Take a trip across North America and you will see landscapes change as you travel, from urban areas to cropland, deserts to forests. These landscapes encompass the ecosystems that cover the surface of the Earth. They also play an important role in how our planet transforms, absorbs and stores carbon, the chemical basis for all life. But carbon is also released to the atmosphere as a consequence of human activity, becoming a component of greenhouse gases that contribute to climate change. Reducing emissions of these gases is a key goal of the three North American countries in order to reduce the impacts of climate change while transitioning to low-carbon economies.

One way to manage greenhouse gas emissions is to maintain or increase natural carbon storage in our ecosystems by preventing drastic changes in land cover. Another is to increase the forested area through plantations or sustainable management of forests. Since the beginning of the 20th century, deforestation has contributed one-third of total greenhouse gas emissions globally. In Mexico alone, deforestation and forest degradation accounts for 10 percent of greenhouse gas emissions annually. One way to address this is to manage forests in a more sustainable way. Mexico’s improvements in forest management are already reducing its forest-related greenhouse gas emissions by more than 10 million tons per year.

Understanding how carbon storage varies across a landscape and how much change there has been in land cover and land use over time helps scientists and policy makers develop effective, science-based initiatives to reduce greenhouse gas emissions. Because North America’s landscapes span national boundaries, international cooperation to ensure consistent reporting on carbon sources and storage is crucial.

This project will bring together experts who map land cover and land cover change to solidify a North American approach to measure and track those changes over time. The project will use satellite images to develop spatially and temporally consistent information for assessing land cover and land cover change. It will also bring together experts to help report on the amount of carbon stored in ecosystems, and changes associated with that, using publicly available maps and data.
Related CEC Initiatives
This project will contribute to understanding carbon storage in North American grasslands (North American Grasslands: Management Initiatives and Partnerships to Enhance Ecosystem and Community Resilience project). It will also complement the GHG emissions inventory work of the three countries (Improving Comparability of Emissions Data, Methodologies and Inventories in North America project) and will provide data and information for the climate change platform (North American On-line, Interactive Informational Platform on Climate Change project).

Partners
Partners in this project include Natural Resources Canada along with its Canada Centre for Remote Sensing, the United States Forest Service, the United States Geological Survey, and three Mexican organizations: Instituto Nacional de Estadística Geografía e Informatica (INEGI), Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (Conabio), and the Comisión Nacional Forestal (Conafor).

About the CEC
The Commission for Environmental Cooperation (CEC) was established by the governments of Canada, Mexico and the United States through the North American Agreement on Environmental Cooperation, the environmental side agreement to NAFTA. An intergovernmental organization, the CEC is composed of a Council of cabinet-level environmental officials from the three countries, a Joint Public Advisory Committee and a Secretariat that provides operational support for cooperative work between the three countries. The organization brings together citizens and experts from governments, nongovernmental organizations, scientists, researchers and businesses to seek solutions to protect North America’s shared environment while supporting sustainable economic development.

For more information about this project, contact:
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For the complete project descriptions, see: www.cec.org/projects.

Accomplishments
The CEC has already supported the North American Land Cover Monitoring System to complete a land cover (2005) map for North America and develop a methodology to detect changes in land cover. It has also supported the development of the North American Environmental Atlas, an interactive mapping tool to research, analyze and manage environmental issues across North America. The Atlas will house all land cover data and maps.