

A satellite image of a landscape, showing a mix of urban areas, agricultural fields, and dense forests. The colors are somewhat muted, with greens for vegetation and browns/tans for urban and agricultural areas.

→ ESA'S EARTH OBSERVATION THIRD PARTY MISSIONS

This presentation



- The Earthnet programme
- Third Party Mission data access for science and R&D

Earthnet 2017-2021: three pillars



A. International presence, incl. operating infrastructure for international cooperation

- Cooperation projects with international partners and entities (e.g. DRAGON, TIGER)
- Participation/Support to International presence such as GEO and CEOS
- Operations of International Charter on Space and Major Disasters

B. Third Party Missions (TPMs):

- Ground segment operations & data access for European users to 30+ non-ESA missions (TPMs)
 - Missions from Member States (“National missions”), incl. extended mission lifetime
 - Missions from non-ESA Member States (“International missions”)
- TPM interfaces, data access and GS evolution for TPMs

C. Coordination of TPM observations and optimization of spare TPM capacity

- Optimizing capacity by harmonized observation planning across national and international missions
- Exploiting unused observation capacity for environmental benefit long-term observations

Third Party Missions scheme



The European Space Agency (ESA) provides users with access to a number of non-ESA EO missions – so called **Third Party Missions** (TPM).

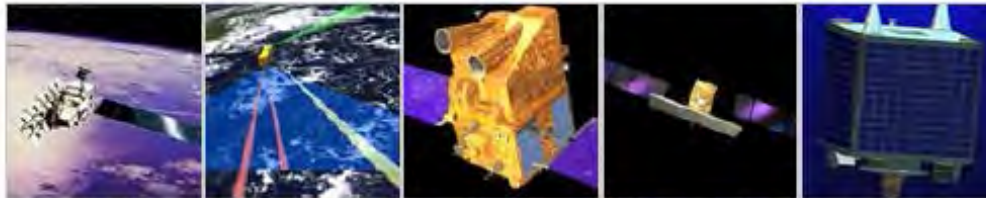
ESA's TPM scheme has operated for more than 30 years and currently includes over 40 instruments on **more than 35 missions**.

TPM scheme is focusing on access for the **European user communities** to freely available EO data for for the purpose **of research and applications development**; most missions are available to the worldwide community

Data policy depends on **data owner policy**

ESA TPMs

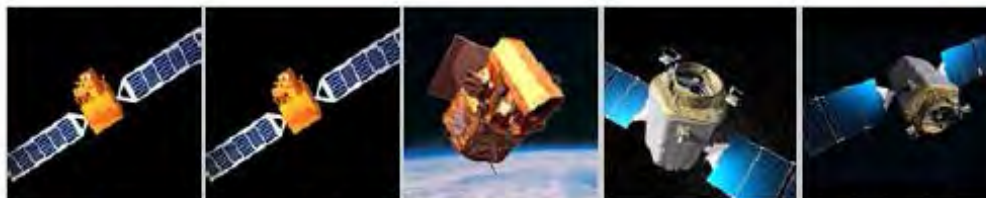
3 types, 1. SAR, 2. Optical & Thermal, 3. Specialized scientific missions



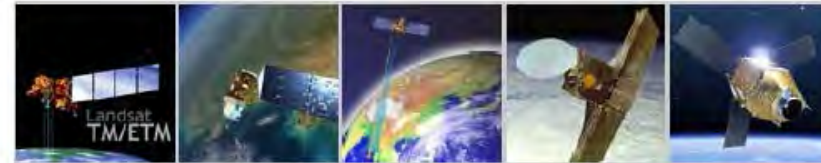
ALOS Aura OMI CartoSat-1 COSMO-SkyMed Deimos-1



Deimos-2 GeoEye-1 GOSAT GRACE IKONOS



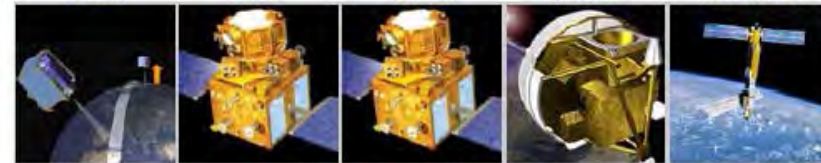
IRS-1C IRS-1D JERS-1 KOMPSAT-1 KOMPSAT-2



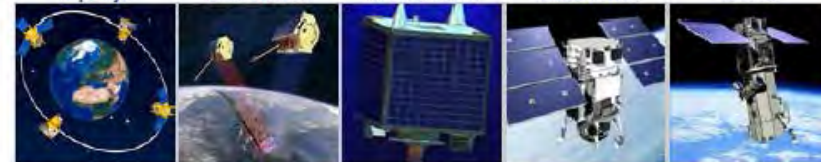
Landsat TM/ETM Landsat OLI/TIRS OceanSat-2 Odin Pleiades-HR



Proba-1 Proba-V QuickBird QuikSCAT RADARSAT-2



RapidEye ResourceSat-1 ResourceSat-2 SciSat-1/ACE SeaSat



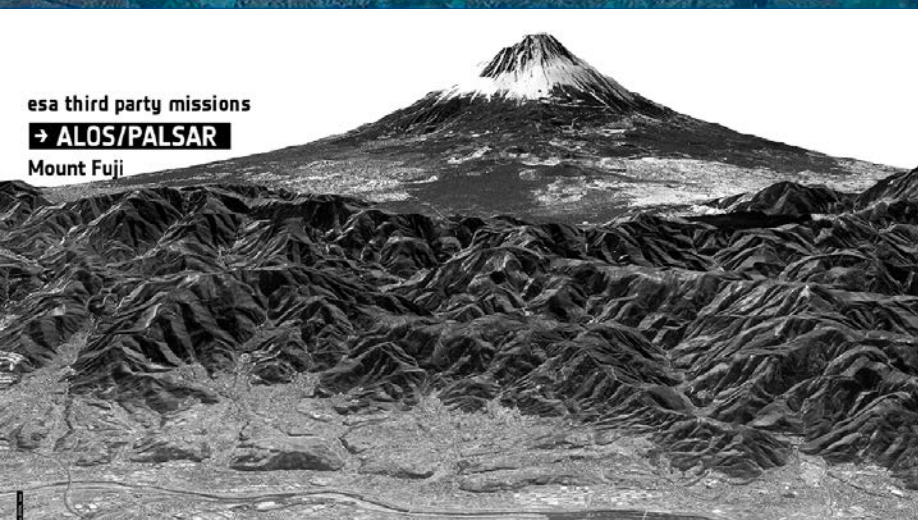
SPOT TerraSAR-X and TanDEM-X UK-DMC WorldView-1 WorldView-2



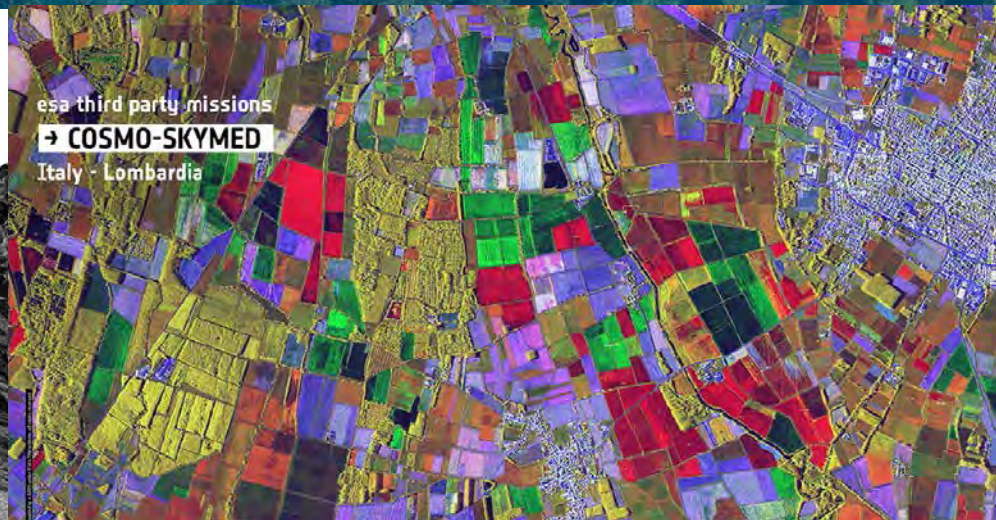
WorldView-3

- Multi-frequency SAR missions data available
 - L-Band ALOS 1 (JAXA) – ADEN Zone no scene limit but limited by down load volume per day
 - C-band Radarsat-1 & 2 (MDA)
 - X-band Cosmo Skymed (ASI), Terra-SARX and TanDEM-X
- Most SAR data are limited by quota, i.e. fixed number of scenes by request
- Collections of data are available e.g. IPY Antarctica (ALOS ScanSAR products)

TPM SAR highlights



esa third party missions
→ **ALOS/PALSAR**
Mount Fuji



esa third party missions
→ **COSMO-SKYMED**
Italy - Lombardia



esa third party missions
→ **RADARSAT-2**
Vancouver



esa third party missions
→ **TERRASAR-X**
Doha

Optical & Thermal TPM data



- Whole host of missions, sensors, resolutions and constellations
- Support science and applications at different spatial scales
 - Regional and global
 - Local
- Some data are limited by quota
- There are several collections of data available on line, e.g. TROPFOREST
- For specific planning requests, a proposal may be required
- See this link for conditions for each mission and what is available
<https://earth.esa.int/web/guest/pi-community/apply-for-data/3rd-party>

TPM Optical highlights



esa third party missions

→ **LANDSAT-8**

Copenhagen



esa third party missions

→ **SPOT 6**

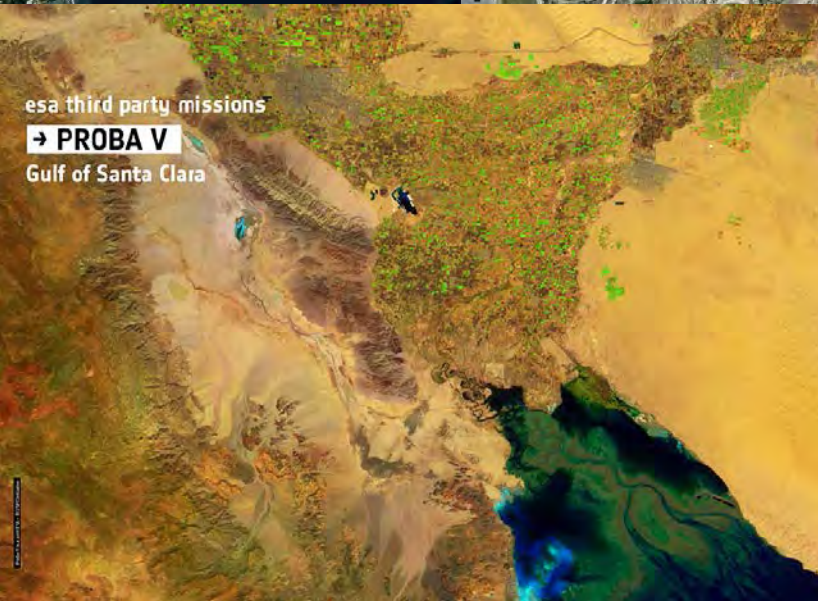
Phalaborwa Mine



esa third party missions

→ **WORLDVIEW-2**

Venice



esa third party missions

→ **PROBA V**

Gulf of Santa Clara



esa third party missions

→ **RAPIDEYE**

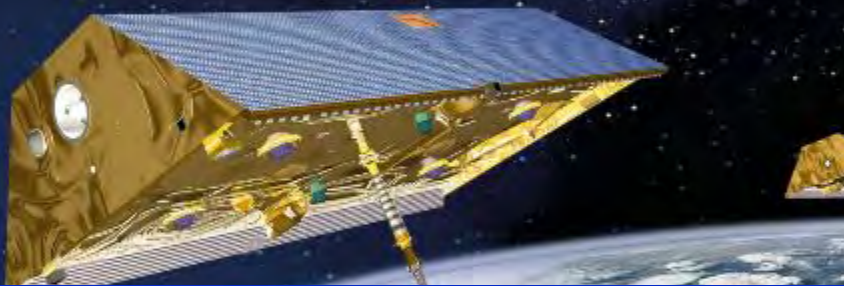
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→ **ESA'S EARTH OBSERVATION THIRD PARTY MISSIONS**

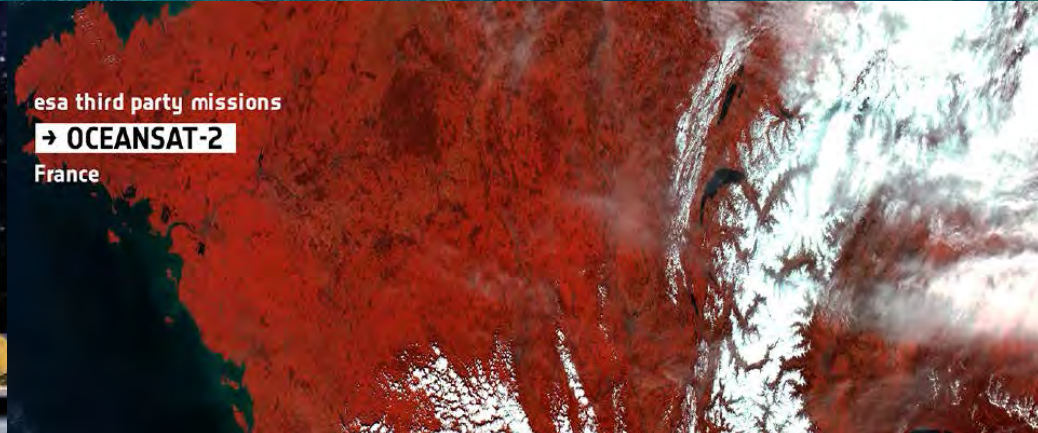
TPM Scientific highlights



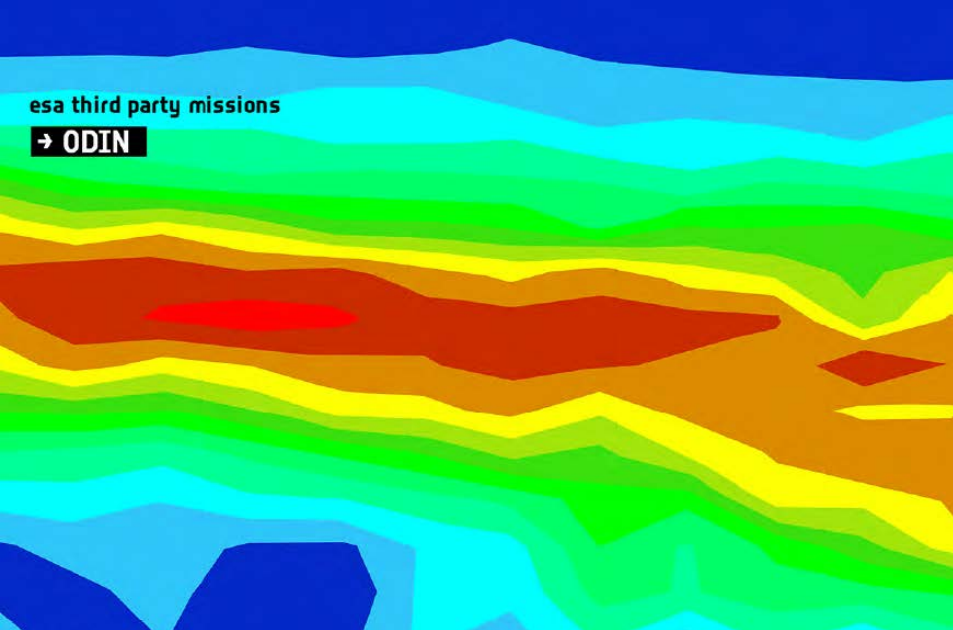
Grace



esa third party missions
→ OCEANSAT-2
France



esa third party missions
→ ODIN



esa third party missions
→ GOSAT



EOhopS

EO hosted processing for Science



- Pilot project: ESA offers science user to analyse commercial EO data (Kompsat, TSX etc.) together with Sentinel-2 data in a **hosted processing environment**
- Access upon project proposal
- Portal open since April 2017: <https://eohops.cloudeo.store>


The screenshot shows the EOhopS Store website. The browser address bar displays 'eohops.cloudeo.store'. The page features a navigation bar with links for 'Shopping cart', 'Login', 'ESA EOhopS', and 'CloudEO Store'. A sidebar on the left contains a 'User login' section with fields for 'Username' and 'Password', a 'LOG IN' button, and a 'Products' list including 'All', 'EO data', 'Geo-IT', 'Software', 'EOhopS', 'Data privacy', 'Help', 'Provider', 'About', and 'Shopping cart'. The main content area has a header with the 'eohops Store' logo and a banner for 'EO data hosted processing for science'. Below the banner, there is a section titled 'Apply for EOhopS Credits! It's simple.' with two steps: 1. Select products and export a shopping cart as a PDF, and 2. Apply to ESA with a project proposal. A paragraph explains that after approval, users receive credentials and credits for their research. At the bottom, three product tiles are shown: 'KOMPSAT-3', 'KOMPSAT-3A', and 'ENVI in the Cloud'. The footer mentions 'Your advantages with EOhopS' and states that EO data and software are provided in a dedicated processing environment for remote sensing and GIS.

To access TPM data




**** create ESA SSO account at <https://earth.esa.int/web/guest/general-registration>**


Free and open dataset

 Fast Registration (FR) is submitted online and immediate access is provided

Restricted dataset

 Full Proposal (FP) is submitted online. Following peer review and proposal acceptance, a quota of products is allocated to the project

Respond to an AO

 ESA issues an Announcement of Opportunity (AO) for either specific new missions, acquisition campaigns or research topics. Acceptance follows evaluation and feasibility

Fast registration - EO data available

<https://tpm-ds.eo.esa.int/collections/>



← → 🔍 🔒 ↻ [TPM online access list](#) ×

File Edit View Favourites Tools Help

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Convert ▾ Select



TPM online access list

Access Third Party Missions data distributed by ESA by clicking the collections below

ALOS



GOSAT



IKONOS



KOMPSAT-2



LANDSAT



OCEANSAT-2



PLEIADES



RAPIDEYE



SEASAT



SPOT



WORLDVIEW-2



SPECIAL COLLECTIONS



Windows Start button Type here to search



ENG
US

3:59 PM
01/09/2017

Info. on ESA TPM

<http://earth.esa.int>



Earth Online

Login My Earthnet

Register

Google Custom Search



Need Help? Contact here

European Space Agency

Missions

Earth Topics

Data Access

PI Community

Explore more...

ESA EO Missions

ESA Future Missions

3rd Party Missions

ESA Earth Observation Campaigns Data

ESA/EUMETSAT

ESA Mission Continuity

ESA Mission News

ESA User Services News

NASA EO Missions

Access Data Here

Full details of earth observation products available for each satellite mission

Earth Observation data distributed by ESA

Access ESA Earth Observation data online

Apply for data as a researcher

How to access Copernicus data

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What's New?

- ALOS PALSAR OTF collection maintenance -
- Mapping Germany's agricultural landscape
- Hurricane Harvey
- EO Open Science 2017 - Registration open
- Kalamos fires
- New portal for EVDC
- Sentinel-1 speeds up crop insurance payouts
- Sweltering southern Europe
- Greenland wildfire
- Geohazard TEP (GEP) expanding users' base

Open Opportunities for Researchers

EarthCARE



The EarthCARE AO aims to engage leading expertise for the Calibration and Validation activities for the mission, providing independent experimental data, analysis and

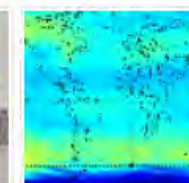
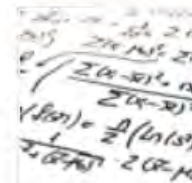
Featured Story

Sentinel-1 reveals ground deformation after Aegean Sea earthquake

04 August 2017

A magnitude 6.6 earthquake occurred in the Aegean Sea on 20 July 2017, affecting the Greek island of Kos and Bodrum in south-west Turkey.

EO Data Quality



ESA TPM brochure (pdf)

https://earth.esa.int/c/document_library/get_file?folderId=13019&name=DLFE-744.pdf



Term & Conditions

- Pls & Co-Pls and data sharing & copying
- No copying to 3rd parties unless by written consent
- Reporting of science results at conferences
- Conflicts resolution with planning and scheduling, done on a best effort basis



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Data Access Guide – May 2016



License harmonization



- **Currently in TPM:** all available TPM data is governed by a single licence document
- **Generally**, the variety of licences for EO data makes usage burdensome
- Earthnet and EO Innovation Europe: Shift towards data provisioning in platform infrastructures
➡ Data-as-a-Service licences needed
- ESA coordinates a harmonization process among commercial data providers and European mission owners