



United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation
la science et la culture

Organización
de las Naciones Unidas
para la Educación
la Ciencia y la Cultura

Организация
Объединенных Наций по
вопросам образования
науки и культуры

• Intergovernmental
Oceanographic
Commission

• Commission
océanographique
intergouvernementale

• Comisión
Oceanográfica
Intergubernamental

• Межправительственная
океанографическая
комиссия

OCEAN SCIENCE FOR THE BLUE ECONOMY

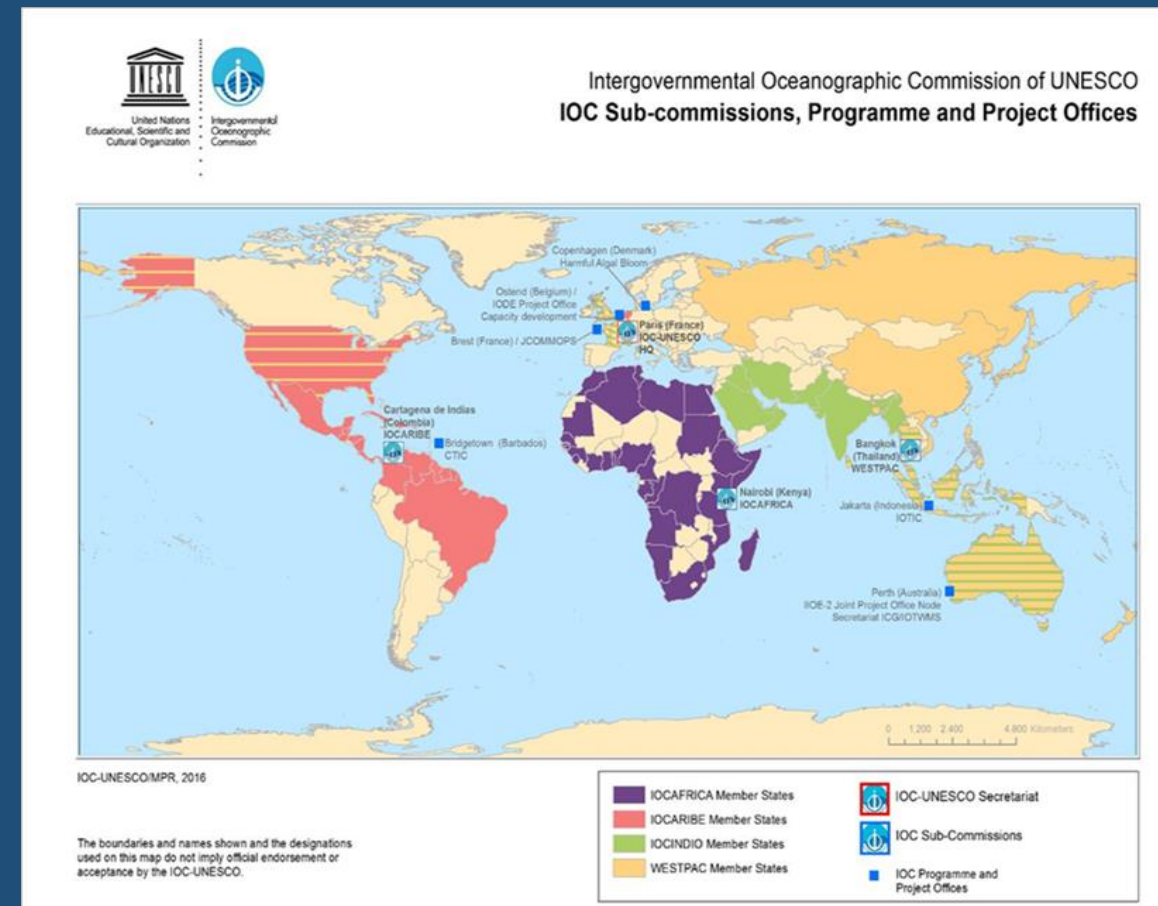
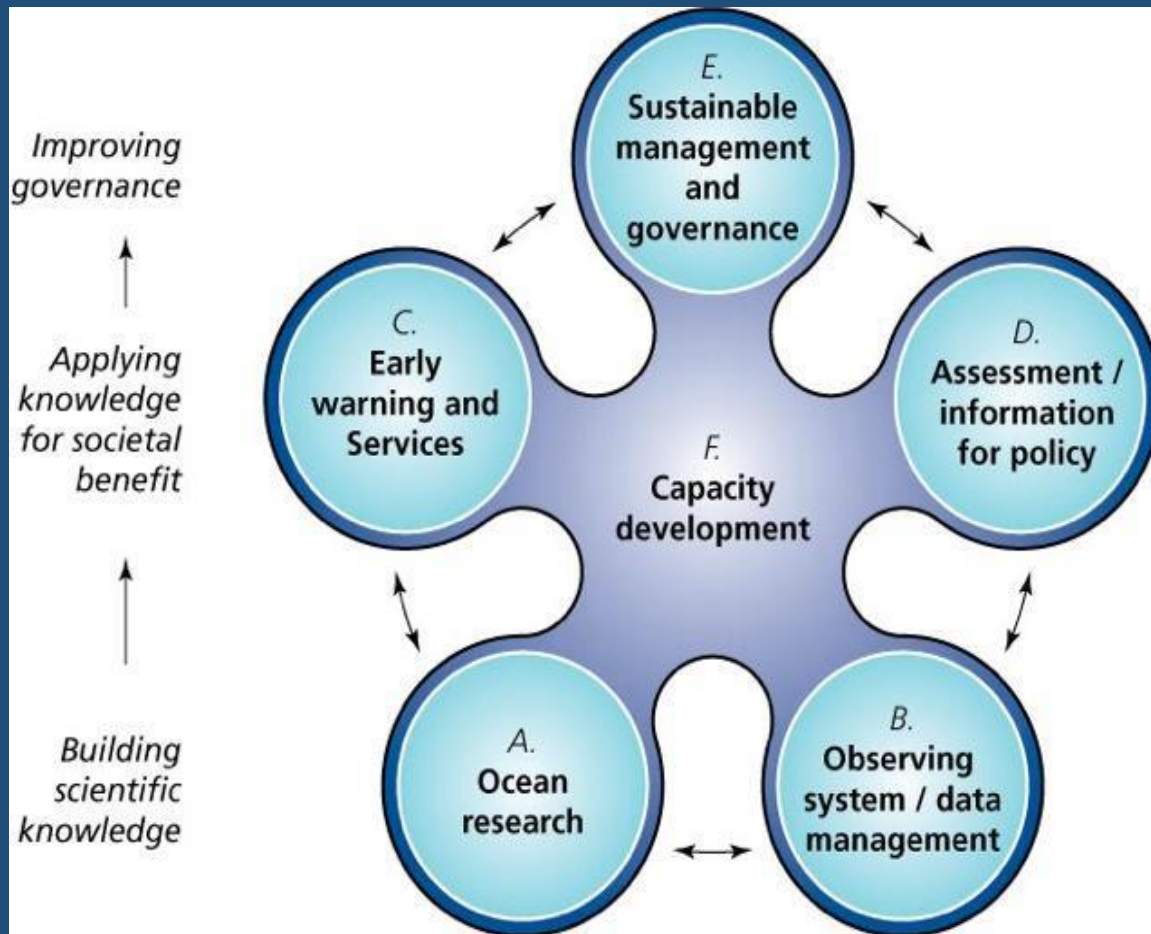
UNESCO/IOC's Sub Commission for Africa & the Adjacent Island States - IOCAFRICA

Mika Odido

IOC's Sub Commission for Africa and the Adjacent Island States

The Intergovernmental Oceanographic Commission (IOC) of UNESCO, 1960->, 150 Member States

- Intergovernmental body of the UN system for **ocean science, observations, data exchange, services, capacity development, and science-to-governance work**

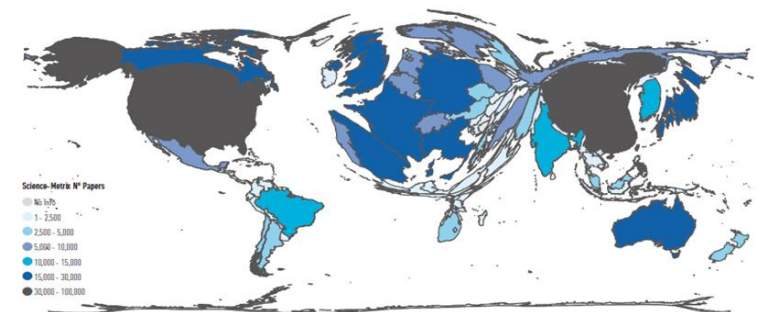


FOCUS AREAS OF IOCAFRICA.

- **Ocean Observations and Data and Information Management:**
 - ✓ Oceanographic Expeditions & Coastal Observation platforms
 - ✓ Climate variability and climate change (weather forecast & extreme events)
 - ✓ Marine Spatial Planning, Coastal/ Marine Atlases, Marine Biodiversity
- **Ocean Science and its Application to Management:**
 - ✓ Modeling and forecasts of ocean state
 - ✓ Assessment of marine and coastal ecosystems in Africa
 - ✓ Vulnerability & adaptation of marine/coastal ecosystems to climate change
 - ✓ Harmful Algal Bloom: Detection and Early Warning
 - ✓ Ocean Acidification: Observation and Research
 - ✓ Marine Pollution: Survey and assessment
- **Capacity Development for Marine Science and Technology and Ocean Literacy:**
 - ✓ Basic training in the ocean sciences (UNESCO Chairs in Universities, Research Institutions, development of portal for training opportunities,)
 - ✓ Continuous Professional Development (Focused workshops, Regional Training Centres, Fellowships,
 - ✓ Ocean Literacy (Artwork/Essay competitions, exhibitions, conferences,
 - ✓ Partnerships and collaboration (WIOMSA, UNEP, National Institutions)

AFRICA BLUE ECONOMY STRATEGY

- PORT AND SHIPPING
- FISHERY
- AQUACULTURE
- SUSTAINABLE BLUE ENERGY
- COASTAL TOURSIM
- BLUE CARBON AND OTHER ECOSYSTEMS

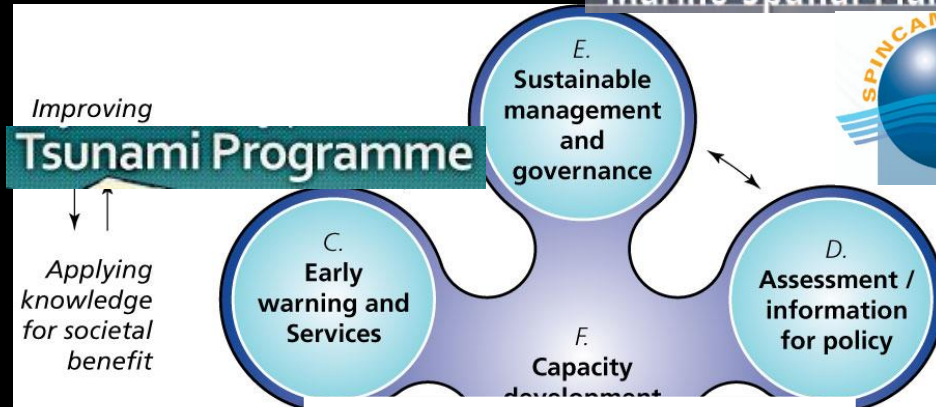




UN-OCEANS



Marine Spatial Planning Initiative



Integrated Coastal Research

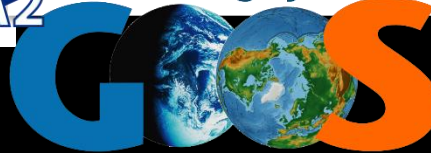
Harmful Algal Bloom Programme

OceanTeacher GLOBAL ACADEMY



The Global Ocean Observing System

OceanExpert Directory of Marine & Freshwater Professionals

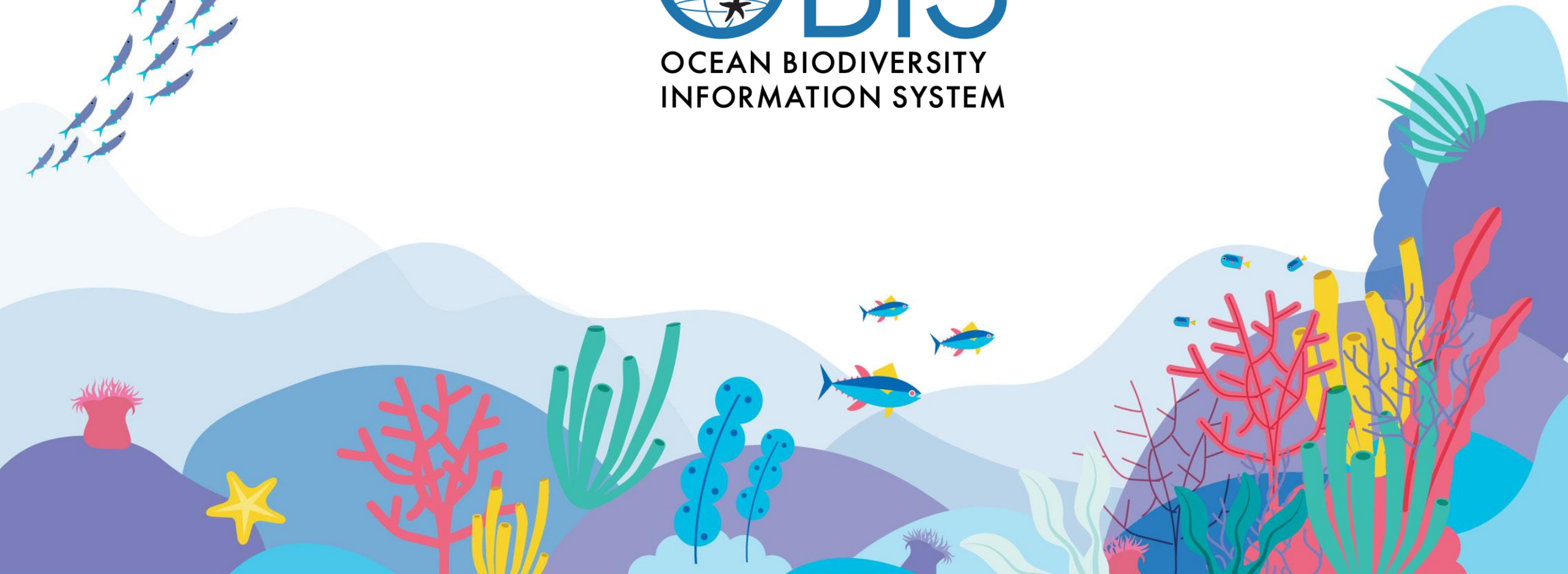


OceanDataPractices Repository of Best Practices in Ocean Data and Information Management



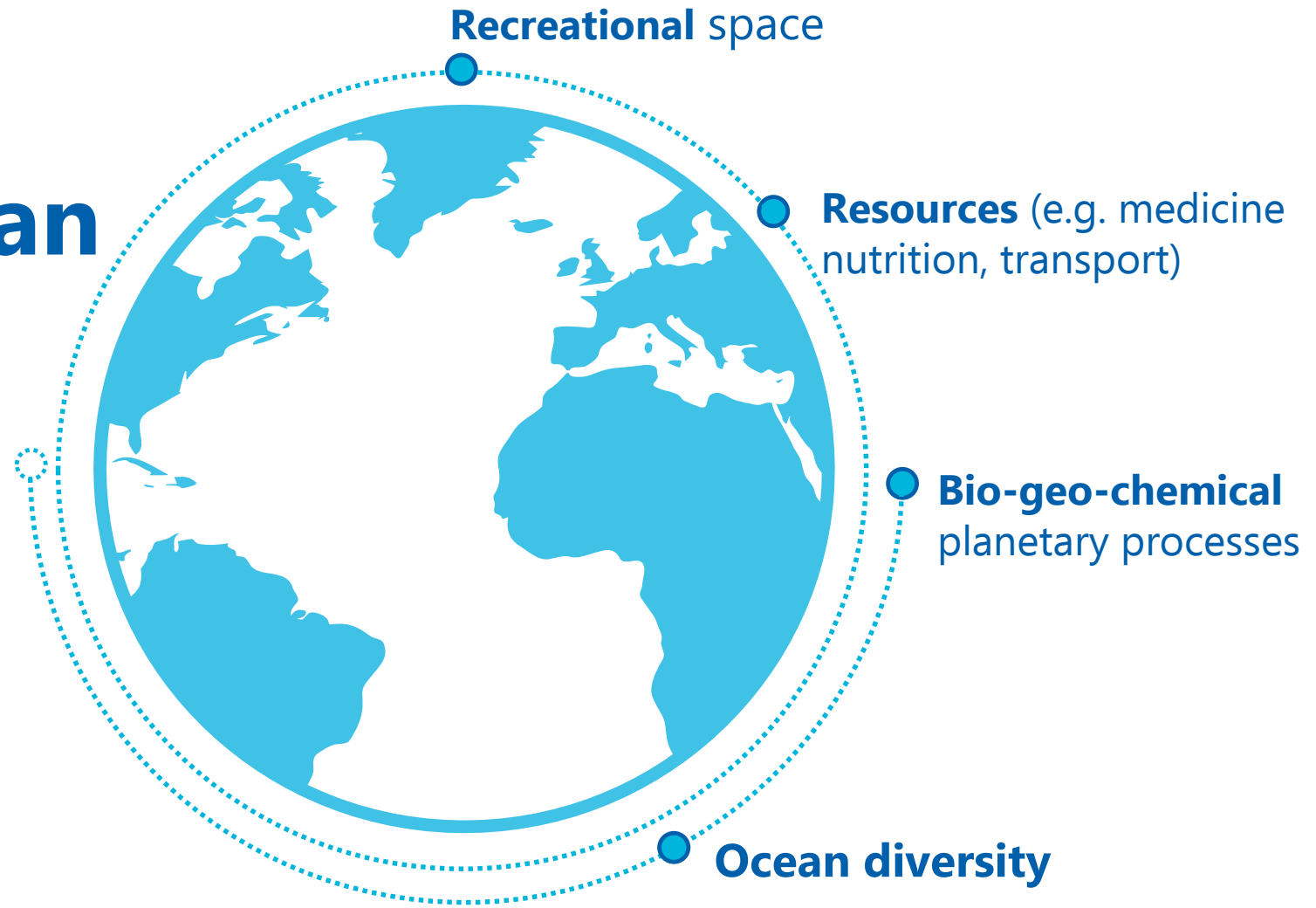


OCEAN BIODIVERSITY
INFORMATION SYSTEM

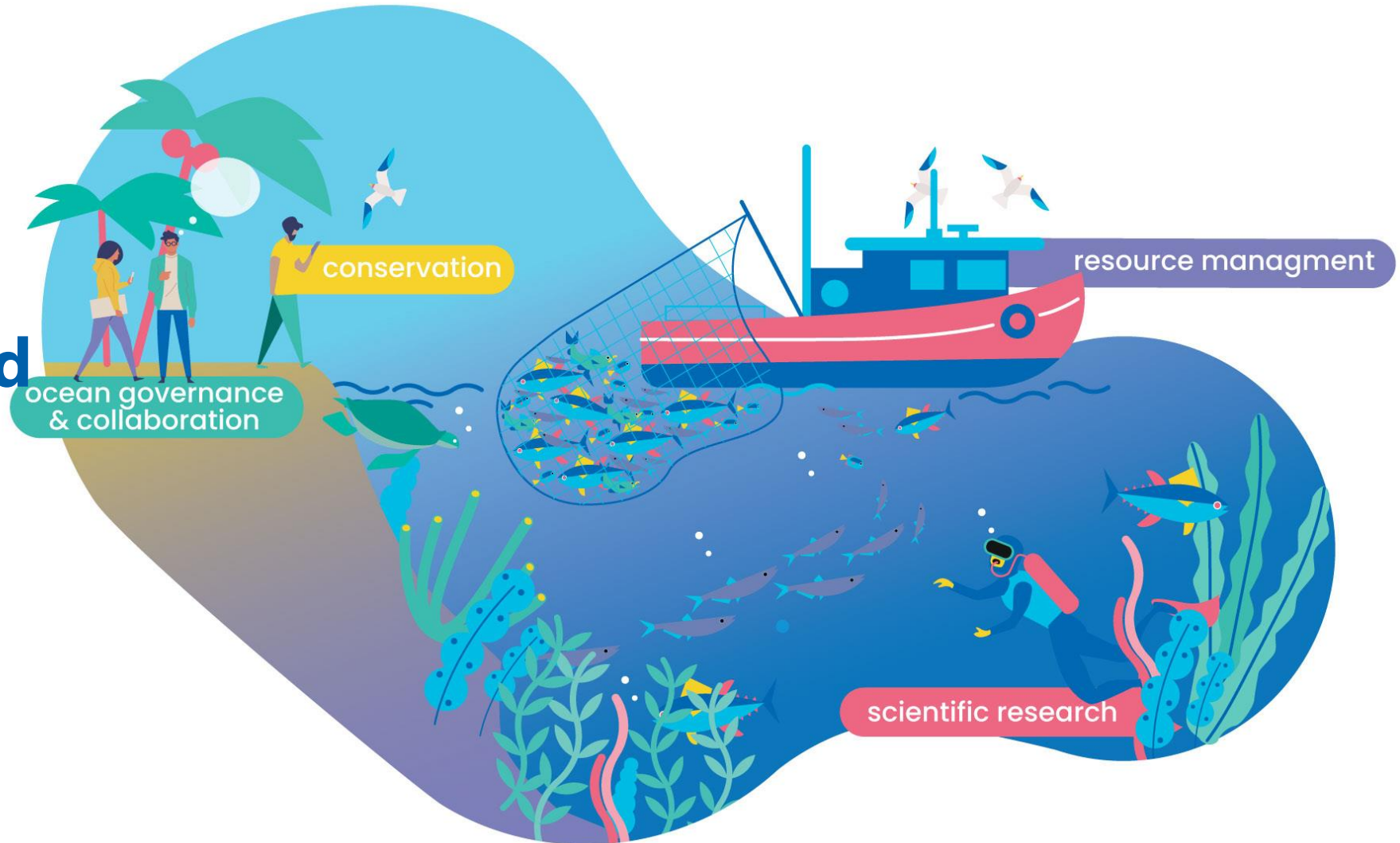


A healthy ocean is a diverse ocean

Our ocean provides essential services to humankind

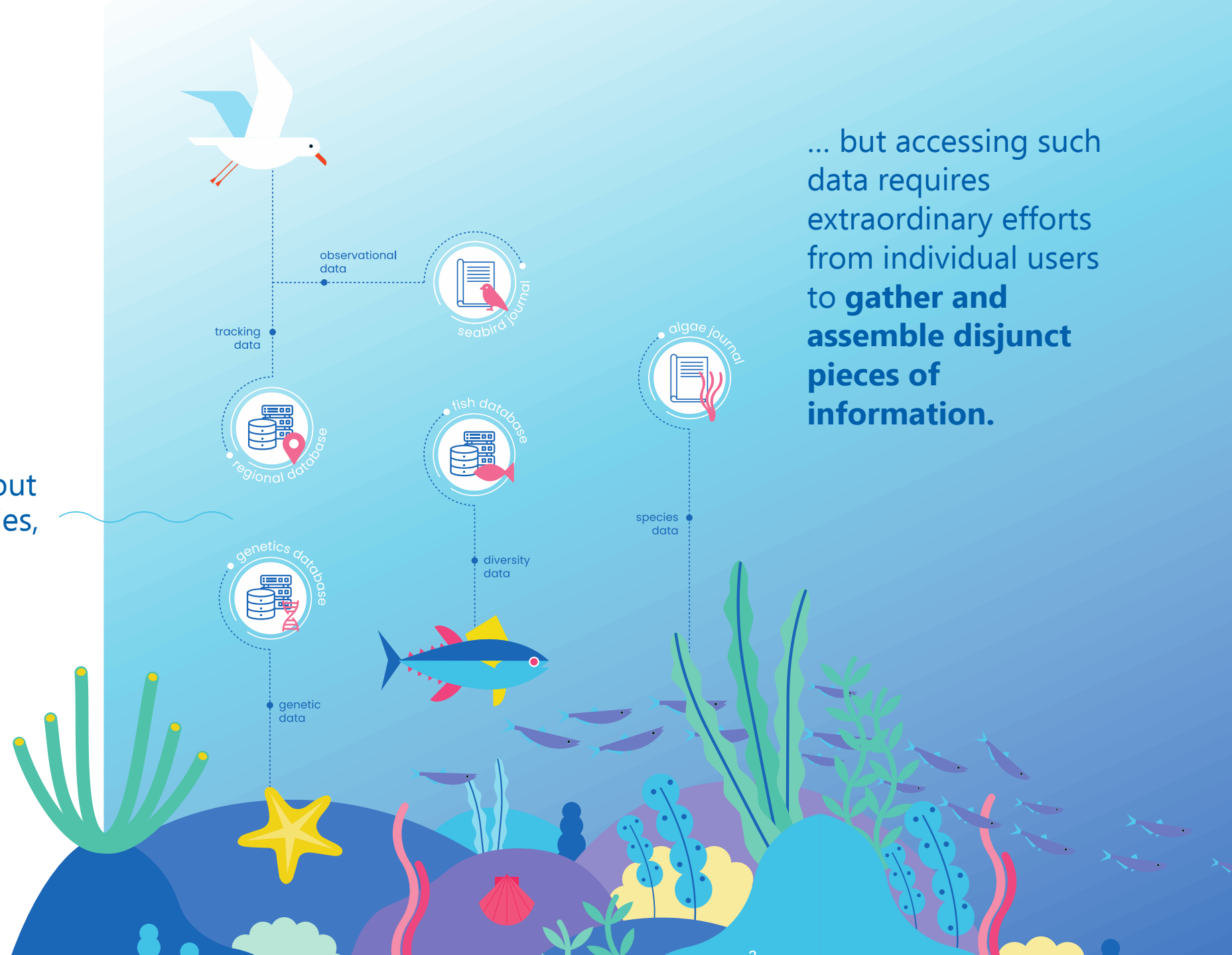


**Sound scientific
ocean
management and
conservation
starts with
comprehensive
biodiversity and
biogeographic
data**



Collect, analyse, archive, repeat

A wealth of data about various marine species, habitats and whole ecosystems already exists,...



... but accessing such data requires extraordinary efforts from individual users to **gather and assemble disjunct pieces of information.**

OBIS - Origins, history



64,152,355

PRESENCE RECORDS



66,000,936

MEASUREMENTS AND FACTS



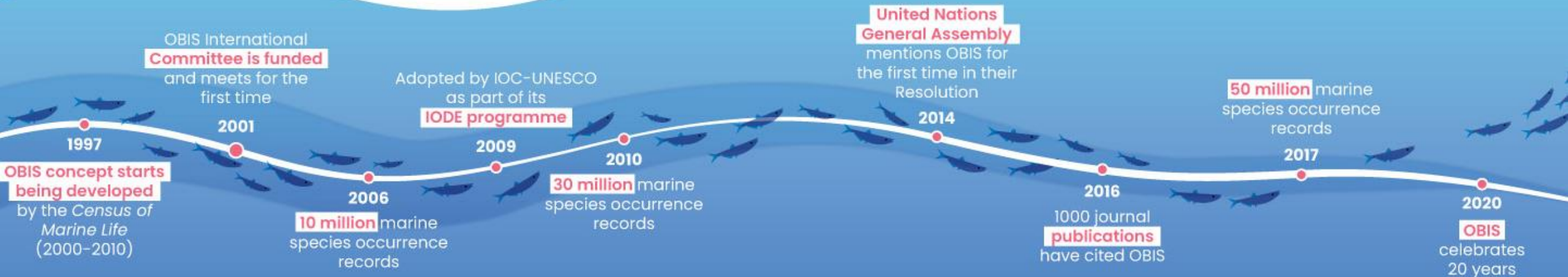
3,691

DATASETS



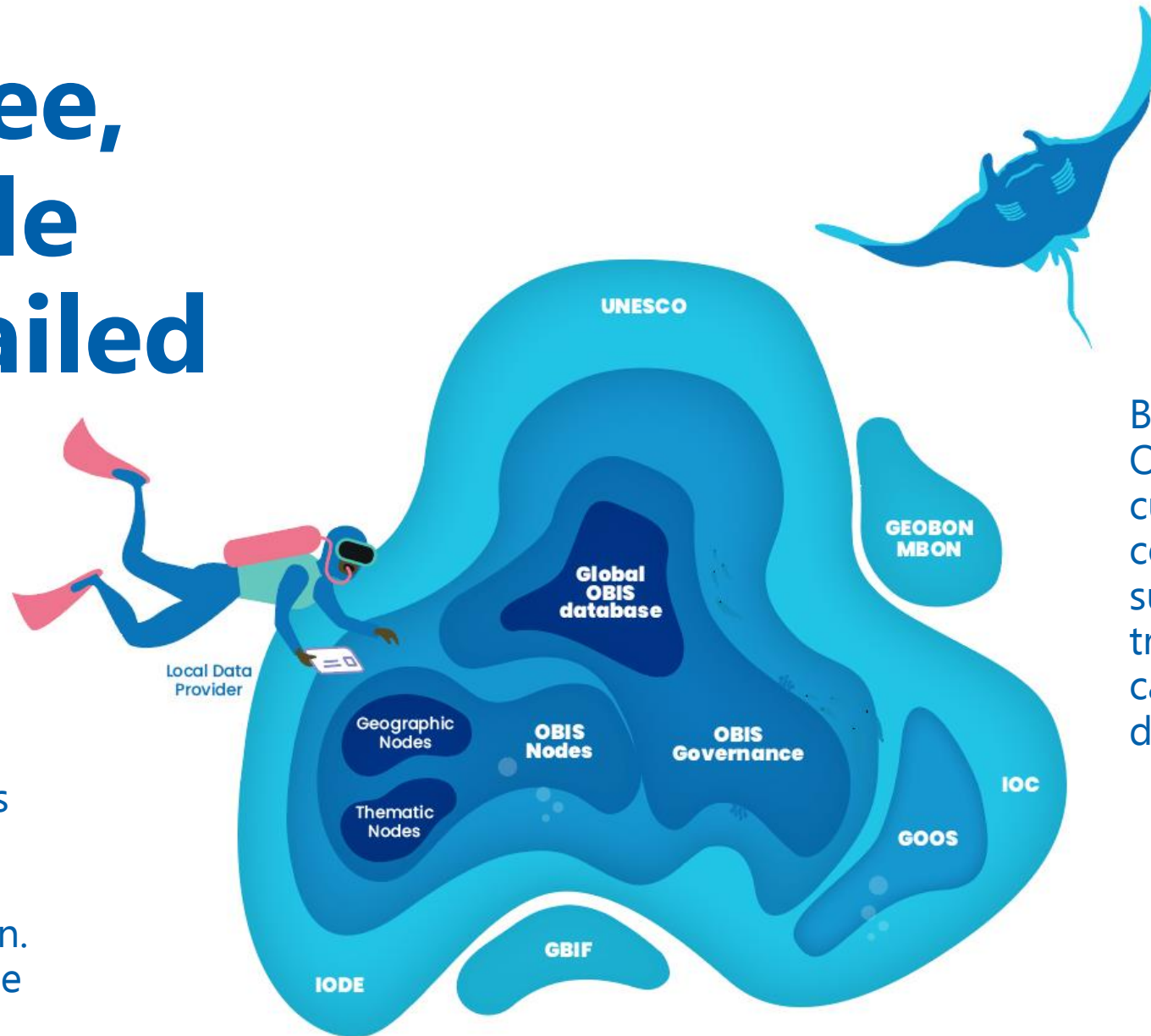
147,362

ACCEPTED SPECIES



OBIS: Free, accessible and detailed marine data

At the core OBIS operates as a rich database on marine life, rooted in international collaboration. OBIS data is used to tackle common challenges that concern the marine environment.



But beyond this OBIS promotes a culture of cooperation by supporting training and capacity development.

OBIS CASE STUDIES:

- Climate and Biodiversity Research: Climate change has altered the distribution ranges of marine species
- Conservation of Ecologically significant areas: Combining OBIS data on species diversity, richness and endemism, with environmental data, researchers identified 30% of the ocean area as having immediate concern for conservation
- Private sector usage: Ecological impact assessments are now essential to unite economic considerations with ecological concerns
- Regional and Global Ocean: Regional and global policies base their decisions either directly on OBIS data or on research, which employs OBIS data.



OBIS Regional nodes in Africa

- KENYA: Kenya Marine and Fisheries Research Institute
- SENEGAL: Centre de Recherches Océanographiques de Dakar-Thiaroye RODT/ISRA
- SOUTH AFRICA: Council for Scientific and Industrial Research (CSIR)

<https://obis.org/>

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

Decade's Vision

*To provide the knowledge system needed
for policy and action to achieve a global
ocean supporting sustainable development
by 2030 and beyond*



Proposal for an International
Decade of Ocean Science for
Sustainable Development
(2021-2030)





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

Decade's Vision: **To provide the knowledge system needed for policy and action to achieve a global ocean supporting sustainable development by 2030 and beyond**











(The Ocean We Need for the Future We Want)



OUTCOMES

- ✓ A clean ocean
- ✓ A healthy and resilient ocean
- ✓ A productive ocean
- ✓ A predicted ocean
- ✓ A safe ocean
- ✓ An inspiring and engaging ocean

CHALLENGES

- CHALLENGE 1 Understand and beat marine pollution 
- CHALLENGE 2 **Protect and restore ecosystems and biodiversity** 
- CHALLENGE 3 Sustainably feed the global population 
- CHALLENGE 4 Develop a sustainable and equitable ocean economy 
- CHALLENGE 5 Unlock ocean-based solutions to climate change 
- CHALLENGE 6 Increase community resilience to ocean hazards 
- CHALLENGE 7 Expand the Global Ocean Observing System 
- CHALLENGE 8 Create a digital representation of the Ocean 
- CHALLENGE 9 Skills, knowledge and technology for all 
- CHALLENGE 10 Change humanity's relationship with the ocean 



REGIONAL GAP ANALYSIS (with the Western Indian Ocean Marine Science Association – WIOMSA)



Priority needs for Africa under the Ocean Decade and identify the key barriers, opportunities and actions to meet those needs.

- Identify the current state of knowledge and data in ocean science, transdisciplinary research as well as existing infrastructures, networks, partnerships and resources in the region.
- Identify the knowledge gaps, scientific priorities, potential baselines and capacity-development needs in the region in order to achieve the Ocean Decade challenges.
- Elaborate recommendations to co-design regional initiatives, identify opportunities to develop capacity development initiatives as well as opportunities of partnerships and resource mobilization in the region.

PRELIMINARY HIGHLIGHTS: CHALLENGE 2 Protect and restore ecosystems and biodiversity

- 2.1 Understanding and using knowledge about what constitutes a healthy and resilient marine ecosystem.
- 2.2 Understanding and managing the linkages between ecosystem services and people that are highly dependent on them
- 2.3 Developing the breadth of governance approaches relevant and needed to ensure healthy and resilient marine systems.
- 2.4 Identifying the origin of invasive or exotic species and pathways of invasion, the environmental conditions conducive to invasion,

PROPOSALS FOR ACTION

Capacity building

- develop a network of portals at the regional and national level
- inter-disciplinary research
- Regional shared knowledge base
- Science knowledge
- Monitoring
- Economic valuation of resources
- Early warning system

Enhanced monitoring

Regional Consultations on the UN Decade of Ocean Science for Sustainable Development (2021-2030) for Africa and the Adjacent Island States, 27-29 January 2020, Nairobi, Kenya.

Collaboration with UNEP, WIOMSA, GIZ, CORDIO, SCOR

- 1. *Harnessing the demographic dividend*** by empowering the huge pool of youthful population. The focus should be on getting them into ocean sciences through ***focused ocean literacy programmes, supporting skills development and mentoring*** to enable them fit in the job market and creating new opportunities for employment.
- The Decade should ***catalyse research*** in the following fields: marine renewable energy and deep ocean water applications; bioprospecting, biotechnology and pharmaceuticals; mariculture and offshore aquaculture; climate change impacts and the oceans-climate nexus; baseline monitoring of essential ocean variables; mapping ecosystems and habitats; ***and linking the research results to societal applications.***
- 3. Improving the quality and quantity of research outputs.*** Scientists and institutions should think beyond producing publications to ***transforming lives through innovation and robust application of ocean science.***
- Ocean research in the region should be ***strengthened through stronger integration of sciences, greater investment in ocean observing systems and improved science-policy interface.*** New partnerships should be developed, supported by a new ocean-climate finance, and improved ocean literacy and education to modify social norms and behavior...
- Establishment of ***university-based ocean innovation incubator hubs, supported by the private sector,*** to serve as a conduit to transform research results to action via technological development that is adapted to regional and local contexts and led by African researchers.



Kick-off Conference of the UN Decade of Ocean Science for Sustainable Development for Africa and the Adjacent Island States

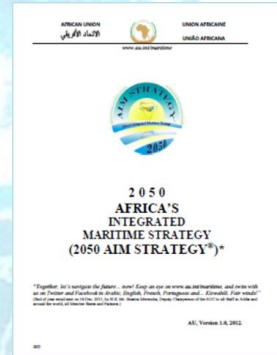
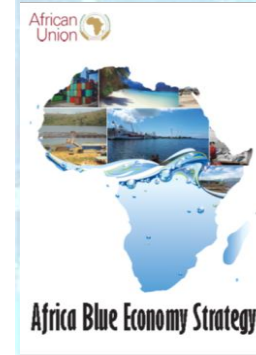
10-12 May 2022 (Alexandria, Egypt and ONLINE)



One Planet, One Ocean

- Pre conference workshop (24-26 January 2021): National Decade strategies and priorities, Regional Gap Analysis results: Regional priorities
- Regional Kick-off Conference (10-12 May 2022): *Take stock of status of ocean science and technology in the region, deliberate on how ocean sciences in Africa should be supported and focused on delivering the required societal outcomes, and seek interest and commitment of the oceanographic community to embark on a number of directions of research which are critical for ocean sustainable management.)*

LINKAGE TO THE AFRICAN DECADE OF OCEANS AND SEAS (2015-2025), THE AFRICA BLUE ECONOMY STRATEGY, & 2050 AIM STRATEGY





One Planet, One Ocean

UNESCO/IOC's Sub Commission for Africa and the Adjacent Island States (IOCAFRICA)

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