



**SOOS**

SOUTHERN OCEAN  
OBSERVING SYSTEM

## 6<sup>th</sup> SCIENTIFIC STEERING COMMITTEE MEETING

### Minutes

11-13 June 2017

Alfred Wegener Institute, Germany

## Primary Sponsors



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# Participants

| Name                                           | Affiliation                        | Role                   | Attendance       |                  |                  |                  |      |       |
|------------------------------------------------|------------------------------------|------------------------|------------------|------------------|------------------|------------------|------|-------|
|                                                |                                    |                        | 10 <sup>th</sup> | 11 <sup>th</sup> | 12 <sup>th</sup> | 13 <sup>th</sup> | DMSC | OASIS |
| <b>SCIENTIFIC STEERING COMMITTEE MEMBERS</b>   |                                    |                        |                  |                  |                  |                  |      |       |
| Beja, Joana                                    | BODC, UK                           | DMSC Co-Chair          |                  | Yes              | Yes              | Yes              | Yes  |       |
| Bhaskar, Parli V.                              | NCAOR, India                       | SSC Member             |                  | Yes              | Yes              | Yes              |      | Yes   |
| Chen, Dake                                     | 2 <sup>nd</sup> Inst. Ocean. China | SSC Member             |                  | Yes              | Yes              | Yes              |      |       |
| Constable, Andrew                              | AAD, Australia                     | Vice Chair             | Yes              | Yes              | Yes              | Yes              |      |       |
| Costa, Dan                                     | UCSC, USA                          | SSC Member             |                  | Yes              | Yes              | Yes              |      | Yes   |
| Diggs, Steve                                   | CCHDO, USA                         | DMSC Co-Chair          |                  |                  |                  |                  | Yes  |       |
| Lee, Sang Hoon                                 | KOPRI, Korea                       | SSC Member             |                  | Yes              | Yes              | Yes              |      | Yes   |
| Mata, Mauricio                                 | FURG, Brazil                       | SSC Member             |                  | Yes              | Yes              | Yes              |      | Yes   |
| Ozsoy, Burcu                                   | Istanbul Tech, Turkey              | SSC Member             |                  | Yes              | Yes              | Yes              |      |       |
| Salle, Jean-Baptiste                           | LOCEAN-IPSL, France                | SSC Member             |                  | Yes              | Yes              | Yes              |      | Yes   |
| Schofield, Oscar                               | Rutgers, USA                       | Co-Chair               | Yes              | Yes              | Yes              | Yes              |      |       |
| Swart, Sebastiaan                              | UGot, Sweden                       | Vice Chair             | Yes              | Yes              | Yes              | Yes              |      | Yes   |
| Wählin, Anna                                   | UGot, Sweden                       | Co-Chair               | Yes              | Yes              | Yes              | Yes              |      | Yes   |
| Waite, Anya                                    | AWI, Germany                       | SSC Member             |                  | Yes              | Yes              | Yes              |      |       |
| Williams, Mike                                 | NIWA, NZ                           | SSC Member             |                  | Yes              | Yes              | Yes              |      | Yes   |
| <b>SOOS INTERNATIONAL PROJECT OFFICE</b>       |                                    |                        |                  |                  |                  |                  |      |       |
| Bricher, Pip                                   | SOOS IPO, Australia                | SOOS Data Officer      |                  | Yes              | Yes              | Yes              | Yes  |       |
| Newman, Louise                                 | SOOS IPO, Australia                | SOOS Executive Officer | Yes              | Yes              | Yes              | Yes              |      | Yes   |
| <b>NATIONAL REPRESENTATIVES</b>                |                                    |                        |                  |                  |                  |                  |      |       |
| Arata, Javier                                  | INACH                              | Chile                  |                  | Yes              | Yes              | Yes              |      |       |
| Barreira, Sandra                               | Naval Hydro Office                 | Argentina              |                  | Yes              | Yes              | Yes              |      | Yes   |
| Budillon, Giorgio                              | Uni. of Naples                     | Italy                  |                  | Yes              | Yes              | Yes              |      | Yes   |
| Kuklinski, Piotr                               | IOPAN                              | Poland                 |                  | Yes              | Yes              | Yes              |      |       |
| Lowther, Andrew                                | NPI                                | Norway                 |                  | Yes              | Yes              | Yes              |      |       |
| Tamura, Takeshi                                | NIPR                               | Japan                  |                  | Yes              | Yes              | Yes              |      |       |
| <b>COMMUNITY REPRESENTATIVES AND OBSERVERS</b> |                                    |                        |                  |                  |                  |                  |      |       |
| Baeseman, Jenny                                | SCAR Secretariat                   | SSC Ex-officio (SCAR)  |                  | Yes              | Yes              | Yes              |      |       |
| Biebow, Nicole                                 | AWI, Germany                       | EU-PolarNet            |                  |                  | Yes              | Yes              |      |       |
| Bracegirdle, Tom                               | BAS, UK                            | AntClim21              | Yes              | Yes              |                  |                  |      |       |
| Coleman, Richard                               | IMAS-UTAS, Aus                     | SOOS Sponsor           | Yes              | Yes              | Yes              |                  |      | Yes   |
| Goessling, Helge                               | AWI, Germany                       | YOPP Representative    |                  |                  | Yes              | Yes              |      |       |
| Gutt, Julian                                   | AWI, Germany                       | ANTerA representative  |                  |                  |                  | Yes              |      |       |
| Hendry, Kate                                   | Uni Bristol, UK                    | WAP WG Co-Chair        |                  | Yes              | Yes              | Yes              |      |       |
| Henley, Sian                                   | Uni Edinburgh, UK                  | WAP WG Co-Chair        |                  | Yes              | Yes              | Yes              |      |       |
| Kern, Stefan                                   | Uni Hamburg, Germany               | ESA CCI Representative |                  |                  | Yes              |                  |      |       |
| Shi, Jiuxin                                    | Ocean Uni China                    | SORP Representative    |                  | Yes              | Yes              | Yes              |      | Yes   |
| Smith, Inga                                    | Uni Otago, NZ                      | SORP Co-Chair          |                  | Yes              | Yes              | Yes              |      | Yes   |
| Tanhua, Toste                                  | GEOMAR, Germany                    | GOOS Representative    |                  |                  | Yes              |                  |      |       |
| <b>DATA MANAGEMENT SUB-COMMITTEE</b>           |                                    |                        |                  |                  |                  |                  |      |       |
| Kozyr, Alex                                    | NOAA-CDIAC, USA                    | DMSC Member            |                  |                  |                  | Yes              | Yes  |       |
| Driemel, Amelie                                | AWI, Germany                       | DMSC Ex-officio        |                  |                  |                  | Yes              | Yes  |       |
| Ten Hoopen, Petra                              | BAS, UK                            | DMSC Ex-officio        |                  |                  |                  | Yes              | Yes  |       |
| Proctor, Roger                                 | AODN, Australia                    | DMSC Member            |                  |                  |                  | Yes              | Yes  |       |
| Van de Putte, Anton                            | Biodiversity.aq, Belgium           | DMSC Member            |                  |                  |                  | Yes              | Yes  |       |
| Zhang, Parker                                  | PRIC, China                        | DMSC Member            |                  |                  |                  | Yes              | Yes  |       |
| Novellino, Antonio                             | EMODnet                            | DMSC Ex-officio        |                  |                  |                  |                  | Yes  |       |
| de Bruin, Taco                                 | NIOZ, Netherlands                  | DMSC Member            |                  |                  |                  | Yes              | Yes  |       |
| Gorringe, Patrick                              | EMODnet                            | DMSC Ex-officio        |                  |                  |                  |                  | Yes  |       |
| Pfeil, Benjamin                                | Uni Bergen, Norway                 | DMSC Member            |                  |                  |                  | Yes              | Yes  |       |
| Kramp, Martin                                  | JCOMMOPS, France                   | DMSC Ex-officio        |                  |                  |                  | Yes              | Yes  |       |
| Marcario, Ana                                  | AWI, Germany                       | DMSC Ex-officio        |                  |                  |                  |                  | Yes  |       |
| Koppe, Roland                                  | AWI, Germany                       | DMSC Ex-officio        |                  |                  |                  |                  | Yes  |       |
| Diepenbroek, Michael                           | AWI, Germany                       | DMSC Ex-officio        |                  |                  |                  |                  | Yes  |       |

# SOOS Scientific Steering Committee 2017 Meeting Agenda

## SESSION 1 – INTRODUCTORY ACTIONS

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### *Welcome, Introductions and overview of meeting goals*

Anna Wåhlin and Oscar Schofield opened the meeting by thanking the meeting sponsors and hosts. Apologies were made for the following SSC members who could not attend: Andrew Constable, Mike Meredith, Matthew Mazloff, Jenny Baeseman.

The chairs acknowledged the broad community and national representation in the observers at the meeting (20 nations represented overall), and thanked the national and institutional funders that had supported their involvement. The broad involvement of observers was viewed as being very important to the goal of this Steering Committee meeting, which was to focus on building the community engagement with SOOS working groups and activities.

### *Approvals*

The Chairs requested approval and/or comments on the following documents:

- Official SOOS 2016 Annual Report
  - *Approved with minor modifications*

#### ***Action 1 – IPO to make minor modifications to Annual Report, make available from website and send to core stakeholders***

- Reporting Calendar
  - *Approved*
  - *WG reports to be collected in March/April*
  - *ATCM is the core audience of annual reports and report to ATCM should include all info that is relevant*
  - *More specific reports (e.g., EC-PHORS) should have specific content provided by SSC members of relevant expertise*

#### ***Action 2 – IPO to make minor modifications to reporting calendar and put online***

- 2016 Action Items
  - *The SSC acknowledged how much had been achieved in 2016, and that things have changed so quickly that several action items are no longer relevant. Others have been acted on through other avenues.*
- Changes to the 5-Year Implementation Plan
  - *The SSC recommended a number of minor changes to the Implementation plan before final submission to SCAR and SCOR*

***Action 3 – IPO to make minor modifications to Implementation Plan and submit to SCAR/SCOR for final approval***

- Association of Polar Early Career Scientists (APECS) Representation on SOOS Working Groups and SSC
  - *The SSC approved the proposal for an APECS rep to attend SSC meetings, and for each Working Group to have the option of an APECS representative on their leadership committee.*

***Action 4 – IPO to email WGs re: APECS representation; IPO to initiate APECS call for representatives***

**SESSION 2 – REGIONAL WORKING GROUPS AND KEY TOOLS**

***Regional Working Group Reports***

Short presentations were given by Regional Working Group Chairs:

**West Antarctic Peninsula “WAP” (Henley/Hendry/Schofield)**

Kate Hendry and Sian Henley gave an update on the recent WAP WG Workshop, which was hosted by the British Antarctic Survey (Cambridge, UK). A report from that workshop has been written and is available on the SOOS website. The SSC acknowledged the great effort of the Co-Chairs in bringing such a large community together. The SSC raised the question of whether the northern boundary for the Working Group had been set, and whether it included the Drake Passage. Henley/Hendry acknowledged that this had not been discussed specifically but that all the focus thus far had been on coastal WAP region. The SSC discussed the northern boundary of all regional working groups, and recommended exploring options and potential scope of a Circumpolar Working Group, which would include the Drake Passage, and would tie the northern limits of the RWGs together.

***Action 5 – Develop Task Team to scope requirements for a Circumpolar WG***

**Southern Ocean Indian Sector “SOIS” (Constable)**

Louise Newman (on behalf of Andrew Constable) provided an update on SOIS activities and plans for the first workshop in August. Many SSC members felt that this workshop needed to be more broadly advertised, and initial involvement seemed very biologically focussed. They recommended a broad, public announcement of the workshop and tailored invitations to physical and sea-ice oceanographers to ensure multidisciplinary engagement.

***Action 6 – Broad announcement of workshop and call for participation of all disciplines***

**Ross Sea (Williams)**

Mike Williams provided an update on development of the Ross Sea Working Group, including an overview of the upcoming workshop to be held in China and the CCAMLR Ross Sea Marine Protected Area Monitoring plan workshop that was held in Italy in May. The importance of a strong connection between this group and the MPA initiative was highlighted and supported by the SSC.

### **Weddell and Dronning Maud Land (Waite)**

Anya Waite provided the SSC with an overview of the upcoming SOOS-AWI joint symposium on observational activities in the Weddell region, which was organised to initiate development of a Regional Working Group in the area. The SSC acknowledged the importance of AWI involvement in development and implementation of this group.

### **Amundsen and Bellingshausen (Wahlin/Lee)**

Anna Wåhlin presented recent international field activities in the Amundsen Sea, highlighting the existing investment in the region and that, with new, large-scale multinational programs being developed, it was an important time for development of a Regional Working Group in the region. The importance of strong involvement from KOPRI was discussed, and Sang Hoon Lee will work with SOOS over the coming year to build involvement on Korean scientists in the effort to develop this working group.

### ***Action 7 – Scoping of Amundsen WG leadership and key communities to involve***

#### ***Key Tools for support of RWGs***

#### ***Database of Upcoming Expeditions to the Southern Ocean “DueSouth”:***

Pip Bricher provided an overview of the database features, current status of resources, and plans for enhancement of database capabilities.

#### ***SOOSmap:***

Joana Beja provided an overview of the plan for SOOS Map, including options for sustained delivery of the interface and data. The SSC provided information on key data layers that should be included and key functions that would be useful. The feasibility of these data and functions are to be considered by the Data Sub-Committee at their annual meeting.

### ***Action 8 – DMSC to consider recommended data layers and functionality for SOOSmap***

## **SESSION 3 – SOOS GOVERNANCE**

The end of 2017 will see many changes to the SSC. EXCOM updated the SSC on a number of recommendations to manage these changes, and then led a discussion on future requirements and structure of the SSC.

The following points were highlighted and discussed:

- Ensuring flexibility in EXCOM membership selection process and criteria for new members
- Optimal length of EXCOM terms
- Potential for ex-member status
- Timing for off-rotations of SSC members

- New proposed EXCOM members
- Pros and cons of automatic selection of Vice Chairs as Co-Chairs
- The size of the SSC; maintaining disciplinary and geographic balance; enhancing engagement with Regional Working Group co-chairs
- Upcoming gaps in expertise and geographic representation, to be addressed in next SSC nominations
- Role of SSC members

The SSC made a number of recommendations, which will be submitted to SCAR and SCOR for consideration.

***Action 9 – IPO to submit Governance recommendations to SCAR and SCOR for consideration and approval***

***Action 10 – IPO to update original SSC TORs to better reflect current governance roles. SSC request inclusion of role of SSC in maintaining motivation of WGs***

## **SESSION 4 – NETWORK CONNECTIONS**

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### *Updates from the SOOS Network*

SOOS has strong connections to many intergovernmental, international and national programs and initiatives. This SSC meeting had broad involvement of programmatic and national representatives, which was an opportunity for updates on activities of relevance to SOOS. The following presentations were given:

- Antarctic Climate Change in the 21<sup>st</sup> Century “AntClim21” (Thomas Bracegirdle) <http://www.scar.org/srp/antclim21>
- CLIVAR-CliC-SCAR Southern Ocean Regional Panel “SORP” (Inga Smith, Jiuxin Shi) <http://www.clivar.org/clivar-panels/southern>
- The Global Ocean Observing System (GOOS) (Toste Tanhua) <http://www.goosocean.org/>
- WMO Year of Polar Prediction “YOPP” (Helge Goessling) <http://www.polarprediction.net/yopp/>
- EU-PolarNet (Nicole Biebow) <http://www.eu-polarnet.eu/>
- European Space Agency Climate Change Initiative on Sea Ice (ESA CCI Sea Ice) <http://esa-cci.nersc.no/>
- Polish national activities (Piotr Kuklinski)
- Argentinian Naval Hydrographic Office activities (Sandra Barreira)
- Italian national activities (Giorgio Budillon)
- Norwegian national activities (Andrew Lowther)
- Chilean national activities (Javier Arata)
- Japanese national activities (Takeshi Tamura)
- Chinese national activities (Dake Chen)
- Turkish national activities (Burcu Ozsoy)

## *Developing an engagement strategy for SOOS*

EXCOM informed the SSC of the need for a more purposeful and strategic engagement with SOOS stakeholders, which encompass many different communities. They highlighted that our stakeholders differ significantly in what they need from SOOS, how often and in what form they need it. Additionally, SOOS needs to connect with the different stakeholders at many different levels, depending on our needs of them. Until now, engagement with stakeholders has been relatively ad hoc and reactive, rather than purposeful, strategic and proactive.

The SSC discussed the growth of the SOOS network, and the increase in impact of SOOS actions, and the need to develop a plan that provides the IPO and committees with a prioritised and strategic approach to communication and engagement. They highlighted the limited resources, and therefore the need to focus on where stakeholder engagement can have the biggest impact on our strategy and operations; streamline processes to define and lead cost-effective stakeholder engagement activities; measure the value of investing in engagement; understand and manage stakeholder expectations. The SSC recommended the development of national documents that articulate the core interests of each nation in the Southern Ocean, key institutes/organisations (and contacts), and what updates (type, regularity etc.) would be required.

***Action 11 – IPO to develop engagement strategy template for community to provide input***

## **SESSION 5 – FUNDING FOR SOOS**

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SOOS EXCOM provided an overview of the current funding structure and timeline for the International Project Office (IPO). The SSC discussed a number of options to ensure more secure funding for the IPO long term. EXCOM also provided an overview of the 5-Year Business Plan, and the SSC agreed that this should form the basis of a funding strategy and sponsorship package, to be developed in the coming year.

***Action 12 – Funding Task Team to be developed to draft Funding Strategy and Sponsorship Package – members: Bhaskar, Oscar, Andrew, Ed and Mike W.***

## **SESSION 6 – ENHANCING CAPABILITIES**

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### *Capability Working Group Reports*

Short presentations were given by Capability Working Group Chairs/Representatives:

#### **Southern Ocean Fluxes “SOFLUX” (Swart)**

Seb Swart provided an overview of the objectives of SOFLUX working group, highlighting the enormous gap in flux observations and imperative for addressing this gap. Seb updated the SSC on the new task teams that have been developed within the WG to deliver against some of the TORs, plans for a fluxes session at POLAR2018, as well as a side meeting for SOFLUX members.



### **Observing and Understanding the Ocean beneath Antarctic sea ice and ice shelves (OASIIS) (Coleman)**

Richard Coleman provided a short update on the POGO OASIIS working group objectives, including an overview of the upcoming workshop and expected products. The workshop has significant international sponsorship and broad international participation (>60 participants), further supporting the importance of the work.

### **Benchmarking and Marine Ecosystem Assessment of the Southern Ocean “MEASO2018” (Constable)**

Andrew Constable updated the SSC on the change from the eEOV working group to a Benchmarking WG, which is due to the development of the MEASO2018 conference and associated work efforts.

### **Censusing Animal Populations from Space “CAPS” (Costa)**

Dan Costa provided an update on the CAPS working group, on behalf of WG co-chairs. The working group held its first workshop in July 2017, and has submitted a number of funding proposals to support its work, including a joint Polish/Norwegian project to look at developing algorithms for automatic identification of seals from satellite imagery.

### **Acoustic Trends of Antarctic blue and fin whales (ATWG)**

SOOS received a community-led proposal for a new Capability working group that aimed to develop and mature a long-term acoustic research program to understand trends in Southern Ocean blue and fin whale distributions through the use of passive acoustic monitoring techniques. The SSC discussed the scope of the proposed working group, highlighting the importance of the passive acoustic data being collected for use by many different communities (e.g., physics, rainfall, wind), the opportunities to enhance these observations through use of existing mooring network for building the array of acoustic sensors, and the need to ensure such data is discoverable through SOOSmap. The SSC unanimously approved the ATWG as a new SOOS capability working groups

#### ***Action 13 – IPO to communicate approval to ATWG and develop working group webpage***

The SSC then discussed key gaps in capabilities that could be addressed through capability working groups. Ideas included engaging with the tourist shipping community, and scoping of automated microbial observing systems.

### ***Observing System Design***

EXCOM led a discussion on the requirements of SOOS objective 1 on observing system design, iterating that a quantitative, designed system is a core deliverable, and will be key in delivering a single statement on requirements that covers the needs of many relevant communities. This agreed statement will prevent competing requests for resources, provide a unified voice to advocate for required observations, and enable a quantitative estimate of progress. The SSC discussed the need for the working groups to be involved in defining requirements regionally. The SSC recommended the development of a focussed Task Team to identify the way forward with achieving Objective 1, also including a review of materials and documents available to the community, and mechanisms to monitor and communicate progress in EOVS development.

**Action 14 – Task Team to be developed to drive forward Objective 1. Members: Matt Mazloff, Andrew Constable, Anya Waite, Oscar Schofield**

## **SESSION 8 – FORWARD PLANNING**

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### **2018 SSC Meeting**

The SSC discussed a number of options for the 2018 SSC meeting, including the two offers to host from China (D. Chen) and New Zealand (M. Williams). The SSC also discussed the potential for SOOS events alongside the Polar2018 meeting, Ocean Sciences, MEASO2018, and the 2019 Ocean Obs' conference.

**Action 15 – 2018 SSC meeting to be hosted by China – IPO to work with Dake to organize it**

**Action 16 – IPO to note future discussion with NZ to host 2019 SSC meeting**

**Action 17 – IPO and EXCOM to scope use of Polar2018 side meeting timeslot for RWG and CWG**

## **JOINT SSC-DMSC SESSION – A VISION FOR THE FUTURE**

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### **Report on previous year's data activities**

DMSC co-chair, Jo Beja, and data officer, Pip Bricher gave a presentation on the activities of the DMSC over the past year. Topics included the GCMD portal; options for developing SOOSmap; the progress on developing the mooring data network and rescuing mooring data; options for developing a federated data search tool; and the various outreach activities of the DMSC during the past year.

### **Data Vision for SOOS – connecting the tools**

SOOS engages in a number of data sharing activities and is considering several more. To ensure that these all work towards the SOOS 20-year vision, we have begun to define a Data Vision for SOOS. Jo Beja and Pip Bricher led an open discussion to define the structure of this vision, which will define the kinds of data sharing projects that the DMSC will undertake in coming years. The data vision will need to be a flexible document that can adapt to the constantly changing tools and political landscape of the international data management community. Part of the data vision is a clear statement of the values SOOS wants to use in developing the tools and components that make up that data vision. The DMSC will

**Action 18 – DMSC to clarify and define the SOOS data vision**

**Action 19 – DMSC to concisely document the data vision for publication on the SOOS website**

### **Data rescue/products priorities for small funding opportunities**

Through our network of national and thematic institutions, there are many opportunities for SOOS to seek small grants for data sharing infrastructure and for data rescue. Additionally, many SOOS

committee members supervise students who may be able to carry out small data sharing projects of benefit to SOOS. Pip Bricher led a discussion about funding and resource options for small SOOS data projects, which resulted in a list of potential projects and resources.

***Action 20 – DMSC to consolidate the list of data projects and resource opportunities***

***Action 21 – Pip Bricher to follow up project opportunities with individual SSC members***