



## OceanGliders and GROOM RI – EuroSea – EuroGOOS context

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OceanGliders

European Glider Data Management Workshop,  
Virtual, 20th June 2022



These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 951842 and No 862828

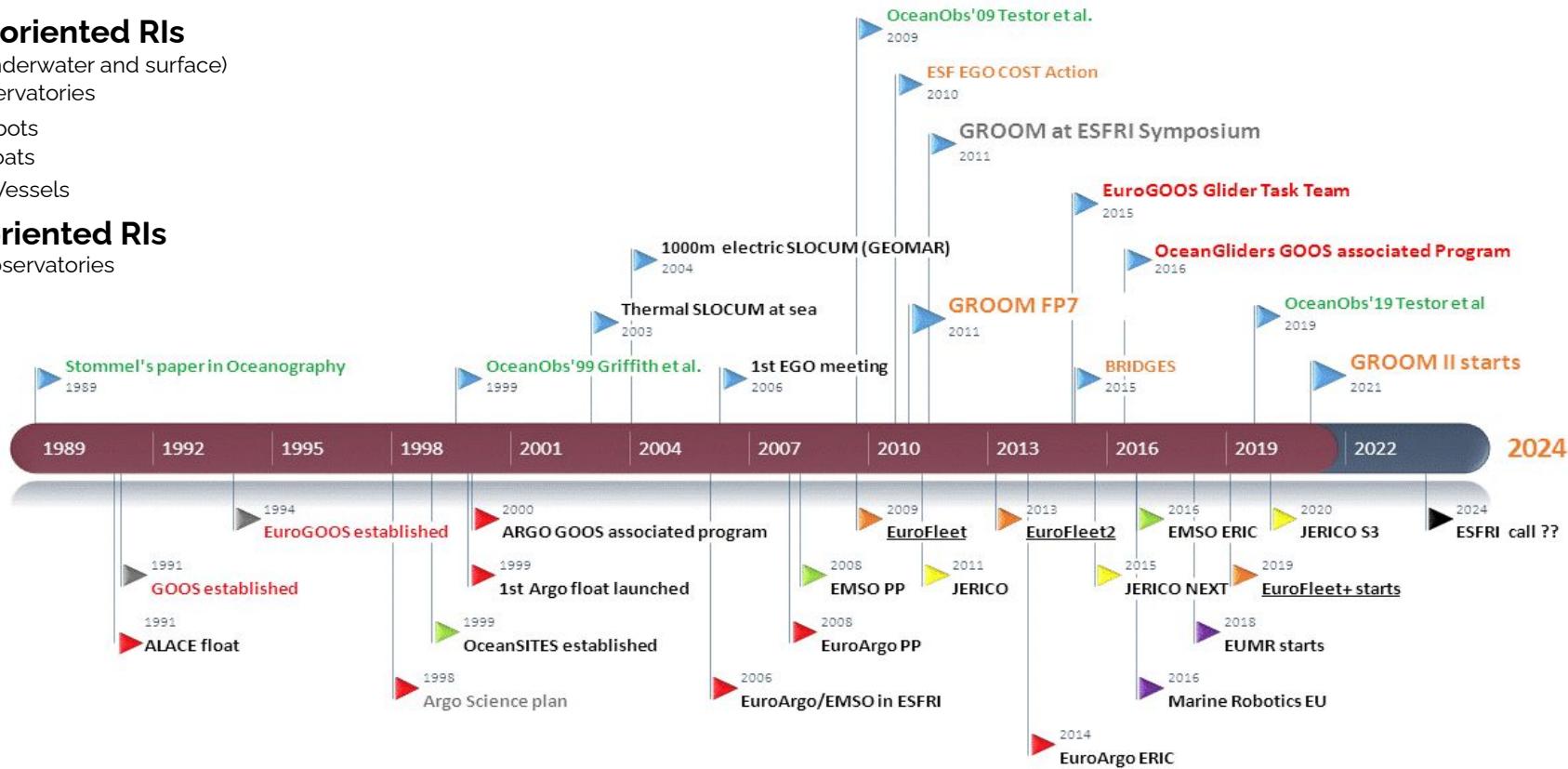
# History/Landscape

## Platforms oriented RIs

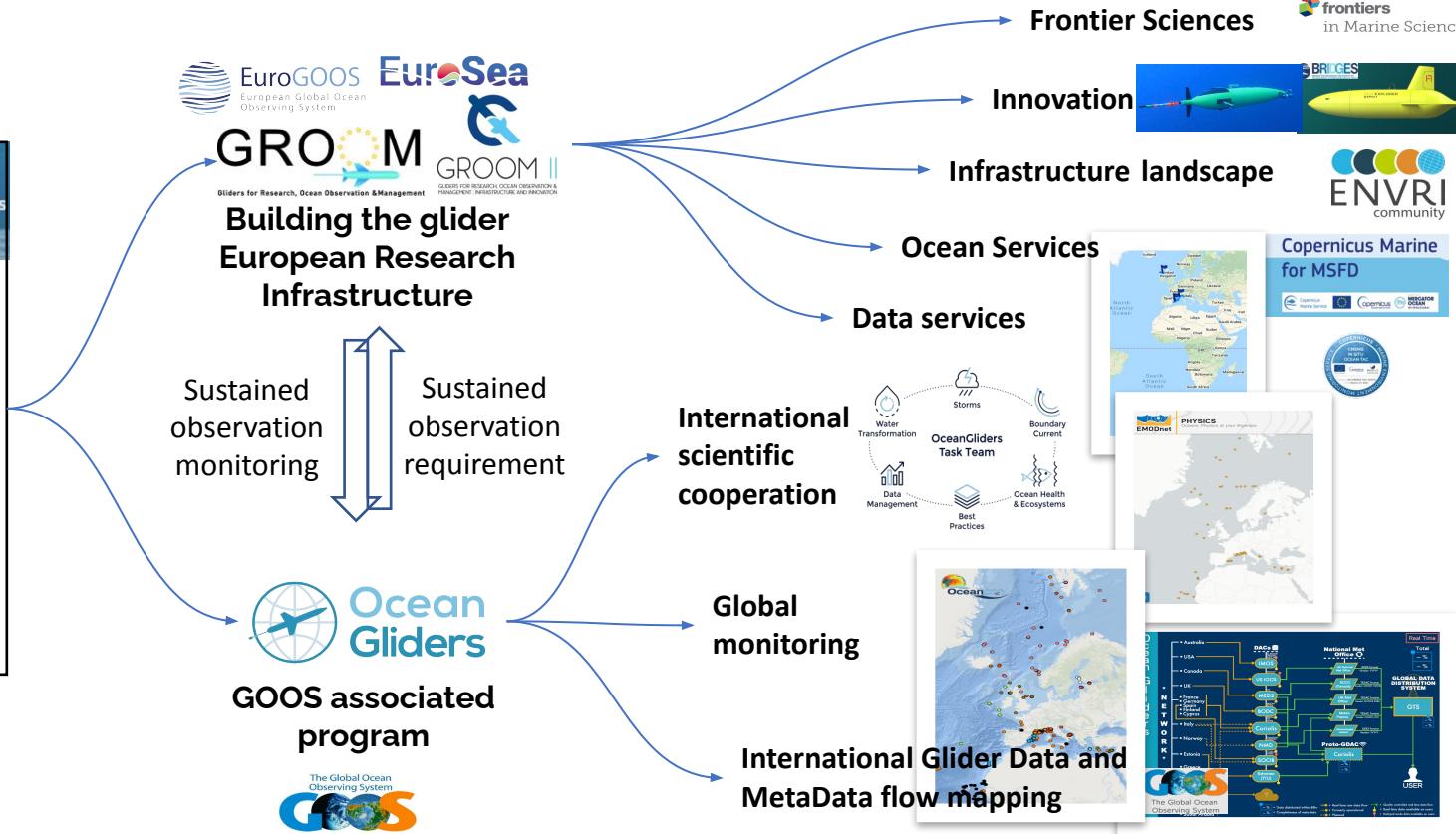
- ▶ Gliders (underwater and surface)
- ▶ Fixed Observatories
- ▶ Marine Robots
- ▶ Profiling floats
- ▶ Research Vessels

## Network oriented RIs

- ▶ Coastal Observatories



# From EGO to OceanGliders



# OceanGliders launched in 2016

## OceanGliders build on a strong glider community

### Everyone's Gliding Observatories (EGO) meetings (and Glider Schools):

- 0<sup>th</sup>, Palma de Mallorca, Spain, Sept 2005
- 1<sup>st</sup>, Paris, France, Oct 2006
- 2<sup>nd</sup>, Palma de Mallorca, Spain, Oct 2007
- 3<sup>rd</sup>, La Spezia, Italy, Oct 2008
- 4<sup>th</sup>, Larnaca, Cyprus, Nov 2009
- 5<sup>th</sup>, Telde, Gran Canaria, Spain, Mar 2011
- 6<sup>th</sup>, Kiel, Germany, June 2014
- 7<sup>th</sup>, Southampton, UK, Sept 2016
- 8<sup>th</sup>, Rutgers, USA, May 2019



- Early discussions on a glider component in the Global Ocean Observing System GOOS starting in 2014 with the GOOS Observation Coordination Group (OCG). The maturity of the community, **in data management** in particular was recognized and the OceanGliders program started in September 2016 at the 7<sup>th</sup> EGO meting (NOC, UK)
- The OceanGliders program as a component of the GOOS was approved by the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) at their 5<sup>th</sup> Intergovernmental Session in October 2017
- OceanGliders Steering Team reports to the GOOS OCG as an associated program (like Argo, OceanSITES,...).

# OceanGliders associated program of the GOOS

OceanGliders allows active coordination and strengthening of the worldwide glider activity.

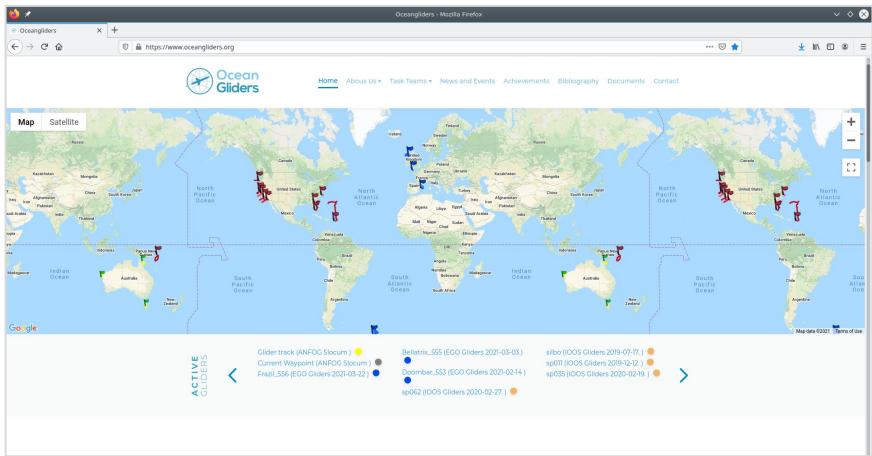
- Focusing on the science, not the technology
- Focusing on "sustained" ocean observing: the long-term physical, biogeochemical, biological ocean processes/phenomena
- Contributing to the present international efforts for Ocean Observation for Climate, Ocean Health and Real Time Services.
- Organized in Task Teams
- Supported by OceanOPS to monitor the global glider activity, share the requirements, efforts and scientific knowledge needed for gliders data collection and support the dissemination of glider data in global databases, in real-time and delayed mode, for a wider community.



# OceanGliders website, OO'19 White Paper and Best Practices



More info



<https://www.oceangliders.org/>

**OCEAN OBS'19** OceanGliders White Paper published in the OceanObs'19 special issue in Frontiers in Marine Sciences

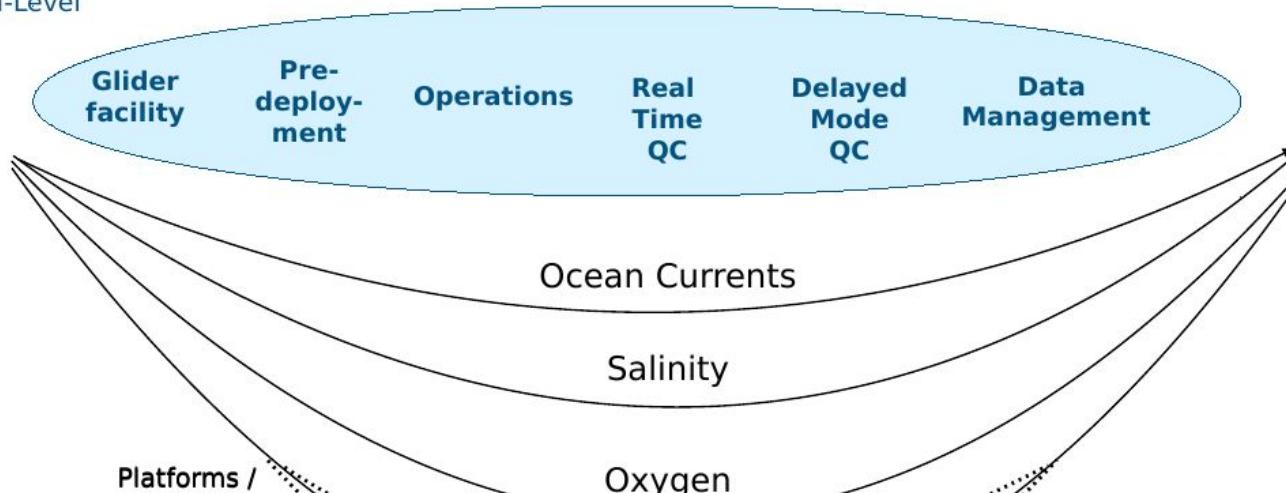
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00422/full>

The screenshot displays the article page for 'OceanGliders: A Component of the Integrated GOOS' in the journal 'Frontiers in Marine Science'. The page includes the article title, authors (Amos T. KABO-BAH, University of Energy and Natural Resources, Ghana), review status (REVIEW article, Front. Mar. Sci., 02 October 2019), and a list of 44 co-authors from various institutions. The page also features a sidebar with metrics like Impact Factor (5.61), CiteScore (4.4), and 10,978 total views. A call-to-action button 'Increase the discoverability of your research' is visible at the bottom right.

# OceanGliders Best Practices expert workshop

## Towards OceanGliders Best Practices and Standards - Community Paper

PI-Level



Users

### **OceanGliders Standard Operating Procedures (SOPs)**

Virtual Workshop in May 2021

- Overview paper in progress
- Oxygen and Salinity on SOPs on GitHub  
<https://github.com/OceanGlidersCommunity> and Ocean OBPS  
<https://www.oceanbestpractices.org/> and endorsed by GOOS

SOPs summaries will soon be submitted to Frontiers in Marine Science Ocean Best Practices Special issue

EuroGOOS Gliders Task Team was established in 2015 **to sustain and support the European part of the global glider community** and contribute to the [Global Ocean Observing System](#) (GOOS) and the [framework for European Ocean Observing System](#) (EOOS).

EuroGOOS Gliders Task Team works to:

- Support the coordination of the European glider activities;
- Assist the **standardization** of glider operations, **data** and applications;
- Ensure **data availability** for the Copernicus Marine Environment Monitoring Service (CMEMS), via the EuroGOOS regional data portals (ROOS) in particular;
- Generate and promote best practices in applications, technologies, **data management**, and scientific development;
- Jointly contribute to European projects.

Chairs: Carlos Barrera, Pierre Testor and Victor Turpin



**EuroGOOS**  
European Global Ocean Observing System  
**Gliders Task Team**  
**established after FP7 GROOM and EGO COST Action (2010-2014)**

EuroSea aims at improving and integrating the European Ocean Observing and Forecasting System

- EuroSea WP3 increases **integration between ocean observing networks**, improves their coordination and supports **data quality control and dissemination**. WP3 targets the following networks: Argo, underwater gliders, research vessels, eulerian observations, sea level platforms, high-frequency radars, and autonomous surface vehicles.
- WP3 improves the **integration of data** from different networks and ensures that EuroSea **new or consolidated data sets** (physics, biogeochemistry) are ingested in the Copernicus Marine Service and EMODnet portfolios.

Task 3.2: Underwater Gliders (Pierre Testor)

Task 3.7: Autonomous Surface Vehicles (Carlos Barrera)



To support integration and coordination

  
EuroSea  
WP3

GROOM II (Gliders for Research, Ocean Observation and Management Infrastructure & Innovation) aims at **designing a European Marine Research Infrastructure (MRI)** that will transform fragmented research infrastructures into a sustained organisation offering a world-class service to the global population. A project for the full design of GROOM RI :

- GROOM RI Objectives: an advanced Marine Research Infrastructure *that supports scientific research, sustained observations, the blue economy, fosters innovation with access to these marine autonomous vehicles and provision of services (e.g. piloting, ...).*
- GROOM RI will
  - support frontiers marine research from surface to the deep sea,
  - strengthen the European component of the OceanGliders GOOS program,
  - foster connections and synergies for the completion of GOOS and EOOS and support other MRIs using such marine autonomous vehicles,
  - support the marine robotics European industrial sector to develop new technologies (e.g. sensors) and services for the blue economy.



## 2nd Design Study for a 'glider' European Marine Research Infrastructure (2020-2023)



1st Design Study for a 'glider' European Marine Research Infrastructure for gliders (2010-2014)

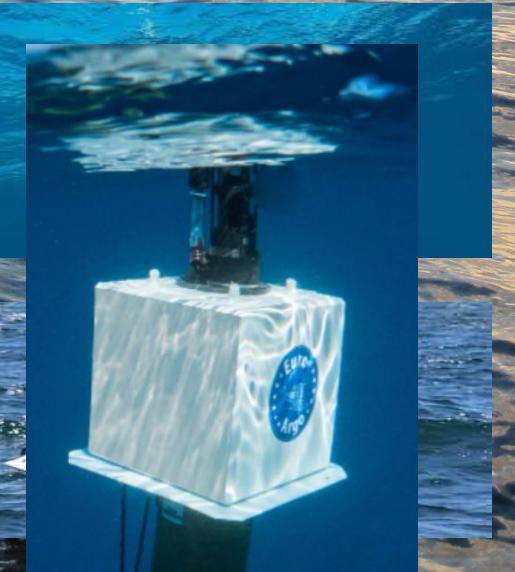
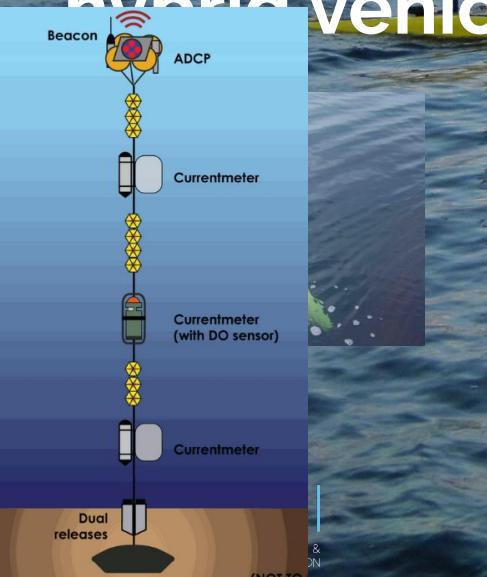


**GROOM RI considers underwater gliders,  
autonomous surface vehicles and emerging  
hybrid vehicles...**





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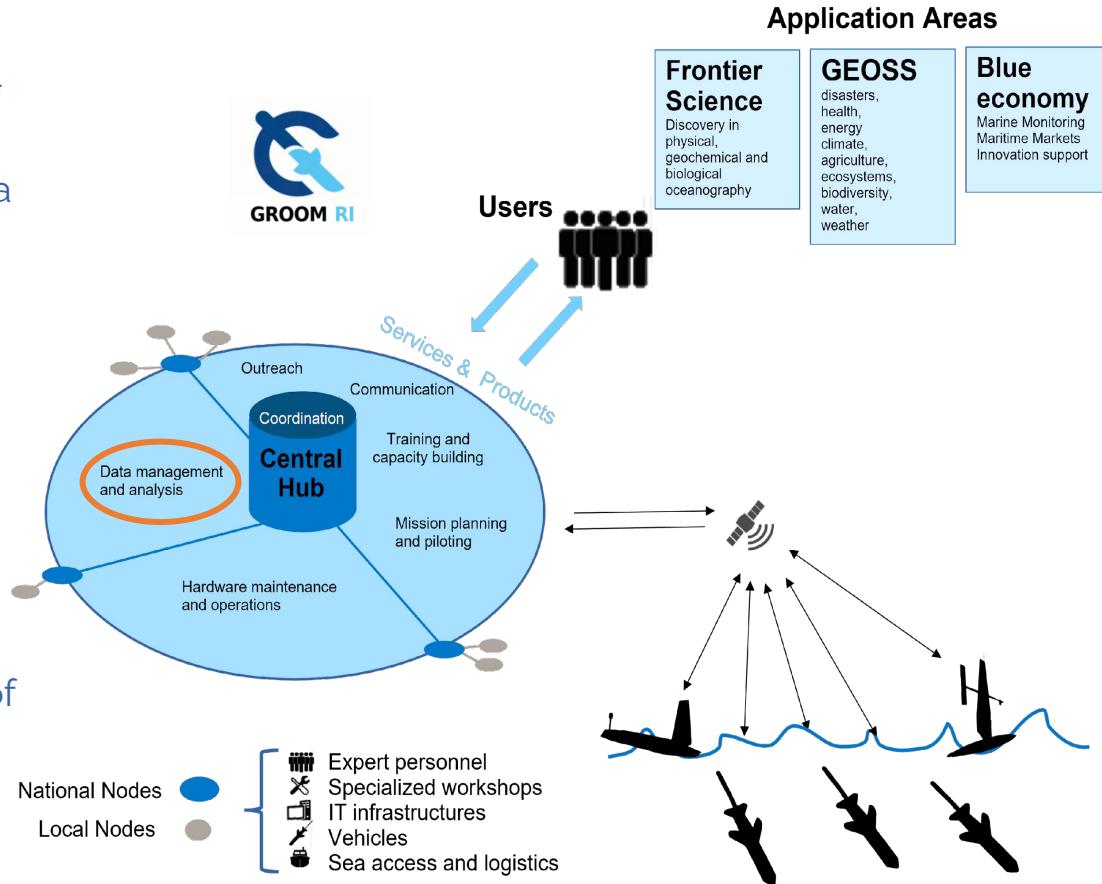


# GROOM RI: National / Local nodes

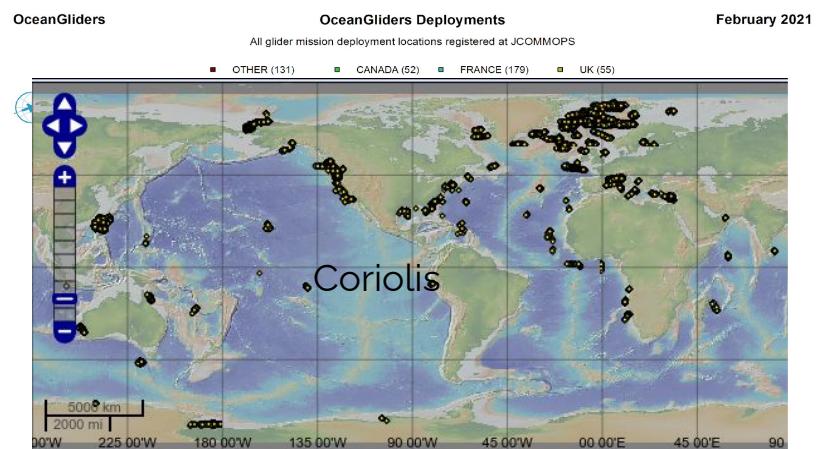
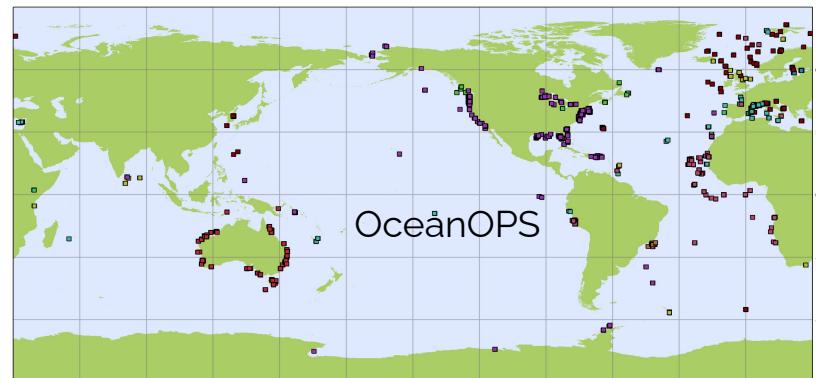
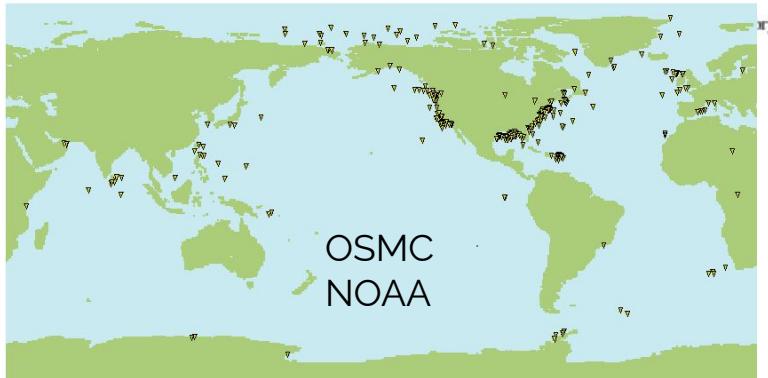
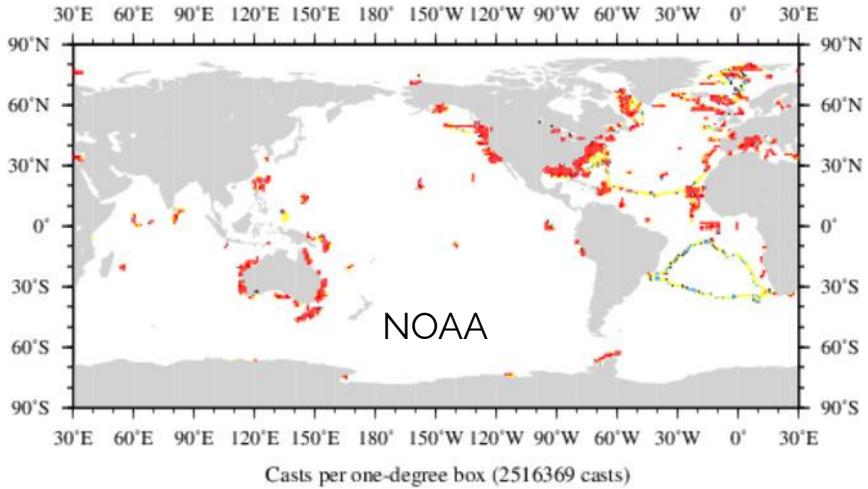
<https://www.groom-ri.eu>

**Vision:** Be the European Research Infrastructure harnessing the advantages of Marine Autonomous Systems (MAS) to provide high-quality ocean observation data and services for the benefit of society, enabling scientific excellence and moving towards net-zero activities.

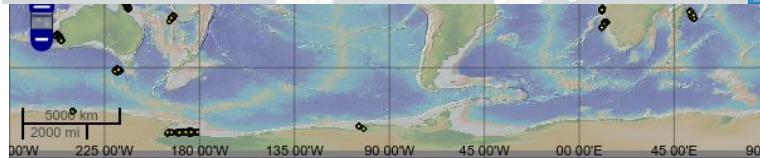
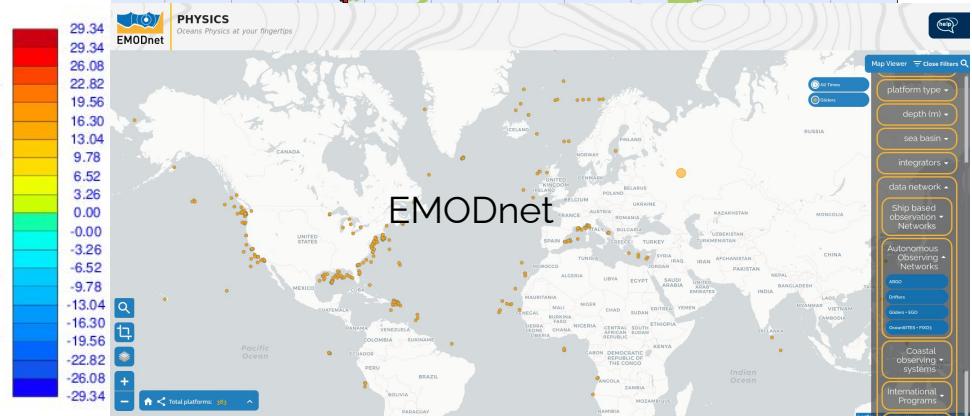
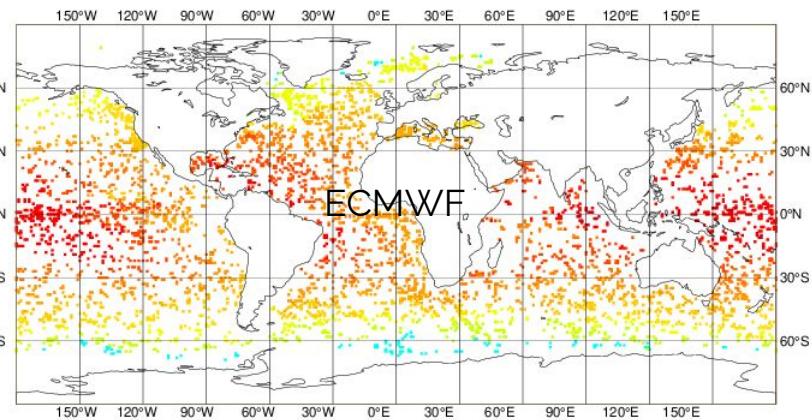
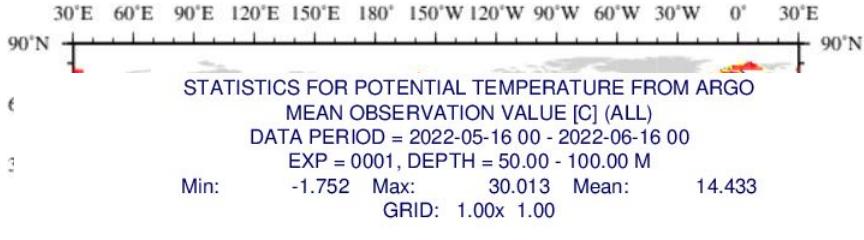
**Mission:** This European RI integrates national infrastructures for Marine Autonomous Systems (MAS) to provide access to platforms and services to the broadest range of scientific and industrial users, as well as other ocean observing RIs. It maintains a unique centralized provision of cyber-infrastructure, data and knowledge for the optimized use of MAS to study climate and marine environments, and to support operational services and the blue economy.



# Gliders status at OceanOps and Coriolis/GDAC



# Gliders status at OceanOps and Coriolis/GDAC





# European Glider Data Management Workshop

20<sup>th</sup> June 2022

## Meeting objectives and technical information



These projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 951842 and No 862828

Bring the European glider data management community together to discuss collectively of relevant DM topics.

- **Week 1: Where do we want to be in 2 years time?**

- Communicate on the status of the EU glider data management
- Identify issues and bottlenecks in the real time data flow
- Collect requirements from the community to support the real time data management.
- Identify the data management services GROOM II could provide for the EU glider community... and beyond.

- **Week 2 : Where do we want be in 5 years ?**

- Think collectively the evolution of the data management infrastructure of the GROOM RI to reach sustainability, adaptability and efficiency.
- Anticipate the evolution of the data collection capacity of the gliders

## Meeting Objectives

### Connexion details

- Same zoom link for each session
  - <https://us02web.zoom.us/j/4177914458>

### Chairs and moderators

- Each session should have a chair and moderators
- Sessions will be recorded
- Chat will be monitored by moderators

### Audience and moderators

- Name yourself with your name and institution
- Audience should turn off their microphones
- Audience should raise their hand to speak
- Moderator should distribute the microphone according to the order of hands raised

### Technical information

**For more information :**

- [contact@groom-h2020.eu](mailto:contact@groom-h2020.eu)
- Twitter : @GROOM2RI
- [www.groom-h2020.eu](http://www.groom-h2020.eu)

