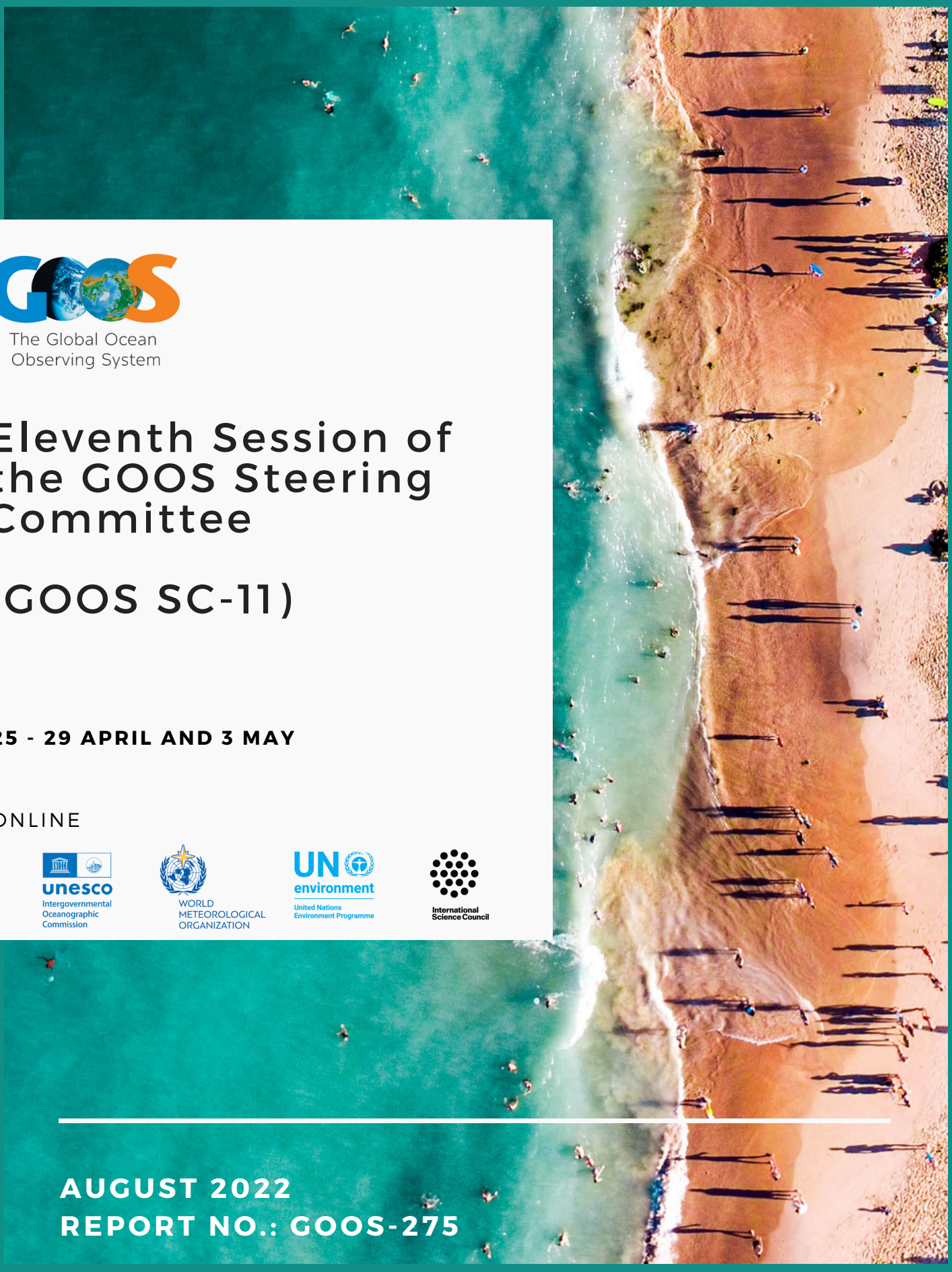
MEETING REPORT



The Global Ocean Observing System

Eleventh Session of the GOOS Steering Committee

(GOOS SC-11)

25 - 29 APRIL AND 3 MAY

ONLINE

unesco Intergovernmental Oceanographic Commission

WORLD METEOROLOGICAL ORGANIZATION

UN environment United Nations Environment Programme

International Science Council

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Executive Summary

The meeting was held online from 25 - 29 April 2022 with a follow up online meeting on 3 May to review decisions.

The GOOS SC discussed some key elements for evolving and strengthening GOOS, including Governance, cross-GOOS data actions, and a GOOS Communications Plan.

The GOOS SC discussed the scope of what should be 'governed' under GOOS and reached consensus on a starting point for this 'scope' for an Evolve GOOS Governance Task Team to be convened late 2022. The scope is *for a Global Ocean Observing System (GOOS). The System is focused on ocean observations, data and metadata flow - that is managed by observers - and the strategic coordination of operational ocean forecasting systems, from requirement setting and the taking of observations, to delivery of data to data management systems, and the regular assessment of the observing system against requirements. The scope includes maintaining, growing and developing the appropriate connections to enable a fully integrated and sustained ocean observing system, at national, regional, and global scales, as envisioned in the Global Ocean Observing System 2030 Strategy*.

It was acknowledged that with the critical role of **data** in the GOOS 2030 Strategy (Strategic Objective 7) and number of data activities within GOOS reaching critical mass, a review of cross-GOOS actions and connection to data management coordination bodies is necessary. The steering committee was briefed on the current status, activities and potential future plans for the following data areas: Observation Coordination Group (OCG) data mapping and data strategy implementation, BioEco Panel/IODE OBIS Data planning, BGC Panel data issues and products, and the IODE Ocean Decade Data Conference and the work of Ocean Decade Data Coordination Group and Data Coordination Center. A decision was made to initiate an informal cross-GOOS data forum. A more formal task team on data will only be realized as resources are secured.

The outline of the **GOOS Communication Plan** was shared with the GOOS SC. This work has been undertaken by Wolf & Player, an external communications consultancy, commissioned by GOOS. The plan contains a strong element of positioning, as it aims to clarify and strengthen GOOS communications to both the users of ocean information and the implementers of ocean observing networks, systems, forecasting, etc. under GOOS. GOOS supports and provides value to both of these groups. The Communications Plan also strongly recommended that GOOS consider its branding.

GOOS SC also reviewed the results of work undertaken by GG+A, a consultancy with expertise in fundraising in the philanthropic sector. This provided a messaging platform about GOOS's work around solving issues in climate, ocean health and social justice, as well as clear

reasoning as to why support from the philanthropic sector is sought. The GOOS SC supported further work in raising funds from the philanthropic sector.

There were **"quickfire" reports** from across GOOS on progress in several key actions, including; a GOOS EOV paper, Ocean Indicators, University of New Mexico-OECD-GOOS Paper on valuing ocean observations, Coastal Observations - CLIVAR / GOOS Workshop, the Ocean Observing Co-Design Workshop, and development of an Integrated Marine Debris Observing System (IMDOS).

A **Decade Coordination Office (DCO) for Ocean Observing** proposal was put forward. After weighing the benefits and concerns of this endeavor the GOOS SC supported the creation of this DCO, noting that: it should report to the GOOS Office, to avoid duplication of coordination efforts; it should coordinate intersections between GOOS and Ocean Decade to aid the work of both and leave a practical legacy; funding and administrative support would be necessary.

A final session discussed what the SC saw as **priorities for the 2022-2023 intersessional period**, with the following areas highlighted; fundraising, GOOS governance, communications planning, regional policy/systems, GOOS National Focal Points, and work in the Ocean Decade. In addition, having a stronger presence at COP 27, EOV Paper, data, and capacity development.

1. Opening

Presentations:
SC-11 Opening
Introduction of new Steering Committee member

The GOOS co-chairs, Anya Waite and Toste Tanhua, opened the Eleventh GOOS Steering Committee (GOOS SC-11), reflecting on progress achieved over the last year and presenting the key elements for consideration during GOOS SC-11 and expected feedback from the group. They suggested that the GOOS Steering Committee (GOOs SC) could undertake some focused intersessional work to further advance some of the items.

The GOOS co-chairs introduced the new GOOS SC member, Dr Suzan El-Gharabawy, from Egypt, vice president of Region V IOCAFRICA. Dr El-Gharabawy, who is affiliated with the National Institute of Oceanography and Fisheries, briefly described her background and activities in her institution, and invited the GOOS SC to participate in the next Conference Africa Ocean Conference.[1]

2. Governance Process Task Team Report

The GOOS co-chairs presented the report from the GOOS Governance Process Task Team. The Governance Process Task Team met twice and held intense discussions on the process, membership, and scope of a future task team to evolve the governance of GOOS, taking into

[1] www.africanocean-iocegypt2022.com

consideration the recommendations made in the April 2021 *Report of study on Support Provided to Global and Regional Ocean Observing Systems*.

Discussion:

Members of the current Governance Process Task Team who were also participating in the meeting acknowledged the complexity of the discussions. Two visions arose from the discussions by GOOS SC:

1. On the one hand, it was recognized that the GOOS Strategy 2030 had a vision that encompassed the whole value chain (from the taking of observations to the delivery of data), and that GOOS is already engaged in working towards a functioning whole value chain. There were comments that GOOS must be inclusive and that there was also an interest in being ambitious.

2. On the other hand, GOOS SC members stated that GOOS's "core business" is clear: it must provide the fundamental framework, advocacy, supporting infrastructure, leadership, and authoritative guidance that will help provide focus and enable national investment to improve the ocean observing system as a whole, and support the development of an integrated system. GOOS can support, but cannot govern where nations will make their investment.

Some considerations were put forward and could help conciliate both visions:

- This dual perspective needs to be acknowledged and considering the whole value chain does not imply that GOOS should be necessarily leading the whole process.

- GOOS governance can become looser as we move beyond the "core business" area. Recommendations on design may be just recommendations, but other things may require adherence to certain standards.

- Consider the governance needed to ensure a good performance of the core central piece, and map the partnerships and linkages that need to be established when moving along the value chain.

Further, the GOOS SC provided some suggestions for the work of the next Task Team to Evolve GOOS Governance:

- Consider the functional focus/foci for GOOS. It might be helpful to complement the scope description with clear statements of the key GOOS functions/delivery areas.

- Be aware of the new layer of coordination that derives from the Decade Coordination Office (see Session 3).

- Previous experiences (WMO/GBON and WMO/WIS) suggest that simpler structures are more feasible. Examples of this approach where the programme focuses on one part of the

value chain but engages with the whole value chain through partnerships can be found in GCOS and WMO/GFCS.

- GRAs could provide some balance between coordination and integration if properly supported. A sub-task team on regional coordination should also be established within the governance task team.

Decision 1: Evolve GOOS Governance Task Team

Background
The GOOS SC discussed the scope of what should be 'governed' under GOOS. The aim of the discussion was to reach consensus on a starting point for this 'scope' for an Evolve GOOS Governance Task Team to provide to the Governance Process Task Team, so that they can conclude their work. The meeting report can be referenced for the main points raised in the discussion and consensus reached. After reflection from the GOOS co-chairs the following decision was proposed and accepted.

Decision

The GOOS SC provides the following recommendations to the Governance Process Task Team regarding the scope of what should be 'governed' under GOOS governance (hereafter referred to as 'the scope'), to act as a starting point for an Evolve GOOS Governance Task Team:

1. The scope is for a Global Ocean Observing System (GOOS). The scope of the System is focused on ocean observations, data and metadata flow - that is mainly managed by observers, and the strategic coordination of operational ocean forecasting systems, from requirement setting and the taking of observations, to delivery of data to data management systems, and the regular assessment of the observing system against requirements. The scope includes maintaining, growing and developing the appropriate connections to enable a fully integrated and sustained ocean observing system, at national, regional, and global scales, as envisioned in the Global Ocean Observing System 2030 Strategy. This could include connection to end users and other partners in the 'value chain'* for co-design, assessment, and evolution of a fit for purpose ocean observing system. The ultimate goal is to serve users across climate, weather and hazard warnings, and ocean health, increasingly with a focus on coastal areas and regional seas.
2. The Governance Process TT should conclude its work and report back to the GOOS SC by end September 2022, refer to decision GOOS SC-10-1.
3. Sub-tasks include: GOOS Regional Policy, GOOS Structure, which will transfer to the Evolve GOOS Governance Task Team.

The Evolve GOOS Governance Task Team can use the scope, outlined above, as a starting point, but are free to reassess this scope in light of discussions with stakeholders and partners.

* from execution of observations, through forecasting, assessment, and data management, to service and product delivery to users

3. Proposal for a Decade Coordination Office for Ocean Observing

The proposal for a Decade Coordination Office (DCO) for Ocean Observing was presented by Emma Heslop and Louis Demargne / Session 1 and Terry McConnell / Session 2 [who supported the development of the proposal from the Decade Coordination Office]. An outline was presented for how this DCO would work as a sub-unit of the Decade Coordination Unit (DCU), focusing on ocean observing coordination to support Decade Challenge 7. The proposal has been informed by the experts within the Ocean Decade's Data Coordination Group.

Presentation(s): *Decade Coordination Office for Ocean Observing*
Document(s): *Ocean Observing DCO Proposal*

Discussion focused around a number of key considerations:

The DCO for Ocean Observing will need external investment. There is no existing funding available via the DCU. Potential funding sources may come through Member States and philanthropy, through investment and/or in-kind support. GOOS should be aware of engendering competition with other GOOS funding needs and the DCO should be developed with a view to lifting ocean observing and GOOS in a sustainable way through the Decade. The funding request should reflect both the needs for the DCO as a sub-unit of the DCU as well as what GOOS needs to integrate the transformative changes of the Decade. For the DCO set-up there should be clear go / no-go points defined, if funding isn't secured by a certain point then the continued investment of resources in this development should be reconsidered. This will also be important to manage expectations from other Decade actions.

The DCO structure should be aligned to add value to GOOS and help to adapt to new challenges, rather than creating a new structure. The DCO should be closely connected to GOOS, reporting to the GOOS Office and Steering Committee would be critical for alignment. The need for cross-GOOS coordination for data management could come under the DCO activities.

The Task Team on Evolution of GOOS governance may need to consider the DCO and the breadth of its activities as part of a future GOOS model.

Decision 2: DCO Ocean Observing

Background: There are differences in the environment base between the ocean observing, data and operational ocean forecasting DCO/DCC; there is not currently a coordination center for operational ocean forecasting (the DCC could potentially take this role and last beyond the Decade creating a GOOFS(!)); in the data environment there are many players and creating an overarching strategy and coordination is useful for all these entities; for ocean observations GOOS is the main player and has coordination structures and infrastructure that encompasses much of the sustained ocean observing system, not all, but much. Many of the Decade projects come from GOOS elements, e.g. GO-SHIP, One Argo, Odyssey, they exist and interact within GOOS already, they are looking for funding within the Ocean Decade and existing funding sources, they need specific support in seeking funding, making connections with other actions and challenges within the Ocean Decade, etc., but it would make no sense for them be 'managed' elsewhere, creating duplicate systems.

Benefits:

- Platform to leverage visibility of the ocean observing within the Decade.
- Support to the community in facing the tsunami of additional connections that need to be made and maintained between the different actions in the Decade.
- A method to identify and leverage innovation in ocean observing into the Global Ocean Observing System.
- Support for actions and actors beyond the GOOS community that are contributing to ocean observing and ensuring that they are supported and appropriately connected to support data flow to users.

Concerns

- Confusion: GOOS is the main, global center for coordination of ocean observations. This would be another coordination center, meaning a need to be careful of overlap, duplication, and confusion.
- Potential to increase complexity of coordination in the GOOS community.
- Competition with GOOS for funding.
- Proposal does not identify a role or line of work that will lift and aid the system over the Decade.
- Potential to perpetuate silos.

Decision

The GOOS SC supports the development of a GOOS Decade Coordination Office (DCO) for Ocean Observing, noting the benefits and concerns with the DCO role as

currently described, and provides the following recommendations to be considered in order to revise the role of the DCO and its connections to GOOS:

1. The DCO should be embedded within the GOOS Office to ensure a non-duplicative coordination role. The DCO will take on integrative work across GOOS and the Ocean Decade actions with a focus on Challenge 7 (see 2, below) to ensure close connection and non-duplication of existing work. It will report to the GOOS Office, as with other GOOS Components, and report to the GOOS SC and DCU on major decisions regarding funding, scope and direction, and to report on progress, similar to other GOOS Components.
2. Coordinate intersections of the Ocean Decade and GOOS activities leading to an improved ocean observing system and legacy of Ocean Decade actions. Including, coordination of identified transformational tasks/functions that will improve the global ocean observing system, lift GOOS and the Ocean Decade, and leave a practical legacy for the work of the DCO, including:
    a. Supporting a cross-GOOS Data Team (see SC-11 Decision 3): working closely with GOOS components, the DCO Ocean Data, and relevant Ocean Decade actions, this cross-GOOS data team will aid GOOS and the Ocean Decade to support frictionless data flow within the global ocean observing system. This cross-GOOS Data Team will develop a policy and implementation strategy, in close collaboration also with the Decade Coordination Office for Ocean Data (proposed by IODE) and DCU coordinated groups leading the development of a data and information strategy for the Ocean Decade (i.e. DCG, and to-be-formed Technical Implementation Group and Corporate Data Group), as well as other relevant data organisations, such as WMO WIS and IODE. The DCO will also aid the securing of support for gaps identified in the implementation of a data strategy.
    b. Identifying promising new technology or applications from within the Ocean Decade actions that could have the potential to enhance and evolve the global ocean observing system, and also identify ways to engage or pilot this technology within GOOS
3. Funding and administrative support for additional coordination meetings across GOOS to facilitate discussion about how to respond to the needs, gaps, ideas and requests from the Challenge 7 focused Decade actions. This will include cross-GOOS meetings for: GOOS Expert Panels, GOOS implementers (GRAs, OCG, and ETOOFS), and GOOS Projects.
4. The DCU will rely on the DCO for advice on scoping of future calls for Decade Actions related to ocean observing, and actions solicited through these calls can be one-off contributions (e.g. funding) or programmes, noting that decisions on the solicitation of projects lie with the Decade Programmes.

As there are already many projects/programmes that require attention and funding the initial focus of the DCO will be on these actions. However, as the Decade progresses the DCO will have an important role to work with the DCU to identify (i) if Calls for Decade Actions should solicit additional programmes and contributions focused on gaps or needs identified for Challenge 7; and (ii) if so, what the scope of those Calls should be. For example, if there are indeed critical gaps in funding, the DCO can work with the DCU to scope calls for funding contributions.

The role of the DCO Ocean Observing is thus 7 fold:

1. Coordinating synergistic efforts to ensure efforts are not duplicated or wheels reinvented and opportunities are maximised and leveraged appropriately; ensuring that intersections of the Ocean Decade actions and GOOS activities are identified, coordinated and connected, towards an improved ocean observing system and legacy of Ocean Decade actions; supporting appropriate connections and collaboration across the actions focused on Challenge 7.
2. Supporting specific identified tasks to lift GOOS and the Ocean Decade
3. Liasing with the DCU for reporting, fundraising, other management functions for the Ocean Decade Actions focused on Challenge 7
4. Coordinating closely with the key infrastructure coordination hubs, namely DCO Ocean Data (IODE), and DCC Ocean Prediction (MOI).
5. Providing a focal point for liaising and responding across the Ocean Decade on ocean observing related issues, to support the aims of the Ocean Decade
6. Identifying needs or gaps to meet Challenge 7, and scoping future Ocean Decade Calls to support this
7. Undertaking communication regarding the ocean observing and meeting Challenge 7 within the Ocean Decade

The proposal once revised should be recirculated to the SC by email for confirmation, before the IOC EC-55 in June.

The proposed DCO (revised proposal) will require sufficient resources to be developed. It will not be developed unless resources are secured to do so.

4. Cross-GOOS Data planning

Ensuring ocean data reaches the intended and potential users is a key aim of GOOS 2030 Strategy, in Strategic Objective 01 Partnership down the Value Chain and 07 Data Management. Although ‘pure’ data management discussions fall outside of GOOS, nevertheless there is important work within GOOS to ensure: FAIR data, frictionless flow, interoperability, quality control, metadata management, delivery with appropriate latency, etc. As a number of activities are reaching critical mass, and as the Ocean Decade seeks to define new overarching

strategies, it is a good point to review actions within GOOS and form a comprehensive data strategy for GOOS that will deliver data efficiently to our partners.

- OCG data mapping and data strategy implementation

Kevin O'Brien (NOAA PMEL, USA) presented the vision for Observations Coordination Group (OCG) Data and Metadata, and gave a summary of OCG activities in this domain including mapping the OCG networks data flows, development of OCG Data Implementation Strategy, and the need for close interaction with other GOOS structures, WMO, IODE, and in the future UN Ocean Decade programmes, especially the Digital Twins of the Ocean (DITTO).

- IODE OBIS BioEco Panel Data planning

Ward Appeltans (IODE, Belgium) briefed the GOOS SC on development of the new GOOS Biology & Ecosystems Data Portal which aims to be operational by 2025. The portal integrates information on Essential Ocean Variables (EOV) sub-variables and (Essential Biodiversity Variables) EBVs, and is envisioned to enable storytelling around BioEco EOVs for communication and status report purposes such as the Ocean Observing System Annual Report Card, supported by OceanOPS.

- BGC data issues and products

Kim Currie (NIWA/U Otago, New Zealand) / Maciej Telszewski (IOCCP, Poland) presented a summary of issues related to marine biogeochemistry data management and information products, centered around the need to transform volunteer-based data product development and delivery, into sustained, operational data product delivery for mature ocean carbon products and the emerging oxygen and other biogeochemical EOV data products.

- IODE Ocean Decade Data Conference and the work of Ocean Decade Data Coordination Group and Data Coordination Center

Taco De Bruin (IODE, Belgium) reported on the 2022 IODE Ocean Decade Data Conference held in February in Sopot, Poland. Community recommendations from the Conference included the need for increased efforts in standardization, best practices and harmonization; wider application of FAIR and CARE principles; wide engagement of citizen science and indigenous knowledge; the need for developing a 'living' ocean digital ecosystem as a fully machine-searchable and actionable platform.

Discussion

The ensuing discussion among the GOOS SC centered around the question of how various elements of GOOS involved in data management and synthesis product development can communicate and support each other more efficiently according to a GOOS-wide data strategy. Although no new formal mechanism was requested, there is however a need for more efficient

coordination and more frequent interaction to enable implementation of an integrated GOOS-wide data strategy. The SC noted there was currently no cross-GOOS forum for data management experts to share their experiences, discuss issues and suggest solutions, and to respond to internal and external requests for input and feedback on data management aspects of the ocean observing value chain. The SC noted that closer interactions between the GOOS Components could support the building of stronger partnerships with IODE and WMO and build support for capacity to solve outstanding issues related to GOOS data flow. The SC discussed the opportunities related to the UN Ocean Decade, in particular, and how to best leverage the formation of Decade Coordination Office for Ocean Data, and the Decade Collaborative Centres, to transform the world of ocean data management into a much needed operational mode. Connection between these Ocean Decade data initiatives and a cross-GOOS forum was important for the future direction of ocean data management.

The GOOS SC supported the development of an informal cross-GOOS data forum, however resources will need to be found to support this initiative as a first task. The potential of this support to come from the DCO Ocean Observing was suggested, if this DCO is funded a role supporting data flow would be a good match with Ocean Decade, ocean observing system, and GOOS needs.

Decision 3: Data cross-GOOS

Background
There was a clear need expressed to deal with data issues at a cross-GOOS level, rather than addressing them individually in the 3 Expert Panels and OCG. There was also a need expressed to to be able to map and visualise the data flows across GOOS. However, at the same time there was little appetite for developing new structures or task teams without support.

Decision

GOOS will initiate an informal cross-GOOS data forum. A pre-task for developing this forum (supported by GOOS Office secretariat) would be to develop a succinct - no more than a page - description of what needs to be done and what impact solving these data issues would have for observing, information delivery, and society. This description would be used to secure the resource to support the work of a cross-GOOS Data Team. The informal cross-GOOS forum would meet, as available and needed. However the development of a regular cross-GOOS Data Team, with ToRs and regular meetings etc., will not be undertaken, until resources are secured to support the work of the team. IODE expressed their interest in being part of the informal cross-GOOS data forum.

The option is being explored to support the cross-GOOS Data Team within the scope of the proposed Decade Coordination Office for Ocean Observing. This would have several advantages; it would aid the DCO in being well connected to GOOS's work, with a specific coordinating task that works in symbiosis with other GOOS work; the DCO already will foster connections with the DCO Ocean Data and DCC Ocean Prediction; the task would be beneficial to GOOS and to the community of actions focused on Challenge 7, calls within the Ocean Decade could be used as a vehicle for resourcing identified gaps and needs in data flow. This path is contingent upon funding support. See Decision 2 on the DCO Ocean Observing.

5. Implementation Plan and questions raised by the GOOS components

Presentation(s): Implementation Plan & Questions from the GOOS Components
Document(s): GOOS Implementation Plan Report

GOOS Panels

The idea to have cross-panel meetings, as well as meetings between GRAs and panels was strongly supported, recognising this has a resource implication. Cross-panel meetings do not need to be regular: they could be oriented to deal with issues of common interest (e.g. GCOS), or be organized around GOOS delivery areas (climate, ocean health, operational services).

GOOS could increase the visibility of the CO2 monitoring activities run in the framework of IOCCP by escalating key messages to Member States through the IOC and the WMO. There was also some discussion about the fisheries sector as an important stakeholder, including related organizations such as ICES. It was recalled that there is a WMO task team on climate services and fisheries.

GOOS implementers: GRAS, ETOOFs, OCG

The increasing cost of observations and how to mitigate it was discussed, including low cost sensors, optimizing of campaigns and how the industry may be able to plan ahead more efficiently if the observing developments were less ad hoc. Regarding the GRAs, the Ocean Decade was seen both as an opportunity and a risk due to the amount of work already going on with very few resources. The important role of GOOS National Focal Points was also recalled, as well as the existence of other regional structures such as WMO regional networks. Assessing the capabilities and levels of maturity of each of the GRAs is a prerequisite to consider providing support where it is most needed.

GOOS Projects

It was highlighted that TAOS and TPOS projects have many points in common, which could be explored as part of the CLIVAR/GOOS workshop.

GOOS connections with WMO were discussed, many are already happening at the technical level, but a more strategic engagement is seen to be lacking. Current mechanisms are the IOC-WMO Joint Collaborative Board, and the Study Group on Ocean Observations SG-OOIS, which may be an opportunity to provide strategic advice. Pursuing these connections can support the achievement of certain goals, with the caveat that they can also slow down some of the processes, since WMO is a much larger organization.

GOOS Ocean Decade Programmes

All three programmes are already interacting strongly. Observing Together intends to request GOOS SC for help and contribution of specific expertise for certain projects. Ocean Decade programmes, in particular CoastPredict and Observing Together can energize and support activities of GRAs. It was acknowledged that it is difficult to keep track of all the advancements within the Ocean Decade programmes space. Also, while there is no doubt about the need and relevance of integration of GOOS components into GOOS Ocean decade Programmes, several GOOS SC members also voiced some frustration, due to the workload implied in managing all the information and connections that this might imply.

Implementation Plan
GOOS SC members welcomed the report and stressed the importance of Monday.com as a tool for GOOS to implement (1) reporting across the GOOS actions/components; (2) management including alignment and prioritization of activities in GOOS IP.

They also mentioned that it was important to reduce the number of actions and establish priorities in between all those tasks by identifying the most urgent societal matters such as climate change to ensure delivery. For this, GOOS Exec may provide some suggestions to the SC. Ultimately, reporting could be done using GOOS IP actions (instead of by GOOS components).

Some clarifications on technical aspects of the tool were offered and extra sessions on Monday were offered. It was suggested that GOOS Office would be the primary user, while GOOS SC could have a read-only type of access and have some reporting ‘views’ designed for the GOOS SC.

Tactical Actions

Implementation Planning and Reporting:

- Aid the GOOS SC to view the Implementation Plan/Actions:
    - Develop useful summary views for the GOOS SC of actions, status, etc.
    - Enable ‘view only’ access to Monday Software for GOOS SC members
    - Provide a ‘how to get the most out of Monday’ training call for SC members
- Work with the GOOS SC to reach a point where members are able to offer perspectives on priorities across GOOS’s work.

- Have regular (e.g. quarterly) Exec Meetings, using Monday to work on actions across the GOOS components (perhaps by strategic objective), as well as to address other issues or news as they arise across GOOS components.
- Integrate Decade Programmes into the planning software. The Decade Programmes need to give an estimate of resource needs for management/implementation over next 3 years.

GOOS Components:
Timeframe - next months:

- GOOS Office/Co-Chairs to advise on frequency for regular cross-GOOS calls by July 2022: GOOS Exec, GOOS Panels, GOOS SC.
- Organize meeting to discuss DCC for climate and coastal resilience (CoastPredict) and how this integrates and works with GOOS for ocean observing and forecasting system development and legacy.
- GOOS to advocate for certified materials. The issue was raised by the GOOS BGC Panel, and a report is near completion on what is needed The GOOS Office (communications) to consider what action to take to communicate/advocate on this issue, and to work with the G7 FSOI team to amplify the message.
- GRAs to consider a discussion about GRA development pathway/s with Indonesia (Nelly Florida to assist) and Pacific Islands (Molly Powers assist).
- Undertake a meeting across Decade Programmes and GOOS Components (summer 2022) to assess how components (GRAs noted in particular) best leverage the opportunities, and how the GOOS components might best contribute given their other tasks. Aim to identify concrete actions to take across GOOS.

Timeframe - 6 months to SC-12

- OCG to monitor the impact of rising costs (associated with rises in fuel prices, food prices, inflation, manufacturing costs/uncertainties, increased complexity in border control or heath and safety etc.) and human resource limitations, on ocean observing systems. ETOOFS to aid impact assessment of any identified impacts or trends. GOOS Office to communicate on the issues and impacts. GOOS Office to work with the G7 FSOI team to amplify any messages.
- Pick up on the interest in cross-GOOS discussion around citizen science, low cost sensors and fisheries. The GOOS Office to consider how to explore these new areas for discussion
- GOOS Office to support strategic consideration of connections to WMO, e.g. those coming out of SG OOIS, and provide an additional summary statement or letter to WMO INFCOM
- GOOS Office to plan a meeting with the G7 FSOI team (in Paris) to look across areas of collaboration, support and action, in GOOS, Ocean Decade, and for advocacy etc.

- OOPC to aid the development of a consolidated view across the recommendations from 3 basins - TPOS, INDOOS, and TAOS. This is not straightforward as the approaches are different, however it is important for clarity, efficient use of resources, to strengthen the recommendations, as well as to support boundary implementers like Indonesia. The GOOS/CLIVAR meeting in Trieste (July 2022) has a session on this and could be a good target for such discussions. OOPC to monitor and report to GOOS SC.

Quick Fire Reports

- Value of Ocean Observations Paper - GOOS Office with OECD to plan the communications/advocacy required to gain traction with this work. Work with G7 FSOI team to help amplify this message
- GOOS Office to use the flash talks to populate the GOOS Update with upcoming highlights - DONE

SC engagement requested for:

- EOV Paper: 2-4 GOOS SC members to join a call to help develop the discussion section of the EOV paper
- Co-Design Workshop - review the agenda and exemplars, forward to relevant people in your networks for engagement. Ocean Observing Co-Design Team to send the Exemplar Booklet and Workshop Agenda to SC members for this purpose.

6. Quickfire Reports on items of a topical and strategic nature

EOV Paper
Presentation

GOOS SC members indicated that the EOV paper should bring to light efforts done by other communities (e.g. SOOS, Arctic), while being mindful of the risk of proliferation of EOVs. GOOS could provide that high-level EOV framework for the broader community to align with and hook into. GOOS SC was solicited to contribute to the document by providing concrete, strategic guidance on how to evolve the EOV framework. Several background reports and documents produced by BioEco members were mentioned. The EOV Paper team will take up the suggestions.

GOOS Task Team on Ocean Indicators
Presentation

The importance and complexity of this transdisciplinary activity was acknowledged. It was clarified that the Indicators Task Team aims at better defining the concept and providing an overarching framework to develop indicators, more than creating a new list of indicators as such, and aims at being inclusive, already involving 24 members from different fields including socioeconomics. The close link between this Task Team and the work on EOV paper was highlighted, as well as the sensitivity of the framework to elements such as the availability of data and their quality.

University of New Mexico-OECD-GOOS Paper on valuing ocean observations
Presentation

GOOS SC members mentioned a number of initiatives that are working in similar evaluations. Clare Jolly underlined that the work is not done in isolation and that they are very much aware or already connected to those. The model developed will be made available for GOOS and presented in different fora such as OECD. The G7 FSOI team also offered to highlight the paper and its significance. The discussion also stressed the importance of this kind of evaluation when advocating for ocean observations.

Coastal Observations - CLIVAR / GOOS Workshop
Presentation

GOOS SC made a few recommendations on the content of the CLIVAR/GOOS workshop and suggested ocean communities who may be interested in joining and bringing content to the workshop - in particular, BioEco and Pacific basin experts as well as groups involved in the three GOOS UN Ocean Decade Programmes. The programme of the workshop can be found here.

Ocean Observing Co-Design Workshop
Presentation

GOOS SC members were encouraged to provide guidance as to which stakeholders may participate in each of the exemplar areas, and facilitate connections with them. For that, some information brochures are being developed. The strong connections between Ocean Observing Co-Design and Observing Together were highlighted, as bringing capacity to the communities cannot happen without getting them properly engaged.

Integrated Marine Debris Observing System (IMDOS)
Presentation

GOOS SC noted the existence of other coordination initiatives at the national and regional level as well as the importance of communities such as fishermen, sailing, recreational and scuba diving community and citizen science. Having a supporting marine debris observing system, like IMDOS, will be very important for the implementation of the treaty on plastics, which UNEP is currently leading. IMDOS was encouraged to establish links with UNEP.

Overall comments

Globally there was a request for engagement from the SC in those initiatives as the body that GOOS looks to for strategic direction in driving the programme forward, and a reflection on the need to prioritize support for that work, and to engage with other communities connected to GOOS to help it progress with a broad base for input and support.

7. Communications Strategy

Presentation(s): Communications Strategy
Document(s):
Making the case for a rebrand
GOOS Communications Discovery Report
GOOS Communication Strategy Presentation

Emma Heslop and Chris Wolf (Wolf&Player) presented the Draft GOOS Communication Strategy developed following a discovery phase including a survey and interviews with GOOS SC members and GOOS Stakeholders. The strategy encompasses positioning, name/identity, messaging campaigns and stories, and target channels.

The overall response to the initiative, the strategy itself and a pending communications plan was positive and the SC generally agreed that a viable communications plan can come out of some combination of the elements in the strategy. The discussion during the session was mainly directed towards the first two elements (positioning and identity) as a priority, with specific comments and input on these items as follows:

Positioning:

Positioning comprised a large part of the discussion on this item, though it was noted that communications is not the same thing as strategic positioning and decisions around positioning will also be informed by the work of the Governance task teams. Wolf&Player's suggestion to position GOOS as 'enabler' or 'facilitator' that adds value in two directions by dividing our audience into groupings of producers and end-users and building a brand story that places these two audiences - rather than GOOS - as the heroes was accepted positively by most of the members. The use of the AirBnB model to explain the positioning as a platform that delivers value in two directions (to home owners and renters) was useful to simplify the idea enough to convey it, but it's understood that GOOS as a platform within a larger ecosystem system is more complex than Airbnb or the other 'tech disrupters' referenced in the presentation. It was emphasized that GOOS should hold an authoritative position and consistently add value, rather than dictate.

Some additional specific comments to note about the positioning:

1. Some members cautioned about the oversimplification of dividing audiences into users/producers, as the system is more complex - and some producers are also users. This also may overlook the investors, which Wolf&Player confirmed are key even if their

presented strategy was outward focused, much like Airbnb, initial investors are key (but not necessarily part of the branding story).
2. There were some lingering questions/comments about the positioning of GOOS and a need for clarity on if there is an intention to move towards more operational oceanography, a service organization, etc. As indicated above, this discussion is closely tied to governance so touches on some of the same topics as that item.
3. The IOC Executive Secretary urged the SC to consider GOOS's position as a matter of working within the larger community, working with the sponsors, getting involved in discussions and once that positioning is clear, the communications answers will come as well as indicating a need to focus on more transparent data and decisions.

A key point discussed is that GOOS needs strategic discussions in light of changing global ocean influences (Ocean Decade, BBNJ, Paris Agreement on Climate Change, etc.) and on its position to some of these potential major users and sponsors, to develop the GOOS we need for the ocean we want. It is also important to make GOOS's position clear, defining what GOOS is, and what it does; the GOOS wider ecosystem; and what it does across the value chain from observation data management, and modeling to services; its governance and structure, and how it is an enabler and creates heroes at both ends of the spectrum (the ecosystem of providers and customers).

Branding/Name

Opinions were divided on the Wolf&Player proposals for branding updates with a name and logo change. While the name change could mean a refreshed view of and a logo change could bring the current technical aspects of our logo up to date in terms of scalability and digital utility, some members shared cautionary tales and learning experiences from personal experience of branding changes (e.g. IOOS, Sopcat, ICSU, CLIVAR). Opinions also varied on the benefits of wedging GOOS into a position as a household name versus retaining its legacy and associated goodwill that already exists within the ocean observations community.

The idea of positioning GOOS as an international ocean station (inspired by the international space station) resurfaced from previous discussions with some positive commentary, although one member cautioned against such a moniker and direction as we are not just a physical construct.

While there was animated discussion and some enthusiasm around the possibilities of a branding refresh in terms of name and/or logo, however the SC did not have sufficient information to make the decision and requested some analysis on branding name change (SWOT etc.), to better understand if justifiable/purposeful.

Messaging

Some SC members emphasized the importance of messaging around the benefits of our work.

Additional comments:

A request for an updated web interface and more easily findable and searchable documents was made.

Decision 4: GOOS Communications Plan

1. The GOOS SC notes its support for the development of a GOOS Communications Plan
2. The GOOS SC adopts the general intent of the positioning and messaging of the draft Communications Plan with the following comments:
    - GOOS does much more than facilitate for the community, it plays a leading role in some areas, need to bring this out
    - Need for GG+A and Wolf & Player recommendations to be in step/work together - GOOS Office to facilitate an exchange
    - The crosswalk between GOOS Governance scope (see Decision 1) as governance of a 'system' and this positioning need to function together
    - It should also support GOOS be understood/known by a broader organizational community, for example UNDRR and WMO

3. The GOOS SC had a definite appetite to undertake a rebranding of GOOS, for clarity in messaging and relationship with the observing community and GOOS partners. The GOOS SC however did not have enough time or information to fully consider the implications of a brand change. To decide to move forward with a GOOS name change the SC will need a) more time for a focused discussion and b) more background information for the discussion. GOOS SC recommends that Wolf & Player develop some more analysis on what would trigger and/or what are the compelling reasons for a name change, for the GOOS Communications Plan, including for example where such a brand change has been successful and why, where has it failed and why, a SWOT for GOOS brand change, and an analysis of what resources would be required to undertake this.

8. Fundraising in the Philanthropic sector

Insights on fundraising for GOOS in the Philanthropic sector were presented by Chris Redgate of GG+A consultants. Chris presented a summary of GG+A's analysis of GOOS's strengths and suggested GOOS's three potential 'philanthropic impact areas': Mitigating Climate Change; Ensuring Ocean Health; Advancing Social Justice (equity in wellbeing, security, and prosperity). The GG+A analysis of GOOS's value proposition aligned closely with that of Wolf&Player's. i.e. GOOS is an essential enabling convener delivering value in multiple

directions along either side of the value chain, with an international mandate and reach. The concept of an 'International Ocean Station' was suggested as an 'ocean shot' type idea to attract philanthropic funding. The next steps to progress towards sourcing philanthropic funding would be to develop a fundraising operation plan and adapt the message platform for a range of audiences.

Presentation(s): GOOS Philanthropy Message

Discussion

The discussion about the positioning and scope of GOOS's role in the value chain [related to governance, session 2] featured in the discussion around messaging for the philanthropic sector. This ongoing level of confusion highlighted the need to establish a clear positioning for GOOS identity and communications strategy, and in turn philanthropic funding messaging and selling points.

The three areas of messaging were liked and supported; it was noted that GOOS's role in Disaster Risk Reduction could potentially be highlighted and brought more to the the fore as an impact area [currently part of the social justice point] and similarly that more emphasis may be needed on the role of observations providing information, rather than just the role of the ocean; raising the profile of GOOS as the 'engine' powering this higher in the dialogue would be helpful.

The need for dialogue, finding a common language, building strong relationships and mutual learning was emphasized as key to achieving successful alignment with philanthropic donors and their priorities and expectations.

Philanthropic fundraising would ideally be sought to fund initiatives that would make a difference for the global ocean observing system as philanthropists want to make a difference. As such, this could be new capacity or development, etc. GOOS core would need to be supported through a percentage (5% has been suggested as an appropriate level previously) of such funding to ensure that GOOS can fulfill its development and coordination role.

There was some discussion around the idea of an ocean space station, with a number of perspectives on this from the SC members.

It was noted that fundraising itself requires investment in people to do the fundraising.

Decision 5: Fundraising in Philanthropic Sector

The 3 message areas outlined by GG+A were both liked and supported. The biggest discussion was on the 'international space station' concept, where opinion varied (see the bullet points below). However overall the 'international ocean station' as a simple

and powerful concept, that captures the imagination, was liked. It was agreed that GOOS needs big and less complex expressions of what we can do to meet society's needs. The GOOS SC looks forward to the final report from GG+A.

It was suggested that:

- GOOS as the 'engine' needs to come to the front be highlighted earlier/higher in the positioning.
- Some consistency needs to be reached between this concept, the GOOS Governance scope (starting point), see Decision 1 and the Communications Plan from Wolf&Player. GOOS Office to facilitate an exchange, as required, between GG+A and Wolf&Player.
- Questions around the 'international ocean station': It may not be a close enough analogy, should we consider other 'big' ask examples? It is not clear what this might be, something that people visit, something physical or a concept? What does the 'international ocean station' mean to GOOS, what would we deliver? Need to consider these questions before adoption.

The GOOS SC supported further action to develop funding sources for GOOS from the philanthropic sector, with a focus on support in areas where national resourcing is failing, for example: capacity development, new or low cost technology, international data flow, and the 'significant' seed funding required to support new and major international strategy and initiatives.

9. View from GOOS Co-Sponsor

The GOOS SC noted two clear points across the different thoughts presented by the GOOS Sponsors:

1. Delivering together is the biggest challenge of the UN Ocean Decade, and it is the same challenge that GOOS and the United Nations face,
2. UN Ocean Decade has created a critical mass of visibility and understanding of the Ocean. Now is an opportune time to ask for funding.

WMO reported that they are increasing investments and contributions to ocean observations. WMO has approved a new Unified Data Policy, a critical mechanism to support ocean observation. In addition, WMO is leading a collaborative and coordinated effort on Greenhouse Gasses (Carbon) Monitoring (guided by WMO Strategy 2024-2027).

The GOOS SC discussed the increasing challenges, and gaps in coastal zone management, for instance addressing climate change coastal impacts e.g. sea-level rise impacts, groundwater issues etc.

UNEP reported on their new medium-term strategy which focuses on climate, nature and pollution action with special emphasis on land-sea interactions. Fragmented efforts exist in ocean observation and there is a lack in coastal socio-economic data. SIDS, LDCs lack the capacity and resources to enable effective ocean monitoring. UNEP's new GEMS Ocean project intervention aims to strengthen capacities on key aspects of ocean monitoring, as well as a user-driven service with the member states. This is being designed to support an innovative partnership in the observation co-design space with partners, and helping to develop an integrated ocean observation monitoring that connects upstream science and technology with downstream monitoring and engagement activities. Which will enable a feedback loop and add value to what GOOS is doing. UNEP reported that they have established a new partnership with Mercator Ocean as a data hub, as well as supporting ocean marine services.

The International Science Council (ISC) reported on the ISC 2022-2024 Action Plan which sets out an agenda for transformative actions including glacial sustainability, converging science and technology in a digital era, science in policy and public disclosure, changing practices in science and science systems, and freedom and responsibility in science. ISC has connections to academy and research funding at the National level which can be an avenue to promote GOOS, possibly through the UN Ocean Decade. The ISC welcomed suggestions from GOOS on how ISC can be more attentive to sponsored bodies like GOOS.

The SC recommended:

- Better representation of GOOS on the WMO Standing Committees.
- Enhanced connections and engagements through GOOS CoastPredict Programme to optimally address coastal zone challenges.
- GOOS sponsors and partners to make joint statements at COP27 to the parties regarding supporting ocean observing. WMO can also play a key role in informing that ocean information is essential to governments.

GOOS SC-11 Recommendations

- GOOS, WMO, IOC work together on COP-27 messaging. There will be greater impact from a strong and positive combined message.
- Recommend that GOOS and ISC work together on GOOS messaging and the placing of this into UN processes.
- Recommend that GOOS and ICS collaborate on Action Plan work on Changing Practices in Science and Science Systemswork on the Science Policy. There is a recent paper on 'Ocean Integration: The Needs and Challenges of Effective Coordination Within the Ocean Observing System', which could be very relevant for collaboration (ICS and SC Member Joaquín Tintoré)

- GOOS to support the development of GEMS Ocean, and to work with UNEP and partners to ensure that GEMS Ocean is complementary to GOOS, strengthening GOOS delivery of ocean information to stakeholders.

10. Final Discussion

The final discussions looked at the SC-11 decisions to confirm and clarify points and then considered priorities. The relevant decisions and recommendations, reflect these final points.

Decision 1: Evolve GOOS Governance Task Team
There was discussion around the definition of certain terminologies and the 'scope' of GOOS. The first task team on governance process should define the scope of GOOS and Decision 1 from the SC should provide recommendations for the governance process task team. This will guide the second task team working on the Terms of Reference. The governance discussion should engage partners and involve the whole value chain, including intermediary and end users. It was noted that the scope needs to be realistic and not extend the actions and activities beyond the available resources. The scope of GOOS also requires further discussion with stakeholders and partners, through the second Evolve GOOS Governance task team. Overall the scope was agreed to be for the system, covering ocean observing, the part of data flow generally undertaken by oceanographers and the coordination of operational ocean forecasting - the elements that components of GOOS coordinated, from requirements setting, to taking observations to assessment of fit for purpose.

Decision 2: Proposal for a Decade Coordination Office for Ocean Observing
It is important that the Decade Coordination Office (DCO) for Ocean Observing should also be connected or merged with the GOOS Office, to lower the risk of duplication of effort, because many of the Decade programs come from GOOS elements. If not well connected, this could lead to some confusion around the coordination of ocean observations and this should also ensure that GOOS is not competing for funds with the DCO.

Decision 3: Cross-GOOS Data planning
The decision is to move towards an informal GOOS data forum, noting that work will be unable to progress far without support. An initial task is to develop a list of what is needed which then can be used in securing resources. The DCO could undertake supporting this data flow component, as this will be core to the Ocean Decade, and it will also aid in lifting GOOS work in this area. The DCO will also establish relationships with the DCO Ocean Data (IODE) and DCC Ocean Prediction (MOI), which will be helpful for the development of cross-GOOS

Decision 4: Communications Plan

There is a lot of support for the work that has already been undertaken by GOOS with Wolf&Player. Discussions around name and brand change brought forth many points of view - on the one hand a name change could better reflect the scope of GOOS (for example, to include forecasting, to highlight role in coordination/facilitation).The scope needs to be defined and streamlined, and there was not enough background information and time to decide on a possible name change. Ultimately, more information is required prior to a decision around name and brand change, this information could include:

1) time, engagement, and resource commitment required by SC to undertake brand change with professional support,
2) what would a brand change process look like for GOOS?, and
3) examples of successful rebranding.

The benefits of a name change should be weighed against the costs. If GOOS goes forward with a name and brand change, this should be connected with the evolve GOOS governance task team, which will provide clarity on scope.

Fundraising in the philanthropic sector
The GOOS SC supported the work and investment into identifying philanthropic sources of funding.

View from GOOS co-sponsors - recommendations
There were two additional comments to the text.

- Noting the connection between the work on ‘system integration’, recent paper from Revelard, Tintorè et al, under EuroSea and the work of ISC in this area
- Include a recommendations regarding working with UNEP for the GEMS Ocean initiative

Priorities for GOOS work ahead
The SC highlighted areas it regarded as priorities:

- Fundraising: Thus fundraising needs to be a priority. We need to increase fund raising activities, and understand which regions are of particular interest to funders, and for which phenomena/applications. How do we define what we deliver to the nation? How do we interact with a complex system? Consider seeking coordination resources in-kind from nations.
- GOOS Governance: Define and streamline the scope and governance
- Communications: ensure the visibility of GOOS as the "master card" of the international ocean station and the GOOS UN Decade Programmes as our prototypes for how GOOS can be transformative. Internal communications are also important, eEnhance communication and interaction across the various components of GOOS
- **Connections between regional systems:** The importance of interconnection between global and regional affiliations and connection (WMO, UNEP, IOC, GRAs) to work jointly without redundancy

- **GOOS NFP:** The development and visibility of GOOS National Focal Points. For example, in the Pacific region the National Focal Points are outdated and there is no interaction with the IOC, it's more ad-hoc. The NFP are connected to GOOS mandate to govern.
- **Ocean Decade:** Recognise that the UN Decade is a big opportunity but also a big challenge and doing double work to bring in the resources is a stretch for the GOOS Office and SC members. Therefore The DCO OCean Observing needs to also support GOOS.
- **Capacity Building:** needs to be strengthened.
- **COP27:** Focus on a message for COP27, and look to leverage, work on messaging with IOC and WMO, messaging more powerful together.
- **EOV Paper:** to be completed
- **Data:** Increase data-planning activities across GOOS and find support to do this.

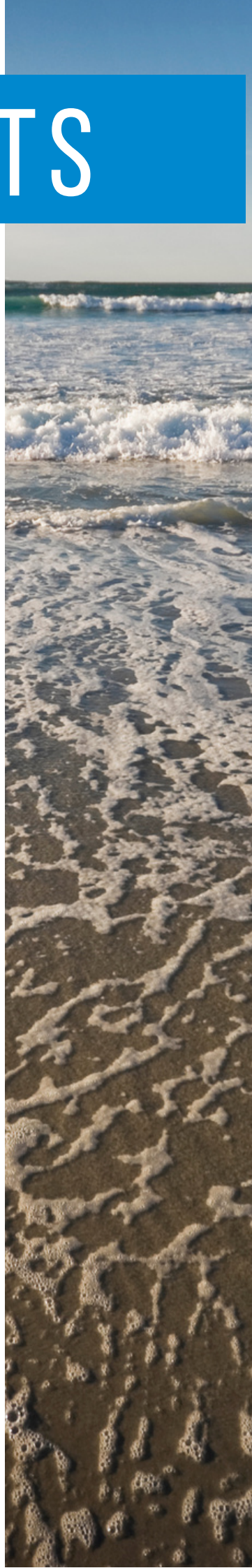
Some points were made around priorities and the work ahead:

- **Focus:** GOOS needs to think carefully about not continually expanding our work without increased support. Whilst many actions are important, GOOS has some obvious resource limitations. The SC discussion about scope and governance is important, but GOOS cannot continue expanding activities without additional resources being secured. GOOS should carefully consider what are the main priorities for the next year, and what should we cut?
- **Consolidate and integrate:** Working on what we have, consolidating can lead to transformative change, in this case if we take a view to better engaging across existing components of GOOS (Panels/EOVs + data + GRAs) towards meeting needs of users and sponsors - this could have a big impact.

ANNEXES

List of Participants

ACKNOWLEDGMENTS



The Global Ocean Observing System

unesco Intergovernmental Oceanographic Commission

WORLD METEOROLOGICAL ORGANIZATION

UN environment United Nations Environment Programme

International Science Council

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