

International Council for Science

ISSN 1755-9030

SCAR report

No 35
October 2009

Contents

Meeting of the SCAR/SCOR Oceanography Expert Group: Implementation of the Southern Ocean Observing System (SOOS)

Venice, Italy, Saturday 26 September 2009



SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

at the

Scott Polar Research Institute, Cambridge, United Kingdom

SCAR Report

SCAR Report is an irregular series of publications, started in 1986 to complement SCAR Bulletin. Its purpose is to provide SCAR National Committees and other directly involved in the work of SCAR with the full texts of reports of SCAR Standing Scientific Groups and Group of Experts meetings, that had become too extensive to be published in the Bulletin, and with more comprehensive material from Antarctic Treaty meetings.

SCAR Bulletin

SCAR Bulletin, a quarterly publication of the Scientific Committee on Antarctic Research, carries reports of SCAR meetings, short summaries of SCAR Standing Scientific Groups, Action Groups and Groups of Experts meetings, notes, reviews, and articles, and material from Antarctic Treaty Consultative Meetings, considered to be of interest to a wide readership.

Meeting of the SCAR/SCOR Oceanography Expert Group: Implementation of the Southern Ocean Observing System (SOOS)

Venice, Italy, Saturday September 26th 2009

Table of Contents

1. Introduction	2
2. Aims of the Meeting.....	2
3. The SOOS Design Planning Document	2
(i) Gaps in the Design Plan	2
(ii) Timeline for Completion of the SOOS Design Plan.....	3
4. Data Issues	3
5. Moving Forward and Implementation of the SOOS	3
(i) SOOS Website, Domain Name and Standard Powerpoint Presentation.....	3
(ii) Hosting of a SOOS Secretariat	4
(iii) Optimization of SOOS Observations.....	4
(iv) Future Focus of the Oceanography Expert Group	4
(v) Future Funding and Other Issues	5
6. Presentations by Invited Experts	5
(i) Lessons Learnt from the Arctic.....	5
(ii) Enhanced Meteorological Observations	5
(iii) Enhanced PROVOR Floats.....	5
(iv) The CLIMA Project	6
Appendix: Draft Agenda, Aims and Meeting Attendees.....	7

1. Introduction

A one-day meeting of the SCAR/SCOR Oceanography group plus invited experts was held at CNR-ISMAR on September 26th, directly after the OceanObs09 (<http://www.oceanobs09.net/>) meeting. The meeting attendees and agenda are listed in the Appendix. Steve Rintoul (Expert Group co-chair) chaired the meeting and Mike Sparrow (SCAR) and Ed Urban (SCOR) acted as rapporteurs.

2. Aims of the Meeting

Steve Rintoul summarized the main aims of the meeting, which were to (i) to identify the main gaps in the Southern Ocean Observing System (SOOS) Design Plan and to identify people to fill these gaps with an associated timeline, and (ii) to discuss implementation of the plan.

3. The SOOS Design Planning Document

(i) Gaps in the Design Plan

Mike Sparrow summarized the main gaps in the Design Plan. The last version was produced on 27th July 2009 (available from <http://www.clivar.org/organization/southern/expertgroup/SOOS.htm>). The major gaps are:

1. The biology/ecology sections still need some work
2. The Data chapter needs to be finished
3. The Remote Sensing sections need to be updated
4. The references need to be completed

Other parts of the plan need to be worked on, but overall the plan is reasonably complete. It's essential that the Expert Group members and others work to produce a version that is ready to go out to the community for comment.

ACTION: All members of the Oceanography Expert Group plus invited experts to work on latest SOOS design plan to ensure a version is ready to be circulated to the community at large by December 1st. Therefore all comments from the Expert Group and invited experts to be sent to Mike Sparrow by November 15th. (all)

ACTION: A small group, headed by John Gunn, will work to address the perceived biology gaps in the SOOS plan. Feedback to be sent to Mike Sparrow by November 15th (lead: John Gunn).

ACTION: Mike Sparrow to send Mark Drinkwater the draft sections relevant to satellite measurements once the Expert Group members have had a chance to include some additional input (Mike Sparrow to do on 15th November)

(ii) Timeline for Completion of the SOOS Design Plan

Work on the plan has been a long-term process and it was felt that a final push is needed to complete the plan. The plan should be launched at the IPY meeting in Oslo in June. The following timeline was agreed upon:

- **November 15th: All comments from Ocean Expert Group and invited experts to be sent to Mike Sparrow**
- **December 1st: Revised SOOS plan to go out to community for comment**
- **February 1st: Deadline for community comment**
- **March 1st: plan finalized**

ACTION: Mike Sparrow and Expert Group co-chairs to work with John Gunn to launch the final SOOS design plan in Oslo (Mike Sparrow, co-chairs, John Gunn).

When the plan goes out for community comment we must ensure that it is distributed as widely as possible to ensure groups such as CCAMLR, COMNAP, the carbon community etc. have the opportunity to provide input. Ed Urban noted that the plan should have an official SCAR/SCOR review.

ACTION: Ed Urban to work with Mike Sparrow to provide details on any required review process (Ed Urban)

4. Data Issues

A discussion was held on data issues. In particular the fact that in all likelihood SOOS will need to go for a distributed data system, with links to the data being made available through a new SOOS website. Mike Fedak made the point it would be good to get everyone involved in SOOS to use the same formats and produce a kml file of their data. In the SOOS document we need to articulate how the data should be submitted. In likelihood this may mean going through the Antarctic Master Directory, but in this case there should be links to the actual data available. The point was also made that if a SOOS Secretariat was available the person in charge of this should have strong links to data managers and should be able to chase up and advise people on data issues.

ACTION: Taco de Bruin will work with others to finalise the data chapter for the SOOS plan (lead: Taco deBruin, plus Kim Finney, JCOMMOPS, Steve Rintoul, Mike Meredith, Mike Sparrow etc.)

ACTION: Taco de Bruin to work with Kim Finney to ensure that there are links to actual data in the Antarctic Master Directory (Taco deBruin).

5. Moving Forward and Implementation of the SOOS

(i) SOOS Website, Domain Name and Standard Powerpoint Presentation

It was felt that in order for SOOS to have a stronger and more professional online presence a new, professionally designed, website and relevant domain name (e.g. www.SOOS.aq or www.SOOSinfo.org) was needed.

ACTION: In consultation with the Expert Group members and others Mike Sparrow to work on producing a professional SOOS website and a relevant domain name (lead: Mike Sparrow)

The SOOS should also be presented at international meetings and the Expert Group members should try to ensure as wide a buy-in of the plan as possible. For example:

- Antarctic Treaty Meeting in 2010 (Sparrow)
- AGU Ocean Sciences (Rintoul)
- CCAMLR
- IOC Executive Committee meeting
- CAML
- GOOS SSC
- ICED Steering Committee meeting
- CLIVAR/CLIC/SCAR Southern Ocean panel meeting

ACTION: In order to advertise SOOS both widely and in a consistent manner the Expert Group should develop a standard SOOS Powerpoint presentation (lead: Steve Rintoul)

ACTION: SOOS should be presented at the final CAML meeting in Oct. 2010 in London (Julie Hall and Dan Costa to investigate)

(ii) Hosting of a SOOS Secretariat

In order to move into an implementation phase having some kind of SOOS Secretariat with a dedicated person at least half time is highly desirable. As stated earlier this person should have strong links with data managers. A Secretariat dedicated to SOOS could coordinate activities, chase up relevant data, monitor targets etc.

ACTION: Investigate feasibility of hosting a SOOS Secretariat in a country preferably with good links to data expertise (Ed Urban, Mike Sparrow, John Gunn)

(iii) Optimization of SOOS Observations

After the SOOS design plan has been published the actual design would be enhanced by carrying out some optimization modeling to e.g. see what the optimal set of observations would be given a particular set of resources and objectives.

ACTION: Mike Meredith, Steve Rintoul and other interested parties to investigate the possibility of having someone work on optimization of SOOS observations (Mike Meredith and Steve Rintoul)

(iv) Future Focus of the Oceanography Expert Group

There was some discussion as to the future focus of the SCAR/SCOR Oceanography Expert Group. It was agreed that in the short to medium (2-3 year) timeframe the group would continue to concentrate on SOOS implementation, acting as a SOOS Steering Committee. However it has to be made clear that SOOS should be a community-wide owned project. Some of the membership would need to change, with those members remaining having a specific remit or responsibility. Again it was noted that a Secretariat would be needed if this were to stand a good chance of being successful.

ACTION: Revisit membership of Ocean Expert Group (all to send suggestions to Mike Sparrow)

(v) Future Funding and Other Issues

The point was made that SOOS should look to be producing specific products and have measurable outcomes. After the Design Plan has been finalized there are a number of ways to move ahead with regards funding a SOOS:

1. Funding through individual countries – the design plan can act as a focus to maximize coordination and minimize repetition between countries.
2. Group funding – for example chasing EU funding for a specific part of the SOOS via a group proposal
3. Foundation funding – e.g. as per the CAML being funded through the Sloan Foundation

6. Presentations by Invited Experts

In order to aid discussion a number of presentations by invited experts were made:

(i) Lessons Learnt from the Arctic

Peter Schlosser gave a presentation on the observing system in the Arctic (which goes beyond ocean observations). The International Polar Year coupled with changes in the Arctic (particularly sea ice cover) were the impetus behind the development of a pan-Arctic observing system. The Arctic community had some difficulty moving the system from research to operational and the SAON (Sustained Arctic Observing Network) was formed to try to overcome this. SOOS may well have to go the same route, though engagement of the operational agencies should (and has been) an aim of the SOOS from the beginning.

In terms of lessons to be learnt from the Arctic community, Peter mentioned that the system need to answer research and societal questions. International collaboration is crucial and we need to get the attention and commitment from national entities that control resources for a long-term activity.

(ii) Enhanced Meteorological Observations

Meghan Cronin gave a presentation on enhanced meteorological observations, in particular with regards to the establishment of an OceanSITES reference station in the Agulhas Return Current area. There was some discussion on the merits of placing the site in different (e.g. high/low energy regions) and the possibility of integrating biogeochemistry and biology sensors. Steve Rintoul noted that many in the Southern Ocean community have been pushing for surface flux sites in this region for years, so it was excellent to see this initiative.

(iii) Enhanced PROVOR Floats

Sabrina Speich gave a short presentation on a carbon survey system using an enhanced PROVOR float. The Expert group thought this an interesting idea and suggested that Pedro Moneiro should be contacted to provide input into the SOOS plan.

(iv) The CLIMA Project

Giorgio Budillon gave an overview of the CLIMA project and the Italian contribution, SOChiC, which forms part of the SOOS. Dan Costa noted that they would be tagging marine mammals in the same area as the CLIMA moorings and so some interesting inter-comparisons might be made.

Appendix: Draft Agenda, Aims and Meeting Attendees

Chair: Rintoul

Rapporteurs: Sparrow and Urban

Draft Agenda:

9.00-9.30 Aims of the meeting (Rintoul/Sparrow)

- Topics to be covered, aims of the meeting

9.30-10.00 SOOS Planning Document: Status (Sparrow)

- Where we are now and the remaining gaps
- How do we fill them and who will do so?

10.00-10.30 Discussion

10.30-11.00 Coffee/Tea

11.00-12.10 Lessons Learnt from the Arctic (Schlosser)

- Focus on how Arctic observing system was actually implemented.
- Discussion with regards to relevance to SOOS.

12.10-12.30 Enhanced meteorological observations (Cronin)

12.30-1.30 Lunch (at venue - provided)

1.30-3.30 Discussion:

How will SOOS be structured? Secretariat? Changes in membership to reflect implementation stage (e.g. less scientists and more people directly involved in funding (e.g. NSF, EU, Australia, Japan etc.)). Those members that remain will be assigned specific roles and responsibilities.

1. For each observation we have said is important, we need to identify who will try to fill the gap. If we can't identify an individual or team who is passionate about this gap, it is unlikely to be filled. (e.g. we have advocated for ferry boxes on supply and tourist ships who thinks this is important enough to put some hard work in (identify the right ships, develop sampling protocols, get others on board)?

2. We need to set targets to know if we have succeeded (as done for GOOS). What are they? How will we keep track of progress (both in implementing observations and science success stories)?

3. What programs would we take as successful models we can learn from?

4. How will we sell SOOS? Who will give talks where, when, to whom? We need to get the big players on side (EU, NSF, international programs, national funding bodies, philanthropies): what's the best strategy?

5. What can we set in place to make the sampling design more rigorous (e.g. observing system experiments)?

3.30-4.00 Coffee

4.00-5.00 Summary, timeline and assignment of roles. Where now from here?

Attendees:

Richard Bellerby (richard.bellerby@bjerknes.uib.no)
Andrea Bergamasco (andrea.bergamasco@ismar.cnr.it)
Giorgio Budillon (giorgio.budillon@uniparthenope.it)
Dan Costa (costa@biology.ucsc.edu)
Meghan Cronin (Meghan.F.Cronin@noaa.gov)
Taco deBruin (bruin@nioz.nl)
Eberhard Fahrback (Eberhard.Fahrback@awi.de)
Mike Fedak (maf3@st-andrews.ac.uk)
John Gunn (John.Gunn@aad.gov.au)
Julie Hall (j.hall@niwa.co.nz)
Steve Piotrowicz (Steve.Piotrowicz@noaa.gov)
Steve Rintoul (Steve.Rintoul@csiro.au)
Peter Schlosser (schlosser@ldeo.columbia.edu)
Mike Sparrow (mds68@cam.ac.uk)
Sabrina Speich (speich@univ-brest.fr)
Ed Urban (ed.urban@scor-int.org)