Geography in the Field II

W8 – Mapping London

Geography in the Field II

... but mostly: thinking about maps and data

This week

- Why is mapping important?
- How do GIScience and spatial analysis fit in?
- Power and privacy
- Some examples: Mapping London
- Practicalities

Before we start

- Go to www.menti.com
- Use code: 6001 5778

This week

- Why is mapping important?
- How do GIScience and spatial analysis fit in?
- Neutrality, power and privacy
- Some examples
- Practicalities

Importance

Why is mapping important?

- Our world is faced with many challenges and problems, of which many are inherently geographical. To try to address and solve these problems require geographic enquiry and thinking to create knowledge from geographic information. Almost all data is ”collected somewhere” and is spatially heterogeneous.
- Helps answer the question: What place is like this place?

Why is mapping important?

(Geo)Visualisation

Translating numbers into something that the human brain “understands better”.

Covid Cases in the UK

overview_2022-03-04.csv

Possible Data Loss Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format.

A1 areaCode

areaCode	areaName	areaType	date	newCasesBySpecimenDate
K02000001	United Kingd	overview	03/03/2022	23726
K02000001	United Kingd	overview	02/03/2022	43923
K02000001	United Kingd	overview	01/03/2022	43878
K02000001	United Kingd	overview	28/02/2022	44073
K02000001	United Kingd	overview	27/02/2022	31063
K02000001	United Kingd	overview	26/02/2022	24746
K02000001	United Kingd	overview	25/02/2022	27524
K02000001	United Kingd	overview	24/02/2022	30218
K02000001	United Kingd	overview	23/02/2022	36019
K02000001	United Kingd	overview	22/02/2022	38749
K02000001	United Kingd	overview	21/02/2022	44835
K02000001	United Kingd	overview	20/02/2022	37423
K02000001	United Kingd	overview	19/02/2022	34428
K02000001	United Kingd	overview	18/02/2022	32948
K02000001	United Kingd	overview	17/02/2022	44354
K02000001	United Kingd	overview	16/02/2022	51064
K02000001	United Kingd	overview	15/02/2022	52019
K02000001	United Kingd	overview	14/02/2022	54281
K02000001	United Kingd	overview	13/02/2022	41514
K02000001	United Kingd	overview	12/02/2022	37251
K02000001	United Kingd	overview	11/02/2022	44251
K02000001	United Kingd	overview	10/02/2022	51862
K02000001	United Kingd	overview	09/02/2022	63721
K02000001	United Kingd	overview	08/02/2022	68933
K02000001	United Kingd	overview	07/02/2022	75882
K02000001	United Kingd	overview	06/02/2022	60208
K02000001	United Kingd	overview	05/02/2022	52003
K02000001	United Kingd	overview	04/02/2022	62994
K02000001	United Kingd	overview	03/02/2022	76415
K02000001	United Kingd	overview	02/02/2022	88084
K02000001	United Kingd	overview	01/02/2022	93350
K02000001	United Kingd	overview	31/01/2022	104680
K02000001	United Kingd	overview	30/01/2022	87312
K02000001	United Kingd	overview	29/01/2022	73275
K02000001	United Kingd	overview	28/01/2022	83869
K02000001	United Kingd	overview	27/01/2022	95955
K02000001	United Kingd	overview	26/01/2022	108412

Covid Cases in the UK

Bicycle docking stations in London

Running in Western-Europe

Access to Healthy Assets and Hazards in the UK

Russian invasion in Ukraine

Requirements

- GIScience
- Spatial analysis

GIScience

Geographic Information Systems

- Spatial information requires methods and tools that can deal with spatial properties.
- To do this we need to be able to:
  - Collect data that represents our phenomena of study
  - Store this data in a way that we can access it and interact with it
  - Conduct sound analyses on our data
  - Present our results with accuracy and precision to create information

Geographic Information Systems

- GI systems help us to manage spatial data: organisation, storage, access and retrieval, and manipulation.
- We have increasingly changing expectations from these software interfaces and our demands from GI science and systems.

Geographic Information Systems

Geographic Information Systems

Geographic Information Systems

Geographic Information Systems

Geographic Information Systems

Spatial analysis

Spatial analysis

- The theory, principles, and techniques that enable accurate and rigorous analysis of spatial data to discover spatial patterns, processes and relationships (including taking into account the ‘special’ properties of spatial phenomena).
- The application of formal techniques to analyse specific phenomena or entities, that are represented by spatial data, using their topological, geometric or geographic properties.

Spatial analysis

Spatial analysis

Spatial analysis

Spatial analysis

Spatial analysis looks to provide knowledge on the world by transforming data into information by quantifying “things” like distributions and spatial processes.

Spatial analysis

Spatial analysis

Spatial analysis

Ultimately, the purpose of spatial analysis is to seek explanations for patterns of human behaviour through its spatial expression in terms of mathematics and geometry in both geographic and non-geographic spaces.

Neutrality

Neutrality and power

Washington Post. 2018. Redlining was banned 50 years ago. It's still hurting minorities today. [Online] https://www.washingtonpost.com/news/wonk/wp/2018/03/28/redlining-was-banned-50-years-ago-its-still-hurting-minorities-today/

Neutrality and power

Encyclopaedia Britannica, Inc.. Gerrymandering. [Online]
https://www.britannica.com/topic/gerrymandering

Neutrality and power

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Neutrality and power

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Mass exodus

Refugee arrivals from Ukraine, Feb 24th-Mar 2nd 2022

Source: UNHCR

Privacy

The Privacy Project

The Privacy Project

The Privacy Project

The Privacy Project

Responses

- Critical cartography/GIS is a set of mapping practices and methods of analysis grounded in critical theory, specifically the thesis that maps reflect and perpetuate relations of power, typically in favour of a society's dominant group.
- Includes: non-cartesian representations of lived geographic spaces.

Some examples

Mapping London

Mapping London

Mapping London

Mapping London

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Mapping London

National Geographic. How. London became the centre of the world. https://www.nationalgeographic.com/environment/article/london-population-city-planning

Mapping London

Mapping London

Longley, P. A. Van Dijk, J. T., & Lan, T. 2021. The geography of intergenerational social mobility in Great Britain. *Nature Communications* 12: 6050.

Conclusion

- Making maps and visualisations is important to convey information.
- At least two things are required: GIScience (with GI software) and spatial analysis.
- Maps are never neutral but tell a story.
- There is no one map to rule them all.
- It is an exciting time to be a quantitative geographer.

Practicalities

Coming days

~~Monday:~~	~~Lecture~~
Tuesday:	Seminar on Gentrification (details on Moodle)
Before Friday:	QGIS Computer Tutorial (independently, online)
Friday:	Field visit (1-2 pages in field notebook)

Coming days

Geography in the Field II: Mapp
jtvandijk.github.io/GEOG0014/
UCL
Why London?
Lecture material
This week
Getting started
Downloading crime data
Mapping crime data
Adding data
Organising our layers
Inspecting crime data in Excel
Loading crime data into QGIS
Creating selections in QGIS
Visualising data in QGIS
Creating a map in QGIS
Worksheet
Worksheet submission
Further questions
Geography in the Field II: Mapping London
Week 08 by Justin van Dijk
Last modified: 2022-02-28
Why London?
It is an exciting time to be a quantitative geographer in London. The city is generating more data for us to work with than ever before. Maps, graphics and infographics about the city are everywhere more people live here than at any time in London's history. A great example of the variety of data that is available for London is captured in the book London: The Information Capital by James Cheshire and Oliver Uberti. As geographers, we are in a critical position both to be able to capitalise on these developments for our own research but also view them a little more critically than others who have not had the benefit of decades of social and spatial research.
LONDON
The Information Capital
100 maps and graphics that will change how you view the city

SAY "IT WORKS IN MY MACHINE"
ONE MORE TIME
MemesHappen

Worksheet assignment

Geography in the Field II: Mapp

jtvandijk.github.io/GEOG0014/#worksheet

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Worksheet

Excellent. You have worked through the steps in this computer tutorial on downloading and mapping crime data, you need to conduct the following analysis **as a group**:

Part I: Camden and Islington

This concerns *anti-social behaviour* and *theft from person* in Camden and Islington.

1. Using what you have learnt in the computer tutorial to create two heatmaps for **Camden and Islington**. The first of *anti-social behaviour* and the second of *theft from person*.
2. There are a number of crime **hot spots** for *anti-social behaviour* and *theft from person* that appear near UCL (particularly around Kings Cross Station). Visit one of these areas and note down the features that distinguish them from their surrounding lower crime areas. For your visit: **make sure that you visit as a group during the scheduled Friday afternoon slot**. You may further use 1-2 pages your field notebook for your observations. If you want to, you can take photographs to add to your worksheet submission, however, not ones that clearly feature individual people.

Part II: Your allocated street

This concerns *all types* of crime in your allocated street.

3. Using the full crime data set, zoom in on the street you have been allocated. What is the dominant type of crime on this street and its surrounding area in **November 2021**?
4. Revisit the data.police.uk website and create a heatmap for all crime around your street in **November 2019** and **November 2020**. As there may be very few or no crimes in your allocated

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4. Revisit the data.police.uk website and create a heatmap for all crime around your street in **November 2019** and **November 2020**. As there may be very few or no crimes in your allocated street, you can zoom out a little to incorporate surrounding streets. Do the patterns and dominant crime types differ over the course of the years?
5. Given your knowledge of your street and your observations of the crime hotspots around UCL and Kings Cross what other data sets might be useful to analyse crime in London?

Worksheet submission

Please submit your answers to the questions above in a short **group** report:

- No more than **500** words.
- Maximum **4** maps, and, if using, a maximum of **2** photographs.

You can find the submission link for this final worksheet task on Moodle:

- One submission per group. Make sure to include the group work coversheet in your submission and

Worksheet submission

- Answer the questions in a short group report: no more than 500 words, maximum 4 maps, and, if using, a maximum of 2 photographs.
- Deadline: noon Friday 18 March.
- One submission per group by the allocated team lead. Make sure to include the group work coversheet in your submission and you follow the guidelines for group submissions.
- Submission link for this final worksheet task on Moodle (GEOG0014 Worksheet 4 London mapping).

Further questions

- Dedicated Q&A Forum for this Week's material (link on Moodle).
- Any other questions with regard to this week's material: j.t.vandijk@ucl.ac.uk

Questions

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