

CNES updates



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Agenda Item 2.4
WGISS-61
16-20 March, 2026
Dehradun, India

CNES missions



SPS 2024 priorities



CO3D
DEM

MICROCARB
Carbon from space

IASI-NG
Atmosphere composition

TRISHNA
Surface temperature & Soil moisture

C3IEL
Convective clouds & lightning

REVALTO
Daily water levels for surfaces

GENESIS
Geodetic references

MAGIC/NGGM
Earth's gravity field

MERLIN
Monitoring methane emissions

C²OMODO
Convection, aerosols & climate

S3-NG-Topo
Wide-swath altimetry for ocean & hydrology

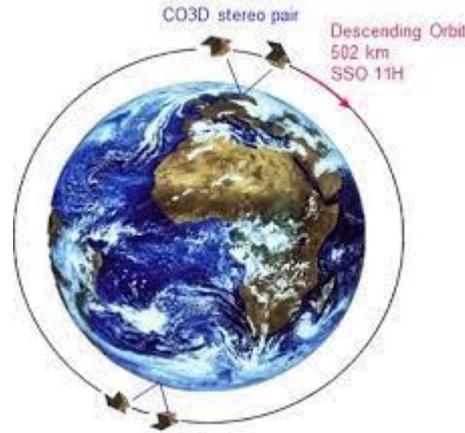


2025

2030

2035

CO3D



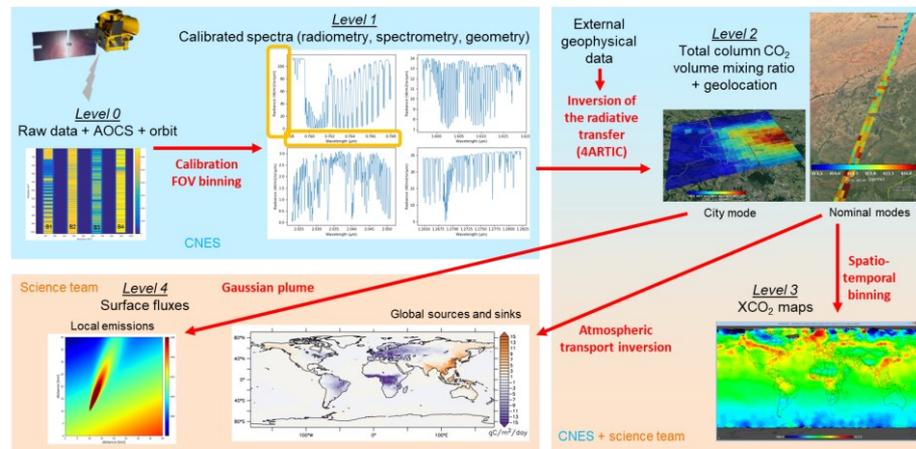
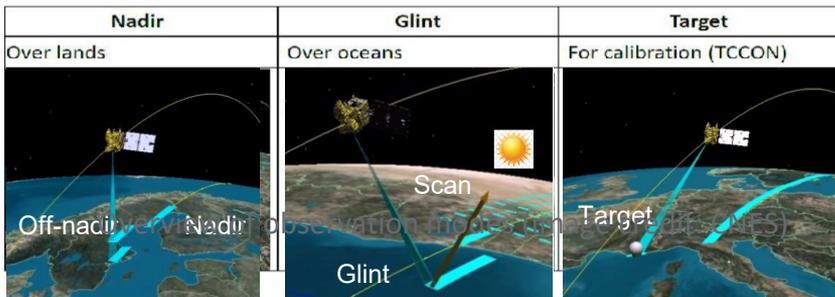
1 m relative altimetric accuracy (CE90)
at 1 m ground sampling distance (GSD).
Each DSM will be produced at 1, 4, 12,
15 and 30 meter

- Quality image qualification phase until April.
- Mass images acquisition Phase (France + crisis zone, other specific sites: from May
- 3 D products qualification = 4 months
- Production Phase: January 2027

CNES missions



MICROCARB



September 2025 → Apr 2026	Cal/Val phase 1	Start processors L1 et L2 at CNES Start processors tests at EUMETSAT Tuning of Optimal functioning point & L1 algorithm, calibration L1 First tests on L2 (4ARTIC) Validation data acquisition for Cal/Val	Data only for CNES expertise + possible samples to scientists of MAG
Apr 2026 → August 2026	Cal/Val phase 2	Start regular production at EUMETSAT + 2 reprocessings Tuning algo L1 + processors L2, Validation L2 (CNES + labos) Comparisons with validation data	Distribution of sample data to scientists of the MAG through AERIS DATA-TERRA
September 2026 → 2030	Routine	Start Flux inversions/assimilation by scientists/users Validation & upgrade of L1 & L2 data: continue	All data available on AERIS DATA-TERRA & via EUMETSAT PORTAL

CNES Future missions



REVALTO

Based on the SMASH (SMall Altimetry Satellites for Hydrology) mission concept
(Blumstein et al., 2019, Biancamaria et al. EGU 2024)

High priority mission since 2019 for science and industry

Ka-band nadir altimetry mission to measure **global, daily water levels**

Complementary to SWOT high spatial resolution

A constellation of altimeters, unique in the world, built on French expertise in altimetry

2025

REVALTO

2030

2035



PLEIADES WORLD HERITAGE

- ❖ 13 years of exploitation : >4 millions images for civil applications, ~1000 images per day.
- ❖ Open for French institutions and European scientific users
- ❖ World cover is being programmed
- ❖ Accessible via GEODES, CNES EO portal in ~Nov.



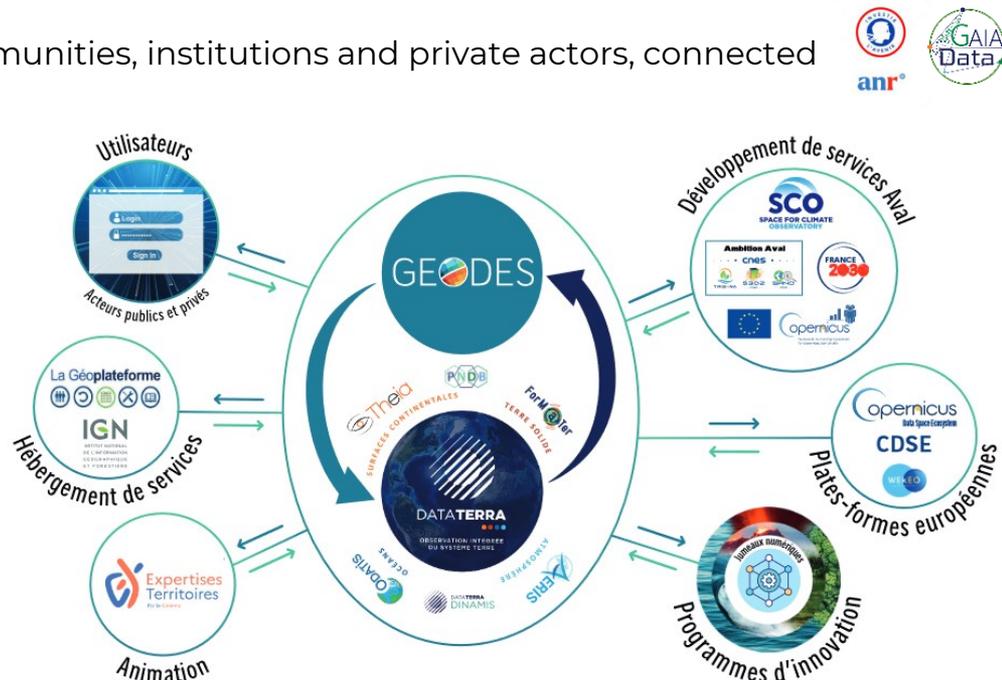
*Pleiades coverage status on Feb. 12, 2026
in white = areas to acquire*

GEODES PLATFORM & DATA TERRA

- GEODES = EO Space data hub for scientific communities, institutions and private actors, connected to the e-infrastructure Data Terra

<https://geodes.cnes.fr>

- DATA TERRA = France e-research infrastructure



GEODES benefited founding from the National Research Agency under the Investments for the Future Equipex+ GAIA Data program no. ANR-21ESRE-0010 (Gaia-Data) and from Toulouse Métropole (CPER GDO).

GAIA DATA PROJECT



- ❖ Build a distributed data infrastructure for the observation, modeling and understanding of the Earth system, biodiversity and environment
- ❖ Strengthen e-research infrastructure Data Terra and Climeri-France.
- ❖ 21 partners, 61 M€ total cost. Development phase until may 2027
- ❖ Integrate & manage the entire data cycle (data from satellites, in-situ observations and numerical models)
- ❖ Provide services for storage, processing, analysis and visualization.
- ❖ FAIR principles, unique SSO
- ❖ Connected to European , node of the EOSS



8 principle sites (regional mesocenters, research data & computing centers, & high-performance computing national centers)

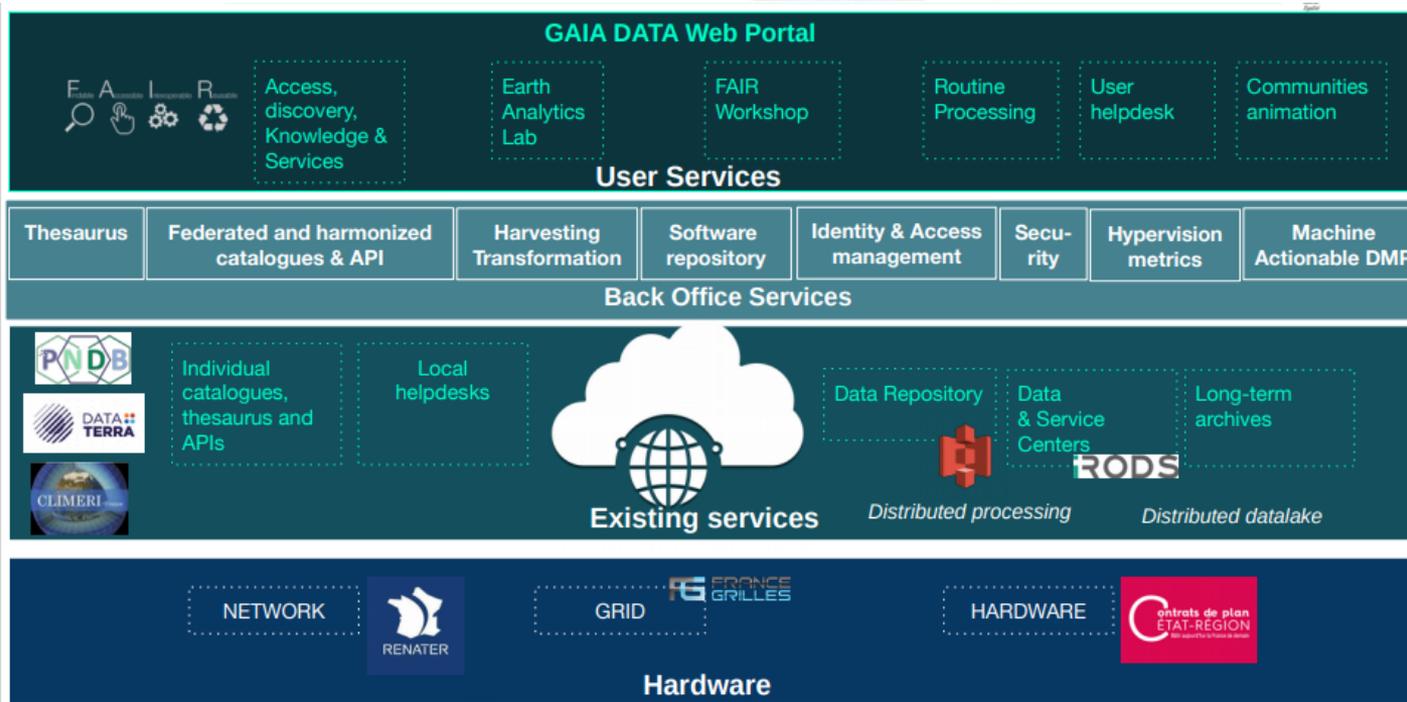
French infrastructure



GAIA DATA PROJECT



DATA
TERRA



GAIA DATA PROJECT

Network & institutional partners

