



Global Ocean Observing System



Intergovernmental  
Oceanographic  
Commission



WORLD  
METEOROLOGICAL  
ORGANIZATION



International  
Science Council

# GOOS Reform

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Accenture Development Partnerships

# Global Ocean Observing System

Mission, scope, structure

**accenture**

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# This reform provides a framework for the future evolution of the Global Ocean Observing System (GOOS)

## Why did we embark on this reform process?

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- Member States have **binding commitments** under **international frameworks and conventions** (UNFCCC, CBD, BBNJ, etc.) requiring data and information for decision making dependent on a globally integrated ocean observing system
- Fulfilling these commitments requires more than infrastructure and data sharing – it requires **active involvement** in setting **priorities, governance, and investment** strategies
- Global Ocean Observing System (GOOS) is designed to help Member States meet these obligations through **active coordination of the global system of ocean observations**, but currently **faces challenges** like fragmented governance, unclear roles, weak national integration, and administrative burdens that limit its effectiveness
- Recognizing these challenges, IOC Member States have invited the IOC Executive Secretary in IOC Decision EC-57/4.1 and IOC Decision A-32/4.8.1 to **evolve GOOS governance and structure**, in consultation with the GOOS Steering Committee, representatives from Member States, and GOOS sponsors

## What are the intended outcomes of GOOS reform?

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- **Streamlined governance and reporting structure** with clarity on roles and responsibilities and enhanced accountability mechanisms
- **Elevated Member States' influence** in driving ocean observations agenda, ensuring priorities for ocean observations reflect both **suppliers and end-users needs**
- **Strengthened national coordination** by empowering National Focal Points (NFPs) and fostering inter-agency collaboration within countries
- **Improved efficiency and interoperability** in network coordination and data management
- **Fit-for-purpose structure** with capabilities that facilitate long-term resource mobilization

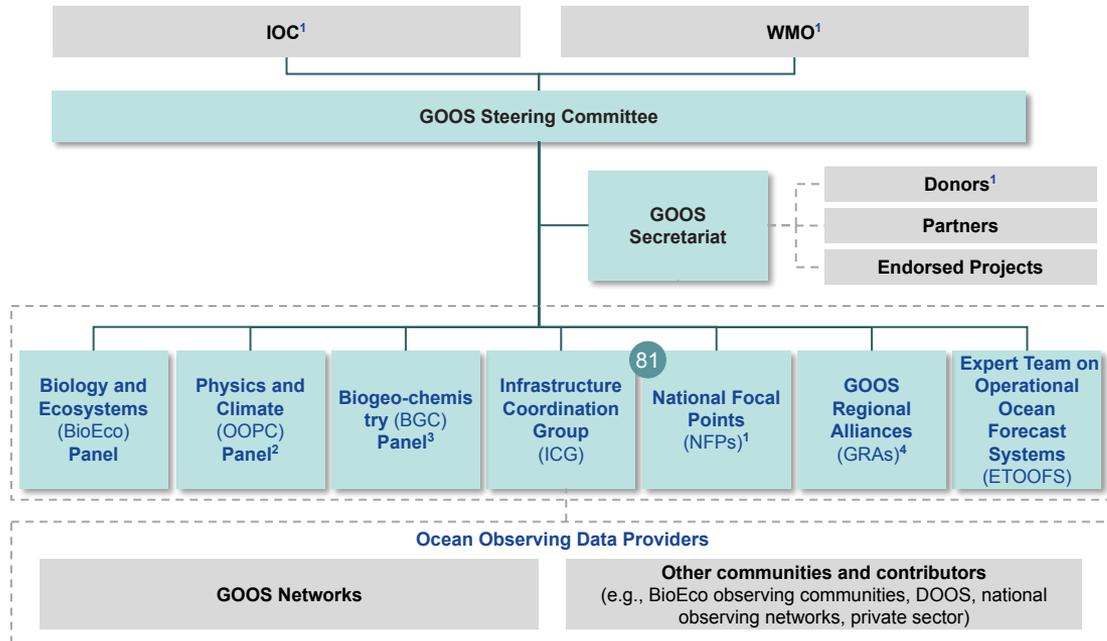


# The proposal for GOOS reform on a page

	<b>Mission</b> To enable and evolve a globally integrated, responsive, and resilient ocean observing system for thriving communities and a healthy ocean										
 <b>Value Proposition</b>	<p>We enable and evolve a globally integrated, responsive, and resilient ocean observing system for:</p> <ul style="list-style-type: none"> <li><b>Member States</b> to strengthen <b>marine ecosystems, ocean economy, national resilience, and maritime security</b> through data-driven decisions and policy-relevant observations</li> <li><b>Ocean Observing Data Providers</b> to advance <b>groundbreaking research</b> and relevant <b>operational ocean science</b></li> <li><b>Ocean Observing Data Users</b> to fuel <b>innovation</b>, support disaster risk reduction, and support thriving marine ecosystems and ocean economies via smarter, <b>data-driven decisions</b></li> </ul>										
 <b>Structure</b>	<p>The following key changes are recommended to optimize how GOOS will be operating going forward:</p> <ol style="list-style-type: none"> <li><b>Streamline GOOS reporting structure and refresh component responsibilities</b></li> <li><b>Consolidate sponsorship under the IOC and WMO</b> based on existing contributions and distinguish sponsor, donor, and partner roles</li> <li><b>Enhance resource mobilization through the Donor Coordination Group</b> to convene funders, foster alignment, and drive investment for GOOS</li> <li><b>Elevate the GOOS Steering Committee's function</b> through stronger strategic oversight, targeted skillsets, and longer terms</li> <li><b>Empower the GOOS Secretariat</b> to have clear identity to support the system</li> <li><b>Introduce the Infrastructure Coordination Group (ICG)</b> as an OCG with broadened mandate to centralize the coordination of GOOS networks and other observing communities</li> <li><b>Strengthen NFP's role and interaction model</b> to further enable Member States participation, national coordination, and integration with GOOS standards</li> </ol>										
 <b>Accountability mechanism</b>	<table border="1"> <thead> <tr> <th data-bbox="291 784 432 860"><b>Objective</b></th> <th data-bbox="432 784 788 860">Enable ocean observing system</th> <th data-bbox="788 784 1147 860">Evolve globally integrated ocean observing system</th> <th data-bbox="1147 784 1514 860">Be responsive to Member States, suppliers of ocean observation data, and users</th> <th data-bbox="1514 784 1887 860">Ensure resilience of the global ocean observing system</th> </tr> </thead> <tbody> <tr> <td data-bbox="291 860 432 947"><b>Key result</b></td> <td data-bbox="432 860 788 947">% observing systems with interoperable EOV dataflows</td> <td data-bbox="788 860 1147 947"># of Member States contributing to and sharing data from GOOS Networks</td> <td data-bbox="1147 860 1514 947"># of co-developed initiatives or products with stakeholders</td> <td data-bbox="1514 860 1887 947">% increase in GOOS funding and commitments</td> </tr> </tbody> </table>	<b>Objective</b>	Enable ocean observing system	Evolve globally integrated ocean observing system	Be responsive to Member States, suppliers of ocean observation data, and users	Ensure resilience of the global ocean observing system	<b>Key result</b>	% observing systems with interoperable EOV dataflows	# of Member States contributing to and sharing data from GOOS Networks	# of co-developed initiatives or products with stakeholders	% increase in GOOS funding and commitments
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<b>Governance</b>	<p><b>New governance meetings to be introduced:</b> 1) Donor Coordination Group to strengthen resource mobilization, 2) NFP Advisory Group with IODE representatives to improve data exchange linkages, 3) GOOS Conference and joint Panel Meeting to strengthen cross-component coordination</p> <p><b>Existing governance meetings to be clarified and strengthened</b> e.g., Executive Committee to start exploring innovative ideas, standardized governance across Expert Panels</p>										

# Streamlining reporting lines will promote greater integration and accountability across GOOS components (1/3)

## Proposed GOOS reporting structure



## Recommended changes

- The GOOS Steering Committee will be reporting to the IOC Governing Bodies (Assembly, Executive Council) and WMO Governing Bodies (Congress, INFCOM)
- All other GOOS components will report to the GOOS Steering Committee, ensuring clarity, stronger oversight and alignment
  - The GOOS Secretariat (formally known as the GOOS Project Office and GOOS Office in Paris) will be formalized as a standalone component and coordinate with donors, partners and endorsed projects
  - Expert Panels will continue to have double reporting
  - Ocean observing data providers will be coordinated through a single integrated component, the Infrastructure Coordination Group (ICG), that combines the coordination capabilities of OCG, OceanOPS, the BioEco Panel and IODE (see slide #20)
  - There will be a strengthened two-way interaction model with NFPs (see slide #21)
  - GRAs role and position is still under revision and therefore is not detailed out in this proposal
- The clarified structure will enable opportunities for the needed outsourcing/in-kind support by Member States for GOOS components
- Components will be assigned a defined set of targets to ensure system-wide accountability (see slide #26)
- The clarified reporting lines and accountability mechanism will require an increased governance role of the GOOS Steering Committee (see slide #18)

1) Member States are represented in the GOOS structure via IOC and WMO Governing Bodies, NFPs, and Donors

2) Additionally reports to the WCRP Joint Scientific Committee

3) Additionally reports to the ISC SCOR

4) GRAs role and position is still under revision and therefore is not detailed out in this proposal, options are included in the appendix

Note: GOOS components are organized in the diagram by following the value chain view



# Number of NFPs

GOOS component

External contributor

— Oversight  
 --- Coordination

## To drive system-wide performance and ensure accountability, it is proposed that components report on four results of the revised mission

Objective	Enable ocean observing system	Evolve globally integrated ocean observing system	Be responsive to Member States, suppliers of ocean observation data, and users			Ensure resilience of the global ocean observing system
	Key result	% observing systems with interoperable EOY dataflows	# of Member States contributing to and sharing data from ocean observing networks	# of co-developed initiatives or products with stakeholders		% increase in GOOS funding and commitments
			Member States	Ocean Observing Data Providers	Ocean Observing Data Users	
<b>GOOS Secretariat</b>			☑			☑
<b>Expert Panels</b>				☑	☑	
<b>ICG</b>	☑	☑		☑		☑
<b>Ocean observing data providers</b>	☑			☑	☑	
<b>NFPs<sup>1</sup></b>			☑			☑
<b>ETOOFS</b>				☑	☑	

Note: These key results require structured consultations to determine how each GOOS component will contribute to achieving the objectives, while also mapping intersections with other IOC entities (e.g., IODE and related programs)

### Recommended changes

- All GOOS components will be assigned a defined set of targets that directly align with the GOOS revised mission
- These targets will serve as measurable indicators of each component's contribution to system-wide goals and will be shared with the GOOS Steering Committee on annual basis via the annual reporting process
  - NFPs will be expected to submit regular reports to the GOOS Secretariat which will consolidate and synthesize to inform strategic decision-making (see slide #21)
  - ICG will submit joint report based on input from ocean observing data providers
  - GOOS Secretariat targets will be aligned with IOC medium-term strategy



# Structural and organizational differences across GRAs contributes to uneven engagement

#	GRA	Structure	Type	Member States/Institutions	Overlapping countries (non-exhaustive)	Corresponding IOC Sub-Commission	IOC Electoral Groups	Ocean-Basin/Region
1	GOOS Africa	IOC Sub-Commissions	Political Consortium	36 Member States	Kenya, Tanzania, South Africa	<b>IOCAFRIKA</b>	V	Atlantic (West Africa)/ Indian (East Africa)
2	OCEATLAN	Inter-governmental	Thematic	Argentina, Brazil & Uruguay and 15 institutions	Brazil	<b>IOCARIBE</b>	III	Tropical Atlantic
3	IOCARIBE-GOOS	IOC Sub-Commissions	SIDS	30 Member States	Brazil, Colombia, USA		I, III	Caribbean Sea & Adjacent Atlantic
4	GRASP	Inter-governmental	Political Consortium	Chile, Colombia, Ecuador, Peru and 12 institutions	Colombia		III	South East Pacific
5	IOGOOS	Government, NGOs, Institutions	Basins and Regions	17 Member States and 29 organizations and institutions	Australia, Indonesia, Kenya, Tanzania, South Africa	<b>IOCINDIO</b>	I, IV, V	Indian Ocean
6	NEAR-GOOS	Inter-governmental	Thematic	China, Japan, Korea, Russia	China, Japan, Korea, Russia	<b>WESTPAC</b>	II, IV	Northwest Pacific
7	PI-GOOS	Government, NGOs, Institutions	SIDS	22 Pacific Island Countries and Territories & 5 Metropolitan Members	Australia, France, UK, USA		I, IV	South Pacific
8	SEAGOOS	IOC Sub-Commissions	Political Consortium	21 Member States of WESTPAC	Australia, China, Indonesia, Japan, Korea, Russia		II, IV	Southeast Asian Seas
9	U.S. IOOS	National Marine Agencies	National Systems	United States		[United States]	I	North Atlantic/Pacific/ Arctic
10	CIOOS	National Marine Agencies	National Systems	Canada		[Canada]	I	North Atlantic/North Pacific/Arctic
11	IMOS	National Marine Agencies	National Systems	Australia		[Australia]	IV	Indian/South Pacific
12	Black Sea GOOS	Inter-governmental	Basins and Regions	Bulgaria, Georgia, Romania, Russia, Türkiye, Ukraine	Türkiye, Russia	[Redacted]	I, II	Black Sea
13	EuroGOOS	Government, NGOs, Institutions	Political Consortium	19 European Member States and ~48 members	Cyprus Island, France, Spain, Portugal, UK	[Redacted]	I, II	North Atlantic /Mediterranean Sea/Baltic Sea/Arctic
14	MonGOOS	Government, NGOs, Institutions	Basins and Regions	14 Member States and 48 partners	Cyprus Island, France, Spain, Portugal, Türkiye	[Redacted]	I, II, V	Mediterranean Sea



# TOR and Principles

IOC/INF-1308, Paris, 28 May 2013

GOOS REGIONAL Policy 2013

Uphold **GOOS Principles (1998, GOOS-41)**<sup>4</sup> and implement a **Framework for Ocean Observing** (IOC/INF-1284 rev.)<sup>7</sup>.

Serve as a **platform for coordination and facilitation** of:

- the identification of regional sustained observing **requirements** for societal benefit areas,
- transboundary **observing networks**, and their link to global GOOS/Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) networks including those identified in GOOS implementation plans by the GOOS Steering Committee and its disciplinary panels,
- real-time and archived **data streams**, from in situ and relevant satellite observations, and their link to regional and global networks (e.g. International Oceanographic Data and Information Exchange IODE, Carbon Dioxide Information and Analysis Center CDIAC, the World Data Centers system, and the WMO Information System WIS),
- the timely, free, and **unrestricted access** to data collected by the GRAs, as stated in Resolution XXII-6, IOC Oceanographic Data Exchange Policy<sup>8</sup>, To achieve this, GRAs may develop and adopt their own international legal instruments in support of their regional data exchange policies, as appropriate.
- information products and model output for the region that provide societal benefit, and their links to global and other international efforts (e.g. GODAE OceanView, JCOMM), and
- **assessment** of regional **readiness and capacity** in each of the areas above, and the overall **performance** of the system in providing users with fit-for-purpose data and information products.

# TOR and Principles

IOC/INF-1308, Paris, 28 May 2013

Promote/manage programmes on **developing regional capacity**:

- Through **sharing** of experience, success stories, best practices,
  - **Institutional capacity**: seeking sources of national and international financing, as part of end to end systems, developing win-win partnerships for technology transfer, working with existing GOOS, JCOMM, and IODE capacity-building programmes, and
  - **Human capacity**: scholarships, exchanges, technical skills workshops, programmes/workshops to develop leadership and grant-writing skills.
- **Encourage the development** of Regional and National Ocean Observing Systems by:
- **Promoting the visibility and value** and recognition of the services provided by ocean observing systems with governmental agencies and private companies and encourage integration at national, regional and global levels,
  - **Advancing the scientific and technological developments** upon which services depend,
  - Identifying gaps at regional and national level for ocean observations; and
  - Encouraging and coordinating **participation** in international initiatives **considered of interest** by the GRA.



### The Design Principles

- D1 GOOS is based on a plan designed to meet defined objectives on the basis of user needs.
- D2 The design assumes that contributions to GOOS are long-term and systematic.
- D3 The design will be reviewed regularly.
- D4 The design allows for flexibility of technique.
- D5 GOOS is directed towards global problems and/or those ubiquitous problems benefiting from global observing systems.
- D6 The design covers the range from data capture to end products and services.
- D7 The management, processing and distribution of data will follow a specified data policy.
- D8 The design takes into account the existence of systems outside GOOS that can contribute to and/or benefit from GOOS.
- D9 The plan takes into account quality assurance procedures.

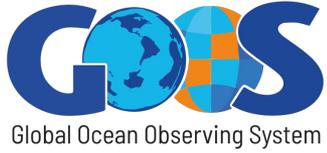
### The Principles of Involvement

- P1 To GOOS will be compliant with plans developed and agreed on the basis of the above design Principles.
- P2 Contributions will be compliant with a defined GOOS data policy
- P3 Contributions should reflect an intent for sustained observations.
- P4 Standards of quality will apply to GOOS contributions.
- P5 Implementation will be effected using existing national and international systems and organisations where appropriate.
- P6 Implementation will be incremental and progressive, whilst bearing in mind the long term goals.
- P7 Participation in GOOS implies an undertaking to help less-developed countries to participate and benefit.
- P8 Participants will have full autonomy in the management of their contributions to GOOS.
- P9 Contributing nations and organisations will reserve the right to determine and limit their contributions to GOOS.
- P10 Use of the GOOS 'label' implies conformity with the relevant principles of GOOS.

**Modular Concept:** As a basis for organisation and for ease of planning, GOOS has initially been defined in terms of five 'Modules' representing categories of perceived user interest:

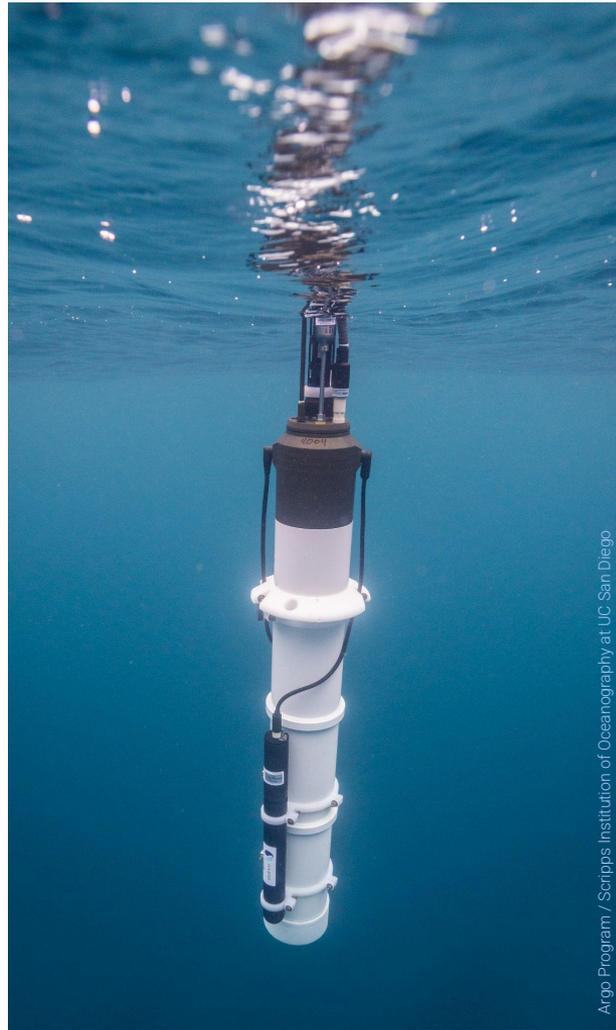
- (i) Climate monitoring, assessment and prediction (the Climate Module);
- (ii) Monitoring and assessment of marine living





# Thank you

[goosocean.org](http://goosocean.org)



Argo Program / Scripps Institution of Oceanography at UC San Diego