

EODC ::

Enabling Services based on Sentinel Data

Christian Briese

christian.briese@eodc.eu



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 customers
- 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)



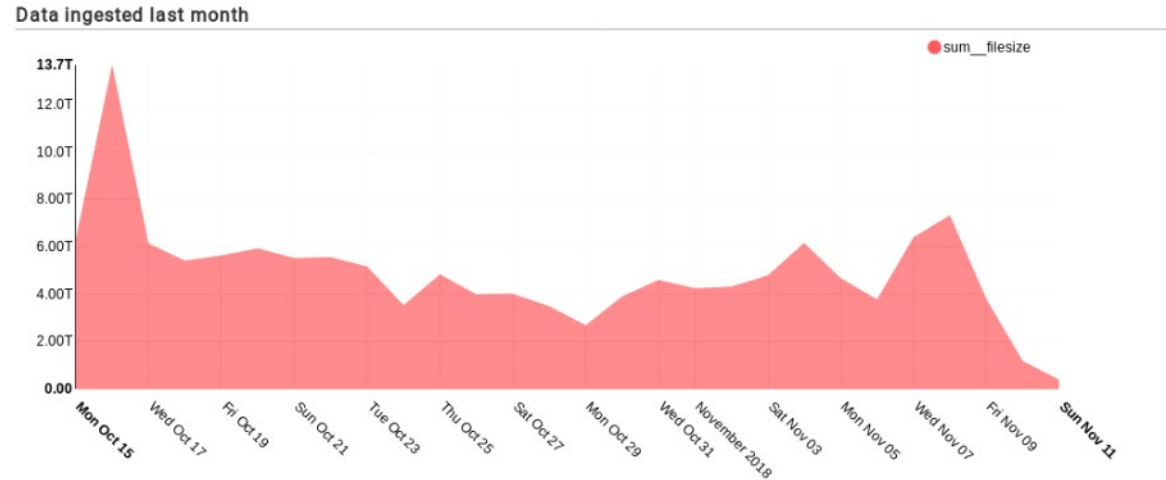
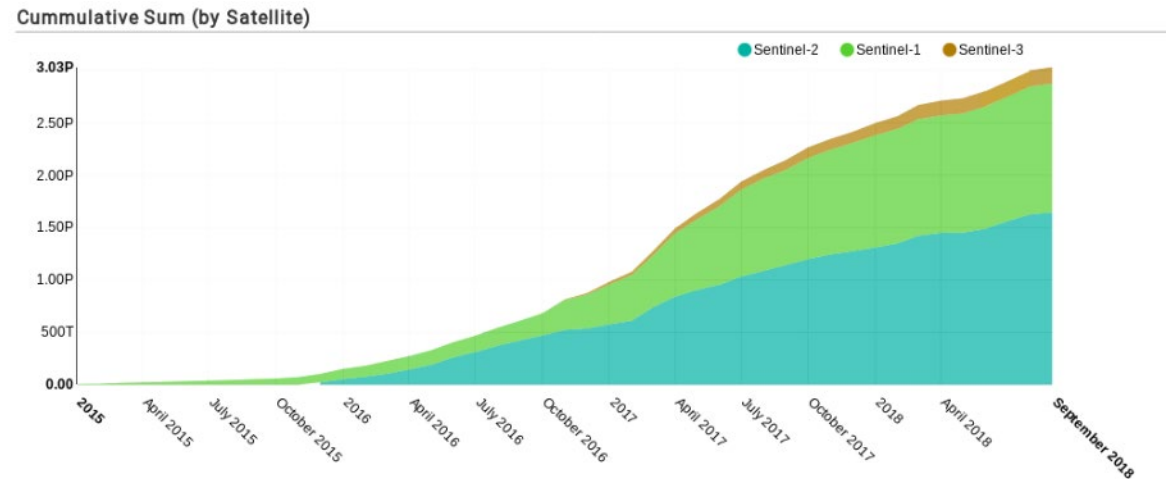
EO Data

5.190.000 data sets

3.77 PetaByte
Copernicus data

~6 TeraByte
new data per day

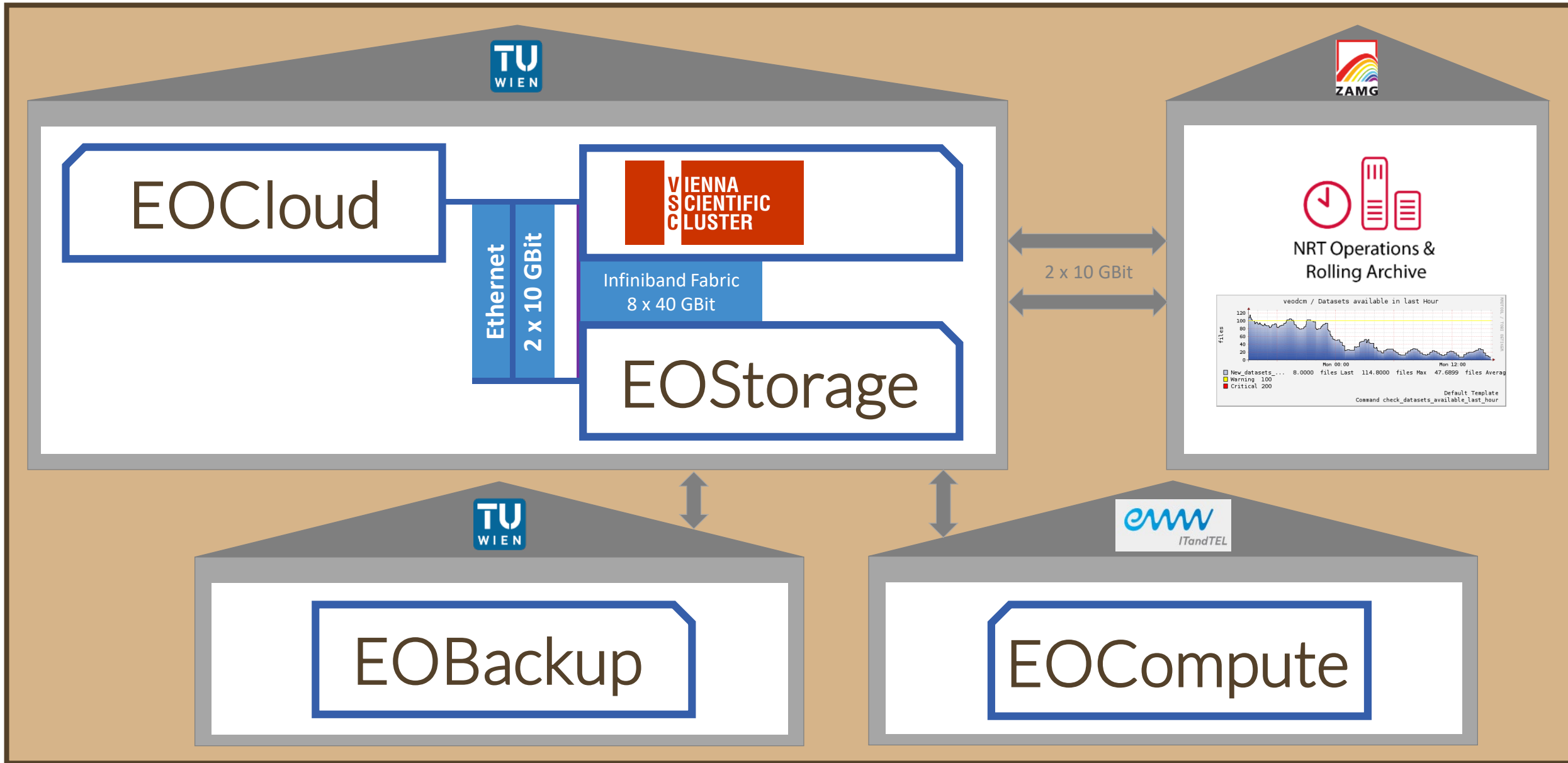
+ On-demand data requests



Status: 12/11/2018

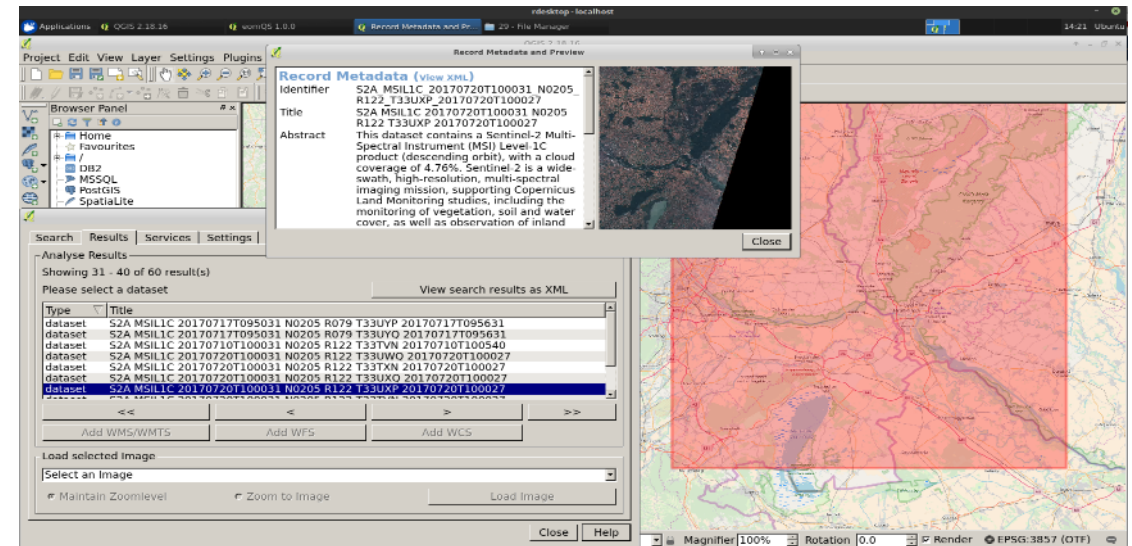
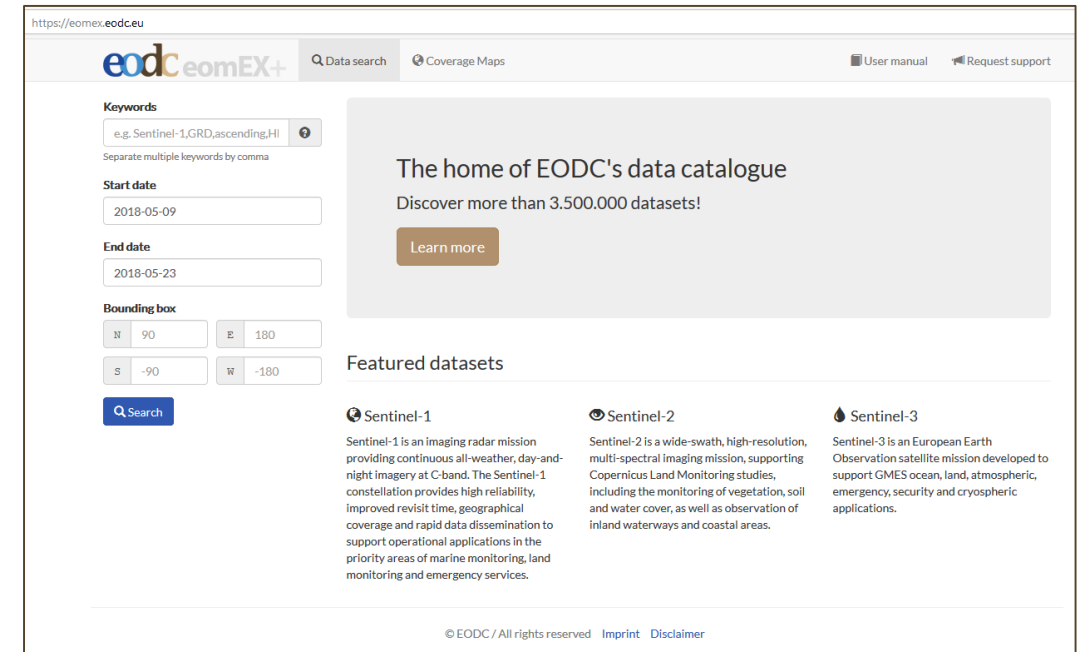
Infrastructure

operated by **eodc**



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: freely available within the EODC environment



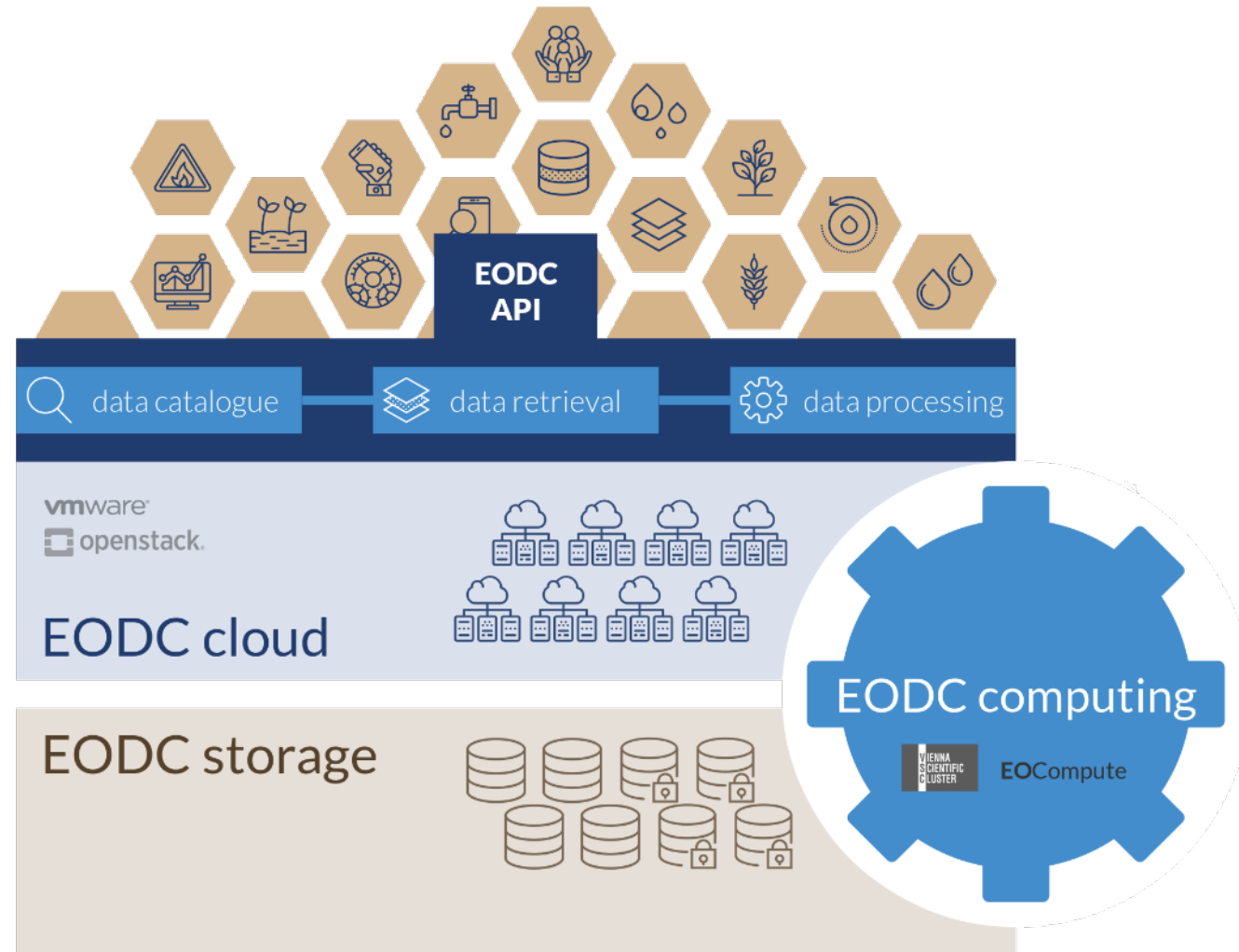
EODC API

Single API for EODC base services

Compatible with



<http://openeo.eu/>



Icons designed by Smashicons from Flaticon

EODC Partners



Vienna University of Technology
Karlsplatz 13, 1040 Vienna, Austria
<http://www.tuwien.ac.at>
Contact: Vizerektor Prof. Dr. Johannes Fröhlich



Zentralanstalt für Meteorologie und Geodynamik – ZAMG
Hohe Warte 38, 1090 Vienna, Austria
<http://www.zamg.ac.at>
Contact: Dr. Michael Staudinger



AW Software und Technologie GmbH
Mariahilfer Straße 47/3/1, 1060 Vienna, Austria
<http://www.awst.at>
Contact: Dr. Alexander Boesch



VanderSat

VanderSat
Huygensstraat 34, 2201 DK Noordwijk, the Netherlands
<http://www.vandersat.com/>
Contact: Dr. Richard de Jeu



GeoVille Information Systems GmbH
Sparkassenplatz 2, 3rd Floor, 6020 Innsbruck, Austria
<http://www.geoville.com>
Contact: Dr. Christian Hoffmann



Catalysts GmbH
Gruberstraße 19, 4232 Hagenberg, Austria
<http://www.catalysts.cc>
Contact: Dipl.-Ing. Christian Federspiel



JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH
Leonhardstraße 59, 8010 Graz, Austria
<http://www.joanneum.at>
Contact: Prof. Dr. Mathias Schardt



Monash University
Faculty of Engineering, 23 College Walk, Clayton, Victoria 3800, Australia
<http://www.monash.edu>
Contact: Dr. Chris Rudiger



Universität für Bodenkultur Wien
Gregor-Mendel-Straße 33, A-1180 Wien, Austria
<http://www.boku.ac.at>
Contact: Prof. Dr. Clement Atzberger



Global Change Research Centre Academy of Sciences of the Czech Republic
Mendel Zemedelska 1, 613 00, Brno, Czech Republic
<http://www.czechglobe.cz/en/>
Contact: Dr. Mirek Trnka



Finnish Geospatial Research Institute in the National Land Survey of Finland
Geodeetinrinne 2, FI-02430, Masala, Finland
<http://www.fgi.fi>
Contact: Eetu Puttonen



University of Zurich
Remote Sensing Laboratories,
Winterthurerstrasse 190, CH – 8057 Zürich, Switzerland
<http://www.geo.uzh.ch/en/units/rsi/>
Contact: David Small



EURAC research
Institute for Applied Remote Sensing,
Viale Druso 1, I-39100 Bolzano, Italy
<http://www.eurac.edu>
Contact: Dr. Claudia Notarnicola



VITO NV
Flanders' research and technology organisation on cleantech and sustainable development,
Boeretang 200, 2400 Mol, Belgium
<http://www.vito.be>
Contact: Dr. Bart Deronde



United Nations World Food Program
Via Cesare Giulio Viola, 68-70, 00148 Rome, Italy
<http://www.wfp.org>
Contact: Dr. Rogério Bonifácio



University of Graz, Wegener Center for Climate and Global Change (WEGC)
Brandhofgasse 5, 8010 Graz, Austria
<https://wegcenter.uni-graz.at/>
Contact: Univ.-Prof. Dr. Gottfried Kirchengast



BMNT
Federal Ministry for Sustainability and Tourism,
Stubenring 1, 1010 Vienna, Austria
<http://www.bmnt.gv.at/>
Contact: Dipl.-Ing. Franz Schmid



Research Institute for Geo-Hydrological Protection, National Research Council
Via della Madonna Alta, 126, 06128 Perugia, Italy
<http://www.irpi.cnr.it/>
Contact: Dr. Eng. Luca Brocca Ph.D

EODC: Copernicus Service Operations

- Copernicus Global Land (TU Wien, ZAMG, EODC)



<https://land.copernicus.eu/global/>

- Copernicus Climate Change Service - C3S Land Hydrology & Cryosphere (EODC & partners)



<http://climate.copernicus.eu/>

ECV's for Land Hydrology and Cryosphere

The LHC service provides 11 products over the four ECV thematic areas of Soil Moisture, Glaciers, Lakes, and Ice Sheets and Ice Shelves.

Surface Soil Moisture ECV
3 Global products as CDR Passive Sensors from 1978, Active sensors from 1991, Combined from 1978. All also provided as ICDR in NRT on a decadal basis.
Active in 312b from 01-11-18

Glaciers ECV
Glacier Area CDR/ICDR - globally complete glacier outlines, > 30 years monitoring.
Elevation Change CDR /ICDR -CDR from 1900 to present, ICDR focus on 2000-15
Mass Change CDR Annual update brokered from WGMS FoG database
Active in 312b from 01-01-19

Findel Glacier, Zermatt (ICH): Elevation Change 2005 to 2010: - 3.2m, Joerg et al. (2012), in WGMS (2012)

ECV's for Land Hydrology and Cryosphere

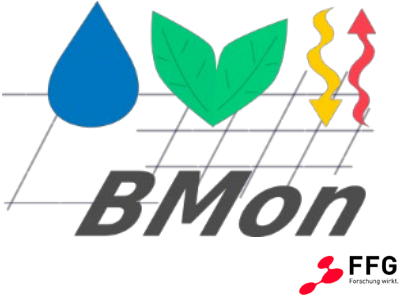
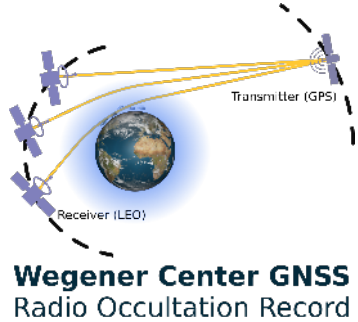
Lakes ECV
Lake Surface Water Temperature (CDR/ ICDR), Targets 1000 lakes worldwide, from 1995, daily monitoring
Lake Water Level (CDR/ ICDR), Targets 155 lakes world wide, from 1993, daily to decadal monitoring
Active in 312b since 01-04-18

Lakes and Reservoirs monitored (Yellow: Lake Surface Water Temperature, Red: Lake Water Level - Orange (LSWT, LWL) both variables available)

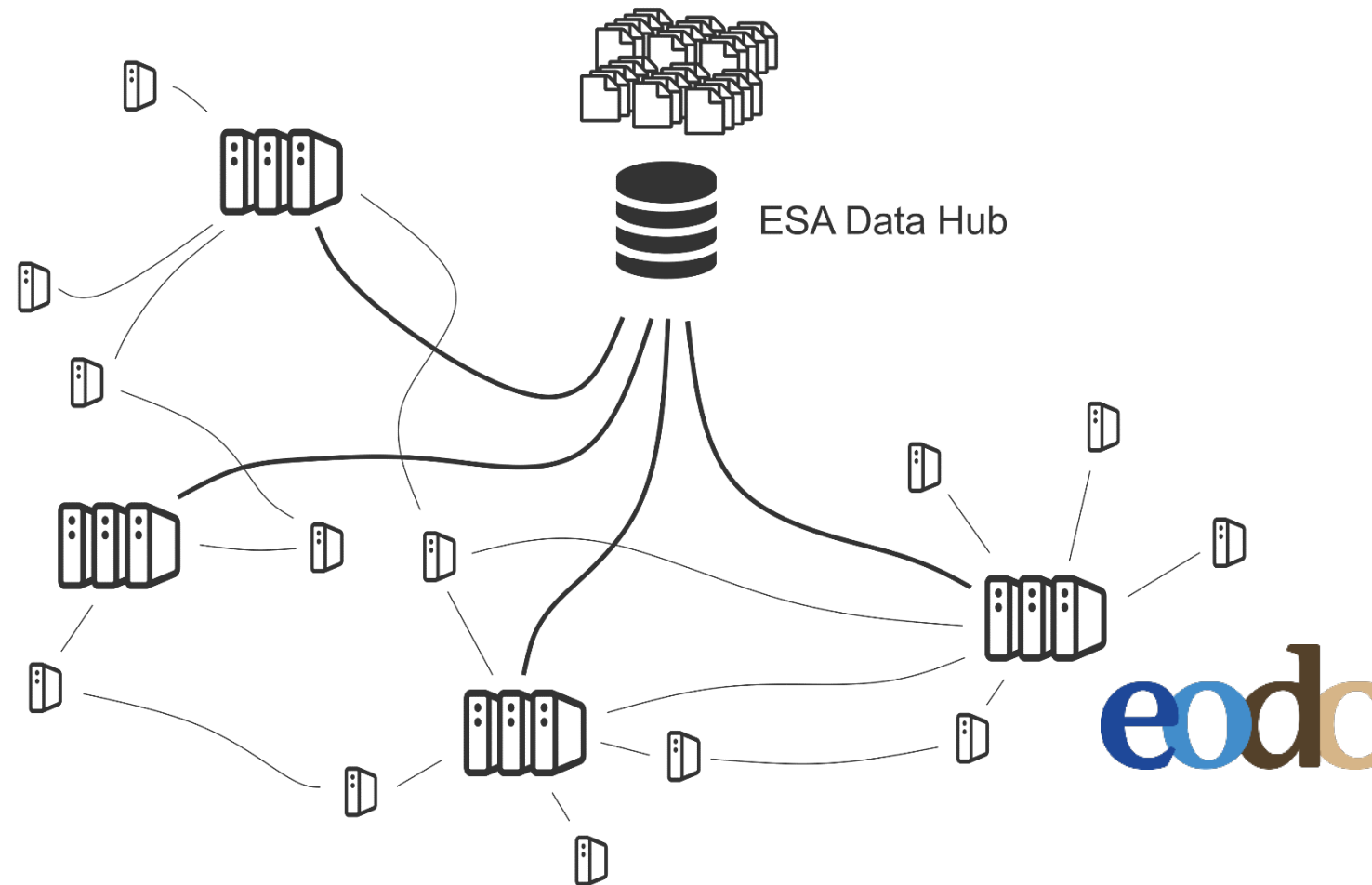
Ice Sheets and Ice Shelves ECV
Surface Elevation Change (CDR/ ICDR), Antarctic and Greenland from 1992, Monthly Updates
Ice Velocity (CDR/ ICDR), high resolution coverage, from 2014 for Greenland Ice Sheet
Gravimetric Mass Balance (CDR), Antarctic and Greenland from 2002 to 2017, Monthly basin values
Active in 312b since 01-04-18

Surface Elevation Change: Shepherd, Fricker and Turner, Nature 558, 223-232, 13 June 2018

Services @ EODC (selected)



Network of EO Cloud Platforms



Federation: EODC & WEkEO DIAS

The logo for EODC (Earth Observation Data Centre for Water Resources Monitoring) features the letters 'eodc' in a lowercase, sans-serif font. The 'e' and 'o' are blue, while the 'd' and 'c' are brown.

https://www.wekeo.eu/dec_2018_update:

...

WEkEO collaboration with EODC (Earth Observation Data Centre for Water Resources Monitoring) based in Austria. EODC benefits from the WEkEO federated offer and is sharing with WEkEO its improved Sentinel-1 and -2 data archive for the benefits of all WEkEO's users.

...

Summary

EODC offers services on a platform for local, regional and global Geo-Data

EODC

- Provides
 - Infrastructure
 - EO Data
 - Basic Tools
- Enables
 - EO services based on Copernicus data



EODC's goals:

- Expand further in a stepwise sustainable manner
- Federate the activities to enable advance EO services