Access to Copernicus Data

Overview and Introduction

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Europe's eyes on Earth

Space

Copernicus EU
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www.copernicus.eu

User Uptake

Copernicus Data Access

- 10 European Access points
- Several national and private initiatives
- New Generation services : RUS, DIAS

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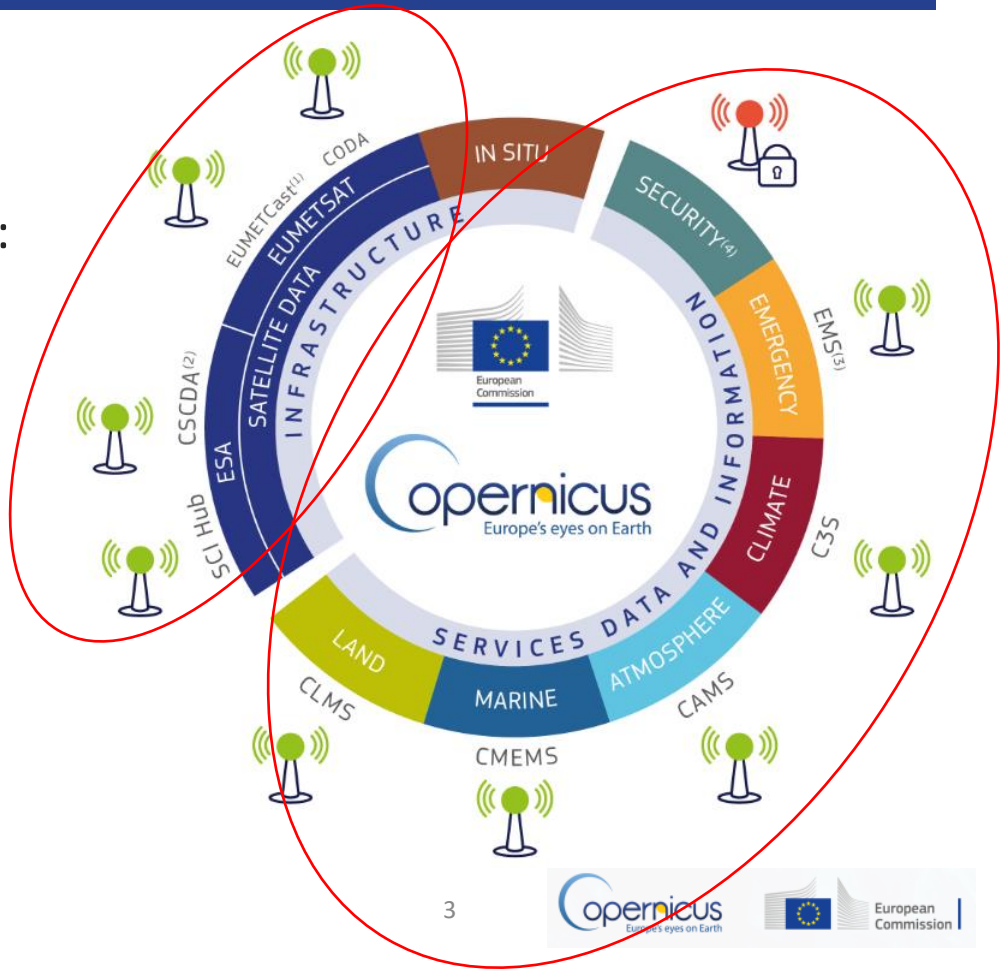
Copernicus Data Access Overview

Data Access

10 European Data Access points:

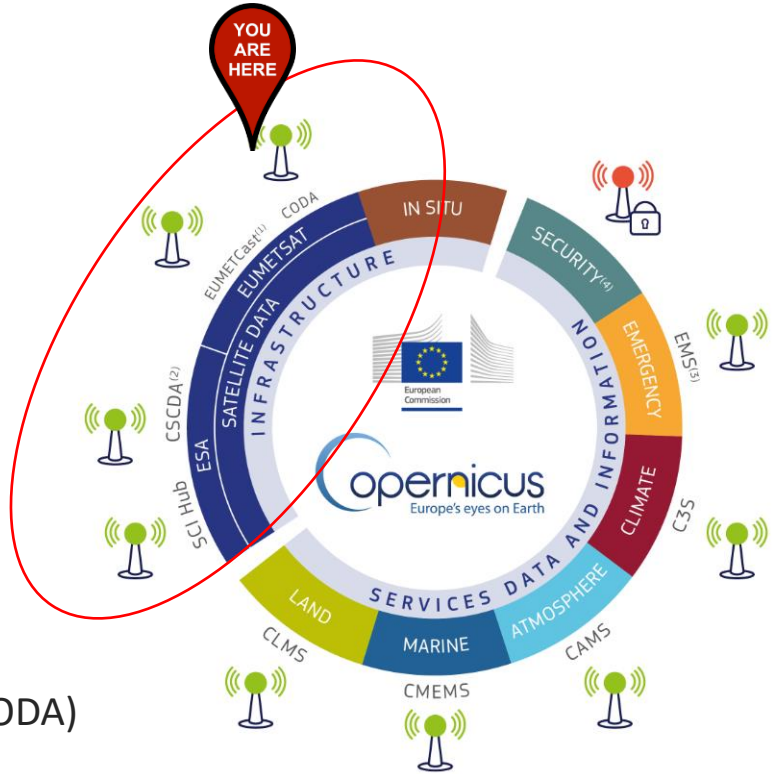
- 4 for Satellite Data
- 6 for Services Data and Information



Access to Satellite Data

Space Component

- 4 Satellite data Access Points:
- 2 managed by ESA:
  - Open Access Hub
  - Copernicus Space Component Data Access (CSCDA)
- 2 managed by EUMETSAT
  - EUMETCast
  - Copernicus Online Data Access (CODA)



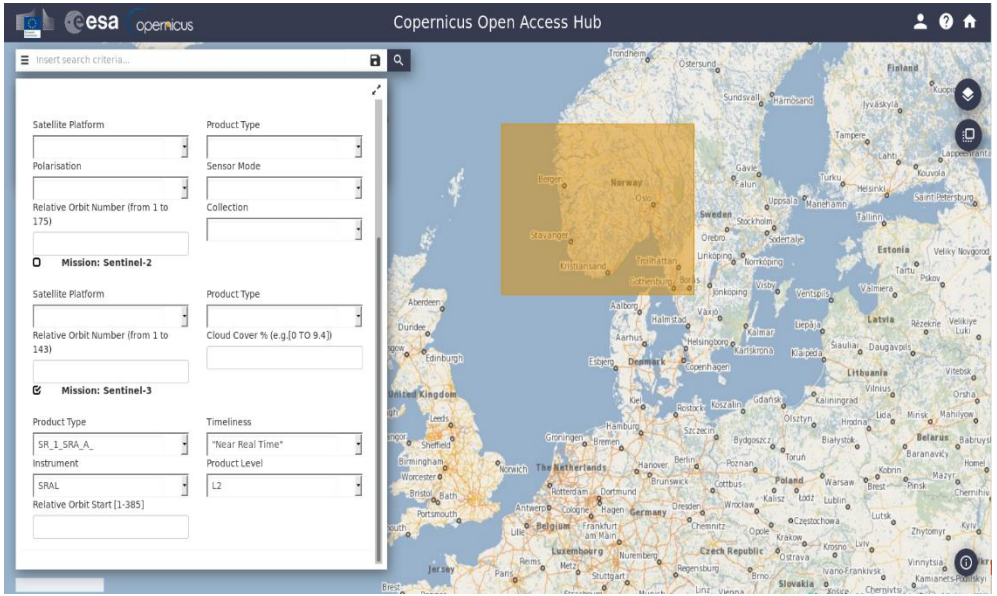
OPEN ACCESS HUB from ESA

Space Component

FULL, FREE AND OPEN

WHICH PRODUCTS :

- All Sentinel-1 products
- All Sentinel-2 products
- All Sentinel-3 Land products
- All Sentinel-5P products



ACCESS CONDITION :

- Self-registration
- Open to everybody

HOW TO USE IT :

- Graphical Interface
- API automatic download

WHERE : Go on https://scihub.copernicus.eu/

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Space Component

Differentiated Access Levels*

WHICH PRODUCTS :

- Earth Observation data from a series of Copernicus Contributing Missions

ACCESS CONDITION :

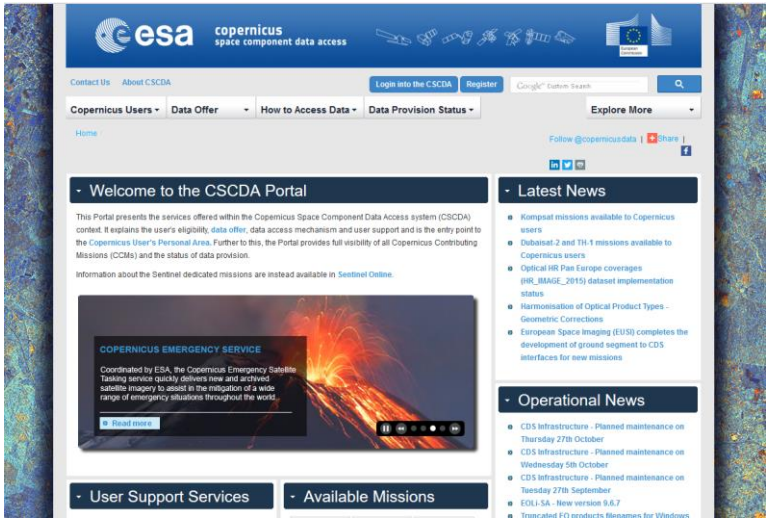
- Open to selected user category :

EU Public authorities and institutions,
EU Research projects, Copernicus Services

HOW TO USE IT :

- Data order
- No Graphical User interface

WHERE : Go on https://spacedata.copernicus.eu/



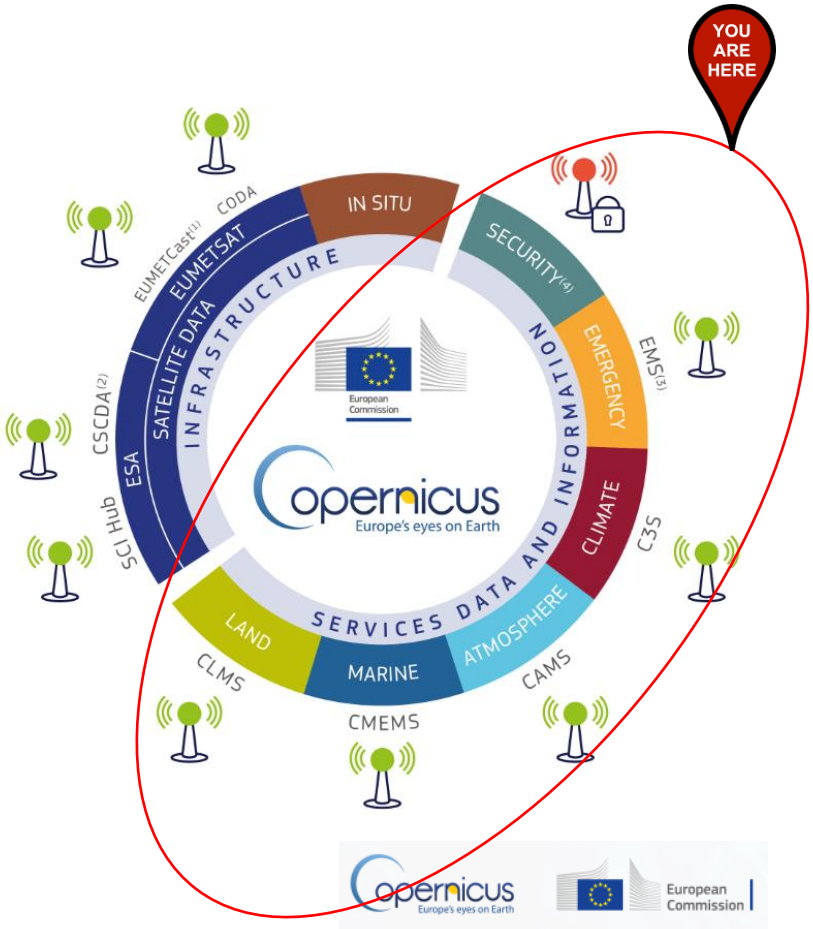
*depending on user category

Access to Services Data and Information

- **6 Thematic Copernicus Services**

- 5 are under Full, free and open access:
  - Land
  - Marine
  - Atmosphere
  - Climate
  - Emergency

- 1 has restricted access
  - Security

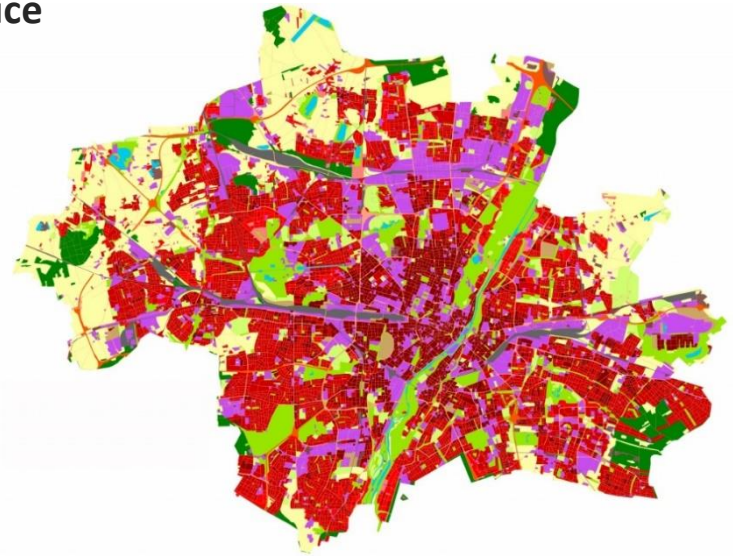


ACCESS TO CLMS

Land Monitoring

FULL, FREE AND OPEN

- **CLMS = Copernicus Land Monitoring Service**
- Example of products available :
  - Land Use / Land Cover (CORINE)
  - Hydrology
  - Digital Elevation Model (DEM)
  - Urban Atlas
  - Natura 2000,
  - etc…
- URL : **http://land.copernicus.eu/**



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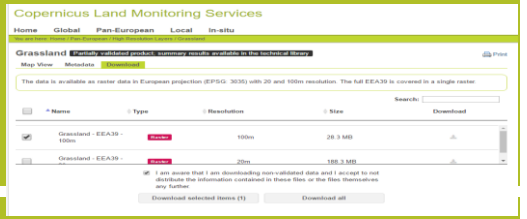
ACCESS TO CLMS

Land Monitoring

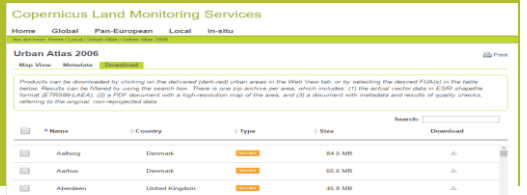
FULL, FREE AND OPEN

Global http://land.copernicus.vgt.vito.be/PDF/portal/Application.html#Home

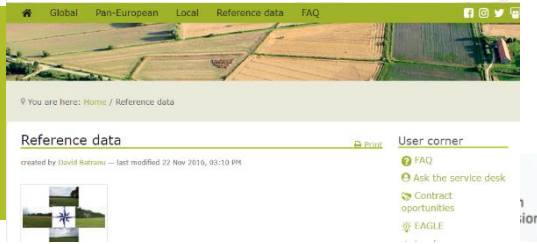
Pan-European http://land.copernicus.eu/pan-european



Local http://land.copernicus.eu/local



Reference Data http://land.copernicus.eu/in-situ

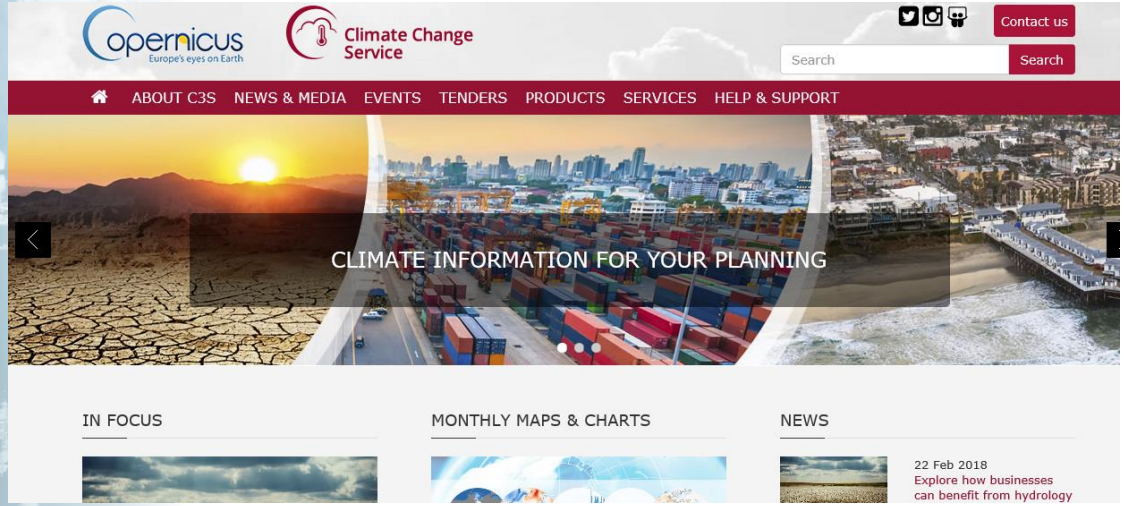


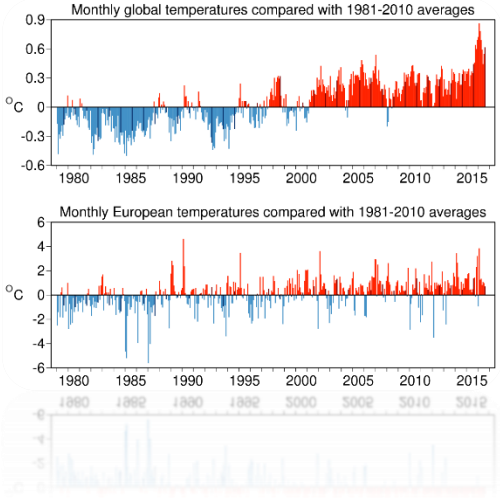
ACCESS TO C3S

Climate Change

FULL, FREE AND OPEN

- **C3S = Copernicus Climate Change Service**
- Sectoral Information System
- Climate Data Services





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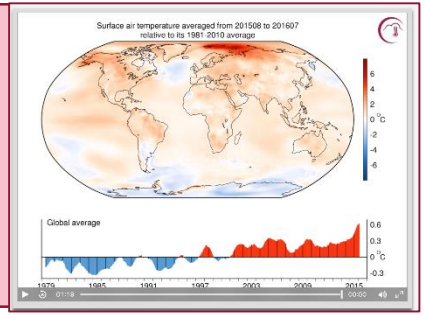
Climate Change

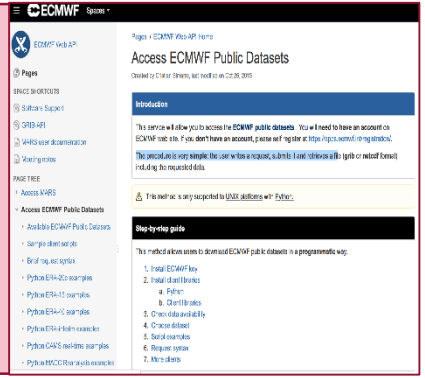
ACCESS TO C3S

FULL, FREE AND OPEN

- Visit **https://climate.copernicus.eu** and visualize data of interest
- Access to C3S data on ECMWF website at **http://apps.ecmwf.int/datasets/data/interim-full-daily/**



- To access the **ECMWF public datasets** . You will **need to have an account** on ECMWF web site
- If you **don't have an account**, please self register at **https://apps.ecmwf.int/registration/**
- Very **simple**: the user writes a request, submits it and retrieves a file



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ACCESS TO EMS

Emergency Management

FREE AND OPEN

- EMS answers to :
  - floods,
  - tsunami,
  - earthquake,
  - landslides,
  - fires,
  - ….

- Only authorized users can trigger the service
- But everybody can access maps!

- Where : http://emergency.copernicus.eu/

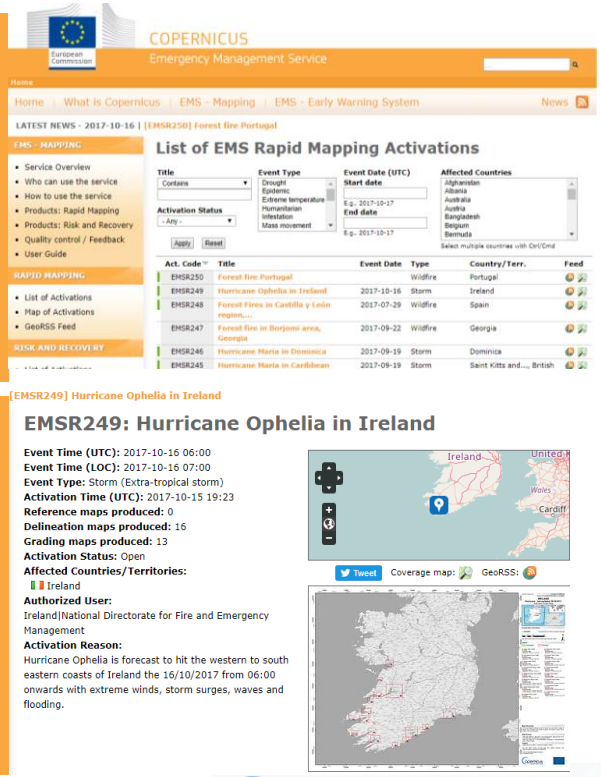
ACCESS TO EMS

Emergency Management

FREE AND OPEN

- **Rapid Mapping**

- **Risk and Recovery**



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Xyllela Fastidiosa

Emergency Management

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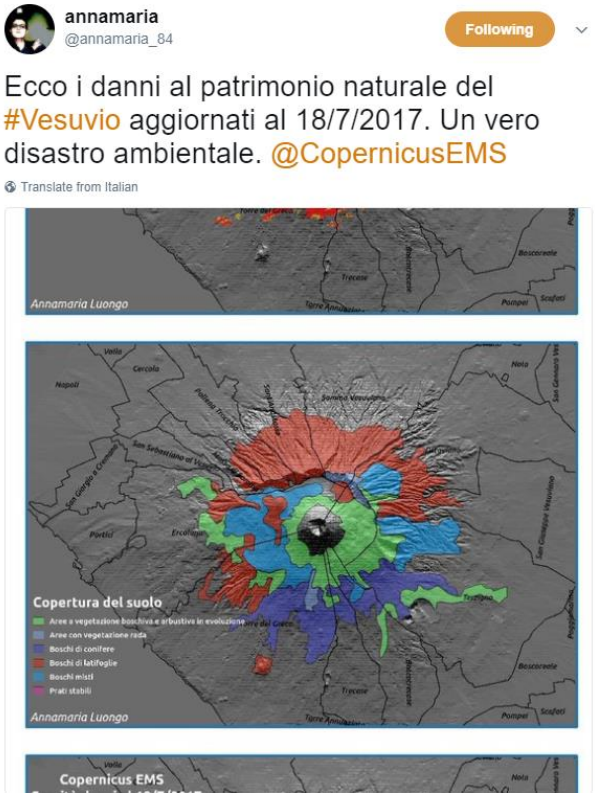
Emergency Management

EMS vector data super-imposed with CLMS and Land Use data for Mount Vesuvius



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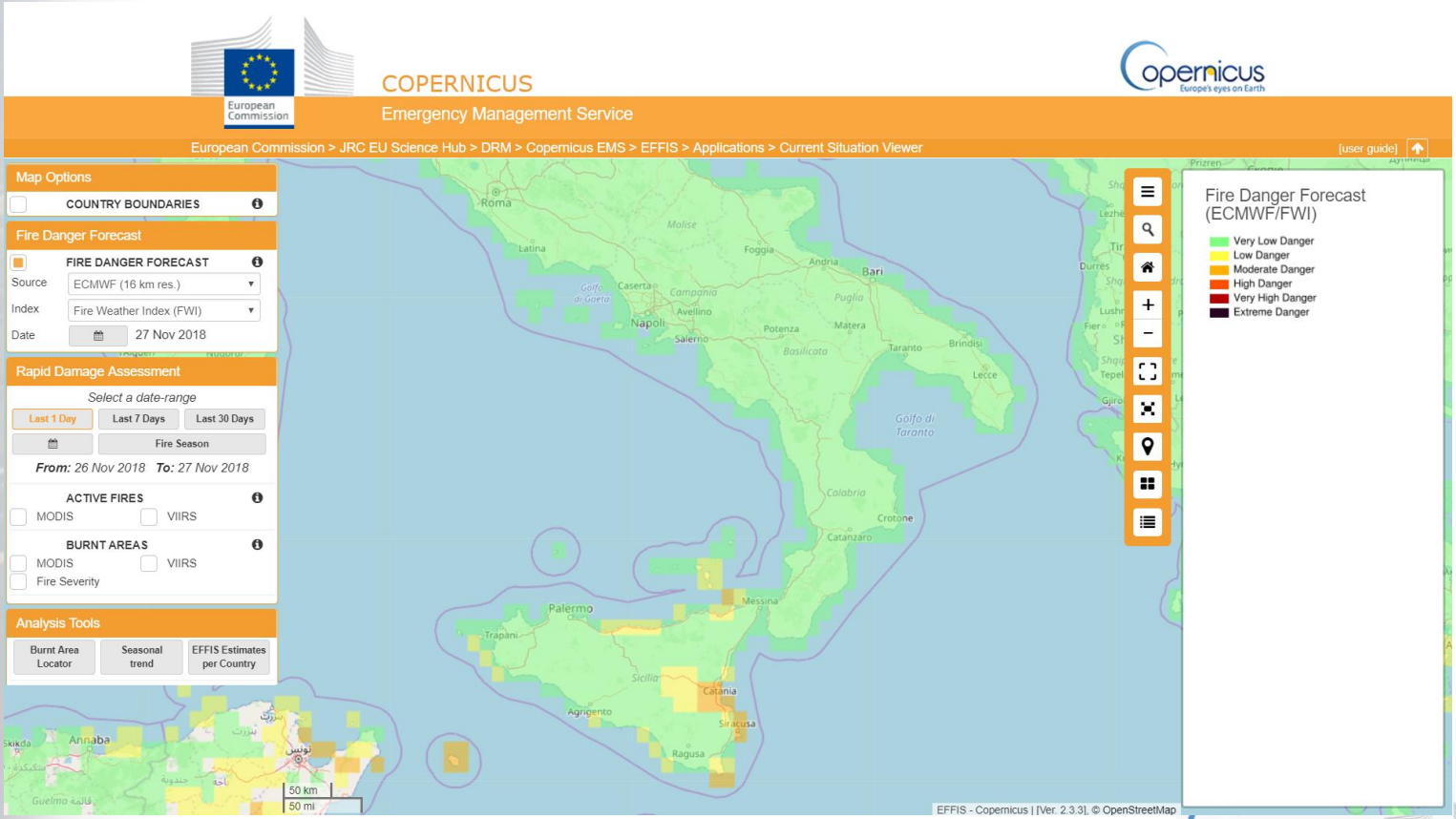
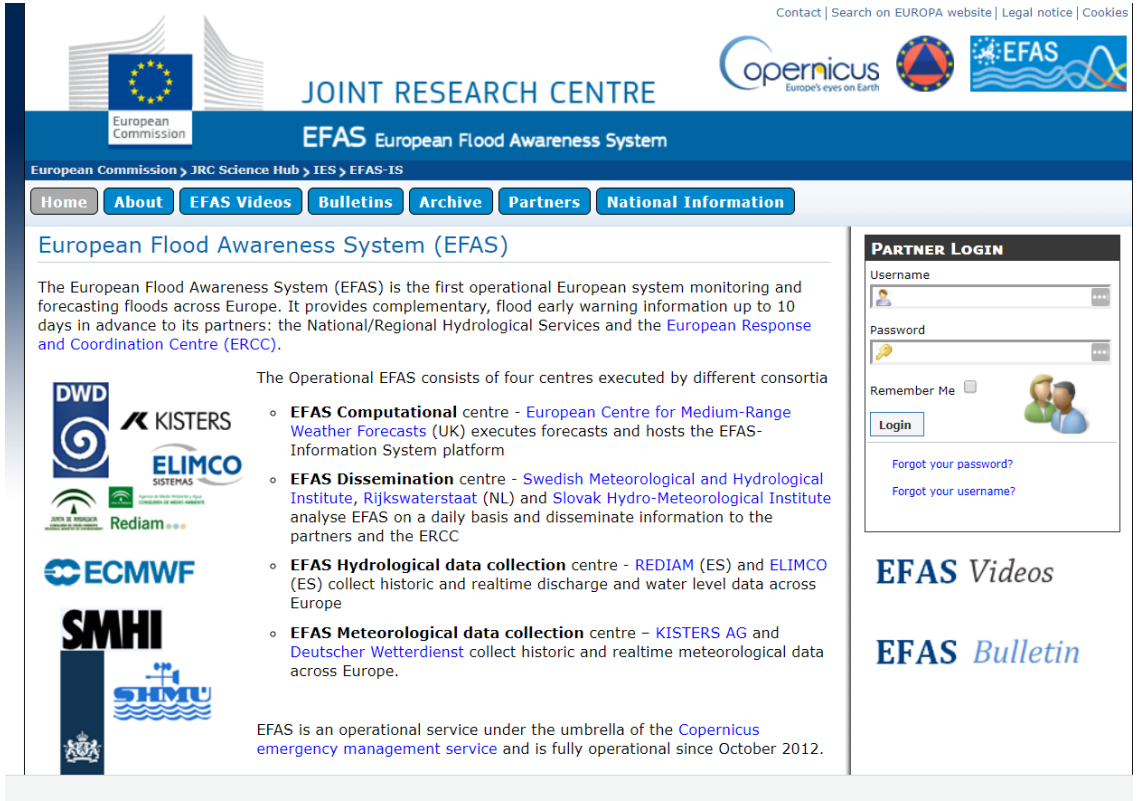
Copernicus EMS: EFFIS

Emergency Management



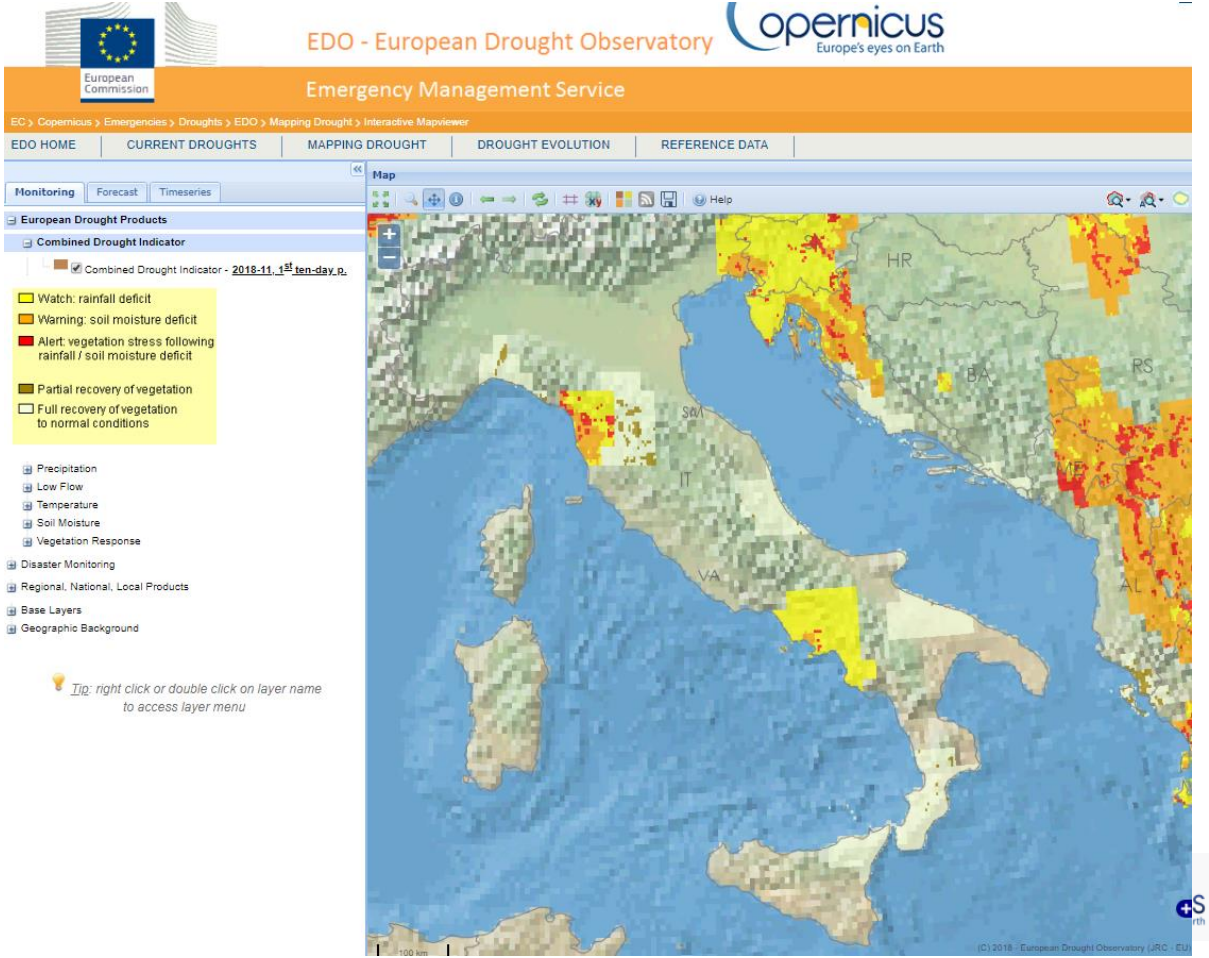
Copernicus EMS: EFAS

Emergency Management



Copernicus EMS: EDO

Emergency Management



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User Uptake

Copernicus Access to Data

National and private Initiatives

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User Uptake

OTHER DATA ACCESS PUBLIC INITIATIVES

Initiative Name	Provider	Website and Target User Group
ESA Thematic Exploitation Platforms	ESA	• URL: tep.eo.esa.int • All user types
THEIA Land Data Centre	CEA, Cerema, CIRAD, CNES, CNRS, IGN, INRA, IRD, IRSTEA, Meteo France, ONERA	• URL: www.theia-land.fr • Scientific communities and public authorities
Center for Environmental Data Analysis - CEDA	CEDA, NCAS, NCEO	• URL: catalogue.ceda.ac.uk • All user types
USGS Earth Explorer	USGS	• URL: earthexplorer.usgs.gov • All user types
Alaska Satellite Facility	NASA University of Alaska Fairbanks	• URL: asf.alaska.edu/sentinel • Scientific users

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OTHER DATA ACCESS PRIVATE INITIATIVES

Initiative Name	Provider	Website and Target User Group
CloudEO	CloudEO	• URL: cloudeo-ag.com • Users, developers and providers of geo data/ geo services; software developers
EOBrowser platform	Sinergise	• URL: apps.sentinel-hub.com/eo-browser/ • Users of geo data/ geo services
Geostorm platform	CS-SI	• URL: geostorm.eu • Users and developers of geo data/ geo services
Google Earth Engine	Google	• URL: earthengine.google.com • Scientists, researchers and developers
Planet platform	Planet	• URL: planet.com/products/platform/ • Users and developers of geo data/ geo services
Sentinel on AWS	Amazon	• URL: sentinel-pds.s3-website.eu-central-1.amazonaws.com • Developers, private/public downstream players

* The European Commission does not endorse any particular commercial solution

Data Access

Copernicus Access to Data

New Generation services:

- RUS
- DIAS

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RUS Service

Data Access

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Data Access

RUS: A NEW EXPERT SERVICE FOR SENTINEL USERS

- **RUS: Research and User Support for Sentinel Core Products**

- **Goal:** Foster the use of Sentinel Core products by providing several types of support to the Sentinel data users for free.

- **Project funded by EC and managed by ESA.**

RUS Copernicus

esa

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RUS: A NEW EXPERT SERVICE FOR SENTINEL USERS

https://rus-copernicus.eu/portal/

RUS Copernicus

Non Commercial activities

Students, Trainers
Researchers
Decision-makers
R&D development

Free access

Powerful computing environment with scalable VMs & full support

Scientific Support

Support from experts in geospatial data processing

Process

Process large Sentinel datasets possible for any user

Training

Face-to-face sessions & webinars for all users

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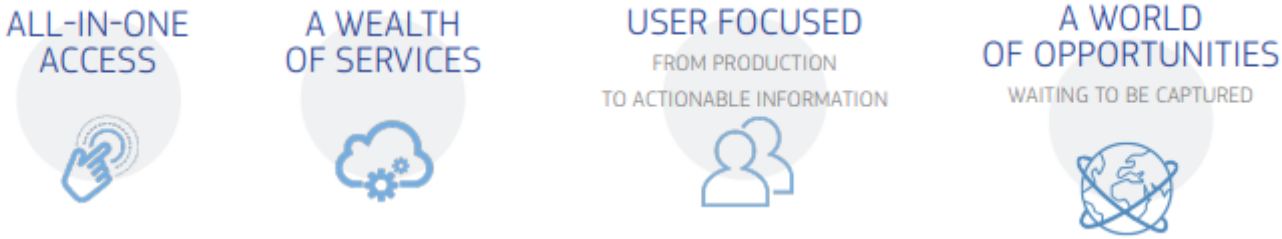
DIAS

Data Access

Data Access

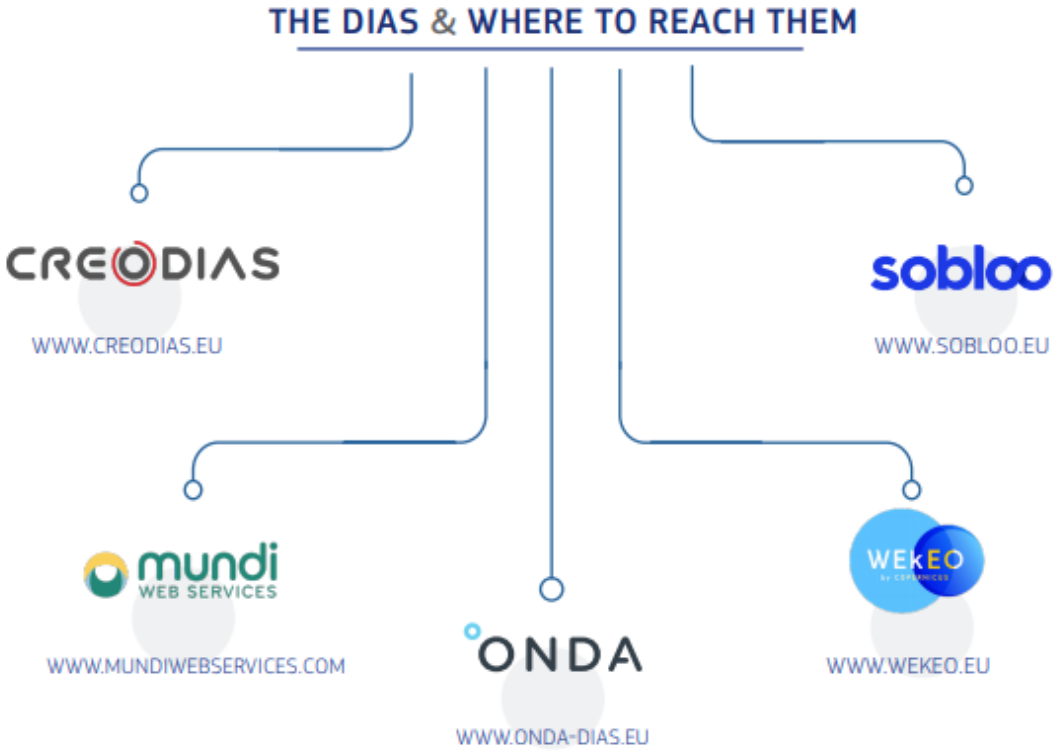
What is the Copernicus DIAS?

- 5 DIAS platforms
  - Full set of Copernicus data and information
  - Ability to process and combine it with data from other sources (space and non-space)
  - Develop and host new applications in the cloud



Data Access

W h o ?



Data Access

Why 5 DIAS?

- Competition supports creativity and quality service.

- Differences between the DIAS:
  - Different ancillary and complementary content, e.g. other EO and non-EO data
  - Different offer of tools
  - Different pricing policies
  - Different user experience
  - Different evolution regarding generic/thematic focuses

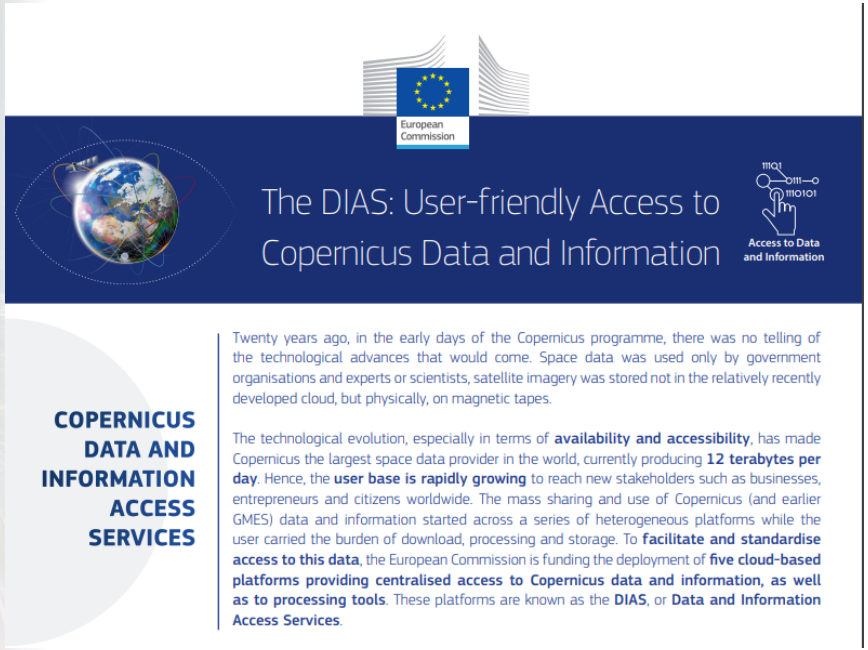
Data Access

Launch of the DIAS

- 20 June 2018: Launch of the 5 DIAS in Baveno
- Next steps:
  - Gradual and incremental deployment process

More information

Data Access



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The DIAS: User-friendly Access to Copernicus Data and Information

Access to Data and Information

COPERNICUS DATA AND INFORMATION ACCESS SERVICES

Twenty years ago, in the early days of the Copernicus programme, there was no telling of the technological advances that would come. Space data was used only by government organisations and experts or scientists, satellite imagery was stored not in the relatively recently developed cloud, but physically, on magnetic tapes.

The technological evolution, especially in terms of **availability and accessibility**, has made Copernicus the largest space data provider in the world, currently producing **12 terabytes per day**. Hence, the **user base is rapidly growing** to reach new stakeholders such as businesses, entrepreneurs and citizens worldwide. The mass sharing and use of Copernicus (and earlier GMES) data and information started across a series of heterogeneous platforms while the user carried the burden of download, processing and storage. To **facilitate and standardise access to this data**, the European Commission is funding the deployment of **five cloud-based platforms providing centralised access to Copernicus data and information, as well as to processing tools**. These platforms are known as the **DIAS**, or **Data and Information Access Services**.

- Copernicus.eu http://copernicus.eu/data-access
- Copernicus Support Office support@copernicus.eu

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Copernicus Support Office

- 3500+ tickets handled
- replies within 1 or 2 days
- animates Relays and Academy and Acade

support@copernicus.eu

Ask on T
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ITALIAN ACADEMY

- University of Padova
- CIMA Research Foundation
- IEST
- Fondazione CMCC
- University of Rome “La Sapienza”
- GISIG
- MEEO
- Politecnico di Milano
- StudioMapp
- TeRN
- University of Basilicata
- University of Bologna (2 departments)
- University of Rome “Tor Vergata”

ITALIAN RELAYS

- FORUM NAZIONALE UTENTI COPERNICUS
- IEST/iXitaly
- LazioConnect
- TeRN