



April 2016 Monthly Status Report

Monthly Status Report (MSR) Release Date: May 16, 2016

Summary:

This month on 21/22 April the TPOS 2020 Steering Committee convened its annual Interim meeting via WebEx for a 1.5 hour session. Given the recent distribution of the 1st Draft of the 2016 Interim Report on April 13, the meeting was focused on the timeline for review and comment leading to release in December 2016. (The complete timeline for 2016 is below under Highlights.)

During the first segment of the meeting Item 1: Interim Report, a presentation was given on the purpose, content, processes, and thrusts. Following an overview of the Report contents and highlights, the role of the SC was reviewed (please see the detailed discussion on pages 3-5).

During the Item 2: Activities and Considerations Leading to SC-3, it was emphasized that beyond the three Backbone options described in the Interim Report there are still process studies, pilot projects, and other considerations that will also be presented. It was noted that some of these will still need to be articulated and vetted by the SC. It was agreed that the SC will hold a session the first week of July to further discuss these ideas and plans. An update on stakeholder support and engagement was provided.

The next item, Item 3: Task Team Round Table a Co-Chair from each of the TTs provided an update on specific progress on the SC-2 Actions, their plans to address those that are yet to be completed, and other items in need of SC consideration at this time (please see notes from this discussion on page 6).

The final agenda item, Item 4: SC-3, focused on confirmation of the sponsor and venue for the SC-3 meeting. Ken Takahashi will arrange for the hosting of the meeting in Lima, Peru the week of 23-30 October, 2016. The focus of the sessions will be centered on the Interim Report and additional plans still in need of SC review and comment.

Highlights:

The milestones and deadlines for the review and comment on the 2016 Interim Report is below. For more information please see the website: <http://tpos2020.org/project-reports/interim-report-2016/>

- First Draft sent to Expert Reviewers, April 13
- Deadline for comment, May 20
- Second Draft released, July 20
- Deadline for comment, Sept 20
- Focus of SC-3, week of Oct. 23-31
- Released, December 2016

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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March Monthly Status Report (MSR)

Release Date: May 16, 2016

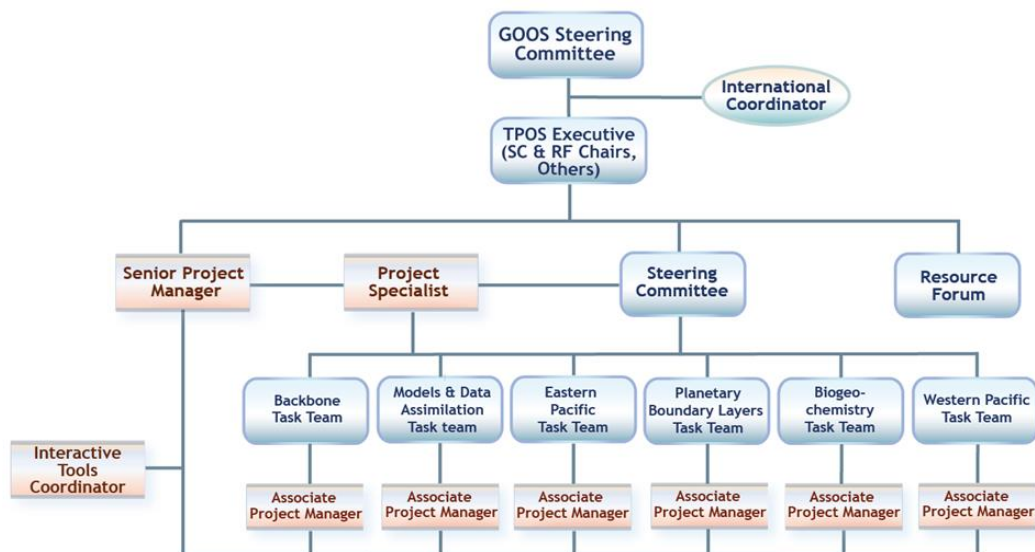
Background: The TPOS 2020 Project will evaluate, and where necessary advocate change in all elements that contribute to the Tropical Pacific Observing System (TPOS), based on a current understanding and technical capability. The project aims for enhanced effectiveness for all TPOS stakeholders, and informed 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

An excerpt from the SC-2 Interim Report is found below. The released Report complete with conference attendees, the approved agenda, and an update to the SC-2 Action Tables can be found on the website: <http://tpos2020.org/project-reports/steering-committee-reports/>

Report of the Second Interim Meeting of the TPOS 2020 Steering Committee 21/22 April, 2016: Conducted via Video Conference

The discussions listed in this report were recorded based on the conversation conducted among the session participants based on the Agenda. Slight changes were made to the agenda to accommodate Interim Report presentation needs. The SC-2 Actions were updated following the Interim session based on SC and TT Co-Chair comments provided to the DPO Project Managers.

Item 1: 2016 Interim Report

Co-Chair Neville Smith provided an overview of the process and timeline adopted for the drafting and completion of the 2016 Interim Report. He provided an overview of the dates listed in the agenda and commented that this creates a tight timeline for full community review, comment incorporation, and consideration by the SC in late October. The dates reviewed are listed below:

- First Draft sent to Expert Reviewers, April 13
- Deadline for comment, May 20
- Second Draft released, July 20
- Deadline for comment, Sept 20
- Focus of SC-3, week of Oct. 23-31
- Released, December 2016

Co-Chair Billy Kessler then provided a presentation focused on the purpose and key content contained within the 2016 Interim Report. At the appropriate time during the review cycle, the Report and a method for commenting will be made available on the TPOS 2020 website:

<http://tpos2020.org/project-reports/interim-report-2016/>

2016 Interim Report Introduction

- The Report primarily covers the backbone measurements and options under consideration. However, this is not all that the report will do.
- While the 1st Draft now under review by a short-list of reviewers, a second draft will be reviewed by the larger community in late July. While the initial draft and the current draft were primarily organized by the Backbone TT, the SC will now need to take a larger role. The revision may involve substantive decisions and the authors will need to consult with the SC over the next 2-3 months. Members were encouraged to read the report and be prepared to advise and consult.
- The SC Members were reminded that this is the first of three reports. A Mid-term Report will be released in 2018 and a Final Report will be released in 2020.

Report Coverage

- An overview of what the Report covers was presented.
 - Why: The recommendations are based on user community needs, stakeholders and perceived benefits to the observing system.
 - What: Examination of the variables to be sampled, where, how often. Based on this set of requirements content is presented on potential ensuing risks based on the changes, or from loss of specific data.
 - How: Available technologies are what are under consideration along with an integration of satellite data.
- A review of the Backbone ToR was provided to remind the SC of the key function of the backbone array (<http://tpos2020.org/task-teams/backbone-task-team>), A summary is provided here:
 - Observe and quantify the state of the ocean
 - Provide data in support of forecasting systems
 - Support integration of satellite measurements
 - Advance understanding of the climate system
 - Maintain and extend the tropical Pacific climate record

Report Content and Thrusts

- An overview of the Report chapter headings was provided.
- The SC was reminded that the plan has two distinct but related goals:
 - Improve sustained quantification of the ocean state
 - Improve the understanding of processes now poorly represented in models

Overview of Three Options

- The report contains three options
 - Minimum configuration
 - Preferred backbone
 - Retain TAO/TRITON plus enhancements
- The options or recommendations contain only mature technology for the backbone. While some technology may mature over the next several years by virtue of funded pilot studies, they are not currently part of the design.
- It was also noted that the costs for the options were not estimated. This is a future consideration, but not a part of this draft.
- The design philosophy was presented:
 - Multi-purpose, integrated, resilient, maintain climate record
 - Use each technology for its strengths, seek complementarity
- A brief overview of current key technologies was then presented

Option One

- The Option 1 map was presented describing advances, new reliances, and trade-offs. This was presented along with a panel showing changes in mooring configuration and the differences noted from the current TAO capability.

Options 2 and 3

- Options 2 and 3 were also presented. Option 2 benefits over Option 1 are its resiliency primarily due to its redundancy in design. Option 3 was shown to maintain all of the TAO/TRITON capability along with additional moorings.

Role of the SC this Year

- The session presentation ended with an overview of the role of the SC this year leading to the release of the Interim Report in December 2016. The SC was encouraged to be prepared to:
 1. Read report, comment, improve, fill gaps
 2. Be prepared to work on revisions
 3. Continue work on non-backbone related pilot, process studies and be prepared to evaluate other's ideas
 4. Be mindful of how the report and its recommendations may appeal to home institutions and funders
- It was noted that the Project Reports will ultimately be the core business of the SC. As such their involvement is critical. And that the section of the report on 'Future Directions' will be an important part of the released 2016 Interim Report and is the domain of the SC.

Item 2: Activities and Considerations Leading to SC-3

Additional TT Work Plans

There are several proposed ideas under development. These efforts are an important element of the TTs work; they need to be developed so that they can be brought forward for SC review and evaluation.

The Modelling and Data Assimilation Team was encouraged to provide input in the Interim Report and to create material for an Appendix as appropriate.

Stakeholder Support and Engagement

- NOAA: Neville Smith reported that NOAA will support four proposal under the TPOS solicitation. It was noted that this will be of great benefit to the Project and the observing system.
- China-ROK-Japan Summit: Ken Ando reported on the very positive results of the Summit. In support of the discussions the DPO will work with the WP-TT to organize and post ship-time availability and capability content on the website. A high resolution model inter-comparison study was also agreed to. The Eastern Indian Ocean cruises will seek observation and biology study coordination.
- WMO: Neville Smith reported that in the next Congress TPOS 2020 may have an opportunity to report on recommendations from the Mid-term Report. It is advisable to have these prepared in time as this may prove important for the engagement of meteorological services.

Item 3: Task Team Round Table

The meeting then turned to brief reports from the TT Chairs on recent progress toward SC-2 Actions, items in need of attention, or new information of relevance to the Project.

Backbone: Susan Wijffels (on behalf of Sophie Cravatte) acknowledged the work that had concentrated on the Interim Report to date, but reminded all of the remaining challenge related to timing and sufficiently dividing the work in order to allow for the group to complete the Report on schedule. The SC Co-Chairs agreed to assist in bringing the resources of the SC on board.

A round of thanks was given again to the Author Leads and the Contributing Authors.

Planetary Boundary Layer: Meghan Cronin (on behalf of Tom Farrar) reported that a meeting of the TT was being scheduled. The primary focus was to gather feedback on the Interim Report in a timely manner and to ensure that they are prepared to contribute content on the strawman and process studies for the next version of the Interim Report. The SC Co-Chairs noted that some additional flexibility was available to TTs to consolidate feedback on the 1st Draft (until 27 May).

Biogeochemistry: Adrienne Sutton (on behalf of Peter Strutton) reported that the team will be working closely over the summer on the Interim Report, and will also plan a session at AGU with the goal of getting better community input.

Modelling and Data Assimilation: Arun Kumar reported that the Task Team is scheduled to have a meeting the first week in May. The focus will be on providing comments to be included in the Interim Report by June. It was further noted that this team's contribution is important as TPOS 2020 is not just an observation project but is also concerned with the integration of data into assimilation products, and a close link with this user base will result in the maximized use of the observing system information and products.

Eastern Pacific: Ken Takahashi reported that the TT has been primarily focused on producing content for the Interim Report, and will now shift their focus to their SC-2 actions and strawman proposals. The TT has also produced an online survey and is now in the process of analysing the results with plans to incorporate them into their work-plans going forward.

Western Pacific: Ken Ando reported on the successful outcome of their recent inaugural meeting in New Orleans. An important outcome was an agreement on the necessary input to the Interim Report. During the next meeting in a few weeks, additional effort will be focused on collecting information on cruises in the region, adding additional members in the region, and giving more attention to the low level Western Boundary Current and the Wyrтки Challenge.

Item 4: SC-3 Location and Focus

The SC-3 meeting will be hosted by Ken Takahashi in Lima, Peru. Ken is presently negotiating with IMARPE and the Navy to provide space and meeting support. The agenda will be focused on the 2016 Interim Report. It may be that a concerted effort may be needed to focus on recommendations presented in the second draft of the Report. It was also suggested that the Executive Summary may warrant a line-by-line review and comment.

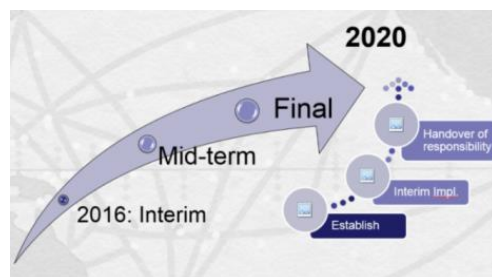
CROSS-PROJECT DEPENDENCIES AND OPPORTUNITIES

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 Draft sent to Expert Reviewers, April 13
 - Deadline for comment, May 20
 - Second Draft released, July 20
 - Deadline for comment, Sept 20
4. Preparation of final draft Report, October 2016
5. Acceptance of Report at the 3rd Session of the TPOS 2020 Steering Committee, Released December 2016

PROJECT SCHEDULE

- 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 Project has also launched initial efforts toward the articulation of a TPOS 2020 Transition Plan.
- The WP-TT has also launched a ship and cruise availability document that will be posted on the website.



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)