



MARYLAND

RESEARCH & DEVELOPMENT, a division of the USDA Forest Service (FS R&D), strives to be the “go to” organization for information and solutions to sustain forests and rangelands and the values they provide people. FS R&D has the flexibility to address today’s issues effectively and to respond to tomorrow’s needs. Among the world’s leaders in forest conservation research, scientists contribute to the stewardship of land, real property and society by providing research results that help create jobs and affordable homes, and improve the health of trees, forests and forest ecosystems. Innovative research products permit the Forest Service and other public and private land managers to monitor and manage forest responses to environmental change, contributing significantly to the sustainability of the nation’s forests and rangelands and improving human health.

FS R&D operates six research stations, the Forest Products Laboratory, and the International Institute of Tropical Forestry located in Puerto Rico. It employs over 500 scientists and hundreds of technical and support personnel at 67 field sites throughout the nation. The FY 2005 President’s Budget includes \$280,654,000 for Forest and Rangeland Research.

The **Northeastern Research Station**, headquartered at Newtown Square, Pennsylvania,

maintains forest and rangeland research and development programs across 13 northeastern states (i.e. CT, DE, MD, MA, NJ, NY, NH, ME, OH, PA, RI, WV, and VT). The FY 2005 President’s Budget for the Northeastern Research Station is \$34,697,000. Currently, there are no research work units located in Maryland. However, research programs that directly benefit Maryland are described below.

FS Research Programs Directly Affecting Maryland

The Forest Service participates in the Baltimore Ecosystem Study, a research program associated with a Long Term Ecological Research site sponsored by the National Science Foundation. Three scientists from the Urban Forestry Unit in Syracuse, NY are permanently stationed in Baltimore, and several other Forest Service scientists conduct research there. In conjunction with the Institute of Ecosystems Studies and scientists from other Institutions and Universities, the Forest Service conducts ecological research within this human-dominated system.

The Forest Service, in cooperation with the State Forester and other state organizations, conducts inventories of Maryland’s forest resources. Data from these inventories are widely used to help make decisions about forest-based economic development and other aspects of the state’s resource management and development.

Since 1991, Maryland has been included as part of the Forest Health Monitoring Program. This is a joint effort by both Research and the State and Private Forestry branches of the Forest Service and the Maryland Department of Agriculture.

FS Regional Research Goals Applicable to Maryland

- **Invasive Species Research:** Methods and technologies are being developed to prevent the introduction and establishment of exotic invasive species. Ways to control, prevent damage from, or eradicate exotic invasive species that are already established, such as gypsy moth, Asian longhorned beetle, hemlock woolly adelgid, and Dutch elm disease are also being developed..
- **Urban Forestry Research:** Research is focused on understanding how urban vegetation and its management significantly influences human health and environmental quality in and around cities. The research seeks to determine which trees and management practices will optimize the net benefits to society from urban vegetation.
- **Global Change Research:** The goal is to determine the role of airborne pollutants and climate change on eastern forests by studying the impacts of chronic nitrogen deposition on forest ecosystems and water quality of mid-Atlantic watersheds.
- **Hardwood Processing Research:** Research will encourage and support increased value-added manufacturing through better use of the abundant eastern hardwoods. Processing research at the Northeastern Station is centered in Princeton, West Virginia.

FY 2005 PROGRAM CHANGES:

- **Watershed Management:** An increase of \$610,000 will focus on global climate change. The Forest Service national initiative for global change research in FY 2005 consists of three linked research thrusts designed to insure continued protection and utilization of U.S. forest resources under an uncertain climate: Improved observations of forest carbon stocks and flows, analysis and prediction of the likely effects of climate change on forest services, and development of management practices to both mitigate and adapt to expected climate change. Research to provide important and required basic knowledge for analysis of future impacts and development of management practices is being relied on.
- **Science-based Technology Transfer.** Forest Service Research and Development will lead an Agency-wide effort to optimize the delivery and practical use of research findings. This is essential to successful implementation of Forest Service priorities, including the President's Healthy Forest Initiative. Opportunities have been identified that leverage current science and technology applications efforts in healthy forests applied science, watershed management, invasive species, hazardous fuels utilization and management, and community preparedness. New funds in FY 2005 will be targeted to leading-edge technical assistance on a competitive basis.

SIGNIFICANT RESEARCH PRODUCTS:

- Conducted forest resources surveys and published statistical tables on the status and trends of the state's forests.
- Research in Baltimore and other urban areas has documented the strong interactions among social, ecological, and hydrological systems in urban and surrounding areas. This research is developing new land-use change models to analyze how new patterns of land development will affect the environment. Other research in Baltimore has shown that urban forest stands have significantly more organic soil carbon than do suburban and rural stands. Carbon in soils also varied by land use type in cities. Changing landscapes from non-urban to urban land use can significantly alter carbon levels in soils, thereby influencing greenhouse gas concentrations.



SOME CLIENTS/COOPERATORS:

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Parks and People Foundation
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