CLC+Backbone 2021 (raster 10 m), Europe, 3-yearly, Jun. 2024

This metadata refers to the 'Corine Land Cover + Backbone' (CLC+ Backbone), a spatially detailed, large-scale, Earth Observation-based land cover inventory which is produced by the Copernicus Land Monitoring Service (CLMS). The CLC+ Backbone is a 10m pixel-based land cover map based on Sentinel satellite time series. Each pixel contains the dominant land cover among the 11 basic land cover classes. See pixel class codes in the additional information section.

The product has an update cycle of three years and starting from the 2018 reference year. The update cycle for future products (from 2021 reference year onwards) will be 2 years.

You can read more about the product here: https://land.copernicus.eu/en/products/clc-backbone

Simple

Date (Creation)	2023-11-30
Date (Publication)	2024-06-21
Edition	01.00
Citation identifier	copernicus_r_3035_10_m_chaplus-backbone2020-2022_p_2021_v01_r00
Code	10.2909/71fc9d1b-479f-4da1-aa66-662a2fff2cf7

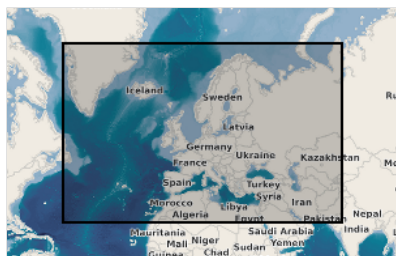| Point of contact	Organisation name	Individual name	Electronic mail address	Website	Role
	European Environment Agency		copernicus@eea.europa.eu	https://land.copernicus.eu	Distributor
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	European Environment Agency		copernicus@eea.europa.eu	https://land.copernicus.eu	Point of contact

Point of contact

No information provided.

Point of contact

No information provided.

Maintenance and update frequency	As needed
GEMET - INSPIRE themes, version 1.0	• Land cover
Keywords	
Continents, countries, sea regions of the world.	• EEA38 (from 2020)
Keywords	
GEMET	• land cover • land
Spatial scope	• European

EEA topics	• Land use
Access constraints	Other restrictions
Other constraints	No limitations to public access
Use constraints	Other restrictions
Other constraints	Access to data is based on a principle of full, open and free access as established by the Copernicus data and information policy Regulation (EU) No 1159/2013 of 12 July 2013. This regulation establishes registration and licensing conditions for GMES/Copernicus users.

Free, full and open access to this data set is made on the conditions that:

1. When distributing or communicating Copernicus dedicated data and Copernicus service information to the public, users shall inform the public of the source of that data and information.

2. Users shall make sure not to convey the impression to the public that the user's activities are officially endorsed by the Union.

3. Where that data or information has been adapted or modified, the user shall clearly state this.

4. The data remain the sole property of the European Union. Any information and data produced in the framework of the action shall be the sole property of the European Union. Any communication and publication by the beneficiary shall acknowledge that the data were produced "with funding by the European Union".

Further information on terms and conditions of CLMS data usage can be retrieved here: https://land.copernicus.eu/en/faq/data-use-terms-and-conditions |
Spatial representation type	Grid
Distance	10 10 m
Language of dataset	English
Character set	UTF8
Topic category	• Environment • Imagery base maps earth cover

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Begin date	2020-10-01
End date	2022-03-31
Additional Information	Pixel class codes:
	1: Sealed
	2: Woody – needle leaved trees
	3: Woody – Broadleaved deciduous trees
	4: Woody – Broadleaved evergreen trees
	5: Low-growing woody plants (bushes, shrubs)
	6: Permanent herbaceous
	7: Periodically herbaceous
	8: Lichens and mosses
	9: Non- and sparsely-vegetated
	10: Water
	11: Snow and ice
	253: Coastal Seawater buffer
	254: Outside area
	255: No data
Coordinate reference system identifier	EPSG:3035
Distribution format	• GeoTIFF ( )

OnLine resource

Protocol	Linkage	Name
WWW:LINK-1.0-http--link	https://land.copernicus.eu/en/products/clc-backbone	CLC+ Backbone product description
OGC:WMS	https://copernicus.discomap.eea.europa.eu/arcgis/services/CLC_plus/CLMS_CLCplus_RASTER_2021_010m_eu/ImageServer/WMSServer?request=GetCapabilities&service=WMS	CLMS_CLCplus_RASTER_2021_010m_eu
ESRI:REST	https://copernicus.discomap.eea.europa.eu/arcgis/rest/services/CLC_plus/CLMS_CLCplus_RASTER_2021_010m_eu/ImageServer	
WWW:LINK-1.0-http--link	https://land.copernicus.eu/en/products/clc-backbone/clc-backbone-2021	CLC+ Backbone - Copernicus Land Monitoring Service
WWW:URL	https://land.copernicus.eu/en/products/clc-backbone/clc-backbone-2021#download	Download (requires authentication)

OnLine resource

Protocol	Linkage	Name
DOI	https://doi.org/10.2909/71fc9d1b-479f-4da1-aa66-662a2fff2cf7	

Hierarchy level	Dataset

Conformance result

Date (Publication)	2010-12-08
Explanation	See the referenced specification
Statement	CLC+ Backbone Raster Product is primarily based on a supervised classification of satellite image time-series.

Input data:

Copernicus Sentinel-2 L2A including all scenes with a cloud cover below 80% and acquired between October 2020 and March 2022.

Training and test data:

Based on the sample data base created for reference year 2018 which was compiled from various sources, such as adjusted and filtered Eurostat LUCAS 2018 data, stratified automated LC class annotations based on existing land use/land cover maps, visual sample point photo-interpretation from VHR imagery, NDVI time series and auxiliary datasets.

Classification:

A Temporal Convolutional Neural Network (TempCNN) with four hierarchical layers was calibrated on the collected training data and input time-series / features. Given the heterogeneity of the addressed European landscapes, all classifier training, testing and, finally, LC classification, was performed along substrata based on biogeographical regions and existing LC layers (i.e. 132 production units).

Postprocessing:

Steps applied comprise 1) bilateral filtering of the class probabilities, 2) blending of the probabilities along production unit borders and 3) an interannual calibration with the class probabilities from the 2018 production to ensure best possible product consistency, while still allowing for changes in the land cover.

Changes to previous release (2018):

- Area of Interest: EEA38 (exclusion of UK territory)

- Implementation of a Coastal Seawater buffer (class code: 253)

- Input time-series reduced to reference year +/- three months

- Minor updates of production units

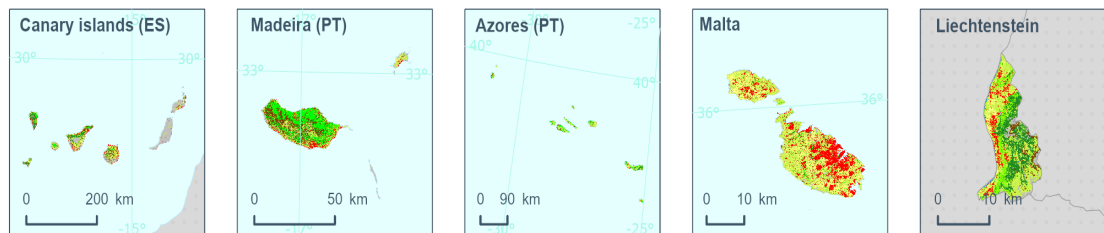You can read more about the product here: https://land.copernicus.eu/en/products/clc-backbone |

Metadata

File identifier	71fc9d1b-479f-4da1-aa66-662a2fff2cf7 XML
Metadata language	English
Character set	UTF8
Hierarchy level	Dataset
Date stamp	2024-06-11T07:37:53.466478Z
Metadata standard name	ISO 19115/19139
Metadata standard version	1.0

Metadata author					
	Organisation name	**Individual name**	**Electronic mail address**	**Website Role**	
	European Environment Agency				Point

Overviews

**Corine Land Cover Plus
Backbone 2021**

Class Name

- Sealed
- Woody needle leaved trees
- Woody Broadleaved deciduous trees
- Woody Broadleaved evergreen trees
- Low-growing woody plants
- Permanent herbaceous
- Periodically herbaceous
- Lichens and mosses
- Non and sparsely vegetated
- Water
- Snow and ice
- Outside area

0   500   1,000   1,500 km

Reference data: © EuroGeographics, © FAO (UN), © TurkStat Source: European Commission – Eurostat/GISCO

Canary islands (ES)

0   200 km

Madeira (PT)

0   50 km

Azores (PT)

0   90 km

Malta

0   10 km

Liechtenstein

0   10 km

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