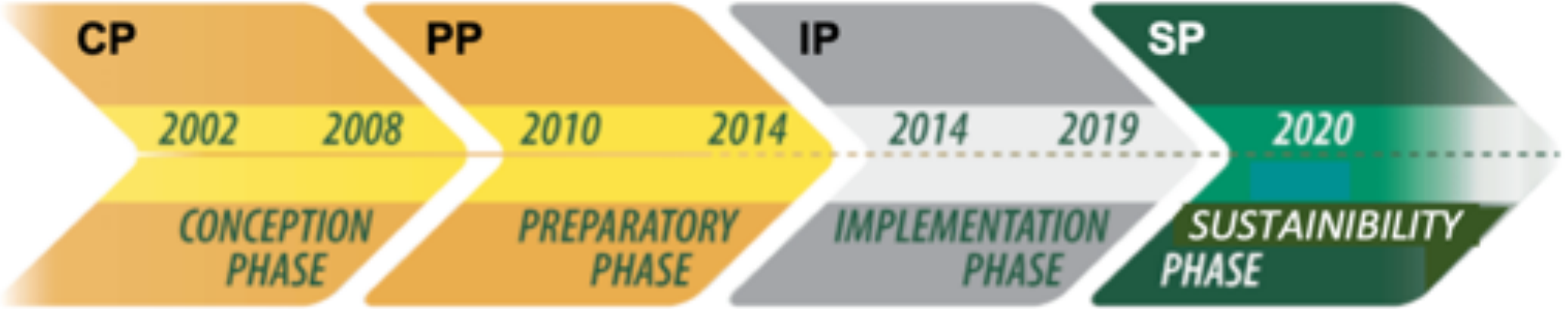
EUROPEANPLATEOBSERVINGSYSTEM

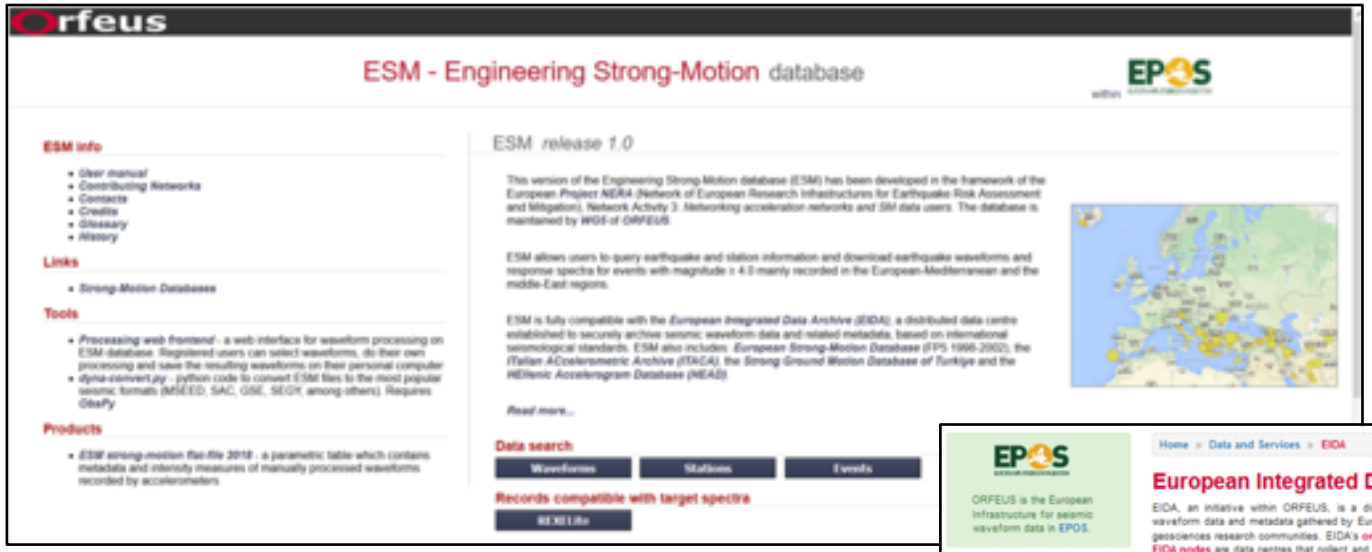
Aude Chambodut,
Anne Socquet &
Helle Pedersen

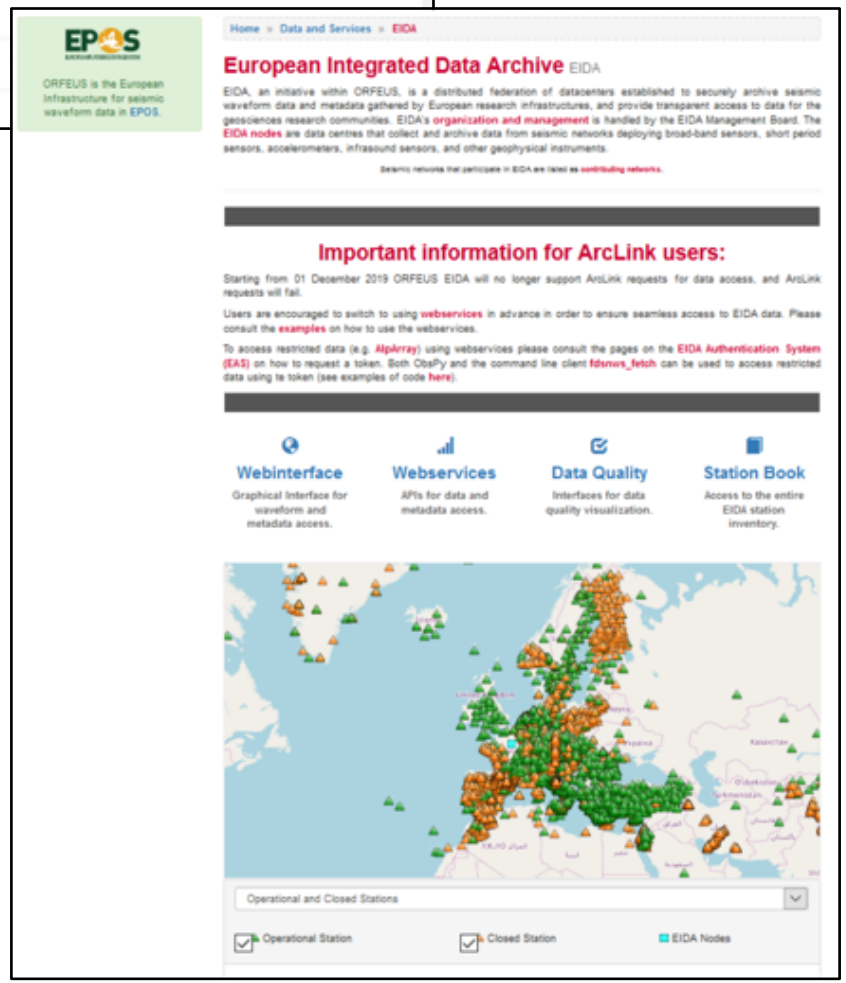


- **EPOS-ERIC** créé nov. 2018 (***General Assembly*** ont eu lieu nov. 2018, fév. 2019, juin 2019 et **sep. 2019**)
- Les **contrats de services** sont en préparation. Le soutien financier au fonctionnement de ceux-ci sera limité.
- Le portail technique de EPOS sera ouvert 4ème trimestre 2020. (Des interactions intenses ont/auront lieu entre les TCS et les ICS pour cette finalisation.)
- Pour la phase **EPOS-SP**, la France (CNRS et BRGM) est **porteuse de 2 WP**.

Seismology	Seismic waveforms (ORFEUS) Seismological products (EMSC) Hazard & risk products (EFEHR) Computational sesmology	→ RESIF participation
Near fault observatories	NFO multidisciplinary data & products Borehole data Virtual laboratory & early warning test beds	→ Corinth Rift Laboratory (RESIF participates in data distribution)
GNSS data and products	GNSS primary data & derived products Processing and visualization tools	→ RESIF participation
Satellite data	SAR interferograms Integrated satellite products On-line processing tools	→ ForM@Ter SAR calculation & Optic
Volcano observations	Multidisciplinary volcanic data & products Hazard products TNA to volcano observatories	→ Data and products from French Volc Obs RESIF participates in data distribution
Anthropogenic hazards	Data for AH episodes Multi-hazard simulator - multi-risk assessment AH data visualisation	→ G-eau-thermie profonde & other French datasets (Lacq, Monteynard)
Geomagnetic observations	Global and regional geomagnetic models Magnetotelluric data	→ ISGI - part of ANO Magnétisme
Geological information and modeling	Geological multi-scale data Integrated geological maps Borehole visualization	→ BRGM (maps, borehole data)
Multi-scale laboratories	Experimental & analogue data TNA to experimental & micro-analytical facilities	→ French labs involved (facilities, modeling)
Geo energy test beds for low carbon energy	Geo energy test beds Access to in-situ GETB exsperiments	→ No validated EPOS services yet, no French participation

SEISMOLOGY





French participation in

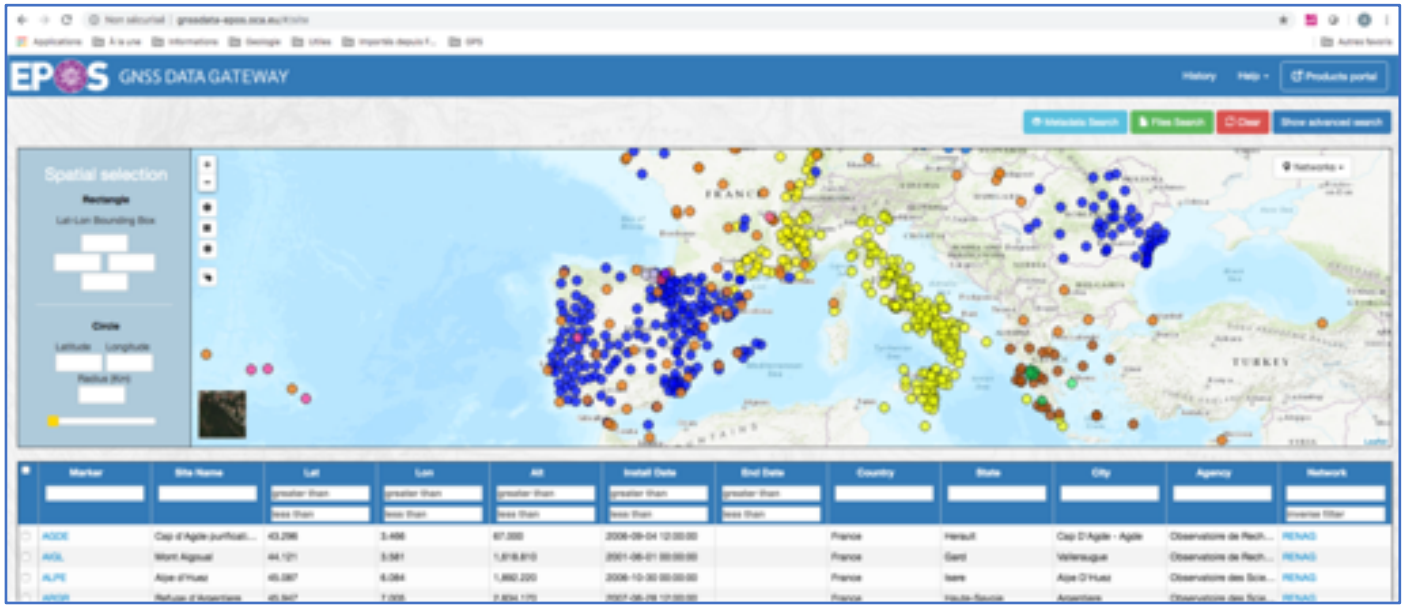
Distribution of **Seismological data and Products**

- → Integration of all EIDA nodes in EPOS. RESIF-DC is now one of the biggest data nodes in Europe
- → Integration of Engineering Strong Motion Database in EPOS (French participation through RESIF-RAP)
- → Integration of earthquake information in EPOS (EMSC and RESIF Action Transverse Sismicité)
- → Coordination of data distribution from OBS experiments (possible future Action Spécifique RESIF)
- → Site characterisation (AVIOS)

GNSS DATA
AND PRODUCTS

French Services:

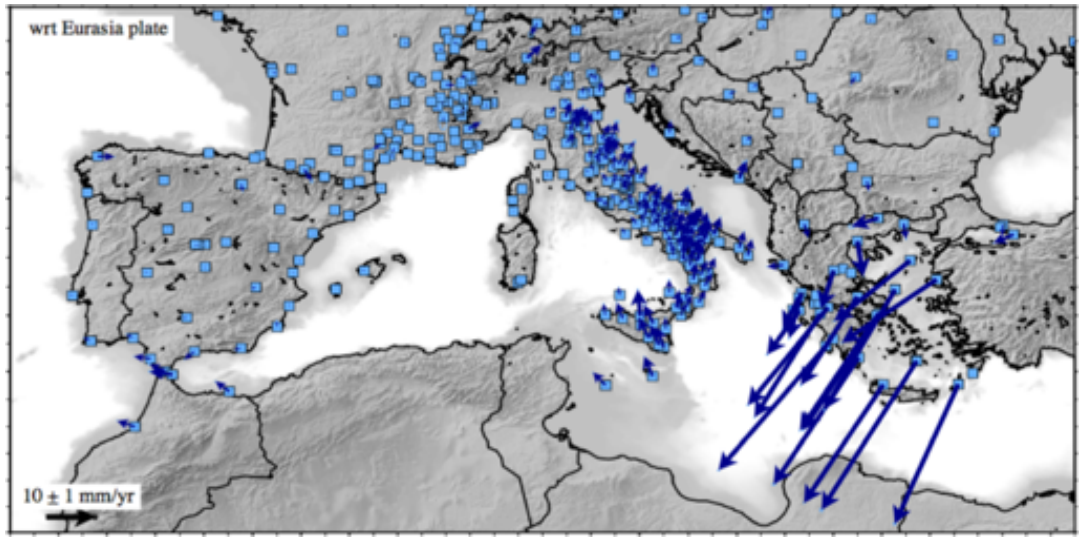
1- EPOS-GNSS Data portal @ OCA http://gnssdata-epos.oca.eu/



Objectives

Archive and Distribute **GNSS data** *(Rinex)*
and GNSS Products *(Time-Series, Velocity Fields, Strain Rate Maps)*

2- Genesis and qualification of EPOS-GNSS products @ OSUG



Added Value:

→ At European scale
→ High and homogeneous quality standard
→ Unique portal (visibility)
→ démocratise /extend the use of GNSS data

Même avant la rentrée en opération des Integrated Core Services, EPOS a un impact :

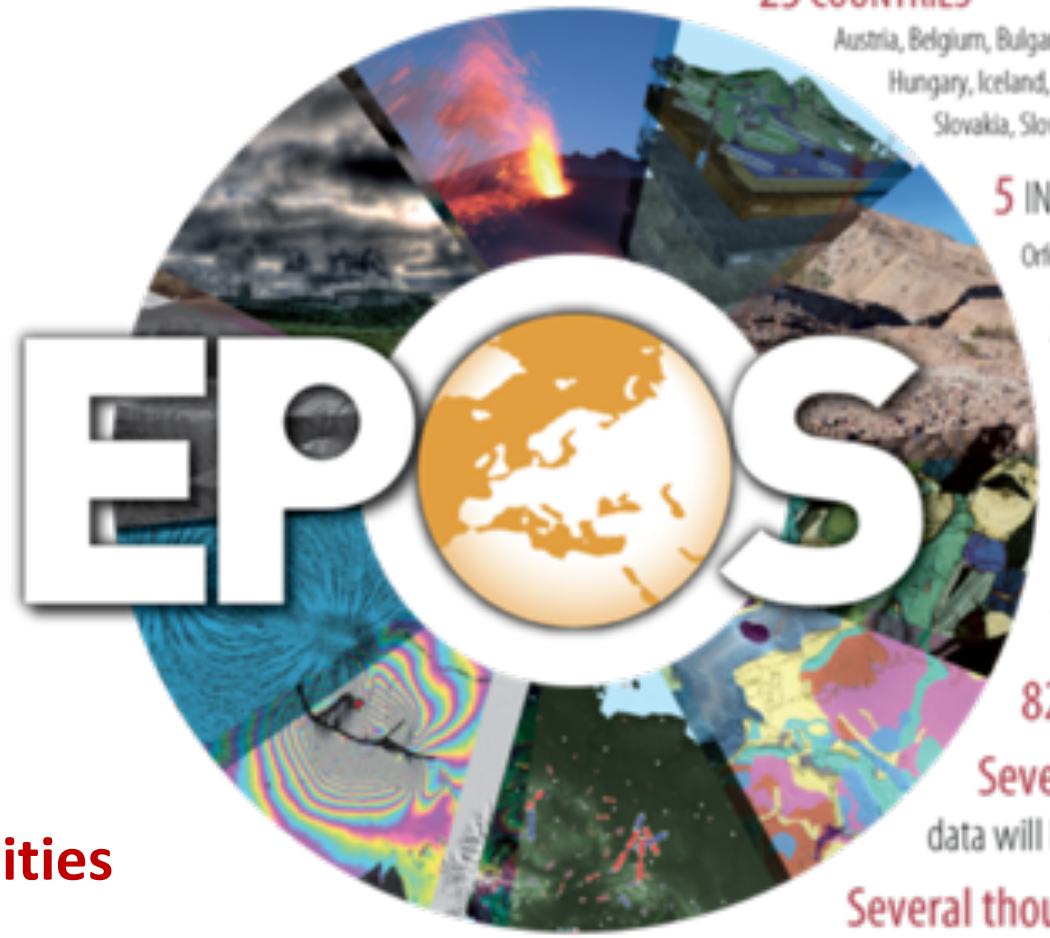
- De nombreux **nouveaux jeux de données deviennent disponibles** et intègrent un système de distribution ouvert, comme par exemples :
  - *Seismology* ➔augmentation forte de données dans EIDA (données portugaises; données des hautes latitudes; …)
  - *Volcanolo observations* ➔ beaucoup de données italiennes étaient, avant, fermées
  - *Anthropogenic hazard* ➔ premier assemblage opérationnel de ce type de données en Europe
- Des **services sont réunis et améliorés** au sein d'EPOS :
  - services associés à l'aléa sismique
  - services associés a la caractérisation de sites
  - produits GNSS
  - *Near fault observatories*
- De **nouveaux services sont développés** comme les données InSar prétraitées
- **Amélioration globale et homogénéisation partielle (domaine dépendant) de toutes les pratiques de gestion des données**

… introducing EPOS

https://www.epos-ip.org/

EPOS is a **long-term plan for the integration** of research infrastructures for solid Earth Science in Europe

EPOS integrates the **existing (and future)** advanced European facilities into **a single, distributed, sustainable infrastructure** taking full advantage of new **e-science opportunities**



25 COUNTRIES

Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom

5 INTERNATIONAL ORGANIZATIONS

Orfeus, EMSC, EUREF, INTERMAGNET, EuroGeoSurveys

256 NATIONAL RESEARCH INFRASTRUCTURES

4939 SEISMIC STATIONS

2272 GPS RECEIVERS

464 TB SEISMIC DATA

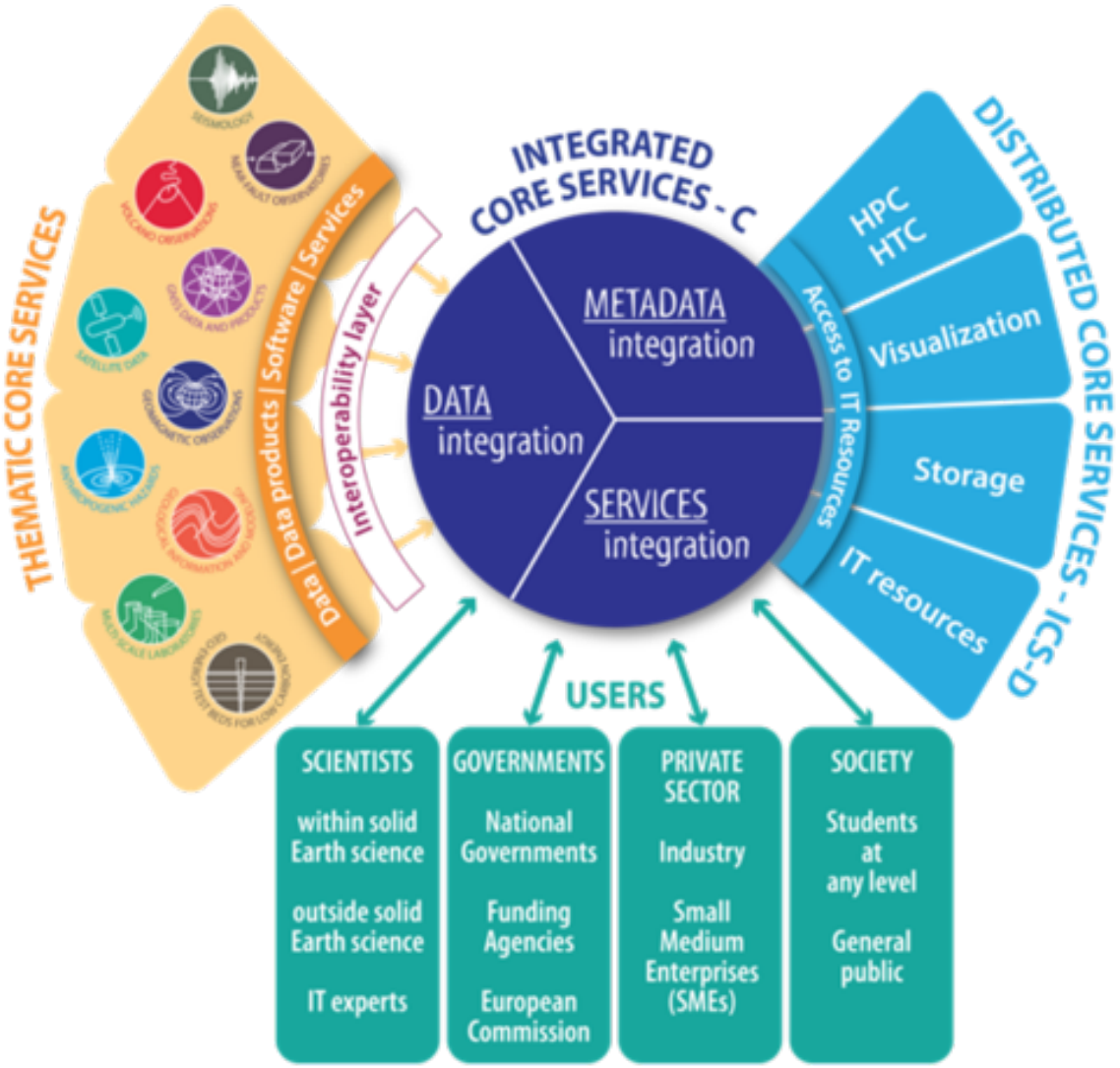
118 LABORATORIES

828 INSTRUMENTS

Several PetaBytes of solid Earth Science data will be available

Several thousands of **users** expected to access the infrastructure

… summing up EPOS



National Research Infrastructures ensure the **competences and resources** for collecting and analysing data and for maintaining national observation systems.

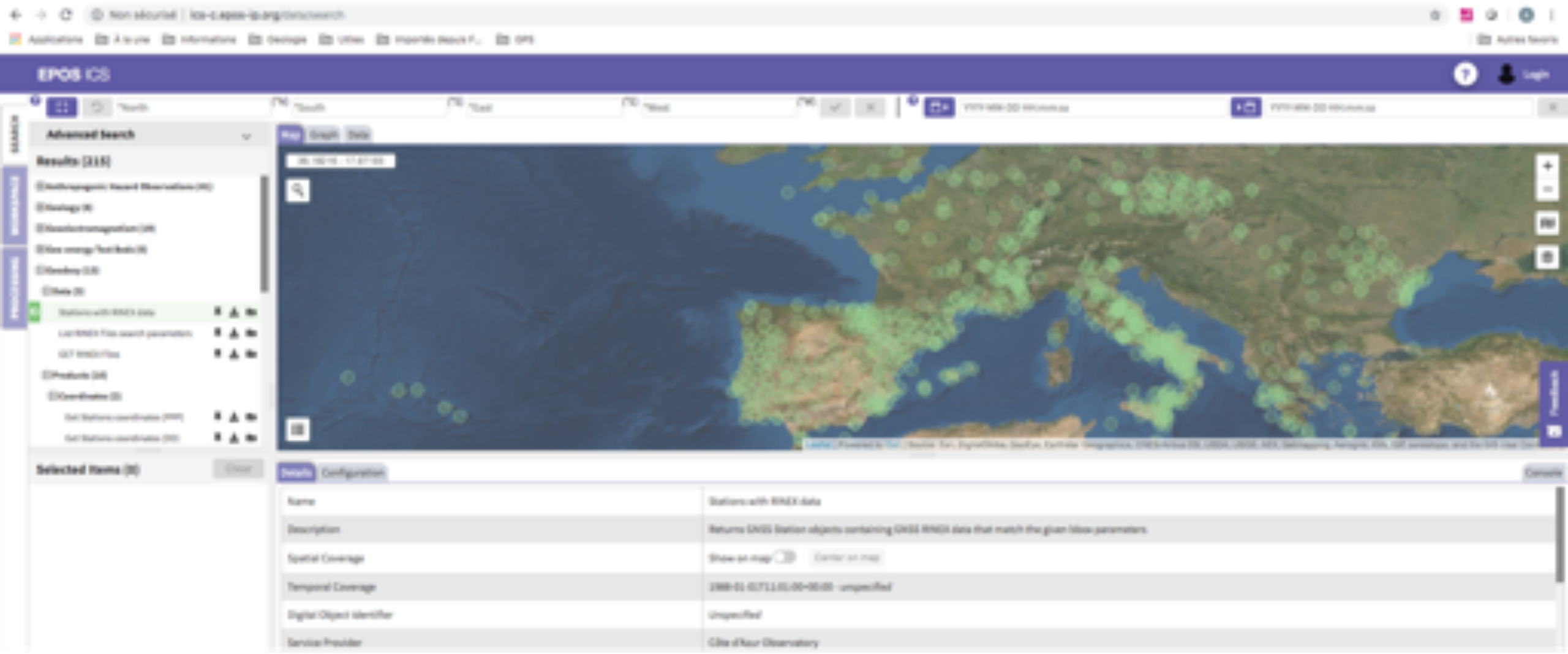
TCS are responsible for **integrating data, metadata and services** from various infrastructures for each discipline.

ICS provide a **new interface** that, by adopting data access policies aligned to **Open Science principles**, provides data and products in a **FAIR*** form for users.

Promote **scientific and technological innovation** for successfully **addressing global major challenges in Earth sciences.**

****Findable, Accessible, Interoperable, and Re-usable***

EPOS-ICS GUI (Graphical User Interface)

http://ics-c.epos-ip.org/

- **Discover** and **harvest** available Data, Data Products, Software and Services (DDSS)
- Keypoints : **standardized** data and metadata, **direct links** for access and download