



THE SOUTHERN OCEAN OBSERVING SYSTEM

2016 ANNUAL REPORT

SOOS Activities and Milestones for 2016

All milestones and activities herein are reported against SOOS' four key objectives as defined in the *interim 5-Year Implementation Plan*.

Milestones

Objective 1: Facilitate the design of a comprehensive and multi-disciplinary observing system for the Southern Ocean:

- ecosystem Essential Ocean Variables (eEOVs) publication (<http://soos.aq/resources/recent?view=product&pid=38>)
- Outreach with the global ocean observing community on Southern Ocean EOVs
- Coordination of Southern Ocean contribution to the Global Ocean Observing System (GOOS) Biology Panel's survey of sustained biological monitoring towards identification of global eEOVs
- Discussion of OOPC-GCOS-GOOS EOVS specification sheets for Southern Ocean requirements

Objective 2: Unify and enhance current observation efforts and leverage further resources across disciplines, and between nations and programmes

Regional Working Groups (RWG):

- **West Antarctic Peninsula Working Group ([WAP WG](#)):**
 - Leadership has been developed.
 - First workshop is organised for May 2017 (<http://soos.aq/calendar?view=event&cid=87>)
 - Workshop is hosted by BAS, sponsored by SCAR and SOOS
- **Southern Ocean Indian Sector WG ([SOIS WG](#)):**
 - WG has preliminary approval and is currently building membership.
 - First workshop is being planned for late 2017, likely to be held in Japan.

- Workshop in Japan to be sponsored by SOOS
- **Ross Sea WG ([Ross](#)):**
 - WG has preliminary approval and is currently building membership.
 - First workshop is planned for late 2017, likely to be held in China.
 - WG leaders are working with CCAMLR Ross Sea MPA planners to ensure alignment of efforts.
 - Workshop in China to be sponsored by SOOS

Capability Working Groups ([CWG](#)):

- **Southern Ocean Air-Sea Fluxes ([SO-FLUX](#)):**
 - Officially approved at the 2016 SSC meeting.
 - Leadership meeting was held alongside Ocean Science Meeting to discuss key requirements for the pilot study
 - A [workshop report](#) was published in EOS
 - 4 focussed Task Teams developed
- **Censusing Animal Populations from Space ([CAPS](#)):**
 - A [workshop](#) was held alongside SCAR OSC, producing the following [report](#).
- **Ecosystem Essential Ocean Variables ([eEOVs](#)):**
 - WG has preliminary approval and is currently building membership.
 - [Community paper](#) was published,
 - Community presentation was given (IMOS Planning, March 2016)
- **Observing and Understanding the Ocean below Antarctic Sea Ice and Ice Shelves WG ([OASIIS](#)):**
 - Successful proposal to Partnership for Observation of the Global Ocean (POGO) for workshop support of a working group.
 - Workshop to be held 14-17 June 2017, hosted by AWI and sponsored by Australian Research Council's Antarctic Gateway Partnership, POGO and SOOS.

Task Teams ([TT](#)):

- **Southern Ocean Satellite Data Task Team ([Satellite TT](#)):**
 - The community report has been [published](#) and made open access
 - Task Team now complete

Key Products:

- **Southern Ocean Community annual calendar**
 - Initial static version of calendar provided to community [here](#)
 - Scoping for automated, dynamic calendar has been initiated and will be implemented by end of Feb 2017.

- **Maps of observing system elements**
 - Initial static version of maps provided online [here](#)
 - Proposal for IMAS-UTas Professional Development award for P. Bricher (successful)
 - Completion of Penn State University course on Open Web Mapping
 - New dynamic, online maps currently in development
- **Field Projects Planning Database ([Here](#)):**
 - Information on current and planned national/international field campaigns listed in static [table](#) on website
 - Community consultation and stakeholder engagement for development of database
 - Beta version of online, interactive [Field Project Planning Database](#) developed by Australian Antarctic Division and SOOS DMSC
 - Currently being tested by community
- **Southern Ocean Mooring Network**
 - Initial static version of mooring locations provided to the community
 - Dynamic map of retrieved and currently deployed moorings developed and provided online [here](#)
 - Initial information on mooring data provided
 - Discussions ongoing with data owners to populate the map continuing
 - Mooring data rescue work continuing (David Pasquale writing code to standardise data formats and document files for global mooring data).
- **Focussed Working Group listservers**
 - Initial scoping of options to enable working group-specific email lists for two-way correspondence between working group leaders, and working group members and interested communities

Meetings/Workshops:

In 2016, SOOS held the following meetings and workshops:

- **SOOS Executive Committee meeting** (May 2016, Scripps, USA)
- **Joint SOOS-SOCCOM [Workshop](#)** (May 2016, Scripps, USA)
- **2016 SOOS Scientific Steering Committee [meeting](#)** (May 2016, Scripps, USA)
- **2016 SOOS Data Management Sub-Committee [meeting](#)** (May 2016, Scripps, USA)
- **SCAR OSC Scientific Session** (Aug 2016, Malaysia)
- **International [workshop](#) for the SOOS-endorsed [NECKLACE project](#)** (Oct 2016, Sweden)

In 2016, SOOS was presented or represented at the following 21 meetings:

- **POGO** (M. Meredith, R. Coleman; Japan, Jan 2016)
- **Ocean Sciences** (L. Newman, P. Bricher, M. Mata, M. Mazloff, O. Schofield, M. Meredith, S. Ackley, S. Diggs, A.N. Garabato, JB Saltee, A. van de Putt, R. Proctor, S. Gille; USA, Feb 2016)

- **New Zealand Sea-Ice Symposium** (M. Williams; NZ, Feb 2016)
- **IMOS Planning Meeting** (L. Newman; Aus, March 2016)
- **Joint CEP and SC-CCAMLR Workshop** (A. Constable; Chile, May 2016)
- **South African Network for Coastal and Oceanic Research** (S. Swart; S. Africa, June 2016)
- **Antarctic Treaty Consultative Meeting and CEP** (J. Baeseman; Chile, June 2016)
- **SCAR OSC** (L. Newman, P. Bricher, A. Constable, A. Wåhlin, O. Schofield, D. Costa, M. Williams; Malaysia, Aug 2016)
- **SCADM** (P. Bricher, A. Van de Putte, T. de Bruin; Malaysia, Aug 2016)
- **SCAR Delegates** (L. Newman, A. Constable; Malaysia, Aug 2016)
- **Instituto Antartico Argentino** (M. Mata; Argentina, August 2016)
- **SciDataCon** (P. Bricher; USA, Sept 2016)
- **ICSU World Data System** (P. Bricher; USA, Sept 2016)
- **Co-Data Data at Risk workshop** (P. Bricher; USA, Sept 2016)
- **SCOR EXCOM** (A. Wåhlin; Poland, Sept 2016)
- **CLIVAR OSC** (M. Mata; China, Sept 2016)
- **CLIVAR-CLiC-SCAR SORP** (M. Mata; China, Sept 2016)
- **MESOPP** (A. Constable; Aus, Sept 2016)
- **FRISP** (A. Wåhlin, R. Coleman, P. Bricher (virtual attendance); Sweden, Oct 2016)
- **CCAMLR** (L. Newman, A. Constable; Aus, Oct 2016)
- **Polar Data Interoperability Workshop** (P. Bricher, Virtual attendance; Nov 2016)

Objective 3: Facilitate linking of sustained long-term observations to provide a system of enhanced data discovery and delivery, utilising existing data centres and programmatic efforts combined with, as needed, purpose-built data management and storage systems

- **NASA GCMD [SOOS Metadata portal](#)**
 - Engagement with administrators for improvements and negotiations for upgrade
 - Engagement with data providers and end users
 - Brokering discussions for improvement of translations between key word vocabularies of PANGAEA and DIF
 - Negotiations for improvements in understanding of ISO “flavours” or ways of use
 - Negotiations for development of ISO-DIF translation tools for key portals (AODN, SeaDataNet, PANGAEA, CCHDO)
- **Mooring Data Project**
 - BEDI funding application for mooring data rescue (successful)
 - Position advertised and filled for mooring data coder
 - Management of mooring data coder position

- Engagement with mooring data providers and other stakeholders (e.g., OceanSITES)
 - Outreach for mooring data product
- **NECKLACE data management**
 - Community consultation on requirements for NECKLACE data management
 - DMSC scoping of available infrastructure to meet NECKLACE needs
 - Development of data policy options for NECKLACE
- **Federated Data Search Tool**
 - Community consultation on requirements for federated search tool
 - Engagement with Arctic data community for joint effort on tool development
 - Development of product scoping document
- **Data Support and Advocacy**
 - Development of data policy for Australian Research Council's Antarctic Gateway Partnership
 - Negotiation for ICSU World Data System membership
 - Memorandum of Coordination with the Australian Antarctic Data Centre
 - Memorandum of Coordination with SCADM

Objective 4: Provide services to communicate, coordinate, advocate and facilitate SOOS objectives and activities

- **Advocacy for Southern Ocean Observations**
 - 4 newly endorsed field campaigns
 - Plenary presentation at SCAR OSC
 - Development of document highlighting Southern Ocean observational requirements for submission to G7
 - Promotion of Southern Ocean contribution to WMO Year of Polar Prediction
- **Engagement with international stakeholders**
 - Of note in 2016: IMOS, GOOS Regional Alliances, POGO, OOPC, CCAMLR, CEP, EU-PolarNet, WMO YOPP, COLTO, SORP, SONA, MESOPP, MEOP, JCOMMOPS, APECS, SOCCOM
 - Engagement with national representatives and communities
- **Communication Strategy is implemented**
 - 3 Newsletter issues published
 - 6 peer-reviewed [publications](#)
 - 2 [Workshop Reports](#)
 - SOOS 2016 [Posters and Presentations](#) published online
 - Regular updates to social media channels
 - Website maintained with up-to-date information and products

- Draft design of new homepage with focus on key products
 - Advocacy and outreach of SOOS products and activities
- **Sustained funding for SOOS IPO**
 - Draft of SOOS Funding Strategy
 - Draft of SOOS 5-Year Business Plan
 - Agreement by all existing [IPO sponsors](#) (direct and in-kind) for continuation of existing level of sponsorship for 2016
 - Change in funders of Executive Officer salary from the Institute for Marine and Antarctic Studies at the University of Tasmania (ended August 2016) to the Australian Research Council's Special Research Initiative [Antarctic Gateway Partnership](#) (Project ID SR140300001), which now funds both the Executive Officer (until mid-2018) and Data Officer (until Oct 2017).
 - Agreement for University of Gothenburg co-sponsorship of SOOS Data Officer position for 2017
- **Governance**
 - SOOS network grown from 46 to 48 [Affiliated Organisations](#) and new [national representatives](#) from Japan and Argentina.
 - Organisation and running of SOOS monthly EXCOM meetings
 - 2016 SOOS Scientific Steering Committee meeting (May 2016, USA, Minutes available [here](#)).
 - 2016 SOOS Data Management Sub-Committee meeting (May 2015, USA, Minutes available [here](#)).
 - Changes to the SSC membership: 3 inaugural members rotated off at the end of 2016 (S. Ackley, J. Liu, A.N. Garabato). Three new SSC members selected from an open, international call for nominations. New members are Anya Waite (Germany), Burcu Ozsoy (Turkey), Dake Chen (China). Existing member, Andrew Constable, approved for his second 3-year term
 - Annual reports to Antarctic Treaty, SCAR, SCOR, IPO Sponsors
 - Management of Scientific Steering Committee, Executive Committee and Data Management Sub-Committee activities and communication
 - Organisation of annual SOOS 2017 meetings for EXCOM, SSC and DMSC (June 2017, AWI, Germany)
- **Strategic Activities**
 - SCAR/SCOR International review of 5-Year Implementation Plan: Development of document "SOOS Response to Review"
 - Modification of Implementation Plan
 - 5-Year Operating Plan
 - 5-Year Business Plan
- **IPO Support for Implementation Activities**
 - Support for Working Group workshops
 - Sourcing funding for Working Group activities/products

- Management of SOOS sponsorship and funding of SOOS activities
- **Efficient running of the IPO**
 - Management of IPO staff
 - Management of SOOS budget and finances
 - Fulfilment of IMAS-UTAS requirements
 - IPO Annual Workplan

Sponsorship

SOOS thanks the following sponsors for their support in 2016:

- SCOR
- SCAR
- Australian Research Council's Special Research Initiative [Antarctic Gateway Partnership](#) (Project ID SR140300001)
- IMAS, University of Tasmania,
- Australian Antarctic Division
- Antarctica New Zealand
- University of Gothenburg
- Integrated Marine Observing System
- Tasmania Partnership for Advanced Computing
- NASA Global Change Master Directory
- NSF - CLIVAR and Carbon Hydrographic Data Office

SOOS also acknowledges the support provided to our SSC and DMSC members by their institutions.