

ENG



Agenda Item: ATCM 15, CEP
11
Presented by: SCAR
Original: English
Submitted: 20/04/2017

Update on activities of the Southern Ocean Observing System (SOOS)

Update on activities of the Southern Ocean Observing System (SOOS)

An Information Paper submitted by SCAR

Summary

This paper summarises key activities of the Southern Ocean Observing System (SOOS), highlights future efforts, and identifies key challenges facing SOOS in the coming years.

Background

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 (WCRP).

SOOS was launched in 2011 with the mission to facilitate the collection and delivery of essential observations on dynamics and change of Southern Ocean systems to all international stakeholders, through design, advocacy, and implementation of cost-effective observing and data delivery systems.

Update on key activities

- **SOOS Regional Working Groups - status** (more information [here](#))

SOOS is developing 5 Regional Working Groups that will coordinate and implement observing system in their region, bringing together efforts in planning, logistics, resources, data management and access. These regional groups will encompass national observing efforts, and will work with circumpolar observing programs and projects to ensure required coverage of observations.

- [West Antarctic Peninsula](#) Working Group: First workshop from 15-16 May 2017, hosted by BAS, UK.
- [Southern Ocean Indian Sector](#) Working Group: First workshop to be held 13-16 August 2017, hosted by NIPR and TUMSAT, Japan.
- [Ross Sea](#) Working Group: First workshop to be held from 11-15 Sept 2017, hosted by Shanghai Jiao Tong University, China. SOOS is working closely with CCAMLR to ensure coordination of efforts and alignment of strategy between this WG and development of the Ross Sea Marine Protected Area monitoring and observation requirements
- Weddell/DML Working Group: Initial development of this group will take place at a half-day joint SOOS-AWI symposium on the 13th June 2017, hosted by AWI, Germany.
- Amundsen/Bellingshausen Working Group: To be developed in 2017

- **SOOS Capability Working Groups - status** (more information [here](#))

SOOS has initiated a number of groups to help develop important observational capabilities, such as developing and implementing technologies, improving observational design, efficiency and coverage, and enhancement of information management and dissemination.

- [Censusing Animal Populations from Space](#): A number of research grants submitted to international funding agencies
- [Southern Ocean Fluxes](#): Working group is fully established, with Terms of References finalised following the 2015 workshop. Four focused Task Teams have been developed to push specific activities.
- [Benchmarking \(eEOV\)](#): Planning and development of 2018 MEASO conference
- [Observing and Understanding the Ocean beneath Antarctic Sea Ice and Ice Shelves \(OASIIS\)](#): Builds on 2014 international [strategy document](#). Working group is funded by Partnership for Observation of the Global Oceans. First workshop to be held 14-17 June 2017, hosted by AWI (Bremerhaven, Germany).

- **SOOS Key Products - status**

- [Community review of Southern Ocean satellite data needs](#) : A joint SOOS-CliC-SCAR effort, providing a statement on Southern Ocean satellite data needs, across research, industry and logistical communities, and with the scientific rationale required to underpin future strategic planning and investment.
- Database of upcoming expeditions to the Southern Ocean “[DueSouth](#)”: This is a tool that enables the community to share information on upcoming field campaigns and voyages. It enhances opportunities for collaboration and sharing of resources, as well as support logistics and planning. Developed by the Australian Antarctic Division, the database is undergoing beta-testing and will be formally released soon. It will be integrated and coordinated with the efforts of COMNAP and SCAR to better inform the scientific community of activities in the region. SOOS is open to community involvement in development and population of this database. A direct link from our [homepage](#) will be provided once this product goes live.
- SOOS Map: An interactive, web-based map that provides a circumpolar view of the current status of the observing system – across all observational platforms (where possible), and across all regions, up to 40° S. A web page has been built, and layers showing Argo floats, moorings, MEOP seals, GO-SHIP transects, Antarctic research stations, and the SOOS Regional Working Group boundaries have been added. It will be published when full web feature service functionality is provided to all layers. A direct link from our [homepage](#) will be provided once this product goes live.
- Annual [Community Calendar](#): An online, interactive calendar that provides an annual view of all upcoming meetings of relevance to the Southern Ocean observational community. This will help avoid schedule clashes, enhance joint-meeting planning, and keep the community up-to-date on SOOS activities.
- Southern Ocean [Mooring Network](#) and data rescue: This project has two components:
 - 1) To provide location and status information on all moorings deployed in the Southern Ocean via an [online map](#);
 - 2) Support submission of orphan mooring data. Funded by the US Big Earth Data Initiative, this is a joint SOOS-NCEI (US National Center for Environmental Information) effort to rescue and publish data from international oceanographic moorings. Thus far, the project has translated

mooring data from New Zealand, USA (multiple institutional datasets), Italy and Sweden and this will soon be available through NCEI. Translation of mooring data from other institutes in the USA, Korea and China is currently being negotiated. Project funding ends in June 2017.

- NASA GCMD [SOOS Metadata portal](#) : Continued growth of individual researchers' metadata records, and negotiations for bulk harvest of metadata from key portals (e.g., AODN, PANGAEA, CCHDO, SeaDataNet)
- [NECKLACE](#) data management: Identification of data issues and requirements of NECKLACE community, identification of available infrastructure to meet community needs, and development of a NECKLACE data policy

- **Programmatic Connections of note in 2016**

- CCAMLR: The CCAMLR Secretariat and SOOS International Project Office (IPO) meet regularly to ensure collaboration on aligned objectives. CCAMLR is involved in all the SOOS Regional Working Group workshops. SOOS is involved in discussions on development of the Ross Sea MPA, and other MPA proposals
- SC-CCAMLR and CEP: SOOS was involved in the 2016 Joint CEP and SC-CCAMLR workshop
- WMO Year of Polar Prediction (YOPP): SOOS IPO is supporting the WMO YOPP effort through outreach and communication activities. An official SOOS point-of-contact for YOPP has been nominated (Matthew Mazloff, SIO, USA) and is engaged at a scientific and coordination level

- **Communication and Outreach in 2016**

- 3 Newsletter issues published – subscribe here <http://www.soos.aq/index.php/registration>
- 6 peer-reviewed [publications](#)
- 2 [Workshop Reports](#)
- SOOS 2016 [Posters and Presentations](#) published online
- Regular updates to social media channels

- **Meetings and Workshops in 2016**

In 2016, SOOS was presented or represented at 21 international meetings/workshops. SOOS also held the following meetings:

- SOOS Data Management Sub- Committee Meeting (May 2016, Scripps USA)
- Joint SOOS-SOCCOM Workshop (May 2016, Scripps USA)
- International workshop of SOOS-endorsed NECKLACE project (Oct 2016, Sweden)
- SCAR OSC Scientific Session (Aug 2016, Malaysia)

- **SOOS Governance and Strategic Activities in 2016**

- 3 new members of the Scientific Steering Committee (SSC): Anya Waite (Germany), Burcu Ozsoy (Turkey), Dake Chen (China)
- 3 new National Representatives: Sandra Barreira (Argentina), Piotr Kuklinski (Poland), Bruno Delille (Belgium)
- SOOS SSC Meeting (May 2016, Scripps USA)
- SOOS Executive Committee Meeting (May 2016, Scripps USA)
- Finalisation of the [5-Year Implementation Plan](#)
- Development of the 5-Year Business Plan (currently under approval)
- Development of the SOOS Stakeholder Engagement strategy (currently in draft)

Upcoming Activities in 2017/2018 of relevance to ATCM-CEP

- In 2017, there will be 3 x workshops of the SOOS Regional Working Groups (WAP (May 2017), Ross (Sept 2017) and the Indian Sector (Aug 2017)); a workshop of the OASIS working group (June 2017); a data committee, SSC and EXCOM meetings (as outlined above)
- In 2018, there will be a SOOS-sponsored international conference “Marine Ecosystem Assessment for the Southern Ocean (MEASO)” which will aim to assess the status and trend of habitats, key species and ecosystems in the Southern Ocean. This will be a core deliverable of the SOOS Benchmarking (eEOV) capability working group. More information [here](#).

Challenges

The SOOS International Project Office (IPO) is funded in the following manner:

- 1) Salaries of the 2 staff (at 1.8 %FTE) is funded by the Australian Research Council’s Antarctic Gateway Partnership, with contributions from the University of Gothenburg, Sweden and overheads covered by the University of Tasmania, Australia.
- 2) Direct funding of IPO by the Australian Research Council’s Antarctic Gateway Partnership, Australian Antarctic Division, and Antarctica New Zealand
- 3) In-kind sponsorship of IPO through delivery of services and expertise: University of Gothenburg (Sweden), Rutgers University (USA), Australian Antarctic Division (AAD), Australia’s Integrated Marine Observing System (IMOS), Tasmanian Partnership for Advanced Computing (TPAC), NASA GCMD and Bioflex Nutrition (Australia)

Funding of staff and direct funding for the IPO is not secure long-term, and ends in mid-2018 when the Australian Research Council’s Antarctic Gateway Partnership program ends. Whilst efforts are being made by SOOS and the Australian community to ensure continuation of staff and IPO support beyond 2018, no funding pathway presently exists.

In addition to this, SOOS is at a point of significant growth and activity, and existing IPO staff and resources are insufficient to support this growth. Nearly all SOOS products and activities are un-resourced, and rely on volunteer and in-kind efforts. SOOS has developed a 5-Year Business Plan (draft available on request) that articulates the resources required to deliver the 5-Year Implementation Plan (<http://soos.aq/activities/implementation>) and invites discussion with any parties interested in contributing to this international initiative.