

## UNRAVELING EARTH'S GREENHOUSE GAS BALANCE WITH MEASUREMENTS

**Key words**  
Greenhouse gas observations, carbon cycle, standardized measurements, data integration

**Type of Research Infrastructure**  
Distributed

**Domain**  
Atmospheric, Marine, Ecosystem

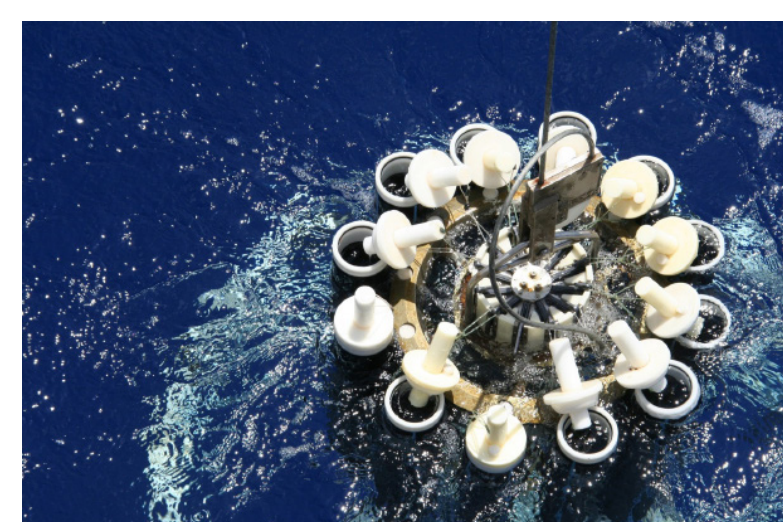
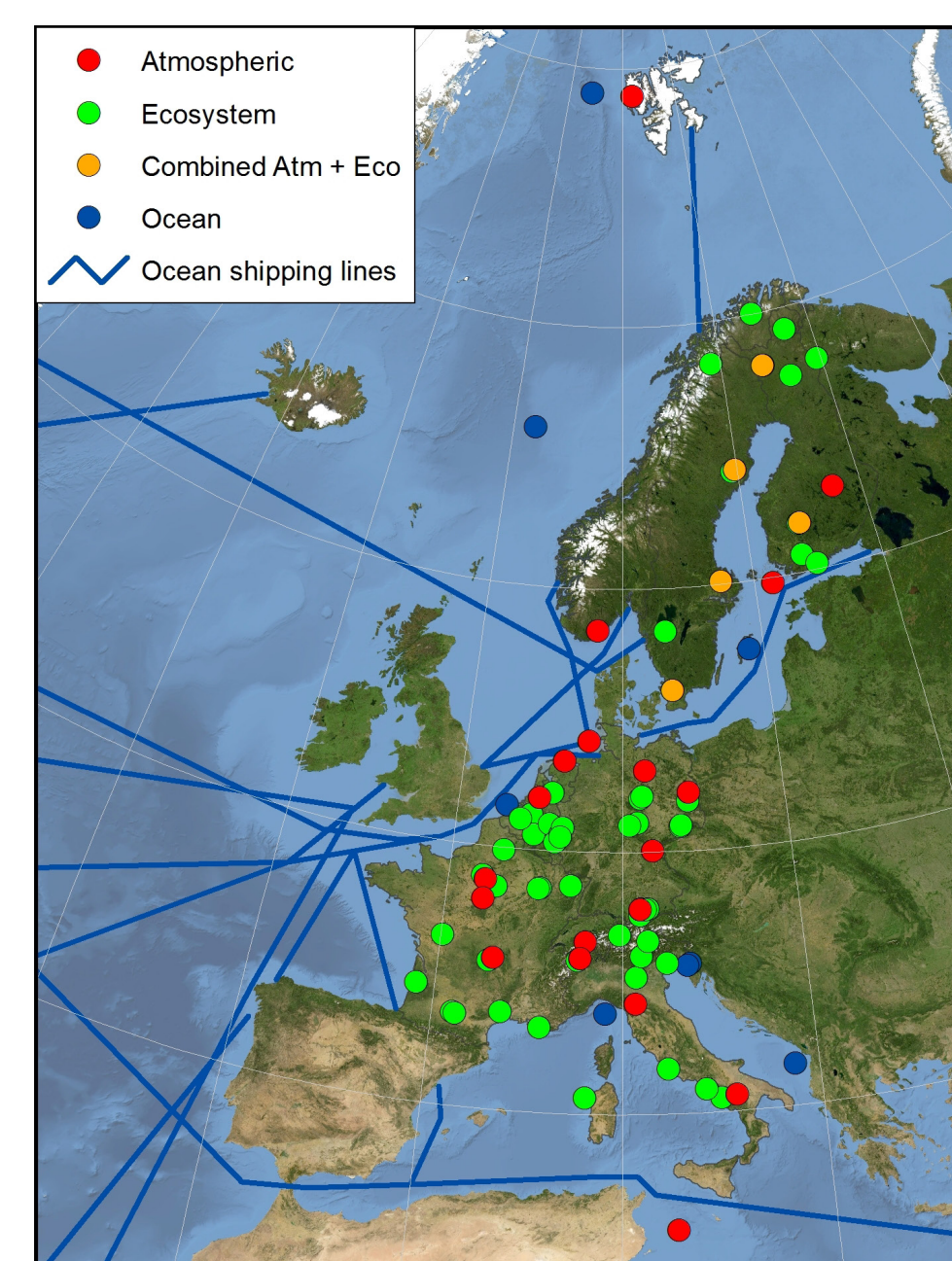
**Current status**  
ERIC

**Website**  
[www.icos-ri.eu](http://www.icos-ri.eu)

**Contact**  
[info@icos-ri.eu](mailto:info@icos-ri.eu)

ICOS RI provides the long-term observations required to understand the present state and predict future behaviour of the **global carbon cycle and greenhouse gas emissions and concentrations**. The objectives of ICOS RI are to provide effective access to a single and coherent data set to facilitate research into multi-scale analysis of greenhouse gas emissions, sinks and the processes that determine them, and to provide information, which is profound for research and understanding of regional budgets of greenhouse gas sources and sinks, their human and natural drivers, and the controlling mechanisms. ICOS RI tracks carbon fluxes in Europe and adjacent regions by observing the ecosystems, the atmosphere and the oceans through integrated national station networks, European central facilities and distributes the GHG data to the users via ICOS Carbon Portal. ICOS has become ERIC in November 2015.

**Coordinating institution:** ICOS ERIC  
**Coordinator:** Dr. habil Werner Kutsch (ICOS Director General)



## THE EUROPEAN MODELLING COMMUNITY WORKING ON UNDERSTANDING AND PREDICTING CLIMATE VARIABILITY AND CHANGE

**Key words**  
Modelling, climate change, climate variability, Earth system, HPC

**Type of Research Infrastructure**  
Virtual (e-infrastructure)

**Domain**  
Multidomain (Earth's climate system)

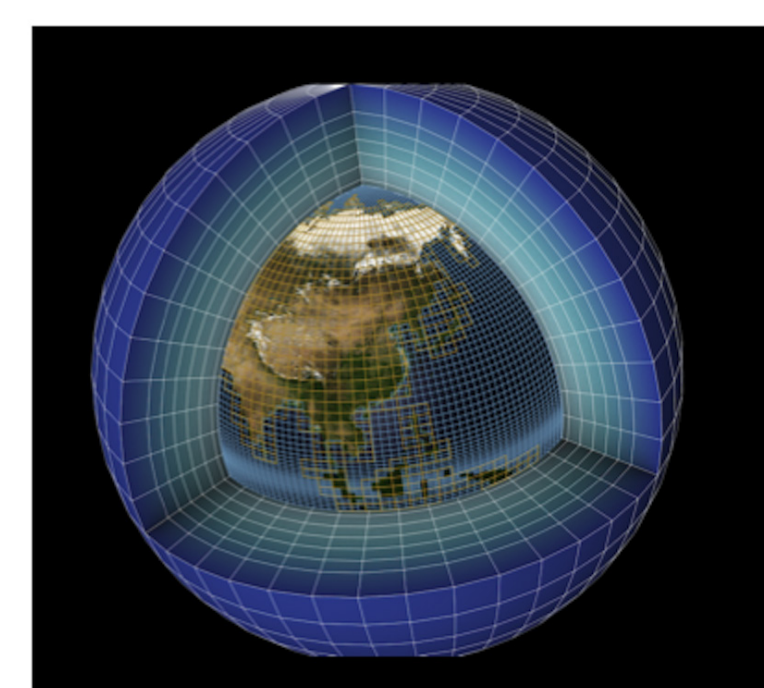
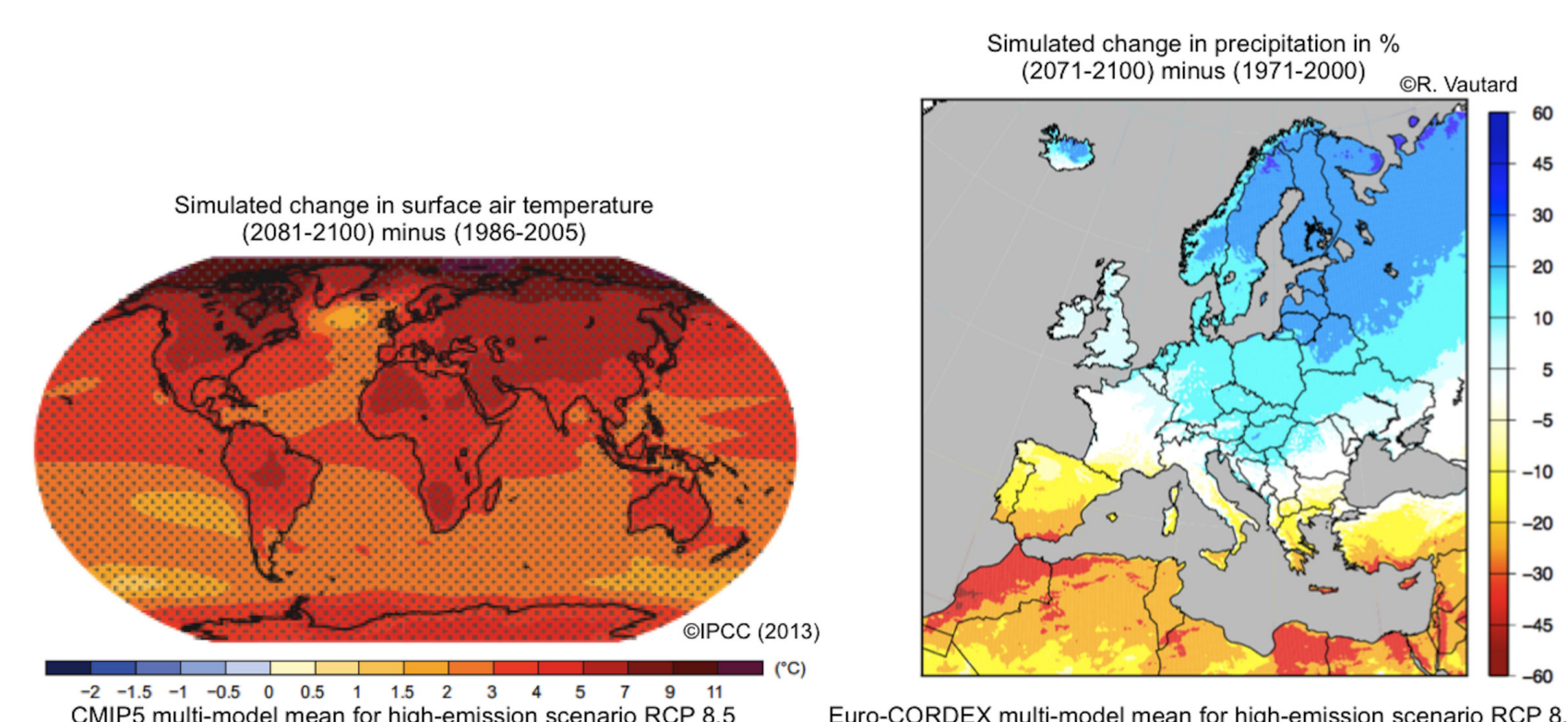
**Current status**  
Integrated Infrastructures Initiative

**Website**  
<https://is.enes.org/>

**Contact**  
[contact form on website](#)

IS-ENES2 is the second phase of the I3 infrastructure project for the **European Network for Earth System Modelling (ENES)**. ENES gathers the community working on climate modeling. It contributes to the WCRP international coordinated experiments, used in support of the IPCC assessments. IS-ENES encompasses climate models and their environment tools, model data and the interface of the climate modeling community with high-performance computing, in particular the European RI PRACE. IS-ENES provides services on models and software tools. It contributes to the international WCRP modelling database (ESGF), to the development of international standards on data and metadata (ES-DOC), and grants access to model data and metadata for the international global (CMIP) and regional (CORDEX) climate modelling experiments. IS-ENES aims to further integrate the community, foster the development of Earth system models, facilitate high-end experiments and ensure the dissemination of model results for a large user community, including impact studies and climate service providers.

**Coordinating institution:** CNRS (France)  
**Coordinator:** Dr Sylvie Joussaume



## OFFERING HIGH-QUALITY DATA OF ATMOSPHERIC AEROSOLS, CLOUDS, AND TRACE GASES FROM COORDINATED LONG-TERM OBSERVATIONS

**Key words**  
Atmospheric aerosols, clouds, trace gases, air quality, climate change

**Type of Research Infrastructure**  
Distributed

**Domain**  
Atmospheric

**Current status**  
Integrated Activity

**Website**  
[www.actris.eu](http://www.actris.eu)

**Contact**  
[gelsomina.pappalardo@imaa.cnr.it](mailto:gelsomina.pappalardo@imaa.cnr.it)

Detecting changes and trends in atmospheric composition and understanding their impact on the stratosphere and upper troposphere is necessary for establishing the scientific links and feedbacks between climate change and atmospheric composition. ACTRIS is a European Research Infrastructure project integrating European ground-based stations equipped with advanced atmospheric probing instrumentation for **coordinated long-term observations of aerosols, clouds, and short-lived gas-phase species**. ACTRIS is composed of **observing stations, exploratory platforms, instrument calibration centres, and a data centre**; it provides 4-D integrated high-quality data from near-surface to high altitude for use in modelling, particularly towards implementation of atmospheric and climate services. ACTRIS has the essential role to support building of new knowledge as well as policy issues on climate change, air quality, and long-range transport of pollutants.

**Coordinating institutions:** CNR (Italy), CNRS (France)  
**Coordinators:** G. Pappalardo, P. Laj



## LONGTERM OBSERVATIONS OF ATMOSPHERIC COMPOSITION ON A GLOBAL SCALE FROM COMMERCIAL AIRCRAFT OF INTERNATIONALLY OPERATING AIRLINES

**Key words**  
Atmospheric composition, commercial aircraft, aerosols, clouds

**Type of Research Infrastructure**  
Distributed

**Domain**  
Atmospheric

**Current status**  
Operational

**Website**  
[www.iagos.org](http://www.iagos.org)

**Contact**  
[domain@iagos.org](mailto:domain@iagos.org)

IAGOS is a European research infrastructure which implements and operates a **global observation system for atmospheric composition** by deploying autonomous instruments aboard a **fleet of commercial passenger aircraft**. The European consortium behind IAGOS includes research centres, universities, national weather services, airline operators and aviation industry. IAGOS provides freely accessible data for users in science and policy including air quality forecasting, verification of CO<sub>2</sub> emissions and Kyoto monitoring, numerical weather prediction, and validation of satellite products. It is considered a major contributor to the in-situ component of Copernicus Atmosphere Monitoring Services (CAMS). In combination with its predecessor programs MOZAIC and CARIBIC, IAGOS allocates long-term observational data of atmospheric chemical composition in the troposphere and lower stratosphere since 1994, while the first IAGOS-CORE aircraft was equipped in 2011, the 6<sup>th</sup> one in 2015.

**Coordinating institutions:** Forschungszentrum Jülich (Germany), CNRS Laboratoire d'Aérologie (France)  
**Coordinators:** Valerie Thouret (CNRS), Andreas Petzold (FZ Jülich)







## PROVIDING A STRATEGIC DELIVERY MECHANISM FOR EXCELLENT AND LARGE-SCALE MARINE SCIENCE IN EUROPE

### Key words

Marine bioresources, marine eco-systems, blue biotechnologies

### Type of Research Infrastructure

Distributed

### Domain

Marine, Biosphere/Ecosystem

### Current status

under Construction/Operational

### Website

[www.embrc.eu](http://www.embrc.eu)

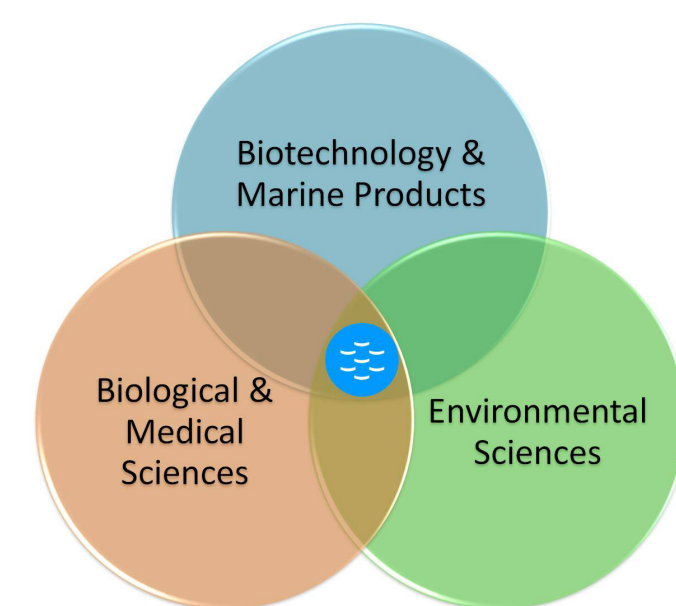
### Contact

[info@embrc.eu](mailto:info@embrc.eu)

The **European Marine Biological Resource Centre** is a distributed European Research Infrastructure in implementation phase.

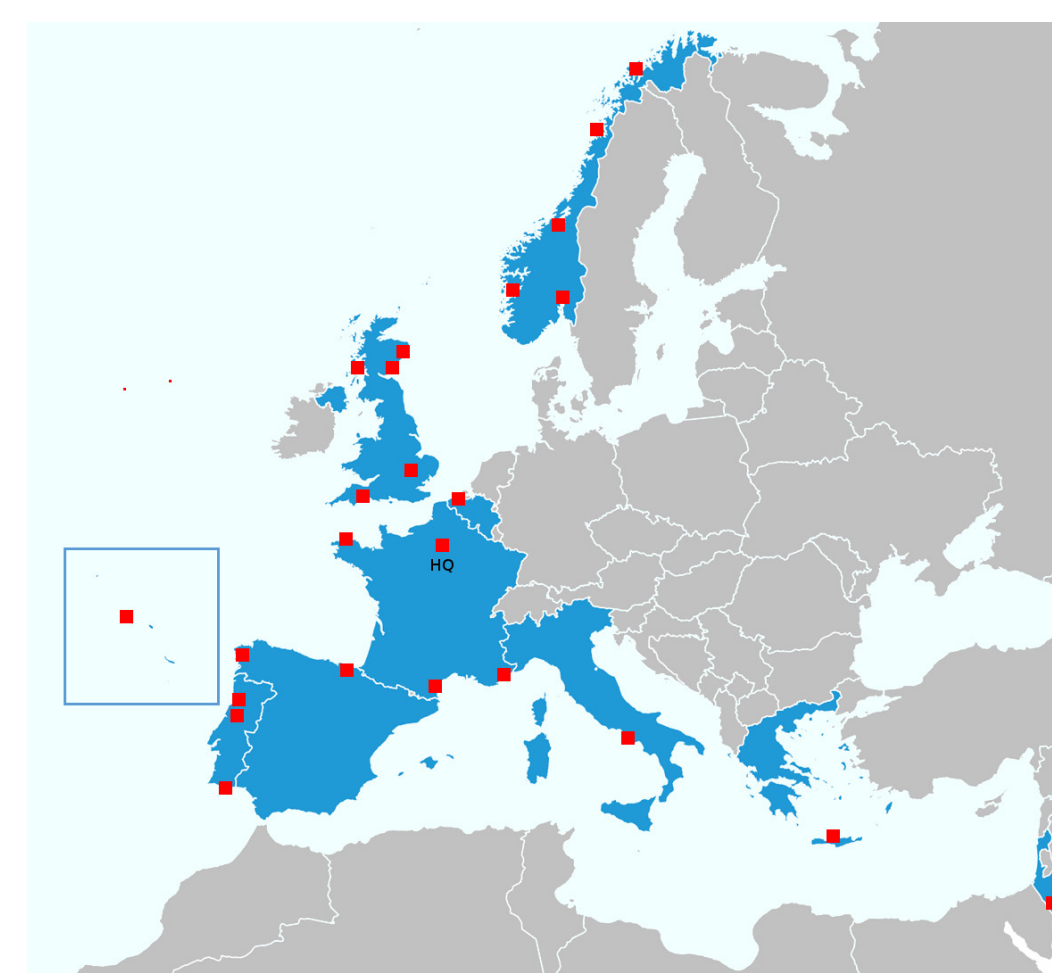
EMBRC is based on national nodes located in marine research stations and science institutes in European member states and associated countries.

The main objective of EMBRC is **to develop a strategic delivery mechanism for the provision of excellent and large-scale marine science** in Europe. EMBRC will establish a European portal to a comprehensive range of marine coastal ecosystems and marine biological resources including established and novel marine model organisms for research purposes. EMBRC will provide access to state-of-the-art research facilities, equipment and streamlined services for users.



**Coordinating institution:** UPMC – Université Pierre et Marie Curie

**Coordinator:** Dr Ilaria Nardello, (EMBRC Executive Director)



## THREE-DIMENSIONAL IMAGING RADAR MAKING CONTINUOUS MEASUREMENTS OF THE GEOSPACE ENVIRONMENT AND ITS COUPLING TO THE EARTH'S ATMOSPHERE

### Key words

Radar observations, incoherent scatter technique, atmosphere, near-Earth space

### Type of Research Infrastructure

single RI with multiple sites

### Domain

Atmospheric

### Current status

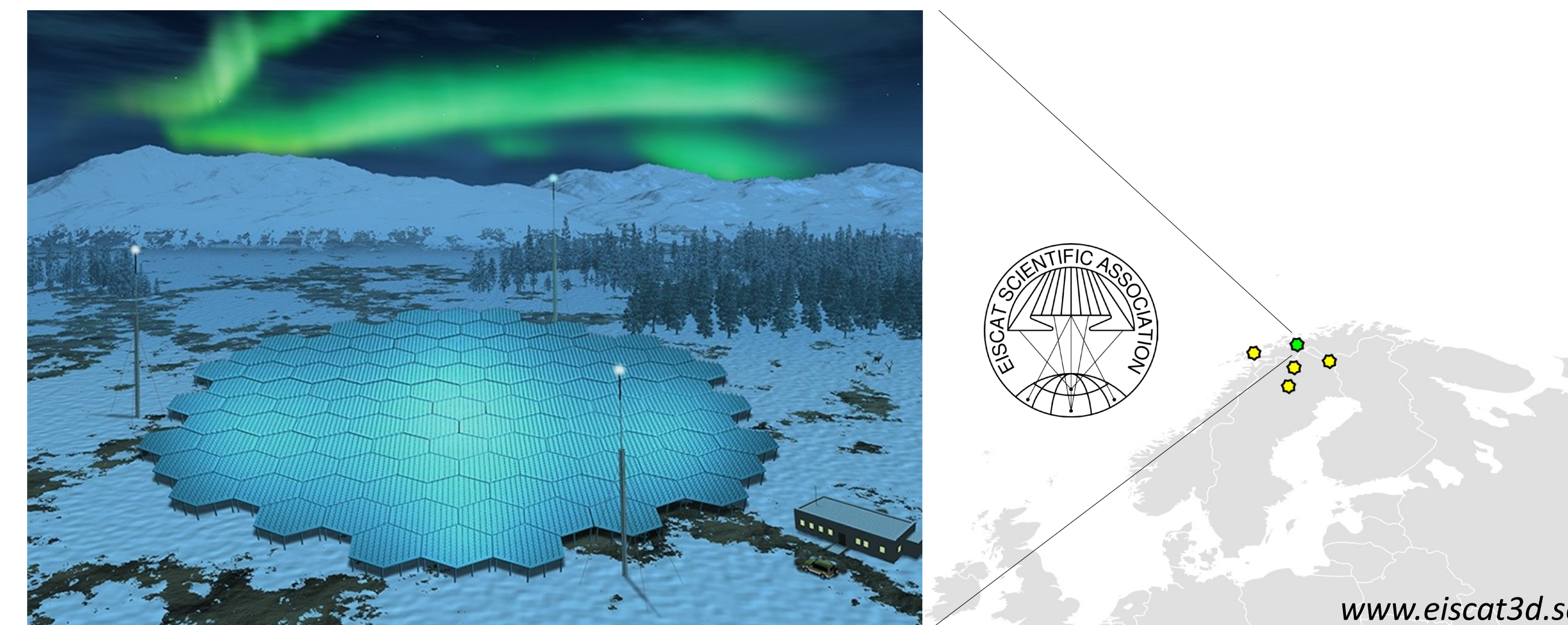
Preparatory Phase Project

### Website

[www.eiscat3d.se](http://www.eiscat3d.se)

### Contact

[contact form on website](#)



EISCAT\_3D - is a **multi-static phased array radar system** dedicated to **observations of the Earth's polar atmosphere** above the northern Scandinavian Peninsula, as well as for support of the solar system and radio astronomy sciences. The radar system is designed to investigate how the Earth's atmosphere is coupled to space but it will also be suitable for a wide range of other scientific targets.

The project is run by EISCAT Scientific Association an existing international research infrastructure that is currently funded and operated by research councils and funding organizations in Norway, Sweden, Finland, Japan, China and the United Kingdom and has its headquarters in Kiruna, Sweden. The ESFRI selected EISCAT\_3D for inclusion in the Roadmap 2008 for Large-Scale European Research Infrastructures.

**Coordinating institution:** EISCAT Scientific Association

**Coordinators:** Ingrid Mann, Craig Heinselman (EISCAT Director)



## PROVIDING BETTER ESTIMATES OF THE FUTURE ENVIRONMENTAL AND CLIMATE CHANGES IN ARCTIC

### Key words

Svalbard, Arctic, observational network, polar research

### Type of Research Infrastructure

Regional/Distributed

### Domain

All

### Current status

Preparatory Phase Project

### Website

[www.sios-svalbard.org](http://www.sios-svalbard.org)

### Contact

[jbo@rcn.no](mailto:jbo@rcn.no)

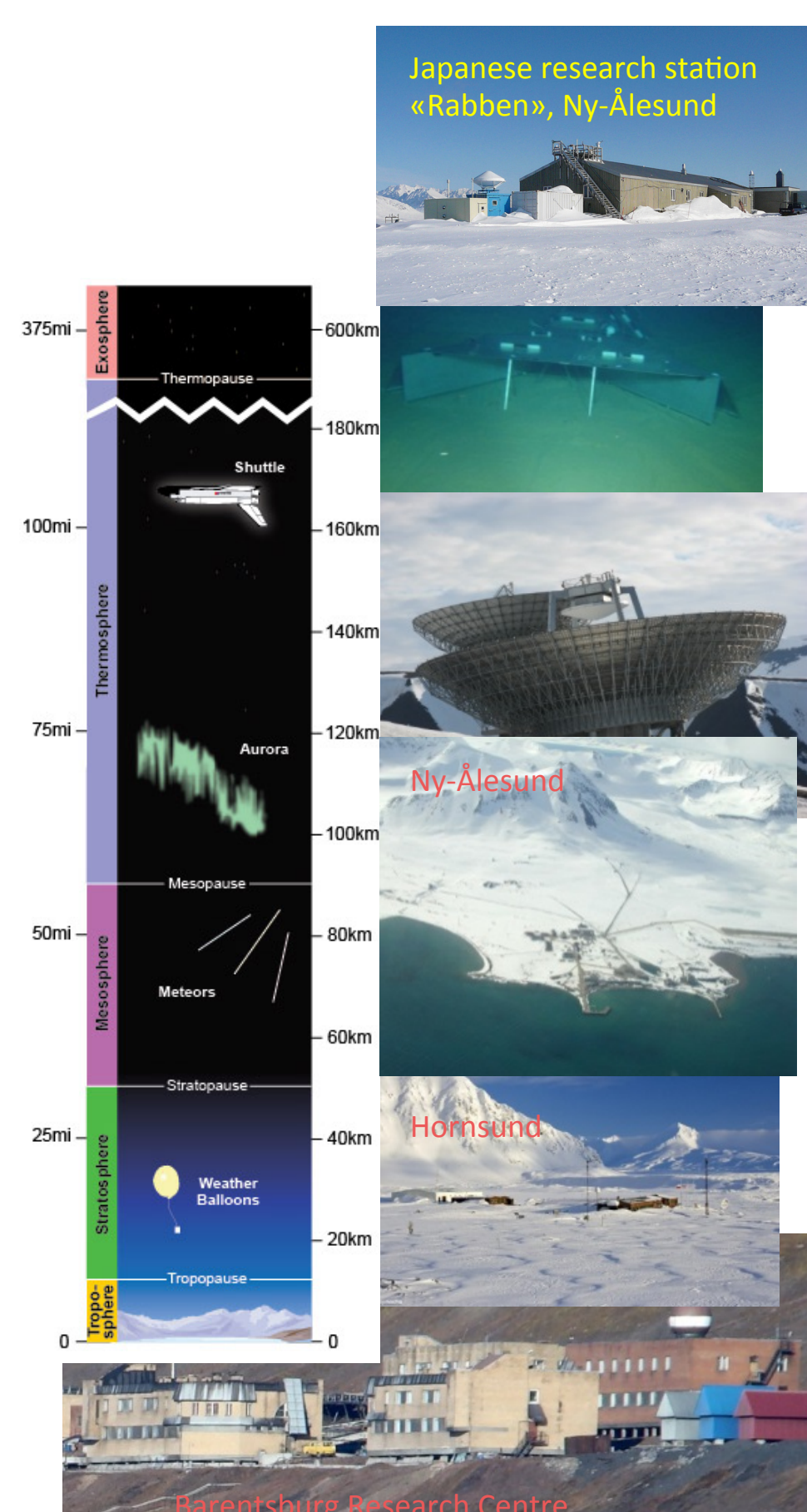
The **Svalbard Integrated Earth Observing System** (SIOS) will be a regional observing system for long-term measurements in and around Svalbard. It will coordinate and develop existing and new research infrastructure in Svalbard, and will set an example for how to systematically construct observational networks in the Arctic.

The **SIOS Knowledge Centre** will establish and manage shared resources and joint activities. It will develop methods for how observational networks are to be designed and implemented. The Centre will lay the foundation for better coordinated services for the international research community with respect to access to infrastructure, data and knowledge management, sharing of data, logistics, training and education.

The joint services offered by SIOS will generate added value for all partners beyond what their individual research can provide. The services will benefit the international polar research community as a whole and will make SIOS the leading polar research infrastructure in the Arctic.

**Coordinating institution:** Research Council of Norway

**Coordinator:** Dr. Jon Børre Ørbæk



## MONITORING AND UNDERSTANDING THE DYNAMIC AND COMPLEX SOLID EARTH SYSTEM

### Key words

Plate observations, solid Earth, earthquakes, volcanoes, tsunamis, tectonics, Earth surface

### Type of Research Infrastructure

Distributed

### Domain

Solid Earth

### Current status

Operational

### Website

[www.epos-eu.org](http://www.epos-eu.org)

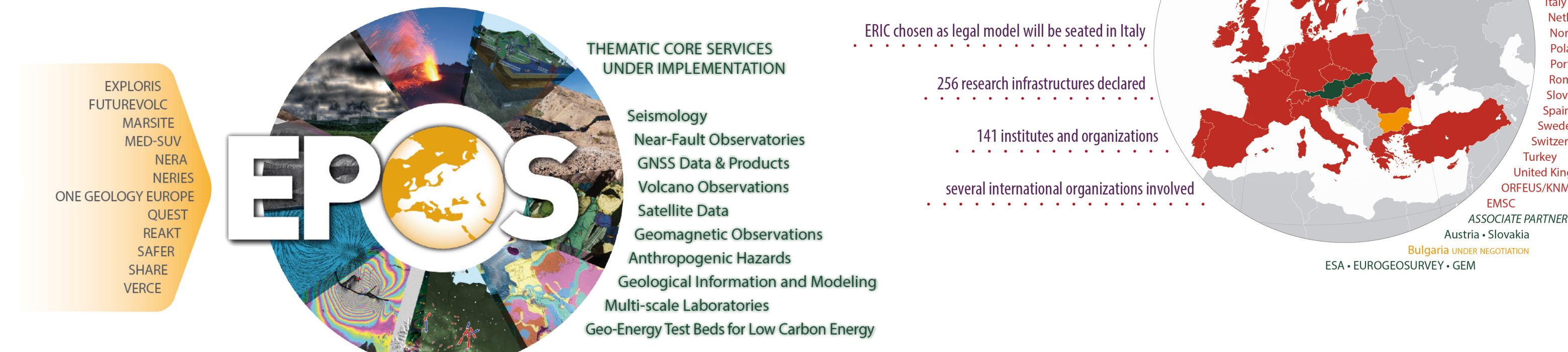
### Contact

[epos@ingv.it](mailto:epos@ingv.it)

EPOS - **The European Plate Observing System** - is a long-term plan to facilitate integrated use of data, models and facilities from distributed research infrastructures for solid Earth science in Europe. With the goal of a better understanding of the **active Earth system processes controlling earthquakes, volcanic eruptions, unrest episodes and tsunamis** as well as those **driving tectonics and Earth surface dynamics**.

EPOS aims to build an efficient and comprehensive research platform for the Earth sciences in Europe relying on new e-science opportunities through the construction of a distributed e-infrastructure (EPOS Core Services). EPOS will allow the Earth Science community to make a significant step forward by developing new concepts and tools for accurate, durable, and sustainable answers to societal questions concerning geo-hazards and those geodynamic phenomena (including geo-resources) relevant to the environment and human welfare.

**Coordinating institution:** INGV, Italy,  
**Coordinator:** Massimo Cocco





## LONG TERM MONITORING OF THE OPEN OCEAN: SEAFLOOR AND WATER-COLUMN

### Key words

Seafloor, water column, multidisciplinary across domains, long-term monitoring

### Type of Research Infrastructure

single RI with multiple sites

### Domain

Marine/Multi-domain

### Current status

ERIC Phase 2 completed

### Website

<http://www.emso-eu.org/>

### Contact

[interim.office@emso-eu.org](mailto:interim.office@emso-eu.org)

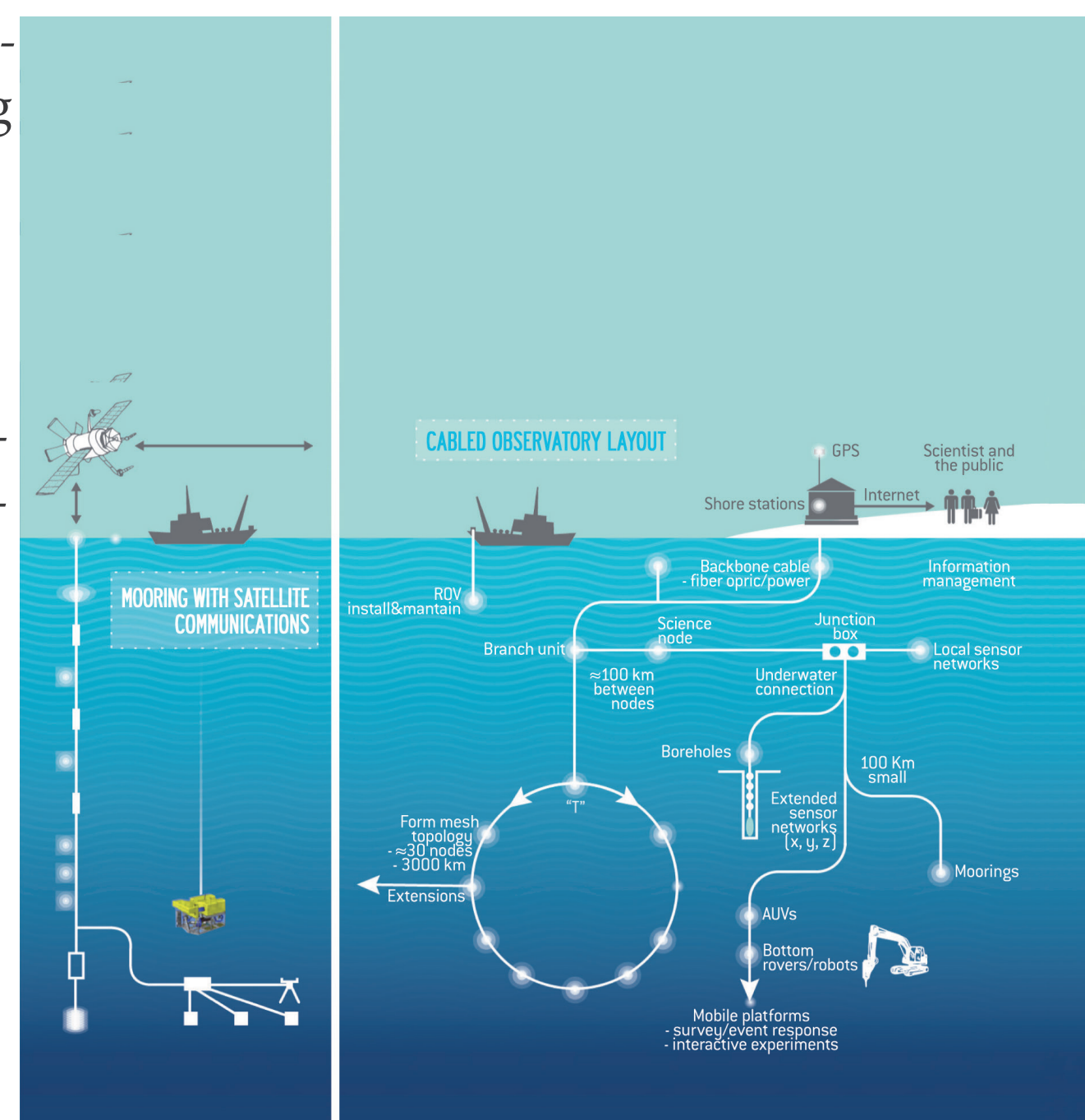


EMSO-The European Multidisciplinary Seafloor and Water-Column Observatory is a large-scale European Research Infrastructure Consortium (ERIC) of **fixed point, deep sea and water-column observatories**. The power of EMSO ERIC is in its distributed nature, presently composed of eleven deep ocean observatories and four shallow water test sites connecting research facilities across the oceans of Europe, from the Arctic through the North Atlantic to the Mediterranean and the Black Sea.

EMSO provides pan-European power, communications, sensors, and data infrastructure for continuous, high resolution, near real-time, coordinated interactive ocean observations across a truly multi- and interdisciplinary range of research areas including biology, geology, chemistry, physics, engineering, and computer science; from polar to tropical environments, down to the abyss. Given the continuous real-time data, EMSO is a key sub-sea segment of the Global Monitoring for Environment and Security COPERNICUS Initiative and it significantly enhances the observational marine capabilities of European member states.

**Coordinating institution:** INGV, Italy

**Coordinator:** Paolo Favali



### Key words

Ocean observing system, float deployment, global array

### Type of Research Infrastructure

Distributed

### Domain

Marine

### Current status

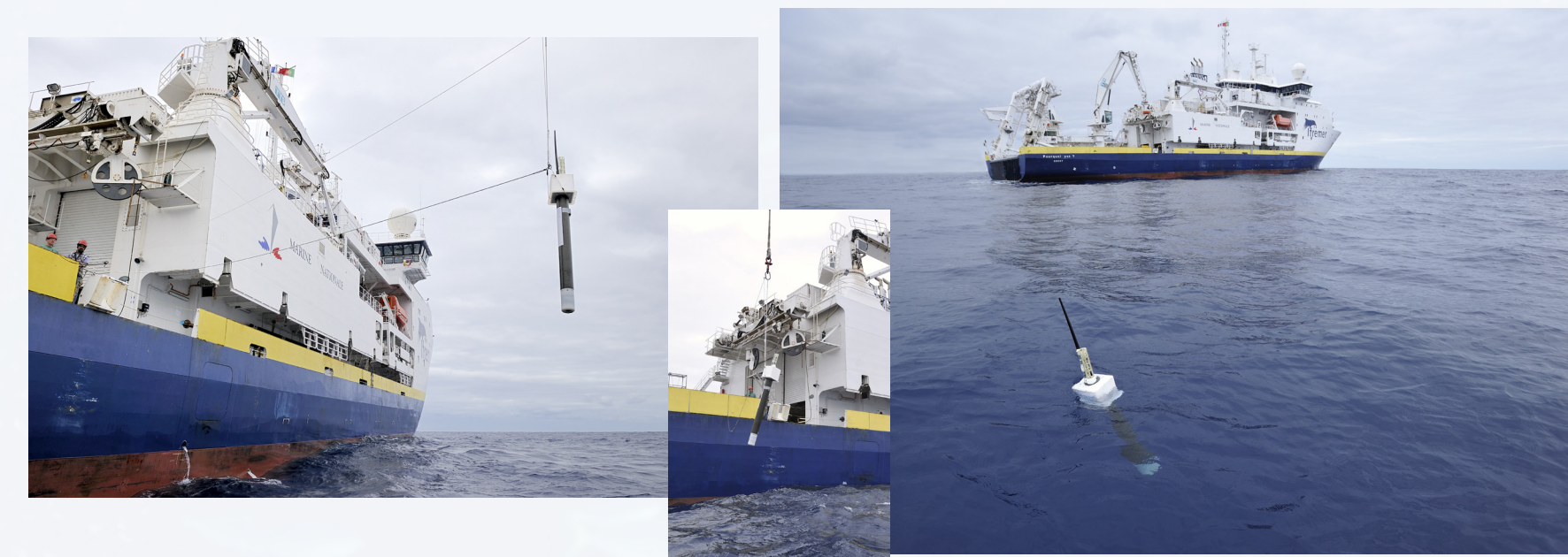
ERIC

### Website

<http://www.euro-argo.eu/>

### Contact

[euroargo@ifremer.fr](mailto:euroargo@ifremer.fr)



## COORDINATION AND STRENGTHENING OF THE EUROPEAN CONTRIBUTION TO THE INTERNATIONAL ARGO PROGRAMME

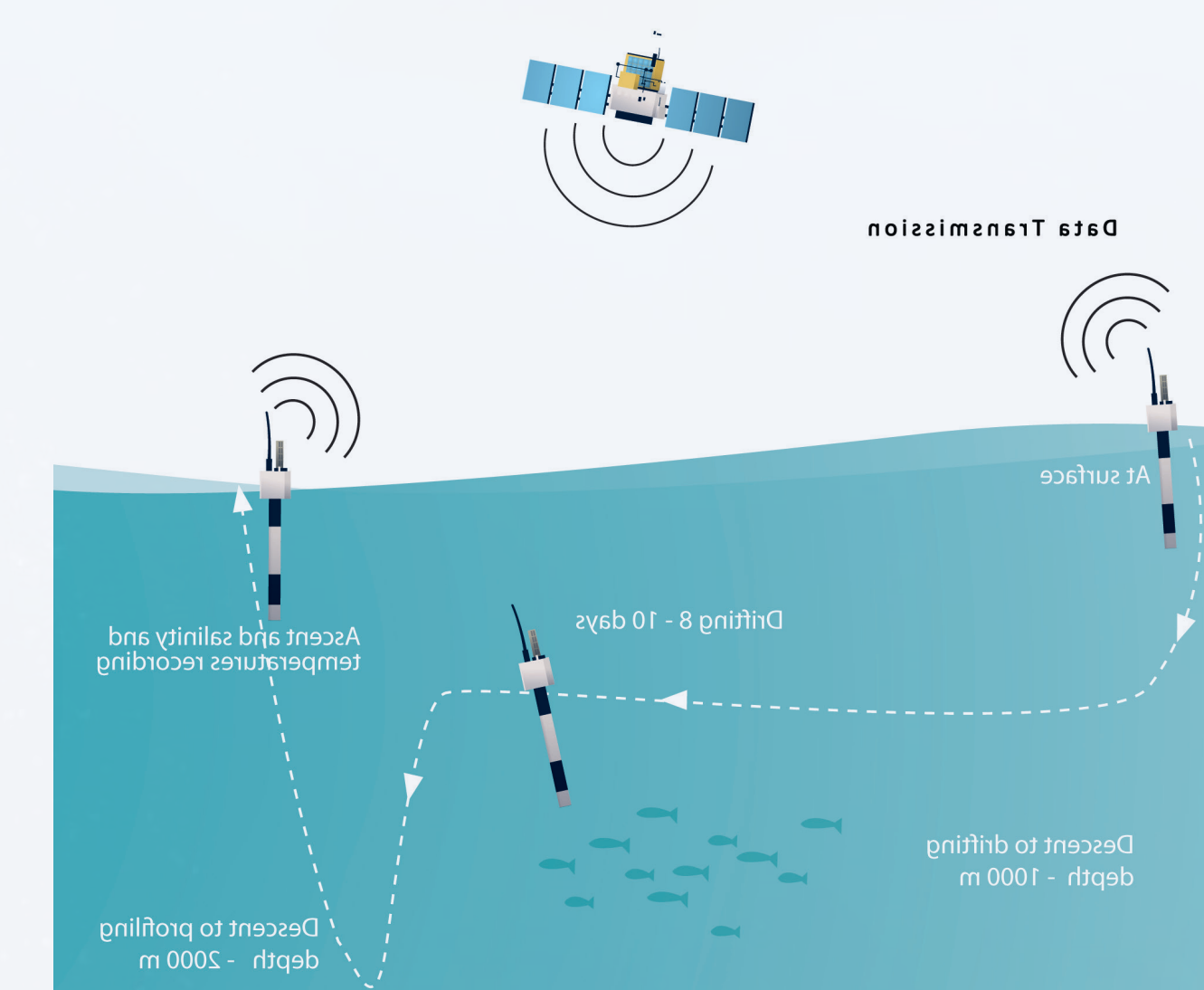
The objectives of the Euro-Argo are to optimize, sustain and improve the European contributions to Argo and to provide a world-class service to the research (ocean and climate) and operational oceanography (Copernicus Marine Service) communities.

Euro-Argo also aims at preparing the next phase of Argo with an extension to deeper depths, biogeochemical parameters and observations of the polar regions.

The Euro-Argo research infrastructure comprises a central facility and distributed national facilities. On May 2014, the EC awarded European legal status (ERIC) to the central facility. Euro-Argo aims at **developing a capacity to procure and deploy and monitor 250 floats** per year and ensure that all the data can be processed and delivered to users (both in real-time and delayed-mode).

**Coordinating institution:** IFREMER, France

**Coordinator:** Sylvie Pouliquen



## MULTIDISCIPLINARY OBSERVATIONS IN ALL PARTS OF THE OCEANS FROM THE AIR-SEA INTERFACE TO THE DEEP SEAFLOOR

### Key words

Ocean observations, multidisciplinary, seafloor, air-sea interface

### Type of Research Infrastructure

Distributed

### Domain

Marine

### Current status

Integrated Infrastructures Initiative

### Website

<http://www.fixo3.eu/>

### Contact

[fixo3@noc.ac.uk](mailto:fixo3@noc.ac.uk)



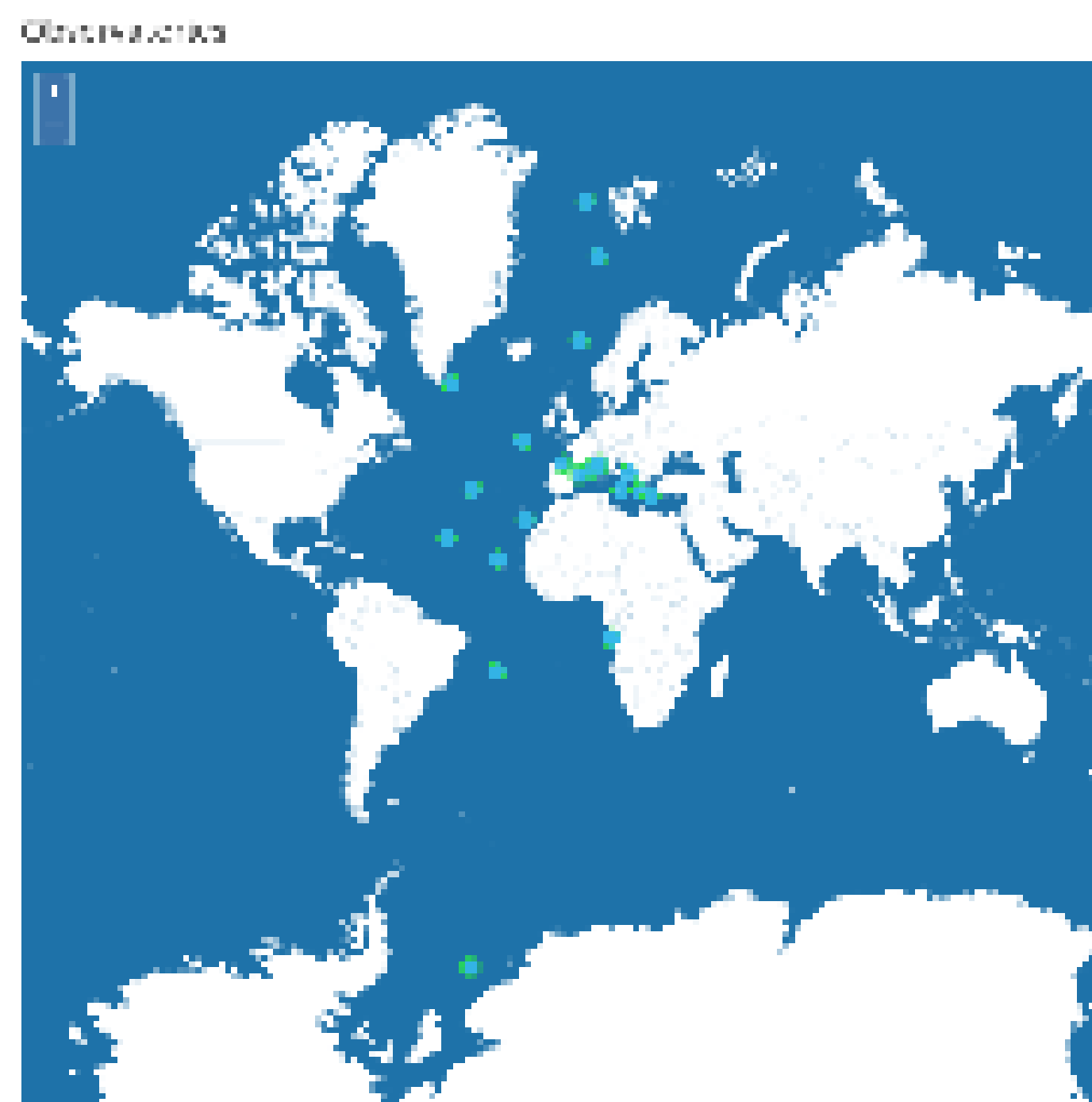
### FIXO3 - Fixed Open Ocean

**Observatory network** - seeks to **integrate European open ocean fixed point observatories** and to **improve access** to these key installations for the broader community. These will provide multidisciplinary observations in all parts of the oceans from the air-sea interface to the deep seafloor.

Coordinated by the National Oceanography Centre, UK, FixO3 will build on the significant advances largely achieved through the FP7 programmes EuroSITES, ESONET and CARBOOCEAN. With a budget of 7 Million Euros over 4 years the project has 29 partners drawn from academia, research institutions and SME's. 23 observatories are involved in FIXO3, among them 15 offer Trans-National Access.

**Coordinating institution:** NERC-NOC (National Oceanography Centre), UK

**Coordinator:** Richard Lampitt



## NEW OPERATIONAL STEPS TOWARDS AN ALLIANCE OF EUROPEAN RESEARCH FLEETS

### Key words

Marine research, research vessels and equipment, transnational access, joint research activities, research fleets, training

### Type of Research Infrastructure

Distributed

### Domain

Marine

### Current status

Integrated Infrastructures Initiative

### Website

[www.eurofleets.eu](http://www.eurofleets.eu)

### Contact

[eurofleets2@ifremer.fr](mailto:eurofleets2@ifremer.fr)

EUROFLEETS2 is the enhancement of EUROFLEETS(1), with the aim of **developing a pan-European distributed research fleet infrastructure** with common strategic vision and coordinated access to European marine Research Vessels and marine equipment.

EUROFLEETS2 provides fully funded days of ship-time on board 8 **Global/Ocean class** and 14 **Regional class Research Vessels**. EUROFLEETS2 also offers **access to large equipment** such as ROVs and submersibles to carry out ship-based research activities within various fields of marine sciences.

EUROFLEETS2 promotes information sharing, identification of new collaborative frameworks, development of common software tools and innovative integration schemes. The project contributes as well to the training of young marine scientists through dedicated ship-based training courses.

With an EC contribution of 9 Million Euros, EUROFLEETS2 brings together 31 marine institutes, universities, foundations and SMEs from 20 countries.

**Coordinating institution:** Ifremer, France

**Coordinators:** Jacques Binot, Valérie Mazauric







## MANAGEMENT OF LARGE AND DIVERSE SETS OF DATA DERIVING FROM IN SITU AND REMOTE OBSERVATION OF THE SEAS AND OCEANS

### Key words

Ocean, marine, data centers, data management, data access, harmonized data

### Type of Research Infrastructure

Virtual

### Domain

Marine

### Current status

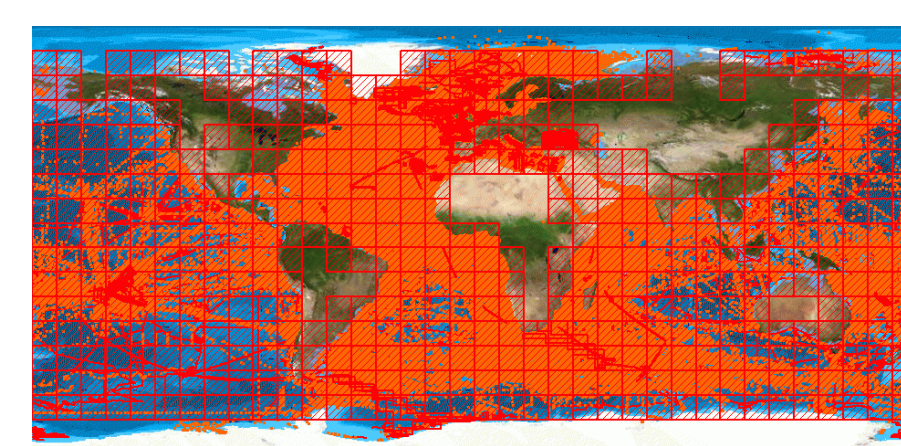
Operational

### Website

[www.seadatanet.org](http://www.seadatanet.org)

### Contact

[sdn-userdesk@seadatanet.org](mailto:sdn-userdesk@seadatanet.org)



Coverage December 2015: > 1.8 million CDI entries from data centres in 34 countries and 550 originators for physics, chemistry, geology, geophysics, bathymetry and biology; years 1800 – 2015; 84% unrestricted or under SeaDataNet licence

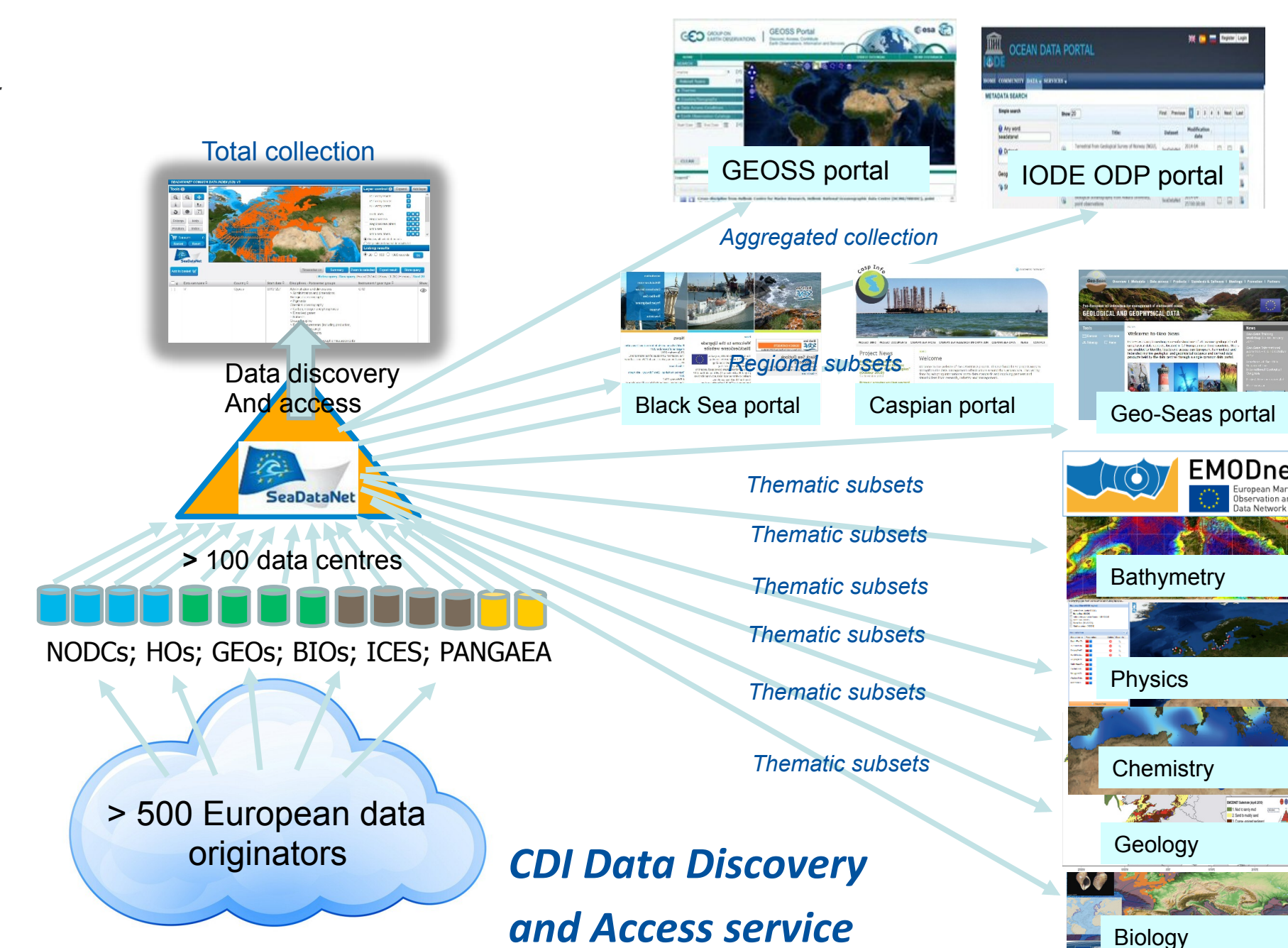
SeaDataNet - **Pan-European infrastructure for ocean & marine data management** - is a standardized system for managing the large and diverse data sets collected by the oceanographic fleets and the automatic observation systems. The SeaDataNet infrastructure links already 90 national oceanographic data centres and marine data centres from 35 countries riparian to all European seas. The data centres manage large sets of marine and ocean data, originating from their own institutes and from other parties in their country, in a variety of data management systems and configurations. A major objective and challenge in SeaDataNet is to provide an integrated and harmonised overview and access to these data resources, using a distributed network approach.

The networking of these professional data centres, in a unique virtual data management system provide integrated data sets of standardized quality on-line.

### Coordinating institution:

Ifremer, France

**Coordinator:** Michele Fichaut



## EUROPEAN-SCALE OPERATIONAL OCEANOGRAPHY WITHIN THE CONTEXT OF THE INTERGOVERNMENTAL GLOBAL OCEAN OBSERVING SYSTEM

### Key words

Oceanography, marine research, network, regional sea areas

### Type of Research Infrastructure

Distributed

### Domain

Marine

### Current status

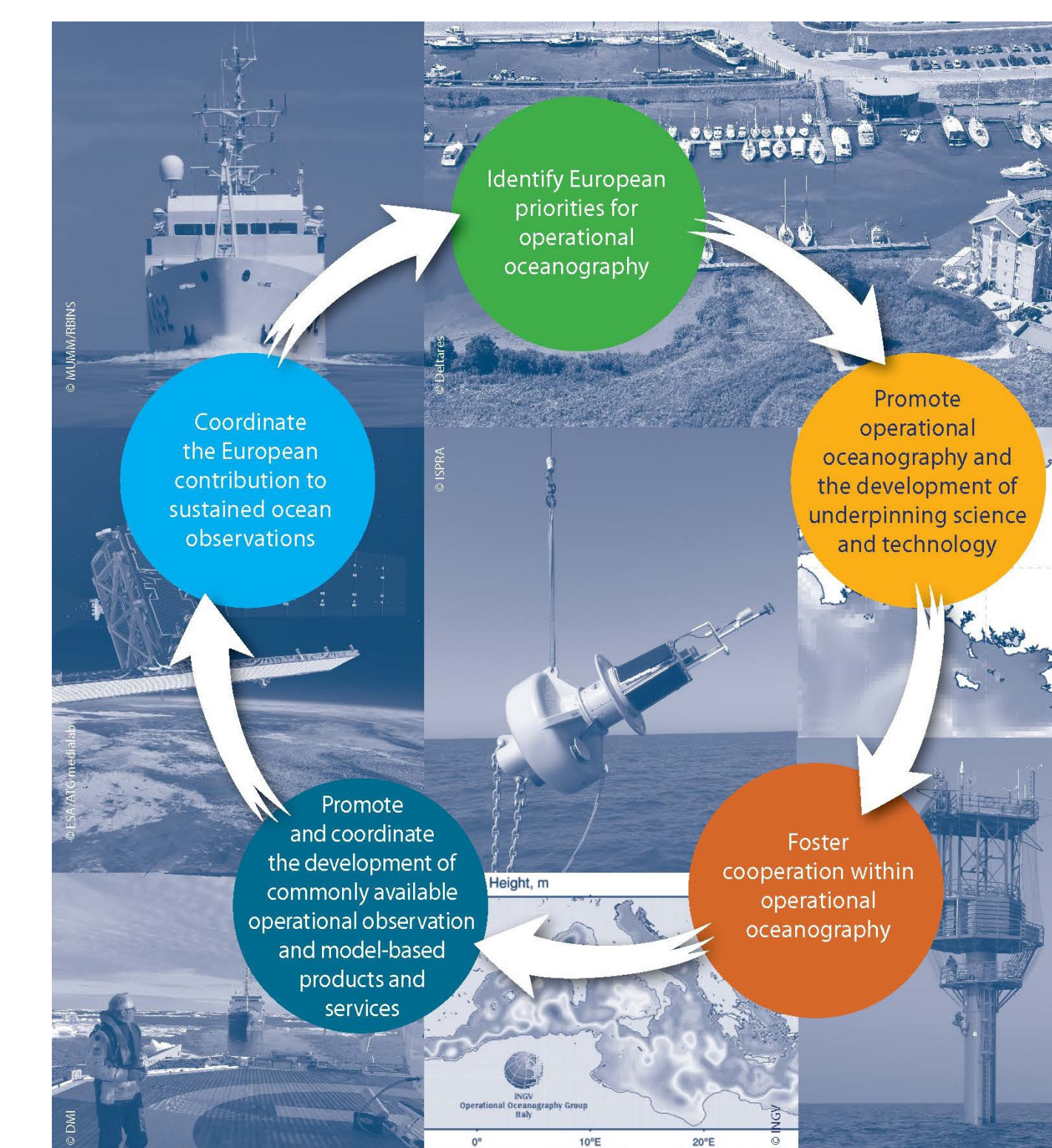
Legal entity

### Website

[www.eurogoos.eu](http://www.eurogoos.eu)

### Contact

[eurogoos@eurogoos.eu](mailto:eurogoos@eurogoos.eu)



EuroGOOS, the **European Global Ocean Observing System**, is an International Non-Profit Association of governmental agencies and research organisations, established in 1994 within the context of the IOC's Global Ocean Observing System. Today, EuroGOOS has 40 members from 19 European countries providing operational ocean-

ographic services and carrying out marine research. EuroGOOS coordinates six regional operational systems: the Arctic ROOS, BOOS (the Baltic), NOOS (the North West Shelf), IBI-ROOS (the Ireland-Biscay-Iberian area) and MONGOOS (the Mediterranean).

Strong regional cooperation enables the involvement of many more partners and countries.

Through its ROOSes, working groups and networks of marine operational platforms, EuroGOOS delivers strategies, priorities and standards, **towards an integrated European Ocean Observing System, to underpin sustainable blue growth**. EuroGOOS activities feed into national and European strategies, enhance coordination and synergy at regional and European levels and promote European leadership in research infrastructures, science and technology.

**Legal entity:** EuroGOOS AISBL, Belgium

**Chairman:** Erik Buch



## ORGANISING THE EXCHANGE OF STAFF AND JOINT EXPERIMENTS ON EMSO LARGE RESEARCH INFRASTRUCTURE OBSERVATORIES

### Key words

Seafloor, deep sea observations, integration, staff exchange, joint experiments

### Type of Research Infrastructure

Distributed

### Domain

Marine

### Current status

Construction/Operational

### Website

[visobVservatories.webs.com](http://visobVservatories.webs.com)

### Contact

[contact form on website](#)

ESONET-Vi is a consortium focusing on deep-sea observatories built upon ESONET (European Seafloor Observatory NETwork) activities, in complement to the EMSO observatories infrastructures.

The consortium aims at defining a **perennial integration at European level** of scientists from numerous laboratories using data collected by deep sea observatories.

ESONET-Vi organizes exchange of personal between its members, organizes joined experiments on EMSO observatories, promotes development of new scientific packages on the existing observatories, organizes workshops on data exploitation, management and dissemination, new sensor technologies, inter-comparison of results.

ESONET-Vi allows linking geographically scattered complementary research, industrial and governmental elements in Europe to rapidly transfer and implement research results into science and industrial applications.

**Coordinating institutions:** Universitet I Tromsø and Ifremer

**Coordinator:** Interim Ifremer (Jérôme Blandin)



## TOWARDS A JOINT EUROPEAN RESEARCH INFRASTRUCTURE NETWORK FOR COASTAL OBSERVATORIES

### Key words

Coastal observations, pan-European framework, marine research

### Type of Research Infrastructure

Distributed

### Domain

Marine

### Current status

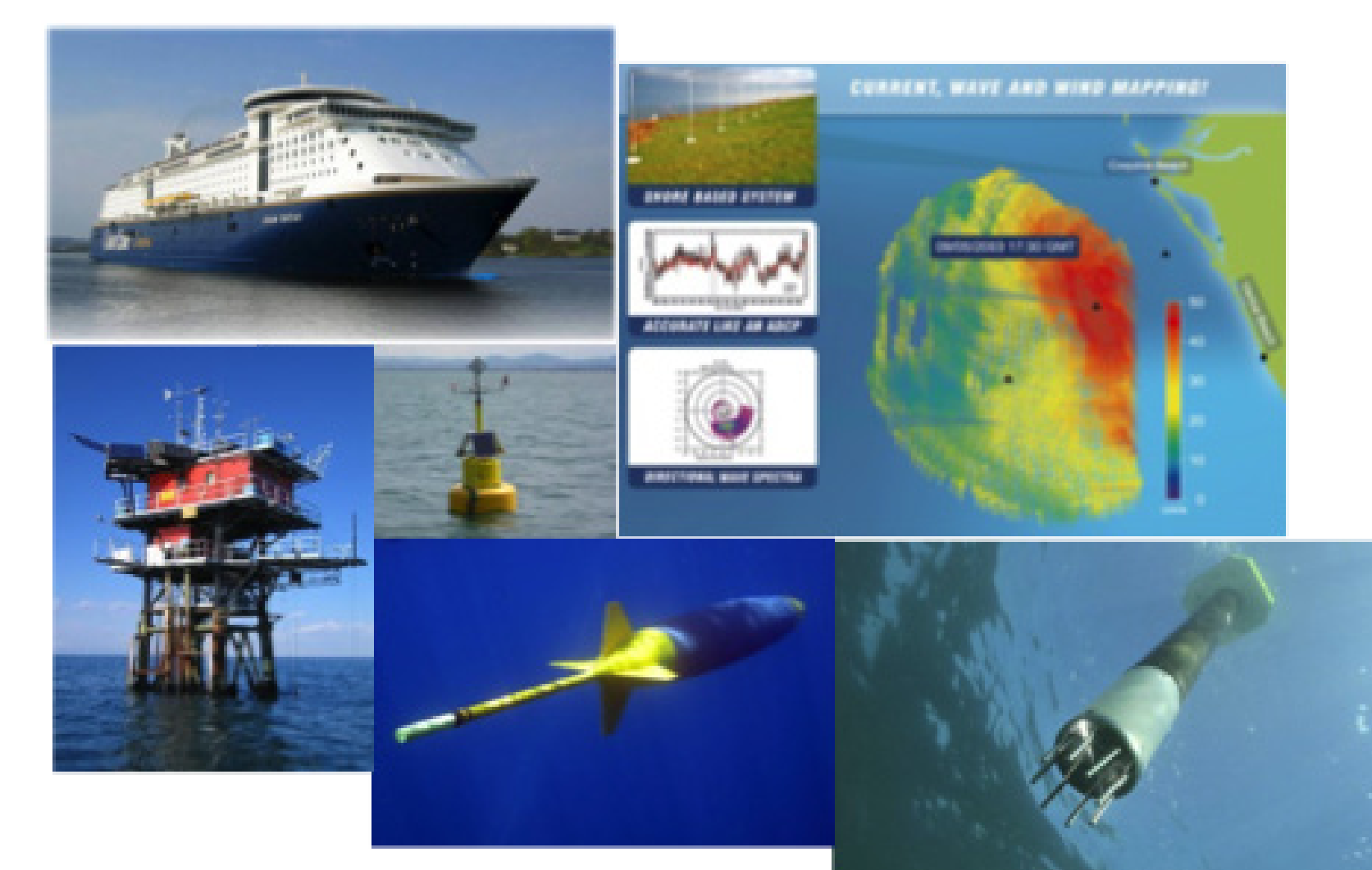
IA

### Website

[www.jerico-fp7.eu](http://www.jerico-fp7.eu)

### Contact

[jerico@ifremer.fr](mailto:jerico@ifremer.fr)



Coastal observations are an important part of the marine research. However significant heterogeneity still exists in Europe concerning technological design of observing systems, measured parameters, practices for maintenance and quality control, as well as quality standards for sensors and data exchange. The main challenge for the research community is to increase the coherence and the sustainability of these dispersed infrastructures by addressing their future within a, shared pan-European framework. In the continuity of JERICO(FP7), the objective of JERICO-NEXT consists in **strengthening and enlarging a solid and transparent European network, integrating key observing platforms** as well as **developing further** the collection of biological data, in particular **exploiting synergies** with marine biological ob-

servatories. JERICO-Next intends to contribute to the international and global effort on climate change research (GEOSS), to provide coastal data inputs for operational ocean observing and forecasting, and also to answer to some of the needs of the environmental research and societal communities.

**Coordinating institution:** Ifremer, France

**Coordinator:** Patrick Farcy





## SAFEGUARDING THE RESULTS OF LIFE SCIENCE RE-SEARCH IN EUROPE

### Key words

Life science, biological informa-  
tion, living systems

**Type of Research Infrastructure**  
Distributed

**Domain**  
Biosphere/Ecosystem

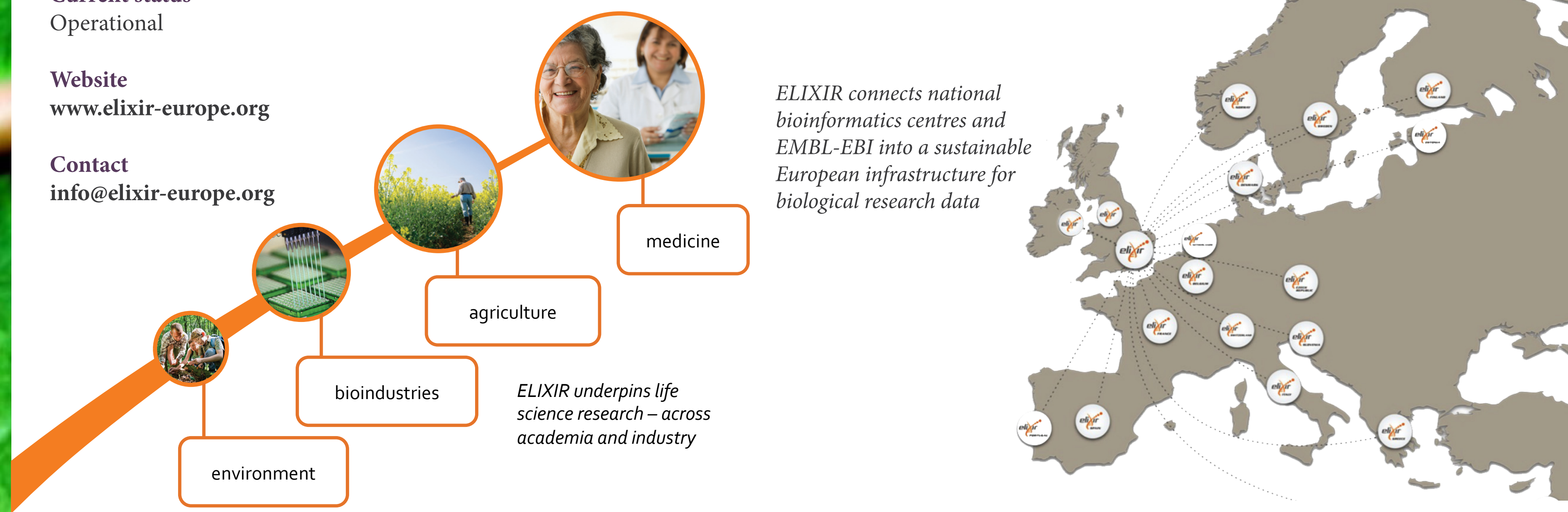
**Current status**  
Operational

**Website**  
[www.elixir-europe.org](http://www.elixir-europe.org)

**Contact**  
[info@elixir-europe.org](mailto:info@elixir-europe.org)

**ELIXIR - European infrastructure for biological information** - unites Europe's leading life science or-  
ganisations in managing and safeguarding the massive amounts of data being generated every day by  
publicly funded research. It is a pan-European research infrastructure for biological information.  
ELIXIR will provide the facilities necessary for life science researchers - from bench biologists to chem-  
informaticians - to make the most of our rapidly growing store of information about living systems,  
which is the foundation on which our **understanding of life** is built.

**Coordinating institution:** ELIXIR is an established independent research infrastructure under the  
EMBL intergovernmental framework  
**Coordinator:** Dr Niklas Blomberg, ELIXIR Director



## IMPROVED UNDERSTANDING OF ENVIRONMENTAL CHANGE IN THE ARCTIC AND ITS IMPACTS ON LOCAL AND GLOBAL COMMUNITIES

### Key words

Arctic, network, terrestrial research, mon-  
itoring, environmental changes

**Type of Research Infrastructure**  
Distributed

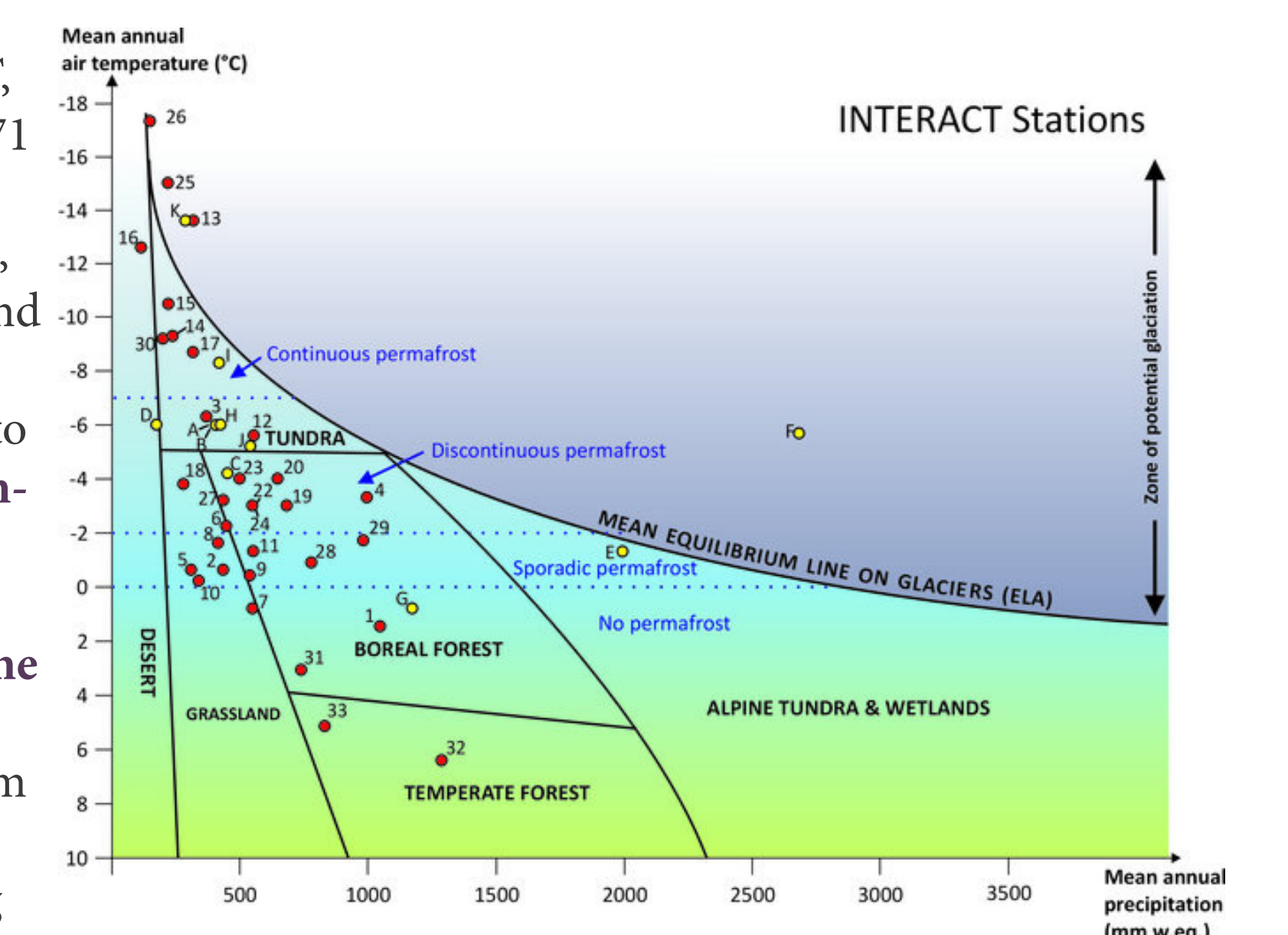
**Domain**  
Biosphere/Ecosystem

**Current status**  
Operational

**Website**  
[www.eu-interact.org](http://www.eu-interact.org)

**Contact**  
[terry\\_callaghan@  
btinternet.com](mailto:terry_callaghan@btinternet.com)

INTERACT is an infrastructure pro-  
ject under the auspices of SCANNET,  
a circumpolar network of currently 71  
terrestrial field bases in northern Eu-  
rope, Russia, US, Canada, Greenland,  
Iceland, the Faroe Islands and Scotland  
as well as stations in northern alpine  
areas. INTERACT specifically seeks to  
**build capacity for research and mon-  
itoring in the European Arctic and  
beyond**, and is offering access to nu-  
merous research stations through the  
**Transnational Access program**. The  
network provides an efficient platform



The Field Sites of IN-  
TERACT  
Partner stations  
Observer stations

for coordinated re-  
search, monitoring  
and logistics by shar-  
ing experiences and coordinating activities and by making the network infrastruc-  
tures available to specialized scientific networks and organizations as well as to re-  
search and monitoring programmes and projects. INTERACT is funded under the  
EU's 7th Framework Programme for the period 2011-2015.

**Coordinating institution:** Lund University, Sweden  
**Coordinator:** Prof. Terry V. Callaghan



## WORLD-WIDE EFFORTS TO BETTER UNDERSTAND ECOSYSTEMS IN RESPONSE TO GLOBAL CHANGE

### Key words

Long-term ecosystem research, so-  
cio-ecology, in-situ

**Type of Research Infrastructure**  
Distributed in-situ infrastructure

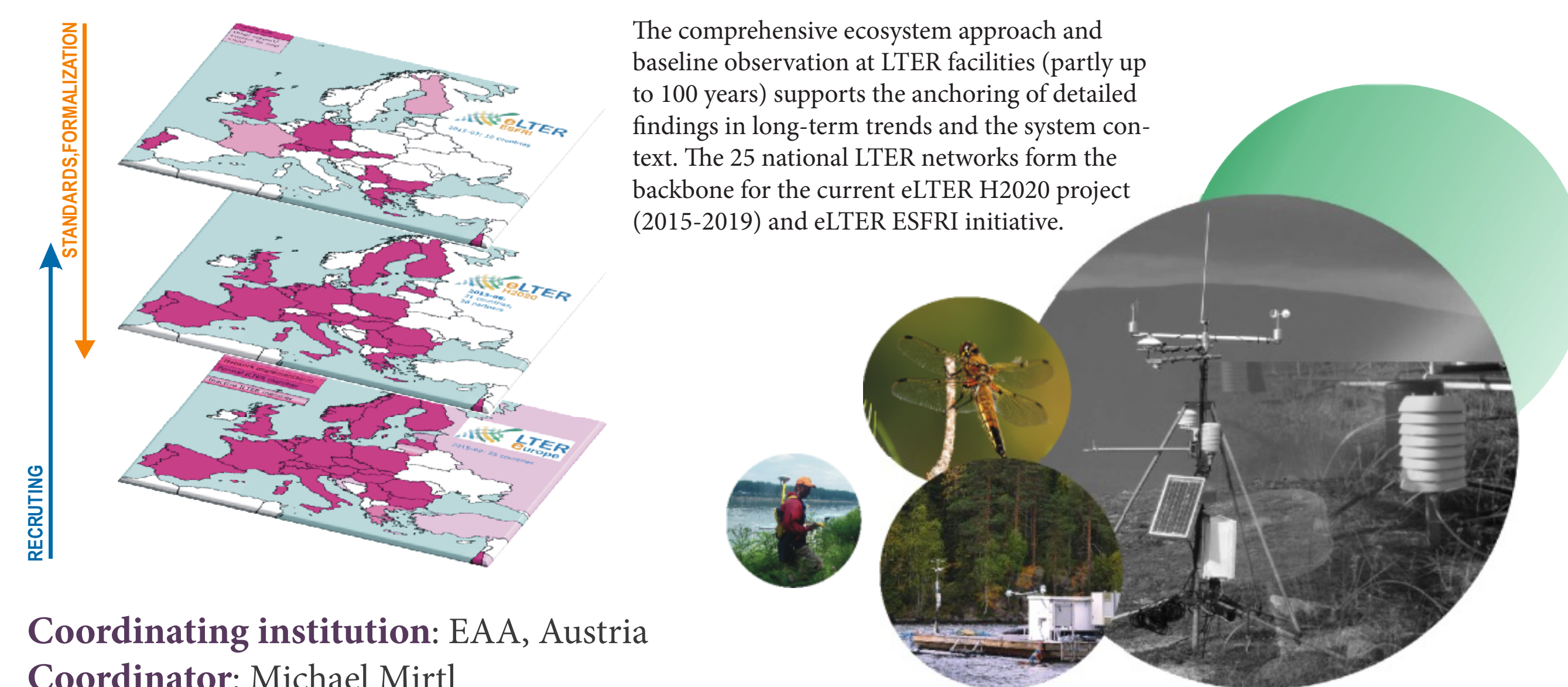
**Domain**  
Biosphere/Ecosystem

**Current status**  
25 national LTER networks (perma-  
nent)

**Website**  
[www.lter-europe.net](http://www.lter-europe.net)

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**LTER-Europe - European Long-term Ecosystem Research network** –  
of 25 national LTER networks - is an essential component of world-wide efforts (ILTER) to better un-  
derstand ecosystems. This comprises their structure, functions and long-term response to environmen-  
tal, societal and economic drivers. LTER contributes to the knowledge base informing policy and to the  
development of management options in response to the Grand Challenges.  
Since around 2003 the design of LTER-Europe has focussed on the integration of natural scientific eco-  
system research and the human dimension. Besides around 400 LTER Sites (terrestrial, fresh- and tran-  
sitional waters), LTER-Europe features LTSE Platforms as case study areas for socio-ecological re-  
search across European environmental and socio-economic gradients.



## EXPERIMENTAL MANIPULATION OF MANAGED AND UNMANAGED TERRESTRIAL AND AQUATIC ECOSYSTEMS

### Key words

Ecosystem, experimental platforms, food  
security, environmental sustainability

**Type of Research Infrastructure**  
Distributed

**Domain**  
Biosphere/Ecosystem

**Current status**  
Preparatory phase

**Website**  
[www.anaee.com](http://www.anaee.com)

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AnaEE - **Infrastructure for Analysis and Experimentation on Ecosystems** - is a Research In-  
frastructure for experimental manipulation of managed and unmanaged terrestrial and aquatic  
ecosystems. It will support scientists in their analysis, assessment and forecasting of the impact  
of climate and other global changes on the services that ecosystems provide to society.  
AnaEE supports European scientists and policymakers to develop solutions to food security, cli-  
mate mitigation, and environmental sustainability, while stimulating the growth of a vibrant bio-  
economy.  
AnaEE's building blocks are **in natura** and **in vitro experimental platforms** equipped with the  
latest technology and sophisticated analytical and modeling platforms coupled to observation  
sites that will provide the indispensable calibration and validation of datasets throughout Eu-  
rope.

**Coordinating institution:** INRA,  
France  
**Coordinator:** Dr. habil. Abad  
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