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# COPERNICUS LAND MONITORING SERVICE

Europe's eyes on the terrestrial environment

 [land.copernicus.eu](http://land.copernicus.eu)



Space



Copernicus is a European programme for monitoring the Earth, in which data is collected by Earth observation satellites and combined with observation data from sensor networks on the earth's surface. Once collected the data is then processed, providing reliable and up-to-date information within six thematic areas. These areas are: land, marine, atmosphere, climate change, emergency management and security. Various organisations manage and deliver these six thematic information services.

Imperviousness Density

# What is the Copernicus Land Monitoring Service?

Copernicus Land Monitoring Service (CLMS) provides geographical information on land cover to a broad range of users in the field of environmental terrestrial applications.

This includes land cover characteristics and changes, land use, vegetation state, water cycle and earth surface energy variables.

CLMS products are divided into 5 categories:

- Systematic biophysical monitoring
- Land Cover & Land Use mapping
- Thematic hotspot mapping
- Reference data
- Ground Motion Service

These categories enable applications to be developed in a wide range of areas.

These include:

- Spatial and urban planning
- Forest management
- Water management
- Agriculture & food security
- Nature conservation and restoration
- Ecosystem accounting
- Mitigation to climate change

The products and services (and their priorities) are continually evolving and their creation and development are defined in consultation with the Copernicus User Forum who liaises with stakeholder communities. The priorities are set by the European Commission and EU Member States and participating countries within the Copernicus Committee. The European Environment Agency (EEA) also works in cooperation with other Copernicus Services, such as Copernicus Marine Environment Monitoring and Copernicus Emergency Management, to create new products.

## Products and Services

The pan-European coverage of the Copernicus Land Monitoring Service offers a range of continually evolving products and services. An overview is listed below, however for a comprehensive list please visit <https://land.copernicus.eu/>

Similar products are produced at a global scale by the JRC. More information can be found at <https://land.copernicus.eu/global/>

Portfolio category	Product name	Individual products
Systematic Biophysical Monitoring	Snow and Ice*	Fractional Snow Cover (FSC)   Permanent Snow Line   River/Lake Ice
	High Resolution Phenology*	Various phenological indicators and seasonal trajectories
Land Cover & Land Use Mapping	Corine Land Cover (CLC)	LCLU status and change
	Corine Land Cover plus (CLC+)*	CLC-backbone   CLC-core   CLC+ instance   CLC – legacy
	High Resolution Layers	Imperviousness   Forest   Grassland   Wetness & Water   Small Woody Features
Thematic Hotspot Mapping	Urban Atlas	LCLU status and change
	Riparian Zones	LCLU status and change
	Natura 2000	LCLU status and change
	Coastal Zones*	LCLU status and change
Reference Data	EU-DEM	EU-DEM   Slope   Aspect   Hillshade
	EU-Hydro	Rivers (centreline and outline)   Inland waters Coastline   Drainage network
	Image Mosaics	Very High Resolution (VHR)   High Resolution (HR)
Ground Motion Service*		

\* = in preparation

## Who can use the Copernicus Land Monitoring Service?

Any citizen or organisation around the world can access the Copernicus Land Monitoring Service on a free, full and open access basis. This is in line with the Copernicus Programme's overall data and information policy which promotes the use and sharing of Copernicus information and data. There is no restriction on the use, reproduction or redistribution of the information and data.

The Copernicus Land Monitoring Service is free to access by any citizen or organisation in the world.



Sentinel-2, natural colour composite, bands 432 (RGB). Gablitz, Austria



Urban Atlas. Riga, Latvia

## How our data is being used

Europe is one of the most intensively used continents on the globe, with the highest share of land (up to 80%) used for settlement, production systems (including agriculture and forestry) and infrastructure. Conflicting land-use demands often arise, requiring decisions that will involve hard trade-offs.

**There are several important drivers for land-use change in Europe:**

1. Production of food and fibre
2. Production of biomass for bioenergy
3. Carbon storage in land and soil
4. The increasing demand for housing and living space per person

In addition, the link between economic activity, increased mobility and growth of transport infrastructure usually results in land take. Land is a finite resource: how it is used constitutes one of the principal drivers for environmental change, with significant impacts on ecosystems and quality of life, as well as on the management of green infrastructure.

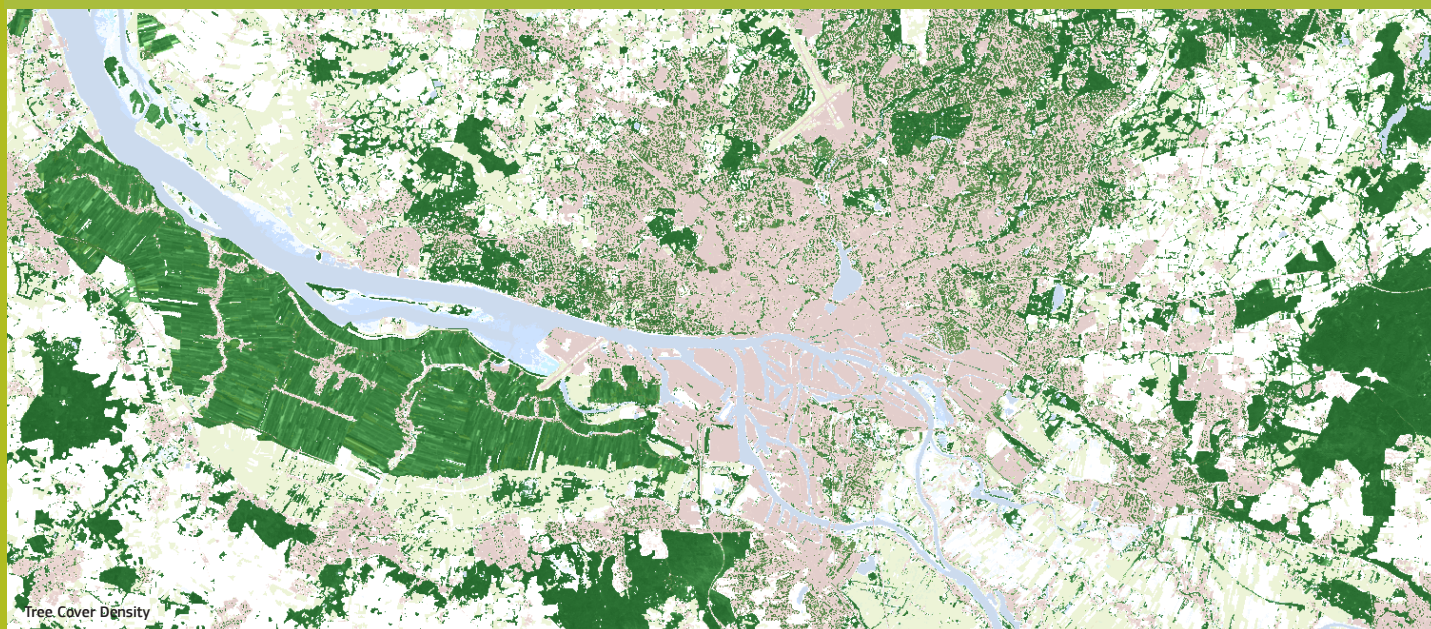
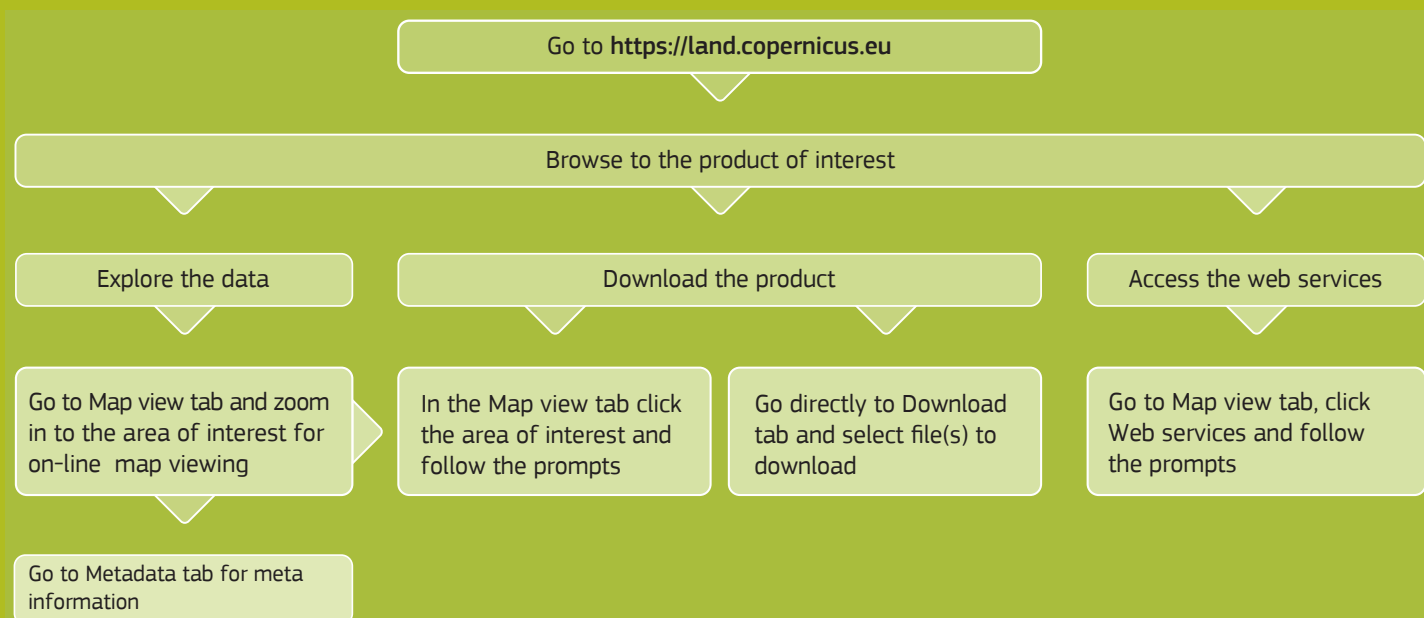
Therefore the products and services that the Copernicus Land Monitoring Service provides are increasingly important to best manage the use of land and its impact.

Many developers have already taken advantage of the full, free and open Copernicus data to create new products and research in this important field and you can read more about these at <https://land.copernicus.eu/user-corner/land-use-cases>



## Accessing our data is easy

You can download our products directly or use available web services by following these steps:



### More information

You can find out more about the Copernicus Land Monitoring Service at <https://land.copernicus.eu> or email [copernicus.land@eea.europa.eu](mailto:copernicus.land@eea.europa.eu)

Implemented by



European Commission

