

The Global Ocean Observing System





WORLD METEOROLOGICAL ORGANIZATION

United Nations Environment Programme

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GOOS Introduction

Dr Jing Li, Programme Specialist, GOOS Office IOC-UNESCO

GOOS: A critical infrastructure for ocean observing

Ecosystem of providers Observation infrastructure

Ocean observing community & partners Global Ocean Observing System



The Global Ocean Observing System

GOOS Management Team Coordination – Integration -Advocacy

Beneficiaries of ocean information



Research, Decision makers, Users, Investors

36 Essential Ocean Variables (EOVs) **Biogeochemistry Biology & Ecosystems Physics** SENDAL FRAMEWORK 203 FOR DISASTER RISK REDUCTION 2015-2030 Sea state* Ocean surface Sea ice* Oxygen* Nutrients* Inorganic Phytoplankton* Zooplankton* Fish abundance & stress* carbon* biomass & diversity biomass & diversity distribution Sea surface Sea surface Nitrous oxide* Sea turtles Subsurface Transient Particulate Seabirds Marine **United Nations** height* temperature* temperature* abundance & abundance & tracers* matter mammals distribution distribution abundance & distributio Climate Change 8 Surface Subsurface Sea surface Stable carbon Dissolved Hard coral* Seagrass* Macroalgal currents* currents* salinity* isotopes organic carbon cover & cover & canopy* composition composition cover & composition -~~~~~ *** **Cross-disciplinary** International Subsurface Ocean surface Ocean bottom Mangroves* Invertebrates Microbes Legally Binding heat flux* cover & abundance & biomass & salinity* pressure distribution composition diversity Instrument on **Plastic Pollution** UNEP Ocean sound Ocean colour* Marine debris *Also identified as Essential Climate Variables (ECVs) 2024 Turbulent diapycnal fluxes Pilot EOVs

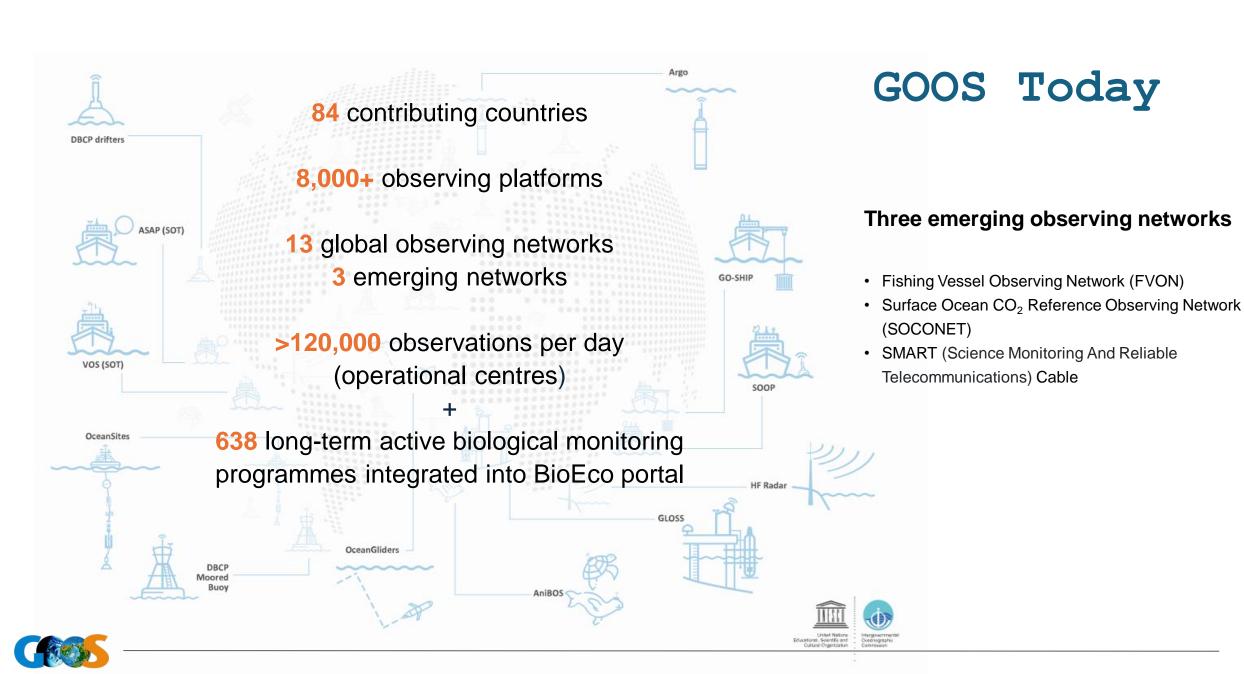


Kunming-Montreal Global Biodiversity Framework





+ Biodiversity Beyond National Jurisdiction Agreement

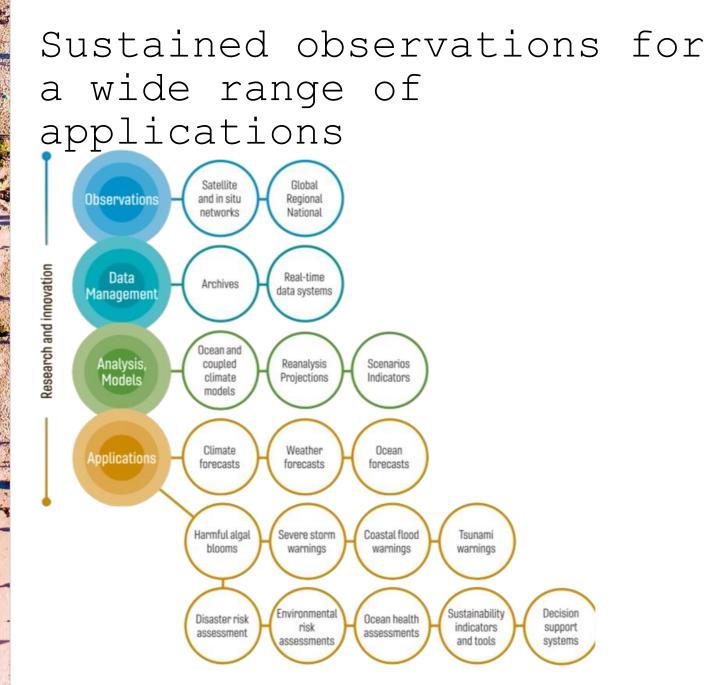


GOOS Structure

	Member states Decision makers System providers Users Funders UN Ocean Decade Coordination Office for Ocean Observing UN Ocean Decade Programmes and Projects GOOS Projects Partners						IODE
Observing coordination, metadata, data & modelling	OceanOPS		National Focal	GOOS Regional	ETOOFS	SC	Data
	Observations Coordination Group (OCG)	GOOS Observing Networks	Points (NFPs)	Alliances (GRAs)	OFS	Science (Data p
Requirements	3 Expert Panels Physics and Climate (OOPC) Biogeochemistry (BGC) Biology and Ecosystems (BioEco)		WMO RRR WIGOS GCOS			community	portals
Connection with observing community	GOOS Management Team* Coordination, communication, integration, advocacy					¥	
	GOOS Steering Committee						
Sponsors	IOC-UNESCO WMO UNEP ISC					\leftarrow	

The Global Ocean Observing System

2030 Strategy



Ocean Observing Value

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The GOOS 2030 Strategy: Goals

Vision

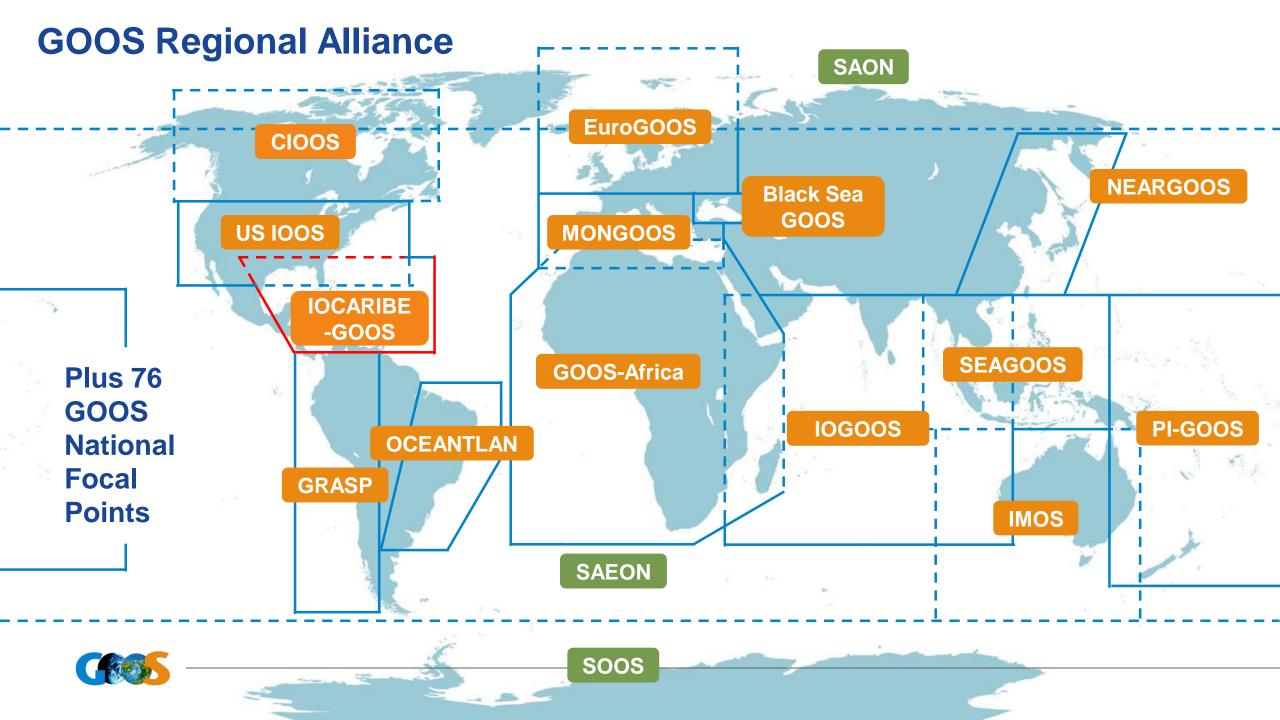
A truly global ocean observing system that delivers the essential information needed for our sustainable development, safety, wellbeing and prosperity

Mission

To lead the ocean observing community and create the partnerships to grow an integrated, responsive and sustained observing system



Strategic Objectives



GOOS National Focal Point (NFP)

- 76 GOOS National Focal Points globally
- GOOS NFP Survey will go out soon!

GOOS National Focal Points in IOCARIBE Member States

Continent States	GOOS	Joland States	
Continent States	NFPs	Island States	GOOS NFPs
Belize		Antigua & Barbuda	N/A
Brazil	Y	Bahamas	
Colombia	Y	Barbados	
Costa Rica		Cuba	
France	Y	Dominica	
Guatemala		Dominican Rep.	
Guyana		Grenada	
Honduras		Haiti	
Mexico	Y	Jamaica	
Netherlands	Y	St Kitts And Nevis	
Nicaragua		St Lucia	N/A
Panama		St Vincent	N/A
Suriname	Y	Trinidad & Tobago	Y
UK	Y		
USA	Y		
Venezuela Bolivarian Rep.			

Expert Team on Operational Ocean Forecast Systems

• ETOOFS provides states and organizations with high-level standards, support and guidance for developing efficient, reliable and interoperable ocean monitoring and forecasting systems - essential prerequisites for tackling climatic, environmental and societal challenges. ETOOFS EXPERT TEAM ON OPERATIONAL OCEAN FORECASTING SYSTEMS

IMPLEMENTING OPERATIONAL OCEAN MONITORING AND FORECASTING SYSTEMS

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MERCATOR

INTERNATIONAL

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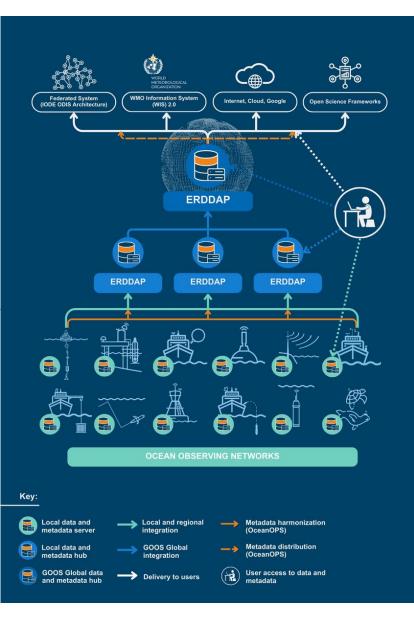
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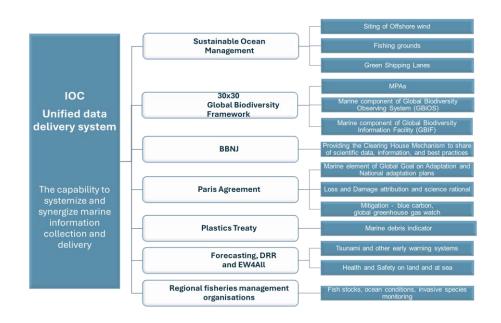
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Data







IOC Integrated Date Ecosystem (proposed)

- With close collaboration with IODE and OceanOPS, relevant IOC sections, DCO-data, DCO- observation and DCC-prediction, WMO, OBIS, ODIS, etc.
- Set in place a process for clear provenance of GOOS EOV data.

GOOS and UN Ocean Decade

Ocean Decade

Coordination

Ocean Office Observing



2021 United Nations Decade of Ocean Science for Sustainable Development



system.

by The Global Ocean Observing System

CoastPredict will revolutionise Global **Coastal Ocean** observing and forecasting, offering open and free access to coastal information and predictions.

with The Global Ocean Observing System

G31S | Ocean Observing Co-Design G31S | CoastPredict

Observing Together will leverage the Global Ocean Observing System's existing networks and expertise to bring needed observations and forecasts to community users and into global data streams, making every observation count.

> **G31S** Observing Together by The Global Ocean Observing System

GOOS UN Ocean Decade Programmes

Recommendations: Expanding global ocean observation capabilities Translation of observations into information | Fostering diversified partnerships | Building a capable and diversified workforce | Emphasising a new economic thinking for resourcing ocean observing

Ocean Decade Vision 2030

White Papers

Challenge 7: Sustainably Expand the Global Ocean Observing System

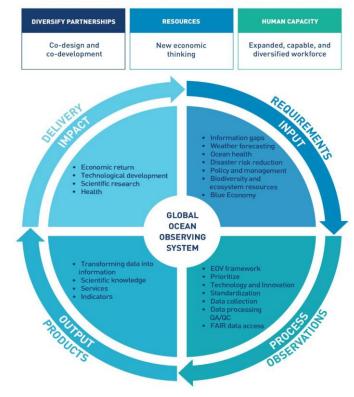
GFFS At the heart of the Ocean Decade



The United Nations Decade of Ocean Science for Sustainable Development (2021-2030)



EXPANDING THE GLOBAL OCEAN OBSERVING SYSTEM



GOOS **Phase I: Discover and Define GOOS** Governance Mission and Structure review scoping review evolving **IOC** Data A user and uptake **Observations &** Infrastructure (A data collection strategy of GOOS 2. Data management digital ecosystem) & sharing Analytics modelling 3. & predictions **Phase II: Discover** and Define GOOS Communicatior **Communications** GOOS 2030+ **ISIO**



The Global Ocean Observing System

Thank you

goosocean.org







International Science Council

