

CLIVAR/CliC/SCAR Southern Ocean Region Panel

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Panel overview

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.

During 2020 highlights of SORP activities were: **(i)** SORP members participated in the Ocean Sciences meeting in San Diego, USA in February (before the COVID-19 lockdown). **(ii)** SORP member Elizabeth Sikes participated in the 25th CLIVAR-SSG meeting and early discussion of upcoming WCRP Lighthouse Activities. **(iii)** SORP co-chair Torge Martin participates in the discussion of new WCRP Lighthouse Activities. **(iv)** SORP suggested a session on “Sources and consequences of Southern Ocean freshening: Toward synthesising observations and modelling” for the AGU fall meeting 2020. Only three abstracts were submitted and these got merged with other sessions. **(v)** SORP involvement in YOPP-SH led by David Bromwich and through liaison efforts of François Massonnet, including co-authorship of a manuscript: Bromwich et al. (2020).

As many other scientific groups SORP was strongly limited in its activities by the restrictions due to the COVID-19 pandemic, in particular the major in-person meeting SORP-14 and workshops co-organized with SOOS, WAMC/YOPP-SH, ASPeCt, SOFLUX were cancelled.

Achievements for 2019-2020

- Workshops
Due to the COVID-19 pandemic all workshops were cancelled. The initiative to reschedule the SORP-14 meeting alongside other meetings in 2021 was not successful yet. Workshops were typically rescheduled for 2021 without particular adjustments. As the situation remains uncertain, a growing number of organizing committees considers online meetings or hybrid versions with limited local participants for next year.

- Scientific results from activities

Bromwich, D. H., K. Werner, B. Casati, J. G. Powers, I. V. Gorodetskaya, F. Massonnet, V. Vitale, V. J. Heinrich, D. Liggett, S. Arndt, E. Bazile, B. Barja, Y. Choi, S. R. Colwell, R. R. Cordero, M. Gervasi, T. Haiden, J. Inoue, T. Jung, H. Kalesse, M. A. Lazzara, K. W. Manning, K. Norris, S.-J. Park, I. Rigor, P. M. Rowe, P. Seifert, M. Zannoni and X. Zou (2020) The Year of Polar Prediction in the Southern Hemisphere (YOPP-SH). Bull. Amer. Meteor. Soc. 101 (10): E1653–E1676. doi:10.1175/BAMS-D-19-0255.1

This paper is a summary of the 2018-2019 Special Observing Period (16 November 2018 to 15 February 2019) for the Year of Polar Prediction in the Southern Hemisphere (YOPP-SH). This paper was led by SORP member David Bromwich in his YOPP-SH role, and François Massonnet was a member of SORP during his participation in the preparation of this paper, when he acted in a liaison capacity between SORP and YOPP-SH.

- Scientific capacity building and career support
 - Due to the cancellation of the in-person meetings SORP has been having monthly teleconference meetings rather quarterly as previously. These have been better attended than in previous years.
 - Some task teams have been active on Slack discussing forthcoming white papers.
- Knowledge exchange
 - SORP co-chair Torge Martin is co-organizing OMDP meeting in Kiel, Germany and associated scientific 3-day workshop on “Future Directions in Basin and Global High-resolution Ocean Modelling”
 - SORP member Riccardo Farneti is co-organizing CLIVAR multi-region-panel Observing Systems Workshop in Trieste, Italy, which is considered as an option for having SORP-14 in-person meeting alongside.

Plans for 2021 and beyond

- SORP-14 options (will be held in 2021 one way or the other):
 - in-person meeting (or hybrid):
 - CLIVAR multi-region-panel Observing Systems Workshop in Trieste, Italy
 - WAMC/YOPP-SH meeting in Ohio, USA
 - Virtual meeting, likely split over a couple of days
- Joint SORP/NORP 2-day workshop planned following the OOC/CLIVAR workshop on “Ocean Heat and Freshwater Storage and Transports in Observations and Climate Models” in Exeter, co-organized by SORP member Neil Swart.
- Preliminary planning for a “Fluxes in the sea-ice zone” workshop (ASPeCt, SOOS, YOPP, SORP)

Articles published in 2019/20 as part of panel activities (if any)

- **Bromwich, D. H.**, K. Werner, B. Casati, J. G. Powers, I. V. Gorodetskaya, **F. Massonnet**, V. Vitale, V. J. Heinrich, D. Liggett, S. Arndt, E. Bazile, B. Barja, Y. Choi, S. R. Colwell, R. R. Cordero, M. Gervasi, T. Haiden, J. Inoue, T. Jung, H. Kalesse, M. A. Lazzara, K. W. Manning, K. Norris, S.-J. Park, I. Rigor, P. M. Rowe, P. Seifert, M. Zannoni and X. Zou (2020) The Year of Polar Prediction in the Southern Hemisphere (YOPP-SH). Bull. Amer. Meteor. Soc. 101 (10): E1653–E1676. doi:10.1175/BAMS-D-19-0255.1
- Stammer, D., A. Bracco, L. Beal, N. Bindoff, P. Braconnot, W. Cai, D. Chen, G. Danabasoglu, B. Dewitte, **R. Farneti**, K. Takahashi Guevara, B. Fox Kemper, J. Fyfe, S. Griffies, S. Jayne, R. Mathew Koll, A. Lazar, M. Lengaigne, X. Lin, S. Marsland, P. Monteiro, W. Robinson, R. Rykaczewski, S. Speich, **I. J. Smith**, A. Solomon, J. Vialard (2019), Ocean climate observing requirements in support of climate research and climate information. Proceedings of OceanObs'19, Frontiers in Marine Science. doi:10.3389/fmars.2019.00444
- Newmann, L., P. Heil, R. Trebilco, **K. Katsumata**, A. J. Constable, E. van Wijk, **K. Assmann**, J. Beja, P. Bricher, R. Coleman, D. Costa, S. Diggs, **R. Farneti**, S. Fawcett, S. T. Gille, K. R. Hendry, S. F. Henley, E. Hofmann, T. Maksym, **M. Mazloff**, A. J. Meijers, M. P. Meredith, S. Moreau, B. Ozsoy, **R. Robertson**, I. R. Schloss, O. Schofield, **J. Shi**, **E. L. Sikes**, **I. J. Smith**, S. Swart, A. Wahlin, G. Williams, M. J. Williams, L. Herraiz-Borreguero, S. Kern, J. Lieser, R. Massom, J. Melbourne-Thomas, P. Miloslavich, G. Spreen (2019), Delivering sustained, coordinated and integrated observations of the Southern Ocean for global impact. Proceedings of OceanObs'19, Frontiers in Marine Science. doi:10.3389/fmars.2019.00433

Budget and other needs for 2021

Please keep in mind that the overall budget of CLIVAR is limited and this needs to be distributed between all activities and the SSG meeting.

Budget request for 2021:

CHF 7500

For SORP-14 in 2021: Travel support for SORP members to attend SORP-14 and relevant workshops. We apply for 5500 CHF for the panel meeting and the alongside workshop.

(See Annex A for more details)

For SORP community paper in 2021: the publication of a SORP lead white paper about the freshwater release experiments. We apply for 2000 CHF for publishing the paper.

(See Annex B for more details)

Other needs for 2021:

We continue to appreciate the excellent support of the CLIVAR ICPO. In particular during 2020 being dominated by virtual meetings this support is very important. In 2021, we anticipate continuing the same draw on ICPO resources through administration such as minute-taking at teleconferences, use of Go-To-Meeting to host teleconferences, website updates, coordination of CLIVAR matters, and coordination with co-sponsors SCAR and CliC (e.g., for budgets and travel requests). We would also appreciate Liping Yin being able to attend SORP-14 in person so that she can take minutes for the meeting and help draft the report on the meeting.

Having a joint cloud space for keeping and sharing documents accessible to all panel members would be very helpful. This space should be independent from any particular panel member to avoid difficulties in handing over responsibility.

Annex A

Proforma for CLIVAR Panel requests for SSG approval for meetings

Note: If your group has approved funds in 2020 that were not used because of Covid19, and you propose to use them in 2021, they should be included again in this request, in addition to any new request.

1. **Panel name:** Southern Ocean Region Panel
2. **Title of meeting or workshop:** The 14th Session of the CLIVAR/CliC/SCAR Southern Ocean Region Panel (SORP-14)
3. **Proposed venue:** Depends on decision for which workshop to join for an alongside SORP meeting.
4. **Proposed dates:** (see above)
5. **Proposed attendees, including likely number:** SORP panel members, including any national representatives who are able to attend. Likely up to 20 people for the panel meeting. Depending on co-organized workshops, plus another 30 for joint sessions with SOOS or WAMC.
6. **Rationale, motivation and justification, including: relevance to CLIVAR science & WCRP Grand Challenges, and any cross-panel/research foci links and interactions involved:** SORP-14 will be the first in-person meeting for SORP since 2018. The meeting will be an opportunity for many the new members to present their work and discuss their involvement in SORP future plans.
7. **Specific objectives and key agenda items:** Coordination with SOOS, WAMC, and ASPeCt following YOPP-SH second special observing period and the coping with observational data gaps due to the reduced activity under the COVID-19 pandemic. Discuss restructuring of SORP task teams to improve linkages with new WCRP Lighthouse Activities and discuss contributions to “Digital Earth” initiatives. Plans for using the UN Decade of Ocean Science for Sustainable Development to highlight scientific achievements in and resulting needs for SO-related research will be made.
8. **Anticipated outcomes (deliverables):** SORP-14 report
9. **Format:** Business meeting, likely as a side meeting to some major CLIVAR or WAMC/YOPP meeting
10. **Science Organizing Committee (if relevant):** Not applicable
11. **Local Organizing Committee (if relevant):** Not applicable
12. **Proposed funding sources and anticipated funding requested from WCRP:** SORP is co-sponsored by CLIVAR, CliC, and SCAR. SCAR has approved USD 4000 to support member travel to this meeting, targeted at early career members and members from countries with developing Antarctic research programmes. CliC and CLIVAR in 2018 coordinated support from WCRP between them, whereas previously requests were made by SORP separately to both organizations. The request for SORP funding from CliC is for CHF 5500 to support member travel to SORP-14.

Annex B

Proforma for CLIVAR Panel requests for SSG approval for meetings

Note: If your group has approved funds in 2020 that were not used because of Covid19, and you propose to use them in 2021, they should be included again in this request, in addition to any new request.

1. **Panel name:** Southern Ocean Region Panel
2. **Title of meeting or workshop:** White paper on designing joint SO modeling initiatives with a particular focus on freshwater release experiments
3. **Proposed venue:**
4. **Proposed dates:** December, 2021
5. **Proposed attendees, including likely number:** SORP panel members, including any national representatives who can contribute to the paper.
6. **Rationale, motivation and justification, including: relevance to CLIVAR science & WCRP Grand Challenges, and any cross-panel/research foci links and interactions involved:** this paper will bring together the SORP members, the SORP national representatives together to think about the SO modeling initiatives, especially the freshwater release experiments.
7. **Specific objectives and key agenda items:** Design joint SO modeling initiatives. The paper is expected to be finished in December 2021.
8. **Anticipated outcomes (deliverables):** A SORP led white paper
9. **Format:** Discuss the idea via the online meeting, email, SLACK, and finally form a high quality white paper that can initiate the joint SO modeling.
10. **Science Organizing Committee (if relevant):** Not applicable
11. **Local Organizing Committee (if relevant):** Not applicable
12. **Proposed funding sources and anticipated funding requested from WCRP:** We apply for 2000 CFH for publishing the white paper.