

Observing Life in the Sea



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

MBON
Marine Biodiversity
Observation Network



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- Brazil: A. Marques (USP)
- Argentina: G. Bigatti (CONICET)
- OBIS: E. Klein (iOBIS)
- IOC-GOOS: P. Miloslavich (BioEco Panel)

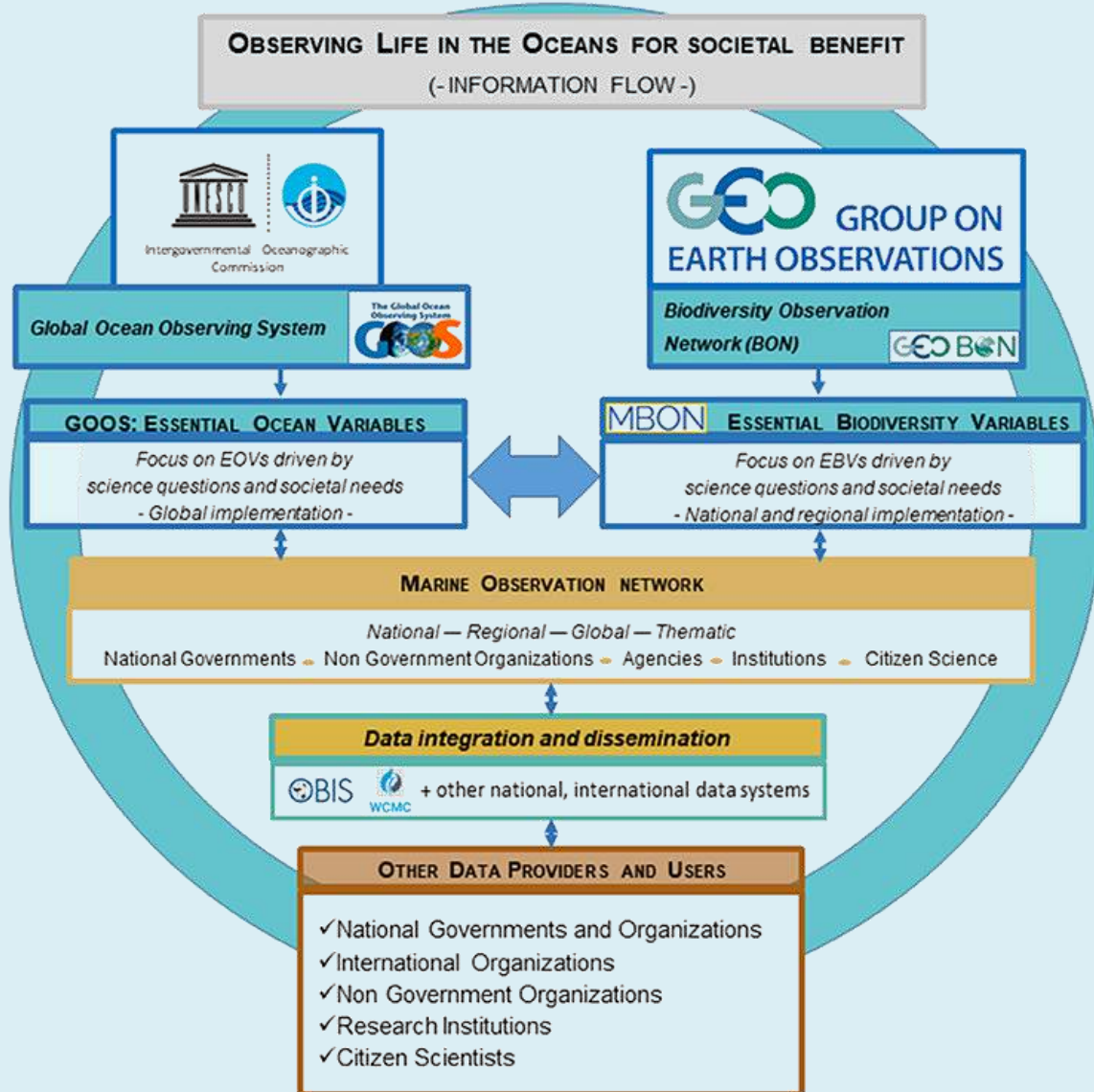
Enrique Montes (emontesh@mail.usf.edu)
University of South Florida

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

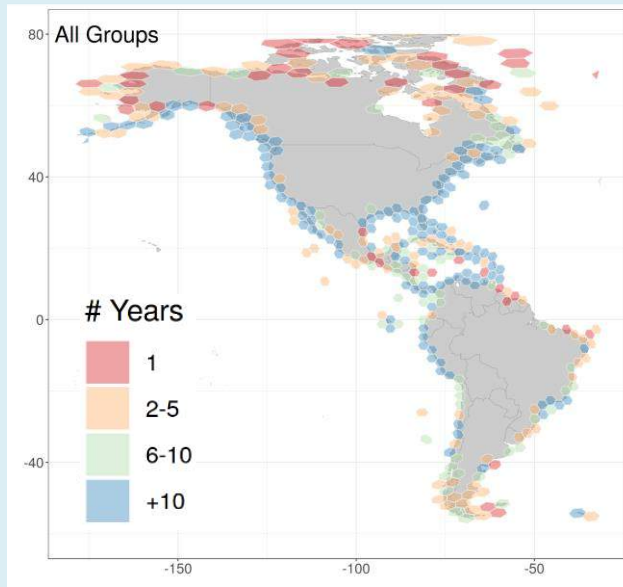
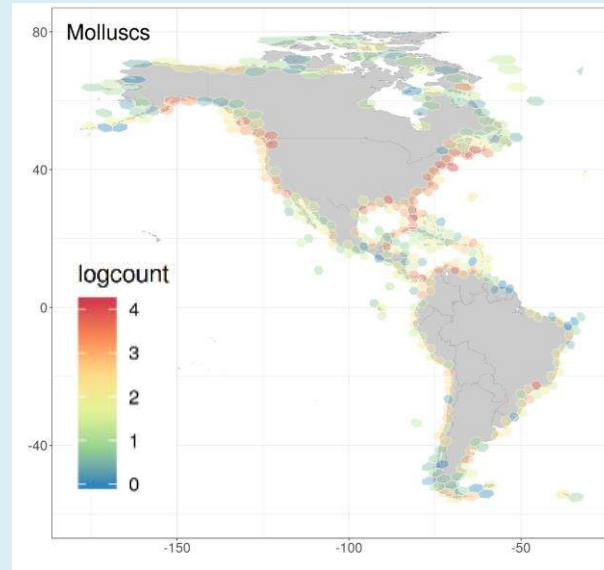
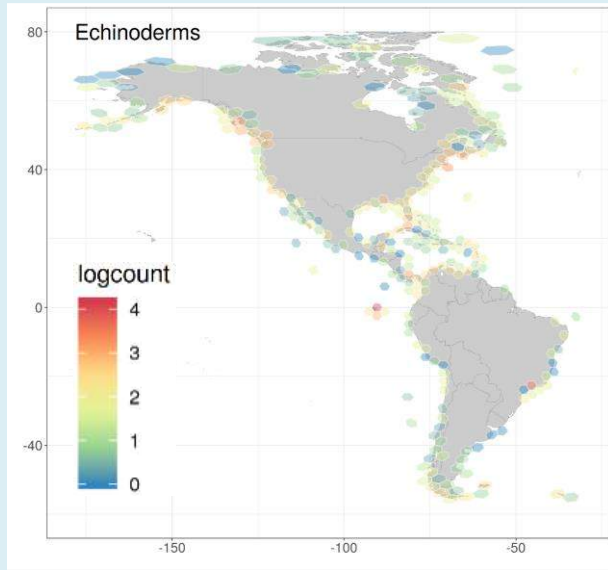


The project is supported by the National Aeronautics and Space Administration (NASA) grant 80NSSC18K0318

Marine Biodiversity Observation Network MBON



Why is MBON Pole to Pole needed?



Major biodiversity data gaps exist along the east and west coastal areas of the Americas.

Density of biodiversity records vary significantly among taxonomic groups.

Lack of time series data in critical areas.

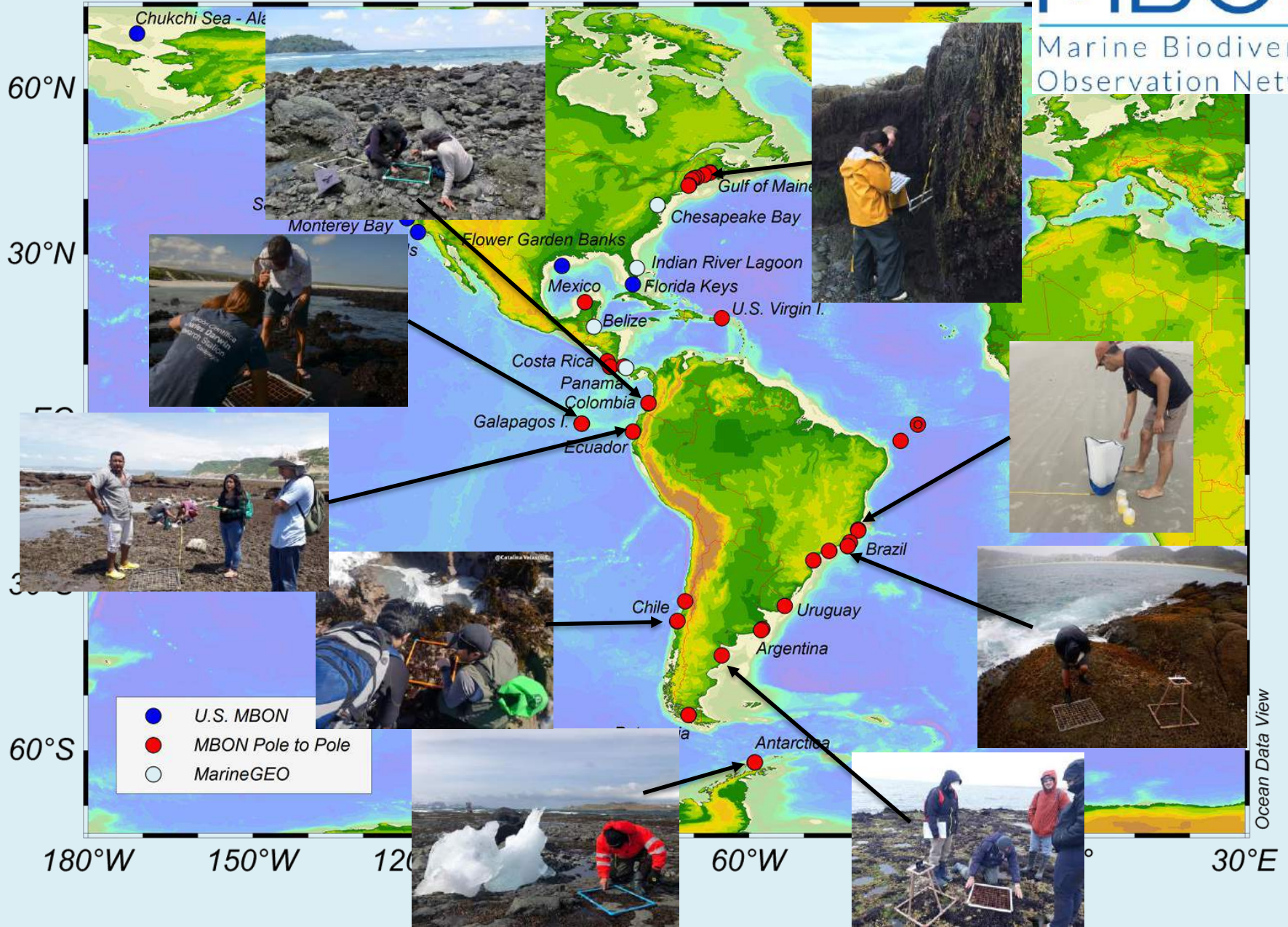
Goal: Build a regional Community of Practice for understanding and conserving life in the ocean

- 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

Development of field protocols

MBON

Marine Biodiversity
Observation Network



Capacity Building – Data workflows

Field data collection

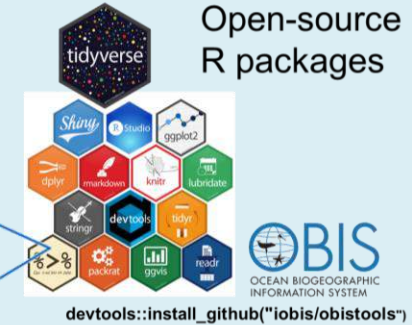


Data tables

id	basidofRecord	occurrenceID
armata	Animalia	Arthropoda
on	P2P-BRA-SSEB-T3N1-0009	0
elep	Animalia	Annelida
-45.422059	urn:lsid:marinespecie	
ation	P2P-BRA-SSEB-T3N3-0023	0
P-BRA-SSEB-TIN4-0028	0	absent
22059	urn:lsid:marinespecies.org:ta	
A	NAP2P-BRA-SSEB-TIN3-0039	
CEP3	Coelentera	NA

Converted

Wrangled



Formatted & translated

Integrated Publishing Toolkit

GBIF INTEGRATED PUBLISHING TOOLKIT TEST MODE

Summary

MBON Brazil Workshop - Sandy Beach

Latest version published on Aug 23, 2018

This resource has not been registered with GBIF

Data from sandy beach at CEBIMAR, Test sampling using Makino's protocol

[DwC-A](#)
[EML](#)
[RTF](#)
[Versions](#)
[Rights](#)

Data Records

The data in this occurrence resource has been published as a Darwin Core Archive (DwC-A), which is a standardized format for sharing biodiversity data as a set of one or more data tables. The core data table contains 43 records. 1 extension-data tables also exist. An extension record supplies extra information about a core record. The number of records in each extension data table is illustrated below.

Occurrence (core)
 ExtensibleMeasurementOfFact

This IPT archives the data and thus serves as the data repository. The data and resource metadata are available for download in the [Data Downloads](#) section. The [Getting](#) table lists other versions of the resource that have been made publicly available and allows tracking changes made to the resource over time.

Downloads

Download the latest version of this resource data as a Darwin Core Archive (DwC-A) or the resource metadata as EML or RTF:

Data as a DwC-A file [download](#) 43 records in English (4 KB) - Update frequency: unknown

Metadata as an EML file [download](#) in English (1 KB)

Metadata as an RTF file [download](#) in English (1 KB)

Versions

The table below shows only published versions of the resource that are publicly accessible.

Version	Published on	Records	Change summary	DOI handle	Last modified by
1.1	2018-08-23	43	added MBON abundance		Eduardo Klein
1.0	2018-08-23	43	None provided		Eduardo Klein

Showing 1 to 2 of 2

Darwin Core-Event Core

Essential Biodiversity Variables

EBV's



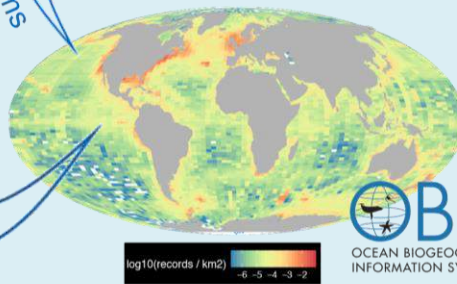
Essential Ocean Variables

EOV's



Inform

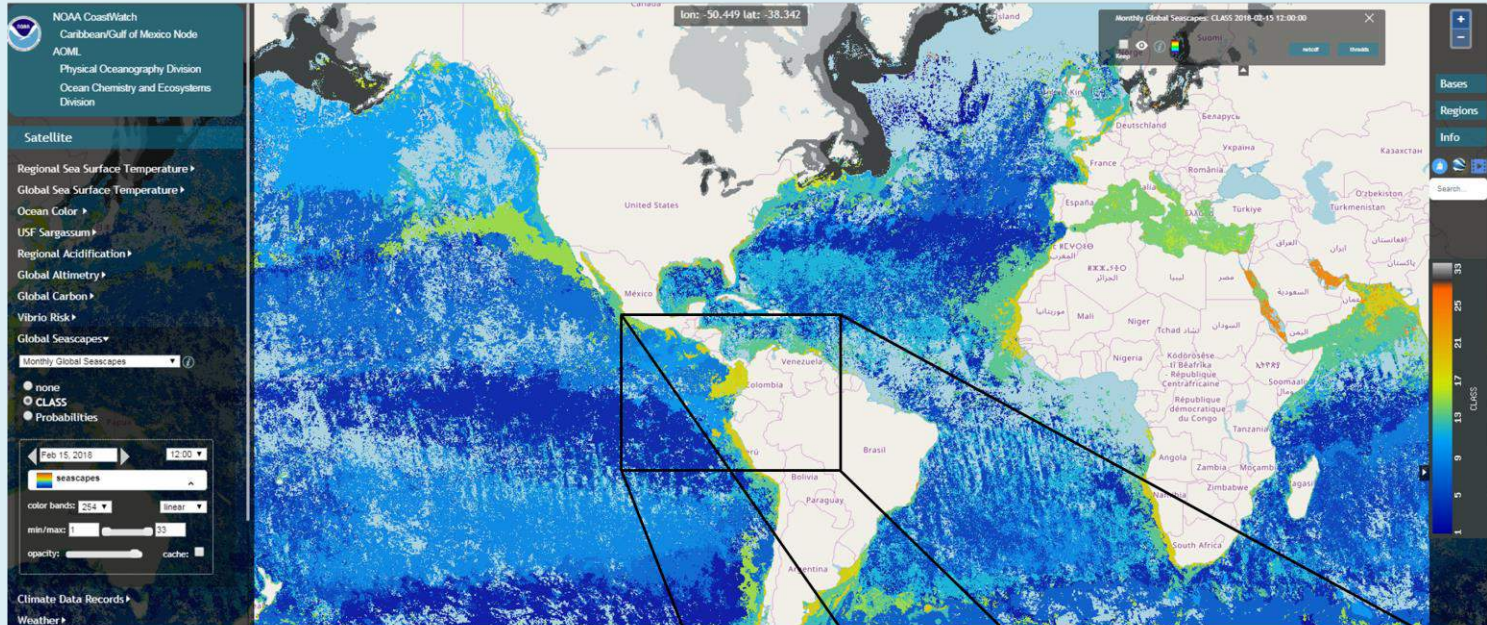
Open data



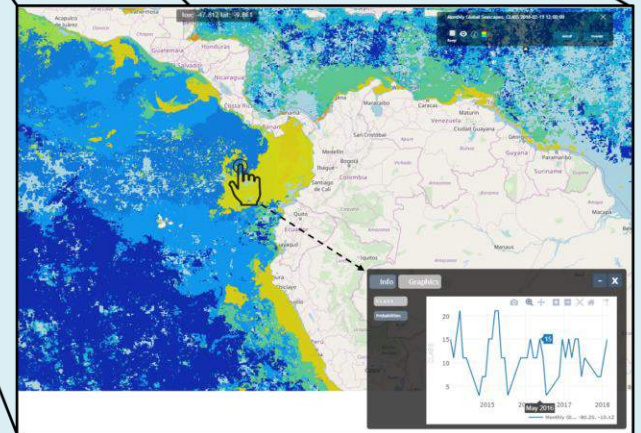
Shared

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.



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.gooscean.org/index.php?option=com_oe&task=viewEventRecord&eventID=2284

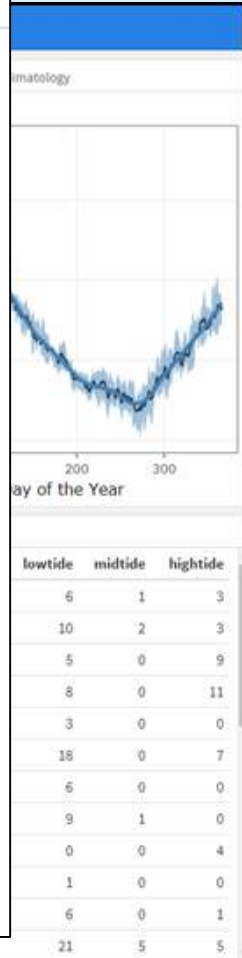
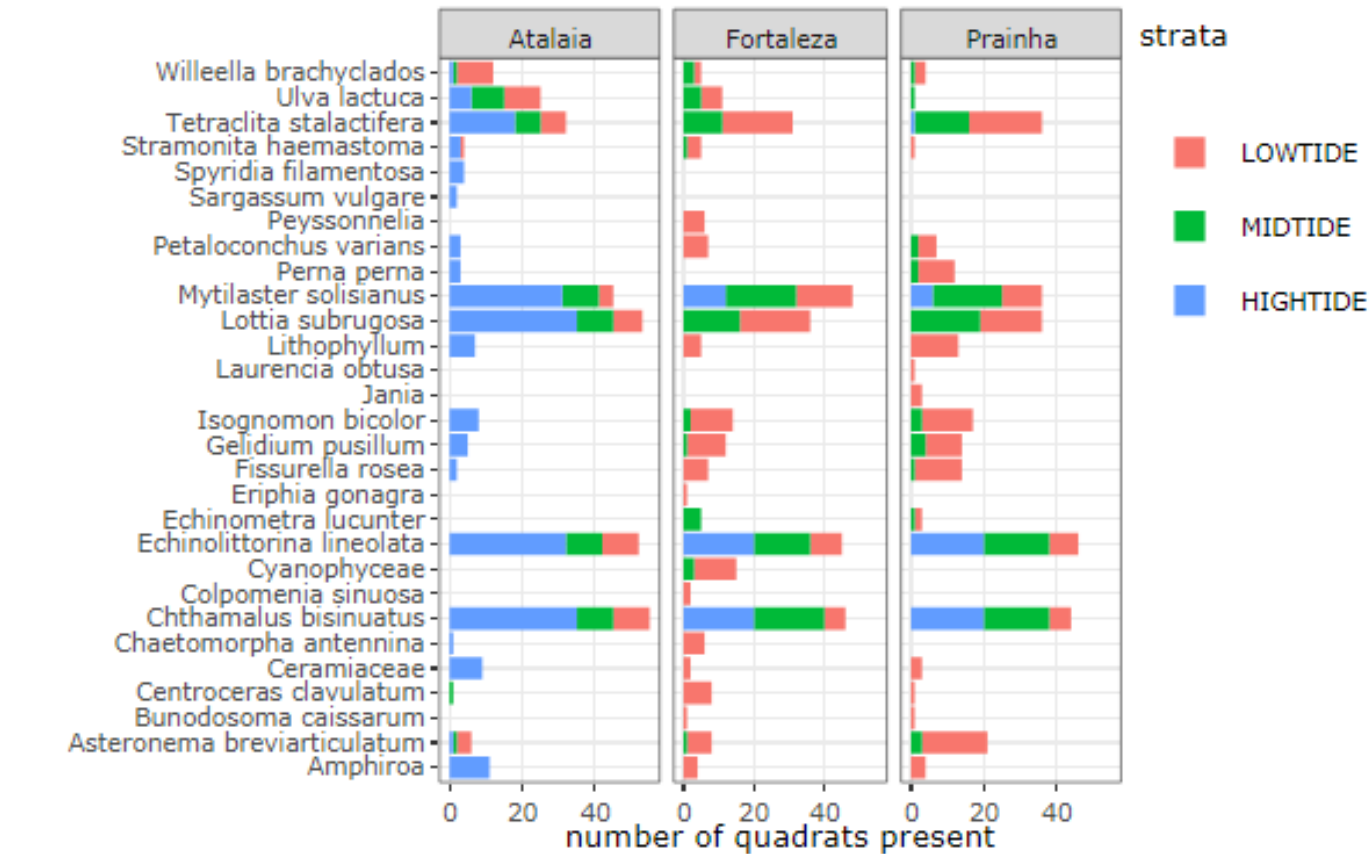
http://www.gooscean.org/index.php?option=com_oe&task=viewEventRecord&eventID=2382



Dashboard: Biodiversity survey records and satellite data

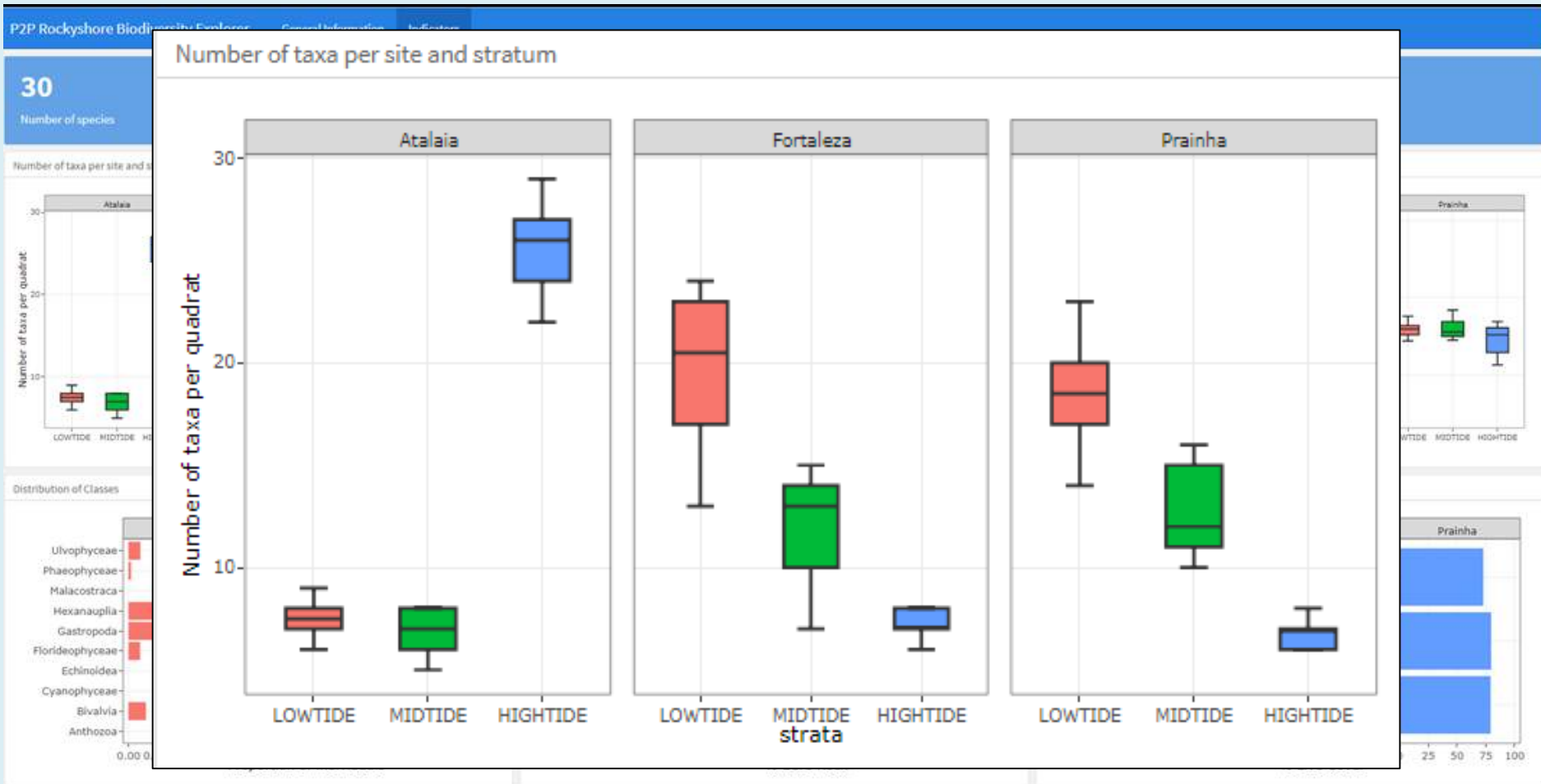
Example: Rocky shore at Arraial do Cabo, Brazil

Species frequency



Dashboard: Biodiversity indicators

Example: Rocky shore at Arraial do Cabo – Brazil



Simplifying data analysis and sharing

Analysis-ready data files

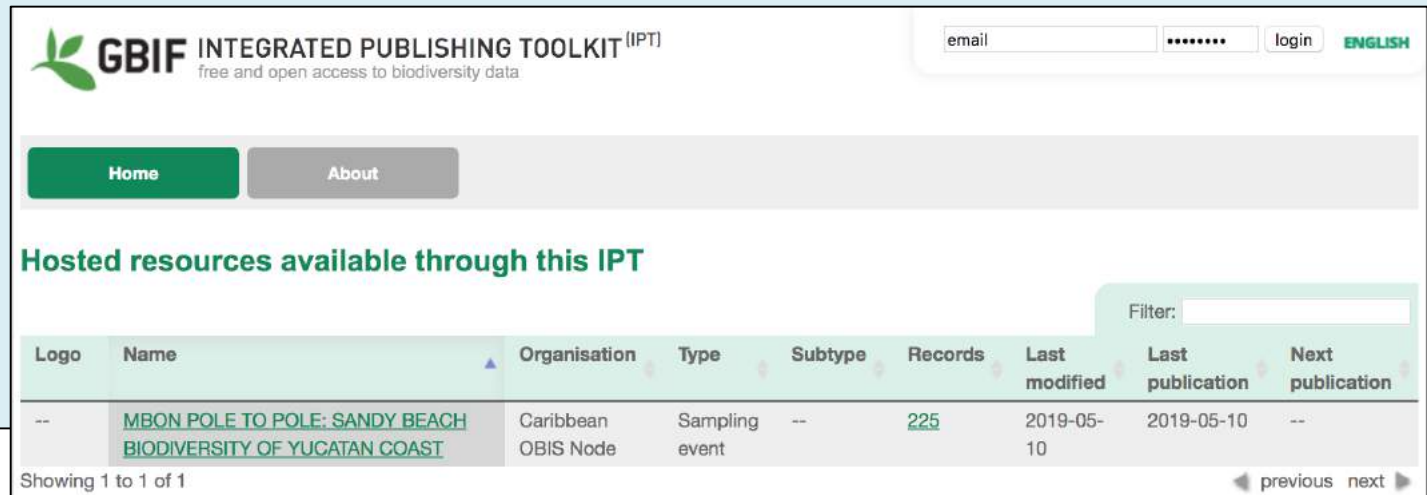


Darwin Core Archive



GLOBAL BIODIVERSITY INFORMATION FACILITY

Open data is becoming real



The screenshot shows the GBIF Integrated Publishing Toolkit (IPT) interface. At the top, there is a logo for GBIF and the text "INTEGRATED PUBLISHING TOOLKIT (IPT) free and open access to biodiversity data". To the right, there is a search bar with "email" and "login" buttons, and a language selector set to "ENGLISH". Below the header, there are two buttons: "Home" (green) and "About" (grey). The main content area is titled "Hosted resources available through this IPT". Below this title is a table with columns: Logo, Name, Organisation, Type, Subtype, Records, Last modified, Last publication, and Next publication. A "Filter:" input field is located above the table. The table contains one row with the following data: Logo: --, Name: MBON POLE TO POLE: SANDY BEACH BIODIVERSITY OF YUCATAN COAST, Organisation: Caribbean OBIS Node, Type: Sampling event, Subtype: --, Records: 225, Last modified: 2019-05-10, Last publication: 2019-05-10, Next publication: --. Below the table, it says "Showing 1 to 1 of 1" and "previous next" navigation arrows.

Logo	Name	Organisation	Type	Subtype	Records	Last modified	Last publication	Next publication
--	MBON POLE TO POLE: SANDY BEACH BIODIVERSITY OF YUCATAN COAST	Caribbean OBIS Node	Sampling event	--	225	2019-05-10	2019-05-10	--



MBON POLE TO POLE: SANDY BEACH BIODIVERSITY OF YUCATAN COAST

URL http://ipt.iobis.org/mbon/resource?r=yucatan_sandybeach2018

Installation URL <http://ipt.iobis.org/mbon/>

Node **OBIS Secretariat**

Published 2019-05-10 16:59

Updated 2019-05-15 10:14

Abstract The MBON Pole to Pole effort seeks to develop a framework for the collection, use and sharing of marine biodiversity data in a coordinated, standardized manner leveraging on existing infrastructure managed by the Global Ocean Observing System (GOOS; IOC-UNESCO), the GEO Biodiversity Observation Network (GEO BON), and the Ocean Biogeographic Information System (OBIS). The MBON Pole to Pole aims to become a key resource for decision-making and management of living resource across countries in the Americas for reporting requirements under the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), Aichi Targets of the Convention of Biological Diversity (CBD), and the UN 2030 Agenda for Sustainable Development Goals (SDGs). This collection corresponds to the species registered on sandy beaches of the State of Yucatan, Mexico, using the MBON P2P sampling protocol for sandy beaches, with funding from the LANRESC UNAM-CONACYT (Laboratorio Nacional de Resiliencia Costera, Universidad Nacional Autonoma de Mexico - CONACyT)

Citation Guerra-Castro E (2019): MBON POLE TO POLE: SANDY BEACH BIODIVERSITY OF YUCATAN COAST. v1.2. Caribbean OBIS Node. Dataset/Samplingevent. http://ipt.iobis.org/mbon/resource?r=yucatan_sandybeach2018&v=1.2

Time series data of seascape area per class at monitoring sites

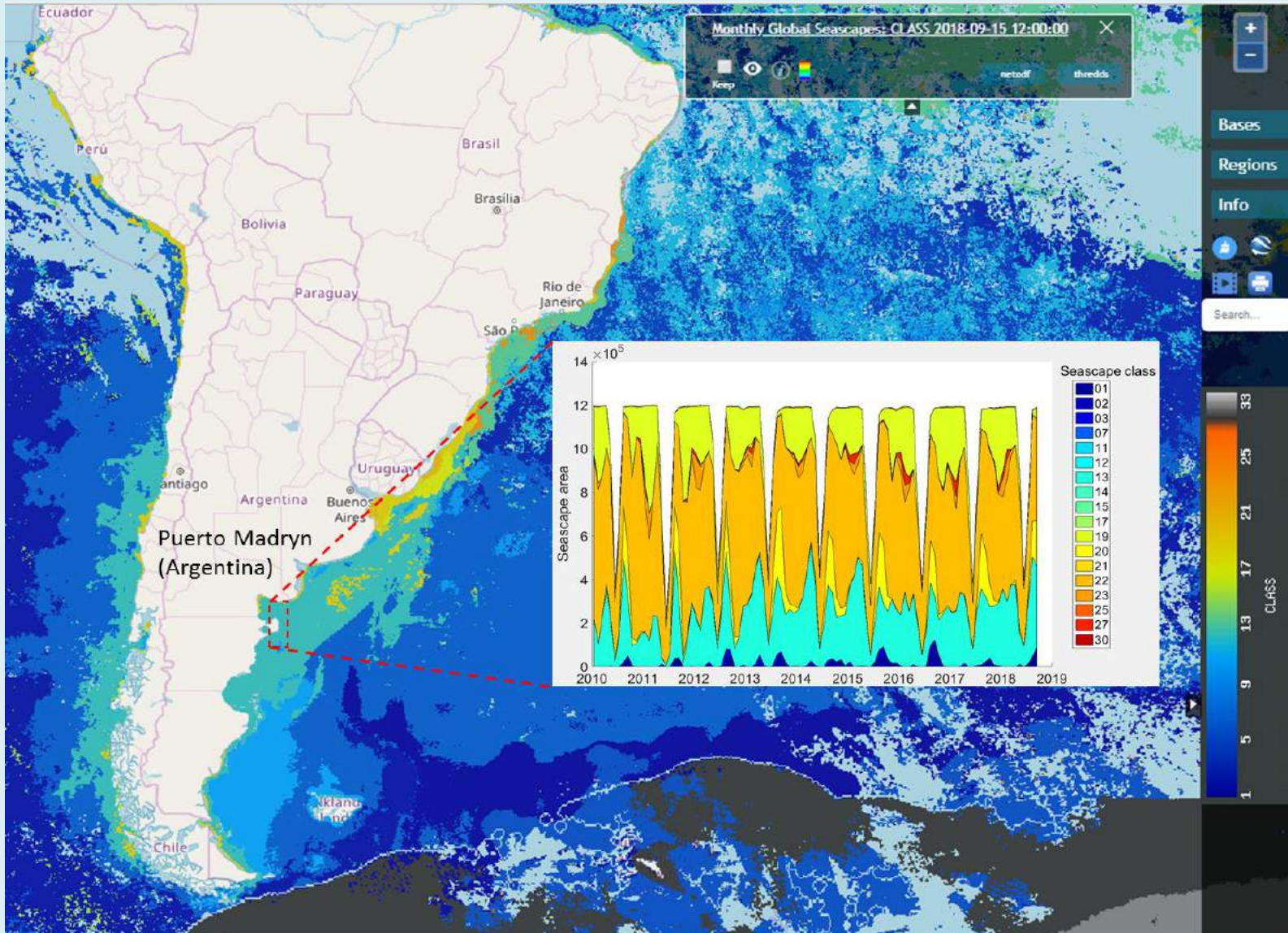
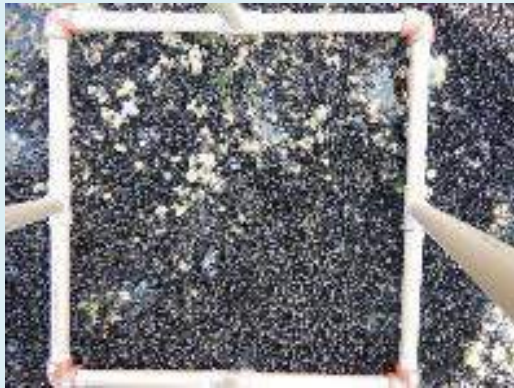


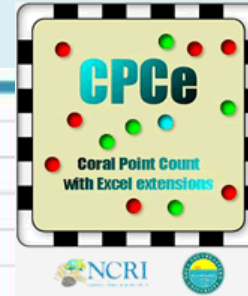
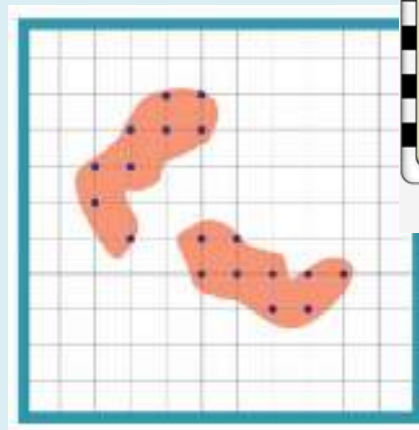
Photo-quadrat versus visual intercept records

Photoquadrats



VS

visual



nMDS

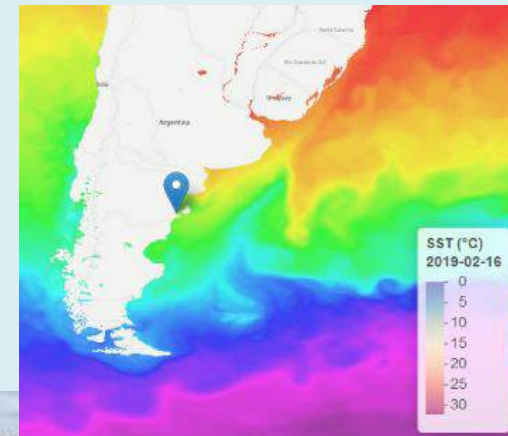
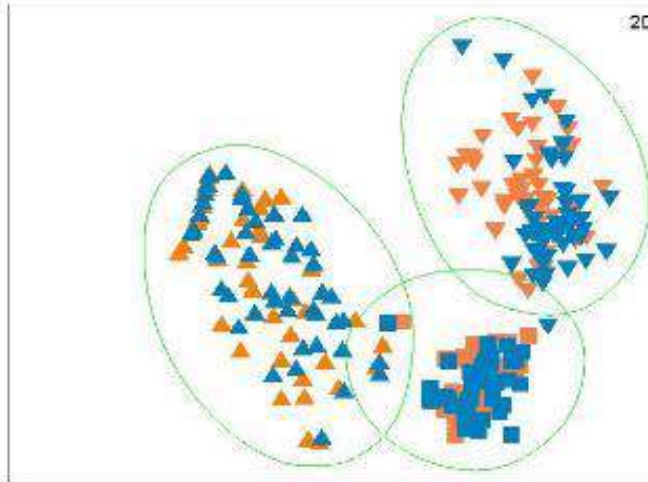
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Resemblance: S17 Bray Curtis similarity (+d)

2D Stress: 0.14

Method Tidal Height

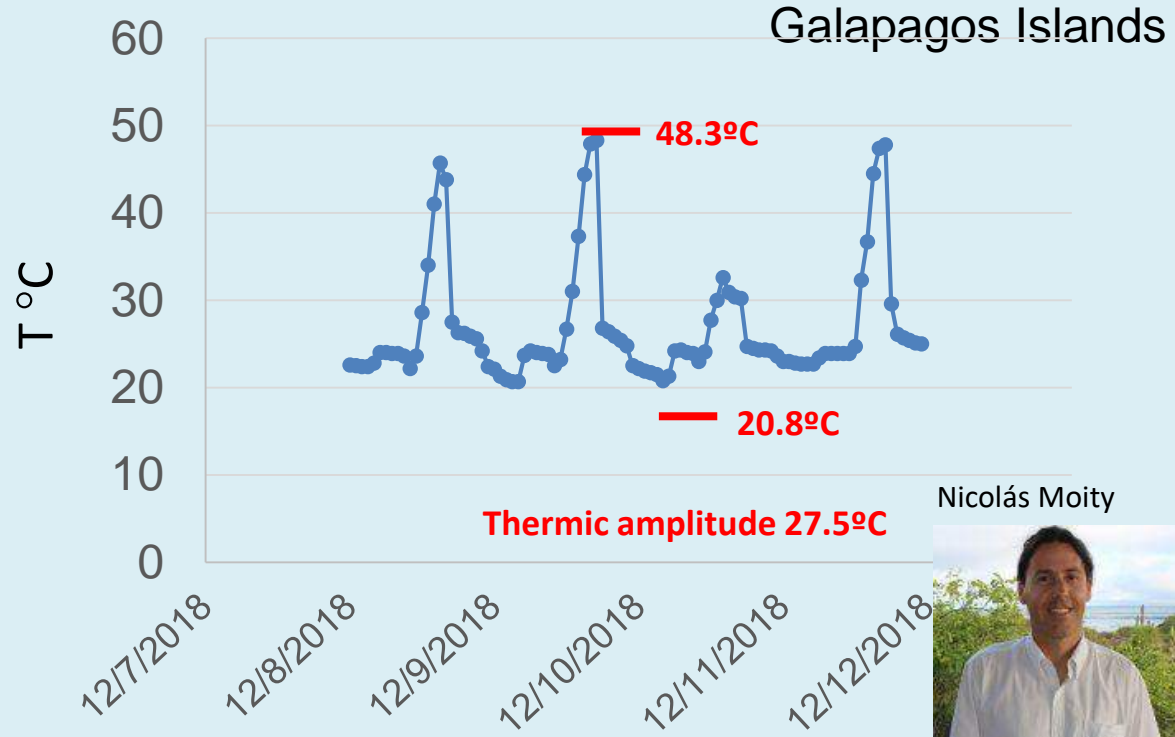
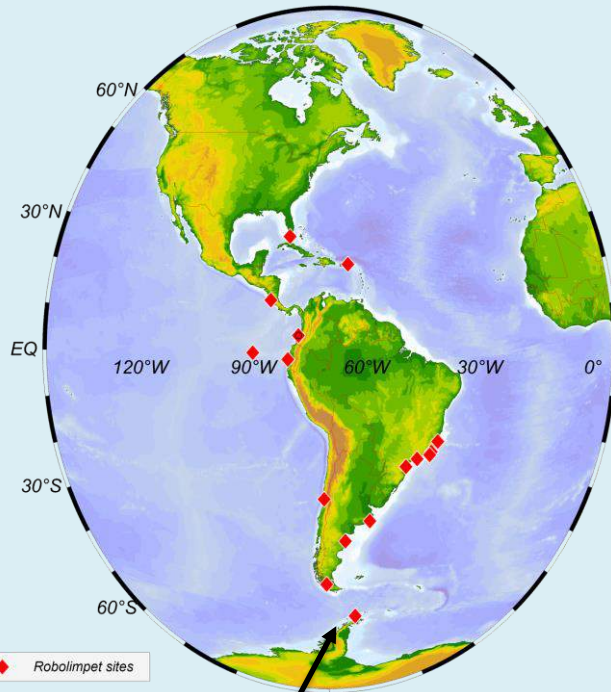
- ▲ PHOTOHIGH
- PHOTOMID
- ▼ PHOTLOW
- ▲ QUADRATHIGH
- QUADRATMID
- ▼ QUADRATLOW

Similarity
42



Gregorio Bigatti – IBIOMAR-CONICET

EnvLoggers network (temperature)



Antarctica



Erasmus Macaya



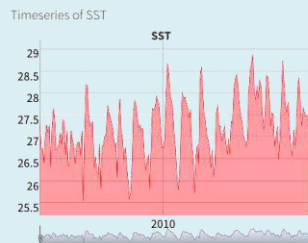
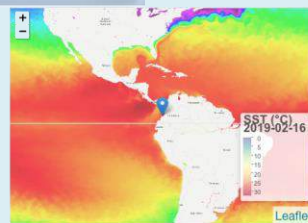
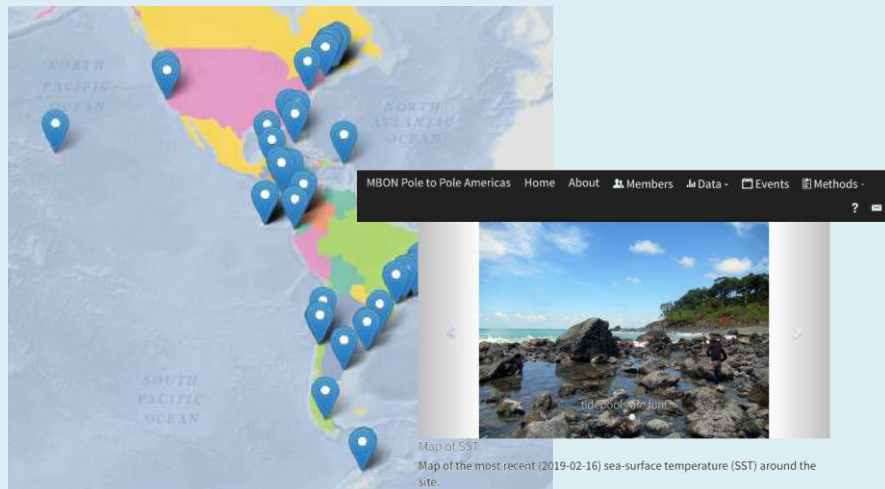
MBON Pole to Pole species catalogs on iNaturalist

The screenshot shows the iNaturalist website interface for the 'Rocky Shore Species of the Americas' catalog. At the top, the iNaturalist logo and navigation menu are visible. Below the header, a yellow banner asks 'Would you prefer to view common names used in the United States?' with 'Yes' and 'No' buttons. The main title 'Rocky Shore Species of the Americas' is prominently displayed, along with a 'Print' button. A descriptive paragraph explains that this is a curated list of species from the Marine Biodiversity Observation Network Pole to Pole project, funded by NASA and NOAA. On the left, a 'TAXONOMY' sidebar lists categories: Animals (122), Kelp, Diatoms, and Algae (14), and Plants (31). The main content area features a search bar and a grid of 12 species cards. Each card includes a photograph of the species and its scientific name: *Acanthais brevidentata*¹, *Acanthina unicolor*², *Acanthopora spicifera*³, *Acanthopleura echinata*⁴, *Actinostella thascuifera*⁵, *Adenocystis utricularis*⁶, *Ahnetoposis darvillei*, *Ahnetoposis furcellata*, *Anadyrensis stollata*¹, and others. The interface includes 'Sort', 'Grid', and 'Card' view options.

The screenshot shows the iNaturalist website interface for the 'Sandy Beach Species of the Americas' catalog. The layout is similar to the 'Rocky Shore' page, with the iNaturalist logo and navigation menu at the top. A yellow banner asks 'Would you prefer to view common names used in the United States?'. The main title 'Sandy Beach Species of the Americas' is displayed, along with a 'Print' button. A descriptive paragraph mentions the Marine Biodiversity Observation Network Pole to Pole project, funded by NASA and NOAA. The 'TAXONOMY' sidebar lists categories: Annelids (2), Arthropods (11), and Molluscs (6). The main content area features a search bar and a grid of 12 species cards, each with a photograph and scientific name: *Alaba incerta*, *Aluga holmasi*, *Common Caribbean Donax*¹ (*Donax demicatus*), *Pacific Sand Crab*² (*Emerita auariga*), *Puerto Rican Sand Crab*³ (*Emerita portoricensis*), *Atlantic Sand Crab*⁴ (*Emerita talpoides*), *Ercinolana braziliensis*, *Ercinolana mayana*, *Lysanopsis alba*⁵, *Melicerus nitidum*, *Mesorchestia carpentieri* (*meliceroides*), and *Biting Fiddler Crab*¹ (*Mesocricus*). The interface includes 'Sort', 'Grid', and 'Card' view options.

Thank you!

Website



Follow us @mbonpoletopole

