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SUB-COMMISSION FOR THE CARIBBEAN AND ADJACENT REGIONS

IOCARIBE

IOCARIBE MEDIUM-TERM STRATEGIC SCIENCE PLAN 2023–2029

Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE)

Medium-Term Strategic Science Plan, 2023–2029

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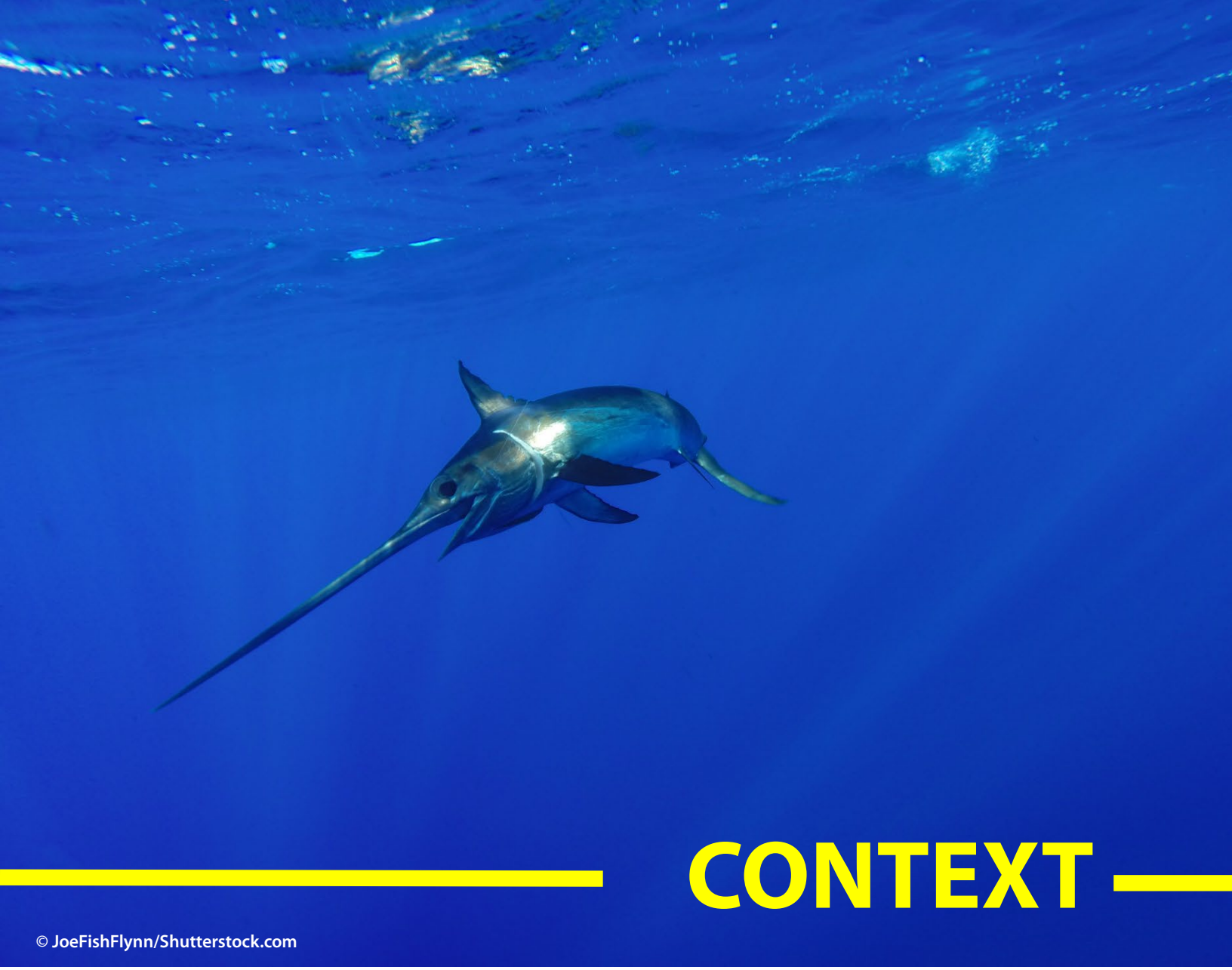


CONTEXT

The main goal of **UNESCO - Intergovernmental Oceanographic Commission (IOC) Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE)** is to promote international cooperation and coordinate research programmes, services and capacity development in the region, to learn more about the nature and resources of the ocean and coastal areas and to apply this knowledge for the improvement of management, sustainable development and the decision-making process of its Member States.

IOCARIBE develops activities within the framework of IOC functions, which translate into relatively uniform sets of processes, actions or tasks, that help the Commission to fulfill its purpose and achieve its High Level Objectives (HLOs) in the region.

IOC'S MISSION

The purpose of the Commission is to promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the

ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States. (IOC Statutes, Article 2.1).

IOC'S HIGH LEVEL OBJECTIVES

The IOC is working to achieve its Vision through the following 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;
- Foresight on emerging ocean science issues.

When working towards the high-level objectives, IOC will focus on the broad areas of:

- strengthening scientific knowledge of the ocean and human impact on it,
- applying that knowledge for societal benefit, and
- building institutional capacities for sound management and governance

THE IOC FUNCTIONS

IOC and at the regional level IOCARIBE, organize their actions within the framework of six (6) basic functions necessary to advance towards the IOC Vision, in order to bring together governments and the scientific community to achieve the "**Ocean we need for the future we want**".

A. Foster ocean research to strengthen knowledge of ocean and coastal processes and human impacts upon them [**Ocean research**]

B. Maintain, strengthen, and integrate global ocean observing, data and information systems [**Observing system / data management**]

C. Advance and Develop early warning systems and preparedness to mitigate the risks of tsunamis, and ocean and coastal-related hazards [**Early warning and services**]

D. Support assessment and information to improve the science-policy interface [**Assessment and Information for policy**]

E. Enhance ocean governance through a shared knowledge base and improved regional cooperation [**Sustainable management and governance**]

F. Develop the institutional capacity in all of the functions above, as a cross-cutting function [**Capacity Development**].

THE IOC MEDIUM-TERM STRATEGY (MTS) 2022-2029

The IOC MTS is derived from a vision guiding the high-level objectives, programmes, actions and activities to be detailed in each subsequent biennial programme and budget. The IOC MTS, including its objectives, will also fulfil IOC's role in UNESCO and contribute to the relevant UNESCO Thematic areas of expected results, as reflected in the UNESCO Medium-Term Strategy.

IOC CAPACITY DEVELOPMENT STRATEGY 2023–2030

By IOC Decision A-31/3.5.3, the Assembly at its 31st session decided to extend the IOC Capacity Development Strategy 2015–2021 (IOC/INF-1332) until July 2023 and re-established the Group of Experts tasked to submit to the 32nd session of the Assembly a draft IOC Capacity Development Strategy for 2023–2030 as well as an accompanying Outreach and Communications Plan.

The IOC Capacity Development Strategy for 2023–2030 is conceived as complementary to the IOC Medium-Term Strategy (2022–2029). The vision of the Medium-Term Strategy identifies capacity development as the primary catalyst through which IOC will achieve its five High Level Objectives.

The main goal of the Intergovernmental Oceanographic Commission (IOC) is for Member States to enhance ocean management through capacity development. Monitoring results is crucial, considering UNESCO's priorities. Subcommissions and regional committees will play a vital role, adapting to regional needs. Activities will yield products to drive positive changes at the national and subregional levels in decision-making, policies, governance, and knowledge.

This strategy proposes the achievement of six results, to be addressed in the long term and in a sustained manner:

- Human resources developed at individual and institutional levels.
- Access to technology, physical infrastructure, data and information established or improved.
- Global, regional, and sub-regional mechanisms strengthened.
- Development of ocean research policies in support of sustainable development objectives promoted.
- Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased.
- Sustained resource mobilization reinforced.

UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT (2021–2030) - THE OCEAN DECADE

The Ocean Decade is a unique long-term high-level initiative designed to emphasize the crucial role of ocean science in providing the necessary insights to inform decisions and catalyze effective actions and policies for sustainable use and protection of the ocean.

The Decade offers an exceptional opportunity to highlight the societal benefits of IOC and its programmes. During the years 2022–2029, a major responsibility of IOC will be to support and facilitate the Decade implementation and to regularly report progress to the United Nations Secretary-General and General Assembly.

Thus, the Ocean Decade has focused its actions on responding to the **Ocean Decade Challenges**, which represent the highest level of the Framework for Action. These issues articulate the most immediate priorities and seek to unite the Ocean Decade partners in collective action to ensure that ocean science shapes a coordinated and evidence-based contribution to the 2030 Agenda and other global policy frameworks. During the Ocean Decade, communities of practice composed of diverse stakeholders have been convening around the Decade's Challenges through a variety of participatory mechanisms. A wide range of stakeholders translate the Challenges into relevant Actions for the Ocean Decade at global, regional, national and local scales. (Figure 1).

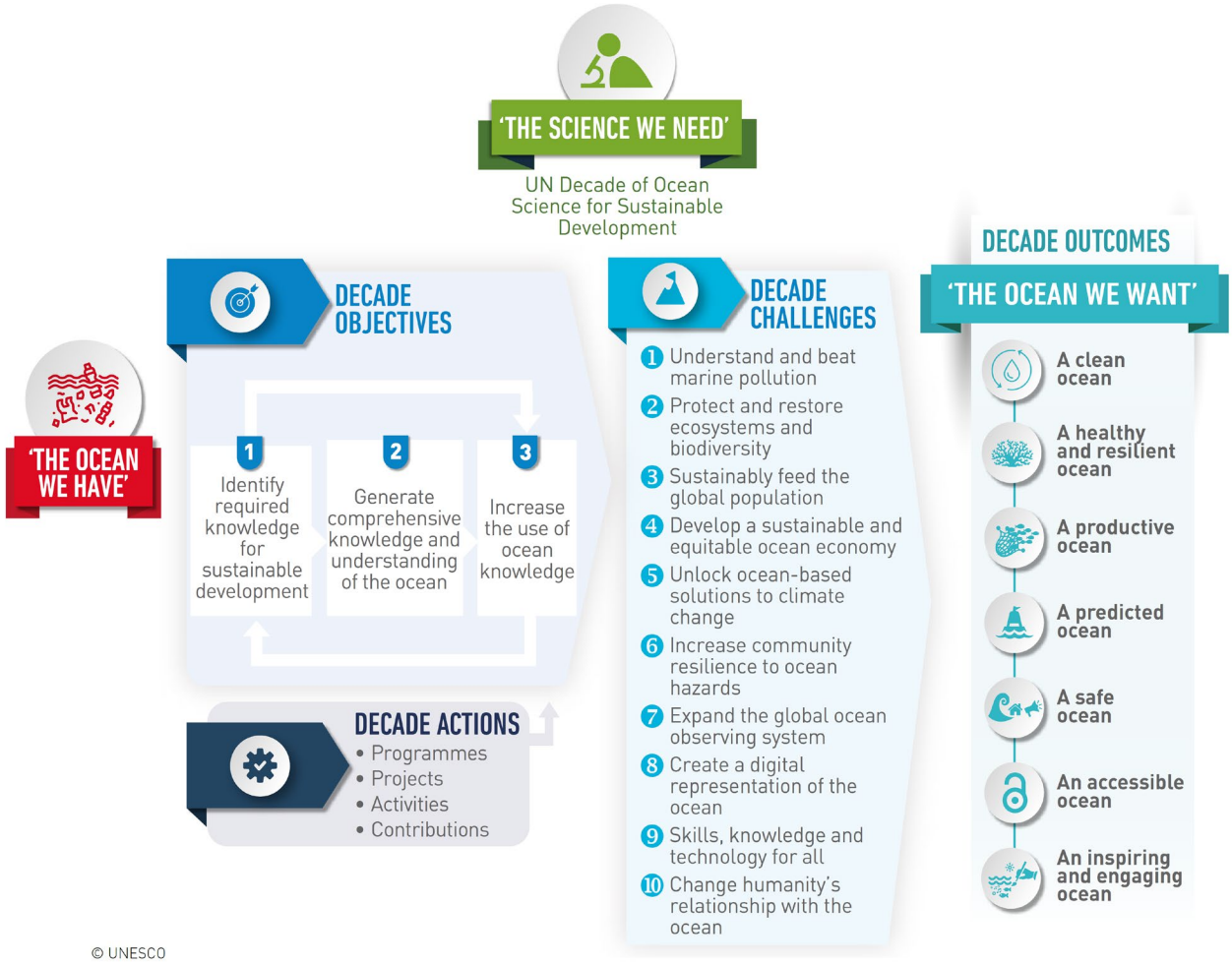


Figure 1. The Ocean Decade Action Framework (IOC-UNESCO, 2020).

In response to these challenges, the Ocean Decade has been facilitating the generation of data, information and knowledge needed to move from the 'ocean we have' to the 'ocean we want'. Seven expected outcomes describe the 'ocean we want' at the end of the Ocean Decade:

- **A clean ocean** where sources of pollution are identified and reduced or eliminated.
- **A healthy** and **resilient ocean** where marine ecosystems are understood, protected, restored and managed.
- **A productive ocean** that supports a sustainable food supply and a sustainable ocean economy.
- **A predictable ocean** where society understands and can respond to changing ocean conditions.
- **A safe ocean** where life and livelihoods are protected from ocean-related hazards.
- **An accessible ocean** with open and equitable access to data, information, technology and innovation.
- **An inspiring** and **attractive ocean** where society understands and values the ocean in relation to human well-being and sustainable development.

It is expected that during the Ocean Decade, initiatives and/or actions will grow and flourish at local, national and regional scales according to specific contexts and priorities. Capacity building, including improved access to data and technology, increased ocean literacy, and the creation of an enabling environment that ensures broad inclusiveness, including gender, generational and geographic diversity, will be essential elements at each stage of this process. It should be noted that the Ocean Decade does not set ocean policy, but it allows for the generation of scientific capacity and knowledge that contributes directly to the goals of the 2030 Agenda for Sustainable Development and other relevant global legal and policy frameworks.

1 ABOUT IOCARIBE

The IOCARIBE region (Caribbean Sea, Gulf of Mexico and Adjacent Areas) consists of 32 independent states and 15 dependent territories. The territories and dependent departments are represented by four independent States (France, the Netherlands, the UK, and the USA.

Continental States	Island States	Overseas Territories, Associated States, Departments, and Islands with Special Status	
		Territories	Associated States
Belize	Antigua and Barbuda	Aruba	Kingdom of the Netherlands
Brazil	Bahamas	Anguilla	United Kingdom
Colombia	Barbados	British Virgin Islands	United Kingdom
Costa Rica	Trinidad and Tobago	Cayman Islands	United Kingdom
United States	Cuba	Curacao	Kingdom of Netherlands
France	Dominica	French Guiana	France
Guatemala	Dominican Republic	Guadalupe	France
Guyana	Grenada	Montserrat	United Kingdom
Netherlands	Jamaica	Martinique	France
Honduras	St. Kitts and Nevis	Puerto Rico	United States
Mexico	Haiti	Bonaire, St. Eustatius and Saba	Netherlands
Nicaragua	St. Lucia	St. Martin	France
Panama	Saint Vincent and the Grenadines	Turks and Caicos	United Kingdom
United Kingdom		St. Bartholomew's	France
Suriname		U.S. Virgin Islands	United States
Venezuela		St. Maarten	Kingdom of the Netherlands

All thirty-two (32) states of the region are members of IOCARIBE. Taking into account geographical characteristics, size, language and socioeconomic development, Member States have been grouped by IOCARIBE as follows

- **Small Island Developing States (SIDS) Antilles:** includes 14 independent states. Mayor participation of the smaller Antilles. Belize, Guyana and Suriname are included because of size and language likeness.
- **Small Isthmus Developing States (SIDS) of Central America:** includes six (6) independent states of Central America and the Dominican Republic, which is also included because of language and size similitude.
- **Medium Size:** includes five (5) independent States considered among the most active countries in IOCARIBE.
- **Europe and USA:** includes most of the 15 territories and departments represented by France, The Netherlands, United Kingdom, and the USA and its two (2) territories in the Region.

The IOCARIBE region is regarded as one of the most geopolitically diverse and complex regions in the world. The culturally diverse countries and territories that border this maritime area range from among the largest (e.g. Brazil, USA) to among the smallest (e.g. Barbados, St. Kitts and Nevis) and from the most developed to the least developed in the world. There are great differences in size, wealth, ethnicity practices, language and political situation among countries in the region, but there are also many common issues such as the cultural background, its geographical location, its natural resources and their associated environmental challenges.

Continental Coastal Latin-American countries and the Caribbean SIDS are two distinct regions from the ocean sciences capacity and economic development point of view. Nevertheless, both are greatly dependent on the ocean and coastal resources.

Caribbean Island countries are classified as middle-income countries, and most are SIDS. This situation is indeed unique and brings a different set of dimensions and challenges in terms of ocean sciences. The principal features of these countries are smallness in geographical size and population; insularity; low resilience and high vulnerability to natural and human-made disasters and the impact of global climate change – as seen in the annual passages of hurricanes, and sea level rise; and high dependence on tourism.

The IOCARIBE Region, with its island States and significant coastal areas in the continental states is a region very dependent on the ocean for their well-being from food security to energy and from being a major ocean shipping region to one of the world's great tourism areas. Its position in an area of extreme events like hurricanes and tsunamis and being ground zero for climate change impacts requires the strongest science possible to form the basis upon which societal decisions relevant to the coasts and oceans are made.

IOCARIBE will prioritize strengthening the scientific capacity of Member States for ocean management at both national and transboundary levels. This approach will involve implementing the Strategic Action Program for the Sustainable Management of the Shared Living Marine Resources of the Caribbean and North Brazil Shelf Large Marine Ecosystems (CLME+ SAP)." while also supporting the establishment and operation of a Coordination Mechanism and sustainable financing plan for ocean governance. These efforts aim to elevate the region's scientific expertise and facilitate coordinated, sustainable management of marine resources.

1.1. OCEAN DECADE IN THE TROPICAL AMERICAS AND CARIBBEAN (TAC) REGION

In 2020, a Regional Planning Group was established in the TAC Region (IOCARIBE Region + Tropical Americas Region) to coordinate strategic efforts for the implementation of the Ocean Decade. Seven Working Groups were formed to achieve the Decade's expected outcomes through multidisciplinary partnerships. In 2021, seven online workshops were developed to address knowledge gaps and design transformative ocean science solutions in the TAC region.

A Regional Conference was also held in December 2021 to officially launch the Decade of the Ocean in the TAC Region, marking the beginning of regional efforts to implement key actions. The importance of strengthening governance, coordination and collaboration to achieve transformative solutions was emphasized and the creation of National Decade Committees was encouraged to foster the internalization and capillarization of planned actions and the engagement of actors at the local level.

In 2022 IOCARIBE developed Regional Actions for the Ocean Decade to address priorities of the TAC region and overcome the challenges identified. These Actions were approved as Decade Actions within the global framework of implementation, and are being implemented by partner organizations, coordinated by IOCARIBE. In addition, they seek to integrate existing projects supported by the Decade, taking advantage of synergies and enhancing their impact for the benefit of the region. The following actions were initially approved and endorsed by the Coordinating Office of the Ocean Decade:

- Project No. 133.2 – Gain knowledge to respond to multiple stressors
- Project No. 134.2 - TAC Pollutants Observatory
- Project No. 135.2 - TAC Ocean Observing and Forecasting System
- Project No 136.2 - Enhancing capacity development in the TAC Region
- Project No. 137.2 - Ocean Literacy in the TAC Region
- Project No 138.2 - Integrating Coastal Hazard Warning Systems for TAC
- Project No 140.2 - MACHC-IOCARIBE Seabed 2030 Project

Further, in June 2022, the IOC Executive Council invited IOCARIBE to consider acting as the Decade Coordination Office for the implementation of regional actions and to determine the powers and resources needed to strengthen the regional secretariat. At the Seventeenth Intergovernmental Session of The Sub-Commission (IOCARIBE-XVII), Member States approved the transformation of the Regional Planning Group into the recently formed TAC Ocean Decade Task Force; and to establish a Decade Coordination office for the TAC within the IOCARIBE Sub-commission, an initiative activated in 2023, with all interested groups in the region.

The Ocean Decade Task Force membership embodies the inclusion and co-design aspects of the Ocean Decade Framework. Representatives from youth (ages 15-24, as defined by the UN secretariat), Early Career Ocean Professionals (ECOPs), the blue economy sector, the regional financial, petroleum, tourism and fisheries sectors, academia, Governments, non-governmental organizations, and coastal communities are all included, and will have the opportunity to participate at the regional and national level.

1.2. CAPACITY DEVELOPMENT NEEDS AND GAPS

During the implementation of the Ocean Decade, the following capacity building challenges were identified as priorities for the region:

- Funding and investment.
- Access to equipment, research vessels and trained researchers.
- Training/education
- Increase knowledge of the oceans.
- Identify an efficient method to engage or approach and exchange knowledge with local communities and indigenous knowledge holders.
- Increase opportunities in the region with the goal of avoiding or minimizing brain drain.
- Include more students and early career professionals in Decade-related activities.

The following complex problems were also identified, which due to their importance constitute Grand Challenges for the region:

- Identify, quantify and reduce sources of marine pollution.
- Map and protect marine ecosystems, taking into account the effects of climate change.
- Understand and forecast ocean conditions for the benefit of society.
- Address increasing ocean-related hazards and their impact on life and livelihoods.
- Ensure sustainable management of fisheries and human activities.
- Improve access to ocean data, information and technologies for all stakeholders.
- Engage stakeholders in ocean research and services for sustainable development.

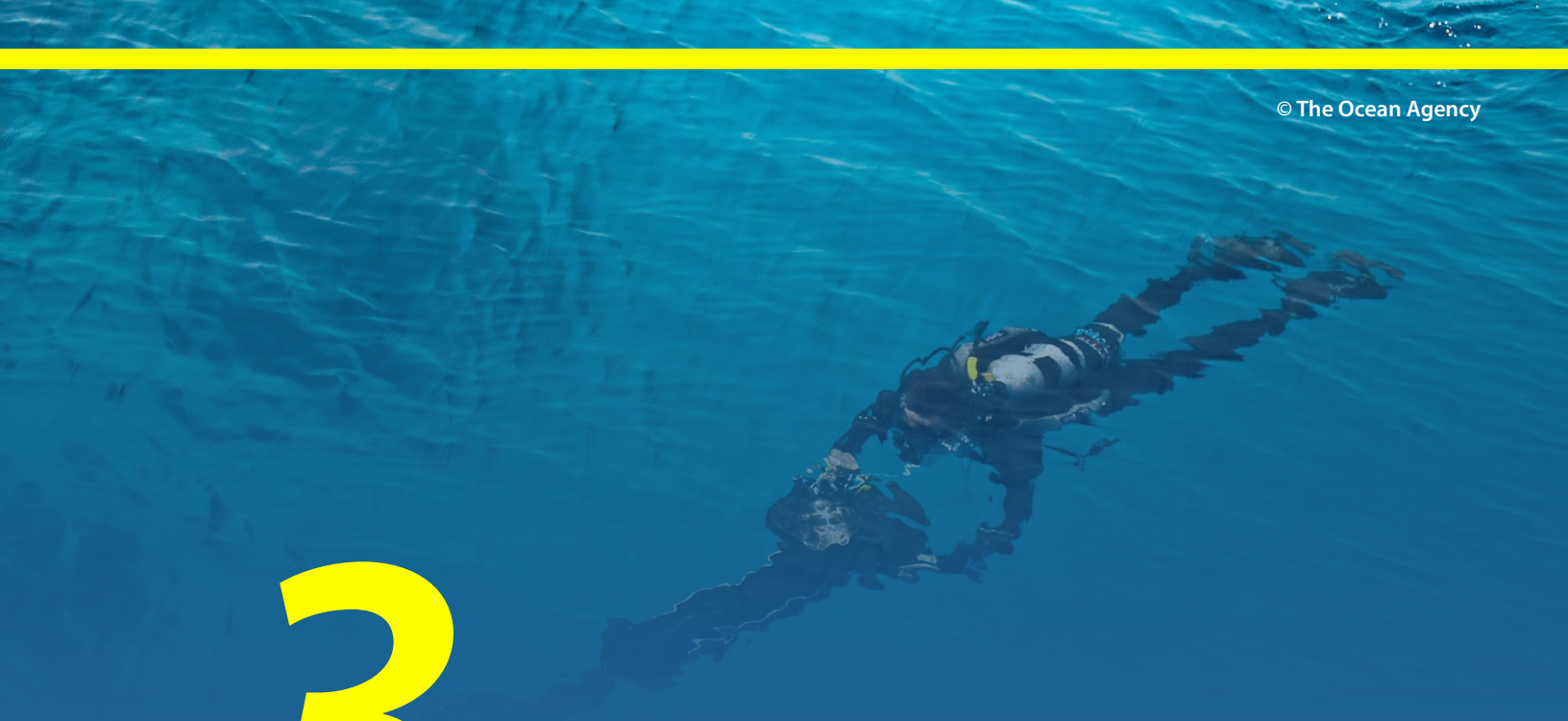
In accordance with the above, IOCARIBE has issued a call to action "Accelerate science-based solutions to solve the challenges of sustainable ocean development in the region". Stakeholders were urged to:

- Protect, conserve and restore ocean ecosystems to improve the resilience of regional and global communities that depend on them;
- Engage and inspire stakeholders to develop and enhance partnerships for the co-design and co-delivery of transformative solutions to the critical sustainable development challenges of the decade, leaving no one behind in the design, implementation and access to benefits;
- Identify programs, projects, actions that include contributions to the Decade's solutions in the region;
- Support the creation of National Decade Committees that mobilize local and national collaboration to co-design and coordinate local, national and regional actions; and
- Participate through events, publications, exhibitions, workshops, conferences, offers of training opportunities, or contributions both financial and in-kind to support the development of Decade actions and support the implementation of Sustainable Development Goal 14 (SDG14).

2 WHY A SCIENCE PLAN?

Member States of IOCARIBE had agreed there was a need for a science plan, as a necessary guidance document, to strengthen the role of science in the region, leading to improved geopolitical and economic diversity in the use of ocean science, building cooperation and networking, creating solutions for effective data sharing and making knowledge of the oceans available to all. The Strategic Science Plan (SSP) will enable the following:

- Through scientific research, understand management and use priorities for the ocean space in the region;
- Improve and promote technology and data transfer, capacity development and ocean literacy;
- Encourage the inclusion of end-users - early career professionals, women, local communities, and indigenous knowledge holders, in ocean initiatives;
- Urges all Member States to prioritize the adoption and implementation of robust and comprehensive measures aimed at significantly reducing human and material losses arising from the escalating frequency and intensity of extreme weather and ocean-related hazards;
- Urge the development and utilization of knowledge in order to produce goods and services that effectively address the fundamental needs of people and contribute to achieving sustainable development goals;
- Support the implementation of national and regional commitments and treaties that contribute to ocean health and scientific development;
- Urge the facilitation of scientific contributions to guide sound management and policy-making while accelerating efforts to address outstanding scientific uncertainties, particularly those pertaining to climate change.



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3

IOCARIBE SCIENTIFIC STRATEGIC PLAN

IOCARIBE SSP

3.1. VISION

To bring together governments and the scientific community of the region, to achieve the Ocean We Need for the Future We Want.

3.2. STRATEGIC OBJECTIVES

The strategic objectives of the IOCARIBE SSP, based on IOCs high level objectives, are to promote ocean science towards more integrated ocean governance for the region, in order to achieve:

3.2.1. Healthy ocean and sustained ocean ecosystem services:

Enhancing scientific understanding of ocean ecosystems and their health indicators is crucial for ecosystem-based management. This is essential for a sustainable ocean economy and effective governance in the region. Improved coordination among key stakeholders is needed.

3.2.2. Effective warning systems and preparedness for tsunamis and other ocean-related hazards:

In the region, coastal development and environmental shifts increase vulnerability to hazards like algal blooms, flooding, tsunamis, and cyclones. Accessible hazard data is vital for effective planning, climate adaptation, and maritime safety. Continued ocean observing systems and decision-support tools are crucial.

3.2.3. Resilience to climate change and contribution to its mitigation:

Climate change in the region encompasses temperature shifts, altered tropical cyclone patterns, storms, rainfall variations, sea-level rise, and ocean acidification due to carbon emissions. These combined effects result in deoxygenation and coastal erosion. Climate change poses a threat to crucial human development goals, including food security, health, water resources access, and disaster preparedness. Given the ocean's pivotal role in climate regulation, coordinated regional efforts, are necessary to comprehensively integrate the ocean dimension into our capacity to understand and predict climate change impacts. This will guide the development and swift implementation of effective adaptation and mitigation strategies.

3.2.4. Scientifically-founded services for the sustainable ocean economy:

Sustainability in the region's ocean economy pertains to the long-term ability of ocean ecosystems to sustain human activities. Achieving this balance necessitates ocean observations, tailored data products and services, scientific assessments, and ongoing monitoring of ocean ecosystem health. Implementing knowledge-based ocean management tools, such as marine spatial planning, coastal zone management, marine protected areas, and large marine ecosystems can assist stakeholders in defining environmental and socioeconomic goals, devising operational plans, establishing safe boundaries and guidelines for operations, and mitigating conflicts from diverse ocean uses.

3.2.5. Foresight on emerging ocean science issues:

The ocean in the region is still a relatively unexplored domain. Ongoing oceanographic research uncovers new stressors and potential impacts on ecosystems and human well-being. Innovation and improved data systems are essential to anticipate emerging challenges and inform timely solutions in collaboration with stakeholders.

3.3. APPROACHES

- Prioritize regional social, scientific, and economic impacts in project formulation.
- Conduct a comprehensive evaluation of the alignment and effectiveness of IOCARIBE's planned and executed projects and programmes within the framework of the IOC Medium-Term Strategy (including IOC global programs and Regional Subsidiary Bodies) and those implemented by other relevant UN agencies.
- Coordinate jointly with UN Agencies priorities of specific action plans in the Region.
- Strengthen cooperation among countries and organizations of the region.
- Reinforce institutional strengthening of the Sub-commission and national coordinating networks.
- Perform periodic evaluations of the SSP progress and its priorities every two years.

3.4. USERS

- IOCARIBE Secretariat.
- IOCARIBE Board of Officers.
- IOC Section, Programme and Project Leads
- Member States managers and decision makers working in ocean sciences and technology.
- The regional scientific community and regional organizations.
- Donor organizations.
- Other United Nations agencies, Intergovernmental Organizations and Non-Governmental Organizations.
- ECOPs and students.

4 IMPLEMENTING IOCARIBE SSP

In acknowledging the uneven distribution of technological and developmental capacities among Member States, IOCARIBE is initiating projects to facilitate the transfer of marine technology and fortify institutional and scientific networks in ocean sciences. The primary objective is to enhance accessibility to infrastructure and knowledge.

To align with the IOC Medium-Term Strategy (2022-2029), IOCARIBE is committed to the following actions:

1. **Knowledge Generation and Sharing:** Encourage the creation and dissemination of knowledge, information, expertise, and experiences pertaining to the Region and its coastlines.
2. **Capacity Development:** Support Member States in achieving the six outcomes proposed in the IOC Capacity Development Strategy for 2023-2030.
3. **Scientific Cooperation:** Strengthen scientific cooperation on both regional and international levels through networking and institutional arrangements with organizations operating within and outside the region, such as UN bodies, IGOs, NGOs, and the scientific community.
4. **Implementation of Global Scientific Programs and Regional Contribution:** Facilitate the implementation of the global scientific programs of the Intergovernmental Oceanographic Commission (IOC), among others, by promoting regional contribution to global ocean observation, data exchange and ocean scientific research.
5. **Supporting global and regional ocean programs for sustainable development** through the implementation of the Ocean Decade and SDG14 in the region. These include international

agreements and programmes to address the triple planetary crisis - pollution, biodiversity loss and climate change, including:

- The Paris Agreement
- The Kunming-Montreal Global Biodiversity Framework
- Outputs from the Intergovernmental Panel on Climate Change
- The Cartagena Convention and its Protocols
- Biodiversity Beyond National Jurisdiction (BBNJ) Agreement
- Other key global and regional agreements and programmes.

4.1. STRENGTHENED SCIENTIFIC UNDERSTANDING OF OCEAN AND COASTAL PROCESSES

- Address knowledge gaps in ecosystems' responses to stressors.
- Support the development of tools for implementing management frameworks that enhance resilience.
- Promote drafting of sustainable ocean plans to respond to stressors and attract investment.
- Enhance ocean literacy and science-policy dialogue.

4.1.1. IOCARIBE-GOOS Redesigned, updated and enhanced:

- Sustain long-term observations of marine and coastal environments.
- Align with the GOOS 2030 Strategy for effective governance and management.
- Promote regional engagement, participation, and collaboration with the global ocean community.

4.1.2. Strengthened Monitoring Capacity for Ocean Acidification (OA):

- Enhance the monitoring OA network through increased coordination with the Global Ocean Acidification Observing Network (GOA-ON) hub.
- Develop human and institutional capacity.
- Promote the use of GOA-ON methodology for measuring ocean acidification impacts.

4.1.3. Enhanced Institutional Capacity for Valuation of Ecosystem Goods and Services:

- Adopt and develop standards and methods for valuation within the CLME+ SAP framework.

4.1.4. Ecosystem-Based Management Capacity for Member States:

- Develop and implement marine spatial and coastal area management plans.
- Continue CLME+ SAP implementation through engagement in PROCARIBE+ Project and MSProadmap (2022-2027).

4.1.5. Baseline Data on Biodiversity and Ecosystem Habitats:

- Collaborate with regional nodes and organizations for developing monitoring tools.
- Promote the use and consultation of the Ocean Biodiversity Information System (OBIS).

4.1.6. Region-Wide Information System for Oil Spills:

- Strengthen the partnership for developing an information system for oil spills.
- Enhance Member States' monitoring capacity.

4.1.7. Pollutants Observatory:

- Develop a transboundary, multidisciplinary approach for a regional pollution observatory.

4.2. CAPACITIES IN EARLY WARNING AND ASSESSMENT

4.2.1. Integrated Coastal Hazards Warning Systems:

- Integrate existing and new early warning systems for coastal and ocean hazards.

4.2.2. Improved Coastal Inundation Observing Forecasting Capacities:

- Implement the Coastal Inundation Forecasting Initiative for MSP, ICAM Plans, and DRR.

4.2.3. Region-Wide Sargassum Information and Forecasting System:

- Develop the Sargassum Information Hub in collaboration with partners.

4.2.4. Complete Baseline Seabed Map:

- Implement the Joint IOCARIBE MACHC Strategy to create an accurate bathymetric map by 2030.

4.2.5. Region-Wide Information System for Oil Spills:

- Strengthen the partnership for oil spill information system development.

4.3. IMPROVED CAPACITY TO UNDERSTAND AND PREDICT CLIMATE CHANGE

4.3.1. Improved Hurricane and Coastal Inundation Observing Forecasting Capacity:

- Implement initiatives for improving Member States' capacities.

4.3.2. Increased Understanding of Ocean Acidification:

- Identify and convene relevant activities for raising awareness.
- Work with Ocean Literacy for community engagement.

4.3.3. Increased Capacity to Adapt to Coastal Erosion Impacts:

- Encourage the development and implementation of integrated coastal zone management plans.

4.4. SCIENTIFICALLY BASED SERVICES FOR THE SUSTAINABLE OCEAN ECONOMY

4.4.1. Strengthened Resource Management:

- Support operationalization of the Ocean Coordination Mechanism through the PROCARIBE+ Project.

4.4.2. Promotion of Sustainable and Regenerative Tourism Practices:

- Support the implementation of existing Marine Spatial Plans and contribute to the proposal of new plans supporting sustainable and regenerative tourism.

4.4.3. Conservation of Key Biodiversity Areas:

- Support the development of activities that promote the conservation and management of marine and coastal areas of special importance for biodiversity and ecosystem functions and services.

4.4.4. Sustainable Long-Term Capacity of Ocean Ecosystems:

- Deliver data and information products and services.
- Continue supporting CLME+ SAP implementation.

4.4.5. Information generation for maritime transportation

- Facilitate the generation of technical, scientific and operational information for the promotion of maritime transport.

4.5. STRENGTHENED AND ENHANCED INSTITUTIONAL AND SCIENTIFIC CAPACITY

4.5.1. Improved Collective Understanding of Emerging Ocean Environmental Issues:

- Enhance and strengthen regional coordination of scientific research.
- Promote an adaptable ocean observing system.
- Contribute to scientific syntheses and assessments, in particular the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including socio-economic aspects.
- Facilitate the implementation of a regional forecast system for oceanic conditions and marine meteorology (waves, sea surface currents, sea surface temperature and surface winds).
- Encourage the development of regional collaborative oceanographic research cruises in the Wider Caribbean.

4.6. AN IOC OCEAN DATA AND INFORMATION SYSTEM

4.6.1. Regional Component of the IOC Ocean Data and Information System:

- Develop and implement a regional component based on existing and operational systems.

These actions aim to provide policy makers and stakeholders with a comprehensive overview of IOCARIBE's strategic initiatives, emphasizing collaboration, knowledge-sharing, and the pursuit of sustainable ocean practices for the benefit of communities and national economies.

5 CROSS-CUTTING ELEMENTS

The SSP, operating within the framework established by the IOC and its programs to address critical global challenges related to oceans and coastal zones, aims to fulfill its mandate of advancing ocean science, observations, and governance. To achieve its vision, the SSP proposes the development and implementation of key cross-cutting elements.

5.1. FACILITATING TECHNOLOGY TRANSFER

The Intergovernmental Oceanographic Commission (IOC) has a robust history of engaging in technology transfer, as outlined in the "IOC Criteria and Guidelines on Transfer of Marine Technology" (CGTMT) established in 2003. These guidelines stress the importance of fair and equitable technology transfer, especially for the benefit of developing countries in the realm of ocean science. The IOCARIBE region, explicitly mentioned in the IOC Medium-Term Strategy 2022-2029, acknowledges the need to promote technology transfer to address capacity and technology disparities among Member States. IOCARIBE aligns its efforts with the goals of the Ocean Decade and collaborates with regional initiatives such as the Ocean InfoHub in the LAC Region.

5.2. PROMOTING OCEAN LITERACY

Recognizing that sustainable marine management and effective disaster mitigation depend on an informed public, the countries of the IOCARIBE region endorse ocean literacy programs tailored to different set of stakeholders. IOCARIBE's Ocean Literacy initiative focuses on educating and engaging the Caribbean regions and Latin America populace about the importance of the ocean and its regional seas, its resources, and the necessity for sustainable practices. Collaborate with existing global and local Ocean Literacy initiatives.

5.3. BUILDING AND SUSTAINING CAPACITY

In line with the IOC's Capacity Development Strategy, IOCARIBE is committed to empowering nations in ocean-related endeavors. The region collaborates with the IOC OceanTeacher Global Academy and strives to address disparities among countries by focusing on gender balance, early career professionals, and engagement with UNESCO programs.

5.4. EFFECTIVE OCEAN DATA AND INFORMATION MANAGEMENT

IOCARIBE emphasizes the importance of a comprehensive ocean data and information management strategy aligned with the IOC Strategic Plan. This plan aims to establish an integrated ocean data and information ecosystem, fostering collaboration across disciplines and scales. The region encourages the establishment of National Oceanographic Data Centres (NODCs) and actively participates in global and regional initiatives like the Ocean InfoHub, CHM_TMT portal, and OBIS.

5.5. STRENGTHENING REGIONAL COOPERATION

To enhance communication and collaboration, IOCARIBE, participants in an Interim Coordination Mechanism created through the GEF CLME+ Project. This mechanism facilitates regional cooperation for the conservation and sustainable use of coastal and marine resources. The region also engages in Marine Spatial Planning (MSP) to address emerging needs and challenges, aligning with UN Sustainable Development Goals and the Paris Agreement.

5.6. BUILDING PARTNERSHIPS

IOCARIBE aims to reinforce scientific cooperation through regional networking and institutional arrangements, collaborating with UN organizations, NGOs, and the scientific community. The region seeks to explore new forms of collaboration, including potential ties with other UN bodies and partnerships with the private sector.

5.7. ENHANCING COMMUNICATION AND VISIBILITY

Effective communication is crucial for raising awareness of IOCARIBE's role in sustaining life on our planet. The region plans to implement strategic approaches, including engaging with local communities, strengthening its online presence, collaborating with reputable organizations, interacting with policymakers, and utilizing social media to disseminate updates.

In summary, the SSP's initiatives encompass technology transfer, ocean literacy, capacity building, data management, regional cooperation, partnerships, and communication strategies, all aimed at advancing ocean science and governance in the region.

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