

Item 3 Introduction to IOC (on an Insider Level) and Strategic Perspectives

by
IOC Executive Secretary and Heads of Sections

22 January 2024

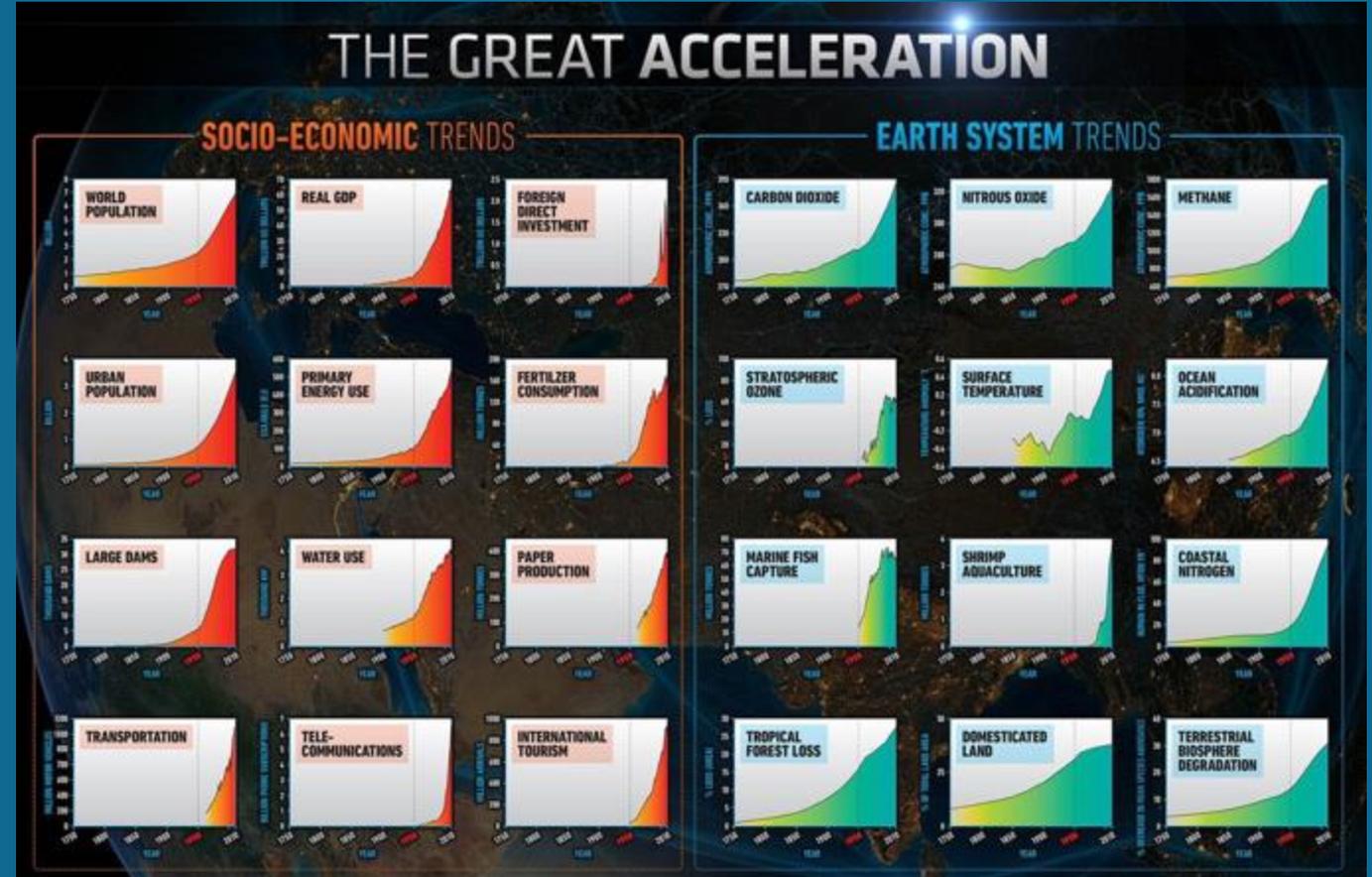
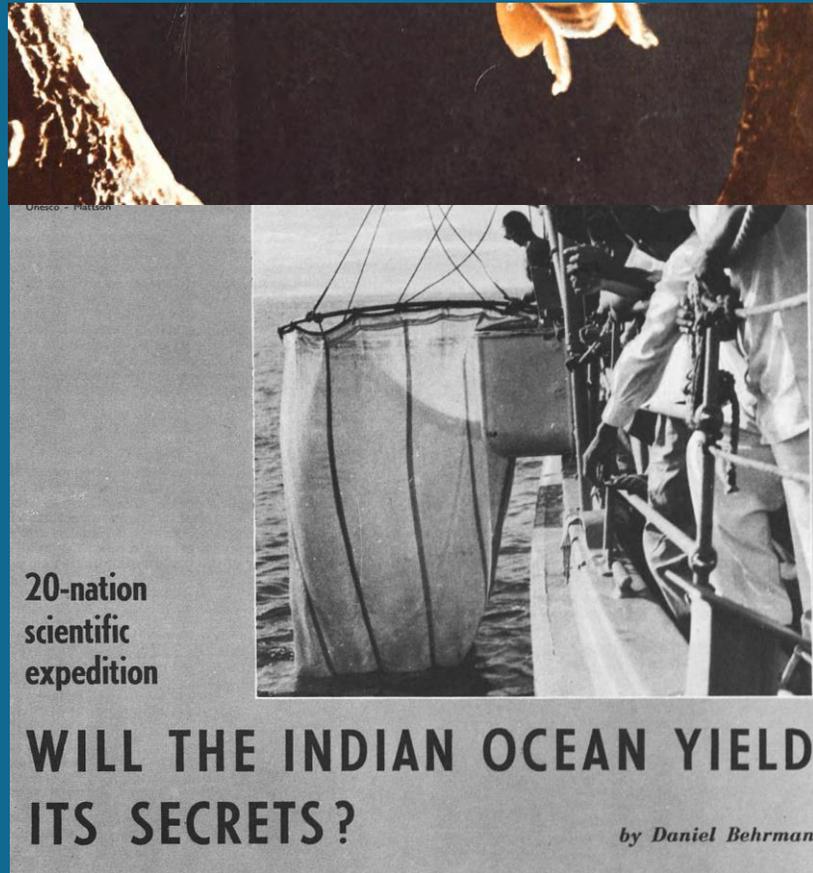
When I go in **December 2023**, I hope to leave IOC

- leading the world's oceanography (Decade)
- **with good perspectives to initiate sustainable ocean management (concept of climate-smart SOP for a healthy and sustainably used ocean)**
- with increased budget (UNESCO GC-42, core voluntary funding),
- **with a strong, healthy and motivated team in HQs and in the field,**
- with a stronger than me Executive Secretary & new excellent Chair
- **with even more important role in the UN system (UNOC 2025 to decide on a common plan of ocean action in the UN system)**
- working through the whole value chain (again, SOP -> Functions)

1960s

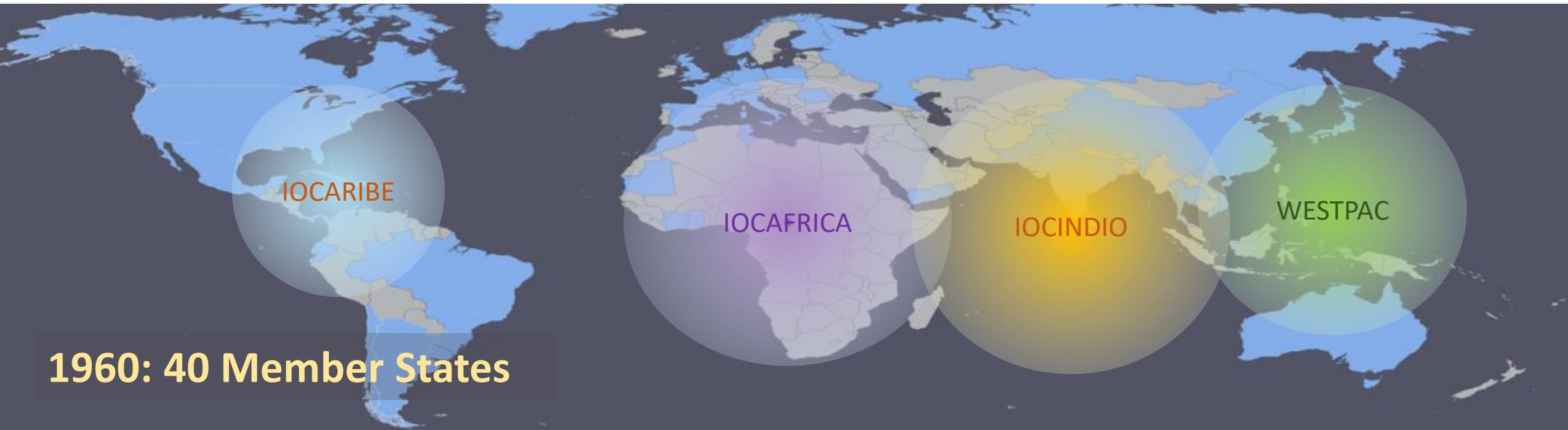
IOC Evolving Agenda

Now



Intergovernmental UN platform for dialogue and cooperation in ocean science

Intergovernmental UN Platform to enable ocean science for addressing **existential** issues



1960: 40 Member States



2024: 150 Member States

- Bahrain
- Brunei Darussalam
- Cambodia
- Latvia
- Liberia
- Lithuania

IOC MEDIUM-TERM STRATEGY 2022-2029



Mission:
to bring together governments
and science community
in achieving ‘the Ocean We Need
for the Future We Want’

One Planet, One Ocean



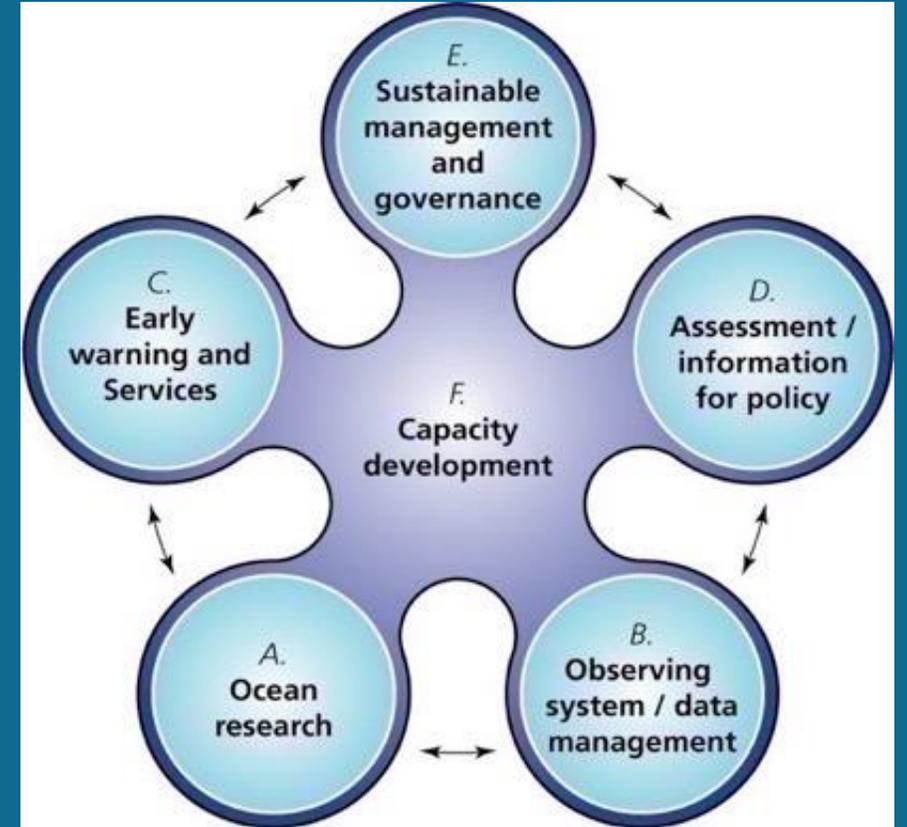
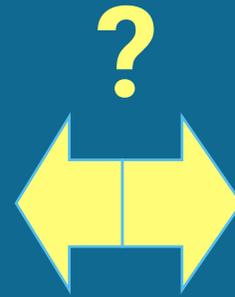
IOC High-Level Objectives:

- **Healthy ocean and sustained ocean ecosystem services;**
- **Effective warning systems and preparedness for tsunamis and other ocean-related hazards;**
- **Resilience to climate change and contribution to its mitigation;**
- **Scientifically-founded services for the sustainable ocean economy; and**
- **Foresight on emerging ocean science issues.**



High-Level Objectives vs Functions

- **Healthy ocean and sustained ocean ecosystem services;**
- **Effective warning systems and preparedness for tsunamis and other ocean-related hazards;**
- **Resilience to climate change and contribution to its mitigation;**
- **Scientifically-founded services for the sustainable ocean economy; and**
- **Foresight on emerging ocean science issues.**



+ Working regionally

*The science we need
for the ocean we want*

Issues

**Solutions
(infrastructure)**

**Enabling
environment**

OCEAN DECADE CHALLENGES



Pollutants



Ecosystems



Food from the Ocean



Ocean economy



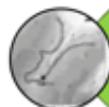
Ocean-climate nexus



Ocean-related risks



Ocean observing system



Ocean digital representation



Capacity development



Behaviour change

- **Clean**
- **Healthy and resilient**
- **Productive**
- **Safe**
- **Predicted**
- **Accessible**
- **Inspiring and engaging**

S T A T U T E S

S T A T U T S

E S T A T U T O S

Y C T A B

Article 1 - The Commission

1. The Intergovernmental Oceanographic Commission, hereafter called the Commission, is established as a body with functional autonomy within the United Nations Educational, Scientific and Cultural Organization (UNESCO).
2. The Commission defines and implements its programme according to its stated purposes and functions and within the framework of the budget adopted by its Assembly and the General Conference of UNESCO.

II.A – Programmes UNESCO 42 C/5

- Major Programme I – Education
- Major Programme II – Natural sciences
- Intergovernmental Oceanographic Commission
- Major Programme III – Social and human sciences
- Major Programme IV – Culture
- Major Programme V – Communication and Information
- UNESCO Institute for Statistics (UIS)
- Intersectoral Programmes

Intergovernmental Oceanographic Commission - Results Framework

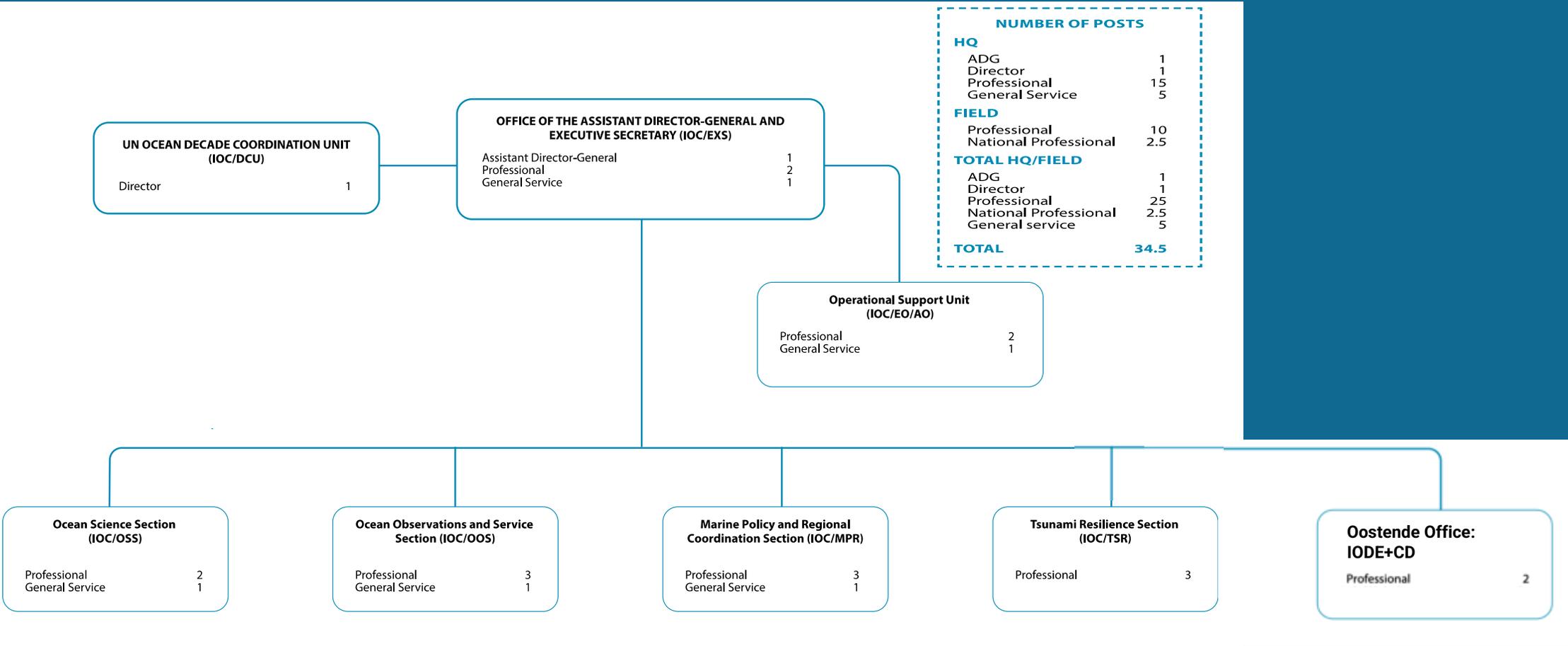
UNESCO Outcome 3 – Enhance knowledge for climate action, biodiversity, water and ocean management, and disaster risk reduction

UNESCO Output 3.IOC1 – Member States critically supported in strengthening their capacity to conduct marine scientific research, generate knowledge, and develop and implement science-based tools, services, and policies in order to reverse the decline in ocean health and accelerate the transition towards sustainable management of ocean-related risks and opportunities

Results Framework – Draft 42 C/5 Base Case

Revised
Draft 42 C/5

Performance Indicator	Baseline 2023	Target 2025	Revised Target 2025
1. Number of Member States with experts actively engaged in the design and implementation of ocean research, generating knowledge to address key sustainability issues	(i) 98 (Africa 22, SIDS 19, 37% women among experts) (ii) SDG 14.3.1: 40 (Africa 8, SIDS 3)	(i) 106 (Africa 24, SIDS 22) (ii) SDG 14.3.1: 45 (Africa 12, SIDS 6)	(i) 108 (Africa 25, SIDS 23) [+2, Africa +1, SIDS +1] (ii) SDG 14.3.1: 47 (Africa 13, SIDS 7) [+2, Africa +1, SIDS +1]



NUMBER OF POSTS	
HQ	
ADG	1
Director	1
Professional	15
General Service	5
FIELD	
Professional	10
National Professional	2.5
TOTAL HQ/FIELD	
ADG	1
Director	1
Professional	25
National Professional	2.5
General service	5
TOTAL	34.5

FIELD OFFICES

Africa	
Professional	2

Asia and the Pacific	
Professional	3
National Professional	1.5*
* post shared with SC	

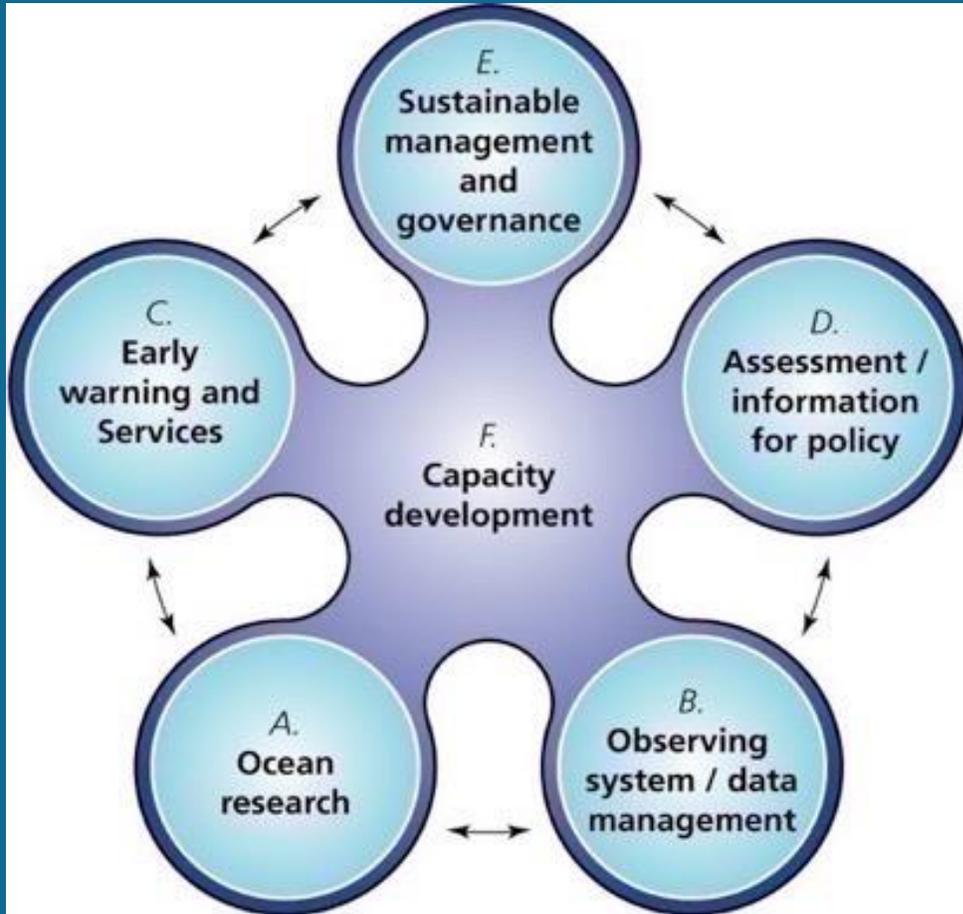
Latin America and the Caribbean	
Professional	1
National Professional	1

Europe and North America	
Professional	4

IODE – Oostende
+
Henrik Copenhagen



IOC Functions, Sections, and Their Heads



Ocean Sciences



Ocean Observations and Services



Tsunami Resilience



IODE and Capacity Development



Marine Policy and Regional Coordination



Decade Coordination Unit

Operational Support Unit



Introduction to IOC & strategic perspectives

Introduction by the Executive Secretary

Ocean Science

Ocean Observations

Data & Information Exchange

Tsunami Resilience

Marine Policy & Regional Coordination

Capacity development

Ocean Decade



IOC Officers Meeting
22-24 January 2024

The IOC Ocean Science Portfolio

Henrik Enevoldsen a.i.

The OSS portfolio - a diverse number of topics and programmes defined by and fitting into a value chain – each with specific missions and objectives



SDG 14 indicators:
14.3.1 OA, 14.a.1
GOSR, 14.1.1 ICEP



Group of Experts TrendsPO

mCDR
Plastics
CC and pollutants



MOS - Multiple Ocean Stressors



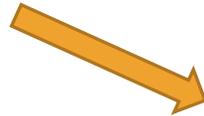
Non indigenous invasive species – CCLME ; ICES-IOC WGBOSV

Input to SDG and UNFCCC

CCLM	CC - UNESCO	Comm	Blue Carbon	EBUS	ECCWO	Gender	GESAMP	GloFouling	GOSR	GO2NE	HAB	ICEP	IOE	ILK	IOC-R	MOS	OA	OL	StoR	TrendsPo	WCRP
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The OSS portfolio – the drivers that defines it

1. Ocean issues (+++)



2. MS, UN, SDGs / Decade priorities (++)



Where the drivers 1,2 and 3 coincide are the niches for IOC OSS / Function A

Reflecting a mechanism



3. Funding options (+)

CCLM	CC - UNESCO	Comm	Blue Carbon	EBUS	ECCWO	Gender	GESAMP	GloFouling	GOSR	GO2NE	HAB	ICEP	IOE	ILK	IOC-R	MOS	OA	OL	StoR	TrendsPo	WCRP
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The OSS portfolio – diverse rooting in the global research and management community

- + 30 experts groups / task teams / boards / committees / regional groups
- Extensive global networks in the research community
- *95% pro bono*
- Long term (+30 years) to *ad hoc*

CCLM	CC - UNESCO	Comm	Blue Carbon	EBUS	ECCWO	Gender	GESAMP	GloFouling	GOSR	GO2NE	HAB	ICEP	IOE	ILK	IOC-R	MOS	OA	OL	StoR	TrendsPo	WCRP
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OSS staff and tasks (alpha order)



Aude le
Bourhis
GOSR /
CCLME



Elisabetta
Bonotto
Blue
Carbon, OSS
Comm.



Francesca
Santoro
Ocean
Literacy,
Youth



Henrik
Enevoldsen
HAB, ICEP,
GESAMP,
TrendsPO



Itahisa
Déniz González
CCLME



Katherina
Schoo
OA

Gaia Intonti,
Esteban Burguett
Valentina Loval,
Ana Vitoria Mgalhas,
Paul Morandiera
Alessia Tombolini **OL**
Venice team



Kirsten
Isensee
GO2NE,OA, GOSR,
StOR, IOC-R, Gender



Pia
Haecky
GloFouling



Simonetta
Secco
General staff



Yun Jie Lee
StOR, GOSR



Yun
Sun
HAB, OL, Docs

Jeremy
Sterling
OA

The OSS portfolio – examples of recent main achievements

- **GOOD – Decade programme** and publication of a Global Ocean Oxygen Data Atlas.
- **OARS - Decade programme** and an SDG 14.3.1 – federated system to obtain relevant OA data from multiple sources.
- **Decade Programme for Blue Carbon**, IPBC coordination and launch of HILAG
- **Decade IOC-R community of practice** and update of vision document underway.
- **Decade Programme on HAB Solutions** and FAO back as co-sponsor of IPHAB.
- **Decade Clean and Healthy Ocean Integrated Program (FAO/GEF)**
- Risk assessment methods for marine litter and microplastics (GESAMP)
- Ocean Interventions for Climate Change Mitigation assessment framework (GESAMP)
- **WCRP synergy with the Decade and its Challenge 5 (the Ocean-Climate nexus).**
- IOC Guidelines Indigenous and Local Knowledge (ILK) in IOC programs.
- Best practices and guidelines for biofouling management in 4 non-shipping sectors (GEF/GESAMP)
- Scientific knowledge and capacity in the Canary Current Large Marine Ecosystem on invasive alien species and other ocean stressors.
- **GOSR Capacity tracker –regular reporting towards SDG 14.a.1**
- Drafting of 2nd Ed of the **StOR**

CCLM	CC - UNESCO	Comm	Blue Carbon	EBUS	ECCWO	Gender	GESAMP	GloFouling	GOSR	GO2NE	HAB	ICEP	IOE	ILK	IOC-R	MOS	OA	OL	StoR	TrendsPo	WCRP
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The OSS portfolio – Ocean Literacy

Vision statement

Through international collaboration, exchange of good practices and creation of partnerships, IOC assists its Member States to reinforce the work on ocean literacy, so that ocean knowledge is fully leveraged to advance ocean sustainability.

2023 Outcomes

- Establishment of the **Ocean Literacy Group of Experts**
- Circular Letter to Member States as a call to support **Blue Curriculum**
- Establishment of the **Kindergarten of the Lagoon**
- Lorenzo Bertelli (Prada) as **Patron of the UN Ocean Decade**
- Establishment of the **Decade Coordination Office** - Challenge 10

CCLM	CC - UNESCO	Comm	Blue Carbon	EBUS	ECCWO	Gender	GESAMP	GloFouling	GOSR	GO2NE	HAB	ICEP	IOE	ILK	IOC-R	MOS	OA	OL	StoR	TrendsPo	WCRP
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The OSS portfolio – Ocean Literacy



IOC OL 2024-2025 and beyond:

- **Advance on the blue curriculum.** A global congress (Cat IV) on ocean literacy will be held in Venice in 2024.
- **Advance on regional work** through a closer collaboration with regional sub-commissions, in particular IOCARIBE, IOCAFRICA, and WESTPAC.
- **Expand the transdisciplinary approaches for OL** strengthening the collaboration with other sectors CLT, ED and SC.
- **Funding from Prada for 2 years (3M EUR to support DCO, Development of Ocean Literacy Programmes and actions.**

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IOC Ocean Science – strategic directions

Staying relevant:

- Topics addressed should always fit in the value chain of the UN system as a whole and where IOC can deliver substantive science input on clearly defined topics.
- This implies that the OSS portfolio can never be a marine science text book, cannot address everything that is scientifically important.
- Inertia in addressing and delivering - science takes time.

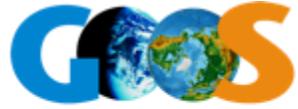
Timely delivery of the required science:

- Even if a meaningful priority, clear IOC niche and a demand, IOC will only deliver if a donor see IOC as the right agent to deliver or facilitate delivery, we are not alone.
- IOC Ocean Science topics are close to, or is, research and obtaining competitive research funds is challenging as peer reviews may not agree to UN process defined priorities.

Challenge:

- A reasonable focus in order to keep the capacity to deliver substantially and, at the same time, stay responsive.

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The Global Ocean Observing System

IOC Observation and Services Section Global Ocean Observing System (GOOS) Update

Dr Joanna Post
IOC/GOOS

GOOS 2030 Strategy

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



Delivery across 3 target application areas

Climate

Forecasting

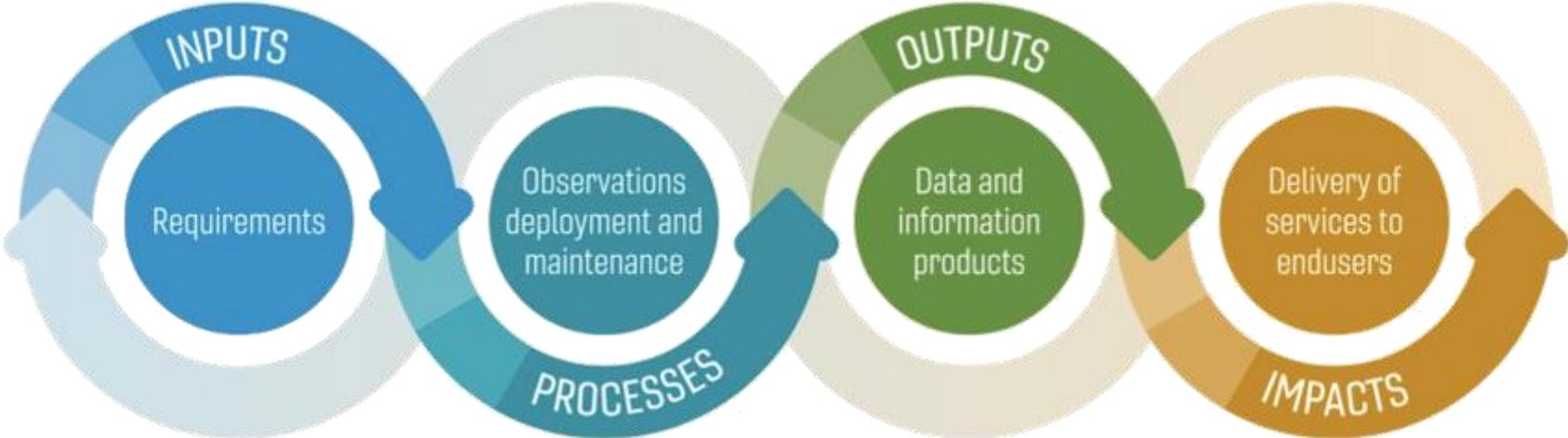
Ocean health

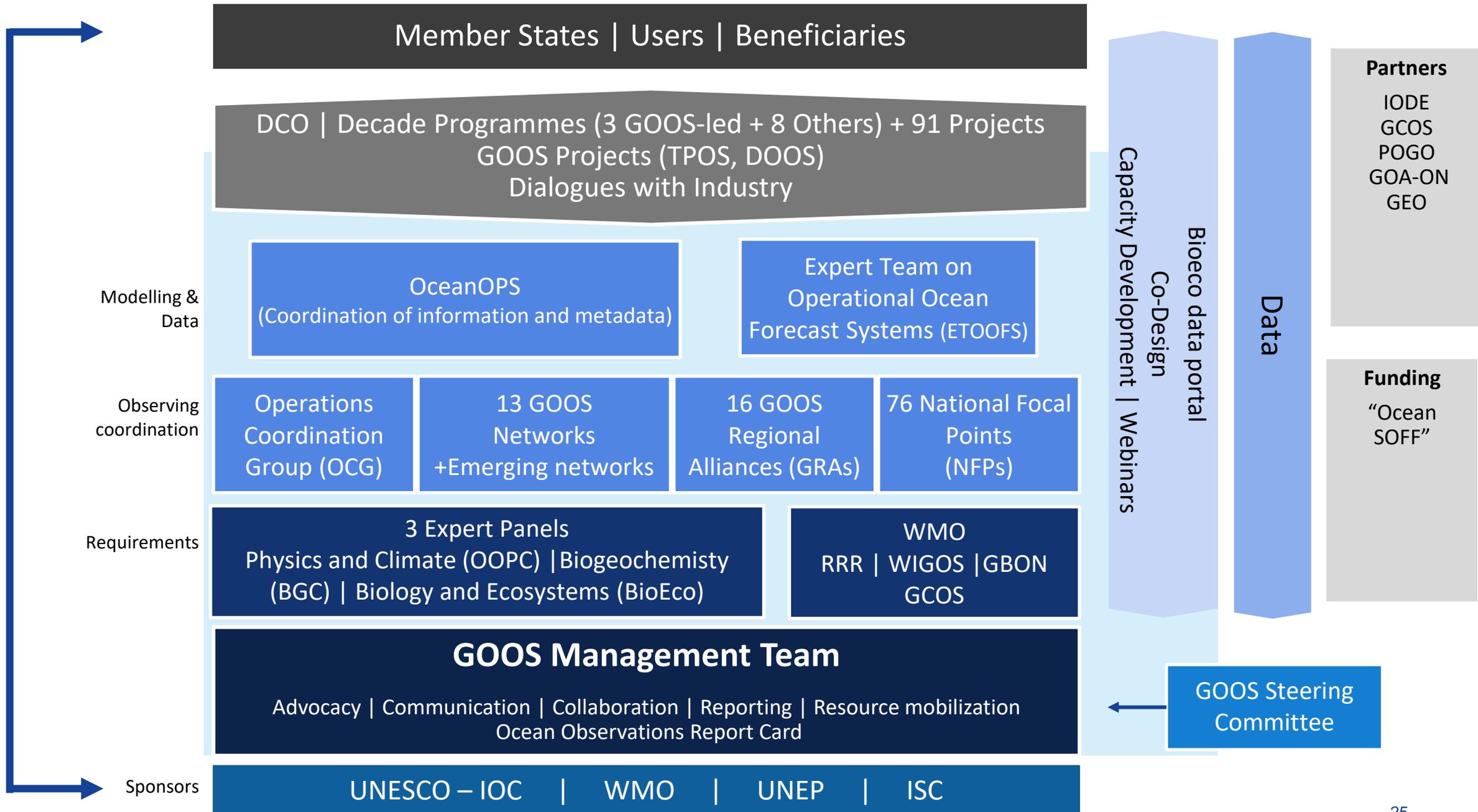


*mitigation and adaptation,
seasonal forecasts*

*supporting the marine economy
and reducing risk*

*sustainability of ocean
ecosystem services*





GOOS Management Team



Ann-Christine Zinkann,
OCG / Networks
NOAA, **US**



Laura Stukonyte,
GOOS communication,
Barcelona, **Spain**



Belen Martin Miguez,
OOPC Panel
WMO headquarter in Geneva, **Switzerland**



Maciej Telszewski
BGC Panel
IOCCP, Sopot, **Poland**



Joanna Post, Emma Heslop, Emily Smith
Yu Ting, Denis Chang Seng, Forest Collins
GOOS headquarter in Paris, **France**



Orens De Fommervault

OceanOPS team, Brest, **France**

From left: Martin Kramp, Long Jiang, Magali Krieger,
Mathieu Belbeoch, Anthonin Lize, Victor Turpin,
Emanuela Rusciano and
Orens de Fommervault, Monaco, France

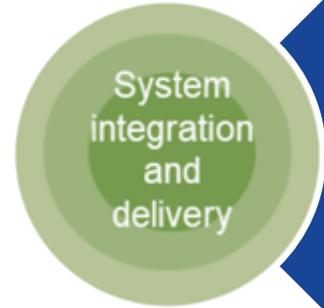


Ana Lara-Lopez
BioEco Panel
Hobart, **Australia**

Progress 2023



- 1. Partnerships: Strengthening Regional alliances
National focal points – first meeting
- 2. Advocacy: COP28 good outcomes on ocean observations
Strong collaboration with WMO including on Global GHG Watch
- 3. Evaluate system: Observation report card 2023
- 4. Empower end-user applications: Operational Ocean Forecasting Guide



- 5. Design: Strengthened structure and standards
EOV paper *in process*
- 6. Implementation: Continued coordination across GOOS
Ocean observations within National jurisdiction (2 meetings, co-chairs chosen)
Decade Coordination Office Ocean Observing
- 7. Open Data: Data implementation strategy by OCG
BioEco Portal



- 8. Innovation: Dialogues with Industry
Webinars including on Ocean Decade
- 9. Develop capacity: Evolving marine cables network
- 10. Extend/Evolve system: Decade Programmes
Marine Debris Observing system (IMDOS)
- 11. Governance: Supporting Steering Committee (CL for new members) & JCB
Laying groundwork for evolving governance

In-situ observing system status

	GOOS <i>in situ</i> networks ¹	Implementation		Data & metadata		Best practices ⁶	GOOS delivery areas ⁷		
		STATUS ²	REAL TIME ³	ARCHIVED DELAYED MODE ⁴	META-DATA ⁵		OPERATIONAL SERVICES	CLIMATE	OCEAN HEALTH
	Ship based meteorological - SOT	★★★☆☆	★★★☆☆	★★★☆☆	★★★☆☆	★★★☆☆			
	Ship based oceanographic - SOT	★★★☆☆	★★★★☆	★★★★☆	★★★☆☆	★★★☆☆			
	Repeated transects - GO-SHIP	★★★★☆	Not applicable	★★★★☆	☆☆☆☆	★★★★☆			
	Sea level gauges - GLOSS	★★★★☆	★★★☆☆	★★★★☆	★★★☆☆	★★★★☆			
	Time series sites - OceanSITES	★★★☆☆	Not applicable	★★★★☆	★★★☆☆	★★★★☆			
	Moored buoys - DBCP	★★★★☆	★★★★☆	★★★★☆	★★★☆☆	★★★★☆			
	Tsunami buoys - DBCP	★★★☆☆	★★★★☆	★★★★☆	☆☆☆☆	★★★★☆			
	HF radars	★★★☆☆ Emerging	★★★☆☆	☆☆☆☆	☆☆☆☆	★★★★☆			
	Drifting buoys - DBCP	★★★★☆	★★★★☆	★★★★☆	★★★☆☆	★★★★☆			
	Profiling floats - Argo	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★☆☆			
	Deep & biogeochemistry floats - Argo	★★★☆☆ Emerging	★★★★☆	★★★★☆	★★★★☆	★★★☆☆			
	OceanGliders	★★★☆☆ Emerging	★★★☆☆	★★★☆☆	★★★☆☆	★★★☆☆			
	Animal borne sensors - AniBOS	★★★☆☆ Emerging	★★★☆☆	★★★★☆	☆☆☆☆	★★★☆☆			



Status: status of the implementation compared to the community widely adopted target when it exists; network self-assessed status when target doesn't exist.

Real time: data freely available, without any restriction, on Global Telecommunication System of WMO and internet.

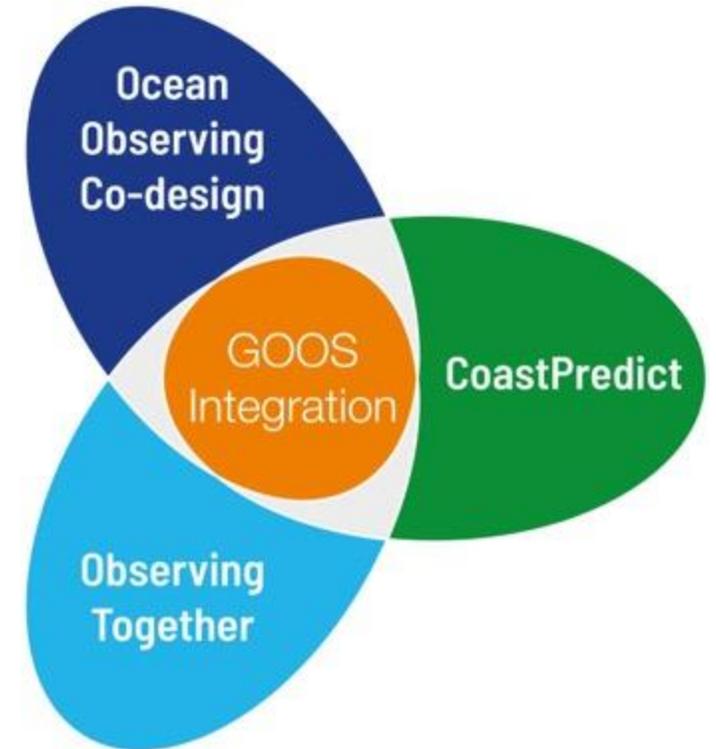
Archived delayed mode: data of the highest quality available for scientific analysis (e.g. climate studies)

Metadata: information required by OceanOPS

Best Practices: community reviewed and easily accessible documentation encompassing the observations lifecycle

Strategic direction 2024 - 2025

- Strengthen GOOS office support and system components
- Respond to IOC Assembly mandates
 - including OONJ, JCB, GCOS, governance
- Continue to strengthen relationship with sponsors and relevant organizations such as GEO, satellite community ...
- Respond to MLAs and other policy needs
 - including UNFCCC, CBD, BBNJ
- Evolve GOOS
- Administer GOOS actions in the GCOS Implementation Plan
 - including implementation plan for ocean C
- Build engagement and advocacy
 - including positioning IOC/GOOS as global voice on ocean observation needs in response to policy (e.g. 30x30, indicators, mCDR, new technologies etc)
- Further develop regional coordination and build capacity at regional and national level
- Synergize GOOS and UN Ocean Decade activities

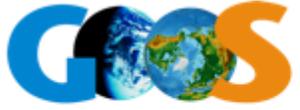


We cannot act on what we do not measure

Strategic Direction 2024-2025 Linkages...

IOC section/programme	Cooperation
Ocean Science	<ul style="list-style-type: none">• Ocean Carbon (IOC-R, Blue Carbon, OARS)• StOR
IODE	<ul style="list-style-type: none">• IODE/GOOS Ocean Best Practices System (OBPS)• BioEco Portal
Tsunami resilience	<ul style="list-style-type: none">• GLOSS
Marine Policy & Regions	<ul style="list-style-type: none">• Coordinate to provide a fit for purpose observing system to support policy needs• Strengthened understanding of cost/benefit
Capacity Development	<ul style="list-style-type: none">• Regional and national capacity development (substantive and technical) to support strengthening of GOOS at national and regional level





The Global Ocean Observing System

Thank you

goosocean.org





unesco

Intergovernmental
Oceanographic
Commission

IODE 2024-2025

IOC Officers Meeting
UNESCO HQ, 23-25 January 2024



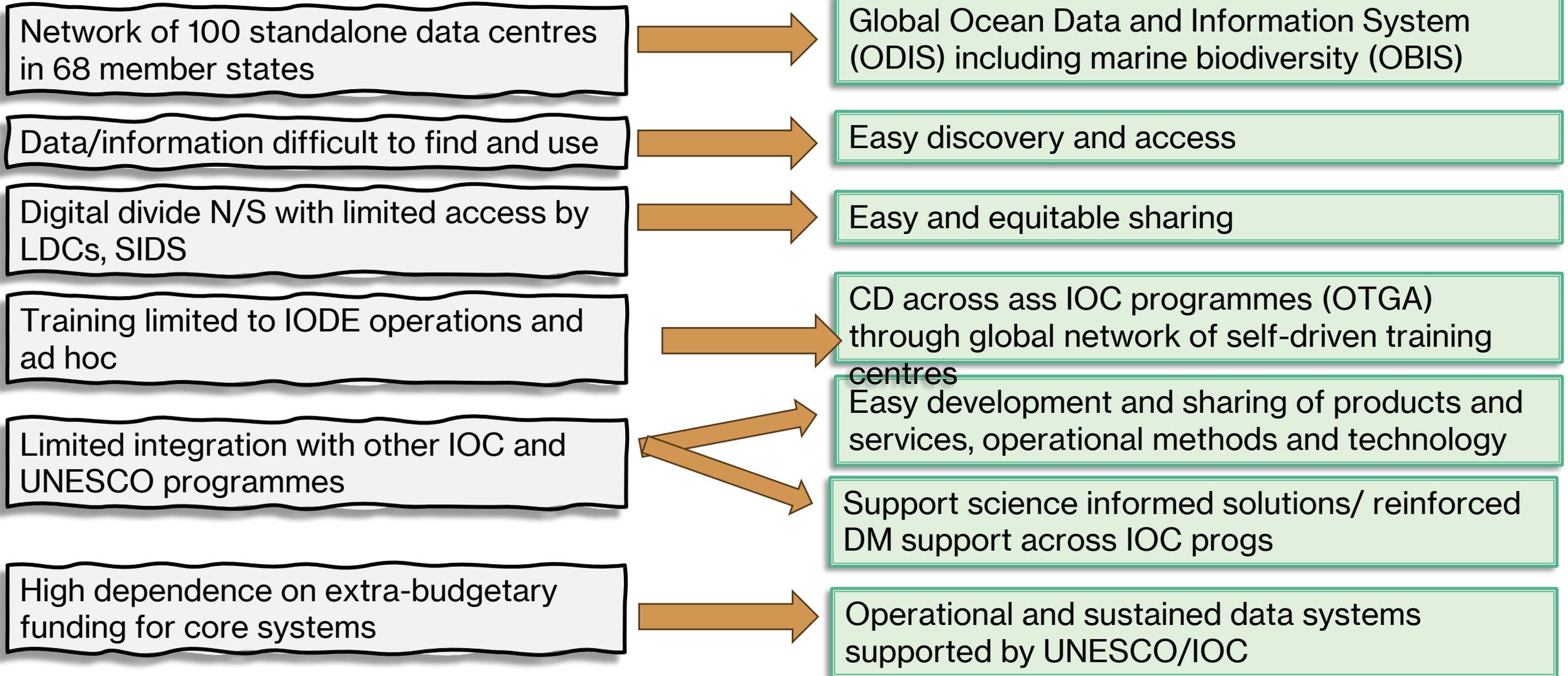
IODE 1961



- Established in 1961
- *"to enhance marine research, exploitation and development, by facilitating the exchange of oceanographic data and information between participating Member States, and by meeting the needs of users for data and information products"*

<https://www.iode.org>

IODE transformation 2023



IODE transformation 2023

ODIS

Federated digital ecosystem

- 28 partners
- World Ocean Database
- GODAR
- GTSPP
- GOSUD
- IQuOD
- AquaDocs
- OceanExpert
- ICAN
- OBPS (jointly with GOOS)
- QMF

OBIS

Global open-access data and information clearing-house on marine biodiversity for science, conservation and sustainable development

- 33 OBIS nodes
- PacMAN
- eDNA Expeditions
- MARCO-BOLO
- DTO-BioFlow
- MPA Europe
- eDNAquaPlan
- BioEcoOcean

- GOOS BioEco Portal
- HAB portal

OTGA

Federated training ecosystem with joint content platform and network of training centres

- 17 regional and specialized training centres
- Close cooperation with IOC Capacity development Unit

101 data centres in 68 Member States

OBIS



Ward.



Pieter



Silas.



Saara



Lisa.



Elizabeth.



Katherine.



Martha

ODIS



Pier Luigi.



Lucy



Doug.



Jeff

IODE core team

OTGA



Ana Carolina



Greg



Aidy



Uday

+ >100 members of SGs
+ >100 NODC, ADU, AIU colleagues
+ >100s experts

IODE management, administrative and technical support



Peter



Kristin



Sofie



Arno



Lotta

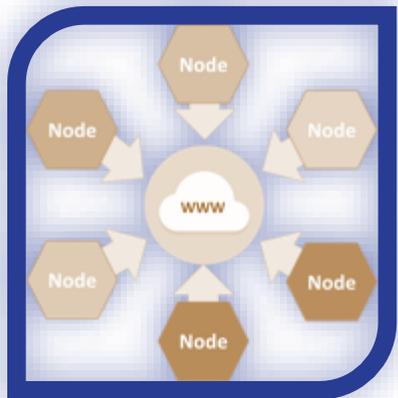


Paula

The Ocean InfoHub and ODIS



Mission: To build a sustainable, interoperable, and inclusive digital ecosystem for all ocean stakeholders



- Improve discovery and interoperability of existing information systems across sectors (private, public, etc) for sustainable ocean management
- Provide capacity building to support contributors and end-users of the global OIH and regional nodes
- Connect independent digital initiatives to form a diverse, but interoperable and inclusive, Ocean Data and Information System

2021-2023 Proof of concept demonstrated with 28 partners from around the world

2024-2025

- Begin implementation of ODIS as an IODE Programme
- **ODIS offers a long-term solution for NODCs, ADUs, scientific infrastructures, and new partners to co-implement FAIR**
- **The “ocean digital ecosystem” aligned to the “Data & Information Strategy for the UN Ocean Decade”**

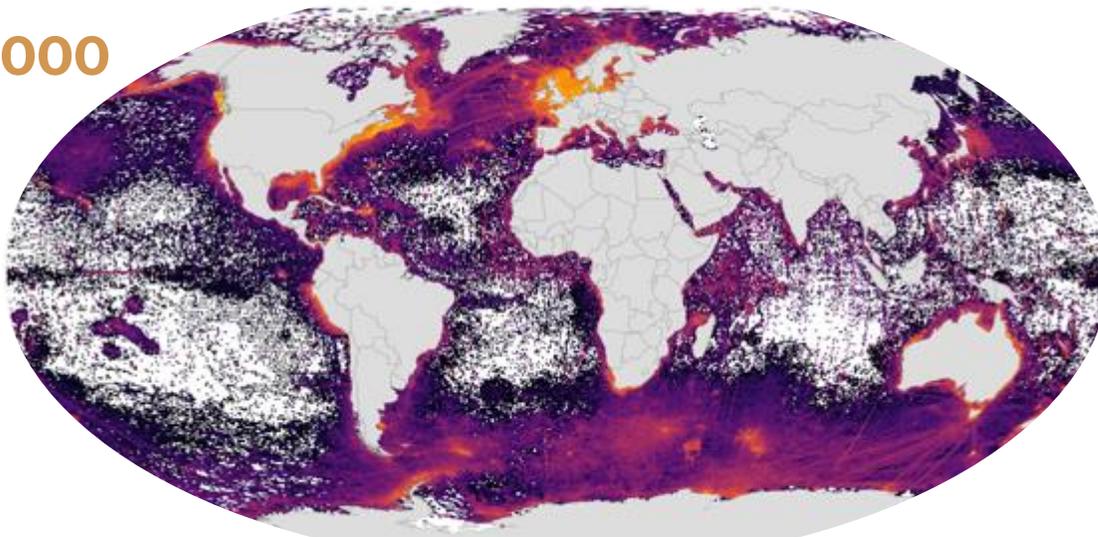
The internet of ocean data and information?



Ocean Biodiversity

To be the most comprehensive gateway to the world's ocean biodiversity and biogeographic data and information required to address pressing coastal and world ocean concerns.

Since 2000



Highlights

- x10 data contributions
- x2 scientific papers
- ±5M US\$ in projects (5 EU + 2 FUST)
- Increase from 2 to 6 staff
- eDNA focus, UNESCO DG priority

Priorities
2024
beyond

Data Mobilization
Data Products (CBD, IPBES, WOA, ...)
Partnerships

How?

- Two OBIS coordination groups (data & products)
- Cooperation with GOOS and OCG
- Shared workspace for products
- Training and local field projects

OTGA – strategic objectives and action

Sharing **training resources and expertise** in a coordinated framework



17 Regional and Specialized Training Centres

Languages used for teaching: English, Spanish, French, Portuguese

VISION

To build equitable capacity related to ocean research, observations, and services in all IOC Member States by delivering training courses on a range of topics addressing the priority areas of the UN Decade of Ocean Science for Sustainable Development and the 2030 Agenda and its SDGs as well as supporting the implementation of the IOC Capacity Development Strategy.

Outcome N° 1 Increased capacity and skills by ocean specialists to use standards and best practices tools towards achieving SDG 14.

Outcome N° 2 Regional and Specialized Training Centres efficiently developed and managing the training programme

How?

- **Training courses (online, F2F, blended)**
- **Network of RTC/STC**
- **Common e-Learning platform**
- **Quality procedures ISO certification**

Priorities 2024 beyond

- + face-to-face training
- international internship
- education innovation
- resource mobilization

<https://oceanteacher.org>



Linkages...

IOC section/programme	Cooperation
Ocean Science	<ol style="list-style-type: none">1. Harmful Algal Information System (HAIS)2. Global Ocean Oxygen Database and Atlas (GO2DAT)3. SDG 14.3.1 data portal
Ocean Observations (GOOS)	<ol style="list-style-type: none">1. IODE/GOOS Ocean Best Practices System (OBPS)
Tsunami resilience	<ol style="list-style-type: none">1. Training courses through OTGA
Marine Policy & Regions	-
Capacity Development	<ol style="list-style-type: none">1. OceanTeacher Global Academy2. CD-Hub

IODE strategic objectives

In simple terms...



- Further develop the IOC Ocean Data and Information System (ODIS) into a global ocean data and information ecosystem making available data and information sources of all member states and to all member states
- Further develop the Ocean Biodiversity Information System (OBIS) into a globally interconnected community of practice, facilitating seamless and near-real-time data flows, from biological observations to practical applications.
- Ensure that all IOC Member States have the necessary capacity to manage ocean data and information (as part of the IOC value chain) and to develop products, services and policy advice for sustainable ocean planning and management

360

Confirmed tsunamis were observed worldwide between 1992 and 2022. Thirty-eight of these resulted in the loss of life.

We do not know when and where the next tsunami will hit, but we know **the impacts can be devastating.**

- Overview
- What has happened in 2023
- What is strategic direction 2024-25
- Links to Decade

B. Aliaga
Head IOC Tsunami Resilience Section



Credit: ©mTaira / Shutterstock

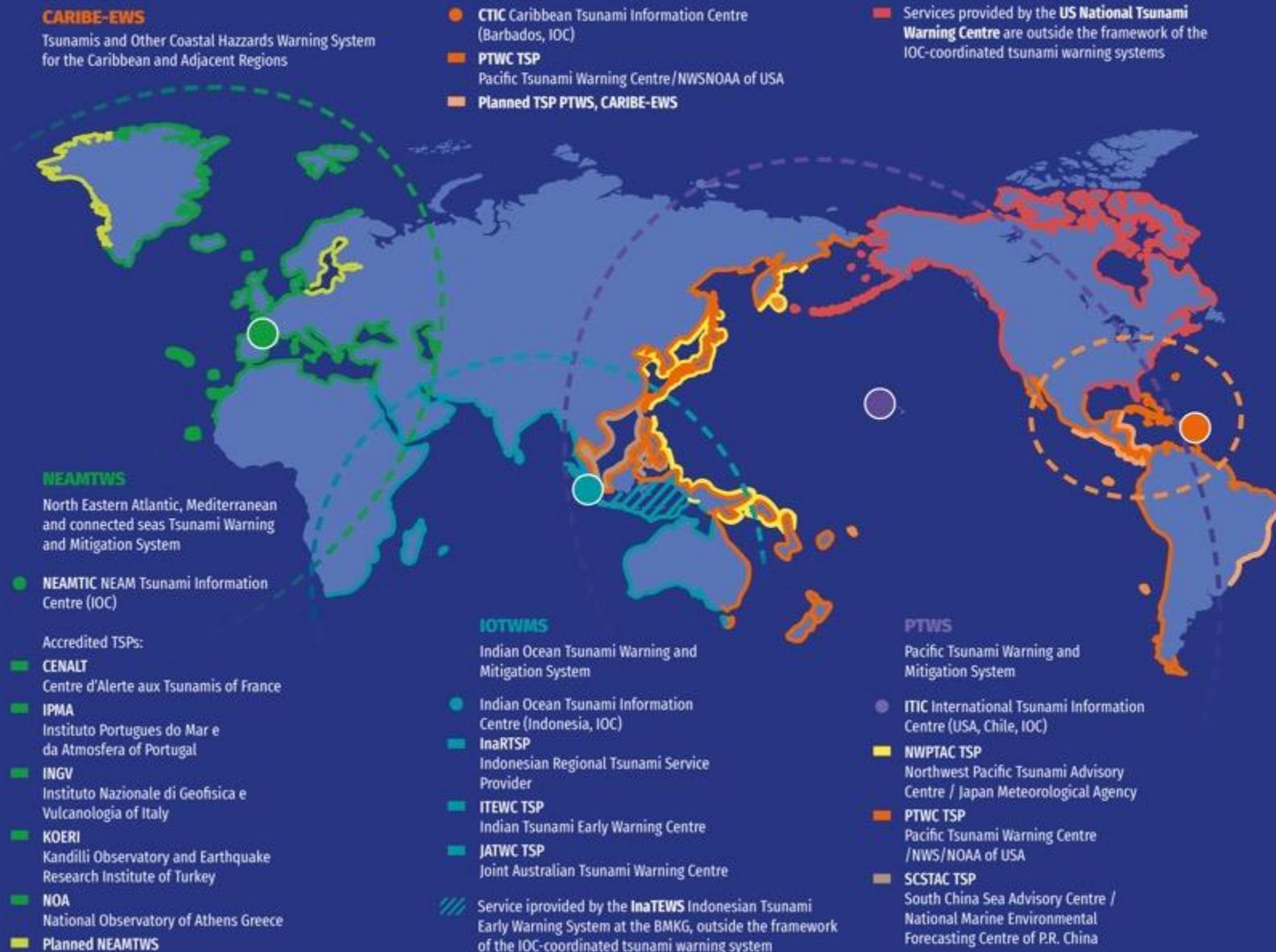
These events call for enhanced coordinated **national and international efforts** for the Tsunami Warning Systems to **account for all tsunamis and to prepare people to respond** to all tsunamis. The Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) was given the United Nations (UN) mandate to establish global tsunami warning services operating in different ocean basins.

Each service is coordinated by a regional Intergovernmental Coordination Group (ICG). The ICGs primary role is to **organize and coordinate regional tsunami mitigation activities**, including tsunami monitoring, the issuance of timely tsunami warnings, and community response.

GLOBAL TSUNAMI WARNING AND MITIGATION SYSTEMS

Intergovernmental Oceanographic Commission of UNESCO 2021

www.ioc-tsunami.org



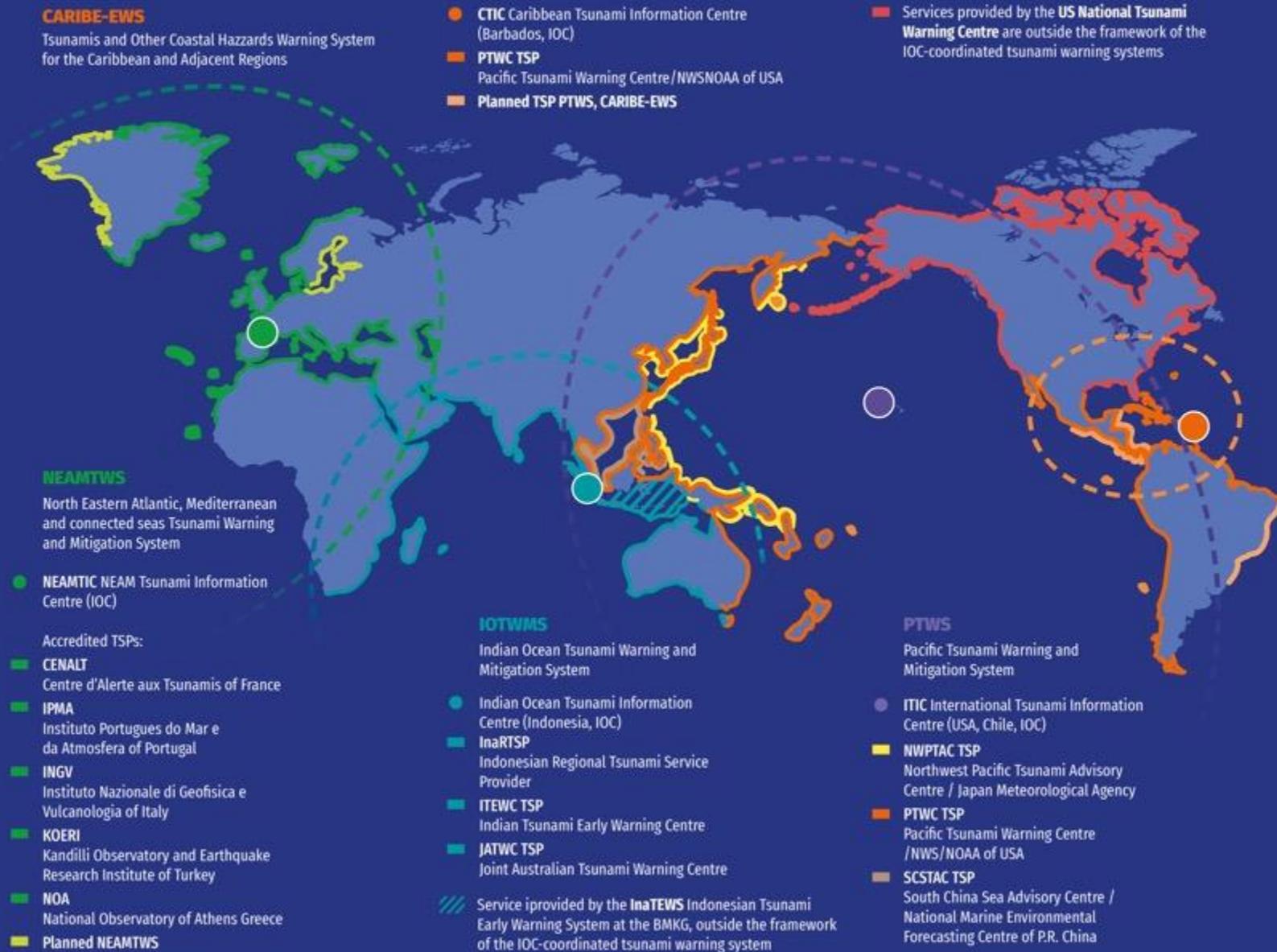
Within each region, Tsunami Service Providers (TSPs) **monitor seismic and sea-level activity and issue tsunami threat information** to National Tsunami Warning Centres (NTWC) and Tsunami Warning Focal Points (TWFP).

Tsunami Information Centres (TICs) have been established in each region to **provide education, outreach, technical and capacity building assistance to the countries and the general public in preventing, preparing and mitigating measures for tsunamis.**

GLOBAL TSUNAMI WARNING AND MITIGATION SYSTEMS

Intergovernmental Oceanographic Commission of UNESCO 2021

www.ioc-tsunami.org



We have gone a long way...

ITSU renamed

September 2005, Vina del Mar, Chile
The 20th Session of the ICG/PTWS-XX decides to change its name to the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System

ITSU development

2005

The tragedy brings world attention to the dangers of tsunamis in every nation and initiates the development of warning and mitigation systems in the Indian Ocean

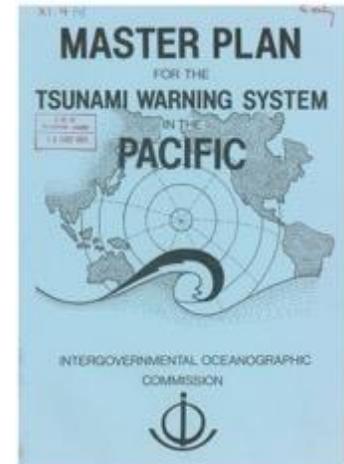
3 ICGs established

2004

Indian Ocean Tsunami

1989

First Master Plan



1977

The Honolulu Observatory renamed Pacific Tsunami Warning Center PTWC

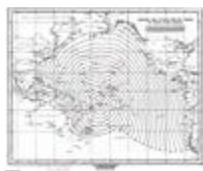
ITSU
IOC/IV-6, International Aspects of the Tsunami Warning System in the Pacific, Paris, November 1965

1965

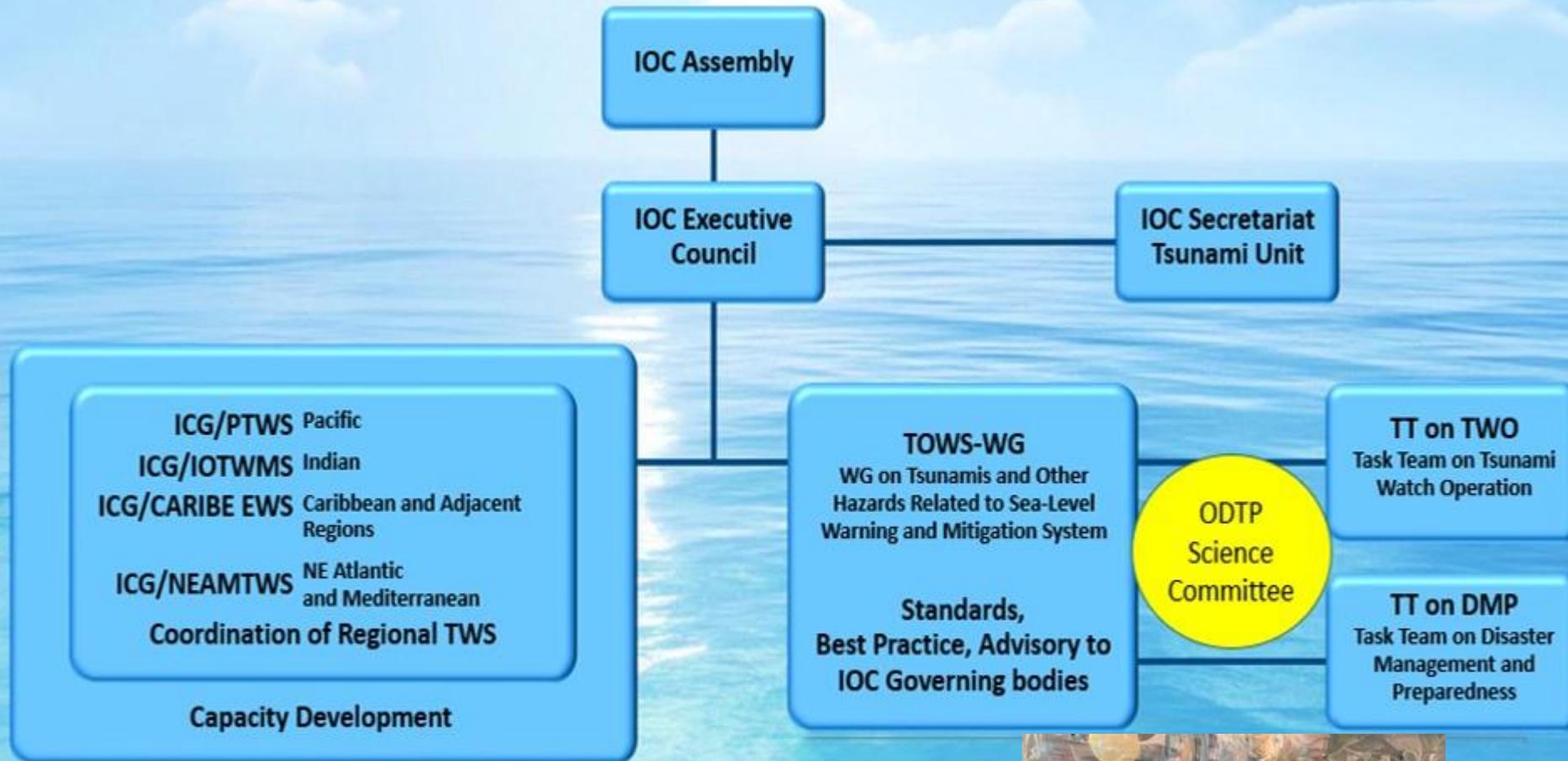
1948 the Honolulu Magnetic Observatory, under the US Coast and Geodetic Survey (USCGS) established

1952. The Japan Meteorological Agency started its national tsunami warning center

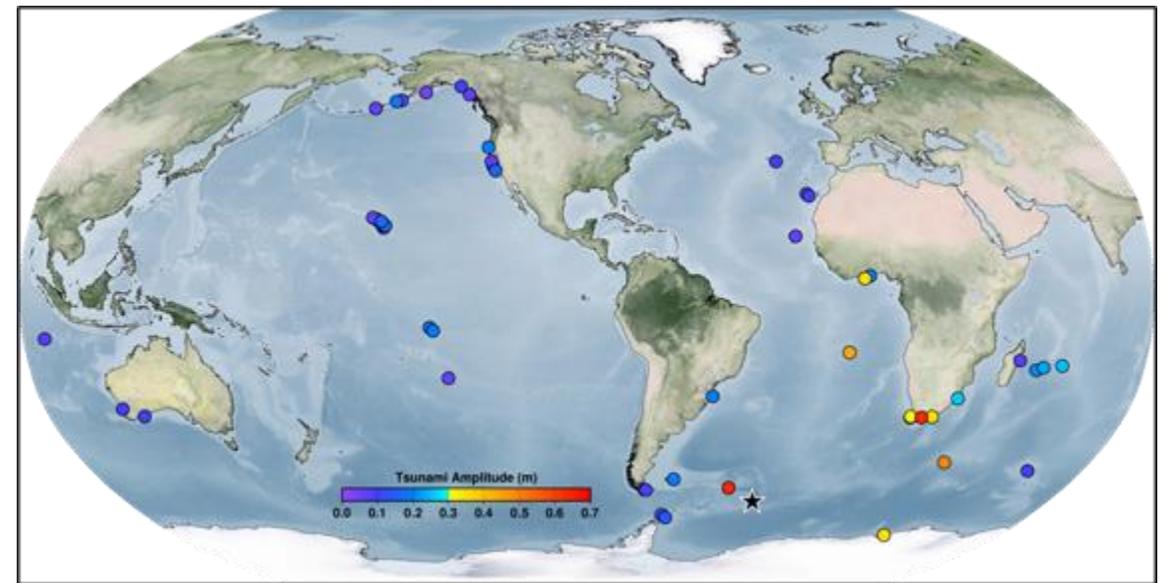
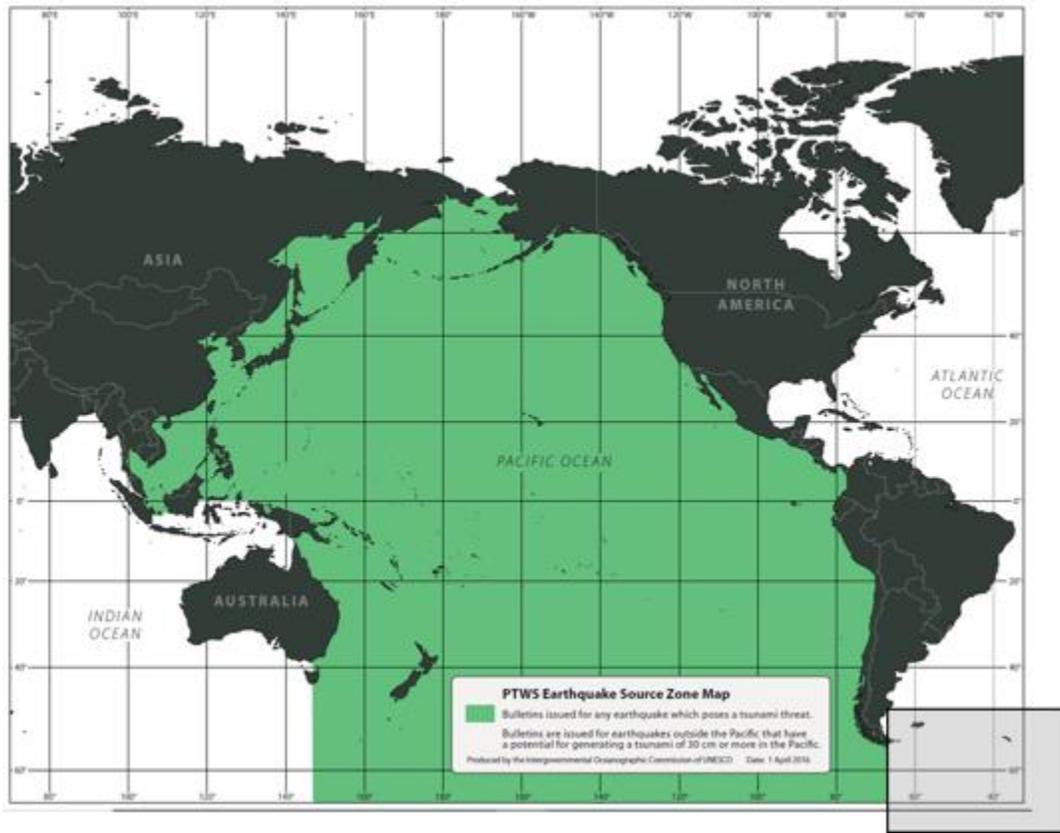
1965 - IOC Working Group on the International Aspects of the Tsunami Warning System in the Pacific, organized by the USCGS on behalf of the IOC, Honolulu, 27-30 April 1965



Governance



Expanding borders – regions non-covered

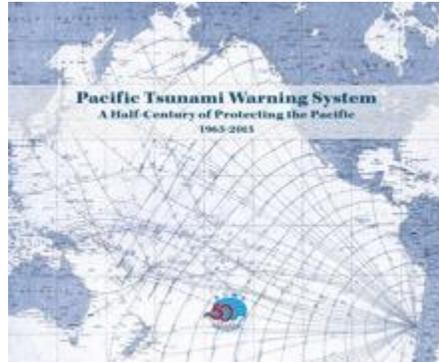


Expanding borders –including other sources



Minamisoma, Fukushima prefecture, Japan. 2011 March 11, Mw 9.0, Honshu, Japan earthquake and tsunami. (Credit: AFP/AFP/Getty Images.)

2011 Tōhoku earthquake and tsunami



2011
50th anniversary of TSU/PWTS



2018

Palu, Indonesia
Landslide generated tsunami



December 18, 2018 December 30, 2018



Volcano generated tsunami

Sunda strait, Indonesia

2018



UN Ocean Decade Tsunami Programme

2022

TOWS Task Teams

The Group decided to establish a specific Ad Hoc Team on **Meteo-tsunamis** & Ad Hoc Team on **Tsunamis Generated by Volcanoes**

Inter-ICG Task Team on Hazard Assessment Related to Highest Potential Tsunami Source Areas



2016 ->Recent case studies demonstrated complexity and variability, as well as importance of other types of tsunami sources and that earthquake generated Tsunamis can happen in any subduction zones.

OCEAN DECADE TSUNAMI PROGRAMME:

THE MAIN SOCIAL OUTCOME

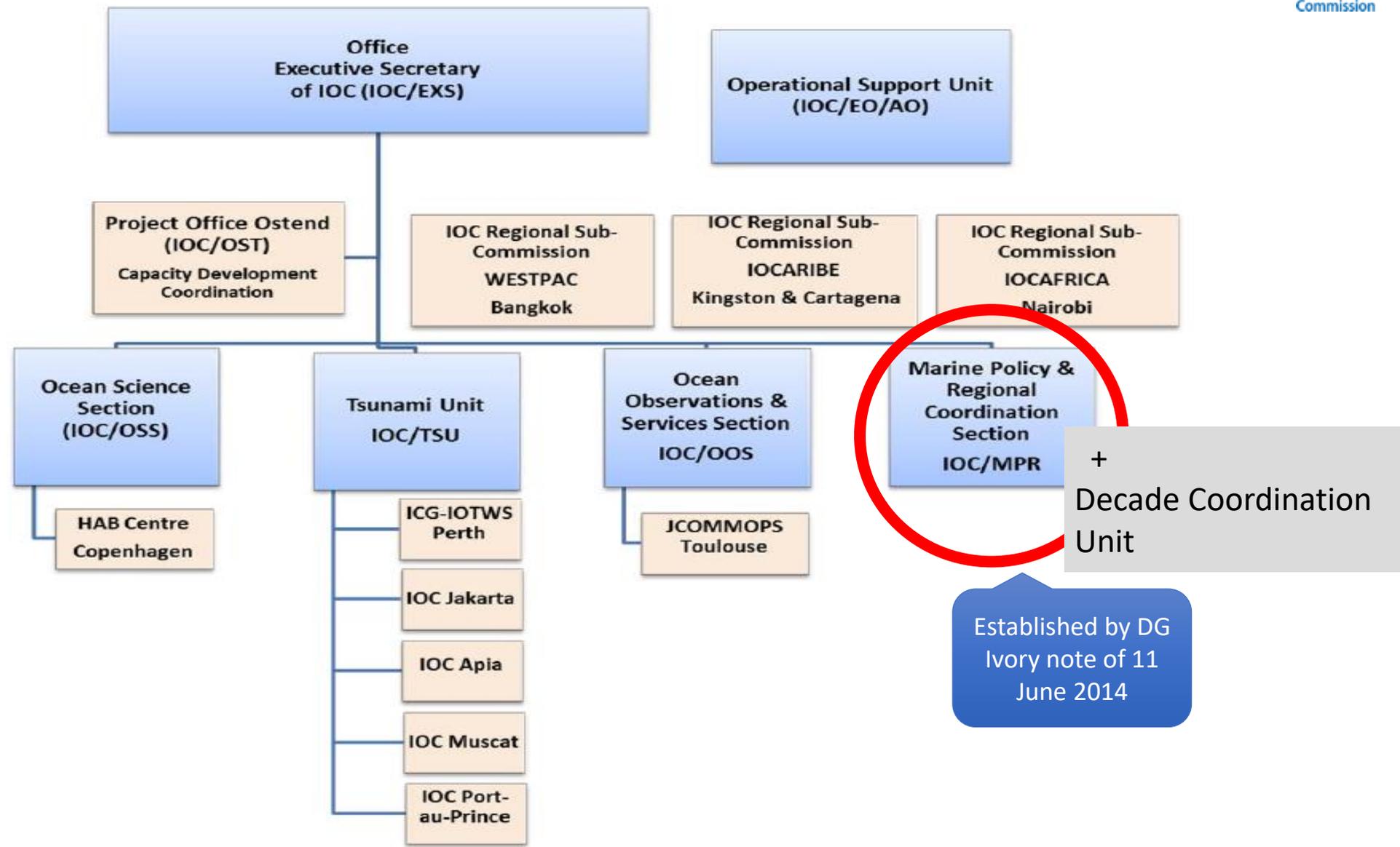
TO MAKE
100%

OF COMMUNITIES AT RISK OF TSUNAMI
PREPARED FOR AND RESILIENT TO TSUNAMIS

BY
2030



Where does MPR seat





Marine Policy and Regional Coordination

Section – 3 functions



1. Coordination of IOC's external policy/science, communication and multi-agency partnership



**IOC
MPR**

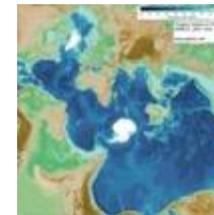


2. Translating science into ocean / marine management Tools (ICAM, MSP, SOP, LME)

3. Regional coordination



4. Ocean mapping



120
1903–2023

1. IOC external policy coordination function

- Provide coordinated inputs to relevant UN processes resulting in higher level of visibility for IOC:
 - UN SG reporting on Oceans / Omnibus annual resolution on oceans
 - Informal Consultative Process (ICP)
 - World Ocean Assessment (WOA)
 - BBNJ Agreement/implementation
 - Agenda 2030/ Sustainable Development Goals, but also UNFCCC, CBD, etc
- Act as IOC focal point for interaction with UNCLOS (especially regarding MSR /TMT provisions)
- Facilitate the development of inter-agency partnerships in support of IOC programmes /Act as IOC focal point in UN-Oceans
- Provide guidance on IOC communication aspects and formulation/delivery of relevant policy messages as they relate to IOC contribution
- Facilitate resource mobilization with multilateral sources of funding (ie GEF/ Adaptation Fund)
- Coordination with UNESCO on Ocean matters (UNESCO Executive Board on ocean)



unesco

Intergovernmental
Oceanographic
Commission



Convention on
Biological Diversity



THE LAW
OF THE SEA



2. Work on Ecosystem-based management /MSP/LMEs

- Lead the development of **science-based marine management tools/** guidelines related to Integrated Coastal Management, Marine Spatial Planning, coastal hazard mitigation and adaptation and document best practices
- Develop and manage **regional coastal management projects** and provide technical secretariat to Community of Large Marine Ecosystem projects (GEF IW/LME: Learn), advancement of the ecosystem science and management, through Annual LME Consultation
- Implement **regional training** in relevant EBM areas
- Working with **IOC Sub-commissions** in development of ICAM and MSP related activities
- **Building partnership** with other institutions (European Commission, UNDP, GEF, WB, Ocean Action Coalition)



Marine Spatial Planning : A pillar to build on

FRAMEWORK



2017-2022

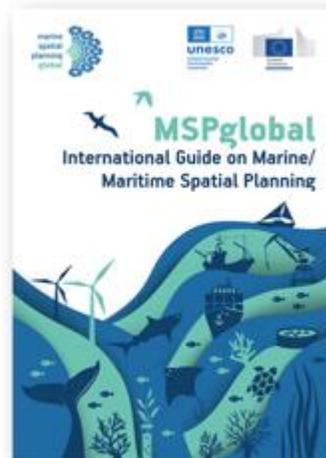
2022-2027

MSProadmap target:

Support the achievement of covering at least 1/3 of the global maritime areas under national jurisdictions with marine spatial plans by 2030.



PROJECT



- Science
- Indigenous LK
- Transboundary coop.
- Climate Change
- MPA
- Blue Economy

COMMUNITY OF PRACTICE



Africa

LAC

SE Asia

+ tracking of national
MSP practice (eg StOR)

Why IOC must advance Integrated Coastal Area Management/MSP to Sustainable Ocean Planning and management



Bringing together IOC's work in other areas of ocean management and planning into a coherent whole

Leveraging IOC's goodwill, global appeal & expertise towards broader cross-boundary & transboundary sustainable ocean planning.



Allowing IOC to address the specific needs of SIDS, create deeper links with regional technical organisations, and operate regionally



Increasing IOC's influence and reach beyond the current MSP framework into broader blue economy discussions



Channelling IOC's unique position to providing technical support & scientific advice for developing sustainable ocean planning and management-related policies

Enabling the mapping & consultation of IOC's initiatives that contribute to national and transboundary MSP and sustainable ocean management.



Preliminary areas of potential interest for the IOC-wide strategy on Sustainable Ocean Planning & Management building on existing work

8. Increased Financial Support

Assisting countries in **accessing existing funding mechanisms** and promoting the integration of ocean planning into national and regional blue economy development plans.

7. Cross-sector collaboration

Fostering **partnerships with different ocean sectors**, ensuring their active involvement in planning processes.

6. Technology innovation & digital tools

Creating **user-friendly software and tools, decision support systems, and online platforms** that facilitate stakeholder engagement, spatial analysis, and scenario planning.

5. Collaboration with indigenous peoples and local communities

Promoting the establishment of **meaningful mechanisms** for engagement, consultation, and co-management with communities.



1. Strengthening policy frameworks

Supporting the development of **legally binding instruments or frameworks** that facilitate the integration of planning into national legislation and policies.

2. Enhanced data collection and sharing

Defining **standard ocean observation variables for ocean planning** coupled with **improved data sharing mechanisms**.

3. Capacity development and training

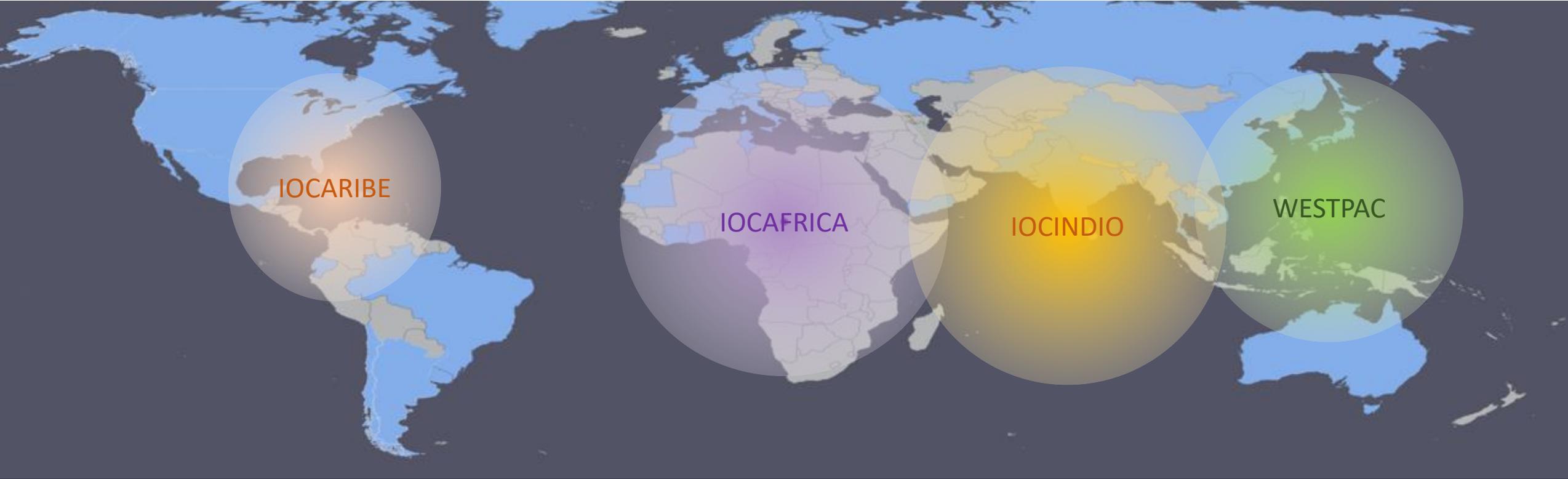
Targeted capacity development initiatives for specific regions and country groupings, addressing their unique challenges, needs and gaps

4. Integration of climate change adaptation, mitigation and coastal resilience aspects

Developing tools & guidelines that help decision-makers identify and incorporate climate resilience measures & the protection of blue carbon habitats.

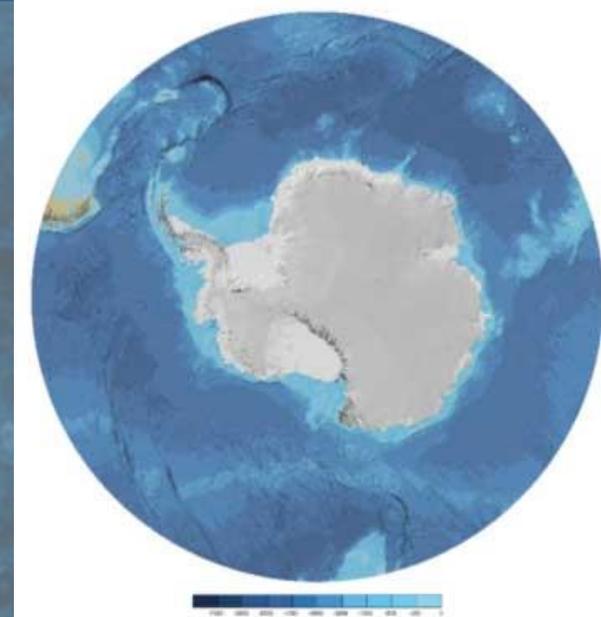
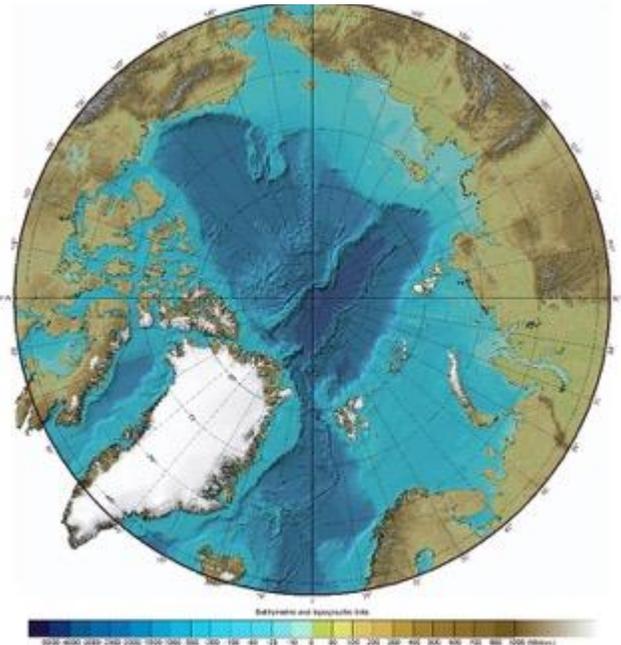


3. IOC regional coordination



3. Regional Coordination function (4 regional Sub-Commissions)

- Ensure programmatic coherence betw Sub-Commissions and Global Programmes
- Facilitate preparation of regional workplans/C5 biannual programme and budget
- Monitor implementation of regional programmes and coordinate reporting to IOC governing bodies
- Promote the participation of IOC Sub-Commissions in the development of extra-budgetary projects
- Follow up on programmatic activities of Category II centers
- Development of regional partnerships with Regional entities (eg SPC, IORA...)
- Support Decade coordinating role of IOC RSBs



- Strong partnership with Nippon Foundation/IHO through Seabed 2030: 25% of seabed mapped
- Interconnection with many IOC programmes (science, Obs, Tsu, MSP, etc)
- New GEBCO strategy and Governance Review process on-going

Celebrating 120 years of Ocean Discovery

Communications: New brand, New Ambitions

Retrospective 2023:

New Public Brand:
UNESCO Ocean

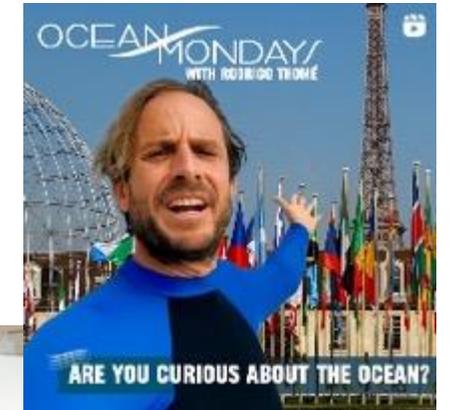
A growing Community

Diverse Partnerships



	X (formerly Twitter)	Facebook	Instagram	LinkedIn
Followers and Growth*	25,364 +4k new followers	24,474 +1.3k new followers	12,900 +778 new followers	27,835 +9,5k new followers

**(comparison to last six months)*



Priorities 2024:

- Develop a Communications Strategy 2024-2029
- Systematically promote flagship publications (StoR)
- Launch public communications campaign (via UNESCO Ocean)
- Reinforce links with the Ocean Decade (Barcelona & more)



In Summary... Strategic Direction 2024-2025



UN Process

- IOC engagement in BBNJ New Treaty, potential role in CHM and CD, with support of EU
- Positioning IOC within the UN Ocean Conference (events, declaration, specialized events)
- Stronger articulation of IOC programmes within CBD and UNFCCC processes
- New plastic treaty?
- Regional aspects – IOC RSBs vs Regional Ocean governance

SOP/MSP

- Developement of IOC Strategy + IOC contribution to SOP Decade programme, Ocean Action 2030 Coalition
- Potential new areas work (ecosystem services accounting, ocean capital, digital tools, blue economy services)
- Leveraging UNESCO expertise (ILK, Heritage, UNESCO sites)

Expending partnerships/resource mobilisation

- Further building pipeline of GEF projects (UNDP, FAO), in regions
- Developing direct access partnership with EC (build on MSP roadmap experience)
- Expend partnership with private sector (so far Prada, Fugro, Panerai) and philanthropy (leverage Decade Foundations network)

Communication/Outreach

- Need new Medium Term Comms Startegy, IOC vs UNESCO
- Develop systematic communications about the impact of IOC work on stakeholders and beneficiaries
- Reinforce links with the Ocean Decade (Barcelona and beyond, focusing on IOC-led Ocean Decade Actions)

<https://www.ioc-cd.org>

IOC Capacity Development



Peter Pissierssens



Johanna Diwa

GE-CD

20 members from 19 Member States



Alan Evans, Chair

CD national focal points

40 members from 34 Member States

RSBs

IOCARIBE, IOCAFRICA, IOCINDIO, WESTPAC

Global Programmes

OTGA

Partnership

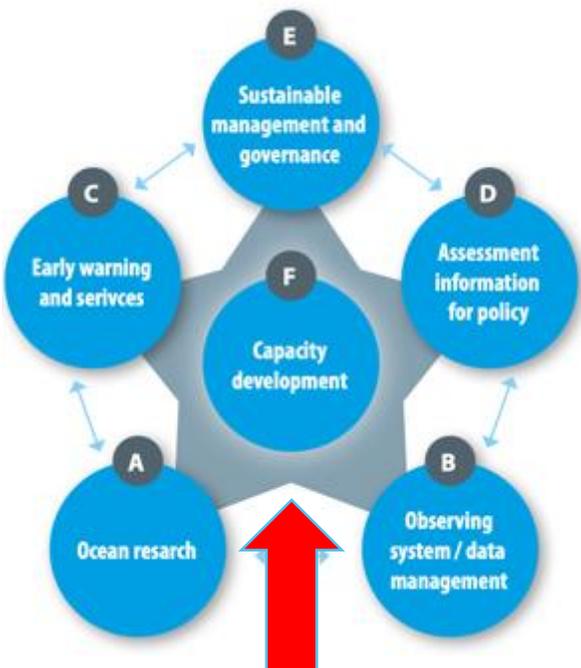


unesco

Intergovernmental
Oceanographic
Commission



IOC Capacity Development Strategy 2023-2030



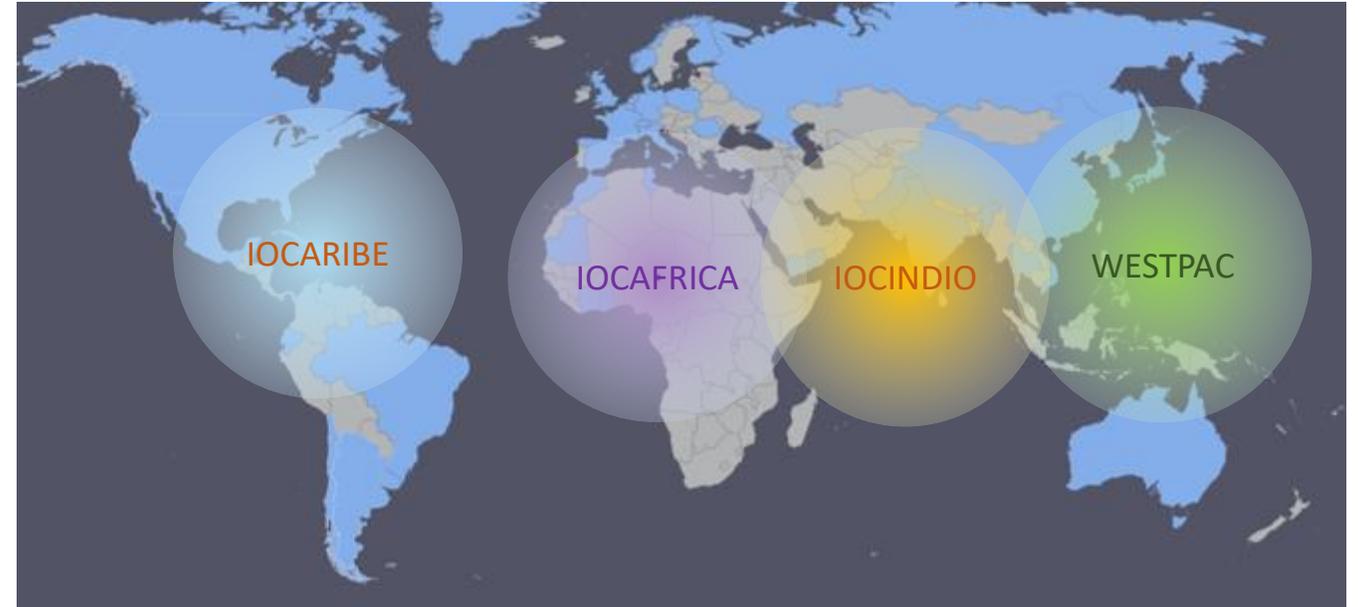
Vision and Mission:

Through international cooperation, IOC will assist its Member States to collectively **achieve the IOC'S high-level objectives (HLOs)**, and in doing so support the delivery of the societal outcomes of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030), with particular attention to **ensuring that all Member States have the capacity to meet them**

Output	Activity
1. Human resources developed at individual and institutional levels	1.1 Academic and higher education 1.2 Continuous professional development: OTGA and WESTPAC RTRCs 1.3 Sharing of knowledge and expertise including through community building 1.4 Integration of ocean science in basic education 1.5 Improving gender, generational and geographic diversity
2. Access to technology, physical infrastructure, data and information established or improved	2.1 Facilitating access to technology and infrastructure 2.2 Facilitating equitable access to and sharing of ocean data and information: ODIS/OIH
3. Global, regional and sub-regional mechanisms strengthened	3.1 Further strengthening and supporting secretariats of regional commissions 3.2 Enhancing effective communication between regional sub-commission secretariats and global programmes as well as other communities of practice (incl. other organisations) 3.3 Identifying specific national and regional capacity development needs through regular needs assessment: ongoing 3.4 Encouraging regional and sub-regional organisations to be leaders in, and amplifiers of capacity development
4. Development of ocean research policies in support of sustainable development objectives promoted	4.1 Fostering the development of ocean research policies
5. Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased	5.1 Fostering the development of ocean related public information and communication services 5.2 Fostering the development of ocean literacy (as presented under 3.1)
6. Sustained resource mobilization reinforced	6.1 Enhancing sustained support (in-kind and financial) to the IOC for its international coordination role 6.2 Promoting sustained bilateral and multilateral support among Member States

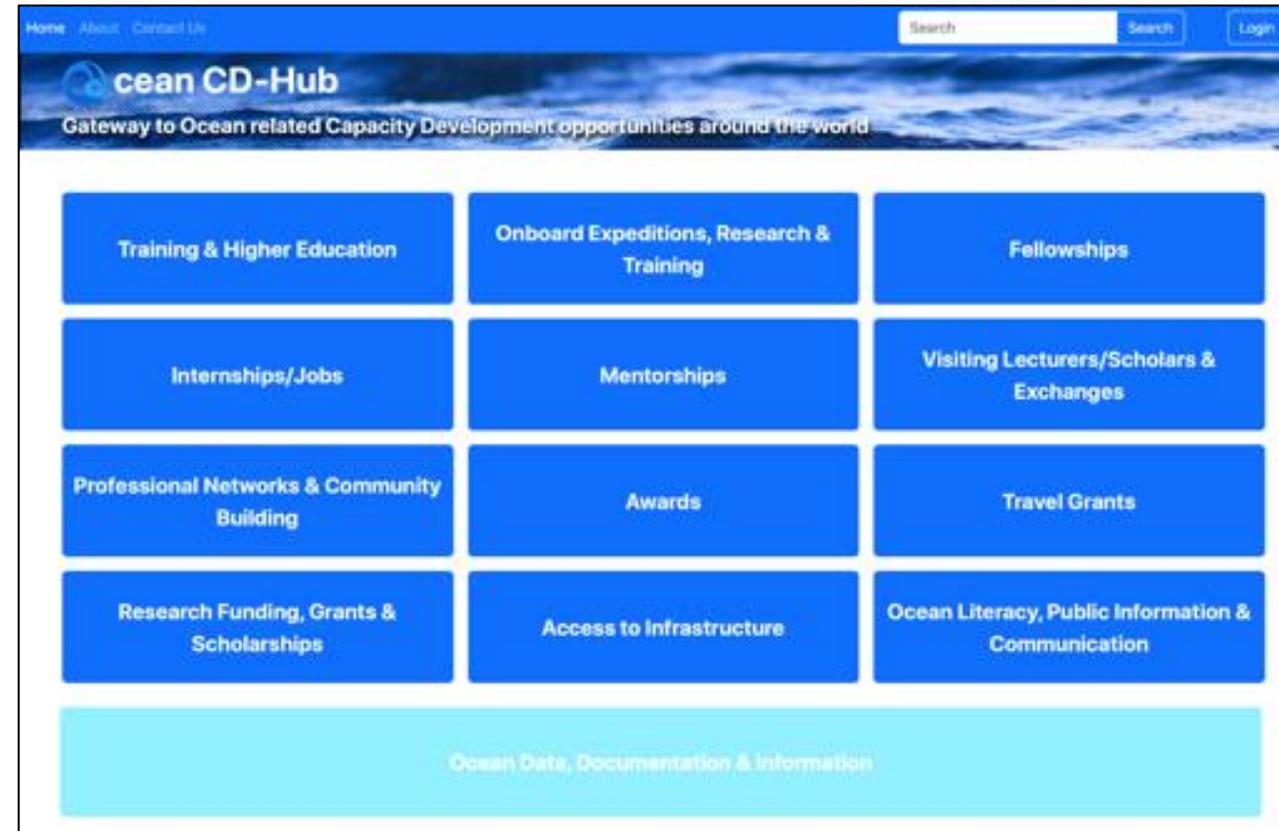
Capacity Development through the IOC Regional Subsidiary Bodies

- IOC CD: **cross-cuts all other IOC functions**:
 - all functions should adopt and deliver IOC CD Strategy as a key output
 - all RSBs should adopt and deliver IOC CD Strategy as a key output
- **Regions are all different** and have varying CD needs and societal priorities
- Informed by **regional needs assessments**
- RSBs are key in the successful delivery and implementation of a **cohesive and inclusive capacity development** in the regions
- 2024-2025: develop **regional workplans** and implementation plans in cooperation with RSBs that responds to the IOC capacity development strategy (e.g. IOCARIBE, soon with WESTPAC, IOCAFRICA and IOCINDIO)



IOC CD 2024-2025 and beyond

- **Promote and implement** the 2023-2030 IOC Capacity Development Strategy globally and regionally
- Expand the **Ocean Capacity Development Hub** list of CD opportunities offered globally and regionally
- **Matchmaking exercises** with existing expertise and resources vis-a-vis identified regional priorities for capacity development
- Start up **IOC OceanTraining internship** programme (and fund)
- Collaborate and contribute to capacity development ambitions of the Decade through the **CD Facility**
- Identify **CD strategy outputs/activities that can be addressed by IOC** and establish partnerships to address others.
- Contribute to capacity development components of other emerging initiatives such as to **BBNJ CHM** and **Sustainable Ocean Planning & Management**



<https://oceancd.org>



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

THE OCEAN DECADE

in a snapshot

As of November 2023

ENDORSED OCEAN DECADE ACTIONS

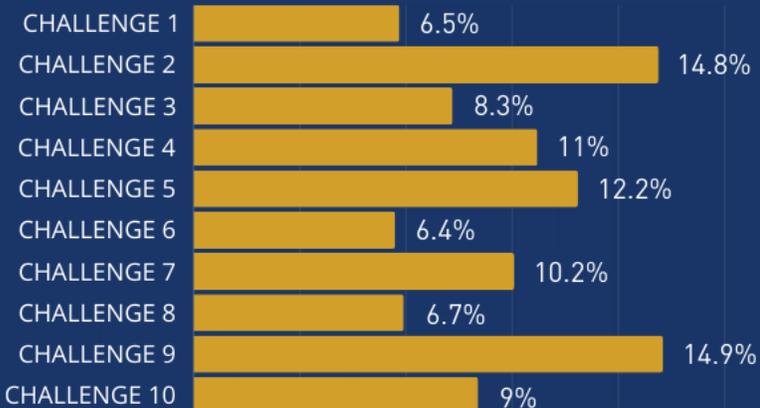


47 PROGRAMMES **88** CONTRIBUTIONS
291 PROJECTS **609** ACTIVITIES



DECADE ACTIONS LED BY PARTNERS FROM **58** COUNTRIES

ENDORSED ACTIONS PER CHALLENGE



REGIONAL AND NATIONAL COORDINATION

12
DECADE COLLABORATIVE CENTRES/ COORDINATION OFFICES

13
DECADE IMPLEMENTING PARTNERS



37
NATIONAL DECADE COMMITTEES

6
REGIONAL TASKFORCES AND PROGRAMMES

OCEANDECADE.ORG

@UNOceandecade

@un-ocean-decade

ENGAGEMENT AND OUTREACH

7 INFORMAL WORKING GROUPS

11 PATRONS AND **18** INSTITUTIONAL MEMBERS OF THE OCEAN DECADE ALLIANCE



OVER **20** MEMBERS OF THE FOUNDATIONS DIALOGUE



7,300 MEMBERS FROM **173** COUNTRIES ON THE OCEAN DECADE NETWORK



1.5+ MILLION REACH

Key Statistics from Ocean Decade Progress Report

July 2022 – June 2023



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

Engagement in Decade Actions:

- 77,000 individuals
- 4,000 institutes
- 4,500 ECOPs
- 56% female

Outcomes of Decade Actions:

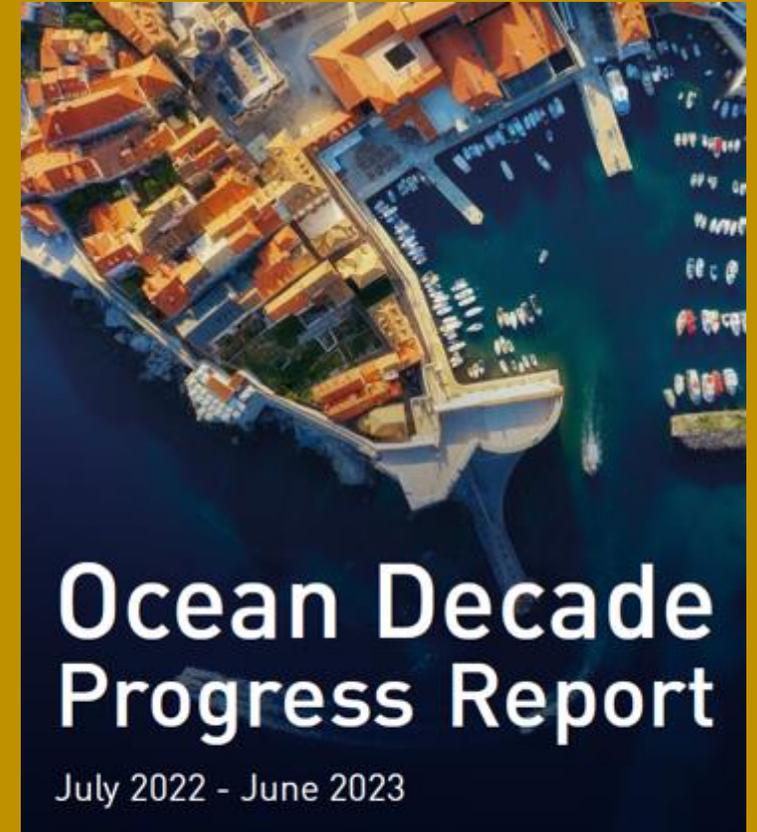
- 25,000 knowledge products
- 12,000 datasets
- 21,000 incidences of 'uptake'
- 4,000 capacity development initiatives = > 200,000 beneficiaries

Communication & Outreach:

- 45,000 Ocean Decade followers
- Combined reach > 6 million

Decade Action leads:

- 39% North America
- 30% Europe
- 14% Asia-Pacific
- 4% Africa
- 3% SIDS



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



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development



IOC Contribution to Ocean Decade

- IOC remains leading UN agency in terms of number of endorsed Decade Actions:
 - Leading 6 endorsed Programmes
 - Leading 10 endorsed Projects
 - Leading 4 Decade Coordination Offices
 - Key partner in 5 other endorsed programmes
- Unique opportunity to use Decade to reinforce IOC globally and regionally inc. post-Decade:
 - Leading preparation of new Sustainable Ocean Planning programme
 - Reinforcement of sub-commissions as regional ocean science hubs via DCO creation in IOCAFRICA, IOCARIBE and WESTPAC (already established)
 - Positioning of IOC in 2025 UN Ocean Conference

Resource Needs for IOC Contributions in next 12 month period

16 Decade Programmes & Projects	3 Decade Coordination Offices
<ul style="list-style-type: none">• USD 7.3 million secured• USD 9.3 million gap	<ul style="list-style-type: none">• USD 439,000 secured• USD 1,250,000 gap

Decentralised Coordination Structures



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

- Growing network of Decade Coordination Offices (DCOs) and Decade Collaborative Centres (DCCs)
- Tailored but similar mandates including:
 - i. Coordination of Decade Actions & catalysis of new Actions
 - ii. Gap analyses and priority setting
 - iii. Resource mobilisation
 - iv. Communications and outreach
 - v. Monitoring and reporting
- Primary / secondary attachments of Decade Actions operational and peer – peer collaboration emerging

Regional Coordination Structures (existing)

Pacific Islands Region of the Pacific Ocean

Northeast Pacific

Indian Ocean

Southern Ocean

West Pacific (IOC)

Southern Ocean

Regional Coordination Structures (planned)

Africa (IOC)

Caribbean (IOC)

Arctic

Thematic Coordination Structures (planned / being resourced)

Data Sharing (IOC)

Ocean Observations (IOC)

Ocean Literacy & Cultural Values (IOC)

Thematic Coordination Structures (existing)

Ocean Prediction

Coastal Resilience

Ocean Climate Nexus

Ocean Climate Solutions

2024 Ocean Decade Conference

Barcelona, Spain: 8 - 12 April 2024



2021 United Nations Decade
of Ocean Science
for Sustainable Development
2030

Milestone event to convene Decade Actions and Decade partners to celebrate achievements, take stock and set collective vision for coming years...

> 2000 individuals pre-registered to attend

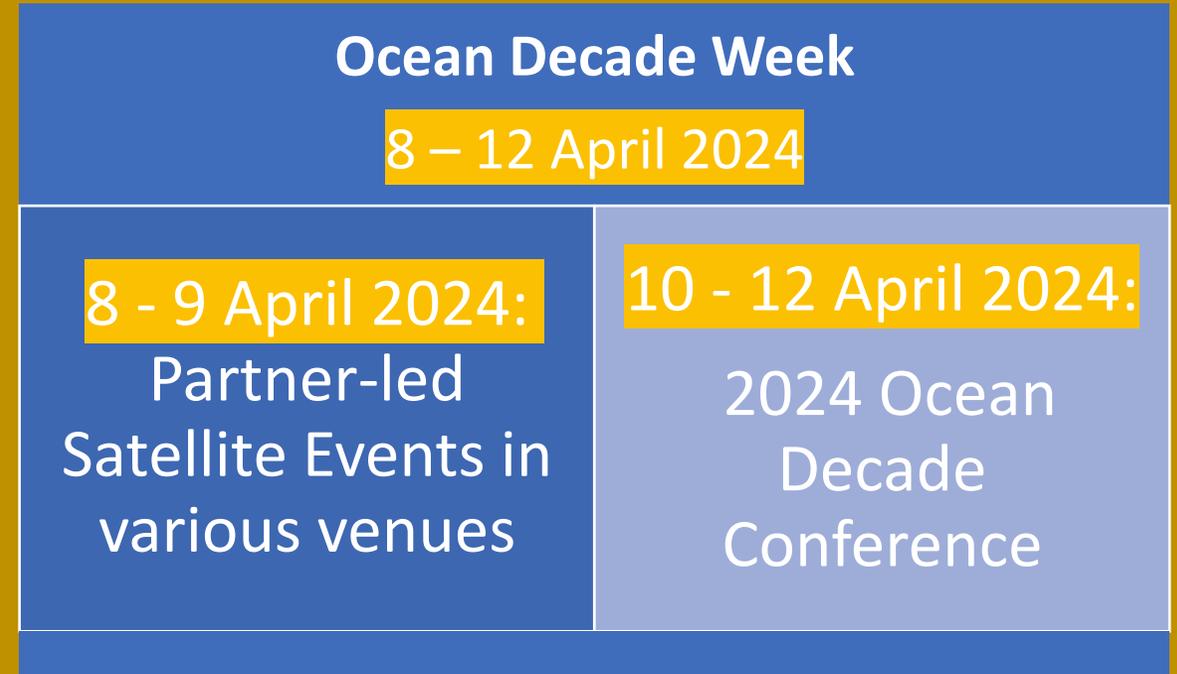
The poster features a teal vertical banner on the left with the text "SAVE THE DATE." in white. The main image is an aerial view of a harbor with a large, ornate building and many boats. Below the image, the text reads: "2024 UN OCEAN DECADE CONFERENCE", "Delivering the science we need for the ocean we want", "10-12 April 2024", and "Barcelona, Spain". At the bottom, there are logos for UNESCO, the United Nations Decade of Ocean Science for Sustainable Development, the Government of Spain, the Ministry of Science and Innovation, the Generalitat de Catalunya, the Ajuntament de Barcelona, Barcelona Capital Nàutica, CSIC (Consejo Superior de Investigaciones Científicas), and the Institut de Ciències del Mar.

Conference Structure and Objectives



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

- i. Showcase and celebrate achievements of the Ocean Decade
- ii. Generate consensus on science – policy – society priorities for the Ocean Decade over the next 3 to 5 years
- iii. Create opportunities for networking to catalyse new partnerships and initiatives
- iv. Provide a global platform for announcements and commitments
- v. Prepare for a visible and meaningful role in the 2025 UN Ocean Conference and related events
- vi. Highlight initiatives led by local partners relevant to the Ocean Decade
- vii. Raise visibility and awareness of the Ocean Decade and the role of ocean science in sustainable development amongst the general public in Barcelona



'State of the Decade Conference Report' with refined Vision 2030 outcomes and other Conference outcomes

Charting a course for the Ocean Decade to the 2025 United Nations Ocean Conference



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

SDG Summit,
New York,
September
2023

2024 Ocean
Decade
Conference,
Barcelona,
April 2024

UN 4th
International
SIDS
Conference,
May 2024

Costa Rica
Pre-UNOC
June 2024

COP16 CBD,
Turkiye 2024
&
CO29
UNFCCC,
2024

One Ocean
Science
Conference:
Science for
Action,
Nice June
2025

United
Nations
Ocean
Conference
2025, Nice
June 2025

Priorities identified via the Vision 2030 process translated to action through:

- *Alignment of existing and new Decade Actions*
- *Development of partnerships and initiatives*
- *Targeted resource mobilisation*

Ocean Decade Coordination Unit



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development



Julian Barbrière
Global Coordinator



Niccolo' Bassan
Science Officer



Madina Begmatova
Programme Assistant



Alison Clausen
Deputy Coordinator



Louis Demargne
Data Officer



Olivier Dufourneaud
NDC Focal Point & Coastal
Cities Initiative Coordinator



Hajar El Oumrassi
Intern



Aude Flamand
Junior Science Officer



Shinji Hida
Resource Mobilisation &
Partnerships Officer



Ying Jin
Trainee



Aya Khalil
Communications
Manager



Rosita La Rosa
Intern



Amanda Lima
Web and Social Media
Editor



Monique Lima
Operations Officer



Carol Micheletti
Assistant Operations Officer



Emma Needham
Ocean Decade Network
Manager



Deborah Ramalho
Intern



Mandimby Ramilison
Grants Manager



Polina Savina
Communications Officer



unesco

Intergovernmental
Oceanographic
Commission

Thank You!