



# Copernicus Land Monitoring Service

Product Portfolio and Data Access



# Overview of Submodule Contents

## a) Information about Copernicus Land Monitoring Service (CLMS) 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



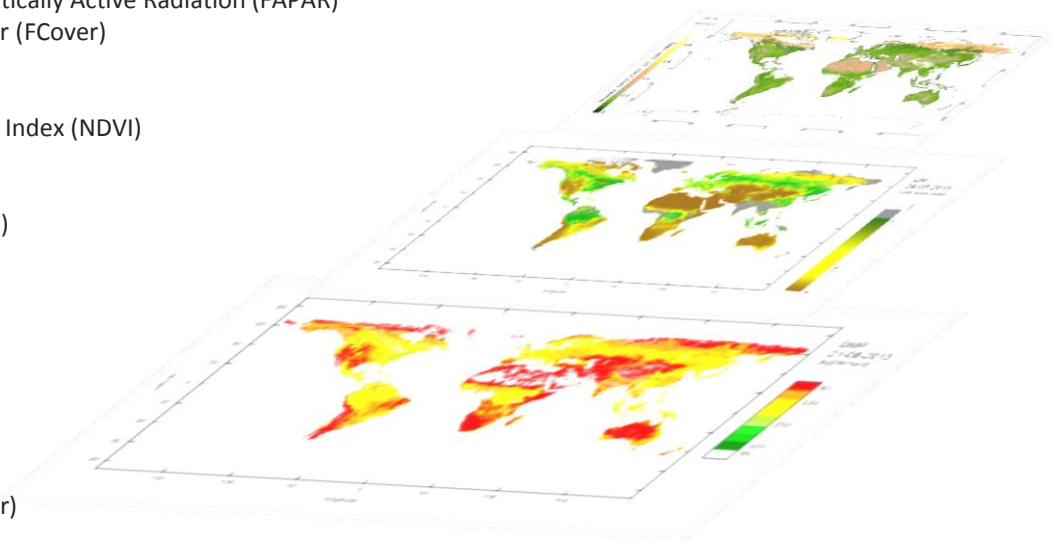
## Global Component

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



# Bio-geophysical Products of Global Land Surface

- **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)
  - Land Cover
  - Normalized Difference Vegetation Index (NDVI)
  - Soil Water Index
  - Vegetation Condition Index (VCI)
  - Vegetation Productivity Index (VPI)
- **Cryosphere**
  - Lake Ice Extent
  - Snow Cover Extent
  - Snow Water Equivalent
- **Energy**
  - Land Surface Temperature (LST)
  - Surface Albedo (SA)
  - Top Of Canopy Reflectances (TOC-r)
- **Water**
  - Water Bodies (WB)
  - Water Level
  - Lake Surface Water Temperature
  - Lake Water Quality





## Pan-European (Continental) Component

- Land cover/land use products at European extent
  - CORINE Land Cover (1990, 2000, 2006, 2012, 2018 upcoming)
  - High Resolution Layers (2012; 2015 in production)
- 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)



## Local Component

- monitoring hot spots of human activity and biodiversity
  - Urban Atlas (2006, 2012)
  - Riparian Zones (2012, 2018 planned)
  - Natura2000 (2006, 2012)
- Land cover/land use information with very detailed class nomenclatures (up to 80 classes)
- very high spatial resolution (2012: 1.5m - 2.5m; 2015: < 1m)
- regular update cycle of six years
- coordinated by the European Environment Agency (EEA)



Land Monitoring

# CLMS SUBMODULE

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Global Pan-European Local Reference data FAQ

Copernicus is an 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:

**Global**

*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.*

**Pan-European**

*provides information about the land cover and land use (LC/LU), land cover and land use changes and land cover characteristics*

**Local**

*focuses on different hotspots, i.e. areas that are prone to specific environmental challenges and problems*

**Reference data**

*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*

**Global**

The Global Land Service routinely provides a series of global scale bio-geophysical products on the status and evolution of the land surface, at mid and low spatial resolution. The products are used to monitor the vegetation, the water cycle, the energy budget and the cryosphere. [Read more](#)

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