

# MBON

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## Marine Biodiversity Observation Network

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### **Project Information**

Title: The Marine Biodiversity Observation Network (MBON: <http://marinebon.org>)

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### **Description**

MBON is a community of practice that strengthens understanding of marine biodiversity and coordinates monitoring of associated changes over time through scientific observations, thereby facilitating ecosystem conservation, sustainability, and good management practices. MBON is linking existing national and international research and monitoring efforts. It provides the marine biodiversity component of GEO (through GEO BON). MBON will work with the international community to promote the operational collection of biodiversity observations.

MBON is a core element of the Marine Life 2030 Programme submitted to the UN Decade of Ocean Science for Sustainable Development

([https://marinebon.org/assets/Marine\\_Life\\_2030\\_UN\\_Ocean\\_Decade\\_request\\_for\\_endorsement\\_2021\\_0115.pdf](https://marinebon.org/assets/Marine_Life_2030_UN_Ocean_Decade_request_for_endorsement_2021_0115.pdf)). Working with the Global Ocean Observing System (GOOS) and other field sampling programmes ensures that biodiversity observations are complemented with physical and biogeochemical observations of the ocean and vice-versa. A partnership with the Ocean Biogeographic Information System (OBIS) and similar databases helps to provide access to regional and global biodiversity and environmental data to enable regional assessments. MBON is the biodiversity arm of Blue Planet, intended to inform decisions relevant to conservation and the sustainable use of marine resources.

MBON is a network rather than a legally-incorporated structure or organization. As a community of practice and collaboration, groups can engage in relatively informal or formal agreements. MBON is a coalition of the willing who agree to share knowledge and know-how to evaluate changes of biodiversity in the ocean, including data, products, protocols and methods, data systems and software.

MBON will follow guidelines of the Framework for Ocean Observing (FOO), working with GOOS to develop a common framework for biodiversity and biological EOVS. The GOOS Bio-Eco panel has identified EOVS for ocean biology based on a Drivers-Pressures-State-Impact-Response process that include the societal and scientific requirements of national programs, international treaties, and the scientific community. MBON facilitates the development of a common framework for EBV and EOVS, informing GOOS on the integration of marine biodiversity observations within environmental variables.

Working within this framework facilitates adoption of the biodiversity EOVs in existing international ocean observing systems and regional alliances that constitute GOOS. In developing the network, MBON also recognizes the important linkages between coastal habitats and the deep ocean as an environmental continuum within which many different species live, migrate, and reproduce. Therefore, the MBON network will link communities, including for example the GEO-Wetlands initiative, with the marine community.

MBON is developing the capacity of resource managers, practitioners, and decision-managers to use information about marine biodiversity to address specific targets of the Sustainable Development Goals (SDG), such as SDG 14. MBON products integrate multidisciplinary research and observations from groups around the world through a data aggregation device designed by MBON. The product demonstrates a capability to:

1. Determine what spatial scales and biodiversity elements are observable using in situ and remote sensing Earth observations.
2. Measure Essential Biodiversity Variables (EBV) in the context of Essential Ocean Variables (EOV) that characterize physical processes (temperature, salinity, currents), biogeochemical processes (carbon dioxide, oxygen, nutrients, carbon), and biological processes (biomass, productivity, extent).
3. Characterize the relationship between the environment and biodiversity.

These partnerships help in defining strategies and standards for collaboration with a broader community of databases and users of biodiversity information.

Achievements at a glance:

Marine Biodiversity Observation Network (MBON) Pole to Pole Capacity Building and a Community of Practice:

Since 2016, the Marine Biodiversity Observation Network (MBON) has been expanding its global leadership to support capacity building for biodiversity field data collection and data management throughout the Americas. The MBON Pole to Pole effort is developing a framework for the collection, use and sharing of marine biodiversity data in a coordinated, standardized manner. It is leveraging existing infrastructure managed by the Global Ocean Observing System (GOOS; IOC-UNESCO), the Ocean Biogeographic Information System (OBIS), the Ocean Teacher Global Academy (OTGA), and the GEO Biodiversity Observation Network (GEO BON).

The MBON Pole to Pole aims to become a key resource for decision-making and management of living resources across countries for reporting requirements under the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), post-2020 targets of the Convention of Biological Diversity (CBD), and the UN 2030 Agenda for Sustainable Development Goals (SDGs).

MBON Pole to Pole has held 4 separate workshops in the Americas In 2017. The program is described here:

[marinebon.org/pages/pole\\_to\\_pole/](http://marinebon.org/pages/pole_to_pole/)

Japan announced support for coordination of an Asia Pacific MBON, and it intends to engage in a coordinated, regional Pole to Pole effort as well.

We welcome interest from other regions.

#### Challenges faced in implementation

There are several important challenges. At the moment, the COVID-19 pandemic has forced the MBON Pole to Pole efforts to communicate among members to be solely virtual. A workshop planned for May 2020 had to be cancelled.

MBON Pole to Pole will require financial support for continuing capacity building efforts. The financial support helps cover travel and minimal equipment needed especially in developing countries and island states.

#### Who are the beneficiaries?

The MBON Pole to Pole effort benefits all researchers, students, as well as stakeholders interested in understanding ecosystem services. All ecosystem services depend on biodiversity. Common frameworks for understanding stakeholder needs, developing a plan for monitoring biodiversity, collecting, curating, archiving the data, and generating products that satisfy the need of stakeholders are needed to ensure that data and databases are interoperable. The MBON Pole to Pole effort is a contribution to the UN Decade of Ocean Science for Sustainable Development.

#### What specific actions have been taken to positively impact beneficiaries?

MBON Pole to Pole has conducted several training workshops, maintains an active dialogue with participants via social media (WhatsApp) and has developed a website where methods and data are openly posted.

[marinebon.org/pages/pole\\_to\\_pole/](http://marinebon.org/pages/pole_to_pole/)

MBON Pole to Pole has also requested funding from various sponsors and welcomes collaborations with groups interested in developing such proposals and with groups interested in sponsoring collaborations and solutions.

Graphics:

# MBON

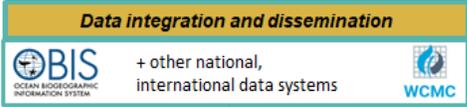
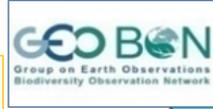
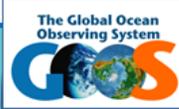
Marine Biodiversity  
Observation Network



# MBON

INTERNATIONAL LINKAGES

**OBSERVING LIFE IN THE OCEANS FOR SOCIETAL BENEFIT**  
(- INFORMATION FLOW -)



**OTHER DATA PROVIDERS AND USERS**

- ✓ National Governments and Organizations
- ✓ International Organizations
- ✓ Non Government Organizations
- ✓ Research Institutions
- ✓ Citizen Scientists

