



OceanPrediction Decade Collaborative Center: Arctic Regional Team

Terms of Reference

The OceanPrediction Decade Collaborative Center

The United Nations (UN) Decade of Ocean Science for Sustainable Development 2021-2030 (referred to as 'the Decade') was proclaimed by the 72nd Session of UN General Assembly (UNGA) on the 5th of December 2017. The Decade is being coordinated by IOC-UNESCO in an effort to promote transformational, large-scale change to advance urgent action on moving from the 'ocean we have' to the 'ocean we want'. It includes a focus on least developed countries (LDCs), Small Island Developing States (SIDS) and land-locked developing countries (LLDCs).

The Decade aims to catalyze the human behavior change required, and to be inter-generational, recognize and redress gender disparities in ocean science, and be of sufficiently long duration to deliver lasting change. Guided by the UNCLOS (United Nations Convention on the Law of the Sea), the Decade will generate the data, information and knowledge needed for more robust science-informed policies and stronger science-policy interfaces at global, regional, national, and even local levels, leading to improved integrated ocean management and development of a sustainable ocean economy. It represents an opportunity to build scientific capacity and knowledge to contribute to the goals of the 2030 Agenda for Sustainable Development. The Decade will support numerous UN entities to fulfil their ocean-related mandates. In our information-centered, internet-linked society, the Decade will support ocean data, information, and knowledge systems to evolve to a much higher level of readiness, accessibility, and interoperability. The scale of such efforts will need to be exponentially greater than anything seen to date.

The IOC (Intergovernmental Oceanographic Commission) has established an Implementation Plan to guide the Decade, which will be supported by contributions from Member States, specialized agencies, funds, programmes, and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations, and relevant stakeholders.

The OceanPrediction Decade Collaborative Center (OceanPrediction DCC) is a cross-cutting structure, as described in the mentioned Plan, that will work at the global scale to develop collaboration between Decade Actions related to ocean prediction together with relevant organizations' structuring initiatives.

OceanPrediction DCC, hosted by Mercator Ocean International (MOi), has the following mission: *“a predicted ocean based on a shared and coordinated global effort in the framework of the UN Ocean Decade”*. The vision is *“to galvanize and coordinate efforts towards the co-development and integration of worldwide ocean prediction activities, serving Decade objectives and in close collaboration with the Decade endorsed actions and other stakeholders.”*

The OceanPrediction DCC objectives are:

- To provide a backbone collaboration structure and collective voice to the ocean prediction community, supporting the Decade implementation, and centered on:
 - Creating a global transversal forum (from coastal to deep sea, nowcast to climate, Bio to physics, public to private, users to scientists) and other tools to facilitate dialogue and the exchange of information.
 - Implementing capacity development and ocean literacy activities
 - Promoting Operational Ocean Forecasting Services (Oofs) as a key tool for Blue Economy and ocean policy
- To build a global technical and organizational structure focused on:
 - Co-design with Ocean Decade actions and other relevant actors a new scenario for ocean forecasting that will be based on interoperability and an architecture to 'deliver as one' and to take advantage of the coming innovations of the digital twinning concept.
 - Identify needs and coordinate the creation of new tools, standards, and best-practices for the implementation of this new scenario, based on a science-to-service framework, and promoting Interoperability and integration.
 - Collaborate and align Decade actions and the actions of other relevant actors towards the achievement of Decade objectives related to ocean forecasting.
- Support the Decade coordination unit, in close collaboration with other Decade Collaborative Centers and Decade Coordination Offices, in the monitoring, coordination and alignment of Decade actions, ensuring its legacy.

OceanPrediction DCC collaboration structures

To achieve their objectives, OceanPrediction DCC will develop worldwide two types of collaboration structures:

- **Regional Teams**, focused on community development and capacity building. These are the objectives of this document and are organized by geographical regions.
- **Ocean Forecasting Global Co-design Team**. Focused on alignment for co-design and formed by experts on different topics of the ocean forecasting value chain.

Having different Teams for technical aspects and community building will allow an efficient management: a smaller specialists team able to deliver technical results on time and a larger geographically based structure, able to integrate the community and catalyze the governance and organizational component.

Objectives of the Regional Teams

The OceanPrediction DCC Regional teams have the following objectives:

- Act as regional nodes of OceanPrediction DCC.
- Contribute to the coordination and cooperation with ocean forecasting-related Decade actions in the region.
- Identify gaps and ways forward in the regional landscape of ocean forecasting.
- Support OceanPrediction DCC in the design and organization of regional events for capacity building, ocean literacy and other purposes, such as courses, workshops, hackathons, etc.
- Advocate for regional implementation of Best Practices, Standards and Tools derived from OceanPrediction activity.
- Collaborate with the other OceanPrediction DCC Regional Teams to support global actions. To facilitate this task, the steering group of each Regional Team will be composed of several positions having the same roles (see next section).
- Support OceanPrediction DCC in obtaining information for the three Atlases (services, institutions, persons) and any other relevant data.
- Promote the use of OOFs in each region for decision-making purposes, including capacity development, technical, policy and legal aspects.

Geographical distribution of the Regional Teams

The Regional Team distribution is based both on UNEP (United Nations Environment Programme) regional seas (see figure 1) and in GOOS Regional Alliances (GRAs), clustering some regions.

In the case of UNEP the clustering will work as follows:

- Region 1: West Pacific and Marginal Seas of South and East Asia, to cover activities in the following UNEP regional seas: Pacific (Noumea Convention), East Asian Seas, North-west Pacific Region, South-East Pacific Region. It also will cover here the gap at Southern Australia.
- Region 2: Indian seas, covering South Asian Seas and ROPME Sea Area (referred to as the Kuwait Action Plan Region in the past)
- Region 3: African seas, covering Eastern Africa Region, Western Africa Region and Red Sea and Gulf of Aden, including the gap existing at the Canary Islands
- Region 4: Mediterranean and Black Sea, covering Mediterranean Region (Barcelona convention) and Black Sea Region
- Region 5: North-East Atlantic, covering Baltic Sea, North-East Atlantic Region (OSPAR)
- Region 6: South and central America, covering Caribbean Region, North-east Pacific Region, Southeast Pacific region.
- Region 7: North America region, covering the Atlantic and Pacific coasts of USA and Canada. Here we can also include Bermuda, Hawaii, Midway and Aleutians.
- Region 8: Arctic, covering the regional sea with the same name.
- Region 9: Antarctic Region (CCAMLR)

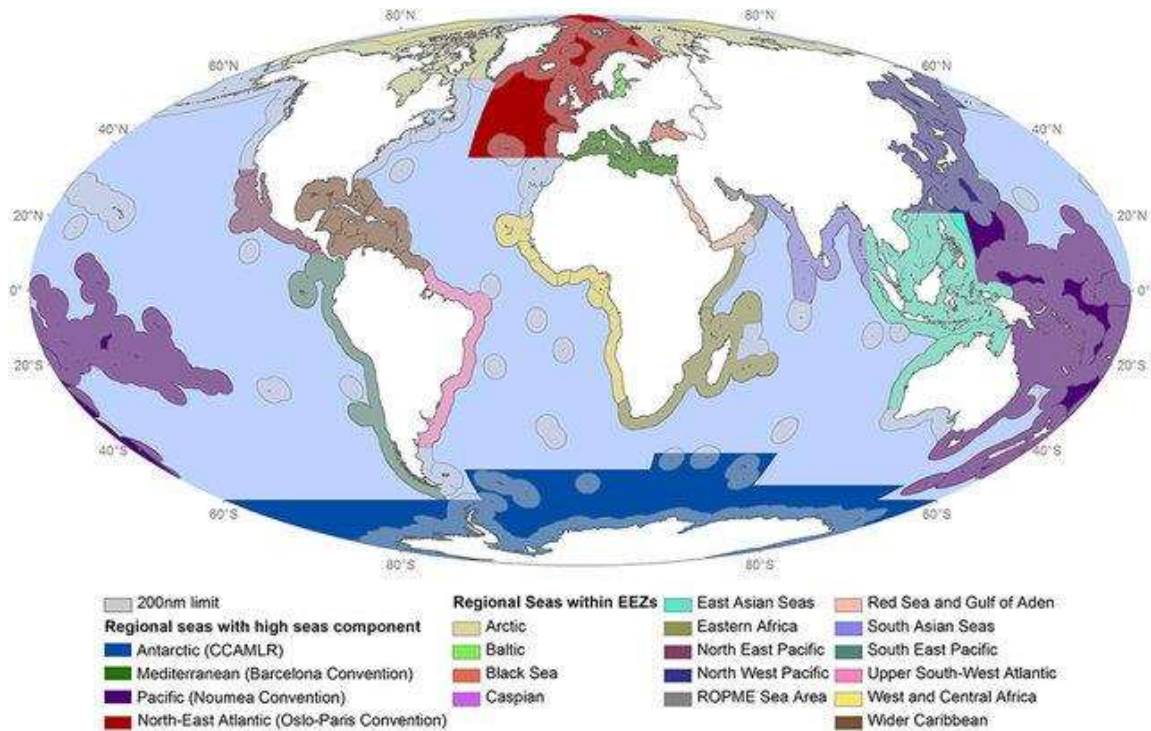


Figure 1: UNEP regional seas

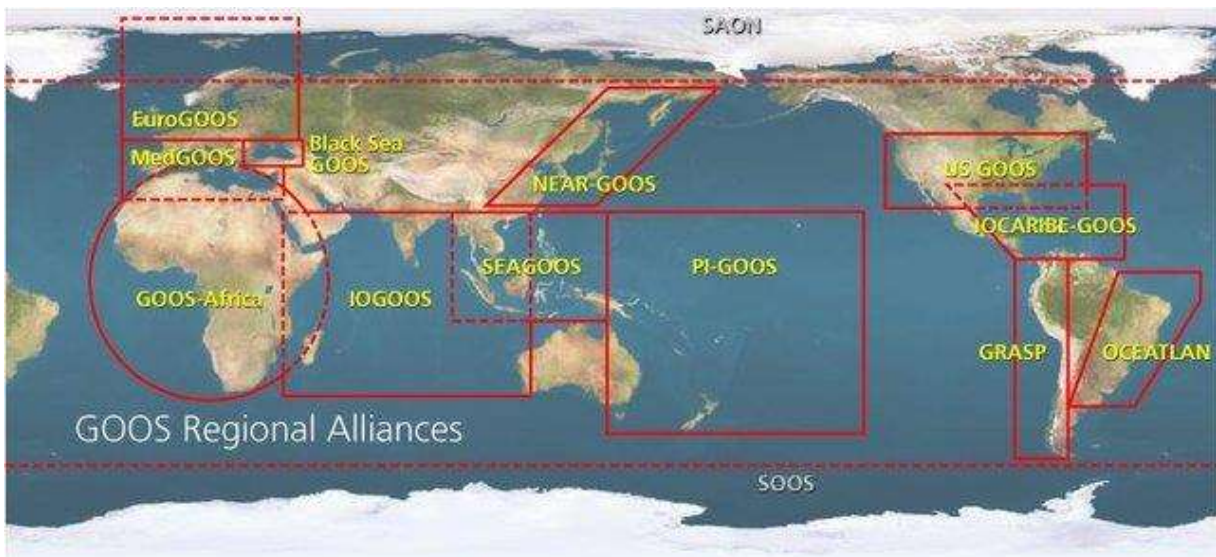


Figure 2: GOOS Regional Alliances

In the case of GOOS regional alliances, the clustering will consist of:

- Region 1: West Pacific and Marginal Seas of South and East Asia, to cover activities in the following GOOS regional alliances: NEAR-GOOS, PI-GOOS and SEAGOOS. It also will cover here the gap at Southern Australia.
- Region 2: Indian seas, covering IOGOOS.
- Region 3: African seas, covering Africa-GOOS
- Region 4: Mediterranean and Black Sea, covering MONGOOS and Black Sea GOOS
- Region 5: North-East Atlantic, covering EuroGOOS.

- Region 6: South and central America, covering GRASP and OCEATLAN
- Region 7: North America region, covering US GOOS and IOCARIBE-GOOS plus regions in Canada and the central American Pacific
- Region 8: Arctic region, covering SAON.
- Region 9: Antarctic, covering SOOS.

The OceanPrediction DCC Office at Toulouse will encourage the Regional Teams to develop and implement additional innovative ideas, always aligned with the OceanPrediction DCC objectives, and integrated on its activities.

Members of the Regional Teams

All the Regional Teams are open to broad participation and membership in their corresponding regions. The Teams will be formed by:

- Representatives from academic and governmental institutions with expertise in ocean forecasting (hereafter *Representatives*). Each institution will contribute with one *Representative*. The role of the *Representatives* is to participate in the formulation and implementation of regional activities that support agreed global objectives coordinated by the OceanPrediction DCC. Beyond the benefits derived from the collective achievement of the Regional Teams objectives, *Representatives* and their institutions will benefit through participation in joint publications and possible future projects.
- Contributors, that will be experts, end-users or individuals with knowledge or interest on ocean forecasting (hereafter *Contributors*). Contributors will support gaps and needs detection activities and will bring the voice of the experts and the users to the organization. Contributors will benefit from its interaction with *Representatives* (for example influencing future developments) and from the capacity development and ocean literacy activities. Additionally, they will get information from activities and enjoy the benefits of better OOFs derived from OceanPrediction DCC activities.

Governance of the Regional Teams

The Governance of the Regional Teams will be based on the activities of a Regional Focal point and of a Steering group:

Regional Focal point

One institution, with activities on ocean forecasting, will act as focal point for each corresponding Regional Team. The representative of this institution will act as chairperson. If possible, this institution will contribute with a secretariat:

- The chairperson will be responsible for the overall functioning of the Regional Team and of the communication and interfacing between the OceanPrediction DCC Office at Toulouse.
- The secretariat will contribute to facilitate and support the implementation of the work of the Regional Team, especially during peak workload periods associated with dedicated events on capacity development, ocean literacy, or others.

The focal point organization will be expected to host the position for a period of 3 years and will be selected by the *Representatives* between the different institutions with activities on ocean forecasting that declare interest in developing this role. Yearly extensions will be possible upon request and approval by the *Representatives*.

In case no institution volunteers in a region to act as focal point, the role will be assumed by the Steering group, acting one of its members as Chairperson.

Steering group

The role of the steering group is to organize the activities and ensure the connection between the different Regional Teams, and with the Technical Team. The steering group will be formed, if possible, by a team of *topic leaders* that will have in each region the same role, formed by experts on the following disciplines or topics:

- Communication
- Ocean observing
- Ocean forecasting: physics
- Ocean forecasting: Biogeochemistry
- Ocean forecasting: Climate
- Connection with users (downstream services)
- Capacity building/Ocean literacy
- New digital ocean developments, including Digital Twins
- Policy and legal aspects at the region

The topic leaders will promote actions related to the OceanPrediction DCC objectives in their corresponding fields of expertise. They will be in close contact with the corresponding topic leaders of the same discipline in other Regional Teams, forming a worldwide network on the corresponding discipline that will promote specific activities and sharing of knowledge.

Amongst other activities, the steering group will contribute to the OceanPrediction DCC Forum (to be hosted at OceanPrediction DCC web page), will act as a focal point for capacity building and ocean literacy activities in the region, and will promote the gathering of data for the OceanPrediction DCC web page tools, such as the atlas of persons, institutions, and OOFs.

The *topic leaders* who should be named for a period of 3 years (with possible yearly extensions upon request), will be selected by the *Representatives*, considering the required expertise, the geographical distribution, and gender and age balance. The *topic leaders* could be, or not, *Representatives* of their corresponding institution. One institution can present for consideration the candidature of several topic leaders (one for each topic).

Proposed meetings:

All the steering teams will meet at least once per year in a virtual meeting. Additionally, there will be a virtual meeting between the Office and the chairpersons at least once every three months to monitor the advances.