The Southern Ocean Observing System

Current Activities, Future Priorities, and POGO contributions

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Workshop Objectives

How can SOOS and POGO work together and use our collective international might to address some of the big gaps in our understanding of the Southern Ocean and our ability to observe it.
POGO WAS INTEGRAL IN THE DEVELOPMENT OF SOOS, AND HAS BEEN A SUPPORTER OF SOOS SINCE ITS INITIATION IN 2011

POGO-14 ACTION ITEMS

**Action 4**  “SOOS: POGO to support the development of SOOS. Action: Secretariat and Members”

**Action 7**  “Regional Oceanographic Data…Action: Members to allow/enable data and metadata to be accessed by data portals and data discovery sites, to increase their visibility. Specific portals include (but are not limited to) the Southern Ocean Data Portal (part of SOOS; POGO contact is Mike Meredith)”

SOOS Data Management

2 key messages for POGO

1) SOOS has developed a Metadata Portal (hosted by NASA GCMD) and will be working with data centres over the coming years to make their data visible to the portal.

2) The Ocean Data Interoperability Platform (ODIP) will be updating the POGO Shipping Database and SOOS is interested to work with ODIP to develop a Southern Ocean section of this – for data on all Southern Ocean shipping activities. SOOS is also encouraging National Antarctic Programmes (through COMNAP) to submit their data to this system
**CURRENT KEY ACTIVITIES**

1. Development of SOOS 10-year Detailed Implementation Plan
2. Identification of ecosystem Essential Ocean Variables Initiative and Workshop (18-21 March, Rutgers USA)
3. Air/Sea Flux Initiative and Workshop (Currently being developed with S. Gille (Scripps), location TBA)
4. Priority Observations Task Group
5. Standardised Methods Task Group
6. Satellite Products, Validation and Coordination (with CliC, WMO PSTG, ESA CCI)

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**SOOS Priority Observation Gaps**

**Offshore from Antarctic bases and on continental margin**
- Time-series measurements (T, S, O₂, C and nut. parameters)
- Sea-ice thickness, snow depth time series; other sea ice parameters
- Seal Tagging
- Under-ice measurements (e.g., T, S, pH, O₂)
- Bathymetry under and near ice shelves

**Underway and at-sea on-station**
- Key biogeochemical tracers
- Continuous Plankton Recorder, acoustics, predator tracking/diets
- Sea-ice observations
- Deep ocean (>2000 m) T, S and O₂ measurements
Key Data Contributors to SOOS

**Argo**

Argo array now extends to seasonal sea-ice zone. A number of countries now deploying floats south of 60 but needs enhancing. SOOS encourages all nations interested to contact JCOMMOPS for more information.

**GO-SHIP**

Provide very important long-term datasets. Need to ensure continuation of coverage and maintain support at the national planning level

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**Objective 1: Priority Gaps**

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**Workshop Outcomes**

1. A recommendation to POGO to form a Working Group to address the issue further, which will involve submitting a Working Group proposal

2. A conclusion that further action is not deemed to be within the scope of POGO

**What would a POGO/SOOS Working Group do?**
…develop a multi-national, coordinated funding proposal to support a large scale, high impact project

To clarify:
- We are not expecting YOU to write the proposal
- SOOS would help to coordinate the development of the proposal
- The Working Group would be short-lived, active for the duration of the proposal preparation and any required follow-up

SOOS – POGO Working Group

POGO has the international clout and can combine the strengths of all its member institutes to help coordinate a truly international initiative.

This is an exciting opportunity for POGO to use its international collaborative power to directly contribute to the science it endorses

Suggested Projects:
- Develop a coordinated Mammal Tagging initiative
- Develop an international contribution to the USA-led SOCOM project
Animal Oceanographers in SOOS

- Provide important biological and oceanographic data
- Sample under ice, across all seasons to depths of 2000 m
- Sampling is currently dependant on short-term, national funding schemes

Tags cost between 7-9000 USD, data is provided for 5-12 months

A Southern Ocean Carbon & climate Observations and Modeling program (SOCOM)

- Quantify and understand the role of the Southern Ocean in carbon cycling, acidification, nutrient cycling, and heat uptake, on all time scales.
- Develop scientific basis for projecting the contribution of the Southern Ocean to the future trajectory of carbon, acidification, nutrient cycling, and heat uptake.

Requests POGO endorsement
WORKSHOP OUTCOMES

1) There (seems to be) interest to work more closely with SOOS and start discussions on potential actions but first need clarification of what the Working Group would do (Need to develop Terms Of Reference)

2) It was suggested that in-kind contributions to SOOS may be “easier” to implement than monetary support

3) There were no indications of a preferred project for a potential Working Group proposal

4) The decision on formation of a Working Group was left open for discussion at the Plenary.

SOOS proposes:

Any institute that is interested (at a very general level) to be involved in a multi-national Southern Ocean project to indicate their interest with Louise Newman (newman@soos.aq).

Discussions can then take place over the next few months to identify topics of interest, potential funding sources, and to address any issues that arise.

If it is agreed to produce a funding proposal, a POGO Working Group can be formed.
Requests to POGO

POGO members to stand by Action Item 7 from POGO-14 and support the growth of the SOOS Metadata Portal

Support population of the ODIP shipping database with information on Southern Ocean activities (Action – to link SOOS, ODIP, POGO, COMNAP, JCOMMOPS etc)

Where possible, support the enhancement of under-ice Argo efforts

Continue to endorse and vocally support the GO-SHIP programme

Provide POGO endorsement for the SOCOM project

SOOS thanks POGO for their on-going endorsement and support