

## Ocean Carbon and Biogeochemistry Workshop 2009: This year's workshop, July 20-23, 2009, included the following interdisciplinary sessions:

### The Next U.S. Carbon Cycle Science Plan

Although the research priorities identified in the [1999 U.S. Carbon Cycle Science Plan](#) still remain important, a new set of challenges must be addressed in the coming decade, including the effects of human activities on carbon cycling, the sensitivity of ecosystems to changes in carbon cycling and climate, and the efficacy and environmental consequences of carbon management practices. This session will include overview talks and an open discussion to solicit OCB community feedback on the [next version of the U.S. Carbon Cycle Science Plan](#). Specifically, discussions will focus on:

- 1) What are the new priorities for carbon cycle science over the next decade?
- 2) How can land, ocean and atmospheric scientists more effectively integrate carbon cycle science and provide better decision support?
- 3) How will these priorities affect the OCB community and the way the OCB program is structured?
- 4) How can the OCB community work more effectively with the assessment communities, including the [Intergovernmental Panel on Climate Change \(IPCC\)](#)?

### Observing Systems and Time-Series

Ship- and satellite-based ocean observations and time-series form a critical foundation for OCB research. Community planning discussions and input to large-scale national and international planning efforts are essential to ensuring long-term availability of biological, chemical, and ecological data sets that support this research. This session will include scientific highlights and new advances, as well as updates and planning discussions on the following:

- [Ocean Observatories Initiative \(OOI\)](#)
- Biogeochemical time-series
- [Repeat Hydrography Program](#)
- Report from [2009 OCB scoping workshop Observing Biogeochemical Cycles at Global Scales with Profiling Floats and Gliders](#)
- OCB contributions to the [OceanObs '09 meeting](#)

### The Future of OCB Research in the Southern Ocean

The Southern Ocean represents a key system in the global ocean with a critical role in climate and biogeochemical cycles. There is still a troubling level of uncertainty surrounding the impacts of climate change on circulation, CO<sub>2</sub> fluxes, productivity, and ecosystem structure in the Southern Ocean. Building on the [2009 OCB scoping workshop "New Frontiers in Southern Ocean Biogeochemistry and Ecosystem Research,"](#) this session will include both plenary talks and open community discussions on important unresolved air-sea exchange, biogeochemical, and ecological research questions in the Southern Ocean and the efficacy of existing observing programs for addressing these questions.

### Ocean Acidification: Frontiers in Understanding Physiological and Ecological Responses

Ocean acidification is a high-priority OCB research topic. Recent developments such as the passage of the Federal Ocean Acidification Research And Monitoring Act and the forthcoming [NRC report on ocean acidification](#) make this a critical time for soliciting community feedback on new research directions and activities. This session will include 1) Plenary talks highlighting the role of biology in ocean acidification research to help feed future OCB planning efforts; and 2) An open discussion session to provide updates and solicit community feedback on national ocean acidification documents, meetings, and planning activities.

### Implementing Research at the Intersection of Ocean Chemistry and Biology

Two important efforts that advocate for a more integrated observational approach to better address complex feedbacks between ocean chemistry (e.g., micronutrients) and marine ecosystems are currently underway within the OCB-affiliated programs [GEOTRACES](#) and [SOLAS](#). The OCB workshop will convene a broad range of expertise that would provide the ideal common ground for a community discussion of these initiatives. This session will include 1-2 overview talks followed by open discussion and possibly an associated breakout session for interested participants. The goals of this session are to: 1) Provide community feedback on these activities; 2) Facilitate scientific and programmatic links among GEOTRACES, SOLAS, IMBER, and OCB; and 3) Motivate the OCB community to formulate detailed research strategies to address these observational challenges.

### NACP/OCB Coastal Interim Synthesis Activities

The objective of the [coastal synthesis activities](#) is to stimulate the synthesis and publication of recent observational and modeling results on carbon cycle fluxes and processes along the North American continental margin. The coastal synthesis breakout session at last year's OCB summer workshop proved very fruitful in identifying regional leadership and commencing these activities. This session will include an update and overview of ongoing coastal synthesis activities and an open discussion to solicit feedback and engage community participation.

#### Related Links

- » [March 2009 CCSP Summary Document](#)
- » [Next Version of the U.S. Carbon Cycle Science Plan](#)
- » [IPCC Fourth Assessment Report](#)
- » [OCB Ocean Time-Series Advisory Committee](#)
- » [Changing Times: An International Ocean Biogeochemical Time-Series Workshop](#)
- » [Report from 2007 OCB Ocean Acidification Scoping Workshop](#)
- » [OCB Ocean Acidification Subcommittee white paper: Ocean Acidification: Recommended Strategy for a U.S. National Research Program](#)
- » [GEOTRACES Science Plan](#)

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Mail: Woods Hole Oceanographic Institution, 266 Woods Hole Road, Woods Hole, MA 02543, USA.  
E-Contact: [info@whoi.edu](mailto:info@whoi.edu); press relations: [media@whoi.edu](mailto:media@whoi.edu), tel. (508) 457-2000  
Problems or questions about the site, please contact [webdev@whoi.edu](mailto:webdev@whoi.edu)