Feedback from the AST-18, Hobart

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Objectives

- Monitor Argo’s performance: original mission and progress of developing enhancements

- Addressing some key issues: data complexity, defining Argo

- See some local Argo science

- Discuss the challenges around Argo’s long-term sustainability

- Held the first Manufacturer’s Day after the IAST (organised by Greg Johnson, RBR).
Argo enhancements

- **Deep**: Several pilots are now being implemented, though some improvement in the sensors are still needed
- **Equatorial**: clear recommendation of doubling (+/- 10°) from TPOS2020 - implementation might start in W. Pacific soon
- **WBC**: design still needs work, implementation spotty
- **Polar**: possibly increasing? Work on location accuracy continues
- **BGC**: regional pilots expanding, active SC. EEZ issue in play. G7 paper might help in some nations.
- **Marginal Seas**: progress remails spotty –largely due to EEZ and capacity issues.
What is an Argo float?

Guidance has been developed for contributing national programs [draft to be circulated to ADMT/AST soon]

• Articulates the responsibilities and requirements: transparency, quality, minimum sampling and curation
• May assist national programs navigate discussions with collaborating scientists/partners
• May assist new programs interested in Argo, understand what that entails
Argo impacts on prediction systems: What happens when we stop assimilating data …

Peter Oke et al., CSIRO

Courtesy of Greg Smith
Observing System Experiments using the Bluelink Reanalysis (Australia’s ocean reanalysis)

Impact of different data types

Oke and Schiller (2007; GRL) and in prep
Tatiana Rykova: Mean EAC eddies - function of SLA vs. radius

- Warm (cold) salty (fresh) core extending below 500 m;
- $S_{\text{max/min}}$ is deeper than $T_{\text{max/min}}$;
- S reversal at depth – AAIW;
- Fresh at the surface;
- Anticyclones are bigger and stronger.
Challenges for Sustaining Argo

Can Argo attract new scientific and technical leadership?

- Poor incentives? Creating and sustaining critical community data streams needs to be recognised and rewarded (beyond a paper count metric)

- Poor exposure? Encourage and invite young researchers to Argo meetings
Challenges for Sustaining Argo

Can Argo preserve its essential nature while renewing its leadership team?
• Danger of a different focus? Are we in danger of losing our global focus, which is a founding principle of Argo
• Clearer design rationales (e.g. OceanObs?), stronger engagement with users of global data set e.g. operational users and climate science?

Can Argo take on new missions without endangering Core Argo?
• Different countries have different experiences – yes in some cases, in others it is win-win.
Challenges for Sustaining Argo

The flat funding issue: Is Argo best framed as research or Operational Oceanography?

• some countries fund Argo as an operational program while others view it as a research program. Neither of these is an ideal solution. EuroArgo, France and Australia all have a research infrastructure funds where support is still subject to changing, but less frequently and usually not as drastically.
• Continuing to improve platform and sensor technology is also key

Can the integrated observing system be sustained along with Argo?

• Can we move away from single system design and work towards a more integrated view of GOOS that better articulates interdependencies and synergies?
How should Argo interact with our suppliers?

A Manufacturers Day was held after AST.

- It was well attended, but the responses were mixed – some talks were excellent technical talks, some were sales pitches.
- On balance, it was deemed useful. Another is being organised for AST-19
- Low organisational overhead - Manufacturers self organise – held annually?

Technical Workshops?

- Organised by our community – agenda was in our hands
- Very strong positive feedback from 2005 and 2017 workshops, though suppliers were offended by being excluded for the mornings
- High organisational overhead – maybe every 5 years?
Other developments

- **Argo Science Workshop** is being planning for Tokyo, 2018 – it will have an applications theme to help us articulate the impact Argo has beyond research.

- Howard Freeland stepped down as Argo Director, Breck Owens agreed to take on this role.

- Dean Roemmich plans to step down as IAST-co chair, Toshio Suga will become co-chair at IAST-19. Dean will remain a member of IAST.

- As part of a GOOS report, an item was presented to the IOC General Assembly about Argo and some of its new missions e.g. BGC. Many member nations made interventions. A new paper with more information was requested to share with member nations and the IOC Executive on how new parameters might be approved for Argo and use of the IOC notification process that is currently in place.