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# **THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT 2021-2030**

## **Tropical Americas and Caribbean Region**

### **IOCARIBE CONSULTANCY FINAL SUMMARY**

21 February 2022



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## INDEX

1. BACKGROUND.....	4
2. CONSULTANCY WORK.....	4
Desk Research and Assessment	4
Regional Kick-off Conference (16-17 December 2021)	5
Call for Action 02/2021	6
Projects Submitted	6
3. RECOMMENDATIONS .....	7
4. FUTURE WORK .....	10
5. PARTNERS .....	11
6. ANNEX I: Project Summary Table Submissions Ocean Decade .....	13
7. ANNEX II: Consultant Team .....	16



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## 1. BACKGROUND

IOCARIBE of IOC UNESCO organized a Western Tropical Atlantic (WTA-Ocean Decade) virtual meeting on April 28-29, 2020 to address the science priorities and capacity goals, in consultation with the many leading UN, NGO, science and private sector, indigenous and local communities and other stakeholders of the Wider Caribbean Region.

As part of the IOCARIBE coordination mechanism for the UN Decade of Ocean Science for Sustainable Development (2021-2030), a Regional Planning Group was established to advance and coordinate strategic partnerships and actions for the engagement in the Ocean Decade. The initial regional scope for the for Western Tropical Atlantic was extended to the East Tropical Pacific to finally merge on the Tropical Atlantic and Caribbean Region, embracing both basins, for consistency, physical and ecosystem similarity and geopolitical situation.

With the coordination of IOCARIBE, partners UN and Regional Agencies, and financial support from NORAD and UCAR, a series of seven virtual workshops were organized to be conducted during July – September 2021, at a technical and conceptual basis.

A Kick-off TAC Regional Conference (16-17 December 2021), with the auspices of the Government of Colombia and Barbados, marked the launch of the UN Ocean Decade in the Tropical Americas Caribbean, and represent the beginning of the region-wide efforts in a substantive development and implementation of Decade Actions.

Following the work of Regional Planning Group a drafting of regional Decade proposals to address the regional challenges identified during the TAC Regional Kick-Off Conference (16-17 December 2021) and the WTA Regional Workshops' series (April-September 2021), were submitted to the Ocean Decade call for Action 02/2021.

The identified actions are based on the results gathered from the recent reports, and on-going activities of UN Agencies/Programmes and Regional entities, the available information from WTA Regional Workshops and the breakout sessions held during the TAC Regional Kick-Off Conference.

## 2. CONSULTANCY WORK

### Desk Research and Assessment

The proposed work for the consultant team, included the review of all information gathered during the Regional Workshops' series, in-depth reports, presentations, and background



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documents. A discussion with the relevant Working Group leaders on the findings, recommendations, and possible solutions, were part of the desk research and drafting process to build the consolidated sets of integrated proposal for the open and future Ocean Decade Call for Actions. A consultation process during the Kick-Off Conference and final submission was conducted as part of the work plan.

An identification of priority issues and recommendations for the development of regional actions, is required i.e., for an information access system for data sharing and interoperability, available to the public for specific products and services tailored to different stakeholder needs, and understandable for the general community.

The potential partners and synergies among the regional working groups were identified. During the desk research, the team was invited to describe the potential next steps that could be taken to achieve the ocean we want in the TAC Region. According to the research findings, the team should provide the IOCARIBE Secretariat and Regional Planning Group with the actions to be taken during the TAC Region Kick-Off Conference.

The desk research report is a comprehensive document and contains relevant information to understand the state of art in the TAC Region. The desk research findings were summarized in tables, based on the regional identified challenges, the regional priorities, and the way forward.

## **Regional Kick-off Conference (16-17 December 2021)**

The Regional Kick-off Conference was part of the region-wide efforts in a substantive development and implementation of Decade Actions. It aimed to catalyse partnerships among various ocean stakeholder communities in the region. It reinforced the co-design of transformative ocean science solutions to the Ocean Decade Challenges to achieve the Ocean Decade Outcomes and Sustainable Development Goals.

An Executive Summary of the outcomes of the Kickoff Conference was produced as part of the Consultancy work. Also, an in-depth review of the outcomes and discussion during the consultation to incorporate the contributions as part of the co-design of Regional Ocean Decade Actions and produce a draft proposal for discussions and approval for the Review Committee for further finalization.



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## Call for Action 02/2021

The Regional Planning Group and Review Committee is convened to meet, on Monday 24 January 2022, to consider the outcomes of the consultation process and review the draft proposals with the aim to be submitted for endorsement to the Decade Actions to turn knowledge into transformative solutions for sustainable development.

A set of 7 proposals were submitted on the 31 of January 2022 to the Ocean Decade Call for Action 02/2021. (Annex I) – 3 discussed proposals were postponed for further submission.

A final Review Committee and RPG was convened on the 10<sup>th</sup> of February for a consultancy debriefing and discussions on the follow-up and way forward for the Tropical Americas and Caribbean Region – Ocean Decade implementation a Regional Action Plan.

## Projects Submitted

### A. Essential Infrastructure

- An Ocean Observing and Forecasting System for the Tropical Americas and Caribbean Region
- Integrating Coastal Early Warning Systems and Services for the Tropical Americas and Caribbean Region

#### Projects postponed

- Data Management and Information System for the Tropical Americas and Caribbean Region
- Digital Twin for Coastal Areas in the Tropical Americas and Caribbean Region

### B. Knowledge and Solutions

- Developing a Tropical Americas and Caribbean Region Pollutants Observatory
- Increasing knowledge in order to respond to multiple stressors in a changing environment

#### Projects postponed



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- Increasing knowledge on impacts of the blue economy activities and climate variability change on fisheries and ecosystems health

### C. Foundational

- Best practices: achieving equal access to data by standardizing local, national, and international data
- Ocean literacy: changing local communities' relationship with the ocean by promoting the democratization of access to knowledge in the TAC Region
- Enhancing Capacity Building in the TAC Region

## 3. RECOMMENDATIONS

### A. Essential Infrastructure

The Tropical Americas and Caribbean Region requires the development and implementation of a regional sustained integrated ocean observation and forecasting system that will provide essential information for the sustainable development, well-being, prosperity and safety of the region's oceans and society. Such a system will provide the core knowledge and capabilities that underpin all proposed regional Decade projects and create opportunities for developing new activities. Upon the Ocean Decade endorsement, IOCARIBE should establish a new regional framework empowered to guide the development of this new TAC-OOFS. System governance and active components would be co-designed, but include at least activities focused on advancing regional Ocean Observations; Modelling, Forecasts, and Products; Data Management and Information System; and Capacity Development.

A TAC-OOFS Project would provide services to the proposed iCHEWS-TAC Project. The region is subject to threats to life and livelihood from multiple coastal hazards, including Tropical Cyclone impacts, Climate Change and Sea Level rise, Tsunami, Sargassum, Wastewater, Oil Spills, and Coral Bleaching. iCHEWS-TAC would integrate regional existing and new coastal hazards early warning systems and services considering four components: Risk knowledge, monitoring and warning service, dissemination and communication, and response and resilience capability, all supported by capacity development.



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- Begin immediately to empower regional partners to develop sustainable and responsive Governance and Management frameworks for the design and implementation of these Projects
- Identification of:
  - Existing Regional assets and contributing activities
  - Existing extra-regional contributing assets (including existing Decade Programmes)
  - Needs; best done through targeted studies carried out by project-component specific working groups established within the management framework, working with GOOS Ocean Observing Co-Design, Observing Together, and other Decade Programmes.
  - Gaps; extension of the Needs identification process.
- Integration of related Decade Programmes and activities into the TAC-GOOS and i-CHEWS-TAC implementation framework.
- Implementation of representative ‘skeleton’ Systems, using existing assets and filling gaps as necessary, that demonstrates multiple aspects of the Systems, targeting Essential Ocean Variables (OOFS) and multiple coastal hazards (iCHEWS), links to other regional projects, and creates a framework for expansion.
- Create a robust program of capacity building and training to enable sustainable National contributions to the success of the Regional Systems.
- Promote data and product sharing and reciprocal data collection agreements associated with membership in the Systems.

## B. Knowledge and Solutions

Coordination and regional coordination should be the highest priority to facilitate successful implementation of these projects. Within the region, coordination is limited especially related to laboratory work and data completeness and comparability which also affects the efficient use of limited resources. This is further complicated by the geopolitical and economic diversity of the region. Thus the development of a strong management structure for the project is essential. Key partners with a vested interest in these projects and existing mandates to tackle these issues have already been identified. Thus IOCARIBE has a role as the coordinating agency to (re)connect these partners as well as a representative sample of stakeholders to develop a governance and management framework with an overall emphasis on co-design.





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There is also need to strengthen the role of science and ensure that decision-making is based on quality data, which means addressing the paucity of quantitative data and other data gaps. Both of these submitted projects have a strong component focused on developing a strong baseline of data that is regionally comparable whilst also consistent with international standards. Furthermore there is need to integrate a transdisciplinary component that actually addresses the social and economic problems that exist behind the issue. If we do not attend from the education of the population and true transdisciplinary work addressing where the problems are generated, there will not be enough resources to target and mitigate these issues.

As a result of the pandemic, it has becoming increasingly easier to collaborate and share information virtually. Thus the convening of virtual workshops and seminars has addressed a previous limitation of regional coordination and co-design which involved resources to facilitate bringing people together, which often limited the number of people that could be involved. Thus capitalizing on virtual approaches can be helpful to maintain interest and action, ensure wide participation and encourage co-design to develop creative and innovative solutions for the TAC Region.

Within the region, limited resources (both financial and human) tends to be a limiting factor thus there is need to strengthen partnerships to share and develop capacities and sustainable financing approaches. Co-operation / collaboration also allows for more efficient use of limited resources and helps to avoid duplication of efforts.

### **c. Foundational**

An Ocean Decade programme to enhance capacity building and ocean literacy in the TAC Region, is required. The programme should address the Region's need to strengthen local ocean public policies and ensure the implementation of international treaties. The programme could generate knowledge and create ocean-related opportunities in the TAC Region. Regarding ocean literacy, it is vital to consider the cultural aspects and synergies of the Region when designing creative and innovative solutions, including on how to exchange knowledge with local communities and traditional knowledge holders.

The programme's management structure is crucial to identify partners' responsibilities and design a feasible programme (one must identify and consider what can be done considering the partner's resources and their commitment to the Region). IOCARIBE can be responsible for connecting the dots (managing the programme), but the partners need to take responsibility for developing regional activities. It is crucial to identify the partners and agree with them their responsibilities before submitting the programme.



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During the Kick-Off Conference Breakout Sessions, it was recognized that promoting regional workshops is an efficient way to identify the Region's needs. Co-design is crucial for the Region, and one must think outside the box to create creative and innovative solutions for the TAC Region.

Establishing partnerships and cooperation is critical for achieving the ocean we want in the TAC Region. Therefore, to co-design regional programmes, one must identify the potential partners and discuss/identify possible synergies and shared interests. To ensure that the programme is feasible, stakeholders need to participate actively in the design process.

#### 4. FUTURE WORK

The following activities are recommended for consideration by the TAC Regional Planning Group and IOCARIBE Secretariat:

To update the Regional Plan of Action and Strategy for Implementation for the Tropical Americas and Caribbean Region.

To disseminate and communicate among the region on the status of the completed work and follow-up including IOCARIBE and partners commitment to achieve and contribute with the Ocean Decade implementation at the Tropical Americas and Caribbean Region.

To follow-up on the decision and endorsement by the Ocean Decade Governance of the projects submitted.

To use the desk research and assessment provide to serve as a base line document and for the IOCARIBE, future work.

To review and finalize the proposals on TAC, for submissions in future Ocean Decade Call for Action.

- Increasing knowledge on impacts of the blue economy activities and climate variability change on fisheries and ecosystems health
- Ocean Information and Data Management System
- Digital Twin for Coastal zone and Climate Nexus



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## 5. PARTNERS

The Regional Planning Group is composed by experts from the Region, not representing a country or institution.

In conducting the IOCARIBE – Ocean Decade workshops series, and the Regional Kickoff Conference, for the Tropical Americas and the Caribbean, a coordination with relevant agencies with mandate or engagement in the region on Ocean/Marine related matters were considered and involved. Most relevant organizations with active participation and engagement are listed below:

### UN Agencies – Programmes – Regional Organizations

Caribbean Regional Fisheries Mechanism (CRFM)

Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC - Ocean Lab)

Food and Agricultural Organization (FAO)

International Seabed Authority (ISA)

IOC of UNESCO: GOOS – IODE, and Ocean Decade Coordination Unit

MERCATOR Ocean International

UN Environment Programme – Cartagena Convention (UNEP)

UN Office for Disaster Risk Reduction – (UNDRR) - ROLAC

World Meteorological Organization (WMO) – Region IV

### National Agencies and academia

Barbados - Maritime Affairs and Blue Economy Ministry – Coastal Zone Management Unit

Colombian Commission for the Ocean (CCO)

Florida Fish and Wildlife Conservation Commission

Marine and Coastal Research Institute – Colombia – OTGA Center – (INVEMAR)

Universidad Autónoma de Baja California (UABC)



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Universidad Nacional Autónoma de México (UNAM)

University of Miami (RSMAS)

University of South Florida (USF)

USA - NOAA – Office of International Activities - Office of Oceanic and Atmospheric Research – AOML

Panama – Maritime Authority



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## 6. ANNEX I: Project Summary Table Submissions Ocean Decade

PROGRAMME/PROJECT NAME	ORGANIZATION LEADER	PARTNERS	OCEAN DECADE PROGRAMME	OCEAN DECADE CHALLENGE
<b>KNOWLEDGE AND SOLUTIONS</b>				
<b>Tropical Americas &amp; Caribbean Pollutants Observatory</b>	<b>IOCARIBE</b>	UNEP WMO	Marine Life 2030 OC-NET	1 – 2 - 9
<b>Gain knowledge to respond to multiple stressors</b>	<b>IOCARIBE</b>	INVEMAR UNEP Marine Life 2030 UNAM	Marine Life 2030 OC-NET	2 – 4 - 9
<b>ESSENTIAL INFRASTRUCTURE</b>				
<b>TAC Ocean Observing and Forecasting System</b>	<b>IOCARIBE</b>	GOOS <sup>1</sup> WMO (Regional Association IV) Ocean Practices for the Decade CoastPredict ForeSea	ForeSea Note: Project linked to IOCARIBE - GOOS	5 – 6 - 7

<sup>1</sup> Project associated to GOOS Regional Alliance for the Caribbean Region – IOCARIBE GOOS

PROGRAMME/PROJECT NAME	ORGANIZATION LEADER	PARTNERS	OCEAN DECADE PROGRAMME	OCEAN DECADE CHALLENGE
<b>Coastal Hazards Early Warning System and Services for the TAC Region</b>	<b>IOCARIBE</b>	UNDRR <sup>2</sup> WMO CDEMA UNESCO/IOC- ICG CARIBE- EWS CEPREDENA C	ForeSea  Note: Project linked to the International Network for MHEWS (Regional) – and the IOC Tsunami Programme.	6 – 7 -10
<b>FOUNDATIONAL</b>				
<b>Ocean best practices in the TAC Region</b>	<b>IOCARIBE</b>	UNEP IODE/IOC WMO	Marine Life 2030	4 – 9 - 10
<b>Ocean Literacy in the TAC Region</b>	<b>IOCARIBE</b>	Ocean Literacy IOC UNESCO  OceanTeacher Global Academy  RELATO  Cultura Oceánica – UNAM  OL Programme in Ecuador	Ocean Literacy With All (OLWA)	4 – 9 -10

<sup>2</sup> Project associated to the International Network for MHEWS effort (TAC Regional)



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PROGRAMME/PROJECT NAME	ORGANIZATION LEADER	PARTNERS	OCEAN DECADE PROGRAMME	OCEAN DECADE CHALLENGE
<p><b>Enhancing capacity development in the TAC Region</b></p>	<p><b>IOCARIBE</b></p>	<p>UNEP IOC of UNESCO UNAM National Ocean Decade Committees</p>	<p>Joint Exploration of the Twilight Zone Ocean Network (JETZON) Challenger 150 programme</p>	<p>4 – 9 - 10</p>



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## 7. ANNEX II: Consultant Team

### Consultant Team

- Mr. Edgard Cabrera, lead consultant
- Mr. Douglas Wilson, consultant
- Ms. Fadilah Ali, consultant
- Ms. Milena Malteze Zuffo, consultant

### IOCARIBE Secretariat support

- Ms. Patricia Wills-Velez
- Mr. Alex Palomino
- Ms. Sandra Vargas

### IOCARIBE supervisor

- Dr. César Toro