COPERNICUS
Le programme et ses Relais locaux

Cerema Sud Ouest
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Journée COTITIA, Toulouse, 11 février 2019
Piloté par les utilisateurs

User Requirements: Strategic, Technical, Operational

Copernicus space and in situ data → Copernicus Services → Downstream Services “Copernicus Economy” → User Uptake → Users

Data sources → Service Information → Value Added Services and Applications

Copernicus EU

@CopernicusEU

www.copernicus.eu
Monitoring the State of the Earth System Environment

- Land Monitoring
- Marine Environment Monitoring
- Atmosphere Monitoring
- Climate Change
- Emergency Management
- Security

... Six cross-cutting Thematic Services
COPERNICUS, LES ACTIONS DES RELAIS

-
Accès aux services

- Ecosystems
- Biodiversity
- Agriculture
- Forestry
- Energy
- Natural Resources
- Water
- Urban planning

Global

- Vegetation
- Energy
- Water

Pan-European

- Image Mosaics
- EU Land Cover
- Specific land cover info
- Hydrographic and elevation reference maps
- % of built-up area

Local

- Urban Atlas
- Riparian Zones
- Natura 2000 (N2K)
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 in 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

**Imagery and reference data**  
satellite imagery forms the input for the creation of Copernicus land products. In order to ensure an efficient and effective use of satellite data the Copernicus land monitoring service needs access to in-situ data
The pan-European component is coordinated by the European Environment Agency (EEA) and produces satellite image mosaics, land cover / land use (LC/LU) information in the CORINE Land Cover data, and the High Resolution Layers.

The CORINE Land Cover is provided for 1990, 2000, 2006, 2012, and 2018. This vector-based dataset includes 44 land cover and land use classes. The time-series also includes a land-change layer, highlighting changes in land cover and land-use. The high-resolution layers (HRL) are raster-based datasets which provides information about different land cover characteristics and is complementary to land-cover mapping (e.g. CORINE) datasets.

Five HRLs describe some of the main land cover characteristics: impervious (sealed) surfaces (e.g. roads and built up areas), forest areas, grasslands, water & wetlands, and small woody features.
High Resolution Layers

- Imperviousness
- Forests
- Grassland
- Water & Wetness
- Small Woody Features
- Coming Soon
The tree cover density status layer for 2015 and change layer for 2012-2015 has been updated after corrections to the calibration methods. For a number of regions, omitted density value ranges were discovered, causing a gap in the histograms. The error (with histogram gaps of >2 TCD % points) concerned a total area of 211,000 km² (only part of which is tree covered).

The HRL Forests consists of 3 types of (status) products, and additional change products. The status products are available for 2012 and 2015 reference years:

1. **Tree cover density (TCD)** (level of tree cover density in a range from 0-100%)
2. **Dominant leaf type (DLT)** (broadleaved or coniferous majority)
3. A **Forest type product (FTY)**. The forest type product allows to get as close as possible to the FAO forest definition. In its original (20m) resolution it consists of two products: 1) a dominant leaf type product that has a MMU of 0.5 ha, as well as a 10% tree cover density threshold applied, and 2) a support layer that maps, based on the dominant leaf type product, trees under agricultural use and in urban context (derived from CLC and imperviousness 2009 data). For the final 100m product trees under agricultural use and urban context from the support layer are removed.

Please find a more detailed product specification in the [technical document](#).

**Change layers**

The forest change products are new, and comprise a) **TCDC**: a simple tree cover density change product for 2012-2015 (% increase or decrease of real TCD changes), and b) experimental complex dominant leaf type change product (DLTC), mapping different types of dominant leaf type changes (not yet available online).
Tree Cover Density 2015

created by Ludvig Forslund — last modified Jul 09, 2018 02:31 PM

Data is now provided as a mosaic of the full area, and as tiles with a side length of 1000 km x 1000 km. The data is available as raster data in European projection (EPSG: 3035) with 20 and 100m resolution. More information about these products can be downloaded here.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Resolution</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCD-2015-100m-E30N20</td>
<td>Raster</td>
<td>100m</td>
<td>56.3 MB</td>
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<tr>
<td>TCD-2015-20m-E30N20</td>
<td>Raster</td>
<td>20m</td>
<td>759.3 MB</td>
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</tbody>
</table>

Download
2 files selected (815 MB size)
COPERNICUS, SERVICE GESTION DE CRISES

Disaster Emergency Situations

Humanitarian Crises

Risk & Recovery Mapping:
- Reference Maps
- Pre-disaster Situation Maps
- Post-disaster Situation Maps

Rapid Mapping:
- Reference Maps
- Delineation Maps
- Grading Maps

Early Warning:
- Floods: EFAS
- Forest Fires: EFFIS

EFAS = European Flood Awareness System;
EFFIS = European Forest Fire Information System
Copernicus Emergency Management Service (Copernicus EMS) provides information for emergency response in relation to different types of disasters, including meteorological hazards, geophysical hazards, deliberate and accidental man-made disasters and other humanitarian disasters as well as prevention, preparedness, response and recovery activities. The Copernicus EMS is composed of an on-demand mapping component providing rapid maps for emergency response and risk & recovery maps for prevention and planning and of the early warning and monitoring component which includes systems for floods, droughts and forest fires.

**Copernicus EMS - Mapping**

The Copernicus EMS - Mapping addresses, with worldwide coverage, a wide range of emergency situations resulting from natural or man-made disasters. Satellite imagery is used as the main datasource. The service covers in particular:

- Floods
- Tsunamis
- Earthquakes
- Landslides
- Fires

**European & Global Flood Awareness System**

The European and Global Flood Awareness Systems (EFAS & GloFAS) provide complementary flood forecast information to relevant stakeholders supporting flood risk management at national, regional and global level.

The forecasts are derived using in-situ and satellite data as well as hydro-meteorological models and aim at facilitating users with a wide range of added value (medium-range lead time, probabilistic, river basin wide, flash flood indicators etc.) flood forecast products.

**European Forest Fire Information System (EFFIS)**

The European Forest Fire Information System (EFFIS) monitors forest fire activity in near-real time and in Europe, Middle East and North Africa and supports wildfire management at national and regional scales.

At the global scale, the JRC leads the development of the Group on Earth Observations (GEO) Global Initiative for the development of a Global Wildfire Information System (GWIS), supported by EU Copernicus and NASA programs.

**Drought Observatory**

The EMS Drought Observatory (DO) provides drought-relevant information and early warnings for Europe (EDO) and the globe (GDO). Short analytical reports (Drought News) are published in case of imminent droughts.

EDO and GDO build on open web services and connect drought data providers and users from global to regional levels.
Latest COPERNICUS Emergency Management Service - Mapping Activations:

<table>
<thead>
<tr>
<th>Act. Code</th>
<th>Title</th>
<th>Event Date</th>
<th>Type</th>
<th>Country/Terr. Feed</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSR342</td>
<td>Flood in Townsville, Australia</td>
<td>2019-01-31</td>
<td>Flood</td>
<td>Australia</td>
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<tr>
<td>EMSR341</td>
<td>Internally Displaced People in Horn...</td>
<td>2019-01-28</td>
<td>Humanitarian</td>
<td>Nigeria</td>
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<tr>
<td>EMSR340</td>
<td>Wind Storm in the South of Austria</td>
<td>2018-10-28</td>
<td>Storm</td>
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<td>EMSR339</td>
<td>Floods in Mozambique</td>
<td>2019-01-22</td>
<td>Storm</td>
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<td>EMSR337</td>
<td>Flood in Western Greece</td>
<td>2019-01-12</td>
<td>Flood</td>
<td>Greece</td>
</tr>
</tbody>
</table>

Summary of the COPERNICUS EMS - Mapping Activations:

Map above displays only latest COPERNICUS EMS - Mapping Activations. To see a Map of All Activations, go to section Map of Activations in Rapid Mapping or in Risk and Recovery Mapping sub-menus respectively.
[EMSN028] Evry: Maximum Flood Extent (Detail)

Published: 2016-09-06 00:00 (UTC)
Product version: v1
Map scale: 1:25000
Status: Production finished

Show all maps produced in Copernicus EMS - Mapping activation EMSN028.
Informations sur les outils

http://step.esa.int/main/toolboxes/snap/
MERCI DE VOTRE ATTENTION

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