



# ATOCC COLLOQUIUM

## Welcome!

Please join us for the next ATOC Colloquium on **Friday, March 1** from **11:00 AM–12:00 PM**, which will be held in **SEEC S228** and simulcast over **Zoom**. This week's colloquium features **Dr. Alice DuVivier (NCAR/CGD)**. Please join us for coffee beginning at 10:45 AM and stay for lunch catered by Illegal Pete's afterwards.

## Projected Changes in Antarctic Coastal Sea Ice and Ecosystems

The Southern Ocean is one of the fastest changing regions on the planet as the globe warms. In polar regions, coastal polynyas – open water areas along the coast bordered high regions with higher sea ice concentration – are “hot spots” of high biological productivity. This talk will discuss how the fully coupled Community Earth System Model (CESM) has been used to assess projected changes in Antarctic sea ice and coastal polynyas. The talk will present recent, extreme changes to Antarctic sea ice, present model-satellite comparisons, and discuss strengths and weaknesses of the CESM model for representing Antarctic sea ice, and in particular polynyas. Additionally, we examine modeled primary and secondary production in polynya regions and possible connections to known penguin colonies. Ultimately, we are working to understand the ecological importance of small-scale polynyas for the Antarctic ecosystem from phytoplankton to penguins and to create a quantifiable metric that can be used to inform Southern Ocean conservation, including the development of marine protected areas.



**Location:** SEEC S228 & Zoom

**Zoom:**

<https://cuboulder.zoom.us/j/93794324385>

**Password:** ATOC

## About the ATOC Colloquium

The Department of Atmospheric and Oceanic Sciences (ATOCC) Colloquium is typically held **every other Friday** from **11:00 AM–Noon**. Colloquia alternate between the following formats: (A) Full-length talk by a faculty member or invited speaker, (B) Three conference-length talks by graduate students. If you would like to nominate a speaker (including self), please email the ATOC Colloquium Committee Chair, Prof. Andrew Winters (andrew.c.winters@colorado.edu). Please visit [www.colorado.edu/atoc/colloquium](http://www.colorado.edu/atoc/colloquium) for further details.