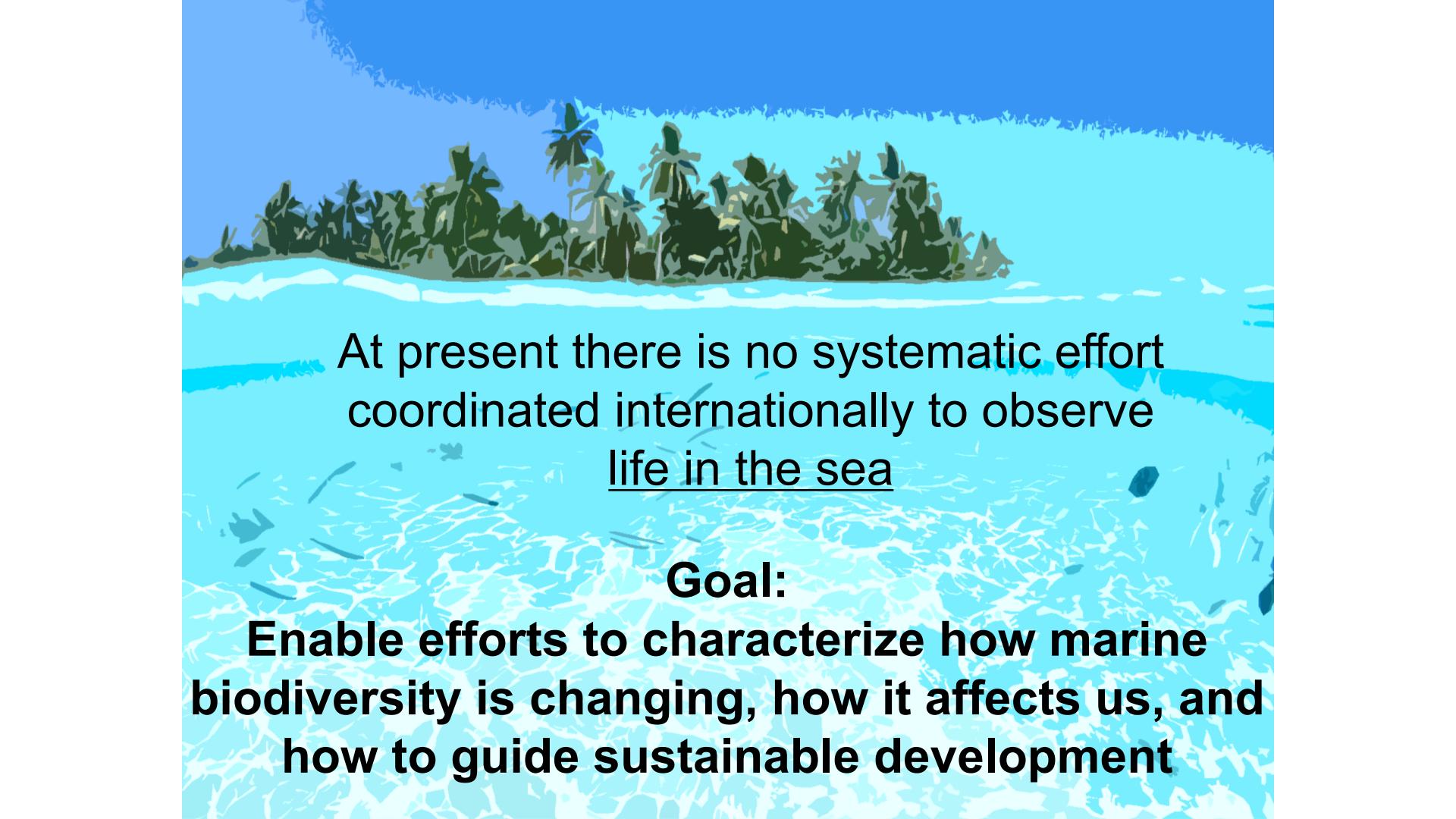




Marine Life 2030:
Building global knowledge of marine life for local action



At present there is no systematic effort
coordinated internationally to observe
life in the sea

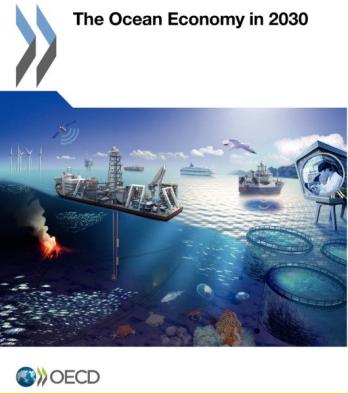
Goal:

**Enable efforts to characterize how marine
biodiversity is changing, how it affects us, and
how to guide sustainable development**

Conversation topics:

- Collaboration to advance data collection and forecasting in a co-design framework
- Who requires which biological data?
- Identifying, recommending observing approaches and technologies:
 - Minimal observing requirements: local, regional, global?
 - Requirements for interoperability
 - data management/sharing
- Drivers:
 - sustainable development, conservation
 - Need to measure change and to forecast





Organisation for Economic Co-operation and Development (OECD)

OECD 2016
The Ocean Economy in 2030
DOI:10.1787/9789264251724-en

I. AN OVERVIEW OF THE OCEAN ECONOMY: ASSESSMENTS AND RECOMMENDATIONS – 23

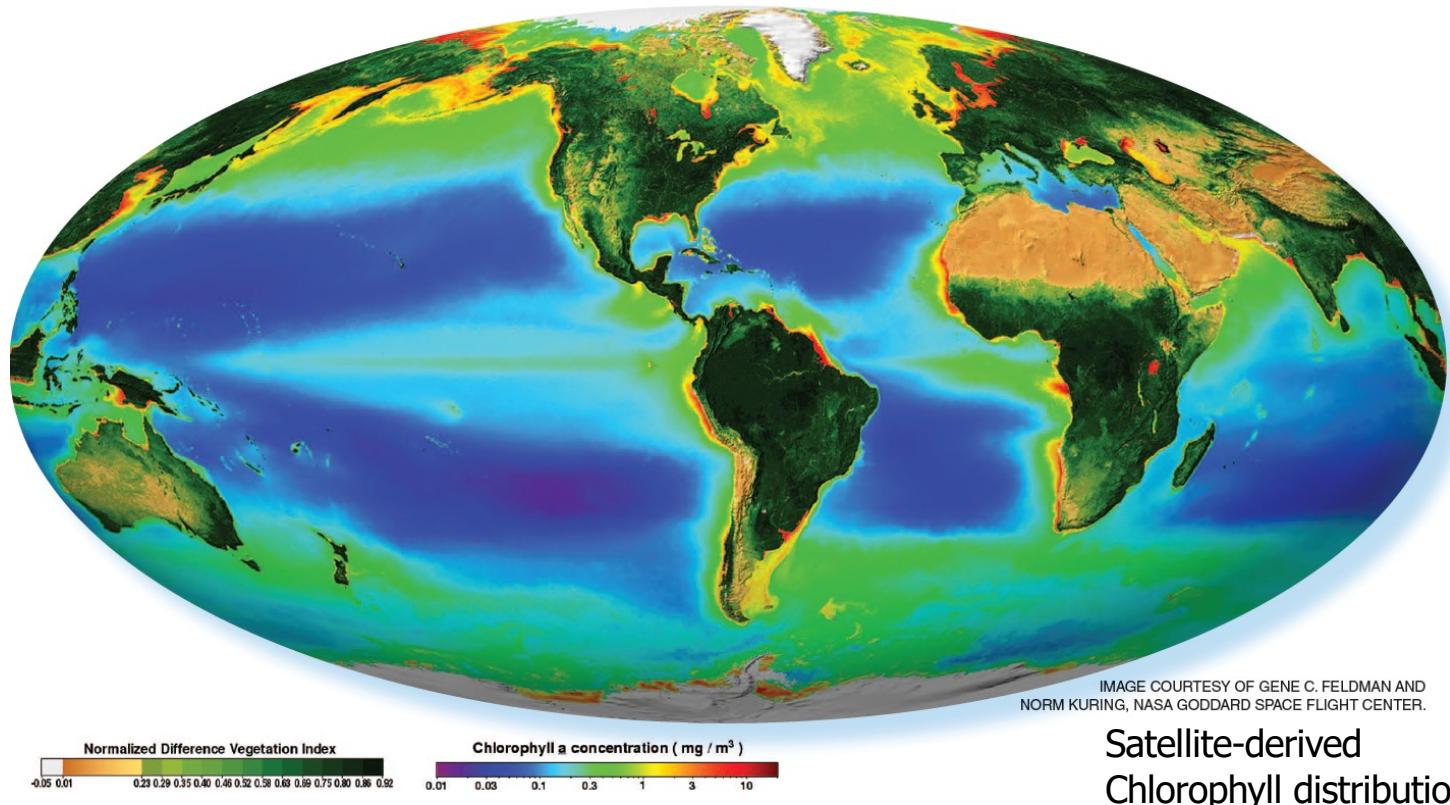
Table 1.1. Established and emerging ocean-based industries

Established	Emerging
Capture fisheries	Marine aquaculture
Seafood processing	Deep- and ultra-deep water oil and gas
Shipping	Offshore wind energy
Ports	Ocean renewable energy
Shipbuilding and repair	Marine and seabed mining
Offshore oil and gas (shallow water)	Maritime safety and surveillance
Marine manufacturing and construction	Marine biotechnology
Maritime and coastal tourism	High-tech marine products and services
Marine business services	Others
Marine R&D and education	
Dredging	

US\$ 2010:
1.5-2.5 trillion

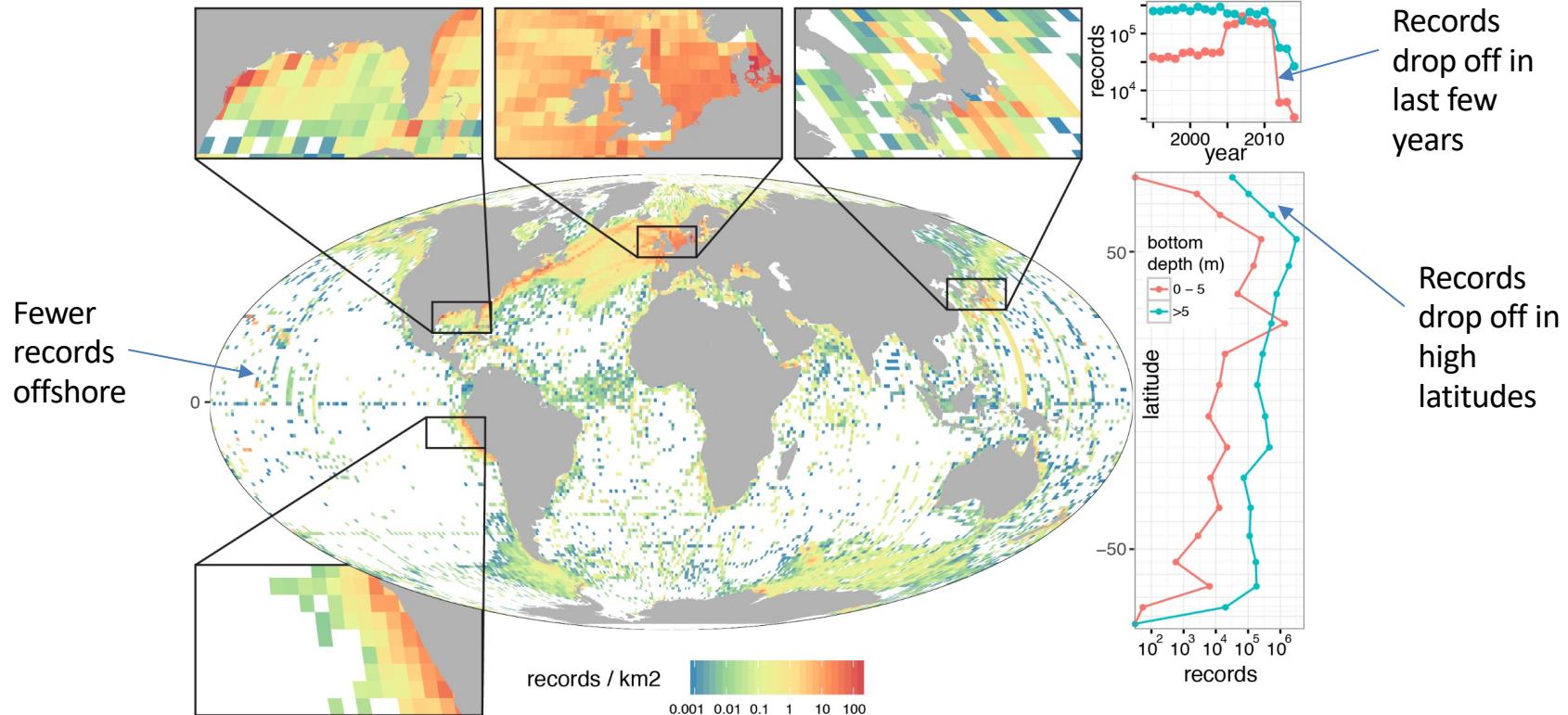
2030 Ocean economy:
US\$ >3 trillion

Our best sustained synoptic global biological observations look like this today. But, how do we move ‘beyond chlorophyll’?



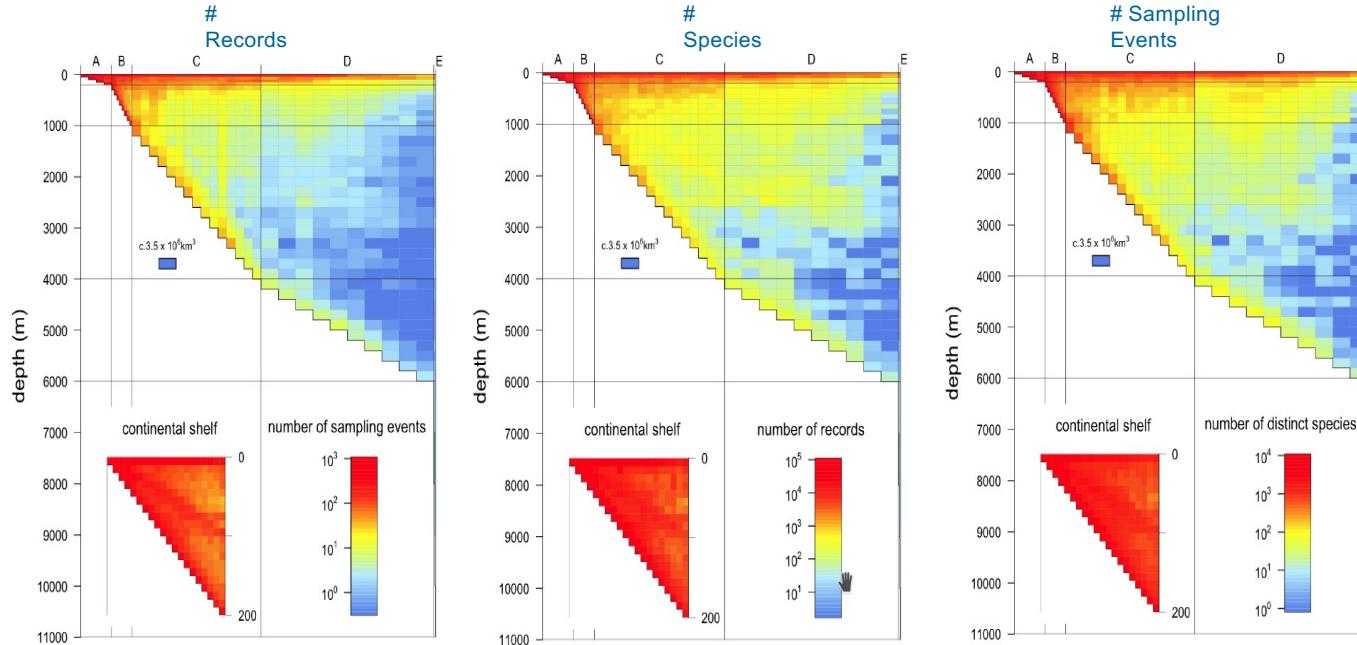
OBIS – THE Ocean Biodiversity Information System

The reality: in situ surface ocean records of biodiversity
in over 100 years



We need better coverage and baselines to evaluate changing diversity, abundances, ranges, and connectivity

OBIS – THE Ocean Biodiversity Information System



2/3 of our knowledge is in the upper layer (5% of the ocean)



Vision and Goal

Develop a community of practice to understand changes in marine biodiversity

Focus:

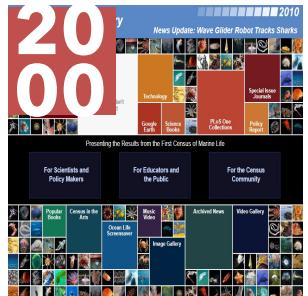
- “Ocean Observing Systems” and networks
- Coastal zones, Exclusive Economic Zones, High Seas
- Marine Protected Areas
- Community resilience and the blue economy



GOOS



IOC, WMO, UNEP, ISC
Deliver information essential
for sustainable development,
safety, wellbeing and
prosperity

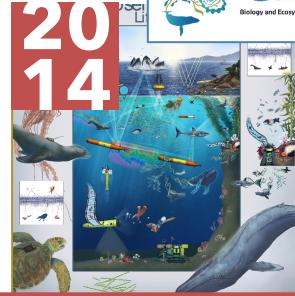


CoML

A DECADE OF DISCOVERY
2,700 scientists, 80+ nations
540 expeditions
US\$ 650 million (AP Sloan Fn)
6,000+ potential new species
47 million distribution records



Marine Biodiversity
Observation Network



ML2030

Partnership: MBON, GOOS/IOOS, OBIS, WCMC, others. **Vision:** Transform observation and forecasting of marine life for the benefit of all people

OBON, OARS, SMARTNET, DOOS, GOOS, OceanPredict, ForeSea, SUPREME, ECOPS, Challenger150, Maritime Acoustic Environment



GOOS Biology and Ecosystems





GOOS
Biology and Ecosystems Panel

Biology and Ecosystems Essential Ocean Variables (EOVs)

FUNCTIONAL GROUPS



Microbes

Diversity and Biomass

Phytoplankton

Diversity and Biomass

Zooplankton

Diversity and Biomass

Benthic invertebrates

Distribution and Abundance

Fish

Distribution and Abundance

Turtle-Bird-Mammal

Distribution and Abundance

HABITAT STATE



Hard Coral

Cover and Composition



Macroalgae

Cover and composition



Seagrass

Cover and composition



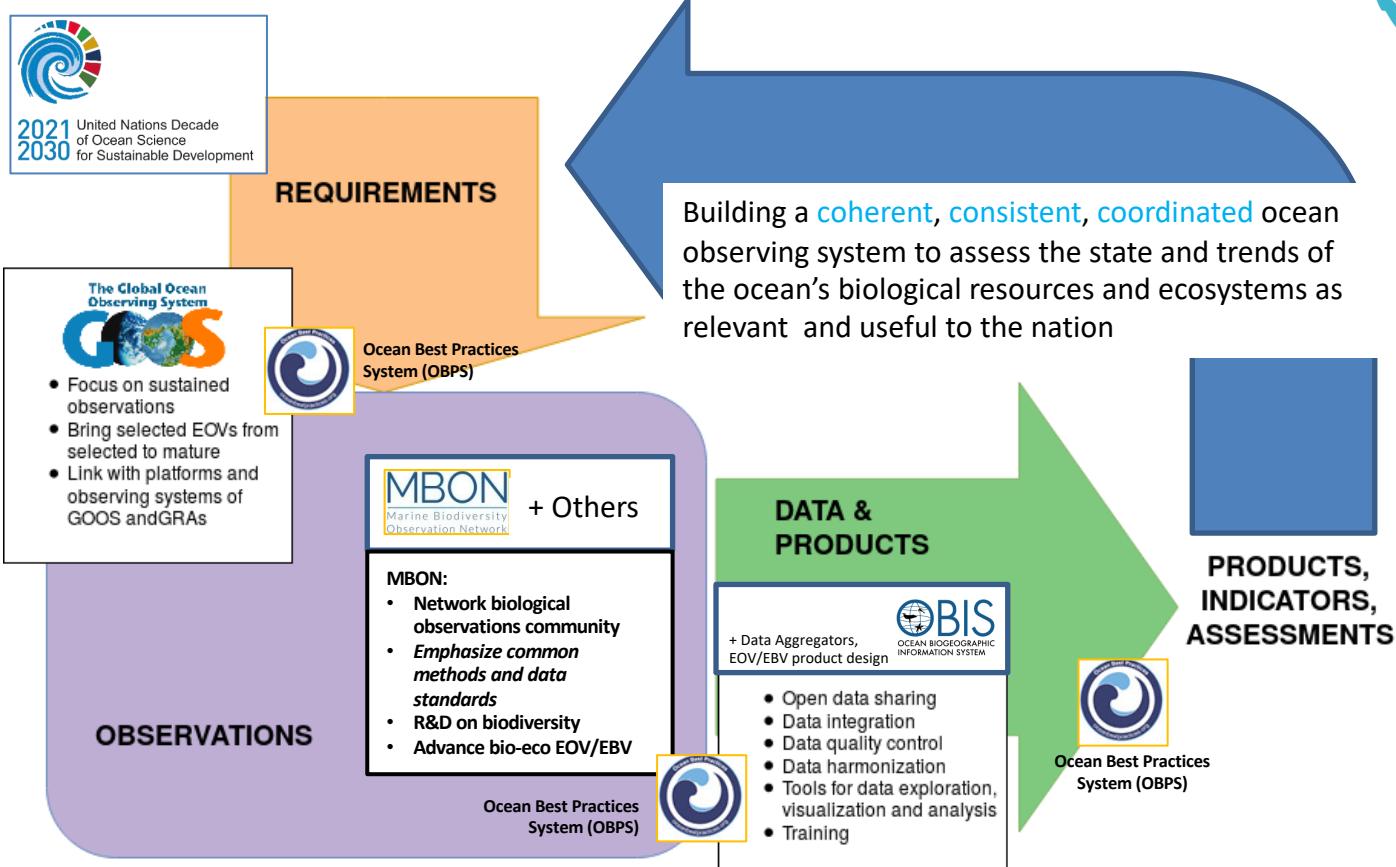
Mangrove

Cover and composition

GOOS Bio-Eco EOV Specification Sheets: minimal modeling requirements

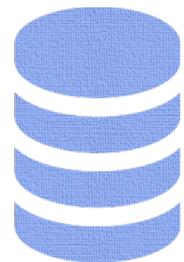
Biological GOOS Framework for Ocean Observing in the Ocean Decade

= Marine Life 2030

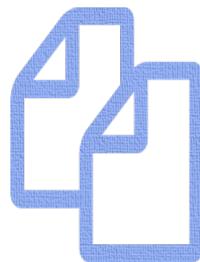


<http://iobis.org/2016/12/15/goosgeobonobis/>

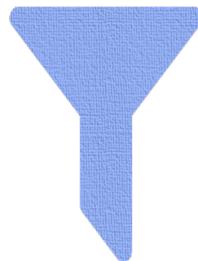
https://marinebon.org/assets/Marine_Life_2030_UN_Ocean_Decade_request_for_endorsement_20210115.pdf



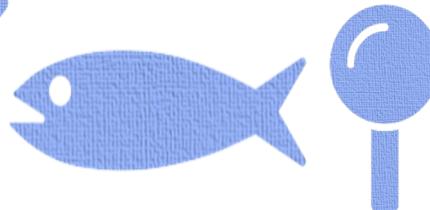
Databases



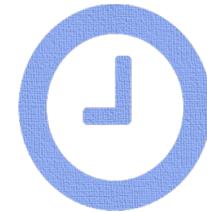
Datasets



Filter: Taxonomy



Space

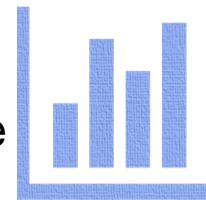


Time

Produce



Maps

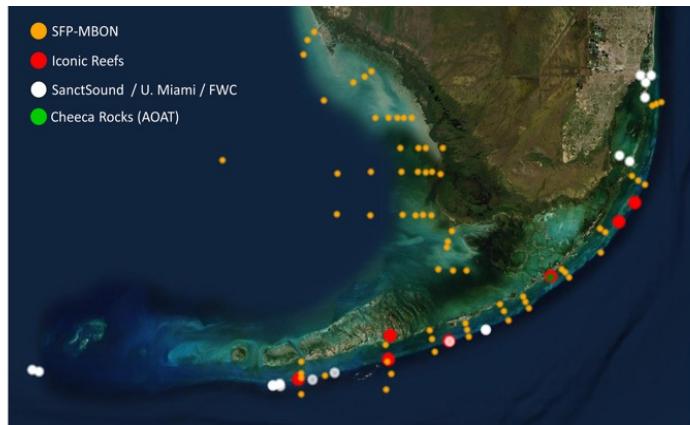


Abundance

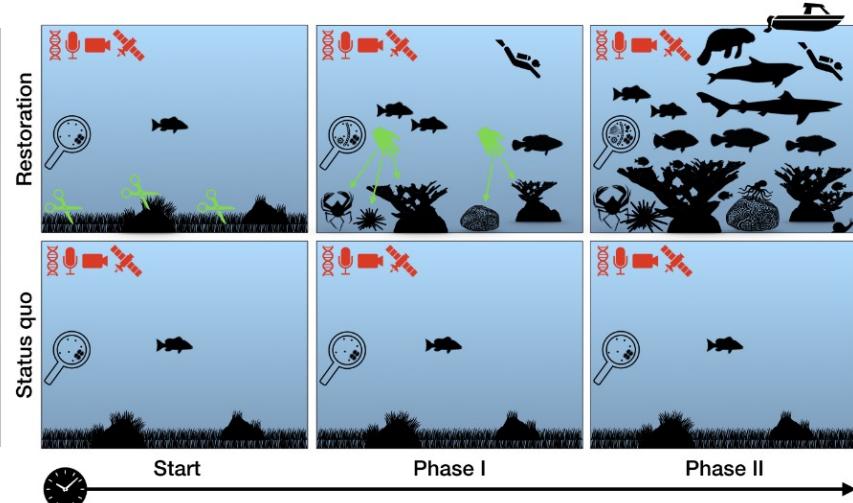


Trends

Example: Multiple EOVS needed to monitoring effectiveness of restoration



Florida Keys National Marine Sanctuary
NOAA Iconic Reefs (red circles)



Restoration Goal: increase biodiversity, health, resiliency, boating, diving, and other reef uses



Monitoring: eDNA, acoustic, BRUVS, satellite seascapes (red)

Restoration (top row) and control sites (bottom row)

Marine Life 2030

<https://marinelife2030.org/>

Contacts: G Canónico / gabrielle.canonico@noaa.gov,
F Muller-Karger / carib@usf.edu
L Pendleton / linwood.pendleton@oceankan.org



Recognize our dependence on diversity of life

Transform observation and forecasting of marine life for the benefit of all people



Goals:

- Connect science and user needs
- Build technical capacity (bio-eco Essential Ocean Variables/EOVs; Essential Biodiversity Variables)
- Standardized, coordinated marine life monitoring and forecasting (std. methods and data formats)
- Broaden participation and mainstream applications of biodiversity information

Stakeholders:

- Marine Life 2030 and MBON are open networks

Engagement Strategy:

- Co-design for implementation, management, financing
- Indicators, standards, technologies, applications

Volunteer for ML2030 Ocean Decade Actions



ML 2030 Sign-Up for Tasks and Activities

We need your help leading key aspects of Marine Life 2030. Please use this short form to tell us where you can help. We need leaders! So, please only commit where you think you can really take a lead and invest time. (If you cannot lead right now, don't worry. We will come back again to ask for help down the road.)

Personal data will be processed according to our Privacy Policy. By entering your email address you agree to the use of your data and your voluntary submission of the information in this form. Your email address is required to continue with this form.

Draft restored

* Required

Email *

Your email

Please sign-up for the activity where you can take a leadership role:

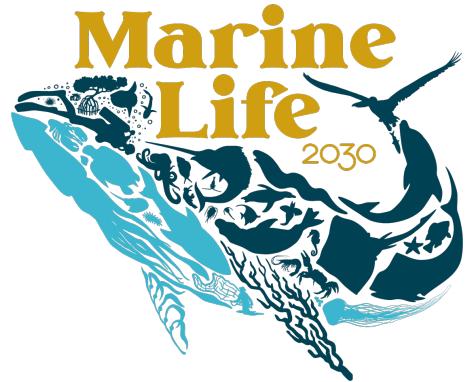
- Stakeholder Engagement
- Capacity Development
- Best practices and interoperability
- Fundraising
- Governance and Cross-Programme Coordination
- Developing co-designed projects for Decade Endorsement
- Other: _____

[Clear selection](#)

[ML 2030 Sign-Up for Tasks and Activities \(google.com\)](#)

See website: <http://marinelife2030.org>

Thank You!



CONTACT:

marinelife2030@gmail.com

#MarineLife2030

Websites: <https://marinelife2030.org>

<http://marinebon.org>