

Untapped potential
***Linking survey with satellite
image data***



Imago
Data Service
for Imagery

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who am i?

Shaonlee Patranabis

Post-doctoral Research Associate @ **Imago** (SDR-UK, ESRC)

Economic Geographer by training

Grappling with **Earth Observation** these days.



EO in social research & policy

Imagine!

- Seeing *everything**, *everywhere*, all the *time*
- Tracking *changes* as they happen
- *Combining* this with everything else you already do



EO in social research & policy

Imagine!

- Seeing *everything**, *everywhere*, all the *time*
- Tracking *changes* as they happen
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But!

- EO is *large*
- EO is *difficult*
- EO is *different*



Imago's vision

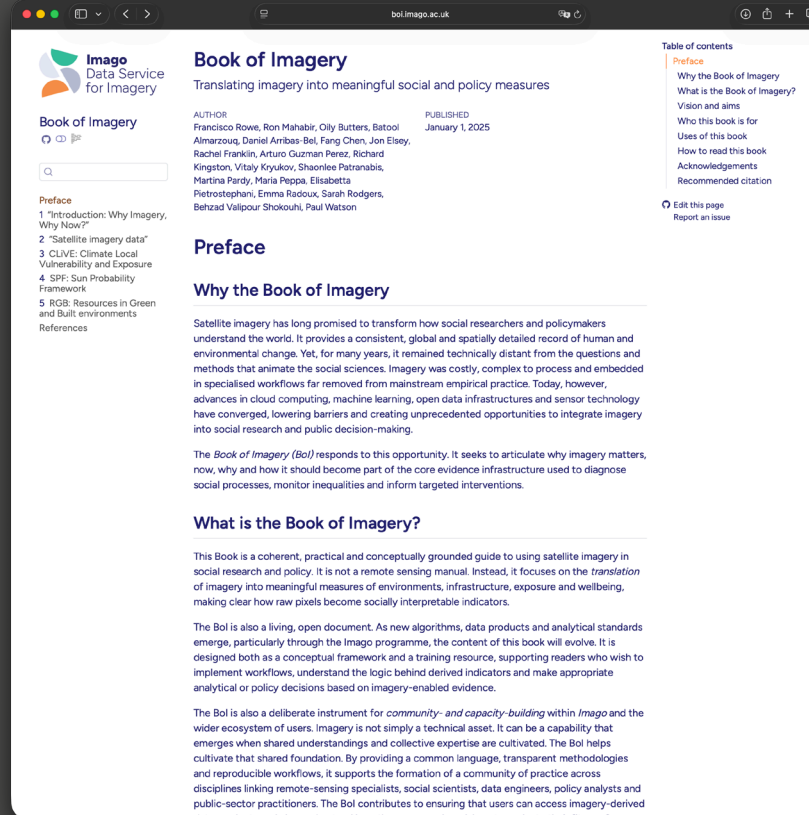
To make (satellite) imagery more
useful, usable, and used
across social research and policy



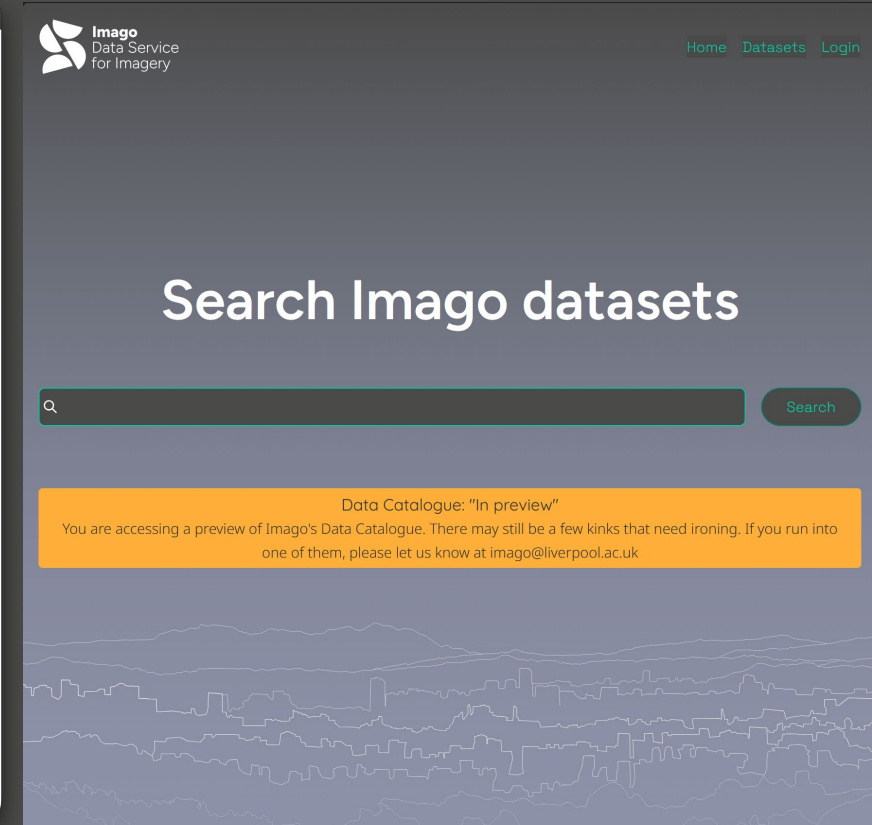
Take a look!



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Translating EO to social (and) policy

- *“Meeting users where they are”*
- **Integrate** EO in *established* workflows
- Two key **channels**
 - Data products
 - Capacity building



Data Products: *EO without pixels*

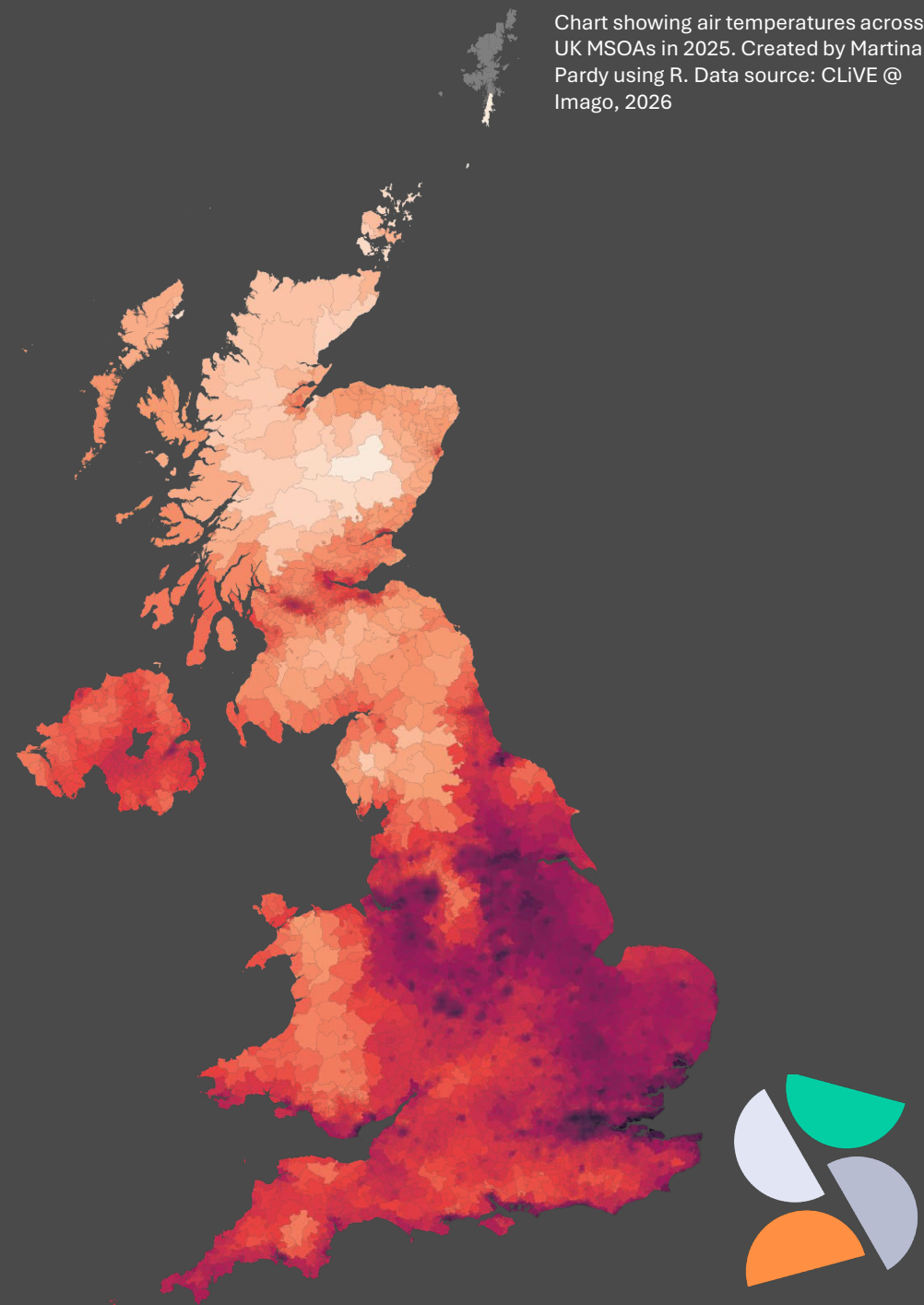


CLiVE

Climate Local Vulnerability and Exposure

An *imagery-based* data product to characterise
environmental risk at *local scales* using the IPCC
risk framework/

- *Flooding*
- *Precipitation*
- *Air Temperature Indicators*
- *PM 2.5 concentration*



Book of Imagery



Imago's *Book of Imagery*

An open and living document
developed for capacity building to
open EO to social researchers and policymakers



Version 1.0

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The screenshot displays the 'Book of Imagery' website. The header features the 'Imago Data Service for Imagery' logo and a search bar. The main content area is titled 'Book of Imagery' and includes a subtitle 'Translating imagery into meaningful social and policy measures'. It lists the authors (Francisco Rowe, Ron Mahabir, Olly Butters, Batool Almarzouq, Daniel Arribas-Bel, Fang Chen, Jon Elsey, Rachel Franklin, Arturo Guzman Perez, Richard Kingston, Vitaly Kryukov, Shaonlee Patranabis, Martina Pardy, Maria Peppia, Elisabetta Pietrostefani, Emma Radoux, Sarah Rodgers, Behzad Valipour, Shokouhi, Paul Watson) and the publication date (December 11, 2025). A 'Preface' section is visible, followed by a 'Table of contents' sidebar on the right. The sidebar lists sections: Preface, Why the Book of Imagery, What is the Book of Imagery?, Vision and aims, Who this book is for, Uses of this book, How to read this book, Acknowledgements, and Recommended citation. A 'OneDrive - Personal' notification is visible in the bottom right corner.

Imago Data Service for Imagery

Book of Imagery

Translating imagery into meaningful social and policy measures

AUTHOR
Francisco Rowe, Ron Mahabir, Olly Butters, Batool Almarzouq, Daniel Arribas-Bel, Fang Chen, Jon Elsey, Rachel Franklin, Arturo Guzman Perez, Richard Kingston, Vitaly Kryukov, Shaonlee Patranabis, Martina Pardy, Maria Peppia, Elisabetta Pietrostefani, Emma Radoux, Sarah Rodgers, Behzad Valipour, Shokouhi, Paul Watson

PUBLISHED
December 11, 2025

Preface

- 1 Introduction: Why Imagery, Why Now?
- 2 Satellite imagery data
- 3 CLIVE: Climate Local Vulnerability and Exposure
- 4 SPF: Sun Probability Framework
- 5 RGB: Resources in Green and Built environments

References

Why the Book of Imagery

Satellite imagery has long promised to transform how social researchers and policymakers understand the world. It provides a consistent, global and spatially detailed record of human and environmental change. Yet, for many years, it remained technically distant from the questions and methods that animate the social sciences. Imagery was costly, complex to process and embedded in specialised workflows far removed from mainstream empirical practice. Today, however, advances in cloud computing, machine learning, open data infrastructures and sensor technology have converged, lowering barriers and creating unprecedented opportunities to integrate imagery into social research and public decision-making.

The *Book of Imagery (BoI)* responds to this opportunity. It seeks to articulate why imagery matters, now, why and how it should become part of the core evidence infrastructure used to diagnose social processes, monitor inequalities and inform targeted interventions.

What is the Book of Imagery?

This Book is a coherent, practical and conceptually grounded guide to using satellite imagery in social research and policy. It is not a remote sensing manual. Instead, it focuses on the *translation of imagery into meaningful measures of environments, infrastructure, exposure and wellbeing*.

Table of contents

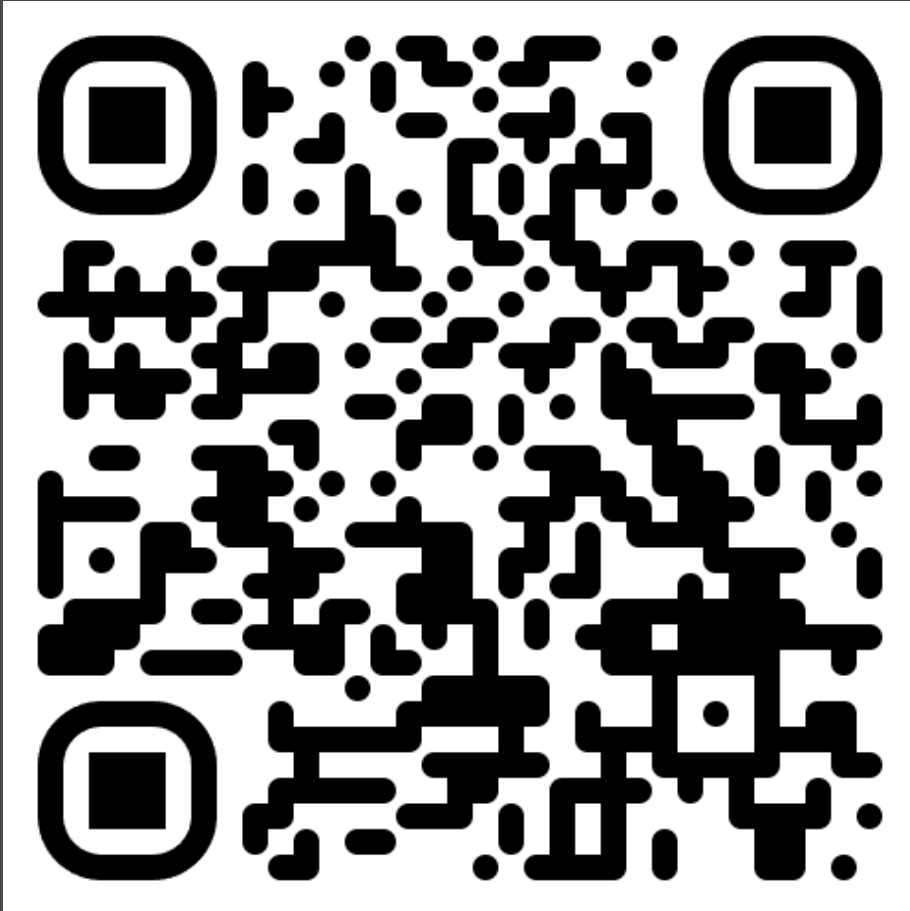
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Imago's training samples



Merging the datasets

The SPF dataset uses the 2021 LSOA code as `data_zone_code`. However, it includes Northern Ireland as well as Wales, Scotland and England. The Census dataset only includes England and Wales, so we will commit to a `right` join. This will automatically drop areas where we have no health data.

We therefore merge the health data using the same identifier.

Python

```
health = health[
    [
        "data_zone_code",
        "good_health_percent",
        "fair_health_percent",
        "poor_health_percent",
    ]
]

combined = spf.merge(
    health,
    on="data_zone_code",
    how="right"
)

print(f"SPF LSOAs: {len(combined)}")
combined.head()
```

SPF LSOAs: 35673

	data_zone_code	cloud_probability	geometry	good_health_percent	fair_health_percent
0	E01011954	69.1318	MULTIPOLYGON (((449388.067 535063.669, 449203...	76.084100	16.688568
1	E01011969	70.1876	MULTIPOLYGON (((448986.938 536728.788, 449279...	76.877323	16.951673
2	E01011970	69.9663	MULTIPOLYGON (((448456.616 536053.042, 448446...	82.056075	13.271028
3	E01011971	70.7784	MULTIPOLYGON (((448133.076 535759.035, 448149...	87.150416	10.279667
4	E01033465	70.0127	MULTIPOLYGON (((448713.645 535548.757, 448923...	87.519182	9.258312



Conclusion



Conclusion

- EO is powerful but *tricky*
- Lowering entry barriers can widen adoption
- Imago is here to help



THANK YOU

Learn more:

Website:

imago.ac.uk

Book of Imagery:

Bol.imago.ac.uk

Data catalogue:

data.imago.ac.uk

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