



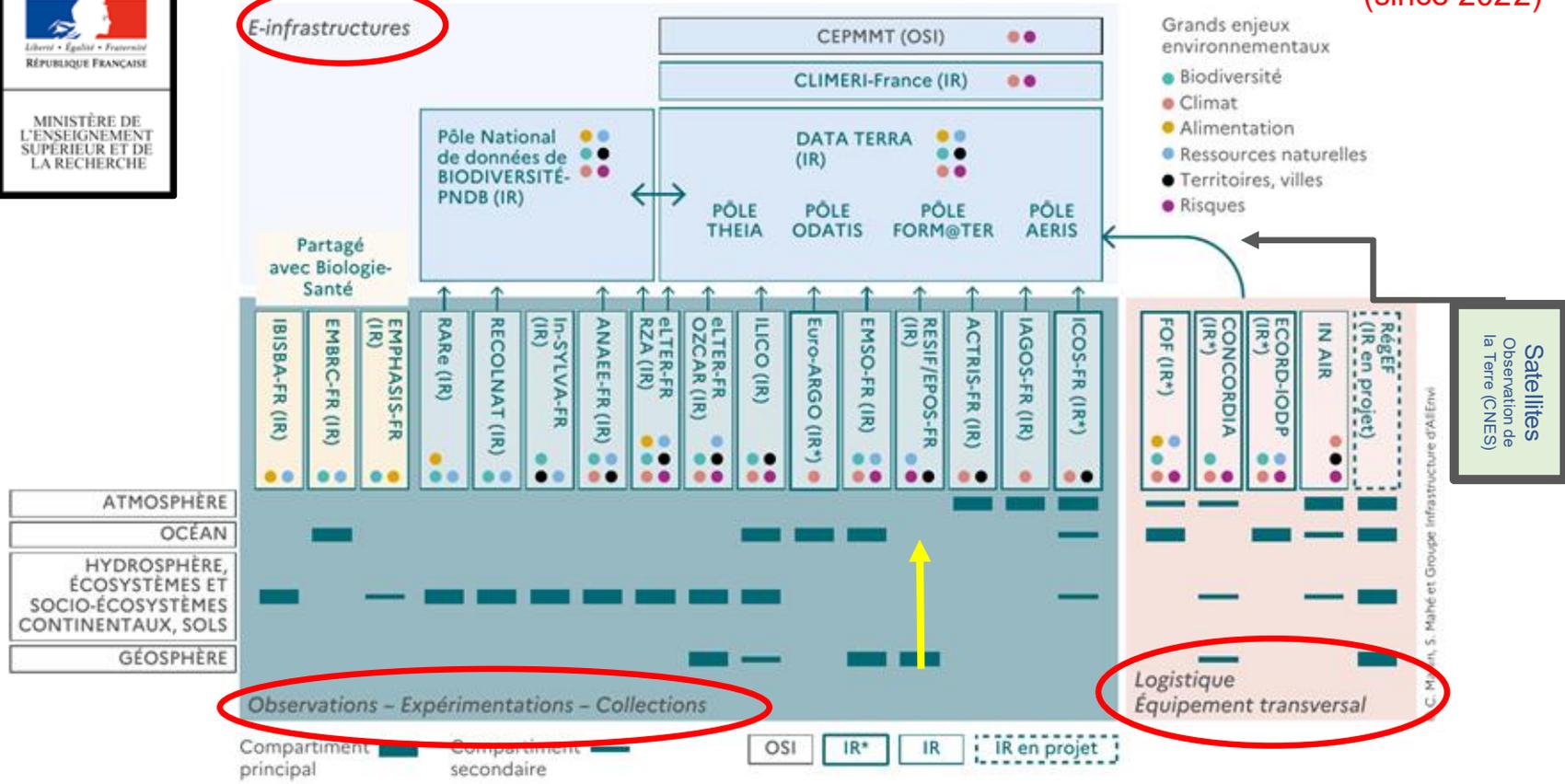
Epos-France & Data Terra, ... towards EPOS ERIC and beyond

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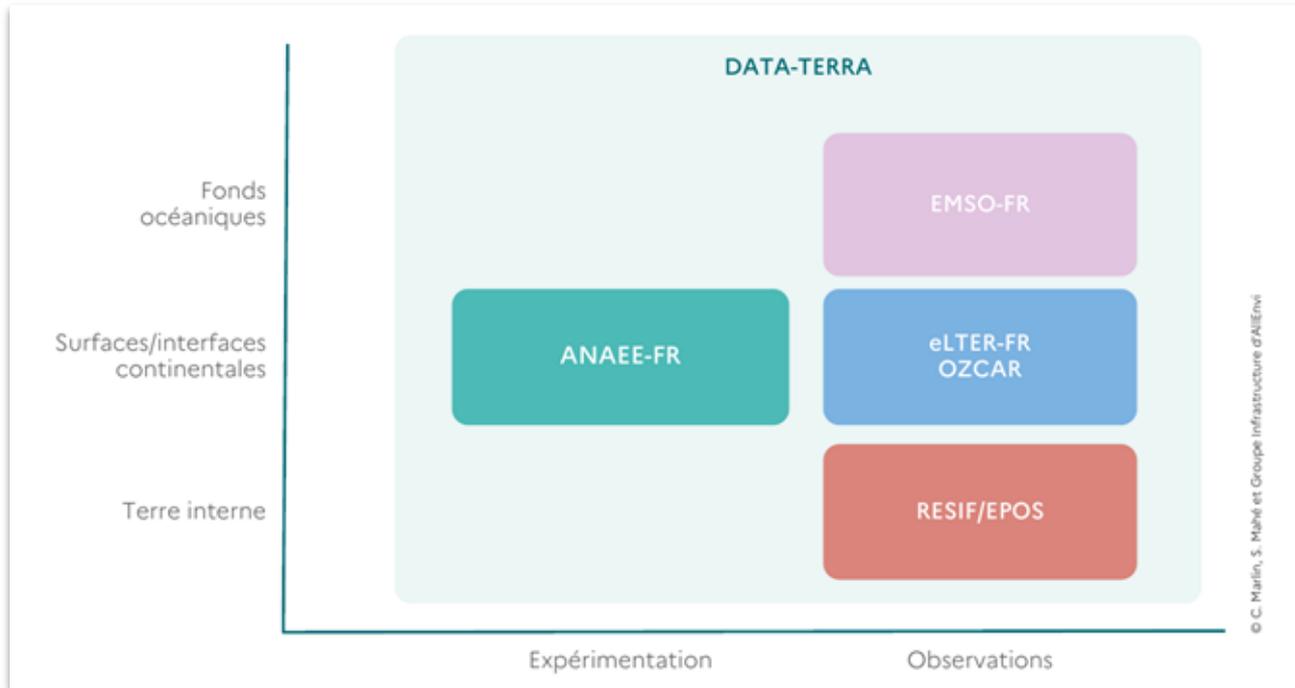
National organisation of research infrastructures **by nature**

(since 2022)



(Source: French National Roadmap for Research Infrastructures 2021)

National organisation of research infrastructures **by nature**



Natural embedding of research data producers into the E-infrastructure.

Objective: multi-source data discovery and ingestion by high-level services (data labs, AI factories...)

Landscape of french Research infrastructures of the “Geosphere”

French National Research Infrastructure for Solid Earth Observation

Before 2008

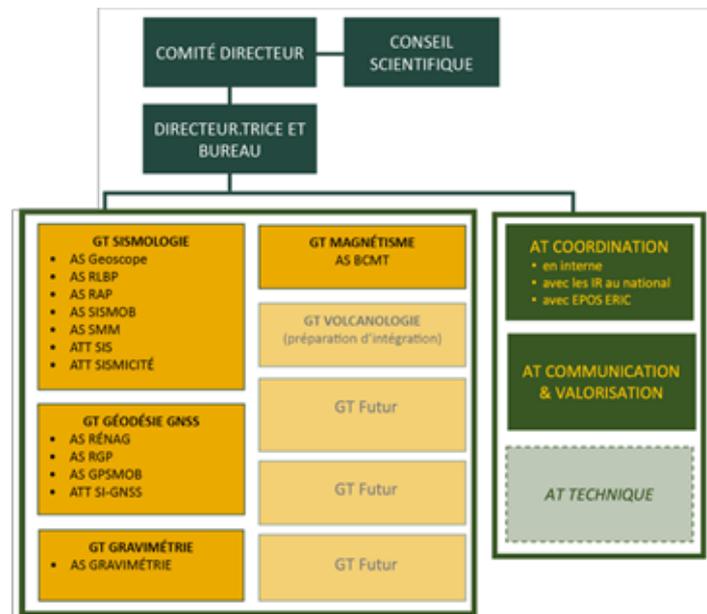
- Communities operating in disciplinary silos

2008–2023 — RESIF NRI

- Creation of a national research infrastructure (NRI)
- Federation of **Seismology, Geodesy and Gravimetry**

Since 2023 — Epos-France NRI

- Transformation into a **broader NRI**
- Goal: **integrate all Solid Earth observation communities in France**



⇒ Integration in progress: Magnetism (paleomagnetism & MT, ...)

⇒ Forthcoming integrations: Volcanology, Analog models, Anthropogenic Hazard, ...

E-Infrastructure for Earth and Environmental Systems Research

01 Single access

Provide researchers with a single access to **scientific data, services and infrastructure** needed to analyze the data

02 Federation of resources

Federate existing **scientific data infrastructures**, currently dispersed across disciplines and Member States

03 Collaboration inter-disciplines

Promote the sharing of data and services **across disciplinary and geographical boundaries**



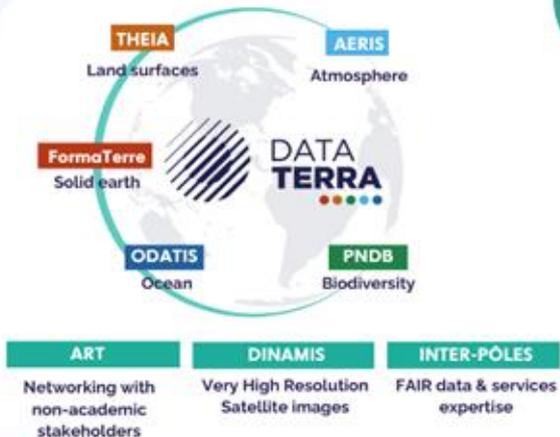
04 Sharing community

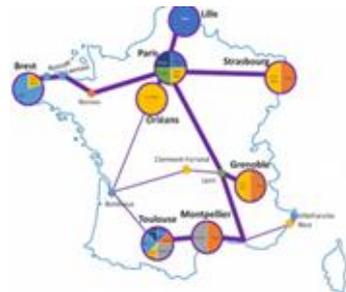
Create a sharing space for **researchers and engineers** from all scientific fields, allowing the exchange of skills and good practices



05 Integration of services

Enable service providers to integrate their offerings into the EOSC ecosystem, thereby **enriching the resources** available to the scientific community





AERIS

ACTRIS

ICOS | INTEGRATED CARBON OBSERVATION SYSTEM

IAGOS
IN SERVICE AIRCRAFT FOR A GLOBAL OBSERVING SYSTEM

Theia

eLTER

JERICO RI

ODATIS

emso ERIC

JERICO RI

Euro Argo

FormaTerre
DATA TERRA

EPOS
EUROPEAN PLATFORM OBSERVING SYSTEM

emso ERIC

PNDB

LifeWatch ERIC

eLTER

AnaEE ERIC

Synergies between Epos-France & DataTerra

Observation



*e.g. Epos-France
seismological Data
Repository*

*e.g. BCSF-
RENASS*



Observations

*Physical network
of measurement
stations*



**Data
Repositories**



e.g. AAS, Geodesy Plotter, ...



E-infrastructure



Earth system and environment

- *added value products*
- *AI factories*
- *Analysis Tools (VRE, etc)*
- *Data services*

based on:

- *Interoperability,*
- *Multi-thematic cross-referencing services*
- *Multi-sources*

*In practise, no rigid boundaries,
but rather flexible interfaces that
vary depending on the considered
scientific domain.*

⇒ 2 National Research Infrastructures supporting 1 Solid Earth Scientific Community



FormaTerre

DATA TERRA

**Facilitate discovery and access to data.
Provide efficient services and tools for processing and analyzing data.**

 www.poleterresolide.fr



scientific expertise

Data management

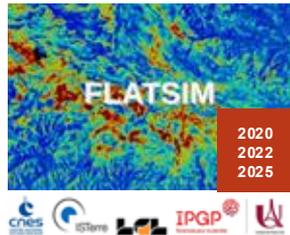
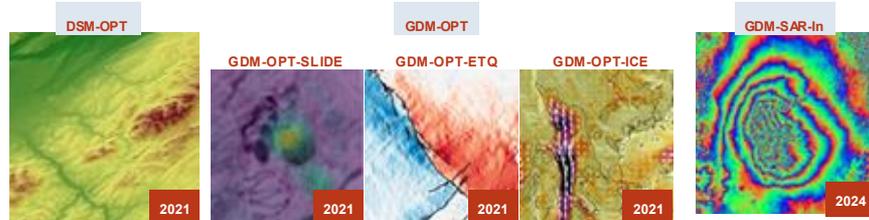
Observation and thematic service data
centers and scientific expertise centers
located throughout France



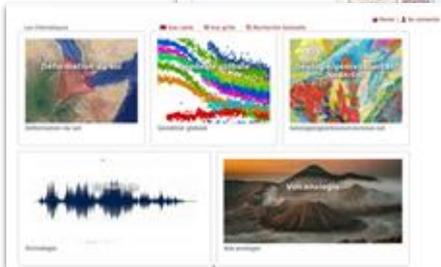
Data catalogue (136 collections)



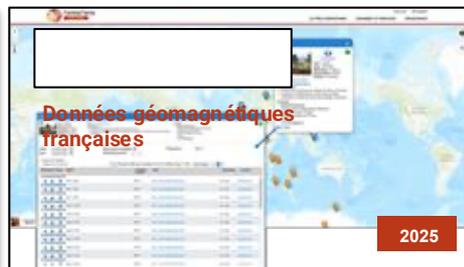
Harvested by Data Terra



Visualisation

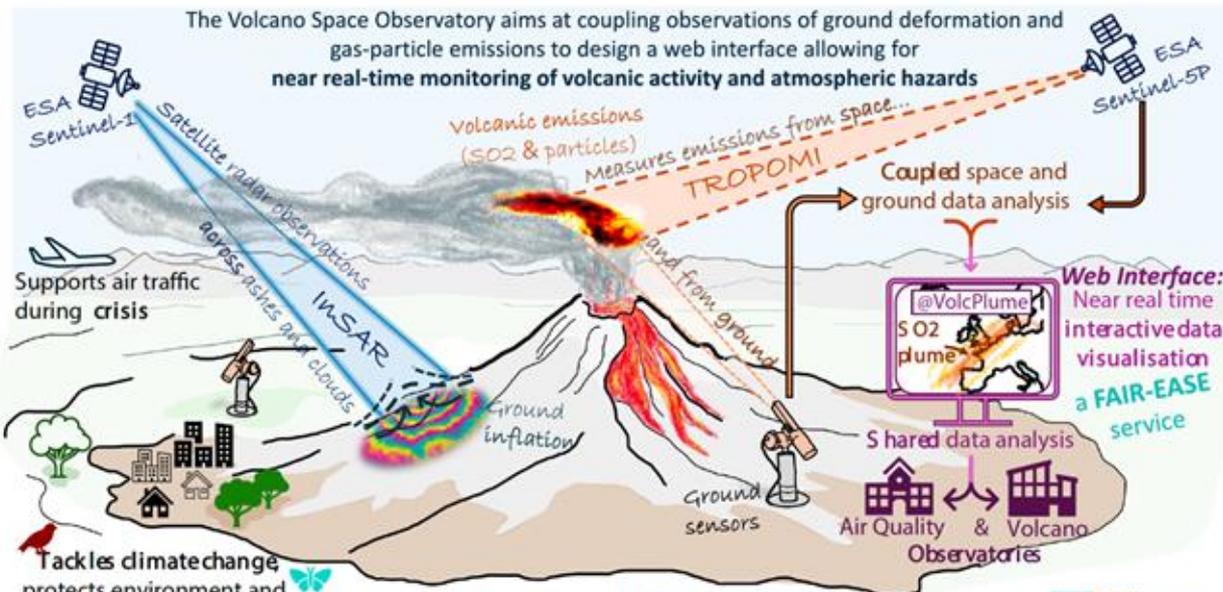


Thematic search



The Volcano Space Observatory

The Volcano Space Observatory aims at coupling observations of ground deformation and gas-particle emissions to design a web interface allowing for near real-time monitoring of volcanic activity and atmospheric hazards



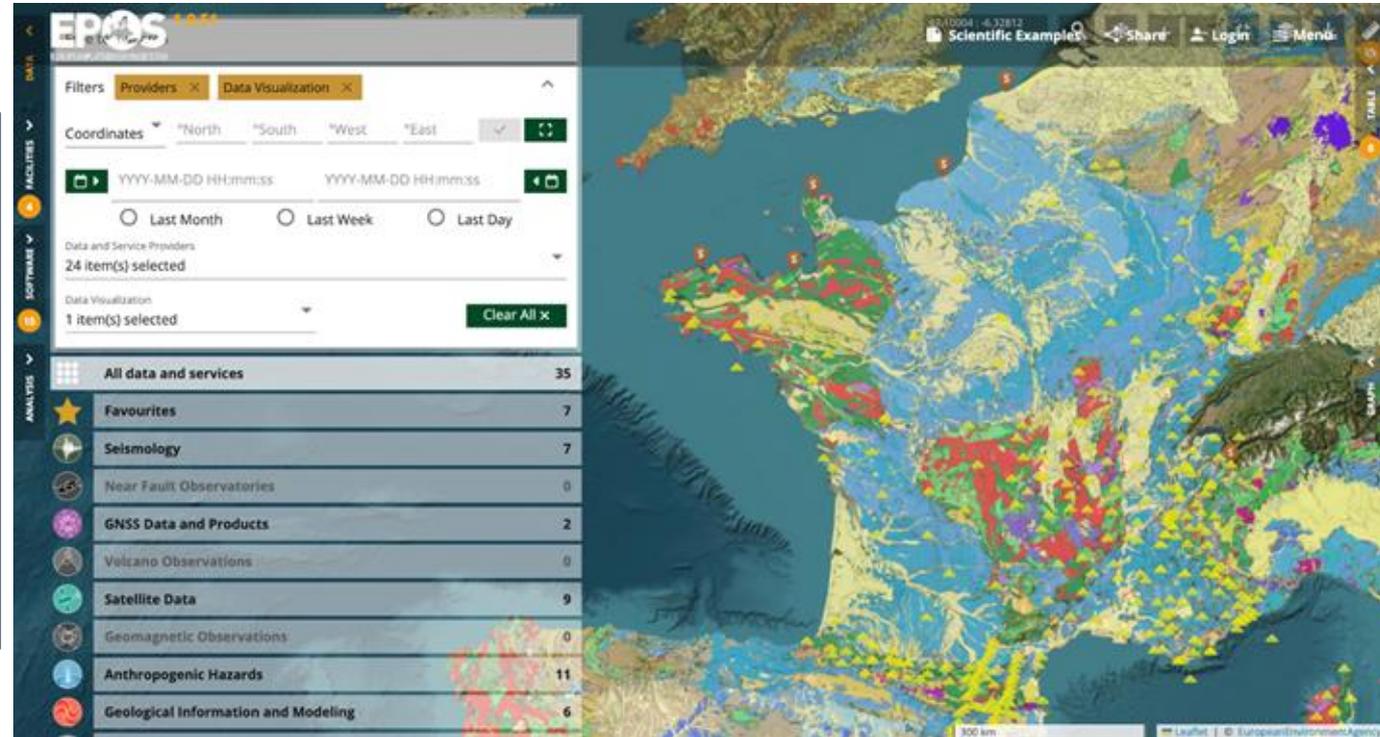
Achievements

- Deployment of the volcanic SO₂ flux estimation algorithm via a dedicated API (Sentinel-5P/TROPOMI data)
- Prototype of on-demand InSAR processing (Sentinel-1 data)
- Collaboration between FormaTerre and AERIS (ICARE)
- “Volcano Space Observatory”: a pilot project for the EOSC federation
- Use of Galaxy for the Earth System Sciences (GESS)

Epos-France & DataTerra are both contributing to EPOS ERIC



- contribution to all TCS
- ~60 data access services (DDSS)
- ICS-C : through BRGM partner
- ICS-D : through EOSC (to come)



Epos-France & DataTerra, towards EPOS ERIC and beyond



A strategic synergy under reinforcement

- Existing collaborations are already well established
- Epos-France Solid Earth observation actors are expected to contribute to DataTerra-FormaTerre Scientific Expertise Centres and design of new services
- Data hosted in Epos-France repositories appear in DataTerra metacatalogue and are used by services for added-value data products

→ Strengthen interoperability with the other components of the Earth System

(Ocean – ODATIS / Atmosphere – AERIS / Continental Surfaces – THEIA / Biodiversity – PNDB)

→ Strengthen data service developments at European level (service onboarding).