



EarthCARE 2026 Science and Validation workshop

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

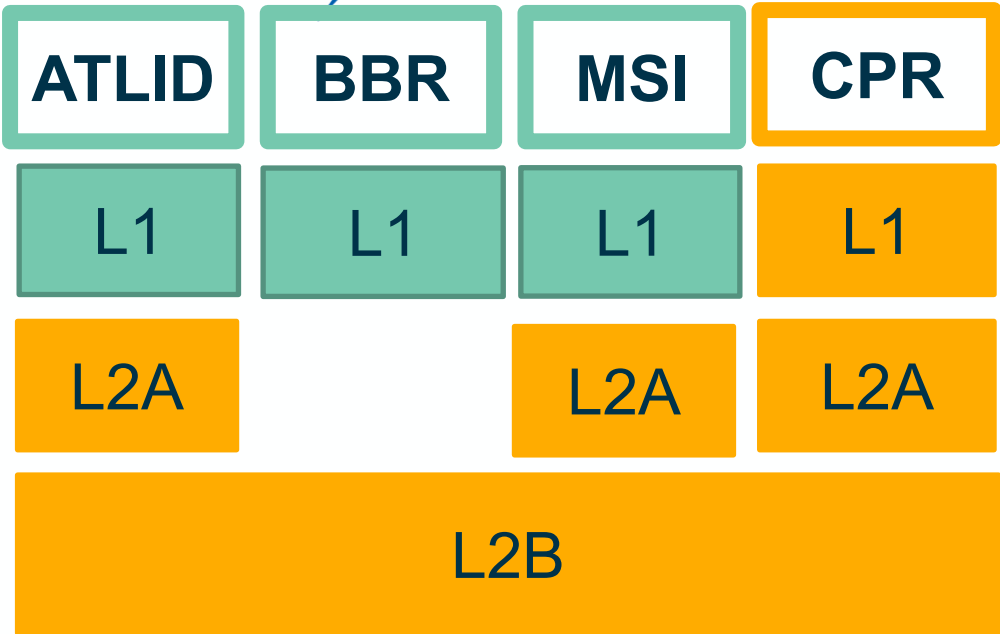
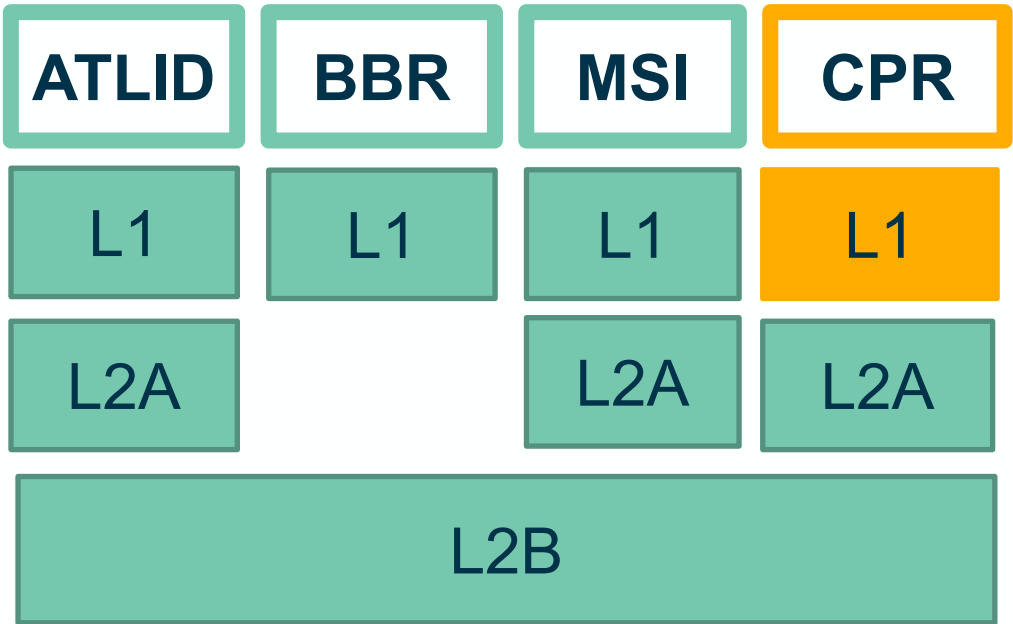
JAXA product overview

(with EarthCARE scientific activity in Japan)

Takuji Kubota (JAXA)

on behalf of the joint JAXA-ESA EarthCARE Team

EarthCARE data products



Aux Proc



- L1 products have been developed by the agency responsible for the instrument.
- As for L2 products, both agencies develop algorithms independently, for collaboration and comparison.
- Each agency coordinates the validation of its own products.

JAXA L2 products & algorithm developments status



MSI_ARL
PI: M. Yoshida
(RESTEC)

*Evaluation is on-going and **aerosol over the ocean is targeted for September 2026 release***

MSI_CLP
PI: Prof. T. Y. Nakajima
(Tokai Univ.)
Updates:
vCa: Dec. 2025

ALL_RAD
PI: Prof. K. Suzuki
(Univ. Tokyo)
Updates:
vBa: Dec. 2025
vBb: May 2026

Overview of JAXA L2 products

Cloud-top, vertically integrated, layerwise

Aerosol

Boundary layer height
Aerosol optical thickness
Ångström exponent

Cloud and precipitation

Cloud phase
Optical thickness
Effective radius
Cloud-top temperature, pressure, and height
Liquid, ice water path

Radiation

Radiative flux at TOA/BOA
Aerosol direct radiative Forcing at TOA/BOA

CPR_ECO
CPR_CLP
ATL_CLA
MSI_CLP
CPR_DOP
CPR_RAS
CPR_VVL
ATL_ARL
MSI_ICE
MSI_ARL
AC_CLP
ACM_CLP
ALL_RAD
AC_MRA
AC_RAS
AC_VVL
AM_ARL
ACM_CDP
ACM_RAS
ACM_VVL
ACM_ICE

Vertical profiles

Aerosol

Aerosol species
Extinction, backscatter, lidar ratio
Depolarisation ratio
Mode radius

Cloud and precipitation

Refractivity
Doppler velocity
Extinction
Cloud mask, cloud particle type
Effective radius, optical thickness
Liquid/Ice/rain/snow water content
Rain/snow rate
Vertical air motion
Sedimentation velocity
Mass ratio (2D ice/IWC)

Radiation

Radiative heating rate

ATL_CLA
PI: T. Nishizawa
(NIES)
Updates:
vCb: Dec. 2025

CPR_ECO
PI: H. Horie
(NICT)
Updates:
vCb: Dec. 2025
vCc: Mar. 2026

CPR_CLP, AC_CLP :
PI: Prof. H. Okamoto
(Kyushu Univ.)
Updates:
vCa: Dec. 2025
vCb: May 2026

ACM_CLP
PI: Prof. H. Okamoto
(Kyushu Univ.)
Updates:
vBa: Dec. 2025
vBb: May 2026

Based upon Wehr et al. (2023, *AMT*)

Re-processing Campaign status



- JAXA's re-processing campaign of past data is beginning on **JAXA Supercomputer System (JSS)**.
- Reprocessing for JAXA's all products for **a period from 10th Aug. to 30th Sep. 2024 (including the ORCESTRA field campaign)** was just completed.
- All reprocessing is expected to be completed by **the end of Aug. 2026**.
- The next major version-upgrade & reprocessing.
 - L1b CPR_NOM targeted for Oct. 2026 release (see S111 presentation)
 - All JAXA L2 targeted for Mar. 2027 release

Level	Product ID	Version	Re-processing for a period from 10th Aug. to 30th Sep. 2024	Expected date of re-processing completion
L1b	CPR_NOM	vDb	Completed	Completed
L2a	CPR_ECO	vCc	Completed	Completed
	CPR_CLP	vCb	Completed	Jun. 2026
	ATL_CLA	vCb	Completed	Completed
	MSI_CLP	vCa	Completed	Completed
L2b	AC__CLP	vCb	Completed	Jun.-Jul. 2026
	ACM_CLP	vBb	Completed	Jul. 2026
	ALL_RAD	vBb	Completed	The end of Aug. 2026
AUX	AUX_2D	vCb	Completed	Completed
	AUX_3D	vCc	Completed	Completed

The latest information is available from
https://www.eorc.jaxa.jp/EARTH/CARE/data/ReleaseInfo/EarthCARE_ProductReleaseInformationSheet.pdf

Gridded data (L3) development status

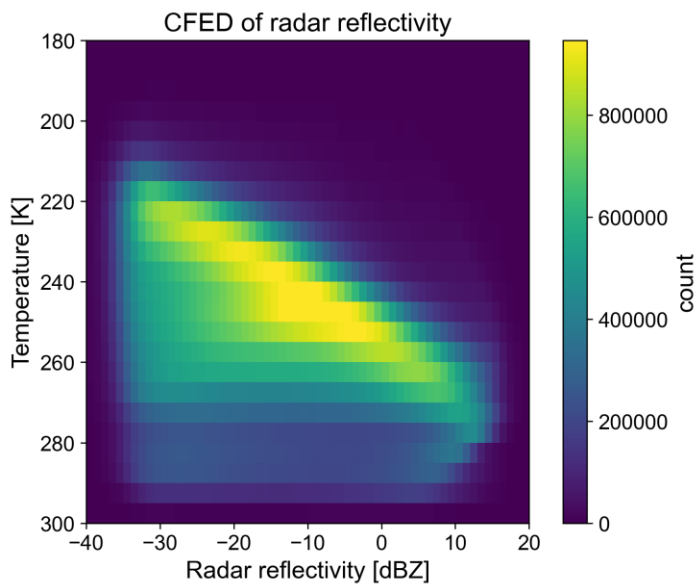
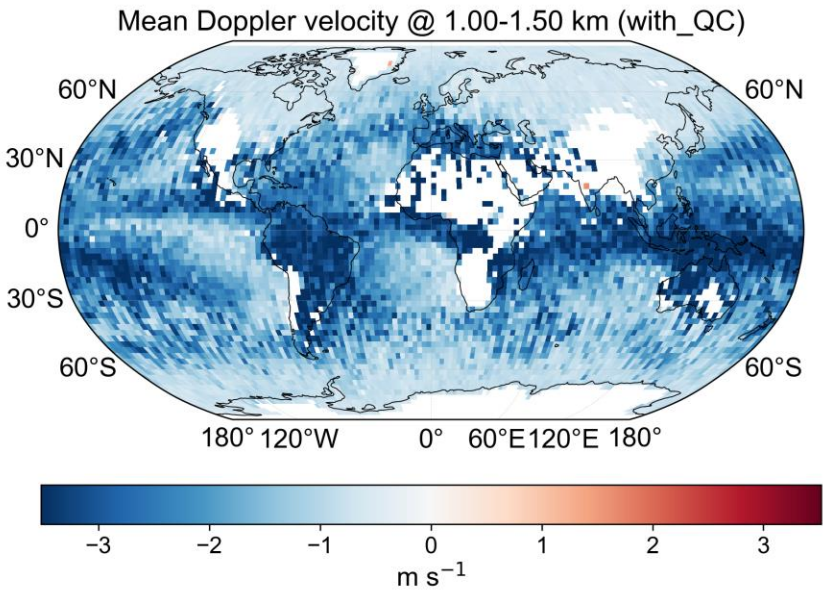
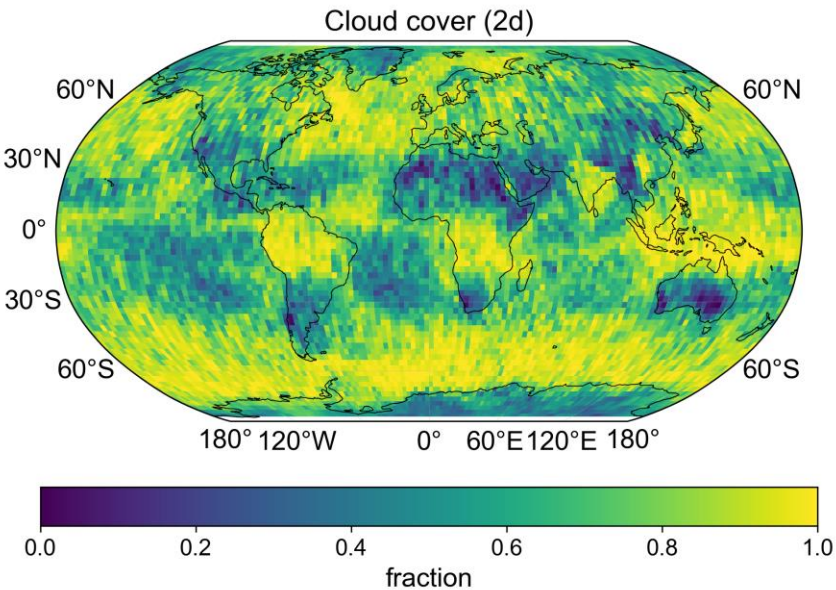
by JAXA Earth Observation Research Center (EORC)



- In the EarthCARE science and validation workshop 2025, providing gridded (Level-3) products was recommended for easier data use.
- Therefore, JAXA/EORC is developing EarthCARE JAXA gridded products.
- Public release of the products is targeted for September 2026.

Please visit a poster presentation (P089) as “Development of EarthCARE JAXA Gridded Products for Evaluations of Weather/Climate models”.

Product	Horizontal grid size	Vertical grid size	Temporal resolution
L3 gridded product	2.5x2.5deg grid	500m	Monthly

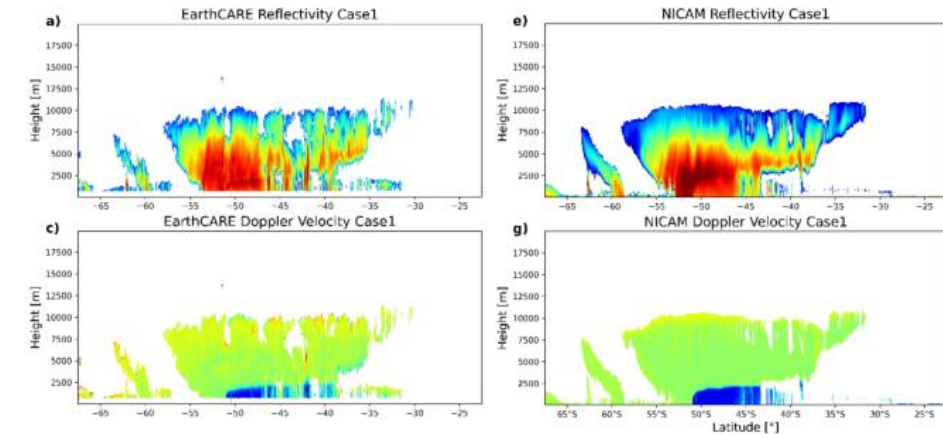


Progress in scientific research on EarthCARE in Japan

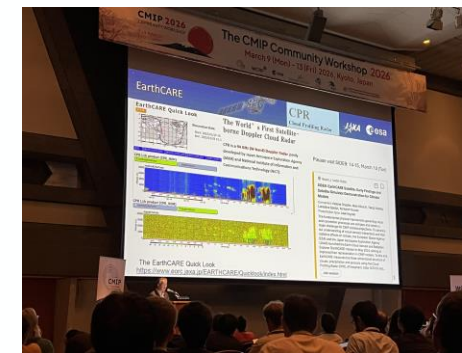


- Early results from EarthCARE (AMT/ACP/GMD inter-journal SI)
 - Huang et al. (modeling), Wang et al. (MSI), Imura et al. (CPR), Hotta et al. (CPR), Seiki et al. (CPR), Aoki et al. (CPR), ...
 - https://acp.copernicus.org/articles/special_issue400_1357.html
- **Notable papers**
 - Synergistic Analysis of **EarthCARE/CPR observations and Global Cloud Resolving (870-m resolution) Simulations** with the Joint-Simulator (Roh et al. 2026, *Sci Rep*)
- **EarthCARE sessions at international conferences**
 - JpGU-AGU 2026 (May), AOGS 2026 (August), ...
- **Notable sessions**
 - At the CMIP (Coupled Model Intercomparison Project) Community Workshop 2026, held at Kyoto, Japan, in March 2026, we successfully hosted a side session titled "**EarthCARE Satellite: Early Findings and Satellite Simulator Demonstration for Climate Models.**"

EarthCARE/CPR observations vs. NICAM 870-m simulations (Roh et al. 2026, *Sci Rep*)



CMIP Community Workshop 2026 at Kyoto, Japan (Mar. 2026). EarthCARE Side session was held successfully.

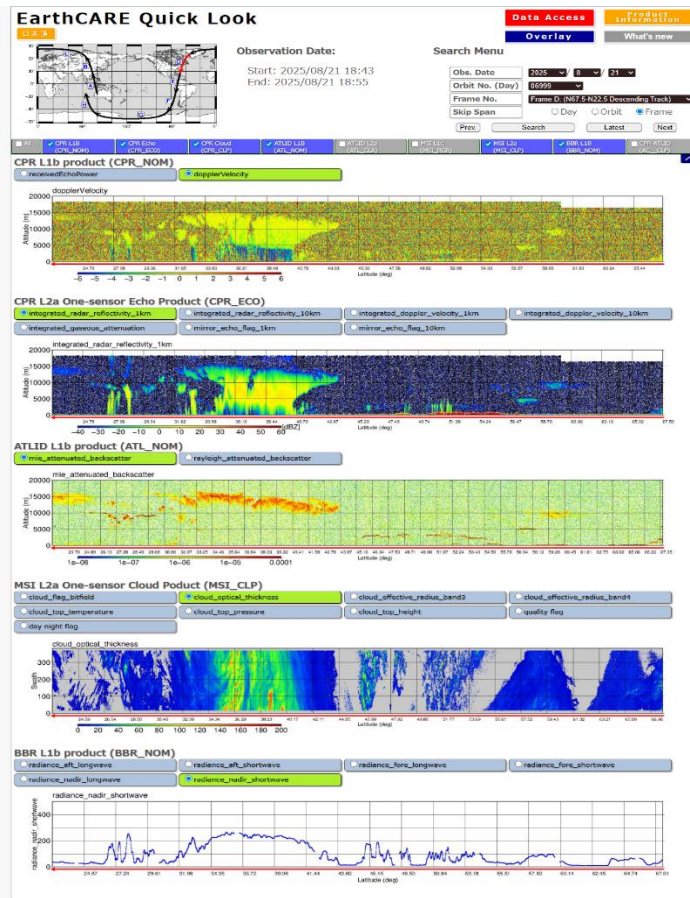


Useful JAXA's websites (Quicklook, Tropical Cyclone DB, EarthCARE–GPM Coincidence Dataset)



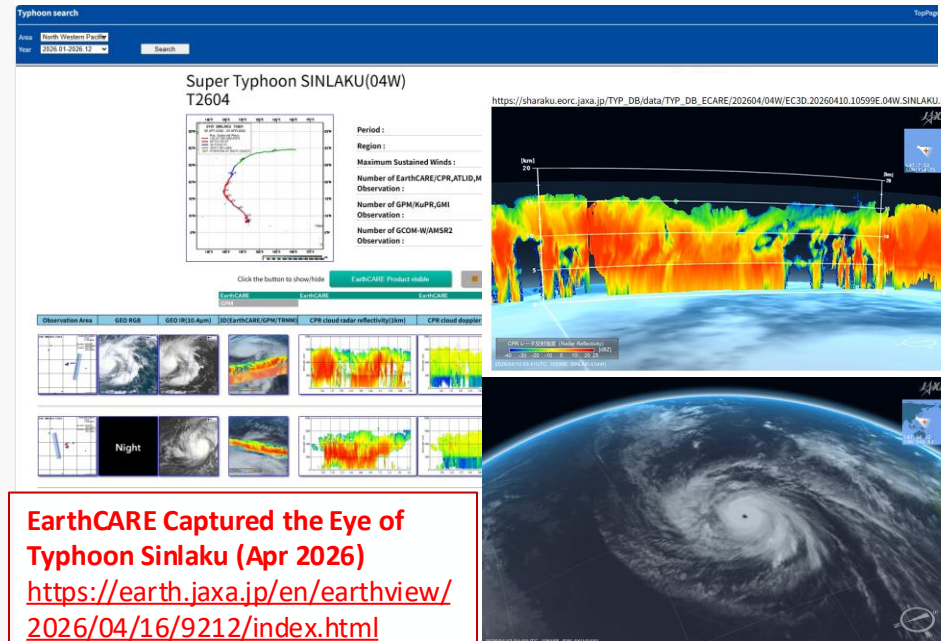
JAXA EarthCARE Quicklook

<https://www.eorc.jaxa.jp/EARTHCARE/Quicklook/index.html>



EarthCARE satellite observation data has been added to the "**JAXA/EORC Tropical Cyclone Database**" to promote the use of such data in typhoon research.

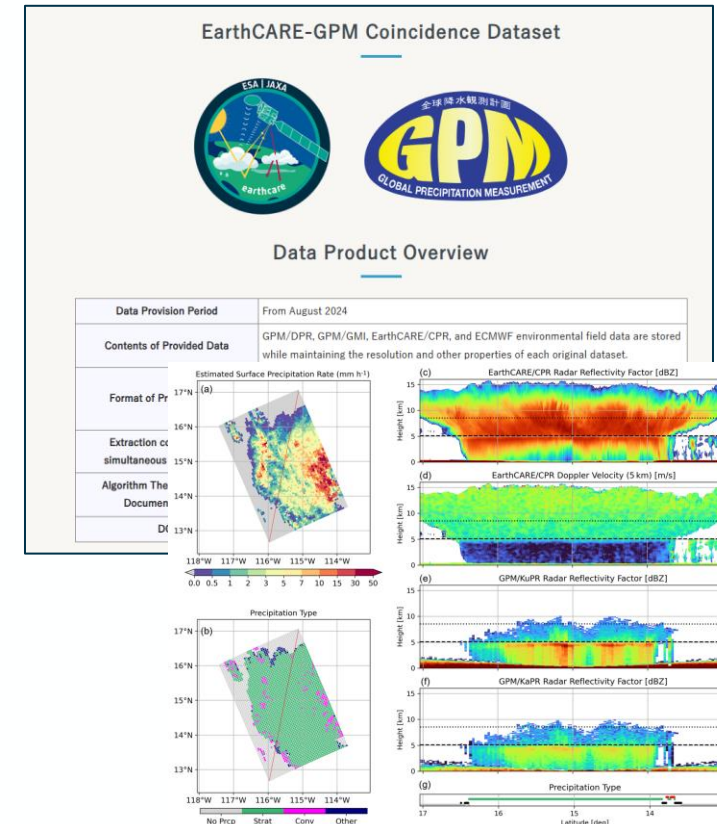
https://sharaku.eorc.jaxa.jp/TYP_DB/index.html



EarthCARE Captured the Eye of Typhoon Sinlaku (Apr 2026)
<https://earth.jaxa.jp/en/earthview/2026/04/16/9212/index.html>

EarthCARE–GPM Coincidence Dataset

<https://doi.org/10.57746/EO.01ka7xakvwj6pcthxkvgt0vr0y>



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- **The Japanese contribution to scientific exploitation**
 - Early results from EarthCARE (AMT/ACP/GMD inter-journal SI)
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 - CMIP Community Workshop 2026 at Kyoto, Japan (Mar. 2026). EarthCARE Side session was held successfully.
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 - Quicklook, Tropical Cyclone DB, EarthCARE–GPM Coincidence Dataset. ...