GOOS BIOLOGY AND ECOSYSTEMS PANEL (GOOS BioEco)
Terms of Reference and Governance
Revised August 2017

OVERVIEW

The Global Ocean Observing System (GOOS) is a programme under the Ocean Observations and Services Section (OOS) of the Intergovernmental Oceanographic Commission (IOC) of UNESCO. Recognizing growing scientific and societal needs for sustained observations of ocean biological and ecosystem variables, and building on the GOOS Framework of Ocean Observing and the work of the Panel for Integrated Coastal Observations, the GOOS Steering Committee established the Panel for Biology and Ecosystems (GOOS BioEco). The GOOS BioEco Panel is one of three panels of GOOS, specifically aimed to develop a coordinated, robust, global observing system for ocean biology and ecosystems by (1) identifying and developing with the scientific community priority Essential Ocean Variables (EOVs) driven by societal needs that will help answer relevant scientific and social questions, and (2) supporting critical policy development and management decisions on ocean and coastal resource sustainability and health by facilitating the global implementation and reporting of EOV observations.

Overall, responsibilities and commitments of GOOS BioEco include to:

1. Review and prioritize requirements for sustained ocean (high seas and coastal) observations of biological and ecosystem Essential Ocean Variables (EOVs) to:

   • Engage the broad scientific community in developing the identified EOVs based on scientific and societal information needs.
   • Assess the readiness of observing technologies, identifying those that have high feasibility and high potential impact in delivering required information.
   • Assess the adequacy of present global EOV observations and make recommendations for phased implementation.
   • Provide a source of technical advice on the development of national coastal and ocean observing requirements and observing system implementation plans.
   • Propose pilot projects (that will also serve to co-ordinate networks, articulate data models, and inform an evaluation process).

2. Coordinate observing networks that contribute to these EOVs by:

   • Encouraging national commitments and international collaboration to
global observing networks.

- Providing and developing opportunities within current observing networks to promote the development of the EOVs.
- Developing a set of specifications (specification sheets), implementation goals, and progress metrics for EOVs.
- Promoting common best practices and observing standards for global and national observations, including data quality control and quality assurance procedures, data and metadata formats, and development and use of certified reference materials.
- Promoting data sharing for global and national observations.
- Identifying opportunities for synergistic cooperation and/or common technical support.

3. Work with existing data systems related to data management aspects, taking into account the IOC's oceanographic data and information exchange (IODE) programme, network and data systems and in particular building on the IODE’s Ocean Biogeographic Information System (OBIS) which will play a key role in data interoperability, fostering wider data sharing, curation and aggregation in order to streamline the feeding of integrated and quality controlled datasets into models and forecasts.

4. Develop a process for ongoing evaluation of the observing system, in liaison with users of the data and contributing to global assessments (e.g. WOA, IPBES), assessing whether information outputs (analytic and model-based) are adequate for research and societal goals, as well as feeding back into expressed requirements.

5. Report to GOOS SC [and other sponsor governing bodies] and work with GEO BON and IPBES on shared objectives and goals.

BASIC GOVERNANCE STRUCTURE of the GOOS Biology and Ecosystems Panel
Executive

The executive oversees and guides the GOOS BioEco Panel, regularly reviews progress of the work plan and identifies and resolves any issues as they may arise. It consists of the Panel chair(s), the international project officer and the secretariat. The executive holds regular teleconference meetings (2-3 week intervals) and meets face to face 2-3 times a year during the annual GOOS Steering Committee meeting, the annual GOOS Executive Committee meeting and the annual GOOS BioEco Panel meeting. The Chair(s) are nominated by the Panel and approved by the GOOS Steering Committee (SC), becoming Ex-Officio (Full) members of the GOOS SC.

Specific roles of the Executive

The GOOS BioEco chair(s) will:

- Engage with the community to promote the Panel objectives of supporting development of an observing network around identified EOVs including pilot studies, ocean observing system components, technologies designed to measure such EOVs, and mechanisms for developing best practices, data standards and QA/QC approaches for biological data, and approaches for data sharing across the global community.
- Engage with stakeholders, mostly with policy makers and end-users to promote the need for the observing system and the use of the data to inform management and contribute to international reporting commitments.
- Promote the use of the Framework for Ocean Observing as a basis for building the biological and ecosystem components of GOOS.

The GOOS BioEco International Project Officer will:

- Support GOOS BioEco and coordinate the highly diverse set of observing activities through extensive collaboration and dialogue with the scientific community via national and international organizations, scientific steering committees, scientific workshops, and expert meetings.
- Support all GOOS BioEco activities leading to the global development, implementation and coordination of EOV networks.
- Facilitate data collection, management, data product development, and archival of ocean biology/ecosystems data, by assisting regional and global data syntheses.
- Maintain an international directory of ocean biological observation activities through the development and maintenance of web-based compilations and syntheses of ocean biology observations and research activities.

The GOOS BioEco Secretariat staff member will:

- Support the work of the biology and ecosystems component of GOOS, with a particular focus on developing interfaces with scientific and policy structures requiring sustained ocean observations (e.g., the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and the Convention on Biological Diversity (CBD)) and funders of sustained observations.
- Support GOOS BioEco Panel activities, including fundraising, workshops, evaluations of the state of the observing system, standardization and best practices for observations and data management, data sharing, regional and global data syntheses, projects, and outreach.
• Work with other project officers directly supporting GOOS Panels and the GOOS Regional Alliances in a distributed GOOS Project Office, ensuring effective coordination across the GOOS Programme.

**GOOS BioEco Panel: EOV leadership**

Potential Panel members will be nominated by the current Panel membership based on their scientific expertise across taxonomic groups and/or of ecosystems and their track record in leading collaborative efforts at international scales within the scope of the identified EOVs. The Panel members will be appointed by the Chairs of the GOOS BioEco Panel upon consultation with the GOOS SC. Panel members will serve two year terms that may be renewed up to three times consecutively. Panel member terms will be staggered and no more than a third of the Panel membership will be replaced in any year. Prior Panel members may return to the Panel after a break of at least one year. Panel members are expected to serve their full two year terms but may request, in writing, to rotate off the Panel at any time. The GOOS BioEco project officer and GOOS BioEco secretariat staff member are ex-officio members of the GOOS BioEco Panel.

**Specific roles of the GOOS BioEco Panel**

• To engage the broad scientific community to develop the identified EOVs within their areas of expertise
• To contribute to the GOOS BioEco strategy by developing and facilitating EOV implementation plans within a global observing system promoting best practices and data sharing
• To coordinate the observing networks that will contribute to ‘their’ EOVs

*Current and previous panel members available from the GOOS website [link]*

These terms of reference will be reviewed every two years by the Panel and re-approved by the GOOS SC if significant revisions are made. The continuation of the Panel is at the discretion of the GOOS SC.
2015-2019 GOOS BioEco Panel activities timeline
ADDENDUM

Time commitment and attributes of the Panel Chair(s)

Time commitment

In the implementation stage of the GOOS Biology and Ecosystems Panel the role of Chair(s) will require the range of skills and experience outlined below. The role of Chair(s) involves a commitment of approximately 20 working days a year (plus 2 hours on regular-every 2 to 3 weeks teleconference meetings). Chair(s) and Panel are supported by a full time International Project Officer (securely funded until March 2019 and currently located in Australia at the University of Tasmania) and a part-time IOC/GOOS secretariat staff member (shared with IODE/OBIS) and funded by UNESCO’s regular programme. Funding required to allow the Chair(s) to travel on behalf of GOOS and for the Panel to meet once per year ideally provided by the IOC but some institutional support from the chair(s)’s organization(s) is expected.

The Panel Chair(s) is an Ex-Officio member (and therefore Full member) of the GOOS Steering Committee, which meets once per year. The Panel Chair(s) is also a member of the GOOS Executive Committee [GOOS Co-Chairs, Panel Chairs, GOOS Program Director, and the three Panel Project Officers] which meets virtually 2-3 times per year and where practical, uses major conferences such as the Ocean Sciences meetings to get together face to face. The Panel Chair(s) will serve two year terms that may be renewed up to three times consecutively. If there are two co-chairs, these should not be renewed in the same year.

Attributes of Panel Chair(s):

- Experience in working at a “systems level”, across taxonomic/habitat/ecosystem/geographic levels & scales. Given the complexity of the systems and challenges to arrive at suitable indicators of ocean system function and health, it is desirable to have Chair(s) that can think and evaluate outside of their own specific interest areas.
- Track record in leading collaborative efforts at scale (ideally with experience in working internationally) and ability to supervise activities [of Project Officer(s) and colleagues] working outside your own workplace.
- Understanding of the local/regional/international context for sustained observations and their role in supporting assessments of ocean health
- Commitment to building a sustained global observing system for ocean biological and ecosystem monitoring
- Advanced communication/presentation skills, including representation of GOOS to National and International science and science user audiences.