



Climate and Energy Decision Making
Sponsored Seminar

Sarah Cooley

Woods Hole Oceanographic Institute
Woods Hole, Massachusetts

Presenting on:

**Assessing OA's Effects on Humans
through Ecosystem Services**

December 9th, 2010

12 noon

(Lunch served at 11:50 am)

129 Baker Conference Room
Department of Engineering and Public Policy

Seminar Abstract: Experiments show that ocean acidification could harm some marine organisms by affecting calcification, respiration, or other cellular processes, and ecological theory suggests that any changes that could alter survival, growth, or reproduction of individuals could also alter overall population size or location. Individual species' responses to new ocean chemistry could transform the composition of entire ecosystems by affecting trophic relationships or habitat availability. Ultimately, marine ecosystem function would also change. Underwater transformations could be felt on land once ecosystem services such as commercial harvests, coastal protection, tourism, cultural identity, or ecosystem support became altered. We have identified threshold dates when future ocean chemistry will distinctly differ from that of today to help guide the development of strategies for maintaining present mollusk-related ecosystem services.

Speaker Bio: Sarah's research uses oceanographic and social science approaches to forecast the total consequences of human-driven changes in the marine inorganic carbon cycle. Her doctoral dissertation at the University of Georgia (2006) examined inorganic carbon cycling in the offshore Amazon River plume. Her postdoctoral work in the Marine-Chemistry and Geochemistry Department at Woods Hole Oceanographic Institution (2007-present) has focused on analyzing ocean acidification forecast by ocean models and presenting its risks in human-relevant terms using social science datasets.

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