating a heat map. You can use this as inspiration to visualize many different aspects of the trips for all stations or for single stations.

Template 2

Strava is an internet service for tracking physical exercise which incorporates social network features. Each activity is tracked via a .gpx file that can be read into python. In this case you can track your own data to visualize on a map, and to add specific information to the map that is not included in the standard strava map (e.g. velocity, elevation, heart rate).

It is possible to track your own activities with the Strava app or use an exercise watch, to do analysis on. Alternatively, several pro (and other) athletes upload their exercises to their profiles, so you can choose to display data from their activities (e.g. https://www.strava.com/pros/laurenstendam)