

# Tom Cantellow

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## EXPERIENCE

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### Senior Scientific Officer - R&D Fellow

Aug. 2025 – Present

Department for Environment, Food & Rural Affairs

Newcastle, UK

- Developing RAG-enabled LLM AI chatbots using environmental personas grounded in large survey data.
- Managed data pipelines and delta tables using Databricks, Azure, and Posit Connect.
- Wrote Python, R, and SQL code for automated data processing, analysis, and summaries.
- Presented findings to diverse audiences, managed project timelines and stakeholder expectations.
- Identified expert stakeholders & convened steering group to shape project strategy, technical priorities & deployment.

### Teacher

Oct. 2020 – May 2025

University of Bristol

Bristol, UK

- Designed and lead lectures for Understanding Global Problems Using Data, teaching quantitative analysis.
- Lead sessions for political, economic, urban, and health geographies; conducted widening participation workshops.

### Research Associate

Apr. 2023 – Dec. 2024

University of Bristol

Bristol, UK

- Developed Net-Zero Resilience Index, ranking UK areas by resilience to low-carbon economic restructuring.
- Contributed to reports, academic articles, and built websites for policy engagement; analysed energy efficiency in Bristol's rental housing.

### UKRI Policy Intern

Jun. 2022 – Sep. 2022

UK Home Office, Central Analysis and Insights Team

London, UK

- Led analytical initiatives in data visualisation, spatial analysis, and communication for non-experts.
- Advised on redesigning evaluative surveys to improve question clarity, respondent experience, and analytical utility.

### Freelance Geospatial Consultant

Apr. 2023 – Present

- IPPR funded update to Net-Zero Resilience Index; produced maps for Demos' 2023 Good Credit Index Report.

## EDUCATION

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### University of Bristol

Bristol, UK

PhD in Human Geography

Oct. 2020 – Nov. 2024

### University of Sheffield

Sheffield, UK

MSc, Distinction, in Applied GIS

Sep. 2017 – Sep. 2018

*Awards: Sheffield Postgraduate Scholarship; Ian Masser Prize for best dissertation*

### University of Lincoln

Lincoln, UK

BA (Hons), 2:1, in International Relations

Sep. 2012 - May 2016

## PROJECTS

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### Housing Rentierism and Political Subjectivity | *R, British Election Study*

In Progress

- Co-authoring journal article investigating housing asset economy's impact on class structure and voting behaviour.
- Analyses homeownership types and area-level house price changes using BES and Land Registry data and spatially-differentiated economic returns to examine earner/churner political cleavages.

### Net Zero Resilience Index | *R, Leaflet, Github, QGIS, HTML/CSS*

Jun. 2024 – Dec. 2024

- Developed economic complexity/relatedness methodology using machine learning to analyse UK employment.
- Visualised and published ranked resilience index; authored report and journal article (in press).

### PhD Thesis | *R, QGIS, SQL, LaTeX*

Sep. 2020 – Nov. 2024

- Authored a 58,000-word peer-reviewed PhD thesis analysing UK voting behaviour and how the operationalisation of neoliberalism shapes inequalities, political values, and personal financial wellbeing.
- Analysed large-scale national surveys, big-data on housing markets, local economic indicators, applying machine learning, mixed-effects models, and other statistical techniques to identify drivers of political attitudes, voting behaviour, and socioeconomic outcomes.

## TECHNICAL SKILLS

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**Languages & Tools:** R, Python, SQL, HTML, CSS, LaTeX; RStudio, Jupyter, Databricks, Azure, Power BI, Posit Connect, QGIS, ArcGIS Online, ArcGIS, Visual Studio, Excel, Overleaf, MS Office.

**Datasets:** ACLED, BES, BSA, BRES, CHES, EPCs, IMDs, SAE, Census, UKHLS, UK Land Registry & many others.