

BioEco Panel: Data management and pipelines – current status and future plans

Current status

1. Biological observations
 - Most observations are collected outside of GOOS networks – some of these captured in institutional/national repositories with some connections to the Ocean Biodiversity Information System (a program of the IODE of IOC-UNESCO, see below) and Global Biodiversity Information System (overseen by OECD member states)
 - Biological observations being collected by GOOS OCG networks and RAs not currently recognised or captured – currently tenuous linkages to the EOVs, data schemas for delivery to OBIS and OceanOPS not established
2. Ocean Biodiversity Information System (OBIS)
 - Primary repository for BioEco EOVS observations – identified as “the global data access point for GOOS BIOEco EOVS data” under Strategic Objective 7.7.
 - Custodian of the GOOS BioEco Metadata Portal (see below)
 - Facilitates development of data schemas for incorporation into EOVS specification sheets
 - Direct interactivity with GBIF and active engagement to facilitate complete interoperability of metadata
 - Direct interactivity with Ocean Data Information System to serve OceanInfoHub – increased discovery/exposure, pushes users to OBIS
3. BioEco Metadata Portal
 - Direct deliverable of GOOS Strategic Objective 3.5
 - Developed under funding from Pegasus program (Future Earth) and populated through funding from NCEAS (US) and EuroSea (EU) – see Satherwaite et al. (2021) and https://doi.org/10.3289/eurosea_d1.2
 - Currently serves as a metadata directory of sustained biological observing programs (see example in Figure 1).

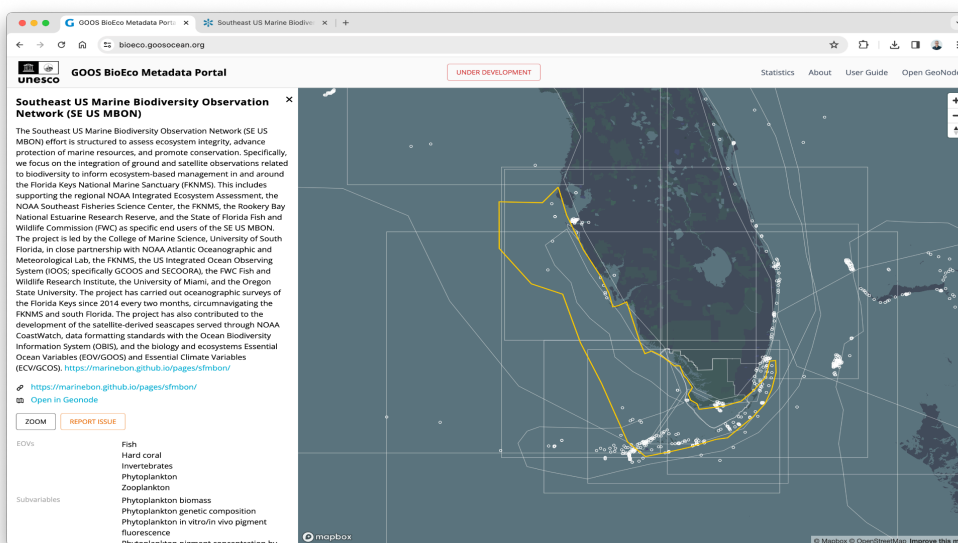


Figure 1: Example of metadata entry for a biological observing programme in the BioEco Metadata Portal.

Future planning

1. BioEco EOVs
 - Expansion of development of data pipelines and schemas (developed under SCOR C-GRASS WG) to broader subset of other EOVs
 - Funding secured: BioEco Ocean project (EU)
2. BioEco metadata portal (next 3 years)
 - Translation to automated input and delivery – includes clear and simple metadata schema (see Figure 2), including issue of DOIs to metadata for easy findability, traceability
 - Funding secured: BioEco Ocean (EU), OBIS core program

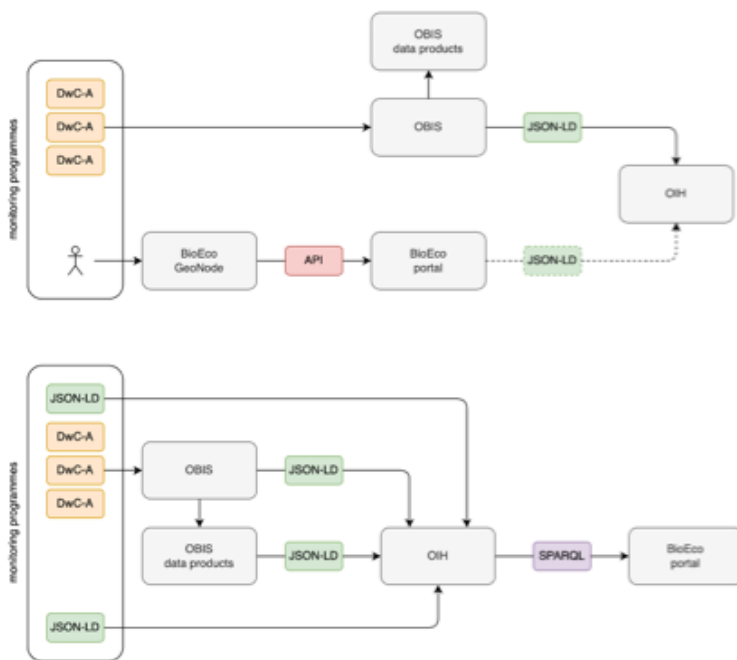


Figure 2. Top: current schema of the BioEco Metadata Portal, requiring manual input of metadata records. Bottom: planned schema of the BioEco Metadata Portal.

3. Data discovery of OCG network biological observations for reporting to OceanOPS Technical discussions on how OBIS could be connected to OceanOPS via the Ocean Data Information System for EOVS reporting purposes
 - Initial discussions with OCG leads on a pilot for connecting OCG networks collecting biological observations to OBIS (and ultimately OceanOPS for reporting)
 - Resources (staff and operational costs) needed to progress technical implementation of both

Recommendations to GOOS-SC

- Include IODE/OBIS as ex-officio member on the GOOS SC in their roles as the global data access point for GOOS BioEco EOVS data (see SO7.7)
- Document BioEco EOVS data currently being collected by the GOOS OCG networks and GRAs and the associated data pipelines as a primary step in progressing the capture of biological observation across the GOOS network
- Identify resources/staff that can serve as a bridge between OceanOPS and OBIS and progress delivery of biological observations to OceanOPS for GOOS reporting purposes.