

Meeting Summary for the 14th AMS Conference on Polar Meteorology and Oceanography

The 14th AMS Conference on Polar Meteorology and Oceanography was held in Seattle, Washington from 23-26 January 2017. The conference included both oral and poster presentations that focused on research on phenomena that impact the weather and climate in both the Arctic and Antarctic. In concert with the Annual Meeting's theme, an invited-only Joint Themed with the 29th Conference on Climate Variability and Change was convened Tuesday morning, including a Core Science Keynote focusing on the status of the Greenland and West Antarctic Ice Sheets, given by Prof. Ian Joughin. A common theme was increasing understanding of both short-term and long-term variability of polar weather and climate, with an emphasis on factors that affect sea-ice. Processes at the atmosphere-ice-ocean interface were presented and included the effects of surface winds and energy fluxes. Teleconnections between the polar regions and lower latitudes were discussed in the context of global-scale dynamical features such as the El Nino Southern Oscillation (ENSO) and the Southern Annular Mode (SAM), and how these connections affect sea ice conditions and weather in the midlatitudes. The causes of recent trends in Arctic sea ice were discussed from the perspective of measurements and modeling. The results from recent field campaigns were presented including those from the Arctic Summer Cloud Ocean Study (ASCOS), the Norwegian young sea ice field campaign (N-ICE), the Integrated Characterization of Energy, Clouds, Atmospheric state, and Precipitation at Summit (ICECAPS), and the ARM West Antarctic Radiation Experiment (AWARE). Research using satellite observations were also presented, and the final day was made up of joint sessions focusing on polar weather and climate modeling which highlighted the importance of properly simulating boundary-layer processes. The important role of polar clouds on the cryosphere was highlighted by investigating their effects on the surface mass balance of ice sheets and sea ice variability. Long-term observational records, both in-situ and satellite-based, were used to examine many aspects of the changing cryosphere including atmospheric and oceanic circulation, sea ice variability, and snow cover.