Bringing Together Users and Developers of Forest Biomass Maps

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Forests store carbon and thus represent important sinks for atmospheric carbon dioxide. Reducing uncertainty in current estimates of the amount of carbon in standing forests will improve precision of estimates of anthropogenic contributions to carbon dioxide in the atmosphere due to deforestation. Although satellite remote sensing has long been an important tool for mapping land cover, until recently aboveground forest biomass estimates have relied mostly on systematic ground sampling of forests.

In alignment with fiscal year 2010 congressional direction, NASA has initiated work toward a carbon monitoring system (CMS) that includes both maps of forest biomass and total carbon flux estimates. A goal of the project is to ensure that the products are useful to a wide community of scientists, managers, and policy makers, as well as to carbon cycle scientists. Understanding the needs and requirements of these data users is helpful not just to the NASA CMS program but also to the entire community working on carbon-related activities.

To that end, this meeting brought together a small group of natural resource managers and policy makers who use information on forests in their work with NASA scientists who are working to create aboveground forest biomass maps. These maps, derived from combining remote sensing and ground plots, aim to be more accurate than current inventory approaches when applied at local and regional scales.

Meeting participants agreed that users of biomass information will look to the CMS effort not only to provide basic data for carbon or biomass measurements but also to provide data to help serve a broad range of goals, such as forest watershed management for water quality, habitat management for biodiversity and ecosystem services, and potential use for developing payments for ecosystem service projects. Participants also reminded the CMS group that potential users include not only public sector agencies and nongovernmental organizations but also the private sector because much forest acreage in the United States is privately held and needs data for forest management.

Additional key outcomes identified by meeting participants include the following: (1) Priority should be given to building into the biomass product ease of use and low costs (including costs of hardware, software, and analysis requirements). (2) CMS products should also be relevant to other biomass measures for forest watershed management, habitat protection for biodiversity, and assessment of markets for ecosystem services. (3) CMS leadership should engage with the Subsidiary Body for Scientific and Technological Advice of the United Nations Framework Convention on Climate Change as they establish measuring, reporting, and verification standards. (4) CMS leadership should continue to keep sister agencies and other organizations informed as CMS develops, particularly via the agencies active in the U.S. Global Change Research Program Carbon Cycle Interagency Working Group (U.S. Geological Survey, U.S. Department of Agriculture, and National Oceanic and Atmospheric Administration) and nongovernmental organizations.

To get involved with CMS, please visit http://carbon.nasa.gov. Additional CMS flux and biomass briefings will be held in the spring of 2012. The times and dates for these meetings will be posted on this Web site.

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