Ambition, Action, Impact: The Ocean Decade Pathway to 2030

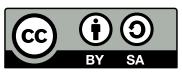
Consolidated Outcomes of the Vision 2030 Process

The United Nations
Decade of Ocean Science
for Sustainable Development
(2021–2030)

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Published in 2024 by the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization.

7, Place de Fontenoy, 75352 Paris 07 SP, France.



For bibliographic purposes, this publication should be cited as follows:
UNESCO-IOC (2024). Ambition, Action, Impact: The Ocean Decade Pathway to 2030. Consolidated Outcomes of the Vision 2030 Process. UNESCO, Paris. (The Ocean Decade Series, 50).

Cover: © Nomad1988/Shutterstock.com*

Graphic design: UNESCO

(IOC/2024/ODS/50)

Ambition, Action, Impact: The Ocean Decade Pathway to 2030

Consolidated Outcomes of the Vision 2030 Process

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Table of Contents

Acknowledgements 6

List of acronyms 7

1. Introduction 9

2. Vision 2030 and the 2024 Ocean Decade Conference 11

3. Describing the Strategic Ambition of the Ocean Decade Challenges 13

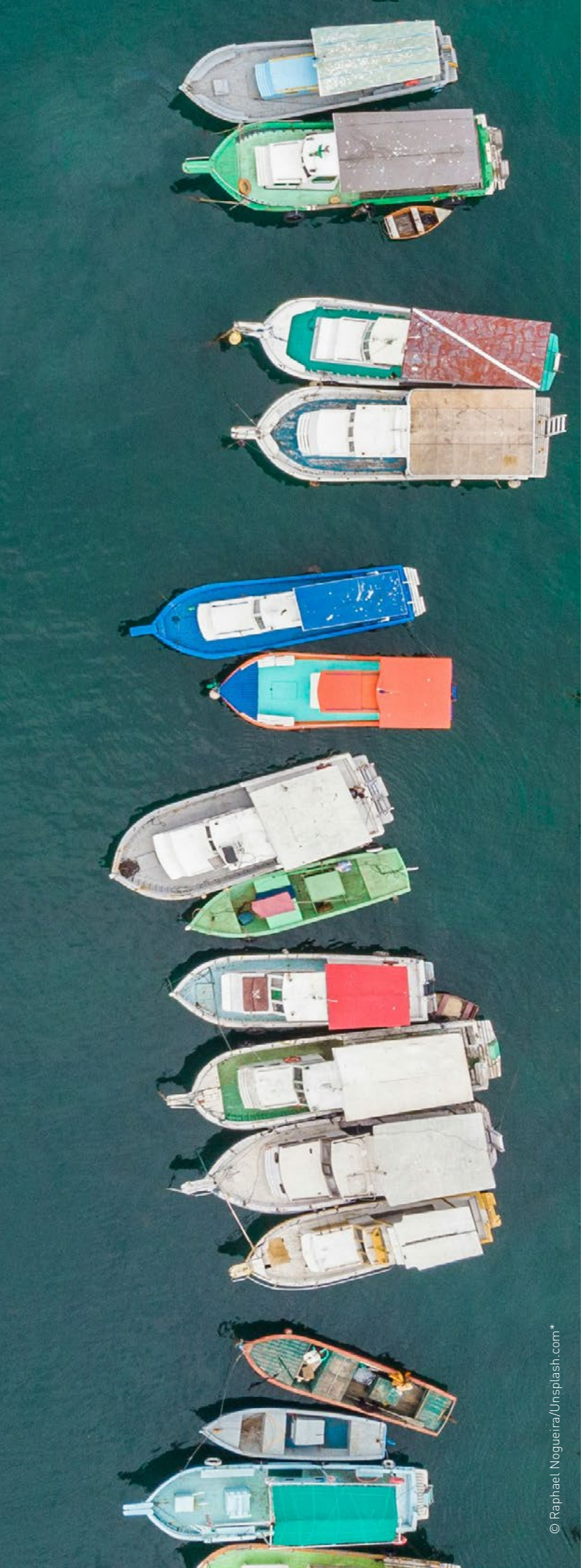
4. Meeting the Strategic Ambition of the Ocean Decade Challenges 21

Science and Knowledge Priorities 21

Cross-Cutting Issues and Enablers 22

5. Actions Towards 2030 27

© Jimmy Chang/Unsplash.com*



© Raphael Nogueira/Unsplash.com*

Acknowledgements

UNESCO's Intergovernmental Oceanographic Commission (UNESCO-IOC) expresses its gratitude to the Co-Chairs and members of the Vision 2030 Working Groups for their tireless dedication to the preparation of the Vision 2030 White Papers and to the numerous individuals and institutions who provided feedback to the review process. The Decade Coordination Unit (DCU) salutes the thousands of individuals involved in Decade Actions, including a particular recognition of partners who are leading decentralised coordination structures, for their involvement in the Vision 2030 process, and without whom there would be no Ocean Decade. The DCU also sincerely and warmly thanks past and current members of the Decade Advisory Board for their expertise and strategic advice in the design and implementation of the Vision 2030 process, and the members and Patrons of the Ocean Decade Alliance for their unfailing support to the achievement of the Ocean Decade vision.

List of acronyms

BBNJ	Biological Diversity Beyond National Jurisdiction
DCC	Decade Collaborative Centre
DCO	Decade Coordination Office
DCU	Decade Coordination Unit
ECOP	Early Career Ocean Professional
GOOS	Global Ocean Observing System
IPLC	Indigenous peoples and local communities
LDC	Least Developed Country
mCDR	Marine Carbon Dioxide Removal
SDG	Sustainable Development Goal
SIDS	Small Island Developing State
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-IOC	UNESCO's Intergovernmental Oceanographic Commission
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

The proposal for a United Nations (UN) Decade of Ocean Science for Sustainable Development 2021-2030 (Ocean Decade) was first brought to the international community by UNESCO's Intergovernmental Oceanographic Commission (UNESCO-IOC) in 2016 in a period where ocean science was largely invisible on the international policy landscape. While the 2030 Agenda included the major milestone of a Sustainable Development Goal (SDG) related to the ocean in the form of SDG14 - Life below water, there was little other recognition of the importance of the contribution of the ocean to the achievement of many of the other SDGs, and limited discussion of the role of the ocean, or ocean science, in achieving global aspirations for climate change, biodiversity conservation or food security just to name a few.

Fast forward to 2024 and the context has radically changed, and the role of the ocean as a key influence in the condition of social, economic, and ecological systems has never been more visible. The recent adoption of the Agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ Agreement), the Ocean-Climate Dialogue under the United Nations Framework Convention on Climate Change (UNFCCC), as well as the coastal and marine targets of the Kunming-Montreal Global Biodiversity Framework are key examples of change at the international level. At the national level, increasing numbers of governments are focusing on the role of the ocean and maritime sectors as an integral part of sustainable and equitable economic development.

This welcome evolution only increases the relevance and role of the Ocean Decade. Achievement of these ambitious global, regional, and national policy frameworks requires relevant and timely ocean science and knowledge. However, critical gaps remain in ocean science and knowledge – whether they be thematic, geographical or for certain biomes. And, where knowledge exists, it is not always available in a form that allows fluid transmission and thus application across the science – policy – society interface.

With its vision of the 'science we need for the ocean we want', and its broad adopted definition of ocean science that encompasses all forms of ocean knowledge and which is founded on principles of inclusivity, equity, and diversity, the Ocean Decade is an agile framework that convenes diverse stakeholders to co-create and co-deliver the science and knowledge that is needed for decision making.

Since its debut in January 2021, the Ocean Decade which is being led by UNESCO's Intergovernmental Oceanographic Commission (UNESCO-IOC) on behalf of the United Nations system, has become the largest coordinated global ocean science initiative ever undertaken. In just over three years, the Decade has catalysed the emergence of over 50 global ocean science programmes in which transdisciplinary teams of international partners from across society are working to contribute to fulfilment of the Ocean Decade Challenges. Contributing to these programmes are over 400 national and regional projects, and close to 100 formal contributions of in-kind or financial resources. Over 4,500 institutions are involved in these Decade Actions, and over 20,000 individuals are directly or indirectly contributing to their success. Close to USD 1 billion has been mobilised by the Decade Actions, although resourcing remains a critical challenge to the success of the Decade.

This report summarises the results and priority recommendations of the Vision 2030 process that was undertaken to refine the future direction of the Ocean Decade and further strengthen engagement and impact to 2030 and beyond.

2. Vision 2030 and the 2024 Ocean Decade Conference

From the outset, the Ocean Decade was designed to be adaptive so that it could respond to emerging issues and continue to evolve as an agile framework for action. Structured around ten Ocean Decade Challenges, which represent the most immediate and pressing needs for ocean knowledge, the Ocean Decade aims to transform the way that ocean science and knowledge is generated and used, and thus precipitate a shift from the ocean we have to the ocean we want by 2030. The Ocean Decade Challenges were identified throughout the preparatory process of the Ocean Decade from 2018 to 2020. Throughout their development, it was always recognised that the ongoing refinement and evolution of the Ocean Decade Challenges would be essential to the relevance, and thus the success, of the Decade.

The Ocean Decade Implementation Plan envisages a series of milestone moments in which the Ocean Decade community will come together to take stock of progress and discuss future priorities for the remainder of the Ocean Decade. The 2024 Ocean Decade Conference that was held in Barcelona in April 2024 was the first of these moments of reflection in the life of the Decade, and the Vision 2030 process was the framework that was used to foster discussion during the Conference on the future vision for the Decade.

The Vision 2030 process was implemented over a period of twelve months in the lead-up to the 2024 Ocean Decade Conference. It was centred around the ten Ocean Decade Challenges as a participatory and iterative process aimed at setting a tailored and specific strategic ambition or 'end goal', and associated milestones, for each Ocean Decade Challenge. In simple terms, the Vision 2030 process aimed to answer the following question for each Challenge:

> ***"What does success look like for this Challenge at the end of the Decade?"***

The Vision 2030 process was developed to identify science, knowledge, capacity, resources, or infrastructure priorities that are needed to fulfil each Ocean Decade Challenge. It considered the need to update or refine each Ocean Decade Challenge to ensure its ongoing relevance. The process also considered the linkages across Challenges. The Vision 2030 process has initially focused on the global level but the results will be translated over time to regional and national priorities, thus allowing regional and national structures associated with the Decade to harmonise and contribute in a coherent way to the global effort while meeting locally relevant needs.

The Vision 2030 process was coordinated by the Decade Coordination Unit within UNESCO-IOC and implemented primarily through a network of ten expert Working Groups, one for each Ocean Decade Challenge, which comprise representatives of 'users' of science and knowledge, Decade Actions, and subject matter experts. This report has been authored by the Decade Coordination Unit, drawing on the White Papers that were authored by the Vision 2030 Working Groups, discussions at the 2024 Ocean Decade Conference, strategic dialogue with the Decade Advisory Board in May 2024, and discussions during the 57th Session of the UNESCO-IOC Executive Council in June 2024.

3. Describing the Strategic Ambition of the Ocean Decade Challenges

This section summarises the strategic ambition for each of the Ocean Decade Challenges drawing on the work of the Vision 2030 Working Groups. As part of the analyses led by the Working Groups, refinements were made to the names of several Ocean Decade Challenges to better reflect the identified strategic ambition (Box 1). These refined titles are used throughout this report.

BOX 1: REFINEMENTS OF OCEAN DECADE CHALLENGE TITLES

The following refinements have been made to the following Ocean Decade Challenge titles to better reflect the strategic ambition of these Ocean Decade Challenges identified through the Vision 2030 process:

Ocean Decade Challenge 3 'Sustainably nourish the global population' to replace 'Sustainably feed the global population' recognising the importance of nutritional aspects of sustainable blue foods.

Ocean Decade Challenge 4 'Develop a sustainable, resilient and equitable ocean economy' which now includes reference to develop knowledge and solutions for ocean economies that are also resilient to changing climatic conditions.

Ocean Decade Challenge 6 'Increase community resilience to ocean and coastal risks' to replace 'Increase community resilience to ocean hazards' in recognition of the dual objective of this Challenge to develop multi-hazard early warning systems, and to develop adaptive strategies to ocean and coastal risks, including climate change.

Ocean Decade Challenge 7 'Sustainably expand the Global Ocean Observing System' to recognise the equal importance of sustaining the ocean observing system in parallel to its expansion.

Ocean Decade Challenge 9 'Skills, knowledge, technology and participation for all' to recognise the importance of proactively constructing methods and approaches for inclusivity through co-design and participation.

Ocean Decade Challenge 10 'Restore society's relationship with the ocean' to replace 'Change humanity's relationship with the ocean' to highlight the importance of all members and sectors of society in achieving this Challenge and the importance of recognising the need to build on and leverage the strong and positive relationships that exist with the ocean in various cultures and geographies.

By 2030, success of **Challenge 1 'Understand and beat marine pollution'** will be demonstrated by the generation of scientifically sound data enabling a holistic understanding of the extent and impact of pollution across the land-ocean continuum, thereby supporting the achievement of a cleaner and healthier ocean where all ecosystems and their inhabitants thrive free from the impacts of marine pollution, allowing for their full functioning and service provision. This success will be based on completion of a comprehensive review of all available evidence about marine pollution, including an analysis of data gaps and the development and implementation of strategies for filling those gaps, as well as a comprehensive analysis of solutions for addressing and preventing the negative effects of marine pollution.

Critical knowledge gaps to be filled include enhanced understanding of the impacts of priority pollutants (i.e. pollutants found or expected to emerge in high concentrations, with high toxicity or significant adverse effects); the sources, sinks, fate, and impact of all pollutants including emerging pollutants; and the distribution and impacts of marine pollution in LDCs, SIDS and deep ocean waters. Priority datasets to be generated include long-time series of marine pollutants, baseline and toxicity data of pollutants across the land-ocean continuum, data on the concurrence of multiple pollutants, and data on the effects of climate change on toxicity, bioavailability and impacts of multiple co-existent pollutants. Achieving this success will require knitting together existing and new data sets using Artificial Intelligence (AI) and other technologies, identifying priority pollutants and areas for action, and providing globally consistent monitoring, data collection, storage, and sharing protocols. Success will further be demonstrated through the establishment of new connections and partnerships among users across the public-private spectrum that lead to the funding, development, and implementation of new technologies and projects aimed at monitoring, controlling, reducing, and/or mitigating marine pollution from any source, including the creation and sustainability of a global network of strategically positioned sentinel stations and regional laboratory hubs for sustained, long-term monitoring of marine pollution.

By 2030, success of **Challenge 2 'Protect and restore ecosystems and biodiversity'** will be measured by the timely and widespread availability of scientific information about biological, ecosystem, and other biodiversity change, both positive and negative, the human and natural drivers of change, and the local capacity to generate and use this information to advance sustainable development. Ocean Decade Actions should include local, Indigenous, academic research, Non-Governmental Organizations (NGOs), and private sector approaches to develop this information. Ocean Decade Actions should also develop synergies with the UN Decade on Ecosystem Restoration to support the effective conservation and restoration of ecosystems and biodiversity with a view that goes beyond 2030. Success is a concerted effort to understand and monitor ecosystem and biodiversity changes in national waters, address issues at sea and on land that affect coastal and ocean biodiversity, and include areas beyond national jurisdiction which represent most of the ocean.

Success in establishing the scientific framework for sustainable development will rely on convergence on a practical set of essential ocean biology and ecosystem variables from among those defined by the Global Ocean Observing System (GOOS). This will require significant improvements in the methods and capacity to collect, curate, interpret, and access quality biological, environmental, social, economic, and cultural information. Of particular importance is addressing science and knowledge gaps about biology, biodiversity, and ecosystem changes that are pervasive everywhere, recognising the urgency to act and the broad variety of geographic, social, and other issues.

Critical science and knowledge gaps to be filled to meet the success of this Challenge include enhanced understanding of the coastal, open ocean, and deep-sea biodiversity and ecosystem change from the tropics to high latitudes; connectivity between marine populations and habitats, and the links between activities on land and sea; the vulnerability of deep benthic, polar, and critical coastal and estuarine habitats; drivers of positive and negative change in biodiversity, ecosystems and ecosystem services; possible biodiversity and ecosystem impacts of geo-engineering efforts including marine Carbon Dioxide Removal (mCDR); cumulative effects of human activities and climate change on biodiversity and ecosystems; and knowledge to underpin co-designed, place-based ecosystem approaches to management.

By 2030, success for **Challenge 3 'Sustainably nourish the global population'** will be a paradigm shift towards science that supports a "one food system" approach that leverages multiple disciplines to support a Blue Transformation of the aquatic food sector.[1] This will support work across fisheries, aquaculture, and value chains, a shift towards a nutrition-sensitive understanding of the production and consumption of aquatic foods, and a focus on equity in access and distribution to address hunger and malnutrition, whilst respecting ecological boundaries of aquatic food systems.

To fully support and capitalise on the potential of a Blue Transformation, the Ocean Decade must work to fill critical science and knowledge gaps related to effective governance, sustainable production, equitable access, and emerging issues. Success will also rely on co-design of science by engaging local agents of change, supporting two-way knowledge-, lesson-, and benefit-sharing, and increasing access to and leveraging of interdisciplinary science and knowledge. Capacity development will be critical to enhance local science capacity, enable knowledge and technology transfer (South-South, North-South, South-North, and North-North), and expand the use of different knowledge systems and new knowledge. Increased recognition of the role of local brokers and decentralised institutions for capacity sharing and development is essential. Success will also depend on leveraging and enhancing existing and building new partnerships (e.g. public-private and multi-stakeholder collaboration, cooperation within and between small-scale and large-scale systems, and with relevant UN processes).

Infrastructure will also be essential, including data infrastructure (e.g. storage, delivery, protocols for data sharing that are based on principles of equity, and inexpensive data collection, management, and visualisation methods and platforms), institutional infrastructure (especially in emerging nations), and technical infrastructure (e.g. supply chain infrastructure for Small-Scale Fisheries and Aquaculture (SSFA)). Finally, technical and social innovation for sustainable, feasible, and cost-effective production and distribution methods that are rooted in principles of equity, will be critical for success.

By 2030, success for **Challenge 4 'Develop a sustainable, resilient and equitable ocean economy'** will be marked by significant advancements in establishing a knowledge-driven framework for informed decision making and policy formulation. There will be enhanced collaboration among stakeholders, ensuring diverse community engagement and equitable benefit sharing while acknowledging and prioritising the culture, identity, and rights of Indigenous Peoples and Local Communities (IPLCs) that have historically depended on and thrived alongside ocean resources.

Strategic mobilisation of blue finance will support investments in sustainable coastal and marine infrastructure, innovative technologies, and conservation efforts, reinforcing the economic foundation. Key policies and governance frameworks promoting sustainability and equity will be in place, alongside a balanced and reflective approach, laying the groundwork for a resilient and inclusive ocean economy. This success will be underpinned by improved data accessibility and capacity-sharing efforts, fostering a shared understanding and commitment to sustainable ocean use.

Success will include fulfilment of the following critical science and knowledge gaps: addressing the interface between knowledge systems, policy implementation, and public-private partnerships to enable informed decision making including through the development of Sustainable Ocean Plan; focusing on biodiversity restoration, protection, and sustainable management as foundational elements of a sustainable and equitable ocean economy; and ensuring the inclusion of local and Indigenous knowledge alongside environmental sustainability and social equity. The following priority datasets gaps will be targeted: comprehensive and up-to-date data on both human activities and state of the environment, supporting informed and equitable decision making and ensuring stakeholder and rights holder engagement in data capture and knowledge co-production. It will include robust capacity development and sharing as well as knowledge exchange to deepen understanding of ocean-human activity interconnections, emphasising investment in context-specific education, training, and research programmes, and the integration of appropriate technology and innovation to support a sustainable, equitable, and resilient ocean economy and ensuring that future generations can benefit from the ocean's diverse resources and opportunities.

1 FAO. 2022a. *The State of World Fisheries and Aquaculture 2022. Towards Blue Transformation*. Rome, FAO. Available at: https://doi.org/10.4060/cc0461en.

By 2030, success for **Challenge 5 'Unlock ocean-based solutions to climate change'** will be marked by a move toward a more sustainable and climate-resilient ocean that aligns with the United Nations' Sustainable Development Goals. Crucially, the success of Challenge 5 is intricately linked to the outcomes of Challenges 1 to 4, which focus on understanding climate-ocean interactions, controlling marine pollution, conserving biodiversity, and ensuring sustainable food production. Success will include the fulfilment of critical science and knowledge gaps with respect to climate adaptation and mitigation. Both approaches need to be addressed in parallel. Key mitigation approaches include the development of marine renewable energies; the conservation, management, and restoration of blue carbon ecosystems; and mCDR. Adaptation approaches include increased ocean literacy and awareness; co-designed governance and co-operation; improved risk reduction policies; and improved predictive capability of ocean, climate, and weather forecasts.

Success will depend on research into marine renewable energy, ways of reducing marine pollution, and ways of expanding vegetated coastal ecosystems which will enable global-scale implementation; approaches to ensure that any controlled field testing of mCDR is co-designed and implemented with invested communities, and that future regulation and policy for mCDR is informed by science and includes monitoring policies to minimise potential negative impacts; ocean stewardship, improved ocean literacy, and ocean-based solutions to climate change through a movement towards co-designed governance and cooperation, as well as capacity development among the academic sector, traditional and Indigenous knowledge holders, and users; and support to adaptive governance and management through decision support tools for the assessment of vulnerability and risk to coastal communities and marine industries, and for developing climate change adaptation pathways. Success will be underpinned by improved climate prediction and modelling capacities, including an increased number of ocean climate forecasts and projections that are available to users.

By 2030, successful achievement **Challenge 6 'Increase community resilience to ocean and coastal risks'** will be demonstrated by substantial advancements within the global community towards enhancing their resilience to coastal and ocean hazards. This includes implementing two crucial elements: establishing comprehensive 'people-centred' early warning systems capable of addressing multiple hazards; and devising adaptation strategies that specifically target risks associated with the ocean, including those linked to climate change. These endeavours will play a pivotal role in guiding sustainable practices in ocean planning.

Success will also hinge on addressing critical gaps in scientific understanding and knowledge across important components such as risk assessment and risk reduction, in addition to putting in place robust institutional mechanisms for implanting novel solutions that contribute to coastal resilience. Some key elements to be addressed in this context include: gathering and generating observational and modelling datasets relevant to risk assessment, including downscaled climate scenarios for coastal regions, within robust data-sharing frameworks; promoting interdisciplinary and international research and innovation to tackle challenges comprehensively, with a focus on methodologies like Digital Twin approaches; improving standards for risk communication at both national and international levels; fostering partnerships at various scales involving local communities, public and private disaster risk reduction entities, governmental bodies, and academic institutions; building capacity in research and communication to cultivate a shared understanding of coastal resilience strategies; and enhancing resilient infrastructure and promoting sustainable resource management along coastlines. Based on the above strategic ambition, it is also suggested that the formulation of the Ocean Decade Challenge could be modified as follows: Increase community resilience to ocean and coastal risks.

By 2030, success of **Challenge 7 'Sustainably expand the Global Ocean Observing System'** will be demonstrated by the development of an operational, comprehensive, and resourced system that delivers priority observations and information to guide mitigation and adaptation responses to climate change, sustains ocean health within a sustainable blue economy, and facilitates informed decision making for science, business and society. Such a system is envisioned to be co-designed, fit-for-purpose, multidisciplinary, geographically expanded, responsive, and sustainable in time, delivering ocean observations to all nations and users, prioritising societal needs.

Transforming ocean observations into accessible information will require integration across disciplines, across national observing systems, along the value chain, and across stakeholders. Innovative technology approaches and a diversified set of actors and approaches will be required for success. The Global

Ocean Observing System (GOOS) of UNESCO-IOC can provide the implementation framework for Challenge 7 and the Ocean Decade provides the opportunity and vehicle for transformation. Success for Challenge 7 will require the upgrading and expansion of ocean observing capacity in poorly observed areas such as polar regions, island nations and territories, coastal areas of LDCs, coastal systems that are rapidly changing, and the deep ocean. It will also require the establishment of new and sustained financing and investment mechanisms and models for global ocean observing including resourcing for SIDS and LDCs. Increased national, regional, and global coordination that focus on co-design and partnerships will be essential, as will the integration and harmonisation of observing platforms, and the development of innovative *in situ*, autonomous, and cost-effective technologies to maximise reach, ensuring standardisation and best practices.

By 2030, success for **Challenge 8 'Create a digital representation of the ocean'** will be demonstrated by the establishment of an enabling environment for the creation of and access to an increasing number of digital representations and twin applications of the ocean as well as the underpinning data and information needed to develop them, delivering at minimum ten societally relevant global base-layers accessible via a global online Digital Atlas of the Ocean, complemented by a minimum of ten local use cases (prioritising SIDS and LDCs) to address challenges in using and contributing to the Decade's distributed digital ecosystem, and to demonstrate and stress test its relevance, effectiveness, and inclusiveness.

The following tools and services need to be developed and operational by 2030 to underpin the success of this Challenge: a federated global Ocean Data Discovery and Access Service (DDAS) with a map viewer providing access to multi-disciplinary data, data products, and information on the past and current state and use of the ocean, accompanied by an Ocean Data Help Desk and distributed Data Ingestion service; a global Technical and Organisational Structure for Ocean Forecasting, promoting harmonised methods, data standards, shared architectures, and tools to foster ocean prediction worldwide, leveraging the coming innovations derived from digital twins of the ocean; a reference implementation for a global Digital Atlas of the Ocean, providing access to a minimum of ten (or more) global bases layers and ten (or more) local applications demonstrating its utility; a series of platforms, mechanisms, and tools actively used to store, share, and exchange ocean information and knowledge beyond data and data products; and enhanced capacity development and training resources and facilities tailored to user needs, which are actively promoted and used to radically improve digital literacy across and beyond the Decade Actions.

By 2030, success for **Challenge 9 'Skills, knowledge, technology and participation for all'** will be reached when technical, transdisciplinary, and transversal skills required by scientists, resource users, educators, communicators, managers, and policymakers, to deliver the Decade Challenges, are strengthened and evenly distributed with an emphasis on LDCs, SIDS, and other under-represented groups; funding mechanisms, multi-directional partnerships, infrastructure, and technology required to deliver the Decade Challenges across regions and communities are enhanced and evenly distributed with emphasis on promoting access to LDCs and SIDS, and on promoting greater cooperation between regions; users and stakeholders from currently under-represented groups (i.e. women, ECOPs, Indigenous communities, LDCs and SIDS, people with disabilities, and others) are well-represented and participatory in ocean science, communication, management, decision making, and policy within the Decade framework; tools exist for a wider promotion of ethically-driven actions and access to open-source software, ocean data, knowledge, and information among different users of the ocean has been achieved, and language barriers/restrictions have been mediated, including sharing knowledge in forms that are well articulated by non-scientific audiences; and there are systematic approaches to ensure recognition for Indigenous and local knowledge and traditional beliefs that promote conservation receives backing by the Decade and is integrated into all the Decade Challenges.

Success will include fulfilment of the following critical capacity development needs: skills enhancement; representation and meaningful participation; equitable funding; infrastructure; technology; access to data and information; publishing of research findings; better representation of scientists and knowledge from LDCs, SIDS and other under-represented groups in international publications and decision-making bodies and procedures; and promotion of the use of multiple languages in ocean science communication.

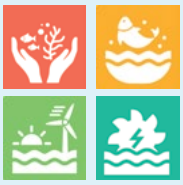
By 2030, success for **Challenge 10 'Restore society's relationship with the ocean'** will be evidenced through a culture shift in the ocean community leading to implicit understanding that ocean threats are an outcome of human behaviour. This will require a shift in the way that ocean science, in the broad sense as defined in the Decade, is formulated, practiced, and communicated to ensure that all sectors of society have strengthened emotional connections with the ocean, and understand the vital role that the ocean plays in human and planetary well-being, including climate stability. All members of society across regions, sectors, and scales will have increased motivation, capability, and opportunity to make decisions and behave in ways that ensure a healthy ocean. By 2030, success for Challenge 10 will include fulfilment of critical science and knowledge gaps including increased priority and practice of science that embraces multiple knowledge systems and transdisciplinary collaboration; increased priority of Indigenous-led research, consistent with the supporting articles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), inherent rights, and signed treaty obligations with Indigenous Nations; and increased priority of marine social sciences, particularly:

- public perceptions ocean research;
- marine citizenship and identity research;
- behavioural science research linked to ocean-climate education and communications;
- research on how ocean literacy can be measured and monitored over time, and the impacts of an ocean literate society on ocean health;
- research on ocean literacy as a policy tool; and
- science communication through multiple approaches including immersive technology, storytelling, and the arts.

Success will also depend on the generation, sharing, and use of priority datasets including human-ocean connection/human-ocean values dataset(s); pro-ocean behaviour change methodologies, case studies, and effective practices; impact mapping of regional and key global ocean literacy initiatives; and ocean culture mapping that includes a global body of evidence (contextual, local knowledge) that demonstrates and supports cultural engagement as an enabler of ocean-human health. It will include the development of a co-designed theory of change to action key drivers of Challenge 10, in which regional expertise helps guide the initial and ongoing strategic direction of the newly launched Decade Coordinating Office (DCO), Connecting People and Ocean; a guiding portfolio of best practices on research co-design, co-production, co-implementation, and co-evaluation, respectfully bridging different forms of knowledge, ensuring mutual recognition and benefits, and nurturing long-term relationships with each other and nature; a collaborative global, multi-dimensional ocean literacy survey tool (i.e., Ocean & Society Survey) to measure ocean connection and values, as well as motivators, enablers, barriers to action and behaviour change; a global network of ocean communications experts and regional ocean communications communities of practice to support training, accreditation, upskilling, knowledge exchange, and impact measurement; a global network of ocean-climate education experts (formal, informal, and non-formal) to support teacher training, certification programmes, and knowledge exchange; a Global Blue Schools Network, building off the All-Atlantic and European Blue Schools Networks, to bridge practitioner best practices with research and training; and a global framework for sharing successful community projects that demonstrate practices and solutions specific to cultural connections, heritage, language, and place-based innovations for ocean-human health.

BOX 2: INTERACTIONS BETWEEN THE OCEAN DECADE CHALLENGES

The ten Ocean Decade Challenges were not designed to act in isolation and there are innumerable links, areas of influence, and interactions between all Challenges. While recognising that all interactions between Challenges are important, this Box describes a selection of areas of intersection between Challenges where there is currently less focus or activity in the Decade, and where gaps exist that could be filled by existing or future Decade Actions.



Biodiversity, fisheries and climate change and links to a sustainable ocean economy: Challenges 2, 3, 4 and 5: While a small number of Decade programmes are generating knowledge and solutions for climate resilient, ecosystem-based management of fisheries, the links to existing or future biodiversity-focused Decade Actions could be further strengthened. In addition, there is an opportunity to create synergies between Decade Actions focusing on ecosystem-based approaches to resource management and future initiatives supporting sustainable ocean planning and sustainable ocean economies at the national level.

Ecosystems and coastal resilience: Challenges 2 and 6: There is a significant amount of work on this issue happening at the grassroots level, often with the support of civil society and NGOs. The Decade could provide a global and regional framework to fill knowledge gaps, and share experiences, knowledge and tools, including through development of joint initiatives with the UN Decade on Ecosystem Restoration.

Sustainable ocean economies and climate change: Challenges 4 and 5: A new global Decade programme on Sustainable Ocean Planning will provide a robust framework to advance new Decade Actions, both nationally and in transboundary areas, which can contribute to the development of sustainable and resilient ocean economies. Tools, support, and capacity development initiatives that facilitate consideration of resilience issues in sustainable ocean planning will be included as part of this programme.

Ocean health and human health: links to Challenges 1, 2, 3 and 10: The links between ocean health and human health are increasingly well understood and receiving enhanced levels of attention, including in a new Blue Paper entitled 'How can a healthy ocean improve human health and enhance wellbeing on a rapidly changing planet?' commissioned by the High Level Panel for a Sustainable Ocean Economy that was launched during the 2024 Ocean Decade Conference. The Ocean Decade can provide a framework for generating knowledge on the potential for a resilient and healthy ocean to generate benefits to support human health, and the negative human health impacts that can result from a poorly managed ocean.

Ocean observations and data: the foundational role of Challenges 7, 8 and links to all other Challenges: Almost without exception, the White Papers make reference to the need to enhance, geographically and thematically expand and sustain ocean observations, enhance ocean data sharing and management – including improvement of resolution and temporal coverage – and enhance the range and accessibility of ocean forecasting and prediction services and applications. The recognition of this underlying role of ocean observations, data, and forecasting is also strongly highlighted in the conclusions and recommendations of the White Papers for Challenges 7 and 8 themselves. The need for expansion to areas and themes that are less well represented, and the links across the value chain from observations to data and then to user-focused services and applications including forecasting, prediction, and modelling, are being strengthened through several major Decade programmes including CoastPredict, DITTO and Ocean Observations Co-Design. The triumvirate of decentralised coordination structures that coordinates across these Decade Actions – the Ocean Observations DCO, Data Sharing DCO, and the Ocean Prediction Decade Collaborative Centre (DCC) – have developed an initial roadmap to further cultivate interactions and synergies across the value chain from observations to end-user services, and will continue to play crucial role connecting with Decade Actions and coordination structures focused on other themes and less well represented geographies.

4. Meeting the Strategic Ambition of the Ocean Decade Challenges

Science and Knowledge Priorities

Based on the outcomes of the Vision 2030 process and the subsequent discussions at the 2024 Ocean Decade Conference, a set of high-level priorities for ocean knowledge and science that could be fulfiled in the framework of the Ocean Decade have been identified. As part of the co-design and co-delivery of new initiatives to fulfil these high-level priorities, reference will be made to the detailed recommendations for science and knowledge gaps, as well as recommendations for critical datasets to be generated, that are contained in the Vision 2030 White Papers. Processes will also be developed and supported to proactively translate global priorities and initiatives to the regional and national levels, with a specific focus on the needs of SIDS, LDCs and other under-represented groups, and through creation and promotion of opportunities for inter- and intra-regional exchange and collaboration. Actions to implement these priorities are included in the next section. The priorities include the generation and use of co-designed and co-delivered science and knowledge to:

- **Understand global distribution and human health and ecosystem impacts of marine pollution across the land-sea continuum**, including the identification of priority pollutants and consideration of emerging and unregulated pollutants.
- **Enhance and scale-up marine and coastal ecosystem-based management approaches** including a focus on better understanding of, and solutions for, multiple stressors including human impact and climate change.
- **Better understand deep-sea biodiversity, ecosystems and ecosystem services** including vulnerability to climate change and the impacts of new or emerging economic activities.
- **Encourage sustainable, resilient, and equitable small-scale fisheries and aquaculture** and facilitate sustainable management of industrial fisheries.
- **Strengthen sustainable aquatic food production and innovation for new frontiers** with a focus on developing countries and strengthened public-private partnerships.
- **Underpin evidence-based Sustainable Ocean Plans** at the national level and in relevant transboundary areas including via the use of national ocean accounting systems.
- **Encourage sustainable and climate resilient ocean economy projects**, prioritising those that integrate environmental conservation with socio-economic benefits for local communities and that are founded on partnerships with the private sector.
- **Rapidly scale up climate mitigation** including through marine renewable energy and management of coastal ecosystems.
- **Allow timely understanding of the technical, ecological, and social feasibility, potential impacts of proposed marine carbon dioxide removal (mCDR)** initiatives and contribute to future policy and regulation development.
- **Underpin adaptive governance and management systems and decision support tools for the assessment of vulnerability and risk to coastal communities and marine industries** from ocean and coastal hazards, including climate change.

- **Develop economic models, policies, and innovative financial instruments to diversify and accelerate investment in ocean science**, including for enhanced digital representation of the ocean, and sustained and sustainable ocean observing and infrastructure.
- **Inform knowledge drawn from transdisciplinary social science and ocean literacy research on human-ocean connection, behaviour change, and cultural engagement** that can be integrated into Ocean Decade digital infrastructure and used to map and measure the impact of ocean literacy initiatives.
- **Increase engagement with the health sector and better understand connections between ocean health and human health.**

Cross-Cutting Issues and Enablers

Based on the outcomes of the Vision 2030 process and subsequent discussions at the 2024 Ocean Decade Conference, the following cross-cutting issues and enablers have been identified as essential to the achievement of the science and knowledge priorities identified in the previous section. The next section contains a set of actions to implement these priorities.

- **Strengthen the role of national, regional, and international policy frameworks as drivers of priority science and knowledge generation through the Ocean Decade to ensure relevance and uptake.** The Ocean Decade has a central focus on science and knowledge that is solutions-oriented and that contributes to sustainable development. In this context, sustainable development is taken to mean the full set of policies, strategies, and decisions at local, national, regional, and international levels that contribute to fulfilment of the 2030 Agenda for Sustainable Development. The current growth of the Ocean Decade has been strongly bottom-up and largely driven by the scientific community. While Decade Actions are required to demonstrate that they have consulted with users of knowledge and identified the potential use of the science and knowledge they are generating for policy or decision making, this has been an observed weakness of many of the Decade programmes and projects submitted for endorsement. As the Decade evolves and moves into the second half of its implementation, there is a need to develop and implement systematic processes to ensure that policy needs can drive the scientific priorities that are being addressed through Decade Actions.
- **Enhance the recognition and role of all knowledge systems in the Ocean Decade, including Indigenous and local knowledge.** The definition of ocean science in the Ocean Decade is broad and refers to the importance of alternative knowledge systems of the ocean, including Indigenous and local knowledge. The Ocean Decade has observed a significant shift in thinking and discourse on this issue over the last three years, with the engagement of Indigenous and local knowledge holders and the importance of alternative knowledge systems now an accepted and indeed valued approach within the ocean science community. As a clear demonstration of this, each individual White Paper developed during the Vision 2030 process identified the importance of embracing Indigenous and local knowledge as an essential element of success of the Challenge. Yet, challenges remain in the means of transforming principles into action to ensure real and meaningful engagement of Indigenous and local knowledge holders throughout the complex ecosystem of the Ocean Decade.
- **Create greater impact through increased action at the national level including support to a strengthened national science-policy-society interface and delivery of ocean science for priority national policy needs, with a strong focus on SIDS and LDCs.** The Ocean Decade is a global initiative, yet working at the national level is vital to achieving sustainable impact in numerous spheres, including policy and governance, community engagement, and ocean literacy. National level action is also important in terms of mobilising resources, given the predominance of investment in ocean science by national funding agencies. Close to 40 countries have created National Decade Committees as voluntary, multi-stakeholder platforms that have the broad objective of translating the global ambition of the Ocean Decade to the national level by fostering national dialogue on ocean science priorities and influencing national funding priorities. National Decade Committees have an invaluable role to play in achieving the Decade's success and several of the Committees are on the path to realising significant national impact. Yet, to date, many Committees have struggled to fill this role due to an unclear mandate, lack of political influence, inadequate diversity in membership across sectors, or available resources. Creation of additional National Decade Committees is an aim of the Decade, but only where they are functional and have a clear and beneficial role to play.

© UNESCO / Ward Appeltans*

- **Increase sustained and sustainable investment in essential ocean science infrastructure including for marine pollution monitoring, ocean observations, interoperable ocean data, and ocean forecasting and prediction services, and increase targeted, expanded, and sustained financing and resourcing for Decade Actions and Decade coordination structures.** Ensuring adequate financing, investment, and resourcing remains a challenge across all Ocean Decade Challenges and was raised as a barrier to success in all the Vision 2030 White Papers. While Decade Actions have mobilised significant funds to commence implementation, critical gaps remain, both in terms of financing for the Decade Actions and to support the structures, processes, and coordination of the Decade. Investment in fundamental ocean science infrastructure for observations, data or modelling is also lacking. From its inception, the Ocean Decade was conceived as playing a match-making role between the needs of Decade Actions and the priorities of resource providers. Some success has been achieved in this regard, for example through the establishment of the Ocean Decade Alliance, the Foundations Dialogue, and through a series of sponsored Calls for Decade Actions with national funders and philanthropy. Yet, the pace and scale of growth of the Decade has meant that the unmet demand far outweighs the new resources that have been mobilised. If the ambition of the Decade to trigger a transformation in the way that ocean science is funded is to be achieved, increased efforts and a more nuanced strategic approach that targets the specific context of different resource providers is required, and increased focus will be required to demonstrate the benefits of investing in ocean science and ocean science infrastructure.

- **Increase investment in capacity development, sharing, and coordination with a focus on SIDS, LDCs, and Early Career Ocean Professionals.** Capacity development is a cross-cutting priority of the Ocean Decade, and the Implementation Plan includes a strategic framework for capacity development which aims to generate sustained and meaningful impact for institutions and individuals. The Ocean Decade Capacity Development Facility provides a mechanism for identifying thematic and geographic priorities, and ensuring that partners can collectively invest in capacity development initiatives. The Vision 2030 White Paper for Challenge 9 identifies a set of specific recommendations for capacity development in the Ocean Decade, and all other White Papers also touch on the need to increase investment and ensure appropriate initiatives are designed and implemented, with a focus on under-represented groups.

- **Encourage more meaningful engagement of industry and the innovation sector including in the co-design and co-delivery of ocean science and capacity development initiatives.** The private sector has a unique role to play in the Ocean Decade including as a crucial actor in the co-design and co-delivery of Decade Actions and in the co-creation of technology and innovation to support Decade Action implementation and outcomes. Numerous White Papers developed for the Vision 2030 process, including those related to marine pollution, aquatic food systems, sustainable ocean economy, ocean observations, the digital ocean, and behaviour change, identify the need to increase engagement with industry as engaged partners in knowledge and solutions to meet the defined strategic ambition. To date, the most successful examples of industry engagement in the Decade have been in ocean data. Based on this positive experience, there is a strong basis for increasing diversity of engagement of industry in the Decade. However, industry is far from a homogeneous stakeholder group and thus the approach will be to build on existing engagement with core industry partners and expand this to other priority sectors where there is interest and a clear pathway for engagement.

- **Support the development and sharing of best practices, standardised methodologies, and policies across Ocean Decade Challenges.** Several of the Vision 2030 White Papers stressed the added value that the Ocean Decade could play in providing a framework for the development and sharing of best practices, methodologies, and policies. Examples that were identified include harmonised protocols for marine pollution monitoring, a minimum set of operational and interoperable biodiversity observations variables, standardised data and metadata formats for various disciplines; best practices for monitoring of mCDR initiatives; and standardised metrics for measuring the impact of individual and societal ocean literacy as well as policy change linked to ocean literacy drivers.

- **Continue to enhance diversity, inclusivity, and equity in the Ocean Decade, and systematically identify and remove barriers to generational, geographic, and gender diversity.** The vision of the Ocean Decade is of a scale that no one discipline, geography or gender can address alone. Diversity, equity, and inclusivity in the Ocean Decade is not just the right thing to do, it is essential to the success of the Decade. Good progress has been made in terms of gender and generational diversity, but challenges remain in terms of geographical diversity, particularly in SIDS and LDCs. All Decade structures, processes, and Decade Actions are conceived to ensure generational, gender, and geographic diversity. Looking towards 2030, additional initiatives will be adopted to ensure the continuous removal of barriers that hinder participation by certain groups and to increase overall diversity, equity, and inclusivity.

- **Curate strong links between the scientific community and professional communicators to enhance awareness of the importance of ocean science for action across all sectors of society, and continue to expand efforts in ocean literacy to address all sectors of society including policy makers, resource managers, and industry.** To catalyse action, it is necessary to communicate ocean science to users across all sectors of society, and to ensure that individuals and institutions have the skills to interpret and apply ocean science. To achieve this requires a collaborative effort between scientists, professional communicators, ocean literacy experts, and marine social scientists. The Ocean Decade provides a unique framework to bring these actors together to develop, test, and monitor the effectiveness of tools and approaches to strategic communications and ocean literacy that target diverse societal actors. The Vision 2030 White Paper for Challenge 10 identifies a set of specific recommendations on this issue, and nearly all other White Papers also touch on the need to increase and diversify ocean literacy and improve science communication.

- **Further optimise Ocean Decade coordination for collective impact and ownership.** The Ocean Decade is a complex, fluid initiative that works at different temporal, geographic, and thematic scales. Its coordination at the central and decentralised levels is challenging and requires continuous improvement and refinement to enable collective and sustained impact. A Mid-Term Evaluation of the Ocean Decade will be carried out in late 2024 and early 2025 and will address a range of issues related to delivery of the Ocean Decade including coordination.

5. Action Towards 2030

Through the individual White Papers and the development of the Outcomes Report, the Vision 2030 process has generated a large number of recommendations and priorities. Fulfilment of these recommendations will require concerted action by different actors working at different temporal and spatial scales.

This section focuses on **actions to fulfil the priorities identified in the previous section of the Outcomes Report** related to science and knowledge, and in relation to enabling conditions. The Decade Coordination Unit will have a coordination role for implementation of the actions identified below and will have a substantive role in the implementation of many of the actions. Other partners including Member States, philanthropic and industry partners, Decade Collaborative Centres (DCCs) / Decade Coordination Offices (DCOs), regional taskforces, National Decade Committees, Decade Actions, and Decade Implementing Partners will also have an important role to play in the achievement of these actions.

In parallel to the implementation of these actions relevant to the Outcomes Report recommendations, discussions are underway with the Co-Chairs of the Vision 2030 Working Groups and other actors including decentralised coordination structures, to discuss **an optimal and tailored approach to facilitate the implementation of the specific recommendations of each of the White Papers**. This approach and process will be different for each Ocean Decade Challenge and each White Paper. Examples of the types of approaches that are being discussed include development of Decade programmes or initiatives encompassing key White Paper recommendations, continuation of the mandate of Working Groups to coordinate and oversee the implementation of recommendations, or inclusion of the recommendations in the mandates of relevant DCCs / DCOs.

Fulfil science and knowledge priorities

Action

- Broadly communicate science and knowledge priorities from the Vision 2030 process to existing Decade Actions, encourage alignment of their activities with those priorities, and solicit reporting on achievements via the Ocean Decade Monitoring and Evaluation Framework.
- Use the recommendations of the Vision 2030 process to scope future Calls for Decade Actions with a focus on programmes and contributions.
- Cultivate partnerships with existing partner institutions and networks working on issues of relevance to the identified science and knowledge priorities, and encourage them to seek endorsement of their activities as Ocean Decade Actions or contribute to the Ocean Decade in other ways.
- Broadly communicate outcomes of the Vision 2030 process to targeted stakeholder groups (e.g. private sector, Member States, philanthropy) through the development of summary policy briefs / action plans, and via outreach at relevant events and conferences.
- Work with regional partners to scope, resource, and establish thematic decentralised coordination structures (DCC/DCOs) for Ocean Decade Challenges where they do not currently exist.
- Include relevant milestones and indicators from the Vision 2030 White Papers in the Ocean Decade Monitoring and Evaluation Framework to allow monitoring of progress and identification of remaining gaps to inform scoping of Calls for Decade Actions, and targeted partnerships and resource mobilisation efforts.

Strengthen policy frameworks as drivers of priority science and knowledge generation

Action

- Develop a regular Ocean Decade Science-Policy webinar series to create a space for information and interaction between Decade Actions and UN entities responsible for the implementation of global policy frameworks as a means of: (i) understanding potential links between Decade Actions and policy frameworks, and (ii) identifying priority science and knowledge needs for policy development and implementation.
- Publish and implement recommendations of the draft analysis of UN entity engagement in the Ocean Decade considering the outcomes of the Vision 2030 process.
- Seize opportunities at events or conferences to hold deep-dive thematic and regional science policy dialogue workshops bringing together relevant stakeholders to build on the Vision 2030 process outcomes, and explore specific gaps and links between existing and future Decade Actions and regional or global policy frameworks.
- Develop regular policy briefs and other relevant knowledge products that include case studies and best practices on approaches to working across the science-policy-society interface and the role of the Ocean Decade.
- Revise Call for Decade Actions application forms to require increased attention to the use of science and knowledge for policy or societal decision making, and include additional indicators in the Monitoring and Evaluation Framework to track impact and collate best practices.
- Develop or adapt capacity development initiatives as part of the Capacity Development Facility related to co-design, the science-policy-society interface, and strategic communication that target policy makers and users of ocean science.

Enhance recognition and role of all knowledge systems in the Ocean Decade

Action

- Include expertise on Indigenous and local knowledge in the Decade Coordination Unit, and, as relevant, in decentralised coordination structures.
- Establish a reference group of Indigenous and local community representatives to act as an informal advisory body for the Ocean Decade.
- Require that Decade governance and coordination structures, including committees, working groups and networks, include representation from Indigenous and local communities.

- Develop a pool of resources and capacity development initiatives, including via the Capacity Development Facility, so that the Ocean Decade becomes a trusted and broad source of resources on Indigenous and local knowledge.
- Change the Decade lexicon in relation to inclusivity, equity, and diversity to systematically refer to 'geographical, generational, gender, and knowledge systems diversity'.
- Seek opportunities to facilitate meaningful engagement of Indigenous and local knowledge holders in relevant meetings, events, and conferences.

Translate global priorities and initiatives to the regional and national levels

Action

- Work with regional decentralised coordination structures and taskforces to scope regionally focused Calls for Decade Actions based on regional programmes or roadmaps where they exist (e.g. Africa, Pacific Islands, Southern Ocean, etc.).
- Work with regional decentralised coordination structures to establish regional taskforces and develop regional roadmaps that draw on the Vision 2030 outcomes where they do not exist (e.g. Indian Ocean, Tropical Americas and Caribbean, Western Pacific, etc.).
- Work with regional partners to scope, resource, and establish regional decentralised coordination structures (DCC / DCOs) in the Arctic, All Atlantic, and Mediterranean Sea.
- Work with existing National Decade Committees to develop and share guidance on the development of national action plans / roadmaps that draw from the Vision 2030 process outcomes.

Increase action and impact at the national level

Action

- Strengthen resources in the Decade Coordination Unit to support, coordinate and increase engagement with and between National Decade Committees.
- Establish a process to identify and coordinate a network of national Ocean Decade Focal Points for Member States (e.g. SIDS) who may not have the resources to establish a National Decade Committee.
- Establish a peer-to-peer mentoring system for Member States who wish to set up a National Decade Committee and develop an online training to support Committee establishment.
- Develop and pilot rapid assessment tools for use by National Decade Committees, for example to identify: (i) priority science and knowledge needs to support policy development, implementation and decision making; and (ii) capacity development needs.
- Collaborate with UN partners to develop guidance, policy briefs or other relevant knowledge products to support Member States to generate and apply ocean science and knowledge to fulfil their obligations under global policy frameworks, e.g. Nationally Determined Contributions, National Adaptation Plans, National Biodiversity Strategies and Actions Plans.
- Seek resources and partnerships for an annual or bi-annual in-person National Decade Committee Forum.

Increase sustained and sustainable investment in essential ocean science infrastructure

Action

- Establish an expert working group to develop a roadmap and action plan for the role of the Ocean Decade to contribute to increased sustained and sustainable investment in essential ocean science infrastructure, including through:
  - Analyses of current landscape and models of financing for ocean science infrastructure at the international and national levels, and gaps where the Ocean Decade and partners could have an added value in facilitating increased investment;
  - Analyses of examples of return on investment in ocean science by national funding agencies in terms of the quantitative benefits for economic development (with an initial focus on SIDS); and
  - Establishment of a coalition of partners across the UN, industry, and other relevant international organisations to promote and support the roadmap / action plan including at major international events in 2025.

Increase meaningful investment in capacity development

Action

- Fully operationalise the Capacity Development Facility to fulfil priority capacity development needs for priority groups, focus on ensuring the financial and organisational sustainability of the Facility through the Decade and beyond, and systematically include calls for contributions to the Capacity Development Facility in all Calls for Decade Actions.
- Support more Decade Actions that will promote and assist with the development of human resources at individual and institutional levels required across the entire value chain, from creating supportive regional and international networks to develop capacity, to facilitating opportunities to conduct ocean science and observation, to including local/Indigenous knowledge, through data and information management, to policy advice and representation.
- Support Decade Actions that improve global access to technology, physical infrastructure, data, information, and exchange of diverse ocean knowledge, and that encourage development of innovative fit-for-purpose technology solutions.

Ensure targeted, expanded, and sustained financing and resourcing for Decade Actions

Action

- Actively work with philanthropic partners to activate the Funders Collaborative initiative to support Decade Actions in co-design, communications, and capacity development.
- Seek support and partners to fully operationalise the OceanMatcher Matchmaking Tool, including consideration of the feasibility to eventually expand its use to other funding partners.
- Develop mentoring initiatives, technical resources, and capacity development initiatives for Decade Actions for fundraising and resource mobilisation, and develop a dedicated web-based portal inventorying real-time funding opportunities for Decade Actions.

Create meaningful engagement of industry and the innovation sector

Action

- Identify priority sectors for engagement in the Ocean Decade and develop tailored outreach and engagement strategies. Examples include the tourism sector based on their interests in coastal resilience, around ocean literacy and communications; the insurance sector which relies on ocean risk data that can be generated via the Decade; and the financial sector with a strong interest in evidence-based metrics for ocean-related investments.
- Explore the feasibility of launching an industry-Ocean Decade partnership programme which proactively match-makes industry partners to Decade Actions to jointly develop and deploy knowledge, innovation, and solutions to context-specific challenges across Ocean Decade Challenges.
- Engage with the innovation and impact investment sectors to increase involvement in the Ocean Decade including through the DCC on Sustainable Ocean Economy.

Develop and share best practices, standardised methodologies, and policies

Action

- Work with Decade Actions, including the Ocean Practices for the Decade programme, decentralised coordination structures, and other partners to inventory priority best practices, standardised methodologies, and policies where the Ocean Decade could have added-value, and identify in-kind or financial resources to support development.

Enhance diversity, inclusivity, and equity

Action

- Establish the Ocean Decade Gender Working Group to oversee development of a roadmap / action plan for enhancing gender diversity in the Ocean Decade.
- Continue financial and in-kind support to coordination of the Ocean Decade ECOP Programme.
- Continue and enhance support to Decade Actions, Taskforces, and decentralised coordination structures led by and working with partners in SIDS and LDCs.
- Continue to identify resources for travel support to ensure meaningful engagement of under-represented groups in global and regional events, meetings and dialogues.


© Alexandra Vautin/Shutterstock.com*

Strengthen links between the scientific community and professional communicators, and expand efforts in ocean literacy to address all sectors of society

Action

- Review the Terms of Reference of the Ocean Decade Strategic Communications Group and Communications Working Groups to strengthen direct support to Decade Actions and regional taskforces.
- Co-design a theory of change to ensure that the key drivers of Challenge 10 are actioned, and ensure that regional expertise, informed by multiple knowledge systems, guide the initial and ongoing strategic direction of the Challenge 10 DCO, ensuring collaboration, inclusion, and transparency.
- Facilitate targeted resource mobilisation and a dedicated Call for Decade Actions focusing on transdisciplinary social science research on society-ocean connections, behaviour change, metrics, and approaches for measuring individual and societal-level ocean literacy, as well as policy change linked to ocean literacy drivers (knowledge systems, communications, education, cultural connections).
- Work with the strategic communications group of the Foundations Dialogue to develop and implement initiatives related to strategic communications and ocean literacy.

Further optimise Ocean Decade coordination for collective impact and ownership

Action

- Develop partnerships to fill important gaps in the network of decentralised coordination structures (i.e. DCCs / DCOs) for under-represented regions and for those Ocean Decade Challenges that have no coordinating mechanism, including targeted resource mobilisation for decentralised coordination structures that have been established but which are struggling to find adequate resources for operation.
- Improve coordination with and across the network of DCCs / DCOs to ensure that the significant investment made by partners in the operation of these structures is optimised.
- Redefine the membership Communities of Practice to welcome and encourage engagement by Decade partners beyond endorsed Decade Actions, and increased guidance and support from the Decade Coordination Unit for the functioning of these groups so that they can fulfil their roles as platforms for exchange, collaboration, and partnership development.
- Continue to improve Decade related communications and messaging tailored to specific stakeholder groups to clearly identify the 'how', 'why', and 'what' of the Ocean Decade, and indicate clear pathways for, and benefits of, engagement.
- Ensure adequate resources are available to implement the future recommendations of the Ocean Decade Mid-Term Evaluation related to coordination and governance.

For further information
visit our website :
oceandecade.org

Or follow us on social media:

UNOceanDecade

unoceandecade

OceanDecade

UN-Ocean-Decade

#OceanDecade

unesco
Intergovernmental
Oceanographic
Commission

MEXT MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY-JAPAN