FRAMEWORK & OUTCOMES
WESTERN TROPICAL ATLANTIC
UN DECADE REGIONAL PLANNING GROUP

The vision of the UN Decade is: The science we need for the ocean we want.

The mission of the Decade is: Transformative ocean science solutions for sustainable development, connecting people and our ocean.

Action Framework:

The framework will guide the design and implementation of Actions throughout the Decade. At the highest level, it *presents a series of Ocean Decade Challenges, followed by the objectives of the Decade, and a hierarchy of Decade Actions including the criteria and process for their endorsement.* It describes principles to guide data management, capacity development and describes how stakeholders can engage in the Decade.

The framework that will guide the design and implementation of Actions throughout the Decade comprises several levels.

Figure 1. Decade Action Framework

Outcomes of the Decade:

The following seven outcomes describe the 'ocean we want' at the end of the Decade. They describe both the desired state of the ocean (Outcomes 1 and 2), and the desired state of society's use of, and interaction with, the ocean (Outcomes 3 to 7);

- *Outcome 1:* A clean ocean where sources of pollution are identified, reduced or removed. Society generates a vast range of pollutants and contaminants including marine debris, plastic, nutrients, underwater noise, pharmaceutical pollutants and heavy metals. These pollutants and contaminants derive from a wide variety of land and sea based sources, including point and non-point sources. The resulting pollution is unsustainable for the ocean and jeopardises ecosystems, human health, and livelihoods. It will be critical to generate interdisciplinary and co-produced knowledge on the causes and sources of pollution and its effects on ecosystems and human health. This knowledge will underpin solutions co-designed by multiple stakeholders to eliminate pollution at the source, mitigate harmful activities, remove pollutants from the ocean, and support the transition of society into a circular economy.

- *Outcome 2:* A healthy and resilient ocean where marine ecosystems are understood and managed. Degradation of marine ecosystems is accelerating due to unsustainable activities on land and in the ocean. To sustainably manage, protect or restore marine and coastal ecosystems, knowledge of these ecosystems, and their reactions to multiple stressors, needs to be enhanced. This is particularly true where multiple human stressors interact with climate change, including acidification and temperature increase. Such knowledge is critical to developing tools to implement management frameworks that build resilience and avoid ecological tipping points, and thus ensure ecosystem functioning and continued delivery of ecosystem services for the health and wellbeing of society and the planet as a whole.

- *Outcome 3:* A productive ocean supporting sustainable food supply and a sustainable ocean economy. The ocean will be a foundation for future global economic development and human wellbeing, including assuring food security and secure livelihoods for hundreds of millions of the world's poorest people. Knowledge and tools to support the recovery of wild fish stocks, deploy sustainable fisheries practices, and support the sustainable expansion of aquaculture, while protecting essential biodiversity and ecosystems, will be essential. The ocean also provides critical goods and services to a wide range of established and emerging industries including extractive industries, energy, tourism, transport and pharmaceutical industries. Each of these sectors has specific needs in terms of increased knowledge, and support to innovation, technological development and decision support tools to minimise risk, avoid lasting harm, and optimise their contribution to the development of a sustainable ocean economy.

- *Outcome 4:* A predicted ocean where society understands and can respond to changing ocean conditions. The vast volume of the ocean is neither adequately mapped or observed, nor is it fully understood. Exploration and understanding of the changing ocean including its physical, chemical and biological components and

interactions with the atmosphere and cryosphere is essential, particularly under a changing climate. Such knowledge is required from the land-sea interface along the world's coasts to the open ocean, and from the surface to the deep ocean seabed. It needs to include past, current and future ocean conditions. More relevant and integrated understanding and ultimately prediction of ocean ecosystems and their responses and interactions will underpin the implementation of ocean management that is dynamic and adaptive to a changing environment and changing uses of the ocean.

- *Outcome 5:* A safe ocean where life and livelihoods are protected from ocean-related hazards. Both geophysical and human induced hazards create devastating, cascading and unsustainable impacts for coastal communities, ecosystems, and economies. The changing frequency and/or intensity of weather- and climate-related hazards is exacerbating these risks. Mechanisms and processes for assessing the risk, mitigating, forecasting and warning of these hazards and formulating adaptive responses are required to reduce short- and longer-term risks on land and at sea. Higher density ocean data and improved forecast systems—including those related to sea level, marine weather and climate are needed from near real time through decadal scales. When these enhancements are linked to education, outreach, and communication, they will empower policy and decision-making and mainstream individual and community resilience.

- *Outcome 6:* An accessible ocean with open and equitable access to data, information and technology and innovation. Inequalities in ocean science capacity and capabilities need to be eradicated through simultaneously improving access to data, knowledge, and technology, and by increasing skills and opportunities to engage in data collection, knowledge generation and technological development. Increased dissemination of relevant ocean knowledge to the scientific community, governments, business and industry, and the public through relevant and accessible products will improve management, innovation and decision-making contributing to societal goals of sustainable development.

- *Outcome 7:* An inspiring and engaging ocean where society understands and values the ocean in relation to human wellbeing and sustainable development. In order to incite behaviour change and ensure the effectiveness of solutions developed under the Decade there needs to be a step change in society's relationship with the ocean. This can be achieved through ocean literacy approaches and other public awareness and education tools that will build a significantly broader understanding of the economic, social, and cultural values of the ocean and the plurality of roles that it plays to underpin health, wellbeing and sustainable development. This outcome will highlight the ocean as a place of wonder and inspiration, thus also influencing the next generation of scientists, policy makers, government officials, managers and innovators.

- *Capacity Development Framework for the Decade.* Capacity development is an essential tenet of the Decade. It has the ultimate aim of achieving evenly distributed capacity across the globe, across generations, and across genders and thus

reversing asymmetry in knowledge, skills and access to technology. The combined impact of capacity development efforts under the Decade must be exponentially greater than the sum of past and current individual efforts to enable and scale up action in all sectors of society and thus accelerate a fundamental shift in the way the ocean is perceived and managed. This increase will result both from an increased volume of efforts, but also from enhanced coordination and focus of efforts.

Decade capacity development efforts will focus on, but will not be limited to LDCs, SIDS and LLDSs. Specific approaches for these beneficiaries will be required including the use of low-bandwidth / low-technology tools in areas where access to digital telecommunications is limited. The resource needs for SIDS, LDCs and LLDSs to participate in capacity development efforts will need to be addressed as part of resource mobilisation efforts.

- *Ocean Literacy.* During the Decade, Ocean Literacy activities will focus on four priority areas: mainstreaming Ocean Literacy in policy formulation; formal education; corporate action; and community engagement. A range of priority Ocean Literacy initiatives have been identified for the Decade that are relevant at the global, national and sub-national levels, and it is expected that these will be transformed into endorsed Decade Actions by stakeholders around the world. Ocean Literacy efforts during the Decade will also support governments and other stakeholders to develop the skills and tools needed to effectively implement activities that are the most relevant in their particular context. This will include the development of National Ocean Literacy Strategies; developing collaborations, partnerships and networks; showcasing and endorsing Ocean Literacy efforts; and increasing research, monitoring and evaluation of the impacts of Ocean Literacy.

Challenges of the Decade:

A series of high-level Ocean Decade Challenges represent the highest level of the Decade Action Framework. They articulate the most immediate and pressing priorities for the Decade and aim to unite Decade partners in collective action, thus ensuring that the whole of the Decade is exponentially greater than the sum of its parts. The Challenges feed directly into the Decade outcomes and thus the Decade's contribution to the 2030 Agenda and complementary global policy frameworks.

The present set of Ocean Decade Challenges are as follows:

- *Ocean Decade Challenge 1.* Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems, and develop solutions to mitigate or remove them.

- *Ocean Decade Challenge 2.* Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to protect, monitor, manage and restore ecosystems and their biodiversity under changing environmental conditions, including climate.

- *Ocean Decade Challenge 3.* Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean to contribute to sustainably feeding the world's population under changing environmental and social conditions.

- *Ocean Decade Challenge 4.* Generate knowledge, support innovation, and develop solutions to contribute to equitable and sustainable development of the ocean economy under changing environmental and social conditions.

- *Ocean Decade Challenge 5.* Enhance understanding of the ocean-climate nexus and use this understanding to generate solutions to mitigate, adapt and build resilience to the effects of climate change, and to improve services including improved predictions and forecasts for weather, climate, and the ocean.

- *Ocean Decade Challenge 6.* Expand multi-hazard warning systems for all biological, geophysical, and weather and climate related ocean hazards, and mainstream community preparedness and resilience.

- *Ocean Decade Challenge 7.* Ensure a sustainable ocean observing system that delivers timely data and information accessible to all users on the state of the ocean across all ocean basins.

- *Ocean Decade Challenge 8.* Develop a comprehensive digital representation of the ocean, including a dynamic ocean map, through multi-stakeholder collaboration that provides free and open access to explore, discover, and visualize past, current, and future ocean conditions.

- *Ocean Decade Challenge 9.* Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders regardless of geography, gender, culture, or age.

- *Ocean Decade Challenge 10.* Ensure that the multiple values of the ocean for human wellbeing, culture, and sustainable development are recognised and widely understood, and identify and overcome barriers to the behaviour change that is required for a step change in humanity's relationship with the ocean.

Objectives of the Decade:

A multi-step, iterative process is required to move from the 'ocean we have' to the 'ocean we want'. During the course of Decade, stakeholders need to acquire sufficient capacity to deliver the needed knowledge, and trigger effective action based on that knowledge.

- *Objective 1.* Increase capacity to generate, understand, manage, and use ocean knowledge.

- *Objective 2.* Identify and generate required ocean data, information and knowledge.

- *Objective 3.* Build comprehensive understanding of the ocean and ocean governance systems.

- *Objective 4.* Increase the use of ocean knowledge.

Actions of the Decade

Decade Actions are the tangible activities that will be carried out across the globe over the next ten years to fulfil the Decade vision. Decade Actions will be carried out by a wide range of proponents including, but not limited to, research institutes, governments, UN entities, intergovernmental organisations, other international and regional organisations, business and industry, philanthropic and corporate foundations, NGOs, educators, community groups, or individuals (e.g. via community led science initiatives).

- *A Decade programme* is global or regional in scale and will contribute to the achievement of one or more of the Ocean Decade Challenges. It is long-term (multi-year), interdisciplinary and multi-national. A programme will consist of component projects, and potentially enabling activities.

- *A Decade project* is a discrete and focused undertaking that is typically of a shorter duration. It may be regional, national or sub-national and it will typically contribute to an identified Decade programme.

- *A Decade activity* is a one-off standalone activity (such as an awareness-raising event, a scientific workshop, or a training opportunity). It enables a programme or project or directly contributes to an Ocean Decade Challenge.

- *A Decade contribution* supports the Decade through provision of a necessary resource (e.g. funding, resource mobilisation, data, or an in-kind contribution, including staff, provision of infrastructure, or equipment). A contribution can support either the implementation of a Decade Action or the coordination functions of the Decade.