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

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https://marinebon.github.io/p2p/
**INTERNATIONAL LINKAGES**

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

**GLOBAL OCEAN OBSERVING SYSTEM (GOOS): ESSENTIAL OCEANS**
Focus on EOVs driven by societal needs
- Global implementation

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

**DATA INTEGRATION AND DISSEMINATION**

**OTHER DATA PROVIDERS AND USERS**

- National Governments
- Non Government Organizations
- Agencies
- Institutions
- Citizen Science

**GLOBAL OCEAN OBSERVING SYSTEM (GOOS)**

**BIODIVERSITY OBSERVATION NETWORK (BON)**
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

Part of the GEO/AmeriGEO 2017-2019 Work Programme

• 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

Essential Ocean Variables (EOVs)

Essential Biodiversity Variables (EBVs)

Field data collection

Data tables

Open-source R packages

Darwin Core-Event Core

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

Integrated Publishing Toolkit

Open data

Converted

Wrangled

Formatted & translated

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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
Capacity Building – Use of satellite data

Satellite Remote Sensing: Seascapes (Biogeography)

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 Project

Welcome! We are developing a Community of Practice across the Arctic marine biodiversity and ecosystem change using field and space observations.

Ongoing biodiversity monitoring sites

Bahía de Chimbote
Perú

https://marinebon.github.io/p2p

MBON Pole to Pole Americas
Home About Members Data Events Methods

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MBON Pole to Pole Data available in OBIS
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!

@AmeriGEOSS

Event Website:  https://www.amerigeoss.org/amerigeoss-events/amerigeoss-week-2019
Event Documents:  https://data.amerigeoss.org/group/amerigeowek2019