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2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT

2021-2030

WESTERN TROPICAL ATLANTIC

TROPICAL AMERICAS CO-DESIGN WORKSHOP SERIES

WORKSHOP SERIES COMPLETION

SUMMARY REPORT

WTA - TECHNICAL WORKSHOPS SERIES

Report 2021 – 08



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WESTERN TROPICAL ATLANTIC REGION

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TROPICAL AMERICAS CO-DESIGN WORKSHOP SERIES

WORKSHOP SERIES COMPLETION - SUMMARY REPORT

WTA TECHNICAL WORKSHOPS SERIES

REPORT 2021 – 08

English only

This document presents the summary results of the technical workshop series convened in accordance with the Western Tropical Atlantic Action Plan for the UN Decade of Ocean Science for Sustainable Development 2021-2030 (The Ocean Decade), for the seven societal outcomes, held during the period of July-October 2021, in accordance with the Regional Western Tropical Atlantic Planning Group Action Plan. The results of this regional session will be consolidated as a discussion paper by the co-conveners of the regional session, which can contribute to the Western Tropical Atlantic Action Plan including the Eastern Tropical Pacific. The Regional Planning Group was called on 21 October, 2021, to review the workshops' findings and agreed on the way forward to build the Tropical Americas Ocean Decade Actions proposals for submission considering the driven process to synthesize the results and develop proposals, including emerging elements and common or unique strategies for integrating individual topics into programmes / projects to be proposed for co-design.

The outcomes of the workshops will be considered as input for the planned Regional Kick-off Conference for the UN Decade of Ocean Science for Sustainable Development 2021 – 2030 for the Tropical Americas and the Caribbean Region (16-17 December 2021) and laid the foundation for the preparation of the next actions for the Tropical Americas under the framework of the UN Decade.

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UN Decade of Ocean Science for Sustainable Development 2021-2030 Tropical Americas Co-Design Workshop series

Summary Report

**Hosted by IOC of UNESCO Sub commission for the Caribbean and Adjacent Regions-
IOCARIBE**

1. BACKGROUND

A series of seven virtual workshops for the Tropical Americas, were organized and conducted during the period of July – October 2021, at a technical and conceptual basis. An average of 150 participants for each of the workshops were registered. Simultaneous interpretation in English, French, and Spanish, was provided. See Annex 1.

With the commencement of the Ocean Decade on 1 January 2021 and the subsequent endorsement of the first set of flagship Ocean Decade Actions there is growing awareness of the need to support these WTA Working Groups to collaborate, co-design and submit Regional Ocean Decade Actions for endorsement as part of the global collective effort of the Ocean Decade. Different levels of Ocean Decade Actions will be implemented in The Tropical Americas, including programmes, projects, activities and/or contributions.

The Regional Planning Group was called on 21 October, 2021, to review the workshops' findings and agreed on the way forward to build the Tropical Americas Ocean Decade Actions proposals for submission considering the driven process to synthesize the results and develop proposals, including emerging elements and common or unique strategies for integrating individual topics into programmes / projects to be proposed for co-design.

The outcomes of the workshops will be considered as input for the planned Ocean Decade Tropical Americas Kick-off Conference (16-17 December 2021) and laid the foundation for the preparation of the next actions for the Tropical Americas under the framework of the UN Decade.

For more information on The Decade visit <https://www.oceandecade.org/>, <http://iocaribe.ioc-unesco.org/undecade> or email Cesar Toro (c.toro@unesco.org); cc: Patricia Wills (p.wills-velez@unesco.org).

2. MAIN FINDINGS AND RECOMMENDATIONS

All information from the virtual workshops is posted at the IOCARIBE website, as repository with presentations and documents. The findings, recommendations, and UN partner organization as below.

A clean ocean

"The Year 2031, A Clean Ocean - Steps to Success"

<http://iocaribe.ioc-unesco.org/webinarseries/cleanocean>

Findings

- It is necessary to build an inventory of contaminant sources and enhance analytical capacity through institutional expertise across the region to produce a regional database (baseline).
- The need for multi-state or international strategies to reduce plastic pollution and a collaborative approach more effectively across different sectors (community, industry, governments).
- The need to unify programs, join efforts in the same direction to get integrated solutions.
- The education of the population and true transdisciplinary work from the continent where the problems are generated.
- The need of Ocean Literacy as a transversal and systemic tool to engage people in good practices of interacting with the sea organisms and ecosystems

Recommendations

- The co-design process of working collaboratively through transdisciplinary practice, a key piece of this work, to deliver this both natural science and social science -i.e., behaviour change- is imperative to achieving a Clean Ocean.
- The use of Nature-based solutions can help to produce a zero-footprint future.
- Engagement with the private sector or indigenous people; thus it is important to commence engagement.

A healthy and resilient ocean

"Co-designing the path to sail the Decade of Ocean Science to reach the knowledge we need for the ocean we want in the Western Tropical Atlantic and the Eastern Tropical Pacific"

<http://iocaribe.ioc-unesco.org/webinarseries/ahar>

Findings

Main benefits of having a healthy ocean are related to economic income including source of employments, and food safety. Marine bioprospecting, human health and cultural aspects are considering relevant for at least a quarter of the participants.

Tropical marine ecosystems (like seagrasses and mangroves) linked with local communities' benefits and global environmental incidence reflects the region's blue carbon initiative success. During Ocean Science Decade, efforts should focus on capacity development and gathering baseline information.

The status of marine and coastal ecosystems, restorations indicators, and stressors must be monitored periodically.

Recommendations

To increase the ocean resilience of the Tropical Americas Region, efforts on sustainable development will be focused not only on the designation of new marine protected areas based on conservation measures (OECMs) but also on creative and innovative nature-based solutions that add value to biodiversity.

Innovative nature-based solutions must have a ripple effect on the health and resilience of the oceans, i.e., reverse biodiversity loss and mitigate climate change effects and raise awareness for environmentally responsible economic investments.

WTA needs to focus on improving spatial information and digital building inventory of relevant shallow and deep-water Caribbean and Atlantic mapping data sets and assessing data needs. In that sense, the main priorities to consider in mapping marine ecosystems for WTA are i) reducing the heterogeneity gap in capacities for mapping between countries, including initiatives on almost all countries at region; ii) increasing the funds to pay for scientific studies and inventories.

A predicted ocean

“Changing the vibe to predict smooth sailing in the Western Tropical Atlantic: A Theory of Change approach”

<http://iocaribe.ioc-unesco.org/webinarseries/apo>

Findings

- Components of an observing and forecasting system exist within the region providing observations and forecasts at a coarse regional resolution. Templates for implementation exist as well, along with willing regional and external partners.
- Need basic user needs assessments – “What do **you** need to know about the present and future state of the ocean? What would you need to act on that knowledge” – it would be beneficial to pick one or two of those and begin to use them to (1) directly address needs (2) widely distribute participation, products, and capacity?
- There are also clearly quite a few barriers that must be addressed in terms of technical capacity, resources, and political barriers, and doing so will be a major challenge to developing an observing and prediction system.
- There is a need to apply existing tools to the regional issues, and there is also a need to develop better (less expensive, simpler, multi-purpose) tools that support smaller economies. A way

forward (in parallel with more in-depth user assessments): Pick a clear, common need (extreme events?) and develop appropriate observing and prediction tools as demonstrations.

Lessons learned

- Observations/models/products should be multipurpose and support local interests.
- Countries need to develop capacity to use and maintain systems for sustainability.
- Barriers to surmount: Lack of sustainable operations; lack of human and technical resources; limited technical capabilities; lack of low-cost observing technologies; lack of standards in data and practices; lack of authoritative observation design; lack of agreement among responsible partners; lack of recognition of social, economic, political conditions; lack of funding; lack of clarity and benefits to potential consumers; lack of social interest and participation in ocean and coastal observation
- A major job will be identifying applicable funding and partnering opportunities and mechanisms and steering them towards the region. To do that there must be an infrastructure in place for them to contribute towards.

Recommendations

- Build Systems using Decade Programs as well as other existing, ongoing, applicable opportunities.
- Use GOOS 2030 Strategy - Value chain approach, connecting OBSERVATIONS through DATA MANAGEMENT for use in ANALYSES and MODELS to create APPLICATIONS
- Focus on significant regional 'exemplars' (e.g., extreme events, tourism/Blue Economy) to show importance, engage
- Include Demonstration projects collecting distributed data sets over full region; broad glider coverage for example, can promote data sharing and trans-boundary observations
- Take opportunities to promote model downscaling / nesting for local applications
- Need to consider a regional structure for planning and implementation

Possible future projects

Engagement with GOOS, US IOOS, Coast Predict, Horizon Europe, WMO SOFF.

Use the opportunities available to the region; but to do so there needs to be a basic framework in place: Data sharing agreements, capacity enhancement and best practices training, and regional social/political outreach and needs assessment

Pick useful, marketable, and expandable subset of projects for initial implementation

A safe ocean

“Breaking down the Silos for More Effective Early Hazard Warning Services”

<http://iocaribe.ioc-unesco.org/webinarseries/safeocean>

Main Findings

Variety of Hazards are considered priority: Sea level rise, Sargassum, Tsunami, COVID-19, Wastewater, Hurricanes and Oil Spills

All Early Warning components need to be addressed: Risk Knowledge (its complexities, cascading impacts), Monitoring and Warning Services, Dissemination and Communication and Response Capabilities, with a little more emphasis on Monitoring and Warning

Aspects that should be treated: Improving Data Collection and Sharing, Capacity Building, Governance, Interinstitutional Cooperation

While regional governance was deemed to have the highest priority, but very important are also national and local governance

Recommendations

There is interest, but many of the stakeholders are extremely busy, human and economic resources needed, project needs to be relevant

Maximize linkages to existing efforts: UNDRR, Sendai Framework, Tsunami, Hurricanes, GOOS, Sargassum Hub, Regional Emergency Management Organizations, Decade Programmes, PAHO

Action must have capacity development (coding, numerical modelling) and a local component, including intro to research

There are many synergies with other Decade outcomes – Predicted Ocean (models. Forecasts, data), Clean Ocean (wastewater, oil spills), Productive Ocean (similar stakeholders), Inspiring and Engaging (Education and Outreach)

Address Tropical Americas cultural, political, economic, social diversity, social capital; address the most vulnerable

Co-Design a Programme(s) that address multiple decade outcomes

A sustainably harvested and productive ocean

“Co-existing Opportunities and Synergies: Exploring Opportunities for a sustainably harvested and productive ocean in the Western Tropical Atlantic (WTA)”

<http://iocaribe.ioc-unesco.org/webinarseries/ashapo>

Findings

The maintenance / increase cooperation and partnerships due to its unique role in ensuring that small island states and developing countries have access to knowledge science, innovation, technology, and finance to support them to achieve a sustainable ocean.

- The promotion of policy coherence and integrated approaches to manage marine and coastal resources.
- The need to identify and evaluate the efficacy of existing regulatory instruments and their capacity to adapt to emerging issues impacting the oceans
- We also learn how private partnerships can be driven force for ocean sustainability by enhancing technology and Innovation.

Recommendations

- Improving collaboration and communication among different scientific disciplines and expertise
- Ensure effective Marine Spatial Planning (MPAs) for sustainable fisheries management and tourism development
- Securing the long-term commitment from funding agencies to carry the mission of Ocean Decade Action Plan.
- Increased skills and opportunities to engage in data collection, knowledge generation and technological development, particularly in LDCs, and SIDS.
- Creation of an annual forum to engage constructively and iteratively with policymakers scientist and stakeholders at all stages of the research and implementation.

A transparent and accessible ocean

“A transparent Ocean with open information and technologies access”

<http://iocaribe.ioc-unesco.org/webinarseries/ataao>

Challenge

- Innovative regional mechanisms should focus more on processes for accessing science than on assembling inventories of information
- Strong regional need to improve marine ocean observation and prediction systems to improve management, decision-making and governance.
- Ensure the development of data and information management plans in existing and new national ocean science, observation and related programmes and activities.

Findings

- Capacity building activities in national and regional institutions and enhancement of the cooperation, coordination and coherence of strategies and activities among partners is critical.

- Reduce the chronic observational gaps in the Caribbean region. Reviewing the existing observing systems operated by IOCARIBE members registered in the OceanOPS monitoring tool. Use deployment opportunities to maintain the global array of floats and drifter.
- It is critical to strengthen integrated ocean observation and open data exchange to meet the greater need for quality early warnings, forecasts, and services, for regional stakeholders.
- NODCs with active participation: USA, Brazil, Colombia, and Mexico. Need to reinforce other established NODCs and the establishment of new ones (i.e. Panama).
- A review of the IOCARIBE regional inventory – Country data base - on the assessment of the capabilities, to identify gaps and problems of the region related to the themes of the Ocean Decade and propose possible solutions.
- From the private sector, there is a permanent need on Met Ocean Data (i.e., offshore operations in the Gulf of Mexico – Pollution response Earth System). All efforts must be united and coordinated to understand the Ocean-Atmosphere system.
- All the ocean community in the region to note developments on ocean related matters and to work together and foster coordination and cooperation with relevant international organizations, at a regional scale.
- Establish dedicated contact points from IOCARIBE-GOOS to work with OceanOPS to identify strength, gaps, and development opportunities in the region, to reinforce cooperation in observations
- Improvement of national-scale collaboration among relevant research institutions, universities, industries, Oil and Gas producers etc.
- Ensure the development of data and information management plans in existing and new national ocean science, observation and related programmes and activities

Recommendations

- There is a strong regional need to improve marine ocean observation and prediction systems to improve management, decision-making and governance).
- Capacity building activities in national and regional institutions and enhancement of the cooperation, coordination and coherence of strategies and activities among partners is required. Availability of ocean data is playing an increasingly key role in the improvement of critical weather and marine related services.
- The ATAOWG will contribute to prepare a proposal for a regional decade action focusing on the enhancement and sustain a regional ocean observation system with an accessible Open access to data, information, and technologies.

Capacity Development

“Deep sea Capacity Development needs in the WTA and the ETP for the Ocean we want”

<http://iocaribe.ioc-unesco.org/webinarseries/cd>

The experts recognized the importance to

- Recognize the importance of ECOPs
- Opportunities in Ocean Decade endorsed programs
- Standardization of methods through best practices

The sessions identified four capacity building themes

- Access to data, information and knowledge
- Access to existing and new technology and equipment
- Accelerate deep sea training
- Strengthen collaboration and networking
- Government-industry-science partnerships should be conducive to longer-term collaboration
- Fill knowledge gaps
- Science that responds to priorities and needs in benefit to ocean-dependent people

Conclusion Deep-sea research in the region has been constrained

- limited access to/availability of research vessels, samples, data,
- adequate technologies (for sampling, analysis and data processing),
- funding and experts

Recommendations - Emerging initiatives

- the UN Decade endorsed programmes
- capacity baselines
- standardized biodiversity data
- network of network for ocean observation

Next Steps Regional deep-sea research projects

- based on the approach of “co-design” and “co-delivery”
- consolidated efforts
- “co-align”, “co-operate” and “co-implement” within context of ISA’s Action Plan

3. WAY FORWARD

Workshop Participants recognized

- Capacity Development and Ocean Literacy in the forefront
- Science priority topics in co-design/potential partnerships
- Partner with endorsed UN Decade Programmes

Workshop series

- Coastal ocean / deep ocean
- Early warning systems / monitoring

- Best practices /technology /data
- Inclusion and equity
- Biodiversity /pollutants / restoration
- Ocean Literacy for stakeholders

Funds required

- Infrastructure/ maintenance/ updating
- Workshops: systematic / taxonomy
- At sea training: water column or seafloor mapping / sampling
- Data processing : databases / machine learning /AI.

Priority programmes contributing to Ocean Decade

- Challenge 1 – Marine pollution
WTA / ETP Pollutants Observatory
- Challenge 2 – Multiple stressors on ecosystems
Understanding multiple stressor effects in the WTA /ETP through e-DNA
- Challenge 5 – Ocean-climate nexus
WTA / ETP Ocean –climate Digital Twins for the coastal ocean
- Challenges 1 and 5
An Early Warning System for the WTA /ETP
- Challenges 1, 2 and 5
Capacity Development for a Sustainable WTA /ETP Deep Sea

4. FUTURE WORK

Compile the information received from the preparatory questions used during the workshop panels and summary reports. Main Topics for consideration:

1. Capacity development
2. Data Exchange
3. Sustain the Observation System and expansion
4. Common or unique strategies for inclusion
5. Compiling the individual topics around which projects are proposed for co-design?

Preparation of the Regional proposals for submission to the Ocean Decade Governing bodies, addressing the regional priorities and needs, and in accordance with the Decade Action Hierarchy, for Endorsement of the corresponding Programme, Project, Activity, Contribution to the Ocean Decade Implementation and

WTA Action Plan. Proposals will be prepared, following the seven workshops' topics, and considering the co-design, and co-delivery principles for the Ocean Decade.

Preparation of a WTA Ocean Decade Regional Kick-off Conference (14-15 December 2021) to launch the UN Ocean Decade in the Western Tropical Atlantic and East Tropical Pacific and its adjacent areas.

5. ANNEX 1

WTA WG Webinar Series Update

WORKING GROUP	LEADER (S)	DATE/TIME (COT)	TITLE OF WEBINAR	UN PARTNER AGENCY
A safe ocean	Christa von Hillebrandt	8th July, 2021 14:00 – 16:00	“Breaking down the Silos for More Effective Early Hazard Warning Services”	United Nations Office for Disaster Risk Reduction UNDRR
A transparent and accessible ocean	Albert Martis Edgard Cabrera	29th July, 2021 9:00 - 11:30	“A transparent Ocean with open information and technologies access”	World Meteorological Organization WMO
Capacity Development	Elva Escobar Ariel Troisi	19th August 2021 10:00-12:00	“Deep sea Capacity Development needs in the WTA and the ETP for the Ocean we want”	International Seabed Authority ISA
A Clean Ocean	Lorna Inniss Soraya Silva	31st August 2021 9:00-11:00	"The Year 2031, A Clean Ocean - Steps to Success"	UN Environment Programme UNEP Cartagena Convention
A healthy and resilient ocean	Francisco Arias	9th September 2021 9:00-11:00	“Co-designing the path to sail the Decade of Ocean Science to reach the knowledge we need for the ocean we want in the WTA”	
A predicted ocean	Marck Oduber	23rd September 2021 9:00-11:30	“Changing the vibe to predict smooth sailing in the WTA and ETP: A Theory of Change approach”	World Meteorological Organization WMO
A sustainably harvested and productive ocean	Alejandro Acosta	7th October 2021 9:00 - 11:30	“Co-existing Opportunities and Synergies: Exploring Opportunities for a sustainably harvested and productive ocean in the WTA”	Food and Agricultural Organization FAO