

GOOS and the Ocean Decade

The Global Ocean Observing System contribution to the UN Decade of Ocean Science for Sustainable Development 2021-2030

17 February 2020

Context

GOOS today

Established in 1991, GOOS is co-sponsored by the Intergovernmental Oceanographic Commission of UNESCO, the World Meteorological Organization, the United Nations Environment Programme, and the International Science Council.

In its first decades, GOOS designed and coordinated the development of a global ocean observing system to support climate science and to serve as the observational backbone for operational forecast systems. In 2012, this success, coupled with growing concerns about the health of oceans and demand for information products to help nations manage their ocean economies, sparked development of the visionary *Framework for Ocean Observing*: a guide to meet the needs of multiple stakeholders. GOOS has since led the implementation of this framework by the ocean observing community, with the goal of serving users across **climate, operational services and ocean health**, increasingly with a focus on coastal areas and regional seas.

The Global Ocean Observing System 2030 Strategy

Achieving sustainability at global, regional and local scales will require a comprehensive understanding of the current and projected state of our ocean, seas and coasts. It will also require monitoring the impact of our policies and management actions. While we have made significant improvements in our ability to observe and understand the oceans over the past three decades, our current efforts fall well short of what will be required to underpin sustainable development.

To respond to this need, the *Global Ocean Observing System 2030 Strategy* was developed and adopted by IOC and WMO in 2019, as a broad strategy for all those engaged in sustained global ocean observing.

Its vision is of a truly global ocean observing system that delivers the essential information needed for our sustainable development, safety, wellbeing and prosperity. This is fully compatible with the UN Decade of Ocean Science for Sustainable Development ('the Decade') vision of 'The ocean we need for the future we want.'

The *GOOS 2030 Strategy* defines 11 Strategic Objectives, under three overarching goals:

- **Deepening engagement and impact:** deepen engagement and partnership from observations to end users to advance the use and impact of the observations and demonstrate its benefits.

- **System integration and delivery:** deliver an integrated, 'fit for purpose' observing system built on the systems approach outlined in the Framework for Ocean Observing.
- **Building for the future** through innovation, capacity development, and evolving good governance.

Ocean Decade Societal outcomes and GOOS

GOOS believes that sustained ocean observations are a critical underpinning to achieve each of the six defined societal outcomes of the Decade.

For some ('a predicted ocean, a safe ocean, a transparent and accessible ocean'), GOOS is already making a significant contribution. Others ('a clean ocean, a healthy and resilient ocean, a sustainably harvested and productive ocean') will rely on an expansion of the scope of GOOS that is already underway, to encompass biological and ecosystem and human impact Essential Ocean Variables.

GOOS and the Implementation Plan of the Decade

This underpinning nature of systematic ocean observations is acknowledged in Objective 2 of the draft Science Action Plan: Expand, innovate and integrate ocean knowledge systems globally, including ocean observing networks, data systems and other infrastructure.

Not all of the work of GOOS is a direct contribution to the Decade, nor should it be. The routine cycle of setting and refining requirements for essential observations, coordinating the taking of those observations across national contributions and networks, ensuring data and metadata availability, and undertaking regular reviews and evaluations — these are an operational aspect of taking a systematic approach to ocean observations. These activities are essential, but do not meet the bar of being transformative that are considered the signature of the Decade.

Fully implementing the *GOOS 2030 Strategy* will be a contribution to the Decade

GOOS as a programme and a community today has a focus on the core goal in the *2030 Strategy* of system integration and delivery. In order to build a truly fit-for-purpose observing system that delivers for users and underpins provision of critical knowledge to support sustainable development (*Decade SAP Objective 3*) and enables integrated assessment and decision support systems (*Objective 4*), the *GOOS 2030 Strategy* calls for innovative and transformative actions that will change the shape of GOOS over the coming Decade.

In following our *2030 Strategy* and expanding, including through partnerships, work to deepen engagement and impact and plan for the future, GOOS will seek to deliver on these objectives that have a particular contribution to the Decade:

- Strengthen partnerships to improve delivery of forecasts, services, and scientific assessments (*GOOS 2030 Strategic Objective 1*)
- Strengthen knowledge and exchange around services and products, to boost local uptake (SO4)
- Support innovation in observing technologies and networks (SO8)

- Develop capacity to ensure a broader range of beneficial stakeholders participation (SO9)
- Extend systematic observations to understand human impacts on the ocean (SO10)

Achieving these objectives is rooted in developing partnerships, and therefore an evolution in the governance of GOOS, our final strategic objective (SO11).

Planning for GOOS actions contributing to the Decade

GOOS is now embarking on a dual planning process: one with external partners, and one with our internal structures, to implement the *2030 Strategy*.

As this planning process develops, centered around a *Roadmap* with partners and a GOOS implementation plan, identified actions will be both of an ongoing and routine nature, and project-based to achieve shorter-term objectives engaging partners.

GOOS is also engaging work by the observing community following on from the OceanObs'19 conference (16-20 September 2019), which brought together more than 2400 contributing authors and 1500 direct participants to look at the future decade of ocean observing. Two of the key messages from this conference were:

- **Planning for impact:** codesign of the observing system, end-to-end, with stakeholders and users, and
- Embracing **innovation** in technology and governance, and looking to the Ocean Decade as a vehicle for transformation.

Groups are now working to generate concrete actions and projects that may be contributions to the Decade. This is happening through GOOS and engagement with key delivery partners, through the GOOS Observations Coordination Group networks and expert panels, and through a community-driven OceanObs'19 Living Action Plan.

For projects that might promise contributions to the Decade, through their transformative engagement of partners down the value chain, or through their innovation in techniques, GOOS will encourage them to take into the account the Criteria for Endorsement by the Decade.

The GOOS commitment to the Decade

In the planning phase, GOOS has launched its *2030 Strategy* at the first Ocean Decade Global Planning meeting, and engaged through its community in many of the regional planning workshops. GOOS held its Regional Forum in conjunction with the North Pacific Decade planning workshop in Tokyo, Japan.

We believe that the transformative and innovative character of the Ocean Decade will only strengthen a Global Ocean Observing System that delivers the essential information for sustainable development, in partnership with science capacity, data systems and other infrastructure, prediction, knowledge, assessment, and decision-support systems. We are therefore committed to engaging the opportunities the Ocean Decade represents to improve partnerships and build projects that contribute to sustainable development.