



# Land Monitoring Service



**T**he Copernicus Land Monitoring Service is part of the Copernicus Programme, which is an EU Programme managed by the European Commission (EC) and implemented in partnership with the Member States, the European Space Agency (ESA), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the European Centre for medium-range Weather Forecasts (ECMWF), the European Environment Agency (EEA), the European Maritime Safety Agency (EMSA), the European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the EU (Frontex) and Mercator Océan. The Programme is aimed at developing a set of European information services based on satellite Earth Observation and in-situ (non-space) data.

## What is the Copernicus Land Monitoring Service?

The Copernicus Land Monitoring Service provides geographical information on land cover, land use, land cover-use changes over the years, vegetation state or water cycle. Applications that are built upon and integrate the information supplied by the service can provide support in areas such as spatial planning, forest management, water management, agriculture and food security and emergency management, amongst others. Service priorities and their relevance to users are defined and validated by the EC and the

Member States. The service is implemented by the European Environment Agency (EEA) and the Joint Research Centre (JRC) since 2011.

## What does the Land Monitoring Service do?

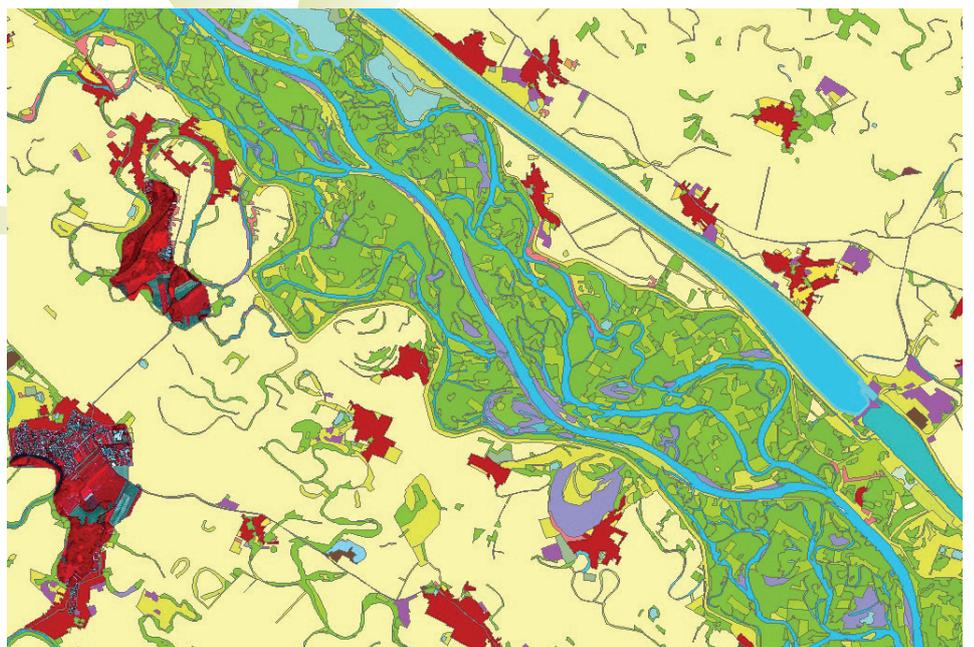
The three main components of the Copernicus Land Monitoring Service are currently:

- A Global component;
- A Pan-European component;
- A Local component.

**The Global component** of the Copernicus Land Monitoring Service is managed by the JRC. It produces biophysical parameters that give a picture of the state of vegetation (e.g.

leaf area index, fraction of green vegetation cover, vegetation condition index), the energy budget (e.g. land surface temperature) and the water cycle (e.g. soil water index, water bodies) every ten days and on a worldwide scale. The biophysical parameters production is complemented with an activity providing detailed and high resolution land cover - land use information on specific hot spot areas around the world, mainly targeted to support biodiversity preservation.

**The pan-European component** is managed by EEA and is delivering high resolution information products describing land cover and land use, the changes thereof. Corine Land Cover

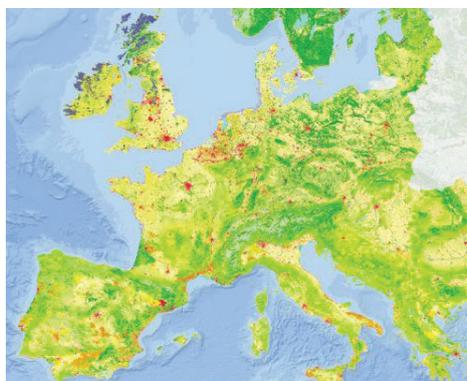
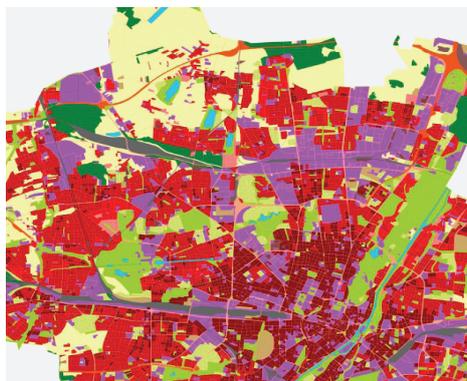


Implemented by:

(CLC) provides a European wide mapping of land cover / use, and meanwhile constitutes a unique time series to monitor changes in our European landscapes since 1990. Since 2006, CLC is being complemented with 3 yearly High Resolution Layers (1ha grid) on land cover characteristics over the main land cover types: artificial surfaces (e.g. roads and built-up areas), forest areas, agricultural areas (grasslands), wetlands and small water bodies.

**The Local component** of the Copernicus Land Monitoring Service is also managed by the EEA. It aims to provide specific and more detailed information on “hotspots” i.e. areas that are prone to specific environmental challenges in Europe. The Urban Atlas, focuses on the mapping and change analysis of urban areas. It provides reliable, comparable, very high resolution land cover / use maps for major European cities and their surroundings for the reference years 2006 (305 cities) and 2012 (695 cities). The Urban Atlas is used amongst other to monitor urban sprawl or to prioritise European funding for public transport investments, support emergency planning or promote sustainable urban development.

Riparian zones, another Copernicus land “hotspot” product, represent transitional areas occurring between land and freshwater ecosystems, characterised by distinctive hydrology, soil and biotic conditions and strongly influenced by the stream water. The Riparian Zones



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products support the objectives of several European legal acts and policy initiatives, such as the EU Biodiversity Strategy to 2020, the Habitats and Birds Directives and the Water Framework Directive.

Natura 2000 (an EU-wide network of nature protection areas established under the 1992 Habitats Directive) is the centerpiece of EU nature & biodiversity policy. The aim of the network is to assure the long-term survival of Europe’s most valuable and threatened species and habitats. A selection of N2K grassland-rich sites including a 2km buffer was mapped in order to assess their actual area, their condition and their development over time.

### Who can use it and is it for free?

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### More information

Users can find out more about the Copernicus Land

Monitoring Service at: [land.copernicus.eu](http://land.copernicus.eu)