

OPEN DATA & OPEN KNOWLEDGE Workshop

Status of the Copernicus Data Space Ecosystem

Razvan Alexandru Cosac

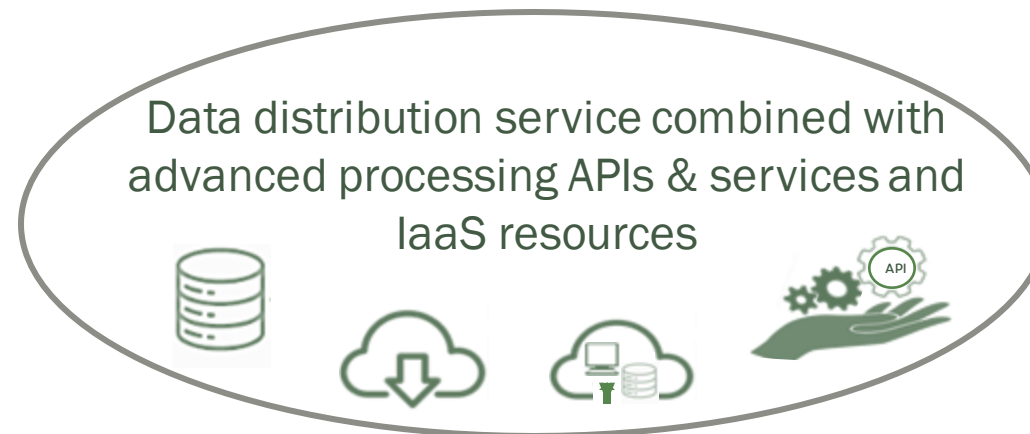
Copernicus Data Space Ecosystem

- ESA operates on behalf of the EU, through the Copernicus Programme, the Sentinel-1, 2, 3 and 5P missions
- Data from these satellites are made available through the Copernicus Data Space Ecosystem based on an open and free data policy
- Initial service launched on 24 January 2023
- New Copernicus Data Access Service – ensuring continuity
 - *Legacy Copernicus Open Access Hub*
 - *DIAS Services*

dataspace.copernicus.eu

Main Principles and Features

- Contribute to building an **efficient** and **attractive** European solution to access and process Copernicus Sentinel data
- Unlock the potential of Sentinel data by providing a long-term perspective **building trust** with users and developers



- Open Ecosystem:
 - *Open and free public services under fair use policy, adjustable capacity and performance*
 - *Capability to deploy public and 3rd party services*

Sentinels: Immediately Available Data

Starting with 35 PB up to ~85 PB by 2028

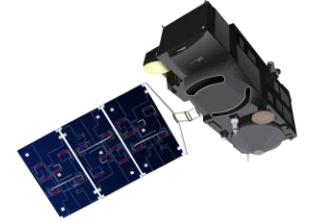
■ Sentinel-1

- *GRD SAFE-COG*
- *GRD SAFE (last year)*
- *OCN*
- *SLC*
- *LO RAW (Europe full, ROW last year)*



■ Sentinel-3 Land

- *OLCI L1/L2 NRT and NTC (NRT last year)*
- *SLSTR L1/L2 NRT and NTC (NRT last year)*
- *SRAL L1/L2 NRT, STC and NTC (STC last month, NRT last year)*
- *SYN L2 STC, NTC (STC last month)*



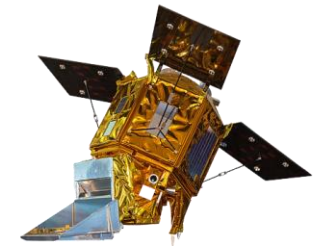
■ Sentinel-2

- *L1C*
- *L2A*



■ Sentinel-5P

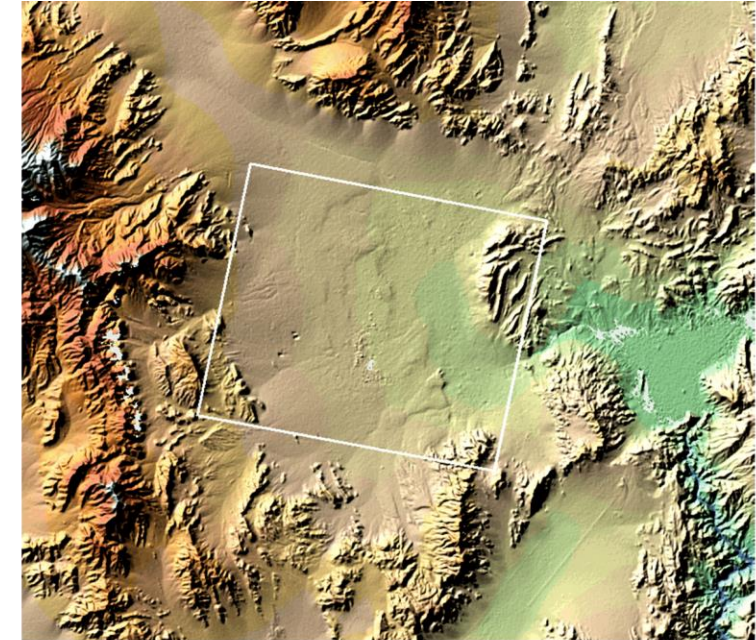
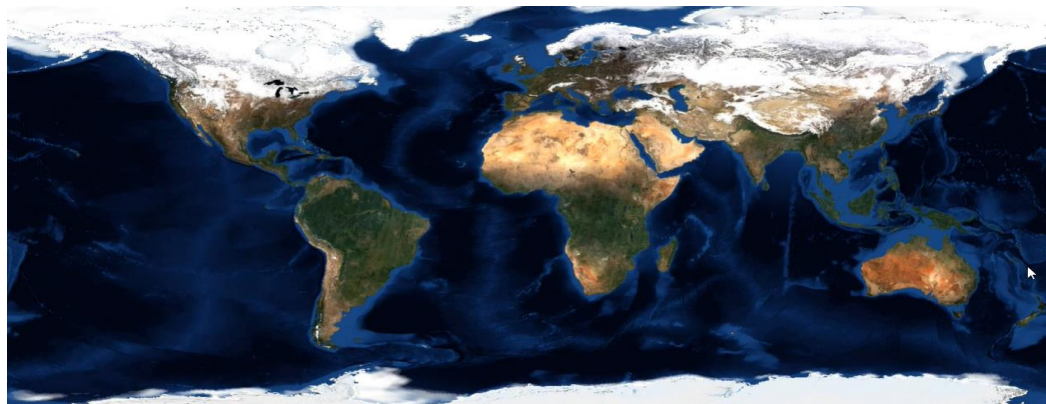
- *Level-1B NTC*
- *Level-2 NRT and NTC (NRT last month)*



If not explicitly stated otherwise, worldwide coverage, full and up-to-date collection

Additional Data Offer

- Cloudless mosaics (Sentinel-1, Sentinel-2)
- Copernicus Contributing Missions (e.g. ICEYE, PlanetScope)
- Digital Elevation Models
- Copernicus Services (CAMS, CEMS, CLMS, CMEMS)
- Sentinel Auxiliary and Engineering Data

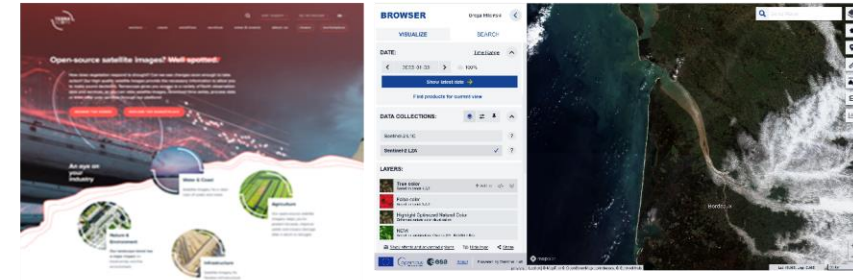


Tools and Services

Large portfolio of data access interfaces and data exploitation services

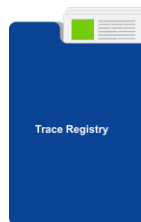
- **Copernicus Browser** for search, access and visualisation
- OData, STAC and S3 APIs for access to data files
- Sentinel Hub and OpenEO APIs for streamlined data access
- Jupyter Lab for hosted analysis and processing
- On-demand Processing Service
- Traceability Service
- Infrastructure as a Service for users

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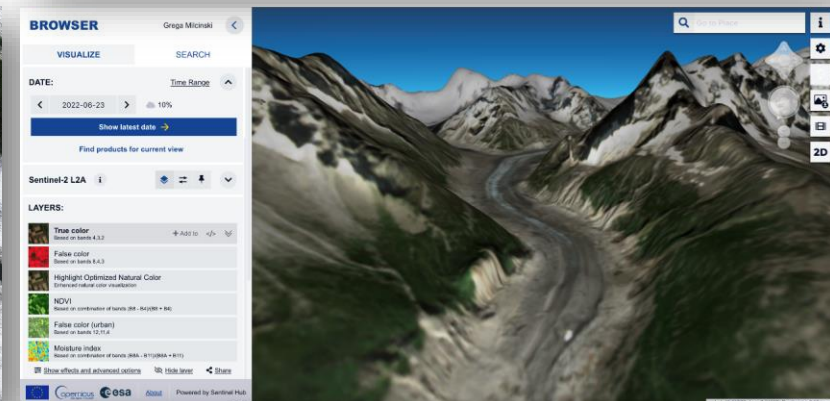
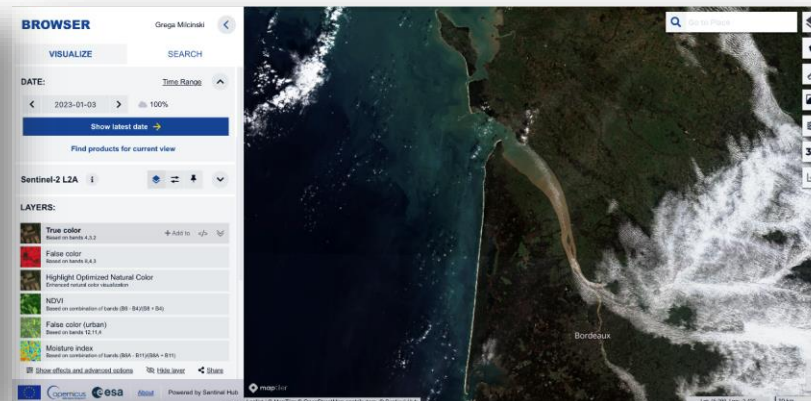
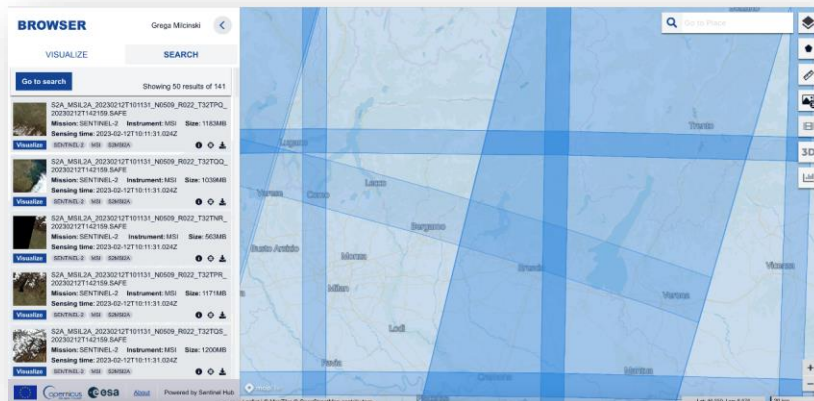
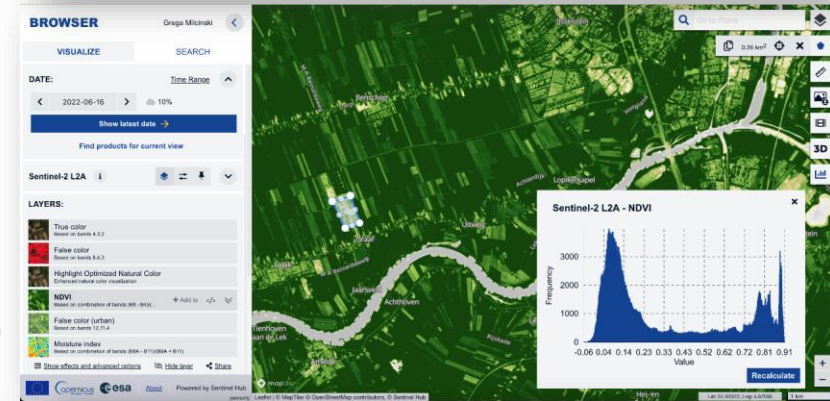
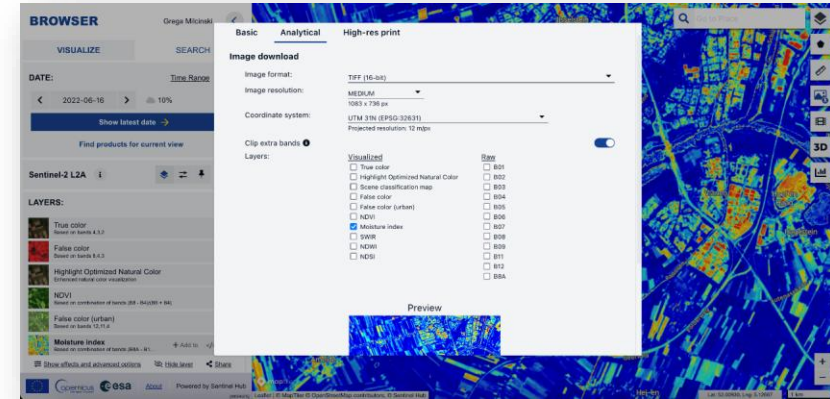
jupyterlab

on-demand



Copernicus Browser

- Search, query and download all User Level Data
- Interactive visualisation and analysis of most important data collections
- Export subset of the data (also in print quality)
- Comparison, time-lapses, area analysis and more
- 3D exploration and visualization
- Built on open APIs from Sentinel Hub (Processing API, WCS, WMS, WMTS)



Roadmap

ROADMAP

<https://documentation.dataspace.copernicus.eu/Roadmap.html>

What can you expect?

The Copernicus Data Space Ecosystem will be continuously upgraded over the upcoming months. The majority of the services will be available by July 2023.

January 2023

- Copernicus Data Space Ecosystem initial service
- Start of user registration
- Sentinel data offering
- Browser
- Catalogue APIs: OData and OpenSearch

April 2023

- Catalogue API: STAC, S3
- Processing API: Sentinel Hub and OGC for supported collections
- Traceability API
- On-demand production API

01 July 2023

- Full archive of Sentinel missions
- Complementary open datasets
- Access to commercial data
- Processing API: extended Sentinel Hub APIs, OpenEO
- Jupyter Lab
- Marketplace

November 2023

- Sentinel engineering and auxiliary data
- Copernicus Contributing Missions
- Streamlined data access of federated data sets



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PROGRAMME OF
THE EUROPEAN UNION

