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Department of Marine Sciences
Presents a Seminar By

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A climate revolution: gradual and abrupt changes during the Mid-Pleistocene Transition

During the Mid-Pleistocene Transition (MPT, ~900,000 yrs ago), the climate system's glacial/interglacial pacing changed from a dominant periodicity of 41,000 to one of 100,000 yr, without a comparable change in orbital forcing. Proposed changes in the climate system that accompanied or could help explain this transition include global cooling caused by atmospheric $p\text{CO}_2$ drawdown, an increase in the northern hemisphere and/or Antarctic ice volume, and thermohaline circulation reorganization. Here we reconstruct bottom water temperature, the $\delta^{18}\text{O}$ of seawater (as a proxy for ice volume), and carbonate ion concentration to evaluate these hypotheses. We find that global cooling was a necessary precursor for the MPT and there was no significant, permanent glacial ice volume increase at the MPT. Based on our preliminary analyses, we propose that thermohaline reorganization during the MPT may have changed deep ocean carbon storage, contributed to $p\text{CO}_2$ drawdown, and facilitated the change from 41,000 yr to one of 100,000 yr climate cycles.

Host: Jennifer Hertzberg

Time & Date: 11:00 am, Friday, January 29, 2016

Place: Marine Sciences Building, Seminar Room 103

Please see this [page](#) for cancelations and additional seminar information, email marinesciences@uconn.edu, or call 860-405-9152 or 860-405-9151