

Introduction into Austrian EO Infrastructure EODC

Christian Briese & Team

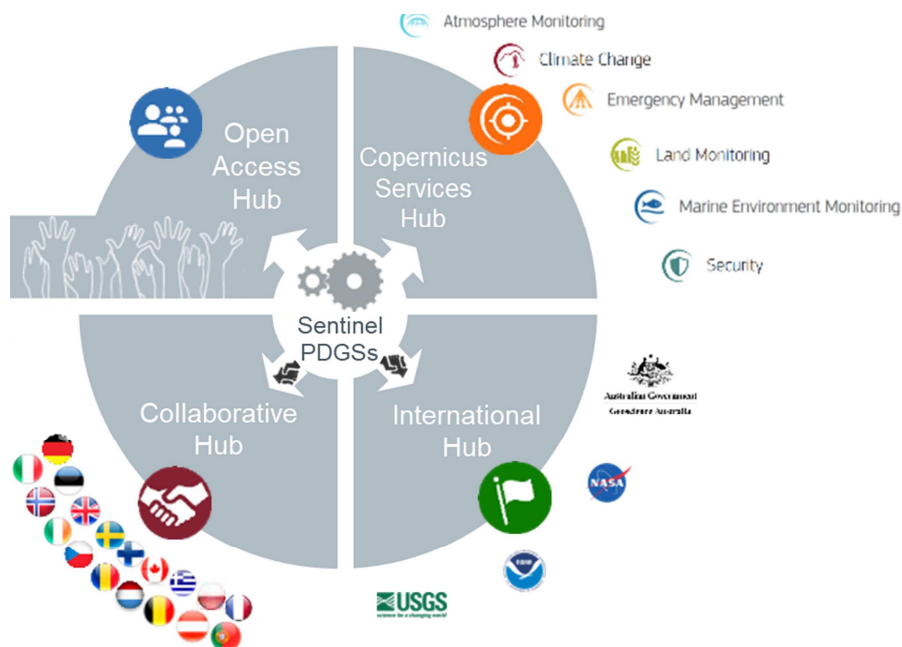
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Earth Observation Data Center
for Water Resources Monitoring



Data distribution via Copernicus Hubs



National Mirrors

Copernicus Open Access Hub	Collaborative Hub	International Hub	Copernicus Services Hub
Self Registration	Collaborative Users Data Hub Relay Users	International agreements	Registered Users DIAS Partners
Oldest S1 products removed following introduction of LTA	Node 1: 30 days Node 2: 2 weeks Node 3: 3 weeks	3 Weeks	Oldest S1 products removed following introduction of LTA
Sentinel-1 NTC Sentinel-2 Sentinel-3 (PreOps) Sentinel-5P (PreOps)	Sentinel-1 NRT & NTC Sentinel-2 Sentinel-3 SRAL & OLCI	Sentinel-1 NTC Sentinel-2 L1C Sentinel-3 SRAL	Sentinel-1 NRT+ NTC Sentinel-2 Sentinel-3 SRAL & OLCI
Max 2 Concurrent Downloads	Max 10 concurrent downloads per Node	Max 10 concurrent downloads	Max 10 concurrent downloads

Hubs only provide rolling archives of ALL products

Austrian Initiatives for Copernicus Data Access

National Mirror & Data Hub Relay

- Rolling Archive
- > 15.000 products received/day (11TB compressed data)
- <https://sentinel.zamg.ac.at>



EODC Earth Observation Data Centre

- **Long Term Archive (LTA)**
- Local, regional and global data
- Cloud computing
- High Performance Computing
- Petabyte-scale data storage
- Added value



EODC

- New Paradigm in EO Data Processing (Wagner et al., 2014)
 - Data volume and data transfer rates
 - Increasing complexity of algorithms with increasing resolution
- Proposed solution
 - Bring software to data
 - Cooperation & specialisation
- EODC foundation in May 2014 as public-private cooperation

Wagner et al. (2014) Addressing grand challenges in earth observation science: The Earth Observation Data Centre for Water Resources Monitoring, ISPRS Commission VII Symposium, Istanbul, Turkey, 29 September-2 October 2014, ISPRS Annals, Volume II-7, 81-88.

EODC Cooperation Network

PRINCIPAL COOPERATION PARTNERS



Vienna University of Technology
Karlsplatz 13, 1040 Vienna, Austria
www.tuwien.ac.at



Zentralanstalt für Meteorologie und Geodynamik – ZAMG
Hohe Warte 38, 1090 Vienna, Austria
www.zamg.ac.at



GeoVille Information Systems GmbH
Sparkassenplatz 2, 3rd Floor, 6020 Innsbruck, Austria
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Universität für Bodenkultur Wien
Gregor-Mendel-Straße 33, A-1180 Wien, Austria
www.boku.ac.at



Catalysts GmbH
Gruberstraße 19, 4232 Hagenberg, Austria
www.catalysts.cc



Global Change Research Centre Academy of Sciences of the Czech Republic GmbH
Mendel Zemedelska 1, 613 00, Brno, Czech Republic
www.czechglobe.cz



EURAC research
Institute for Applied Remote Sensing,
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VITONV
Flanders' research and technology organisation on cleantech and sustainable development,
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www.vito.be



BMNT
Federal Ministry for Sustainability and Tourism,
Stubenring 1, 1010 Vienna, Austria
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Brandhofgasse 5, 8010 Graz, Austria
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ASSOCIATE COOPERATION PARTNERS



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www.geo.uzh.ch



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United Nations World Food Program
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www.wfp.org



Umweltbundesamt
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<http://www.umweltbundesamt.at/>



Research Institute for Geo-Hydrological Protection, National Research Council
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Monash University
Faculty of Engineering, 23 College Walk, Clayton, Victoria
3800, Australia
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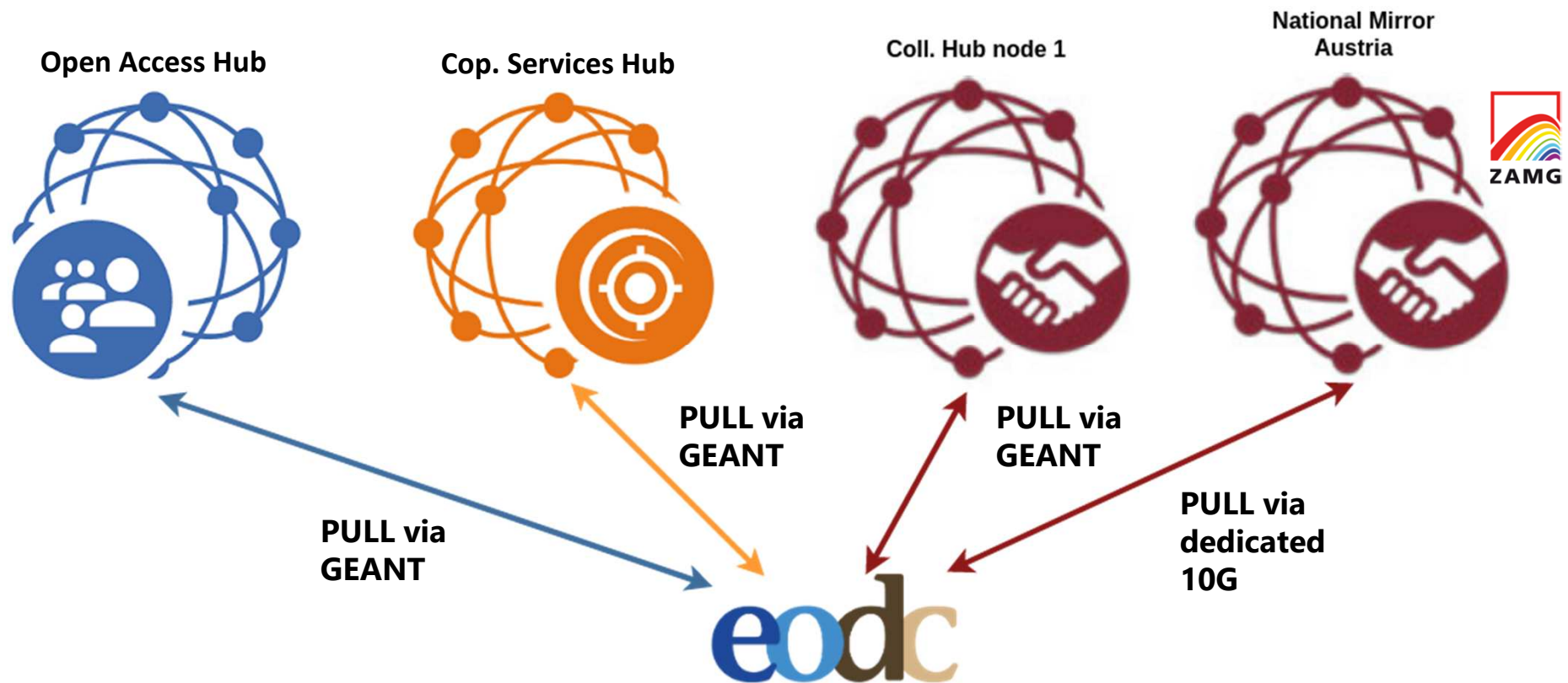


AW Software und Technologie GmbH
Mariahilfer Straße 47/3/1, 1060 Vienna, Austria
www.awst.at

EODC Offers

- Infrastructure
 - Storage & Processing power
- Data
- Base services to facilitate to work on the EODC infrastructure
 - that allow
 - the development of individual services of the partners and clients
 - jointly develop and promote value adding-services
 - with the aim to
 - bring science to operation
 - widen the application fields of EO data (national, regional and global applications)

Current data acquisition scenario



EODC Data Repository

Status 27.01.2020

9.880.000

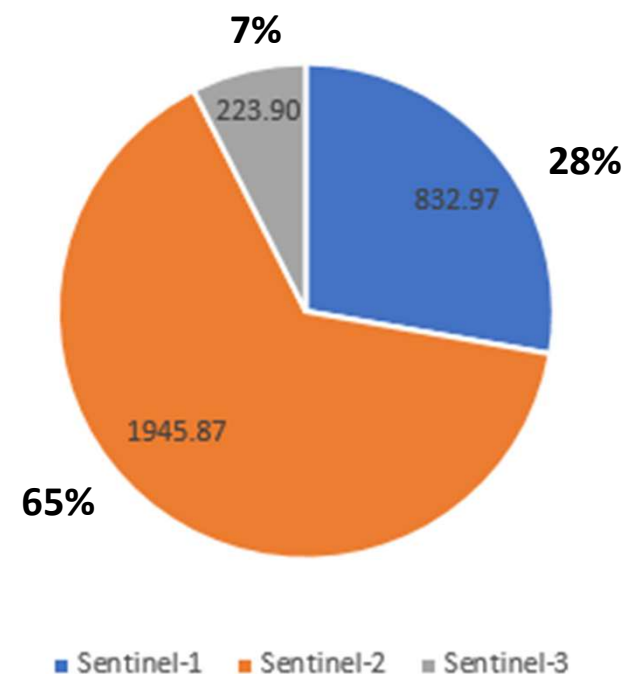
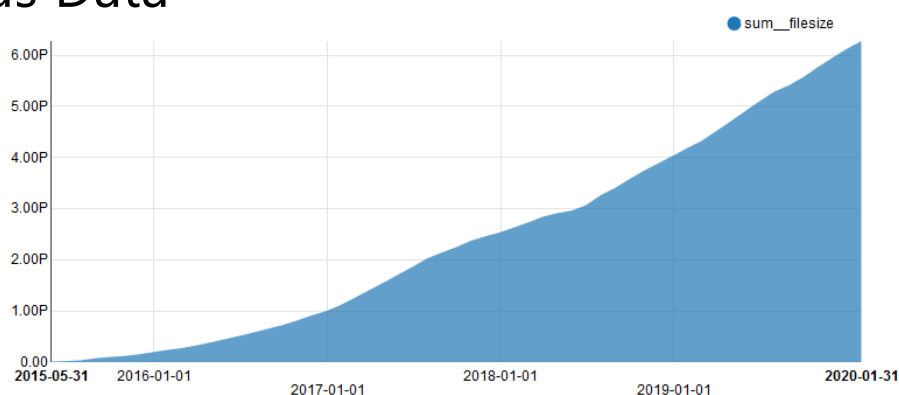
Data sets

5,5 TeraByte

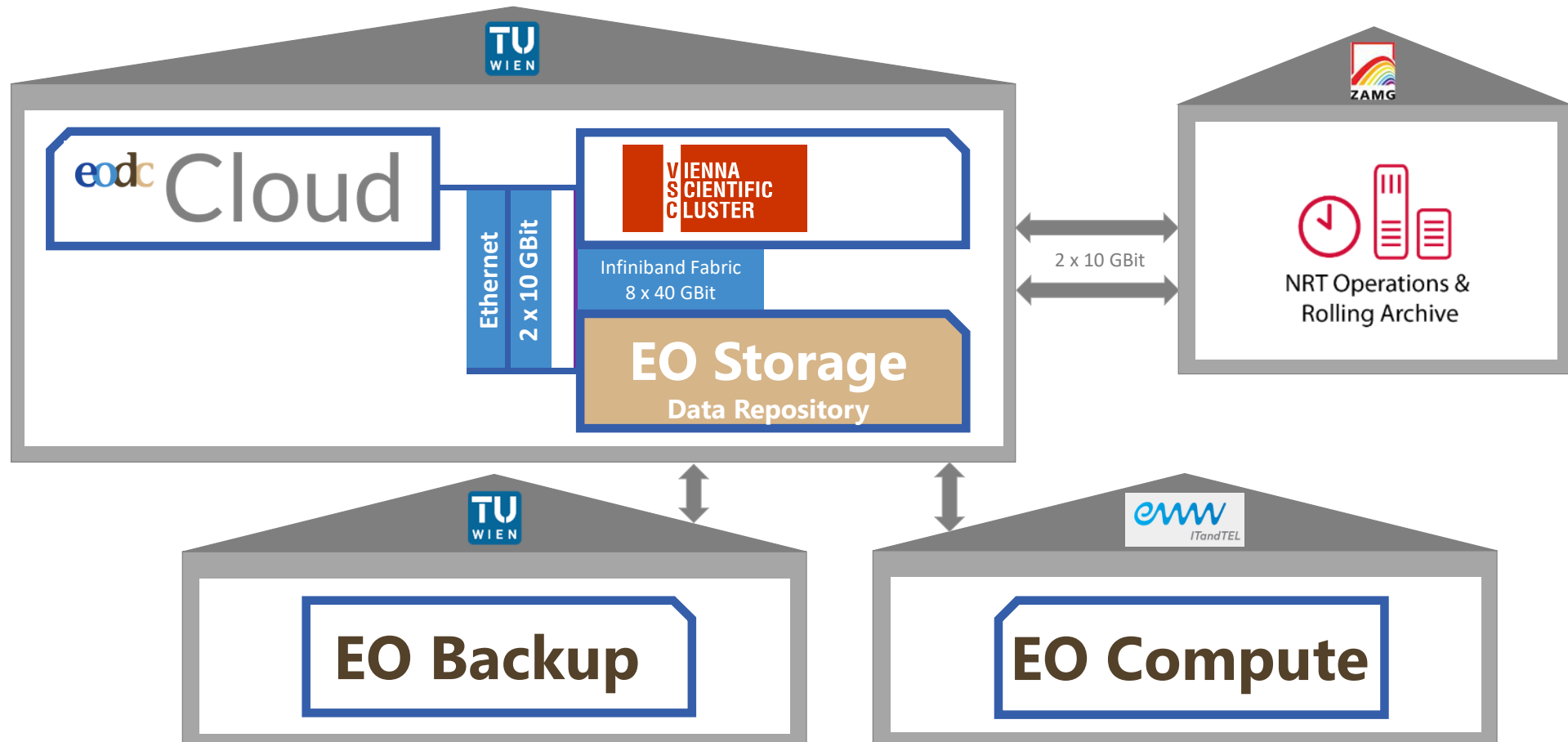
data ingested per day

6,35 PetaByte

Copernicus Data

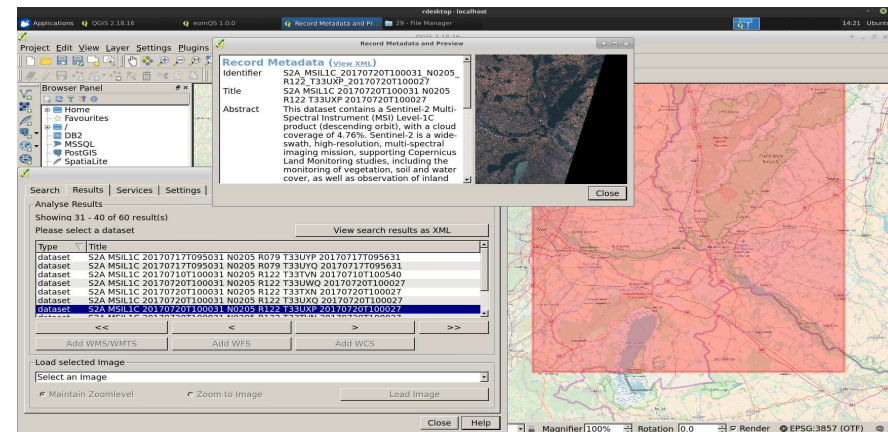
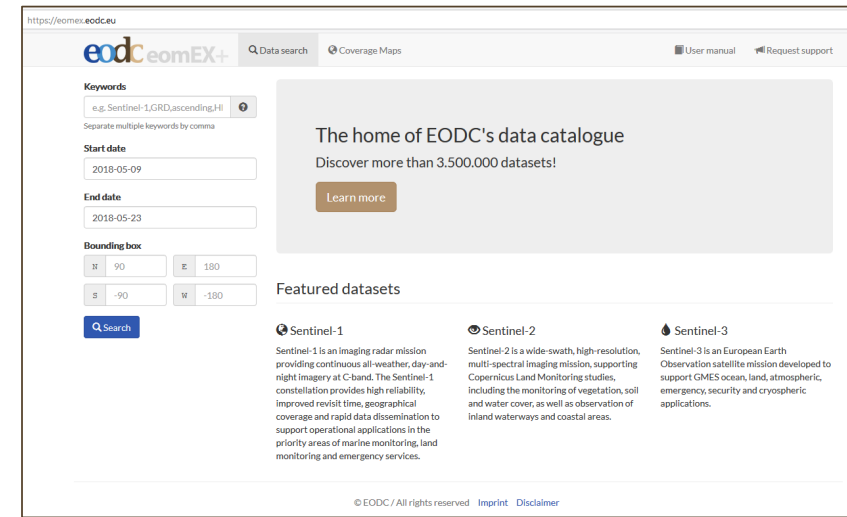


Collaborative EODC Infrastructure



Base Services

- Data status: EO-Monitor
- Metadata Catalogue
 - OGC CSW server: <https://csw.eodc.eu/>
- Metadata Explorer
 - eomEX+: <https://eomex.eodc.eu/>
- Q-GIS plugin
 - eomQS

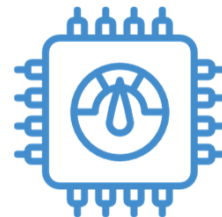


Service Portfolio



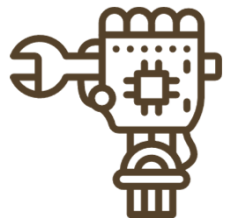
EODC Cloud

- OpenStack (CPU, RAM, ...)
- Storage resources
- EO Service Credits



High Performance Computing

- VSC-3 (node hours)
- Access to EO Storage
- Exclusive to partners



EODC Toolbox

Applications on demand

- Sen2Agri
- Jupyter Notebooks*
- SNAP, Sen2Cor, ...*



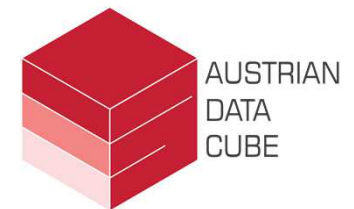
EODC Partnership

- Community (e.g. Forum)
- Additional service layer
- Exclusive services (value added products, HPC, ...)
- Data sharing with other partners
- Discounts

Austrian Data Cube:

A service for the Austrian EO user community

Analysis ready data cubes for Austria (Sentinel-1 and Sentinel-2 composites) following the **regional user needs**




Seamless multi-dimensional representation of the different data products with access possibilities **that simplify the use of the data products.**

funded by  **FFG**
Forschung wirkt.



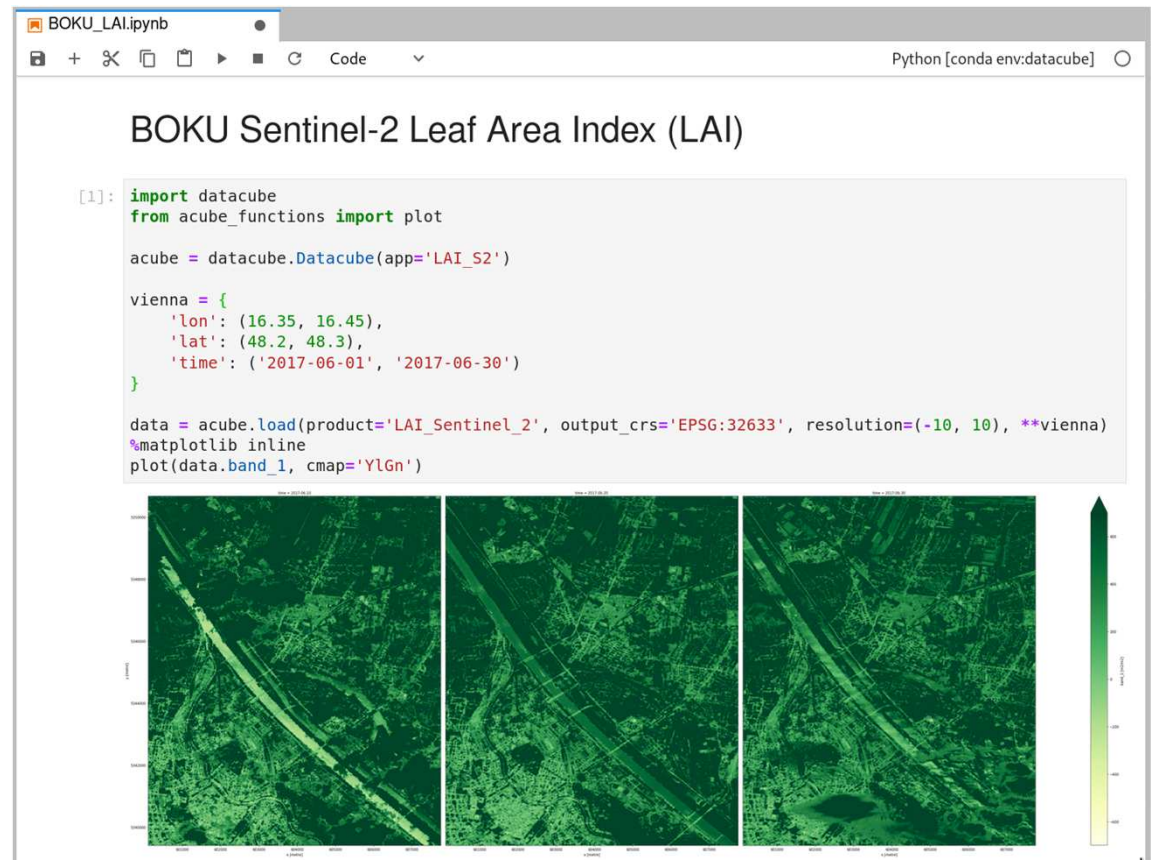
 Bundesministerium
Nachhaltigkeit und Tourismus

 Bundesministerium
Landesverteidigung

Access the Austrian Data Cube

- Jupyter Notebooks →
- Geoserver
 - WMS, WCS interfaces
 - QGIS, ArcGIS

Demo: <https://acube.eodc.eu>



Join the EODC Collaborative Network!



Partnership

Get on board and support the EODC mission



Individual solutions

Tailored to your needs

More information at www.eodc.eu and office@eodc.eu