

## Notes from YOPP-SH #01 & #02 Telecons from 29 April 2019 (1-2 pm and 9-10 pm UTC)

*Attending #01:* Eric Bazile, David Bromwich (Convenor), Steve Colwell, Robert Grumbine, François Massonnet, Sang-Jong Park, Vito Vitale, Kirstin Werner.

*Attending #02:* Tom Bracegirdle, David Bromwich (Convenor), Scott Carpentier, Ivana Cerovecki, Bruce Conuelle, Daniela Liggett, Kevin Manning, Matthew Mazloff, Jordan Powers, Aneesh Subramanian, Jeff Wilson.

### 1. Potential Winter Special Observing Period in Antarctica?

- David Bromwich (DB) summaries current idea on winter SOP in the Southern Hemisphere. While there were discussions earlier on the winter 2019/2020, it became clear that it needs more time for logistical planning and scientific preparations, so the currently suggested time frame is **March/April to July 2021** when rapid ice expansion can be studied.
- Regional emphasis has the greatest probability of success due to reduced numbers of people who can contribute during Antarctic winter.
- Oceanographic community suggested to focus on the Ross Sea as they are very interested in this time period of rapid sea ice expansion, with Argo floats descending to 1,500- 2,000 m, drifting buoys but also potential additional radiosonde observations.

#### *Comments from part 1 discussion*

- **Eric Bazile (EB)/France:** Dumont D'Urville could go to 3 sondes/day but would need compelling reason to make the argument. Would need to show that the previous sondes during Antarctic summer SOP had an impact.
- **Vito Vitale (VV)/Italy:** Terra Nova Bay did four/day during SOP. Looking at the winter situation can be very different from the summer. Need to monitor low level stratification. Need to be aware of logistics. Could contribute to activities in Terra Nova Bay. Dome Concordia may also be able to double to 2/day. Global Atmosphere Watch (GAW, [http://www.wmo.int/pages/prog/arep/gaw/gaw\\_home\\_en.html](http://www.wmo.int/pages/prog/arep/gaw/gaw_home_en.html)) will also be active then.
- **Sang-Jong Park (SJP)/South Korea:** Additional sondes from Korea possible. At Jang Bogo, a colleague who is eager to support YOPP SOP will overwinter the next year. King Sejong Station would also be ready for a winter SOP in 2021.
- **Steve Colwell (SC) UK/BAS:** Perhaps more releases from Rothera (6-7 launches per week, instead of 1-2). Nothing possible from Halley.

#### *Comments from part 2 discussion*

- **Matthew Mazloff (oceanographer, USA; MM):** Good to contrast the summer to the winter conditions from a physical oceanography perspective. Similar ocean obs regime to summer due to autonomous instruments. Small chance of additional obs if in 2021. Would be additional floats to look at the fluxes.
- **Scott Carpentier (Australia, SC):** Agree with Eric's comments earlier. Could be Australian support for a winter SOP. We will need to justify the extra expense by releasing the impacts of the last SOP with extra radiosonde releases. Confirmed 2021 easier than 2020. Releases from each of the stations including Macquarie Island.
- **Dave asks** if Australia is looking at expanding logistic ops to year-round like the US is considering. This could be a potential justification for studying at this time of the year. **Scott answer:** no, not feasible unless we use US flights via McMurdo. Australia looking at an enhanced aviation programme into Davis for year-round ops and thus the radiosonde program will be of interest. Davis project is a long term one with 2035 type timescales. The background meteorology is being done now. Good to piggyback off other efforts such as the circumpolar effort.
- **Jeff Wilson (JW):** Any thought of targeting specific events similar to the NH SOP? **DB:** conceptually yes but logistics tricky. At this time of the year you do not have to wait long for interesting weather.
- **Dave to Scott:** Does southern Australia experience cold outbreaks? **Scott:** Yes, but in a heavily modified fashion.
- **Jordan Powers (NCAR, USA, JP):** We may be able to get USAP/NSF to do 2 flights/day from McMurdo for an SOP. This would help support the background to year-round operations. If limited staffing, it could be hard to do the additional flights
- **Kevin Manning (NCAR, USA, KM):** valuable to contrast with the summer SOP and given the impact from the Summer SOP, the winter one is quite exciting.
- **DB:** We may be able to request supplemental funding from NSF for further work with AMPS targeting this second SOP.
- **JW:** Maybe able to do flights not at 12 hour intervals.

- **Summary by DB:** Winter SOP 2021 seems much more feasible than originally thought. Need to develop justification and planning of logistic and science bases at meeting in Charleston.

## 2. Radiosondes from current summer YOPP-SH SOP

Steve Colwell (SC) has established an ftp site that has many of the additional flights. We are trying to identify the additional flights so we know what to use in the data denial experiments. SC is still waiting for some countries' notification (e.g., Japan (Dome Fuji), Russia (Mirny), South Africa (MV Agulhas), Germany (Neumayer and RV Polarstern). Attached to the email, there is the current list of extra radiosondes compiled by David Bromwich.

## 3. Outline for YOPP-SH Overview Paper in BAMS

Telecon Part one talked about the outline of the BAMS paper (see also attached David's suggestion) to promote the SOP and YOPP activities in the Southern Hemisphere. Need to submit a proposal first followed by submission around August 2019.

*Further discussion during Telecon part 2:*

- **Jordan Powers:** Possible to do AMPS verification if we have a focused period of consideration.
- **Jeff Wilson:** Will this be using the Verification results from the verification team? Will there be comparison of NH vs SH? **Dave Bromwich:** No focus purely on SH not compare and contrast with NH.
- **Kevin Manning:** We would expect to have some OSE results by August. Could have spectacular results.
- Education and outreach: Nice effort by the Italians that could be featured. Plus OSU and social media work from Kirstin.
- **Daniela Liggett (PPP-SERA, New Zealand, DL):** Will do overview of Special Service Projects (Weather and Society Workshop) at the Charleston meeting. There will be a Weather and Society Workshop for SH just before the SCAR Open Science Conference in Hobart in August 2020.
- Dave outlined content for the future part of the article.
- **DL:** Good idea to do the article, particularly beyond YOPP.
- **JP:** Good sensible idea and now is the time to do it.

## 4. SIPN South

In the first telecon, François Massonnet presented on the effort by the SIPN South group during YOPP-SH SOP about how was last summer in terms of sea ice? The group is currently finalizing their report (will be out later in the week). The February sea ice minimum has been a bit beyond average with patchy pattern and overestimation of East Antarctica due to weather while in the Ross Sea, there were some negative anomalies. They had 12 different groups submitting forecasts at the end of the SOP and the dynamical models seemed to have some major issues that are not currently understood. Once the full report is published, it will be announced via the PPP mailinglist and other channels.

## 5. Southern Ocean Regional Panel

François Massonnet also provided some updates about the Southern Ocean Regional Panel (SORP) which now has set up different task teams for their activities such as one for the interactions between the atmosphere, ocean and sea ice (led by Patrick Heimbach), one for CMIP6 activities, and also one for YOPP (led by David Bromwich). The OceanObs' 2019 conference (<http://www.oceanobs19.net/>) will be quite relevant to SORP, and at the IGS in

Winnipeg in August 2019 (<https://www.igsoc.org/symposia/2019/winnipeg/>), they will run a session on sea-ice variability. On their website <http://www.clivar.org/clivar-panels/southern>, national reports and other information on achievements can be downloaded.

## 6. Meetings

- The PPP-SERA group recently meeting in Punta Arenas, Chile. Scott Carpentier and David Bromwich joined online and discussed certain issues with the group. There was an open session in the middle of the week to engage with local users and providers of forecast. KW and DL reported that the open session was well attended and presentations and interactions with the users and data providers was really useful although numbers small. Got active discussions about what the NMHS could do better for services and users in the Antarctic, also in terms of visibility. Daniela to share report PPP-SERA has prepared on the meeting. Nothing urgent to respond to.
- YOPP-SH meeting #04 will again be following the Workshop on Antarctic Meteorology and Climate, this year organized by SPAWAR (Art Cayette) in Charleston, South Carolina. WAMC will be from 25-27 June 2019, YOPP-SH will be from 1pm 27 June to 1pm 28 June.
  - Registration deadline 30 May;
  - Short abstract deadline 1 May;
  - Extended abstract deadline 30 May.
  - More information at <http://amrc.ssec.wisc.edu/meetings/meeting2019/>
- No further development yet on the IUGG meeting (8-18 July, Montreal) where a YOPP/YOPP-SH side meeting has been considered earlier. Vincent Guidard from Météo France will attend and provide some update about their achievements with regards to YOPP.

## 7. Communication

Kirstin is doing another newsletter and she is seeking contributions. Daniela will be providing material. Daniela to resend email to Dave re possible content for the Charleston meeting.