



The University of Texas at San Antonio™

DATE:
Friday,
October 23, 2020

TIME:
2:00-3:00pm CDT

LOCATION:
via Zoom (Click
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NASA MIRO CAMEE

CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS

PRESENTS:

Dr. Marika M. Holland, Senior Scientist and the section head for the Paleo and Polar Climate Research Section of the Climate and Global Dynamics Laboratory at the National Center for Atmospheric Research. Dr. Holland is also a member of the CAMEE External Advisory Committee.

Title: *Using climate models to predict changing Arctic sea ice*

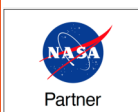
Abstract:

Arctic sea ice has changed dramatically over the last forty years, including significant ice extent loss and considerable thinning of the ice pack. Understanding how sea ice will evolve in the future is important for planning on a number of timescales. Climate models are a useful tool for this purpose. They simulate the atmosphere, ocean, sea ice, land systems, and the interactions among them subject to changing external drivers, such as greenhouse gas concentrations. They can be used to perform controlled experiments to test hypotheses and understand system behavior.

Here we use climate model simulations to investigate predictions of sea ice on both seasonal and multi-decadal timescales. For projected multi-decadal sea ice change, we assess ice mass budget changes and mechanisms that contribute to sea ice loss. We also consider the role of internal variability in the midst of anthropogenic change and how this can add uncertainty to predicted long-term change. Because sea ice processes are climate state dependent, the long-term sea ice change can also modify the predictability of sea ice on seasonal timescales. We discuss how climate models can be used to assess seasonal predictability and how and why this predictability changes in a warming climate.

More details about Dr. Holland 's research: <https://staff.ucar.edu/users/mholland>

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