International Program for Antarctic Buoy (IPAB)
2017 – 2018 Deployment Plans

RV Gould (US)
- 24 SVP-B, 2/month (USIPAB)

RV Shirase (December 2017, Australia)
- 6 SVP-B (BOM/AU)
- 4 SVP-B (GDP/USIABP)

RV Nathaniel B. Palmer (December, US)
- 20 SVP-B (USIPAB) on leg from PA to MCM, to Hobart.
- 20 SVP-B (USIABP) on S4P and P16 on the shelf.

RV Polarstern (January, Germany)
- 10 SVP-B (USIPAB)
- 2 IMB, 2 Snow, and 3 SVP-B (AWI)
- 7 SVP (Petra Heil)

NIWA (New Zealand)
- 10 SVP-B (USIPAB)
- 10 SVP-B (USIPAB)

BOM (Australia)
- 2 Ice Beacons near Heard Island, and 2 drifters.

RV Agulhas II (SAWS)
- N SVP-Bs (USIPAB)

RV Aurora Australis (Australia)
- N SVP-Bs (USIPAB)
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Rough positions for US SVP-Bs deployed by Polarstern

48S 52S 58.5S 60.5S 62S 67S

35W 30W 25W 20W

52S 58.5S 60.5S 62S 67S

48S 52S 58.5S 60.5S 62S 67S
BOM, Australia Notes

• Deployments from RV Shirase in Dec. 2017.

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<thead>
<tr>
<th>PROGRAM</th>
<th>LAT</th>
<th>LONG</th>
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<tr>
<td>BOM</td>
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<td>110 E</td>
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• In addition to these, we plan for 2 ice beacons to be installed on Heard Island and 2 drifters to be deployed nearby if the opportunity arises (subject to voyage confirmation).
meetings:
• IPAB Participants reported during the annual meeting of the International Arctic Buoy Programme at in June 2017.
• IPAB Participants are considering meeting during the Scientific Committee on Antarctic Research (SCAR) meeting in June 2018 in Davos, Switzerland.

array status: Dire, but outlook is good.

Deployment Plans:
• German icebreaker cruise to the Weddell Sea in Jan/Feb. 2018.
• NOAA GDP is coordinating deployment of SVPs by the RV Gould (2/month at 59S and 61S), RV Nathaniel B. Palmer (20 from Punta Arenas to McMurdo then Hobart; 20 from Hobart to McMurdo, then Punta Arenas), New Zealand tourist ships (15 + 5), Australia (N SVPs west of Tasmania to research stations, South Africa (N SVPs deployed from Cape Town to ice edge). Need drifters from GDP (70+ SVPs).
• Working with International Cooperative Engagement Program for Polar Research (ICE-PPR) to deploy buoys using New Zealand Defence Force C-130.
Year of Polar Prediction (YOPP)  
Special Observing Periods (SOPs)

YOPP Guidance on Observing System Design

In terms of the enhancing the polar observing for prediction purposes, YOPP is concentrating observational efforts on Special Observing Periods (SOPs). Three Special Observing Periods are planned:

• 1 Feb – 31 Mar 2018 in the Arctic,
• 1 Jul – 30 Sep 2018 in the Arctic and
• 16 Nov 2018 to 15 Feb 2019 in the Antarctic.

A fourth Special Observing Period in the Arctic is also under consideration in winter-spring 2020 to complement the Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) — which is the first year-round expedition into the central Arctic that will provide a quantum leap in our understanding of critical Arctic processes and their representation in weather and climate models.

The purpose of the SOPs is to enhance the routine observations in an attempt to close the gaps in the conventional Arctic and Antarctic observing systems for an extended period of time (i.e., several weeks). This will allow subsequent forecasting system experiments aimed at optimizing observing systems in the polar regions and provide insight into the impact of better polar observations on forecasting skills in polar as well as lower latitudes.

A first step is to ensure that all observations are shared through the Global Telecommunication System (GTS) to make them accessible to all WMO member states. A second step is to enhance the current observation network by: a) more frequent observations from existing platforms and/or b) adding observations in regions where the observation network is sparse, i.e. addressing current gaps in the observing systems.

WMO has already informed the national WMO Permanent Representatives and Directors of Meteorological and Hydrometeorological Services to solicit participation in logistical support and enhanced observations of atmospheric, marine or sea-ice conditions through, for example, surface observations, Automatic Weather Stations, AMDAR or flight data, buoys, radiosonde observations, and SYNOP observations during the SOPs. To provide specific examples, a relatively straightforward measure that is expected to significantly improve forecasting skills is to increase the frequency of radiosondes poleward of 60° latitude to up to four times per day, if feasible. Given the importance of buoys in the polar regions, additional buoy deployment in the Arctic in northern autumn 2017 (for the Arctic SOPs in 2018), and in the Antarctic in southern spring 2018 (for the Antarctic SOP in 2018/19), is another highly desirable possibility to enhance observations during YOPP.

Several international initiatives and organizations have been contacted to provide support and active participation during SOPs.
IPAB collaborators will work to seed array before SOP-SH