THE NEW FOREST CARBON ACCOUNTING FRAMEWORK FOR THE UNITED STATES

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Abstract—The forest carbon accounting system used in recent National Greenhouse Gas Inventories (NGHGI) was developed more than a decade ago when the USDA Forest Service, Forest Inventory and Analysis annual inventory system was in its infancy and contemporary questions regarding the terrestrial sink (e.g., attribution) did not exist. The time has come to develop a new framework that can quickly address new questions, enables forest carbon analytics, and uses all the inventory information (e.g., disturbances and land use change) while having the flexibility to engage a wider breadth of stakeholders and partner agencies. The Forest Carbon Accounting Framework (FCAF) is comprised of a forest dynamics module and a land use dynamics module. Together these modules produce data-driven estimates of carbon stocks and stock changes in forest ecosystems that are sensitive to carbon sequestration, forest aging, and disturbance effects as well as carbon stock transfers associated with afforestation and deforestation. The new accounting system was used in the 2016 NGHGI report and research is currently underway to incorporate emerging non-live tree carbon pool data, remotely sensed information, and auxiliary data (e.g., climate data) into the FCAF.

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