

NACP News
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Science Steering Group meets with US Agencies to Discuss Evolution of NACP

On Aug 21-22, 2007, the NACP Science Steering Group (SSG) met in Greenbelt, MD with the Carbon Cycle Interagency Working Group (CCIWG) to discuss the need to organize a set of “*Interim Synthesis*” activities that will communicate major findings of the Program to scientists, government agencies, and the public over the next two years. In addition, the SSG plans to develop a timeline for future synthesis and integration of NACP results that will be widely discussed with the investigator community at the AGU Fall Meeting, and hopes to work with an set of self-identified Working Groups that emerged from the All Investigators’ Meeting in Colorado Springs in January 2007.

NACP research is organized to focus on four open-ended science questions (1) *diagnosing* the carbon budget of North America and its variations in space and time; (2) *attributing* those variations to mechanistic, well-understood processes; (3) *predicting* future changes in carbon cycling based on improved process understanding and; (4) *supporting decision making* regarding adaptation, mitigation, and resource management through application of improved diagnosis, process characterization, and prediction. Individual NACP investigations aren’t expected to achieve this level of synthesis. Rather, multi-investigator teams will need to organize their efforts to combine and interpret results to answer the overarching science questions.

The scientists and agency program managers agreed to develop a draft plan for interim synthesis products. After a public review and comment process, we hope to work with Working Groups comprised of scientists who have self-organized to synthesize research outcomes. Some specific interim studies might include:

- An analysis of flux tower observations, inventory measurements, remotely sensed data, and model simulations for 2002 and 2003, in comparison to flux estimates from atmospheric inverse models that suggest a 50% difference in net ecosystem exchange for North America between the two years due to interannual variations in climate;
- Intercomparison of results of large interdisciplinary regional studies currently underway in many parts of the US to highlight the different controls of carbon sources and sinks. Regional studies to be compared might include the Midcontinent Intensive, the northeast forests (e.g., COBRA), the Central Plains (ARM), the Rocky Mountains (ACME), and the west coast (e.g., ORCA and the California Carbon Project);
- A model intercomparison of predictive models of changes in the carbon budget of North America in the 21st Century using coupled climate and carbon cycle models;
- An analysis of the effects of biofuel production on the carbon budget of North America combining economic, agricultural, ecological, and atmospheric data.

Additionally, Peter Thornton, Bev Law, and Eileen Hoffman will lead a Task Force charged with drafting a timeline for more comprehensive synthesis of the results of NACP over the next several years including model intercomparisons, model evaluation, top-down/bottom-up intercomparison, process attribution, and prediction. It is crucial that these efforts lead NACP beyond methodological detail and into answers to the science questions posed by the community.

Discussions in the meeting emphasized the importance of several emerging elements of the program that are poised to generate exciting new results in the near future:

- dramatically improved understanding and diagnosis of hydrologic and biogeochemical dynamics of the **coastal oceans and associated river systems** and estuaries in collaboration with the Ocean Carbon and Biogeochemistry program;
- extending the domain of interest from the Arctic to the Tropics in a **Joint NACP with colleagues in Mexico and Canada**. Early results from this collaboration include a west coast coastal ocean survey from Canada to Baja California and the FLUXNET Synthesis program;
- Increased collaboration with **social scientists and stakeholders** enabled by ongoing discussions between the CCIWG program managers and their counterparts in the Human Contributions and Responses Working Group (HCRWG).

We are excited to find that 89 abstracts were submitted to the special session B31: Observing, Modeling, and Predicting Regional Scale Carbon Exchange at the Fall Meeting of the AGU. This will be the biggest regional carbon session to date at AGU, and was by far the largest response of any Biogeoscience session!

We will also convene an **NACP Community Meeting at the Fall AGU** to discuss plans for interim synthesis and a roadmap for the evolving NACP. The next NACP All Investigators Meeting will likely take place in January 2009, but has not been finalized.

Finally, the Science Steering Group discussed a number of administrative issues, including the SSG charter and membership of the group. The terms of several members will be up at the end of 2007 and new SSG members will need to be selected. In addition, Scott Denning's two-year term as Chair will end soon and a new chair will need to be selected.

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