

Name or GOOS Component:

IODE, OBIS & ODIS

Report submitted by:

IODE Co-Chairs (Lotta Fyrberg, Paula Sierra-Correa), OBIS Co-Chairs (Katherine Tattersall, Dan Lear) and ODIS Co-Chairs (Elena Tel, Adam Leadbetter)

Date submitted:

23 March 2026

Considerations for the GOOS Reform proposal

Draft proposal: <https://oceanexpert.org/document/37899>

Mission, scope and accountability mechanism
(slides 7 - 10 and 24 - 26)

What are your concerns regarding the reform proposal on mission, scope and accountability mechanism?

IODE, OBIS and ODIS are concerned that the reform proposal treats GOOS as an isolated standalone programme rather than as a programme deeply woven into and anchored within the broader IOC framework. We recognise that GOOS is co-sponsored by IOC, WMO, UNEP, and ISC - it is not a "pure" IOC programme. Yet, the proposal does not adequately address how GOOS's mission and scope interact with other IOC programmes (IODE, Ocean Science, Tsunami, Capacity Development, MPR) and with the IOC regional sub-commissions.

The IOC Data Architecture (endorsed by IOC Assembly Decision A-33/3.4.3, June 2025) is not referenced anywhere in the reform documentation, despite being the Assembly's framework for organising IOC's entire data ecosystem.

The BBNJ Clearing-House Mechanism - entered into force January 2026 - which depends on OBIS and ODIS infrastructure, is entirely absent from the reform's scope. Capacity development, essential for ensuring the widest participation of Member States (the majority being developing countries or countries in economic transition), receives insufficient attention in the proposal. It is also regretted that Accenture does not appear to have consulted the IODE community (slide 3 and appendix) . This lack of consultation with relevant IOC programmes, including IODE, is reflected in various components of the proposal which does not leverage the deep expertise and ocean data management capability available to and embedded in IOC.

If you don't agree with the proposal - what is the alternative? Why?

The reform's mission and scope should explicitly acknowledge GOOS's position within the broader IOC institutional framework and define how GOOS interacts with other IOC programmes. All data-related aspects of the reform must be framed within the IOC Data Architecture endorsed by Decision A-33/3.4.3, not developed in parallel. Capacity development should be given proper consideration, especially regarding the future of GOOS's own GRA structure and the potential role of IOC's OceanTeacher Global Academy.

How do we make it work? What does the implementation look like? (including with respect to your component)

The IOC Data Architecture Working Group (mandated by Decision A-33/3.4.3) should serve as the coordination vehicle between GOOS and IODE for all data-related aspects of the reform. An IOC-wide review of the reform's implications for IOC programmes should precede structural decisions. We recommend mapping intersections with IODE and its programme components (OBIS, ODIS) and other relevant IOC entities. The reform's own accountability matrix (slide 26) acknowledges this is needed, but treats it as a future exercise rather than a prerequisite.

IODE is ready to support GOOS with capacity development infrastructure (OceanTeacher Global Academy, network of NODCs and ADUs) and support GOOS training needs within a coordinated framework.

Proposed structural changes nr. 1-5

(slides 11 - 19)

What are your concerns regarding the reform proposal on the first five structural changes?

Change 2 (Consolidate sponsorship under IOC and WMO) raises important governance concerns. While IOC is designated “lead sponsor,” the practical governance arrangements show WMO as an equal partner:

the GOOS Steering Committee reports to both IOC and WMO governing bodies;

the Secretariat includes WMO-funded positions;

OceanOPS continues to be “funded and staffed under WMO”;

the Joint WMO-IOC Collaborative Board is co-chaired by both organisations;

and the ICG will “report directly to the IOC and WMO.” This concentration of governance in a bilateral IOC-WMO framework is significant because the reform proposal simultaneously appears to draw IOC’s data infrastructure (IODE, OBIS, ODIS) into GOOS governance (slide 20) - effectively giving a co-sponsored programme influence over programmes that IOC currently governs independently through its Assembly.

Change 5 (Empower the GOOS Secretariat) shows IODE as adjacent to the Secretariat structure (slide 19), but the nature of this relationship is undefined. The proposed ICG Officer position and its relationship to IODE requires clarification. We note insufficient attention to capacity development across the structural changes.

If you don't agree with the proposal - what is the alternative? Why?

The sponsorship consolidation should be accompanied by clear safeguards ensuring that IOC’s own programmes (IODE and its programme components OBIS, ODIS) remain under IOC Assembly governance and cannot be drawn into joint IOC-WMO decision-making without Assembly authorisation. In proposal documentation, the GOOS Secretariat’s relationship with IODE should be defined as one of coordination between peer programmes, not hierarchical reporting. The reform should acknowledge that IODE’s relationship with WMO is currently one of voluntary collaboration; structurally embedding IODE within GOOS governance would transform this into structural subordination within a jointly-governed system.

How do we make it work? What does the implementation look like? (including with respect to your component)

A formal governance impact assessment should be conducted before implementing structural changes that affect IOC programmes not under GOOS’s mandate. The GOOS Secretariat’s terms of reference should include explicit provisions respecting IODE’s independent governance. The OceanOPS model provides a useful precedent: WMO hosts OceanOPS, and OceanOPS provides services to GOOS. Similarly, IODE hosts OBIS/ODIS and they can provide services to GOOS without being governed by GOOS.

Proposed structural change: Infrastructure Coordination Group (ICG)
(slide 20)

What are your concerns regarding the reform proposal on the ICG?

The ICG proposal contains a fundamental ambiguity. Slide 20's recommended changes state that coordination capabilities "currently provided by OCG, OceanOPS, BioEco Panel and IODE will be merged into a single component." Yet the ICG composition shows merely an "IOC rep (IODE, OBIS, etc.)" as a participant. There is a lack of clarity in this statement, and one possible interpretation has raised concern. The difference between "merging" IODE into a GOOS component and having an IODE representative participate in a GOOS component is fundamental. This ambiguity must be resolved.

Even with only IODE representation in the ICG, there is a structural concern: GOOS is co-sponsored by IOC and WMO, while IODE is fully IOC-owned. With this structure, while recognising WMO's data needs from GOOS, we also need to ensure the needs of the IOC Data Architecture and the IOC's Member State's data needs are given equal voice. The ICG's proposed responsibility for "data-flow standards" and "data quality control" (moved from Panels, slide 14) risks conflicting with IODE's own well-established data standards frameworks, developed over decades and endorsed by the IOC Assembly.

The ICG proposal makes no reference to the IOC Data Architecture (Decision A-33/3.4.3) or the outcomes of the IODE-GOOS Data Workshop (October 2024), which established a clear collaborative schema with ODIS as the interoperability layer, OBIS and ERDDAP as data access services, and OceanOPS and the BioEco Portal as metadata sources. OBIS's role is insufficiently addressed. OBIS is the world's largest open-access ocean biodiversity database (170 million records), the ocean biodiversity authority within the UN system, a "super GDAC" for BioEco EOVs, and strategically positioned for the BBNJ CHM. As the BioEco Panel itself advocates, OBIS should be formally embedded as a core component for biological data coordination. ODIS's cross-cutting role serving the entire IOC data ecosystem can serve an essential, strategic linkage function for GOOS and smooth implementation of interoperability with other data architectures. ODIS representation on the ICG would be valuable, as a guiding expert voice and not as a subsidiary.

If you don't agree with the proposal - what is the alternative? Why?

The "merged into a single component" language must be corrected to clearly state that IODE coordinates with the ICG through representation, not merger. IODE's governance as an IOC programme body reporting to the IOC Assembly is not negotiable.

Instead of structural integration, we propose an "IODE-GOOS Data Coordination Committee" - a standing liaison mechanism that brings observation and data systems experts together regularly, shares workplans, aligns standards where appropriate, and ensures complementarity. This preserves IODE's governance independence and delivers much needed coordination. The IOC Data Architecture (Decision A-33/3.4.3) should serve as an overarching data systems framework. The ICG's data coordination pillar should implement the GOOS-relevant components of the IOC Data Architecture, and keenly avoid creating a parallel structure.

OBIS should operate under a dual-hat model: institutional home in IODE, operational service provider for GOOS. This is analogous to OceanOPS (hosted by WMO, serving GOOS). ODIS must remain an IOC-wide service with scope extending beyond GOOS, maintaining its role in the IOC Data Architecture and potentially, through working with OBIS, the BBNJ CHM.

How do we make it work? What does the implementation look like? (including with respect to your component)

- Immediate: Correct the language on slide 20 from “merged” to “coordinated through representation.”
- Short-term: Establish an IODE-GOOS Data Coordination Committee, building on the successful IODE-GOOS Data Workshop model (October 2024). A sub-group of the IOC Data Architecture Working Group, with programme component representation, may provide leadership from the IODE side.
- Medium-term: Formalise OBIS’s service relationship with GOOS through an explicit Agreement that specifies OBIS’s role as the biological data coordination service for GOOS while maintaining its institutional home within IODE.
- Standards: The ICG should adopt and implement data standards endorsed through the IOC Data Architecture process wherever possible, rather than developing parallel frameworks. IODE’s existing standards for oceanographic data management should be the starting point.
- Capacity development: The ICG should leverage IOC/IODE’s OceanTeacher Global Academy for training and capacity building activities.

**Proposed structural change: NFP role and interaction model
(slide 21)**

What are your concerns regarding the reform proposal on NFP role and interaction?

The proposed NFP model (slide 21) places the GOOS Secretariat as the coordination hub, with IODE Focal Points (NODCs and ADUs) shown in a subsidiary national coordination role, likely delivering advice or implementation of the data component. While coordination at national level between GOOS NFPs and IODE FPs is highly desirable, there is some concern that the proposed model could be interpreted in a way which gradually shifts national data coordination authority from IOC/IODE to the co-sponsored GOOS framework. IODE has its own established network of National Oceanographic Data Centres (NODCs) and Associate Data Units (ADUs) with defined mandates from the IOC Assembly. These are not subordinate to a GOOS-governed coordination structure. Clarity of roles is important - one function of an NODC will be to receive GOOS operational data; but NODCs and ADUs also do significantly more than manage GOOS data.

The NFP Advisory Group meeting composition includes an "IODE management group rep" which is welcome. The overall framework appears to position GOOS Secretariat above IODE in the national coordination hierarchy. Clarity of intent is necessary. The OCG response correctly notes that "the roles of IODE and WMO, who already have established national structures, remain unclear in this proposed model."

If you don't agree with the proposal - what is the alternative? Why?

National coordination should be an equal partnership between GOOS NFPs and IODE FPs (NODCs/ADUs), with neither subsidiary to the other. One brings expertise in observation, the other in data infrastructure.. The NFP model should explicitly acknowledge IODE's established national infrastructure and ensure it continues to operate under IOC/IODE governance. Coordination at national level could be facilitated through existing or new national ocean data committees that bring together all relevant focal points (GOOS, IODE, WMO, Tsunami) as equal partners - this also would strengthen IOC visibility and impact globally.

How do we make it work? What does the implementation look like? (including with respect to your component)

The NFP interaction model should be redesigned to show GOOS NFPs and IODE FPs as peer networks that coordinate rather than report through a single hub. The GOOS Secretariat's role should be to facilitate coordination between NFPs and IODE FPs. IODE's existing national infrastructure (NODCs, ADUs) should be explicitly recognised as the primary national contact points for ocean data management, with GOOS NFPs focusing on observation coordination and the relationship between national ocean data infrastructure and GOOS NFPs strengthened. Where countries wish to establish integrated national ocean observing committees, these should be encouraged to include both GOOS NFP and IODE FP representation.

**Proposed structural change: GOOS Regional Alliances
(slides 22-23)**

How do you see the future role of GRAs in GOOS?

It is important that the GRAs work closely with the IOC's regional sub-commissions (and their WMO equivalents) rather than operating in parallel.

How do we make it work? What does the implementation look like? (including with respect to your component)

IODE has a well-established network of regional cooperation through its NODCs, ADUs, and ODINs as regional programmes. GRAs and IODE regional structures serve complementary functions and should coordinate. The reform's acknowledgment that "GRAs role and position is still under revision" (slide 13) presents an opportunity to ensure the revised GRA model explicitly includes coordination with IODE regional infrastructure. Any restructuring of GRAs should consider how they interact with IOC Sub-Commissions and IODE regional networks, ensuring a coherent regional framework for both observing and data management.

**Governance
(slides 27 - 33)****What are your concerns regarding the proposed governance?**

The proposed governance model significantly strengthens the GOOS Steering Committee's authority while positioning it under joint IOC-WMO governance. This may create an asymmetry: IOC shares governance of GOOS with WMO. The reform simultaneously brings IOC's fully-owned programmes (IODE with OBIS, ODIS) into a shared governance framework. The governance model does not reference the IOC Data Architecture (Decision A-33/3.4.3) or acknowledge that the IOC Assembly has already established a framework for IOC's data ecosystem. The GOOS Conference (slide 29) includes "other IOC focal points (IODE, etc.)" - while welcome, this treats IODE as a stakeholder in GOOS rather than as a peer IOC programme. No governance provisions address the BBNJ CHM requirements, despite this new international legal framework may depend on OBIS and ODIS.

If you don't agree with the proposal - what is the alternative? Why?

The IOC Data Architecture Working Group should be recognised as the legitimate governance body for cross-programme data coordination within IOC, rather than the GOOS ICG assuming this role.

How do we make it work? What does the implementation look like? (including with respect to your component)

Include in the GOOS Steering Committee's terms of reference an explicit clause that it does not have governance authority over other IOC programmes. Establish a formal liaison arrangement between the GOOS SC and IODE, with reciprocal representation at governance meetings. Ensure the IOC Executive Secretary is briefed on the governance implications and that any structural changes affecting IOC programmes are submitted to the IOC Assembly for decision.

**Draft Implementation Plan
(slides 34 - 36)**

What are your concerns regarding the proposed implementation plan?

The implementation timeline (slides 34-36) includes “Evolution of OCG (incl. data architecture, expanded role, coordination)” spanning 2026-2028+, but makes no reference to the IOC Data Architecture Working Group’s parallel timeline (implementation plan and MVPs originally due for IOC EC-59, June 2026). These two processes - GOOS’s ICG implementation and the IOC Data Architecture Working Group’s deliverables - risk developing in parallel without coordination, creating competing data frameworks. The accountability matrix (slide 26) acknowledges the need for “mapping intersections with other IOC entities (e.g., IODE and related programs)”. The timeline does not account for the need to obtain IOC Assembly authorisation for any structural changes that affect IOC programmes outside GOOS’s mandate.

If you don't agree with the proposal - what is the alternative? Why?

The implementation plan should explicitly align with the IOC Data Architecture Working Group’s timeline and deliverables. Institutional mapping of intersections with IODE and other IOC programmes should be an early prerequisite (Phase 1). The plan should include milestones for IOC Assembly/Executive Council review and authorisation.

How do we make it work? What does the implementation look like? (including with respect to your component)

The following data-relevant components could be added in this order:

- Phase 1 (2026): Conduct institutional mapping of GOOS-IODE intersections. Align GOOS data coordination planning with IOC Data Architecture Working Group outputs.
- Phase 2 (2026-2027): Establish IODE-GOOS Data Coordination Committee as the operational coordination mechanism. Formalise OBIS service relationship with GOOS through MOU/Cooperation Agreement.
- Phase 3 (2027+): Submit any proposed structural changes affecting IOC programmes to IOC Assembly for decision. Implement coordination mechanisms as endorsed.
- Throughout: Ensure the IOC Data Architecture provides the overarching framework within which GOOS-specific data coordination is implemented.

Any additional considerations for the GOOS SC on GOOS reform?

Outcomes of the BBNJ PrepCom 3rd Session (23 March - 2 April 2026) may introduce potential new international obligations for OBIS and ODIS.

The IOC Data Architecture (Decision A-33/3.4.3) provides a ready-made framework for GOOS-IODE data coordination. The IODE-GOOS Data Workshop (October 2024, IOC Workshop Report 311) established a collaborative schema: ODIS as the interoperability layer, OBIS and ERDDAP as data access services, OceanOPS and the BioEco Portal as metadata sources. The reform should build on this agreed vision rather than creating parallel structures.

IODE welcomes enhanced coordination with GOOS and are committed to contributing constructively. We propose that the path forward is coordination, not integration: a structured liaison mechanism operating within the IOC Data Architecture framework that delivers coordination benefits while preserving the institutional independence that IOC, the IOC Data Architecture, and the BBNJ CHM all require.

We note that the BioEco Panel's response strongly supports OBIS's formal role in biological data coordination, and the OCG's response raises concerns about IODE's unclear position. We look forward to working with all GOOS components to develop a coordination model that serves everyone's interests.

Executive Summary and Framing

Concerns

Governance asymmetry

- The reform creates a de facto bilateral IOC-WMO governance structure while simultaneously drawing fully IOC-owned programmes (IODE, OBIS, ODIS) into that shared framework - effectively giving a co-sponsored programme influence over programmes that IOC currently governs independently through its Assembly
- IODE's relationship with WMO is currently one of voluntary collaboration; the proposed structure would transform this into structural subordination without IOC Assembly authorisation

Absent frameworks and obligations

- The IOC Data Architecture (Decision A-33/3.4.3) - the Assembly's own framework for IOC's entire data ecosystem - is not referenced anywhere in the reform documentation
- The BBNJ Clearing-House Mechanism, now in force and likely dependent on OBIS and ODIS infrastructure, is absent from the reform's scope and governance provisions
- The GOOS ICG implementation timeline and the IOC Data Architecture Working Group's deliverables risk running in parallel, creating competing data frameworks

Role ambiguity and misrepresentation

- The respective roles of GOOS and IODE are not clearly defined; the proposal conflates observation coordination with data management, and positions IODE as a GOOS stakeholder rather than a peer IOC programme

- Critical ambiguity in slide 20 - "merging" IODE into a GOOS component versus IODE representation within it - is unresolved and fundamental
- At national level, IODE Focal Points (NODCs/ADUs) are positioned as subsidiary to the GOOS Secretariat hub, despite holding independent mandates from the IOC Assembly

Underrecognition of existing capability

- OBIS - the world's largest open-access ocean biodiversity database and the UN system's ocean biodiversity authority - and ODIS's cross-cutting interoperability role are both significantly underaddressed
- The proposal does not build on the agreed IODE-GOOS collaborative model established at the October 2024 Data Workshop, nor on IODE's 65-year track record as the global ocean data system
- The IODE community was not consulted during the review process; capacity development for developing Member States is insufficiently addressed throughout

Alternative

Establish clear, equal roles

- Define GOOS and IODE as peer programmes with distinct, complementary mandates: GOOS coordinates observation; IODE delivers the global ocean data system - neither subordinate to the other at any scale (global, regional, or national)
- IODE's relationship with the GOOS Secretariat, the ICG, and national coordination structures should be explicitly defined as peer coordination in all reform documentation

Anchor all data reform in existing frameworks

- All data-related aspects of the reform must be developed within - not parallel to - the IOC Data Architecture endorsed by Decision A-33/3.4.3
- The IOC Data Architecture Working Group is the legitimate governance body for cross-programme data coordination; the ICG should implement GOOS-relevant components of that architecture, not create a parallel structure
- The October 2024 IODE-GOOS Data Workshop collaborative schema (ODIS as interoperability layer; OBIS and ERDDAP as data access services; OceanOPS and BioEco Portal as metadata sources) should be the foundation, not replaced

Protect IOC programme independence

- Explicit safeguards must ensure IOC's own programmes cannot be drawn into joint IOC-WMO governance without IOC Assembly authorisation
- The OceanOPS model is the appropriate precedent: hosted by WMO, serving GOOS - IODE, OBIS, and ODIS can provide services to GOOS on the same basis, without being governed by it
- OBIS should operate on a dual-hat model: institutional home in IODE, operational service provider for GOOS

Implementation

Immediate

- Correct slide 20 language from "merged" to "coordinated through representation"

- Brief the IOC Executive Secretary on governance implications; confirm that any structural changes affecting IOC programmes require IOC Assembly authorisation

Phase 1 - 2026 (prerequisites before structural decisions)

- Conduct institutional mapping of GOOS-IODE intersections as a prerequisite, not a follow-on exercise
- Align GOOS data coordination planning with IOC Data Architecture Working Group deliverables
- Complete a BBNJ CHM impact assessment before any structural changes affecting OBIS and ODIS

Phase 2 - 2026–2027

- Establish an IODE-GOOS Data Coordination Committee as the standing operational coordination mechanism, building on the October 2024 workshop model
- Formalise OBIS's service relationship with GOOS through a cooperation agreement specifying its role as biological data coordination service while maintaining its institutional home in IODE
- Redesign the NFP interaction model to show GOOS NFPs and IODE FPs as peer networks; encourage integrated national ocean data committees with equal representation

Phase 3 - 2027 and beyond

- Submit any proposed structural changes affecting IOC programmes to the IOC Assembly for decision
- Implement endorsed coordination mechanisms within the overarching IOC Data Architecture framework

Throughout

- ICG should adopt IOC-endorsed data standards as the starting point, not develop parallel frameworks
- Leverage OceanTeacher Global Academy for all capacity development needs across GOOS and IODE
- Maintain ODIS as an IOC-wide service with scope extending beyond GOOS, preserving its potential role in the BBNJ CHM

Unique and critical global role of IODE

IODE is the one pre-eminent global network of full-time, professional experts in oceanographic data and information management, and it has a global mandate to deliver ocean data systems for the benefit of humanity, effectively delivering in this role for the last 65 years.

IODE has traditionally had a relatively low profile, which can be seen as a strength (we quietly get things done) or as a gap in delivery of our function (we are not seen, and the work we do is not always well described). As a result, NODCs can be under-resourced and under-influential in their own countries. IODE has great strength in training and capacity development and that strength needs to be more visible. Most importantly, IODE needs to engage with GOOS prominently, and focus on greater impact for GOOS and recognition and realisation of IODE value.

Ocean science at most scales depends on decades of data maintained by numerous agencies, shared openly, which is not possible without stewardship across decades. In an age of AI, continuity of systems is not a luxury, it is a prerequisite.

Janice Lachance (Executive Director and CEO of AGU) has said that recently that *...We have grown accustomed to data simply "being there", however, data repositories and networks are sustained only by the largely invisible work of dedicated stewards. Threats to data infrastructure are not merely administrative or budgetary - they are threats to humanity.*

The Secretary General and CEO of the Research Data Alliance (RDA), Hilary Hanahoe, has recently warned that when data systems are disrupted, irreplaceable environmental data is fragmented, siloed, and becomes dependent on the next grant cycle. She has said that what's needed is not another platform or a new system, but synchronisation of what exists already.

Within IOC we have a stable, globally trusted and time tested system of data repositories that can underpin and support a data architecture for the future.

IODE partnership to deliver in the GOOS reform proposal

The role of IODE is not recognised well in the GOOS reform proposal. This may be due to the relatively low profile of the IODE and our NODCs and ADUs - and if so, this is reflected in a structural gap in how the GOOS reform has been conceived.

The proposed reform requires clarity of the roles and mandates for GOOS and IODE. For example, it could be described as (straw dog only):

- GOOS (observing system): identify research and policy needs; identify information gaps; determine observation methods; coordinate observing programs; support the GOOS community
- IODE (data system): prescribe interoperability data formats and structures; build data systems; implement data and metadata standards; ensure accessibility; deliver the global ocean data system

IODE would like to open discussion about what it would mean to support GOOS better, and to help GOOS members understand what IODE does. Our communications with GOOS and with WMO and JCB can be a future point of focus.

We are at an inflection point in data accessibility and use, and what we deliver today will shape global data infrastructure for the next 20, 50 or 100 years.