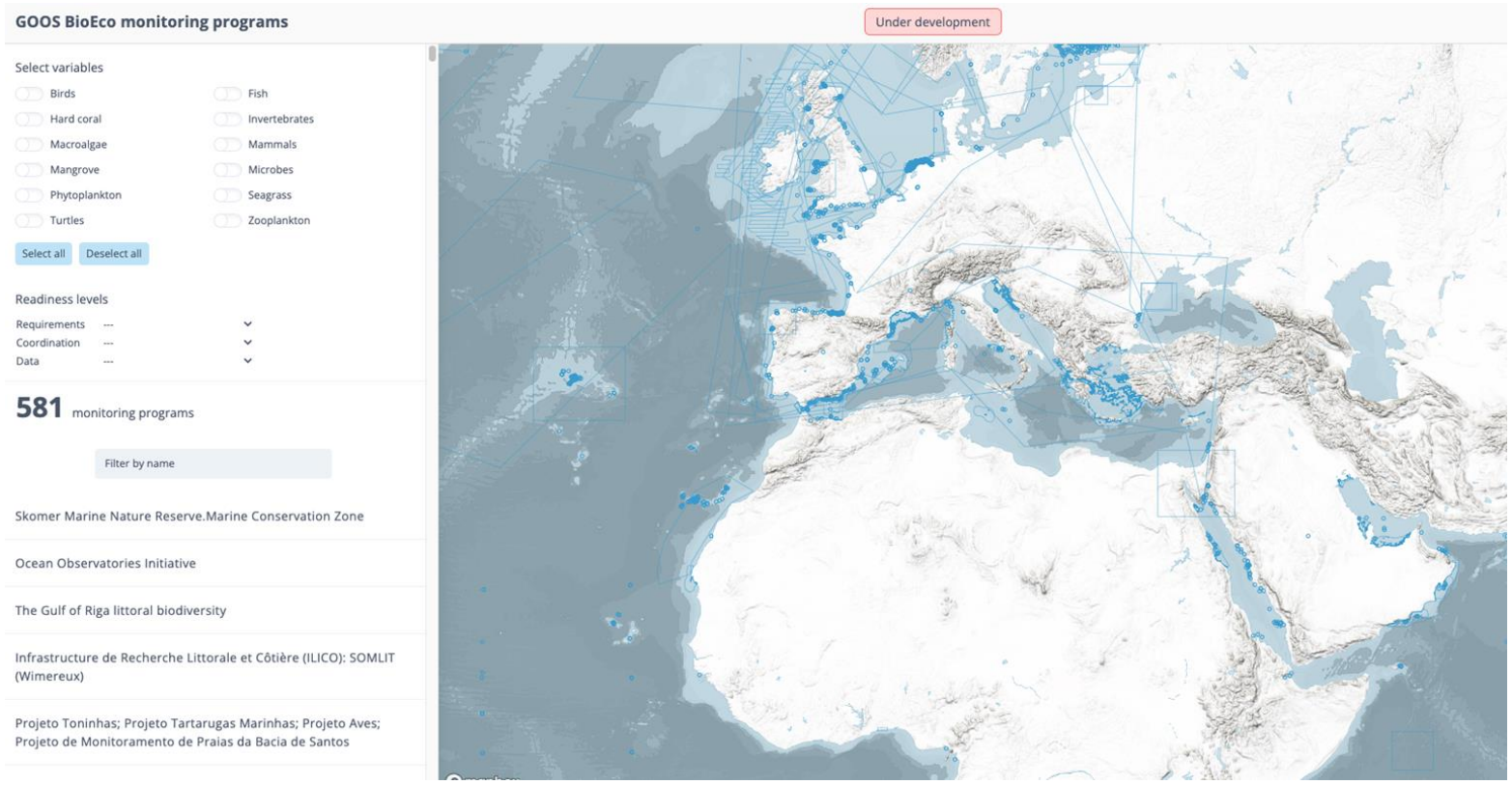
GOOS BioEco Portal

https://bioeco.goosocean.org

- Will provide open access metadata and information on global ocean observations and monitoring programs involving biological and ecosystem EOVs
- Aim to provide insight into the current and historical state and trends of ocean observation
- Currently holds metadata of **581** globally distributed monitoring programs active networks
- Currently undergoing **β-testing** by selected demonstrator networks
- Integration of EOV sub-variables and EBVs is in development
- Data/ metadata will be extractable for story-telling purposes regarding the state of global ocean observation (**GOOS report card**)



Pre-launch status:

- **94%** of the total 581 networks are **active**
- Many networks observe multiple EOVs
- Most extensively monitored EOV: **Plankton** (phyto- and zooplankton)
- Least monitored EOV: **Mangroves**
- **Fish** & **Marine Mammal** monitoring has the highest % of networks still active

BioEco EOV	***Nr.** of networks monitoring EOV*	***%** of networks observing EOV*	***Nr.** of networks active*	***%** of networks active*
Marine Birds	96	16.6	92	95.8
Fish	181	31.3	175	96.7
Hard coral	50	8.6	47	94.0
Invertebrate	184	31.8	172	93.5
Macroalgae	113	19.5	105	92.9
Mangrove	18	3.1	17	94.4
Microbe	98	16.9	91	92.9
Marine Mammals	153	26.4	148	96.7
Phytoplankton	222	38.3	210	94.6
Zooplankton	200	34.5	189	94.5
Seagrass	67	11.6	63	94.0
Marine Turtles	58	10.0	55	94.8

BioEco portal metadata fields

Program	
Title	Provide the full and complete title of the monitoring program.
Point of contact (name)	Name of person responsible for providing the information.
Point of contact (e-mail)	E-mail address of the responsible person provideing the information.
Abstract	A short introduction to/ basic info on the monitoring program.
Start date	The start date of the program in the format dd.mm.yyyy.
End date	The end date of the program in the format dd.mm.yyyy. If it is currently still active, leave the field empty.
Status	Status of the program. Choose from the drop-down selection.
Maintenance frequency	The intervals in which data is collected/ observations are made. Choose from the drop-down selection.
EOV	The Biology and Ecosystems Essential Ocean Variables (EOV) observed/ monitored. Choose from the drop-down selection.
Readiness levels (requirements,	The approach for evaluating new components for possible inclusion in the global ocean observing system, in terms of their readiness levels. Choose
Website/ URL	A URL or website link to the main internet page of the monitoring project.
SOPs/ BPs used	Have Standard Operating Procedures (SOPs) or Best Practices (BPs) been used and applied? Choose from the drop-down selection.
Protocol	Provide more information regarding SOPs and BPs used. If "Yes" was selected, provide a link to the description of the SOP or BP used. If "No" was
Funder	Funder/s of the monitoring program.
Funder sector	Sector of the funder/s. Choose from the drop-down selection.

Data accessibility	
Licence	Provide the licence applicable to the data/ metadata of the program. Choose from the drop-down selection. For more info on creative commons
Data restrictions	Choose from the drop-down selection whether the data/ metadata from the monitoring program is freely available/ open access or restricted.
Type of restriction	If "No restrictions" have been selected, leave this field empty. If "Restricted" was selected, choose the type of restriction from the drop-down menu.
Reason for restricted access	If there are restrictions on data, select an option from the drop-down menu that best describes reason for the restriction.
More info	This field provides opportunity for additional comments or info on the accessibility of data or why data are restricted.
In OBIS	Is the data available in OBIS? Choose from the drop-down selection
OBIS interest	Is there interest to make the data available through OBIS? Choose from the drop-down selection.
Outputs/ data products	Repositories, portals or platforms where the data is being shared/ contributed, as well as any other data derived products.

BioEco portal metadata fields

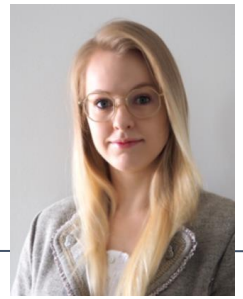
EOVs	
BioEco EOV	The Biology and Ecosystems Essential Ocean Variables (EOV) observed/ monitored. Choose from the drop-down selection. This is considered the
BioEco EOV Sub-variables	Additional measurements taken/ observations made of the main EOV. Choose from the drop-down selection and add as many rows of sub-variables
Other BioEco EOV sub-variables	Provide a title or description of sub-variables measured/ observed, that are not included in the provided option list.
BioEco data link	Provide a link to the data regarding the selected EOV sub-variable. If the data is made available through an online portal, or is available in a
Physical EOV	The Physics EOV observed/ monitored. Choose from the drop-down selection.
Physical EOV Sub-variables	Additional measurements taken/ observations made of the Physics EOV. Choose from the drop-down selection and add as many rows of sub-
Other Physical EOV sub-variables	Provide a title or description of sub-variables measured/ observed, that are not included in the provided option list.
Physical data link	Provide a link to the data.
Biochemistry EOV	The Biochemistry EOV observed/ monitored. Choose from the drop-down selection.
Biochemistry EOV Sub-variables	Additional measurements taken/ observations made of the Biochemistry EOV. Choose from the drop-down selection and add as many rows of sub-
Other Biochemistry EOV sub-variables	Provide a title or description of sub-variables measured/ observed, that are not included in the provided option list.
Biochemistry data link	Provide a link to the data.
Cross-disciplinary EOV	The Cross-disciplinary EOV observed/ monitored. Choose from the drop-down selection.
Cross-disciplinary EOV Sub-variables	Additional measurements taken/ observations made of the Cross-disciplinary EOV. Choose from the drop-down selection and add as many rows of
Other Cross-disciplinary EOV sub-	Provide a title or description of sub-variables measured/ observed, that are not included in the provided option list.
Cross-disciplinary data link	Provide a link to the data.

EBVs	
EBV class	The Essential Biodiversity Variables (EBV's) monitored, measured or observed
EBV name	A sub-variable of a respective EBV
EBV data link	Provide a link to the data.

Implementation plan, management and timeline

Deliverable 1: Develop an interactive map of networks and metadata for biological monitoring
Deliverable 2: BioEco EOV data available through OBIS

Pieter Provoost
Data manager/
System engineer



Serita Van Der Wal
GOOS Biology
Data manager

2022

Milestone 1

Development and public launch of the GOOS BioEco portal 1.0

- Development of GOOS BioEco geonode and portal interface.
- Process and format original datasets for the development of the interactive map.
- Import original dataset metadata from Pegasus and EuroSea to GOOS BioEco Geonode, as the backend to the spatial portal as well as the catalog where metadata records will be managed in the future.
- Quality control and processing of imported datasets, including removing duplicates, complete mission spatial information and other unresolved issues.
- Create documentation for the use and management of the portal and GeoNode as metadata upload platform
- Discuss portal launch with executive group of GOOS BioEco panel and discuss next steps before the launch
- Perform beta-testing in which demonstrator networks can provide input, feedback and serve as example networks in providing standardised, complete metadata and information to the portal. Select and contact beta-testers for their contributions and provide documentation needed.

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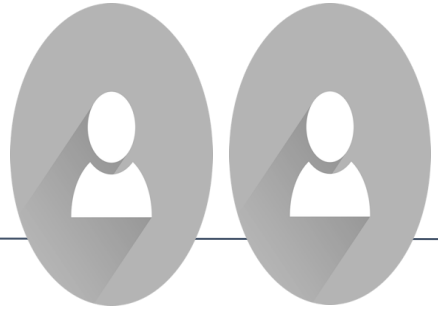

2023 — **2024**

Milestone 2

Launch of the GOOS BioEco portal 2.0

Connecting and live feeding information into OceanOPS system, providing tailored information for the annual GOOS report cards.

- Expand GOOS BioEco portal enabling recording more metadata types (based on user feedback), update existing entries.
- Further develop the infrastructure and interactive map interface, according to user and data provider needs (e.g. filtering options, additional information regarding EOV sub-variables, EBV's, harvesting from portals instead of manual input).

Milestone 3

Establish regular data publication flows from GOOS BioEco Monitoring programmes to OBIS

Target of 25% of monitoring programmes establish continuous dataflow to OBIS (based on Erin's paper where 25% claim to publish to OBIS, but perhaps not continuous).

- Develop guidelines and data schemes for EOVs.
- Develop training resources for data providers and OBIS node managers.

Implementation plan, management and timeline

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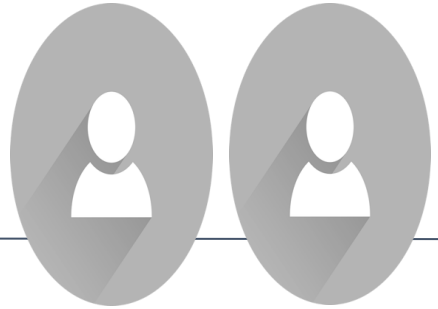

2025

Milestone 4

Fully operational GOOS BioEco portal

Target of >90% of active BioEco monitoring programmes contributing and actively updating their entries. Information from all active programmes are used in the annual GOOS report cards (covering all BioEco EOVs).

- Technical maintenance and bug fixing.
- Content maintenance, helpdesk and community support.

Milestone 5

OBIS is the global data access point for GOOS BioEco EOV data supporting international processes

- Develop training resources for data users.
- Co-design/co-creation workshops to develop biodiversity indicators.

Target of 80% of BioEco monitoring programmes established continuous data flow to OBIS. Through OBIS, GOOS BioEco EOV data is used in status and trends of CBD indicators and other global and regional assessments