

Forest Service scientists improve US forest carbon accounting

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Scientists with the USDA Forest Service have developed a new approach to forest carbon accounting that will result in a more accurate picture of how much carbon is sequestered in forests - the planet's greatest terrestrial carbon sink - and the ramifications of changes in land use, wildfire and invasive insects on carbon sequestration.

"The U.S. Forest Carbon Accounting Framework: Stocks and Stock Change, 1990-2016" describes the short history of U.S. carbon accounting and how a new accounting approach will achieve a more accurate carbon picture of where U.S. [forest](#) carbon has been and where it is headed. The report was published by the Forest Service's Northern Research Station as General Technical Report 154 and is available online at <http://www.fia.fs.fed.us/forestcarbon/>

"Forests annually offset almost 15 percent of the Nation's [carbon dioxide emissions](#), reducing the impacts of a changing climate and improving people's lives. Annually monitoring forest carbon is critical to meeting the information needs of forest managers and policy makers both in the U.S. and internationally," said Michael T. Rains, Director of the Northern Research Station and the Forest Products Laboratory. "The U.S. Forest Carbon Accounting Framework will improve the forest carbon inventory that we submit annually to the United Nations Framework Convention on Climate Change, further advancing this Nation's ability to inventory forest carbon."

Carbon science is a relatively new branch of science, and monitoring forest carbon is a process of continuous improvement as data accumulates. Since 1990, approaches to carbon accounting have often depended on reconciling differences between two different forest inventory systems of the U.S., which had a higher probability of creating carbon flux estimates stemming from differences in sample design rather than changes in forest

ecosystems. The new Forest Carbon Accounting Framework enables rapid assimilation of new forest inventory data and associated carbon science so that the U.S. can better monitor progress towards future greenhouse gas reduction commitments, which will be a major topic at the upcoming United Nation's Framework Convention on Climate Change Conference of the Parties in Paris.

"Preliminary results from the new Forest Carbon Accounting Framework demonstrate the ability of the new framework to both backcast the annual inventory system while attributing changes in forest carbon to disturbances and delineating land use change from forests remaining forest," said lead author Christopher Woodall, a research forester with the Northern Research Station's Forest Inventory & Analysis program and the Forest Service's lead scientist in estimating the U.S. forest carbon sink as part of the National Greenhouse Gas Inventory.

Provided by USDA Forest Service

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