Summer School on Spatial Analysis with R: The case of Dar es Salaam

Location: Ardhi University, Dar es Salaam, Tanzania

Start Date: Monday, September 11, 2023

End Date: Monday, September 18, 2023

Abstract:

The aim of the 8-day summer school is to impart basic knowledge and selected advanced methods in the field of geographic information systems using R. R is a powerful open-source programming language and environment for statistical data analysis and graphical representation, which in its current version can handle many analytical tasks of a geographic information system. The summer school will cover: Introduction to R and the R-Studio development environment, reading and analysing spatial data, applying basic methods of geoinformation systems, processing vector and raster data, classification methods, introduction to visualising spatial data, output of diagrams and thematic maps. Administrative data and data from the Open Street Map (OSM) of the urban area of Dar es Salaam will be used as examples. The data will also be the subject of an excursion to the city centre, where current challenges for urban planning will be on display. After a theoretical introduction to the relevant topics, the focus is on practical exercises. All you need is a Windows laptop. Previous knowledge of spatial issues and competent use of Windows computers are required.

Tentative Program for the ARU-BHT Summer School

Time	Monday 11/09/2023	Tuesday 12/09/2023	Wednesday 13/09/2023	Thursday 14/09/2023	Friday 15/09/2023	Saturday 16/09/2023	Sunday 17/09/2023	Monday 18/09/2023
08:00 - 08:30	Courtesy call / arrival and registration	Arrival and registration	Arrival and registration	Arrival and registration	Arrival and registration	EXCURSION	BREAK	Arrival and registration
08:30 - 10:30	Opening remarks Keynote speech Group photo	Recap of the previous day's lessons Session 1: Vector Based Geodata	Recap of the previous day's lessons Session 1: Raster based geodata	Recap of the previous day's lessons Session 1: OpenStreetMap data	Recap of the previous day's lessons Session 1: Intersecting density classification			Group presentations
10:30 - 11:00	**Tea Break**	**Tea Break**	**Tea Break**	**Tea Break**	**Tea Break**			**Tea Break**
11:00 - 13:00	Session 1: Introduction to R and RStudio	Session 2: Exploring population data	Session 2: Remote Sensing and NDVI	Session 2: Data wrangling	Session 2: Disaggregate population data			Closing Ceremony and Awarding Certificates
13:00 - 14:00	**Lunch**	**Lunch**	**Lunch**	**Lunch**	**Lunch**			**Lunch and Farewell**
14:00 - 16:00	Session 2: Geo packages for R Practice and take home assignment	Session 3: Classification metric Practice and take home assignment	Session 3: Vectorization and Population clipping Practice and take home assignment	Session 3: Networking Practice and take home assignment	Session 3: Creating sites and buffers Practice and take home assignment			FREE