

## THE UNITED STATES CARBON CYCLE SCIENCE PROGRAM: AN INTERAGENCY PARTNERSHIP

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The U.S. Carbon Cycle Science Program sponsors research on the changes, magnitudes, and distributions of carbon sources and sinks; the fluxes between the major terrestrial, oceanic, and atmospheric carbon reservoirs; and the underlying mechanisms involved, including fossil fuel emissions, land use, other human activities, and climate. Ten federal agencies coordinate and support the program activities via the Carbon Cycle Interagency Working Group. This poster describes the mission and vision of the Carbon Cycle Science Program, its research strategy, six scientific questions that define the scope of the program, and some recent activities. Major contributions include those made through the North American Carbon Program and the Ocean Carbon and Climate Change program. An important recent accomplishment for the program is preparation of the *First State of the Carbon Cycle Report: The North American Carbon Budget and Implications for the Global Carbon Cycle* (Climate Change Science Program Synthesis and Assessment Product 2.2). Significant progress is also being made to document the effects of land use change on carbon sources and sinks and in modeling the global carbon cycle. Future plans for the program include new investments in observations and networks and research on attribution, prediction, and mitigation in support of a U.S. Climate Change Science Program-wide priority for 2009 to quantify the magnitude and dynamics of high-latitude ecosystems under abrupt climate change. This enhanced emphasis by the sponsoring agencies on high-latitude ecosystems will provide critical scientific information on past and current carbon dynamics of under-sampled regions of North America, its adjacent oceans, and other parts of the world, such as Antarctica and the Southern Ocean. The Carbon Cycle Science Program also cooperates with international partners through the Joint North American Carbon Program, the Earth System Science Partnership Global Carbon Project, COordination action for a Carbon Observation System (COCOS), and U.S. climate change bilateral agreements.