



United States Department of Agriculture

Office of the Secretary
Washington, D.C. 20250

DEC 27 2012

The Honorable James Moran
Ranking Member
Subcommittee on Interior, Environment,
and Related Agencies
Committee on Appropriations
U.S. House and Representatives
1016 Longworth House Office Building
Washington, D.C. 20515

Dear Congressman Moran:

In response to Conference Report 112-331, enclosed is a report of the U.S. Department of Agriculture's Forest Service's collaborative efforts with the Department of Energy in helping reduce the urban heat island effect, as well as reduce the energy demand to cool buildings.

In compliance with section 435 of Public Law 111-88, this information will be posted to <http://www.fs.fed.us/aboutus/budget/congressional-directives.shtml> after 45 days.

A similar letter and copy of the report are being sent to Congressman Michael K. Simpson and Senators Jack Reed and Lisa Murkowski.

Sincerely,

A handwritten signature in blue ink, reading "Thomas J. Vilsack", is positioned above the printed name and title.

Thomas J. Vilsack
Secretary

Enclosure



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DEC 27 2012

The Honorable Lisa Murkowski
Ranking Member
Subcommittee on Interior, Environment,
and Related Agencies
Committee on Appropriations
United States Senate
125 Hart Senate Office Building
Washington, D.C. 20510-4403

Dear Senator Murkowski:

In response to Conference Report 112-331, enclosed is a report of the U.S. Department of Agriculture's Forest Service's collaborative efforts with the Department of Energy in helping reduce the urban heat island effect, as well as reduce the energy demand to cool buildings.

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The Honorable Jack Reed
Chairman
Subcommittee on Interior, Environment,
and Related Agencies
Committee on Appropriations
United States Senate
131 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

In response to Conference Report 112-331, enclosed is a report of the U.S. Department of Agriculture's Forest Service's collaborative efforts with the Department of Energy in helping reduce the urban heat island effect, as well as reduce the energy demand to cool buildings.

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The Honorable Michael K. Simpson
Chairman
Subcommittee on Interior, Environment,
and Related Agencies
Committee on Appropriations
U.S. House of Representatives
2312 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

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Forest Service collaboration with U.S. Department of Energy: Urban heat island effects and cooling*

Urban Natural Resources Stewardship research at the Forest Service: FY 2012 and beyond

U.S. Forest Service Research & Development provides leading science and decision tools that inform urban natural resources stewardship and improve environmental health and community well-being in urban areas. Forest Service urban research helps to create more livable, desirable, and sustainable communities. Urban research units and field stations are located throughout the United States. Key areas of research for FY 2012-13 include: forest inventory and assessments, ecology, ecosystem services valuation, land use change and sustainability, wood utilization and green building, hydrology and green infrastructure applications, and socio-ecological research pertaining to human health and well-being.

As part of its ongoing urban research program, the Forest Service is collaborating with the Department of Energy (DOE) and the Environmental Protection Agency (EPA) to develop, improve, and integrate models to quantify urban forest impacts on heat islands and building energy use. This cross-agency collaboration will produce a joint report that synthesizes the best available science and tools and provides key information for decision-makers.

Forest Service, DOE, and EPA opportunities to collaborate

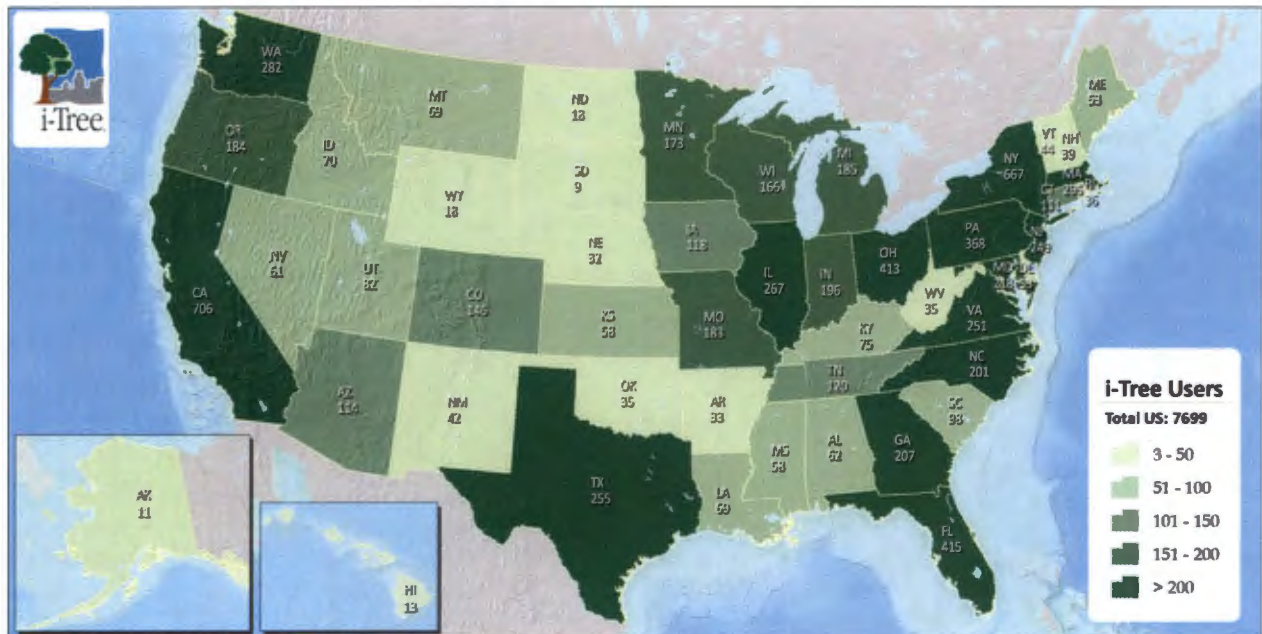
Reducing urban heat islands and altering building energy use are two ecosystem services provided by urban trees and forests that affect the health and well-being of people across the United States. Quantifying how the urban forest influences the environment is critical to informing best management practices of urban trees and forests.

To help assess the effects of urban trees and forests on human health and environmental quality, the Forest Service and various partners (Davey Tree Expert Company, Society of Municipal Arborists, National Arbor Day Foundation, International Society of Arboriculture, Casey Trees, SUNY College of Environmental Science and Forestry, and others) have developed a free tool called **i-Tree** (www.itreetools.org). Since its release in 2006, the i-Tree model has been used in over 100 countries, but its dominant use has been in the United States.

The iTree tool has informed past EPA and DOE research and case studies pertaining to the reduction of urban heat islands. Currently, the i-Tree partnership is working with EPA to develop community assessments and integrate models to better serve the American people. The Forest Service and EPA are working together on ecosystem services and values assessments for trees and forests in cities across the U.S., including: Atlanta GA, Baltimore MD, Baton Rouge LA, Casper WY, Chicago IL, Detroit MI, Durham NC, Gainesville FL, Golden CO, Hartford CT, Jersey City NJ, Kansas City MO, Los Angeles CA, Milwaukee

*A response to Conference Report 112-331, page 1080.

WI, Minneapolis MN, Morgantown WV, New York NY, Orlando FL, Philadelphia PA, Phoenix AZ, Portland ME, Portland OR, San Francisco CA, Scranton PA, Syracuse NY, and Tampa FL.



i-Tree distribution in the United States. Including international users, i-Tree has been distributed to over 10,000 users. Users of web-based tools increase this total to near 20,000.

The Forest Service is expanding its partnership with EPA to include DOE with its expertise on building energy. Initial discussions are focused on ways to bring the science together across the three Federal agencies and on opportunities to develop and improve models and decision tools. DOE's EnergyPlus energy simulation program, for example, can be integrated with the i-Tree model to improve estimation of tree effects on building energy use.

Bringing the science together: A National Academy of Sciences workshop, October 2012

In October, representatives from the Forest Service, DOE, and EPA will attend a Forest Service-sponsored workshop to discuss collaborative efforts on urban heat island research and cooling strategies for buildings. The workshop, entitled *Urban Forestry: Defining an Ecosystem Services Research Agenda*, is a state-of-the science activity planned and organized by the National Academy of Sciences' Board on Atmospheric Sciences and Climate. The workshop will bring the science community together with practitioners to discuss the ecosystem services provided by urban forests in the interest of advancing a common research agenda. Workshop participants will examine current capabilities for quantifying the ecosystem services of trees and canopy cover, including analytical tools and technologies, and identify key research needs in support of urban forestry management and broader sustainability goals. This National Academies workshop will be a first step in bringing the science on urban heat islands and building cooling strategies together across the Forest Service, DOE, and EPA.