



# Copernicus Land Monitoring Service

Submodule A: Product portfolio and data access



Space



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## CLMS SUBMODULE

# Overview of Submodule Contents

- a) Information about Copernicus Land products
  - The three components: Global, Pan-European, Local
  - Access to specific products
  - Product specifications and characteristics
  - Usage of the CLMS Web Map Service (WMS)
  - Additional information (Publications, Technical Library, etc.)
  
- b) Download Copernicus products e.g. for further analysis
  - User registration and product download
  - Integration of the Web Map Service into a GIS environment

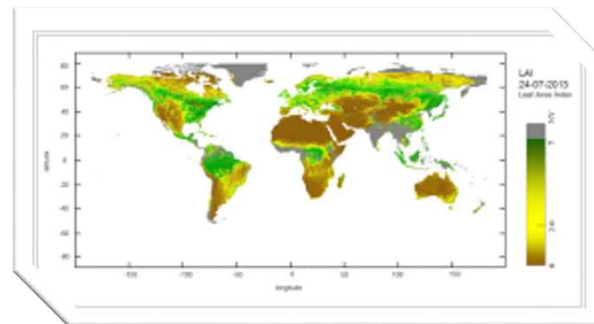


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## CLMS SUBMODULE

# Global Component

- Series of bio-geophysical products
  - addressing status and evolution of land surface at global scale
  - with focus on monitoring Vegetation, Water and Energy
- at medium/low spatial resolution (e.g. 1 km)
- at high temporal frequency (every ten days)
- coordinated by Joint Research Centre (JRC)



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# Bio-geophysical Parameters

- **Vegetation**
  - Burnt Area (BA)
  - Dry Matter Productivity (DMP)
  - Fraction of Absorbed Photosynthetically Active Radiation (FAPAR)
  - Fraction of green Vegetation Cover (FCover)
  - Leaf Area Index (LAI)
  - Normalized Difference Vegetation Index (NDVI)
  - Vegetation Condition Index (VCI)
  - Vegetation Productivity Index (VPI)
- **Energy**
  - Land Surface Temperature (LST)
  - Surface Albedo (SA)
  - Top Of Canopy Reflectances (TOC-r)
- **Water**
  - Soil Water Index (SWI)
  - Water Bodies (WB)





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# Pan-European (Continental) Component

- Land cover/land use products at European extent
  - CORINE Land Cover (1990, 2000, 2006, 2012)
  - High Resolution Layers (2012)
- Image mosaics and reference data at European scale
  - Image Mosaics (2000, 2006, 2009, 2012)
  - Reference Data: EU-DEM, EU-Hydro
- allowing to monitor status, changes, developments, trends
- high spatial resolution (e.g. 20 m)
- regular update cycle of three/six years
- coordinated by the European Environment Agency (EEA)



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### Local Component

- monitoring hot spots of human activity and biodiversity
  - Urban Atlas (2006, 2012)
  - Riparian Zones (2012)
  - Natura2000 (2006, 2012)
- Land cover/land use information with very detailed class nomenclatures (up to 80 classes)
- very high spatial resolution (currently 1.5m - 2.5m)
- regular update cycle of six years
- coordinated by the European Environment Agency (EEA)



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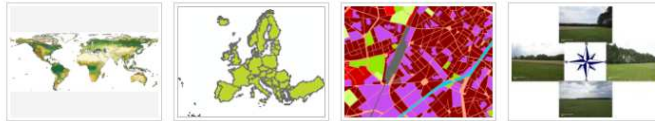
## CLMS Webpage: <http://land.copernicus.eu/>

### Copernicus Land Monitoring Services

Home Global Pan-European Local In-situ

You are here: Home

#### Copernicus - The European Earth Observation Programme



Copernicus is a European system for monitoring the Earth. Data is collected by different sources, including Earth observation satellites and in-situ sensors. The data is processed and provides reliable and up-to-date information about six thematic areas: land, marine, atmosphere, climate change, emergency management and security. The *land* theme is divided into four main components:

1. **Global.** The Global Land Service provides a series of bio-geophysical products on the status and evolution of the land surface at global scale at mid and low spatial resolution. The products are used to monitor the vegetation, the water cycle and the energy budget.
2. **Pan-European.** The pan-European component provides information about the land cover and land use (LC/LU), land cover and land use changes and land cover characteristics. The latter includes information about imperviousness, forests, natural grasslands, wetlands, and permanent water bodies.
3. **Local.** The local component focuses on different *hotspots*, i.e. areas that are prone to specific environmental challenges and problems. This includes detailed LC/LU information for the larger EU cities (Urban Atlas), riparian zones along European river networks and NATURA 2000 sites. It will also include maps of coastal areas.
4. **In-situ.** All of the Copernicus services need access to in-situ data in order to ensure an efficient and effective use of Copernicus space-borne data. Next to data provided by participating countries, Earth observation from space also yields pan-European reference datasets, such as a Digital Elevation Model.

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