UTSA The University of Texas at San Antonio™

DATE:
Friday,
April 30, 2021

TIME:
12:00-1:00pm CDT

LOCATION:
via Zoom (Click HERE to Join)

CAMEE

NASA MIRO CAMEE

CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS

PRESENTS:

Dr. Grant Macdonald is a CAMEE Postdoctoral Fellow and recent graduate of the University of Chicago. He also co-leads our CAMEE Student Research Journal Club and CAMEE student-centered activities.

Title: An investigation of ice shelf surface hydrology and its implications for ice-shelf stability; An analysis of the Amundsen Sea Polynya

Abstract:
Surface lakes that form on ice shelves can promote ice-shelf instability, which has consequences for wider ice-sheet stability and sea-level rise. As meltwater becomes increasingly pervasive on ice shelves due to climate change, it is crucial to improve understanding of ice-shelf hydrology. First, I will present work from my PhD on this subject using analysis of remote sensing and field data. I present analysis of (i) the seasonal evolution of lakes on the floating tongue of Petermann Glacier, (ii) the development of previously-undocumented 'pedestaled, relict lakes' on the debris-covered McMurdo Ice Shelf and (iii) the formation of sea ice ponds adjacent to the McMurdo Ice Shelf from ice-shelf runoff. Next, I will present findings from my ongoing work at CAMEE. Polynyas are key sites of ice production and are important for a range of climatic, oceanographic and biological processes. I am using a range of remote sensing tools to improve our understanding of the behavior of the Amundsen Sea Polynya and assessing the implications for Antarctic sea ice processes.

More details of Dr. Macdonald's Research: https://www.geogeordie.com/

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