IOC Officers meeting
13-15 January 2025

GOOS Agenda items

Global Ocean Observing System (GOOS) Items

Governance

GOOS Steering Committee Workplan

IOC Data Architecture

Progress report on Ocean Observations in areas under National Jurisdiction

Joint WMO-IOC Collaborative Board (JCB) strategic advice on joint work to achieve common objectives

Decision IC Executive Council 2024.
Proposal for Assembly 2025 and ongoing outreach

A first step – is a proposal for IOC Assembly 2025 – whilst building coordination, integration and advocacy
https://oceanexpert.org/document/34575

Proposal for evolving GOOS (outlining what needs to be done as a first step)

1. Focus GOOS to be fit for purpose to meet the needs of Member States
2. Review components and revise TOR, as well as MoUs with sponsors and partners
3. Support a functioning Digital Ecosystem to enable end user applications
4. Evolve a user and uptake strategy
5. Determine a process to set a new GOOS strategy synergised with Decade Challenge 7 **and** across IOC processes

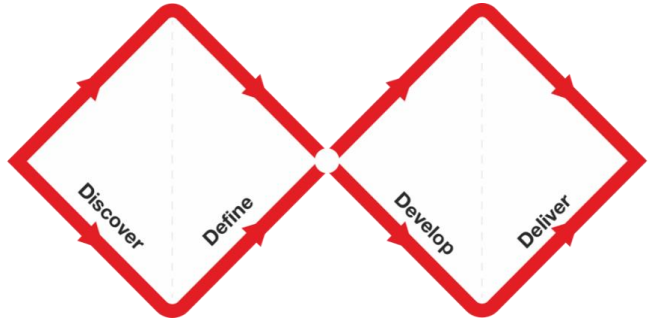
Management Team

Coordinate and advocate international, regional and national support and engagement, with clear communications and processes

Communications toolkit

Continue to engage with Member States and other stakeholders for transparency and support

Decision EC-57/4.1 Request to ES



Proposal by the Executive Secretary to evolve GOOS governance, in consultation with the GOOS Steering Committee, representatives from Member States and GOOS sponsors.

Follow a double diamond approach.

1. Define the mission and scope of GOOS moving forward – the WHY and the WHAT.

	Phase 1. Discover and Define GOOS
1	Mission and Scope review and revision
2	Structure review
3	Draft Proposal for GOOS reform to A-33
4	Communications toolkit

2. 2026+ the approach taken to develop and deliver a reformed GOOS the HOW

	Phase 2. Develop and Deliver GOOS
5	Revised GOOS (mission, scope, structure, TOR, processes, delivery mechanisms)
6	User and Uptake Strategy
7	GOOS (EOV) status and implementation plan
8	IOC Data Architecture
9	Communications Plan
10	GOOS 2030+ revised strategy

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Workplan 2026-2027

TO be elaborated at the GOOS SC meeting 19-21 February 2025

1. Observation system design and development

i. Carbon Plan
ii. Biodiversity Plan
iii. Suppoering WMO Rolling Review of Requirements (RRR) and Evolving the WMO Global Basic Observing Network (GBON)
iv. Refining EOV-led indicators

2. Strengthening data integration and delivery

i. Supporting evolvement of IOC data architecture (cross-IOC sections)
ii. Observations Coordination Group and Networks
iii. OceanOPS
iv. Bioeco Portal

3. Supporting implementation

i. Applications
ii. National Focal Points
iii. Global Regional Alliances
iv. Decade programme

4. Outreach and communication

i. Projects and Partners
ii. Communication including toolkit
iii. GOOS status report card

5. GOOS Reform

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IOC Data Architecture

IOC First IODE/GOOS Workshop 30 September – 2 October 2024, https://oceanexpert.org/event/4556

Goal

"To establish optimized collaboration between IODE and GOOS, develop an integrated view of the data landscape and lay the ground for the development of an integrated, efficient, future facing, and FAIR data landscape between GOOS and IODE and across GOOS OCG, BioEco and BGC data components"

Mandate

- IOC Medium term strategy: Maintain, strengthen and integrate global ocean observing, data, prediction and information systems [Observing system / data management] to support the IOC end-to-end system to support Member States
- Mandates to both IODE and GOOS to support and strengthen an **IOC observation/data ecosystem**

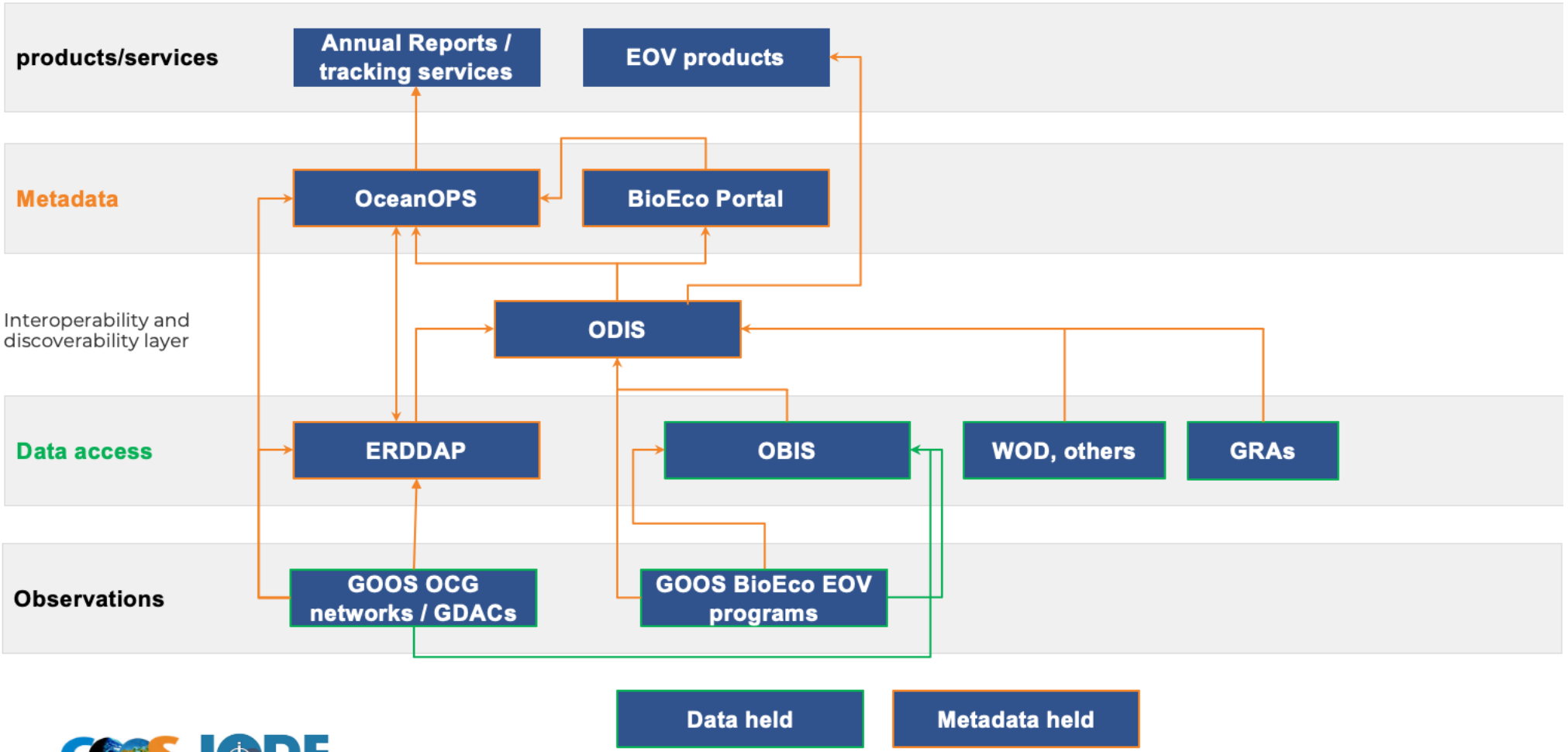
Next steps

Proposal for the IOC Data Architecture that can be presented in draft form to the 14th GOOS Steering Committee in February 2025; the 28th IODE Committee Meeting Data Management in March 2025; and in final form to the 33rd IOC Assembly in Paris in June 2025

A-33 Decision

Invite Member States to support implementation of cross-IOC data architecture

Basic schema for the IOC Data Architecture



Acronyms: IODE Ocean Data Information System (**ODIS**), IODE Ocean Biodiversity Information System (**OBIS**), GOOS **OceanOPS** (WMO-IOC Joint Operational Centre Ocean Observing), **ERDDAP™**, World Ocean Database (**WOD**), GOOS Regional Alliances (**GRAs**), GOOS Observation Coordination Group (**OCG**), GOOS Ocean Observing Networks/Global Data Assembly Centres (**networks/GDACs**), GOOS Biological and Ecological EOV Observing Communities (**BioEco EOV programmes**)

IOC Data Architecture: CORE IDEAS

- **Based upon concepts which have shown great utility in both GOOS and IODE**: open and modular technology, distributed-yet-federated system designs, metadata-driven exchange and orchestration, and an interoperability-first approach to data management and system engineering

- Based on, and extending, the **IODE Ocean Data and Information System (ODIS)** Architecture, which federates digital asset catalogues from over 50 data sources (including continental-scale data hubs)

- Providing consistent implementation of the **FAIR and CARE Principles**, with alignment to the UN Ocean Decade Data and Information Strategy and its Implementation Plan

- **Assess and preserve data provenance and lineage metadata**, allowing derivative data products to be traced back to the point of truth (e.g. observations or models)

- Recognising that the **GOOS EOVs** are an essential element within this architecture

IOC Data Architecture : FUNCTION AND ATTRIBUTES

- Serve as the **foundation of global ocean data sharing**, powering global solutions and the IOC mission
- **Support global services and data products** - available to all - to detect, consolidate, and deliver GOOS-certified EOV data of documented quality
- **Coordinate data and information across the IOC value chain** to support operational services
- **Deliver data about or supporting EOVs, SDG indicators**, and others into global assessment and multilateral processes
- **Provide IOC with a clearly defined, unique niche in the ocean digital ecosystem** for more efficient investment
- **Interface - at scale - IOC's core digital capacities with other existing architectures and infrastructures** (e.g. WMO's WIS 2.0, UNEP's WESR)
- **Bridge digital divide** and help mature digital ecosystems globally through digital capacity transfer

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Mandate

1. Review the report of the Experts Workshop on Ocean Observations in Areas under National Jurisdiction (OONJ, GOOS-246), and the information provided to IOC from Member States and GOOS Networks on their experiences and issues, respectively, regarding sustained ocean observations in areas under national jurisdiction, following the decision adopted at the Executive Council (Decision IOC/EC-55/3.4), and as synthesized in the Summary Report on the Consultation on Ocean Observations in Areas under National Jurisdiction (IOC/A-32/4.8.2.Doc(1)), with additional information in the Information Document for this decision (IOC/INF-1431).

2. Identify and document specific examples of problems in making sustained ocean observations in areas under national jurisdiction and an assessment of their level of impact on GOOS, and research, services, and products reliant on such GOOS data.

3. Through this process, seek additionally to identify examples of best practice relevant to the taking of sustained ocean observations in areas under national jurisdiction.

4. Should specific cases with material adverse impact on GOOS be identified, provide a diagnosis of the root cause of the problem, and identify whether potential action is within the IOC mandate, in consideration of international law, including UNCLOS, or whether other bodies need to be engaged.

5. For those where potential action fall within the IOC mandate, identify recommendations with regard to potential action, for discussion at the IOC Assembly in 2025.

6. Present the results from these discussions, with any recommendations for action on this issue, to the IOC Assembly at its 33rd Session in 2025, with a progress report provided to the Executive Council at its 57th Session in 2024.

Progress

Challenging mandate

Some progress made

Draft report prepared

Key issue is non-consistency of Marine Scientific Research (MSR) clearance

To address the MSR process being variable in every Member State's waters, the WG suggests:

1. Standardise/ unify process with GOOS-endorsed templates (e.g. fit for purpose standardised MSR process with update of form A, diplomatic clearance form)

2. Create a [GOOS] Repository for documentation, training pack (e.g. from 5min videos from networks), clarification of process, with appropriate links to information, best practices

To do before April – Working Group

- Finalise report
- Clarify messages/decision for A-33

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WMO/IOC Joint Collaborative Board

1. Global Basic Observing Network (GBON)
    - Co-create a definition of the Ocean GBON, incorporating additional ocean variables, in complement to / as a part of WMO's Global Basic Observing Network (GBON).
    - Joint WMO/IOC working group on GBON

2. Data Management and Interoperability
    - Enhance interoperability for an integrated observing and data system.
    - Improve data sharing between the WMO Information System (WIS) and the Ocean Data Information System (ODIS).
    - Develop a structured approach to Marine Climate Data Systems (MCDS) and enhance the integration of observation networks.
    - Joint WMO/IOC technical working group for data management

3. Coastal and Maritime Resilience
    - Strengthen coastal and maritime community resilience against hazards like tsunamis
    - Supporting the UN's Early Warning for All (EW4All) initiative.
    - IOC and WMO experts contributed to the report "Meteotsunamis: definition, detection and alerting services investigation" (IOC Technical Series 200, 2025). For operational purposes these phenomena are the responsibility of National Hydro-Meteorological agencies, whereas scientific work may continue to be supported by IOC.

4. Capacity Development
    - Establish a Joint Oceanography and Meteorological Specialized Training Centre.
    - Share data management capabilities with developing countries and provide guidance on marine observing systems.
    - IOC and WMO coordination includes Global Campus Initiative and the Ocean Teacher Global Academy
      IOC member join the WMO Executive Council Capacity Development Panel (David Farrel)