Access to Copernicus Data

Overview and Introduction

Copernicus
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
- Next generation services : RUS, DIAS

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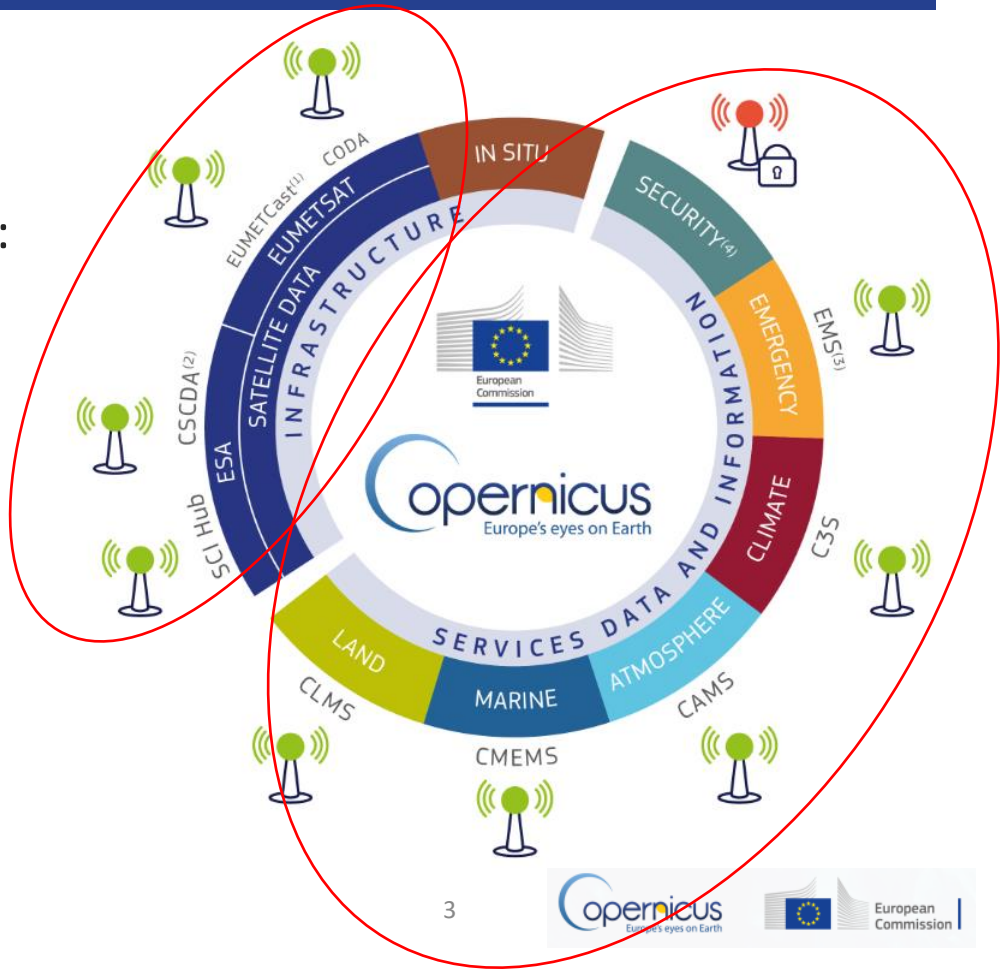
Copernicus Data Access Overview

Data Access

10 European Data Access points:

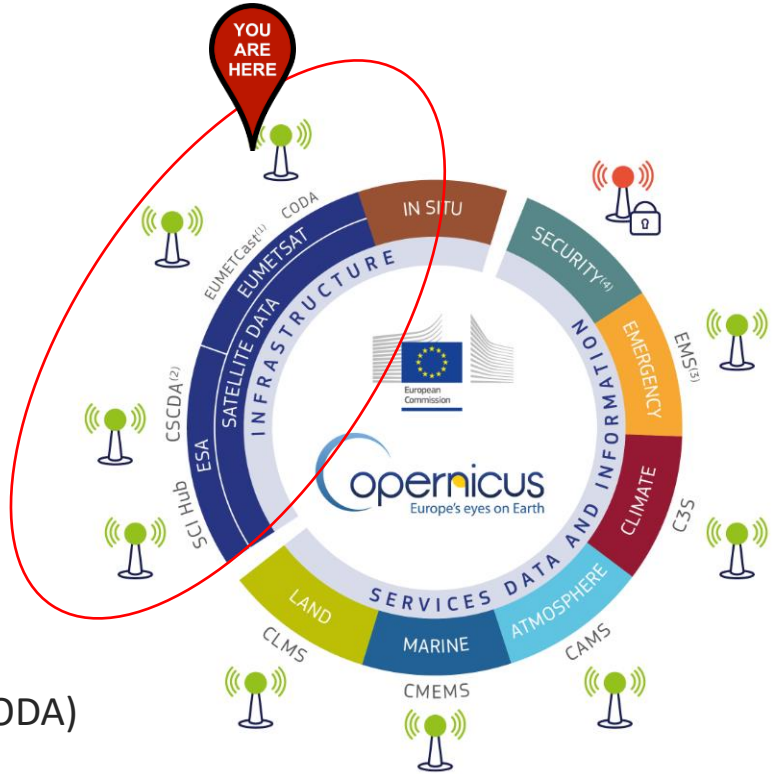
- 4 for Satellite Data
- 6 for Services Data and Information



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)



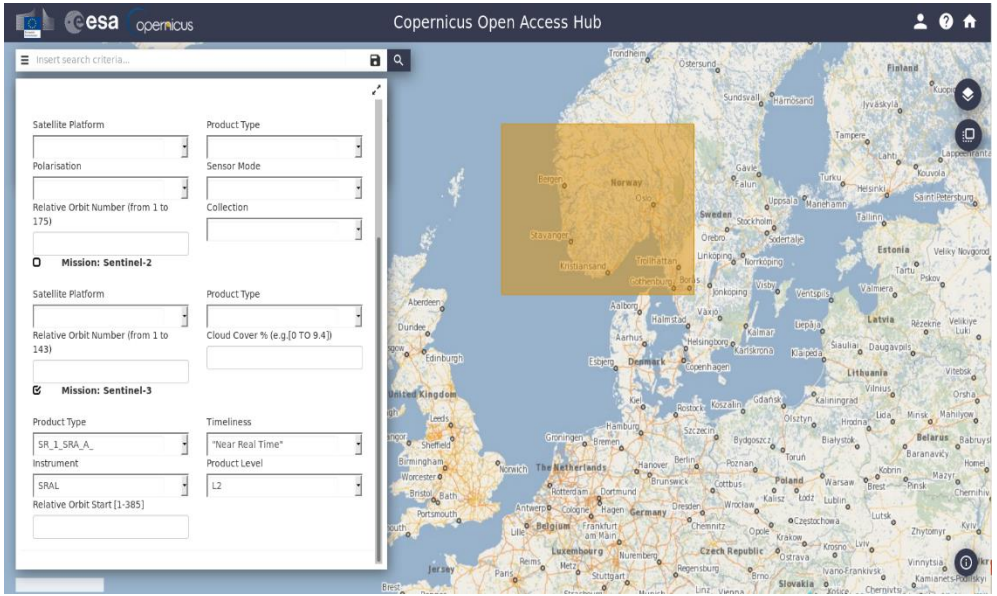
OPEN ACCESS HUB from ESA

Space Component

FULL, FREE AND OPEN

WHICH PRODUCTS :

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



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 :

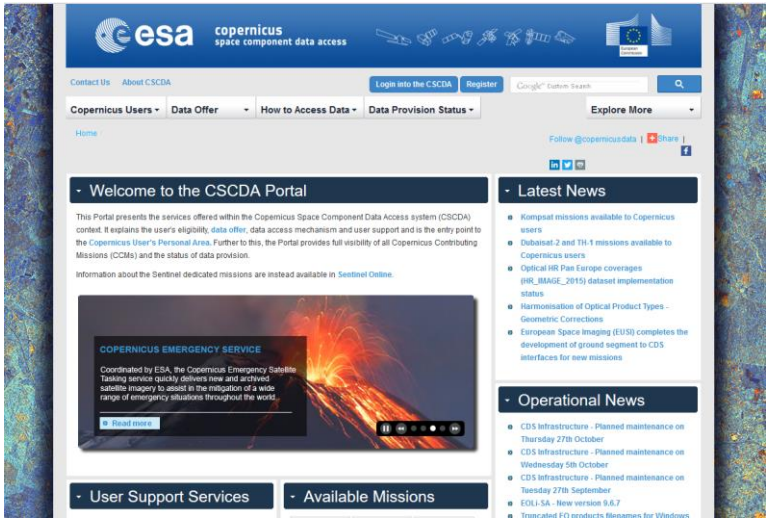
- Open to selected user category :

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

EUMETCast from EUMETSAT

EUMETSAT

Space Component

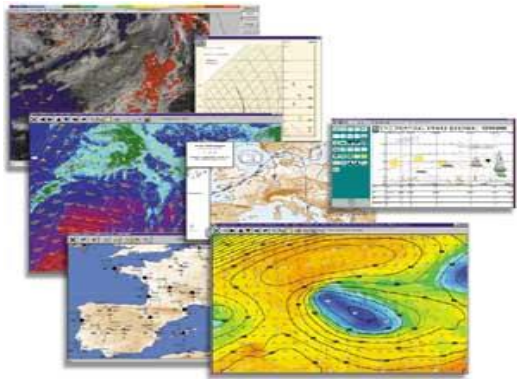
MOSTLY FREE AND OPEN

WHICH PRODUCTS :

- Near real time environmental data (380 products)
- Including Sentinel-3
- Including later Sentinel-4 & Sentinel-5
- Including a wide range of contributing satellite & 3rd parties missions (Meteosat, Metop, Jason2, Jason3…)

ACCESS CONDITION :

- Very wide audience
- Need of low-cost satellite receiving equipment



HOW TO USE IT :

- Registration needed on the EO portal
- Catalogue available with all the products

WHERE : Go on https://www.eumetsat.int/website/home/Data/DataDelivery/EUMETCast/index.html

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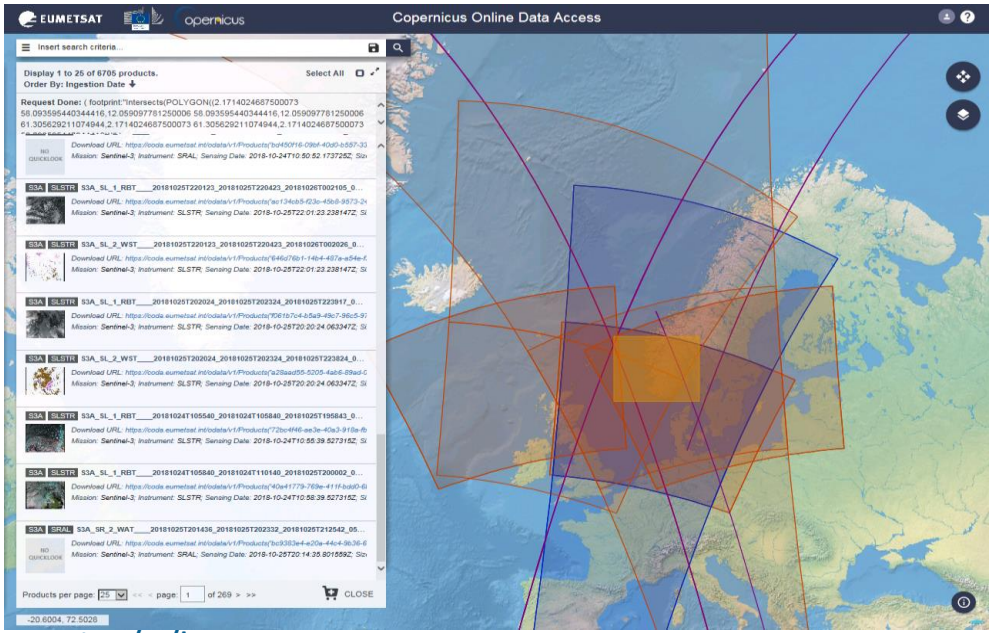
FULL, FREE AND OPEN

WHICH PRODUCTS :

- All Sentinel-3 marine & atmosphere data



ACCESS CONDITION :

- Self registration
- Open for everybody

HOW TO USE IT :

- Graphical user interface
- FTP

WHERE :

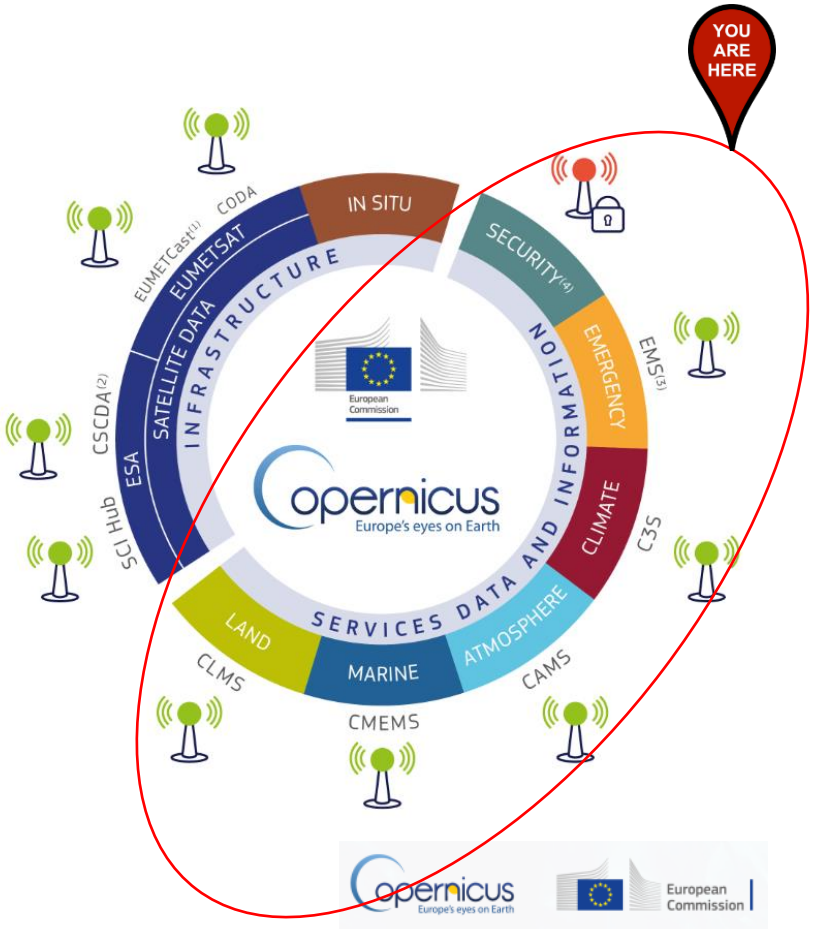
- Go on https://coda.eumetsat.int/#/home

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

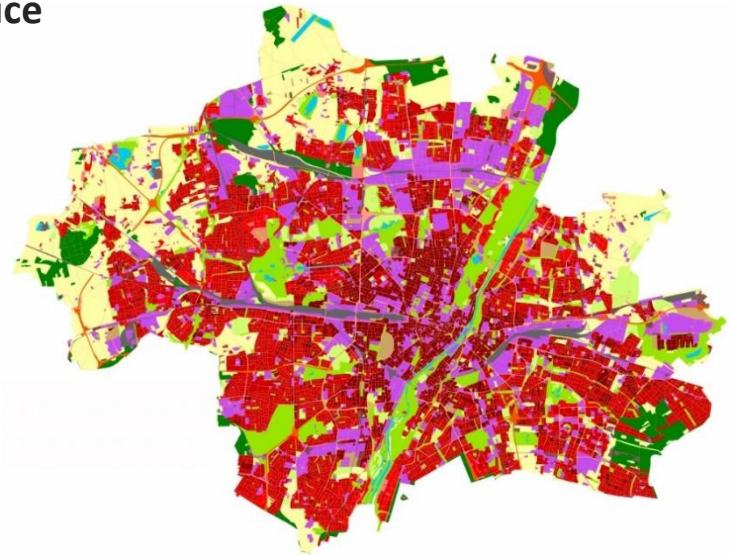


ACCESS TO CLMS

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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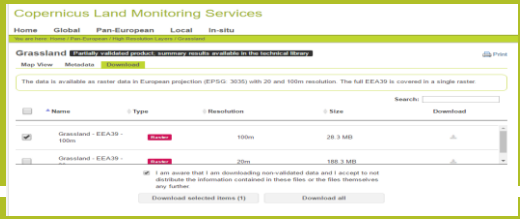
ACCESS TO CLMS

Land Monitoring

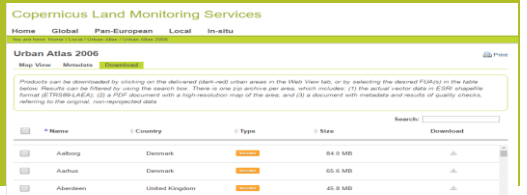
FULL, FREE AND OPEN

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

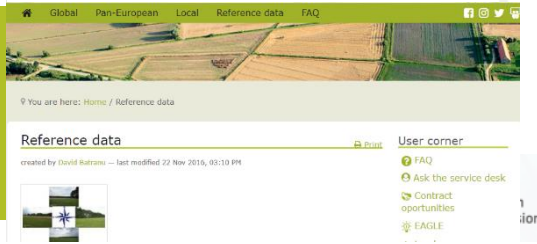
Pan-European http://land.copernicus.eu/pan-european



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



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

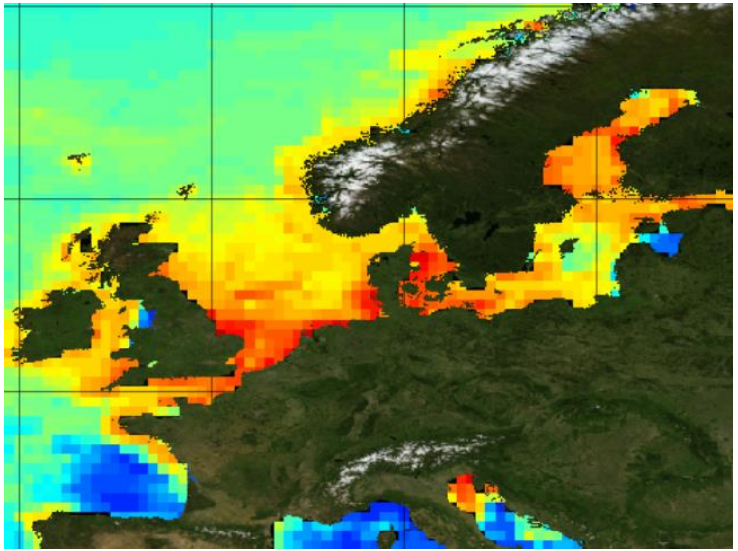


ACCESS TO CMEMS

Marine Monitoring

FULL, FREE AND OPEN

- **CMEMS = Copernicus Marine Environment Monitoring Service**
- 152 products freely accessible for everybody
- Global ocean and 6 European regional seas
- What type of product are available ?
  - Key physical and biogeochemical ocean parameters (currents, temperature, chlorophyll …)
  - Analysis, forecast
  - Models and observations (Satellite or in situ)
  - New : Waves products have been added
- Where : http://marine.copernicus.eu/



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ACCESS TO CMEMS

Marine Monitoring

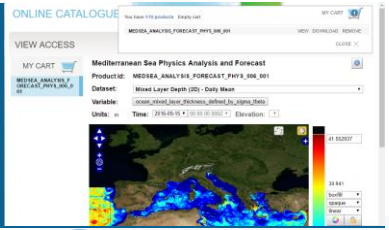
FULL, FREE AND OPEN

http://marine.copernicus.eu/

- Register or log in

- **Select additional parameters**
- **Press “Add to Cart” under the desired dataset**

View or Download the dataset



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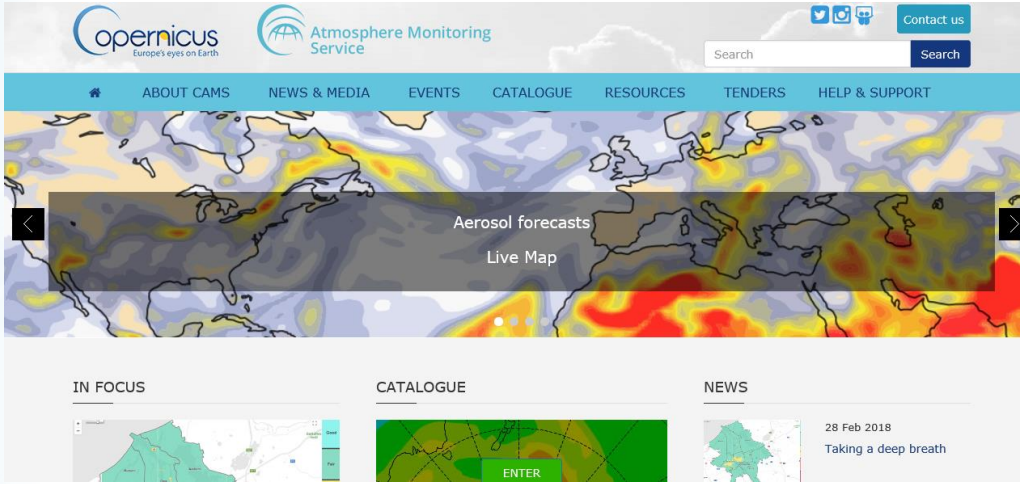
ACCESS TO CAMS

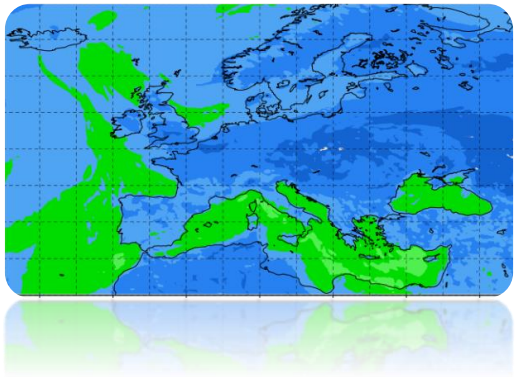
Atmosphere Monitoring

FULL, FREE AND OPEN

- **CAMS = Copernicus Atmosphere Monitoring Service**

- CAMS provide information on air quality and on the atmosphere composition.





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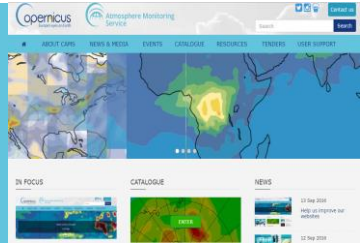
ACCESS TO CAMS

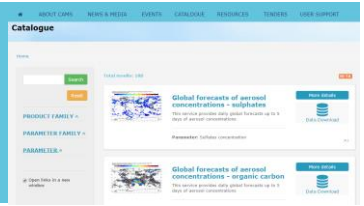
Atmosphere Monitoring

FULL, FREE AND OPEN

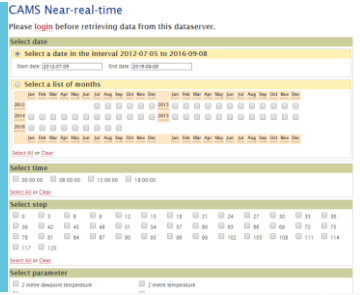
http://atmosphere.copernicus.eu/
Catalogue → Enter



Select parameters.
Click Data Download.



Log in to ECMWF server.
Select parameters and time frame.
Download result.



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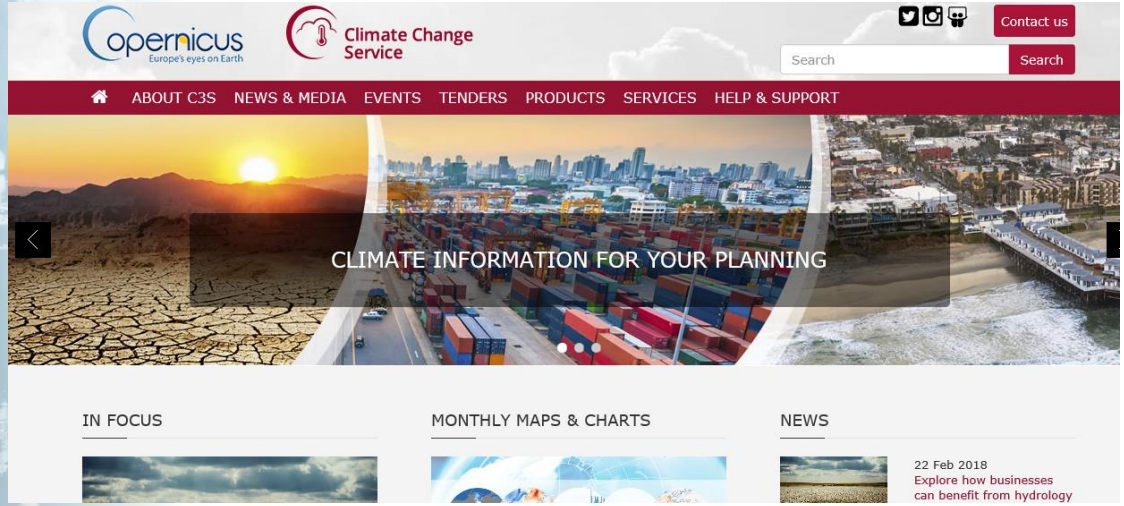
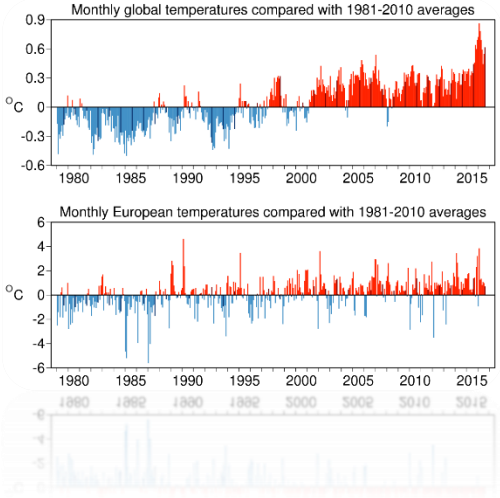
ACCESS TO C3S

Climate Change

FULL, FREE AND OPEN

- **C3S = Copernicus Climate Change Service**
- Under construction with Sectoral Information System
- Different kinds of maps are accessible





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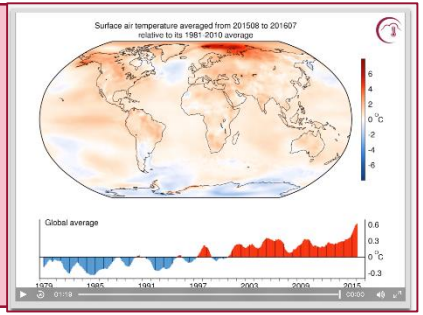
Climate Change

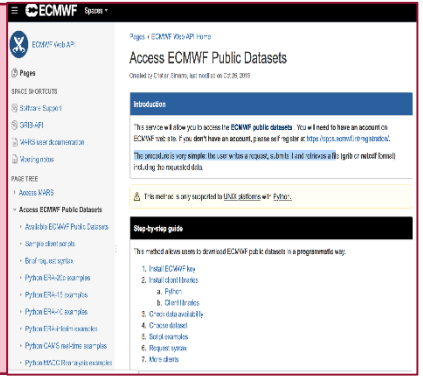
ACCESS TO C3S

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/

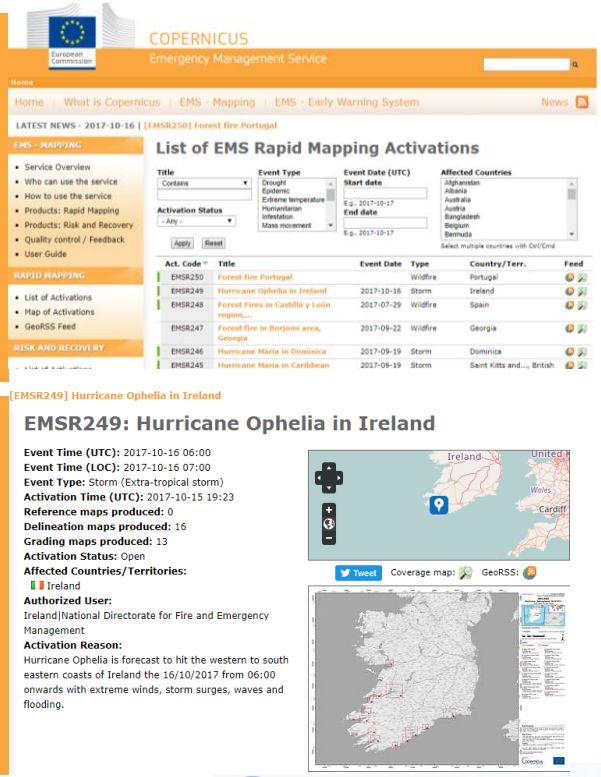
ACCESS TO EMS

Emergency Management

FREE AND OPEN

- **Rapid Mapping**

- **Risk and Recovery**



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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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User Uptake

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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Data Access

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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