



March 2016 Monthly Status Report

Monthly Status Report (MSR)

Release Date: April 15, 2016

Summary:

Steering Committee members Weidong Yu, Kentaro Ando, Yukio Masumoto, and Dongchull Jeon attended the workshop on Scientific Cooperation among China, Japan and the Republic of Korea (ROK) which was successfully convened in Qingdao, China. The participants agreed that China, Japan, and the ROK should encourage the development of marine cooperation initiatives among the three neighboring countries. Several partnerships were identified, two of which will be under consideration by TPOS 2020. One of these is to collect and share cruise information in the Western Pacific. Dr. Yang at the DPO in Qingdao will lead this effort.

The DPO released a revised www.tpos2020.org website. The site has been redesigned to allow visitors to more easily track Task Team activities, and to follow the progress of the Project Level Reports. During the upcoming review cycle of the first in the series, the 2016 Interim Report, visitors will be able to download the material and be provided with opportunities to easily provide comments.

The highlight section of this MSR is incomplete without acknowledging the Herculean efforts of the Lead Authors (Backbone TT Co-Chairs Wijffels and Cravatte) and the seventeen Contributing Authors of the Zero Order Draft version of the 2016 Interim Report. You will see throughout this report that Task Team Co-Chairs and Members were focused on either contributing to the report or working closely with colleagues to generate content for inclusion. *(It should be noted the First Draft of the Interim Report was sent to a select list of Expert Reviewers on April 13. A more comprehensive schedule of the Interim Report review cycle, including a community comment period, will be published in the April MSR and posted on the website.)*

Highlights:

Steering Committee:

- Katy Hill presented a TPOS 2020 Poster at the GCOS meeting: “Global Climate Observation: The Road to the Future” convened on 2-4 March 2016, Amsterdam, the Netherlands

Distributed Project Office:

- Ana Lara-Lopez provided ongoing support of the author contribution coordination, versioning, and formatting of the Zero Order Draft of the 2016 Interim Report.
- All DPO members provided insight and review of the website redesign.

The Monthly Status Reports can be found at: www.tpos2020.org/monthly-status-report

Additional Information:

Please visit the website at: www.tpos2020.org
Send comments and questions to: info@tpos2020.org
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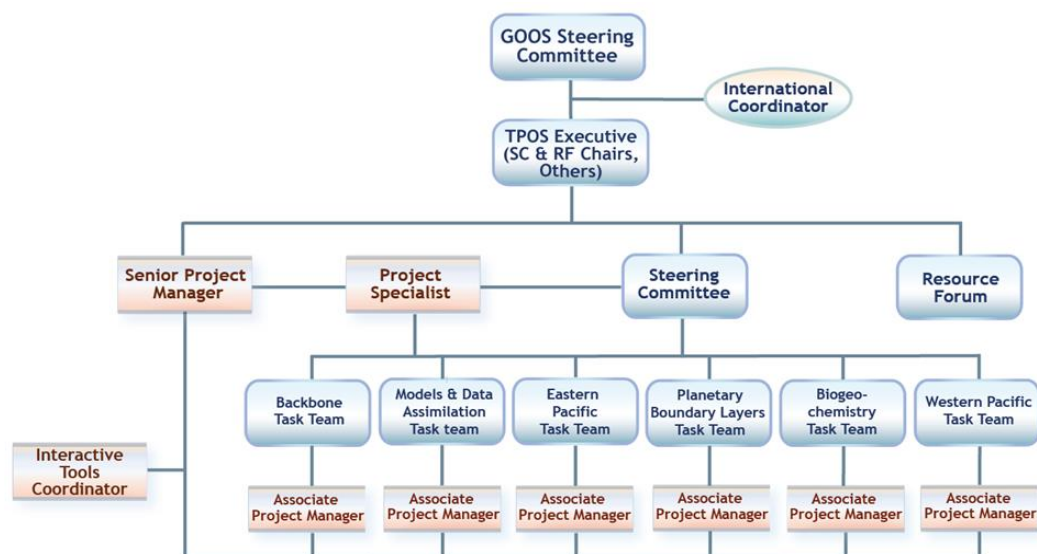
Background: The TPOS 2020 Project will evaluate, and where necessary advocate change in all elements that contribute to the Tropical Pacific Observing System (TPOS), based on a current understanding and technical capability. The project aims for enhanced effectiveness for all TPOS stakeholders, and informed by the development and on-going requirements of the operational prediction models that are primary users of TPOS data. TPOS 2020 embraces the integration of diverse sampling technologies, with a deliberate focus on robustness and sustainability, and will deliver a legacy of improved governance, coordination and supporting arrangements.

The Project will work within the Framework for Ocean Observing developed by the Global Ocean Observing System (GOOS) and use GOOS as a reporting mechanism to other relevant intergovernmental coordination mechanisms. A sustainable TPOS will be the principle outcome and legacy for GOOS. As such, TPOS 2020 will operate primarily as an independent Project and work through its sponsors to ensure all dependencies and links are appropriately managed. Four primary elements are included in the governance of the Project:

- A TPOS 2020 Steering Committee responsible for oversight, coordination, and guidance to the Task Teams, Sub-projects and Working Groups.
- A Resources Forum drawn from sponsors and responsible for coordinating resources.
- An Executive populated from the leadership of the above and responsible for reporting.
- A Distributed Project Office focused on coordination activities, supported and resourced by the sponsors.

It is through its partnerships and governance structure that TPOS 2020 will design a modern, sustained tropical Pacific observing system that meets both science and societal needs.

The project prospectus can be located online at: www.tpos2020.org/prospectus



KEY ACCOMPLISHMENTS AND NEAR-TERM PROJECT MILESTONES

Steering Committee

- Co-Chairs: Dr. Neville Smith, Retired / Dr. William “Billy” Kessler, NOAA PMEL

Current Month Activities:

- Assisted in the coordination of items for inclusion in the creation of the Interim Report Rough Draft being led by the Backbone TT Co-Chairs.
- Revised the limited list of ‘zero order draft’ reviewers designed to provide expert review and input into the initial draft of the Interim Report.
- Several members of the SC were highly engaged in the attendance of the China-Japan-Korea workshop sponsored by SOA and hosted by FIO in Qingdao on Feb. 29 -March 1, 2016. Several TPOS 2020 SC Members were in attendance, and member institutions represented. Dr. Weidong Yu provided a summary of the minutes and distributed this information to the SC members.
- Katy Hill presented a TPOS 2020 Poster at the GCOS meeting: “Global Climate Observation: The Road to the Future” convened on 2-4 March 2016, Amsterdam, the Netherlands

Upcoming Activities:

- An Interim Session of the SC-2 will be convened on April 21/22. Project leadership is making preparations for this 1.5 hour WebEx session.
- Dr. Weidong Yu and Katy Hill will represent TPOS 2020 at the OOPC meeting in Spain.
- Work with Task Team Co-Chairs to finalize content of the Interim Report First Draft and support its initial review by a short list of Expert Reviewers
- Work with the TTs to assist in the review and adjudication of Expert Reviewer comments
- Work with the DPO to establish an Engagement Action Panel and timeline

Last Month’s Activities:

- Assisted in the coordination of items for inclusion in the creation of the Interim Report Rough Draft being led by the Backbone TT Co-Chairs.
- Revised the limited list of ‘zero order draft’ reviewers designed to provide expert review and input into the initial draft of the Interim Report.
- Katy Hill presented on TPOS 2020 during the Session: Regional and Thematic Innovation Supporting Global Sustained Ocean Observing Initiatives, "Towards a Tropical Pacific Observing System for 2020 and Beyond"
- Billy Kessler presented on TPOS 2020 during the Town Hall: Implementing Basin Scale In Situ Ocean Observing Systems
- Andrea McCurdy and Katy Hill briefed the GOOS Interim Steering Committee on TPOS activities
- Provided guidance and feedback for the creation of a poster for presentation at the GCOS Science meeting in early March.
- Provided guidance and feedback for the new version of the TPOS 2020 Slide Set.
- Several members of the SC were highly engaged in the planning for- and attendance at- the China-Japan-Korea workshop sponsored by SOA and hosted by FIO in Qingdao on Feb. 29 -March 1, 2016. Several TPOS 2020 SC Members were in attendance, and member institutions represented. (A more detailed report will be provided in the March MSR.)

Published/Posted Materials:

- November 2015: TPOS 2020 SC-2 Report
- October 2015: CLIVAR Exchanges Article: *TPOS 2020 Project: The Role of Research and Innovation*
http://www.clivar.org/sites/default/files/documents/Exchanges_OceanObs_No67_0.pdf
- June 2015: The Mercator-Ocean Scientific Newsletter: “TPOS2020: TROPICAL PACIFIC OBSERVING SYSTEM

- FOR 2020” By S. Cravatte, A. Ganachaud, B. Dewitte, F. Hernandez, Newsletter #52 (<http://goo.gl/rKbvh6>)
- Mar. 2015: Published article in WMO Bulletin: “Progress in Observing and Predicting ENSO”, (Vol 64 (1) – 2015)
 - Feb. 2015: US CLIVAR Variations: “ENSO observing system: Past, present, and future”
 - Dec. 2014: TPOS 2020 Project Prospectus
 - Dec. 2014 TPOS 2020 SC-1 Report
 - Mar. 2014: Terms of Reference for TTs

Project Function:

The SC will provide scientific and technical oversight for the planning, system design, and implementation of the TPOS. This group will assess the evolving set of requirements through dialogue with relevant users and stakeholders, and coordinate a set of (pilot) projects designed to test and evaluate options. The SC will assess potential technology options for delivering a more effective and efficient TPOS including relevant scientific/expert panels and bodies. Together with the Resources Forum, the SC will manage communication and reporting.

Point of Contact:

Sr. Project Manager, Andrea McCurdy-> amccurdy@oceanleadership.org

Resources Forum

- Chair: Craig McLean, NOAA Oceanic and Atmospheric Research

Current Month Activities:

- No updates this month.

Upcoming Activities:

- 2015 and 2016 Milestones and opportunities for meetings reviewed by members.

Last Month’s Activities:

- No reported activities this month.

Published/Posted Materials:

- July 2015: TRF-1 Report (available on the TPOS 2020 website)
- Mar. 2014: Terms of Reference (available on the TPOS 2020 website)

Project Function:

The TPOS 2020 TRF will 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 SC. It will promote and encourage contributions from institutions, Official Development Assistance agencies, participating and non-participating countries, and expand membership of the TRF as necessary; including the exploration of bilateral and multi-lateral partnerships. The TRF will coordinate resources that may be applied to the TPOS, including necessary observing research, technology development/testing, modelling, scientific analysis, infrastructure (e.g., ship resources and/or deployment of observing assets), along with Project Management and travel support.

Point of Contact:

Sr. Project Manager, Andrea McCurdy-> amccurdy@oceanleadership.org

Executive

This Month's Activities:

- No reported outcomes this month

Upcoming Activities:

- No activities planned.

Published/Posted Materials:

- There are no published materials at this time.

Project Function:

Under development by the SC Co-chairs and TRF Chair

Point of Contact:

Sr. Project Manager, Andrea McCurdy-> amccurdy@oceanleadership.org

Backbone Task Team

- Co-Chairs: Susan Wijffels, CSIRO / Sophie Cravatte (SC Member), Centre IRD

This Month's Activities:

- Led and managed the process of generating the zero order draft, completing sections as needed
- Contributed to the content to be featured in the First Order Draft of the Report
- Provided 1st Order Draft Expert Reviewer names

Upcoming Activities:

- Distribute the initial draft of the Interim Report to the TPOS 2020 SC and TT members along with the project-wide generated list of Expert Reviewers.

Last Month's Activities:

- Conducted a WebEx meeting to discuss the progress of the Interim Report on the 4th February with co-chairs of all TTs attending.
- The meeting discussed the progress of the report and entertained suggested modifications – these actions were tracked and incorporated as appropriate into the report.
- A formatted and revised version of the report has been produced and distributed by the BB TT Co-Chairs to lead authors.

Published/Posted Materials:

- Dec. 2014: Terms of Reference (available on the TPOS 2020 website, see: Groups and Outcomes)

Project Function:

Through an integrated approach the Backbone TPOS will achieve its objectives through a combination of in situ and remote sensing approaches, augmented as appropriate with advice from models and data assimilation. Sampling for the Backbone has as its goal to:

- (a) Observe and quantify the state of the ocean, on time scales from weekly to interannual/decadal;
- (b) Provide data in support of, and to validate and improve, forecasting systems;
- (c) Support calibration and validation of satellite measurements;
- (d) Advance understanding of the climate system in the tropical Pacific, including through the provision of observing system infrastructure for process studies; and
- (e) Maintenance and, as appropriate, extension of the tropical Pacific climate record.

Point of Contact:

Associate Project Manager, Ana Lara-Lopez-> Ana.Lara@utas.edu.au

Planetary Boundary Layer Task Team

- Co-Chairs: Meghan Cronin, NOAA PMEL / Tom Farrar (SC Member), WHOI

This Month's Activities:

- Co-Chairs contributed to the Interim Report as Contributing Lead Authors and coordinated TT material into the draft
- Provided insightful content and feedback regarding the Interim Report layout and structure.

Upcoming Activities:

- Continue to contribute to the Interim Report as required.
- Review and update tracked Actions.

Last Month's Activities:

- Provided content and feedback regarding the Interim Report layout and structure.
- Co-Chairs attended face-to-face meeting while at the Ocean Sciences Meeting.

Published/Posted Materials:

- Dec. 2014: Terms of Reference (available on the TPOS 2020 website, see: Groups and Outcomes)

Project Function:

The observational needs regarding improved monitoring and modelling of ocean surface and near-surface processes are likely to have two components: sustained detailed observations and process studies. It is the role of this Task Team to identify which requirements are best met via a sustained observing effort (> 5 years-11), and which can be addressed with specific short-term process campaigns.

Point of Contact:

Deputy Project Manager, Lucia Upchurch-> lucia.upchurch@noaa.gov

Modelling and Data Assimilation Task Team

This Month's Activities:

- Provided review and comments to the Interim Report

Upcoming Activities:

- Near and mid-term Actions agreed to and scheduled
- Generate content for inclusion in the Interim Report, 2016

Last Month's Activities:

- Based on notes and actions taken during the inaugural teleconference the TT is scheduling a follow-up meeting.
- Continued to contribute to the Interim Report as needed.

Published/Posted Materials:

- Dec. 2014: Terms of Reference and Members (available on the TPOS 2020 website, see: Task Teams)

Purpose in Project:

A significant fraction of the observational effort will need to be directed towards improved understanding of

processes and mechanisms, which in turn should be coordinated with a program of improved model parameterizations and reduced systematic error; an additional benefit is that such data/model studies also contribute to improved design and reduced inefficiencies of the observing system.

Point of Contact:

Associate Project Manager, Lucia Upchurch, interim-> lucia.upchurch@noaa.gov

Biogeochemistry Task Team

- Co-Chairs: Adrienne Sutton, NOAA PMEL / Pete Strutton (SC Member), Univ. of Tasmania

This Month's Activities:

- Continued communication on how the draft Backbone observing system is evolving and how BGC requirements will be reflected in the Interim Report, 2016, and provided content accordingly

Upcoming Activities:

- The TT is reviewing responses to their online questionnaire on BGC variables and needed technology evolution and development
- Analysis of model output to determine the important time and space scales to resolve.
- Analysis of model data to determine the best longitudes to focus process studies on source waters to the equatorial undercurrent (165°E, 110°W).

Last Month's Activities:

- During the Interim Report videoconference the TT Chairs agreed to a level of BGC contribution and drafted content accordingly.
- Co-Chair, Sutton attended the face-to-face meeting while at Ocean Sciences.
- Contributed to the Interim Report as needed.

Published/Posted Materials:

- Dec. 2014: Terms of Reference (available on the TPOS 2020 website, see: Groups and Outcomes)

Project Function:

The role of the Biogeochemistry Task Team (BGCTT) is to evaluate and recommend the most promising focii, and to provide advice on possible solutions. The Biogeochemistry Task Team will begin with carbon biogeochemistry as its core scientific concern. Here will be the consideration of the term biogeochemistry to include primary productivity (noting that the Backbone Observing System likely includes ocean color satellites) but not higher trophic levels (zooplankton to fish).

Point of Contact:

Associate Project Manager, Ana Lara-Lopez-> Ana.Lara@utas.edu.au

Eastern Boundary Task Team

- Co-Chairs: Yolande Serra, University of Washington / Ken Takahashi (SC Member), Instituto Geofísico del Perú

This Month's Activities:

- The TT Co-Chairs have contributing content and been focused on providing TT produced content and input into the Interim Report.
- The TT continues to review responses to the online survey.

Upcoming Activities:

- Based on the survey results, the TT will engage atmospheric scientists, modellers and specialists in convection, among others in a dialog focused on a possible Eastern Pacific ITCZ/warm pool/cold tongue/stratus system strawman study.
- Take the Eastern Pacific equatorial-coastal waveguide & upwelling system ideas to the next stage in the form of a Pilot Project that might be used to test technology options and to provide further insights on the eastern Pacific elements of the Backbone and other contributions to TPOS.

Last Month's Activities:

- The TT has been focused on providing content and input into the Interim Report.
- The TT is reviewing early responses to the online survey.

Published/Posted Materials:

- Jul. 2015: Terms of Reference (available on the TPOS 2020 website, see: Groups and Outcomes).

Project Function:

Task Team to focus on the eastern Tropical Pacific boundary region; giving priority to engaging regional experts and institutions. In addition to defining needed observations, goals of the TT could include: (a) Capacity building for improved sustained observing capability; and (b) Facilitation of the development of a regional research project, which may contribute guidance toward a sustained observing system.

Point of Contact:

Associate Project Manager, interim -> Lucia Upchurch, lucia.upchurch@noaa.gov

Western Pacific Task Team

- Co-Chairs: Janet Sprintall, Scripps / Kentaro Ando, (SC Member) JAMSTEC

This Month's Activities:

- Supported activities in support of the China-Japan-ROK workshop conducted in late February, early March. The following two activities have been suggested for TPOS 2020 consideration:
 1. Collecting and sharing the cruise information in the western pacific. Guang can help collect this information routinely.
 2. Sharing the ship time and instruments. This is very challenging. But we do see the initial interests from JAMSTEC (providing buoy) and IOCAS (providing ship time), which should be followed.
- The TT Co-Chairs have contributed content, and have been focused on providing TT produced content and feedback into the Interim Report.
- Posted minutes from the inaugural meeting on the TPOS 2020 website (see Task Teams)
- Briefed TPOS 2020 mission to CLIVAR in order to facilitate interaction among teams

Upcoming Activities:

- Continue to provide Interim Report content as needed.
- Launch the process of researching and publishing regional ship time and availability

Last Month's Activities:

- Conducted very successful inaugural face-to-face meeting at Ocean Sciences on February 24.
- Agreed to TT Terms of Reference, finalized membership, and posted online.
- Welcomed Dr. Guang Yang as Associate Project Manager (located in Qingdao DPO node). He will work with the TT to meet objectives and goals.
- Supported activities in support of the China-Japan-ROK workshop conducted in late February, early March. (More details will be provided in the March MSR.)
- Provided content to the Interim Report. Co-Chairs attended Interim Report face-to-face OSM meeting.

Published/Posted Materials:

- Feb. 2016: Terms of Reference (available on the TPOS 2020 website, see: Task Teams).

Project Function:

This group will take advice on a project to be conducted in the Western Pacific. Once underway they will advise on mechanism for the project's development and oversight.

Point of Contact:

Guang Yang-> gyang@fio.org.cn

Distributed Project Office

This Month's Activities:

- Supporting the versioning and formatting of the Interim Report to support the needs and desires of the report authors, most notably the Backbone TT Co-Chairs.
- Website 'development' site is currently under review by project members and final content is being drafted for posting.

Upcoming Activities:

- Management and oversight of the First Order Draft Expert Review process
- Take advisement on preferred method for tracking and adjudicating Interim Report comment process. of revised Intranet designed to create a more logical, secure, and data friendly platform for collaboration
- Extend invitations to Engagement Action Panel members
- Creation of Project Year Two Annual Work Plan and associate Integrated Master Schedule

Last Month's Activities:

- Version 2 of the TPOS 2020 Slide Set has been released (it reflects progress made during the first project year and the messages and milestones agreed to at the SC-2 meeting).
- Supporting the versioning and formatting of the Interim Report to support the needs and desires of the report authors, most notably the Backbone TT Co-Chairs.
- Managing the articulation and tracking of Interim Report Actions for timely delivery into the Report.
- Drafted and managed the review and approval of a TPOS 2020 poster for presentation at the GCOS Science Conference in early March.
- Website 'development' site is currently under review by project members and final content is being drafted for posting.

Published/Posted Materials:

- Released: Project Management Plan V1
- Consultative Draft: Project Execution Plan V1

Project Function:

The DPO will develop communications, and coordination tools that will facilitate integrated decision making, and provide access to relevant deployment and observing asset decision making tools. The DPO will support the suite of tools and activities required to track the commitments to all aspects of TPOS 2020 and to facilitate integrated decision making across networks, groups, agencies, and nations; during the project and throughout the lifecycle of the observing system beyond TPOS 2020.

Point of Contact:

Senior Project Manager -> Andrea McCurdy, amccurdy@oceanleadership.org

CROSS-PROJECT DEPENDENCIES AND OPPORTUNITIES

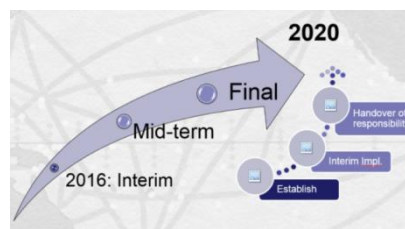
The draft timeline for 2016 Interim Report activities are provided below. This highly collaborative endeavor will be led by the Backbone TT with contributions from all project groups along with external authors and reviewers:

1. Selection of Coordinating Lead Authors was completed in January 2016
2. Preparation of 1st draft Interim Report outline was completed in December 2016
3. Formalize the Review Process:
 - First Review (by experts; April 2016).
 - Preparation of revised/2nd draft
 - Second Review (by stakeholders and experts; June-July 2016).
4. Preparation of final draft Report, October 2016
5. Acceptance of Report at the 3rd Session of the TPOS 2020 Steering Committee

PROJECT SCHEDULE

No Update: During the SC-2 the Co-Chairs outlined a staged process, with an initial “Interim Report” published in 2016; a Mid-term Report publish in 2018, and a Final Report with the closure of the Project in. The Interim Report would contain initial recommendations for the design of the Backbone (the outline was described at this meeting), but also a synopsis of initial results and plans for the various initiatives sponsored by TPOS 2020.

The Co-Chairs noted that nothing is “final” until 2020 but that interim reports or updates should progressively guide stakeholders on recommended changes, with indications on the degree of confidence (certainty). Within this context of phased reports, the Backbone Task Team can be regarded as the focus of consolidation and prioritization, with the other Teams leading innovation and change.



SPONSOR CONTRIBUTIONS

In addition to the in-kind self-support agreed to during the January TPOS Workshop, the following explicit sponsorships have been recorded thus far:

- February 2016: The project welcomed Dr. Guang Yang as Associated Project Manager sponsored by the First Institute of Oceanography and hosted by the International CLIVAR office in Qingdao, China.
- October 2015: SC-2, CSIRO as host, IMOS and IMAS providing event support
- October 2015: SC-2 and Backbone TT participant travel assistance provided by NOAA, NASA, and IOC
- August 2015: PACE-NET PLUS is supporting expert speaker and participant travel, and local costs at the Backbone Task Team face to face meeting at IRD in Noumea, New Caledonia.
- August 2015: NOAA COD and NASA providing travel support for Backbone Task Team member travel and DPO support of the face to face meeting in New Caledonia.
- April 2015: Launched DPO Node negotiations with the First Institute of Oceanography (FIO) of China, for possible initiation in late 2015
- Mar. 2015: Integrated Marine Observing System (IMOS), DPO Node (Associate Project Manager and SC-2 Support)
- Dec. 2014: NOAA Climate Office, DPO Support (0.5 FTE DPO Project Manager)
- October 2014: KIOST, SC-1 Hosting
- October 2014: GOOS support for SC-1; GCOS for WMO and IOC briefings
- Aug. 2014: NOAA PMEL – Project Management Support (0.2FTE DPO Deputy Project Manager)
- Aug. 2014: NASA - Interim Project Management Support (0.30 FTE in 2014)
- Jul. 2013: OOPC Project Management and Coordination (Secretariat)