SUMMARY OF WORKING GROUPS OUTPUTS
THE UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT 2021-2030
WESTERN TROPICAL ATLANTIC REGIONAL WORKSHOP

Hosted by UNAM (Universidad Nacional Autónoma de México) and co-organized by the Government of Mexico with the Intergovernmental Oceanographic Commission (IOC) as coordinating body for The Decade and the Secretariat of the Cartagena Convention (UN Environment)
Virtual Meeting, 28-29 April 2020

This document presents the summary results of the working groups on the UN Decade of Ocean Science for Sustainable Development 2021-2030 (The Decade) six societal outcomes of the Western Tropical Atlantic Regional Workshop, 28-29 April 2020. The preparatory phase for The Decade is coordinated by the Intergovernmental Oceanographic Commission, IOC of UNESCO. For more information on The Decade please 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).

Proposed science priorities for the UN Decade of Ocean Science for Sustainable Development in the Western Tropical Atlantic Region

1. **Working Group I: A clean ocean whereby sources of pollution are identified, quantified and reduced and pollutants removed from the ocean.**
- Harmonized regional governance to achieve a clean ocean in the Western Tropical Atlantic Region. Challenge to overcome geopolitical and economic diversity of the Western Tropical Atlantic Region to achieve a clean ocean.
- Wastewater treatment to be considered by Water Utility Managers and stakeholders a higher priority.
- Nutrient and agriculture runoff (and impact and causality) on Sargassum to be further studied.
- Policy design on Marine Litter and macro-plastics to be furthered (go beyond ban on plastic bags).

2. **Working Group II: A healthy and resilient ocean whereby marine ecosystems are mapped and protected, multiple impacts, including climate change, are measured and reduced, and provision of ocean ecosystem services is maintained.**
- Mapping of ecosystems at different depths (specially seabed) with the best possible scale and for this, making public-private strategic alliances for the costs, data, observing platforms, and expertise and multilateral alliances for Biodiversity Beyond Nationals Jurisdiction (BBNJ) areas.
- Sharing capabilities and tools for access spatial information.
- Use of new technologies, innovations and methods (e.g. environmental DNA and bigdata), existing data and databases to fill existing data and observation gaps and to demonstrate significant progress in species identification and understanding of anthropogenic drivers, biodiversity and ecosystem function. Take into account the diversity of knowledge (e.g., indigenous).
- Generation of indicators and regional monitoring systems integrated into information systems and Clearinghouse Mechanism (CHM) that provide information on the health status of biodiversity (at different levels of biological organization) that contribute to decision-making.

- Understanding of combined effects of stressors in marine and coastal ecosystems and biodiversity at multiple scales, as well as the influence of tele-connections (e.g., between ocean basins and continents) on the climate and ocean processes.
- Understanding of how to connect the existing ocean, biodiversity and socio-economic variables for evaluating ecosystem services and developing area-based management tools.

3. Working Group III: A predicted ocean whereby society has the capacity to understand current and future ocean conditions, forecast their change and impact on human wellbeing and livelihoods.

- Development of an ensemble of interdisciplinary models that can be used in early-warning systems for multiple stressors, approaching tipping points and extreme events.
- Have a better network of global observations (including high-resolution bathymetry) for parameterization of models, and for improving forecasting and monitoring capacity.
- Integrate new technologies into a network of Internet of Things where data is made available and processed in real-time.
- Ensure sustainable ocean observations to provide long-term ocean data.
- Capacity development to ensure that through sustainability science, we can better integrate sustained ocean observations, data collection, and forecasting into evidence-based policy-making and ecosystem-based management.

4. Working Group IV: A safe ocean whereby human communities are protected from ocean hazards and where the safety of operations at sea and on the coast is ensured.

- A broader and more inclusive spectrum of ocean users and habitats needs to be considered. Language within The Decade Implementation Plan should be amended to be on the line of "A safe ocean whereby life and livelihoods are protected from ocean hazards and where the safety of operations at sea and on the coast is ensured" emphasizing a whole community approach, not just human communities.
- An approach which takes cognisance of the varied geopolitical and economic situations of the region and the concomitant diversity in priorities at the local, country and sub-regional levels including those peculiar to both developed countries, least developed countries and small island developing states (SIDS).
- The promotion of public-private cooperation, resource mobilization, recognition programmes and research aimed at integrated risk management in consideration of the multi-hazard nature of the region and potential impacts on ocean safety and the fundamental issues and work of The Decade; including COVID-19, hurricanes, drought, Sargassum, harmful algal blooms, tsunamis, pollution, coastal erosion, and sea-level rise all geared towards sustainable use of the resources and protecting life and livelihoods.
- Foster an integrated approach of science and local and traditional knowledge to encourage policy development and promote technology uses and transfer required for the sustainable management of the resources and ready and resilient coastal communities.
- Development of a network for the exchange of knowledge/analysed data and action strategies among coastal populations and maritime sector within the region to strengthen policy and decision-making at all levels and build appropriate infrastructure for The Decade implementation focused capacity development, readiness, education, outreach and communication, especially at the local level.

- Development of standards and best practices for a comprehensive and integrated data collection and information system, which is sustainable and accessible to all and can be used by policy makers and scientists for local, national and regional ocean observations, forecasting and alerting.
- Consider the interrelationship between public health and coastal hazards for the development of hazard assessments through coordination between scientists and local, national and regional agencies. COVID 19 can be an excellent example of this relationship.
- Design and propose transformative, empowering and inclusive regional Decade actions that addresses the issues of a safe ocean for the protection of life and livelihoods along the coast and at sea.

5. Working Group V: A sustainably harvested and productive ocean ensuring the provision of food supply and alternative livelihoods.

- <u>Sustainable fisheries:</u> Implementation of a long-term intergovernmental management approach based on reliable information and sound science, which includes small-scale fisheries management.
- Enhance fisheries research and monitor activities in order to understand the impact of industrial and small-scale fisheries on the marine environment, to develop targeted management measures to ensure sustainability and compliance with the current environmental legislation and international agreements.
- <u>Promote communication:</u> knowledge mobilization and education across all stakeholders involved in decision-making (including fishers and indigenous communities).
- Capacity development (human resources and infrastructure): needs to be enhanced to ensure that all coastal states can plan and contribute to sustaining a viable ocean.
- Gender equality: Recognize the role of women in ocean services.
- Research and invest to encourage the promotion of the Blue Economy. Increase knowledge on impacts of the Blue Economy activities, including the need for a better understanding of the socio-economic value of ocean products and services.
- Strengthening of Governance and implementation of ecosystem based-management strategic action programme.
- <u>Take action:</u> we have the tools we need to generate political will and build partnerships to improve the implementation of existing policy frameworks and support innovation for emerging challenges.

6. Working Group VI: A transparent and accessible ocean whereby all nations, stakeholders and citizens have access to ocean data and information, technologies and have the capacities to inform their decisions.

- Better understanding of the users of the observations and provide evidence for the impacts of ocean observation and the need to sustain the observation system.
- Better education as to why the ocean observing is useful to The Decade outcomes and SDGs and promote strong regional alliances.
- Open access to data, information and technologies.
- Information access system for data sharing and interoperability and available to the public in 12-24 months and some in real-time for specific products and services tailored to different stakeholder needs.
- Enhance Members States capacity on data and information management.
- Standardization and best practices for coordinated data collection, management, and policy.

- Multidisciplinary partnerships to integrate earth system/social sciences, and cross-sectoral participation to mobilize constituencies for national policy and community decision-making processes.

CROSS-CUTTING ISSUES

a. Young Professionals, gender
- Prioritize interdisciplinary research multi-stakeholder engagement, training opportunities.
- Development and deployment of new technologies.
- Exchange of marine knowledge.
- Redesign present scientific approach to early Career Ocean Professionals (ECOPs).
- Combine the relationship between academic nature and understanding of the ocean.
- Spend time in nature to have the inspiration to transform the world how we want.
- Involve young scientists in The Decade. They want to be a part of the process.
- Integrate early career ocean professionals in Capacity Development efforts and the representation of indigenous communities.

b. Indigenous and Local Knowledge
- Indigenous communities of the region should be engaged in the ECOP, Ocean Literacy, and comprehensive Ocean Capacity Development to document and use indigenous knowledge and to exchange new knowledge and capacity.
- Assess and meet indigenous communities' basic needs.
- Adapt plans to the specifically targeted community. Every indigenous group is different.
- Implement technology transfer to optimize extraction and production processes, in addition to infrastructure development as necessary.
- Promote education on ocean best practices

c. Ocean Literacy (OL)
- Four priority areas were identified for OL: (i) advancing policy, (ii) formal education, (iii) corporate action and (iv) community engagement.
- Include traditional knowledge as an essential approach to understand and to study the ocean.
- Communities have a crucial role in OL development.
- OL added value empowering people to use ocean knowledge to drive actions towards sustainability.
- National level identified as the most appropriate level for OL policy development.
- Country's strong commitment to Ocean Literacy can be expanded to the regional and global levels.
- Provide tools and approaches to transform ocean knowledge into actions.
- Promote training for formal educators on ocean topics.

d. Private Sector
- The private sector has benefited from ocean resources through investment in fishing, coastal tourism and urban coastal development, oil and gas exploration, and maritime transport and stands to benefit even more as government consider available opportunity to grow the Blue Economy.

- To grow the blue economy, requires promoting growth of existing productive sector- fisheries, tourism, ports; expanding into emerging blue industries - marine biotechnology, deep sea bed mining, aquaculture, and ocean renewable energy and addressing main constraints to the ocean future economic potential – Climate change impacts, pollution and overexploitation of resources.
- Ocean science required to create a sustainable blue economy include inter-disciplinary research on the impacts of climate change on ocean processes and the economy, management of shared living resources and on innovative technologies and new products.
- Region need to establish a common blue economy strategy/ agenda.
- Innovative financing mechanism- e.g. blending financing, blue bonds.
- Regulatory framework for public private partnerships –policies, legislation and institutions.
- Information sharing – easily accessible scientific data to inform decisions.
- Regional Collaboration/ Integration.

e. Capacity Development (CD)

- <u>Inclusiveness:</u> CD activities engaging in The Decade need to be inclusive and foster diversity (early career, gender, cultures, disciplines). This diversity needs to be the foundation of partnerships.
- <u>Timing:</u> CD should be at the forefront of planning and implementation actions. It cannot be left to be the last theme to discuss, plan or implement for capacity development to different opportunities.
- <u>The regional aspect:</u> CD should be needs-driven in the region, with investment in tools that can match the demand.
- <u>Best Practices:</u> CD needs to be coordinated and implemented using best practices to advance the use of best practices across the ocean observing value chain (observation through applications). They are crucial to the transfer of knowledge across disciplines, including social sciences, locations, generations and genders. Best practices in capacity development need to be documented, coordinated, and archived with the IOC's Ocean Best Practices System to enable interoperability and intercomparability of observations during The Decade.
- <u>Coordination:</u> Implementing a strategy that addresses the regional CD challenges requires coordination. All existing activities need to be better connected and coordinated on messaging and outcomes.
- <u>Indigenous communities:</u> These communities within the region should be engaged in the ECOP, Ocean Literacy, and comprehensive Ocean Capacity Development to document and use indigenous knowledge and to exchange new knowledge and capacity.

f. Participation in Global Process.

- Embrace The Decade from a regional perspective.
- Engage Ocean science & knowledge generators / Developers & Innovators / ECOPs / Business and industry / Philanthropic foundations / NGOs and civil society / Decision/Policy makers / General public / Local communities.
- Consider Decade Coordination Offices and Collaborative Centres.
- Generate knowledge and create an appropriate environment for policymaking.
- Translate well-directed actions based on the region´s needs to be included in the Implementation Plan.

- Focus on building opportunities to further promote / strengthen partnerships and stimulating actions – keep the momentum and leaving no one behind.
- Define regional results to be used in Blue Economy.

GRAND CHALLENGE AND ACTION

	Issue	Grand Challenge	Gran Action
WG I	A clean ocean whereby sources of pollution are identified, quantified and reduced and pollutants removed from the ocean.	There are significant gaps in data and research regarding the types, sources, concentrations and channels of marine pollutants in the Western Tropical Atlantic.	Improve understanding, through a harmonized, region-wide data collection, analysis and research programme, of the flow and impacts of all pollutants in the Western Tropical Atlantic, transforming decision making, facilitating targeted pollution prevention measures, to sustain and catalyse more sustainable use of our coastal and marine resources.
WG II	A healthy and resilient ocean whereby marine ecosystems are mapped and protected, multiple impacts, including climate change, are measured and reduced, and provision of ocean ecosystem services is maintained.	Overcoming deficiencies and inequalities through training in data analysis techniques and significantly increasing access to data and information to understand combined effects of stressors in marine and coastal ecosystems and biodiversity at multiple scales, as well as the influence of connections (between ocean basins and continents) on the climate and ocean processes.	Build capacity to understand, map and protect of marine and coastal ecosystems and services at a regional scale through science informed strategies to manage marine stressors including human activities at multiple scales and the oceans role in a changing climate.
WG III	A predicted ocean whereby society has the capacity to understand current and future ocean conditions, forecast their change and impact on human wellbeing and livelihoods.	To Produce, Integrate and Communicate knowledge and high quality ocean and coastal data, information and services that meets the safety, economic and stewardship needs of the region	Sustain long-term high quality observations of marine and coastal environments including human interactions and deliver forecast and decision-support tools that help fulfill the multiple

	Issue	Grand Challenge	Gran Action
			sustainable development goals of The Decade
WG IV	A safe ocean whereby human communities are protected from ocean hazards and where the safety of operations at sea and on the coast is ensured.	The frequency and intensity of ocean related hazards and its cascading effects are escalating with a devastating and unsustainable impact on life and livelihoods.	Develop a regional multi hazard ocean data and forecast system linked to education, outreach, readiness and communication actions that empowers and recognizes national and local policy and decision making and individual response for the protection of life and livelihoods.
WG V	A sustainably harvested and productive ocean ensuring the provision of food supply and alternative livelihoods.	To ensure that all fisheries and human activities are managed in a sustainable way and that we develop the knowledge needed to support policies and management measures.	Develop and implement a transboundary multidisciplinary and cross-sectoral research approach involving science, technology, service providers, private sector, policy makers and society for the sustainability of fisheries and marine ecosystem services for livelihoods, economic and social development.
WG VI	A transparent and accessible ocean whereby all nations, stakeholders and citizens have access to ocean data and information, technologies and have the capacities to inform their decisions.	The availability of open access to data, information and new affordable open source technologies, to integrate earth system/social sciences, and cross sectoral participation to share resources, mobilize constituencies for national policy and community decision-making processes, and reduce the asymmetry between the countries in the region, including the Island States.	Develop and build capacity for an information access system for data sharing and interoperability, available to the public for specific products and services tailored to different stakeholder needs, with a feasible standardization and best practices for coordinated data collection, management, useful for policy makers, and understandable for the general community.

	Issue	Grand Challenge	Gran Action
Cross Cutting	A society whereby all stakeholders collaborate in building capacity to participate in, contribute to and benefit from ocean research and services that are vital to sustainable development and human welfare in the region.	CD should be at the forefront of planning and implementation actions. It cannot be left to be the last theme to discuss, plan or implement for capacity development to different opportunities.	Implement a coordinated strategy to address regional CD challenges. Create an inventory of existing, sustained CD efforts in each region and establish a robust communication mechanism to facilitate foster stronger connectivity, coordinated messaging and higher impact outcomes.