ARGO COUNTRY REPORT

South Africa

1. The status of implementation (major achievements and problems in 2019)

- floats deployed and their performance

Floats were deployed for WHOI (1902221, 1902222, 1902223, 1902224, 1902225, 1902226) and the UK MetOffice (1901911, 1901912, 1901913) on the Marion take-over cruise (April / May 2019).

Floats deployed on behalf of the UK MetOffice (1901914, 1901915, 1901916, 1901917) on the SAMBA Cruise (October 2019).

No problems noted with deployments.

- technical problems encountered and solved

None noted

- status of contributions to Argo data management (including status of high salinity drift floats, decoding or production difficulties, etc)

None contributed

- status of delayed mode quality control process

Not applicable

2. Present level of and future prospects for national funding for Argo including a summary of the level of human resources devoted to Argo.

Bleaker than usual!

However, as a community we are working on a Southern Ocean proposal for infrastructure, including autonomous robotics. We have included in here requests for standard (T/S, 2000 m) and Deep Argo floats. These will hopefully contribute to the understudied nature of the Southern Ocean. Simultaneously, we continue to look for funding to instrument the Agulhas Current periodically.

Human resources: At this stage – 1 (Tamaryn Morris). Through some internships we are looking at the role ocean observations play in forecast skill to increase the knowledge thereof and thus funding capabilities. We are also looking to demonstrate this through assimilation of float data in to models used for regional forecasts.

3. Summary of deployment plans (level of commitment, areas of float deployment, Argo missions and extensions) and other commitments to Argo (data management) for the upcoming year and beyond where possible.

Several cruises are available for Argo float deployments (as per Fig 1). Please liaise with Tamaryn Morris (tamaryn.morris@weathersa.co.za) for further information:

a) Marion Island take-over

   April / May 2020 (may be too short notice), SA Agulhas II vessel

b) SEAmester Cruise (along ASCA line)

   13-24 July 2020, SA Agulhas II vessel

c) Gough Island take-over

   September 2020, SA Agulhas II vessel

d) SAMBA moorings

   September / October 2020, RV Algoa vessel

e) SANAE take-over

   December 2020 – February 2021, SA Agulhas II vessel

f) Marion Island take-over (2021)

   April / May 2021, SA Agulhas II vessel

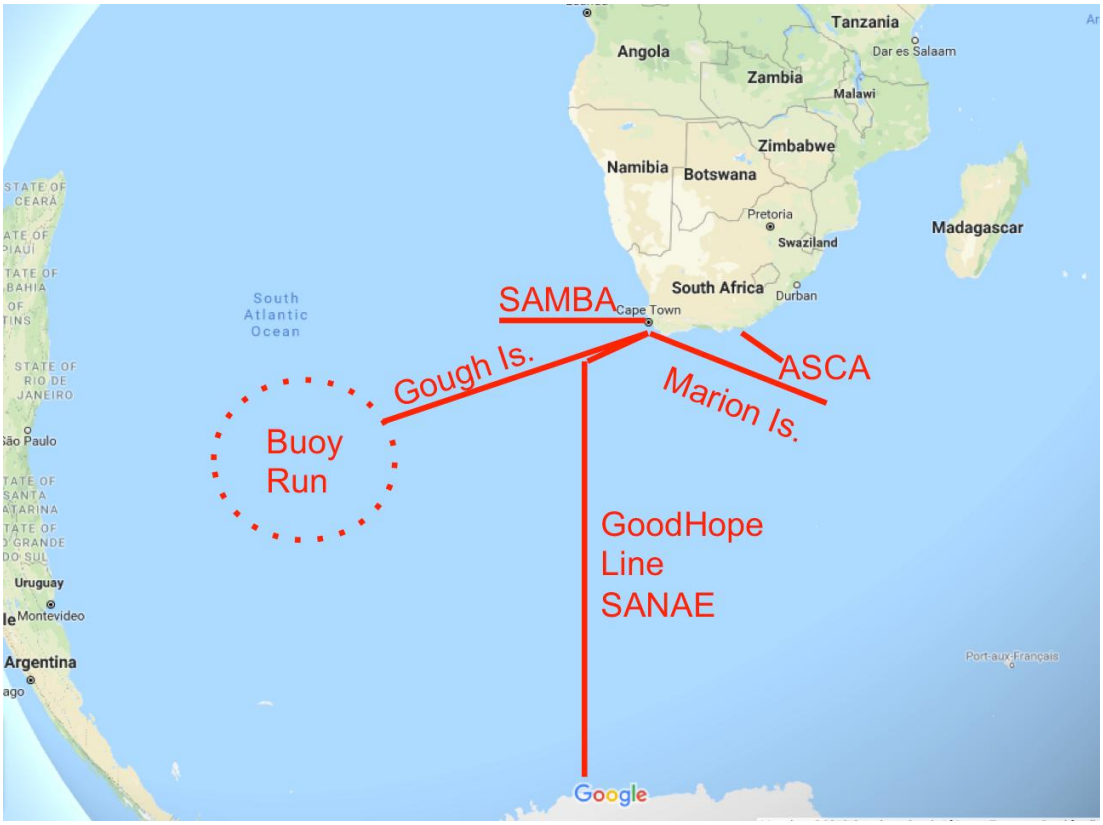

Figure 1: Schematic representation of cruise tracks for potential Argo float deployments.

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.

Research in South Africa using Argo floats has stalled somewhat. A proposal is being submitted to create some media material on the SEAmester cruise of Argo deployments and create learning materials for students at tertiary level to engage more readily with Argo data in a South African context. Additionally, more Honours and Masters level projects need to be initiated with South African universities (NMU, CPUT, UCT in particular) to make use of Argo data as the basis of research projects.

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 the AIC, 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.

None at this stage

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.

Two cruises are available for the CCHDO – SEAmester 2019 (ASCA transect oocupation) and SAMAB 2019 (SAMBA mooring turnover). However, the data technician who would load these data is unavailable until March 2020. So this place-holder input for Steve Diggs and the CCHDO for now.

7. Keeping the Argo bibliography (http://www.argo.ucsd.edu/Bibliography.html) 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.

Morris, T. and Lamont, T. 2019. Using ocean robots on high-resolution profiling to capture the fast-flowing Agulhas Current. South African Journal of Science, 115 (1/2), DOI:10.17159/sajs.2019/5523

Morris, T., Aguiar González, B. Ansorge, I. and Hermes, J. 2019. Lagrangian evolution of two Madagascar cyclonic eddies: geometric properties, vertical structure and fluxes. Journal of Geophysical Research: Oceans. DOI: 10.1029/2019JC015090

There is also the thesis citation list (http://www.argo.ucsd.edu/argo_thesis.html). If you know of any doctorate theses published in your country that are missing from the list, please let me know.

None at this stage.

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.

1. Tamaryn Morris
2. Isabelle Ansorge
3. Sandy Thomalla