



TPOS 2020

Monthly Status Report

September 2015

Monthly Status Report (MSR)

Release Date:

October 12, 2015

Summary:

This month saw the first face-to-face meeting of a Task Team. The Backbone Task Team was hosted by IRD in Noumea, New Caledonia on September 16-18. The project was highly successful in positioning the team for a highly effective Steering Committee meeting in October.

The bulk of project activities were focused on steady planning for SC-2 Meeting in Hobart, Tasmania hosted by CSIRO with support from IMOS, and IMAS. The SC, each TT, and working group are preparing summary reports and recommendations for SC consideration during the sessions. Additional sessions are focused on TPOS contributions and related activities. The Project structure, operation, and metrics will also be reviewed and discussed.

Highlights:

Steering Committee:

- Draft Agenda for TPOS 2020 SC-2 has been reviewed and is under revision.

Backbone Task Team:

- First Backbone task team meeting held, with generous support by Pacific-Europe Network for Science, Technology and Innovation (PACE-NET Plus) and hosted by SC member Sophie Cravatte and the Institut de Recherche pour le developpement (IRD).
- In person attendees included co-chairs Sophie Cravatte & Susan Wijffels, Billy Kessler, Tony Lee, Lisan Yu, Dean Roemmich, Janet Sprintall, Pete Strutton, Tommy Moore, Shayne McGregor, Christophe Menkes, Jerome Aucan.
- Ken Ando, Alex Ganachaud, Neville Smith, Matt Wheeler, and other TT co-chairs joined remotely.
- The BB TT received feedback from other task teams to begin preparing their Strawman to put together a short report in advance of the SC-2.

Planetary Boundary Layer Task Team:

- Feedback to the Planetary Boundary Layer Questionnaire was consolidated into single documents of responses per question
- A presentation outlining typical, popular, or notable responses was shared with the BB TT during the BB TT meeting via teleconference.

Eastern Pacific Task Team:

- Strawman for EP observations was drafted following the first teleconference.

Biogeochemistry Task Team:

- BGC co-chair Pete Sutton presented current BGC data used from TPOS observations and some preliminary recommendations for sustained observations at the BB TT meeting.

Modelling and Data Assimilation:

- Co-chair identified- Eric Guilyardi from the University of Reading.

Western Pacific Working Group:

- A Consultative Draft report has been created and is under review and revision.

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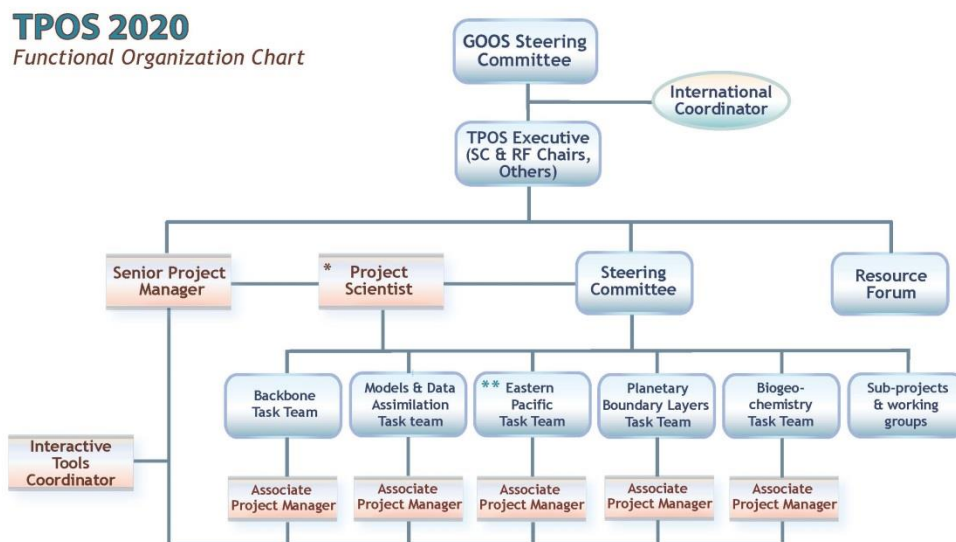
Background: The TPOS 2020 Project will evaluate, and where necessary advocate change in all elements that contribute to the Tropical Pacific Observing System (TPOS), based on a current understanding and technical capability. The project aims for enhanced effectiveness for all TPOS stakeholders, and informed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



* This role is currently being explored and developed
 ** This Task Team and its role are still under consideration

KEY ACCOMPLISHMENTS AND NEAR-TERM PROJECT MILESTONES

Steering Committee

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

Current Month Activities:

- Advised on SC-2 logistics details including invitations to Task Team co-Chairs, expert speakers and observers.
- Circulated for comment the SC-2 annotated Agenda listing topics and desired outcomes for each discussion.
- Circulated for comment a supporting document for the Western Pacific project.
- Supported the convening of the inaugural meeting of the Eastern Pacific Task Team.

Upcoming Activities:

- Continue to support the planning and logistical needs of the SC-2.
- Formalize plans for engagement based on the Engagement Plan including a timeline and Advisory Action Panel member suggestions.

Last Month’s Activities:

- Advised on SC-2 logistics details including invitations to Task Team co-Chairs, expert speakers and observers.
- Circulated for comment the SC-2 annotated Agenda listing topics and desired outcomes for each discussion.
- Prepared and distributed discussion/report templates designed to guide Task Team and Related Project conversations toward actionable plans post SC-2.
- Under the leadership of Arun Kumar, the co-Chairs continued to seek agreement among SC members on a Modelling and Data Assimilation TT path forward.
- Supported the convening of the inaugural meeting of the Eastern Pacific Task Team. Ken Takahashi and Yolande Serra will co-Chair this team. (See Eastern Pacific TT section of the report for more details.)
- Both co-Chairs conducted a planning session among a small group of SC members, designed to form agreement on the structure and purpose of a Western Pacific Group attended by Ken Ando, Weidong Yu, Dake Chen, Dongchull Jeon, Sophie Cravatte.

Published/Posted Materials:

- 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:

- There are no reported activities this month.

Upcoming Activities:

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

Last Month's Activities:

- TRF-1 Report Released and posted (See: Documents > TPOS 2020 Released Documents)
- Responses to Interim TRF Chair, Craig McLean's letters have been collated and reviewed.
- Membership in the TRF has been formalized and membership posted on the website. (See: Groups and Outcomes > Resources Forum > RF Members&Affiliation)

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:

- Formal responsibilities and ToR to be drafted in summer 2015

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 de Noumea

This Month's Activities:

- First face to face Backbone Task Team (BB TT) meeting held in Noumea, New Caledonia
- Three days of presentations and discussions around the requirements of the backbone observing system
- Two strawmen were presented by the two subgroups of the TT; Given their similarity, it was decided to combine into a singular recommendation of priorities for input to the upcoming SC-2 meeting

Upcoming Activities:

- Draft and finalize a paper outlining priorities recommended by the BB TT for presentation and discussion at the SC-2
- Attend the SC-2 meeting in Hobart
- Led by the co-Chairs, team members will prepare a summary of Backbone TT activities for the GODAE meeting in November.

Last Month's Activities:

- Details for the BB TT F2F meeting have been worked through.
 - PACE-NET PLUS funding has been offered to assist with the meeting's organization, travel expenses, and local costs.
 - In the planned absence of Ana Lara-Lopez, Lucia Upchurch will be supporting this meeting on behalf of the DPO.
- An agenda for the F2F meeting has been circulated to all members for discussion.
- Several members will be attending the meeting via video conference. Ongoing planning and technology testing was conducted throughout the month.
- An invitation has been extended to two external people, Shayne McGregor, ENSO dynamicist from Monash University and Tommy Moore, from Pacific Island GOOS Regional Association will be attending the sessions to help with discussions.
- Final draft of the BB TT second videoconference record is available in the Google drive.

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 Layers Task Team

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

This Month's Activities:

- Consolidation and synthesis of responses to the questionnaire
- Presentation made to BB TT meeting to outline the backbone observing system priorities from the needs of the PBL community
- Draft a paper that summarizes the questionnaire input, to provide requirements and recommendations to the SC-2 meeting

Upcoming Activities:

- Finalize a paper that summarizes the questionnaire input, to provide requirements and recommendations to the SC-2 meeting
- Attend the SC-2 meeting in Hobart

Last Month's Activities:

- PBL TT finalized its community survey and distributed to the wider community including the WMO Rolling Review of Requirements (RRR) Application Area (AA) Points of Contact (PoCs).
 - Currently, there are ~18 respondents including task team members.
 - The survey will collect input until Sept 12 in order to provide input to the backbone TT meeting.
- Based on a template for the 2-page strawmen were produced and delivered for consideration.
- More formal recommendations in the form of a white paper will be due prior to SC-2.
- Strawmen topics:
 - SPURS-2 Enhancements (Proposal will be submitted to the NOAA call)
 - YMC Enhancements (strawman received)
 - MJO/diurnal cycle process study (strawman received)
 - Pacific Upwelling and Mixing Physics (included in double ITCZ strawman)
 - Diurnal Cycle Rectification and Interaction with Multiscale Variability (strawman received)
 - Double ITCZ (EP TT created strawman for this)
 - Data Assimilation (strawman received)
- A work plan leading up to the BB-TT meeting and SC-2 meeting was laid out.
 - August 1, deadline for 2-page strawman whitepapers
 - August 3, Questionnaire distributed
 - September 10, Deadline for Questionnaire responses
 - September 15, Questionnaire responses synthesized into a presentation of results for input into the Backbone Task Team meeting (Sept. 16-18)
 - October 14, Questionnaire responses synthesized into a White Paper report for the TPOS2020 Steering Committee (SC-2) 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 Discussion

This Month's Activities:

- Eric Guilyardi accepted the role of TT co-chair for this group
- Explore data assimilation issues that should be addressed during the SC-2 session
- Ongoing exploration of how to best meet the needs of the modelling community, several ideas have been generated and solutions being discussed and follow-up activities underway

Upcoming Activities:

- Draft Terms of Reference will be modified and sent to SC members for review.
- Group membership identified.
- SC Members may be asked to generate short summaries of what they perceive as TPOS M&DA needs, and how the Project might go about meeting those needs.

Last Month's Activities:

- Explore data assimilation issues that should be addressed during the SC-2 session
- Ongoing exploration of how to best meet the needs of the modelling community; several ideas have been generated and solutions are being discussed along with potential follow-up activities.

Published/Posted Materials:

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

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 parameterisations 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, Hannah Dean-> hdean@oceanleadership.org

Biogeochemistry Task Team

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

This Month's Activities:

- 2nd teleconference held early September
- Presentation made at the BB TT meeting to describe the sustained observations that should be maintained for the BGC climate record and other requirements the TT is considering for prioritization
- 3rd teleconference held in late September to summarize the BB TT strawman, discussion of implications and therefore recommendations the BGC should make for the backbone observing system
- Draft of BGC observing requirements for the SC-2 meeting

Upcoming Activities:

- Finalize BGC paper outlining observing requirements and strategy for the SC-2 meeting
- Attend the SC-2 meeting in Hobart

Last Month's Activities:

- BGC second videoconference was conducted on the 4th of September:
 - It was agreed to divide the group into 4 subgroups
 - Each group will prepare the documentation to explain clearly the science questions for the BGC TT.
 - This will need to be done before the Backbone Task Team meeting that I'll attend Sep 16-18.
- It is intended that a third telecom takes place after the BB F2F on the week of September 21

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 foci, 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:

- Presentation to the BB TT of the status of the EP TT and some draft priorities for the backbone observing system

Upcoming Activities:

- High-level schedule agreed to
- Draft paper outlining observing requirements and strategy for the SC-2 meeting
- Attend SC-2 in Hobart

Last Month's Activities:

- EP TT had their inaugural videoconference on August 14th.
- Ken Takashi (SC Member) and Yolande Serra have volunteered as co-Chairs.
- Member list posted to the website (See Groups & Outcomes / Task Teams / Eastern Pacific)

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

Sub-projects and Working Groups

Western Pacific Working Group

This Month's Activities:

- Prepared a Consultative Draft report for review and discussion at the SC-2 sessions.

Upcoming Activities:

- Review and approve Working Group Consultative Draft Report:
 - Includes reasons for proceeding with a major project
 - Summarize potential partners and likely timeline
 - Proposed form for new activity: A Task Team-led Project
- Ask the SC to endorse the formation of a Task Team for the Western Pacific.
 - Attach potential Terms of Reference (use models used for other TTs)
 - Suggest potential members

Last Month's Activities:

- Conducted a videoconference among group lead and key SC members
- Agreed to a team structure and purpose
- Western Pacific group activity will be led by Ken Ando
- Plans for next steps agreed to and documented in videoconference notes
- Neville Smith drafted an outline for a paper to report on the conclusions of the work undertaken by the small group and provide a proposal for future activities
-

Published/Posted Materials:

- No publications to date

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:

TBD-> info@tpos2020.org

Time Series/Climate Record

- The Backbone TT has adopted this activity

Published/Posted Materials:

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

Project Function:

This small group consisting SC member and non-member experts will determine criteria for evaluating fixed-point time series, to elaborate on the purpose and utility of time series within TPOS and to identify the highest ranking sites and perhaps any further locations that should be investigated.

Distributed Project Office

This Month's Activities:

- Consultative Draft Annotated Agenda for SC-2 created, revised, distributed
- Provide logistics support for SC-2 attendees
- Provided on-site support for Backbone TT face-to-face meeting
- Drafted and posted for review Backbone face-to-face meeting notes

Upcoming Activities:

- Support SC-2 plans and conduct activities as required:
 - Approval of DPO overview paper (Project Reporting Tools, Engagement Resources)
 - Approval of SC-1 Actions Update

- Engagement:
 - Approval of Engagement Plan
 - Engagement Plan Milestones drafted and agreed to
 - Engagement Advisory Panel members identified and contacted
 - Deliver TRF and SC Chair and Co-Chair briefing on Engagement Plans and Milestones

Last Month's Activities:

- Consultative Draft Annotated Agenda for SC-2 created, revised, distributed
- Provide logistics support for SC-2 attendees
- Provided logistical support for Backbone TT face-to-face meeting

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.

CROSS-PROJECT DEPENDENCIES AND OPPORTUNITIES

[No Update]

The Climate Observation and Monitoring Division of NOAA's Climate Program Office released a Federal Funding Opportunity on 2 July 2015 for "*In Situ* Technologies to Contribute to the Tropical Pacific Observing System (TPOS 2020) Project." In this solicitation, COM invites proposals to advance the readiness of *in situ* observing platforms (e.g. floats, gliders, moorings) and assess their potential to address observational requirements and gaps in the tropical Pacific Ocean region. These advancements will contribute to the Tropical Pacific Observing System (TPOS 2020) Project (<http://tpos2020.org/>). Technology proposed should be at a Technology Readiness Level between 4 and 8 (http://www.sab.noaa.gov/Reports/RRT_Report-080604.pdf ; Appendix V.A).

- LOI Deadline: 30 July 2015
- Proposal Deadline: 23 September 2015
- For more information please visit: <http://cpo.noaa.gov/GrantsandProjects/ClimateProgramOfficeFFO.aspx>

During the SC-Interim call in early April Dongchull Jeon provided an overview of KIOST activities that may be TPOS related. They are summarized below:

- 2016: 6 month ship plan. Crossing Western/Eastern Pacific
- Could bring research vessel to EP. (A CTD Survey across Equator might be basis for future plans)
- Coastal Current monitoring system near Peruvian coast; latter half of 2016, for 4 years, potential to hand to Peruvian agency
- Connection to Equatorial Upwelling in 2016: new research vessel can be committed to around 1 month, for scoping/testing ahead of a larger CP upwelling activity

In addition to the content provided above, over the next several months as TT, Sub-project, and Working group plans and schedules are drafted, this section will list arenas and events where project dependencies and opportunities for coordination will be focused.

PROJECT SCHEDULE

[No Update]

In lieu of a formal project schedule, the project is currently being tracked through Action Tables generated at SC and TT meetings. These Action Tables were updated and presented in the April Monthly Status Report. In time this section of the MSR will provide select glimpses of the Integrated Master Schedule once it is produced. This tool will be brought together once the TTs, sub-projects, and working groups formulate their plans and deliverables.

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:

- 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)