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New Data Highlights Role of Forests in Fight Against Climate Change

U.S. forests offset roughly 11 percent of industrial greenhouse gas emissions annually

WASHINGTON, Oct. 15, 2010 - The USDA Forest Service today released new estimates of the total carbon storage of U.S. forests, highlighting the important role America's forests play in the fight against climate change. According to the new data, 41.4 billion metric tons of carbon is currently stored in the nation's forests, and due to both increases in the total area of forest land and increases in the carbon stored per acre, an additional 192 million metric tons of carbon are sequestered each year. The additional carbon sequestered annually offsets roughly 11 percent of the country's industrial greenhouse gas emissions, the equivalent of removing almost 135 million passenger vehicles from the nation's highways.

"America's forests play a critical role in combating climate change, collectively capturing and storing significant amounts of carbon that would otherwise pollute the atmosphere," said Agriculture Secretary Tom Vilsack. "Forest management on all lands can contribute significantly toward cooling a warming planet, and this new information will assist the public and policy makers as we work to address this significant issue."

Among the key findings in this year's report:

On average, the amount of carbon stored in forestland has increased over the past two decades.

The increases since 1990 are partially driven by an increase in the total area of forestland, and partially driven by an increase in the carbon stored per acre.

Forest area can increase by tree planting or encroachment of woody vegetation into non-forest areas, such as abandoned fields.

Carbon stored per acre can increase with increasing stand age, an increase in stand density, or it can decrease due to disturbances, such as fire.

It cannot be determined from these data whether particular management practices are having an effect on carbon storage.

National forests contain an average of 77.8 metric tons of carbon per acre: a greater density than on private (60.7 metric tons of carbon per acre) or other public forest lands (68.3 metric tons of carbon per acre)

National forests contain an average of 28 percent more carbon per forested acre than

private land. This is due to differing management priorities on national forest lands than private lands.

On average, national forests contain 14 percent more carbon per forested acre than other public land such as state forests and national parks.

In the Pacific Northwest, however, the average amount of carbon on other public lands exceeds the average on national forests by 8 percent, which is partially driven by a large concentration of state and federal forests and parks along the wet Pacific coast.

Private forestlands store more total carbon than national forests.

Although the national forests have higher per-acre carbon storage than private lands, private forestlands make up a much larger percentage of the nation's total forest area (63 percent) than national forests (22 percent; other public land is 15 percent of the nation's forest area).

Private forestlands dominate the eastern United States, but national forest lands make up a large proportion of forests in the western part of the country. These figures exclude interior Alaska

The average amount of carbon per acre varies regionally and by type of forest.

The wet temperate conifer forest types growing along the Pacific Coast from northern California to southeast Alaska have a high density of large trees. Not surprisingly, forests in this zone have the highest average carbon per acre—averaging 92.9 metric tons of carbon per acre across all ownerships.

The arid forest types of the desert southwest, such as the pinyon-juniper forest type, typically have fewer trees per acre and the individual trees tend to be small. So forests in this zone have the lowest average carbon per acre—averaging 30.7 metric tons of carbon per acre across all ownerships.

The amount of carbon in the five key carbon pools also varies regionally

Forests in the western United States store a greater proportion of carbon in trees and other non-soil pools

Forests in the Great Lakes region are growing on soils that have large concentrations of peat and organic carbon, so a greater proportion of carbon is stored in the soils

"A strong accounting method serves as the crucial first step in assessing carbon sequestration potential in our nation's forests," said Ann Bartuska, Deputy Undersecretary for Research, Economics, and Education, at USDA. "Today's report reflects a continued emphasis to remain on the cutting edge of forest carbon research and science."

The new estimates are based on fresh 2010 data from annual forest inventories that assess carbon storage state by state across the country's federal, state and private forests. Researchers analyze tree species, ages, forest density, forest area, and numerous other factors in quantifying carbon storage. The Forest Services has provided these estimates to the Environmental Protection Agency for the past 18 years.

The Forest Service manages 193 million acres of forests and grasslands across the country, the equivalent of 146 million football fields worth of forest. An additional 604 million acres are managed primarily by private land owners, with states, local governments, and other federal

agencies managing the remainder.

Additional information about the report and the carbon process can be found at:

www.fs.fed.us/rmrs/forest-carbon/.

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