



Introduction to CREODIAS – the European platform for Earth Observation data access and processing

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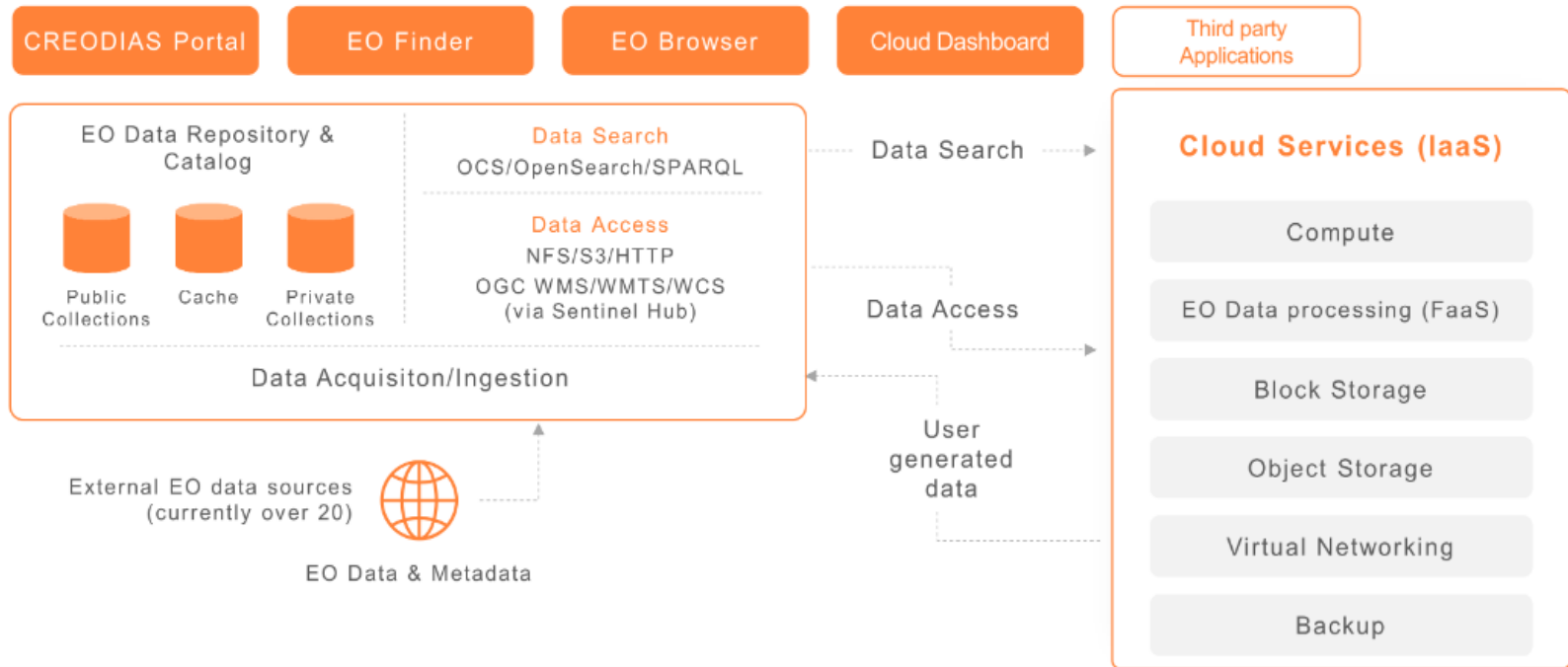
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01

CREODIAS platform architecture

High level layout of CREODIAS platform



CREODIAS CLOUD SERVICES (IaaS)

**FULLY
INTEGRATED
WITH EO
REPOSITORY AND
CATALOGUE**

**BASED ON
OPENSTACK**

**ACCESSIBLE VIA
API AND GUI**

**SEPARATE
ADMINISTRATIVE
DOMAINS FOR
DIFFERENT
CUSTOMERS**

CREODIAS services data and other data collections

COPERNICUS SERVICES DATA ON CREODIAS

 <https://creodias.eu/processing>

02

**Data collections
(free and paid Very High
Resolution imagery)**

CREODIAS data offer (part1)

Datasets	Products	Instrument	Locally Held
Sentinel-1A & Sentinel-1B	GRD	SAR C-BAND	Full archive
	OCN		
	RAW		Last 6 months
	SLC		- Europe: Full archive - Last 6 months / orderable
Sentinel-2A & Sentinel-2B	L1C	MSI	Full archive
	L2A		- Europe: Full archive - Orderable */**, Cached ***
Sentinel-3A & Sentinel-3B	L1 SLSTR	SLSTR	Full archive
	L1 OLCI	OLCI	
	L1 SRAL	SRAL	
	L2 SLSTR (LST/WST)	SLSTR	
	L2 OLCI	OLCI	
	L2 SRAL	SRAL	

* Can be ordered from ESA via CREODIAS Finder

** If L2A does not exist in ESA archive, it can be processed by CloudFerro with Sen2Cor

*** Kept in rolling cache of 1 PB (mostly European coverage). Oldest data will be removed when cache is full

**** Sentinel-5P L2 products currently stored: Aerosol, Cloud, CO, HCHO, NO2, NP, O3, SO2

CREODIAS data offer (part2)

Datasets	Products	Instrument	Locally Held
Sentinel-5P	L1B	TROPOMI	Full archive
	L2 ****		
Landsat-5	L1G, L1T, L1GT	TM	Coverage of Europe, (1984-2011)
Landsat-7	L1G, L1T, L1GT	ETM	Coverage of Europe, (1999-2017)
Landsat-8	L1T, L1GT	OLI, OLI TIRS	Coverage of Europe, (2013- present)
Envisat	L1	MERIS	Global, (2002-2012)
	L1,L2	ASAR	Orderable */**, Cached ***
SMOS	L1B, L1C, L2	MIRAS	Global, (2010-present)

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**** Sentinel-5P L2 products currently stored: Aerosol, Cloud, CO, HCHO, NO2, NP, O3, SO2

CREODIAS services data and other data collections

COPERNICUS SERVICES DATA ON CREODIAS

Datasets	Products	Data access
CAMS (Atmosphere)	Selected collections	Accessible over S3 or NFS protocol
CEMS (Emergency)	Rapid mapping archive	Accessible over S3 or NFS protocol
CLMS (Land)	All public collections	Accessible over S3 or NFS protocol
CMEMS (Marine)	All public collections	Accessible over S3 or NFS protocol

OTHER DATA COLLECTIONS ON CREODIAS

Datasets	Products	Instrument	Locally Stored Data	Data access
DEM	Mapzen	SRTM, others	Aggregation of several DEM sources	Accessible over S3 or NFS protocol
	SRTM	SRTM	Global (56S, 60N, 180W, 180E) February 2000	Accessible over S3 or NFS protocol
	EU-DEM	multiple	Aggregation of several DEM sources	Accessible over S3 or NFS protocol
	Copernicus DEM	multiple	Aggregation of several DEM sources	Accessible over S3 or NFS protocol
Jason-3	Altimeter	Altimeter	Since mission began	Accessible over S3 or NFS protocol
S2GLC	Sentinel-2 Global Land Cover	MSI	2017 analysis	Accessible over S3 or NFS protocol

CREODIAS VHR commercial data offer

Datasets	Products	Spatial resolution	Revisit time	Spectral scope
Jilin-1	Optical	PAN: 0,72m MS: 2:88m Video: 0,92m	3.3 days	Panchromatic: 612-794 μm Blue: 457-526 μm Green: 540-595 μm Red: 628-688 μm Simulated NIR: 700-800 μm
KazEOSat	Optical	PAN: 1m MS: 4m	3 days	Panchromatic: 450-750 μm Blue: 450-600 μm Green: 530 600 μm Red: 620-690 μm NIR: 760-890 μm
KOMPSAT	(KOMPSAT 3A) Optical (KOMPSAT 5) Radar	PAN: 0.4m MS: 1.6m	1.4 days	Panchromatic: 450-900 μm Blue: 450-520 μm Green: 520-600 μm Red: 630-690 μm NIR: 760-900 μm

CREODIAS services data and other data collections

COPERNICUS SERVICES DATA ON CREODIAS

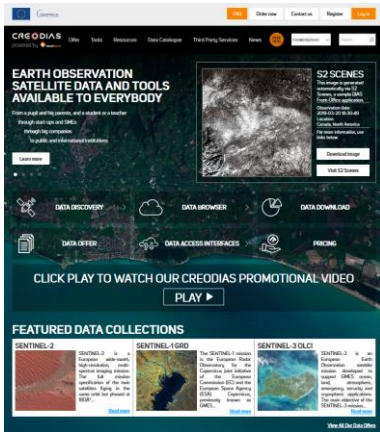
 <https://creodias.eu/data-offer>

03

CREODIAS tools for EO data browsing and processing

USER TOOLS

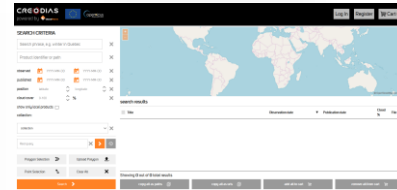
CREODIAS Portal



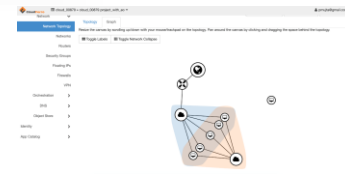
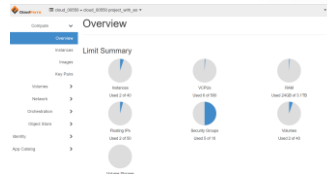
EO Browser



EO Finder



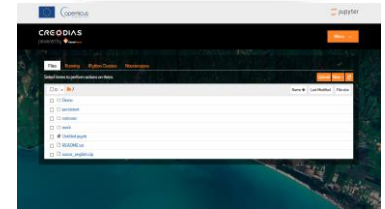
Cloud Dashboard



Third party Applications

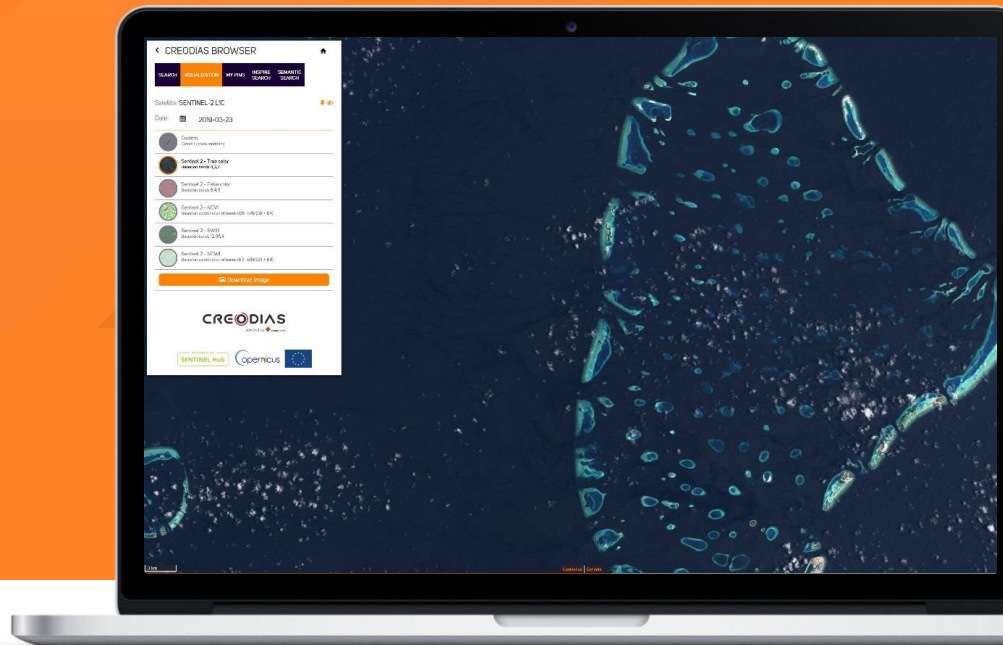


Jupyter Notebook



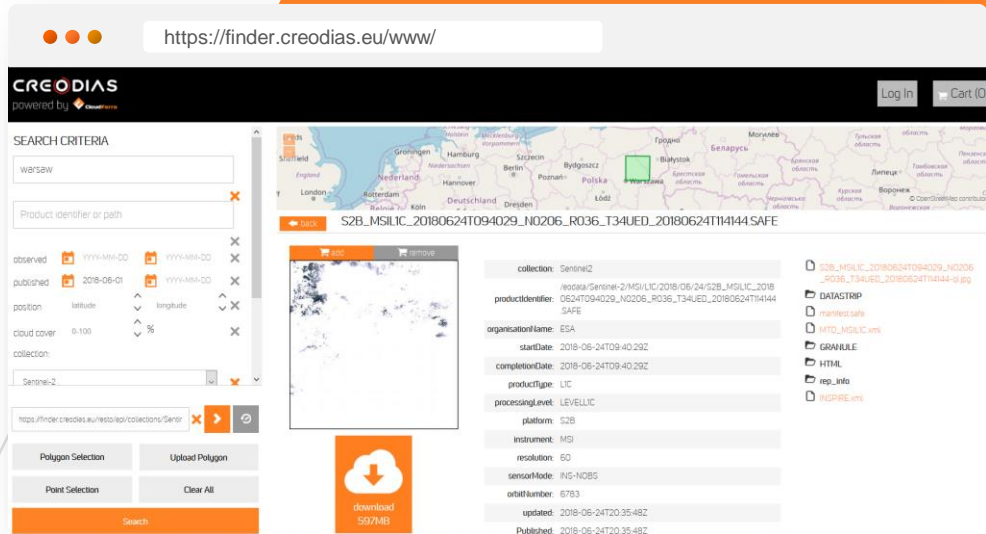
EO BROWSER

- ✓ Allows visualization, zooming and basic processing of selected data collections
- ✓ The SPARQL interface provides extended search capabilities (semantic search) linking metadata of products stored in the repository with external data sources
- ✓ Tile browsers based on CREODIAS WMTS data can be embedded in third party applications



EO FINDER

- ✓ Allows finding data products stored in the repository by timeframe, area of interest, cloud coverage and other selection criteria
- ✓ Data can be downloaded or selected for further processing
- ✓ Orders can be placed for fetching remote data into the repository cache



field	value
collection	Sentinel2
productIdentifier	RS2018-06-24T09:40:29-N0206-R036-T34UED-20180624T11444
productIdentifier	SAFE
organisationName	ESA
startDate	2018-06-24T09:40:29Z
completionDate	2018-06-24T09:40:29Z
productType	L1C
processingLevel	LEVEL1C
platform	S2B
instrument	MSI
resolution	60
sensorName	MS-NCBS
orbitNumber	6783
updated	2018-06-24T20:35:48Z
Published	2018-06-24T20:35:48Z

Q&A

“Seize the beauty of our planet” - VOTE!



<https://cloudferro.com/en/contest/>

OCRE Funding for Research Projects



<https://www.ocre-project.eu/>

Webinar: External funding opportunities with CREODIAS.



Coming Next week!



THANK YOU FOR YOUR ATTENTION

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