UCONN

UNIVERSITY OF CONNECTICUT

Department of Marine Sciences
Presents a Seminar by

Yvette Eley

UConn Center for Integrative Geoscience

Seeing the forest in spite of the trees: making meaning of biomarker-based paleoclimate proxies

A key objective of paleoenvironmental research is the quantification of change within specific components of the Earth system – hydrology, temperature, ecosystem functioning - in response to external, often global-scale, forcing. These data provide critical insights into links and feedbacks between key parameters of the Earth system, and facilitate opportunities to test conceptual and numerical models of climatic and environmental change. The range of geochemical proxies available to reconstruct paleoenvironments has never been greater. In particular, they are providing remarkable new insights into the functioning of the Earth system under past high CO_2 and/or warm-climate conditions. However, all of these proxies are subject to calibration uncertainties and potential non-analogue behaviour between modern and past environments. Further, transport, temporal and spatial-averaging and shallow burial diagenesis can all bias the proxy values recorded in the sedimentary archive away from original environmental signals. In this talk, I explore the potential for biochemical mechanisms to influence the hydrogen isotope composition of leaf wax *n*-alkanes, common proxies used for paleoclimate reconstruction. I go on to discuss how, as a result of ecosystem averaging during soil formation, we can still use these important lipids to reconstruct the fundamental change in climate and hydrology that occurred in the Western United States during the Eocene-Oligocene transition 34 million years ago.

Host: Pieter Visscher
Time & Date: 11:00 am, Friday, November 17, 2017
Place: Marine Sciences Building, Seminar Room 103

For cancelations and additional seminar information, please see http://marinesciences.uconn.edu/seminar/seminar1178/, email marinesciencesseminars@uconn.edu, or call 860-405-9152 or 860-405-9151