United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

OBIS OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

The Global Ocean Observing System GOOS

Biology & Ecosystems

EMODNET, 21 Oct 2015

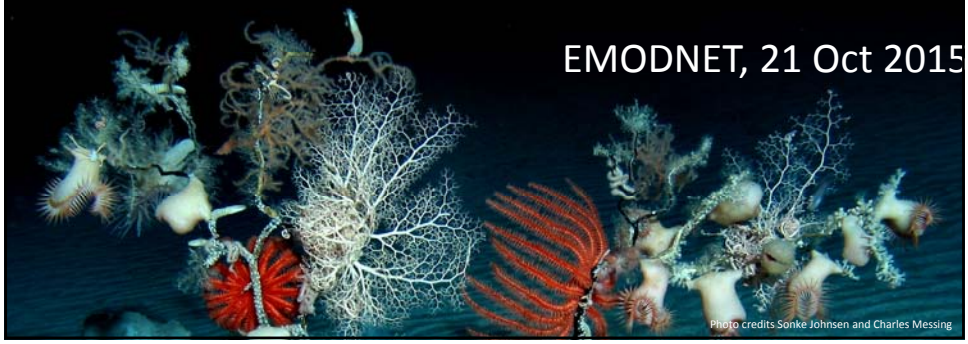


Photo credits Sonke Johnsen and Charles Messing

The IOC of UNESCO:

Building knowledge and capacity for sustainable ocean management

– Established in 1960

- 147 Member States
- Functional autonomy in UNESCO
- UN focal point for ocean science, ocean observations and services, data and information exchange and capacity building
- UNCLOS: IOC = competent international organization for Marine Scientific Research and Transfer of Marine Technology

Strong scientific understanding and systematic observations of the changing world ocean climate and ecosystems shall underpin sustainable development and global governance for a healthy ocean, and global, regional and national management of risks and opportunities from the ocean.

MoU UNESCO & EU

On 8 October 2012, UNESCO and the EU signed a Memorandum of Understanding with a view to:

enhancing the dialogue, strengthening cooperation and fostering an exchange of best practices.

A. Principles and Objectives

-The two Sides promote the integrated management of oceans

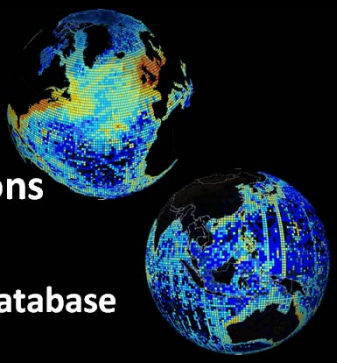
C. Areas for dialogue and cooperation

-Integrated maritime policy

-Science, technology and innovation, including capacity building

Ocean Biogeographic Information System

OBIS
OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM



45,000,000 species **observations**

114,000 marine species

1,900 databases in **1** central **global database**

500 data providers, **56** countries

1,000 papers have cited OBIS

Science (9)

nature (4)

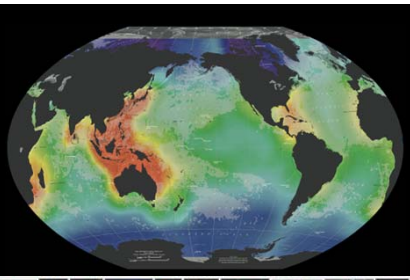
Flanders State of the Art

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

UNGA (A/RES/69/245) – recognizes IOC-UNESCO's OBIS contribution to Marine Sciences

Census of Marine Life 2000 - 2010



OBIS was established as the data repository and information dissemination system for CoML

IODE since 1961

Office in Flanders (Belgium) since 2005

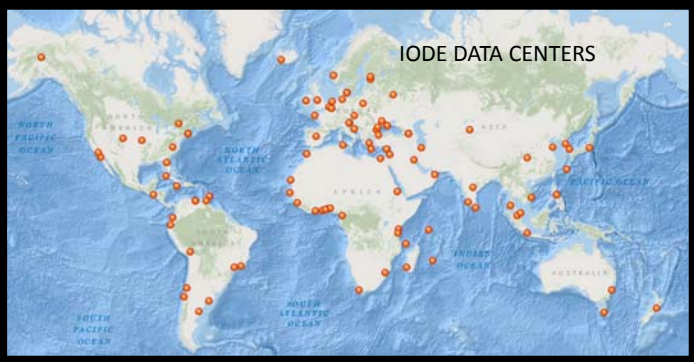
OBIS as a project of IODE since 2011

IODE VISION

a comprehensive and integrated ocean data and information system, serving the broad and diverse needs of IOC Member States, for both routine and scientific use

IODE - Projects

- OceanTeacher
- OceanDataPortal
- OceanDataPractices
- OceanExpert
- OceanDocs
- OBIS
- HAEDAT
- ICAN
- GOSUD
- GTSPP
- GODAR
- QMF
- WOD
- …



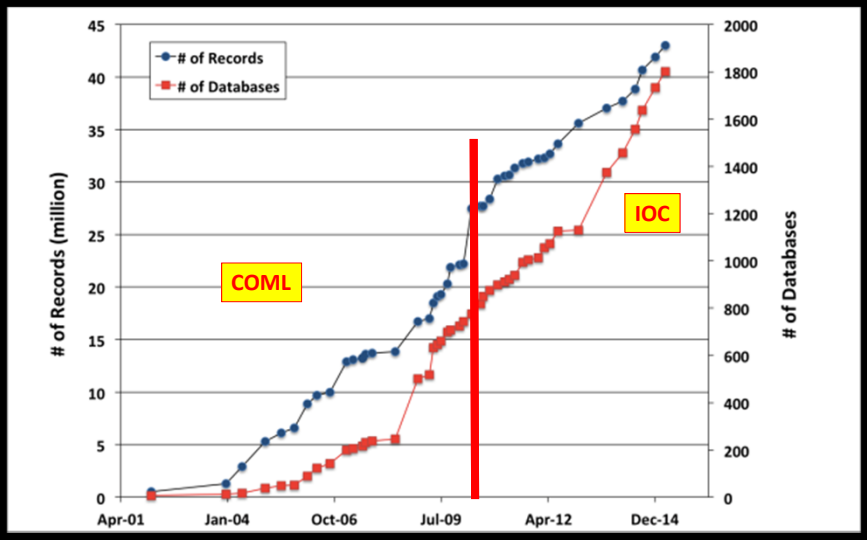
Overall goals

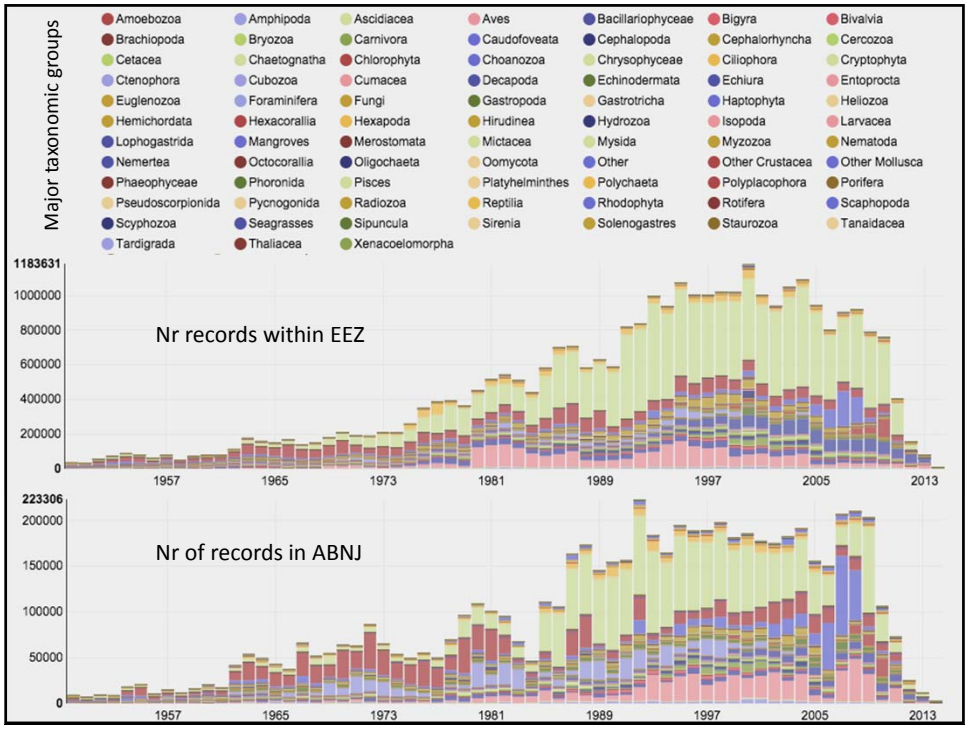
OBIS has a mandate under the United Nations (UNESCO-IOC), to *contribute to the protection of marine ecosystems by assisting in identifying marine biodiversity hotspots and large-scale ecological patterns*, in all ocean basins.

Setting a baseline for marine biodiversity assessment and monitoring

Build and maintain a global alliance that collaborates with scientific communities to facilitate free and open access to, and application of, biodiversity and biogeographic data and information on marine life.

Growth of data in OBIS





Supporting Ocean Assessments

OBIS
OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

Global Ocean **Biodiversity Indicators**

UN World Ocean Assessment

ipbes

TWAP

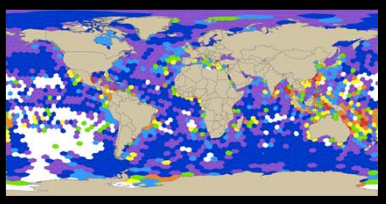
CBD

With support from

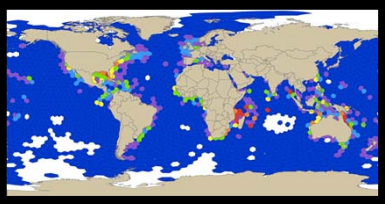
Flanders
State of the Art

Global Ocean Biodiversity Indicators

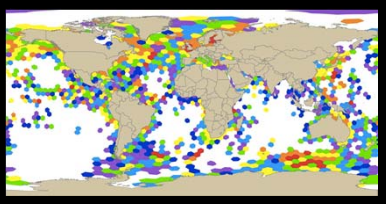
Where are the biodiversity hotspots?



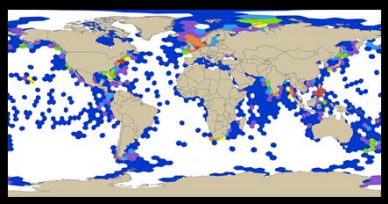
Where are the most threatened species?

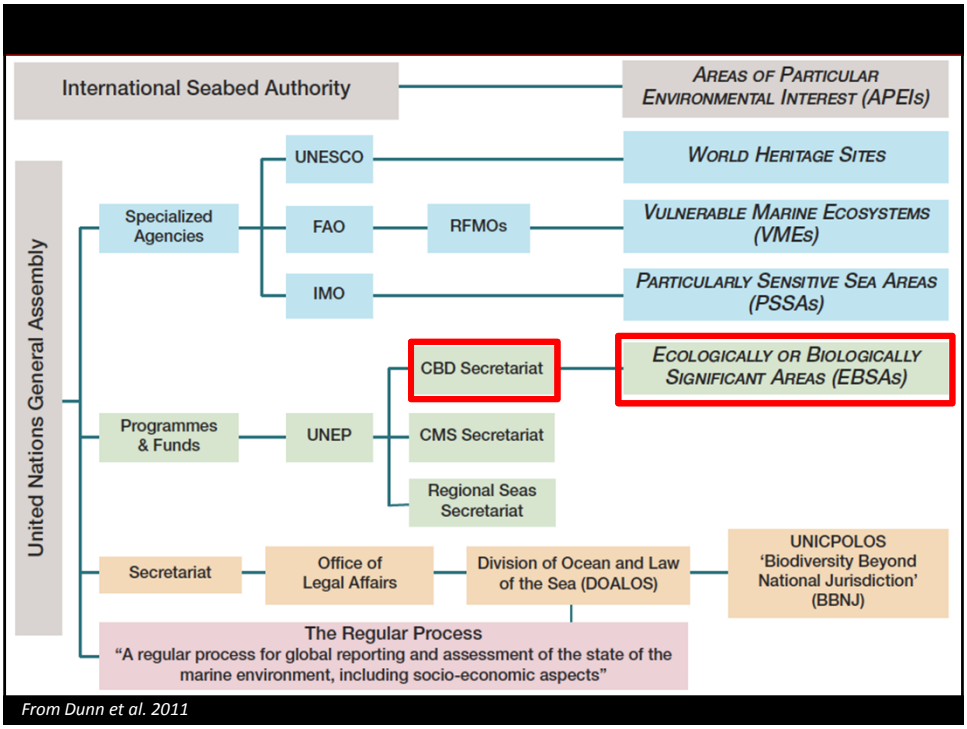


Where are the knowledge gaps?



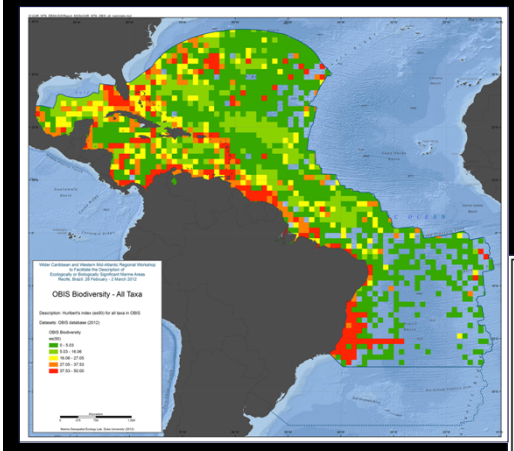
Can we detect marine species extinctions?





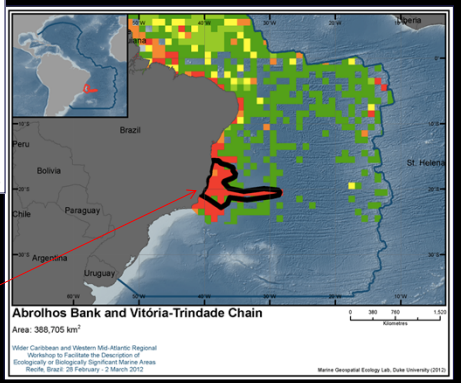
From Dunn et al. 2011

OBIS contributions to the CBD EBSA process

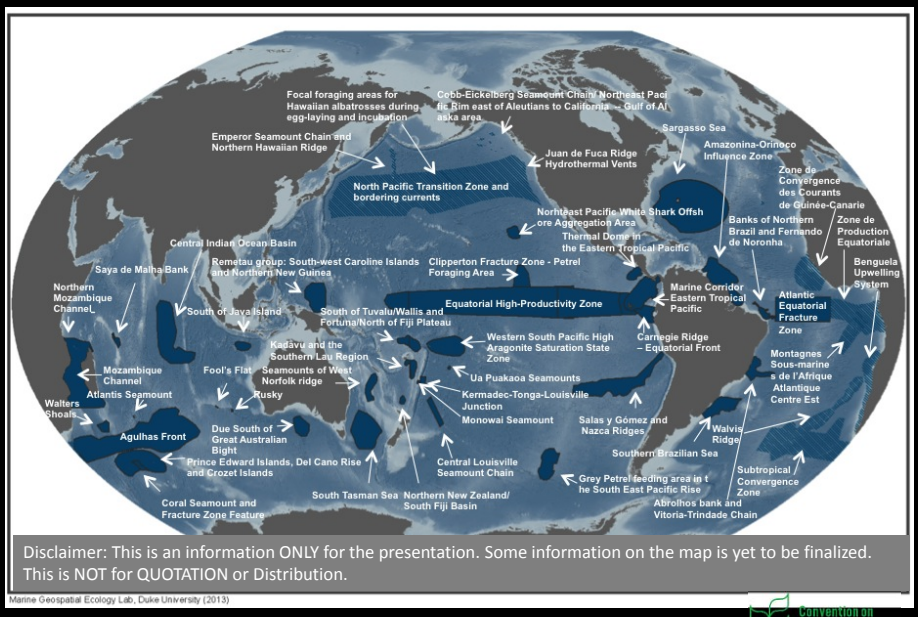


Biological Diversity all taxa
Wider Caribbean and Western Mid-Atlantic workshop, Recife, Brazil, February 2012

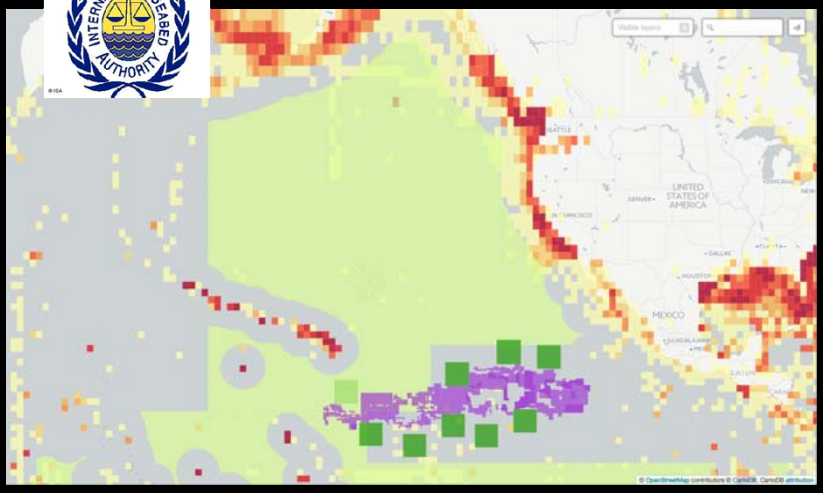
Proposed site meeting EBSA criteria:
Abrolhos Bank & Vitoria-Trindade Chain
Described in-part due to high regional biodiversity as depicted using OBIS data.



Areas meeting CBD Scientific Criteria for Ecologically or Biologically Significant Marine Areas (EBSAs, annex 1 to decision IX/20) : areas in ABNJ

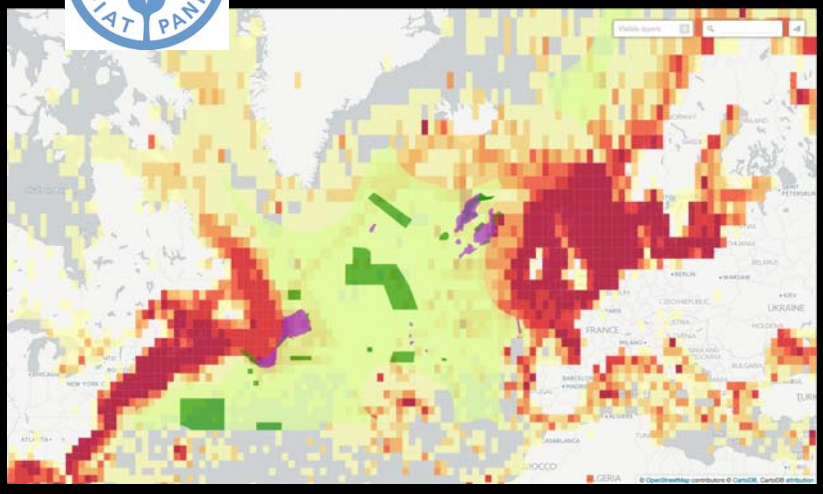


Clarion-Clipperton Fracture Zone

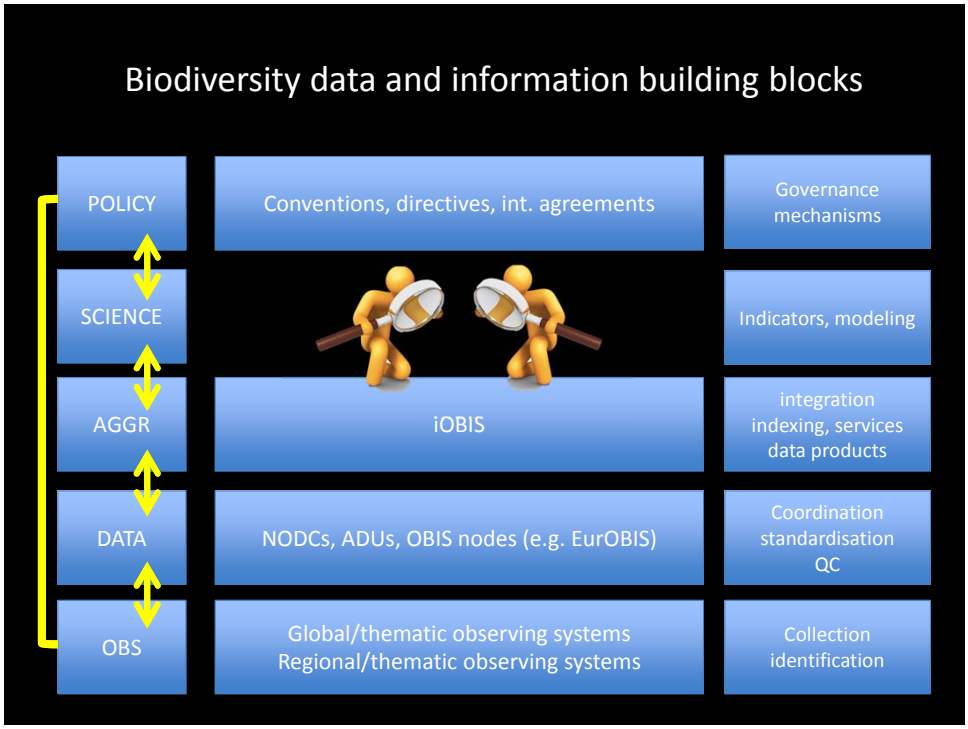


Light green = RFMO area, purple = ISA exploration sites; green = ISA APEI zones; yellow to red squares = Nr of records in OBIS

N-E Atlantic



Light green = RFMO area; green = VME; purple = no fishing zone; yellow to red squares = Nr of records in OBIS


Biodiversity data and information building blocks
POLICY
SCIENCE
AGGR
DATA
OBS
Conventions, directives, int. agreements
iOBIS
NODCs, ADUs, OBIS nodes (e.g. EurOBIS)
Global/thematic observing systems
Regional/thematic observing systems
Governance mechanisms
Indicators, modeling
integration indexing, services data products
Coordination standardisation QC
Collection identification

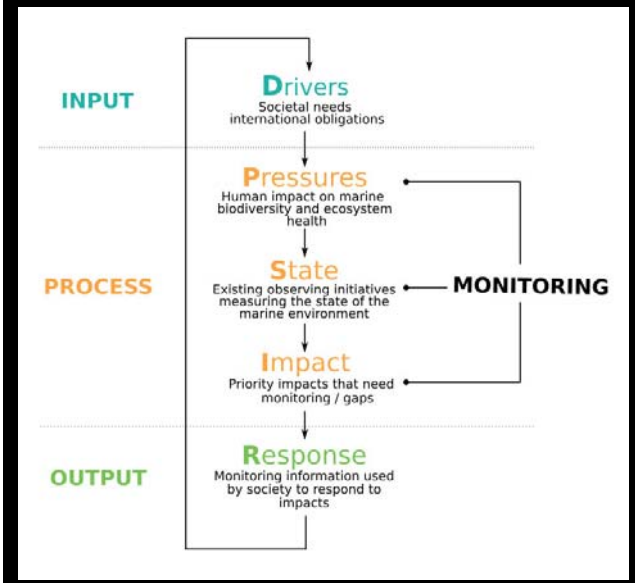

SUSTAINABLE DEVELOPMENT GOALS
ipbes
IMO
GES/MSFD
UNESCO
UNEP
CBD
UN World Ocean Assessment
MOL
MAP OF LIFE
futurearth
research for global sustainability
SCOR
NEREUS PROGRAM
Predicting Future Oceans
LIFEWATCH
OBIS
EMODnet
IMOS
IOOS
INTEGRATED OCEAN OBSERVING SYSTEM
GEO BON
EurOBIS
med OBIS
biodiversity.aq
GCRMN
GACS
GLOBAL ALLIANCE of CONTINUOUS PLANKTON RECORDER SURVEYS
REEF LIFE SURVEY
OCEAN TRACKING NETWORK
GOOS
POLICY
SCIENCE
AGGR
DATA
OBS

Biology & Ecosystems

- To develop and coordinate efforts in the implementation of a sustained and targeted global ocean observation system driven by societal needs to include biological and ecological Essential Ocean Variables (eEOVs).

- To answer relevant scientific and societal questions and facilitate critical policy development and management decision-making on ocean and coastal resource sustainability and health.

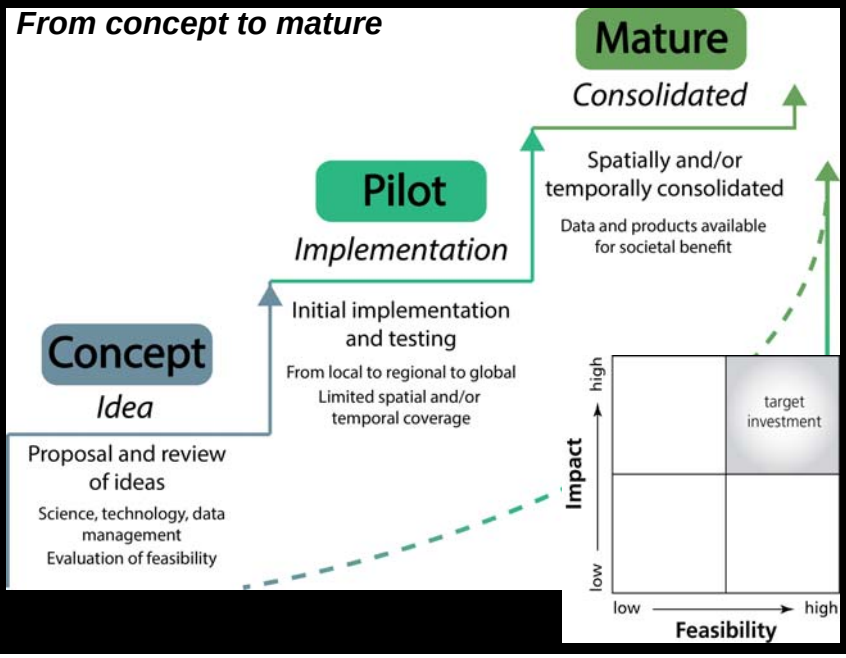
Framing and defining eEOVs



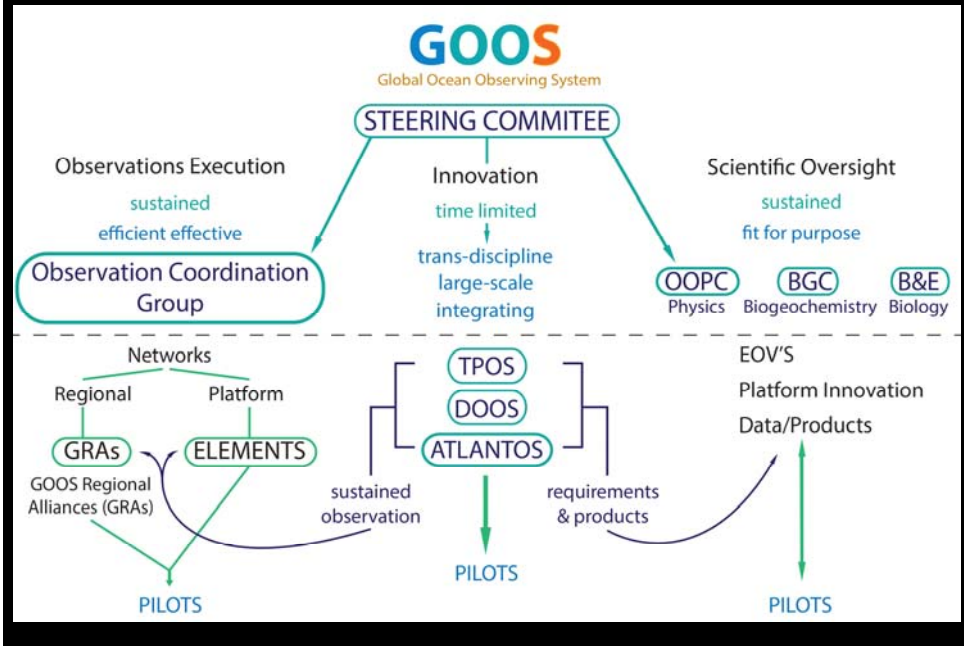
→ Identifies the information needed to understand and manage human impacts on the environment

Level of readiness of ocean observations:

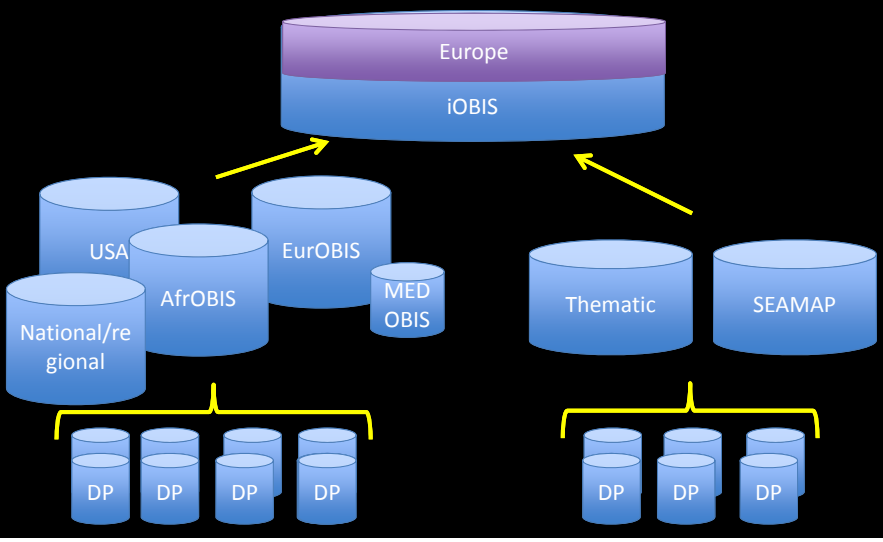
From concept to mature



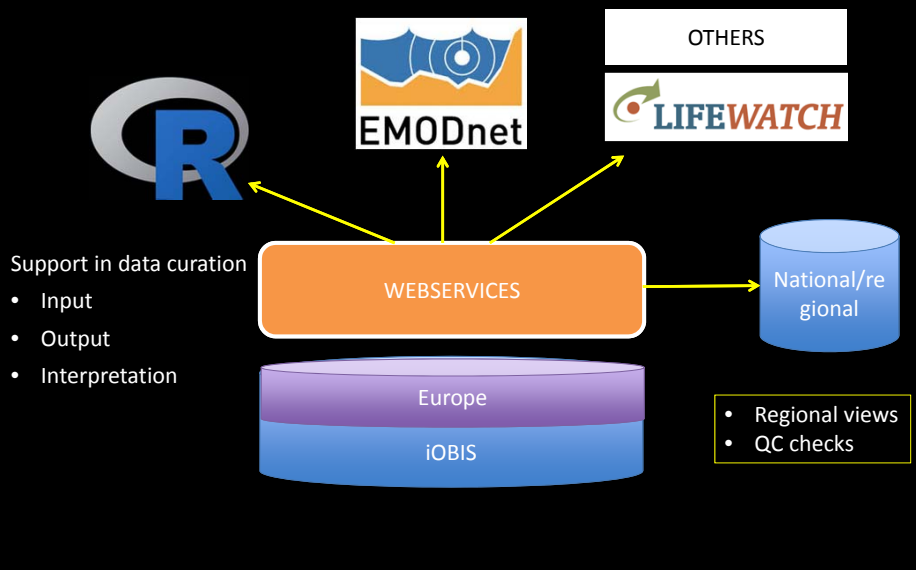
The GOOS network



Synergies & Complementarities



Synergies & Complementarities



Expanding OBIS beyond species occurrence data, with an extension for environmental data

OBIS-ENV-DATA

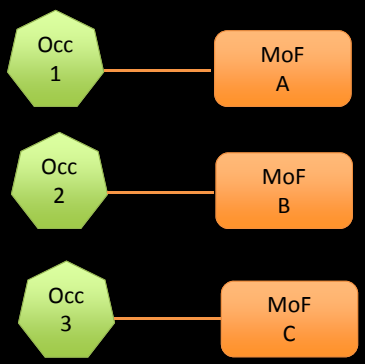
This 2-year pilot project aims to develop procedures and guidelines for managing and sharing mixed datasets, making sure that supporting measurements are curated and distributed alongside the species occurrence data.

OBIS-ENV-DATA involves 11 institutions from 10 countries in North-America, South-America, Europe, Africa and Australia.

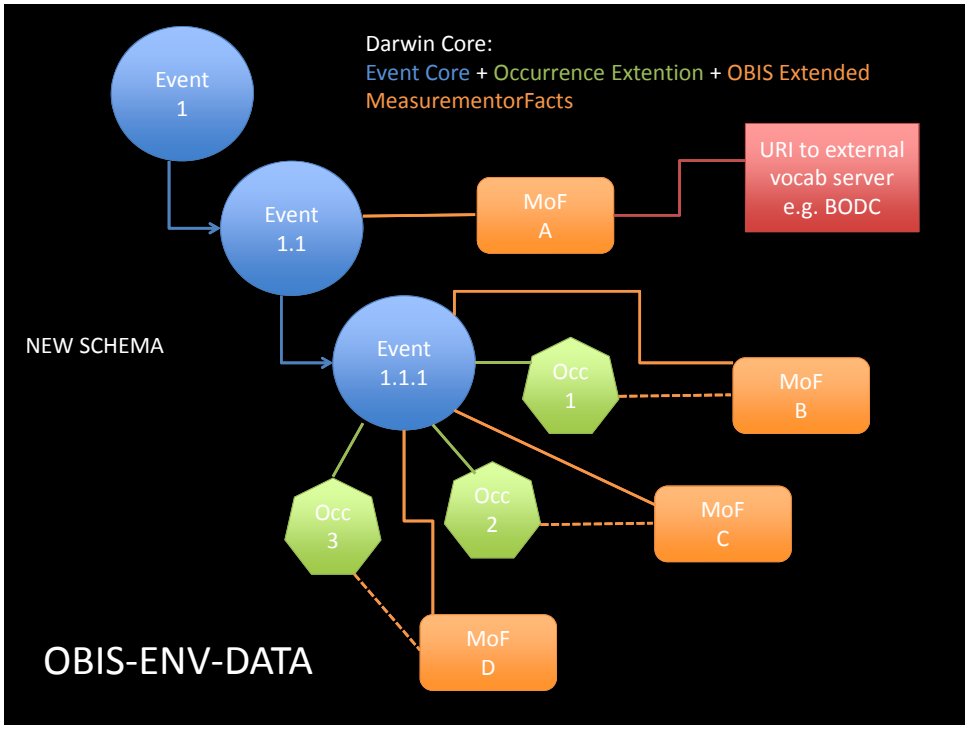
In collaboration with EMODnet

Darwin Core:
Occurrence Core + MeasurementorFacts

CURRENT SCHEMA

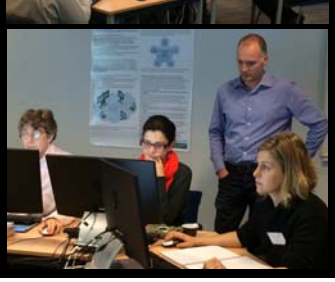


OBIS-ENV-DATA



OBIS trainings

Access, process, quality control, publish and use marine biodiversity data

IOC Ocean Teacher Regional Training Centres

www.oceanteacher.org

"To ensure equitable participation of all States in global initiatives"

One Planet One Ocean

Thank you