



Department of Atmospheric &
Oceanic Sciences (ATOC)
University of Colorado Boulder

ATOC Distinguished Lecture Series

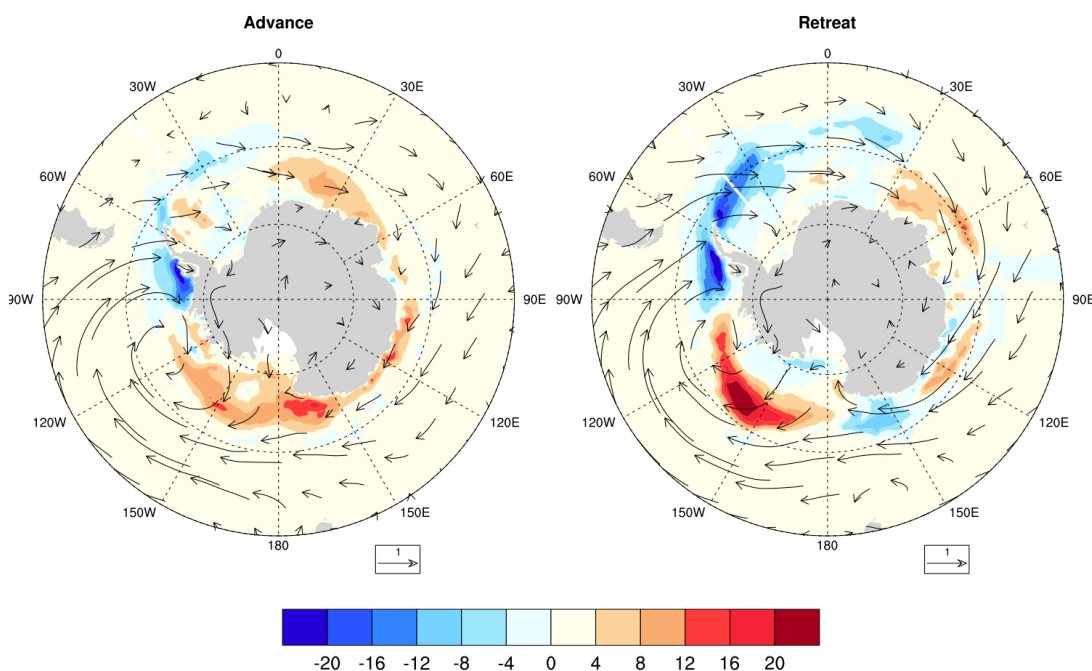
Wednesday, April 17, 2019, 10:30 AM
SEEC Auditorium (C120)
CU Boulder East Campus



Prof. Marilyn Raphael
UCLA

Antarctic Sea Ice Variability, Change and Linkages with the Atmospheric Circulation

Antarctic sea ice variability is strongly regional - five distinct regions of variability have been defined. While exhibiting similar annual cycles, these regions vary in their times of advance and retreat as well as in overall sea ice extent. They also have different spectral signatures with interannual frequencies of varying strengths. Antarctic sea ice trends are also strongly regional with positive trends occurring, for example, in the Ross Sea and negative trends in the Bellingshausen-Amundsen Seas. Some of the intrinsic spatial variability in the sea ice is probably due to the effect of the geography of Antarctica and the influence of the ocean. Some is due to the influence of the large scale atmospheric circulation – the Southern Hemisphere Annular modes, Zonal Wave Three and the Amundsen Sea Low. In this presentation I discuss how these components of the atmospheric circulation exert their influence on different regions of sea ice and how the sea ice might be expected to change as the atmospheric circulation changes. I also discuss the role that these atmospheric circulation mechanisms played in initiating and supporting the recent anomalous decrease in Antarctic sea ice.



For more information, visit www.colorado.edu/atoc/events