Introduction to GIS

Raphaëlle ROFFO

Sciences Po - GETEC Masters
Fall Semester 2021

Session 6

Introduction to GIS

Course wrap-up

Today’s plan

1. Session 5 recap
2. Tutorial debriefing
3. Coursework Q&A
4. Introduction to Tutorial 6

Session 5 Recap
&
Tutorial Debriefing

Session 5 learning objectives

After Session 5, you should now understand:

- What geoprocessing tools are
- Where to find them
- How to use the main vector geoprocessing tools (clip, intersect, dissolve, merge, difference, buffer)
- Common use cases for these tools

Session 5 tutorial

After the tutorial, you should be able to:

- Build a choropleth (and define relevant class breaks)
- Run simple geoprocessing tools
- Adding map layout elements (legend, title, etc.) using the Print Layout Composer
- Export a map as an image, PDF or SVG vector

Questions on the tutorial ?

Questions on the final coursework ?

Final tutorial

Understanding flood risk exposure in the Greater London Metropolitan Area

Intro to GIS - Tutorial 6

In the Greater London metropolitan area, which local areas are the most likely to get flooded?

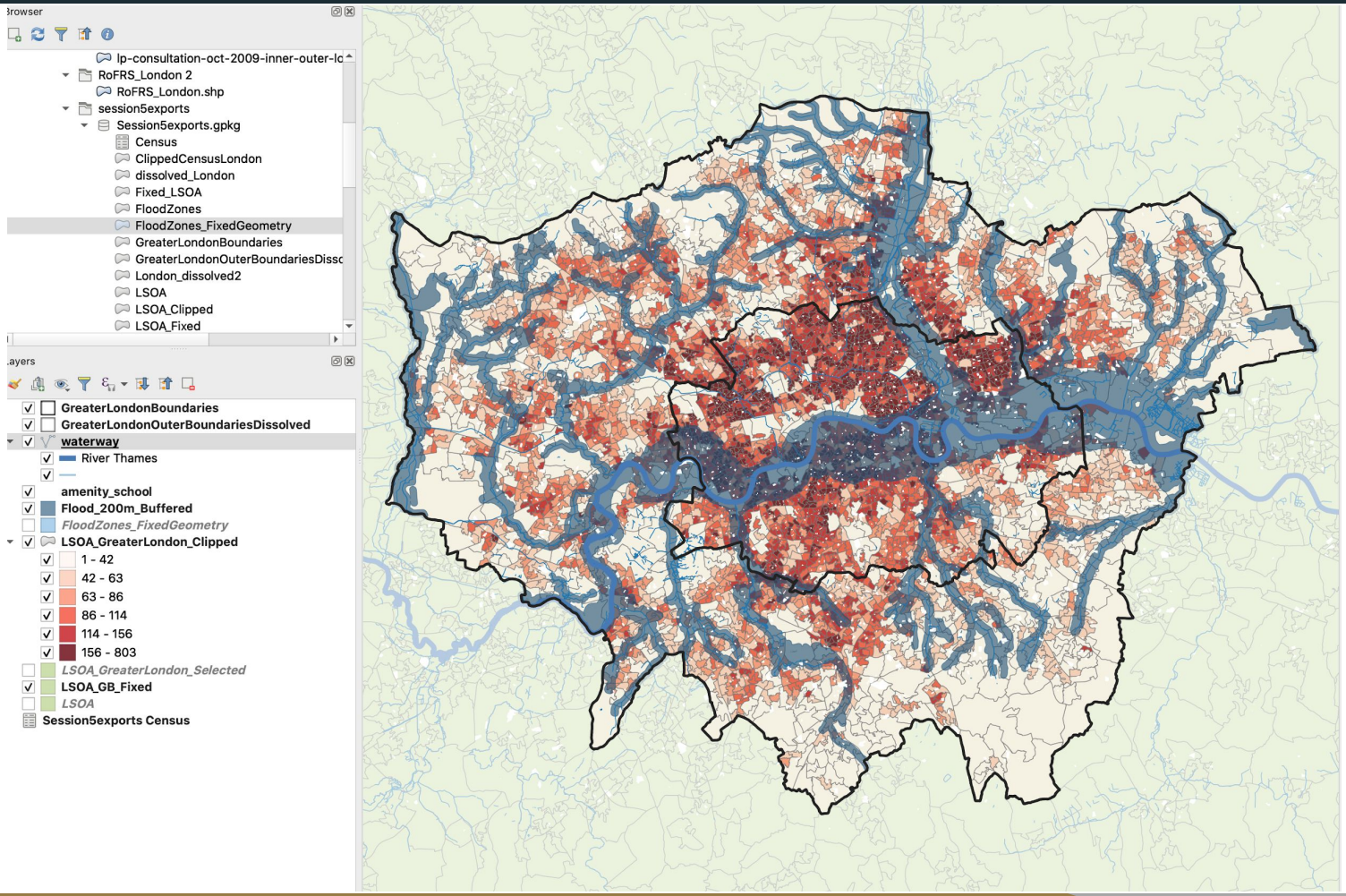
What are the demographic characteristics of these areas (age, education, employment status, ethnicity, etc.)?

Visual exercise (not a full analytical exercise)

Data Sources

Please download the data from the geopackage; it contains the following layers:

- **Flood Risk Zones:** https://data.london.gov.uk/dataset/flood-risk-zones
- **Census data for London** https://data.london.gov.uk/dataset/lsoa-atlas It's a csv file (not geographic) and comes at the LSOA (Lower Super Output area) level…
- So we also need the **LSOA geographic boundaries** https://geoportal.statistics.gov.uk/datasets/lower-layer-super-output-areas-december-2011-boundaries-ew-bfe-1 This LSOA dataset is national so...
- We need the **Greater London boundaries** to only keep the LSOAs we need https://data.london.gov.uk/dataset/inner-and-outer-london-boundaries-london-plan-consultation-2009


Browser
lp-consultation-oct-2009-inner-outer-lc
RoFRS_London 2
RoFRS_London.shp
session5exports
Session5exports.gpkg
Census
ClippedCensusLondon
dissolved_London
Fixed_LSOA
FloodZones
FloodZones_FixedGeometry
GreaterLondonBoundaries
GreaterLondonOuterBoundariesDissc
London_dissolved2
LSOA
LSOA_Clipped
LSOA_Fixed
Layers
GreaterLondonBoundaries
GreaterLondonOuterBoundariesDissolved
waterway
River Thames
amenity_school
Flood_200m_Buffered
FloodZones_FixedGeometry
LSOA_GreaterLondon_Clipped
1 - 42
42 - 63
63 - 86
86 - 114
114 - 156
156 - 803
LSOA_GreaterLondon_Selected
LSOA_GB_Fixed
LSOA
Session5exports Census

Coursework

Final Coursework

The final coursework is a **map production exercise**. Find a research question, carry out a simple map production workflow, and write a report summarizing your findings. You will be assessed on your capacity to:

- Frame your research question in a clear and concise manner, and ensure a few maps can provide interesting insights,
- Identify datasets that are relevant to answering your question *(technically here you may want to work backwards and use the data you already have to find your research question),*
- When appropriate, use table joins to “enrich” your vector data,
- Carefully choose your symbology, and ensure you map is accessible and colour-blind safe,
- Create map exports complete with all key cartographic elements (title, legend, data source etc).
- Analyse and interpret the patterns that emerge from your maps, explaining what this might mean in terms of policy or research outlooks.

Final Coursework

Some practical points:

- Deadline: Wednesday 24th November, 23.59 Paris time. *If you're late, minus 1 point for each day behind the deadline.*
- Work in groups of 2-3 students
- Work on a **European city** of your choice *(cities in the UK and other non-EU european countries are ok)*
- The report must be 3 pages minimum, 5 pages *maximum*
- You are encouraged to use the data provided for the tutorials, however if you want to challenge yourselves, you will get **+2 points bonus for working with data you have sourced yourselves**.

Final coursework: Proposed outline

You are strongly encouraged to follow this outline:

1. Executive summary (maximum ½ page, bullet points are fine)
2. Introduction / Problem / Context
3. Data sources in a table
4. High-level methodology. Keep it very short but use precise terminology. Explain your symbology choices including your choice of class breaks if you built a choropleth.
5. A minimum of 2 maps. Careful, you only have 5 pages maximum in this report so these maps must be relevant to answering your policy question
6. Analysis of the findings (half a page)
7. Conclusion / next steps for policy makers or future research outlook (half a page)

In this exercise, concision and precision are key!