Using the ESA/EUMETSAT Data Access and User Support

Copernicus User Uptake Information Sessions

Data Access

Data Access

- Overview of access to the satellite data available under Copernicus

- 2 official distributors of Copernicus satellite data:

  - ESA : https://sentinel.esa.int/web/sentinel/sentinel-data-access

  - EUMETSAT : http://www.eumetsat.int/website/home/Copernicus/AccessData/index.html

- Presentation of the registration process

- How to download Copernicus satellite data (Sentinel-1 ; Sentinel-2 and Sentinel-3)?

Data Access

FULL, FREE AND OPEN

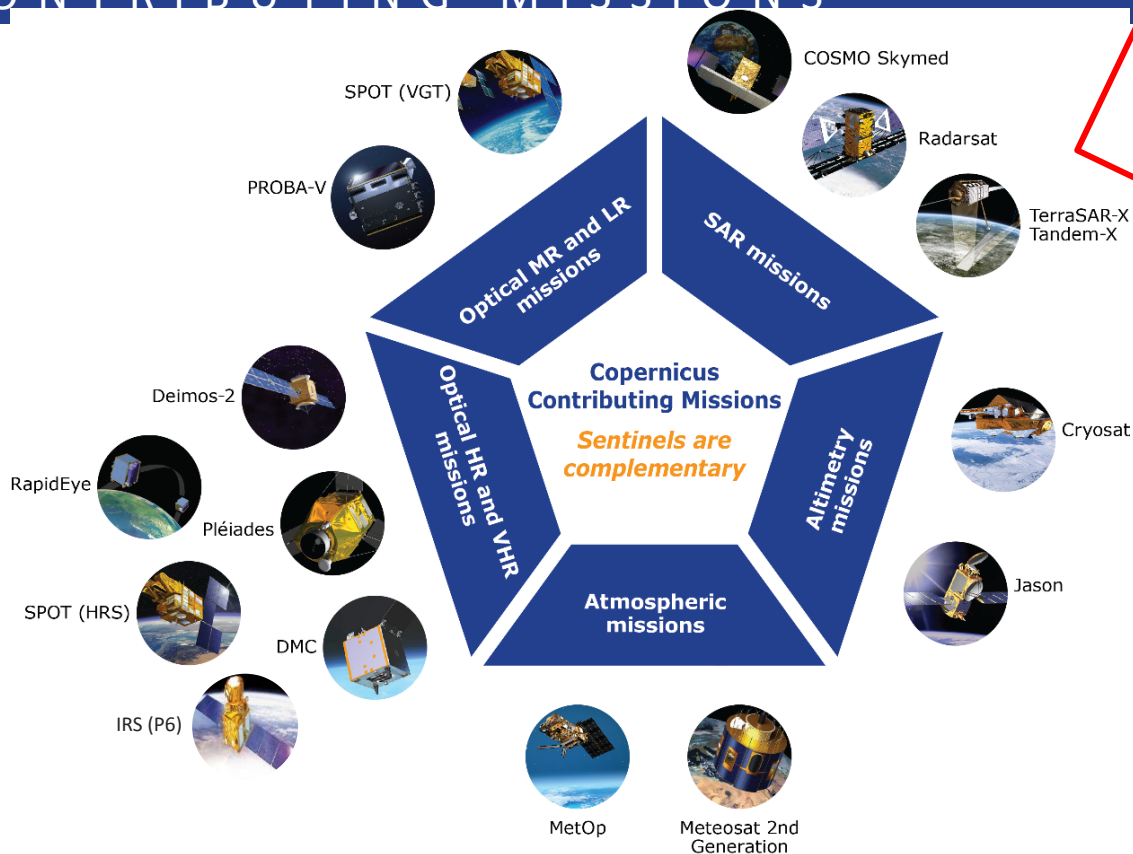| Sentinel Mission and Status		Data procured by
SENTINEL-1: 4-40m resolution, 3 day revisit at equator	*2 sats in orbit*	ESA
SENTINEL-2: 10-60m resolution, 5 days revisit time	*2 sats in Orbit*	ESA
SENTINEL-3: 300-1200m resolution, <2 days revisit	*1 Sat in Orbit*	ESA (S3-OLCI Land data) EUMETSAT (S3-OLCI Marine data)
SENTINEL-4: 8km resolution, 60 min revisit time	*1st Launch in 2023*	EUMETSAT
SENTINEL-5p: 7-68km resolution, 1 day revisit	*1 sat: launched in october2017*	ESA
SENTINEL-5: 7.5-50km resolution, 1 day revisit	*1st Launch in 2021*	EUMETSAT
SENTINEL-6: 10 day revisit time	*1st Launch in 2020*	EUMETSAT

Copernicus Europe's eyes on Earth

European Commission

Data
Access

SPOT (VGT)

COSMO Skymed

Radarsat

TerraSAR-X
Tandem-X

PROBA-V

Optical MR and LR
missions

SAR missions

Deimos-2

Copernicus
Contributing Missions

Sentinels are
complementary

Cryosat

RapidEye

Optical HR and VHR
missions

Altimetry
missions

Pléiades

SPOT (HRS)

Atmospheric
missions

Jason

DMC

IRS (P6)

MetOp

Meteosat 2nd
Generation

Subject to Data
Owner's Data
Policy

4

Copernicus
Europe's eyes on Earth

European
Commission

ESA Data access navigator

Data Access

- **5 mechanisms** are available to access Sentinel data depending on the status of the user

Data Access

	Mechanisms	Access	Which products?
	Copernicus Services Data Hub	Restricted to the Copernicus Service Projects *Restricted*	
	Sentinel Data Hub	**FULL, FREE AND OPEN**	• S1 SAR L-0, L-1 and L-2 • S2 MSI L-1C ; S2 MSI 2Ap • S3 OLCI L-1&L-2 ; S3 SRAL L-1&L-2 ; S3 SLSTR L-1&L-2.
	Coordinated Data Access System	**User categories:** Copernicus Services, EU Institutions, EC R&D space projects, EC R&D non-space projects, **Public Authorities**, Int. org. and NGOs, **Public**	• CORE datasets • ADDitional datasets from Copernicus Contributing Missions (third parties missions)
	Collaborative Data Hub	Collaborative ground segments only. No self-registration possible *Restricted*	• Rolling Archive of Sentinels user products
	International Data Hub	International partners having established agreements with EC *Restricted*	• Rolling Archive of 1 month of Sentinels user products

Data Access

URL: https://scihub.copernicus.eu/

The self-registration procedure is explained online:

https://scihub.copernicus.eu/userguide/1SelfRegistration

8

Data Access

- The Graphical User Interface for the Search and Download is explained online

https://scihub.copernicus.eu/userguide/2GraphicalUserInterface

- To search for and download, go to **https://scihub.copernicus.eu/dhus/#/home**

- Draw your region of interest

- Click on the Menu button ≡ to the left. A popup opens wherein you can fill in your search parameters for the mission you need. Then, launch the search. 🔍

- Sentinel 1 ; 2 ; 3 land available.

- More than **1000 new** more products published everyday.
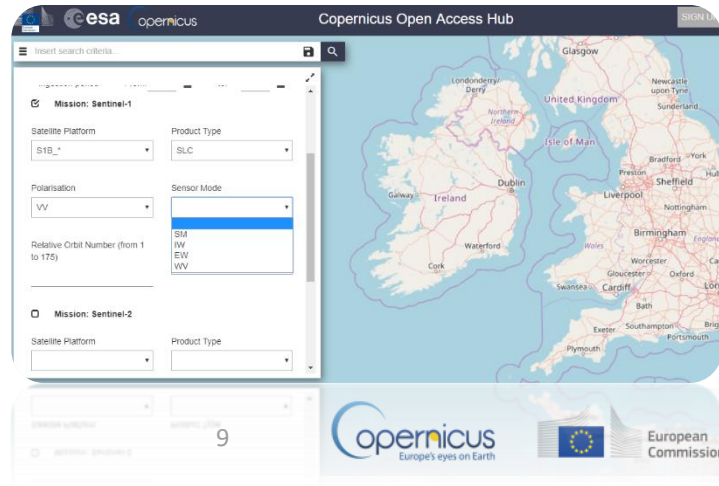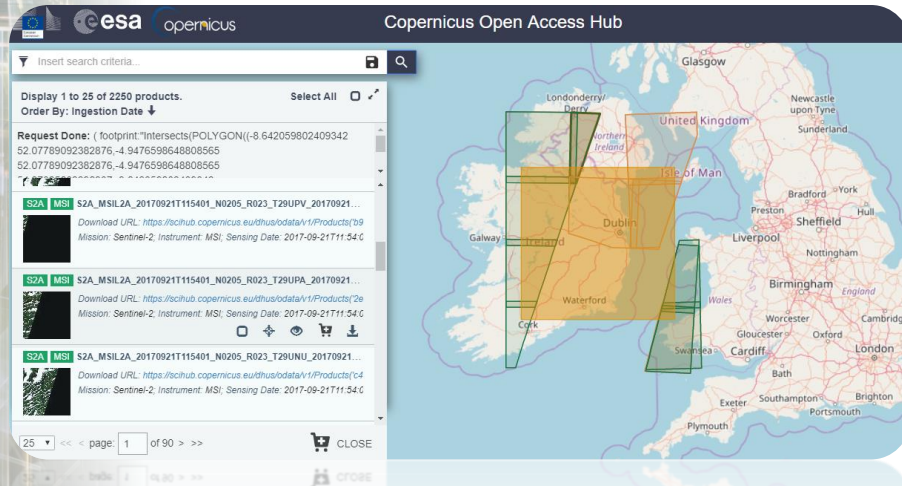
S2A_OPER_PRD_MSIL1C_PDMC_20160516T053333_R108_V20160515T103846_20160515T103846

https://scihub.copernicus.eu/dhus/odata/v1/Products('9e88591f-b03a-4b52-b1ad-3d0c69b09002')/$value

Footprint

Quicklook

Attributes

Inspector

Summary

Date: 2016-05-15T10:38:46.000Z

Filename:
S2A_OPER_PRD_MSIL1C_PDMC_20160516T053333_R108_V20160515T103846_20160515T103846.

Identifier:
S2A_OPER_PRD_MSIL1C_PDMC_20160516T053333_R108_V20160515T103846_20160515T103846

Instrument: MSI

Satellite: Sentinel-2
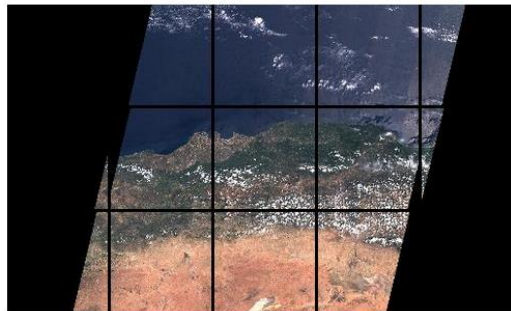
S2A_OPER_PRD_MSIL1C_PDMC_20160...103846_20160515T103846.SAFE

AUX_DATA

DATASTRIP

GRANULE

HTML

rep_info

If the image satisfies your criteria, press this button to download it !

10

Copernicus Europe's eyes on Earth

European Commission

Data Access

- Need to register before login as the portal is accessible to **eligible users** only

- **Up to 72 hours** to get registered

- Explore the data offer

- Keep attention to latest news

- Through the CSC-DA, ESA organises the procurement of EO data from **Copernicus Sentinels Missions** and from **Copernicus Contributing Missions** (e.g. Pleiades, TERRASAR-X, COSMO-SkyMed, IKONOS, QuickBird).

- Details on the datasets and the conditions (i.e. data licensing, ordering mechanisms, product types available, delivery timelines, data access mechanisms) is available here: https://spacedata.copernicus.eu/documents/12833/14545/DAP_Release_Phase_2

- The registration procedure is explained online

https://spacedata.copernicus.eu/documents/12833/20397/CDS+Registration+Guidelines

Data Access

- **CORE Datasets**
    - **Fixed part of the data offer**, consisting in continuous data delivery from systematic missions or generation of large predefined coverages.
    - Access rights are specific to each dataset, and are defined in the section of the portal.
    - Access is via subscription.
        - Example:
        - Optical VHR multispectral and panchromatic coverage over Europe (VHR_IMAGE_2015)
        - Optical MR2 Worldwide coverage (MR_OPTICAL_GLOBAL)
        - VHR1-2 Urban Atlas 2012

- **ADDitional Datasets**
    - **Variable part of the data offer** for which 40 data type categories are defined in terms of resolution, service type (Rush/Standard, Archive/New tasking), mission type (optical/SAR).
    - Depending on their requirements, eligible users are granted a quota by the European Commission and may order data within these datasets.
    - Eligibility is defined in the Access Rights section of the portal.
    - Access via ordering.

Data Access

How to Access Data

CSCDA data access is made up of four main processes, as shown in the schematic diagram. A useful data and services guide for Copernicus users is available in the Data Access Guidelines document

ON LINE REGISTRATION ❓
Eligible users can register to the Copernicus Coordinated Data Access System (CDS) online on the **Copernicus User's Personal Area**. This will generate Single Sign On (SSO) credentials.

ORDERING ❓
Once registration is validated, users with relevant assigned quota can place standard or emergency on demand data request logging with SSO credentials on the **Copernicus User's Personal Area**.

SUBSCRIPTION ❓
Once registration is validated, users can subscribe to authorised datasets directly logging with SSO credentials on the **Copernicus User's Personal Area**.

DATA DOWNLOAD ❓
Once subscription/orders are implemented, data can be downloaded via FTPS from the CDS online archive or via the Copernicus Client GCL logging with SSO credentials

Data Access

EUMETSAT offers a range of data delivery mechanisms to meet the needs of the user:

	EUMETCast	EUMETCast is a multi-service push dissemination system based on multicast technology. The multicast stream is transported to the user via satellite.
	Copernicus Online Data Access (CODA)	Download service offers all Sentinel-3 marine and atmosphere products through a rolling buffer which at is maximum will span up to 12 months of data
	Data Centre Long-Term Archive	Ordering application enables users to browse and select from EUMETSAT's long-term archive of products, including the Copernicus Sentinel-3 marine and atmosphere products
	EUMETView	EUMETView is a visualisation service that allows users to view EUMETSAT 's data and Copernicus Sentinel-3 marine data in an interactive way using an online map viewer

Data Access

- EUMETCast is EUMETSAT's integrated dissemination system for the delivery of near real-time environmental data including S3 and later on S4 and S5;

- EUMETCast Satellite service has coverage over Europe, the Middle-East and Africa;

Key Features:

- Targets a large audience and delivers a wide range of earth observation data;

- Near real-time data stream includes Meteosat, Metop, Jason-2 / -3, Sentinel-3 satellite data and wide range of third-party satellite data services;

- Service utilises low cost, user-friendly satellite receiving equipment similar to satellite TV;

- Secure delivery of data files to targeted audiences, with guaranteed service level.
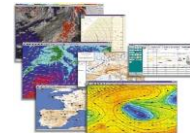
Data Access

Key Features:

- CODA is an online rolling archive with http access. It provides access to Sentinel-3 Level 1 and Level 2 global data in near real-time (NRT), short time critical (STC) and none time critical (NTC) latency mode;
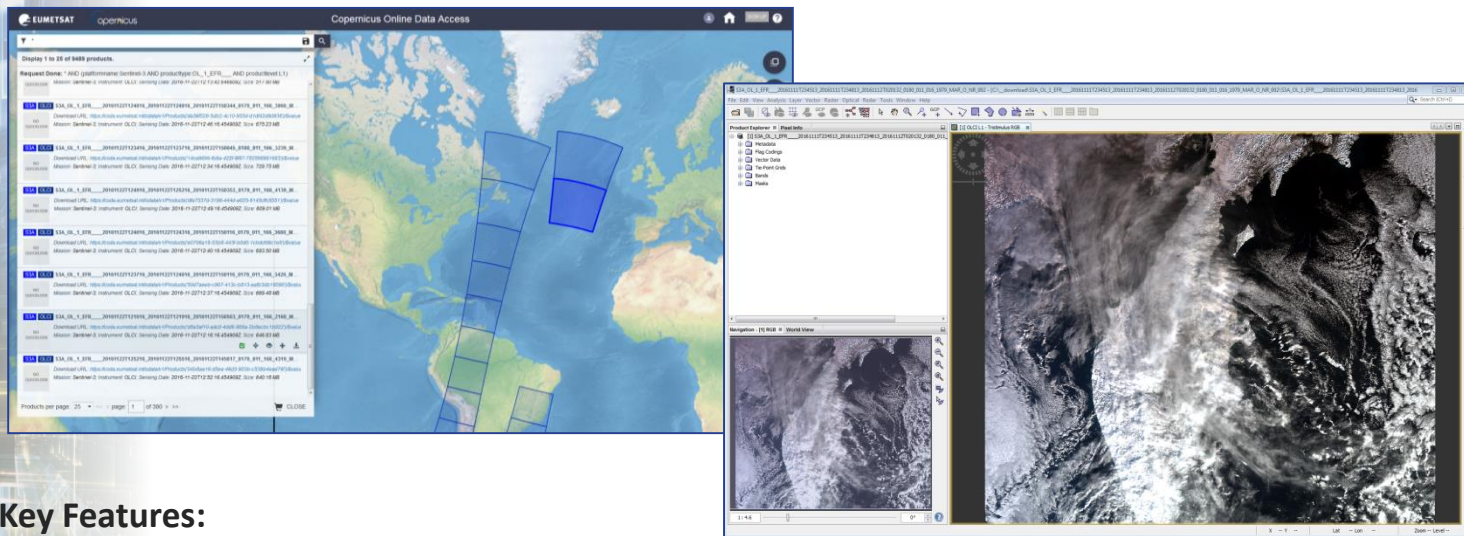
- Current service provides a few months archive of data this will increase to a one year archive in the coming months. For longer time-series data we provide an archive ordering system through the Data Centre;

- The user manual explains how to use the online tool, including how to download via an API;

- It's easy to display the downloaded images using standard GIS desktop applications.

17

Copernicus
Europe's eyes on Earth

European Commission

Data Access

- The Data Centre provides access to the long-term archive of S3 and EUMETSAT mission data.

Key Features:

- Order options allow you to select your chosen format, spatial and spectral sub-setting and apply data compression;

- Orders are automatically processed and smaller orders are delivered within a few hours;

- Resulting data can be retrieved from an online server (http-download) or via offline media, depending on the volume of data requested;

- The Data Centre catalogue spans the whole satellite mission life. It guarantees the long-term preservation of these data which are critical for the generation of climate data records.
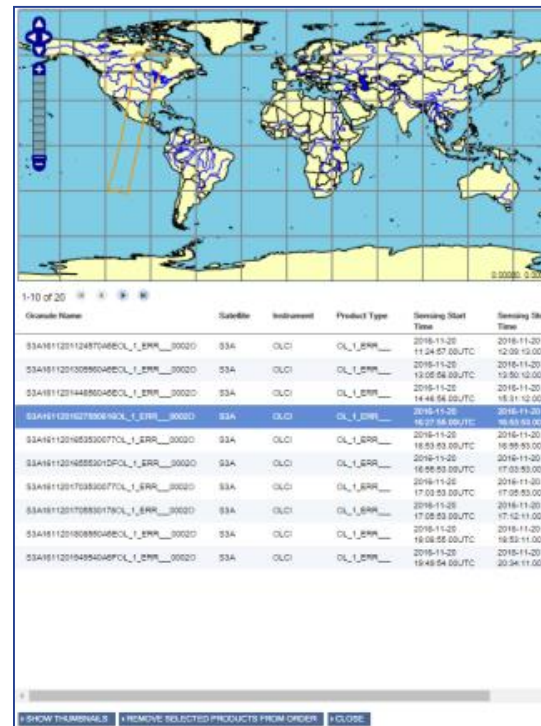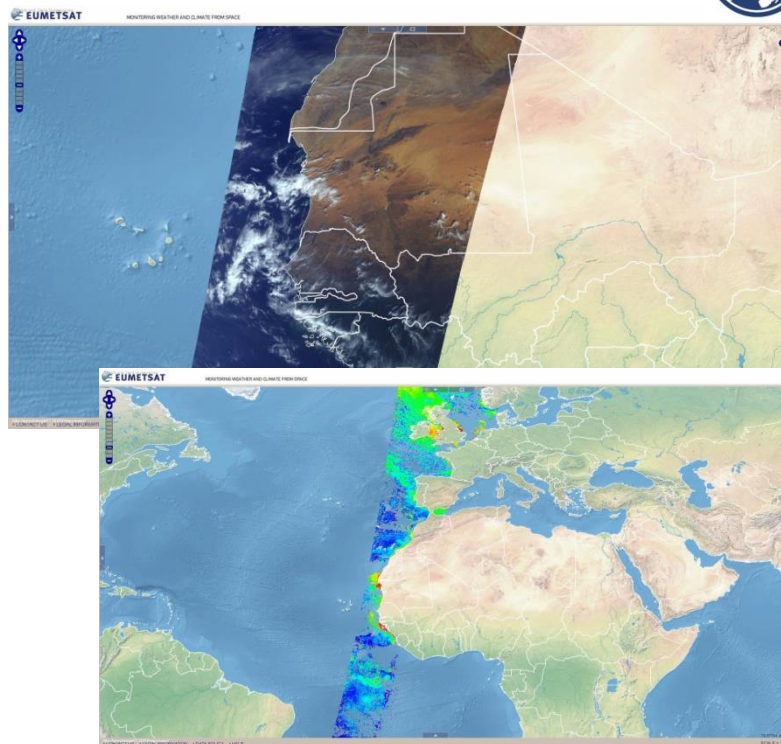
Data Access

- EUMETView is a visualisation service to view EUMETSAT (Meteosat, Metop and Jason data) and Copernicus Sentinel-3 marine imagery in an interactive way using an online map viewer.

Key Features:

- Choose a layer, select the date range and area of interest and display your chosen visualisation;

- Run an animated loop or download your selected visualisations;

- EUMETView implements the OGC Web Map Service (WMS) Interface Standard and can be used to request and overlay products in GIS clients supporting OGC WMS 1.3.0.

Discovery and Registration Service

- To discover the full list of products EUMETSAT provides use our Product Navigator;

- This central catalogue lists all EUMETSAT (Meteosat, Metop, Jason-2) and Copernicus Sentinel-3 marine and atmosphere products. It includes the third-party products disseminated via EUMETCast.

- To access our data register through our central EO portal:
  - Firstly, create your account;
  - From within the EO portal home page select your chosen delivery mechanism/s, e.g. CODA, Data Centre, EUMETCast;
  - For the CODA and the Data Centre simply follow the links to access the service directly;
  - For EUMETCast complete the detailed registration steps to subscribe to the data streams you require and to request the quantity of EUMETCast Client Software packages you need;

- EUMETView is available without registration.
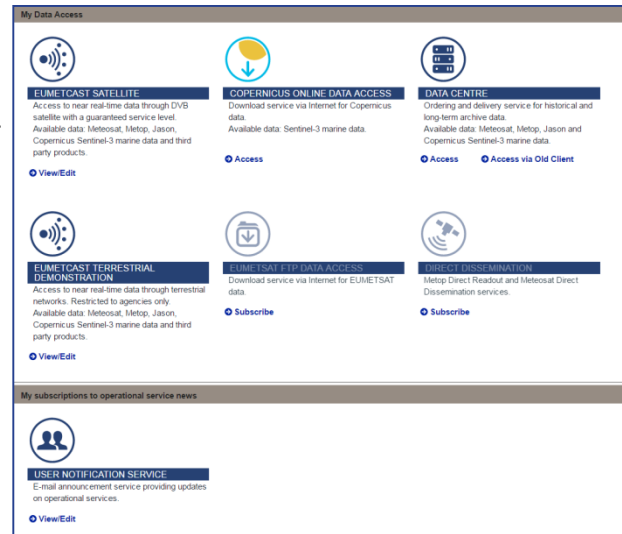
Data Access

	eoportal.eumetsat.int	create and manage your user account, subscribe to our services
	navigator.eumetsat.int	explore our catalogue, what and where, supporting documentation
	eumetcast.com	learn more about our push delivery service
	coda.eumetsat.int	download Sentinel-3 marine and atmosphere data
	archive.eumetsat.int	order past data
	eumetview.eumetsat.int	visualise and explore, create layers in GIS applications

For everything else
www.eumetsat.int

Any questions
EUMETSAT User
Helpdesk at
ops@eumetsat.int