Laying the foundations of the MBON Pole to Pole of the Americas

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Laying the foundations of the MBON Pole to Pole of the Americas

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https://marinebon.github.io/p2p/

AmeriGEO Priority Area:
Biodiversity/Ecosystems (GEO Bon or Marine Bon)
INTERNATIONAL LINKAGES

Global Ocean Observing System

GOOS: ESSENTIAL OCEAN
Focus on EOVs driven by societal needs
- Global implementation -

ESSENTIAL BIODIVERSITY VARIABLES
Focus on EBVs driven by science questions and other user needs (policy, societal)
- National and regional implementation -

MARINE OBSERVATION NETWORK
National — Regional — Global — Thematic
National Governments      Non Government Organizations      Agencies      Institutions      Citizen Science

DATA INTEGRATION AND DISSEMINATION
+ other national, international data systems

OTHER DATA PROVIDERS AND USERS
✓ National Governments and Organizations
✓ International Organizations
✓ Non Government Organizations
✓ Research Institutions
✓ Citizen Scientists

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

Biodiversity Observation Network (BON)

GEO GROUP ON EARTH OBSERVATIONS

Global Ocean Observation System

Biodiversity Observation Network (BON)

MBON

INTERNATIONAL LINKAGES

Data integration and dissemination

+ other national, international data systems

OTHER DATA PROVIDERS AND USERS
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Convention on Biological Diversity
MBON Pole to Pole of the Americas

Part of the GEO/AmeriGEO 2017-2019 Work Programme

• Mission
  – Detect status and trends in marine biodiversity, and understand why it is changing for sustainable use of marine living resources.

• Objectives
  Develop capacity to:
  – expand our knowledge of biodiversity and its services
  – coordinate disaggregated biodiversity monitoring
  – share data and best practices
  – increase understanding of physical and biological connectivity
  – foster integration of in situ observations with satellite data
MBON Pole to Pole of the Americas

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• Methodology
  – Coordination of field biodiversity monitoring using standard protocols
  – Data sharing via open-access repositories (i.e. Ocean Biogeographic Information Syst. - OBIS)
  – Use of satellite products to understand physical drivers of biodiversity change

• Project Governance Structure
  – Voluntary participation: the network is the “Coalition of the Willing”
  – Thematic leads: e.g. rocky intertidal zones, sandy beaches, seagrass beds
  – Case study leads:
    • Monitoring optimization: minimum set of observations for characterizing biodiversity
    • Biodiversity indicators
    • Technology development (automated image processing for species identification)
Development of field protocols
Capacity Building – Data workflows

Users:
- Requirements
- Capacity building
Local managers, researchers, International treaty agencies

Field data collection

Data tables

Open-source R packages

Integrated Publishing Toolkit

Darwin Core-Event Core

Essential Biodiversity Variables (EBV’s)

Essential Ocean Variables (EOV’s)

Users:
- Requirements
- Capacity building
Local managers, researchers, International treaty agencies

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Data tables

Open-source R packages

Integrated Publishing Toolkit

Darwin Core-Event Core

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- Requirements
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Local managers, researchers, International treaty agencies
Marine Biodiversity Workshops:
From the Sea to the Cloud

• São Sebastião, Brazil, August 6-10, 2018
  • 38 participants
  • 11 countries

• Puerto Morelos, Mexico, April 2-5, 2019
  • 35 participants
  • 12 countries

http://www.goosocean.org/index.php?option=com_oe&task=viewEventRecord&eventID=2382
http://www.goosocean.org/index.php?option=com_oe&task=viewEventRecord&eventID=2284
Satellite biogeographic seascape maps (Kavanaugh et al. 2016, ICES J. Mar. Sci., 73) at 9-km pixel resolution are made available to MBON Pole to Pole via NOAA CoastWatch.
Dashboard: Biodiversity survey records and satellite data

Example: Rocky shore at Arraial do Cabo - Brazil
Time series data of seascape area per class at monitoring sites
MBON Pole to Pole Website

https://marinebon.github.io/p2p

MBON Pole to Pole Project

Welcome! We are developing a Community of Practice across the Arctic, subarctic, and tropical oceans to monitor marine biodiversity and ecosystem change using field and space observations.

Ongoing biodiversity monitoring sites

Bahía de Chimbote, Perú

SST

Chlorophyll-a

Seascapes

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www.earthobservations.org
MBON Pole to Pole Data available in OBIS

OBIS is a global open-access data and information clearing-house on marine biodiversity for science, conservation and sustainable development.

Counts of Mytilus from Gozi (Kenya), Urva (Zanzibar) and Ambon (Indonesia) sampled between October 1994 and July 1996

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Future Development Plans for the Activity

- Organize the 3rd Marine Biodiversity Workshop: from the Sea to the Cloud
- Write proposals with participant countries to hold additional training workshops
- Continue to enroll data into OBIS
- Work with the OceanObs’19 conference
- Engage as part of the GOOS BioEco panel to define Essential Ocean Variables and links to EBV
- Contribute protocols to the Ocean Best Practices System of the IOC-UNESCO
- Advance DarwinCore and EventCore with OBIS
- Plan contributions to Sustainable Development Goal tracking, UN Decade of Ocean Science for Sustainable Development
Thank you!

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Event Website:  https://www.amerigeoss.org/amerigeoss-events/amerigeoss-week-2019
Event Documents:  https://data.amerigeoss.org/group/amerigeoweek2019