Course: SOM 787 Spatial Analytics-I

Date: 23-08-2024

Class Assignment

Objective:

Analysing changes of Prevalence of crimes against women across districts and states in India from 2020 to 2022

Languages/Tools: R/R studio

Steps:

1) Please use the appropriate shape file from the spatial_files directory
2) Please use the non-spatial data from (For the convenience of the class), we have a crime_dateset_india.csv file in the data folder.

   Data Sources: Data on crimes against women for the period 2020 and 2022 obtained from the National Crime Records Bureau (NCRB) of India.
   https://www.ncrb.gov.in/crime-in-india-year-wise.html?year=2022&keyword=
   https://www.data.gov.in/ministrydepartment/National%20Crime%20Records%20Bureau%20(NCRB)

   A small area estimation method was used to obtain district-level relative risks of crime against women for both periods, the csv file contains the estimated relative risk (RR) of Indian districts for the year 2020 and 2022 (RR- Estimated relative risk, LL- Lower Limit of RR, UL- Upper Limit of RR)

3) Using Learning from the previous class exercises (theory and practical), Please process both the files and produce the following by the year
   a) Chloropeth map
   b) LOCAL Moran's Map

4) Please Proceed with further steps using learning from class (Guerry's example - https://cran.r-project.org/web/packages/Guerry/vignettes/MultiSpat.html), Hotspot analysis, Spatial Auto correlation.