



SOUTHERN OCEAN OBSERVING SYSTEM

ANNUAL REPORT TO SCAR EXCOM 2013

● BACKGROUND

The Southern Ocean influences climate, sea level, biogeochemical cycles and biological productivity on a global scale. Many of the most difficult and pressing issues faced by society—how to mitigate and adapt to climate change and sea-level rise, how to manage the effects of ocean acidification, and how best to conserve marine resources and biodiversity—cannot be addressed effectively without improved understanding of Southern Ocean processes and feedbacks and their sensitivity to change. The most urgent research challenges in the Southern Ocean often span traditionally separate scientific disciplines. The Southern Ocean Observing System (SOOS) provides the sustained, integrated, multi-disciplinary observations required to meet these challenges.

The Southern Ocean Observing System (SOOS) is a joint initiative of the Scientific Committee on Antarctic Research (SCAR) and the Scientific Committee on Oceanic Research (SCOR) and endorsed by the Partnership for Observation of the Global Oceans (POGO) and the Climate Variability and Predictability (CLIVAR) and Climate and Cryosphere (CliC) projects of the World Climate Research Programme.

● ACTIVITIES

1) Communication and Outreach:

- SOOS has published 7 articles, 3 of which were in peer-reviewed literature. All are available for download from the SOOS website product database (www.soos.aq/index.php/products/soos-products). The most recent publication, *The vision of the Southern Ocean Observing System* (COSUST, Meredith et al., 2013), provides an overview of the 20-year vision for SOOS and the steps required to achieve this vision.
- SOOS was presented at over 50 international meetings and workshops by the Executive Officer (EO), members of the Scientific Steering Committee (SSC) and representatives of SCAR/SCOR.
- SOOS ran a Town Hall meeting alongside the American Geophysical Union Fall Meeting, with the objective of bringing together U.S. researchers, and informing them of SOOS activities and objectives.

2) Scientific and Collaborative Initiatives:

- SOOS held a workshop that aimed to develop an international strategy for Under Ice observations (Hobart, Oct 2012). A strategic plan will be released by end-2013.

- SCOR and SCAR were successful in their proposal to ICSU for funding of a workshop on “Identification of Ecosystem Essential Ocean Variables for the Global Ocean”, led by Andrew Constable. The workshop will take place early 2014, and will be complementary to current activities by the Global Ocean Observing System (GOOS) steering committee on this issue. The workshop will contribute directly to SOOS goals and the SOOS EO will support this group.
- SOOS held the 1st SOOS Asian Workshop, in Shanghai, China (23-24 May 2013). This workshop was sponsored by PRIC, SOA, the Institute of Atmospheric Physics Chinese Academy of Sciences (IAP CAS), SCOR, and Climate and the Cryosphere (CliC). Presentations were given by Chinese, Korean, Russian, Indian and Japanese researchers. Two publications are currently in preparation, a workshop report highlighting specifics of the presentations (Jiping et al., in prep), and a publication that outlines the potential for enhanced collaborative efforts (Swart et al., in prep). *Advances in Polar Sciences* has offered to publish both these reports free of charge, by the end of 2013.
- The SOOS/COMNAP workshop was held in July 2013 (Seoul, Korea). The objective of this workshop was to coordinate and maximise operations support that COMNAP can provide towards SOOS objectives. A key outcome of this meeting was the development of a SOOS-COMNAP Collaborative Project, which will be tasked with a number of specific activities. These activities will be put to the COMNAP EXCOM for approval at their September 2013 meeting.
- A SOOS/POGO workshop will be held alongside the POGO Annual Meeting in Hobart, Australia (23 Jan 2014). The prospectus of this workshop is still being developed but it is expected that discussions will revolve around identifying ways that POGO can facilitate SOOS objectives, in a similar vein to the COMNAP SOOS Collaborative Project.

3) Data Management:

- The operational prototype of the SOOS Data Portal was launched on 1 February 2013, hosted by the Australian Ocean Data Network (AODN). A number of issues arose during the course of 2013, specifically, changes to the funding of the AODN and a resulting decrease in support available for maintenance and management of the infrastructure. It was therefore agreed that SOOS would work with NASA to develop a SOOS Metadata Portal through the GCMD. This is currently being developed. The previous portal will be taken offline.
- The 2nd SOOS DMSC meeting was held on 23-24 May 2013 in Shanghai, China. Key discussions included the incorporation of Chinese, Korean and Japanese national databases into the SOOS Data Portal, leveraging of resources (human and infrastructure) for ensuring full functionality of the Data Portal, and development of a workplan and timeline for the next 2 years, in parallel with the development of the Thematic workplans of the SSC. This workshop was sponsored by the Australian Ocean Data Centre Joint Facility.

SOOS Governance and Management:

- The SOOS Scientific Steering Committee held its second meeting in Shanghai, China (20-22 May 2013). The meeting was sponsored by SCAR and SCOR, the Polar Research Institute of China (PRIC), and the State Oceanic Administration of China (SOA). Scientific discussions included development of the SOOS 20-year plan, and identification and priority rating of the key gaps in Southern Ocean observations, towards a structured implementation plan for filling these gaps.

The minutes from this meeting are available on the SOOS website (www.soos.aq/index.php/about-us/ssc/meeting-minutes).

- Following on from the SSC meeting, the IPO is currently preparing the SOOS Implementation Plan. This plan will build on the strategies outlined in the *SOOS Initial Science and Implementation Strategy* (Rintoul et al., 2012), and will clearly defined the mechanisms for implementation, and steps towards achieving the SOOS vision.
- The IPO has hired a part-time science communications expert to update the SOOS website, and take care of other communication activities. The new website format will provide a lot more information on implementation activities and ways to become involved or contribute.

Sponsorship and Funding

- The Australian Antarctic Division has renewed their sponsorship of the SOOS IPO for the 2013-2014 financial year. The Institute for Marine and Antarctic Studies (IMAS), who host the SOOS IPO, have included sponsorship of the office in their proposed 2014 budget and are awaiting approval from the University of Tasmania. Discussions for continuation of support by Antarctica New Zealand and the New Zealand Antarctic Research Institute will take place towards the end of 2013. The IPO is currently in discussion with representatives from Korea regarding potential for Korean sponsorship of the Office.
- SOOS is in the process of developing a Sponsorship Package to increase institutional and organisational sponsorship of the SOOS IPO and related activities. It is envisioned that this package will be sent to relevant research institutes and organisations by the end of 2013.

SOOS greatly appreciates the support provided by SCOR for the annual Scientific Steering Committee meeting, and requests that this support is continued for 2014. Continuation of the support for the SSC meeting will ensure participation by all SSC members, which is imperative for planning and implementation of SOOS objectives. SCAR also provides support for the annual SOOS SSC meeting and continuation of this support for 2014 has been approved. SOOS has accepted the Norwegian Polar Institute's offer to host the 2014 SSC meeting, which will take place in Tromsø during the week starting 16th June.