Geography in the Field II

W8 – Mapping London

Geography in the Field II

… but mostly: thinking about maps and data

UCL

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?
- Power and privacy
- Some examples
- Practicalities

Importance

Why is mapping important?

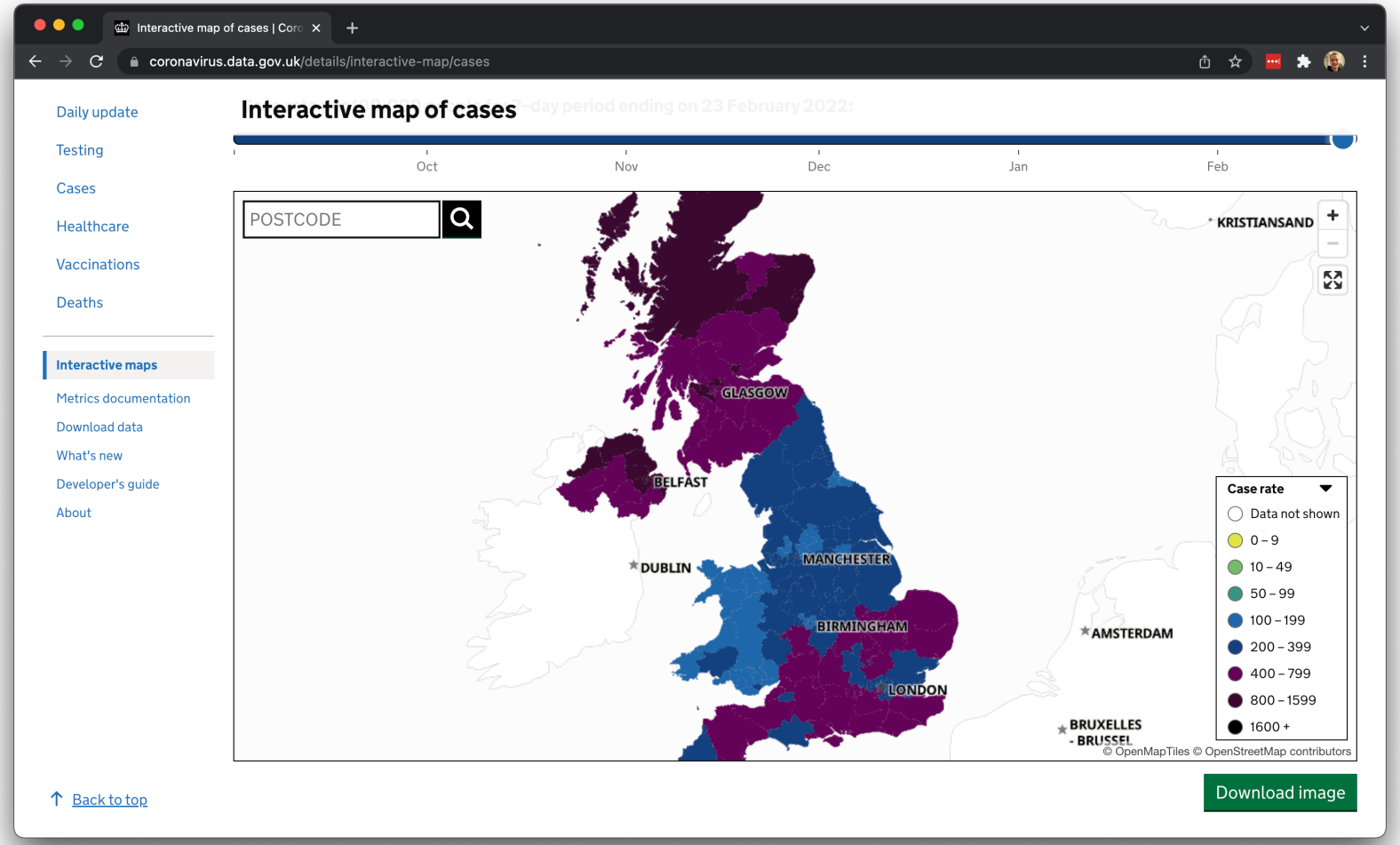
- Our world is faced with many challenges and problems, of which many are inherently geographical. To try to address and solve these problems require geographic enquiry and thinking to create knowledge from geographic information. Almost all data is ”collected somewhere” and is spatially heterogeneous.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

Why is mapping important?

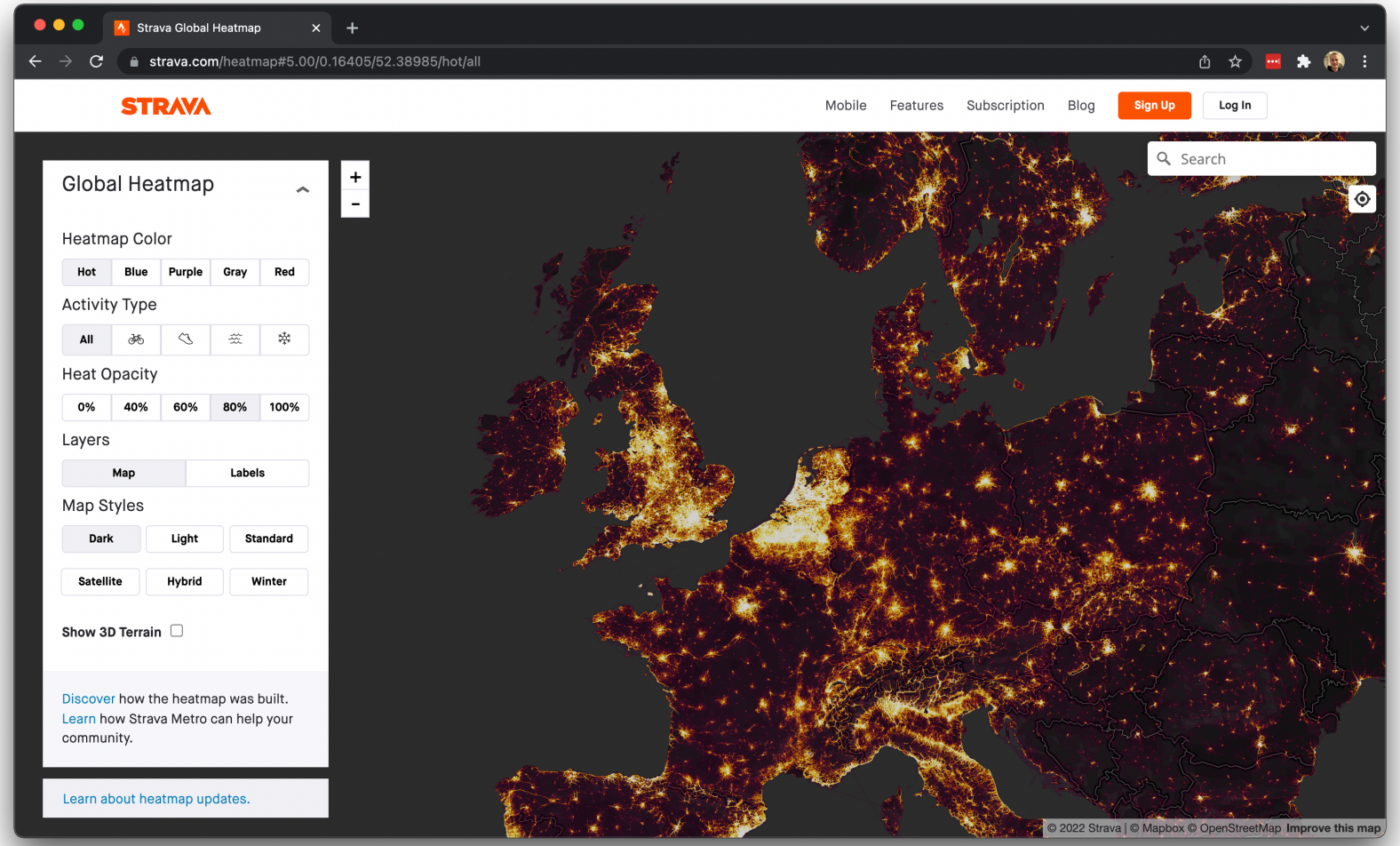
(Geo)Visualisation

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

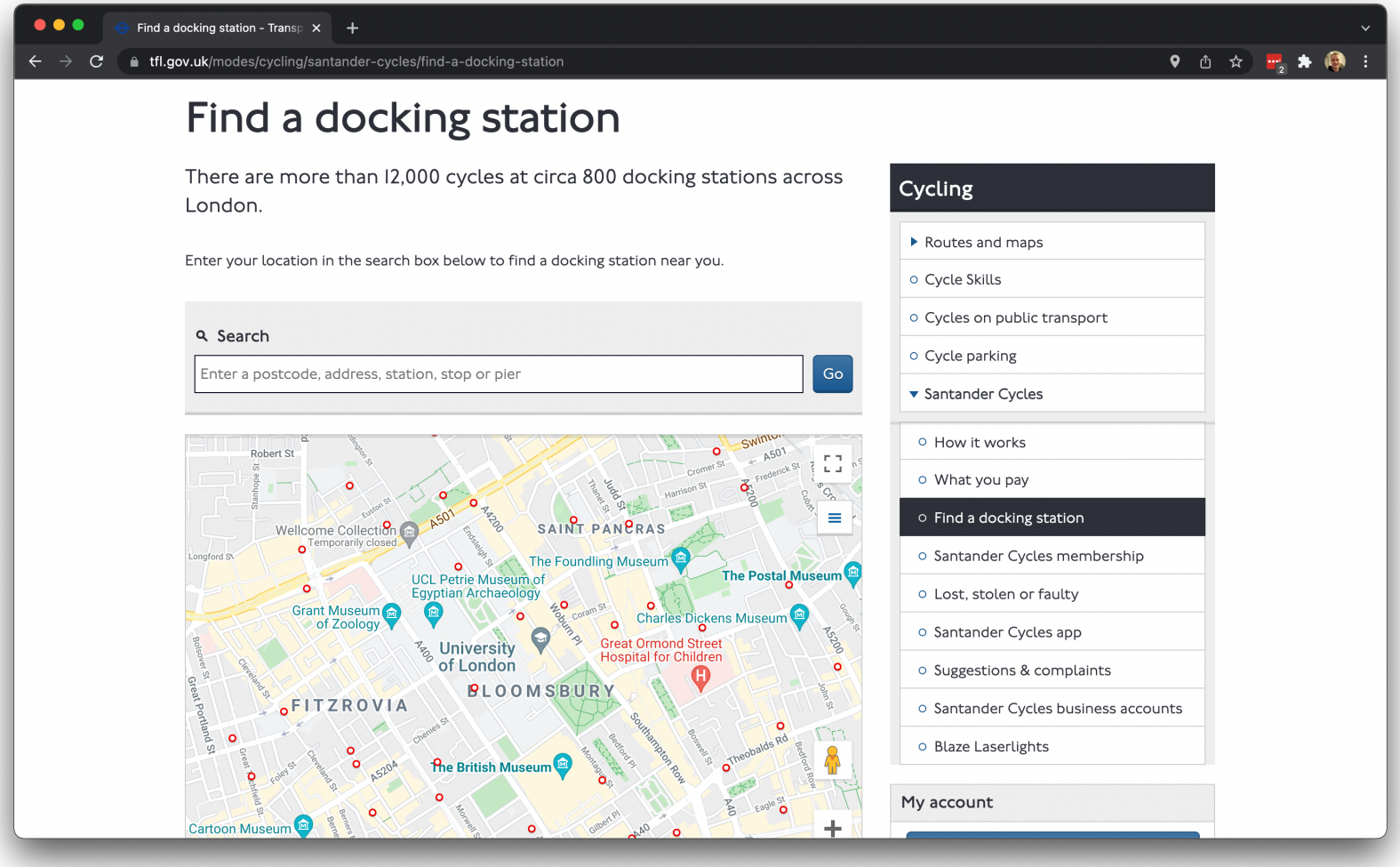
Covid Cases in the UK



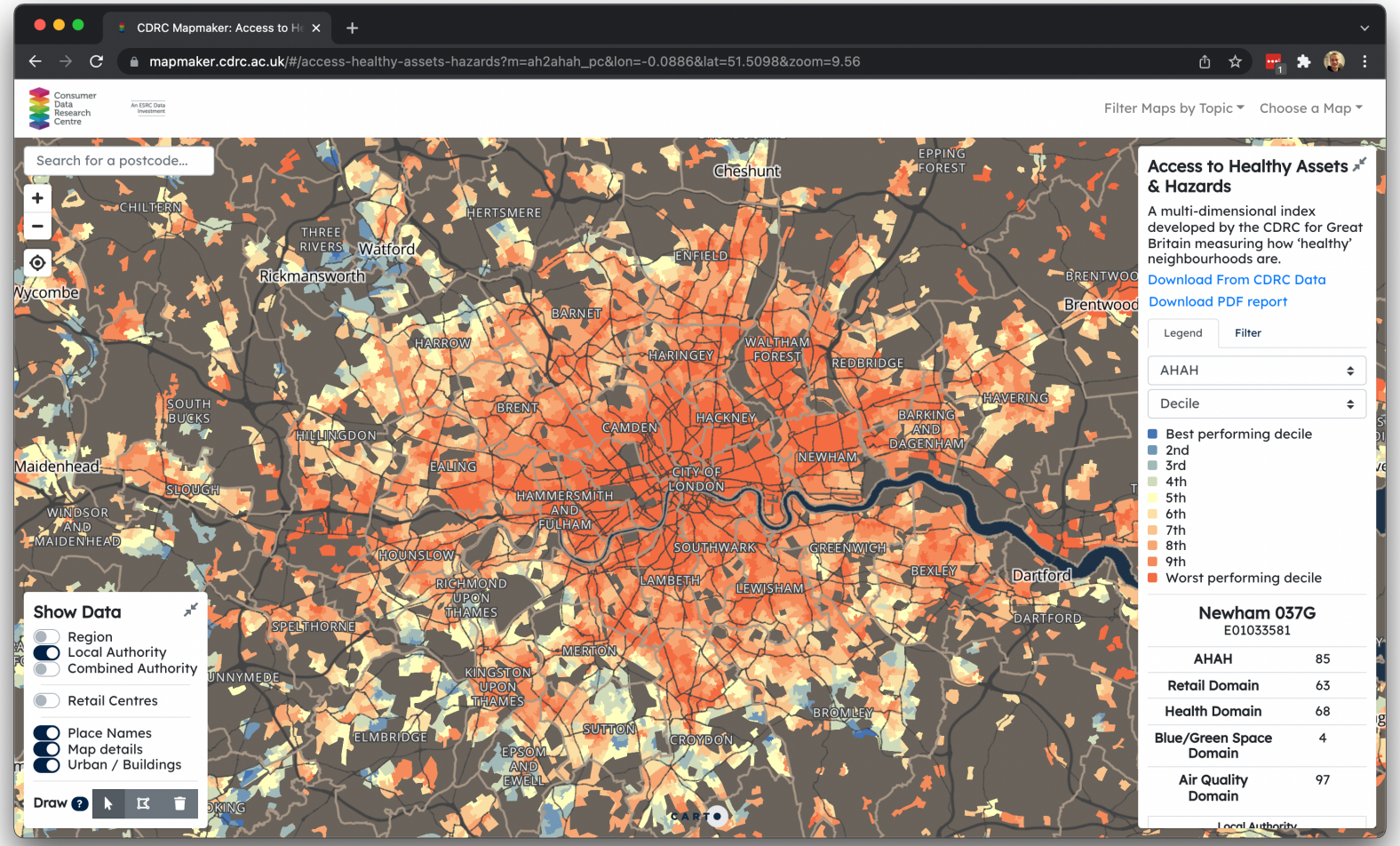
Running in Western-Europe



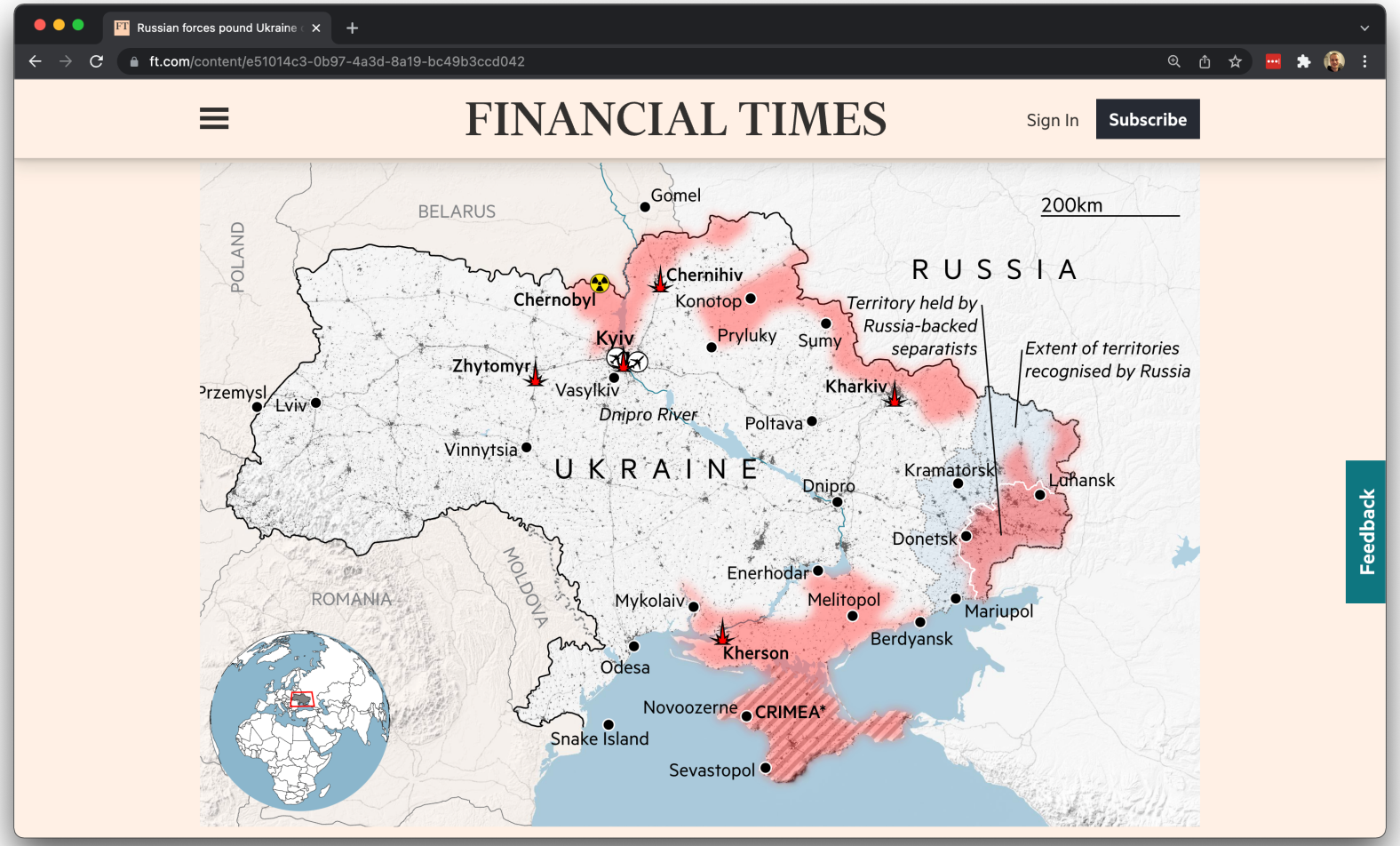
Bicycle docking stations in London



Access to Healthy Assets and Hazards in the UK



Russian invasion in Ukraine



Requirements

- GIScience
- Spatial analysis

GIScience

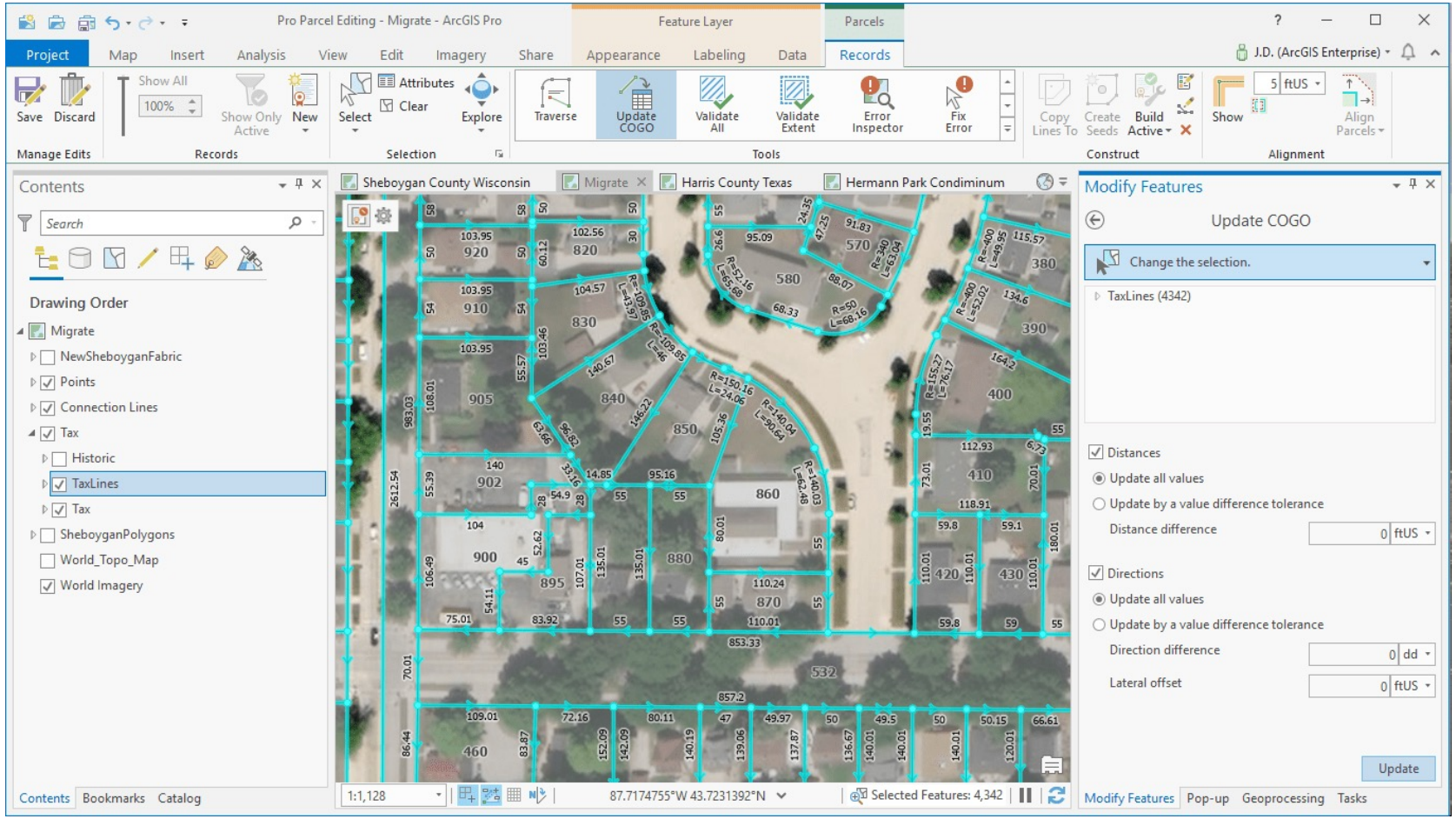
Geographic Information Systems

- 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

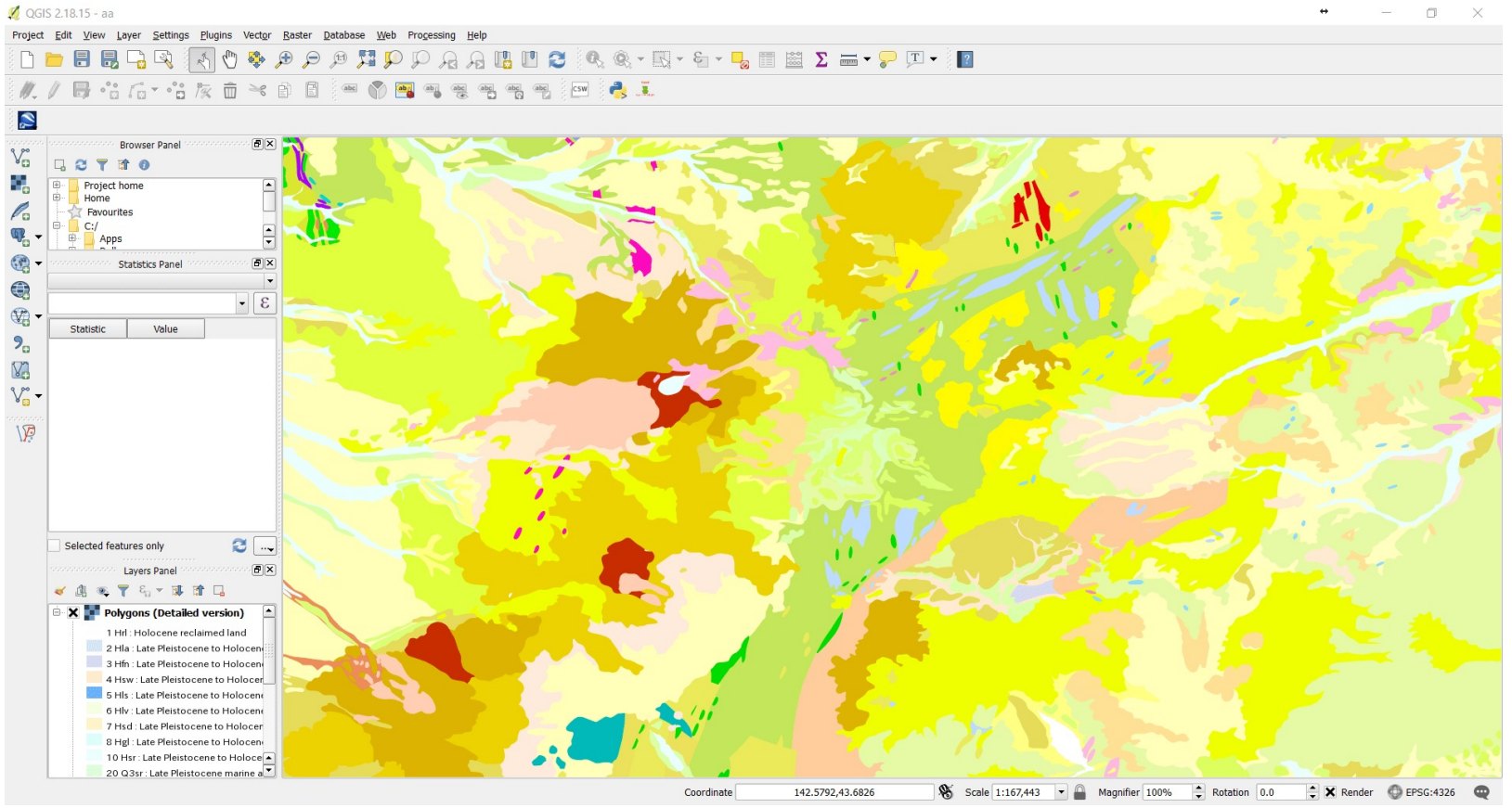
Geographic Information Systems

- 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.

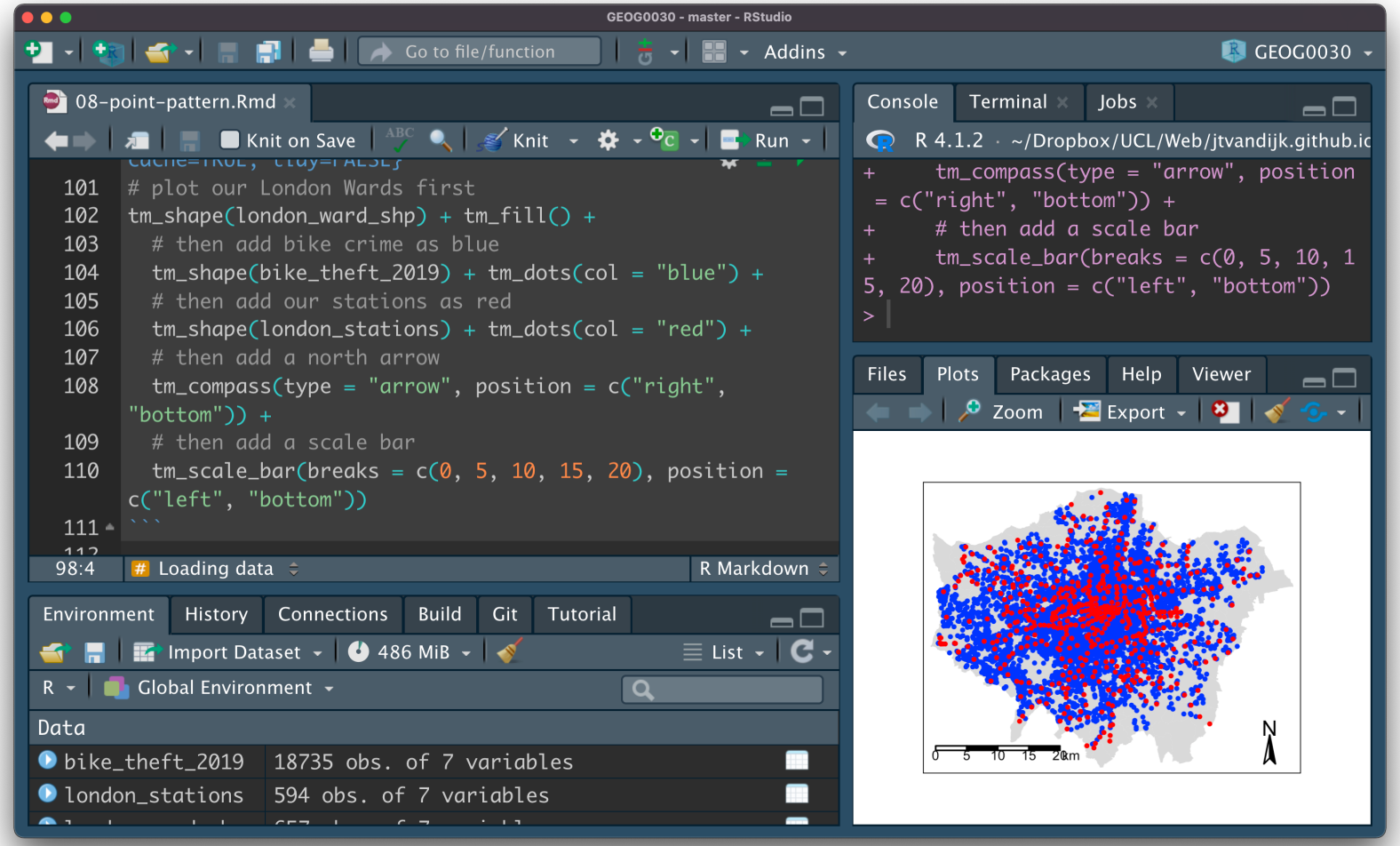
Geographic Information Systems



Geographic Information Systems



Geographic Information Systems



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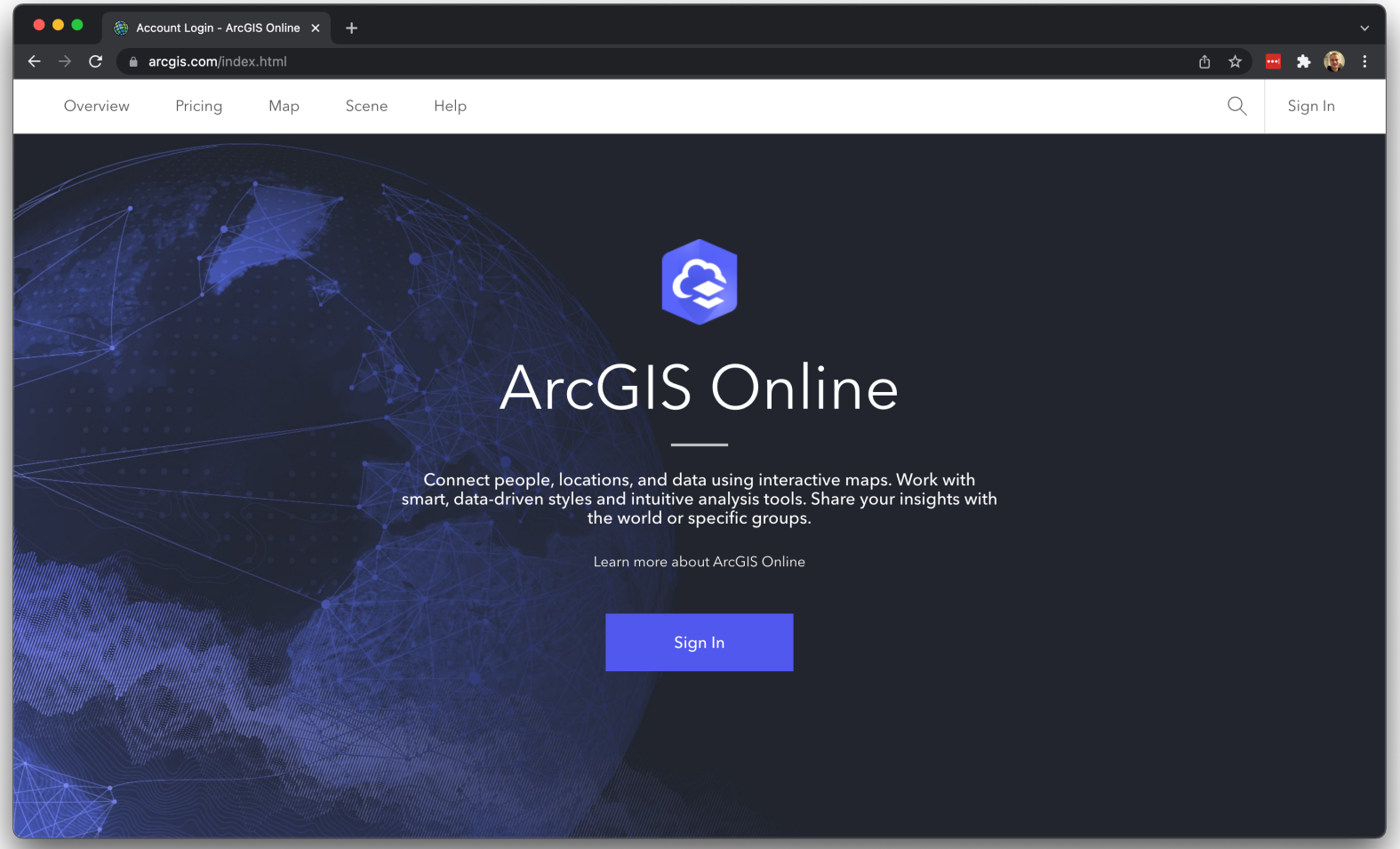

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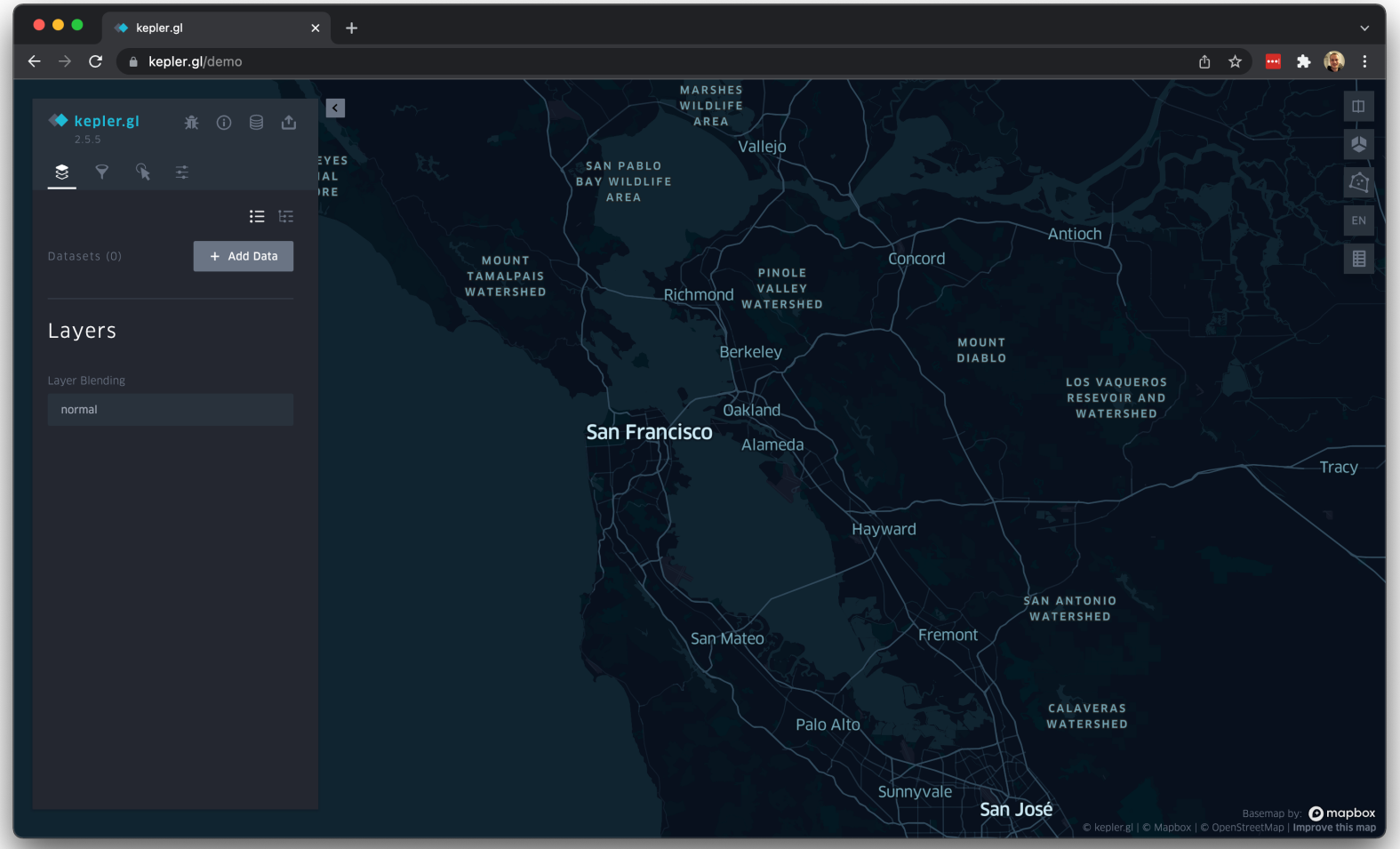
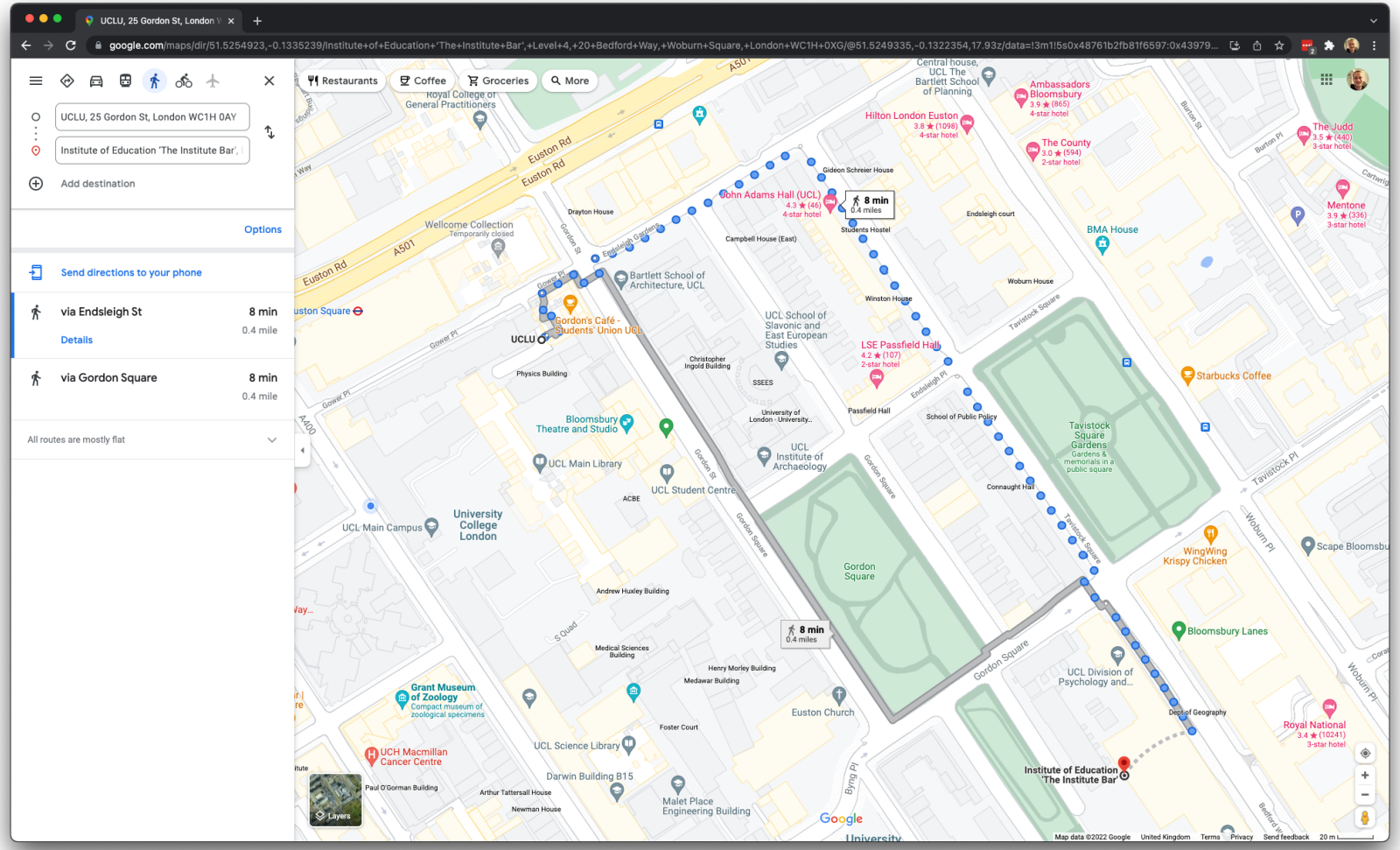


Spatial analysis

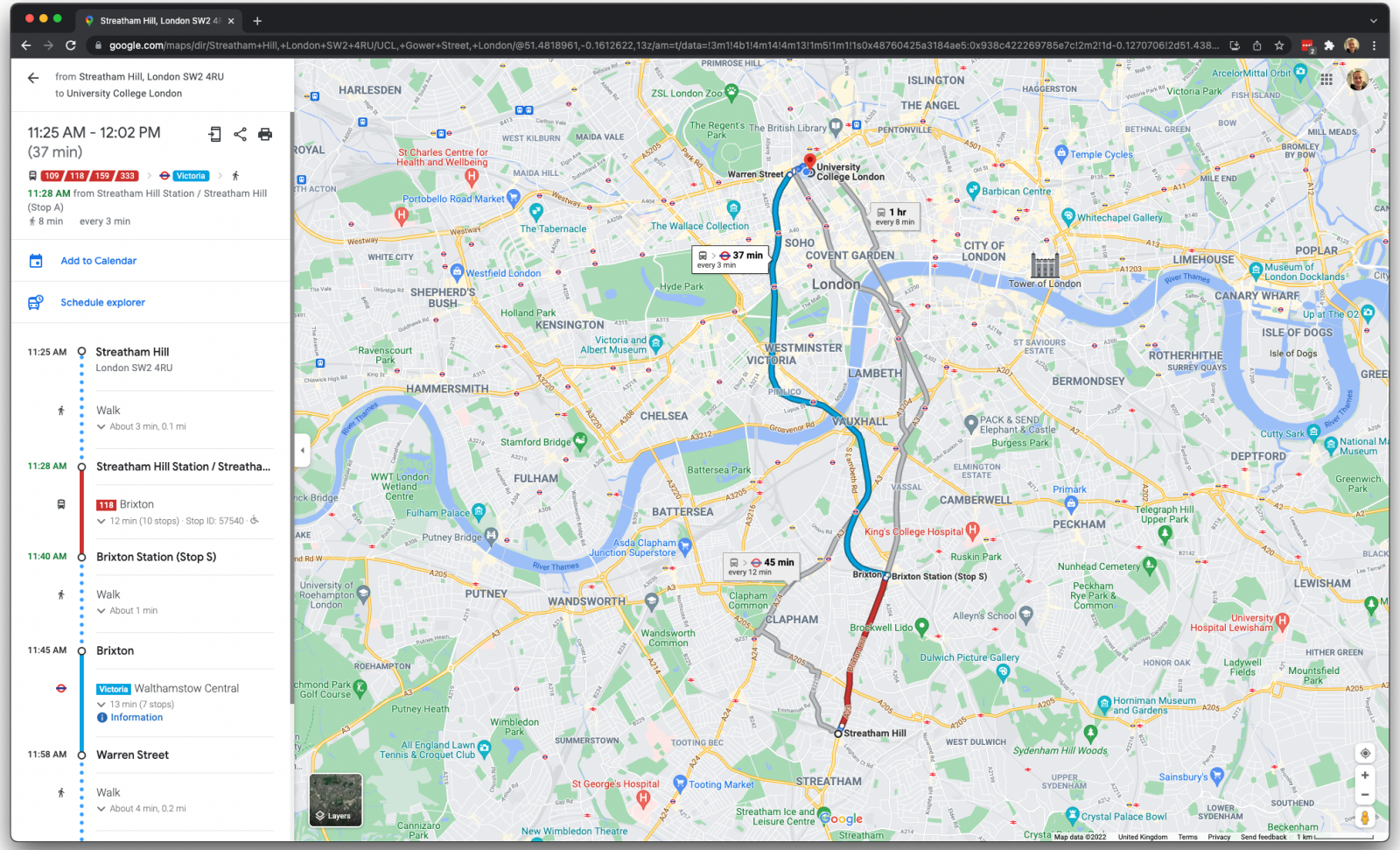
Spatial analysis

- 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.

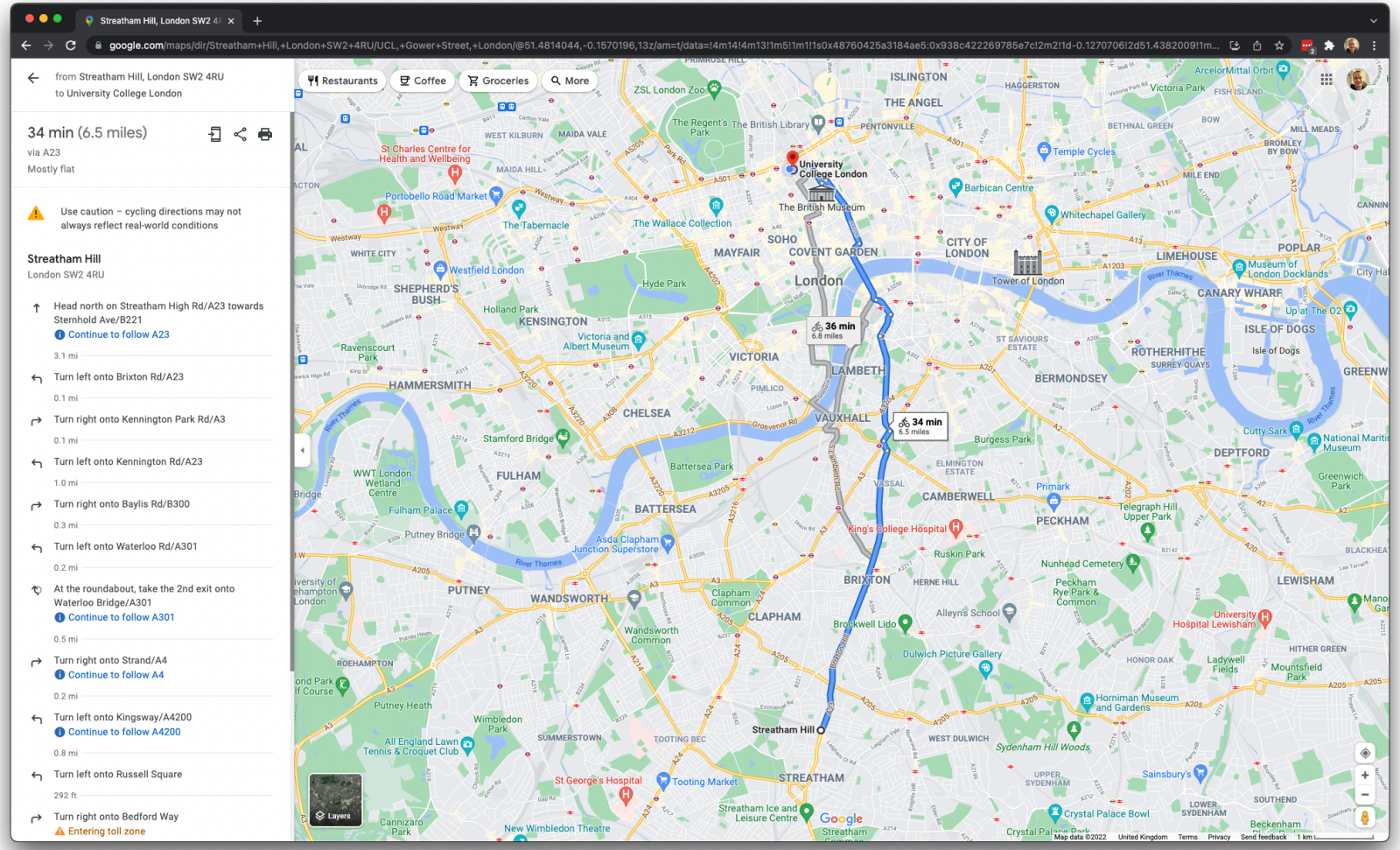
Spatial analysis



Spatial analysis



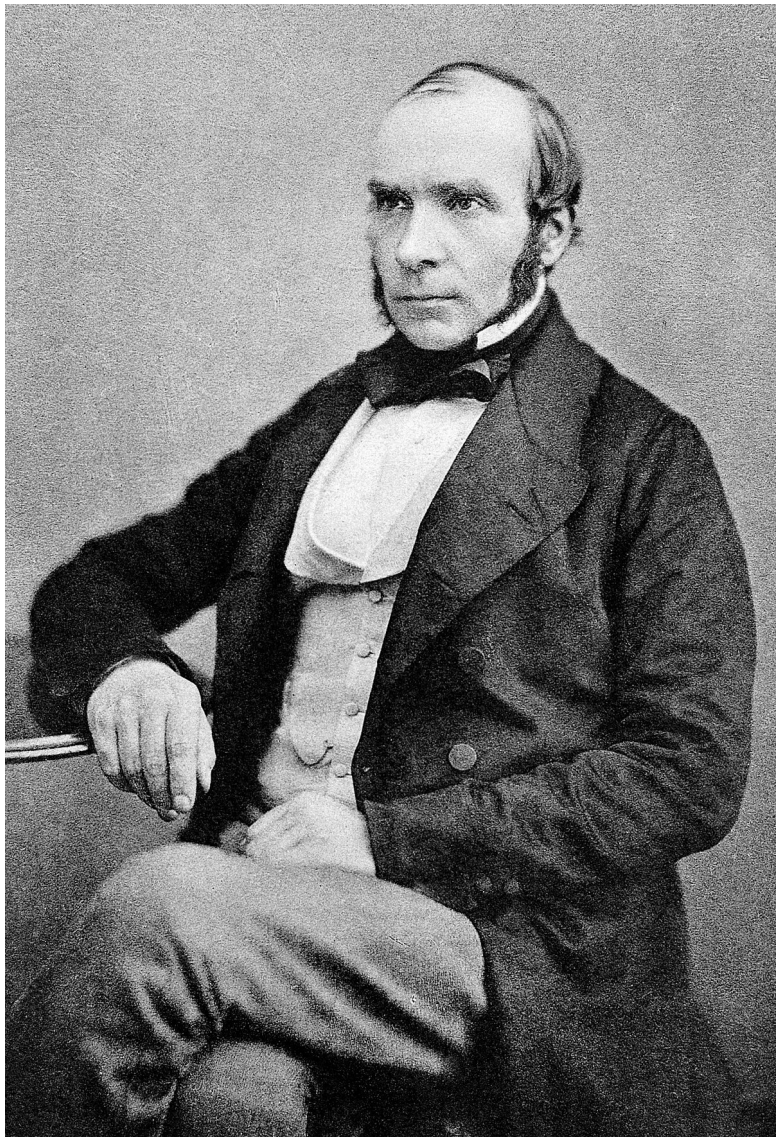
Spatial analysis



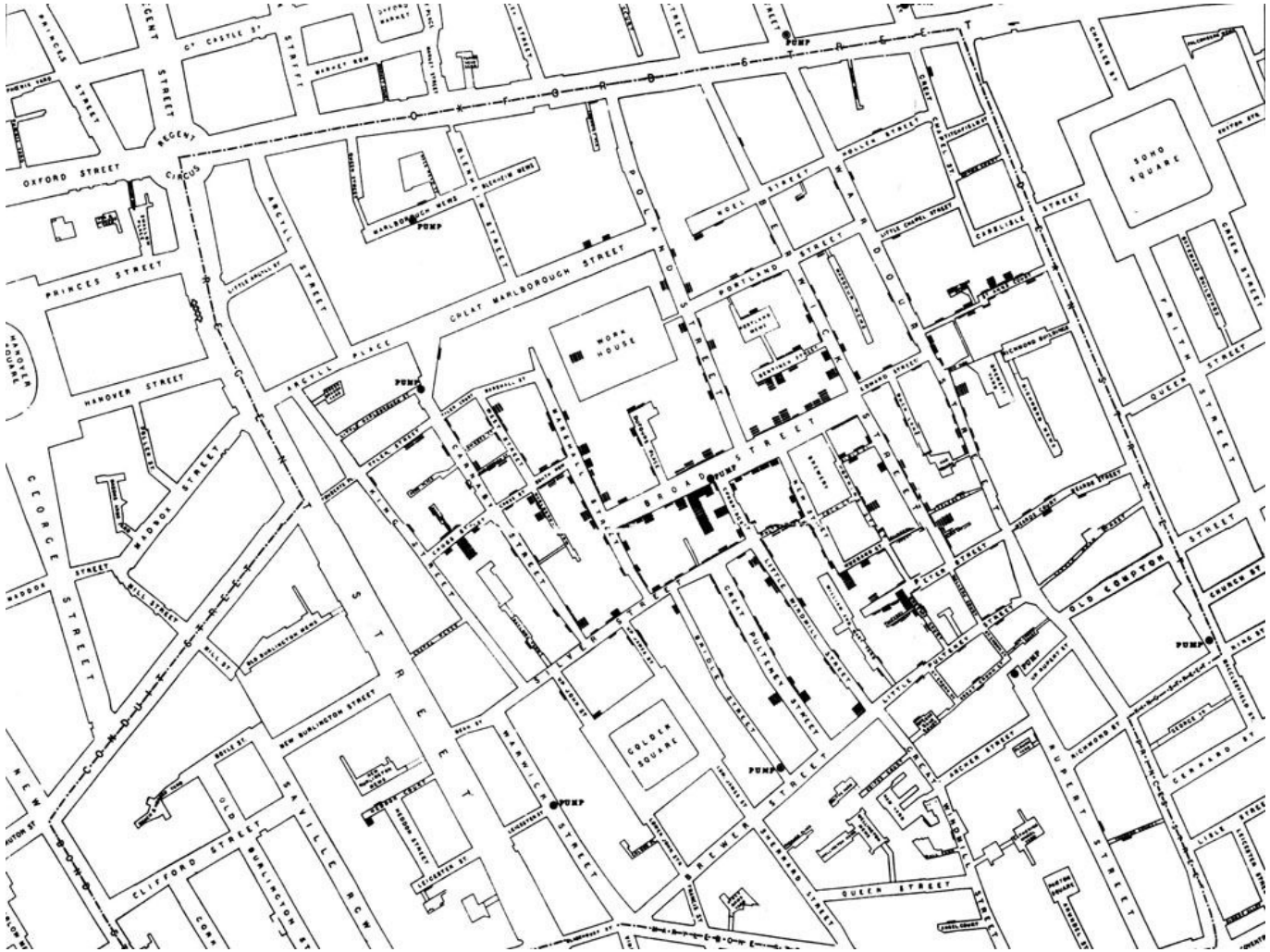
Spatial analysis

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

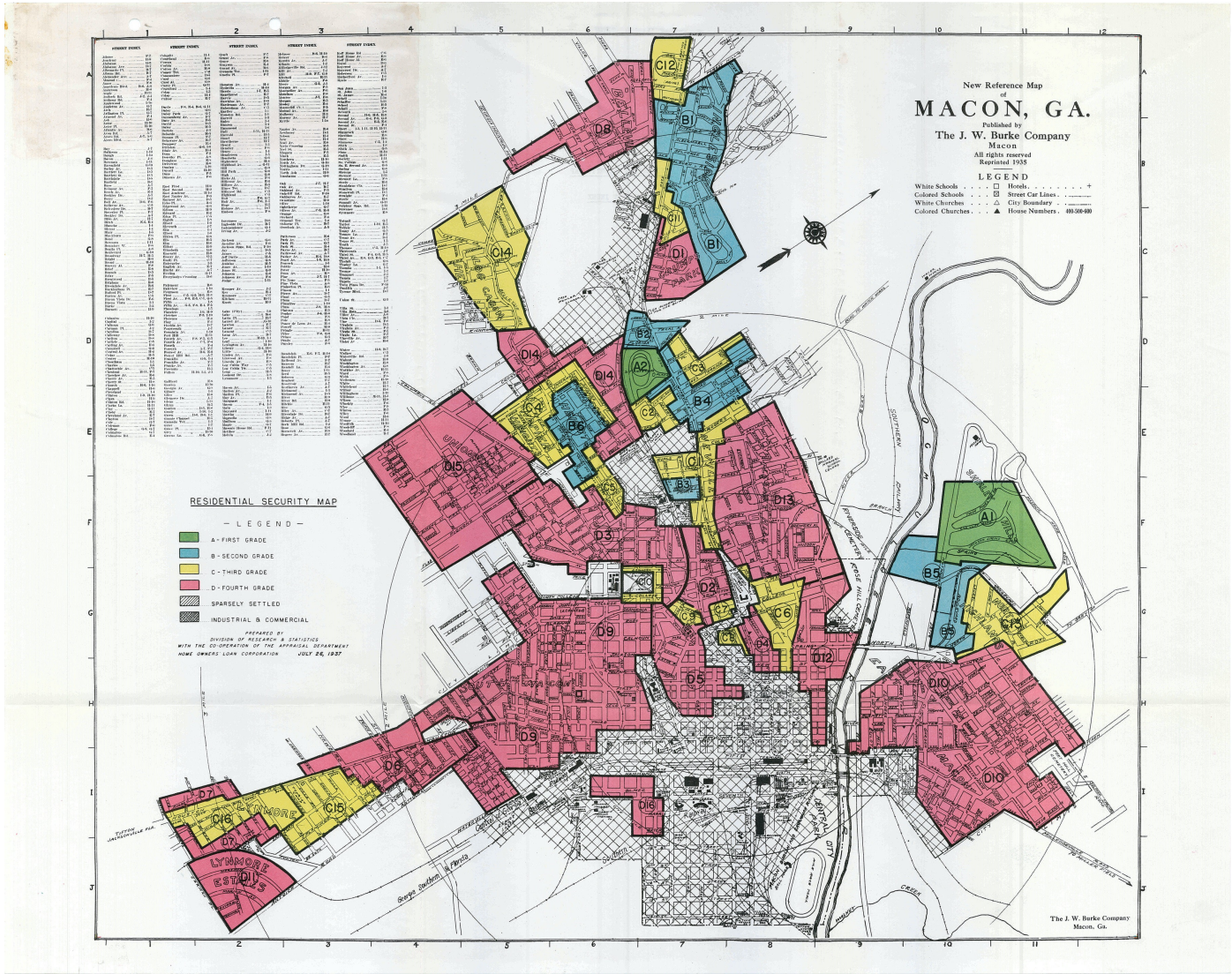


Spatial analysis

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.

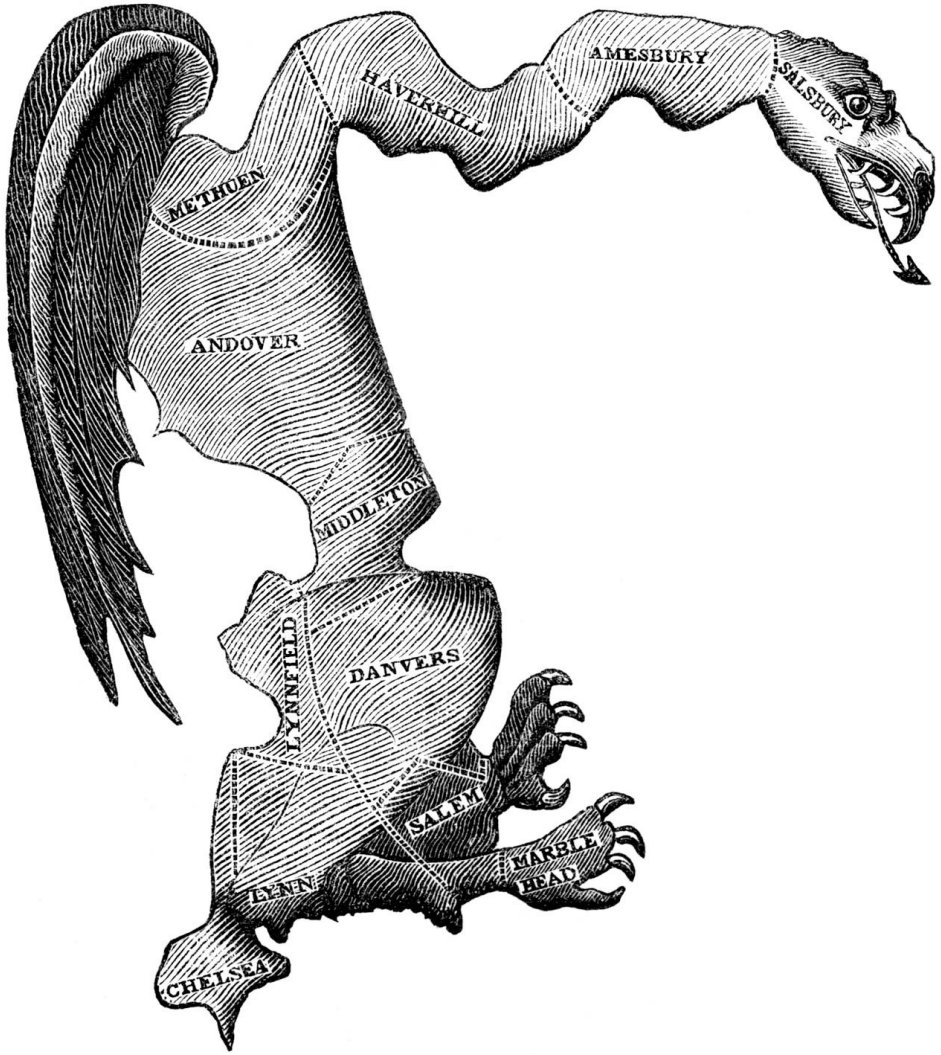
Power and privacy

Neutrality and power



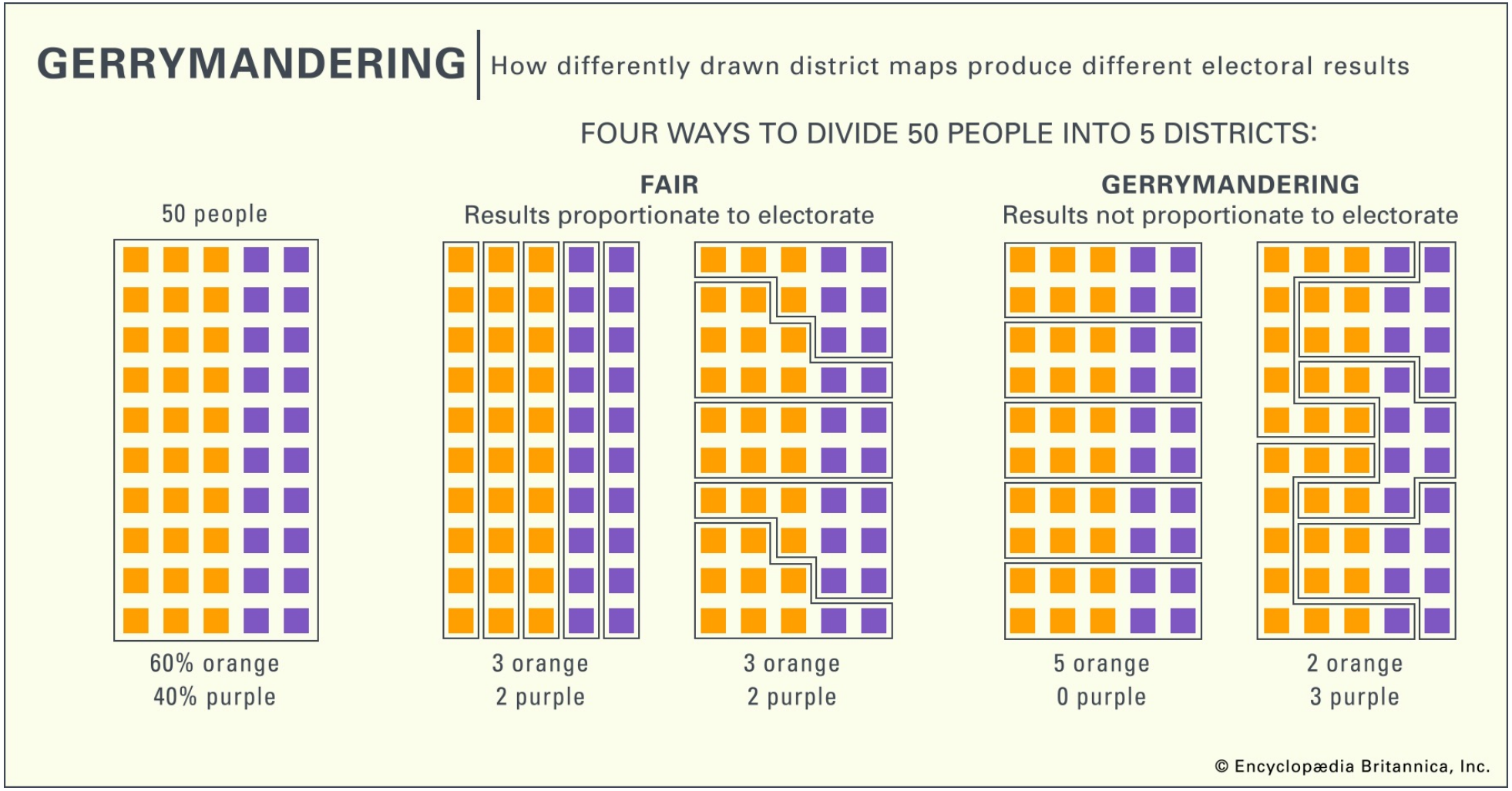
Washington Post. 2018. Redlining was banned 50 years ago. It's still hurting minorities today. [Online] https://www.washingtonpost.com/news/wonk/wp/2018/03/28/redlining-was-banned-50-years-ago-its-still-hurting-minorities-today/

Neutrality and power



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

Neutrality and power



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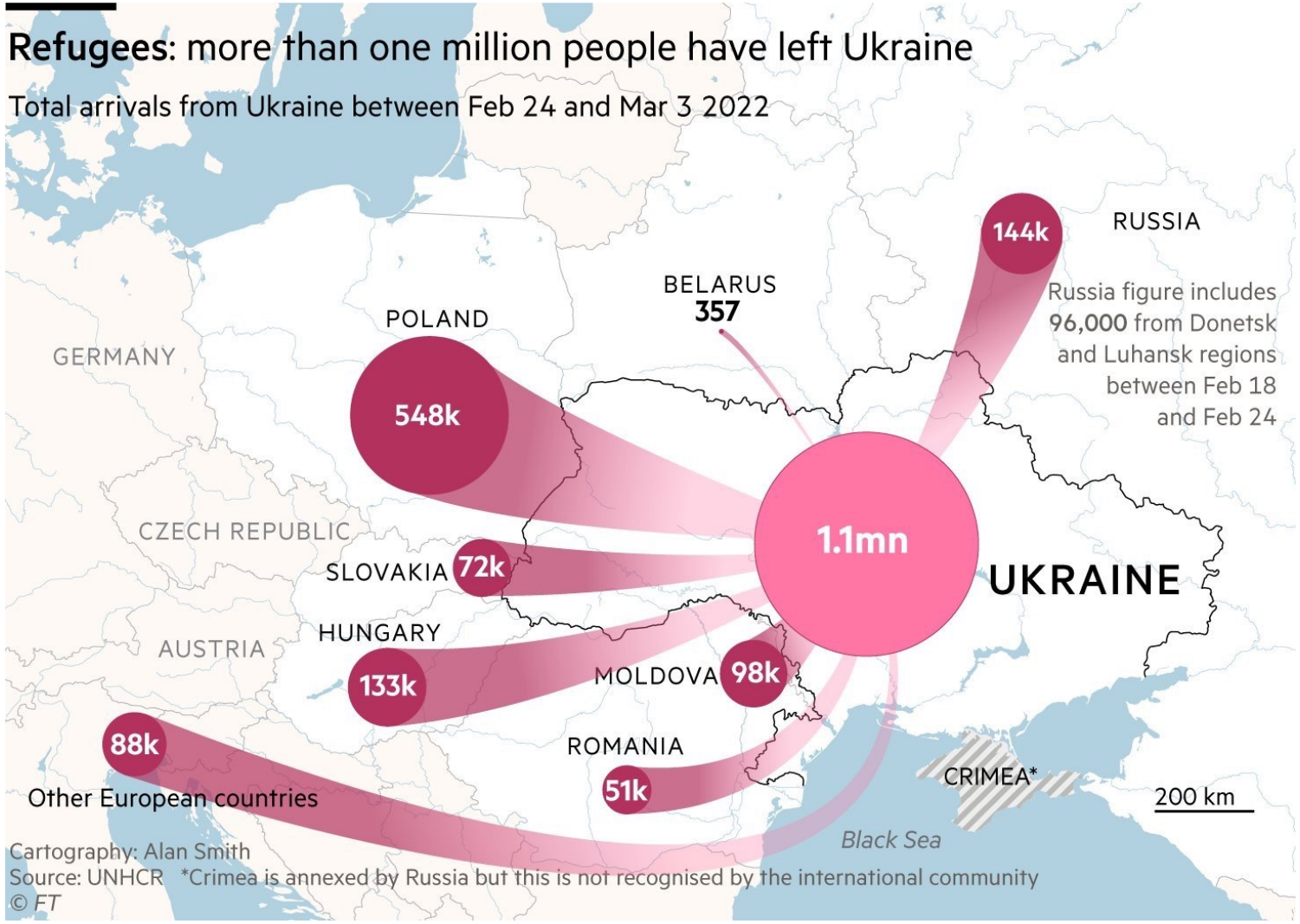
Neutrality and power

Neutrality and power



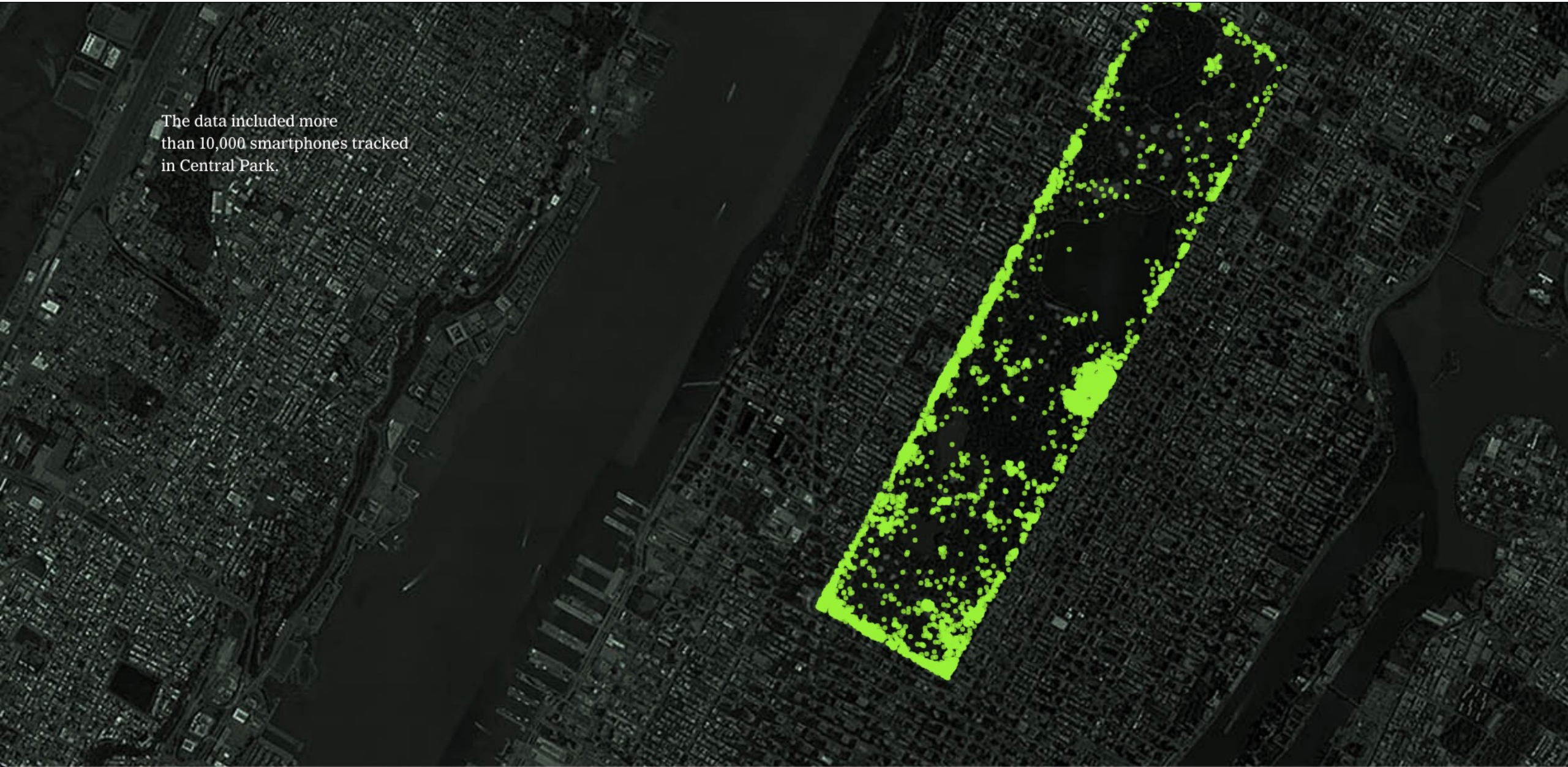
Neutrality and power

Mass exodus

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

Source: UNHCR

The Privacy Project



The Privacy Project

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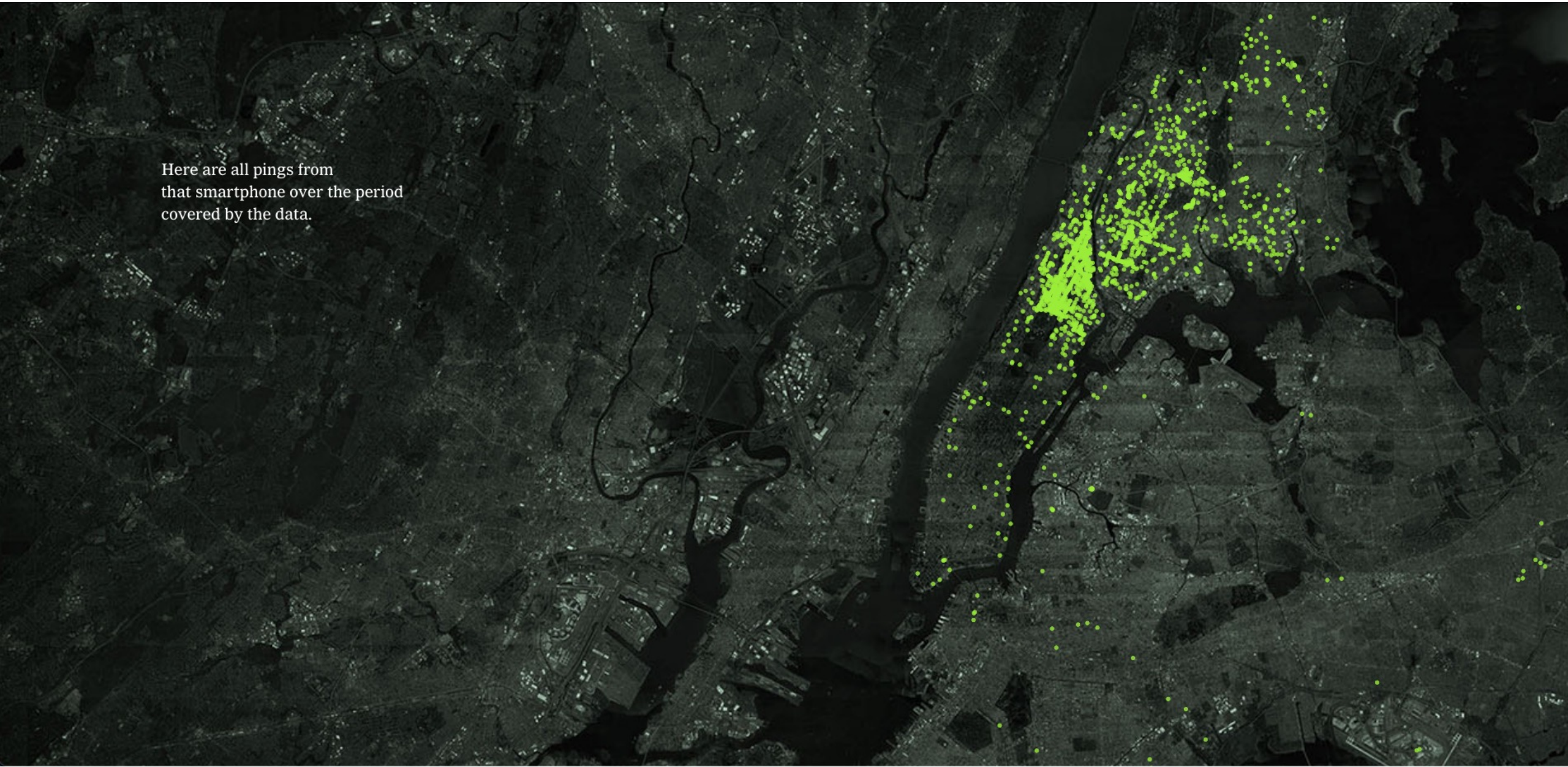


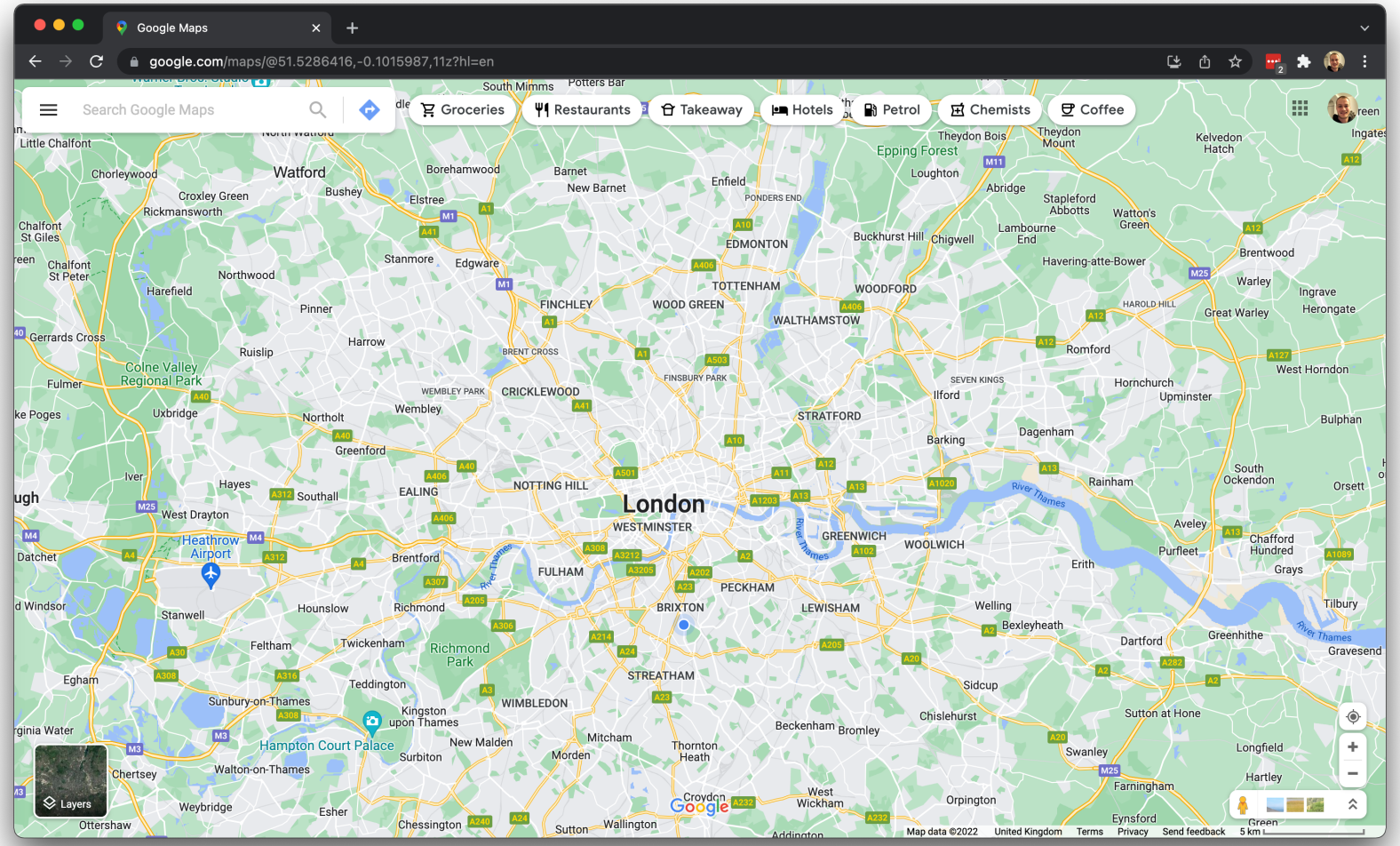
The Privacy Project

Responses

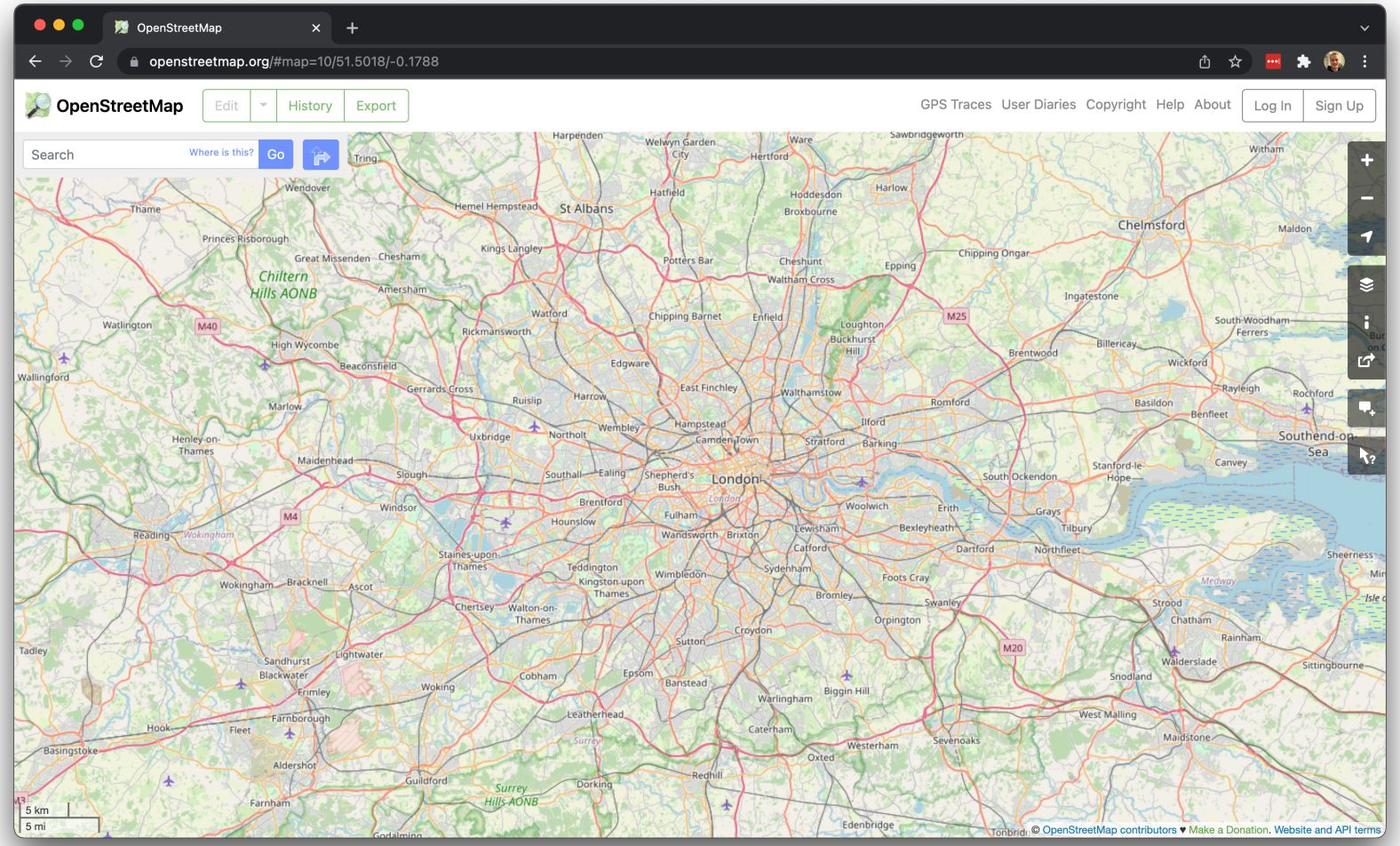
- Critical cartography/GIS is a set of mapping practices and methods of analysis grounded in critical theory, specifically the thesis that maps reflect and perpetuate relations of power, typically in favour of a society's dominant group.
- Includes: non-cartesian representations of lived geographic spaces.

Some examples

Mapping London



Mapping London



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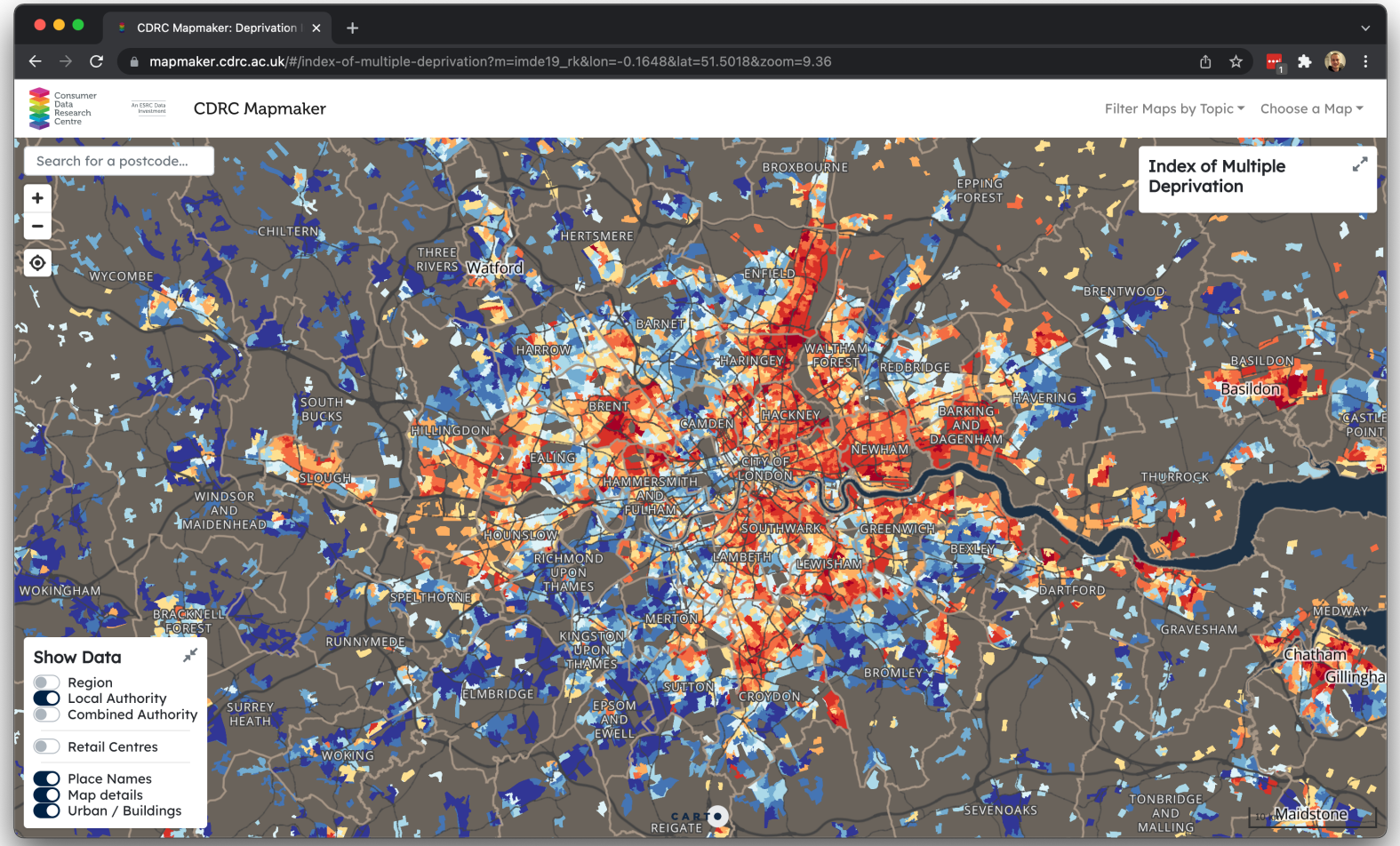

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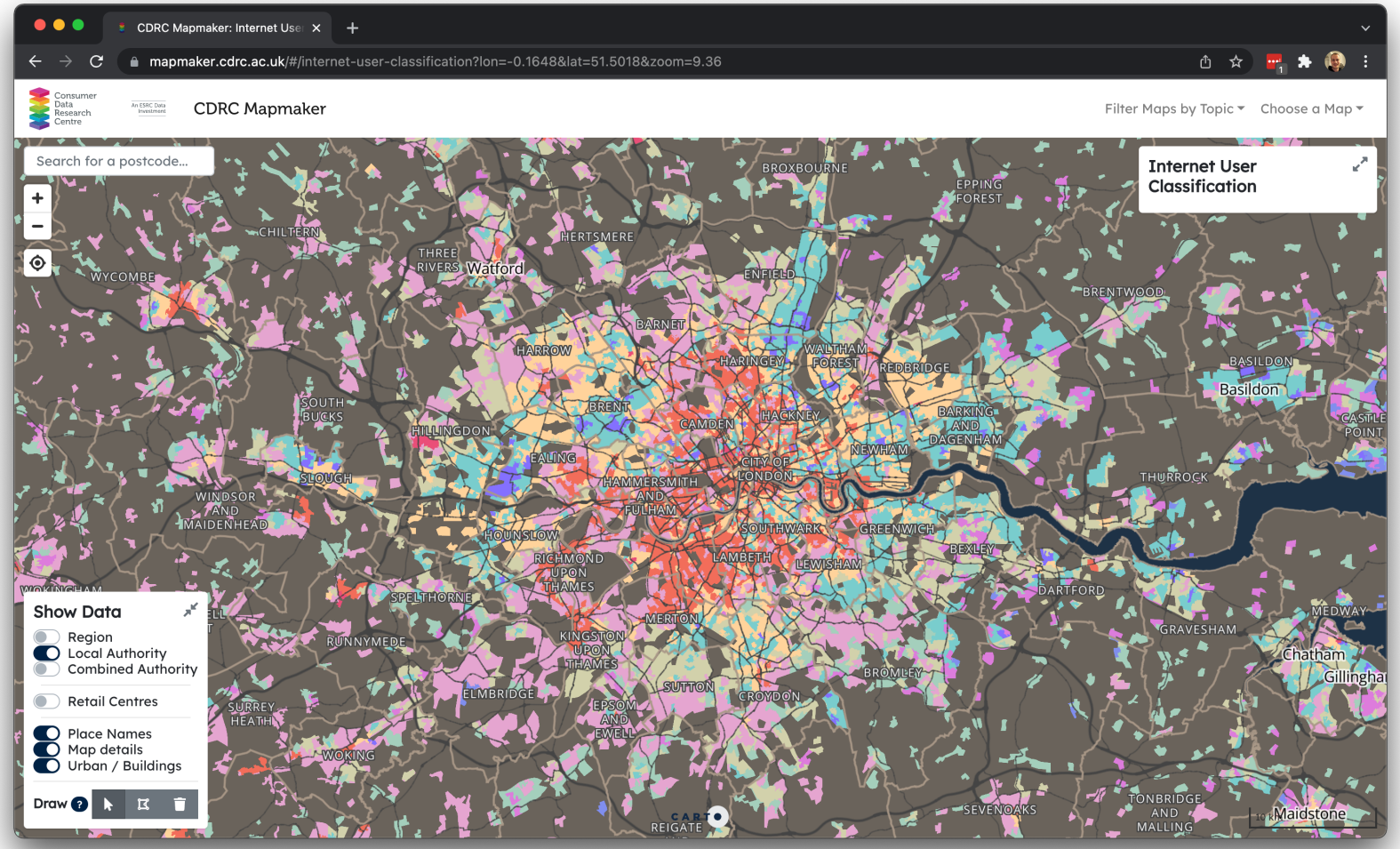

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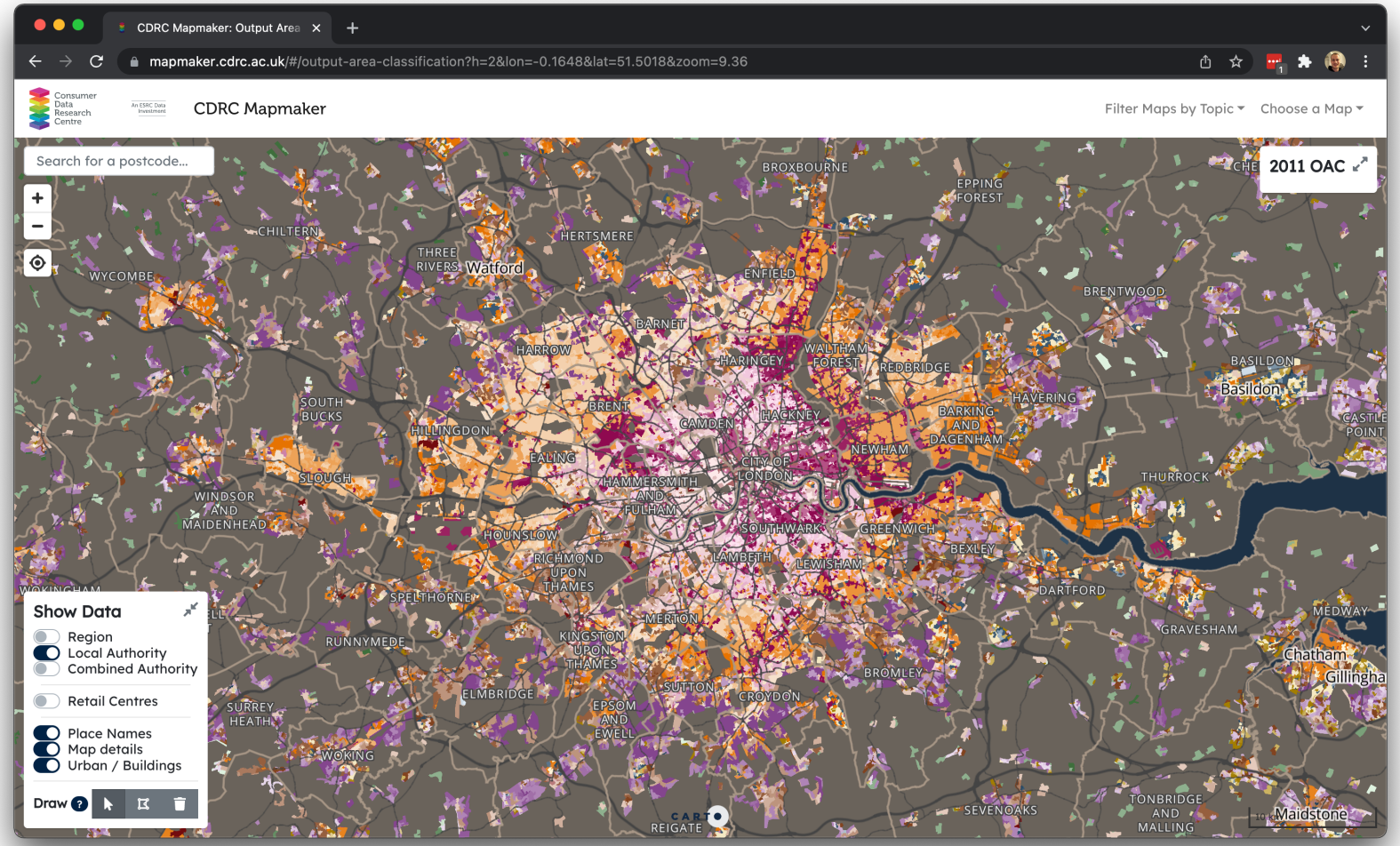

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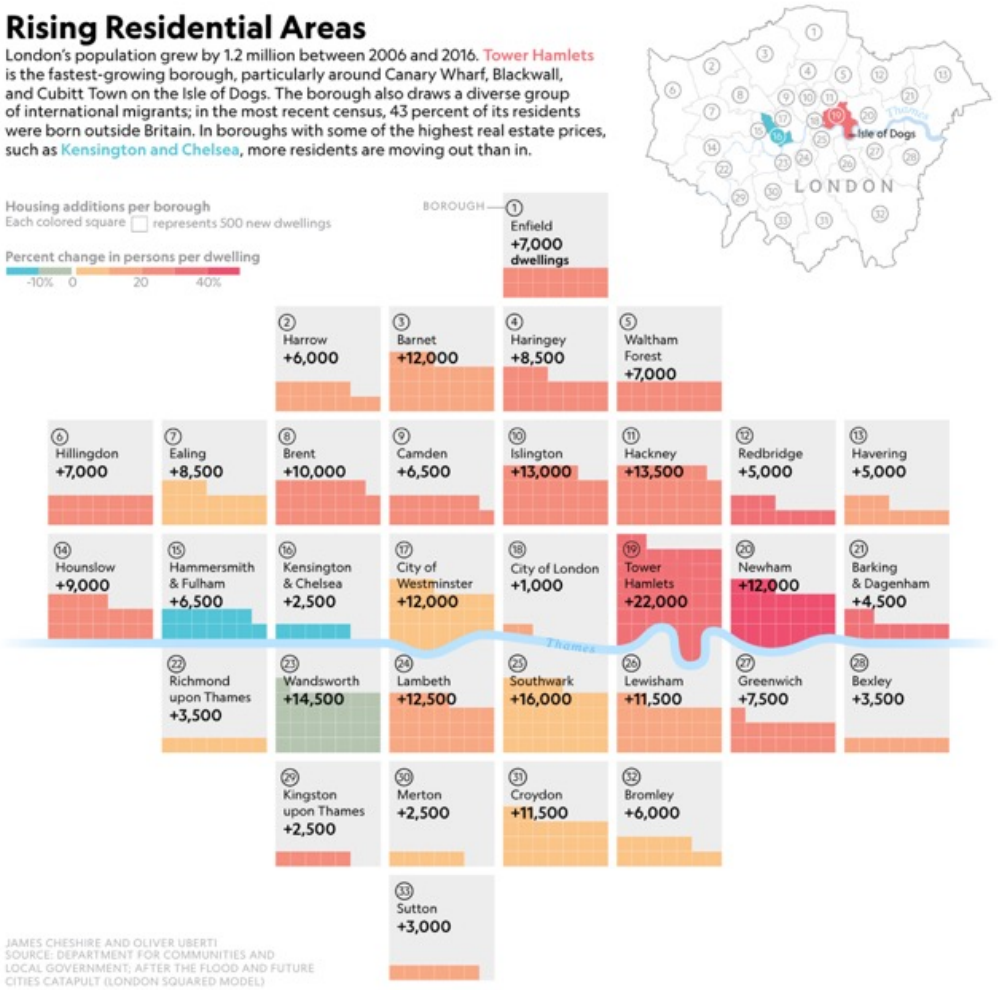
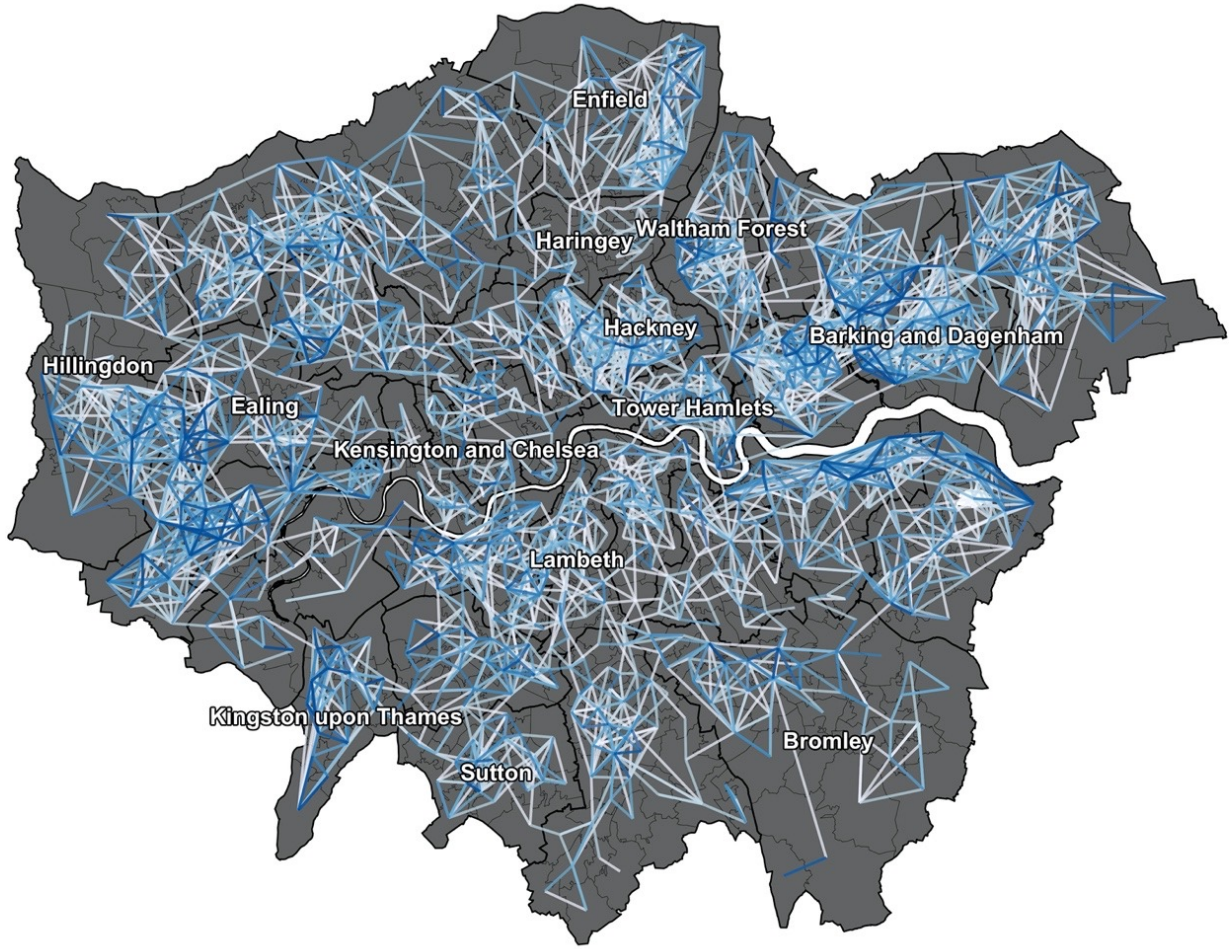


National Geographic. How. London became the centre of the world. https://www.nationalgeographic.com/environment/article/london-population-city-planning

Mapping London



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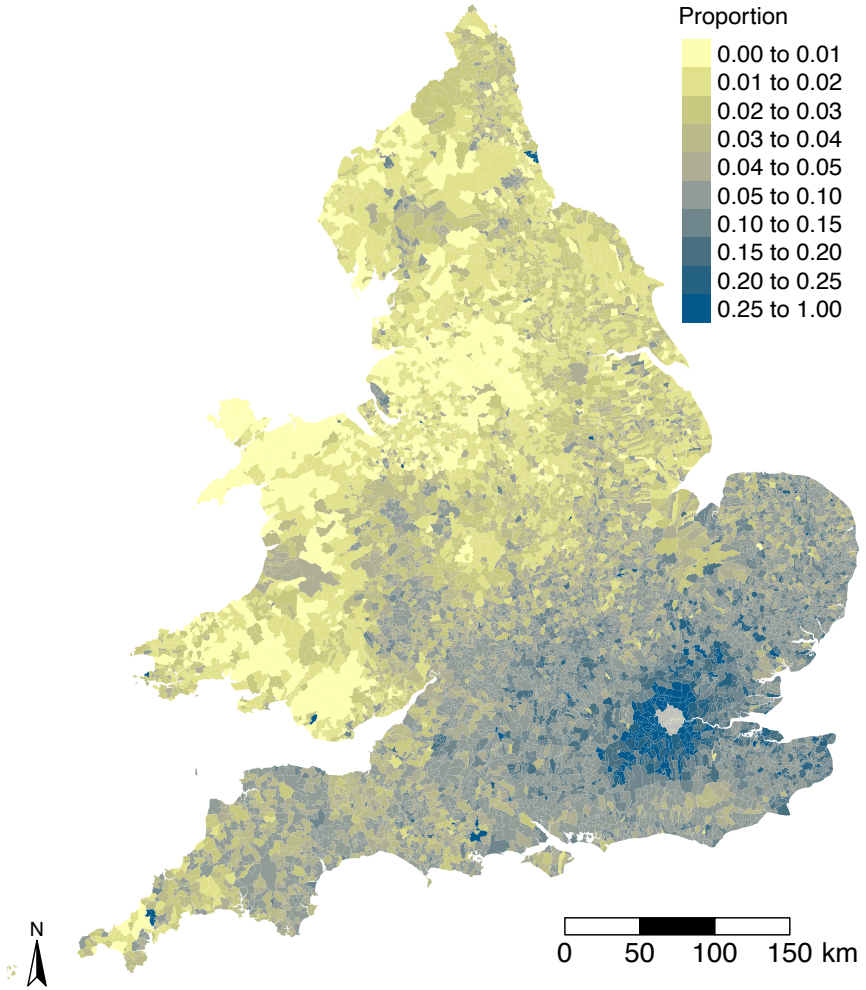


Longley, P. A. Van Dijk, J. T., & Lan, T. 2021. The geography of intergenerational social mobility in Great Britain. *Nature Communications* 12: 6050.

Conclusion

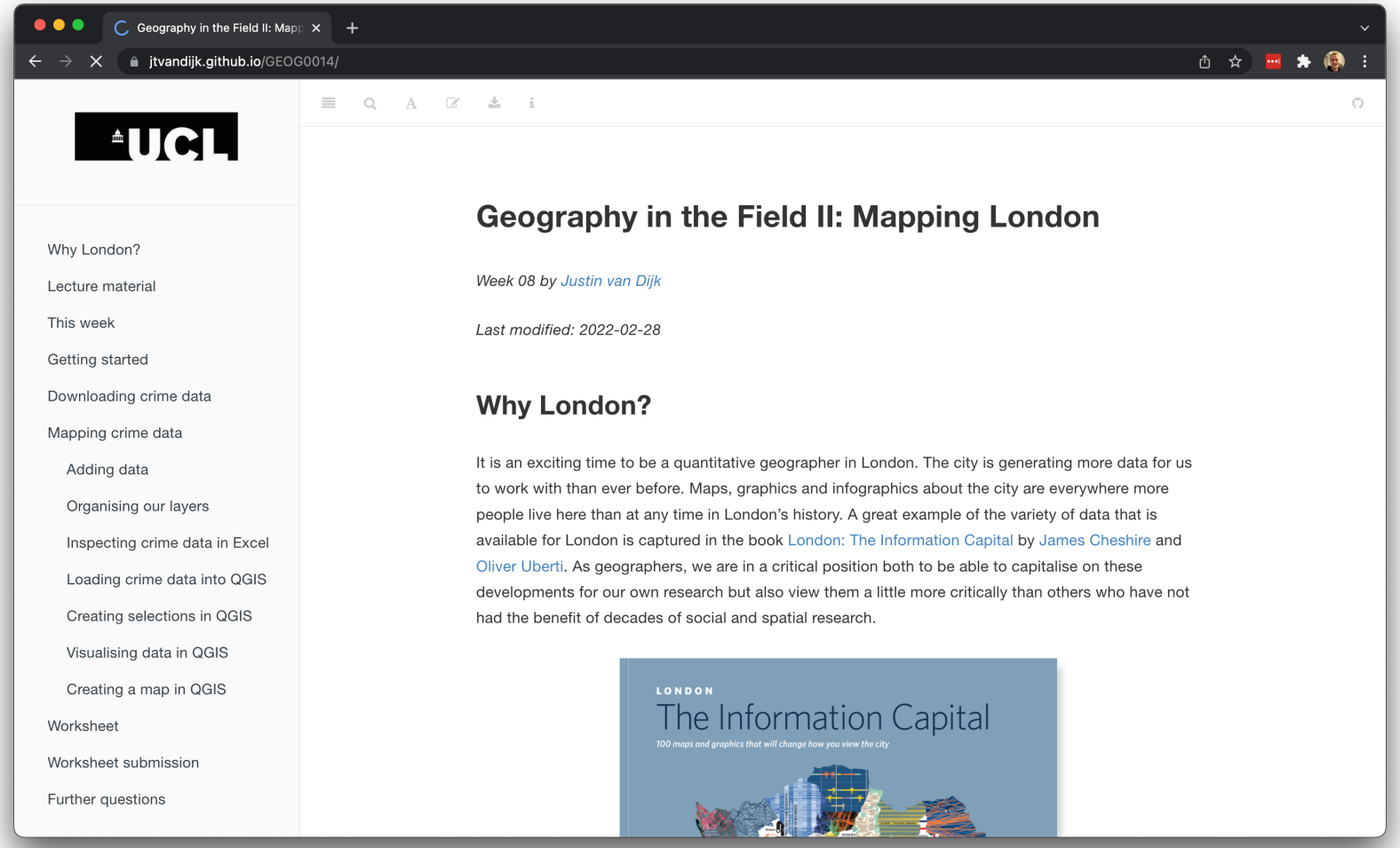
- Making maps and visualisations is important to convey information.
- At least two things are required: GIScience (with GI software) and spatial analysis.
- Maps are never neutral but tell a story.
- There is no one map to rule them all.
- It is an exciting time to be a quantitative geographer.

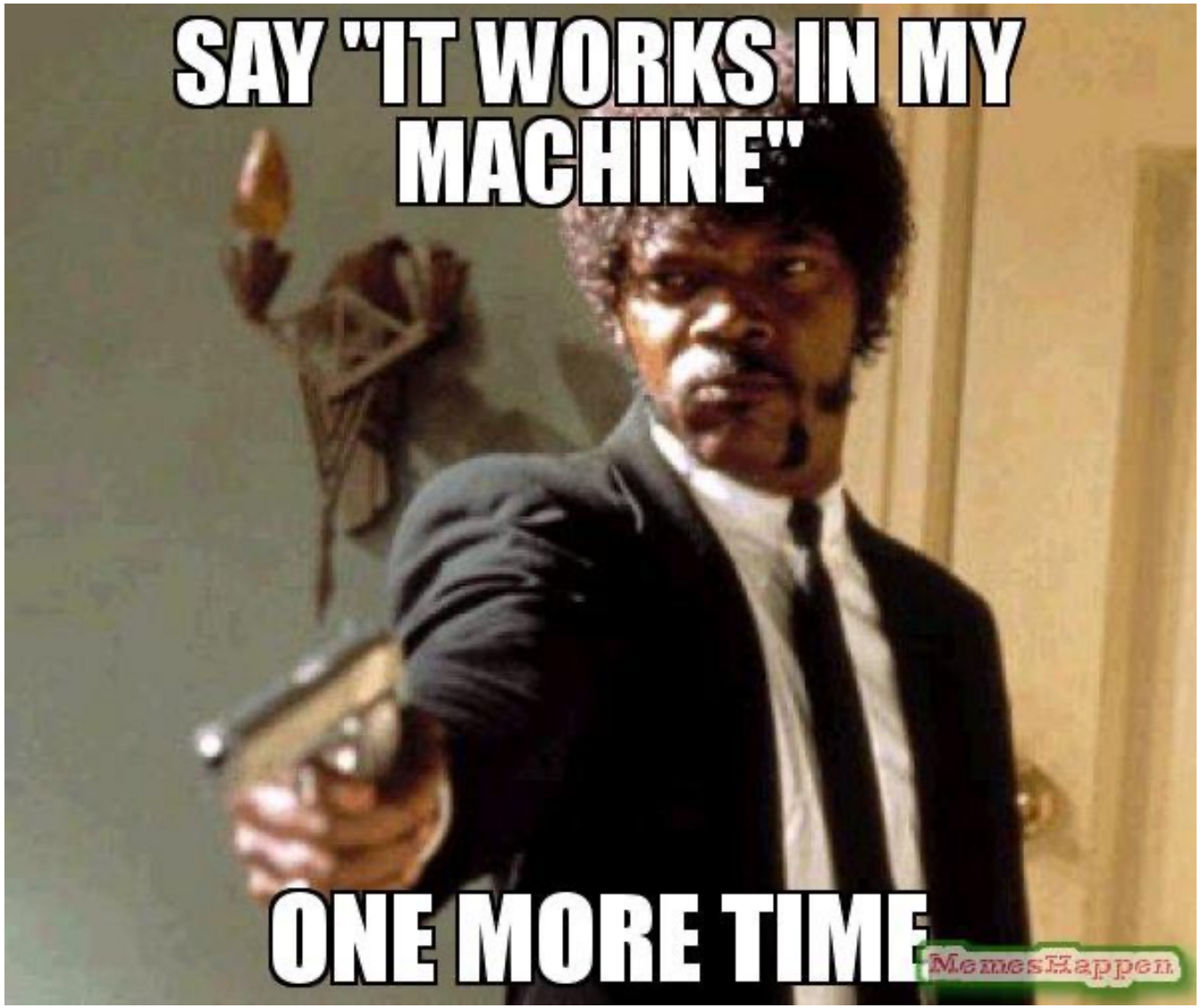
Practicalities

Coming days

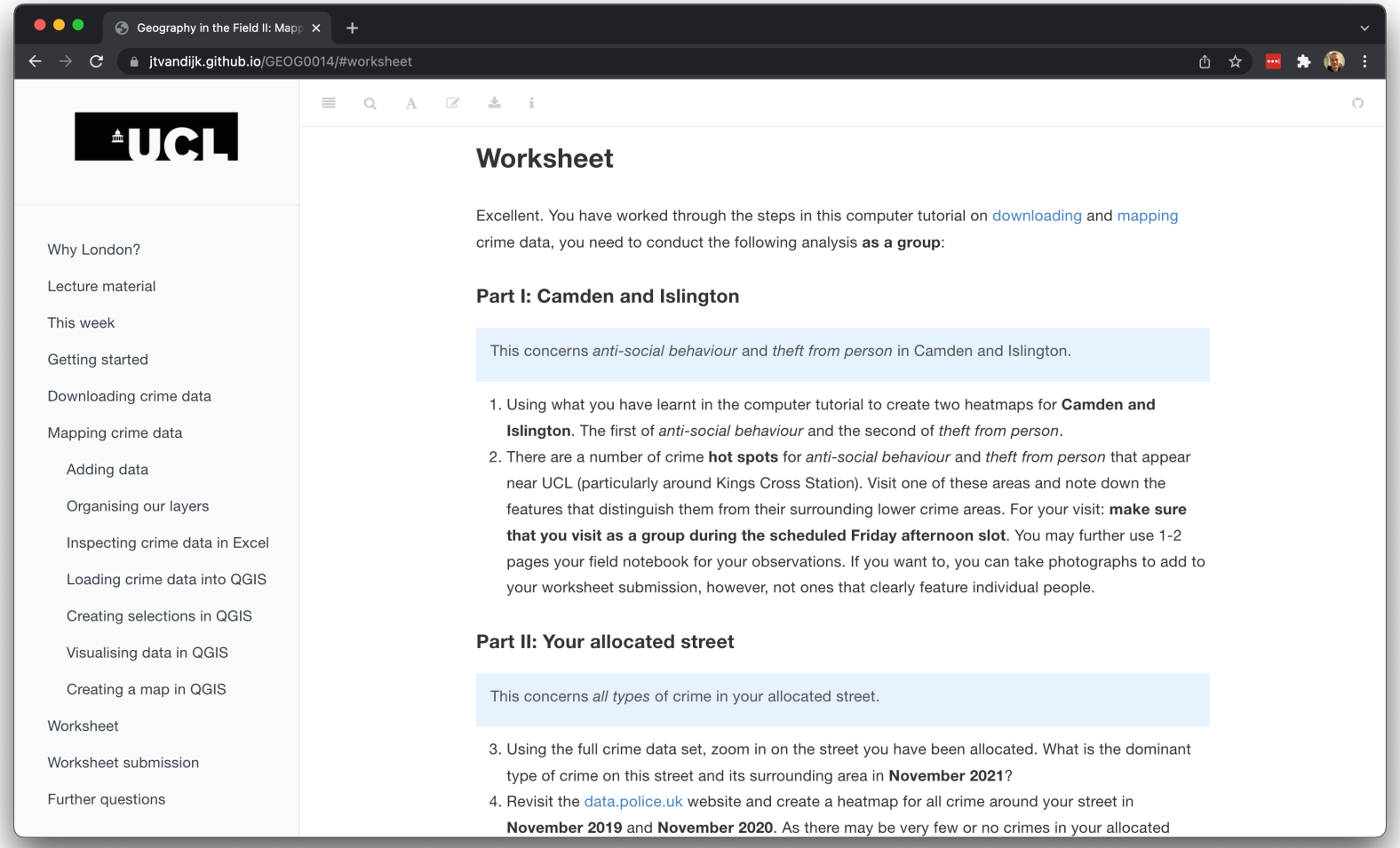
~~Monday:~~	~~Lecture~~
Tuesday:	Seminar on Gentrification (details on Moodle)
Before Friday:	QGIS Computer Tutorial (independently, online)
Friday:	Field visit (1-2 pages in field notebook)

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



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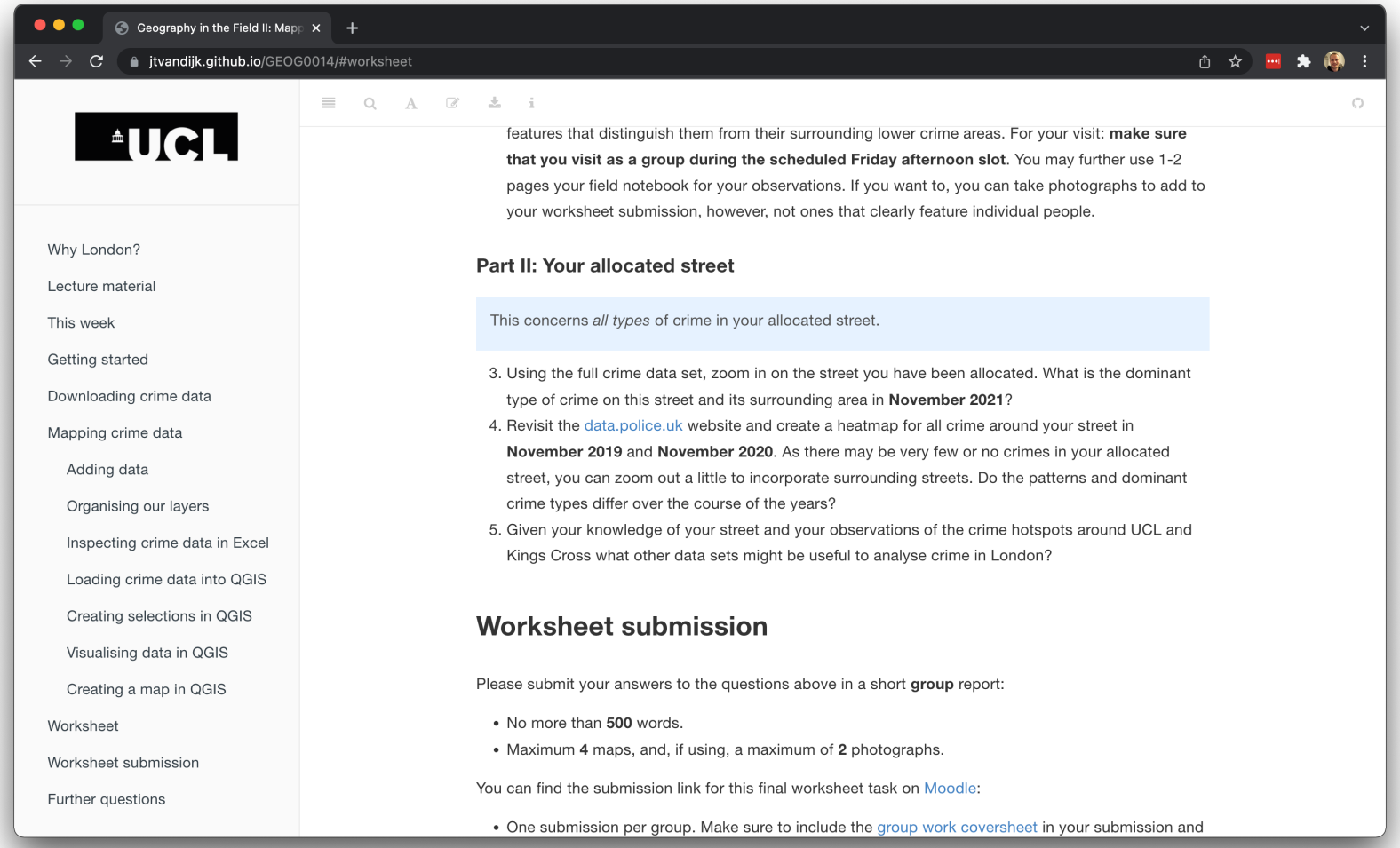

Worksheet submission

- 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

Justin van Dijk

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