



EarthCARE 2026 Science and Validation workshop

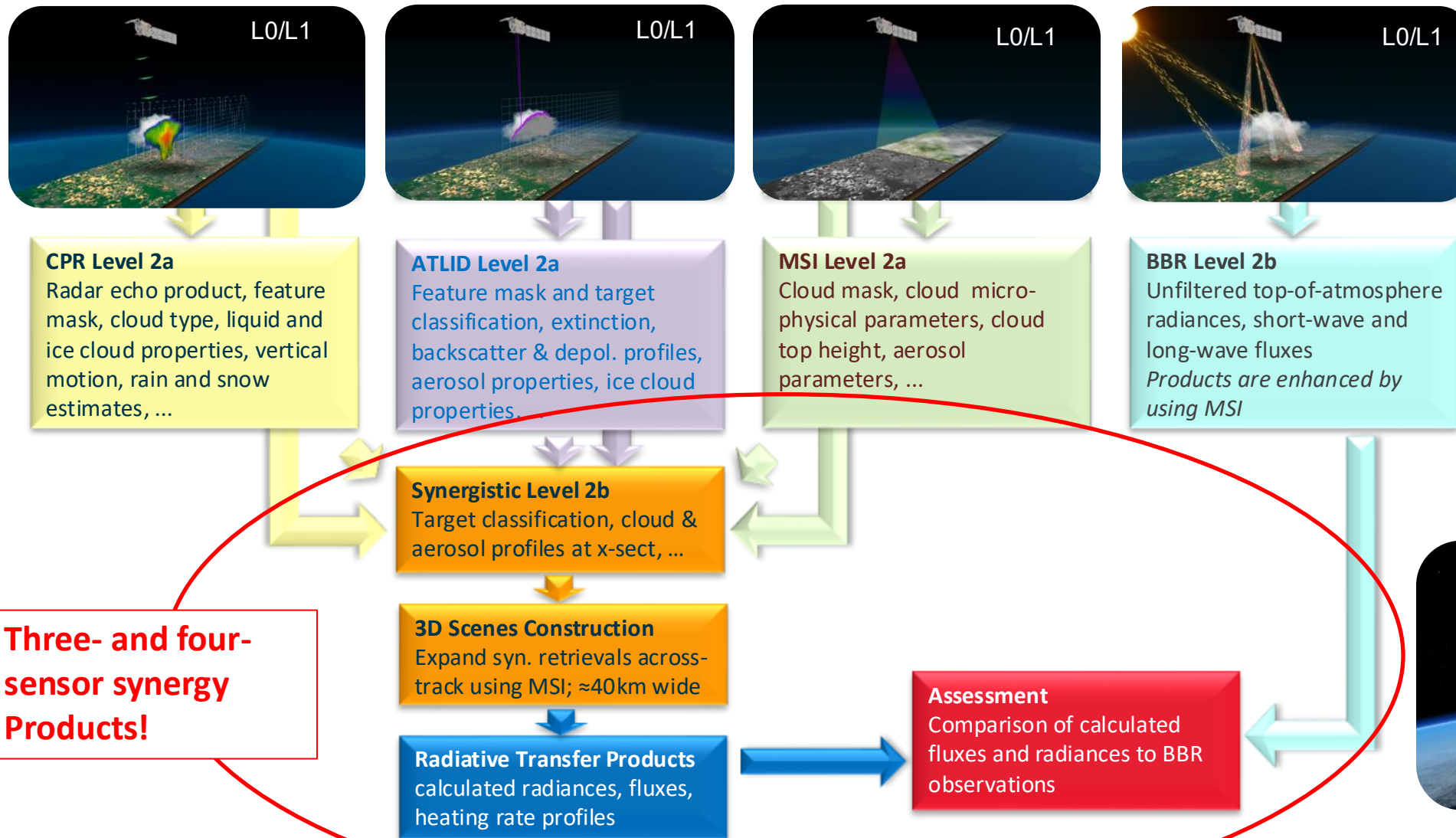
8–12 June 2026 | Rhodes House | Oxford, UK

ESA product quality status and updates

Loredana Spezzi, ESA/EOP-GMQ

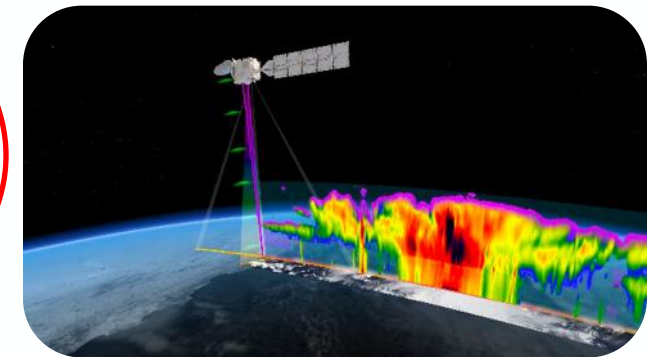
On behalf of: ESA-JAXA EarthCARE Team and EarthCARE DISC Team

EarthCARE production model: public release of full set of products in Dec 2025



ESA/JAXA activities since launch (28 May 2024):

- 3 Satellite In-Orbit Performance (SIOP) meetings; 4th planned for Oct 2026
- 3 Quality Working Groups (QWG); 4th planned for Sept 2026
- 4 Science and Validation Workshops

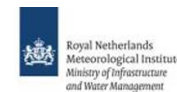


ESA EarthCARE Data Innovation and Science Cluster (DISC): Exploitation Phase



DISC focus shifted to operational and scientific aspects to fully meet the mission requirements:

- ❑ Provision of high-quality data without significant interruptions.
- ❑ Long-term consistent data quality.
- ❑ Increased effort on data quality reporting and user community interaction.
- ❑ Refinements of processors and Quality Control strategy.
- ❑ Continued Cal/Val effort (**P01-P043, T201-T205, T213-T214, T216, T221-T225, T303, T318, T321, T323, T422-424, S510-S514**) →
See S108 “EarthCARE Campaign Overview” + DIVA (ACTRIS) Cal/Val platform (P040) + 1st citizen scientist (DG2MCM-spectrometer station in Kempten/Allgäu, Wolfgang Schneider)

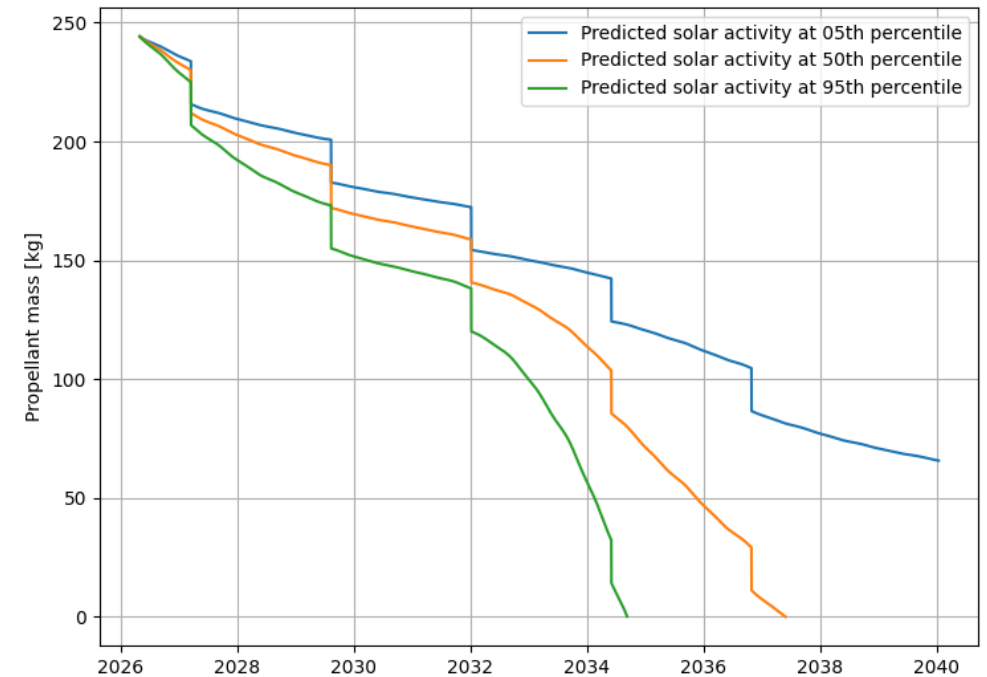


Data Availability: BBR intermittent operations

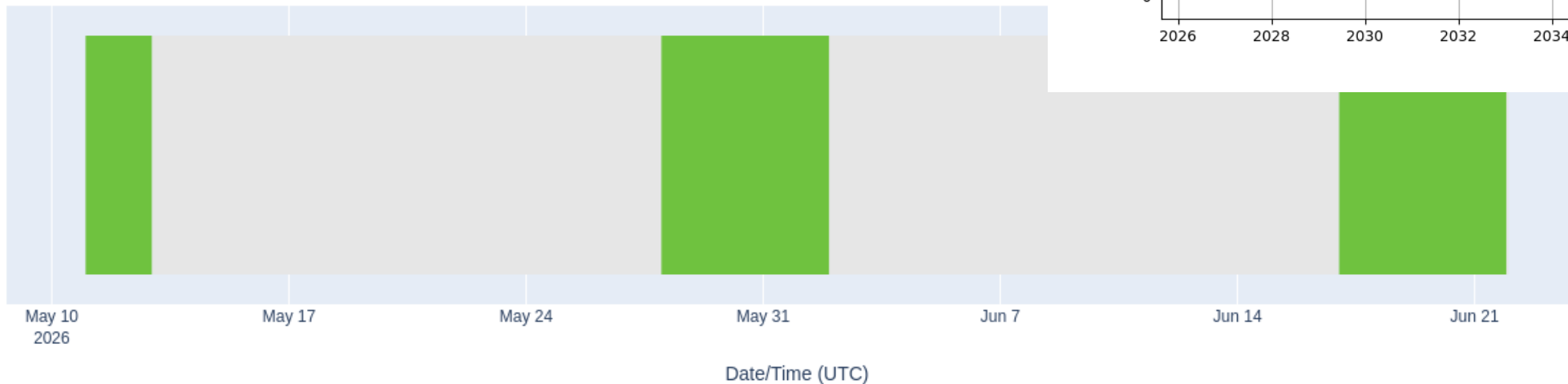


- BBR intermittent operations (25% cycle) started on 20 November 2025 to extend BBR nominal lifetime until 2029, see <https://earth.esa.int/eogateway/news/earthcare-s-bbr-instrument-life-extending-operations>
- For BBR product performance see **S113**, **S116**
- Current propellant consumption indicates a EarthCARE remaining lifetime of ~7.5 years (i.e., at least until 2034).
- Assessing possible change in BBR cycle to extend its lifetime beyond 2029.

Adapted from EarthCARE SIOP-3



BBR Timeline: Active, Standby, and Events



Forward processing and reprocessing

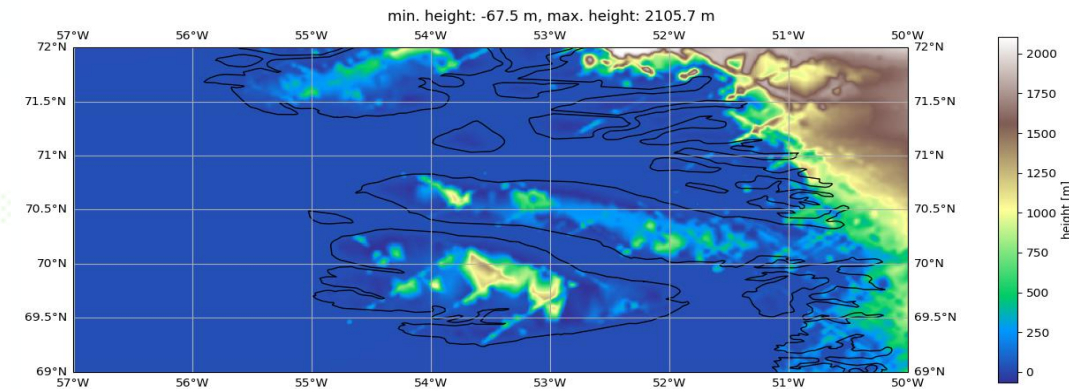


- ❑ 1st reprocessing campaign completed in Dec 2025
- ❑ 2nd reprocessing campaign planned for release by Dec 2026 (tentative schedule)

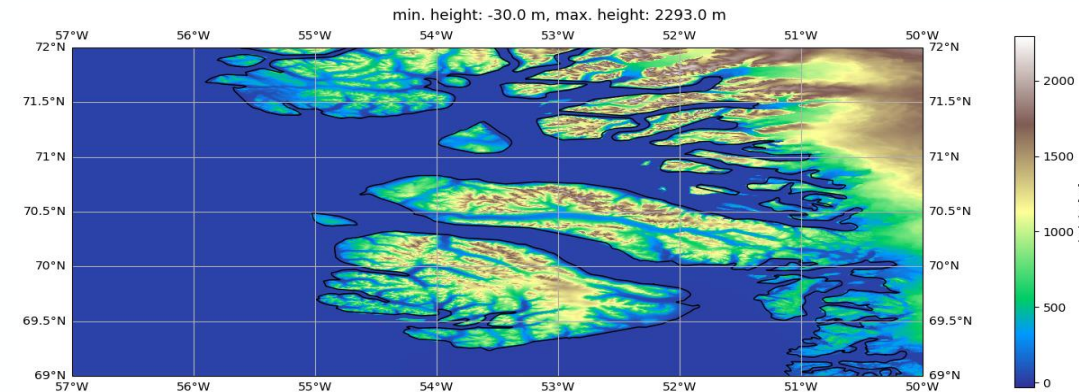
Processors	Reprocessed data													
		jun-26	jul-26	aug-26	sep-26	okt-26	nov-26	dec-26	jan-27	feb-27	mrt-27	apr-27	mei-27	jun-27
L1-ESA	CA	CA												
L1-JAXA	Repr > Nov '26													
L2a-ESA	CA	B*						CA						
L2b-ESA	CA	B*	B*					CA						
L2-JAXA	Repr > Nov '26													

- Processors updates in forward processing and 2nd reprocessing (baseline BC → CA)
- Updates include new DEM (ACE2 to AW3D30), new MSI VIS vicarious calibration, new handling of ATLID hot pixels, format changes, bug fixing (GPS outages, etc.), improved depolarization ratio, new surface BRDF and sedimentation velocity, etc. → **See S109 to S117 + P014**
- Updated processors:
 - **CPR:** C-L1, C-APC, C-PRO, C-CLD
 - **ATLID:** A-L1, A-FM, A-PRO, A-LAY
 - **MSI:** M-L1, M-CLD
 - **BBR:** BM-RAD
 - **Synergy:** AM-COL, BMA-FLX, AC-TC, ACM-CAP, ACM-COM, ACMB-3D, ACM-RT, ACMB-DF

ACE2 - 9 arcsec



AW3D30 - 4 arcsec

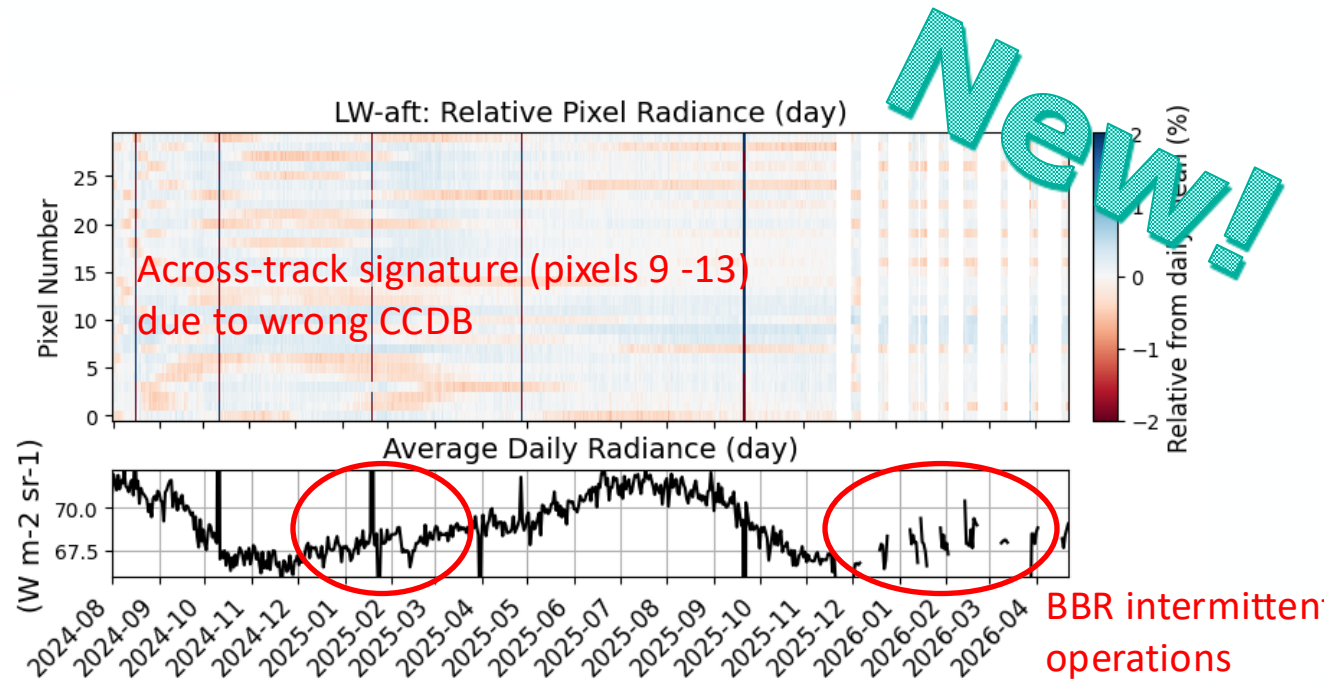
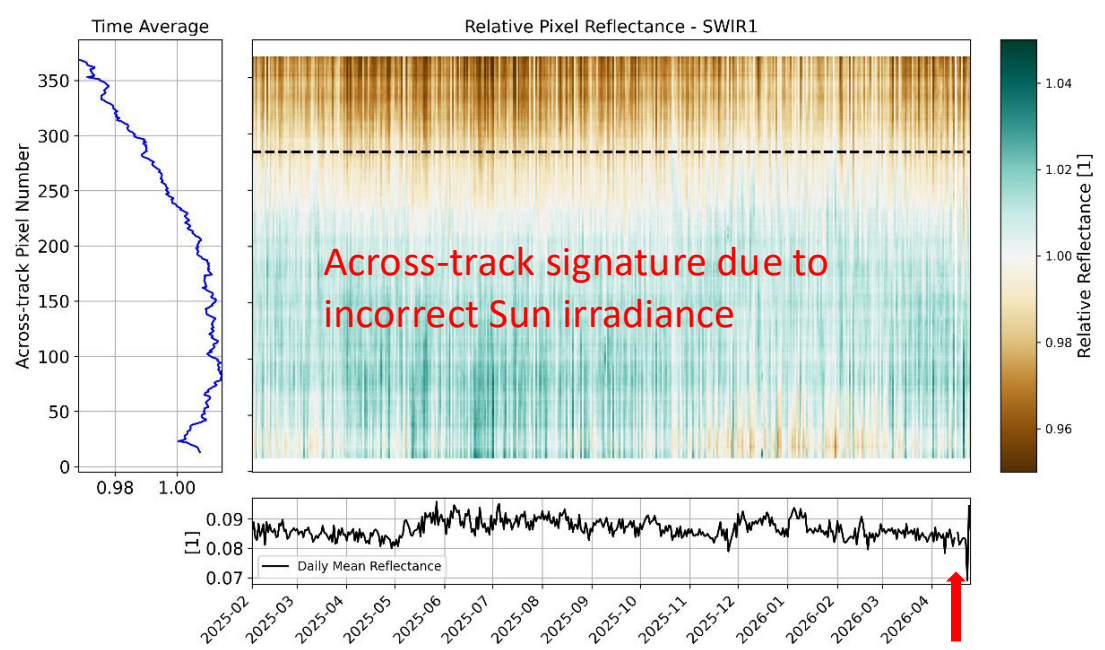
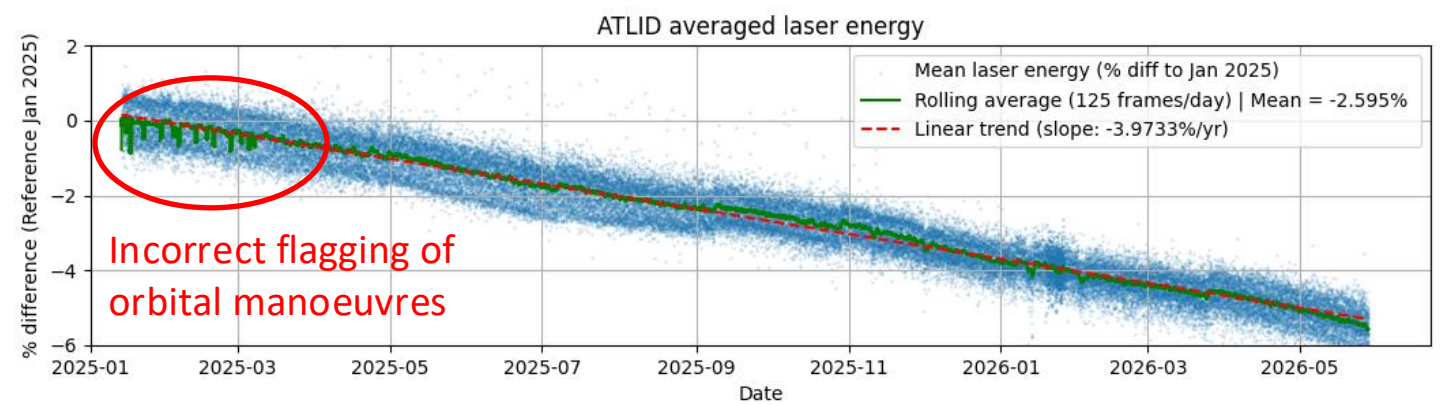


West Greenland

Data Quality Control



- DISC/IWG's monitoring allows identification and correction of bugs and errors (see P002 P003)
- Operational monitoring/assimilation of EarthCARE cloud radar/lidar observations at ECMWF (see T410, T417-T421)
- Othe contributions: T223, T407



16 April gap caused by MSI diffuser testing

Unphysical radiances due to downlink gaps

BBR intermittent operations

Data Dissemination and User Support

- **Data dissemination** transferred to ESA MAAP since Apr 2026, see:
<https://explorer.maap.eo.esa.int>
- EarthCARE Product Algorithm Laboratory (**PAL**) collaborative environment linked to MAAP, see
<https://earthcare.pal.maap.eo.esa.int>
- 1st EarthCARE MAAP **Hackathon** held on 20–24 April 2026 at ESA ESRIN (**P042**), 2nd Hackathon during this workshop

MAAP Mission Algorithm and Analysis Platform
IS OPEN!

<https://portal.maap.eo.esa.int>



Data and
computing

MAAP
Joint
access to
data and
algorithms



Data and
computing

Up to date data and algorithms + Collaborative community
spanning ~10 years

Quick Guide added in Apr 2026

<https://earthcarehandbook.earth.esa.int/catalogue/index?tab=quick-guides>

Product List

Quick Guides

FILTERS

All product types

All instruments

All geometries

All retrievals

All properties

Type quick guide name

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QUICK GUIDES

EarthCARE Product Data Handbook catalogue

Browse Quick Guides

Quick Guides help you find the right EarthCARE products for your scientific needs.

Each Quick Guide focuses on a specific atmospheric or surface retrieval topic and recommends which products to use.

Use the filters to narrow down the list by product type, instrument, geometry, retrieval, or physical property, then select a Quick Guide from the list to view its content.

1. Select one or more filters to focus the list
2. Find the Quick Guide you need
3. Click a Quick Guide to read the recommendations

You can also filter Quick Guides by their name.

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Quarterly Monitoring Reports

Product Availability

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Quality Control Disclaimers

ATLID Hot Pixel

GPS Outage

Reprocessing Quality Updates

Overpass Information

Calibration/Validation

Ongoing improvements of “Product Availability” section at

<https://earth.esa.int/eogateway/missions/earthcare/data/data-quality>

Communication of EarthCARE scientific highlights



EarthCARE monthly Science Seminars started on 15 April 2026, see <https://www.earthcarescience.net/seminars>

Upcoming seminar

Wednesday 17 June 2026
10:00 CEST, 17:00 JST, 04:00 EDT

There will be two talks, both lasting approximately 20–25 minutes, by

1. **Yudai Ezaki** (Tohoku University): "Observation-Based Assessment of Three-Dimensional Radiative Transfer Effects with EarthCARE"
2. **Gregor Walter** (TROPOS):
"Impact of 3D Radiative Effects on EarthCARE Retrievals"

Teams link:

Join: <https://teams.microsoft.com/meet/369076324646327?p=PGf1xJYCD11zj7f9Tj>

Meeting ID: 369 076 324 646 327

Passcode: hi3Dg3Gd

EarthCARE on LinkedIn since May 2026
([ESA Earth Explorer page](#))



ESA Earth Explorers

1,128 followers

1mo •

Spread the word: ESA's Earth Explorers are here on LinkedIn!

Check in for the latest results, data releases, operational updates, cal/val campaigns, community insights, success stories and upcoming events.

We'll also highlight how our diverse and versatile satellite missions are blazing a trail in Earth observation - often working together in unique and unforeseen ways to study all aspects of our Earth system, from deep within its core right out to the farthest stretches of the atmosphere.

A little introduction to our pioneering science missions for Earth 🗣️

<https://lnkd.in/eTyq5iBc>





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Thank you for your interest!

Your feedback on Product Quality and User Services is welcome!

Questions?