

International Open Data Practices & DOORS Harmonization Manual

International marine data initiatives and regional partnerships

Thierry Carval
EuroGOOS DataMEQ working group
Thierry.Carval@ifremer.fr



EuroGOOS brings
together

48
members
from **19**
countries
140

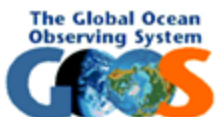
Member Organisations of
EuroGOOS Working Groups,
Task Teams, and
Regional Systems (ROOS)





unesco

Intergovernmental
Oceanographic
Commission



THE GLOBAL OCEAN OBSERVING SYSTEM, GOOS, REGIONAL ALLIANCES



Part of a global effort



EuroGOOS
European Global Ocean
Observing System

EuroGOOS Strategy 2030

www.eurogoos.eu



EuroGOOS
European Global Ocean
Observing System

1
STIMULATE
communities of practice.

2
ADVOCATE
for coordinated and integrated
European ocean observing and
operational oceanography.

3
STRENGTHEN
and expand partnerships.

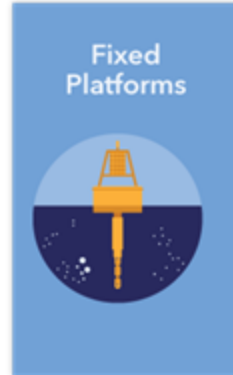
4
PROMOTE
sustainability across the
value chain of operational
oceanography and ocean
observing.

5
MOBILISE
the public on the
importance of the ocean
and oceanographic services.

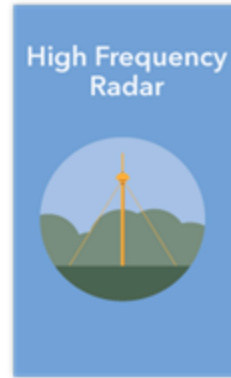
EuroGOOS Regional Operational Oceanographic Systems (ROOS)



EuroGOOS Task Teams



MoU with EMSO



<https://www.hfrnode.eu/>



Linked EGO, GROOM, Ocean Gliders



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



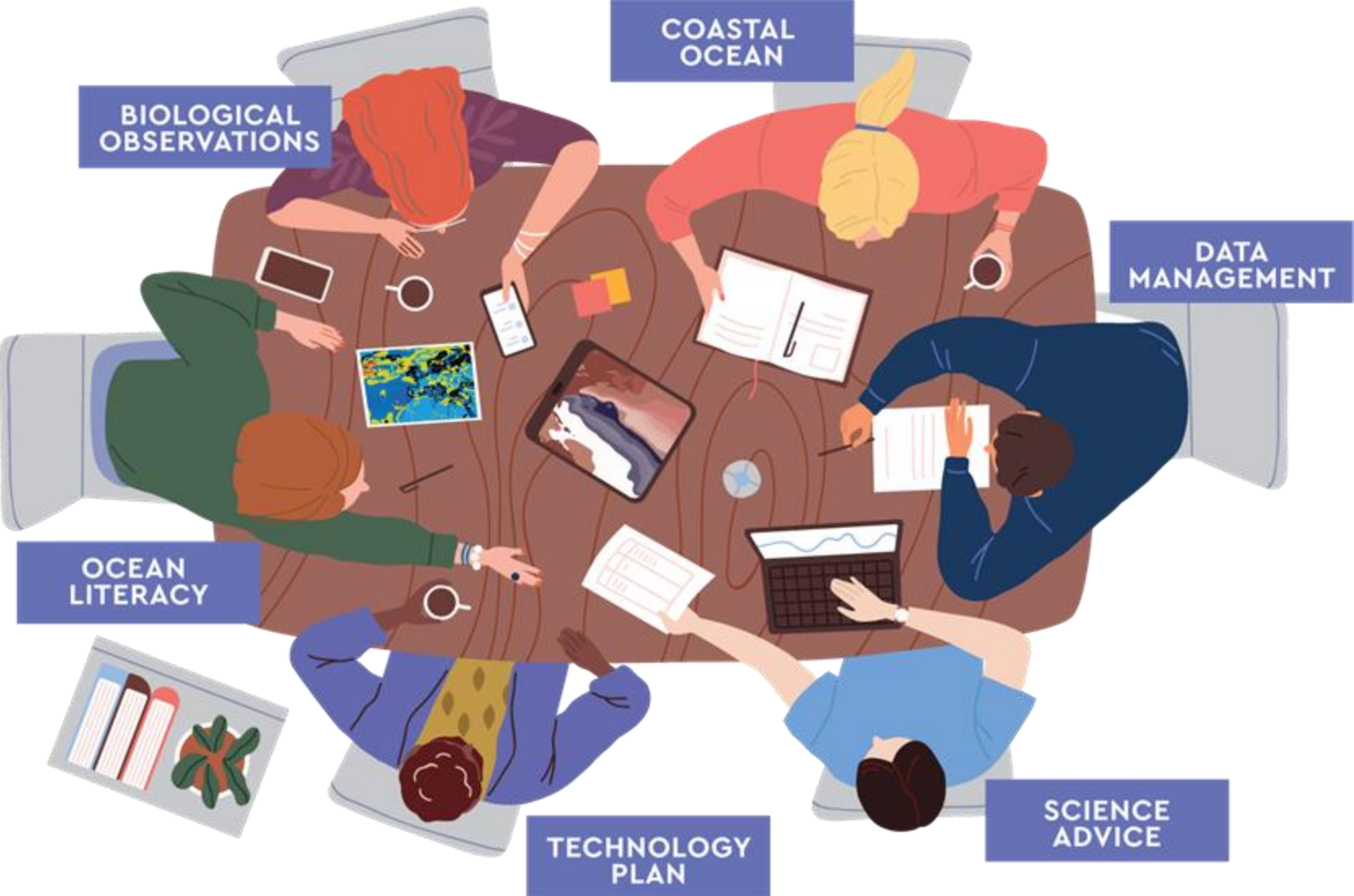
<https://eutgn.marine.ie/>



MoU with Euro-Argo



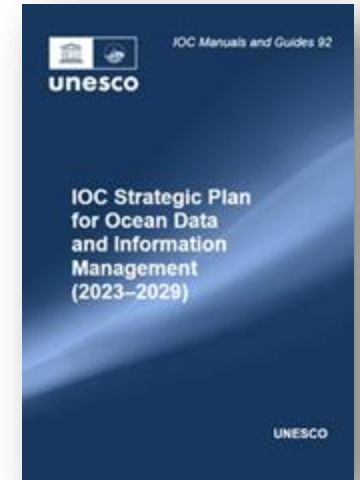
EuroGOOS Working Groups



EuroGOOS Data Policy



Download from OBPS:
<https://doi.org/10.25607/OBP-1980>



Context: major data policy initiatives

2019



**The Open Data Directive
implementing act on High
Value Datasets EU directive**



Intergovernmental
Oceanographic
Commission

**IOC Oceanographic Data
Exchange Policy**

2021



WORLD
METEOROLOGICAL
ORGANIZATION

New Unified Data Policy

- 'core' data, which must be freely available
- 'recommended' data, for which agreements can be needed

**All GOOS physics EOVs and ECVs
are core data**



**All data provided to ICES are
considered to be public data under
the Creative Commons Attribution
Licence (CC-BY)**

2023

**Revision of IOC data policy
is underway**

**New EuroGOOS DataMEQ
Data policy** as European
implementation of the
IOC policy



European implementation of IOC data policy

- **Core marine data shared with the minimum possible delay**
Core = at least physical and biogeochemical Essential Ocean Variables (EOVs) of the Global Ocean Observing System
- **Free circulation EOVS data**
Findable, Accessible, Interoperable and Reusable (FAIR), shared through open and free license (recommended Creative Commons Attribution Licence, CC-BY)
- **Quality controlled and accompanied by metadata**, accessible through a web interface and machine-to-machine protocols
- **Submitted to European and international open data systems**
- **Available with minimal restrictions on use** unless there are valid reasons to restrict access (consistent with national jurisdictions, international conventions, and treaties, where applicable)
- **Engage EuroGOOS Member Organizations and community** to commit to implementation

EuroGOOS Data Policy and Ocean Decade



The EuroGOOS Data Policy is a cornerstone for the Ocean Decade, ensuring open and FAIR access to key ocean data.

By mandating members to openly share EOVs, EuroGOOS supports the Decade's digital ocean ecosystem and key services like the World Ocean Database or Copernicus Marine Service.

The policy aligns with global frameworks (IOC, GOOS, WMO, ...) to promote cohesive global ocean data accessibility.

This transparent data exchange underpins vital societal and economic benefits, from maritime safety, climate modelling to sustaining the blue economy.

It alignes seamlessly with the Ocean Decade's vision for a well-connected and informed global ocean community.

The European implementation of IOC Data policy

10 concise and clear sections

1. Data should be freely/openly shared with minimum delay and restrictions
2. EuroGOOS members share core marine data
3. Creative Commons License CC-BY is recommended
4. Minimal restrictions unless there are valid reasons
5. Free circulation of EOVs is of major importance for science and safety
6. Data should meet FAIR Guiding Principles
7. Data should be formatted and quality controlled
8. Use national oceanographic data centres, organised by SeaDataNet or international observation networks data systems
9. Long-term and secure archival in IODE's WOD, OBIS
10. Detailed data and metadata sharing guidelines

Take home messages

- EuroGOOS data policy is the European **implementation** of IOC data policy
- It is **our commitment** for ocean data circulation and use in support of European and global policies and societal challenges
- It **promotes**
 - Ethically open data: “as open as possible, as closed as necessary”
 - Clear, unambiguous data licenses such as CC-BY
 - Long term archives in certified repositories
 - FAIR principles

Data policy implementation

A sustained engagement for FAIR data

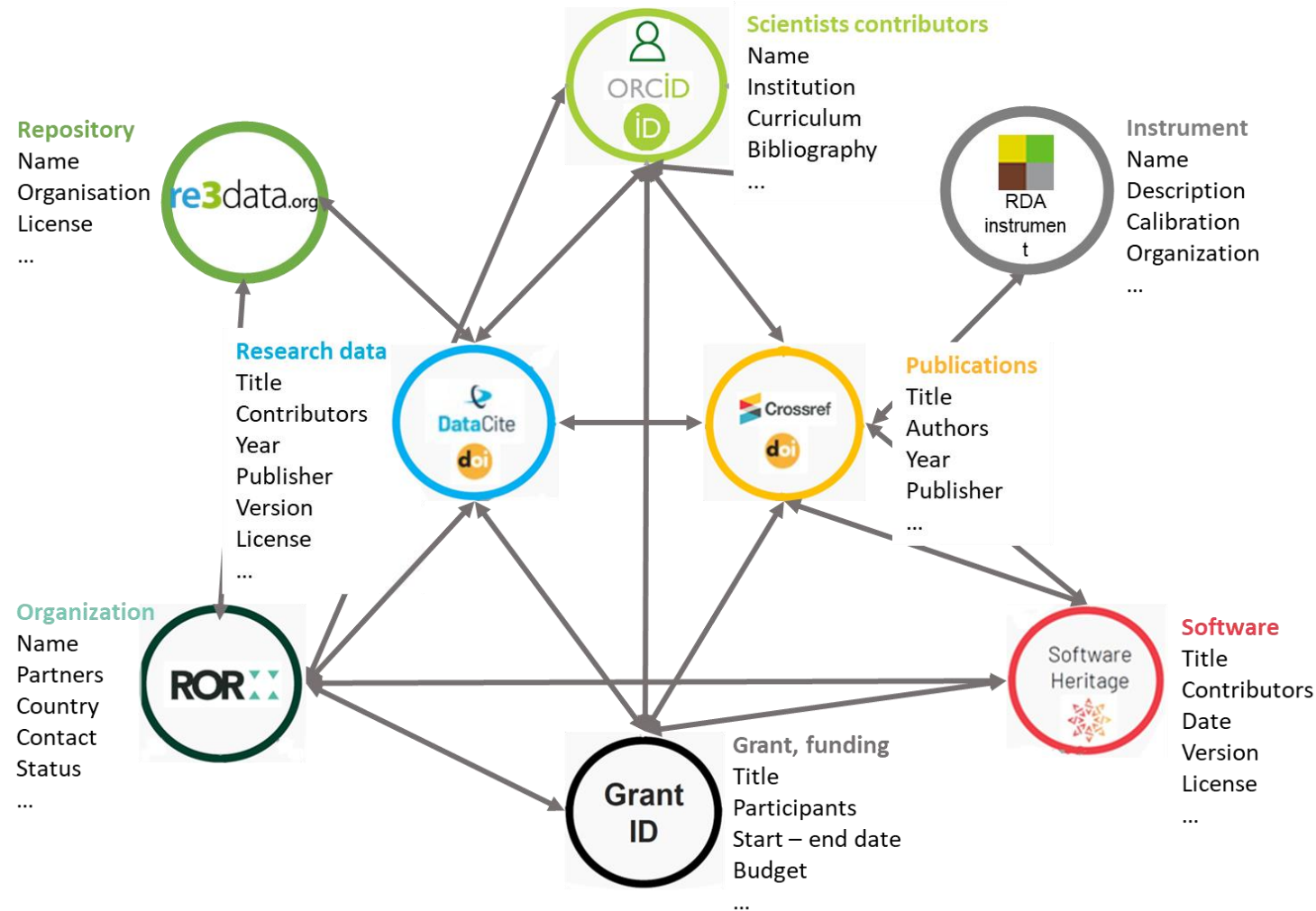
Data DOI Digital Object Identifier

- A major purpose of data DOI is to enable **accurate citation in publications**.
This ensures that researchers receive proper credit for their data and that their work can be reliably referenced and built upon.
- Set the granularity of the data DOI with regards to the citation.

Data policy implementation

A sustained engagement for FAIR data

Data traceability policies, an **ecosystem of PIDs** Permanent Data Identifiers



An ecosystem of PIDs



Euro-Argo RISE

Euro-Argo Research Infrastructure Sustainability and Enhancement

 **Open Access Mandate for Publications and Research data** •  **Project** • 01 Jan 2019 (Started) • 31 Dec 2022 (Ended) • Closed

Funder: **European Commission** Project code: 824131 Call for proposal: H2020-INFRADEV-2018-1

Funded under: H2020 | RIA Overall Budget: 3,953,410 EUR Funder Contribution: 3,953,410 EUR

[Detailed Project Information \(CORDIS\)](#)  [→](#)

Summary

Publications (118)

Research data (37)

Research software (4)

Other research products (48)

DMPs (1)

 **Statistics**

Description

The core Argo system is based on an array of profiling floats which measure every 10 days temperature and salinity throughout the deep global oceans, down to 2000 meters, and deliver data both in real time for operational users and, after careful scientific quality control, for climate change research and monitoring. Argo data policy is fully open and guarantees a free access of the data to all interested users. A new phase of the Argo programme is now being implemented at international level. This new phase has two main objectives: 1/ sustain the existing global array and 2/ extend its capabilities to greater depths and to biogeochemistry. The present target is to maintain a network of at least 4000 floats, with ¼ carrying biogeochemical parameters and ¼ going to abyssal oceans. There is more than ever a pressing need to better observe the oceans. This is recognised at the highest political levels (G7, IPCC and its Special Report on the ocean and cryosphere). Developing Argo and its extensions is, in particular, one the top priorities of the G7 Future of Oceans. The overarching objective of Euro-Argo RISE (Euro-Argo Research Infrastructure Sustainability and

Partners

Department of Agriculture Food and the Marine ,
Department of Agriculture Food and the Marine , CSIC ,
BSH, Sorbonne University , IEO , OGS , ACRI-ST , Marine
Institute , EPSRC , Helmholtz Association of German
Research Centres , Helmholtz Association of German
Research Centres , IO BAS , IFM-GEOMAR , HCMR , BAS ,
BAS , IPMA , OMM , IMR , ...

[View all](#) >

International marine data initiatives and regional partnerships

Thank you for your attention

Thierry Carval
EuroGOOS DataMEQ working group
Thierry.Carval@ifremer.fr