

## Japanese contribution to the Year of Polar Prediction (YOPP)

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To evaluate the impact of additional observation on the predictability of weather and sea-ice patterns at high latitude and beyond, Japan has contributed to establishing an experimental Arctic observing network as part of an international collaboration. It was shown that the incorporation of additional Arctic observations improves the initial analysis and enhances the skill of weather and sea-ice forecasts. Based on these achievements, Japan will extend this activity during the Year of Polar Prediction (YOPP), from mid-2017 to mid-2019, under the Japanese flagship projects, called ArCS (Arctic Challenge for Sustainability) and JARE (Japanese Antarctic Research Expedition). Using a data assimilation technique and observation data obtained from ships, land stations and drifting buoys under international collaborations, the impact of additional polar observations on predicting extreme evens in local (e.g. along Northern Sea Route) and remote regions (e.g. extreme weather events at mid-latitudes) will be assessed, contributing to optimizing a sustainable polar observing network on a cost-benefit basis.

Keywords: Arctic & Antarctic, numerical predictions for weather and sea ice, observations & modelings

