SC 4024 Tutorial 7: Geospatial Data Visualization

AY2024-2025 Semester 1

1. Selecting Appropriate Geospatial Data Visualization

We have learned a series of geospatial data visualization approaches for different types of geospatial data. Suppose you are requested to visualize the following data, what kind of geospatial data visualization approaches will you use? Justify your design choice.

a) The annual sales of each McDonald's at different locations of Singapore in 2023.

b) The average temperature of different countries in the EU.

c) The aging population (age>65) of different states in the U.S.

2. Symbol Map Implementation

You are provided with a CSV file called "*sg_universities.csv*" containing the detailed location and student size information of five universities in Singapore. You are requested to use **d3.js** (more specifically, **d3.geo**) package to create a symbol map to visualize the student size of all the provided universities on a map. Below are detailed requirements:

a) **Visual encoding:** use a circle to represent each university with its radius encoding the student size (i.e., use bubble map to visualize the geospatial data), and use different fill color for different universities;

b) **Interaction:** provide five checkbox to allow users to interactively select whether a university should be shown on the map or not;

c) Animation: when a university is selected or un-selected, use animation to show or remove the glyph (i.e., circle);

d) You are requested to use **D3 version 7** to implement the symbol map.

You are required to finish it before the tutorial on **Nov. 5th**.

References:

[1] Bubblemap with filter button: https://d3-graph-gallery.com/graph/bubblemap_buttonControl.html

[2] Bubblemap: https://observablehq.com/@d3/bubble-map/2