

## IPRC Seminar

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## “Interdecadal Pacific Oscillation (IPO) contributions to Antarctic sea ice expansion from 2000-2014”

Antarctic sea ice extent has been slowly increasing in the satellite record since it began in 1979. Since the late 1990s, the increase has accelerated, but the average of all climate models shows a decline. Meanwhile, the Interdecadal Pacific Oscillation, an internally-generated mode of climate variability, transitioned from positive to negative, with an average cooling of tropical Pacific sea surface temperatures, a slowdown of the global warming trend, and a deepening of the Amundsen Sea low near Antarctica that has contributed to regional circulation changes in the Ross Sea region and expansion of sea ice. Here we show that the negative phase of the Interdecadal Pacific Oscillation in global coupled climate models is characterized by anomalies similar to the observed sea level pressure and near-surface 850 hPa wind changes near Antarctica since 2000 that are conducive to expanding Antarctic sea ice extent, particularly in the Ross Sea region in all seasons, involving a deepening of the Amundsen Sea Low. These atmospheric circulation changes are shown to be mainly driven by IPO-related precipitation and convective heating anomalies in the equatorial eastern Pacific, with additional contributions from convective heating anomalies in the South Pacific Convergence Zone and tropical Atlantic regions.

**Tuesday, March 14, 2017 11:00 a.m.-12p.m., POST 414**