The Land Cover Map Family:

Land Cover, Crops and Hedgerows

Clare Rowland and Emily Upcott

UK Centre for Ecology & Hydrology

EDINA Environment: Land Cover and Land Cover Change data sets

Clare Rowland

Dan Morton

Nye O'Neil

Chris Marston

UK Centre for Ecology & Hydrology

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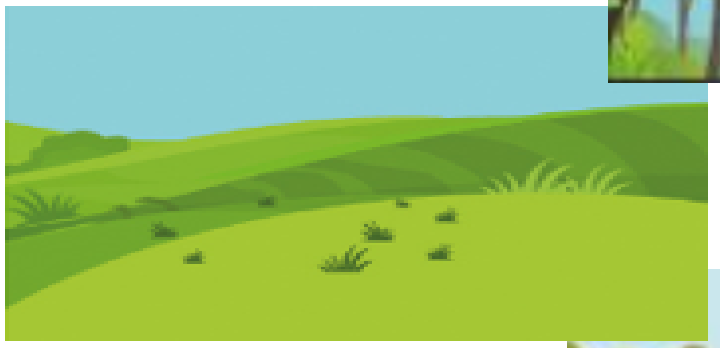
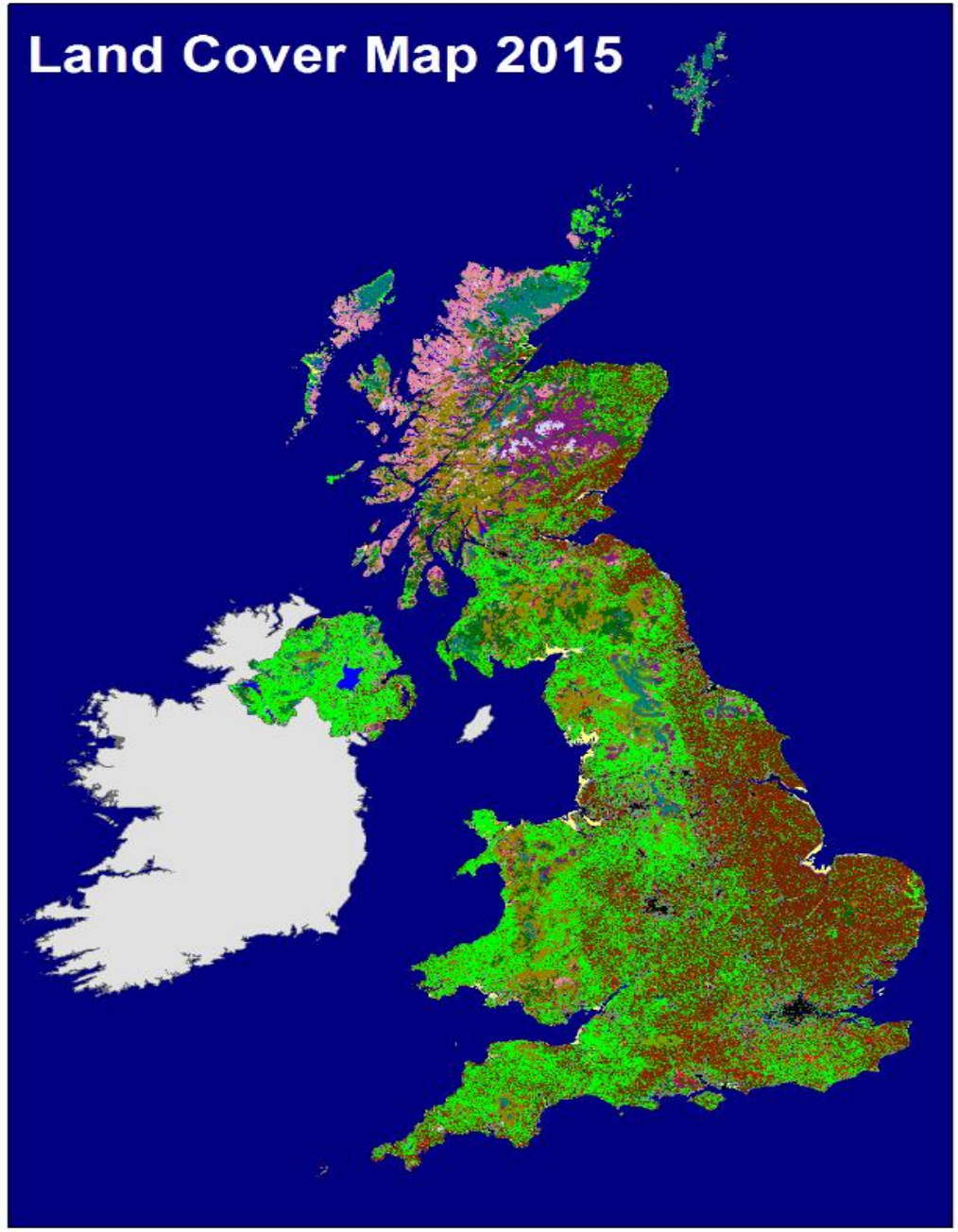
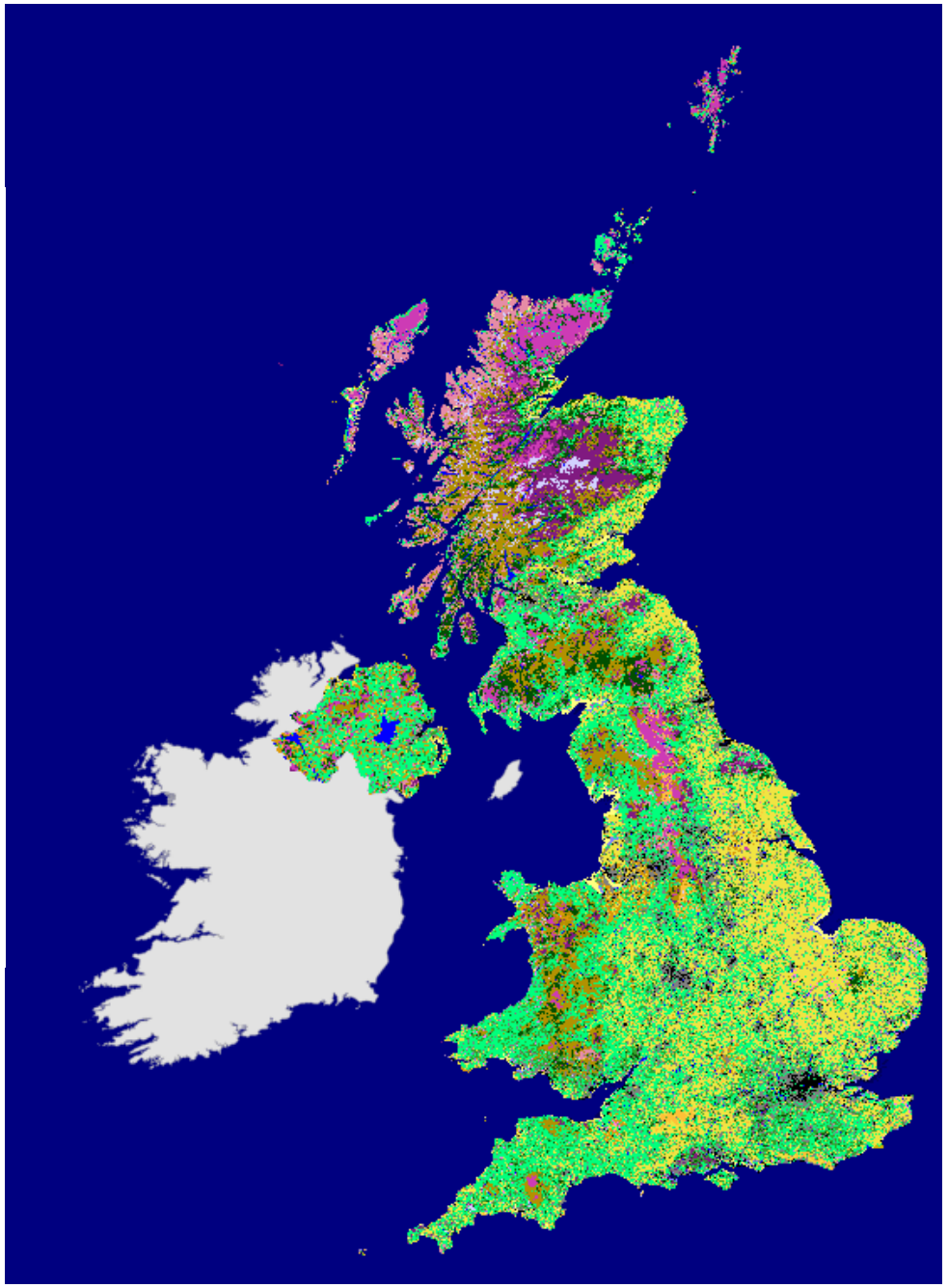


What is a Land Cover Map

- Broadleaved woodland
- Coniferous woodland
- Arable and horticulture
- Improved grassland
- Neutral grassland
- Calcareous grassland
- Acid grassland
- Fen, Marsh and Swamp
- Heather
- Heather grassland
- Bog
- Inland rock
- Saltwater
- Freshwater
- Supra-littoral rock
- Supra-littoral sediment
- Littoral rock
- Littoral sediment
- Saltmarsh
- Urban
- Suburban



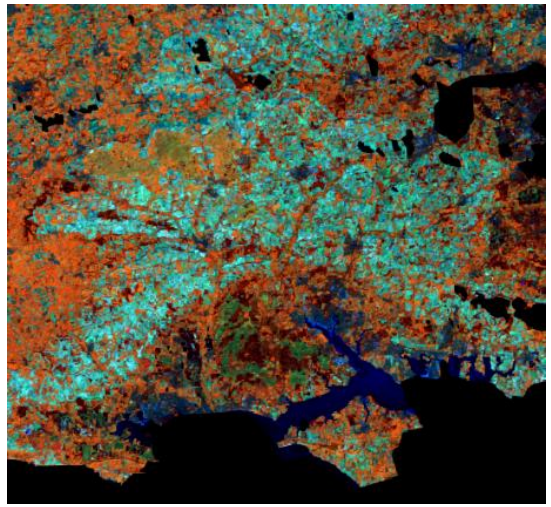
- Broadleaved woodland
- Coniferous woodland
- Arable
- Improved grassland
- Neutral grassland
- Calcareous grassland
- Acid grassland
- Fen, Marsh and Swamp
- Heather and shrub
- Heather grassland
- Bog
- Inland rock
- Saltwater
- Freshwater
- Supralittoral rock
- Supralittoral sediment
- Littoral rock
- Littoral sediment
- Saltmarsh
- Urban
- Suburban



How to make a Land Cover Map

Get the data

Prepare satellite data



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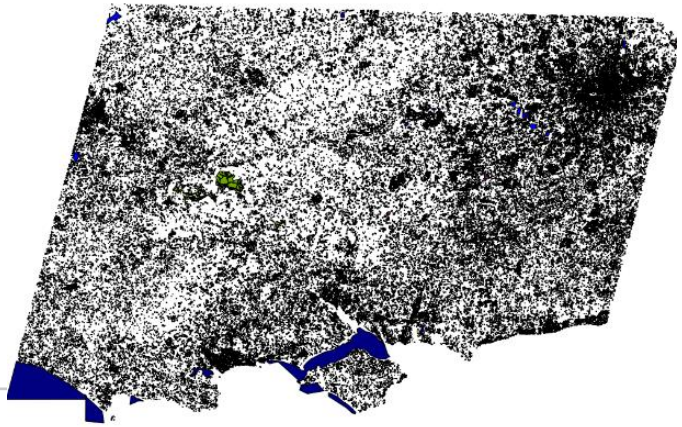
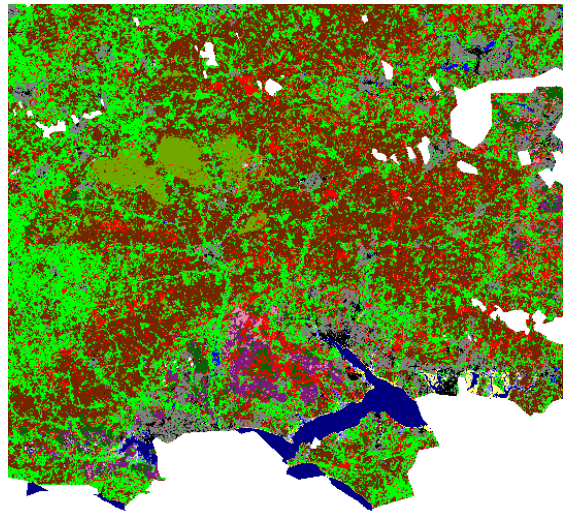
Prepare the training data



Run classification algorithm

Classification



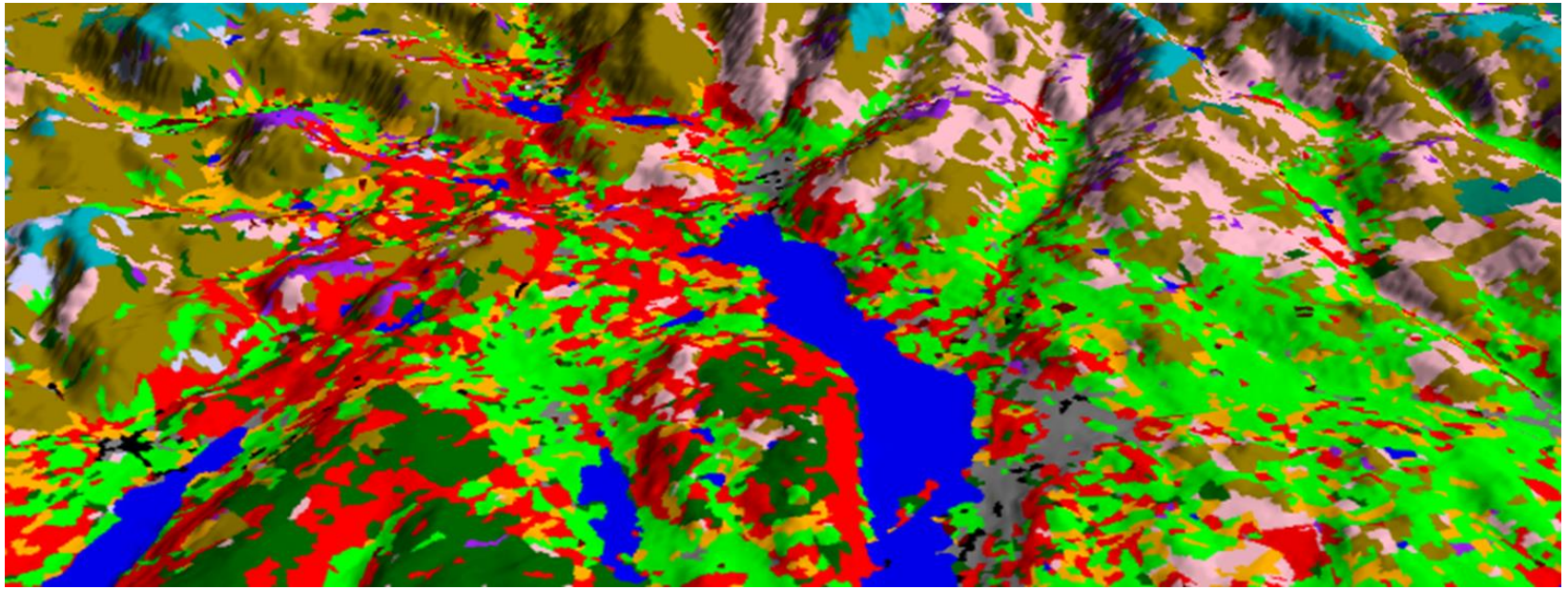
Carrasco, L., O'Neil, A.W., Morton, R.D. and Rowland, C.S., 2019. Evaluating combinations of temporally aggregated Sentinel-1, Sentinel-2 and Landsat 8 for land cover mapping with Google Earth Engine. Remote Sensing, 11(3), p.288.

How to use a Land Cover Map

1. Get Land Cover stats to characterise an area

2. Combine with other data to produce maps or new products

3. Model input (e.g. impact of land cover on run-off quantity/quality)



LCM uses….

Nine tenths of England's floodplains not fit for purpose, study finds

Intensive farming cited as main reason for destroying natural barriers to deluge and making low lying areas more vulnerable to floods

Floodplains of river Eden in Cumbria, 2016. Photograph: Dr Neil Entwistle/University of Salford

Only a tenth of England's extensive floodplains are now fit for purpose - 90% no longer function properly - with the shortfall putting an increasing number of homes and businesses at risk of flooding, according to a new report.

Floods are more likely due to climate change and will claim higher economic costs unless action is taken to halt the damage to floodplains and restore some of their functions, warned the authors of the 12-month study - the first to paint a comprehensive view of England's floodplains and their capabilities.

"We have ignored our floodplains," said George Heritage of Salford University, co-author of the study the Changing Face of Floodplains, published by Co-Op Insurance on Thursday. "The changes to them mean water [from heavy rainfall] can flow much faster downstream, and can flow at the same speed as the water in the rivers."

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Science & Environment

Urbanisation's varying impacts on ecosystem services

By Mark Kinver
Environment reporter, BBC News, Sheffield

13 September 2011 | Science & Environment

Different urbanisation policies have varying impacts on a region's ecosystem services, researchers report.

Dense housing leads to an increase in concrete and asphalt, reducing areas' flood mitigation services, they say.

And low density housing does not affect flood mitigation services but does reduce land availability for food and carbon storage, the UK team adds.

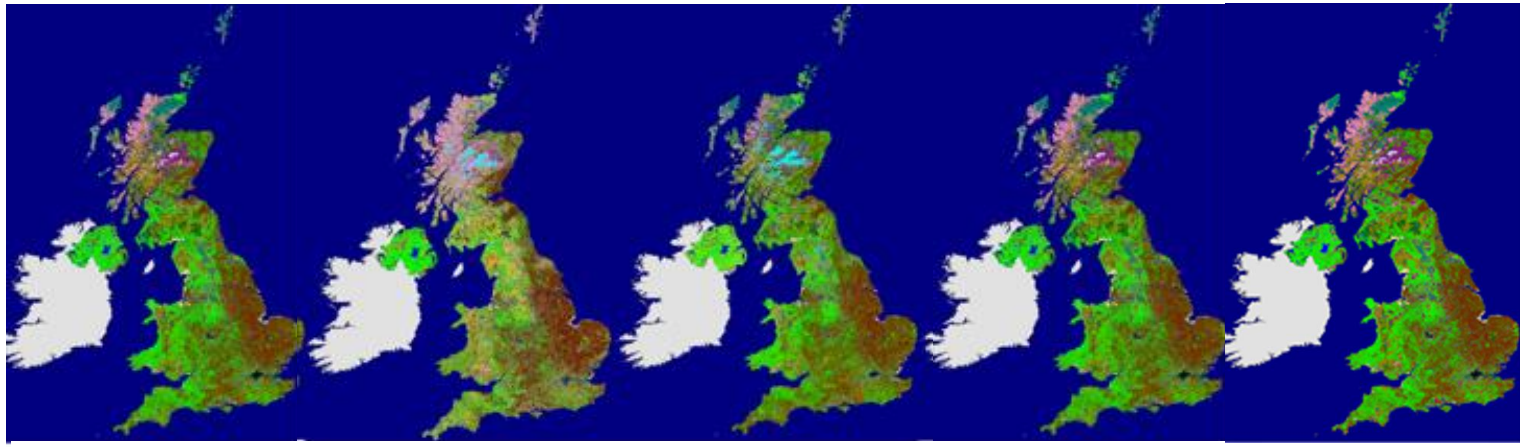
The study was presented at the British Ecological Society's (BES) annual meeting at the University of Sheffield.

Loss of green spaces can exacerbate extreme flooding events, the study shows

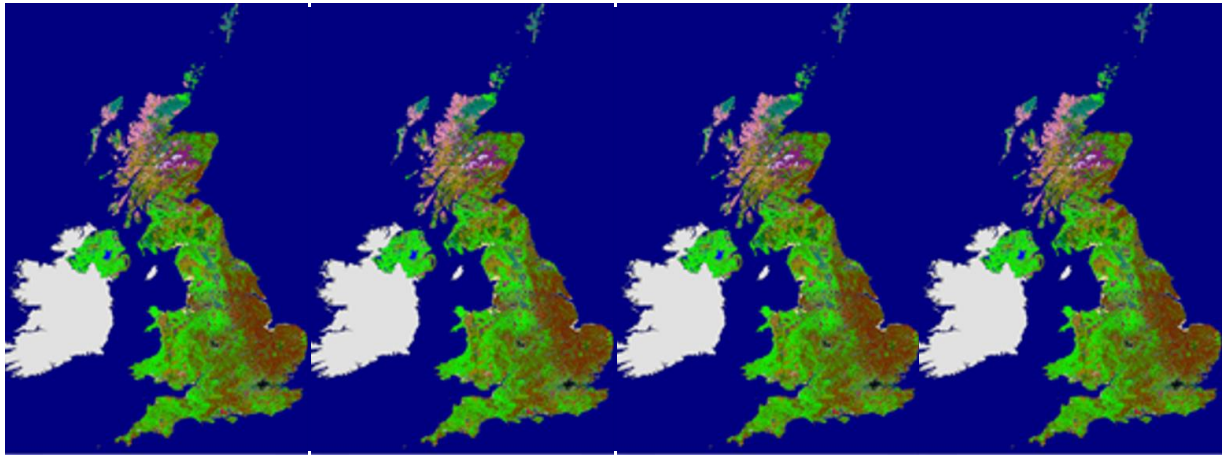
"Predicting exactly how cities are going to grow was extremely difficult because every city does it a little bit differently," said co-presenter Felix Eigenbrod from the University of Southampton, who was part of a University of Sheffield

UK Centre
Ecology &

Land Cover Map series



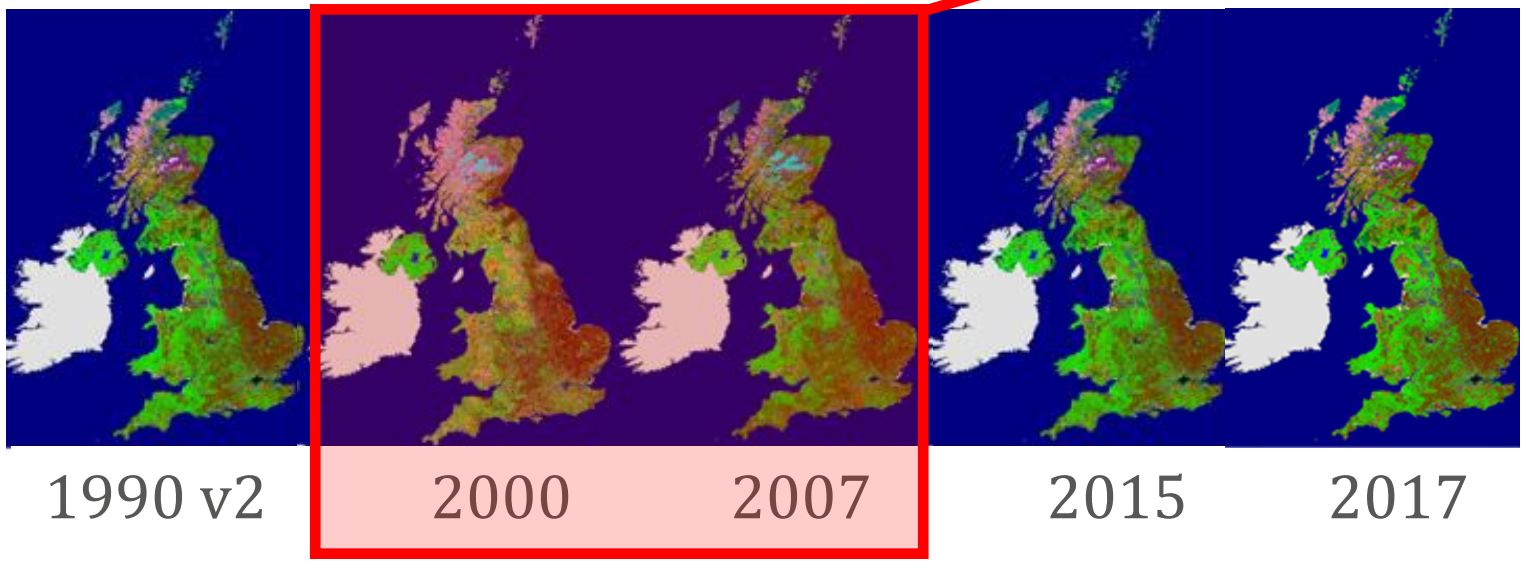
1990 v2 2000 2007 2015 2017



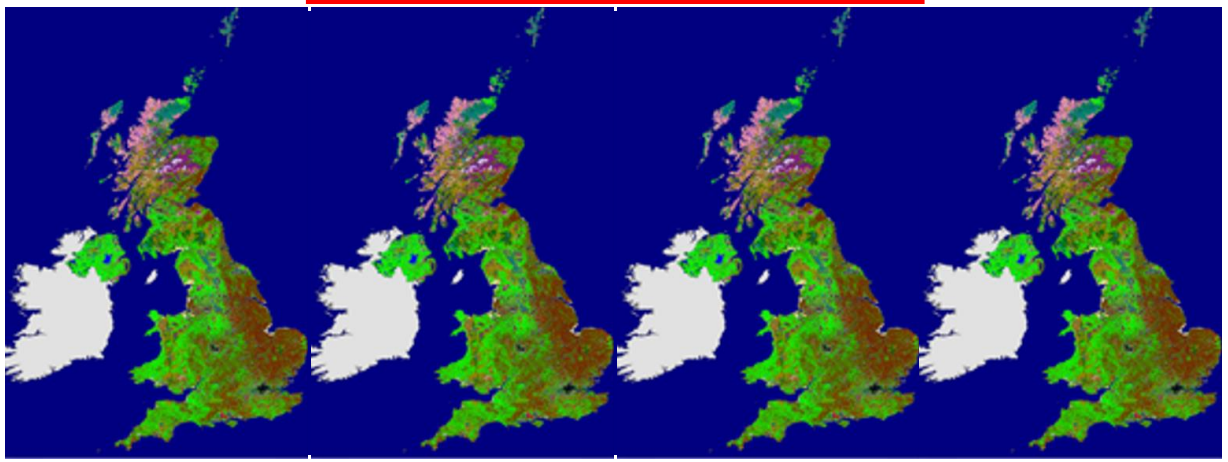
2018 2019 2020 2021

Land Cover Map series

Different land cover classes &/or different spatial structure

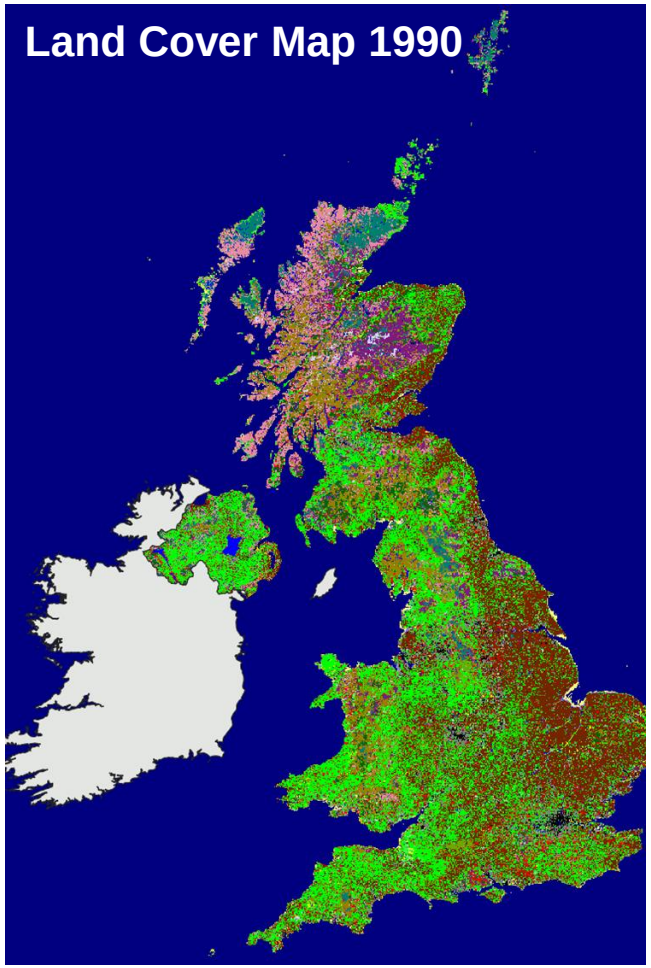


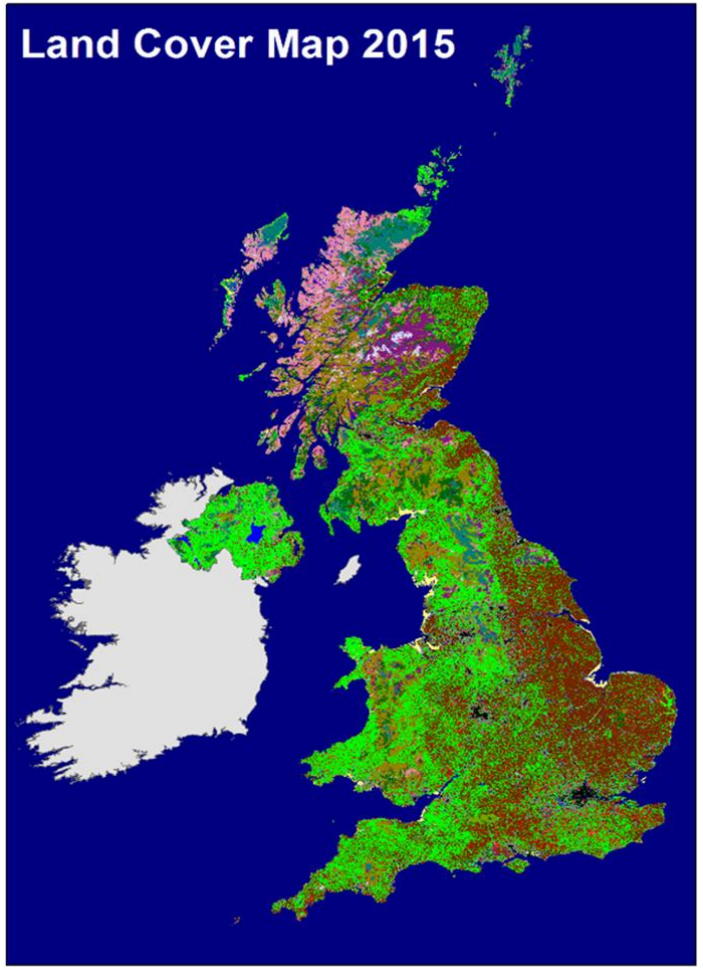
1990 v2 2000 2007 2015 2017



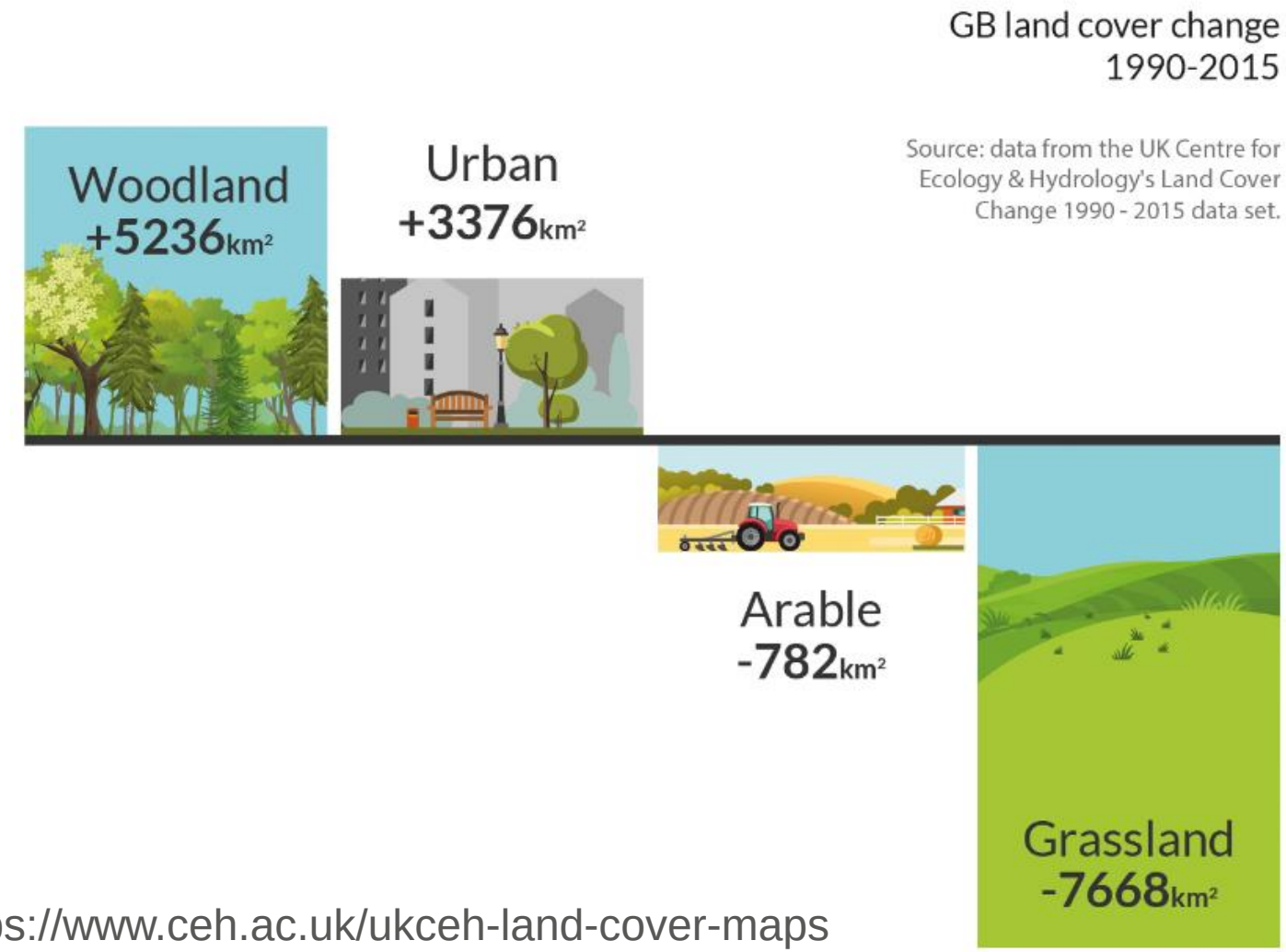
2018 2019 2020 2021

Land Cover Change 1990 - 2015



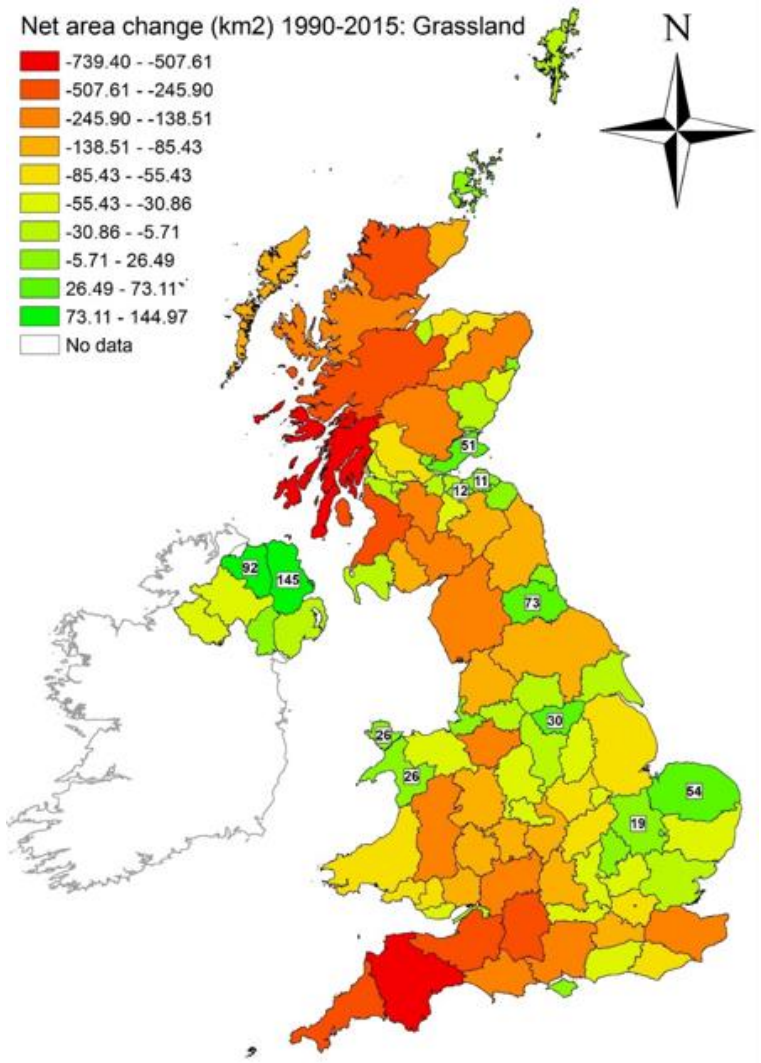


GB Net Land Cover Change 1990-2015



https://www.ceh.ac.uk/ukceh-land-cover-maps

Spatial trends: Grassland

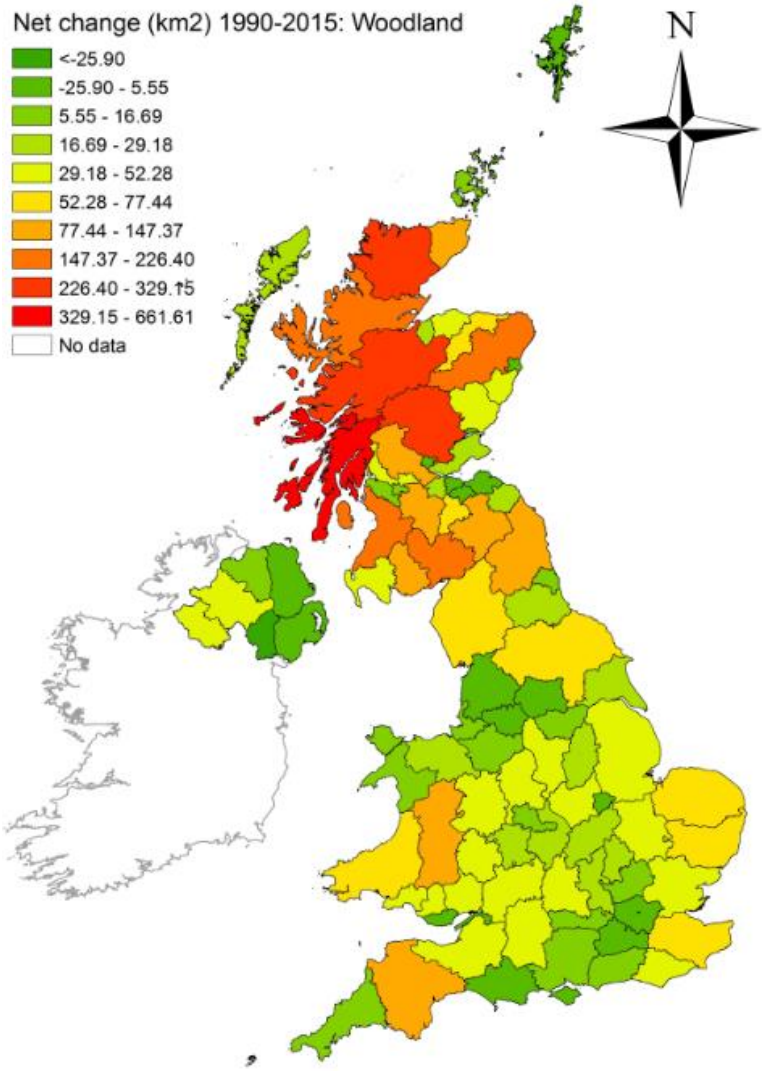


Key points:

Net reduction of 7,668km^2, equivalent to 1.9 million acres (greater than the size of Suffolk and Sussex combined)

- Mix of increases and decreases at county level
- Biggest increases in Northern Ireland

Spatial trends: Woodland



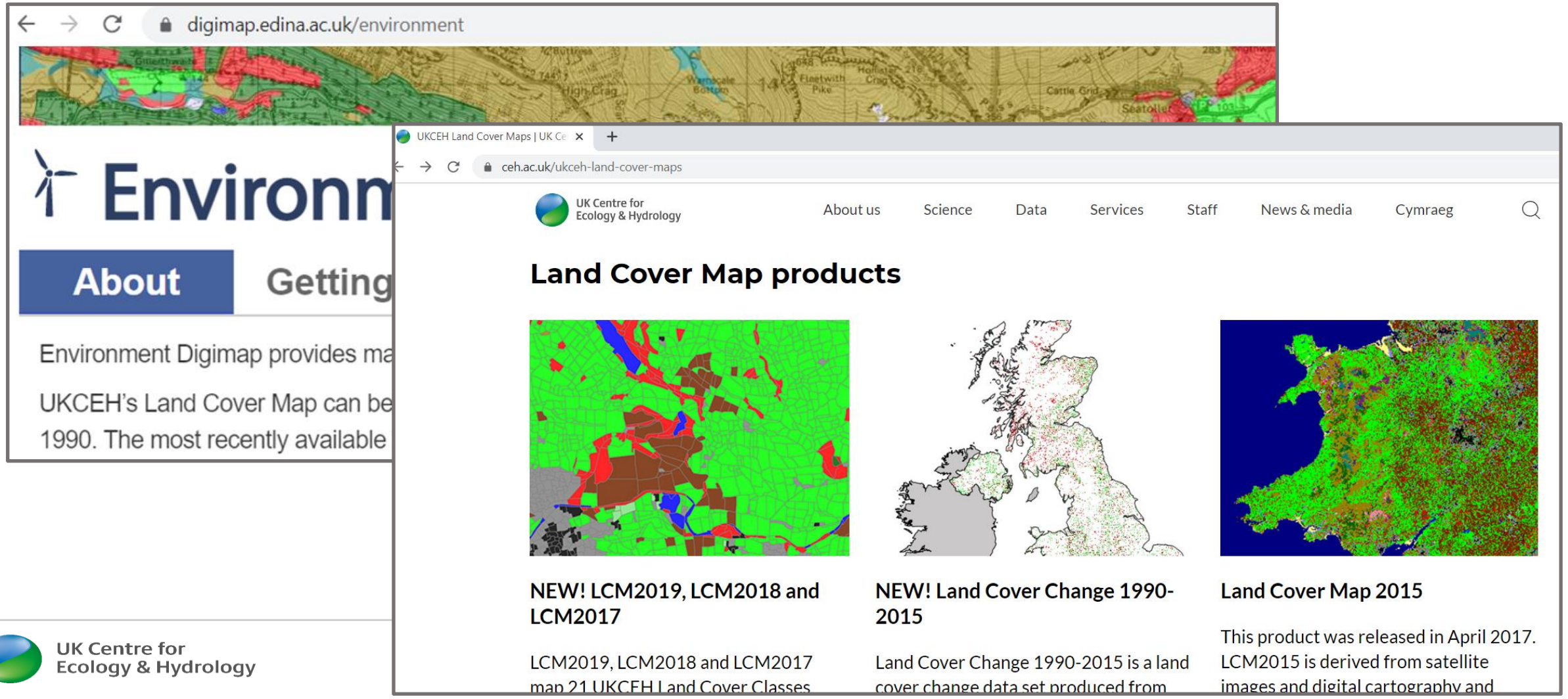
Key points:

- Net increase of 5,236km^2 (almost the size of Norfolk)
- Largest increases in Scotland
- Biggest increase in Argyll and Bute (662km^2)

Accessing the data

Google: UKCEH LCM or UKCEH Land Cover Map

Available from: https://www.ceh.ac.uk/ukceh-land-cover-maps and
EDINA Digimap https://digimap.edina.ac.uk/environment



UK Centre for Ecology & Hydrology

Data formats

UKCEH Environmental Information Data Centre

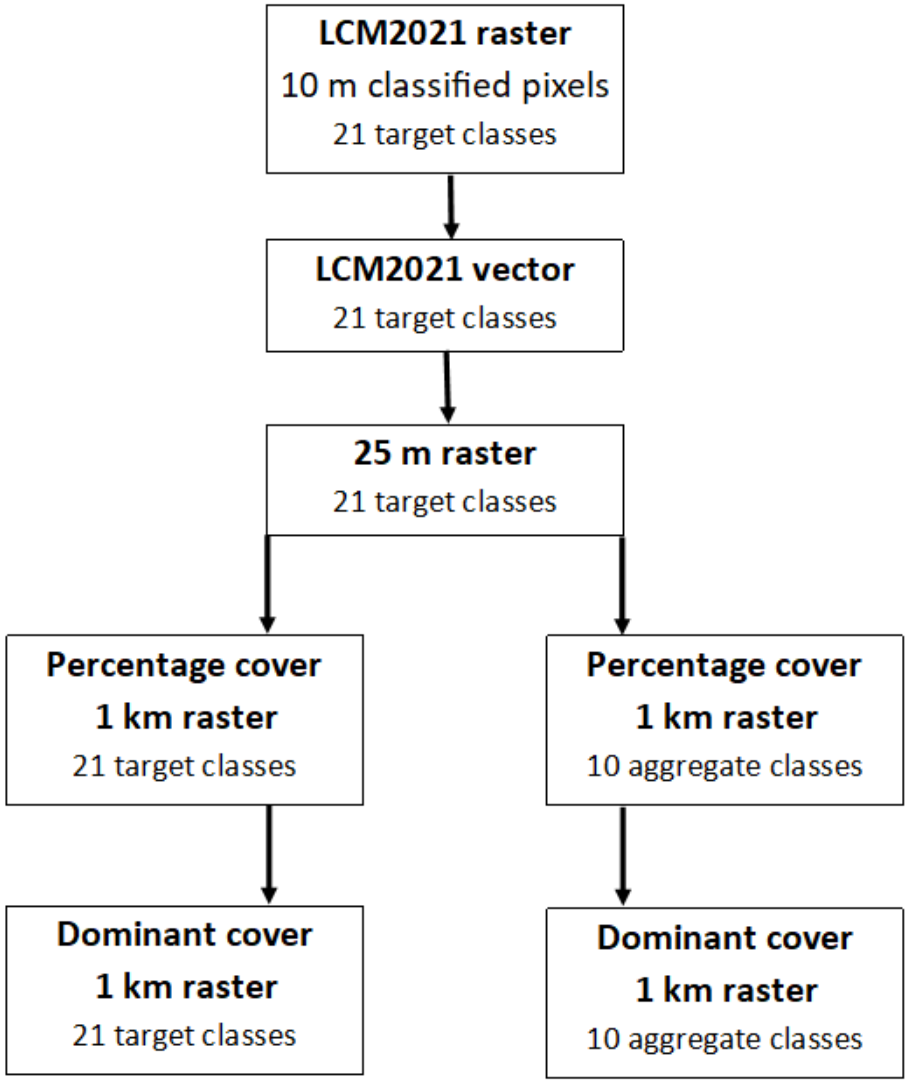
Land Cover Map 2021

This data collection contains these resources

- Dataset — Land Cover Map 2021 (10m classified pixels, GB)
- Dataset — Land Cover Map 2021 (10m classified pixels, N. Ireland)
- Dataset — Land Cover Map 2021 (1km summary rasters, GB and N. Ireland)
- Dataset — Land Cover Map 2021 (25m rasterised land parcels, GB)
- Dataset — Land Cover Map 2021 (25m rasterised land parcels, N. Ireland)
- Dataset — Land Cover Map 2021 (land parcels, GB)
- Dataset — Land Cover Map 2021 (land parcels, N. Ireland)
- Web service — Land Cover Map 2021 10m web map service

This data collection is included in the following collection

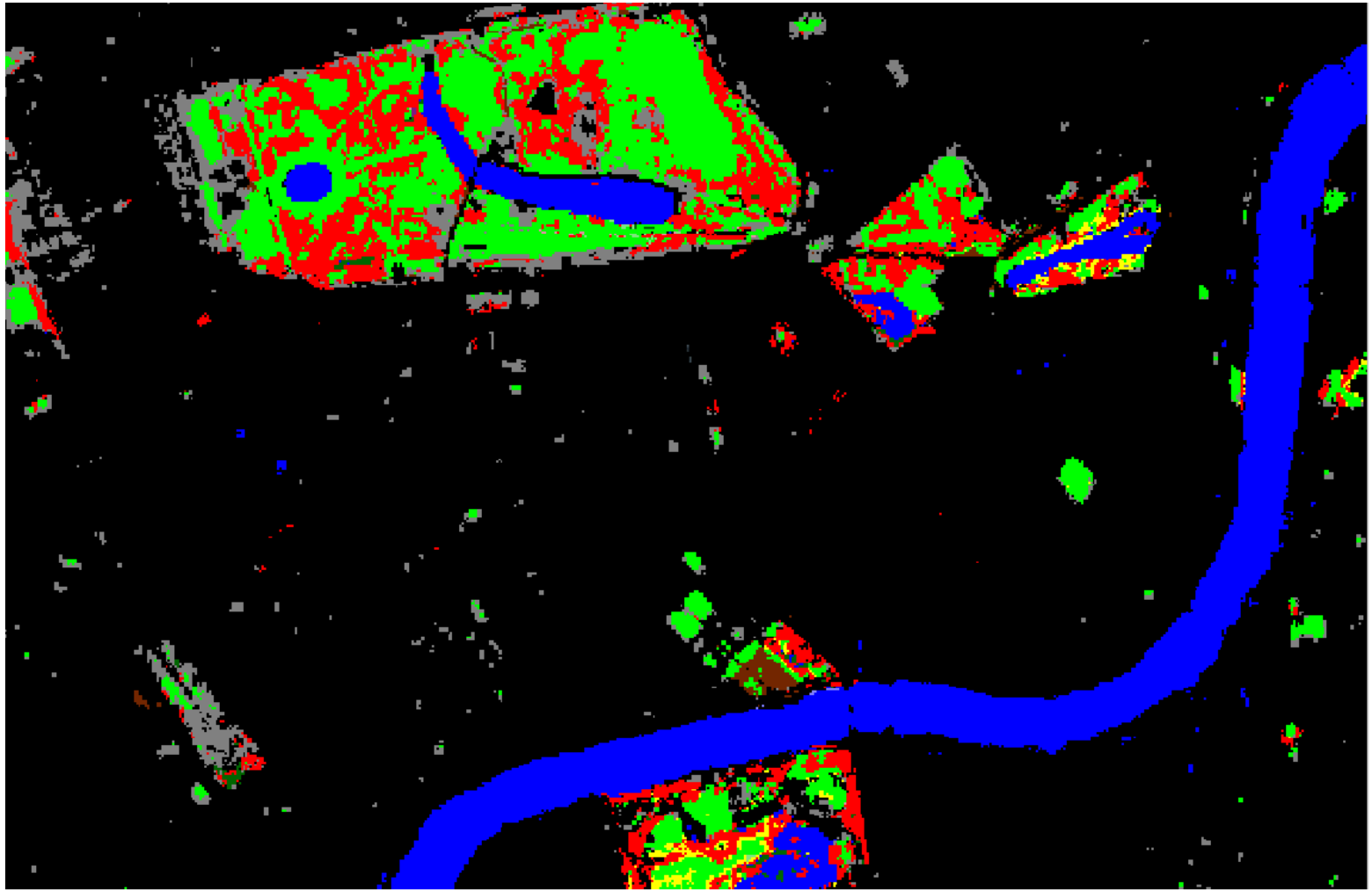
- Data collection — Land Cover Maps



Examples

- Broadleaved woodland
- Coniferous Woodland
- Arable and Horticulture
- Improved Grassland
- Freshwater
- Urban
- Suburban

Example: 10m data



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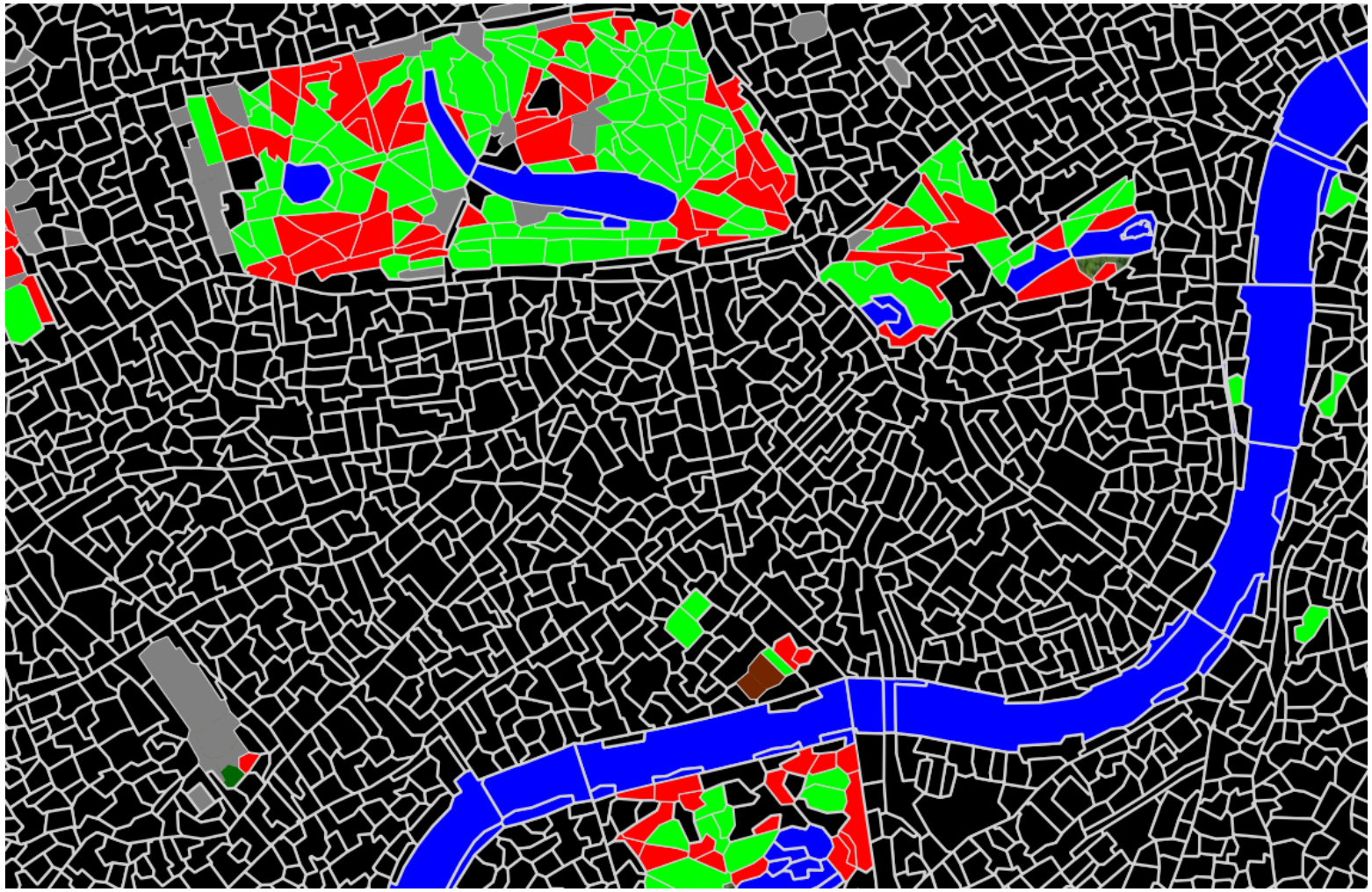
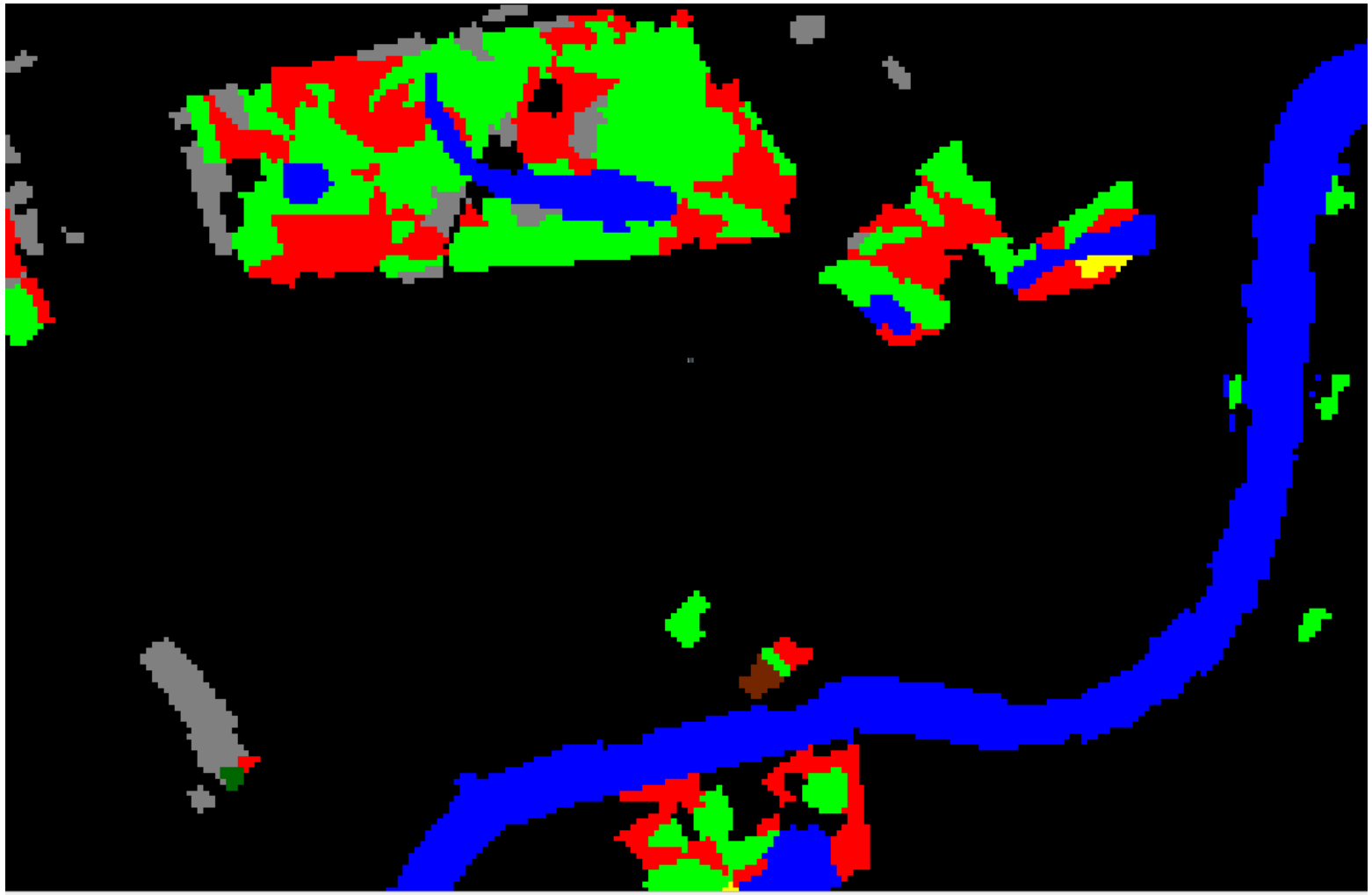
Example: Vector data



Example: 25m data



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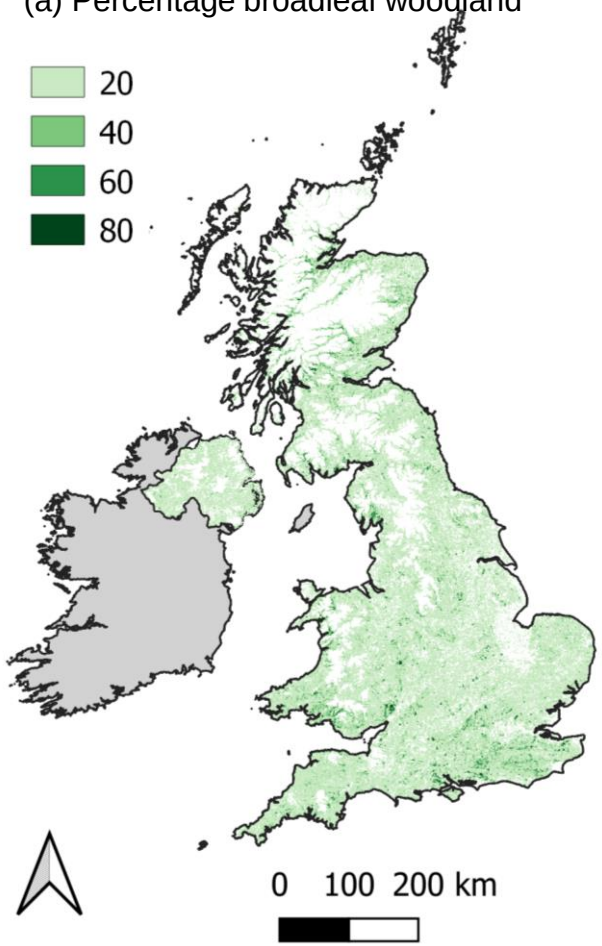
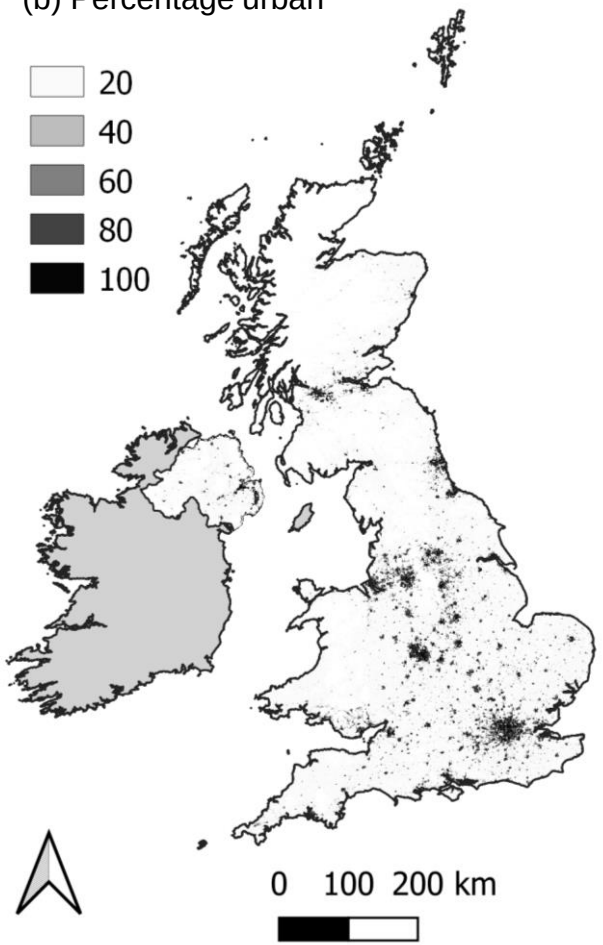
Examples of the 1km percentage data

(a) Percentage broadleaf woodland



(b) Percentage urban



Further Information

Websites:
- EDINA
- UKCEH Land Cover Map page

LCM data set document (bundled with the data)

Journal papers:

Marston, C. G., O'Neil, A. W., Morton, R. D., Wood, C. M., & Rowland, C. S. (2023). LCM2021–the UK land cover map 2021. *Earth System Science Data Discussions*, 2023, 1-35.

Carrasco, L., O'Neil, A.W., Morton, R.D. and Rowland, C.S., 2019. Evaluating combinations of temporally aggregated Sentinel-1, Sentinel-2 and Landsat 8 for land cover mapping with Google Earth Engine. *Remote Sensing*, 11(3), p.288.

OEP report – google 'oep report recent land cover change'