

## Year of Polar Prediction in the Southern Hemisphere (YOPP-SH)

Online Session 1 - 15 September 2020, 1300-1400 UTC

Online Session 2 – 15 September 2020, 2100-2200 UTC

### Attendees:

Session 1: David Bromwich, Kirstin Werner, Laura Huessner, David Butkaitis, Clare Eays, Christophe Genthon, Marie-Laure Roussel, Steve Colwell, Eric Bazile, Sang-Jong Park, Stefanie Arndt, Jun Inoue, Marcello Vichi, Vicki Heinrich, Jordan Powers

Session 2: David Bromwich, Matthew Lazzara, Jeff Wilson, Thomas Bracegirdle (BAS), Craig Stevens (NIWA), Inga Smith (Uni of Otago NZ), Penny Rowe (Seattle and Chile), Taejin Choi (Jang Bogo Station, Terra Nova Bay), Daniela Liggett (Uni of Canterbury), Adriana Gulisano (Argentina), Irina Gorodetskaya (Portugal)

**Apologies:** Jorge Carrasco, Francois Massonnett, Matt Mazloff, Vito Vitale.

- 1) Round of Introductions
- 2) Antarctic Targeted Observing Period (TOP) letters
  - a. Have been sent out over summer, responses are currently coming in (see **attached spreadsheet** file provided by Stine Düpow). Some cannot really contribute, others are happy to share content for communication and outreach, others will come back with detailed answers.
  - b. A few projects will be able to contribute extra radiosondes, e.g. USACH confirmed to launch up to 100 radiosondes from King George Island (Base Escudero, Chilean Antarctic Institute INACH), and coordinate the launches according to the TOPs.
  - c. US NSF committed to participate in TOPs with radiosondes released from McMurdo station.
  - d. NZ offered to launch 4 radiosondes per day (increases from 2/day) from Invercargill Airport (southernmost and westernmost city in New Zealand, ca 46°S) and wanted to know whether this will be of help.
  - e. Vicki Heinrich expects the Australian BoM to organize extra flights from Macquarie Island. Check ABM website to see other potential radiosonde sites in southern Australia that could contribute to the TOPs.
  - f. Eric Bazile mentions that in order to make commitments for French stations, the official letter from WMO needs to be sent out. **Action Item Kirstin:** check with WMO as to the status of the official letters from WMO.
  - g. Matthew Lazzara, David and Jeff to discuss best contacts with the Satellite Agencies for the TOPs, probably starting with the Polar Satellite Working Group.
- 3) How the TOPs might work in practice?
  - a. Question: Do we declare a TOP and then sample the entire Antarctic region or focus on the region where the cyclone impacts? For example, aim for three events around the peninsula, three around the Ross Sea and three around East Antarctica.

- b. Jordan Powers: In theory to get the best out of the TOPs should sample everywhere but if there are limitations in personnel and material, we need to focus on the cyclone area and timing.
  - c. Irina Gorodetskaya and others are interested in the atmospheric rivers. Others are interested in the cyclone themselves. Does this mean that there will be different scientific targets for different regions and time periods? Irina noted that the atmospheric rivers are linked to cyclones so they are not separate events.
  - d. We need to be clear on the numbers of launches for each site during the different TOPs so the stations can plan ahead.
  - e. For Dumont D'Urville Eric Bazile mentions that about 60 radiosondes will be available with three launches per day during the TOP periods.
  - f. Marcello Vichi mentions that he expects the South-African component to be the only oceanographic one, and therefore it would be good to know whether upstream measurements will be useful to improve cyclone forecasts. They do not have the budget to finance extra radiosondes(?) and wonder whether WMO could supply these. The ship can launch radiosondes, and there are two S. African Island stations that already launch radiosondes and can release more. Personnel to launch the balloons are available, but the sondes are not as already described.
  - g. Steve Colwell mentions that extra launches could be done from Rothera (BAS) and from the Falkland Islands (UK Met Office).
  - h. Will we be able to use ground based remote sensing such as LIDAR as well as space-based? We also need to be mindful of some of the safety protocols for radiosonde launches in high winds, etc.
  - i. Inga Smith noted that the interaction of the cyclones with the sea ice is of particular interest.
  - j. Craig Stevens (**attached**) gave an overview of NIWA's interest in Antarctic ice-ocean interactions on a region basis around the Ross Sea and the projects that are planned over the next 8 years. These will give a lot of fine oceanographic detail in and around the Ross Sea area. Inga also noted that sea-ice mass balance stations will be installed in 2022.
  - k. David summarizes that so far we have been fairly focused on Antarctica but probably need to look toward lower latitudes where the cyclones of interest typically form. Need to constitute the planning committee to determine whether additional flights from the Southern Ocean islands and southern continents would be valuable (see items 2d and 2e above). Some numerical experimentation with typical cyclone cases would likely be needed to explore this question in terms of identifying which stations for which region and which experiment. David suggested that we need to create a small organizing committee to further clarify the purpose and rationale for the TOPs he will start work on this soon. Irina noted that Gunilla Svensson is very interested in our work and would like to contribute.
- 4) APECS Antarctic Workshop – YOPP-SH session (Summary by Clare Eayrs)
- a. Clare thanks everyone who contributed, the session was well received from APECS. The recording of the session can be found at <https://vimeo.com/455682238>

- b. A live episode of the IcePod podcast has also been part of the workshop with Vicki Heinrich as the interview guest. The episode should be online in October.
  - c. Clare is writing a brief outline of the event in the next PolarPredict Newsletter. Please send her an email ([clare.eayrs@nyu.edu](mailto:clare.eayrs@nyu.edu)) if you would like Clare to highlight any particular aspects from either of the YOPP-SH sessions.
- 5) YOPP endorsement for YOPP-SH activities
  - a. Due to the Antarctic TOP planning and the extension of YOPP-SH efforts until 2024, a decision was made to extend the possibility to receive YOPP endorsement for projects contributing to the YOPP-SH component, and in particular to the TOPs. A suggestion to have the extension running until 1 November 2022 was made (to be confirmed).
- 6) YOPP-SH BAMS paper
  - a. David expects the paper to be out with the next BAMS issue, but has not yet received the proofs. Will share with the co-authors in case he needs support.
- 7) Update on Antarctic field programs
  - a. Steffi Arndt (AWI) reports that the Antarctic expedition on board Polarstern has now been confirmed for Jan–Mar 2021. They'll be visiting the Eastern Weddell Sea. If people would like the team to deploy buoys on the transit, please contact Stefanie Arndt [stefanie.arndt@awi.de](mailto:stefanie.arndt@awi.de). AWI is still deciding on what German buoy deployments will be made.
  - b. Christophe Genthon reports that at Dumont D'Urville a number of programs including his measurements will continue with basic observations; there will be something at Concordia as well. This describes servicing in 2020-2021 austral summer and operation during 2021. Not fully clear what is going to happen for the 2021-2022 austral summer and beyond.
  - c. Inga Smith noted that the Norwegians are resupplying Troll and including 3 scientists on the resupply but she is not aware of them doing any radiosonde releases.
- 8) YOPPSiteMIP
  - a. No one yet identified for the Antarctic component of YOPPSiteMIP.
- 9) YOPP-SH meeting in June 2021 in Columbus OH
  - a. Nothing is clear at the moment whether this can go ahead with an in-person meeting. David hopes it will and needs to make a decision at the beginning of 2021.
- 10) Polar Prediction School (PPS) February-March 2022
  - a. Planning for the coming Polar Prediction School is underway.
  - b. Jerry Zou from Ohio State University has offered to add a YOPP-SH lecture on the effect of increasing radiosondes on the forecasts.
  - c. In the event that there are still travel restrictions in place in early 2022, and in the spirit of the hybrid approach to events that is likely to last (where in-person attendance is also boosted with online offerings), we have been working on the idea of an Education Hackathon.
  - d. The aim will be to engage Early Career Researchers (ECRs) with the access and use of the YOPP Data Portal and the benefits of the YOPPSiteMIP approach.

Conceptually, three events:

- One in early 2021 to coincide with the March 2021 APECS workshop in Lisbon
- The second could be part of the selection process for the 2022 PPS
- The third would either be part of a fully online PPS or associated with an in-person PPS in Abisko during February-March 2022.

Anyone who has any ideas/suggestions/advice/comments on the Hackathon please get in touch.

#### 11) YOPP Evaluation

- a. A YOPP Task Team is currently looking at how to evaluate the success of YOPP in quantitative terms and with success stories. YOPP-SH is important here and also needs to contribute. Daniela Liggett suggested that we include Evaluation as part of each YOPP-SH session so we can start to tease out the key activities and accomplishments.

#### 12) YOPP Final Summit

- a. The YOPP Final Conference is planned for 2–5 May 2022 in Montreal, Canada. Not clear but hopefully a meeting where everybody can meet in person (probably it will also have an online component)
- b. YOPP-SH should be well represented there.

#### 13) PPP-SERA

They had an online Task Team meeting yesterday which focused on the Canadian workshop. They are still hoping to hold a workshop with the YOPP-SH meeting in June 2021.

#### 14) PolarPredictNews #16

- a. Another newsletter is currently being put together. Everybody is invited to send topics, ideas, text, etc.

15) Kirstin will send out a link in a separate email to doodle to find a date for the next YOPP-SH online session in about 1 month.

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