

Notes YOPP-SH Telecons, 4 May 2020, 1 to 2.10 pm UTC and 9 to 10.05 UTC.

Attendees Telecon 1:

David Bromwich (BPCRC), Kirstin Werner (AWI), Seong-Joong Kim (KOPRI), Qizhen Sun (NMEFC), François Massonnet (UCL. Belgium), Christophe Genthon (CRNS, Paris), Matthew Lazzara (U Madison-Wisconsin, US AWS program), Marchello Vichi (University Capetown, South Africa), Sergi Gonzalez (AEMET), Steve Colwell (BAS), Marie-Laure Roussel (CNRS, Paris), Eric Bazile (Météo France), Jordan Powers (NCAR), Vito Vitale (CNR Italy)

Attendees Telecon 2:

David Bromwich (BPCRC), Jeff Wilson (PPP), Scott Carpentier (BoM, Australia), Vicki Heinrich (Univ, Tasmania, Irina Gorodetskaya (U. Aveiro, Portugal), Daniela Liggett (Univ. Canterbury, NZ), Phillip Reid (BoM, Australia), Inga Smith (Univ. Otago, NZ), Adriana Gulisano (Instituto Antártico Argentino)

Action Item ALL: Everyone should take a look at the updated spreadsheet of potential commitments to the Winter Special Observing Period (SOP) that will be circulated shortly. Please review and update your contributions.

Action Item ALL: Please consider your stakeholders for the Winter SOP and send the point of contact to the YOPP Office so that the solicitation letter can be sent to them.

Action Item: Decide on date and location of 2021 Workshop on Antarctic Meteorology and Climate (WAMC).

BAMS paper on YOPP-SH

- Find draft of manuscript on YOPP-SH webpage <http://polarmet.osu.edu/YOPP-SH/>
- Additional authors to be added at revision stage?
So far: Scott Carpentier, Taneil Uttal, Qizhen Sun, Jorge Carrasco, Seong-Joong Kim.
Additional from Telecon 2: Phillip Reid, Holger Schmithüsen, Naohiko Hirasawa
- Review due on 20 May, David working on it
- Data from Australian BoM added to Global Model Forecast Performance figure. The performance was not good for the Antarctic and the Southern Hemisphere but was much better for the Northern Hemisphere. It is believed that apart from general model performance there were some problems during the SOP over the Antarctic (all satellite retrieved profiles over the Antarctic were removed to resolve another issue).
- David expecting some input from Irina Gorodetskaya on the atmospheric river experiment. The text has been completed but the figures need some cosmetic updates. Also material from Vicki Heinrich will be forthcoming. All updates required by mid-May.

YOPP-SH Winter SOP

- From current point of view: decision to delay the SOP to 2022 looks smart. Note also that YOPP-SH extended through the end of 2024.
- Mid-April to mid-July 2022. Still feasible for the SOP?
 - Yes, preferred option but depending on how the Corona situation evolves, we may be forced to move to winter 2023.
- Review of science program outline and the Targeted Observation Periods (TOP) approach:
 - Vito Vitale: operations in winter to be increased in the order of 10 to 12 days? With Dome C: RS 4 times per day extra soundings. Should be possible from Concordia and Mario Zucchelli stations, also other parameters will be observed.
 - Christophe Genthon: cyclones that affect Dumont D'Urville and then impact McMurdo should be sampled by observations, suggesting additional radiosondes at Dumont D'Urville should be carried out by Météo France.
 - Eric Bazile: for 2022, it would be possible to add radiosondes at Dumont D'Urville, together with Concordia via joint program with the Italians.
 - Vito Vitale: agrees. Not so much the problem to find personnel but funds for materials are the main concern.
 - Eric Bazile: interested in increasing radiosoundings, but we need to send proposal at least one year in advance. We need to increase frequency of launches as seen from NWP results from the summer SOP.
 - Vito Vitale: We should also measure other parameters (precipitation, cloudiness, radiation, etc.) from Mario Zucchelli Station and Concordia.
 - Christophe Genthon: we have a Micro Rain Radar at Dumont D'Urville that measures very small precipitation amounts.
 - Sergi Gonzalez. Is already in contact with Irina Gorodetskaya about another Micro Rain Radar. Irina has the possibility to work on several stations including Livingston Island.
 - Qizhen Sun: For China radiosonde launches possible 1-2/day from Zhongshan station during the TOPs and will be coordinated with Davis releases. In winter, there are only 17- 18 people overwintering, so it will be hard in terms of personnel but also in terms of harsh winter conditions.
 - Scott Carpentier advises that the Australian BoM should be able to contribute additional radiosondes during the TOPs from Mawson, Davis, Casey and Macquarie Island. It may also possible to include additional precipitation observations and there is a VHF wind profiler at Davis that does not currently go out on the GTS.
 - Steve Colwell: it will be a logistic challenge for launch balloons in 20 m/s winds and low visibility. At Rothera staff need to travel some distance to the balloon launching location.
 - Kirstin Werner: we may want to talk to Sang-Jong Park from KOPRI who worked on a solution to launch radiosondes during very stormy conditions.
 - David Bromwich: We are aware of limited personnel and should therefore focus on atmospheric events that have greatest impact on the forecasts. Some stations are more sheltered than others. It will be important to cover the lead-up to the weather events rather than the weather event itself for improving the forecast.

- Kirstin Werner: additional contributions by Japan from Naohiko Hirasawa: Two launches/day maintained from Syowa station – probable contribution. Installation of precipitation radar, interest in snow accumulation over Dronning Maud Land. WRF model will be employed for some case studies.
- Review Spreadsheet of potential commitments
 - **Action Item ALL:** Everyone should take a look at the updated spreadsheet that will be circulated shortly. Please review your contributions.
- South African winter sea-ice atmosphere project. Marcello Vichi.
 - Marcello Vichi reported on South African winter cruises with RV Agulhas II that went to the Antarctic marginal ice zone every year since 2015 for 15 to 25 days slightly to the east of the Greenwich meridian. Probably also in 2022. They do atmospheric measurements on board but also deploy buoys. Interested in atmosphere-sea ice-ocean interactions.
 - Marcello sent to YOPP-SH mailing list a paper from the 2017 cruise on a polar cyclone impact on the Antarctic marginal ice zone.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019GL082457>
- Inga Smith advised that it may not be possible to get remote observations of Ross Sea sea ice until late June or July due to the difficulty of getting the remote stations deployed earlier in the winter season. NZ may be able to provide students to help analyse the data from these situations. They will also liaise with AWI regarding the option of getting additional buoys deployed for the season.
- Scott Carpentier advises that the Australian BoM may be able to deploy additional buoys (perhaps 5) or place them in appropriate positions for the TOP.
- Update on SIPN South
 - François Massonnet: SIPN South started 2017 to collect all possible forecasts of sea ice in Southern Ocean,
 - Period: 1 Dec to 28 Feb. sea ice conc. and extent.
 - To test ability of forecast systems to project anomalies for each sea ice minimum that happens in February.
 - SIPN South just published report for previous melting season. It turns out again that statistical models do better than dynamical models. Opposite what is seen in the Arctic. A paper is going to be submitted before summer.
 - SIPN South also plans to contribute to the YOPP-SH winter SOP as contributors have operational systems ready, for modest additional effort.
- Irina Gorodetskaya is hoping to include the concept of Atmospheric Rivers (bands of moisture ahead of the cold fronts) in the Winter TOP. She would need some co-workers for the forecasting component of it.
 - TOP strategy: Needs further discussion.

Letter for WMO

- Kirstin Werner: There will be two similar letters that we will prepare. One is going out to Antarctic stakeholders signed by Thomas Jung (PPP Chair) and Dave Bromwich (lead of YOPP-SH). Another similar letter will be sent officially by WMO to national Permanent Representatives of WMO.
- Need to beef up the science proposal to form the basis of the letters.
- **Action Item ALL:** Please consider your stakeholders and send us the point of contact so the YOPP Office can send this letter to them.

Additional comments

- Matthew Lazzara: with the US Antarctic program, it doesn't look good at the moment as they seem to rank things under Corona situation
 - Vito Vitale: Same with Italy. The upcoming COMNAP meeting in June should clarify plans for the 2020-2021 field season. With the 2022 winter SOP we have time to make arrangements.
 - David Bromwich: Also, even though not preferred, winter 2023 would be a fall back option.
 - Steve Colwell: a winter campaign with fewer people involved is more likely to happen than during the busy summer seasons, given the expected backlogs from the 2020-2021 field season.
 - Daniela Liggett reported that the PPP-SERA work is currently on hold not knowing when they can restart. Now looking at running a workshop at the next WAMC and so they want some idea of when and where it will be held. Wider participation that just WAMC sought if possible. David suggested that the next WAMC meeting will probably be in the US but no date or location has been set. It will need to be discussed at one of the next meetings.
- Action Item:** Decide on date and location of 2021 Workshop on Antarctic Meteorology and Climate (WAMC).

Special Issue of Advances in Atmospheric Sciences Antarctic Meteorology and Climate: Past, Present and Future

- Kirstin Werner: out now. AAS and YOPP Office doing Outreach. You might be contacted to review tweet or so.
- <https://link.springer.com/journal/376/37/5>

Further notes about 2020-2021 Antarctic field season:

Scott Carpentier provided details on the Australian Antarctic Division program for the current situation with COVID-19 due to travel restrictions. There may be no flying due to the Ken Borek aircraft that would have to come down through the Americas for the coming summer season and they are expecting that travel restrictions will stop the flights. The Australian Bureau of Meteorology will continue to provide full climate and weather observations from the Australian Stations. Summer 2020/2021 will be a holding summer with no field campaigns.

Inga Smith: New Zealand planning for a go/no go decision on flying program on 1 June 2020. The US is planning on a 31 May decision. If the season goes ahead there will be two-week quarantine in NZ on departure and return. The NZ Antarctic Programme are essentially going

ahead as if the next season will be like any other season as they have to wait for the USAP's and NSF's decision on what will happen in the next season on 1 June. NZ doesn't have the logistical capacity to run a full science season on its own, and there is a feeling that the upcoming season will be much reduced. The June 2020 C-17 flight to McMurdo has been cancelled but a flight brought people north (to Christchurch) in April 2020, with the Americans on this flight being evacuated to the US after a four-day quarantine in NZ. There is a scheduled flight to the Ross Sea in August 2020, but we don't have enough knowledge of whether this will actually go ahead.

Adriana Gulisano advised that Argentina is having trouble getting aircraft flights into their stations. Radiosonde flights are continuing but they will strike problems when they need replacement equipment or consumables.
