

**Category**

AC Atmosphere, Climate

**Session Number**

AC-7

**Session Title**

Seeing the Future: Predicting Variability and Change of the Polar Climate and Environment

**Session Description**

Observations make clear that numerous dramatic environmental changes are taking place in the Polar regions. Polar climate dynamics is crucial for the Earth's energy and water budget, as well as climate and environmental variability and change that have direct socio-economic impacts. Available dynamical and statistical models provide us with useful insight, but also with ample opportunities for improvement of polar climate prediction on intraseasonal to interannual and longer timescales. We encourage submissions that examine sources of polar climate, ice dynamics, and ecosystem predictability with models of different level of complexity, and link polar processes and predictions with mid- and low-latitude climate, and that identify potential ecosystem indicators useful to detect responses to climate change. What are the key gaps in knowledge, data, and capabilities needed to identify emerging threats? We look forward to presentations using observations, proxy data, theory and numerical models encompassing climate and ecosystem projections, reanalyses and forecast systems. This session also intend to promote interaction between the atmospheric, oceanic, cryospheric, terrestrial and ecosystem research and operational communities in both hemispheres.

**Keywords:** Arctic, Antarctic, climate prediction, Environmental change, cross-disciplinary

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