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Department of Marine Sciences
Presents a Seminar by

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Global Temperature and Sea-Level Change Over the Last 4.5 Myr

Geologic records that constrain current understanding of global temperature and sea-level change over the last 4.5 Myr remain highly uncertain. Here we use an array of records to show that global cooling between 4.0-0.8 Ma was accompanied by intensification of Northern Hemisphere glaciation by 2.5 Ma, with subsequent fluctuations of large ice sheets throughout the Pleistocene occurring under a range of temperatures and temperature variability. These results present fundamental challenges to our understanding of ice sheet-climate interactions and their joint responses to external forcing, including controls on ice-sheet inception and growth, and require a reassessment of hypotheses for the middle Pleistocene transition that invoke an increase in ice-sheet volume. We propose that changes in the carbon cycle during the middle Pleistocene modulated the response of global temperature and ice sheets to obliquity forcing.

Host: David Lund

Time & Date: 11:00 am, Friday, March 11, 2022

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