



The University of Texas at San Antonio™

**DATE:**  
**Friday,**  
**November 4, 2022**

**TIME:**  
**1:00pm-2:00pm CST**

**LOCATION: BSE 2.102**  
**Zoom: 988 8325 1160**



# NASA MIRO CAMEE

**CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS**

**PRESENTS:**

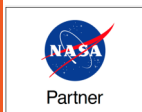
**Alex Orsi, Texas A&M University**

**Title:** *Impact of Sea Ice Production off Sabrina Coast, and elsewhere around Antarctica*

Some coastal areas around Antarctica remain free of ice during winter, while still producing sea ice pushed away by strong winds. In determining the stability of upper waters the salt rejected during sea ice formation at some of these coastal polynyas competes with freshwater inputs from melting glaciers and ice shelves. Estimated sea ice productivity at Dalton Polynya off the Sabrina Coast is about 2.5 times higher than at Mertz Polynya off the Adelie Coast, where convection of dense Shelf Water takes place regularly. In 2014 and 2015 the first measurements in the Sabrina Basin did not reveal Shelf Water at the bottom, but a thick subsurface layer with near-freezing temperature that indicated a large injection of meltwater from Moscow University Ice Shelf. The estimated 2003-2015 history of this Thernostad Water salinity suggests interminent convection at the Dalton Polynya. Large summer export of sea ice volume during 2003-2008 rendered salinities higher than the critical salinity to form dense Shelf Water. Minimum regional atmospheric forcing diminished sea ice export and suppressed convection during 2008-2011. Thernostad Water salinity climbed back starting in 2012 due to large sea ice production, suggesting that convection in the Sabrina Basin could potentially have resumed by 2017.

Zoom link: <https://utsa.zoom.us/j/98883251160>

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