

An Overview of the YOPP-SH 2022 Winter Special Observing Period

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The Year of Polar Prediction in the Southern Hemisphere (YOPP-SH) aims to enhance environmental prediction for the Southern Ocean and Antarctica on time scales up to a season. Following a very successful summer campaign, the project undertook an experiment aimed at improving the forecasting skill during the non-summer months, specifically during April 15-August 31, 2022. In view of the limited resources and personnel at that time of year, the emphasis was on limited duration events rather than continuous observing for the three months. These so-called Targeted Observing Periods (TOPs) focused on the prediction of major oceanic cyclones and associated phenomena like atmospheric rivers and featured enhanced collection of radiosonde ascents from 24 stations. Based on the summer results, a major effort was made to increase soundings from middle latitudes to better capture the oceanic cyclone characteristics. In contrast to the summer campaign, the region was divided into two sectors to make the investigations more tractable, namely East Antarctica-Ross Sea and the greater Antarctic Peninsula. Seven TOPs were obtained with durations lasting 5-10 days with coverage being both Pan Antarctic and just for the two regions. A forecasting team for each sector decided when the TOPs should be initiated. Some 1100 additional soundings were released during the TOPs, more than doubling the routine launches from the 24 stations. The presentation will summarize in more detail what was achieved, and early results from investigations into the value of the additional soundings in forecasting the TOP events using Polar WRF within the Antarctic Mesoscale Prediction (AMPS) framework.