

AGES Department
Earth Science Pizza Seminar
Kopchick 102
Friday October 25, 2024
~11:15 AM ~ 12:15 PM



“Remote consequences of processes operating at the Antarctic margin”

Dr. Becki Beadling
Temple University

Southern Ocean and Antarctic margin dynamics play an outsized role in the climate system and the trajectory of climate change due to their influence on the oceanic uptake of heat and carbon and Antarctic Ice Sheet (AIS) mass loss. Results from climate model experiments have highlighted the key role that localized ocean-ice-atmosphere interactions at the Antarctic margin play in the global climate system through their influence on large-scale ocean and atmospheric circulation. Such large-scale circulation patterns set the distribution of energy on our planet and influence the rate of warming and associated impacts of rising atmospheric greenhouse gas concentrations.

The physical circulation of waters along the Antarctic margin also imprints on ocean biogeochemistry, influencing nutrient distributions between the continental shelf and the open ocean and air-sea carbon fluxes, imprinting on the global carbon budget. Understanding how the dynamics within this remote region are changing and how they will evolve in a warming climate is central to reducing uncertainty in 21st century climate projections. This talk will discuss recent and on-going work that our research group has been leading to constrain our understanding of the role that Antarctic margin dynamics plays the broader climate system.

