



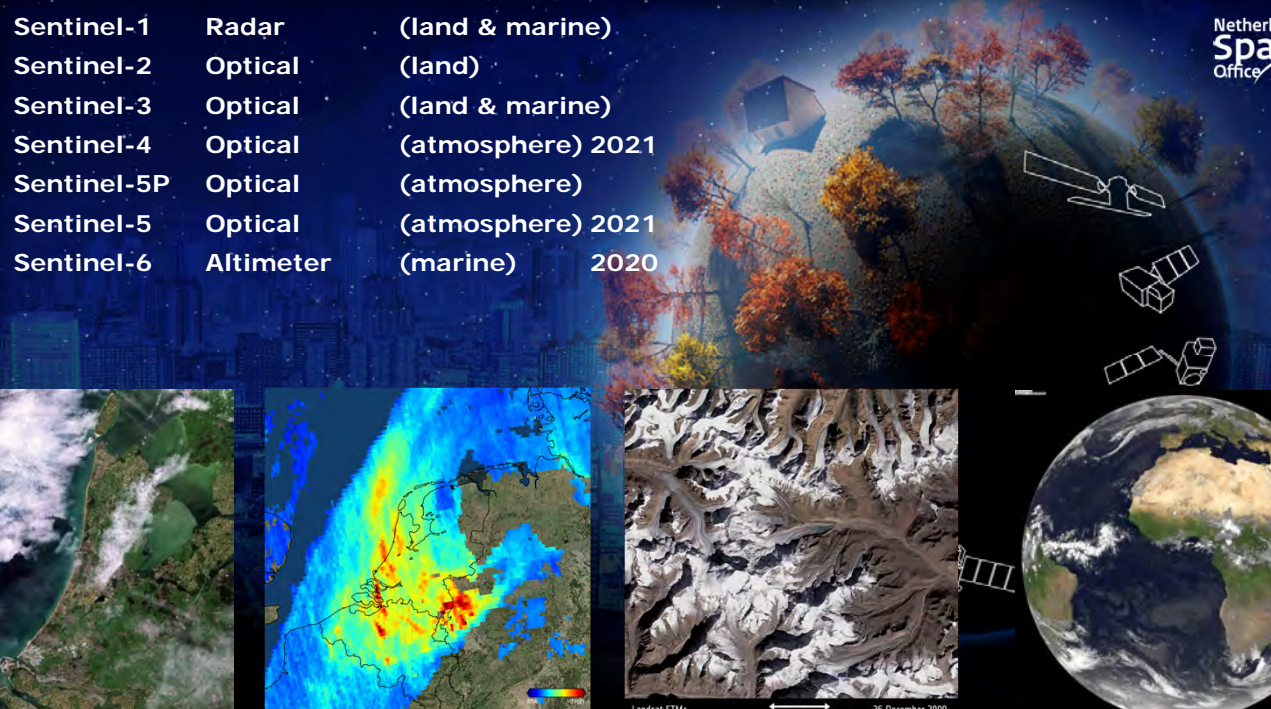
# Introduction to data platform developments

Raymond Sluiter  
Netherlands Space Office



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<b>Sentinel-1</b>	<b>Radar</b>	<b>(land &amp; marine)</b>
<b>Sentinel-2</b>	<b>Optical</b>	<b>(land)</b>
<b>Sentinel-3</b>	<b>Optical</b>	<b>(land &amp; marine)</b>
<b>Sentinel-4</b>	<b>Optical</b>	<b>(atmosphere) 2021</b>
<b>Sentinel-5P</b>	<b>Optical</b>	<b>(atmosphere)</b>
<b>Sentinel-5</b>	<b>Optical</b>	<b>(atmosphere) 2021</b>
<b>Sentinel-6</b>	<b>Altimeter</b>	<b>(marine) 2020</b>



Netherl  
**Spa**  
Office

Landcat ETM+      26 December 2000

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Land Monitoring Service (CLMS)

Marine Environment Monitoring Service (CMEMS)

Atmosphere Monitoring Service (CAMS)

Emergency Monitoring Service (EMS)

Security Service (CSS)

Climate Change Service (C3S)

Netherlands Space Office

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Copernicus Services Data Hub

Open Access Data Hub

Collaborative Data Hub

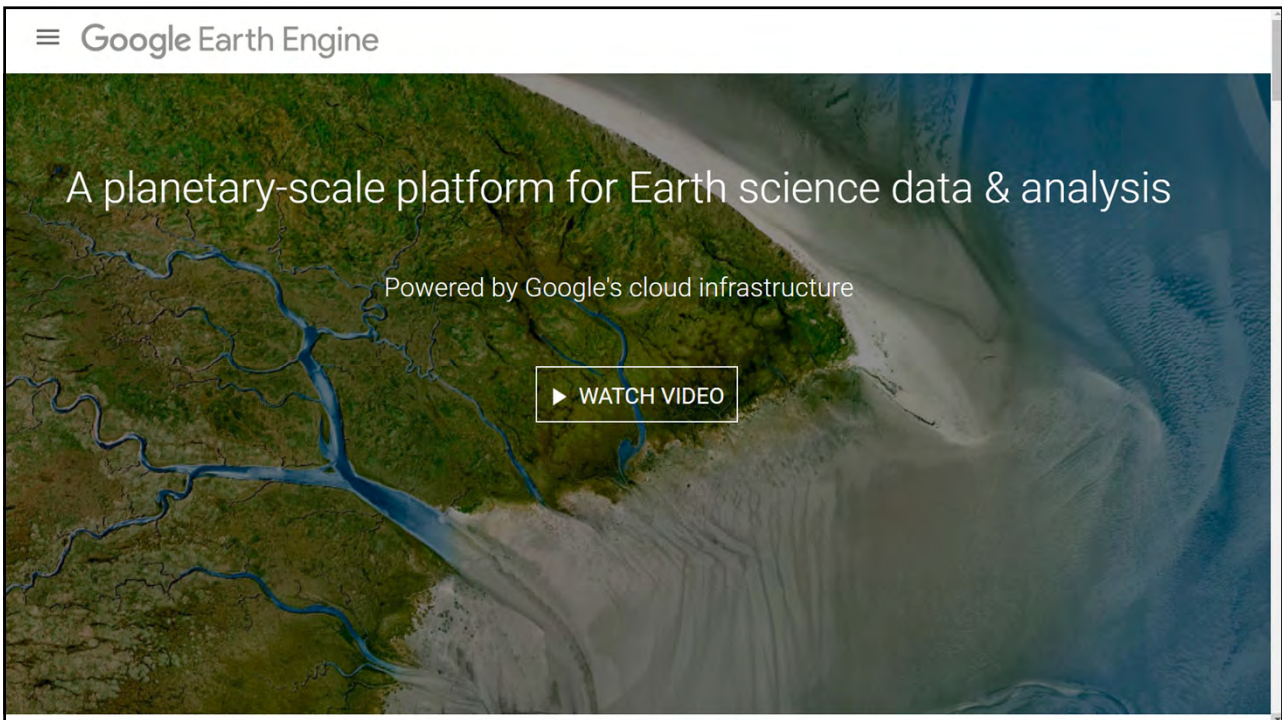
EUMETCast

Copernicus Online Data Access (CODA)

Satellietdataportaal

Netherlands Space Office

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Collaborative Data Hub

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Collaborative Ground Segments  
Thematic Exploitation Platforms (TEPs)  
Data and Information Access Services (DIAS)  
DataCubes

TEP COASTAL

TEP FORESTRY

TEP GEOHAZARDS

TEP HYDROLOGY

TEP POLAR

TEP URBAN

TEP FOOD SECURITY

Wouldn't it be nice if ... I didn't spend 50% of my project resources trying to access (EO) data?

mundi WEB SERVICES

sobloo

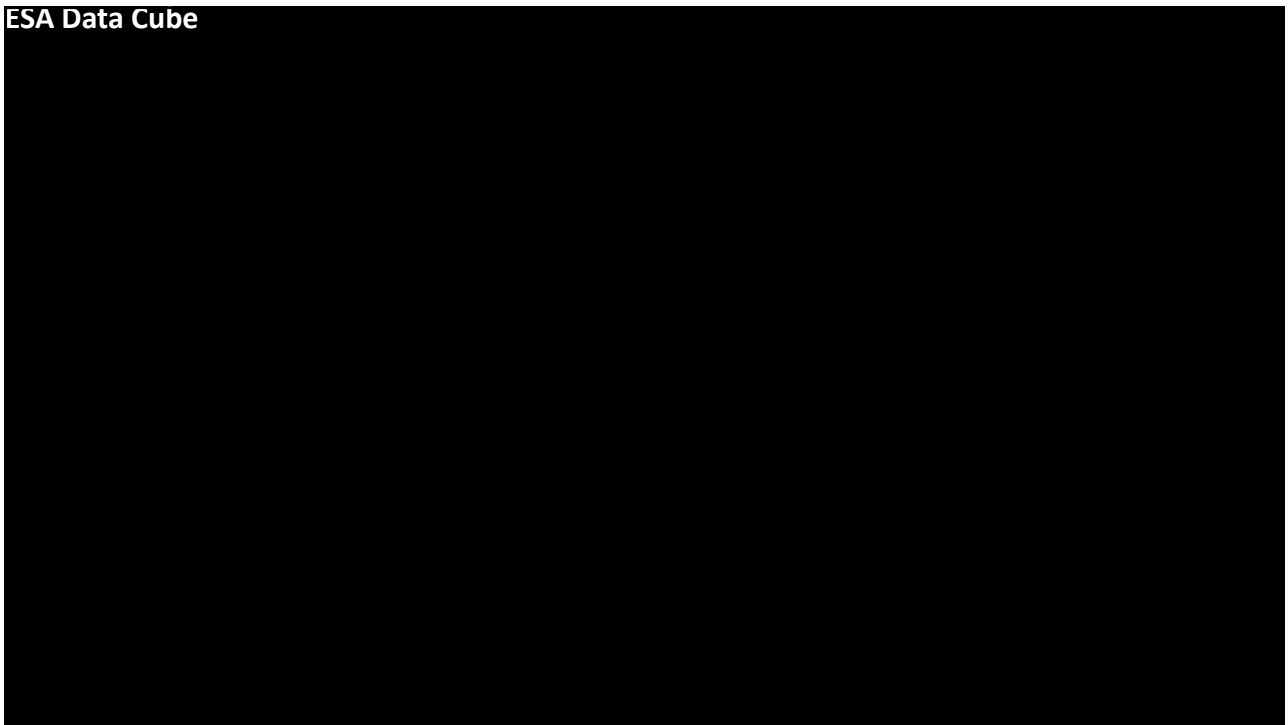
ONDA

CREODIAS

WEKEO by COPERNICUS

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# ESA Data Cube



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**rasdaman**  
raster data manager

NEWS PRODUCT SERVICE PROJECTS PARTNERS IMPRINT

**BIG ARRAY ANALYTICS**  
fast, flexible, scalable, standards-based, secure  
...and clients, clients, clients

More

# R package STARS

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**NASA TECHNOLOGY TRANSFER PROGRAM**  
BRINGING NASA TECHNOLOGY DOWN TO EARTH

**NASA SOFTWARE**

CEOS Data Cube Platform version 2 (CEOS2)

The Committee on Earth Observation Satellites (CEOS) has long recognized a need for data processing infrastructure to support Earth science objectives in developing countries. Forest preservation initiatives, carbon measurement initiatives, water management and agricultural monitoring are just few examples of domains that can benefit greatly from remote sensing data. Currently, however, many developing nations lack the in-country expertise and computational infrastructure to utilize remote sensing data.

The CEOS Data Cube Platform version 2 (CEOS2) provides a flexible model to address these needs. The CEOS Data Cube Platform is a data processing platform for Earth science data, with a focus on remote-sensing data. The platform provides a data ingestion framework that includes support for automated ingestion of a wide variety of remote sensing data products. The data products are ingested into an N-dimensional data array that abstracts away management of distinct acquisitions. The platform has a tiered API for data processing and a data application platform layer for higher-level access.

The Australian Water Detection from Space (AWDFS) algorithm was applied to Raster Data Manager Lake Baikal, Kenya (left) and the Nile River in Columbia (right). These time-series past results are used to identify surface water to assess drought and flood extremes. The results show the percent of observations detected to water over the entire 10-year time series. The CEOS Data Cube architecture allows algorithm improvements in computation time compared to topic-centric-based approaches.

**OPEN DATA CUBE** About Overview Install Applications Resources News Contact

An Open Source Geospatial Data Management & Analysis Platform

LEARN MORE

**Open Data Cube**

The Open Data Cube (ODC) is an Open Source Geospatial Data Management and Analysis Software project that helps you harness the power of Satellite data. At its core, the ODC is a set of Python libraries and PostgreSQL database that helps you work with geospatial raster data. See our GitHub repository [here](#).

The ODC seeks to increase the value and impact of global Earth observation satellite data by providing an open and freely accessible, extensible architecture. The ODC project seeks to foster a community to develop, sustain, and grow the technology and the breadth and depth of its applications for societal benefits.

ODC ECOSYSTEM

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## Collaborative Ground Segment (CGS)

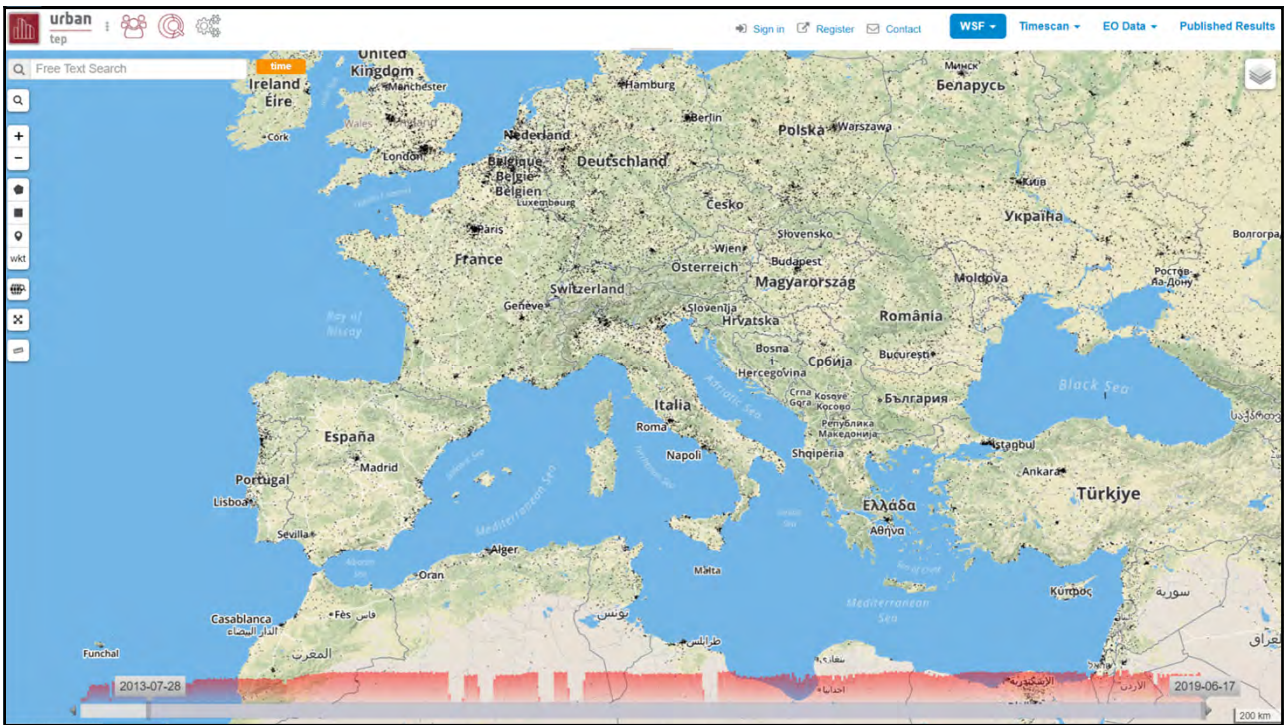
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## CGS

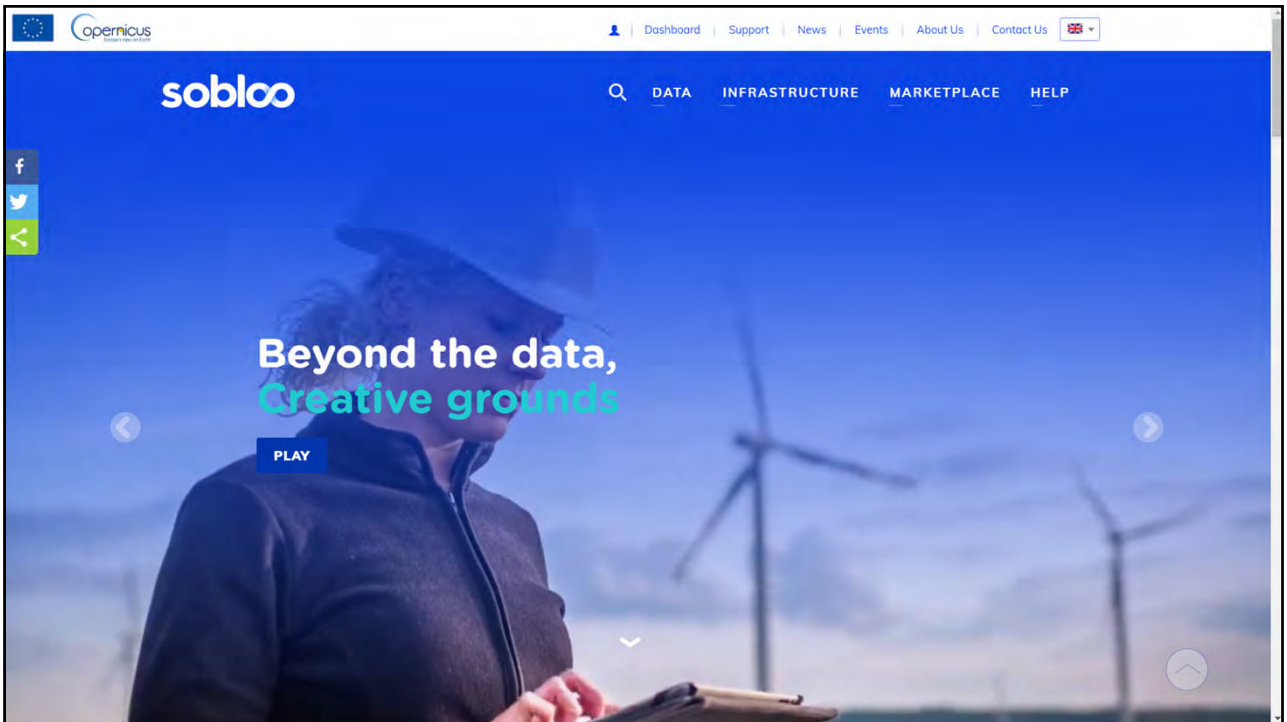
### CODE-DE.org

- Initiated: 01.07.2016 (online since 03.2017)
- Open View and Discovery Service
- Download after self-registration
- On-demand processing access:
  - Free-of-charge & for selected "applications" with user support
  - Scalable processing environment also for any third party users e.g. using the Open Telecom Cloud
  - Limited number of open processing resources

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openEO develops an open API to connect various clients to big EO cloud back-ends in a simple and unified way.

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- Glossary
- Contact



H2020 grant 776242

<https://openeo.org/>  
<https://edzer.github.io/prague/eo.html>

## openEO


openEO develops an open API to connect R, python, javascript and other clients to big Earth observation cloud back-ends in a simple and unified way. [Read more...](#)

### News

- Mar 7, 2019  
[openEO API v0.4.0 released](#)
- Oct 30, 2018  
[openEO year one review meeting](#)
- May 23, 2018  
[User Requirements Survey for openEO launched](#)
- Mar 17, 2018  
[openEO proves its concept](#)
- Jan 31, 2018  
[Second week of intensive collaboration: Jan 22-24, 2018](#)
- Dec 18, 2017  
[First week of intensive collaboration: Dec 4-6, 2017](#)
- Dec 5, 2017  
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# The European Open Science Cloud (EOSC)

Offers 1.7 million European researchers and 40 million professionals in science and technology a virtual environment with open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines.


[More about EOSC](#)

## Session "Earth & Space"


### National eScience Symposium 2019: Digital Challenges in Open Science

November 21 2019


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Q: who is using GEE already ?

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Q: who is using one of the other platforms  
>Yes what are the experiences , No why not?

19

P: I don't need DIAS or something else, I am fine  
with GEE

20

P: I don't like Google in general, please provide me an alternative

21

P: I cannot run my own open source algorithm on GEE and need an alternative platform

22

P: This is too advanced for my purpose, I do it the traditional way

23

P: As soon DIAS is free and open I will do my research there

24

P: EOOSC? What is that?

25

P: EOOSC? You mean EODC?

26

Q: are you triggered now to use platforms?

27

Q: What can NSO do for you on this topic?

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