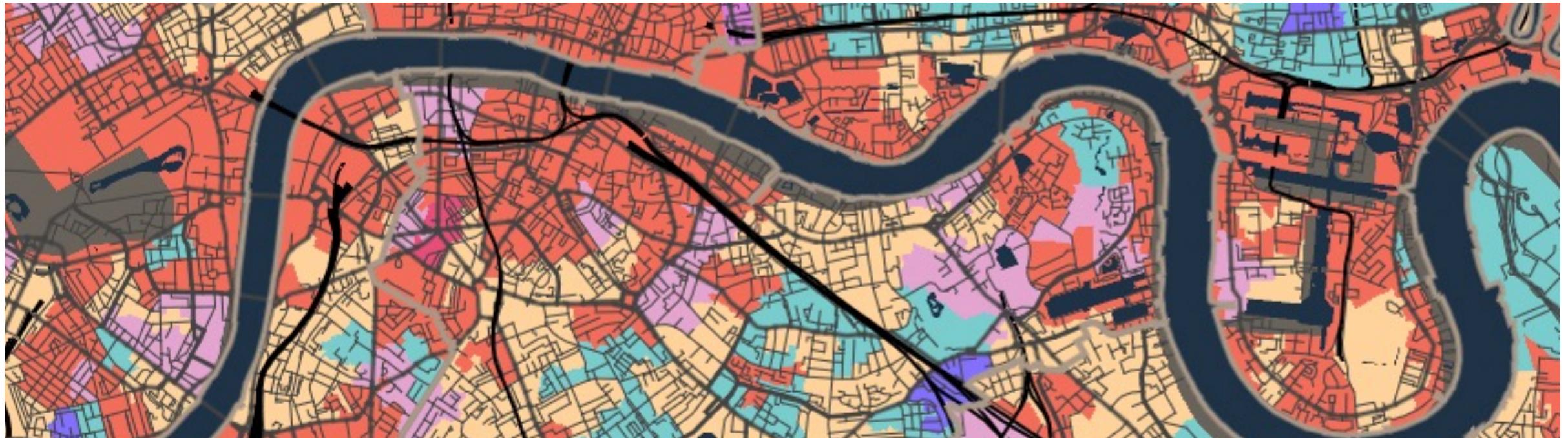


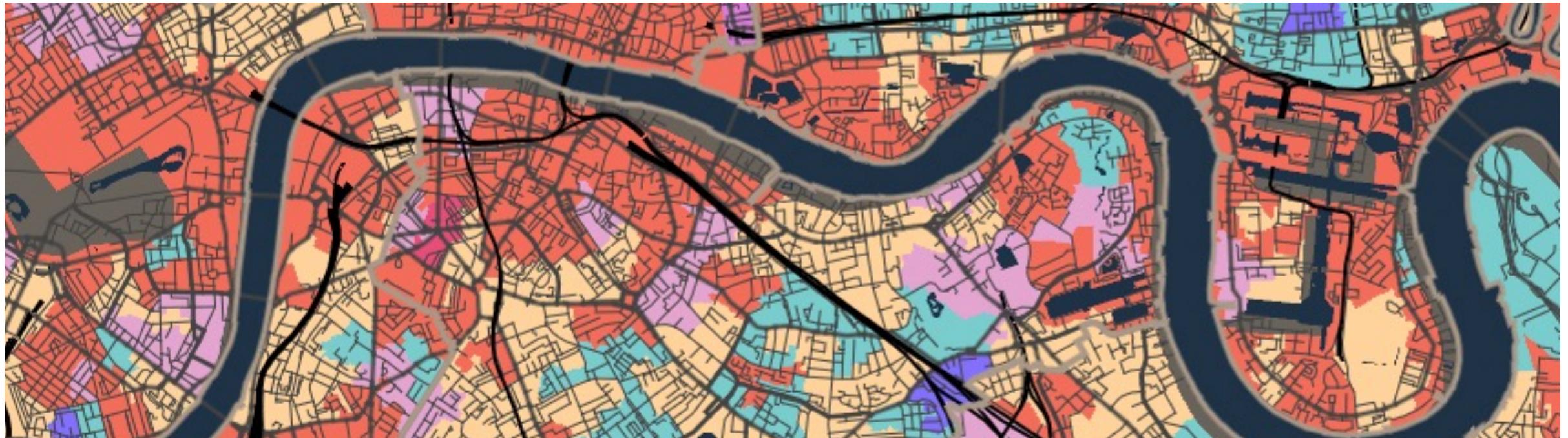
Geography in the Field II

W8 – Mapping London



Geography in the Field II

... but more widely thinking about data and maps



This week

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

Before we start

- Go to www.menti.com
- Use code: 1504 3680

This week

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

Importance

Why is mapping important?

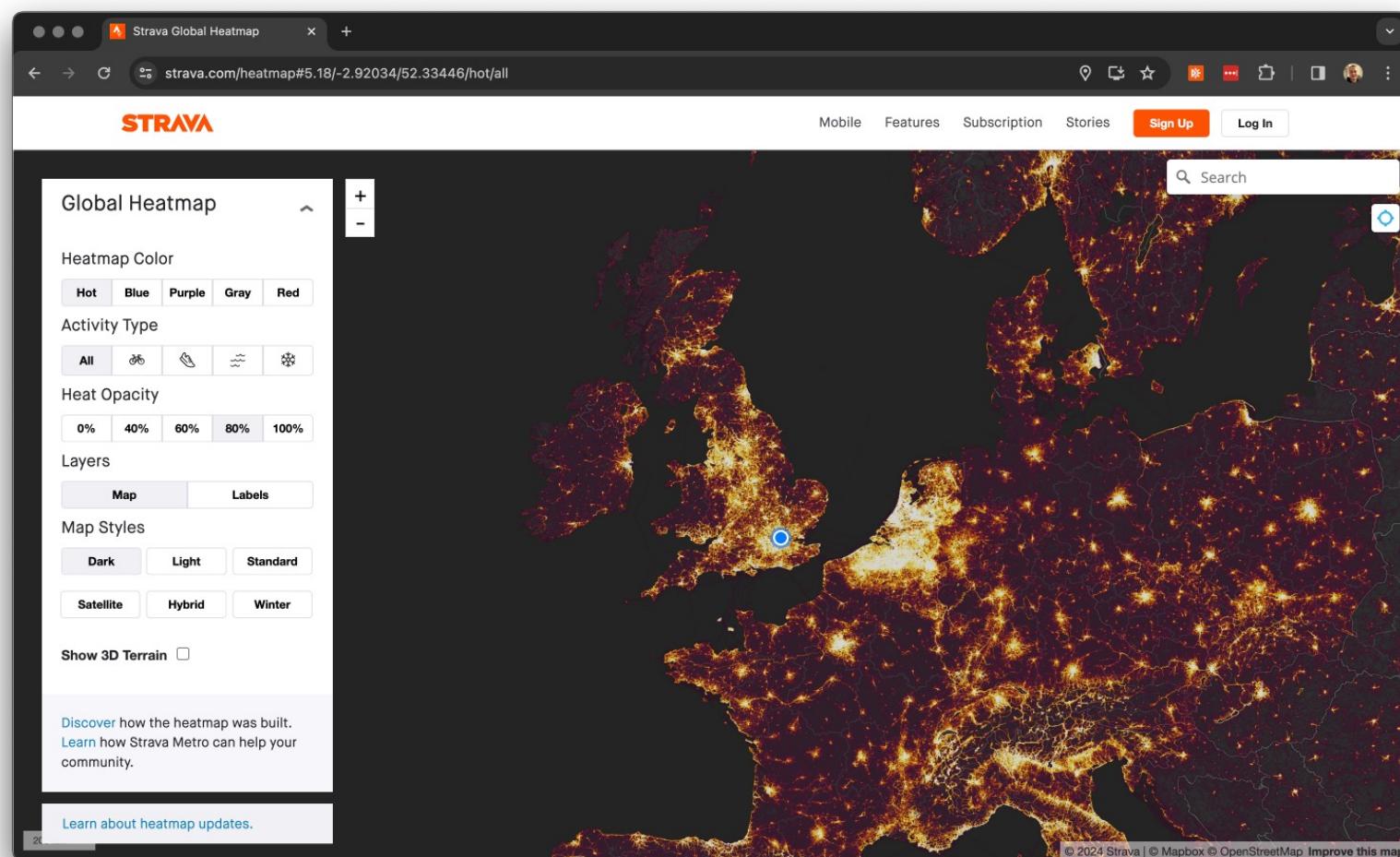
- Our world is faced with many challenges and problems, of which many are inherently geographical. To try to address and solve these problems require geographic enquiry and thinking to create knowledge from geographic information. Almost all data is "collected somewhere" and is spatially heterogeneous.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

Why is mapping important?

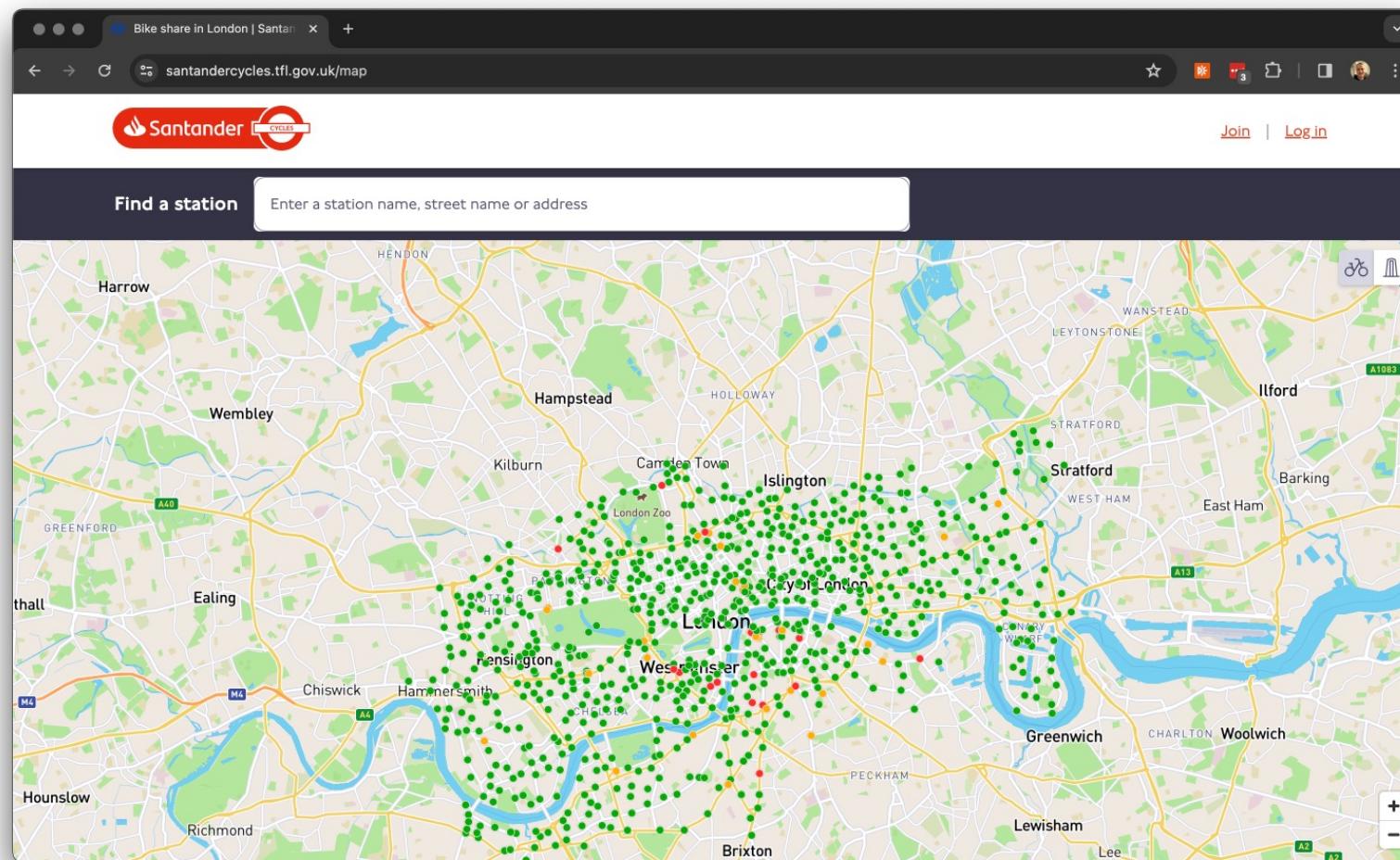
(Geo)Visualisation

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

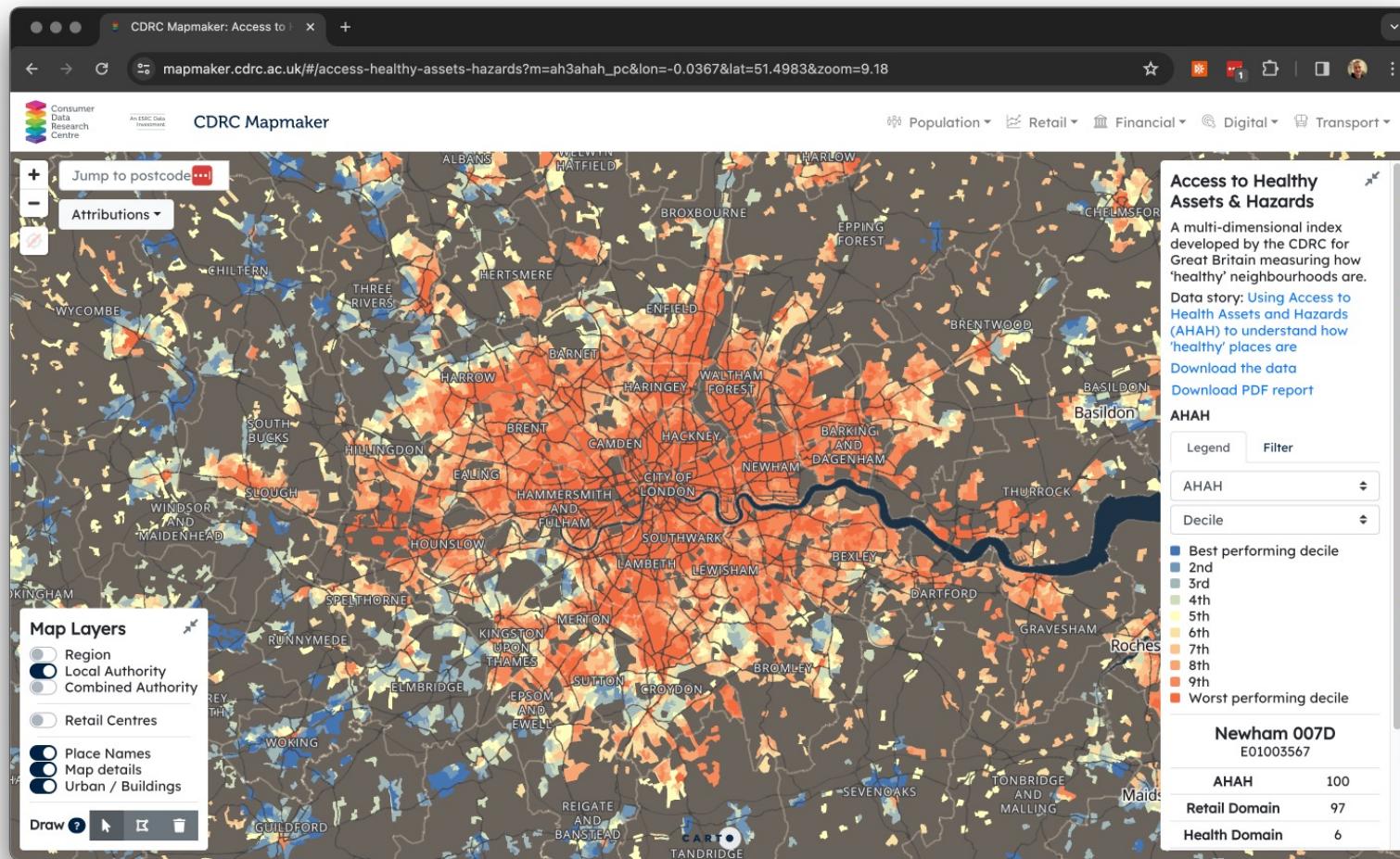
Running in Western-Europe



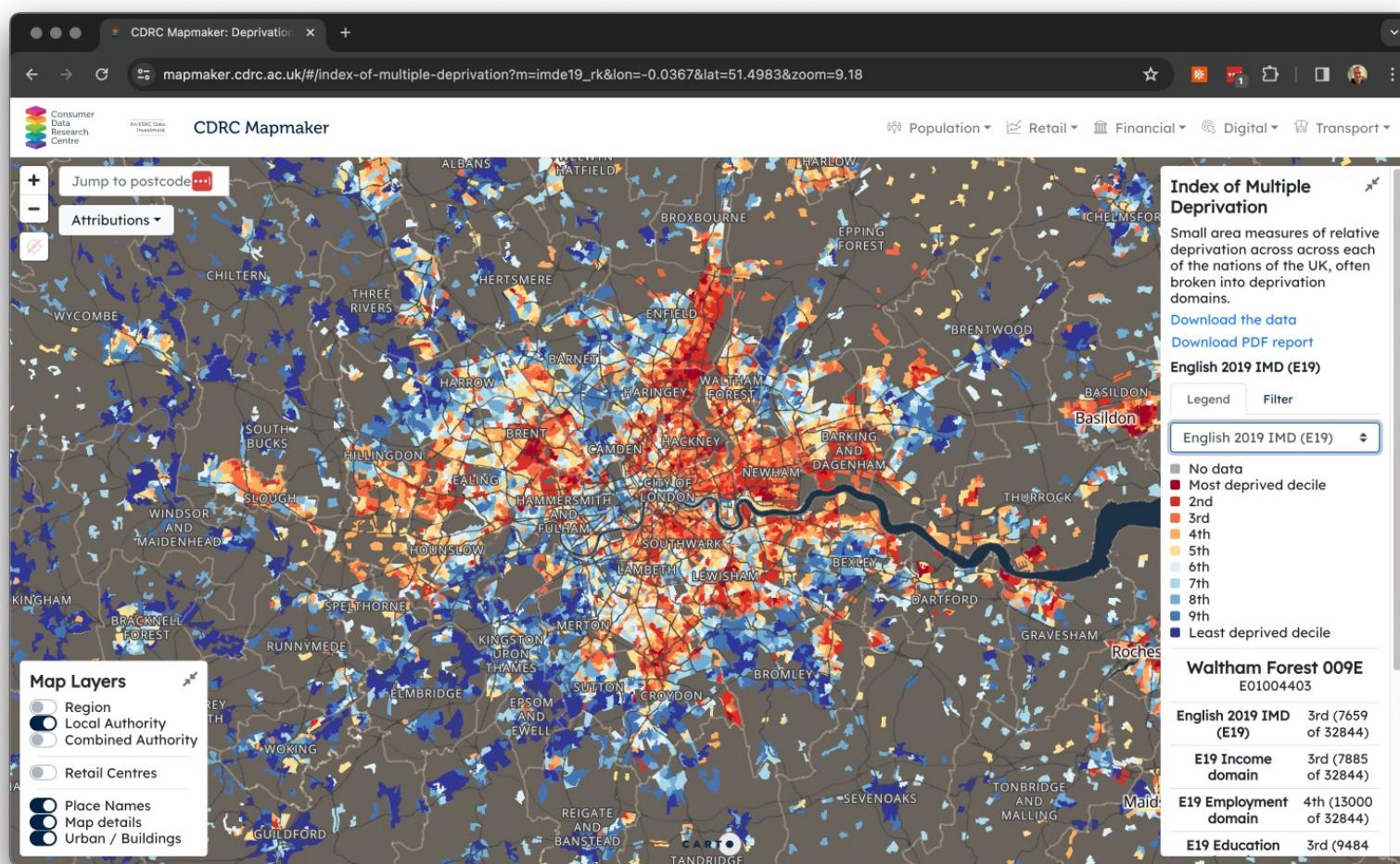
Bicycle docking stations in London



Access to Healthy Assets and Hazards in the UK



Index of Multiple Deprivation in England



Requirements

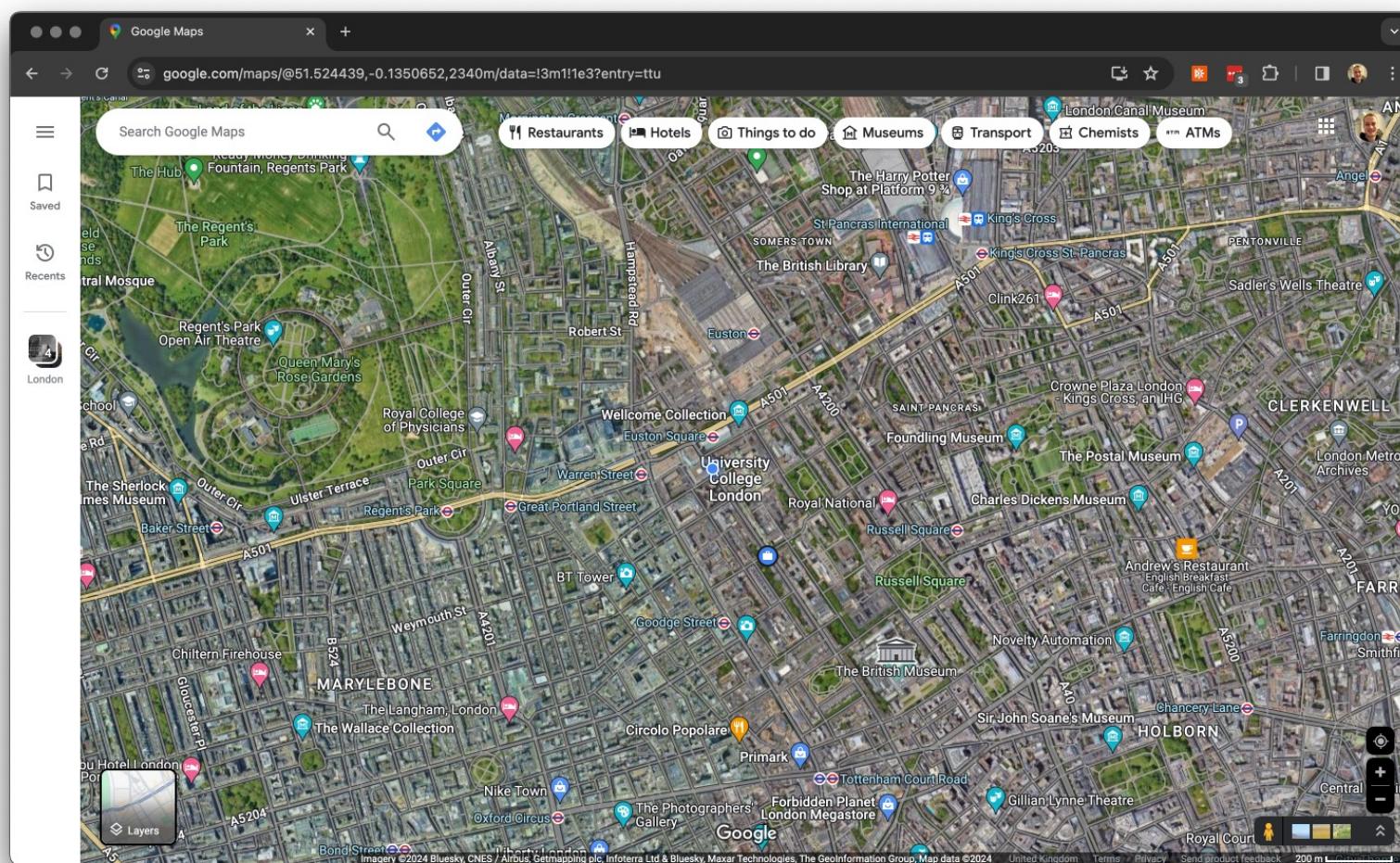
- GIScience
- Spatial analysis

GIScience

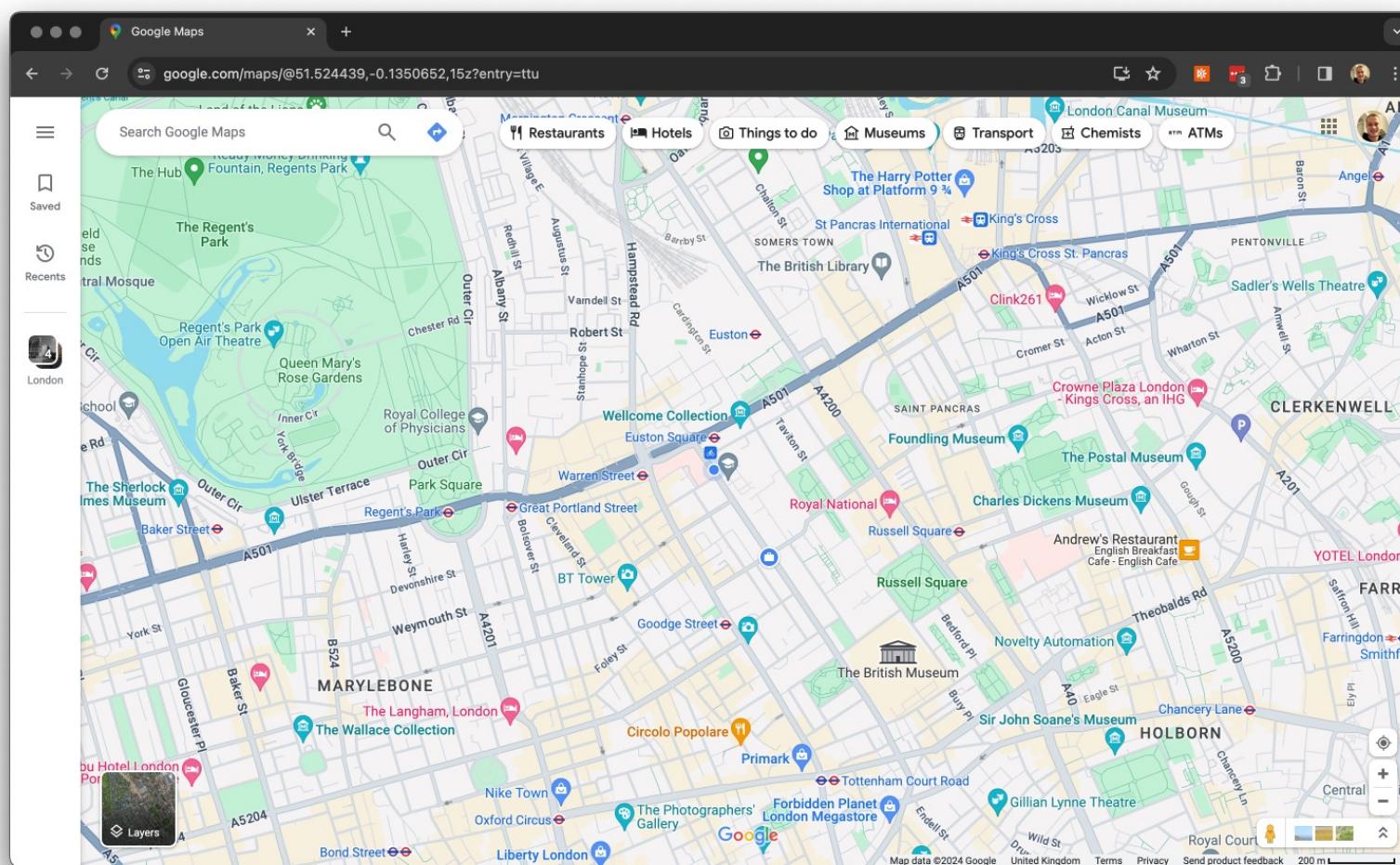
Geographic Information Systems

- 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

Spatial modelling and digital representation



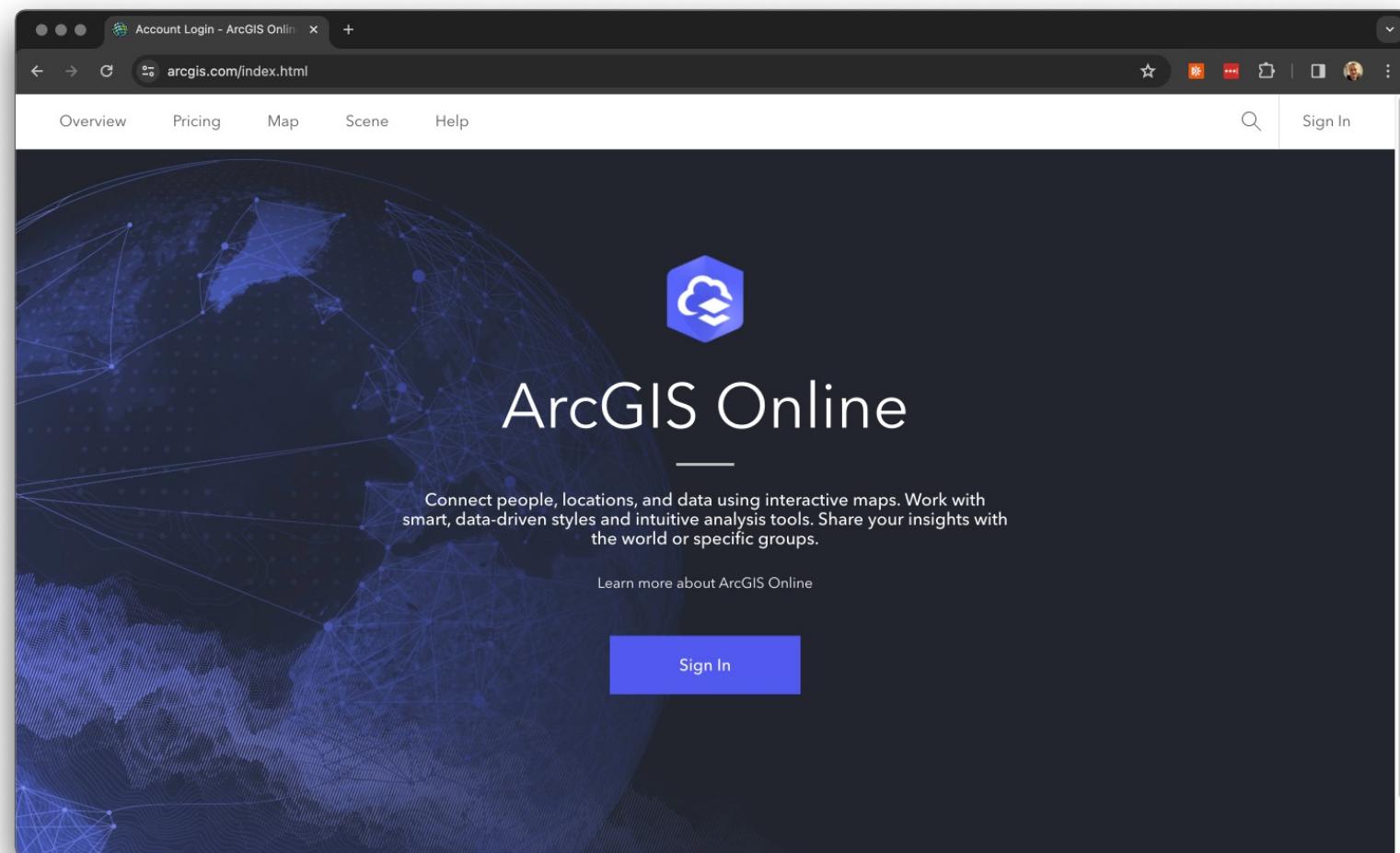
Spatial modelling and digital representation



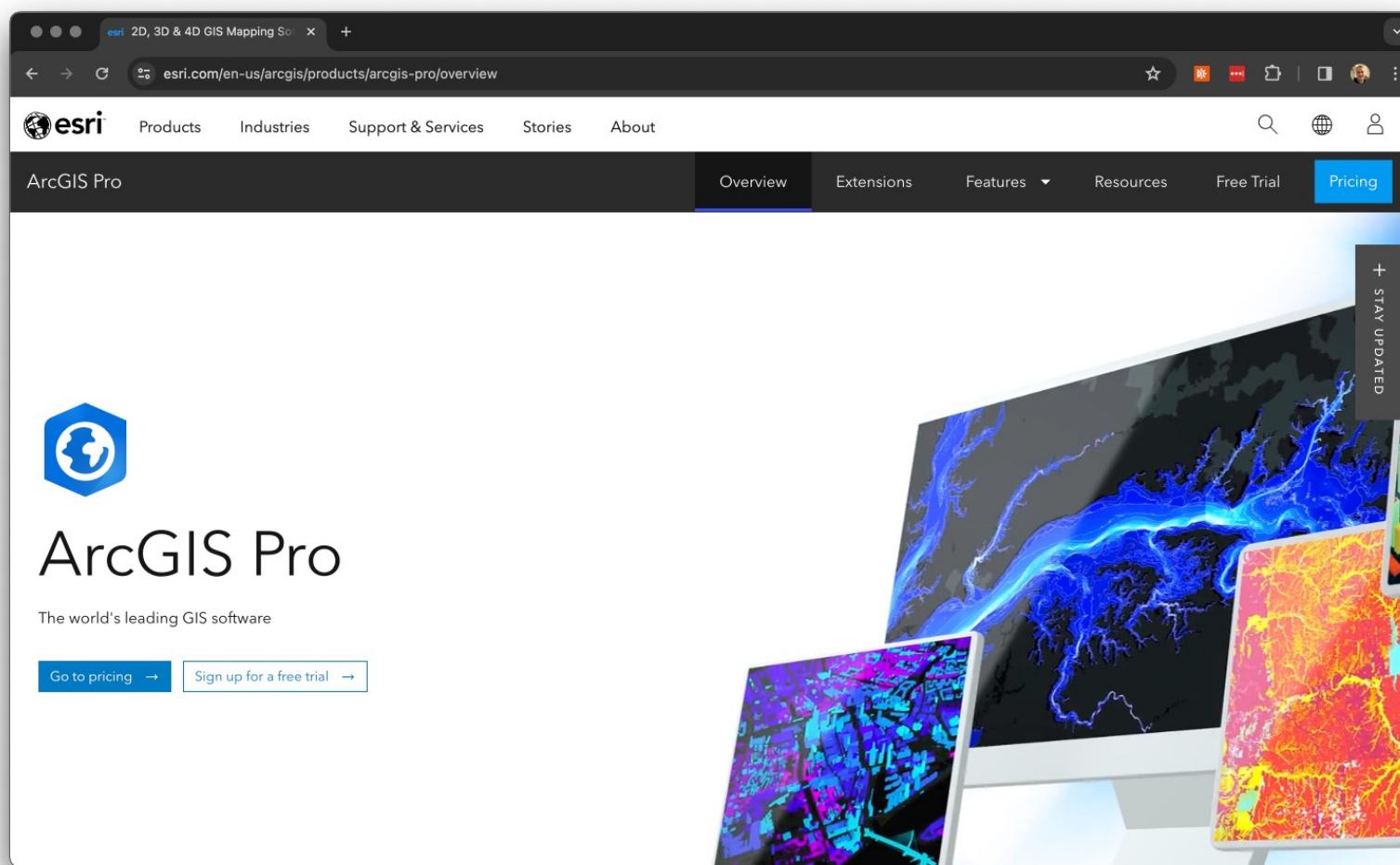
Geographic Information Systems

- 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.

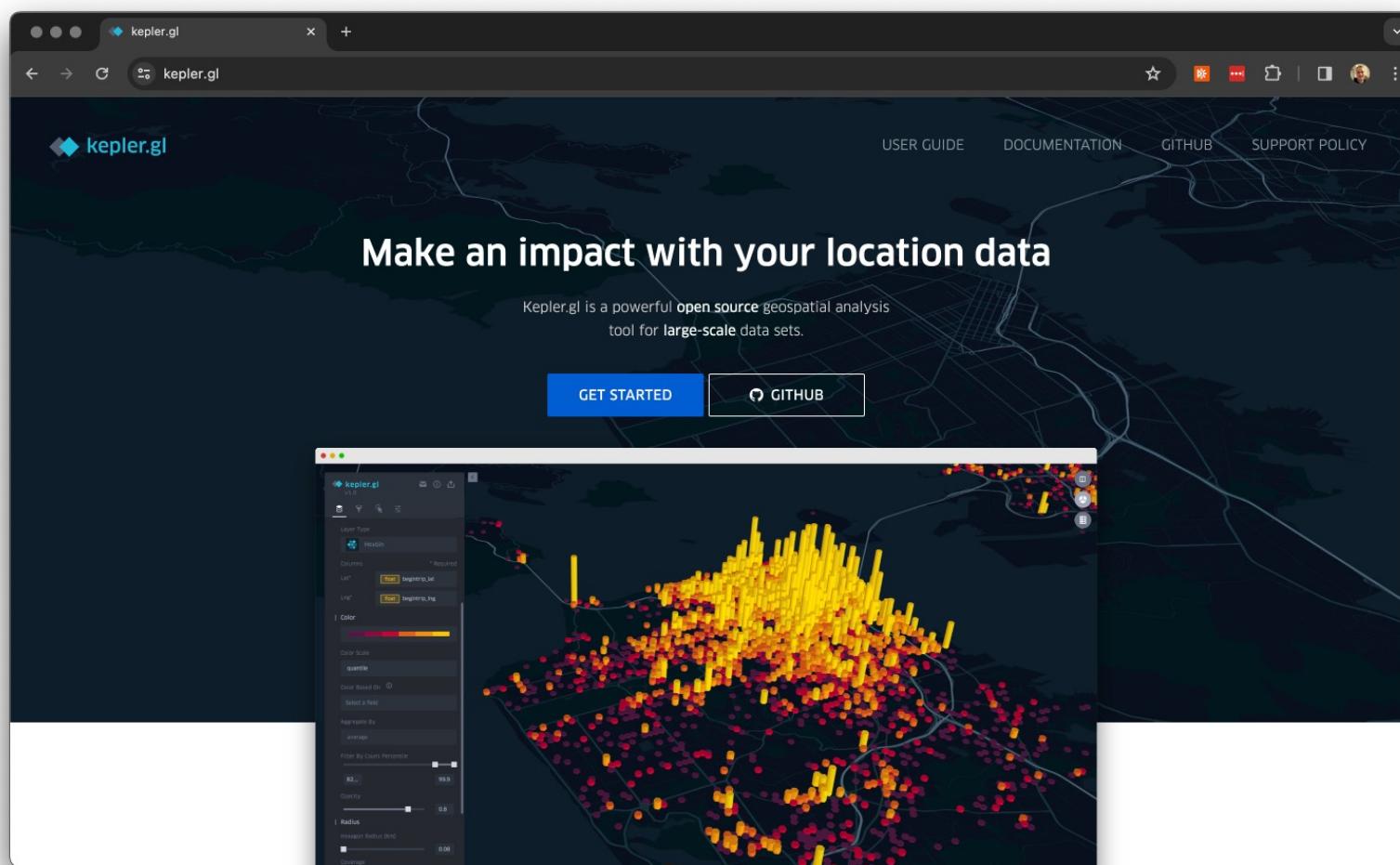
Geographic Information Systems



Geographic Information Systems



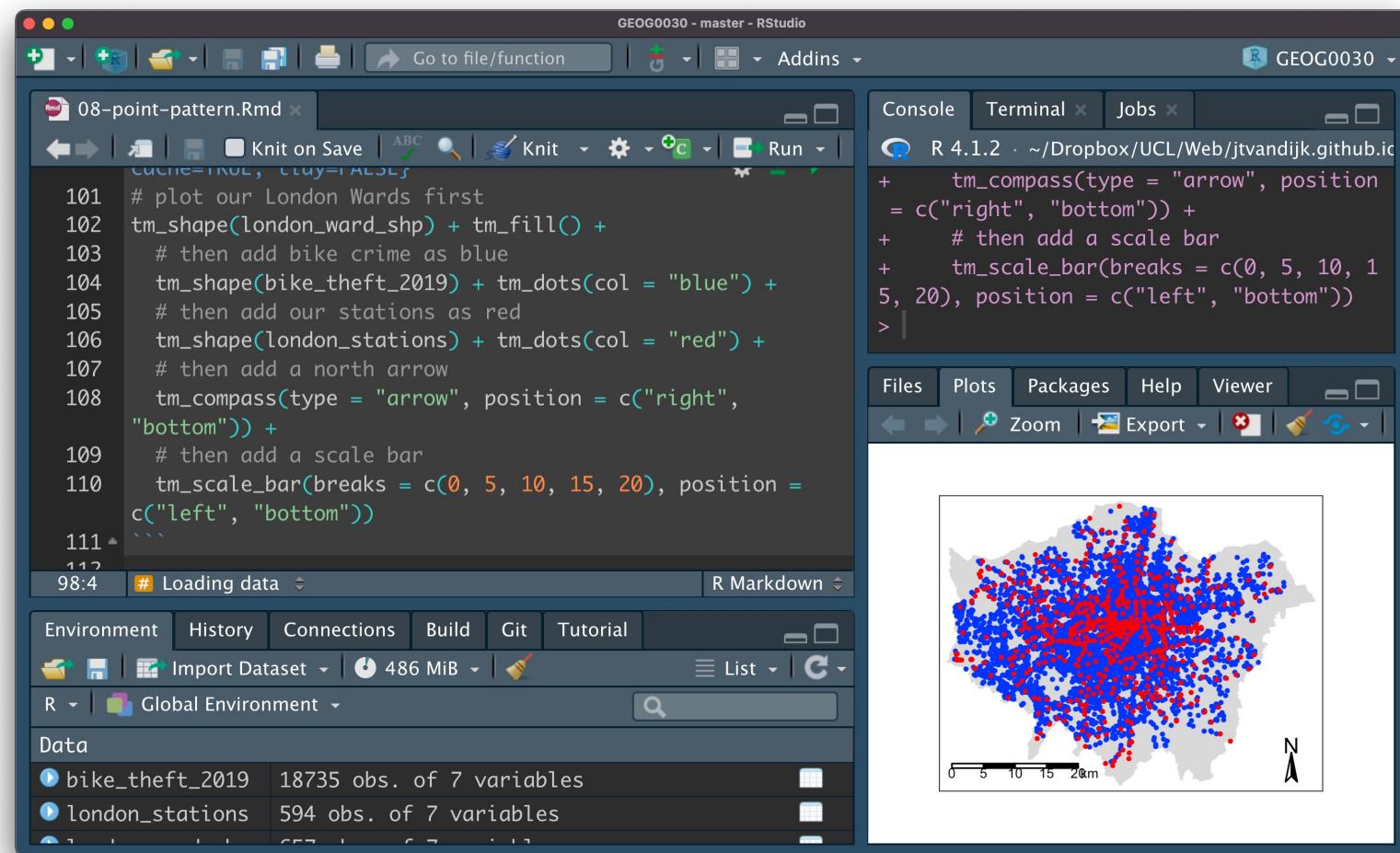
Geographic Information Systems



Geographic Information Systems



Geographic Information Systems

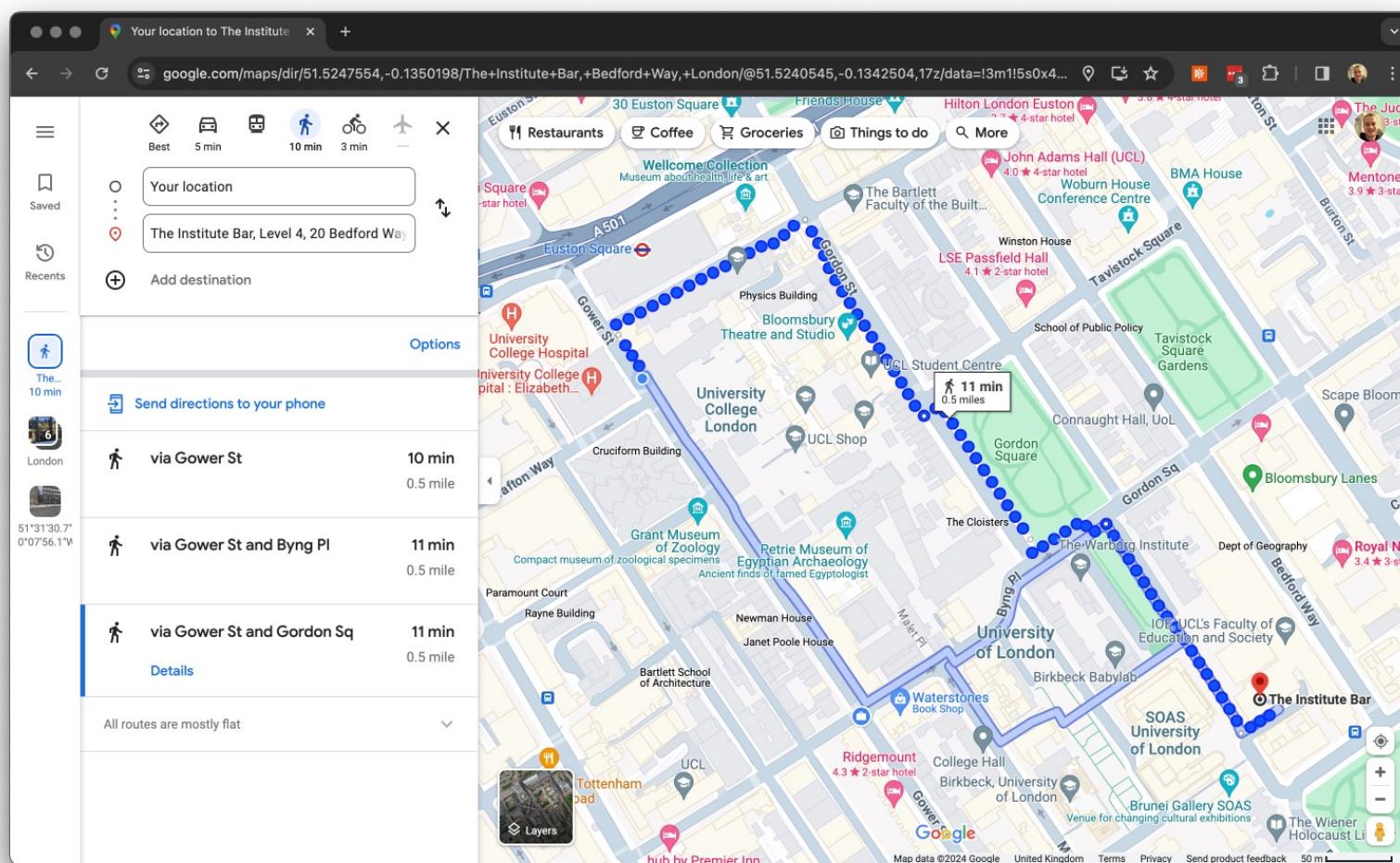


Spatial analysis

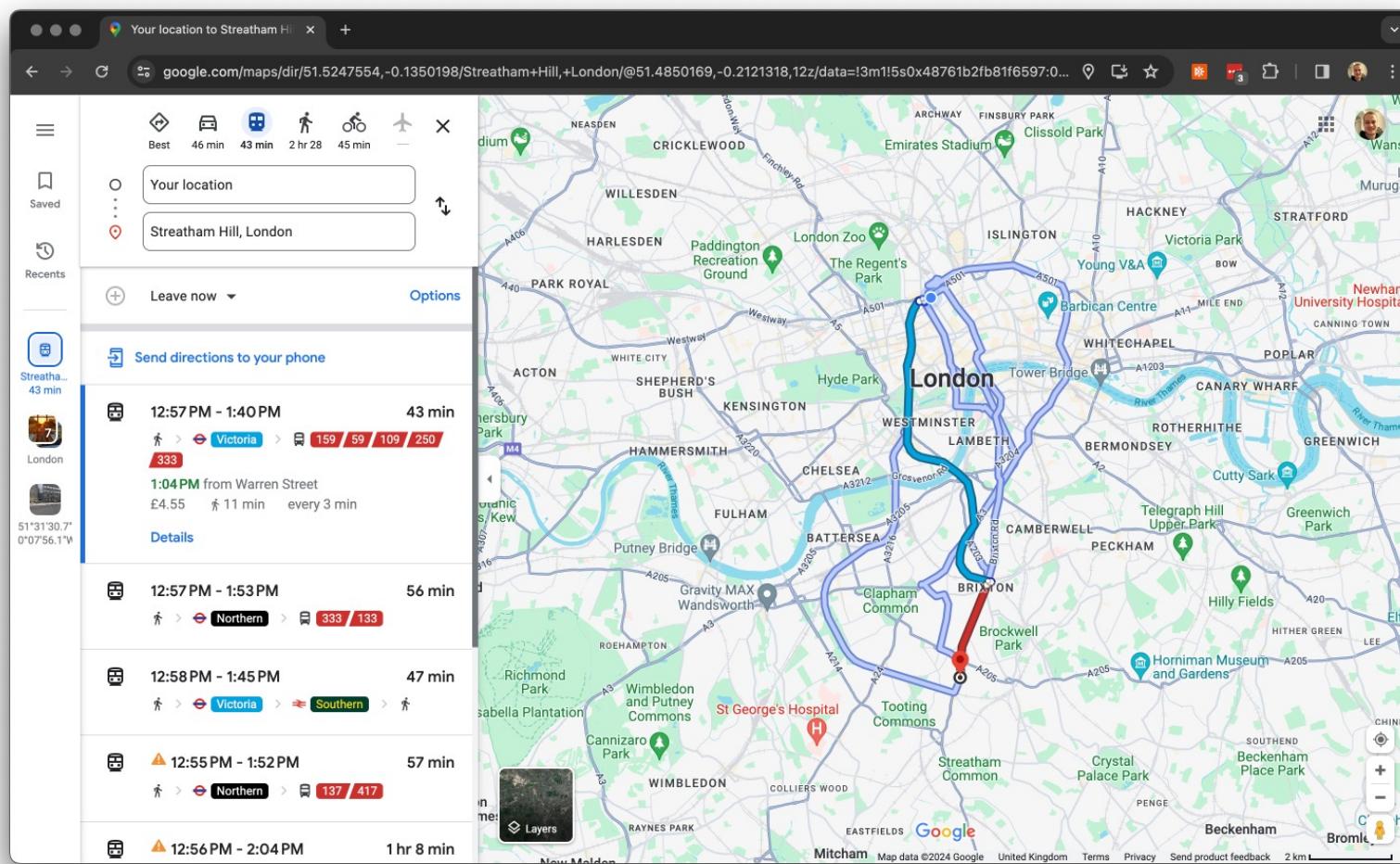
Spatial analysis

- 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.

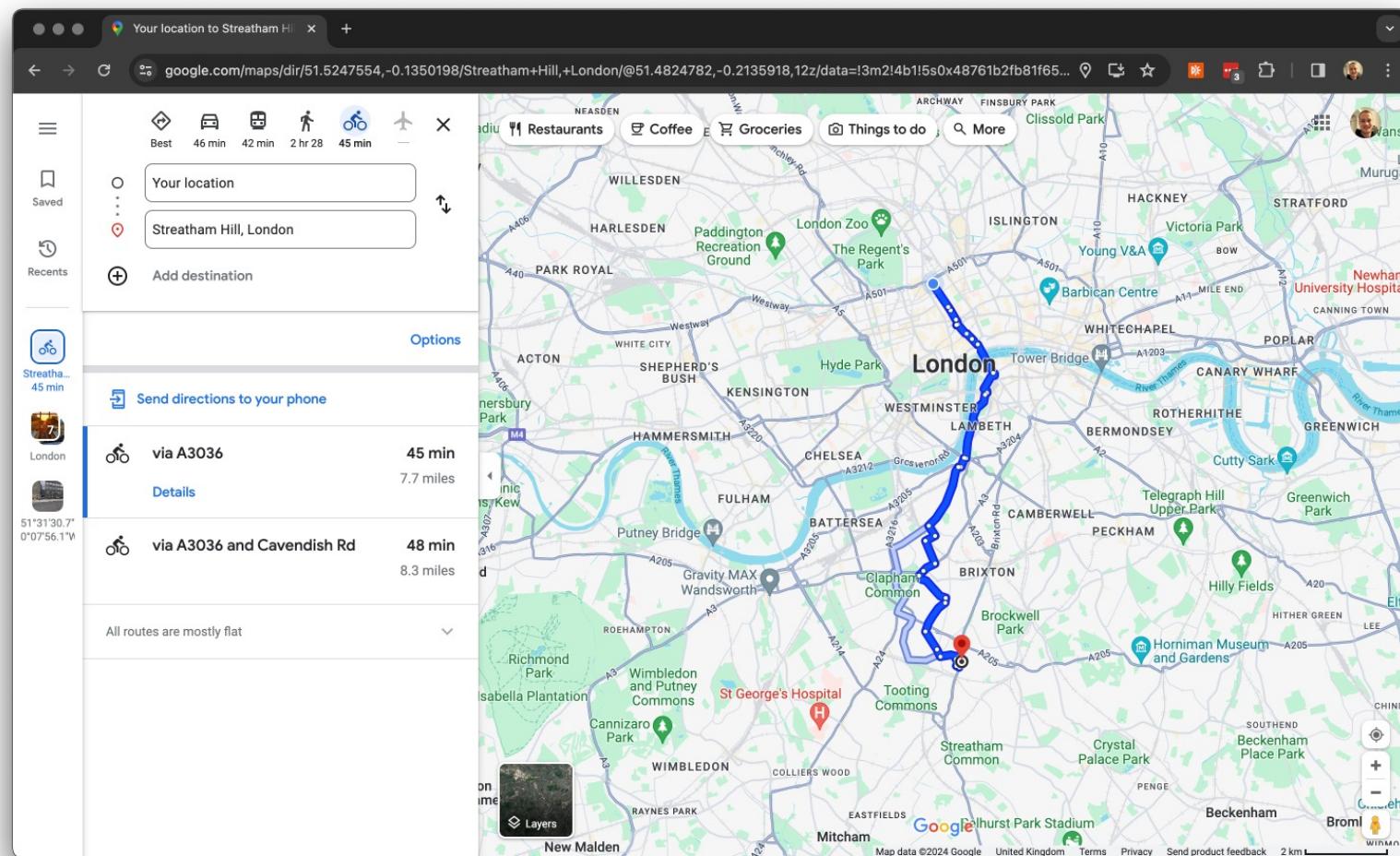
Spatial analysis



Spatial analysis



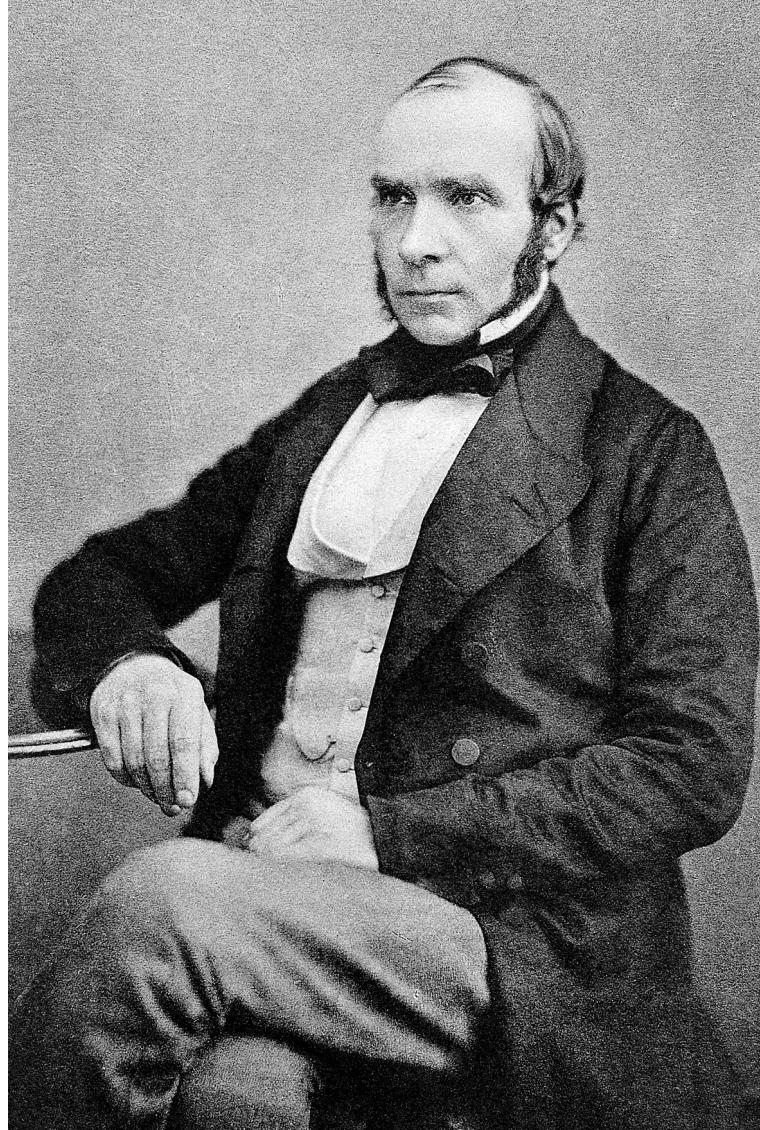
Spatial analysis



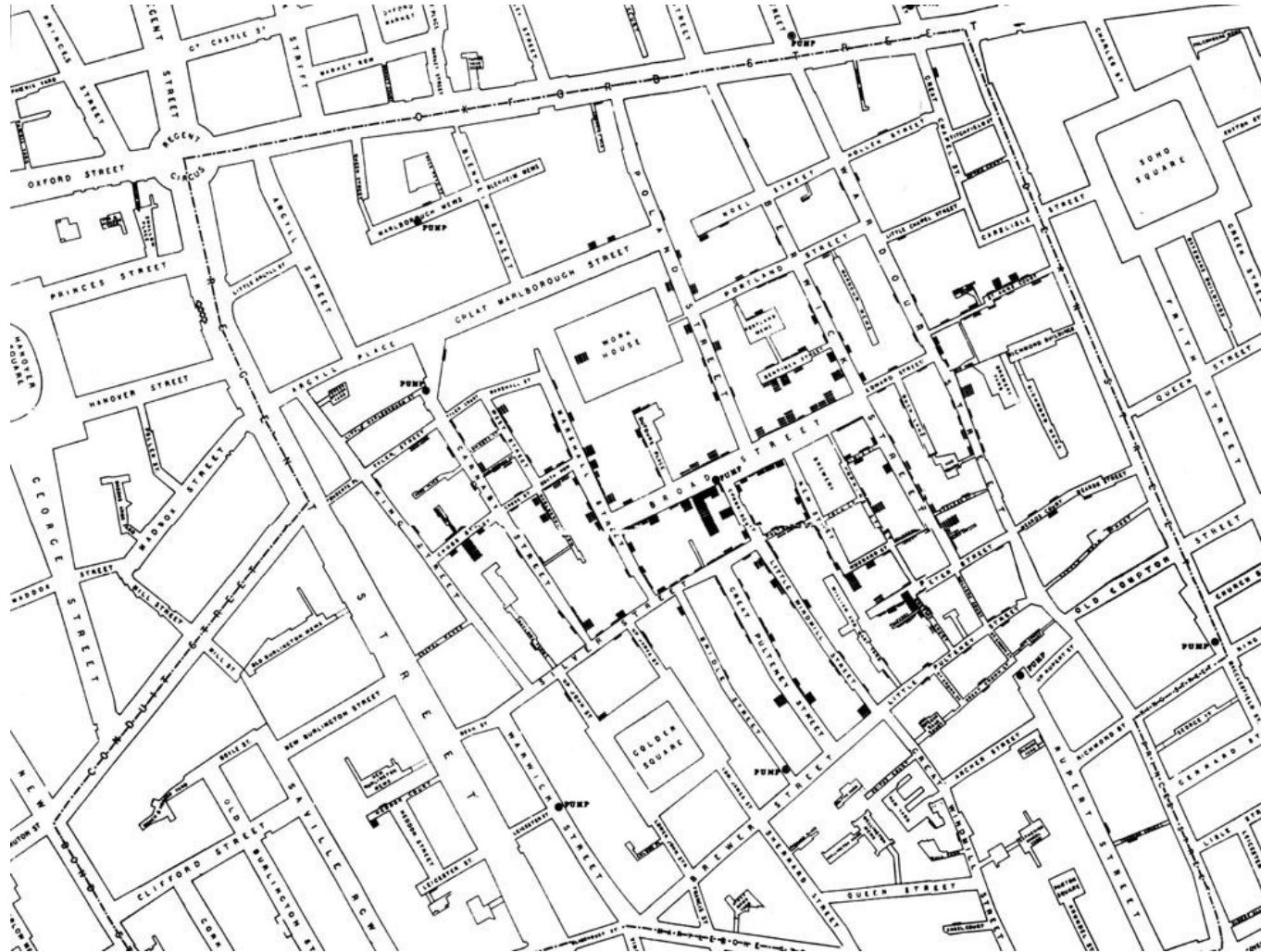
Spatial analysis

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

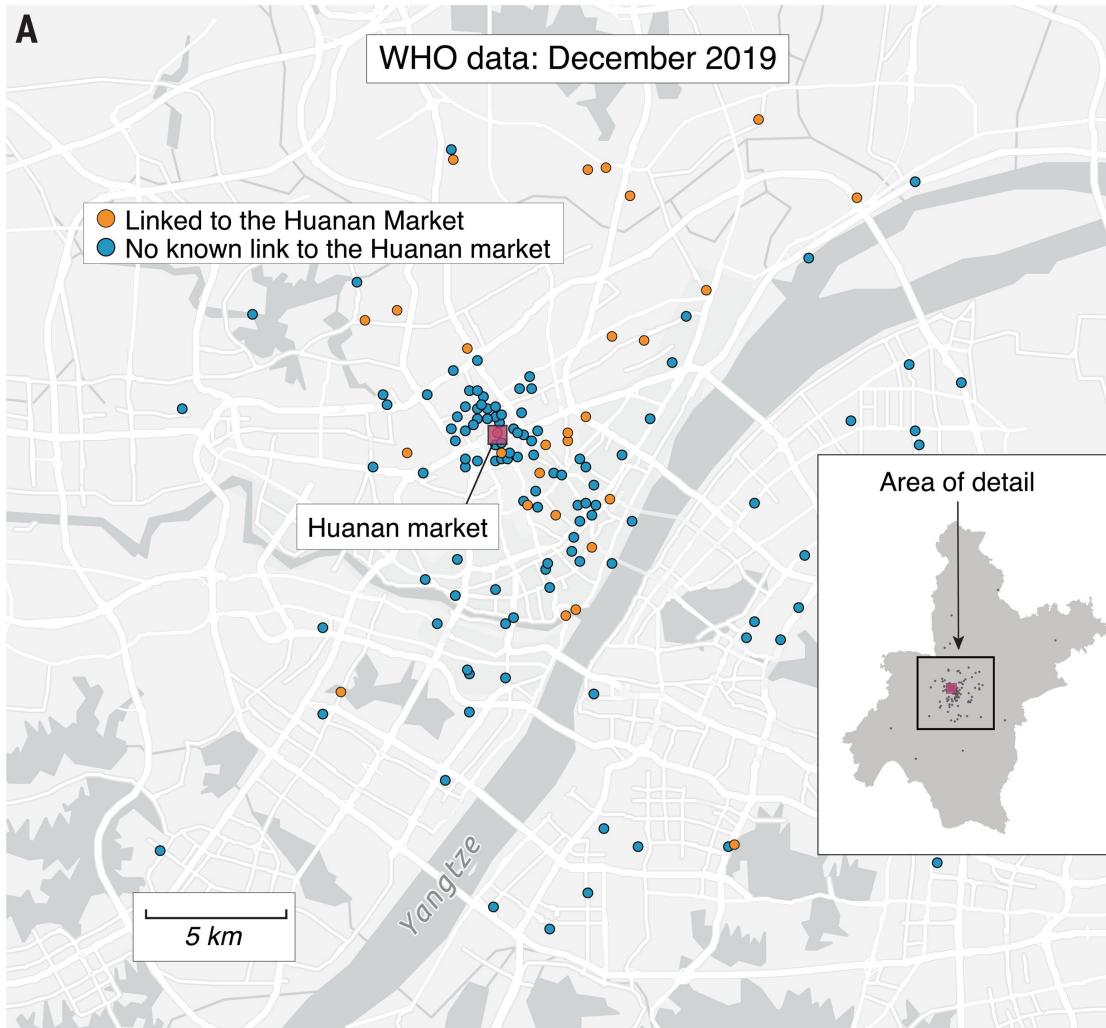
Spatial analysis



Spatial analysis



Spatial analysis



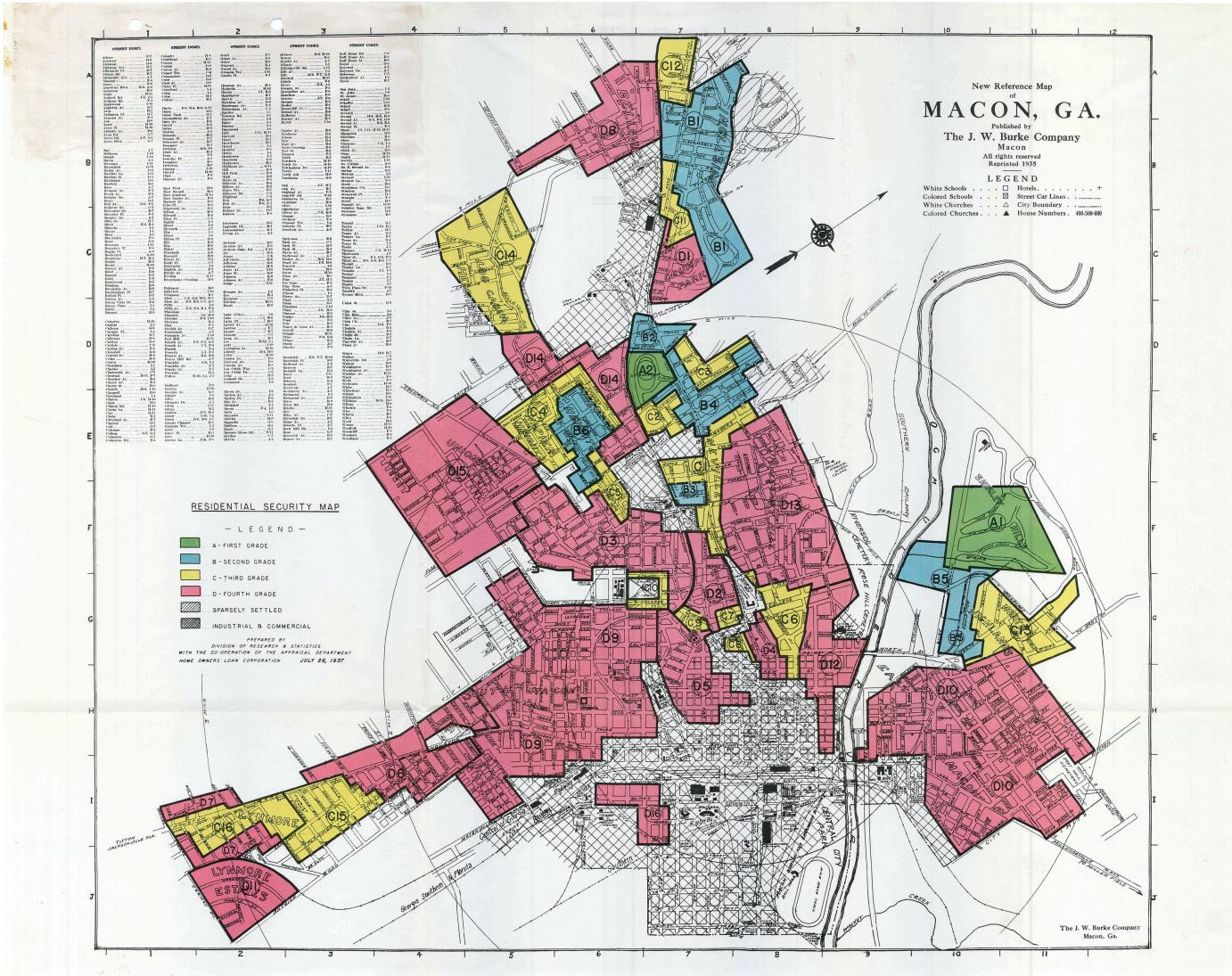
Worobey *et al.* 2022

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.

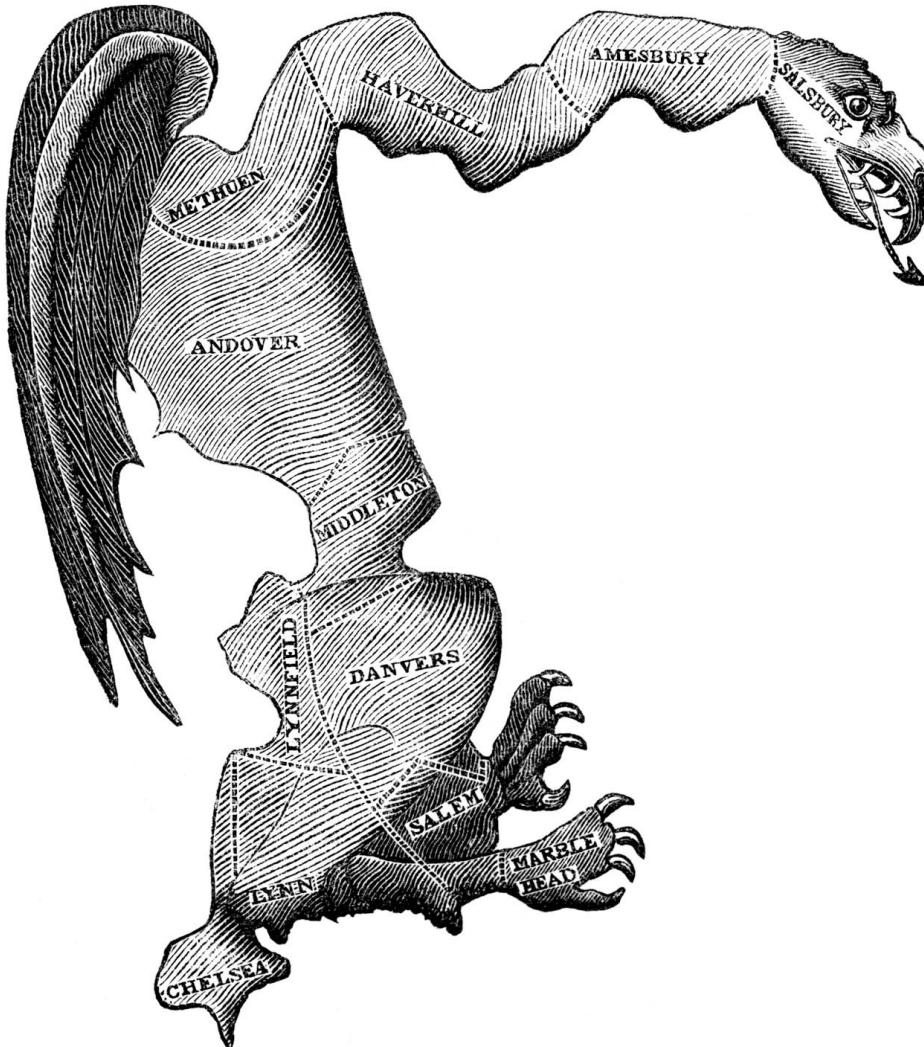
Neutrality

Neutrality



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



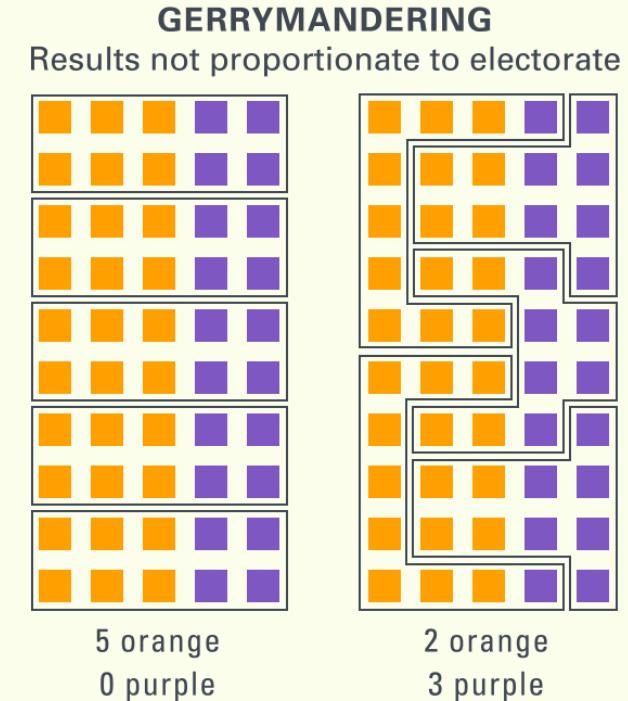
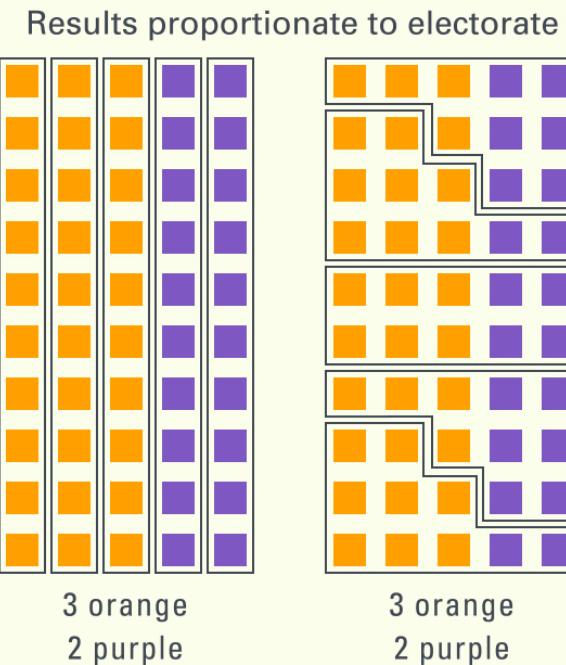
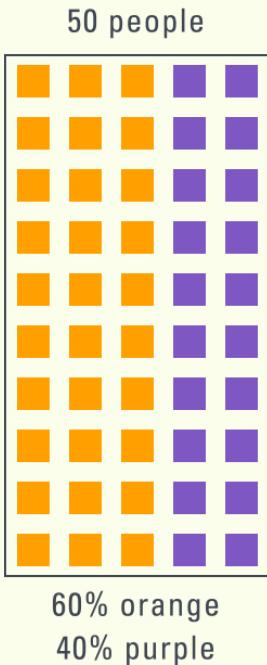
Encyclopaedia Britannica, Inc.. Gerrymandering. [Online]
<https://www.britannica.com/topic/gerrymandering>

Neutrality

GERRYMANDERING

How differently drawn district maps produce different electoral results

FOUR WAYS TO DIVIDE 50 PEOPLE INTO 5 DISTRICTS:



© Encyclopædia Britannica, Inc.

Neutrality

Which countries are Ukrainians fleeing to?

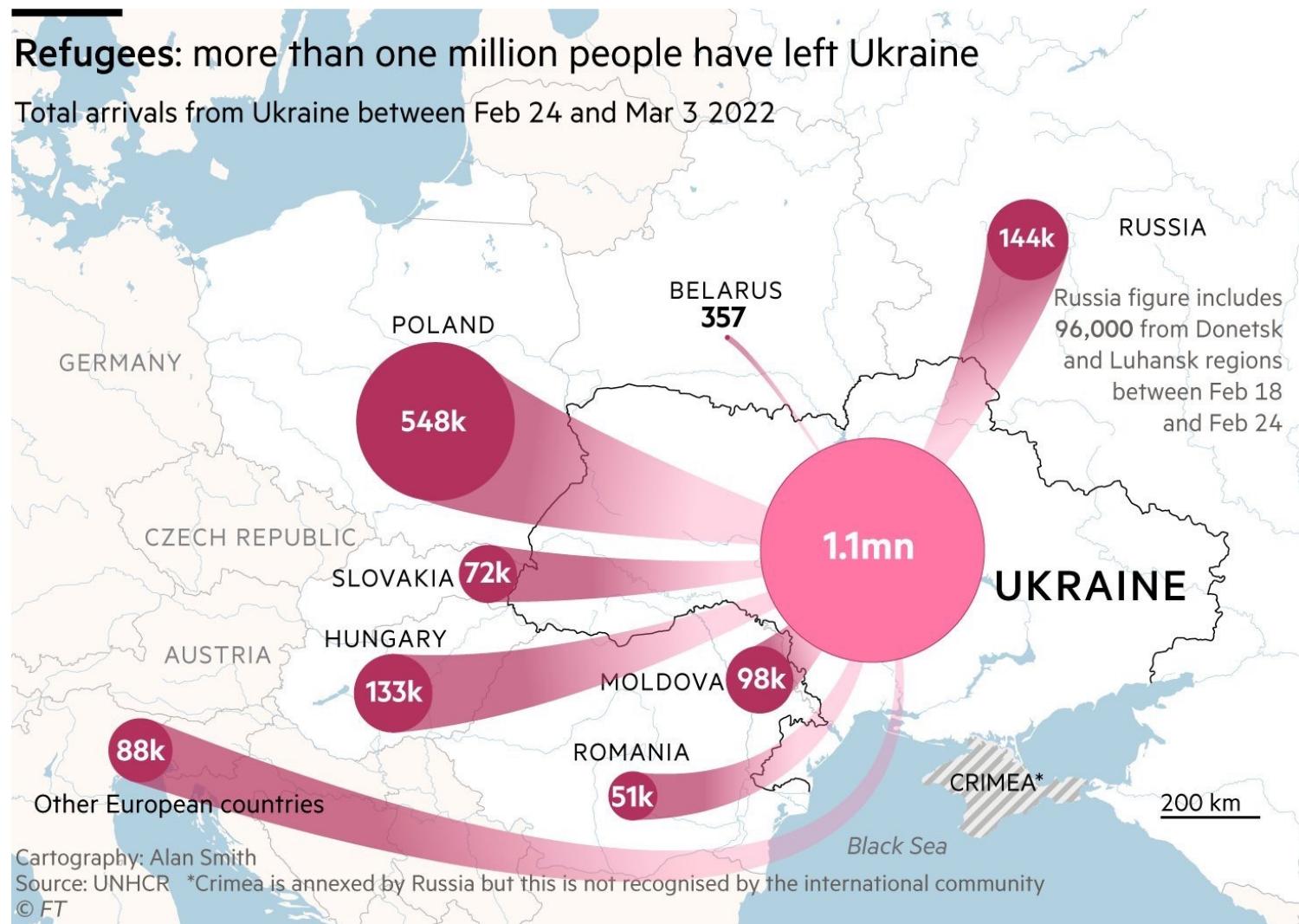


Source: UNHCR

BBC

James Cheshire. More than arrows [Online]
<https://jcheshire.com/resources/more-than-arrows/>

Neutrality



James Cheshire. More than arrows [Online]
<https://jcheshire.com/resources/more-than-arrows/>

Neutrality

Mass exodus

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

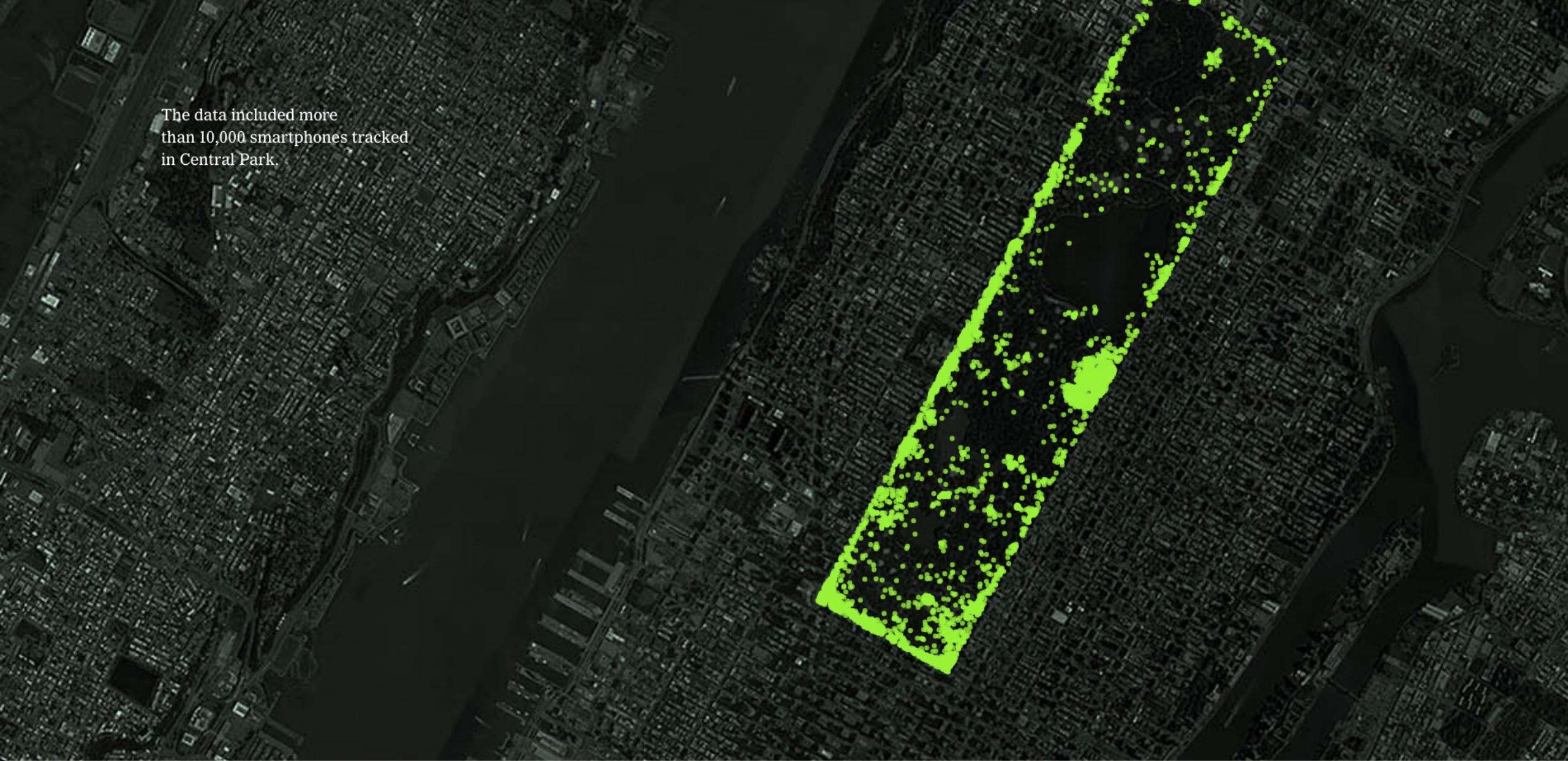


Source: UNHCR

James Cheshire. More than arrows [Online]
<https://jcheshire.com/resources/more-than-arrows/>

Privacy

The Privacy Project



The data included more than 10,000 smartphones tracked in Central Park.

The Privacy Project



Here is one smartphone, isolated
from the crowd.

The Privacy Project



Here are all pings from
that smartphone over the period
covered by the data.

The Privacy Project

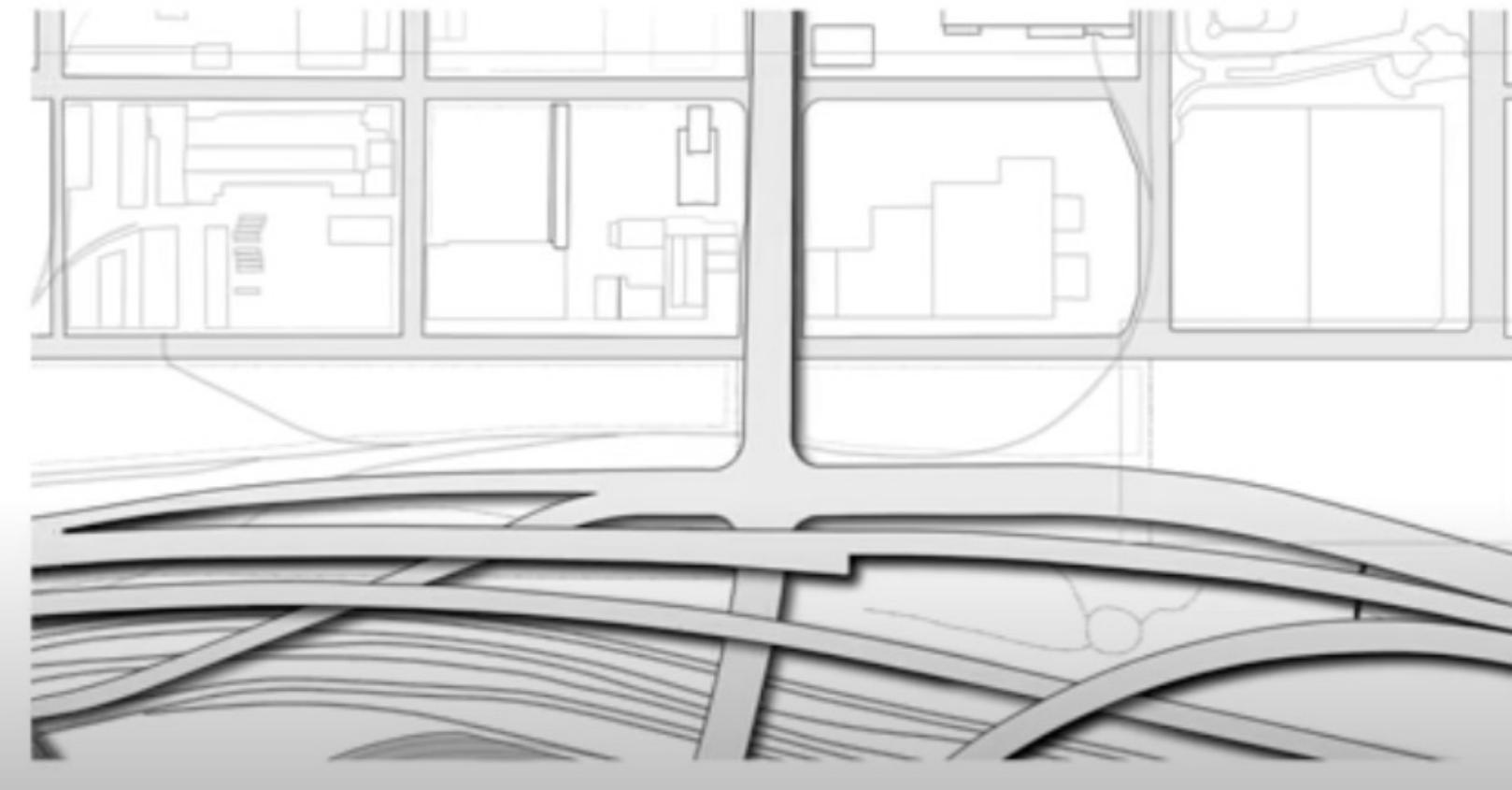


Connecting those pings reveals a diary of the person's life.

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.

Lives not lines

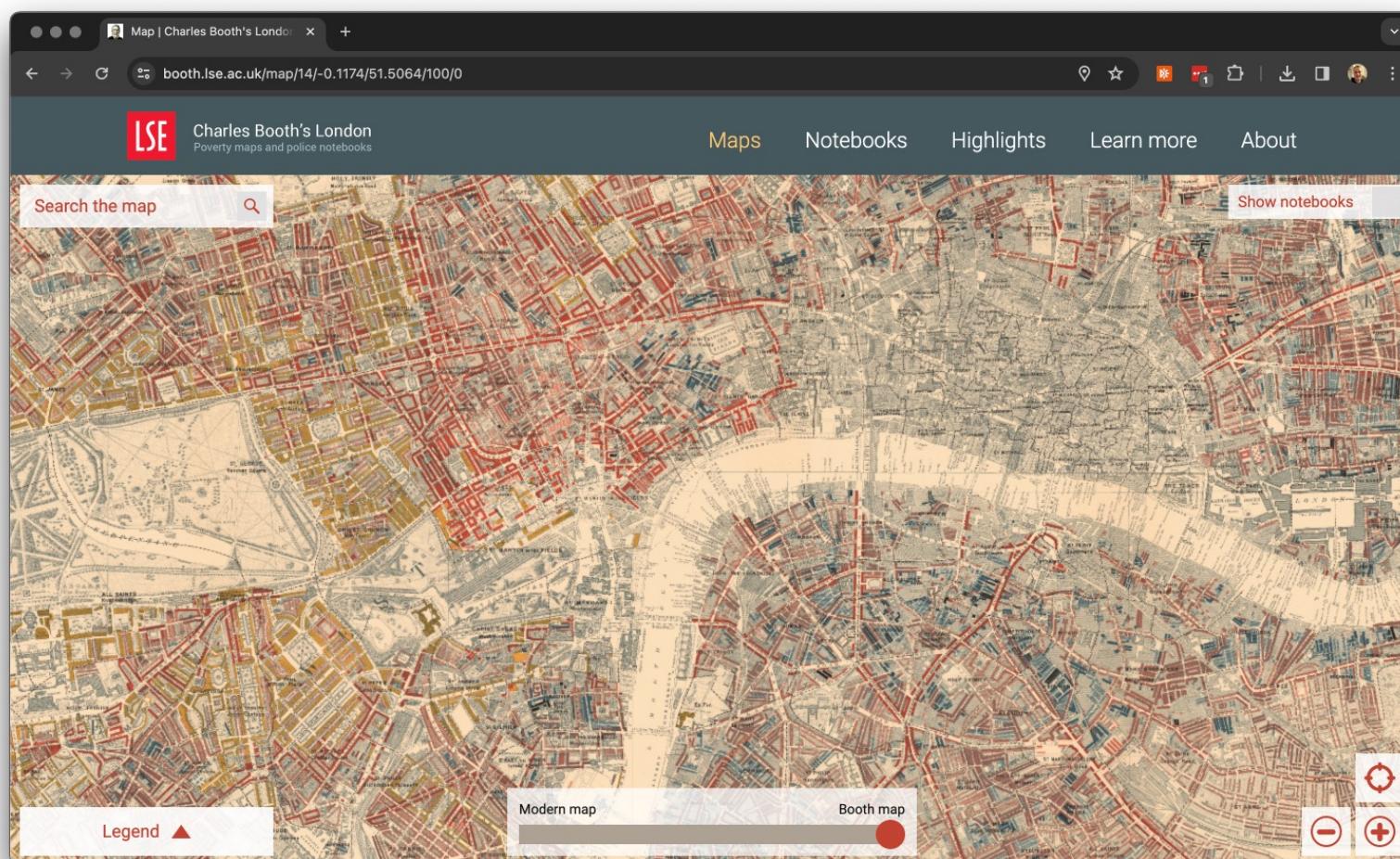


Lives not lines

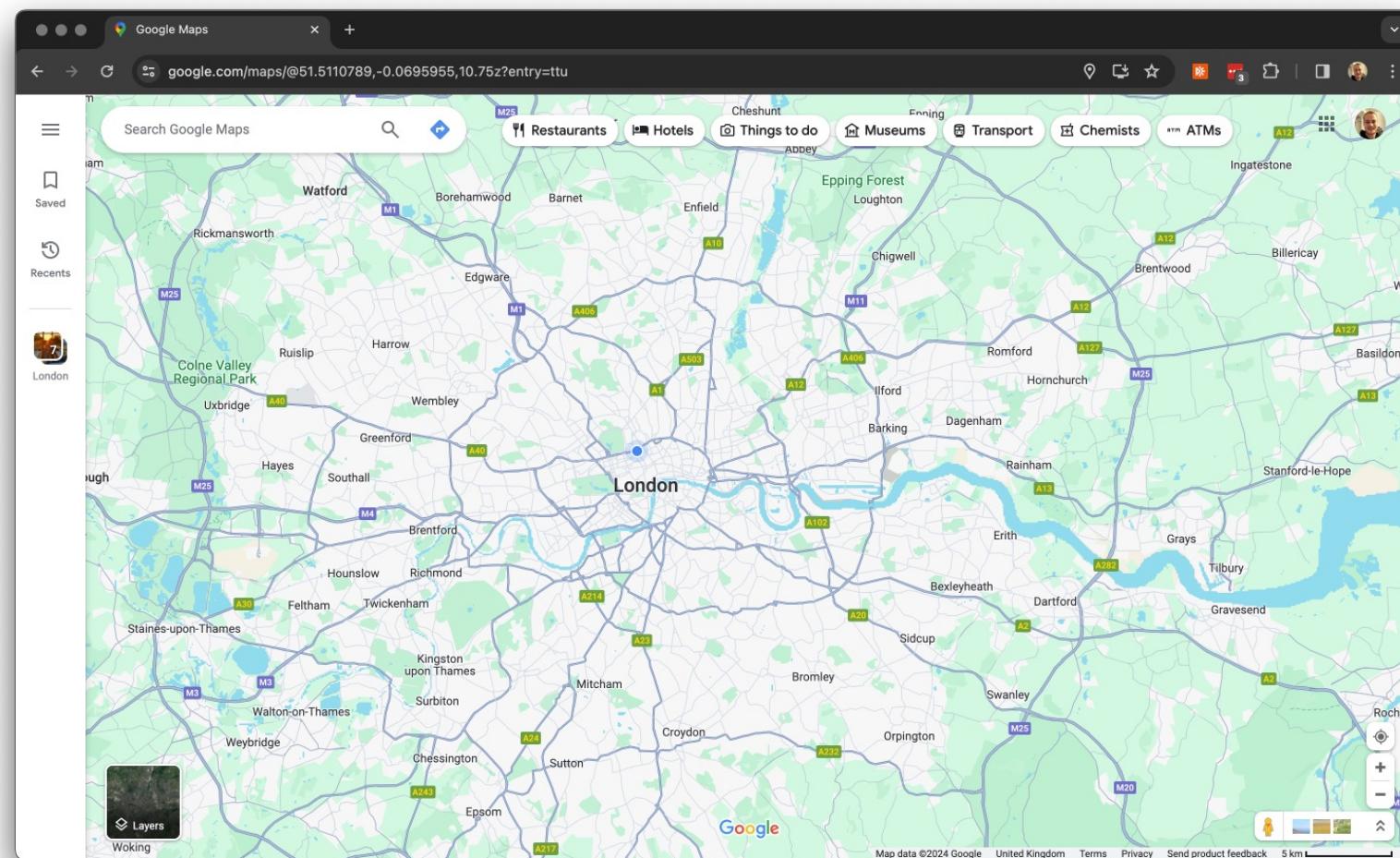


Mapping [Contemporary] London

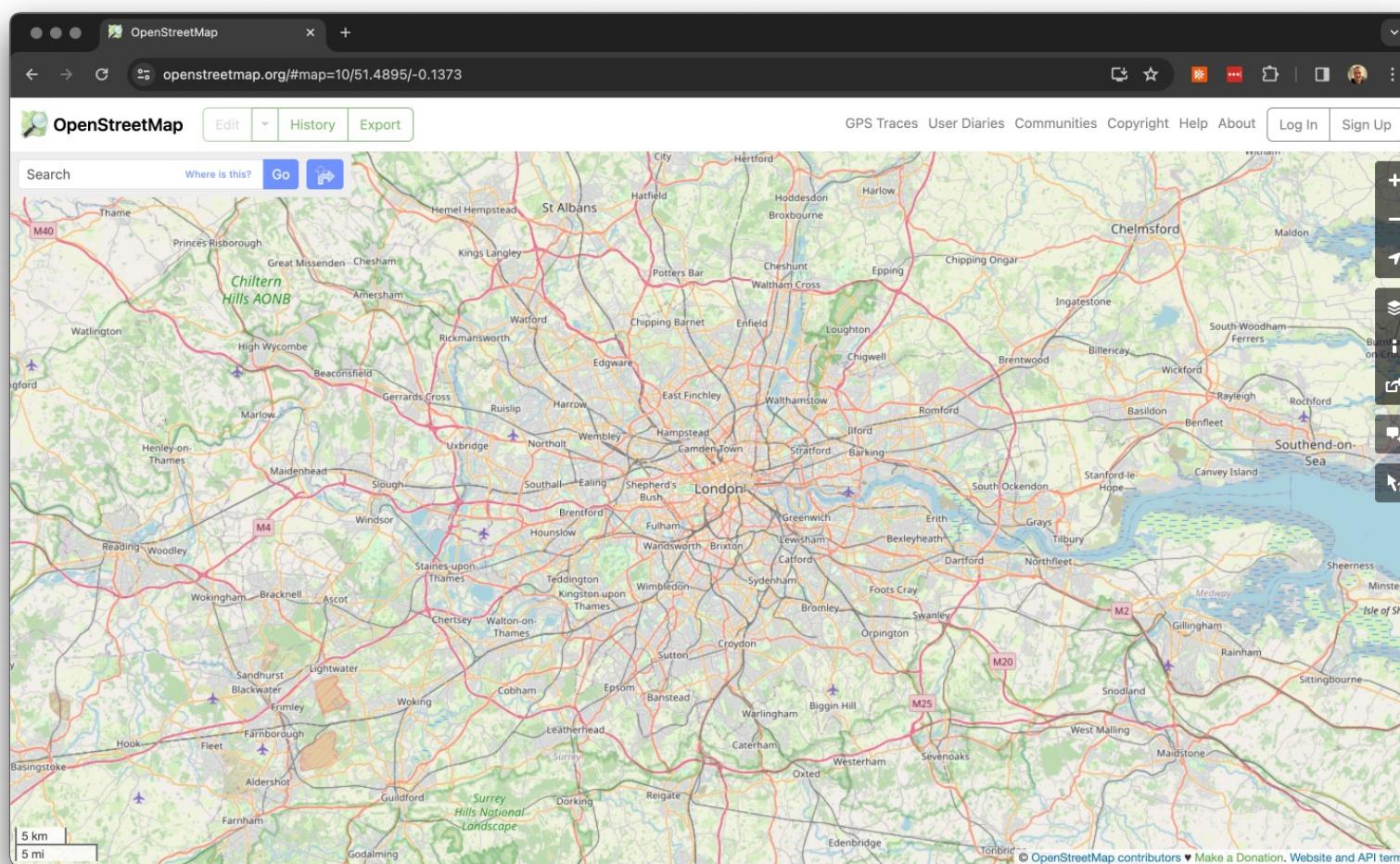
Mapping London



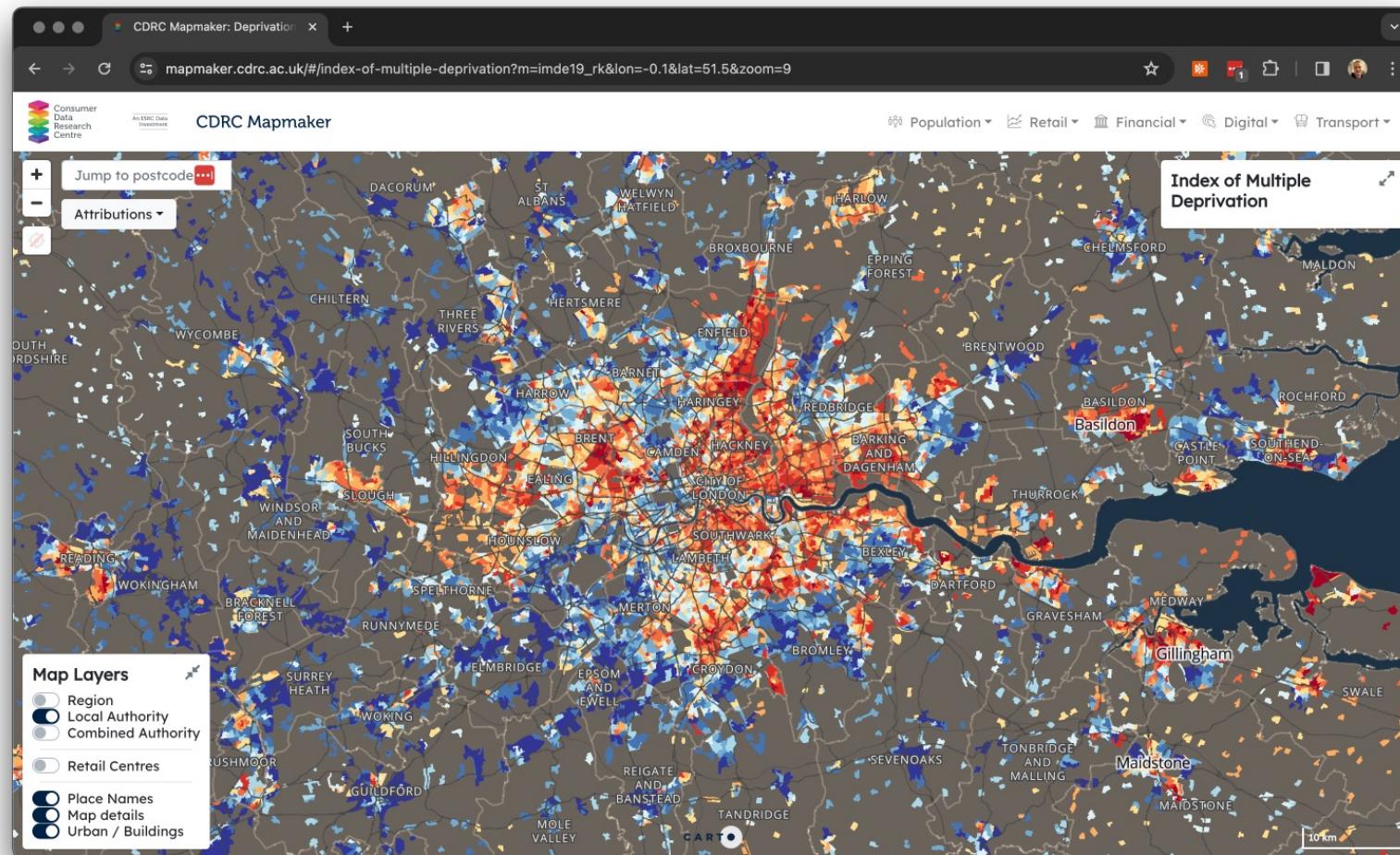
Mapping London



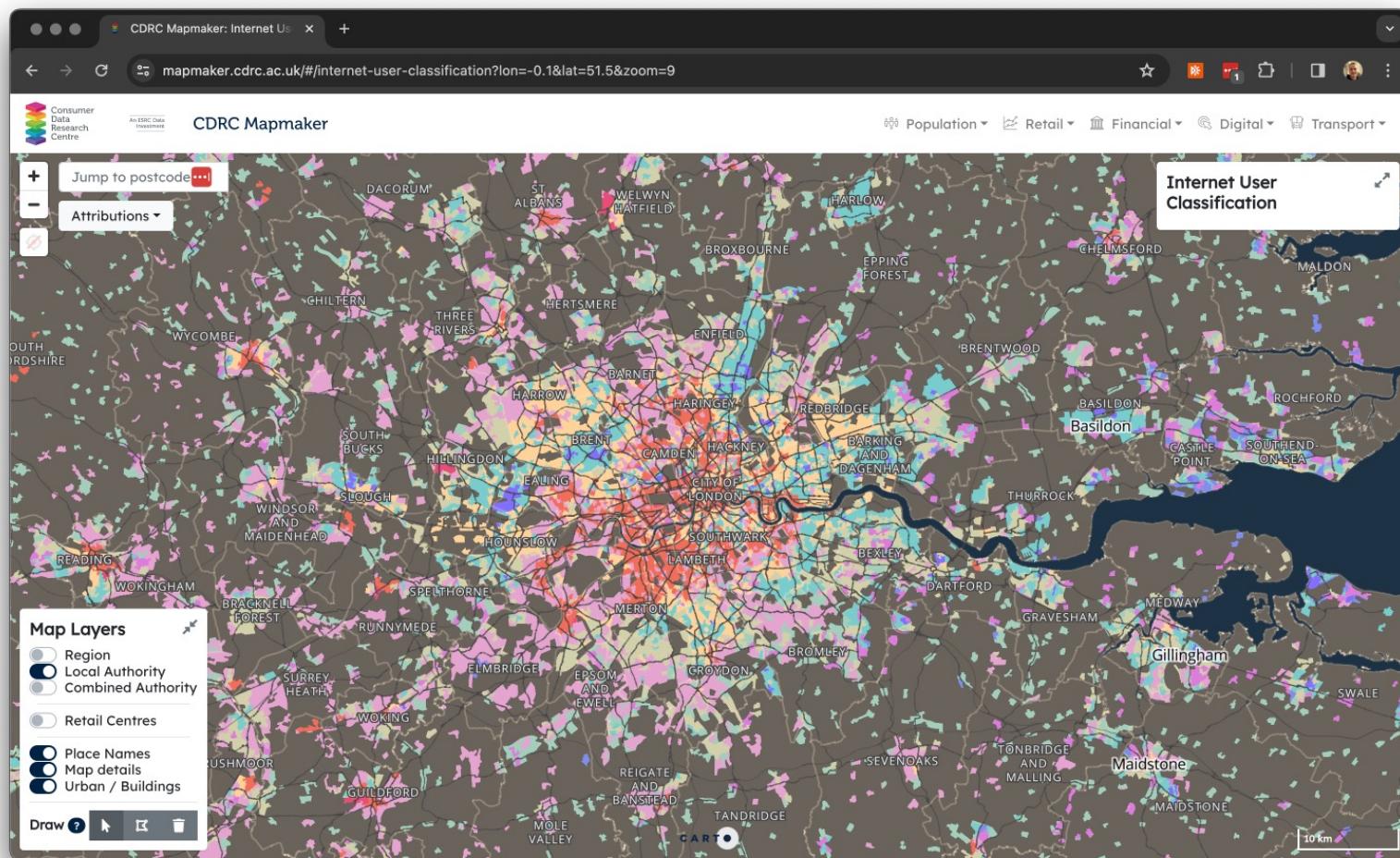
Mapping London



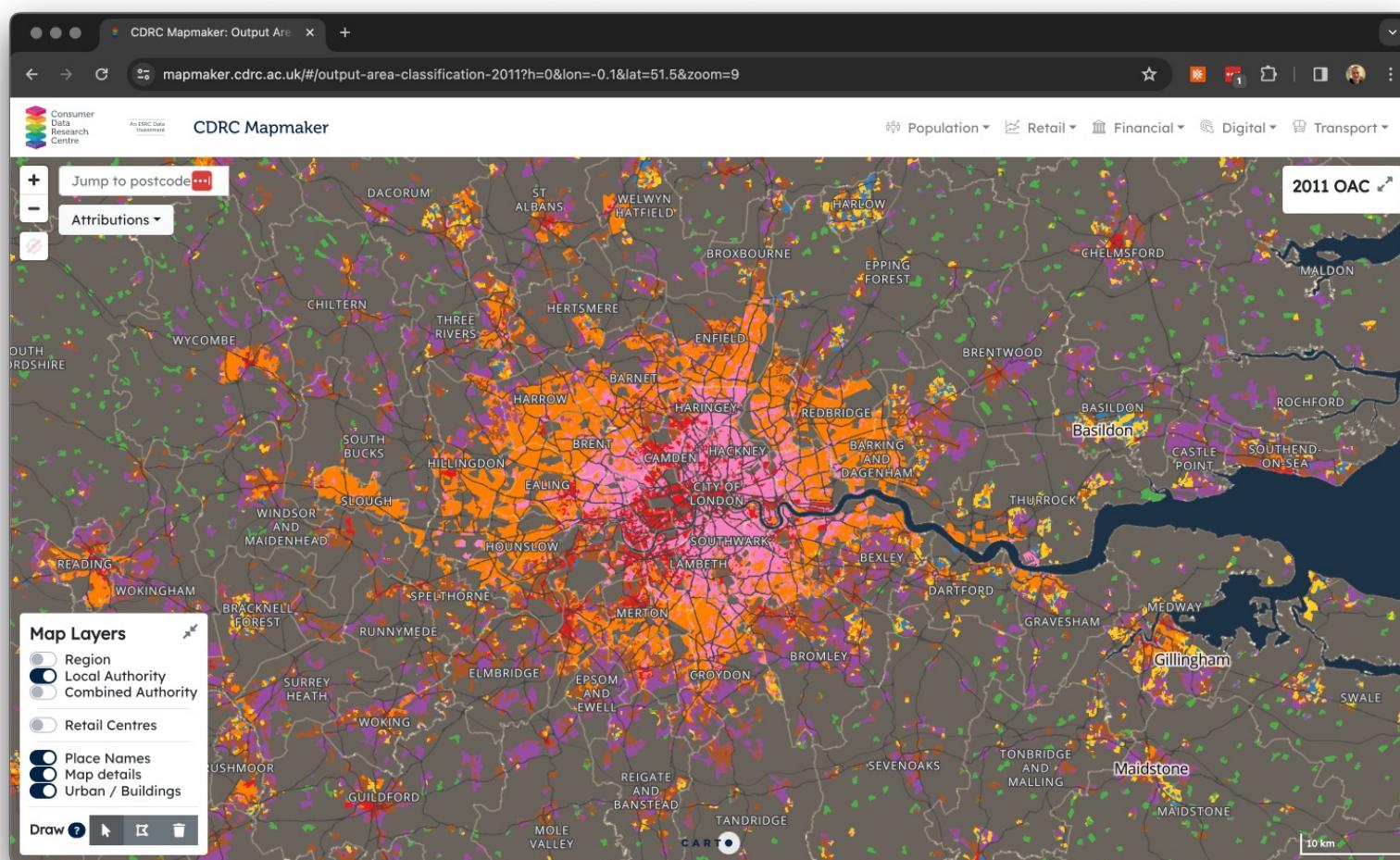
Mapping London



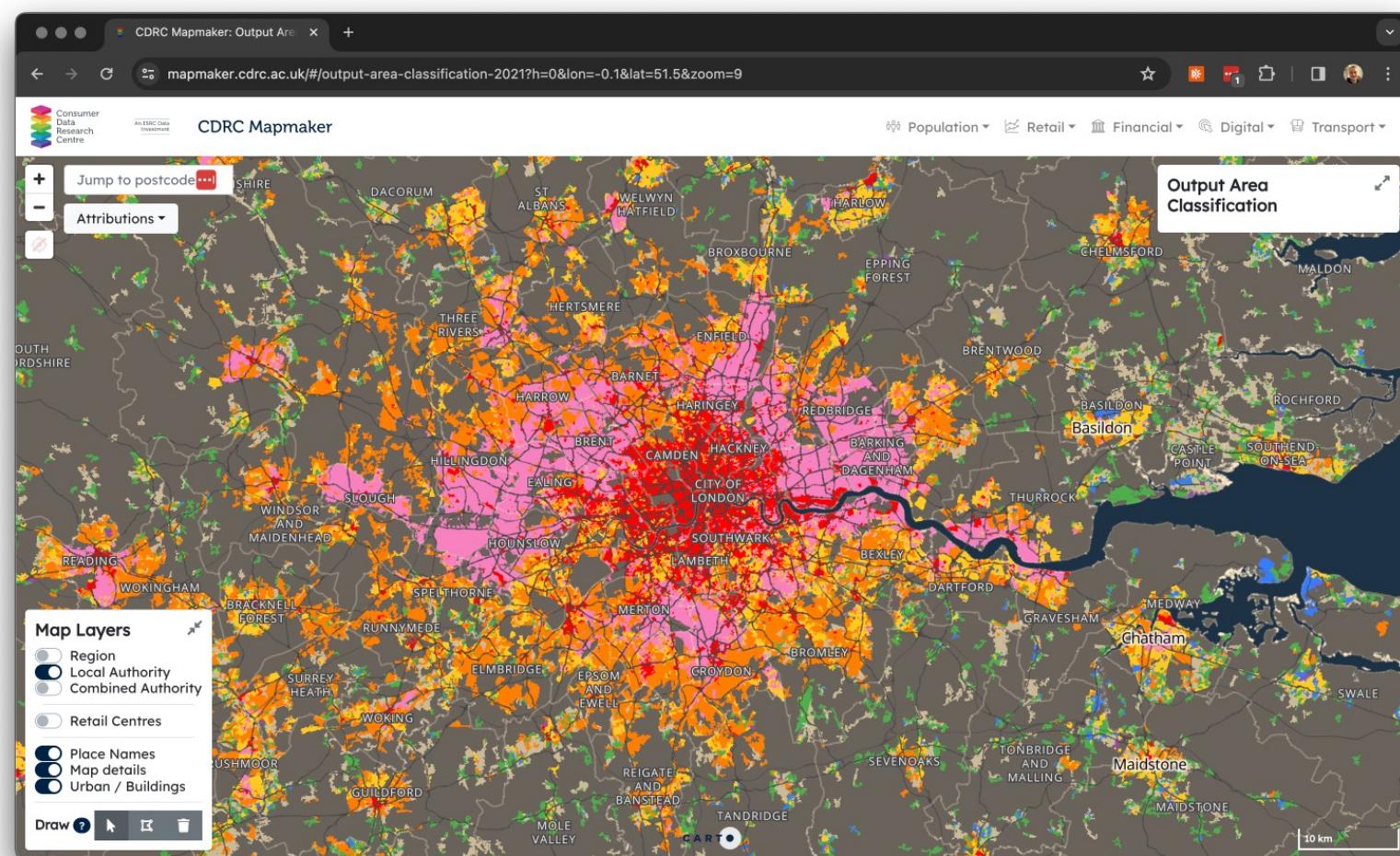
Mapping London



Mapping London



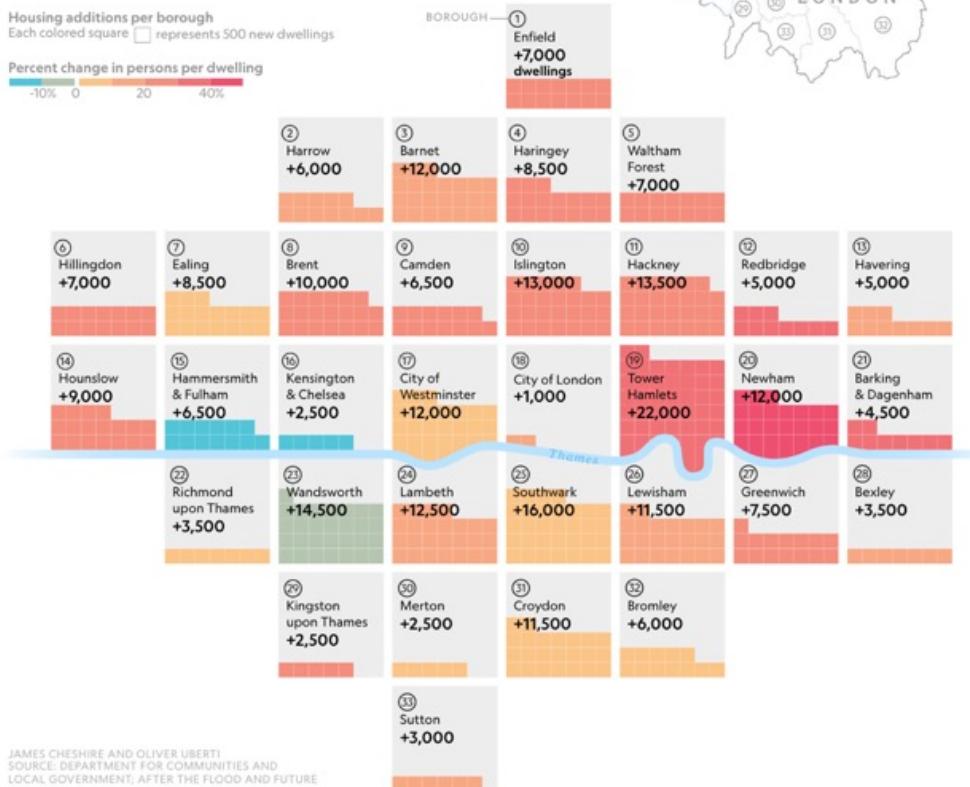
Mapping London



Mapping London

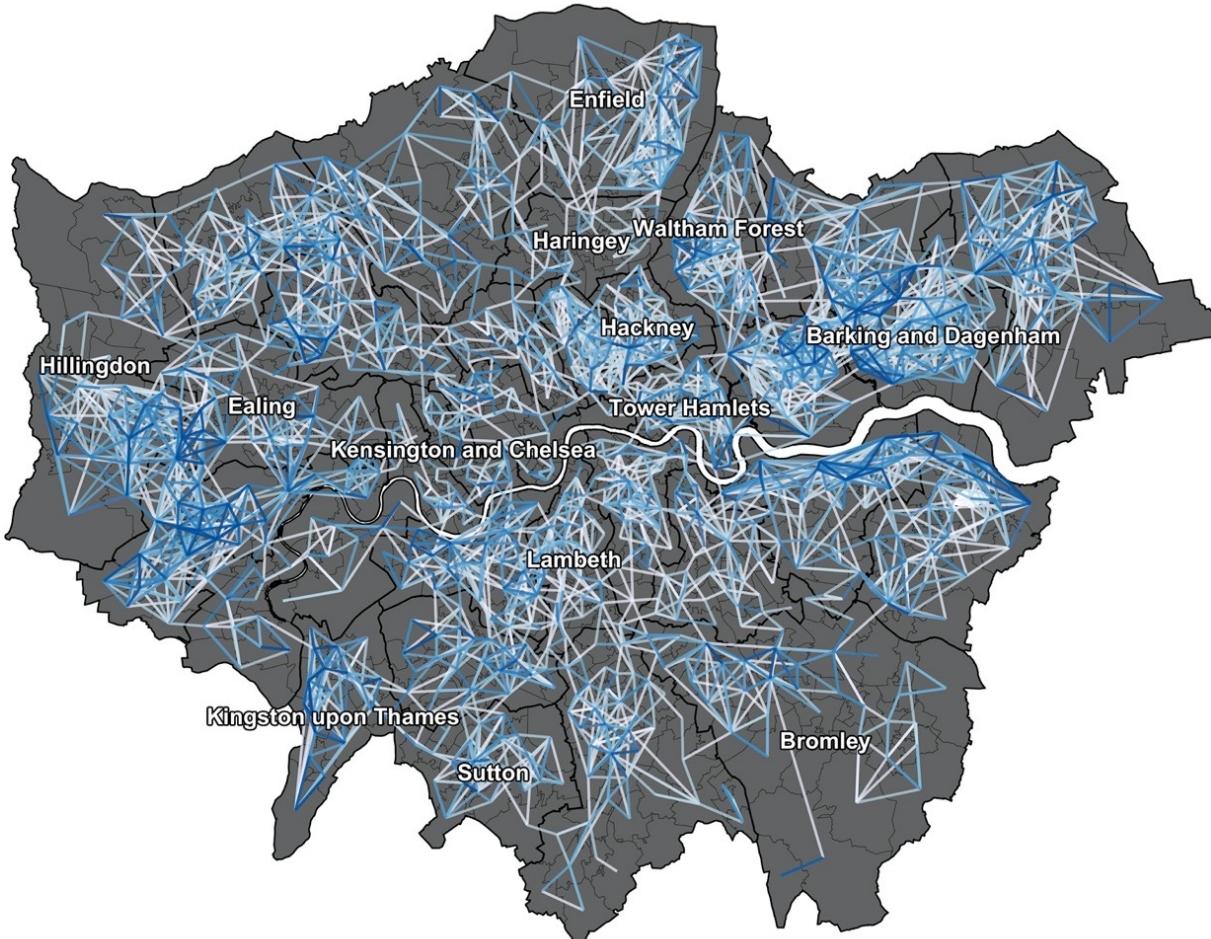
Rising Residential Areas

London's population grew by 1.2 million between 2006 and 2016. **Tower Hamlets** is the fastest-growing borough, particularly around Canary Wharf, Blackwall, and Cubitt Town on the Isle of Dogs. The borough also draws a diverse group of international migrants; in the most recent census, 43 percent of its residents were born outside Britain. In boroughs with some of the highest real estate prices, such as **Kensington and Chelsea**, more residents are moving out than in.

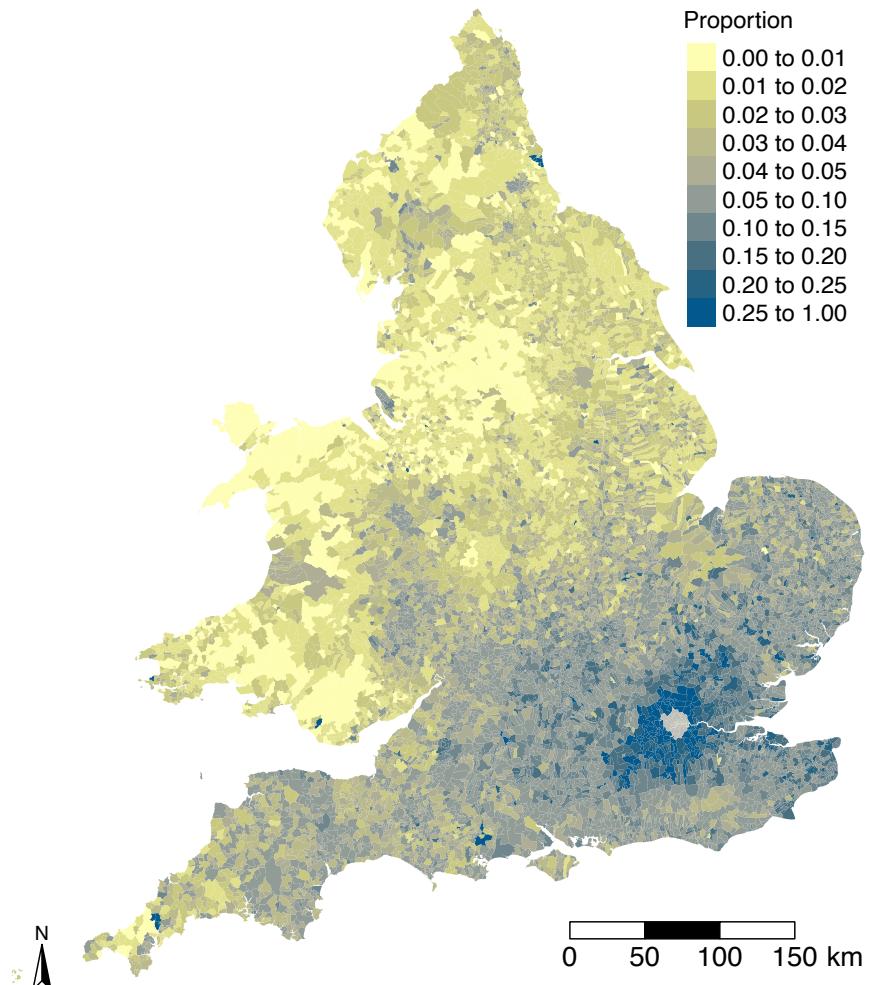


National Geographic. How London became the centre of the world.
<https://www.nationalgeographic.com/environment/article/london-population-city-planning>

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

- Maps are important tools to effectively 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/Thursday: Seminar on Gentrification (details on Moodle)
- Before Friday: QGIS Computer Tutorial (independently, online)
- Friday: Field visit (1-2 pages in field notebook)

Coming days

GEOG 0014

Mapping London Tutorial
Data preparation
Data mapping
Worksheet

Mapping London Tutorial



An abundance of data

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. 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.

The application of quantitative research methods to data about the *real-world* is at the heart of this exercise. All data are collected at a single point in time and so may become out of date, or they may be too generalised to capture the minutiae of an area. Such limitations are not as significant as they once were since we now have access to data in more detail than ever before, but this does not relinquish the need to get a sense for the broader context of the study area.

**SAY "IT WORKS IN MY
MACHINE"**

ONE MORE TIME

MemesHappen

Worksheet assignment

The screenshot shows a web browser window titled "GEOG0014" with the URL "localhost:6659/worksheet.html#downloading-crime-data". The page content is as follows:

GEOG 0014

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

1. Using what you have learnt in the computer tutorial, create two maps for **Camden and Islington**. The first map is to show *anti-social behaviour* and the second map should show *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.
3. You may use 1-2 pages your field notebook for your individual observations. If you want to, you can take photographs to add to your worksheet submission. Please avoid photographs that clearly feature individual people.

💡 This part of the assignment focuses on *anti-social behaviour* and *theft from person* in Camden and Islington.

⚠️ For your visit: make sure that you visit as a group during the scheduled Friday afternoon slot and follow advice in the [risk assessment](#). Check the weather forecast and prepare accordingly.

Part II: Your allocated street

1. 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?

On this page

- Worksheet**
- Part I: Camden and Islington
- Part II: Your allocated street
- Worksheet submission
- Further questions

Report an issue

Worksheet assignment

The screenshot shows a web browser window with the title "GEOG0014" and the URL "localhost:6659/worksheet.html#downloading-crime-data". The page content is as follows:

Part II: Your allocated street

- 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?
- Revisit the [data.police.uk](#) website and create a map for all crime around your street in November 2020 and November 2022. 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?
- Given your knowledge of your street and your observations of the crime hotspots around UCL and Kings Cross what other **existing** data sets might be useful as part of research into investigating crime in London?

💡 This part of the assignment focuses on *all* types of crime in your allocated street.

ⓘ If your allocated street falls outside, or on the administrative borders of, Camden and Islington but you would like to incorporate a road network in your map, you can download the full road network for London here as a [zip](#) file: [\[Link\]](#). Please do note that this file is significantly larger than the [roads](#) file that we have used so far, so you may encounter some performance issues.

Worksheet submission

Please submit your answers to the questions above in the form of a short **group** report. The report should include:

- No more than 500 words.
- Maximum 4 maps, and, if using, a maximum of 2 photographs.
- Do not forget to include references.

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 Monday 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

j.t.vandijk@ucl.ac.uk

