

CLIVAR/CliC/SCAR Southern Ocean Region Panel SORP-12: 29-30 June 2017

National activities report

Country_South Africa_____

Contributor(s) (writer(s)) _Isabelle Ansorge_____

Date__29.6.2017_____

Receipt of material prior to 15 June 2017 will ensure inclusion in meeting discussion. Receipt of material prior to 15 July 2017 will ensure inclusion in meeting report and contribute to future SORP discussions, as well as input to the SOOS and other CLIVAR/CliC/SCAR activities. All reports will be posted on the SORP website.

Purpose of material gathered for the SORP: To build an overview of
- observational, modeling, ocean reanalysis and state estimation initiatives relevant to the SORP

(This can include a list of activities, maps showing where work has been done, major international project involvement, etc.)

Please refer to SORP's terms of reference (also given at the end of this template) for guidance on scope: <http://www.clivar.org/clivar-panels/southern>

Note: Biological topics such as marine ecology and marine ecology research, for example, are not within the scope of SORP's terms of reference and are therefore not required in these reports. However, SOOS has an interest in such research, so National Representatives are welcome to include summaries of such research as separate sections.

Note: The Southern Ocean is not explicitly defined in SORP's terms of reference, so please note what the limit used for your national report is (e.g., research on regions only beyond an oceanographic boundary like "south of the Polar Front", or research contained within latitudinal limits like "south of 50°S").

A. Recent and ongoing activities

Does your country have a national committee tasked with oversight of Southern Ocean climate science (e.g., like US CLIVAR)? If yes, please give the name of the committee.

Yes we currently have a South African association for the Southern Ocean. Essentially this is comprised of all SANAP (SA National Antarctic Programme) members. In 2016 an outcome of this was the publication of the SANAP 20 year review – attached.

What major activities have been carried out in the last several years or are in progress now? Contact information for the projects would be useful (e.g., Principal Investigators and Associate Investigators).

1. Observational? **Continuation of the SAMOC monitoring lines through the logistic relief voyages onboard the SA Agulhas II (S. Atlantic, S. Indian, Southern Ocean). These lines are funded by the Department of Environmental Affairs (DEA) and supported through the Department of Science and Technology (DST) SANAP programme. In addition, dedicated July cruises are funded through DST to the winter sea ice and as part of the SEAmester education programme (see attached publication)**
2. Modeling? **Yes modelling – particularly biogeochemical and sea ice processes are currently underway under the expertise of Drs Pedro Monteiro (CSIR) and Sarah Fawcett (UCT) and Prof Marcello Vichi (UCT)**
3. Ocean reanalysis and state estimation? **Ongoing through the SA Weather Service collaboration – Marc de Vos – chief marine meteorologist**

References – see attached publication on SEAmester and the SANAP 20 year review.

Please give a full list of references at the end of section A.

B. Planned activities

What major activities are planned or likely to occur during the next several years? Contact information for the projects would be useful (e.g., Principal Investigators and Associate Investigators).

1. Observational? **July Sea-Ice 2017, SEAmester and SAMBA July 2017, September Gough Island 2017, December- February SANAE 2017/2018, April Marion Island 2018,**
2. Modeling? **Sea ice and biogeochemical processes.**
3. Ocean reanalysis and state estimation? **Ongoing with SAWS**

SORP terms of reference <http://www.clivar.org/clivar-panels/southern>

"To serve as a forum for the discussion and communication of scientific advances in the understanding of climate variability and change in the Southern Ocean. To advise CLIVAR, [CliC](#), and [SCAR](#) on progress, achievements, new opportunities and impediments in internationally-coordinated Southern Ocean research."

Specific Activities:

1. Facilitate progress in the development of tools and methods required to assess climate variability, climate change and climate predictability of the ocean-atmosphere-ice system in the Southern Ocean.

June/July cruise in 2017 to establish the seasonal variability in sea ice strength and thickness – further comparison with summer studies.

2. Identify opportunities and coordinated strategies to implement these methods, spanning observations, models, experiments, and process studies.

Broader community involvement particularly modelling and biogeochemical expertise.

3. Provide scientific and technical input into international research coordination, collaborating as required with other relevant programs, including the [Southern Ocean Observing System \(SOOS\)](#).

Ongoing involvement with SOOS – see attached publication of the South African review.

4. Monitor and evaluate progress in Southern Ocean research, and identify gaps.

See attached review paper in which both gaps and constraints are identified by the South African SANAP community.

5. Enhance interaction between the meteorology, oceanography, cryosphere, geology, biogeochemistry and paleoclimate communities with an interest in the climate of the Southern Ocean.

See attached review paper

6. Work with relevant agencies on the standardization, distribution and archiving of Southern Ocean observations.

Ongoing support within South Africa and across tertiary institutes both national and international