

# CGD SEMINAR



**DATE:** Tuesday, 17 April 2018  
**TIME:** 11 a.m.  
**LOCATION:** NCAR, 1850 Table Mesa Drive  
Mesa Lab, Main Seminar Room  
**TITLE:** Tropical ocean decadal variability and  
connections to Antarctic and Arctic sea  
**SPEAKER:** Gerald Meehl, NCAR

## ABSTRACT:

Though there were earlier claims that “global warming stopped” after that late-1990s, it is now better understood that the slowdown in the rate of global surface temperature increase in the early 2000s was symptomatic of contributions to decadal climate variability associated with the Interdecadal Pacific Oscillation (IPO) superimposed on a long-term warming trend from increasing greenhouse gases. However, the IPO has influences on other parts of the climate system in addition to global surface temperatures. For the Antarctic, convective heating anomalies in the tropical Pacific from the negative phase of the IPO drove atmospheric circulation anomalies and a preponderance of northward surface winds around Antarctica that contributed to the increasing Antarctic sea-ice extent from 2000-2014, with secondary contributions from the tropical Atlantic and SPCZ regions. For the Arctic, decreasing observed sea ice extent trends accelerated after about 2000 when the IPO transitioned from positive to negative. For the cold season (NDJF) there was a connection to Arctic region circulation and sea ice anomalies associated with negative IPO and negative convective heating anomalies in the tropical Pacific. For the warm season (JJAS) there was a stronger Arctic connection to positive convective heating anomalies in tropical Atlantic observed in association with positive SST trends in that basin. Recent decreases of Antarctic sea ice extent, starting in SON 2016, show a connection to positive convective heating anomalies in the equatorial eastern Indian Ocean and a possible transition of the IPO from negative to positive.

**Live webcast:** <http://ucarconnect.ucar.edu/live>

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