



The University of Texas at San Antonio™

DATE:
Wednesday,
December 1, 2021

TIME:
2:00pm-3:00pm
CDT

LOCATION:
BSE 2.102



NASA MIRO CAMEE

CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS

Phone:
(210) 458-4924
Fax:
(210) 458-4469
Email: camee@utsa.edu
Website:
www.utsa.edu/NASA-CAMEE/



PRESENTS:

Dr. Maddie Smith, University of Washington.

Title: *Interactions of upper ocean and sea ice in the Arctic Ocean*

Abstract:

The visually dramatic loss of Arctic sea ice is a clear signal of the changes happening in the Arctic Ocean. Sea ice is tightly coupled to the upper ocean that it exists within. So, understanding sea ice, both in past climate states and under climate warming scenarios, requires understanding the small-scale interactions of the ocean and sea ice throughout the seasonal cycle. In this talk, I'll focus on the role surface waves and near-surface heat play in the growth and melt of sea ice. Waves are getting larger in the Arctic as a result of the decrease in ice-covered area, enhancing mixing. The strong salinity stratification of the Arctic Ocean allows heat to accumulate near the surface, both accelerating melt and delaying freeze-up. These feedbacks likely play a role in shaping the current state of Arctic sea ice, ocean, and coastal landscapes, as well as predicting future forms.



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