



Agenda Item: ATCM 13, CEP
11
Presented by: SCAR
Original: English
Submitted: 14/03/2014

Report on the 2013-2014 activities of the Southern Ocean Observing System (SOOS)

Report on the 2013-2014 activities of the Southern Ocean Observing System (SOOS)

Introduction

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 Observations of the Global Ocean (POGO) and the Climate Variability and Predictability (CLIVAR) and Climate and Cryosphere (CliC) projects of the World Climate Research Programme.

SOOS was launched in 2011 with the mission to *establish a multidisciplinary observing system to deliver the sustained observations of the Southern Ocean.*

SOOS Activities and Milestones in 2013/14

1. Meetings & Workshops

Several important SOOS meetings and workshops have been held over the last period:

Scientific Steering Committee (SSC) Meeting (China, May 2013)

Objectives: Clarification of the 20-year vision, development of Science Theme workplans, identification of Priority Observation Gaps and identification of key activities for the coming year.

Outcomes: www.soos.aq/index.php/about-us/ssc/meeting-minutes

Data Management Sub-Committee (DMSC) Meeting (China, May 2013)

Objectives: Mechanisms for incorporating Asian national databases into SOOS Portal, leveraging of resources, 2-year workplan.

Outcomes: Formation of a new SOOS data portal.

SOOS Asian Workshop (China, May 2013)

Objectives: Increased participation of Asian members in the SOOS

Outcomes: Two publications accepted in *Advances in Polar Sciences*.

SOOS/COMNAP workshop (Korea, July 2013)

Objective: Coordinate and maximise operations support that COMNAP can provide towards SOOS objectives.

Outcomes: A number of joint activities were developed and proposed to the COMNAP EXCOM for consideration. A SOOS/COMNAP task group has been developed to aid future collaborative efforts. Discussions on potential activities of this group are presently underway.

SOOS/POGO workshop (Australia, January 2014)

Objective: To propose an internationally coordinated field project on one of two topics.

Outcomes: Under discussion with POGO.

2. Governance and Management

At the end of 2013, SOOS announced an international call for nominations for the SSC in order to fill gaps in expertise on the existing committee. The SSC, SCAR and SCOR are currently in discussion to select a new co-chair.

3. Data Management

SOOS worked with the NASA Global Change Master Directory, who agreed to support the development of a SOOS Metadataportal, based on the GCMD infrastructure. The beta version of this Metadataportal is now in testing phase and will be put online once a guidelines document has been developed.

The SOOS Data Policy was produced and will be available from the SOOS website.

4. Sponsorship and Endorsement

SCAR and SCOR both provide annual support for the SOOS SSC meetings.

The SOOS International Project Office (IPO) is hosted by the Institute for Marine & Antarctic Studies (IMAS) at the University of Tasmania, which included the salary for the Executive Officer. The Australian Integrated Marine Observing System (IMOS) continued their in-kind support of the SOOS IPO in 2013 and onwards into 2014. All other office running costs are covered by international sponsorship.

The IMAS budget for 2014 is not yet approved, but renewal of sponsorship for the SOOS office for 2014 calendar year is likely. The Australian Antarctic Division, Antarctica New Zealand and the New Zealand Antarctic Research Institute all renewed their sponsorship of the IPO for 2013/2014.

The IPO has two new sponsors: The Tasmanian Government Department of Economic Development, Tourism and the Arts, and the Tasmanian Partnership of Advanced Computing, both of which provide in-kind support in the form of administration and IT support. SOOS is in the process of developing a Sponsorship Package to increase sponsorship of the IPO and related activities. This package will be sent to relevant institutes and organisations by the end of 2014.

SOOS thanks all of its sponsors for their support over the last few years, and for their continued assistance into 2014.

In 2013, SOOS endorsed five research projects. SOOS endorsement of these projects lends weight to funding proposals and increases the reach of research results and publications.

5. Communication and Outreach

The SOOS website (www.soos.aq) was maintained and updated. Three issues of the online SOOS newsletter were produced and disseminated to all subscribers

www.soos.aq/index.php/resources/newsletters?view=newsletters

Three peer-reviewed publications were produced in 2013/14:

- 1) Meredith M.M., et al., 2013: The vision for a Southern Ocean Observing System, *Current Opinions on Environmental Sustainability*
- 2) Liu, J. et al., 2014 (in press): The SOOS Asian Workshop on Southern Ocean Research and Observations, *Advances in Polar Science*
- 3) Swart S. et al., (in press): The SOOS Asian Workshop: Exploring possibilities for collaboration, *Advances in Polar Science*

The EXCOM and SSC members presented SOOS at many international meetings, workshops and conferences to promote SOOS to the scientific community and relevant programmes.

SOOS Planned Activities in 2014

10-year Detailed Implementation Plan:

SOOS is currently preparing the SOOS Detailed 10-year Implementation Plan. This plan will articulate the mechanisms for implementation, and steps towards achieving the SOOS vision – including a detailed 10-year timeline of required activities and workstreams.

Upcoming Meetings:

The 3rd SOOS SSC Meeting will take place 18-20 June 2014, Tromsø, Norway, hosted by the Norwegian Polar Institute. The 3rd DMSC meeting is being planned to take place alongside the SCAR Open Science Conference (OSC) in New Zealand in August 2014.

The Identification of Ecosystem Essential Ocean Variables Initiative:

In 2012, SCOR and SCAR were successful in obtaining ICSU funding for a workshop aimed at identifying ecosystem essential ocean variables that should be measured as part of a sustainable observing system. Several are currently in development and will be synthesised at the workshop, hosted by Rutgers University

(USA), 18-21 March 2014. This workshop is sponsored by Rutgers University, ICSU, SCAR, SCOR and CAML. Efforts have been made to have a comprehensive representation of all communities actively making biological observations in the Southern Ocean, to bring this community together and identify a common, integrated strategy.

Southern Ocean Air/Sea Fluxes:

Air/Sea Flux observations in the Southern Ocean are imperative for understanding the transfer, movement and storage of heat, fresh water, momentum, CO₂ and other gases, but observations are sparse. Further, existing efforts are often disjointed, with little cohesion occurs between communities and disciplines (i.e. atmospheric, oceanographic, assimilation/modelling and satellite). At the end of 2013, SOOS identified a number of key scientists from each of these communities and is currently working with them to draft a prospectus for a workshop. This workshop will bring together the disparate communities and identify common needs, develop an integrated vision, and outline mechanisms to continue and where possible enhance existing efforts. The workshop will likely take place at the end of 2014 or early 2015. It is expected that a SOOS Working Group will develop from this effort.

Satellite Products, Validation and Coordination:

This initiative will identify existing and planned Southern Ocean satellite products; communicate SOOS satellite data requirements to key communities; and enhance satellite data validation efforts. A joint SOOS/CliC working group will likely be established, incorporating the CliC Technical Committee on Sea Ice Observations, the European Space Agency Climate Change Initiative and the World Meteorological Organisation's Polar Space Task Group (WMO PSTG). This initiative will provide a mechanism to communicate Southern Ocean satellite data needs to the data providers. SOOS and CliC will be running an online survey to determine user requirements and issues, and to provide this information to the WMO PSTG. This will contribute to the Copernicus (Sentinel) initiative (<http://www.copernicus.eu>).

Priority Observation Task Group (PO-TAG):

A call for community input has been made, towards identifying key observation gaps across disciplines. These priority observations will be rated (based on scientific needs, logistics requirements, cost etc.), resulting in a list of priority observations, and a clear identification of those that can be made cost effectively and relatively easily. This information will be provided with scientific rationale for each observation, providing a solid, internationally developed foundation for proposals.

Standardised Methods Task Group:

Not all methods produce data that are equal in quality and precision. Variability in methodologies can lead to comparability issues, and exclusion of datasets from compilations. For many observations, internationally agreed protocols are available, yet this information is either difficult to access or users are not aware that protocols exist. This Task Group will compile all *internationally agreed* standards and make them visible through the SOOS website, identify observations that do not have a consensus standard methodology and identify requirements for development of standards; and disseminate and broadcast this information to users in the hope of standardising observations across all disciplines.

General:

SOOS will continue to progress the detailed design plans and sampling requirements to implement the science strategy, engage with relevant international science programmes and stakeholders, maintain and initiate new communication and outreach activities, and seek to expand SOOS sponsorship in 2014 to ensure adequate funding of the IPO and SOOS activities.

SCAR will continue to keep the Treaty Parties updated on progress with the SOOS. For further information see www.soos.aq.