

## **TPOS 2020 Project Terms of Reference**

The TPOS 2020 Workshop and Review has recommended the creation of a TPOS 2020 Project to achieve the major change from a loosely coordinated set of ocean observing activities in the tropical Pacific to a systematic, sustained TPOS by 2020.

The Project will:

- Achieve a significant change for sustained observing and leave a legacy for GOOS of a robust, efficient and effective contribution in the tropical Pacific.
- Focus on the tropical Pacific Ocean but embrace partnerships with the meteorological and adjacent coastal/regional ocean communities, as appropriate.
- Embrace contributions from multiple agencies and countries through a coordinated portfolio of resources and high-level oversight of the scientific and technical design, sub-projects and interfaces to the user community.
- Operate within the context of the Framework for Ocean Observation and build on existing activities while at the same leading needed change.

The TPOS 2020 Project will be autonomous and self-supporting but will coordinate with relevant existing intergovernmental bodies through the GOOS Steering Committee.

The overarching goals of the Project are:

- To refine and adjust the TPOS to monitor, observe and predict the state of ENSO and advance scientific understanding of its causes.
- To determine the most efficient and effective method for sustained observations to support prediction systems for ocean, weather and climate services of high societal and economic utility, including underpinning research.
- To advance and refine the knowledge of the predictability horizon of the tropical Pacific variability (physical and biogeochemical), as well as its impacts in global climate.
- To determine how interannual to multidecadal variability and human activities impact the relation between marine biogeochemistry and biology to carbon budgets, food security and biodiversity.

A resources panel/forum broadly representative of the sponsors of TPOS 2020 will be responsible for coordinating the variety of resources needed for the Project to succeed and support a TPOS 2020 Project.

## **TPOS 2020 Steering Committee Terms of Reference**

The Steering Committee will:

- Provide scientific and technical oversight for the planning, system design, and implementation of the TPOS.
- Assess the evolving set of requirements through dialogue with relevant users and stakeholders.
- Coordinate a set of (pilot) projects designed to test and evaluate options, which initially may include:

- Studies of potential broad-scale sampling strategies.
- Investigation of potential sustained requirements for air-sea interaction and circulations and interactions in the upper ocean.
- Studies of potential approaches in the tropical Pacific boundary current regions and the equatorial wave guide.
- Assess potential technology options for delivering a more effective and efficient TPOS; Coordinate with other relevant scientific/expert panels and bodies, including those responsible for GOOS information systems and services.
- Together with the Resources Forum, manage communication and reporting.

The TPOS 2020 Project will report to the GOOS SC.

It will meet at least once per year but may meet more frequently if required.

The membership of the Steering Committee shall not exceed 10 (or 12) and should include expertise broadly representative of the scientific and technical elements of the observing system, as well as expertise in the use and application of TPOS products.

### **TPOS 2020 Resource Forum (TRF) Terms of Reference**

The TPOS Resources Forum will:

1. Facilitate and coordinate the provision of resources by member institutions required to advance TPOS 2020 activities based on recommendations from, and in consultation with, the TPOS Steering Committee (TSC, figure 1).
2. Promote and encourage contributions from institutions in non-participating countries and expand membership of the TRF as necessary.
3. Facilitate and coordinate resources that may be applied to the system, including ship time for developing and maintaining the TPOS, necessary research, and deployment of TPOS observing platforms.
4. Explore the potential for international resources from Official Development Assistance (ODA) agencies to develop and sustain the TPOS.
5. Explore bilateral and multi-lateral partnerships (e.g., PANGEA Framework resource sharing) as a means to complement national resources.
6. Coordinate with the CLIVAR Pacific Panel, Indian Ocean Observing System (IndOOS) Resources Forum (IRF), Pacific Islands GOOS, DBCP TAO Implementation Panel (TIP), PIRATA Resources Board and other relevant resourcing bodies.

The TRF will meet initially to monitor and consider the rationale of the TPOS 2020 (January 27-30, 2014) Workshop Report and Recommendations; consider support of recommended activities from the TPOS Steering Committee; come to consensus on its Terms of Reference; decide how the TRF conducts its business; and assess current interests and contributions to TPOS 2020.

It is expected that TPOS 2020 resources will support a range of relevant research activities that address the goals of TPOS 2020, including support for existing observing systems;

development and testing of new observing technologies; evaluation of new observing strategies for relevant research and forecasting; and other topics.

The outcome of the TRF will be to deliver a sustainable system beyond 2020 for satisfying the Scientific Requirements identified by the TPOS 2020 Steering Committee (TSC) and Task Teams (TT), as well as the Operational Requirements of Member National Meteorological and Hydrological Services (NMHS).

#### Membership of the TPOS 2020 Resources Forum (TRF)

TRF members will be high-level representatives of Institutions in their respective countries that have a stake in the development of TPOS 2020 and have authority to deploy resources. Members will report at the TRF annual meetings on the actions taken by their Nation/Institution during the past year to advance the implementation of TPOS 2020.

The TPOS 2020 Steering Committee will identify one of its Members to serve as Convenor for the annual TRF Meetings. The Convenor will assemble and consolidate recommendations for the TRF to consider, assess the status of Semi-Annual Implementation Report Cards, and communicate with TRF members and the TPOS Project Office (TPO, as described in the TPOS 2020 Workshop Recommendations) out-of-session to facilitate with the coordination of resources. The Convenor will also prepare an annual report to the TPOS Executive Board on the TRF's recommendations and decisions. Administrative support for TRF activities (e.g., logistics and arrangements for meetings) will be provided by the TPO.

The TRF will elect from its members a Chair who will serve in that capacity for two sessions. An individual shall serve no more than two consecutive terms as Chair. The Chair will work with the Convenor and TPO to prepare the agenda for annual meetings and will lead the meetings toward decisions and actions to support TPOS 2020 during the following year.

#### Proposed Resource Forum Participants:

1. Integrated Marine Observing System (IMOS), Australia
2. Comité Oceanográfico Nacional/ Servicio Hidrográfico y Oceanográfico de la Armada, Chile (TBC)
3. Second Institute of Oceanography (SIO), China
4. Institut de Recherche pour le Développement (IRD), France
5. Meteorological, Climatological and Geophysical Agency (BMKG)/ Agency for the Assessment and Application of Technology (BPPT), Indonesia
6. Japan Marine-Earth Science and Technology Center (JAMSTEC)
7. Korea Institute for Ocean Science and Technology (KIOST)
8. Peru Instituto del Mar ( IMARPE )
9. Taiwan Ocean Research Institute (TORI)
10. UNESCO Intergovernmental Oceanographic Commission (IOC) TBC

11. National Oceanic and Atmospheric Administration (NOAA), USA

12. WCRP/IOC/GOOS Ocean Observations Panel for Climate (OOPC)