Argo Australia - 2024

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1. The status of implementation of the new global, full-depth, multidisciplinary Argo array (major achievements and problems in 2023)
    a. floats deployed and their performance

        Since March 2023, Argo Australia has deployed 34 floats, including:

        - 20 floats south of 55S;
        - 5 floats in the Tasman Sea; and
        - 9 floats in the Indian Ocean.

        This includes 3 BGC floats and 8 Deep floats.

    b. technical problems encountered and solved

        Several of the Deep floats deployed in the Southern Ocean (perhaps 3 out of 8) seem to have failed early. We do not yet know the cause of the failure.

    c. status of contributions to Argo data management (including status of high salinity drift floats, decoding difficulties, ramping up to include BGC or Deep floats, etc)

        The Australian DMQC Operators continue to engage in the DMQC Discussion forum (https://www.marine.csiro.au/argo/dmqc/html/ArgoDM-Disc.html) to help promote best practice and to consult with other DMQC Operators regarding difficult floats.

    d. status of delayed mode quality control process

        A high level of DMQC has been maintained. DDMQC has been performed on 353 floats since last March 2023.

        Transition to sftp caused some problems for the Australian DMQC team. This is now solved.

2. Present level of and future prospects for national funding for Argo including a summary of the level of human resources devoted to Argo, and funding for sustaining the OneArgo mission: Core, BGC, Deep, Spatial (Polar, equator, WBCs)

    Argo Australia secured a new 4-year contract with IMOS, sustaining funding for Core and BGC, and expanding funding to include Deep Argo. This contract funds about 6.5 FTE, including funding for technical support, real-time data processing, delayed-mode quality control, and leadership. IMOS funds are also sufficient to fund about 17 Core floats, 3 BGC floats, and 3 Deep floats each year; and to cover operational costs (e.g., telecommunications) for the program.

Funding to support from BoM continues, covering costs for about 0.5 FTE for real-time data processing, and core floats each year.

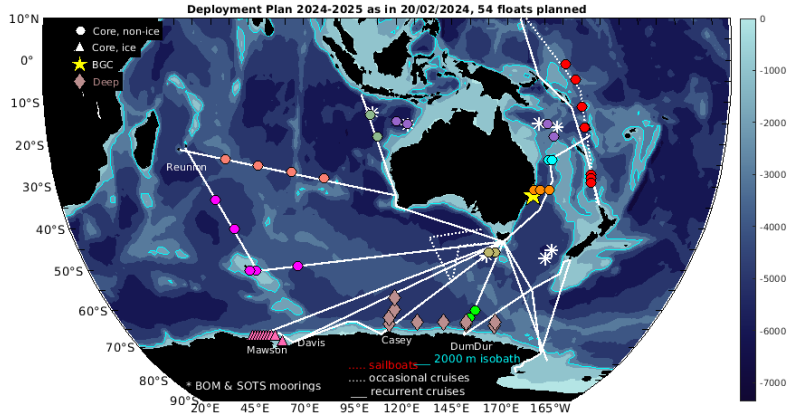
Funding from AAPP continues until 2027, covering costs for about 0.5 FTE and 3-4 core floats per year. AAPP funds also covered costs for 8 Deep Argo floats in 2023.

Funding from the Australian Geospatial Organisation is assessed annually. AGO have agreed to provide funding for 5 core floats this year.

Funding for floats from CSIRO is assessed annually. This is historically enough to fund 10 core floats each year. This year, CSIRO only contributed funds for 2 core floats.

3. Summary of deployment plans: please see the separate documents explaining the longer term outlook this year as a response to G7 requests. This spreadsheet is to be **returned separately ASAP** to help prepare for the meeting. It can be sent to Megan or dropped in the folder link containing the instructions.

Argo Australia maintains an active deployment plan at: http://www.marine.csiro.au/~sem018/Argo/deployment_planning/. This is adjusted as deployment opportunities come and go (see below for the latest map of planned deployments).



Lastrolabe R4 Feb24
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Polarstern EASI-3 Feb24 AAPP shelf
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Kaharoa 2024 delivery (load US) Jan24
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Kaharoa 2024 delivery (load US) Jan24
Lastrolabe Return Mar24

Lastrolabe Return Mar24
Lastrolabe Return Mar24
Lastrolabe Return Mar24
BOM Tsunami NWshelf Oct-Nov23
BOM Tsunami NWshelf Oct-Nov23
BOM Tsunami CoralSea Nov24
BOM Tsunami CoralSea Nov24
Heritage Exp. HBA-NewCal Nov24
Heritage Exp. HBA-NewCal Nov24
Australian Longline HBA-KP-Mau Mar24
Australian Longline HBA-KP-Mau Mar24
Australian Longline HBA-KP-Mau Mar24
Australian Longline HBA-KP-Mau Mar24
Australian Longline HBA-KP-Mau Mar24
RVI INV2024v02 Shadwick Apr24
RVI INV2024v02 Shadwick Apr24
OOCL Houston Freo-Sing Apr24
OOCL Houston Freo-Sing Apr24
RVI INV2024V04 Sloyan Jun24
RVI INV2024V04 Sloyan Jun24

RVI INV2024V04 Sloyan Jun24
RVI INV2024V04 Sloyan Jun24
Deep RVI IN2024v01 Jan24
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Deep TBD 2024-onwards
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Deep TBD 2024-onwards

4. Summary of national research and operational uses of Argo data as well as contributions to Argo Regional Centers. Please also include any links to national program Argo web pages to update links on the AST and AIC websites.

   Argo data are used operationally to underpin Australia's short-range ocean forecast system (OceanMAPS; www.bom.gov.au/oceanography/forecasts/), ocean, and seasonal prediction systems (POAMA; www.bom.gov.au/climate/ocean/outlooks/). Science applications include the investigation of decadal prediction, climate studies, biogeochemical response to dust and smoke, and some studies into mesoscale variability around Australia.

   Version 2023 of the Bluelink ReANalysis (BRAN 2023) is underway. BRAN2023 assimilates Argo data, altimetry, and satellite SST data, plus other in situ data sources. The main improvement in BRAN2023, compared to previous versions, is the inclusion of biogeochemistry. BRAN2023 should be completed by mid-2024.

5. Issues that your country wishes to be considered and resolved by the Argo Steering Team regarding the international operation of Argo. These might include tasks performed by OceanOPS, the coordination of activities at an international level and the performance of the Argo data system. If you have specific comments, please include them in your national report. Also, during the AST-25 plenary, each national program will be asked to mention a single highlight or issue via a very brief oral report.

   nil

6. To continue improving the quality and quantity of CTD cruise data being added to the reference database by Argo PIs, it is requested that you include any CTD station data that was taken at the time of float deployments this year. Additionally, please list CTD data (calibrated with bottle data) taken by your country in the past year that may be added to the reference database. These cruises could be ones designated for Argo calibration purposes only or could be cruises that are open to the public. To help CCHDO track down this data, please list the dates of the cruise and the PI to contact about the data.

   Several cruises have been undertaken that have included deployment of Argo floats and collection of reference CTD.

7. Keeping the Argo bibliography (Bibliography | Argo (ucsd.edu)) up to date and accurate is an important part of the Argo website. This document helps demonstrate the value of Argo and can possibly help countries when applying for continued Argo funding. To help me with this effort, please include a list of all papers published by scientists within your country in the past year using Argo data, including non-English publications.
   There is also the thesis citation list (Thesis Citations | Argo (ucsd.edu)). If you know of any doctorate

theses published in your country that are missing from the list, please let me know.
Finally, if you haven't already sent me a list of Argo PIs in your country, please do so to help improve the statistics on how many papers are published including an Argo PI vs no Argo PIs.

Australian contributions to the Argo bibliography appears to be up to date.

8. How has COVID-19 impacted your National Program's ability to implement Argo in the past year? This can include impacts on deployments, procurements, data processing, budgets, etc.

   No

9. Does your National Program have any deployment plans for RBR floats in the next couple years? If so, please indicate how many floats will you be buying in 2024 and 2025 (if known) and where they might be deployed.

   Yes. We have two Altos with RBR CTDs that are yet to be deployed.