

# **MARINE LIFE 2030-How to Join a Global Movement to Build a Better Understanding of Marine Biodiversity for a Sustainable Ocean**

## **A Programme of the UN Decade of Ocean Science for Sustainable Development**

**Website: [Marine Life 2030](#)**

*Building global knowledge of marine life for local action in the Ocean Decade*

*Marine Life 2030 works in the context of the UN Ocean Decade to contribute to Sustainable Development Goal 14, and specifically to understand the effects of multiple stressors on ocean ecosystems and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions (Ocean Decade Challenge 2). Marine Life 2030 will establish a globally coordinated system to deliver actionable, transdisciplinary knowledge of ocean life to those who need it, promoting human well-being, sustainable development, and ocean conservation. This will be accomplished through active co-design and co-delivery of ocean science, sharing of knowledge in formats that will be proactively adopted and used and innovative, diverse and interdisciplinary partnerships. The process will contribute to comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders (Ocean Decade Challenge 9).*

### **An Invitation to Collaborate**

This document provides guidelines for partners interested in engaging the development of a community of practice focused on the collection, curation, and application of observations on marine life. The goal is to engage in planning and implementation of activities that together accomplish what has never been done before: a comprehensive, global and collaborative network to observe marine life for practical uses, including sustainable development and conservation.

The original proposal submitted to the Ocean Decade may be found here:

[Marine Life 2030 - UN Ocean Decade request for endorsement 20210115 \(marinebon.org\)](#)

Marine Life 2030 is an open, international network and program. Core leadership comes from the US Integrated Ocean Observing System and the Global Ocean Observing System (GOOS), Marine Biodiversity Observation Network (MBON), UNEP World Conservation and Monitoring Centre (UNEP-WCMC), Ocean Biodiversity Information System (OBIS), Ocean Best Practices System (OBPS), Group on Earth Observations (GEO), the Future Earth Ocean Knowledge Action Network (Ocean KAN), POGO Biological Observations Working Group; Smithsonian Institution, and over other 60 partners that engaged in developing the proposal to the Ocean Decade. Marine Life 2030 welcomes new multi-sector collaborators in the Ocean Decade.

Marine Life 2030 welcomes input on building an applied multidisciplinary observing system. Co-design may focus on these immediate needs listed below. More specific desired criteria may be found under 'Partnerships' below.

- 1) From Concept to Practice - Co-designing local and regional roadmaps for ML 2030 (present - summer 2022)
- 2) Building Biodiversity Knowledge - co-design proposals for Decade Actions and research funding (2022 ...)
- 3) Co-producing biodiversity science for a Sustainable Ocean - how to get involved in existing and funded ML 2030 research (late 2022 ...)
- 4) Using Biodiversity Data to Plan for a Sustainable Ocean - Working with decision makers to use biodiversity knowledge generated by ML2030, disseminating knowledge, biodiversity literacy, etc. (2023 ...)

### **The Need**

The ocean hosts abundant and diverse life that supports humanity's needs for food, natural products, and good livelihoods. The ocean's >200,000 species are the engine of ecosystems that provide these benefits. Yet marine life is now under more pressure from human activities than at any time in the history of the planet. The result is a biodiversity crisis in the ocean. At the same time, humanity seeks more and more human and economic benefits from the ocean. The only way to both reverse the decline in ocean biodiversity and increase the value of a sustainable ocean economy is through decision-making that is fully informed about the health, diversity, and ecological status of marine life. Good and timely information is fundamental to sustain this blue economy. Data are essential to identify key areas and approaches for conservation and to plan and manage for blue growth with a net positive impact on ocean living resources.

This means that scientists need to work directly with stakeholders and decision makers to ensure that we are collecting the marine biodiversity data that are needed to inform these decisions. This requires aligning these communities to work together on these challenges:

- (1) Focus marine biodiversity science and observations on the needs of users and communities.
- (2) Measure biology and ecology Essential Ocean Variables (EOV) following standards for operational applications; today, management of marine living resources relies mainly on proxy variables like temperature, salinity, and topography;
- (3) Improve data management and publication; data on ocean species can be interoperable, better coordinated, digitized, and accessible.
- (4) Collaborate to address resilience of coastal societies and marine ecosystems, co-developing solutions to the combined impacts of climate change and human uses, linking the Ocean Decade efforts with those of the UN Decade on Ecosystem Restoration.

### **The Vision**

Marine Life 2030 establishes the global collaborations that provide the human capacity, information, technology and strategies needed to address Challenge 2 of the Ocean Decade beyond 2030. It accomplishes this by addressing Ocean Decade Challenge 9, joining diverse people and efforts to build an applied multidisciplinary observing system that shares and uses practices at each steps of its value chain.

By 2030 and beyond, anyone, anywhere, will have access to information on marine species and ecosystems important to local fisheries, culture, health, and livelihoods. We will be able to

diagnose how species and biodiversity are shifting with climate change and management interventions, to achieve a sustainable future for nature and people.

### **The Plan**

The science we need to achieve the ocean we want requires transformations in technology, in the culture of science, and in the scale and nature of coordination. Marine Life 2030 will:

- (1) Work with other Ocean Decade Programs and convene stakeholders around the world to co-design, coordinate and finance sustainable marine life observation and applications;
- (2) Leverage emerging innovation in ‘omics, acoustics, imaging, remote sensing, and artificial intelligence to align biodiversity with other ocean parameters;
- (3) Integrate the critical missing pieces into a global, multi-disciplinary and interoperable ocean observation system; and
- (4) Co-deliver solutions, starting with the communities that need them the most.

### **Partnerships**

Marine Life 2030 welcomes consideration of programmes, activities, and partners.

Collaborations may contribute the following experts and practitioners:

- Decision makers at all levels, from local to global, whose actions depend upon or impact marine life;
- Social, political, behavioral, and sustainability scientists and experts that understand how to co-design processes for effective outcomes;
- Oceanographers, ecologists, biologists, climate scientists, data-scientists, etc. that study, model, and work to better understand the complex and changing ocean and its effects on marine life;
- Organizers, network builders, educators, and communicators, that can promote knowledge sharing within the ML2030 community and beyond.

### **Benefits of Affiliation**

Affiliation of ongoing or planned projects is expected to benefit the collaborating project and also contribute to achieve the larger vision of Marine Life 2030 and of the Ocean Decade.

Affiliation increases our collective capacity for observing, sharing methods and standards, and using information on marine biodiversity to solve relevant problems. The affiliated project benefits from the recognition that it is part of a larger program that brings access to information, other scientists and organizations, a larger global context, and participation in the Decade of Ocean Science for Sustainable Development. As the Ocean Decade gains momentum, benefits include:

1. Opportunities and support for user engagement and co-developing plans for solutions;
2. Opportunities to leverage science and capacity building collaborations;
3. Early-career and under-represented community benefits in diversity and inclusion:
  - a. Fast-tracking to funding opportunities and positions of responsibility.

- b. Exposure to international science policies, paradigms, and cultures.
  - c. Empowerment to address issues of concern to humanity, including climate change, biodiversity loss, and others.
4. Alignment to leverage resources, including expertise, technologies, and funding.
  5. Access to scientific expertise and information;
  6. Modeling interdisciplinary research linking natural science observations and data with socio-cultural-economic information, to answer management and policy questions.
  7. Access to technologies and software developed by Affiliated Projects and the Ocean Decade;
  8. Possibility for shared sample processing;
  9. Increased visibility through website links and other communications to science, philanthropic, resource management, and other sponsors.
  10. Linkage to different sectors who can champion activities in other locations.
  11. Joint publications;
  12. Engaging in the implementation of the UN Decade of Ocean Science for Sustainable Development;
  13. Increased impact of research and scientific information on decision and policy-making at local to global scales.

### **Criteria for Affiliation**

Collaborations are sought that meet some or all of the following criteria:

- Commitment to contribute in a community development effort through active participation in working groups, project leadership, collaborative proposals to fund projects and activities, and joint reports and papers on the following topics:
  - Observing system design and integration;
  - Interoperability and best practices in observing, data management and applications;
  - Capacity development including increased representation of Indigenous People and Local Communities;
  - Integration, collaboration, and linkages with other Ocean Decade Programmes. The list of Programmes endorsed through June 2021 is provided here: [Explore The Ocean Decade Actions](#)
  - Social science;
  - Co-development of strategies and activities;
  - Product development.
- Capacity to facilitate collection, management, publication and synthesis of observations and knowledge of marine life, including:
  - changes in distribution and abundance of organisms;

- integration of biology observations in monitoring of the environment including operational observing systems;
- A stakeholder engagement plan, or ideas and willingness to co-develop such a plan.

Advancing these priorities requires:

Teamwork:

- Regional organisation and leadership, working in harmony as an international team;
- Multi-national, multi-disciplinary, and diversity-balanced groups;
- Early Career Ocean Professional: engagement and professional development;
- Capacity building: Planning, sharing, coordination of specific place-based and other programs;
- Fundraising: Developing specific activities and support for local or international efforts as needed, in the context of a larger program and vision.

Interoperability

- Collaboration on, and documentation of, best practices for biological data collection and monitoring;
- Adherence to international standards and best practices for biological metadata and data management and interoperability, including data management and best practices for open access data;
- Provide end-to-end demonstrations or case studies, including co-development to synthesis;
- Commitment to documenting use of traditional or new methodologies and technologies, including applied science outcomes.

Post-2030 vision

- A plan for sustainability, i.e., after-the-project continued development of the basic information infrastructure upgrades and solutions/services with adequate public/private partnerships;
- A plan for capacity building and ocean literacy activities;
- Communications (website development, partner network support and management)
- Program evaluation and metrics

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