

The Year of Polar Prediction – Developments and Prospects through Three Special Observing Periods

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The Year of Polar Prediction (YOPP) aims to close gaps in polar forecasting capacity. From mid-2017 to mid-2019, scientists and operational forecasting centers worldwide are working together to observe, model, and improve forecasts of the Arctic and Antarctic weather and climate systems. As a period of intensive observing, modelling, verification, user-engagement and education activities, this international effort initiated by the World Meteorological Organization (WMO) will enable a significant improvement in environmental prediction capabilities for the polar regions and beyond. Improved forecasts of weather and sea-ice conditions in polar regions are also expected to positively influence weather and longer-range predictions at lower latitudes.

Routine observations such as radiosonde launches and buoy deployments have been enhanced during three Special Observing Periods (in the Arctic: 1 February – 31 March 2018 and 1 July – 30 September 2018, in the Antarctic: 16 November 2018 – 15 February 2019) during the Year of Polar Prediction. In a coordinated effort to observe the Arctic and Antarctic systems, scientists have implemented aircraft campaigns, ship campaigns, and installed new automatic weather stations to enable new insights into the processes governing the polar weather and climate, and to understand the related impacts on the global weather systems. Data collected during YOPP through the WMO's Global Telecommunication System (GTS) are available for operational forecasting centres to feed into their weather and sea-ice forecasting systems in real-time.

The International Coordination Office for Polar Prediction (ICO; hosted by the Alfred Wegener Institute in Germany) supports the Polar Prediction Project by supporting the planning and implementation of YOPP activities, ensuring international coordination between a variety of involved partners and divulging progresses and events through an active communication strategy. Here, an overview of the main achievements accomplished during the three Special Observing Periods, and prospects for future evaluations and numerical experiments as well as the plans for the upcoming YOPP Consolidation Phase are provided.