

Tutorial 9 Worksheet AY 20/21 Sem 2

DSA2101

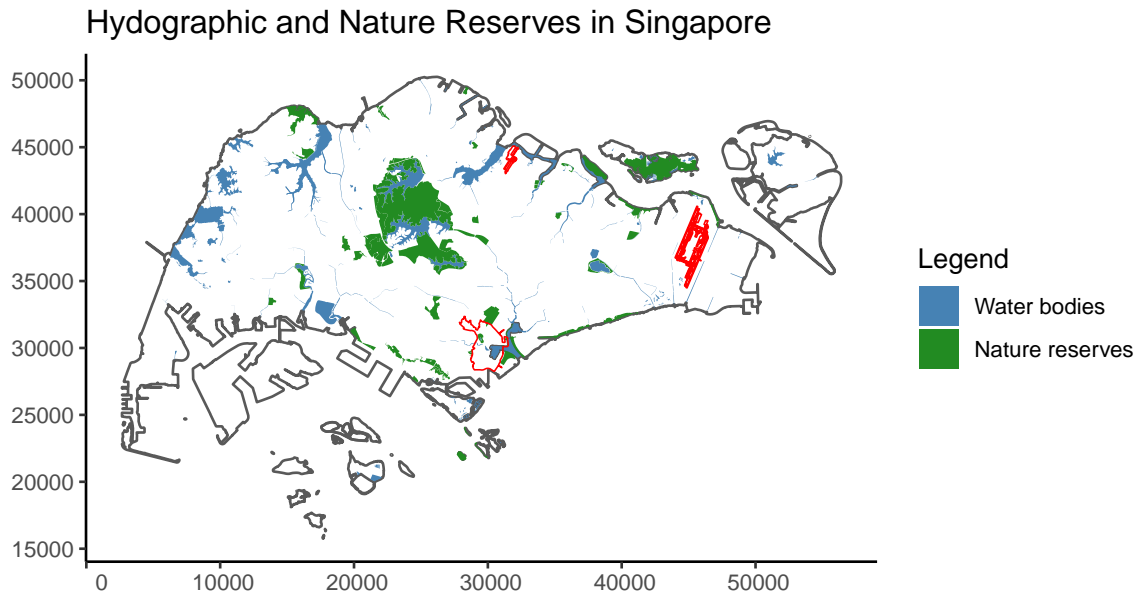
In this tutorial, we shall plot simple features using ggplot. You will need the following files:

1. `national-map-polygon-kml.kml`: This contains coastal outlines of Singapore (from SLA)
2. `national-map-line-kml.kml`: This contains the road network of Singapore (from SLA).
3. `hawker_ctr_raw.rds`: This contains a list of hawker centres in Singapore (from NEA).
4. `planning-boundary-area.kml`: This contains a division of Singapore into 55 planning areas (from URA).

Once you read them into R, convert them to the SVY21 projection system (EPSG code 3414).

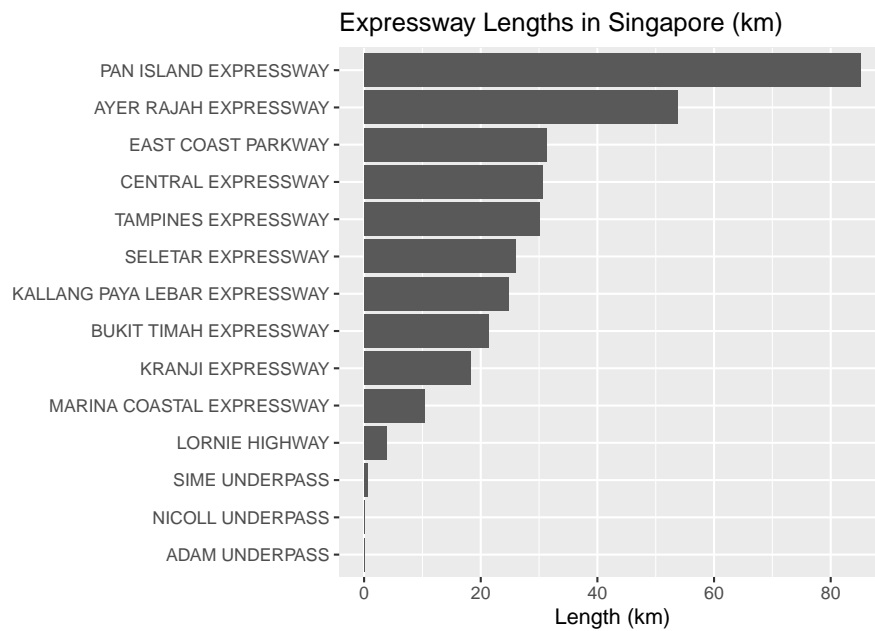
Warm-up

Read in the map polygon (file number 1), remove features related to Pedra Branca and Malaysia, convert to SVY21 and create the following map:



Expressways in Singapore

An analyst used `st_length()` together with the the second file to create this graph:



There is something wrong with it. What is the mistake?

Hawker centres

Use the planning areas and hawker centre features to compute the number of hawker centres that fall into each planning area (use `st_contains()`). Plot all the hawker centres, highlighting those planning areas with 10 or more hawker centres.

Planning areas with high concentration of hawker centres

