

# The Science We Need for the Ocean We Want



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



**2021** United Nations Decade  
**2030** of Ocean Science  
for Sustainable Development

# CONTENTS

04

What is the United Nations  
Decade of Ocean Science for  
Sustainable Development?

06

Why a United Nations  
Decade of Ocean Science for  
Sustainable Development?

08

A Vision for  
the Ocean Decade

10

The Ocean Decade  
Action Framework

13

What is the process?

14

What does the Ocean  
Decade mean for you?

18

How to engage?

**THE OCEAN DECADE WILL  
PROVIDE A 'ONCE-IN-A-LIFETIME'  
OPPORTUNITY FOR NATIONS TO  
WORK TOGETHER TO GENERATE  
THE GLOBAL OCEAN SCIENCE  
NEEDED TO SUPPORT THE  
SUSTAINABLE DEVELOPMENT OF  
OUR SHARED OCEAN.**

# WHAT IS THE UNITED NATIONS DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT?

On 5 December 2017, the United Nations declared that a Decade of Ocean Science for Sustainable Development would be held from 2021 to 2030. The Ocean Decade provides a common framework to ensure that ocean science can fully support countries to achieve the 2030 Agenda for Sustainable Development.

The Ocean Decade provides a 'once in a lifetime' opportunity to create a new foundation across the science-policy interface to strengthen the management of our oceans and coasts for the benefit of humanity.

The Ocean Decade will strengthen the international cooperation needed to develop the scientific research and innovative technologies that can connect ocean science with the needs of society. It will also contribute to the UN processes protecting the ocean and its resources, such as the SAMOA Pathway, the United Nations Convention for the Law of the Sea, the post-2020 framework for the Convention on Biological Diversity and the Sendai Framework for Disaster Risk Reduction.

The Ocean Decade requires the engagement of many different stakeholders to create new ideas, solutions, partnerships and applications, these include: scientists, governments, academics, policy makers, business, industry and civil society.



**THE GLOBAL GOALS**  
For Sustainable Development

*The Ocean Decade will support numerous facets of the 2030 Agenda for Sustainable Development.*

*The Ocean Decade proposal was first registered as a voluntary commitment to the 2017 UN Ocean Conference by the Intergovernmental Oceanographic Commission.*

## What is the Intergovernmental Oceanographic Commission of UNESCO (IOC)?

The IOC of UNESCO is the United Nations body responsible for supporting global ocean science and services. This organisation enables its 150 Member States to work together to protect the health of our shared ocean by coordinating programmes in ocean observations, hazard mitigation, tsunami warnings and marine spatial planning, among others. The IOC also provides a focus for other UN organizations and agencies with regard to ocean science, observations and data exchange. A primary focus of the IOC is to enable its Member States to build the scientific and institutional capacity needed to achieve the United Nations Sustainable Development Goal 14 to conserve and sustainably manage the oceans, seas and marine resources by 2030.



**“The upcoming United Nations Decade of Ocean Science for Sustainable Development will provide impetus and a common framework for action. I urge governments and all stakeholders to commit to the conservation and sustainability of the ocean through innovation and science.”**



**Antonio Guterres**  
UN Secretary General

**“More than ever, protecting the ocean requires us to think globally and collectively. We must join our forces, share our knowledge and embrace the cause of the ocean to shape a future where humankind and seas benefit**

**from each other. It’s our responsibility to give new generations a chance to live in a sustainable world.”**  
**HSH Prince Albert II of Monaco**



# WHY A DECADE OF OCEAN SCIENCE

## Global ocean science capacities are unevenly distributed

Science-Metrix no. papers



Publication map of the world. The area of each country is scaled and resized according to the number of ocean science publications. Different colours indicate a different number of publications.

Source: Global Ocean Science Report, IOC/UNESCO, 2017

### The Ocean Decade will enable action at all levels

The Ocean Decade will provide a unifying framework across the UN system to enable countries to achieve all of their ocean-related 2030 Agenda priorities. For example, the Decade will help strengthen the development and implementation of science-based solutions for fisheries management. This alone will have a significant impact on helping many countries to achieve the Sustainable Development Goals needed to support the health and wellbeing of their communities and to achieve food security.

### The Ocean Decade will help define pathways for sustainable development

The ocean is our planet's largest ecosystem. It stabilizes climate, stores carbon, nurtures unimaginable biodiversity, and directly supports human well-being through food and energy resources, as well as by providing cultural and recreational services.

Unfortunately, despite improved management and conservation actions, the United Nations' First World Ocean Assessment found that much of the ocean is now seriously degraded. As the world population will reach an estimated 9 billion people by 2050, impacts on the ocean associated with human activities will increase.

Action can only be effective if it is based on sound knowledge informed by science. There is an increasing need to find scientific solutions that allow us to understand the changes taking place in our ocean, and to reverse its declining health. Ocean science has made great progress over the last century in exploring, describing, understanding and enhancing our ability to predict changes in the ocean system.

In the coming decade, we have a tremendous opportunity to harness interdisciplinary advances in ocean science to achieve a better understanding of the ocean system. This will enable the delivery of timely information about the state of the ocean, and will allow us to define interconnected scenarios and pathways for sustainable development. Ocean science can help us to address impacts from climate change, marine pollution, ocean acidification, the loss of marine species and degradation of marine and coastal environments. To achieve sustainable development, good science is needed to inform policies, increase the knowledge of all stakeholders and ultimately deliver solutions to address the decline in ocean health.

### Supporting ocean science that is fit for purpose

The 2017 Global Ocean Science Report found that ocean science accounts for only between 0.04% and 4% of total government research and development expenditures worldwide. The Ocean Decade helps to mobilize partnerships and increase investment in priority areas where action is urgently needed. The Decade builds on existing partnerships and technologies and will create new collaborations to enhance and expand the global scientific capacity required to quickly collect issue-specific information to meet the constantly-evolving needs of ocean and coastal zone managers and a rapidly developing blue economy.

While many countries benefit from sophisticated, cutting-edge scientific infrastructure, technology and human capacity for science and innovation, the 2017 Global Ocean Science Report concluded that major disparities exist in the capacity around the world to undertake marine scientific research.

A core objective of the Ocean Decade is to improve the scientific knowledge base through capacity development in regions and groups that are presently limited in capacity and capability, including Small Island Developing States, Least Developed Countries and Landlocked Developing Countries.

**"Ocean science, supported by capacity development, is essential not only to inform SDG 14 but also other SDGs that have an ocean dimension"**



**Peter Thomson**  
UN Special Envoy for the Ocean

# A VISION FOR THE OCEAN DECADE

The Ocean Decade harnesses, stimulates and coordinates **interdisciplinary** research efforts at all levels, in order to generate and use knowledge for the transformational action needed to achieve a healthy, safe, and resilient ocean for sustainable development by 2030 and beyond.

Mobilize scientists on critical ocean priorities for the 2030 Agenda

Synthesise existing research and define trends, knowledge gaps and priorities for future research

Co-design new research strategies with ocean stakeholders



Bridge science, policy and societal dialogues via: access to data, information and communication

Synthesise results and develop user driven solutions

Foster new joint research and co-operation within and across ocean basins

## THE GOALS

Central to the Ocean Decade is the notion of transformation.

The Decade, both in terms of action and outcomes, needs to move beyond business as usual to a true revolution in ocean science. The transformative nature of the Ocean Decade will promote and facilitate ocean science that:

uses the 2030 Agenda as a central framework to identify and address the most pressing societal questions related to SDG14 and related SDGs

is co-designed and co-delivered in a multi-stakeholder environment to be relevant and responsive across the entire value chain from knowledge generation, to applications and services to use of science for solutions

where needed, is audacious and forward-looking

spans across disciplines and actively integrates natural and social science disciplines

embraces local and indigenous knowledge as a key knowledge source

is transformative because of who is doing it or where it is being done, including in both less developed and developed countries

strives for generational, gender and geographic diversity in all its manifestations

is communicated in forms that is widely understood across society and triggers behavior change

is shared openly and available for re-use

“The United Nations Decade of Ocean Science for Sustainable Development is a unique opportunity to engage the ocean science community in achieving the Sustainable Development Goals - globally, regionally and locally.”



**Vladimir Ryabinin**  
Executive Secretary of the Intergovernmental Oceanographic Commission of UNESCO

# THE OCEAN DECADE ACTION

# FRAMEWORK

## The Ocean We Want for a sustainable future by seven Decade Outcomes

## future is represented



**A clean ocean** where sources of pollution are identified and removed



**A healthy and resilient ocean** where marine ecosystems are mapped and protected



**A predicted ocean** where society has the capacity to understand current and future ocean conditions



**A safe ocean** where people are protected from ocean hazards



**A sustainably harvested and productive ocean** ensuring the provision of food supply



**A transparent ocean** with open access to data, information and technologies



**An inspiring and engaging ocean** where society understands and values the ocean

## Key Challenges have been identified for the Decade. and new Challenges will be added. Each Challenge

## Challenges may evolve throughout the Decade contributes to one or more Decade Outcomes:



Understand and beat marine pollution



Protect and restore ecosystems and biodiversity



Sustainably feed the global population



Develop a sustainable and equitable ocean economy



Unlock ocean-based solutions to climate change



Increase community resilience to ocean hazards



Expand the Global Ocean Observing System



Create a digital representation of the ocean



Deliver data, knowledge and technology to all



Change humanity's relationship with the ocean

## The Ocean Challenges will be achieved via Decade and resourced by a wide range of stakeholders.

## Actions that will be identified, implemented Examples include:



Coastal zone management and adaptation



Marine spatial planning/blue economy



Establishment of marine protected areas



Fisheries management



Ocean-related Nationally determined contributions to UNFCCC



Development of national ocean policies



Development of national R & D strategies



Regional and national capacity development planning



Early warning systems

“The challenges of intelligent and sustainable management of the ocean require strengthening our capacities to produce and transfer knowledge applied to decision-making. The Decade offers a unique framework for collaborative and coordinated work, as to achieve the ocean we need for the future we want.”



Ariel Troisi  
Chair, IOC

## WHAT IS THE PROCESS?

### Participative & Transformative

The Ocean Decade is embracing a participative and transformative process so that scientists, policy makers, managers and service users can work together to ensure that ocean science delivers greater benefits for both the ocean ecosystem and for society.

The Ocean Decade is designed to facilitate global communication and mutual learning across research and stakeholder communities. It works to meet the needs of scientists, policy makers, industry, civil society and the wider public, but it also supports new, collaborative partnerships that can deliver more effective science-based management of our ocean space and resources.

New knowledge on the current state of ocean science will be made available to communities and governments. This knowledge will be supported through capacity development activities that will provide the tools to conduct marine science and the ability to use this knowledge to inform policy makers and wider society.

### Consultative & Engaging

The Ocean Decade adopts a two-way, top-down and bottom-up approach. The objectives and outcomes were identified during the First Global Planning Meeting. Regional workshops were organized to explore the translation of these outcomes and objectives to the regional and national context, with the formulation of scientific products, activities and partnerships that could be proposed in the context of the Decade.

A series of stakeholder engagement mechanisms are being designed in order to:

- Facilitate mutual learning within and across stakeholder communities;
- Ensure robust communication within and across stakeholder communities;
- Create stronger connections between scientists, policy makers, managers and service users, so that ocean science delivers greater benefits for the ocean ecosystem and for society
- Facilitate leadership, catalyse large-scale commitments towards the Decade with targeted networking, resource mobilization and influence through the Ocean Decade Alliance
- Convene existing or new groups of oceans actors that work together to contribute to the Ocean Decade vision through stakeholder platforms.

## AN INCLUSIVE DECADE

**1 GLOBAL PLANNING MEETING  
(OVER 200 PARTICIPANTS)**

**2 WEBINARS ON DRAFT IMPLEMENTATION  
PLAN (600 PARTICIPANTS FROM 80+  
COUNTRIES)**

**12 REGIONAL WORKSHOPS, WITH  
1,900+ OCEAN STAKEHOLDERS FROM  
70+ COUNTRIES**

**38% FEMALE PARTICIPATION ON AVERAGE**

**450+ STAKEHOLDERS INVITED TO PEER  
REVIEW IMPLEMENTATION PLAN**

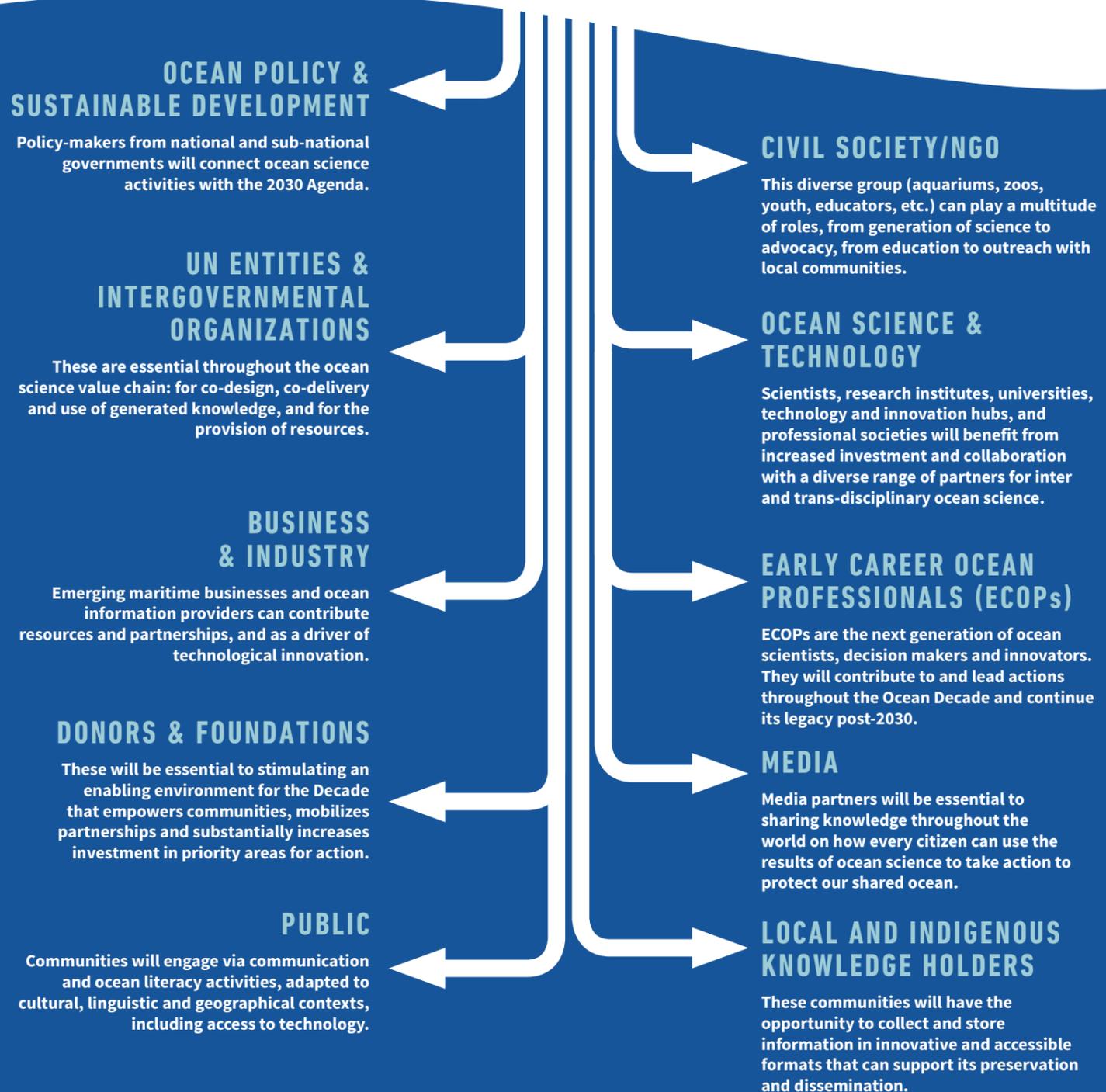
**1,000 EARLY CAREER OCEAN PROFESSIONALS  
SURVEYED**

**1 FOUNDATIONS DIALOGUE, MOBILIZING  
20+ PHILANTHROPIC FOUNDATIONS**

# WHAT DOES THE OCEAN DECADE MEAN FOR YOU?

The success of the Ocean Decade relies on the contributions of many different stakeholders including scientists, policy-makers, civil society, funders and the private sector. It also benefits these different groups in the following different ways.

The boundaries between these groups are fluid. The Decade will promote a flexible and broad approach to engagement with multiple entry points for various interests.



**Nathan Bennet**  
Chair of the People and the Ocean Specialist Group,  
International Union for the Conservation of Nature



To understand the ocean, we must understand humanity's relationship with the ocean. Coastal communities, Indigenous peoples, and small scale fishers rely on the ocean for livelihoods, for subsistence, for wellbeing and for cultural continuity. The fate of the ocean and people are interconnected. Thus, we must understand the human dimensions of the world's peopled seas and coasts to make evidence-based decisions that are both socially equitable and environmentally sustainable. This applies to all marine policy realms, including marine conservation, marine spatial planning, fisheries management, the blue economy and climate adaptation. The upcoming United Nations Decade of Ocean Science for Sustainable Development provides a tremendous opportunity to build on the current interest, need for and momentum in marine social sciences. We will be missing the boat if the marine social sciences do not form an integral and substantial part of the mandate and investments of this global ocean science for sustainability initiative.

**Hindou Oumarou Ibrahim**  
Environmental Activist, Geographer,  
Mbororo pastoralist community, Chad



Indigenous peoples' traditional knowledge is the legacy of thousands of years living in harmony with the ecosystems. While the modern science revolution started three to four hundred years ago, and technology (the Industrial Revolution) started only two centuries ago, all indigenous peoples have accumulated unique knowledge about trees, plants, animals and their interactions. On the internet, we have Wikipedia. In our communities, we have grandmothers and grandfathers who transmit this unique knowledge from one generation to another. Today, as we are facing the worst environmental crisis since the birth of humankind, it is time to use this knowledge that we are willing to share. Our indigenous peoples' knowledge is a reservoir of solutions for climate mitigation and adaptation. It is also unique to protect and restore ecosystems, contribute to reforestation, prevent the destruction of tropical forests, coral reefs, and of desertification. Most of us did not have a chance to go to school. We don't have degrees from prestigious universities. But in any indigenous community you can find people that deserve a PhD in environmental sciences. Indigenous peoples are ready to share their knowledge, but policy-makers, business leaders, local and national government need to learn and listen to our voices and respect our rights. Together, we can be strong enough to end climate change and repair our planet. We have 10 years to change it. Ten years is nothing, so we need to act all together and we need to act right now.

**Tyler Rae**  
ECOP member and community practitioner,  
Fiji Island



Early Career Ocean Professionals (ECOPs) are individuals with professional training in areas relevant to the advancement and application of ocean science. For the past few years, I have been involved with three projects, all of which ultimately aim to protect, conserve, sustain and grow the health of our ocean. The Decade is a time for young people and leaders to connect and challenge us all to innovate without being destructive. The Decade ECOP working group has identified initiatives that can make crucial contributions to the Decade. Among them are developing mentoring and training programs, creating an information portal specifically tailored for ECOPs, hosting youth engagement events related to the Decade, and supporting campaigns for ocean literacy. These initiatives will provide us all with a realistic opportunity to continue the Decade's legacy through intergenerational diversity. Each of us brings expertise from diverse backgrounds and disciplines, all eager to contribute to the Decade. I am excited and hopeful as a young advocate, that the Decade is already primed to engage our commitment and feels like a partnership.

**Inger Andersen**  
Executive Director,  
United Nations Environment Programme



As we seek to build back better from the devastating impacts of COVID-19, we must not lose sight of the important role oceans play in securing our future. At no moment in history, have the decisions we must make to safeguard our oceans mattered as much. The policies we develop and the actions that follow must put us on the path to equitable and sustainable development. A healthy marine and coastal environment underpins this goal. Science, policy and action must come together to ensure our marine environment and the livelihoods of millions dependent on it, towards a sustainable and healthy future. Our efforts will be strengthened by the UN Decade of Ocean Science for Sustainable Development and the UN Decade of Ecosystem Restoration, which is being led by the UN Environment Programme and the Food and Agriculture Organization of the United Nations. These important efforts will together make a significant contribution to our collective aim of achieving the Sustainable Development Goals.

**Méntor Villagomez**  
Permanent Commission for the South Pacific (CPPS), Ecuador



Since its inception, almost seventy years ago, the member countries of the Permanent Commission of the South Pacific have declared in relation to their respective maritime areas that governments have the obligation to ensure their peoples the necessary conditions of subsistence, and to provide them with the means for their economic development.

During all this time, the Organization has been committed to taking care of the conservation and protection of natural resources and regulating the use of them in order to obtain the best advantages for their respective countries and to ensure a healthy and resilient maritime space in the Southeast Pacific for present and future generations. The United Nations Decade for Ocean Science is a great opportunity to build on the advances made in ocean science and to better understand the ocean, allowing for sound policy decisions for sustainable development.

In this framework, the Permanent Commission for the South Pacific works – and will continue to do so - to understand ocean processes, ecosystems and people, and to guarantee a responsible global ocean administration that meets the development aspirations of society. Reversing the deterioration of nature is still possible, but we must act now. The commitments of the 2030 Agenda pursue that goal, but the action can only be effective if it is based on sound knowledge informed by science, as promoted by the Decade.

**Asha de Vos**  
Founder and Executive Director, Oceanswell,  
Sri Lanka



Although 70% of our world's coastlines are in the developing world, there is very little representation from that part of the world in the marine conservation space. The model of parachute science where scientists from the west drop into countries like ours to do research with no investment in capacity or infrastructure cripples conservation.

If we really want to save our oceans, every coastline needs a local hero and those working outside their boundaries must remember that to work beyond their homes is a privilege, not a right. If we want to be successful, over the next decade we need to build respectful, collaborative partnerships between those from the developing and developed world. Our organization, Oceanswell, has the objective of nurturing "armies of diverse ocean heroes" from across the world, particularly in places that have traditionally been overlooked. For the sake of our oceans, I encourage a model that recognizes that talent is equally distributed though opportunity is not, and looks to build capacity and give opportunity, rather than take it away.

**Nina Jensen**  
CEO, REV Ocean, Norway



I believe that nothing is more important than the ocean. REV Ocean seeks to improve knowledge of the ocean, make it more available and develop solutions to reverse the negative environmental situation.

Two initiatives within the Foundation's One Healthy Ocean approach include: the REV Ocean

Vessel, which will be equipped for research expeditions, and the Ocean Data Foundation, which seeks to combine ocean data and information in one place. To be able to succeed in these endeavors, there is a need to leverage more funding since less than 1% of global philanthropy goes to the ocean. REV Ocean's efforts will engage youth through interactive media.

We are super-excited to be working with the IOC, which is an extremely important organization for fostering international cooperation in ocean research and management. This is a partnership that is designed to achieve concrete and important results for the health of the ocean, and we can't wait to get started on our joint initiatives. We will be strong supporters and tailor our activities to maximize synergies.

**David Millar**  
Government Accounts Director, Americas,  
Fugro, United States



A key enabler of the Decade is a wholly mapped ocean. The Nippon Foundation-GEBCO Seabed2030 Project, underway since 2017, is a collaborative project between The Nippon Foundation and the General Bathymetric Chart of the Oceans (GEBCO) to inspire the complete mapping of the world's

oceans by 2030 and to compile all bathymetric data into the freely available GEBCO Ocean Map. Businesses must balance short- and long-term stakeholder interests while integrating economic, social, and environmental considerations into decision-making. In this way, we can meet our needs today without sacrificing the next generation's ability to meet theirs. Fugro recognises the importance of sustainability to its business and has included support for Seabed 2030 and the Decade in its corporate sustainability program. Collaboration, partnerships, innovation, technology development and data-sharing are critical ways we are contributing to the ocean mapping and ocean observation requirements of these initiatives. Fugro challenges all private sector enterprises to find ways they can support Seabed 2030 and the Decade so that together we can create a safe and liveable world for generations to come.

## LEAD OR PARTICIPATE IN A DECADE ACTION

Decade Actions will be implemented by a wide range of proponents throughout the Decade. Regular Calls for Action will be issued and Actions that are submitted for endorsement will need to demonstrate how they meet the criteria described in the Implementation Plan.

## ESTABLISH OR JOIN A VOLUNTARY STAKEHOLDER NETWORK

Decade stakeholder engagement networks convene ocean actors with common interests to facilitate connections and collaboration. All registered networks are members of the Global Stakeholder Forum.

## HOW TO ENGAGE?

## BECOME A MEMBER OF THE OCEAN DECADE ALLIANCE

The Ocean Decade Alliance is a key mechanism for resource mobilisation during the Decade and will act as a matchmaker between resource providers and proponents of Decade Actions – in line with the priorities of the Decade.

## JOIN GENERATION OCEAN

It is Everyone's Decade! "Gen0" convenes all living and future generations to build a new kind of society by 2030, one in which all of humanity will use the best available science and knowledge to deliver the ocean we need for the future we want.

# THIS IS YOUR OCEAN DECADE! GET IN TOUCH

Write to us at: [oceandecade@unesco.org](mailto:oceandecade@unesco.org)

Join the Decade: [www.oceandecade.org](http://www.oceandecade.org)

Follow the #OceanDecade hashtag on social media



Published in 2020 by the United Nations Educational, Scientific and Cultural Organization 7, Place de Fontenoy, 75352 Paris 07 SP, France © UNESCO.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariats of UNESCO and IOC concerning the legal status of any country or territory, or its authorities, or concerning the delimitation of the frontiers of any country or territory. The ideas and opinions expressed in this publication are those of the authors; they are not necessarily those of UNESCO and do not commit the Organization.

Editorial team: Julian Barbière, Julie Rigaud, Paloma Soriano, Elisabetta Bonotto, Vinicius Lindoso.

For bibliographic purposes, this publication should be cited as follows: The Science we Need for the Ocean We Want: The United Nations Decade of Ocean Science for Sustainable Development (2021-2030). Paris. 2020. 20 pp. (English). IOC Brochure 2020-4 (IOC/BRO/2020/4).

Cover Image: © Getty Images. Contents Page : @xaviercoiffic, Xavier Coiffic, Le Morne, Mauritius P.4-5 : © NIWA P.6 : © Shutterstock.com P.8-9: © Christian Miller/AIMS P.12: © Shutterstock.com P.13: © UNESCO P.15: © Anthony Powell P.17: @Tiphaine, Tiphaine, Vancouver Aquarium Marine Science Centre, Vancouver, Canada P.18-19 : © Getty Images

Join us @ [oceansdecade.org](https://oceansdecade.org)



@locUnesco



@locUnesco



@ioc\_unesco



United Nations  
Educational, Scientific and  
Cultural Organization



Intergovernmental  
Oceanographic  
Commission



2021  
2030 United Nations Decade  
of Ocean Science  
for Sustainable Development

This publication is kindly supported by the Government of the Republic of Korea/  
Korea Institute of Ocean Science & Technology (KIOST).