

OCGC Seminar

Reconstructing Sea Ice in the North Pacific over the Past 22 kyrs

Dr. Beth Caissie
Physical Scientist at U.S. Geological Survey

Thursday March 11th, 2021 11:30 AM
Carleton University

Jeudi le 11 mars 2021, 11h30
Carleton University

Zoom link will be provided at a later date

Abstract:

Several factors influence sea ice extent in the North Pacific and its marginal seas including sea surface temperature, oceanic heat flux, strength and direction of prevailing winds, storminess, and sea level rise or fall. Here, I evaluate past sea ice during the marine transgression from the last glacial maximum (LGM) through Holocene to determine the pattern of sea ice decline. This is used to evaluate the influence of oceanic and atmospheric forcings across the North Pacific, with a focus on the Bering Sea. This study examines new and previously published records of sea ice diatoms, a diatom-based quantitative proxy, the molecular biomarker, IP25, and ice rafted debris as multi-proxy evidence for sea ice concentration. In the North Pacific, there is an overall decline in sea ice as sea level rises, but variable expansion and contraction of sea ice due to either changing sea surface temperature or the strength and position of the Aleutian Low.

Biography:

Beth Caissie is a Physical Scientist at the US Geological Survey where her research focuses on previous warm periods in the North Pacific using diatoms, sedimentary grain size, and stable isotopes. She has degrees in both photography and geosciences, earned her PhD at UMass Amherst, and worked as an Assistant Professor at Iowa State University before moving to the Bay Area in the middle of the pandemic.

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