



## Report of the Interim Meeting of the TPOS 2020 Steering Committee

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21/22 April, 2016

Conducted via Video Conference

On April 21/22, 2016 the TPOS 2020 Steering Committee met for an Interim session via video-conference. The discussions from this session are contained within this report.

The discussions listed in this report were recorded based on the conversation conducted among the session participants (see Appendix 1) based on the Agenda (see Appendix 2). 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. These Action Table comments are reported in Appendix 3.

### 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 1<sup>st</sup> 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 to 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 1<sup>st</sup> Draft (until 27 May).

Biogeochemistry: Adrienne Sutton (on behalf of Pete 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.

## Appendix 1: TPOS 2020 SC-2 Interim Session Attendees

### Project staff:

Andrea McCurdy

Lucia Upchurch

Guang Yang

### Task Team Co-Chairs

Meghan Cronin

Adrienne Sutton

Susan Wjiffels

Janet Sprintall

### Steering Committee:

Ken Ando\*

Dake Chen

Neville Smith

Ken Takahashi\*

Dong-Chull Jeon

Billy Kessler

Arun Kumar\*

Dean Roemmich

\* Also serve as Task Team Co-Chairs

## Appendix 2: TPOS 2020 SC-2 Interim Session Agenda



TPOS 2020  
Steering Committee  
Interim Teleconference  
April 21/22, 2016

TPOS 2020 Interim Steering Committee Session		
21/22 April 2016 / Approx. 1.5 hours		
Time	Topic	Discussion Lead
<b>Item 1: Interim Report</b>		
10 min	Status: <ul style="list-style-type: none"> <li>Sent to Expert Reviewers on April 13</li> <li>Deadline for comment May 20</li> <li>Second Draft released July 20</li> <li>Deadline for comment Sept 20</li> <li>Focus of SC-3 (week of Oct. 23-31)</li> </ul>	Smith
10 min	Interim Report Overview	Kessler
5 min	Role of Steering Committee, Lead Authors, Members	Smith/Kessler
<b>Item 2: Activities and Considerations Leading to SC-3</b>		
10 min	Additional TT Work Plans: <ul style="list-style-type: none"> <li>Beyond the Backbone Options presented in the Report</li> <li>Need to be articulated and vetted for SC-3 endorsement</li> <li>Meet the first week of July to discuss early ideas and plans</li> </ul>	Kessler
5 min	Stakeholder Support and Engagement: <ul style="list-style-type: none"> <li>NOAA Projects</li> <li>China-Japan-ROK Summit</li> <li>WMO</li> </ul>	Smith
<b>Item 3: Task Team Round Table</b>		
30 min	Each TT: <ul style="list-style-type: none"> <li>Specific progress/issues with SC-2 Action Tables</li> <li>Plans to address Actions in the next 6 months</li> <li>Are there Survey results/input of note?</li> </ul>	Cravatte (Wijffels), Farrar, Kumar, Strutton, Takahashi, Ando
5 min	General updates / needs from the SC	All
<b>Item 4: SC-3</b>		
10 min	Dates and location	Smith/Kessler/Takahashi
	Focus on Interim Report – due for release in 2016	Smith/Kessler
5 min	Other Items?	All

Appendix 2: TPOS 2020 SC-2 Tracked Actions Update



TPOS 2020  
TRACKED SC-2 ACTIONS  
Updated: 10 May 2016

**ACTION SC-2.1:**

18/11/15	Grp(s)	SC-2: 1	Ownership/Activity/Comments	Due: Oct 2015
Start: TBD	-PBL -SC		Text: PBL TT Co-Chairs to produce a synopsis of the PBL survey responses for inclusion in the SC-2 meeting Report	Closed
<b>Owners:</b>		PBL TT Co-Chairs		
02/12/15	Provided in SC-2 Meeting Report			Completed

**ACTION SC-2.2:**

18/11/15	Grp(s)	SC-1: 2	Ownership/Comments	Due: Oct 2016 Mar 2016
Start: Feb 2016	-BGC -TTs -SC		Text: Form a small group (a representative from each TT plus 1 from the SC to Chair) to consider the potential value of a follow-up survey (Report due by SC-3)	Closed
<b>Owners:</b>		SC Co-Chairs		
02/12/16	Initiate in early 2016			Pending
11/02/16	BBTT have considered it and decided not to go through and do another follow up survey			
12/31/16	BGC developed a questionnaire was drafted and put on the web with the help of Lucia Upchurch and a review of responses will take place at the next BGC telecon			
04/05/16	The Project overall will not be pursuing a Project-wide survey this year. This may be discussed as an option during the SC-3.			Completed

**ACTION SC-2.3:**

18/11/15	Grp(s)	SC-2: 3	Ownership/Comments	Due: Oct 2016
Start: May 2016	-EP		Text: The Eastern Pacific equatorial-coastal waveguide and upwelling system strawman to be further developed into a possible Pilot Project	
<b>Owners:</b>		EP TT		

**ACTION SC-2.4:**

18/11/15	Grp(s)	SC-1: 4	Ownership/Comments	Due: Oct 2016
Start: TBD	-BB	Text: The BB TT to further develop the “Wyrki Challenge” strawman, initially through undertaking a small simulated sampling study using a high-resolution ocean model output		
<b>Owners:</b>		<b>BB TT</b>		
13/11/2015	Tony Lee and Neville Smith talked to the GODAE OV group to organize a modelling study on the feasibility of using the observing system to do that problem. They will research how to do the Wyrki challenge and model output is expected by October 2016			Pending
14/4/16	The interim report describes the type of assessments that could be considered by GODAE OV. The first assessment would be to provide information of how significant the contribution of the produce V'T' is, where V' and T' are sub-monthly variations of velocity and temperature. A second more complex assessment should be only pursue if the first assessment suggests that V'T' has little contributions.			Pending

**ACTION SC-2.5:**

18/11/15	Grp(s)	SC-2: 5	Ownership/Comments	Due: Oct 2016
Start: TBD	-BB	Text: Western boundary transports: BB TT to further consider this as a pilot activity, in parallel with the initial Backbone recommendations, to refine approach, bring in modelling, etc. with a view to bringing back recommendations later in TPOS 2020		
<b>Owners:</b>		<b>BB TT</b>		
14/4/16	BBTT Recommendations for a pilot study are included in the interim report.			Completed

**ACTION SC-2.6:**

18/11/15	Grp(s)	SC-2: 6	Ownership/Comments	Due: Dec 2015
Start: TBD	-SC -MDA -BB	Text: Scope out the ARMOR-3D quantitative assessment study of an integrated Argo, altimeter, mooring observing system, and perhaps use the AtlantOS OSE/OSSE workshop (17-18 December) to develop joint work		
<b>Owners:</b>		BB TT		
02/12/16	Katy gave a presentation and brief to the Co-Chairs.			
04/05/16	Florent Gasparin presented at AltanOS work testing the configuration of different elements in the Tropical Pacific. Results from his work were discussed at the February telecom with the BB TT and co-chairs of the other TT			
04/05/16	PMEL anticipates support for a post-doc in 2017 that could address this gap.			Completed

**ACTION SC-2.7:**

18/11/15	Grp(s)	SC-2: 7	Ownership/Comments	Due: Jan 2016
Start: TBD	-MDA -PBL -BB	Text: Through the Modelling and Data Assimilation Task Team, and in collaboration with the PBL TT, seek links for atmospheric and wave expertise (e.g., with in JCOMM, WGNE, AOPC) around specific points of concern		
<b>Owners:</b>		BB TT		
18/4/16	There is a placeholder in the interim report for this action			Pending

**ACTION SC-2.8:**

18/11/15	Grp(s)	SC-2: 8	Ownership/Comments	Due: Mar 2016 June 2016
Start: TBD	-SC	Text: Contact Tommy Moore (PIGOOS) re. existing activities, capabilities used locally to monitor impacts (e.g., inundation)		
<b>Owners:</b>		K. Hill		

**ACTION SC-2.9:**

18/11/15	Grp(s)	SC-2: 9	Ownership/Comments	Due: Mar 2016 Jun 2016
Start: TBD	-SC	Text: Consider mechanisms to improve delivery of data, products and information, specifically around data integration plans within the JCOMM Observations Coordination Group		
<b>Owners:</b>		D. Legler, K. Hill		
02/12/15	This will require Transition documents			
04/05/16	Neville has drafted a Transition document for initial review by Hill and Legler. There will also be follow-up discussions on the possibility of an ERDDAP pilot during the TPOS 2020 Project timeline. This will likely be discussed during the upcoming review of the Transition Plan.			In Process

**ACTION SC-2.10:**

18/11/15	Grp(s)	SC-2: 10	Ownership/Comments	Due: Nov 2015
Start: TBD	-MDA -SC	Text: Finalisation of the M&DA TT members and sign off by SC Co-Chairs		Closed
<b>Owners:</b>		M&DA Co-Chairs		
02/12/15	Completed by Arun and Eric			Completed

**ACTION SC-2.11:**

18/11/15	Grp(s)	SC-2: 11	Ownership/Comments	Due: Dec 2015
Start: TBD	-MDA	Text: Convene first M&DA TT meeting		Closed
<b>Owners:</b>		M&DA Co-Chairs		
02/12/15	Inaugural teleconference slated for Jan 2016			Pending
01/12/16	Conducted Jan. 7			Completed

**ACTION SC-2.12:**

18/11/15	Grp(s)	SC-2: 12	Ownership/Comments	Due: Oct 2016
Start: TBD	-BB	Text: Consider requirements relevant to, and the adequacy of, the proposed Deep Argo Array for meeting TPOS objectives		
<b>Owners:</b>		BB TT		
13/11/2015	Expected to be completed by October 2016			pending
14/4/16	This has been added in the interim report			Completed

**ACTION SC-2.13:**

18/11/15	Grp(s)	SC-2: 13	Ownership/Comments	Due: Oct 2016
Start: TBD	-BB	Text: Develop guidance on requirements for deep ocean sampling, utilizing tropical Pacific moorings as appropriate		
<b>Owners:</b>			BB TT	
13/11/2015	Expected to be completed by October 2016			pending
14/4/16	This has been added in the interim report			Completed

**ACTION SC-2.14:**

18/11/15	Grp(s)	SC-2: 14	Ownership/Comments	Due: Mar 2016 Jul 2016
Start: Feb 2016	-SC	Text: Schedule a discussion on the observational requirements arising from tropical Pacific intraseasonal variability and predictability		
<b>Owners:</b>			SC Co-Chairs	
02/12/15	Co-Chairs to take up early in 2016, via appropriate experts either as a workshop or telecon. There may planned external workshops that could report out to TPOS 2020.			
04/05/16	The M&DA TT is exploring this Action and the advantages of a stand-alone workshop or one associated with another event. This will be further explored by Neville while in Shanghai in mid-May			Pending

**ACTION SC-2.15:**

18/11/15	Grp(s)	SC-2: 15	Ownership/Comments	Due: Nov 2015
Start: TBD	-PBL -SC	Text: Based on the available Wentz Report outline, and direct engagement with the study authors, develop a TPOS 2020 submission for the Report		
<b>Owners:</b>			T. Farrar, Y. Serra, T. Lee, et. al.	
02/12/15	Tom reports the next round of the report is due late Jan., he is working on a submittal			
01/20/16	Document was submitted by Farrar, O'Neill, Smith, Bourassa (31/12/15)			Completed

**ACTION SC-2.16:**

18/11/15	Grp(s)	SC-2: 16	Ownership/Comments	Due: Dec 2015
Start: TBD	-PBL -SC	Text: Develop a white paper submission on TPOS requirements for the new US National Academy of Sciences Decadal Survey on Earth Sciences		Closed
<b>Owners:</b>			T. Farrar	
02/12/15	Tom et. al. have submitted.			Completed

**ACTION SC-2.17:**

18/11/15	Grp(s)	SC-2: 17	Ownership/Comments	Due: Mar 2016
Start: TBD	-DPO	Text: The DPO to lead a small group looking at ways to improve web access to key materials and communications		Closed
<b>Owners:</b>			A. McCurdy	
02/12/15	Web specialist on contract.			In process
04/05/16	Revised site live – minor edits ongoing			Completed

**ACTION SC-2.18:**

18/11/15	Grp(s)	SC-2: 18	Ownership/Comments	Due: Mar 2016 Jul 2016
Start: Jan 2016	-SC -DPO	Text: The draft TPOS 2020 performance metrics to be further elaborated to include specific milestones and targets		
<b>Owners:</b>			A. McCurdy, N. Smith	
02/12/15	Picked up in early 2016			
04/05/16	This will be taken back up in preparation for the possible TRF-2 meeting in September. The Project leadership will schedule a special session on this topic in mid-June.			Pending

**ACTION SC-2.19:**

18/11/15	Grp(s)	SC-2: 19	Ownership/Comments	Due: Mar 2016 Jun 2016
Start: Jan 2016	-SC -All TT -DPO	Text: The extended Steering Committee should provide an elaboration of the reporting schedule that includes major milestones down to the level of Task Teams		
<b>Owners:</b>			SC Co-Chairs, TT Co-Chairs, DPO	
02/12/15	DPO members to initiate milestone collection in early 2016			
04/05/16	A major milestone has been the creation of content for the 2016 Interim Report and redraft dates. Andrea will work with Project			In process

	Managers to identify additional milestones.	
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**ACTION SC-2.20:**

18/11/15	Grp(s)	SC-2: 20	Ownership/Comments	Due: Mar 2016 May 2016 Jul 2016
Start: Dec 2015	-SC		Text: A paper on a possible TPOS 2020 transition process should be developed, initially in consultation with GOOS and JCOMM	
<b>Owners:</b>		N. Smith, D. Legler, E. Lindstrom		
02/12/15	Early planning underway			
01/12/16	Neville and Katy to meet with IOC and WMO in mid-Jan – this may prove informative as per this process			
04/05/16	Neville has created a draft paper currently being reviewed by Hill and Legler. Eric Lindstrom and Albert Fischer will be sent the draft in order to gather GOOS perspective and feedback (will be included in GOOS SC-5 brief in early June).			In process

**ACTION SC-2.21:**

18/11/15	Grp(s)	SC-2: 21	Ownership/Comments	Due: Dec 2015 Feb 2016 June 2016
Start: Dec 2016	-SC -DPO -BB		Text: The TPOS 2020 report review process should be described in a stand-alone document and circulated for comment by the extended Steering Committee and key stakeholders.	
<b>Owners:</b>		N. Smith, (McCurdy)		
01/12/16	McCurdy will cull related bits socialized thus far and produce a Draft			
05/04/16	Lucia will lead effort to provide feedback on review and comment process thus far. This will guide the community review process.			In process

**ACTION SC-2.22:**

18/11/15	Grp(s)	SC-2: 22	Ownership/Comments	Due: Jan 2016
Start: Jan 2016	-SC -TT-All -DPO	Text: In consultation with the Backbone TT and other Task Teams as appropriate, a list of around 30 possible reviewers should be drawn up		Closed
<b>Owners:</b>		DPO		
02/12/15	Ideally done before Christmas / DPO will make priority in Jan 2016			
01/12/16	Co-Chairs to construct initial list for consideration and completion in late Jan.			
04/05/16	The initial reviewers have been contacted and provided with the Draft One of the 2016 Interim Report and comment sheet			Completed

**ACTION SC-2.23:**

18/11/15	Grp(s)	SC-2: 23	Ownership/Comments	Due: Nov 2015 Feb 2016
Start: Dec 2015	-SC -TT-All	Text: A list of 6-8 "lead authors" for the Initial Backbone Report to be drawn up based on nominations from the Task Team Co-Chairs.		Closed
<b>Owners:</b>		SC Co-Chairs, TT Co-Chairs		
02/12/15	Will likely be composed of ~4 from BB TT and ~4 from other TTs (Co-Chairs and members as appropriate)			
04/05/16	2016 Interim Report drafted and Draft One is under review			Completed

**ACTION SC-2.24:**

18/11/15	Grp(s)	SC-2: 24	Ownership/Comments	Due: Oct 2015
Start: TBD	-BB	Text: The Backbone Task Team to draft a note for the Planetary Boundary Layer Task Team articulating their concerns around errors in wind and surface wind stress estimates		
<b>Owners:</b>		BB TT Co-Chairs		
4/2/2015	This action items was discussed at the telecom in November with the PBL and EP co-chairs, and again in the February telecon			Completed

**ACTION SC-2.25:**

18/11/15	Grp(s)	SC-2: 25	Ownership/Comments	Due: Jan 2016
Start: TBD	-PBL -BB	Text: The Planetary Boundary Layer Task Team to lead an additional study of the wind/wind stress and surface flux requirements, and of possible solutions, and to provide recommendations for consideration in the Backbone Interim Report		
<b>Owners:</b>			PBL TT Co-Chairs	
13/11/2015	This action item was discussed at the November telecom with the PBL and EP co-chairs. Needs to be followed up with PBL co-chairs. The philosophy between gridded vs regime design was going to be discussed at a PBL telecon			Pending
1/2/16	<i>Report by L. O'Neill and the Wentz report which T. Farrar and L. O'Neill contributed to, are available in the BBTT Interim Report folder on the google drive.</i>			Completed

**ACTION SC-2.26:**

18/11/15	Grp(s)	SC-2: 26	Ownership/Comments	Due: Oct 2015
Start: TBD	-SC	Text: Seek a point of contact for advice on waves		Closed
<b>Owners:</b>			K. Hill, D. Legler	
02/12/15	Val Swail from Canada has agreed to act as an advisor for wave issues. Diana Greenslade (Bureau of Met) has also done a lot of work and will also participate.			Completed

**ACTION SC-2.27:**

18/11/15	Grp(s)	SC-2: 27	Ownership/Comments	Due: Nov 2015 Feb 2016 Jun 2016
Start: TBD	-SC -PBL	Text: The Steering Committee agrees to create a joint Working Group with YMC, with the scope and membership as above and subject to agreement with the YMC, and reporting through the PBL		
<b>Owners:</b>			PBL TT Co-Chairs, W. Yu (via YMC)	
01/12/16	Neville will cycle around and check with the players			
04/05/16	The WP and PBL TTs are scheduling a special meeting to address this issue and insure that YMC and TPOS 2020 have effective working linkages and are collaborating where needed.			Pending

**ACTION SC-2.28:**

18/11/15	Grp(s)	SC-2: 28	Ownership/Comments	Due: Mar 2016 Jun 2016
Start: Jul 2016	-PBL -WP	Text: An elaborated outline of possible joint work on the YMC to be developed		
<b>Owners:</b>		PBL TT Co-Chairs		
04/05/16	Planning session being scheduled			

**ACTION SC-2.29:**

18/11/15	Grp(s)	SC-2: 29	Ownership/Comments	Due: Mar 2016
Start: TBD	-PBL	Text: Develop a project outline around diurnal-multiscale variability, including scope, rationale within the context of TPOS, goals and possible participation		
<b>Owners:</b>		PBL TT Co-Chairs		

**ACTION SC-2.30:**

18/11/15	Grp(s)	SC-2: 30	Ownership/Comments	Due: Mar 2016 Jul 2016
Start: TBD	-PBL -EP -BGC	Text: Develop a project outline around the interplay of equatorial Pacific upwelling and mixing, including scope; rationale within the context of TPOS; goals; and possible participation		
<b>Owners:</b>		PBL, EP, BGC TT Co-Chairs		
04/05/16	Now to be led by PBL Co-Chairs - Due to be on the agenda during the soon to be scheduled WebEx			Pending

**ACTION SC-2.31:**

18/11/15	Grp(s)	SC-2: 31	Ownership/Comments	Due: Mar 2016 Jul 2016
Start: TBD	-EP	Text: Develop a project outline around the concept of a double ITCZ process study, including scope; rationale within the context of TPOS; goals; and possible participation		
<b>Owners:</b>		EP TT Co-Chairs		
04/05/16	Due to be on the agenda during the upcoming WebEx			Pending

**ACTION SC-2.32:**

18/11/15	Grp(s)	SC-2: 32	Ownership/Comments	Due: Nov 2015 Jan 2016 Jun 2016
Start: Dec 2016	-SC -DPO	Text: Develop a communique on the risks arising from fewer TRITON moorings, including the disruption to the climate data record, for distribution among TPOS participants and stakeholders.		
<b>Owners:</b>		SC Co-Chairs, K. Ando		
02/12/15	Co-Chairs to follow up on Ken's document			
01/12/16	Neville will follow up, incorporate China-ROK-Japan Summit follow-up, also checking with relevant outcomes of McLean – JAMSTEC meeting			
04/05/16	After a follow-up session with Ken the Co-Chairs will consider once again how best to present science and cost trade-offs – and how to best present in the Interim Report			In process

**ACTION SC-2.33:**

18/11/15	Grp(s)	SC-2: 33	Ownership/Comments	Due: Nov 2015 Jan 2016 Jun 2016
Start: Dec 2015	-SC - DPO?	Text: Develop a document on the short-term requirement for maintaining the TRITON contribution (mooring build options/needs, ship requirements), focusing initially on the 2017 period, for circulation among TPOS 2020 participants and stakeholders		
<b>Owners:</b>		K. Ando		
02/12/15	Kessler to review			Pending
04/05/16	Ken's document provided good content for the Interim Report. But given the level input required from the MDA, Draft 2 of the IR may be the best target.			

**ACTION SC-2.34:**

18/11/15	Grp(s)	SC-2: 34	Ownership/Comments	Due: Mar 2016 May 2016
Start: Dec 2015	-MDA -SC	Text: Develop an initial work plan for the M&DA Task Team, drawing on the Terms of Reference, advice from the Steering Committee and ideas from the task Team members		
<b>Owners:</b>		M&DA TT Co-Chairs		
02/12/15	Co-Chairs working with MDA TT Co-Chairs			
04/05/16	Agenda item for upcoming scheduled WebEx			Pending

**ACTION SC-2.35:**

18/11/15	Grp(s)	SC-2: 35	Ownership/Comments	Due: Oct 2015
Start: TBD	-SC	Text: Develop a brief paper for the GOV meeting 2-6 Nov in Sydney		Closed
<b>Owners:</b>			N. Smith, A. Kumar, BB TT	
02/12/15	Neville completed and provided presentation			Completed

**ACTION SC-2.36:**

18/11/15	Grp(s)	SC-2: 36	Ownership/Comments	Due: Oct 2015
Start: TBD	-SC	Text: A draft of the key messages to be circulated to the extended SC after the meeting and finalised for the Report		Closed
<b>Owners:</b>			N. Smith	
02/12/15	Provided and reviewed			Completed