Community of Practice for Ocean Observations: OCEANOBS

Terms of Reference

I. Purpose
The Community of Practice OCEANOBS (CP) will bring leaders from different observing system stakeholder organisations i.e. coordinators of international, multi-nation regional and national observing programs, international organizations, representatives of the ocean science community and users of ocean and marine information together as a forum for improved coordination across observing systems. The forum will be a community of practice under GEO and will be a means for introducing GEOSS principles and goals into the oceans and marine realm and for supporting the introduction of requirements, observations and practices into GEOSS. The CP shall also address cross-cutting issues in the diverse disciplines of oceanography (physical, biological, etc) that impact observing systems and their users, to define common monitoring strategies, scientific objectives and implementation strategies.

II. Objectives
1. Facilitate international implementation and coordination of ocean and marine observatories and observing programs and partnerships in regard to common monitoring goals and strategies.
2. Support the implementation of GEOSS principles to improve and enable continuity and sustainability of observing systems and open exchange of data and information.
3. Stimulate capacity building in ocean and marine observations.
4. Report on progress and give advice to the GEO on issues relating to observing the world oceans and seas.

III. Justification
The collaborative activities of the CP will bring together researchers, producers and distributors of Earth Observation data and information to focus on achieving improved sustainability and interoperability of existing and new systems that provide essential environmental observations and information, including the GEOSS Common Infrastructure (GCI) that facilitates access to, and use of, these observations and information. The CP complements the activities of the Coastal Zone Community of Practice (CZCP). Leaders of the CZCP will be in the OCEANOBS CP both as founding members and participants.

IV. Applicability to GEOSS
The GEOSS Implementation Plan states: “The purpose of GEOSS is to achieve comprehensive, coordinated and sustained observations of the Earth system, in order to improve monitoring of the state of the Earth, increase understanding of Earth processes, and enhance prediction of the behavior of the Earth system.” The Implementation Plan notes that ensuring timely, quality and sustainable information “is available to those who need it is a function of governments and institutions at all levels. Despite laudable efforts, the current situation with respect to the availability of Earth observations is not optimal. This situation is particularly true with respect to coordinating and data sharing among countries, organizations and disciplines, and meeting the
needs of sustainable development. There are large spatial and temporal gaps in data coverage. Moreover, there is an eroding observational infrastructure, inadequate long-term data archiving, and no assured continuity for many essential observing systems. Consequently, targeted collective action is needed to bring observing systems in line with the requirements for addressing a range of issues of concern to society.”

While not a named societal benefit area, oceans play a major role in Earth processes and impact many of the societal impacts that are the core opportunities for improved decision making. Ocean observation systems and observatories are an important for understanding the environment locally, regionally and globally. The sustainability of these systems is always a challenge. GEOSS has the opportunity, through an Ocean Observation Community of Practice to further international collaboration and sustainability of ocean observations.

As noted in Section I. above, The Community of Practice OCEANOBS (CP) will bring leaders from different observing system stakeholder organisations i.e. coordinators of international, multi-nation regional and national observing programs, international organizations, representatives of the ocean science community and users of ocean and marine information together as a forum for improved coordination across observing systems. The Community of Practice will impact the Strategic Targets and many tasks in the GEO work plan. For more details, see Section VII. Below.

V. Membership
The CP will have senior representatives of national, multi-nation regional and international observatories and observing systems, stakeholders and science community. Key members include:

United States:
National Science Foundation (NSF) -Bob Houtman
National Oceanic and Atmospheric Administration (NOAA) -Zdenka Willis, Paul Digiacomo
National Aeronautics and Space Administration (NASA) -Eric Lindstrom

Europe
European Commission: Iain Shepherd
MyOcean – Pierre Bahurel (TBC)
University of Bremen – Christoph Waldmann

Australia:
Integrated Marine Observing System (IMOS) – Tim Moltmann (TBC)

International:
Global Ocean Observing System (GOOS) – Keith Alverson
UNESCO Intergovernmental Oceanographic Commission (IOC) – Keith Alverson
WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM) – Peter Decker
Institute of Electrical and Electronics Engineers (IEEE) – Jay Pearlman
Invitations for additional participation are being extended to Japan, China, Korea, South Africa, Argentina and Brazil. Representatives from countries and international organizations are welcome.

VI. Working Methods
1. The CP will operate primarily through electronic information exchange.
2. There will be two Co-chairs to lead the CP, Bob Houtman from the United States National Science Foundation and Keith Alverson from UNESCO IOC/GOOS. There will be an annual in-person meeting of the CP. Minutes of meetings shall be published electronically within two weeks of the meeting.
3. The CP will work closely with existing coordination bodies and mechanisms for ocean and marine observations to avoid duplication and to strengthen and expand the work of these mechanisms wherever practicable.
4. Where necessary, the CP will form task groups to address specific issues and to develop recommendations for cross-cutting issues.
5. The CP will coordinate with the GEO Coastal Zone Community of Practice in addressing coastal and large lake systems.
6. The CP shall report recommendations to the GEO Plenary and Executive Committee via agreed procedures. The CP will also interact, as appropriate, with GEO tasks, GEO Members and Participating Organisations.

VII. Plan of Near Term Activities
The activities planned by the CP in the first 1-2 years will focus on (directly or indirectly supporting several GEOSS Strategic Targets):

- 1.1 Architecture: “Achieve sustained operation, continuity and interoperability of existing and new systems that provide essential environmental observations and information, including the GEOSS Common Infrastructure (GCI) that facilitates access to, and use of, these observations and information.
- 1.2 Data Management: “Provide a shared, easily accessible, timely, sustained stream of comprehensive data of documented quality, as well as metadata and information products, for informed decision making.
- 2.3 Climate: “Achieve effective and sustained operation of the global climate observing system and reliable delivery of climate information of a quality needed for predicting, mitigating and adapting to climate variability and change, including for better understanding of the global carbon cycle.”
- 2.9 Weather: “Close critical gaps in meteorological and related ocean observations, and enhance observational and information capabilities for the protection of life and property, especially with regard to high-impact events, and in the developing world.”

In addition, the planned activities will directly or indirectly support several GEOSS Work Plan tasks including:

- Task AR-09-03c “enhancing and improving the coordination of coastal/open-ocean observations and modelling initiatives, in support of a Global Ocean Observation System” and Task AR-09-03d “achieving a complete and stable Global Observing System”. Specific actions planned will be to:
1. Identify the steps for further stimulating national commitments to ocean and marine observing systems and facilitating collaborative implementation of sustained observations.
2. Identify the steps in facilitating open exchange of data and information and in demonstration of the societal value of ocean and marine observations.
3. Provide inputs to GEO and the GEO work plan.
4. Create/update existing compendia of current and future requirements and support for ocean and marine observing systems.
5. Review current systems’ capabilities and prioritize strategies for future developments to sustain existing systems and expand to meet current and future requirements.
6. Host the Community of Practice meetings and provide proceedings of the outcomes.

VIII. Expectations
The establishment of the Community of Practice for Ocean Observations will contribute toward the sustainability of ocean observing and increased interoperability and access to ocean data through the GEOSS Common Infrastructure. Improved coordination at national, regional and global levels will support linking Earth observing and information systems and adoption and advocacy of a comprehensive approach to global Earth observation systems.