FPA no.:
275/G/GRO/COPE/17/10042

Caroline Herschel Framework Partnership Agreement for

Copernicus User Uptake

Earth Observation (EO) for Land Cover and Habitat Mapping

Earth Observation has been used successfully for land cover and habitat mapping at broad scales, and recently improved with the advent of Sentinel data at a higher resolution than previous available data. Note the examples do not refer to land use and that arable land is generally treated as a single class.
This document highlights three examples and indicates their ease of adoption.

Contact point:
earthobs@jncc.gov.uk

Complexity
- Possible; needs research
- Clear method but complex
- Clear method and straightforward

Resource
- £££ High
- ££ Medium
- £ Low

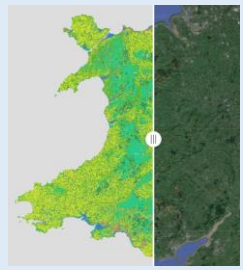
Case Study: Living Wales Annual Land Cover Mapping

Aims to routinely and automatically map land covers and changes at a national level (Wales) with 10m resolution using the internationally recognized and globally applicable Food and Agricultural Organisation's (FAO) Land Cover Classification System (LCCS) and Earth Observations from different sources.

Algorithms are still under development. This includes work on advances in identifying accuracy.

££

Difficult to implement currently as case study is still in research phase and needs work for setting up an operational system. Data access costs are low as method utilises ARD and is validated through data collected by citizen scientists.



Living Wales Land Cover Mapping

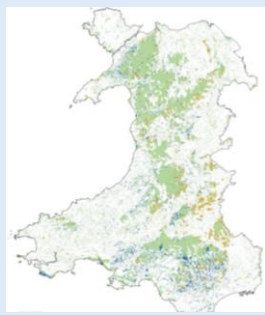
Experimental statistic: Indicator 43 – The Extent of Semi-Natural Habitat in Wales

The latest method for estimating the area of semi-natural habitat in Wales, for publication by Welsh Government as National Well-being Indicator 43, utilised Sentinel-2 imagery.

While the work employs a well-established metric, some aspects of the analysis are quite novel, which will require further work to refine and get a measure of accuracy. It is currently being treated as an experimental statistic.

££

Whilst some further work is required to refine the method, ultimately implementation and maintenance costs will be far lower than the field based approach the Phase 1 habitat survey relied on. Data access costs are low as method utilises ARD.



Indicator 43 – The Extent of Semi-Natural Habitat in Wales

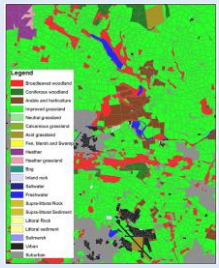
Operational Product: UKCEH Land Cover® Maps

Uses Sentinel data and a machine learning algorithm to create an annual land cover map based on the Biodiversity Action Plan (BAP) Broad (2017,2018, 2019). UK wide coverage.

Method used is operational and well understood. Accuracy is reported on for each year against a 2019 validation exercise.

£

Product is now openly available. Maintenance is low as product creation costs are covered by UKCEH.



UKCEH Land Cover® Map

Policy Areas

Annual land cover maps / Compliance monitoring / Land Cover / Agri and Environmental Stats / Reporting / WFG - Indicator 43

https://www.copernicus-user-uptake.eu/

Published: 2020-09

Reference to any specific product or entity does not constitute an endorsement or recommendation by JNCC or Welsh Government. Other products may be available.