Copernicus Space Date Ecosystem
Data access and processing capabilities

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First Generation Sentinels: a wealth of data for the users

Copernicus is the largest producer of EO data in the world

All global landmass is observed every 5 days at 10m resolution

>20 TB of Daily Data Production by Sentinels

~250 TB of Daily Sentinel Products Disseminated for Services to Society

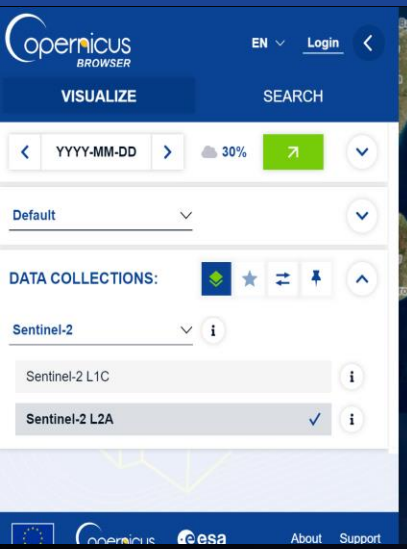
> 750.000
Registered Users
(>180.000 since new CSDE)

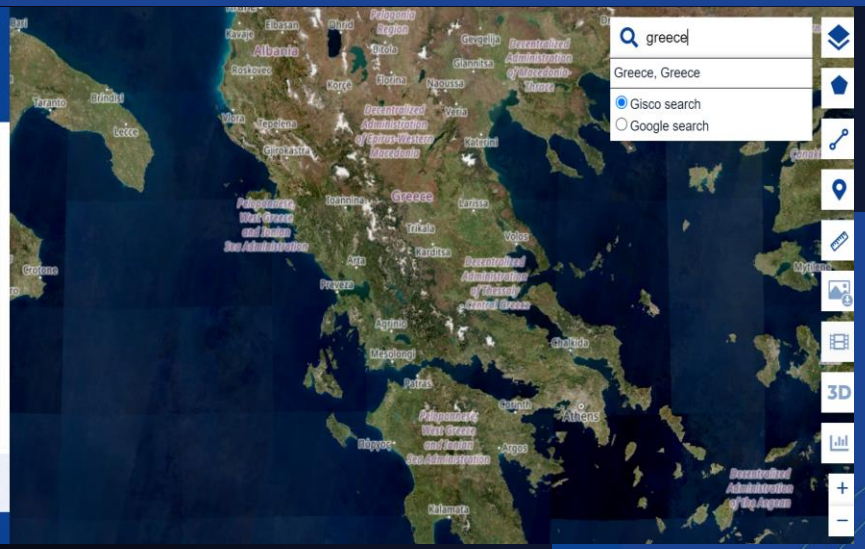
Supporting 6 operational services

- Land
- Atmosphere
- Ocean
- Climate
- Disaster
- Security

Copernicus Data Access

The Copernicus Data Space Ecosystem is now the principal entry point for Sentinel data





Downloaded volume
since the start of operations
725 PB

Total number of published products
since the start of operations
112.08M

Total volume of published products
since the start of operations
78 PB

Total number of registered users
from January 2023
185 198

https://dataspace.copernicus.eu

Status 8 July 2024

CDSE Main Principles and Features

- Contribute to building an **efficient** and **attractive** European solution to access and process Copernicus Sentinel data
- Increase **user direct interaction** with the data – processing the data directly in the Ecosystem
- Provide 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** – one of the main Ecosystem goals

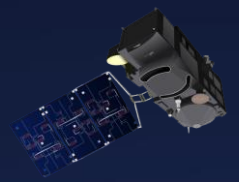
Sentinels: Immediately Available Data

>78 PB immediately available (>110 Million products)

- Sentinel-1
  - *GRD SAFE-COG*
  - *GRD SAFE (last year)*
  - *OCN*
  - *SLC*
  - *L0 RAW (Europe full, ROW last year)*

- Sentinel-2
  - *L1C*
  - *L2A*

- 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)*



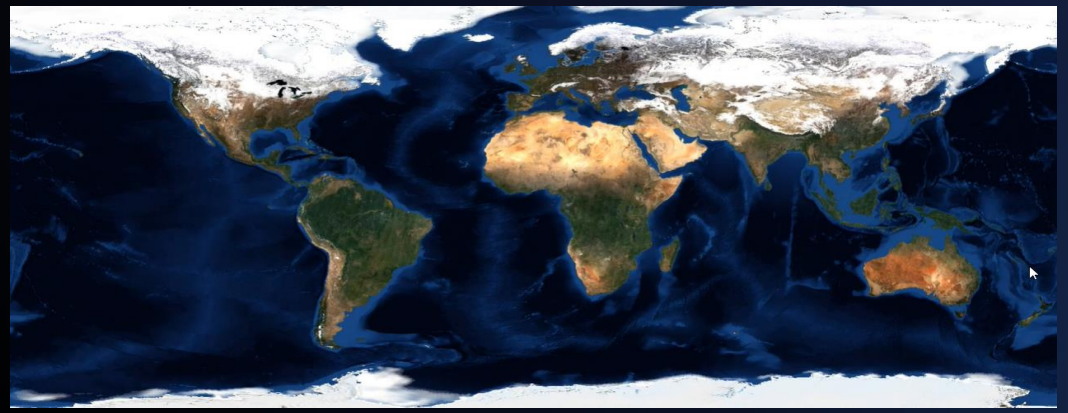
- Sentinel-5P
  - *Level-1B NTC*
  - *Level-2 NRT and NTC (NRT last month)*

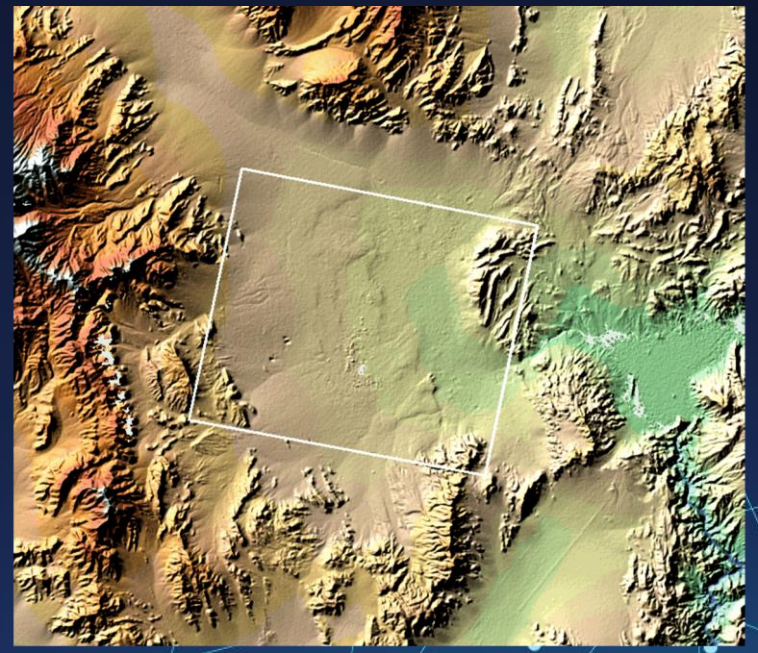
If not explicitly stated otherwise, worldwide coverage, full and up-to-date collection

Additional Data Offer

- Global Mosaics for Sentinel-1, Sentinel-2
- Copernicus Contributing Missions Data (e.g. VHR Europe, Copernicus DEM)
- Sentinel Auxiliary and Engineering Data
- Copernicus Services (CAMS, CEMS, CLMS, CMEMS)

and more...



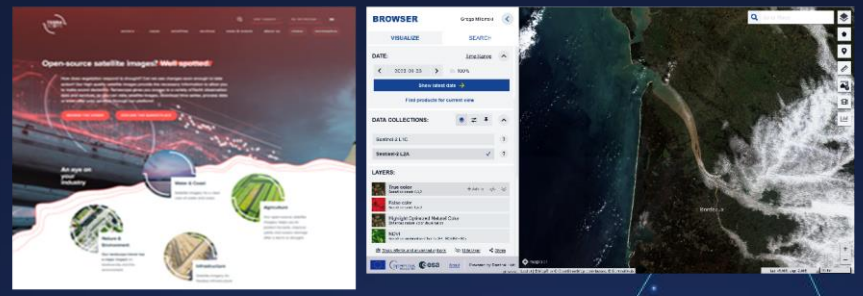


Tools and Services

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
- JupyterLab for hosted analysis and processing
- On-Demand Processing Service
- Traceability Service
- Infrastructure as a Service
- Public User Forum and Support Desk

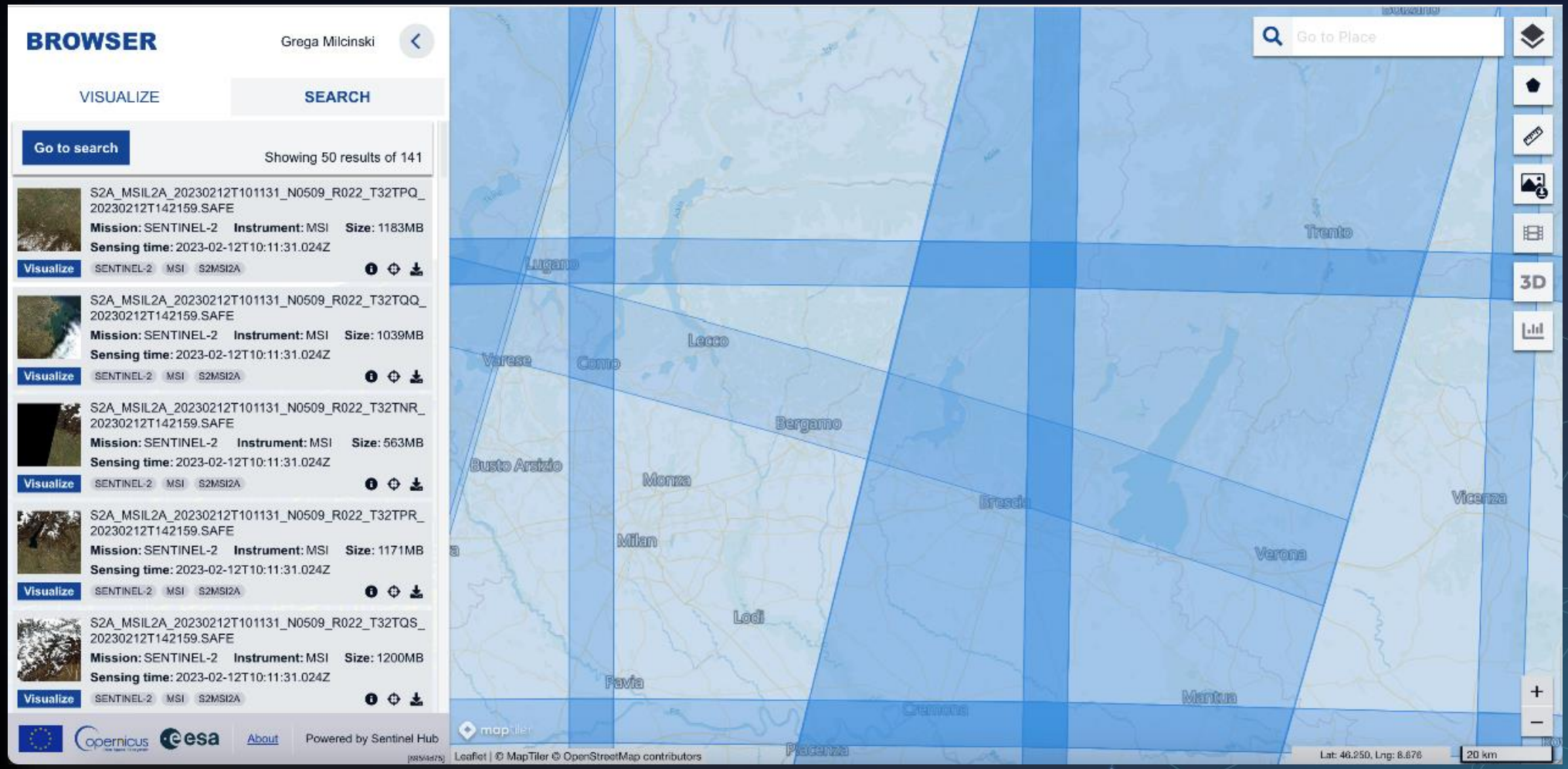
dataspace.copernicus.eu



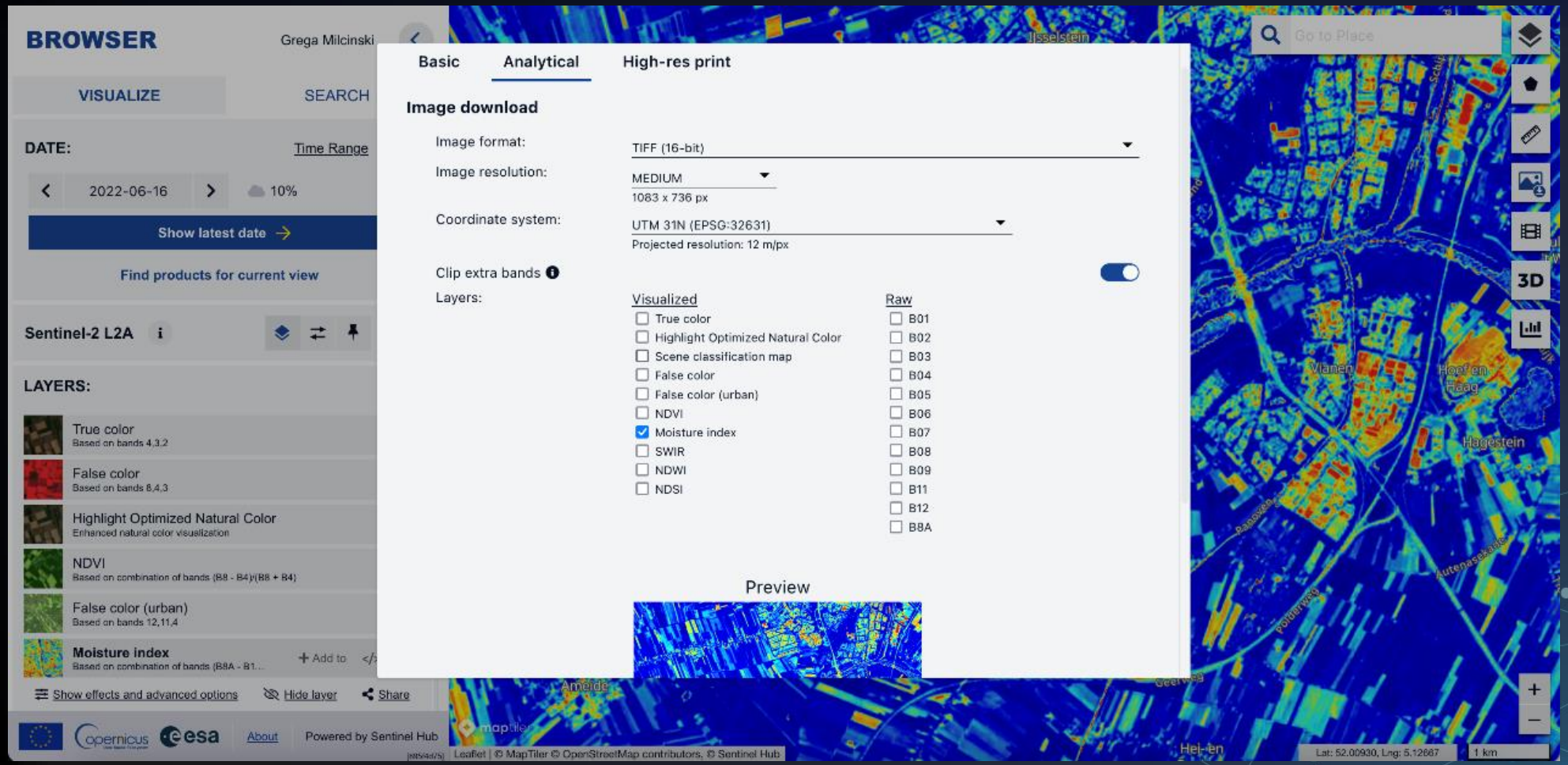
ODATA Open Data Protocol · S3 · STAC · sentinelhub · openEO

jupyterlab · on-demand · IaaS

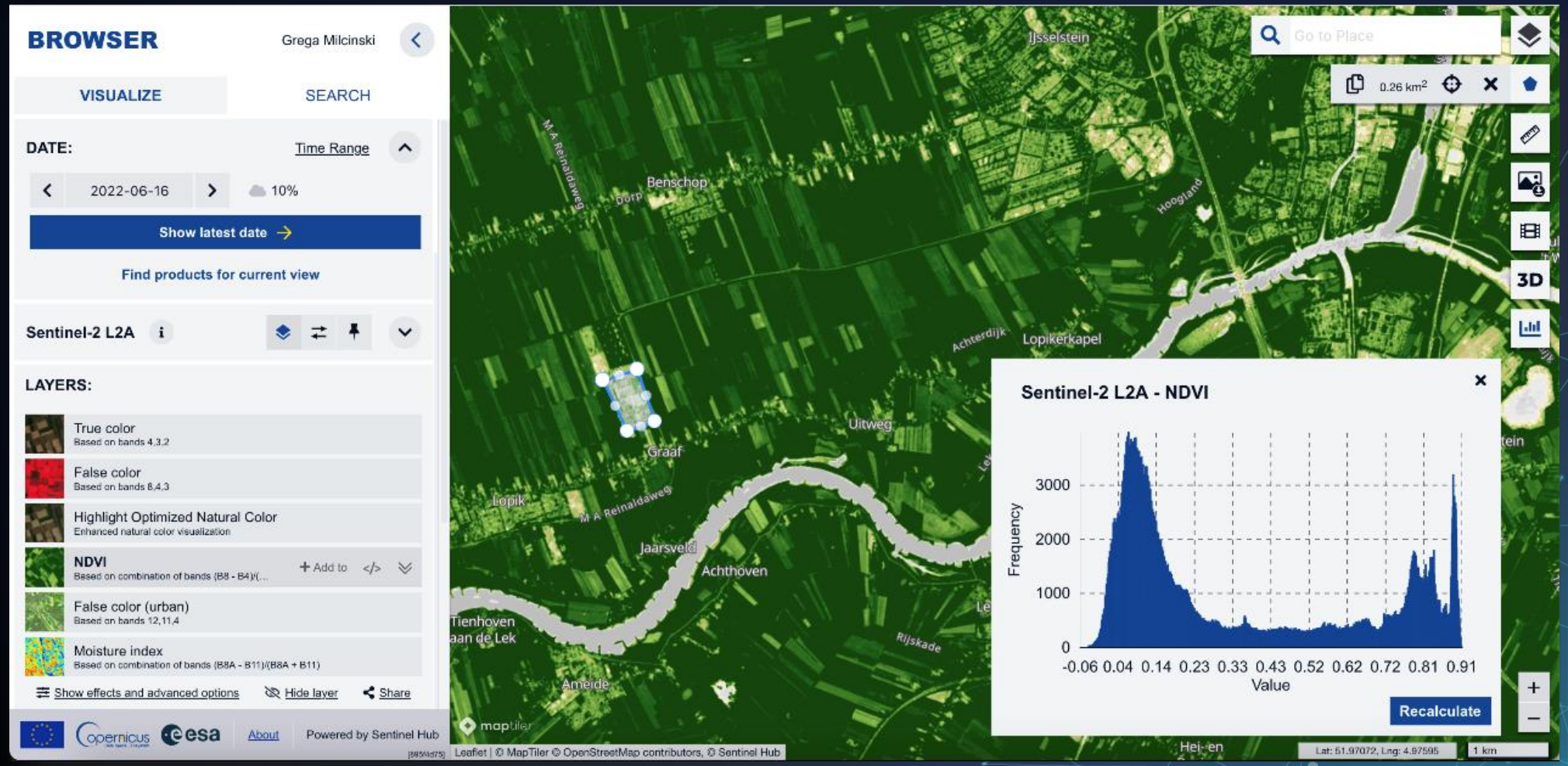
Search, query and download all User Level Data



Interactive visualisation and analysis of most important data collections

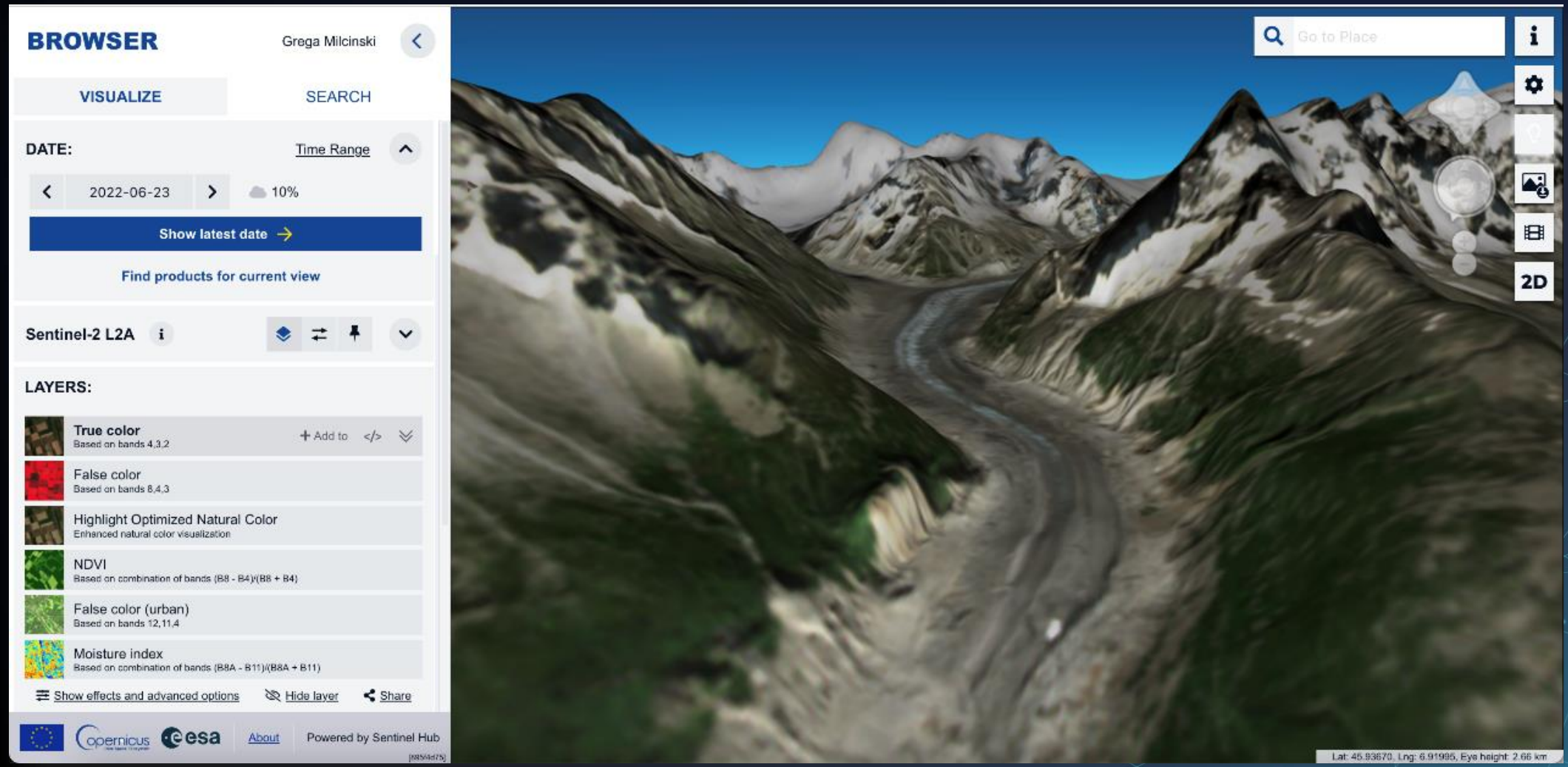


Export subset of the data (also in print quality)

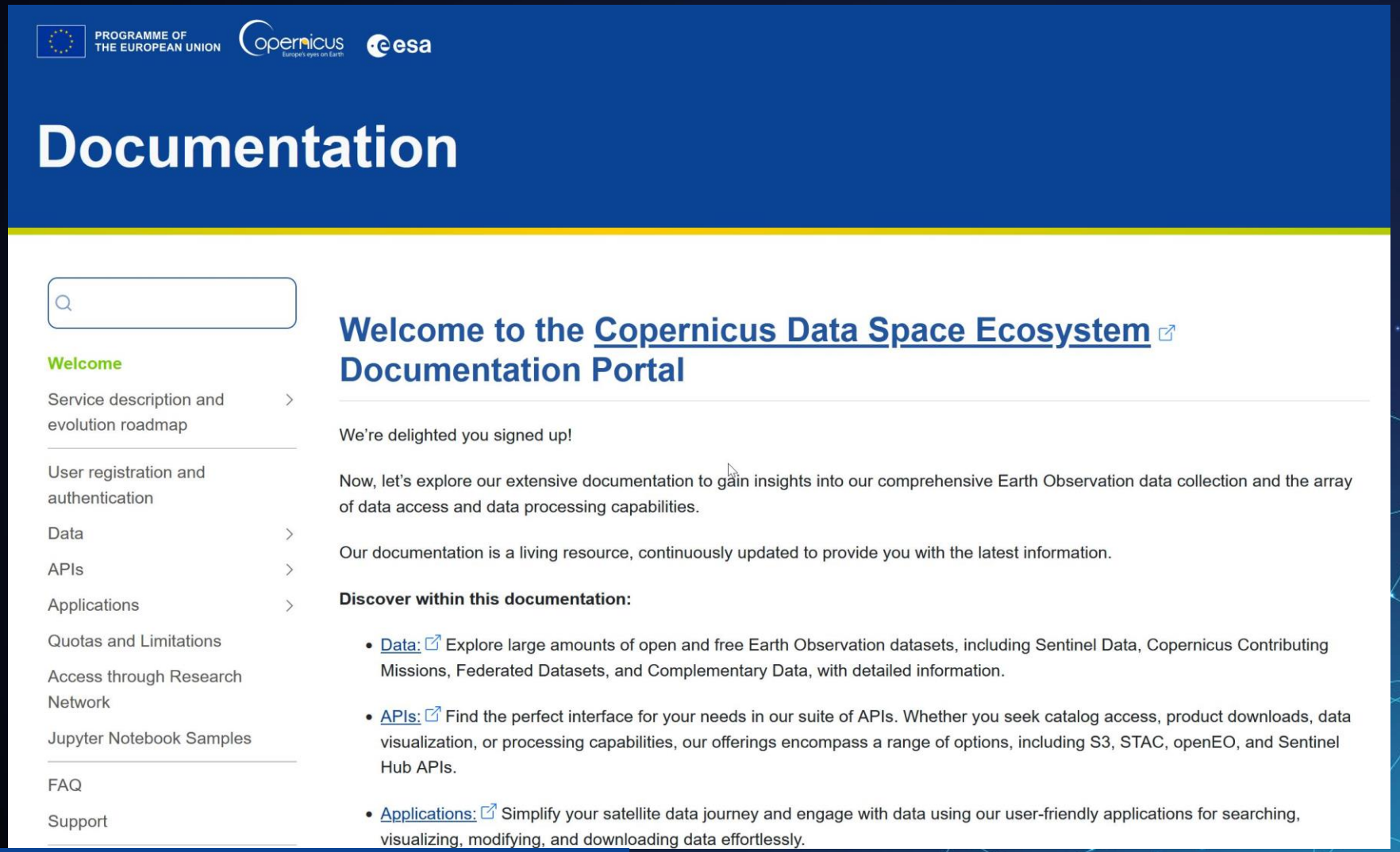


Comparison, time-lapses, area analysis and more…

3D exploration and visualization

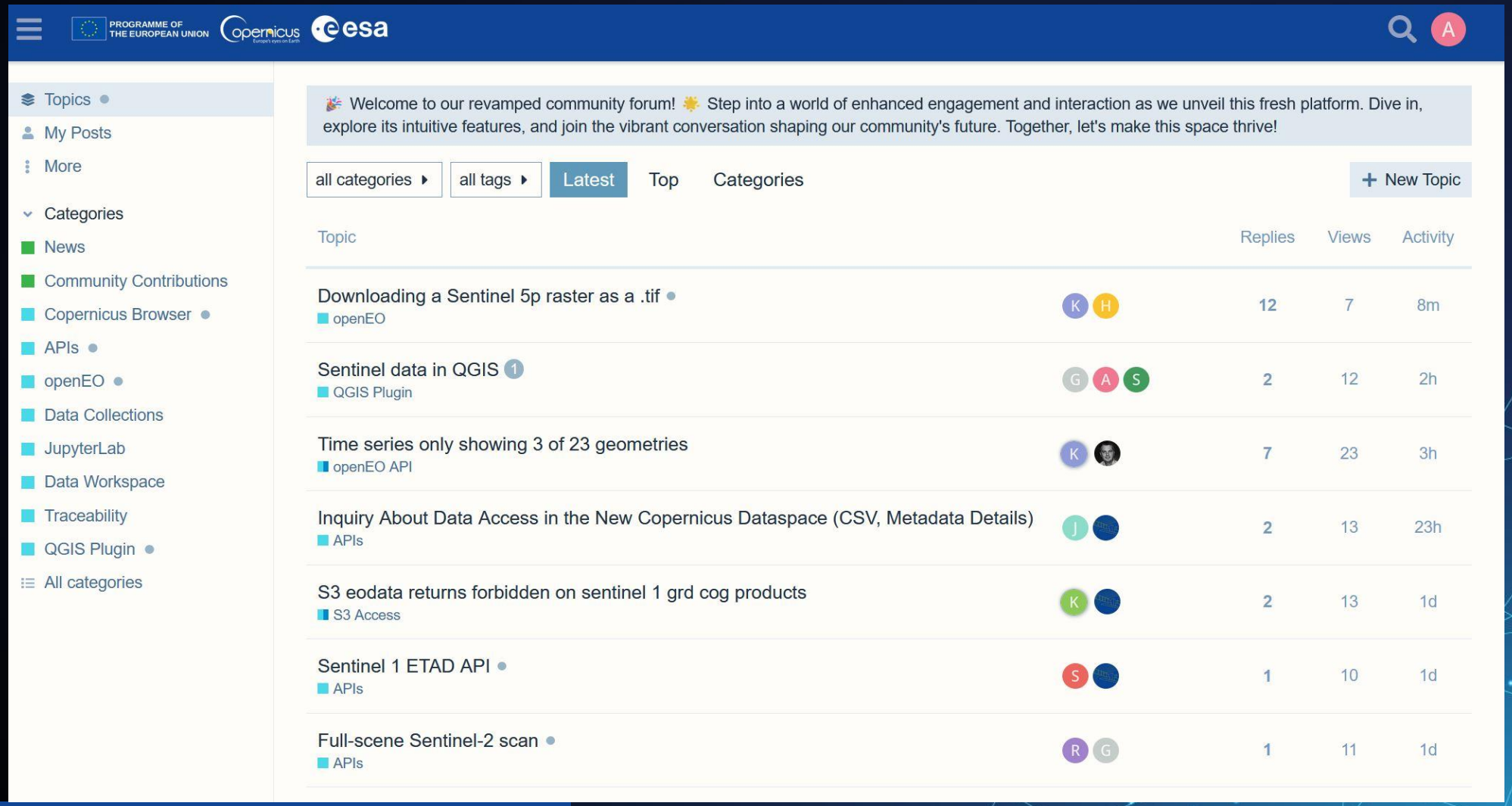


Ecosystem Help Center - Documentation



https://documentation.dataspace.copernicus.eu

Ecosystem Help Center - Community Forum

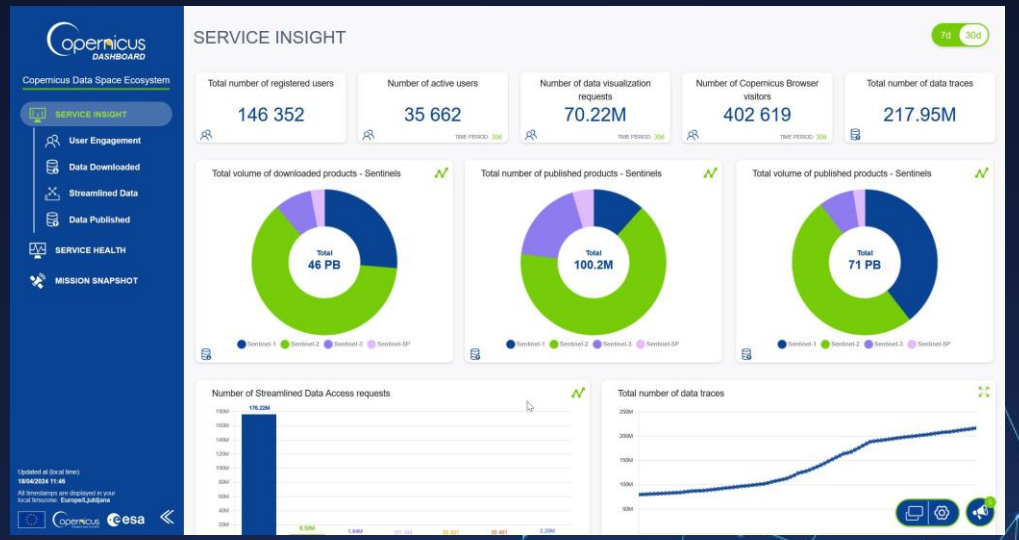


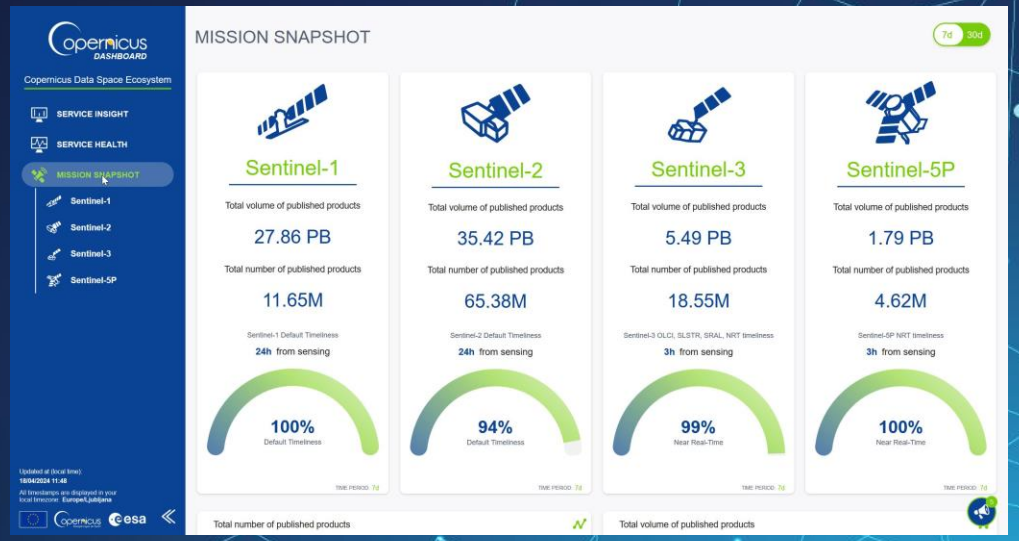
https://forum.dataspace.copernicus.eu

Ecosystem Dashboard

Real-time dashboard for following ecosystem health and use:

- Instant service news banner
- General information about users
- Published and downloaded data volumes
- Streamlined data access
- Service health
- Earth Observation Mission snapshot





CDSE Public Roadmap - Upcoming improvements

ROADMAP

Upcoming improvements

UPDATE July 2024

June 2024

- CCM: VHR Europe, Urban Atlas, Copernicus DEM
- Sentinel-2 Global Mosaics for year 2022, 2023, 2024
- On-Demand Production for Sentinel-1 and Sentinel-3
- Sentinel-3 L2 support in Copernicus Browser and Sentinel Hub API's
- Traceability service providing traces for all Sentinel-1 data

Q3 2024

- New STAC API prototype for Sentinel-2
- On-Demand Production for Sentinel-2
- CCM: SAR Sea Ice data available
- CCM: visualization of VHR's in the Copernicus Browser
- Sentinel-1 SLC Bursts
- Sentinel-1 Global Mosaics 2023 and 2024
- Sentinel-2 L1B (*Expert Users access)
- openEO: Random forest support
- openEO: Federation capability available
- AUX Historical data available for Sentinel-5P mission
- Traceability service providing traces for all Sentinel-2, Sentinel-3 and Sentinel-5P data
- Extension of new CDSE dashboard statistics

Q4 2024

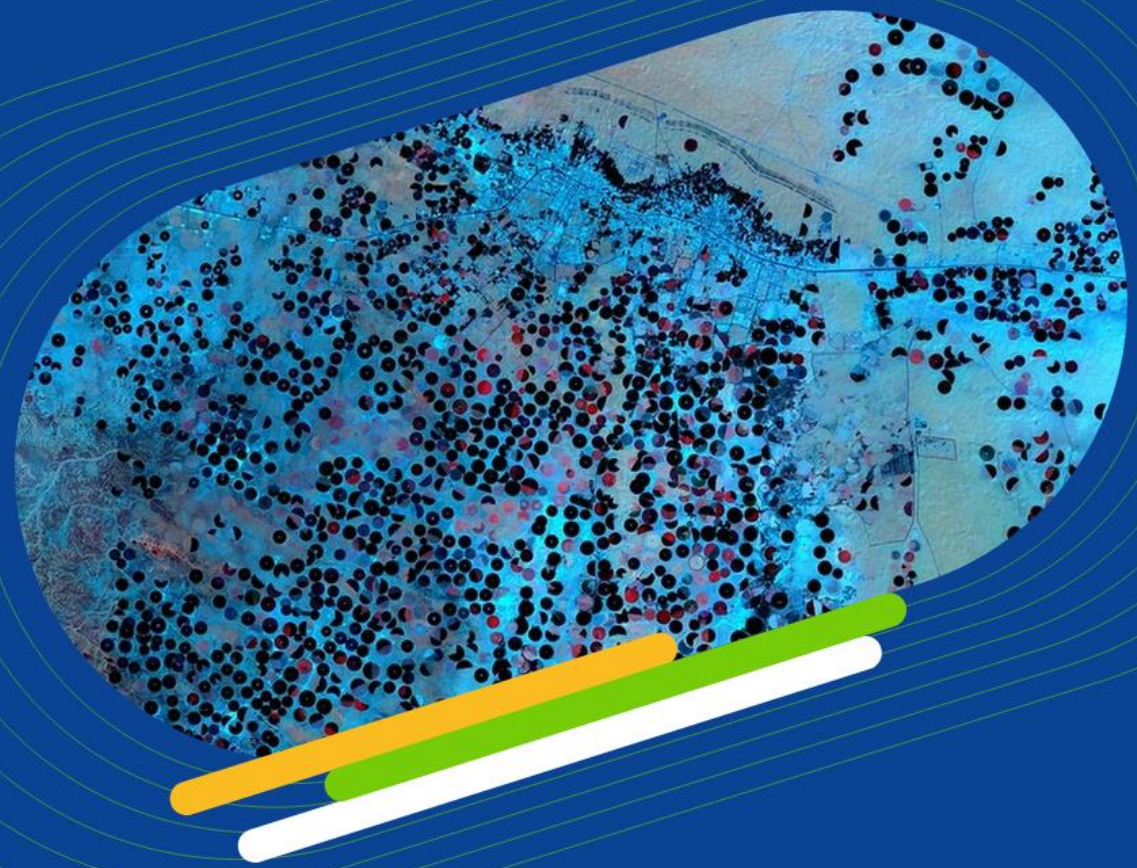
- Landsat Collection 2 L1 for years 2022, 2023 and 2024
- New STAC API prototype for remaining Sentinel missions
- Sentinel-2 Collection 1 available including reprocessed data for 2022 and 2023

PROGRAMME OF THE EUROPEAN UNION

https://dataspace.copernicus.eu

Explore the Copernicus Data Space Ecosystem

Welcome to the Copernicus Data Space Ecosystem, an open ecosystem that provides free instant access to a wide range of data and services from the Copernicus Sentinel missions and more on our planet's land, oceans and atmosphere.

The Copernicus Data Space Ecosystem not only ensures the continuity of the open and free access to Copernicus data but also extends the portfolio for data processing and data access possibilities.

LOGIN