Overview

The use of maps to display, convey and study geographical information has been a recurrent feature since the dawn of history and is ubiquitous for scientific research from natural sciences to the human and social sciences. Maps provides an attractive mean to summarize spatial information and shed light on how phenomena emerge and are shaped by spatial and networks patterns.

The objectives of this short-course is to introduce participants to the use of Geographical Information System (GIS) for research in social sciences in general, and on ethnic politics and peace and conflict, in particular. The course is divided in three sessions. The first session will discuss definitional issues, present the various ways in which GIS are useful for research in social sciences and provides a brief overview of cartographic notions. In the second session, we will approach key GIS concepts, including vectors, rasters, attribute tables and spatial (relational) queries. This session will also introduce attendants to the Open-Source software QuantumGIS (QGIS) and provide an overview of its user interface. Finally, the last session will discuss the use of GIS software for ethnic and conflict research both from a qualitative and quantitative perspective. It will highlight how GIS tool can be used to summarize and display information, as well as to generate and analyze data.
GIS short-course, Copperbelt University, Zambia

Participants

While the short-course format is designed primarily for ethnic and conflict research, the course may be relevant for students of social sciences in general. Experienced GIS users may freely join only in the last session, if they wish so.

The participants are encouraged to contact me (fabien.cottier@unige.ch), if they have particular topics or questions, they would like to address during the short-course. Likewise, in view of increasing the utility of the short-course, participants are welcome to bring their own data to the short-course to discuss how GIS tools may be useful for describing their own data and research results, as well as conducting analyses.

Necessary material

- Bring your personal laptop
- QGIS (open-source software): www.qgis.org
  - Mac: current version (http://www.kyngchaos.com/software/qgis)

While time will be available to install software during the workshop, participants are encouraged to install QGIS in advance of the short course. Copies of the software for both windows and Mac computers will also be available at the workshop.

Location

The short-course will be held at the Copperbelt University. Classrooms location will be communicated at a later date.

Sponsor

This short-course is organized within the framework of the Project on ‘Ethnic Power Relations and Conflict in Fragile States’. We grateful acknowledge support from the Swiss Programme for Research on Global issues for Development (R4D), jointly set up by the Swiss National Research Foundation and the Swiss Development Agency.

Suggested readings:


References:

GIS short-course, Copperbelt University, Zambia

Preliminary Program

Day I (September 19)

09h00-12h00: Session I: Introduction to GIS System
- What are Geographical Information System?
- How GIS can be useful for social sciences research?
- A brief overview of cartographic notions:
- Available software
- Practical session: QGIS installation and set up

14h00-17h00: Session II: Geographic Information System, the Basics
- Overview of GIS architecture (incl. data format)
- Types of spatial data
- Attribute tables (incl. tables join)
- Querying spatial database (incl. a brief overview of spatial analysis)
- Displaying information and creating maps
- Practical sessions on QGIS

Day II (September 19)

09h00-12h00: Session III: GIS for Research on Conflict and Ethnicity
- How GIS approaches are relevant for conflict research?
- Various ways to use GIS data for research:
  - As a representation / illustration tool
  - As a data generation process / treatment tool
  - For Small-N research
  - For Large-N research
- Available datasets for peace and ethnic politics research
- Review and discussion of selected research project using GIS data

14h00-17h00: Session III (Continued)
- Practical session on QGIS (incl. discussion with participants on use of GIS data for their own research.)