



International
Science Council

SCAR Sub-Group

SG / SC

Person
Responsible:

SORP

PS

Torge Martin
Elisabeth Sikes

XXXVII SCAR Delegates Meeting

India, September 2022

Southern Ocean Regional Panel (SORP)

2020-22 Report

Summary

Report Author(s)

Torge Martin (Germany) and Elisabeth Sikes (USA)

Summary of activities from 2020-22

The Southern Ocean Region Panel (SORP) is co-sponsored by the World Climate Research Programme's core projects the Climate and Ocean: Variability, Predictability and Change (CLIVAR) and the Climate and Cryosphere (CliC), and the Scientific Committee on Antarctic Research (SCAR). The SORP serves as a forum for the discussion and communication of scientific advances in the understanding of climate variability and change in the Southern Ocean. It advises CLIVAR, CliC, and SCAR on progress, achievements, new opportunities and impediments in internationally-coordinated Southern Ocean research.

Highlights of SORP activities since 2020 have been:

- (i) SORP members are leading a group of 10+ scientists (with current and former SORP members) are creating a protocol and running first exemplary model experiments for a community-wide **Southern Ocean Freshwater** release experiment **Initiative (SOFIA)** focusing on a model intercomparison for the ocean and climate response to enhanced **freshwater release** from Antarctica. The group meets monthly; a draft protocol exists, and the first model experiments are being performed by several members.
(<https://sofiamp.github.io>)
- (ii) Panel members have engaged in writing the Southern Ocean Action Plan for the UN Ocean Decade (<https://www.sodecade.org/action-plan/>). These resulted in the Southern Ocean Decade plan being officially incorporated into the UN Decade. Activities led by SORP members included hosting a Town Hall at the Ocean Sciences 2022 meeting (see (v) below).
- (iii) SORP members co-edited a **special volume** in Frontiers in Marine Science on interbasin exchange between the Southern Ocean and South Atlantic (<https://www.frontiersin.org/research-topics/21093/the-role-of-the-south-atlantic-on-the-interbasin-and-pole-to-pole-connections>)
- (iv) SORP members have initiated a proposal for a **CLIVAR Exchanges issue** on Southern Ocean/Antarctic research inviting contributions specifically from less developed programs/nations. Topics to be addressed by each contribution are: (1) physical or biogeochemical oceanography of the

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- Southern Ocean, (2) networking or educational efforts on international level focused in the Southern Ocean, (3) sharing experiences and challenges in expanding Southern Ocean programs. Papers are anticipated to be submitted by end of October 2022.
- (v) Scientific sessions at international conferences and workshops were (and are currently) co-organized and led by panel members:
- Session at vEGU 2021: OS1.7 Under cover: The Southern Ocean's connection to sea ice and ice shelves
 - Townhall meeting on the Southern Ocean decade as contribution to the UN Ocean Decade during OSM 2022 (online)
 - Session at OSM 2022: Sources and consequences of Southern Ocean freshening: Toward synthesising observations and modelling
 - Session at EGU 2022: OS1.11 Under cover: The Southern Ocean's connection to sea ice and ice shelves
 - A workshop on Future Directions in Basin and Global High-resolution Ocean Modeling was co-organized (sponsored by CLIVAR-OMDP, <https://www.clivar.org/news/future-directions-high-resolution-ocean-modelling>, <https://www.geomar.de/en/news/article/future-directions-in-basin-and-global-high-resolution-ocean-modelling>)
 - Planning of a joint NORP-SORP workshop on polar freshwater Sources, Pathways and Impacts of fresh water in northern and southern Polar oceans and seas (SPICE UP) for September 2022 (<https://www.clivar.org/events/norp-sorp-workshop-polar-fresh-water-sources-pathways-and-impacts-fresh-water-northern-and>)

After a period of reduced activity owed to challenging work conditions during the COVID pandemic in 2020 and 2021, SORP has become very active again in 2022.

In 2021 and 2022 SORP welcomed 4 new members (most members whose term ended applied for and were granted a regular 2-year extension). The new members are Natalie Robinson (New Zealand), Ariaan Purich (Australia), Alexander Haumann (USA/Germany), and Clive McMahon (Australia). SORP aims at maintaining diversity among its members with respect to gender, nationality and career level. Currently three SORP members qualify as early career scientists: Ariaan Purich (Australia), Libao Gao (China) and Alexander Haumann (Germany/USA). The SOFIA task team includes some early career scientists involved in Southern Ocean modelling. To them, the team is a very active platform to learn about and discuss climate models, joint experiments and the role of freshwater in the Southern Ocean and climate system.

Our liaison with SOOS, Matt Mazloff, rotated off and we were lucky to have a new SOOS SSG member taking up this role, Luciano Pezzi (Argentina).

SORP has held its 14th business meeting in September 2021 in an online format over four days (3h each) from which a reorganized and reinvigorated task teams emerged.

Summary Budget 2021 to 2024

	2021	2022	2023	2024
	Spent	Allocated	Request	Request
(US\$)	0	2000	5000	0

Progress to date

Sub-group Outcomes Summary

Sub-group	Activity/Outcome/Benefit/Achievement
SORP	Drafting and launch of the SO Decade action plan
SORP	Launching SOFIA modelling initiative

Sub-group Cash Flow

(Since previous report to Delegates in 2020)

Sub-group	Allocation	Amount spent 2020	2021	2022
SORP	2000	0	0	0

Future plans

Planned activities in 2022 to 2024

Sub-group	Planned activity
SORP	NORP-SORP polar freshwater workshop (SPICE UP)
SORP	Continue SOFIA, publish initial paper, apply for CLIVAR task team
SORP	CLIVAR Exchange issue on highlighting emerging Antarctic programs
SORP	SORP-15 business meeting 2023 (1.5 days)

Planned use of funds for 2022 to 2024

Year (YYYY)	Purpose/Activity	Amount (in USD)	Contact Name	Contact Email
2023	SORP-15	5000	Torge Martin	torge.martin@gmail.com
Total		5000		

Any additional detail on funds usage and desired results/outcomes

Funds will be used to support travel to SORP-15 of early career researchers and scientists from countries with developing Antarctic programmes. SORP-15 will likely be planned as the first in-person meeting for SORP since 2018 (when SORP-13 was held alongside Polar 2018). After more than 2 years of pandemic travel restrictions, most SORP members have never met in person. This obviously has a negative influence on productivity and exchange.

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Air transportation fees and travel expenses have increased considerably over the past year. In order to fully support 2 ECRs and at least 1 member from a developing program we kindly ask for USD 5000 in travel support.

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

2022: 0

2023: 60-66%

2024: 0

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

2022: 0

2023: 33-40%

2024: 0

Membership

Leadership

Role	First Name	Last Name	Affiliation	Country	Primary Language	Email	Date Started
Co Chair	Torge	Martin	GEOMAR	Germany	German	torge.martin@gmail.com	03/2020
Co Chair	Elisabeth	Sikes	Rutgers University	USA	English	sikes@marine.rutgers.edu	03/2021

(Please identify early-career researchers with * in first column)

Other members

First Name	Last Name	Affiliation	Country	Primary Language	Email
Sandra	Barreira	Argentine Naval Hydrographic Service	Argentina	Spanish	barreira.sandra@gmail.com
Karen	Assmann	Institute of Marine Research	Norway	German	Karen.Assmann@hi.no
Natalie	Robinson	New Zealand's Institute for Water and Atmospheric Research	New Zealand	English	natalie.robinson@niwa.co.nz
Ariaan *	Purich	Monash University	Australia	English	ariaan.purich@monash.edu
Clive	McMahon	Sydney Institute of Marine Sciences	Australia	English	clive.mcmahon@utas.edu.au
Alexander *	Haumann	Princeton University	USA	English	alexander.haumann@gmail.com
Michiyo	Yamamoto-Kawai	Tokyo University of Marine Science and Technology	Japan	Japanese	michiyo@kaiyodai.ac.jp
Neil	Swart	Environment and Climate Change Canada	Canada	English	neil.swart@canada.ca
Ronald	Souza	National institute for Space Research – INPE	Brazil	Portuguese	ronald.buss@inpe.br
Libao *	Gao	First Institute of Oceanography	China	Chinese	gaolb@fio.org.cn
Tore	Hattermann	Norwegian Polar Institute	Norway	German	tore.hattermann@npolar.no
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Luciano	Pezzi	Instituto Nacional de Pesquisas Espaciais (INPE)	Brazil	English, Spanish	luciano.pezzi@inpe.br

(Please identify early-career researchers with * in first column)

Luciano Pezzi joins SORP regular meetings as SOOS liaison. He is also a member of the SOOS SSG.

Additional information (optional)

Direct support from outside organisations received for your activities

During the past two years SORP has not had any expenses or was not granted travel support as many meetings and workshops were either postponed or held online due to the COVID19 pandemic.

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

Within SCAR

1. ASPeCt: SORP member Sandra Barreira is also a member of ASPeCt and involved in re-planning the joint SORP-ASPeCt-YOPP-SH/WAMC-SOFLUX workshop on fluxes in the sea ice zone that was originally planned for 2020 but delayed due to the COVID pandemic
2. SOOS (<https://www.scar.org/science/soos/>): Luciano Pezzi is a member of the SOOS SSC and ex-officio member of SORP.
3. SOOS: SORP members provided feedback and co-authored the SOOS science plan for 2021–2025
4. AntClimNow: SORP member Ronald Buzz de Souza is also active in SCAR action AntClimNow
5. INSTANT: SORP co-chair Torge Martin is in touch with SCAR action INSTANT, here we aim for a broader participation and more active role in the future

Outside SCAR

1. CLIVAR NORP: Jointly organizing an online workshop on polar fresh water: Sources, Pathways and Impacts of fresh water in northern and southern Polar oceans and seas (SPICE UP) for September 19–21, 2022
2. UN Ocean Decade: SORP contributed to the Southern Ocean Action Plan as part of the Global UN Implementation Plan for the UN Decade of the Ocean Science for Sustainable Development.

Outreach, communication and capacity-building activities

1. Presenting CLIVAR (beyond SORP) activities in support of the SO action plan during a side event “From the Southern Ocean to the Arctic: A call to action via the UN Ocean Decade” to the UN ocean decade conference, Lisbon, June 2022; a networking event with research programs of other disciplines and NGOs
2. Planned NORP-SORP workshop on polar fresh water: Sources, Pathways and Impacts of fresh water in northern and southern Polar oceans and seas (SPICE UP) for September 2022
3. SORP maintains an up-to-date webpage supported by the CLIVAR office (ICPO)
4. SORP continues to have monthly Zoom calls to maintain exchange among the panel members who are limited in travel due to pandemic restrictions.

Contributions to equality, diversity, and inclusion (EDI)

SORP strives to maintain diversity on the panel by watching the balance of gender, nationality and seniority among its members when nominating new members. The currently 13 members represent 10 nations from 4 continents, 6 members are female, 3 qualify as early career scientists. We kept one opening hoping to have an African colleague join the panel soon.

SORP has initiated a working group to collect contributions for a CLIVAR Exchanges issue “**Highlighting Ocean Research, Data and Networks of emerging Antarctic Programs**” with the goal to offer a platform for and initiate discussion on better connecting emerging Southern Ocean programs predominantly of the global south. Contributing authors are asked to specifically comment on (1) networking or educational efforts on international level focused in the Southern Ocean, and (2) sharing experiences and challenges in expanding Southern Ocean programs.

SCAR fellowship reviewers

First Name	Last Name	Email	Principal Expertise
Sandra	Barreira	barreira.sandra@gmail.com	Sea Ice modelling and climatology, sea ice-atmosphere interactions, sea ice products