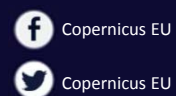


Copernicus
Europe's eyes on Earth

Space



Copernicus EU

Copernicus EU



Copernicus EU



www.copernicus.eu



User Uptake

Copernicus Data Access

- 10 European Access points
- Several national and private initiatives

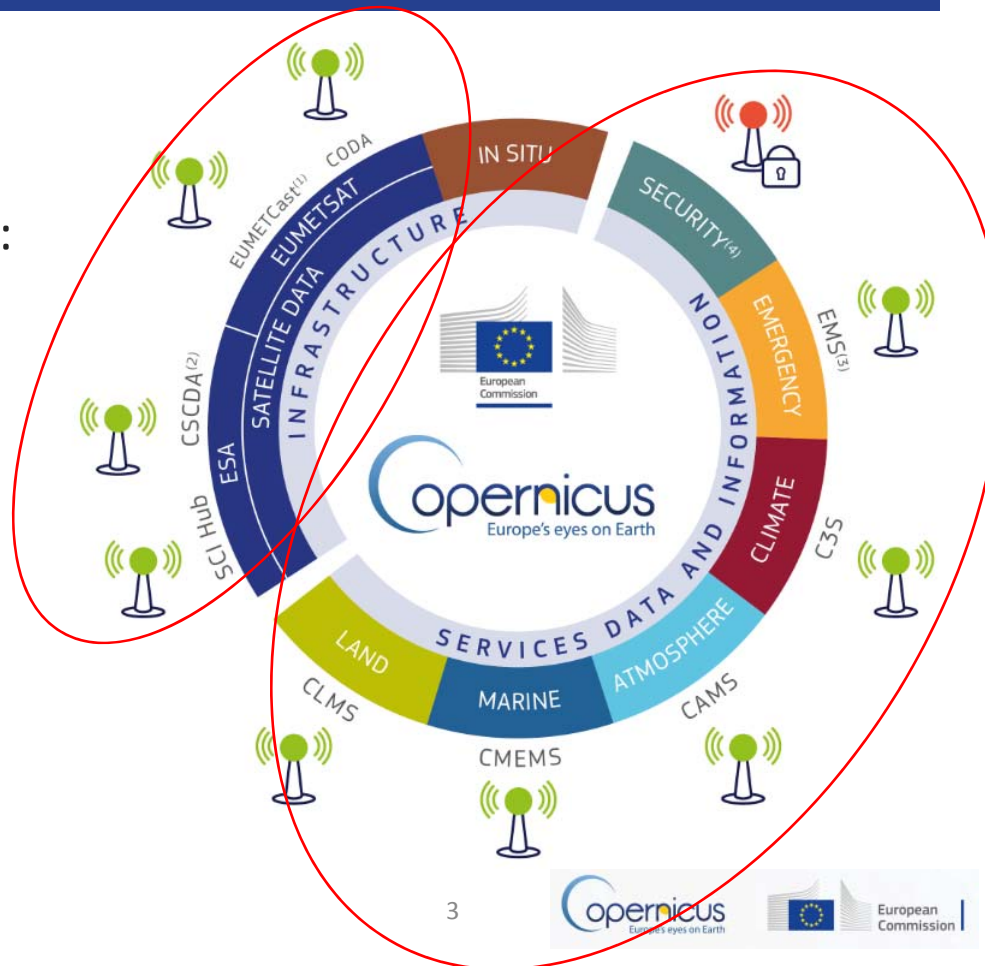


Data
Access

Copernicus Data Access Overview

10 European Data Access points:

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

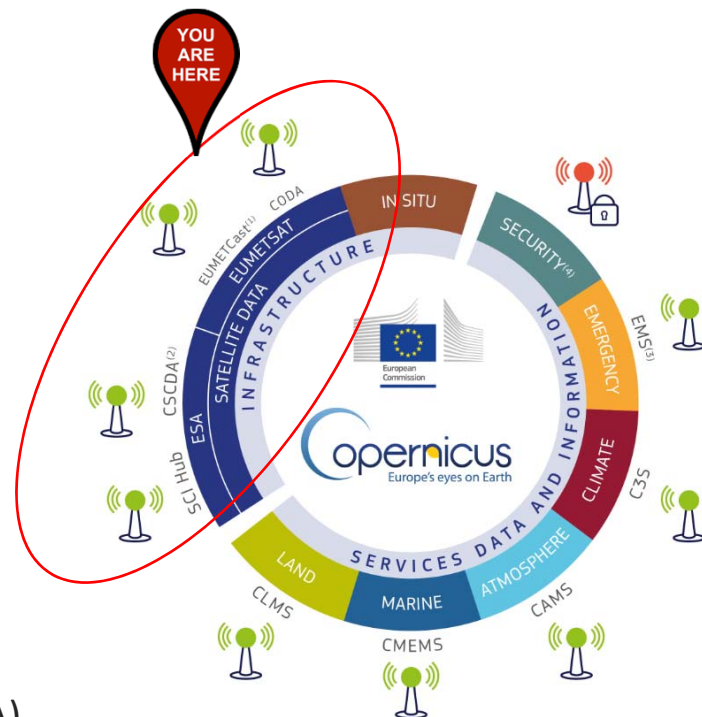




Space
Component

Access to Satellite Data

- 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)





Space
Component

OPEN ACCESS HUB from ESA



**FULL, FREE
AND OPEN**

WHICH PRODUCTS :

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

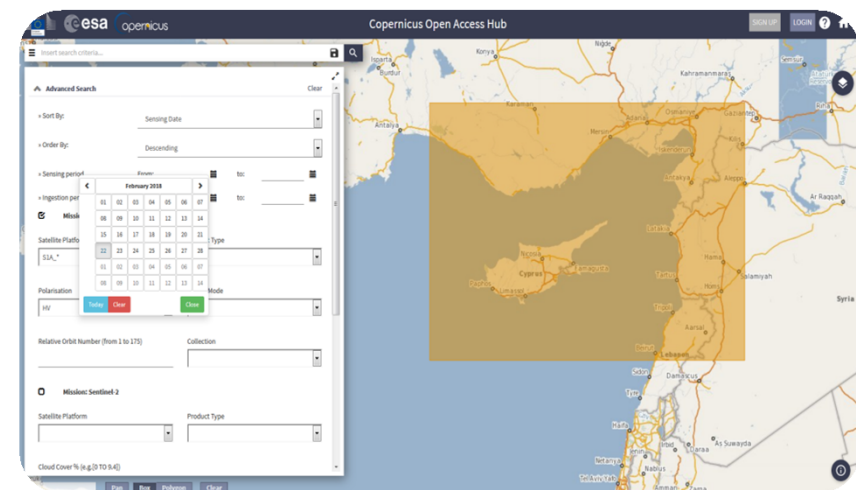
ACCESS CONDITION :

- Self-registration
- Open to everybody

HOW TO USE IT :

- Graphical Interface
- API automatic download

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





Space
Component

SPACE COMPONENT DATA ACCESS from ESA



Differentiated
Access Levels*

WHICH PRODUCTS :

- Earth Observation data from a series of Copernicus Contributing Missions

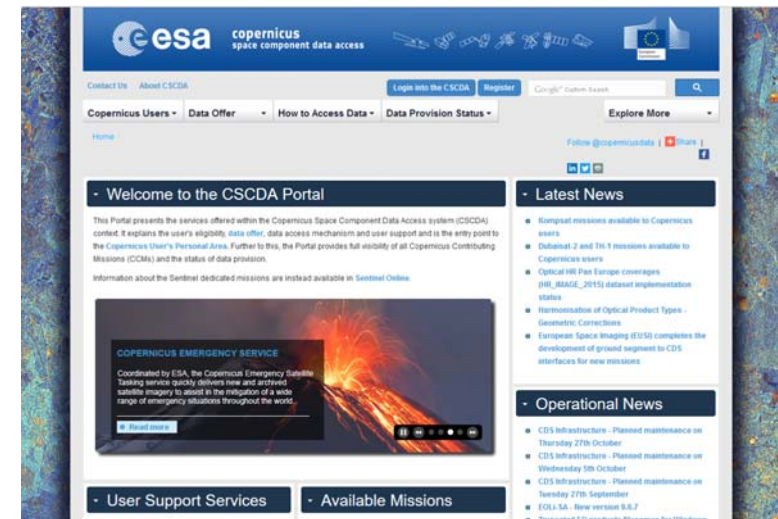
ACCESS CONDITION :

- 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



Space
Component

EUMETCast from EUMETSAT



**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 :

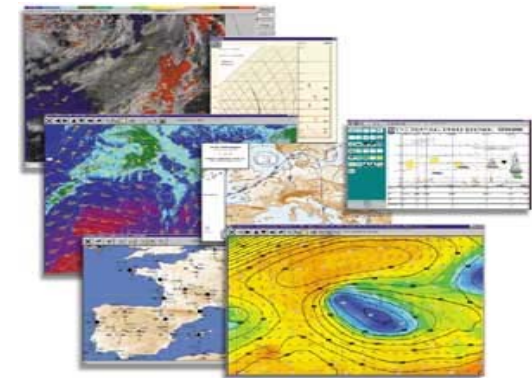
- Very wide audience
- Need of low-cost satellite receiving equipment

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>



Copernicus
Europe's eyes on Earth





Space
Component

FULL, FREE AND
OPEN

Copernicus Online Data Access (CODA)



WHICH PRODUCTS :

- All Sentinel-3 marine & atmosphere data

ACCESS CONDITION :

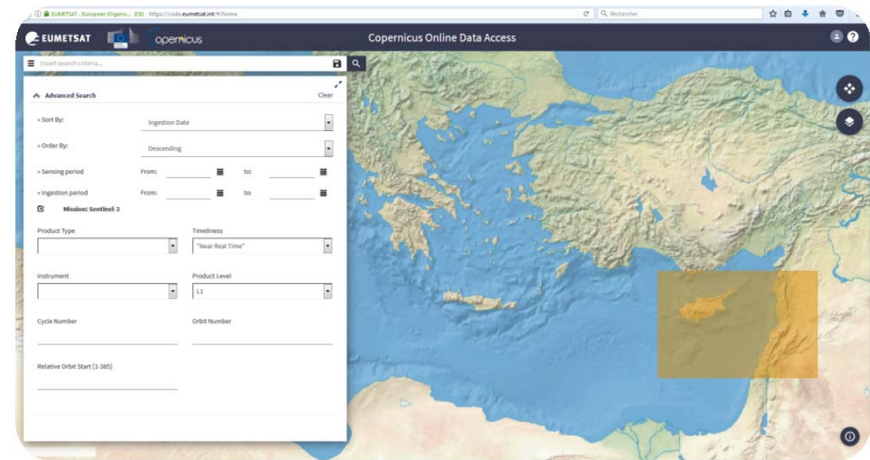
- Self registration
- Open for everybody

HOW TO USE IT :

- Graphical user interface
- FTP

WHERE :

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





Data
Access

Access to Services Data and Information

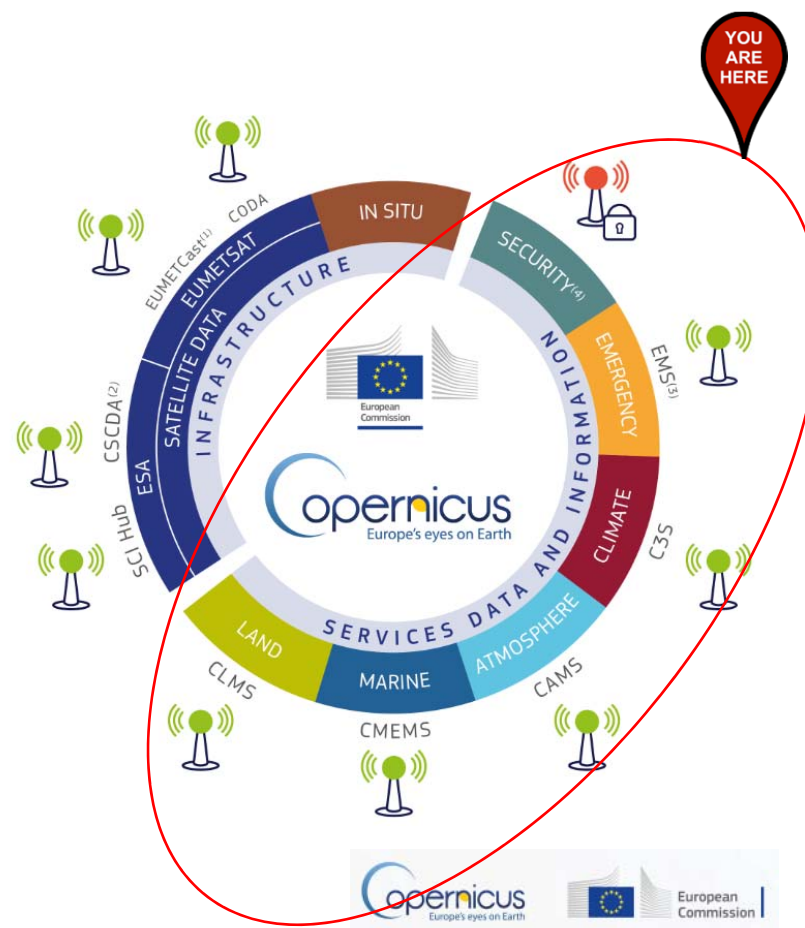
- **6 Thematic Copernicus Services**

- 5 are under Full, free and open access:

- Land
- Marine
- Atmosphere
- Climate
- Emergency

- 1 has restricted access

- Security





Data
Access

COPERNICUS SERVICES

*Monitoring the State of the
Earth System Environment ...*



*... Six cross-cutting
Thematic Services*

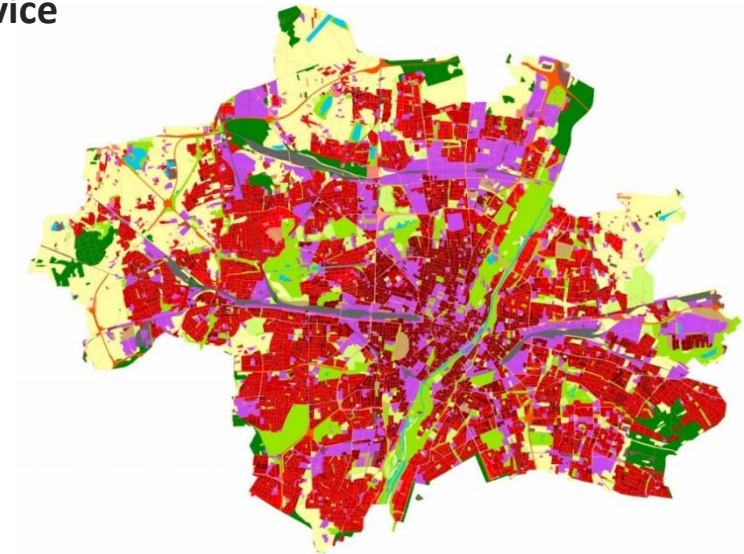


Land
Monitoring

FULL, FREE AND
OPEN

ACCESS TO CLMS

- **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/>





Land
Monitoring

FULL, FREE AND
OPEN

ACCESS TO CLMS

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>

Copernicus Global Land Service

Home Global Pan-European Local In-situ

Global Land Service

Search for land cover data by country, year, and resolution.

Download selected items (2)

Download all

Copernicus Land Monitoring Services

Home Global Pan-European Local In-situ

Urban Atlas 2006

Download selected items (2)

Download all

Copernicus Land Monitoring Services

Home Global Pan-European Local In-situ

Reference data

created by David Batiani — last modified 22 Nov 2015, 03:10 PM

User corner

- FAQ
- Ask the service desk
- Contract opportunities
- EAGLE

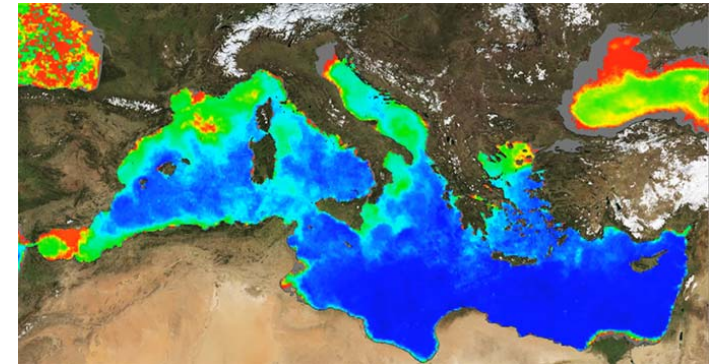


Marine
Monitoring

FULL, FREE AND
OPEN

ACCESS TO CMEMS

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





Marine
Monitoring

FULL, FREE AND
OPEN

ACCESS TO CMEMS

<http://marine.copernicus.eu/>

- Register or log in

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

View or Download the dataset



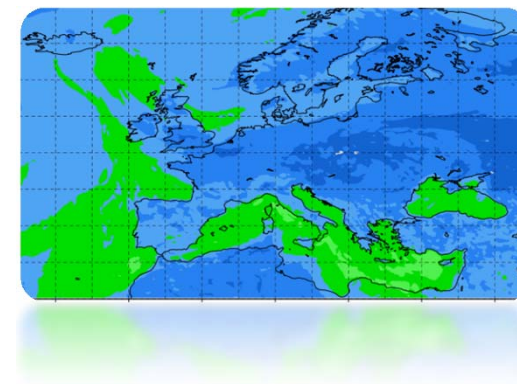
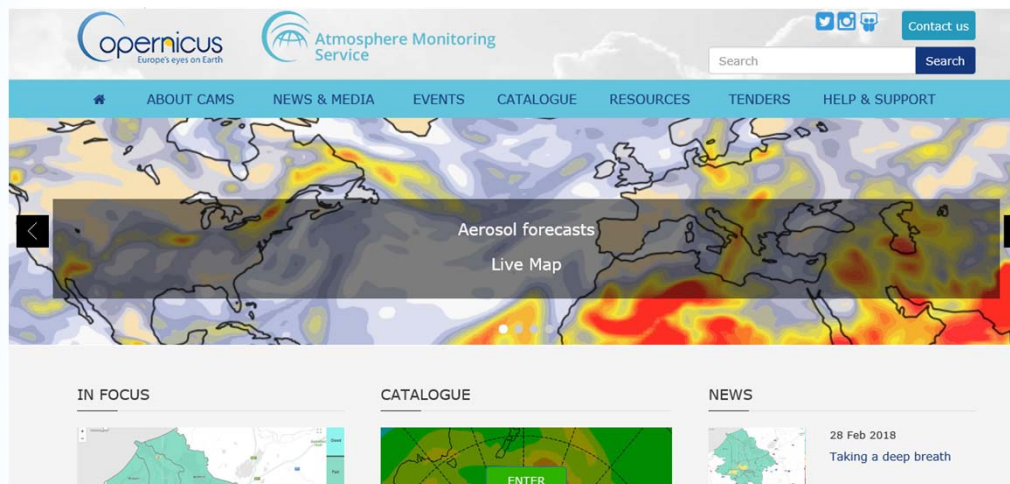


Atmosphere
Monitoring

FULL, FREE AND
OPEN

ACCESS TO CAMS

- **CAMS = Copernicus Atmosphere Monitoring Service**
- CAMS provide information on air quality and on the atmosphere composition.





Atmosphere
Monitoring

FULL, FREE AND
OPEN

ACCESS TO CAMS

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

Select parameters.
Click Data Download.

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



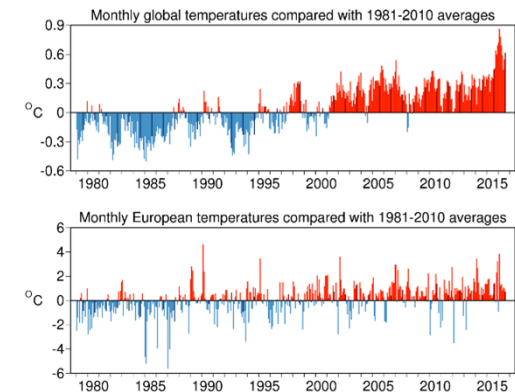
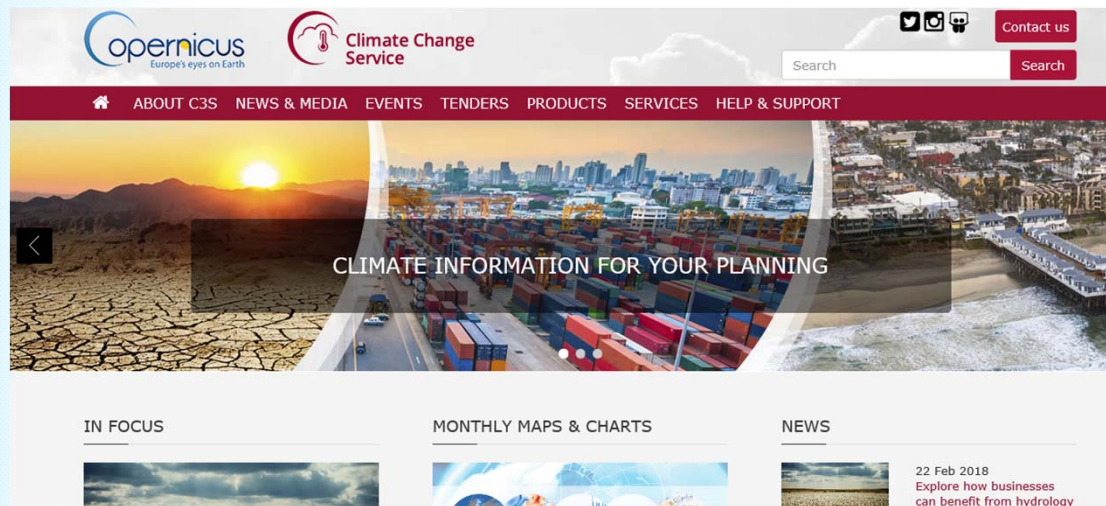


Climate
Change

FULL, FREE AND
OPEN

ACCESS TO C3S

- **C3S = Copernicus Climate Change Service**
- Under construction with Sectoral Information System



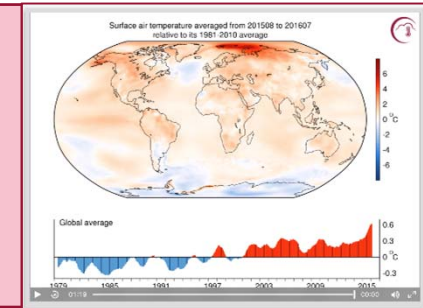


Climate
Change

FULL, FREE AND
OPEN

ACCESS TO C3S

- Visit <https://climate.copernicus.eu> and select data of interest
- Can access data via C3S or 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





Emergency
Management

FREE AND OPEN

ACCESS TO EMS

- EMS answers to :

- floods,
- tsunami,
- earthquake,
- landslides,
- fires,
-

- Only authorized users can trigger the service
- But everybody can assess maps!
- Where : <http://emergency.copernicus.eu/>





Emergency
Management

FREE AND OPEN

ACCESS TO EMS

- Rapid Mapping

- Risk and Recovery

The screenshot shows the Copernicus Emergency Management Service (EMS) website. The main heading is 'List of EMS Rapid Mapping Activations'. Below this is a table with columns: Act. Code, Title, Event Date, Type, Country/Terr., and Feed. The table lists several activations, including forest fires in Portugal, Ireland, and Spain, and hurricanes in Ireland and the Caribbean.

Act. Code	Title	Event Date	Type	Country/Terr.	Feed
EMSR250	Forest fire Portugal		Wildfire	Portugal	
EMSR249	Hurricane Ophelia in Ireland	2017-10-16	Storm	Ireland	
EMSR248	Forest fires in Castilla y León region...	2017-07-29	Wildfire	Spain	
EMSR247	Forest fire in Borjomi area, Georgia	2017-09-22	Wildfire	Georgia	
EMSR246	Hurricane Maria in Dominica	2017-09-19	Storm	Dominica	
EMSR245	Hurricane Maria in Caribbean	2017-09-19	Storm	Saint Kitts and..., British	

[EMSR249] Hurricane Ophelia in Ireland

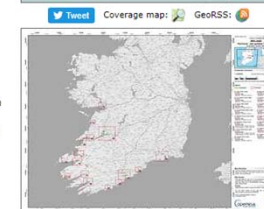
EMSR249: Hurricane Ophelia in Ireland

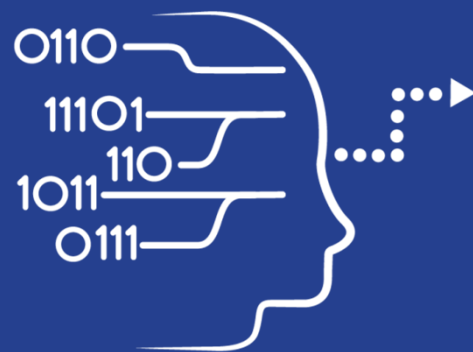
Event Time (UTC): 2017-10-16 06:00
Event Time (LOC): 2017-10-16 07:00
Event Type: Storm (Extra-tropical storm)
Activation Time (UTC): 2017-10-15 19:23
Reference maps produced: 0
Delineation maps produced: 16
Grading maps produced: 13
Activation Status: Open
Affected Countries/Territories:

Ireland

Authorized User:
Ireland|National Directorate for Fire and Emergency Management

Activation Reason:
Hurricane Ophelia is forecast to hit the western to south eastern coasts of Ireland the 16/10/2017 from 06:00 onwards with extreme winds, storm surges, waves and flooding.





User Uptake

Copernicus Access to Data

National and private Initiatives





Data
Access

OTHER DATA ACCESS PUBLIC INITIATIVES

National Initiatives- Collaborative Ground Segment

Initiative Name	Initiative Leader	Website and Target User Group
THEIA Land Data Centre	CEA, Cerema, IRSTEA, IRD, CNRS, INRA, IGN, Meteo France, CIRAD, ONERA	<ul style="list-style-type: none">• URL: theia-land.fr• Scientific communities and public authorities
CATAPULT Satellite Applications and CEDA	UK Space Agency	<ul style="list-style-type: none">• URL: sa.catapult.org.uk• Scientific communities, public authorities, private industry players
ESA Thematic Exploitation Platforms	ESA	<ul style="list-style-type: none">• URL: tep.eo.esa.int• All user types
Platform for Exploiting Products from Sentinels (PEPS1)	CNES	<ul style="list-style-type: none">• URL: peps.cnes.fr• Scientific communities and public authorities



Data
Access

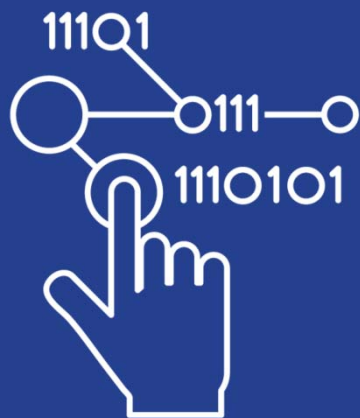
OTHER DATA ACCESS PRIVATE INITIATIVES

Private Initiatives

Initiative Name	Initiative Leader	Website and Target User Group
GEOPIEDIA platform	Sinergise	<ul style="list-style-type: none">• URL: geopedia.world• National, regional public authorities and private users
GEOSTORM platform	CS-SI	<ul style="list-style-type: none">• URL: geostorm.eu• Regional authorities and private users
Sentinel-2 on AWS	Amazon	<ul style="list-style-type: none">• URL: sentinel-pds.s3-website.eu-central-1.amazonaws.com• Developers, private/public downstream players
Google Earth Engine	Google	<ul style="list-style-type: none">• URL: earthengine.google.com• Regional authorities and private users

* The European Commission does not endorse any particular commercial solution

23



Data Access

Copernicus Access to Data

New generation services:

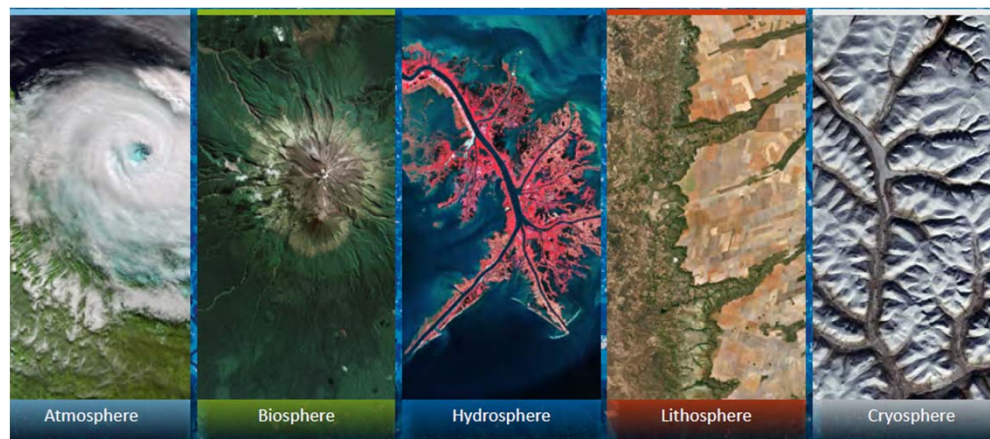
- Research and User Support – **RUS**
- Data and Information Access Services – **DIAS**
(addressed through a separate presentation)

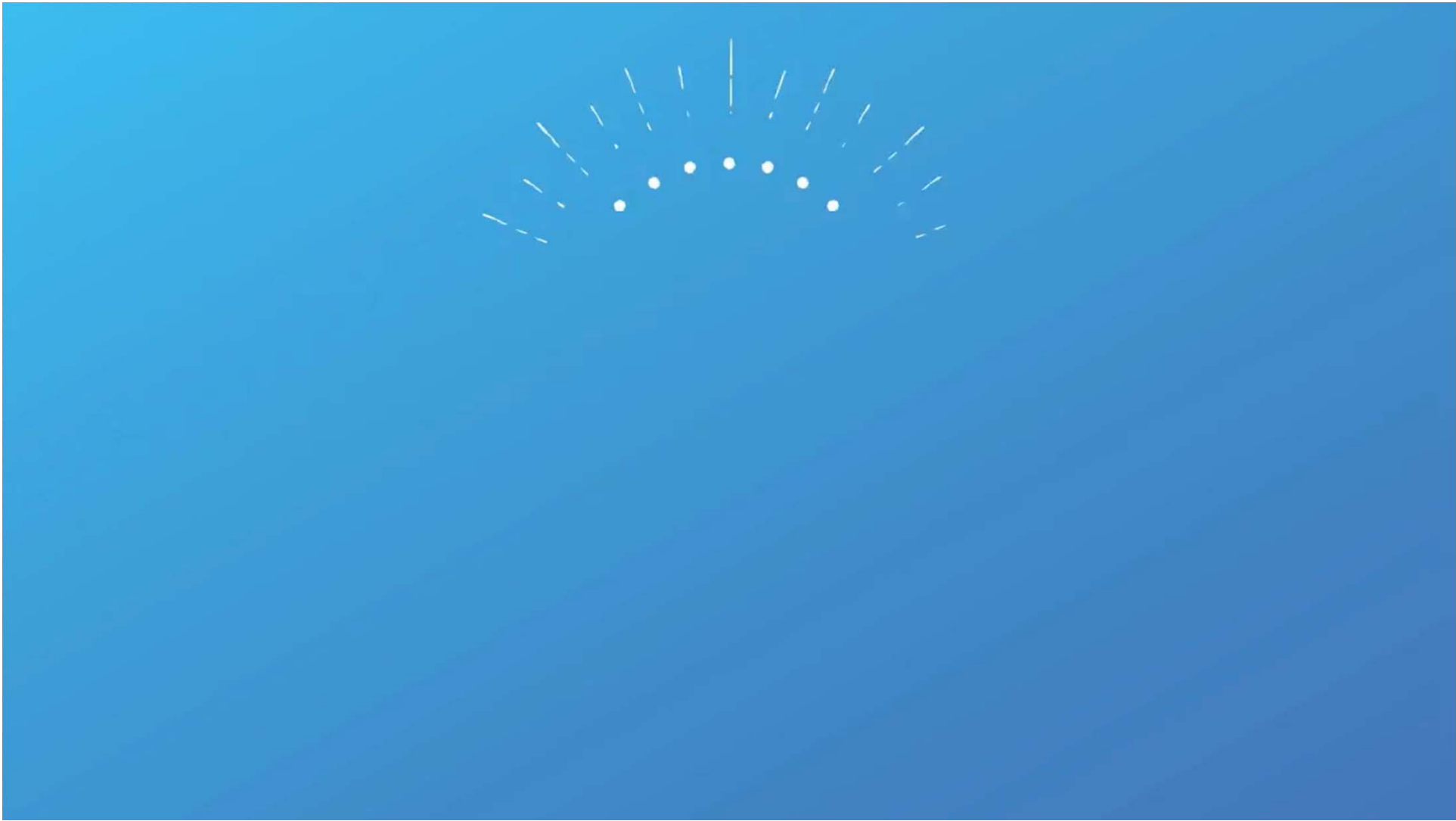


Data
Access

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 founded by EC and managed by ESA.**







Data
Access

RUS: A NEW EXPERT SERVICE FOR SENTINEL USERS

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



**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

