



SCAR Sub-Group

SG

xxx

PS/LS/GS

Person

xxx

Responsible:

## SCAR Delegates Meeting 2018

Davos, Switzerland, June 2018

# Southern Ocean Observing System 2017 Report

### Report Author(s)

*(Please indicate country too)*

Louise Newman (SOOS IPO)  
Sebastiaan Swart (Sweden)  
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Oscar Schofield (USA)  
Phillippa Bricher (SOOS IPO)

### Summary of activities from 2016-18 and any other important issues or factors

*(<200 words)*

For activities undertaken in 2016, please refer to the 2016 Annual Report (Appendix 1).

2017 calendar year:

- Delivered and enhanced the database of Upcoming Expeditions to the Southern Ocean (DueSouth)
- Developed and delivered SOOSmap
- Held eight international workshops/meetings
- Developed a Task Team on Observing System Design
- Maintained strong, internationally diverse leadership and strategic direction in the Executive Committee, Steering Committee, Data Committee, and Working Group Co-chairs

2017 was a pivotal year in developing sponsorship for the SOOS International Project Office. We are excited to announce the sponsorship by the State Oceanic Administration (China), supporting a Project Officer Dr Yuhua Pei. Additionally, all previous sponsors (Appendix 2) have continued their support in 2017 and into 2018, and we have new service providers through EMODnet Physics, COMNAP and the ACE CRC (Australia). In 2018, we have another new service provider sponsor, the Istanbul Technical University Polar Research Center.

Hosting of the IPO in Hobart, Australia, has been extended until end-2019 (including both the Executive Officer and Data Officer salaries) through the Australian Research Council's Antarctic Gateway Partnership. SOOS is working with the University of Tasmania, Australian Antarctic Division, CSIRO, Integrated Marine Observing System, and the Tasmanian State Government to develop a partnership agreement for sponsorship over the coming years.

**Recommendations that EXCOM and Scientific Group Chief Officers should consider**

*(Please indicate if approval is necessary or if they are just asked to note information)*

- 1) SOOS requests continuation of the SCAR sponsorship of the annual SSC meeting (jointly with SCOR) for 2019 and 2020, to the value of 10,000 USD per year. This support is greatly appreciated by SOOS and is imperative to ensure participation of all international SSC members.
- 2) SOOS invites the SCAR Executive Director to attend the 2019 meeting (hosted by KOPRI, Korea)

**Summary Budget 2017 to 2020**

	2017	2018	2019	2020
	Spent	Allocated	Request	Request
(US\$)	10,000	10,000	10,000	10,000

## Progress and Plans

### Sub-group Major Outcomes/Activities

*(No more than three major developments with one paragraph describing each of no more than ~ 300 words. Why important, why now?)*

- 1) SOOSmap (<http://soos.aq/data/soosmap>): An interactive data discovery tool that brings together internationally-curated datasets into an open-access, user-friendly web interface. SOOSmap enables users to quickly filter and sort datasets by a wide range of parameters, including time, observation type and geographic location. Unlike traditional metadata catalogues, it allows users to directly explore the data itself before downloading it. SOOSmap also provides “base layers” such as monthly sea-ice extent, CCAMLR boundaries and Sea Surface Temperature, to enable researchers to investigate data availability in different contexts. Currently delivering 22 layers, SOOS is working with the community to increase the data layers and the number of direct data downloads available from SOOSmap. SOOSmap is delivered by EMODnet Physics, with support of SCADM and JCOMMOPS.
- 2) SOOS Regional Working Groups: SOOS has now established 5 international Regional Working Groups to coordinate and implement the observing system. Three groups held their first workshops in 2017 (West Antarctic Peninsula, Southern Ocean Indian Sector, Ross Sea), while two others (Weddell/Dronning Maud Land, Amundsen/Bellingshausen) will hold their first meetings in 2018/2019. The success of these groups is integral to the success of SOOS. They will enable us to align national and international observing efforts within regions towards delivering an integrated, sustainable observing system that delivers the fundamental observations required by all end-users.
- 3) DueSouth (<https://data.aad.gov.au/duesouth/>): The Database of Upcoming Expeditions to the Southern Ocean is a free online database that provides a mechanism for people to share and discover national field plans for upcoming seasons. The system will foster greater collaboration and coordination between programs and will be an important tool for the Regional Working Groups. The need to know who is going where has been well-articulated to SOOS by many user-groups since 2011 and SOOS has worked with the Australian Antarctic Data Centre to deliver this product.

### Sub-group Outcomes Summary

*(Summarize the above and in each case provide your sub-group name in left hand column)*

Sub-group	Activity/Outcome/Benefit/Achievement
SOOS	SOOSmap ( <a href="http://soos.aq/data/soosmap">http://soos.aq/data/soosmap</a> )
SOOS	SOOS Regional Working Groups
SOOS	DueSouth ( <a href="https://data.aad.gov.au/duesouth/">https://data.aad.gov.au/duesouth/</a> )

### Sub-group Cash Flow

(From previous Delegates meeting to date)

Sub-group	Allocation	Amount spent		
		2016	2017	2018
SOOS	10,000 USD	10,000		
SOOS	10,000 USD		10,000	
SOOS	10,000 USD			10,000

### Notable Papers

(Three most notable papers, if applicable)

- 1) Mazloff, M.R., Sallee, J.B., Menezes, V.V., Macdonald, A.M., Meredith, M.P., Newman, L., Pellichero, V., Roquet, F., Swart, S., and Wahlin, A , 2017: The Southern Ocean [in “State of the Climate in 2016”]. *Bull. Amer. Meteor. Soc.*, **98** (8), S166–S169, doi:10.1175 /2017BAMSStateoftheClimate.1.

This work is a contribution to the Antarctic chapter in the State of the Climate report, which is the authoritative annual summary of the global climate. It provides an overview of key changes in and characteristics of the Southern Ocean system for 2016 based on field observations and modelling outputs. SOOS SSC members have been tasked with delivering this product since the first Southern Ocean section in 2015.

- 2) Hendry, K., S. Henley, and O. Schofield (2017), Understanding a changing West Antarctic Peninsula, *Eos*, 98, <https://doi.org/10.1029/2017EO084155>.

This publication provides a report on the two meetings of the SOOS West Antarctic Peninsula Regional Working Group, hosted by BAS in May 2017. It highlights the key outcomes of the workshop and identifies priorities for observational activities in the region.

### Forthcoming Activities

(Plans for next two years, half-page maximum, if applicable. Why important, why now? If Sub-group is coming to a close please indicate this)

SOOS will continue to focus on activities that deliver against the 5-Year Implementation Plan (<http://soos.aq/activities/implementation>). In particular, the following key actions:

- Development of the Observing System Design working group and delivery of “design” tools: This is core to SOOS Objective 1 and will provide the community with tools and expertise to design efficient observing systems (amongst other things). It will be a key contribution to the Regional Working Groups.
- Related to above action, work with greater Southern Ocean community to identify and prioritise Essential Ocean Variables for the Southern Ocean towards quantification of observational requirements.

## Southern Ocean Observing System: 2017 Annual Report, cont.

- Maintenance and growth of SOOSmap: The community has identified a number of priority data layers for inclusion in SOOSmap over the coming years. SOOSmap is a key product for the community, and SOOS will continue to enhance it, and ensure connection to other online tools that serve related but different purposes (such as Quantarctica, CCAMLR GIS, etc)
- DueSouth: Automation of logistics data into DueSouth from interested National Antarctic Programs.
- Scope out objectives and delivery of 2 new capability working groups to 1) Enhance underway observations (with COMNAP, IAATO, CCAMLR), and 2) Articulate observational requirements for observations of the Antarctic Circumpolar Current.
- Federated Metadata Search Tool: Work with SCADM and the Arctic Data Council towards development of a polar federated search tool.
- Ensure stability and growth of sponsorship for the SOOS International Project Office
- Initiate review of Initial Science Plan (2012) and the current 5-Year Implementation Plan. Based on this review, begin to define scope of next 5-Year plan.

## Budget

### Planned use of funds for 2018 to 2020

*(Please provide detail of all activities with total at end, start with 2020 and work back to 2018 down the table)*

Year (YYYY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
2020	SOOS SSC Meeting – travel support for SSC	10,000	Louise Newman	newman@soos.aq
2019	SOOS SSC Meeting – travel support for SSC to Korea	10,000	Louise Newman	newman@soos.aq
2018	SOOS SSC Meeting – travel support for SSC to Hangzhou, China	10,000	Louise Newman	newman@soos.aq
<b>Total</b>		<b>30,000</b>		

### Briefly describe what the funds will be used for and what the desired results are

*(Use the same subtitles as the line items above with no more than 1-3 sentences per item. Please keep these high-level. Please also make clear note of expenditure associated with Davos meeting in 2018 both here and in the table above)*

## **Southern Ocean Observing System: 2017 Annual Report, cont.**

SCAR funds will be used to support the SOOS Scientific Steering Committee (SSC) members and Regional Working Group leads to attend the annual SSC meetings. As with previous years, this would be a joint sponsorship with the Scientific Committee of Oceanic Research (SCOR).

At the 2019 meeting (to be hosted by KOPRI, Korea), the funds will support participation of up to 20 representatives from up to 14 different nations (Australia, Argentina, China, Korea, USA, Turkey, France, Germany, South Africa, UK, Japan, Norway, Sweden, New Zealand), including up to 4 Early Career Researchers.

The desired result of using the SCAR funds for the SOOS SSC meeting are to ensure full representation of committee and working group members, ensuring diversity in expertise, geographic representation, career stage and gender.

### **Percentage of the budget to be used for support of early career researchers**

Agreement at present is that funds are to be used for SOOS SSC and Regional Working Group leads, which are by definition usually well-established leaders in their community. In 2017, the SSC had 2 ECR, and 2 ECR were regional working group leads. In 2018, the SSC has 3 ECR and 4 ECR as regional working group leads.

#### **2018:**

In 2018, the joint SCAR/SCOR funds supported 16 members to attend the SSC meeting (Hangzhou, China) and of those 16, 3 were ECR (10% of budget).

#### **2019 and 2020:**

The use of the funds by individual SSC members varies from year-to-year depending on their ability to obtain other funding in support of their SSC meeting participation. We cannot, at this stage, predict which SSC members will be requesting support for the 2019/2020 meetings.

### **Percentage of the budget to be used for support of scientists from countries with developing Antarctic programmes**

In 2017, the SSC had 3 members from developing programs (India, Brazil, Turkey). In 2018, the SSC has 3 members from developing Antarctic programs (Argentina, South Africa, Turkey).

#### **2018:**

10% of the budget was used to support participation of representatives from developing nations

#### **2019 and 2020:**

The use of the funds by individual SSC members varies from year-to-year depending on their ability to obtain other funding in support of their SSC meeting participation. We cannot, at this stage, predict which SSC members will be requesting support for the 2019/2020 meetings.

## Linkages

**Direct support from outside organisations received for your activities**  
*(Numbered list with values indicated if direct cash support. Please restrict in-kind support to substantive in-kind support only)*

### Sponsorship of SOOS Working Group and Committee 2017 Activities:

Sponsor	Activity	Amount/Type
British Antarctic Survey	West Antarctic Peninsula Working Group workshop (May 2017)	Hosting of workshop
SCAR	West Antarctic Peninsula Working Group workshop (May 2017)	Support for icebreaker at BAS
Royal Society	Biogeochemistry of the West Antarctic Peninsula	Full hosting of workshop
Alfred Wegener Institute	SOOS Executive Committee Meeting (June 2017)	Hosting of meeting
	SOOS Scientific Steering Committee Meeting (June 2017)	Full hosting of meeting
	SOOS Data Management sub-Committee meeting (June 2017)	Hosting of meeting
	SOOS-AWI Weddell Symposium (June 2017)	Full hosting of symposium
	SOOS-POGO Observing Under Ice (OASIIS) workshop (June 2017)	Hosting of workshop
ARC Antarctic Gateway Partnership	SOOS-POGO Observing Under Ice (OASIIS) workshop (June 2017)	Support for workshop
Partnership for Observation of the Global Oceans (POGO)	SOOS-POGO Observing Under Ice (OASIIS) workshop (June 2017)	Support for workshop
National Institute of Polar Research (NIPR Japan)	SOOS Indian Sector workshop (August 2017)	Hosting of workshop
Australian Antarctic Division	SOOS Indian Sector workshop (August 2017)	Support for workshop
Shanghai Jiao Tong University	SOOS Ross Sea Working Group workshop (Sept 2017)	Host for workshop
Ocean Carbon and Biogeochem. Office USA		Support for workshop
2 <sup>nd</sup> Institute Oceanography, China		Support for workshop
National Lab for Marine Sci and Tech, Qingdao China		Support for workshop

**Major collaborations your sub-group has with other SCAR groups and with organisations/groups beyond SCAR**

*(Numbered list of substantive collaborations)*

**Within SCAR**

1. SCADM – Strong collaboration on efforts of mutual interest; collaboration on SOOSmap, DueSouth and development of the Federated Data Search Tool and related working group POLDER.
2. Southern Ocean Regional Panel (SORP) – joint membership; representation at respective meetings
3. BEPSII – Jointly supported effort for delivery of sea-ice chlorophyll data into SOOSmap
4. Quantarctica: engagement in development of tools
5. Physical Sciences Lead – engagement with Bromwich towards Southern Ocean YOPP
6. ICED – Involvement in the ICED-CCAMLR collaborative workshop; co-involvement in MEASO
7. ASPeCt – collaboration on remote sensing publications; identification of sea ice EOVS; selection of Burcu Ozsoy as co-representative; collaboration on DueSouth
8. AntClim21 – Involvement in SOOS SSC meeting and OASIIS workshop
9. AntEco – representatives attending SOOS Regional Working Group workshops; co-involvement in MEASO
10. FRISP – Endorsement and significant data management support of key FRISP program “NECKLACE”; involvement in OASIIS workshop
11. AnT-ERA – representatives attending SOOS Regional Working Group workshops; co-involvement in MEASO
12. SO-CPR – support for delivery of CPR data through SOOSmap

**Outside SCAR**

1. Scientific Committee of Oceanic Research (SCOR): Governing body; represented at AGM; official annual report; regular email reporting/engagement
2. CCAMLR: Involvement in SC-CAMLR; annual report; joint SOOS-CCAMLR workshop; joint report; contribution to CCAMLR MPA; regular meetings with CCAMLR Secretariat
3. Partnership for Observation of the Global Oceans (POGO): Joint sponsorship of OASIIS workshop and working group
4. Global Ocean Observing System: Attendance at GOOS Panel meeting; Collaboration with GOOS Bio Panel; Regular communication regarding EOVS
5. COMNAP: Support for development of DueSouth; connection with COMNAP secretariat
6. IMOS: Quarterly meetings
7. WMO-IOC Joint Technical Commission for Oceanography and Marine Meteorology in-situ Observing Programmes Support Centre (JCOMMOPS): Regular engagement with JCOMMOPS team for delivery of DueSouth and SOOS Map
8. Southern Ocean Carbon and Climate Observation and Modelling (SOCCOM): updates to community; collaboration on SOOSMap data layers
9. European Marine Observation and Data Network (EMODnet): Collaboration on delivery, maintenance and growth of SOOSmap
10. Arctic Data Committee: Joint development of Federated Data Search Tool working group POLDER (with SCADM)



11. WMO Year of Polar Prediction (YOPP): SSC member attending all YOPP meetings;  
Communication of YOPP requirements through SOOS newsletter; engagement with YOPP at annual SSC meeting
12. MEOP: Delivery of MEOP data through SOOSmap

## Outreach and Capacity Building

### Outreach, communication and capacity building activities

*(Provide a numbered list of no more than half a page)*

1. *SOOS Update* – quarterly newsletter. Only one issue produced during 2017 due to lack of capacity in the IPO. Newsletter production is now outsourced.
2. Website
3. Community Conference/Meetings presentations (e.g., EGU, AOGS, CliC SSG, EPB, EuroGOOS, GRC, IAPSO, ICSHMO, IICWG, IOC, POGO, Research Data Alliance, UN Oceans, SCAR Biology, WCRP JSC, YOPP, Force11, AFOPS)
4. Publications and reports (see Resources database on website)

### SCAR Fellowship Reviewers

As part of SCAR's Capacity Building efforts, such as the Fellowships and Visiting Professor Awards, we are looking for people from all the SCAR groups including SRPs to form a 'review panel' so if applications in your field are submitted we have people to contact to help assess relevant applications. Please list one or more people (name and email address) from your SRP who would be willing to serve as reviewers for the next few years, along with 1-3 keywords on their principal expertise.

First Name	Last Name	E-mail	Principal Expertise
Sebastian	Moreau	<a href="mailto:Sebastien.Moreau@npolar.no">Sebastien.Moreau@npolar.no</a>	carbon cycle, primary production, sea-ice biogeochemistry
Parli	Bhaskar	<a href="mailto:bhaskar@ncaor.gov.in">bhaskar@ncaor.gov.in</a> <a href="mailto:pbhaskar23@gmail.com">pbhaskar23@gmail.com</a>	Microbial ecology, microbial loop, carbon biogeochemistry
Irene	Schloss	<a href="mailto:ireschloss@gmail.com">ireschloss@gmail.com</a>	Plankton, ecosystem modelling, coastal processes

## Membership

### Leadership

Role	First Name	Last Name	Affiliation	Country	Email	Date Started	Date Term is to End
<b>EXCOM</b>	Andrew	Constable	AAD	Aus	<a href="mailto:Andrew.Constable@aad.gov.au">Andrew.Constable@aad.gov.au</a>	2014	2020
<b>*EXCOM</b>	Sebastian	Swart	Uni of Gothenburg	Sweden	<a href="mailto:seb.swart@gmail.com">seb.swart@gmail.com</a>	2014	2020
<b>EXCOM</b>	Mike	Williams	NIWA,	New Zealand	<a href="mailto:Mike.Williams@niwa.co.nz">Mike.Williams@niwa.co.nz</a>	2015	2021
<b>EXCOM</b>	Louise	Newman	SOOS IPO IMAS-UTAS	Aus	<a href="mailto:newman@soos.aq">newman@soos.aq</a>	-	-
<b>SSC</b>	Sang Hoon	Lee	KOPRI	Korea	<a href="mailto:hoonenator@icloud.com">hoonenator@icloud.com</a>	2015	2019
<b>SSC</b>	Matthew	Mazloff	Scripps	USA	<a href="mailto:mmazloff@ucsd.edu">mmazloff@ucsd.edu</a>	2015	2021
<b>*SSC</b>	Jean-Baptiste	Salle	L'OCEAN	France	<a href="mailto:jbsalle@gmail.com">jbsalle@gmail.com</a>	2015	2021
<b>SSC</b>	Dake	Chen	2 <sup>nd</sup> Inst. Oceanography	China	<a href="mailto:dchen@sio.org.cn">dchen@sio.org.cn</a>	2017	2023
<b>SSC</b>	Burcu	Ozsoy	Istanbul Tech Uni	Turkey	<a href="mailto:ozsoybu@gmail.com">ozsoybu@gmail.com</a>	2017	2023
<b>SSC</b>	Anya	Waite	AWI	Germany	<a href="mailto:anya.waite@awi.de">anya.waite@awi.de</a>	2017	2023
<b>SSC</b>	Eileen	Hofmann	Old Dominion Uni	USA	<a href="mailto:hofmann@ccpo.odu.edu">hofmann@ccpo.odu.edu</a>	2018	2024
<b>SSC</b>	Irene	Schloss	Argent. Antarctic Inst.	Argentina	<a href="mailto:ireschloss@gmail.com">ireschloss@gmail.com</a>	2018	2024
<b>*SSC</b>	Andrew	Meijers	BAS	UK	<a href="mailto:andmei@bas.ac.uk">andmei@bas.ac.uk</a>	2018	2024
<b>*SSC</b>	Sarah	Fawcett	Uni Cape Town	S. Africa	<a href="mailto:sarah.fawcett@uct.ac.za">sarah.fawcett@uct.ac.za</a>	2018	2024

<b>DMS C Chai r</b>	Steve	Diggs	Scripps	USA	<a href="mailto:sdiggs@ucsd.edu">sdiggs@ucsd.edu</a>	2013	2019
<b>DMS C Chai r</b>	Joana	Beja	BODC	UK	<a href="mailto:joja@bodc.ac.uk">joja@bodc.ac.uk</a>	2016	2021

*Dates in grey indicate the period of 2 x 3-year terms, pending SCAR/SCOR approval*

*Please identify Early Career Scientists with \* in first column*

### Other members

(Ex-Officio SSC members due to leadership on Regional Working Groups)

First Name	Last Name	Affiliation	County	Email
<b>Tsuneo</b>	Odate	NIPR	Japan	<a href="mailto:odate@nipr.ac.jp">odate@nipr.ac.jp</a>
<b>Phillippe</b>	Koubbi	UPMC	France	<a href="mailto:philippe.koubbi@upmc.fr">philippe.koubbi@upmc.fr</a>
<b>Oscar</b>	Schofield	Rutgers Uni	USA	<a href="mailto:oscar@marine.rutgers.edu">oscar@marine.rutgers.edu</a>
<b>*Kate</b>	Hendry		UK	<a href="mailto:glzkh@bristol.ac.uk">glzkh@bristol.ac.uk</a>
<b>*Sian</b>	Henley		UK	<a href="mailto:s.f.henley@ed.ac.uk">s.f.henley@ed.ac.uk</a>
<b>Julian</b>	Gutt		Germany	<a href="mailto:Julian.Gutt@awi.de">Julian.Gutt@awi.de</a>
<b>Torsten</b>	Kanzow		Germany	<a href="mailto:torsten.kanzow@awi.de">torsten.kanzow@awi.de</a>
<b>*Sebastian</b>	Moreau	NPI	Norway	<a href="mailto:Sebastien.Moreau@npolar.no">Sebastien.Moreau@npolar.no</a>
<b>*Laura</b>	De Steur	NPI	Norway	<a href="mailto:laura.de.steur@npolar.no">laura.de.steur@npolar.no</a>
<b>Walker</b>	Smith	VIMS	USA	<a href="mailto:wos@vims.edu">wos@vims.edu</a>
<b>Anna</b>	Wahlin	Uni Got	Sweden	<a href="mailto:anna.wahlin@marine.gu.se">anna.wahlin@marine.gu.se</a>

*Please identify Early Career Scientists with \* in first column*

### Requests to the Secretariat

*(If there are specific administrative tasks you would like help with such as your webpages, mailing list, online meeting tools, etc., please include them below as a numbered list)*

- 1) SOOS would like to work with the SCAR Executive Director to identify a reporting structure that both provides SCAR with the information required, and streamlines reporting overhead and duplication for the SOOS project office.
- 2) SOOS would like both DueSouth and SOOSmap to be viewed as key SCAR data products and included on the SCAR website.