

NEWS RELEASE

USDA Forest Service

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Trees in the Piedmont Climate Zone Vastly Improve Quality of Life

Davis, CA, December 30, 2005 – The quality of life in the Piedmont region is substantially better because of the efforts communities are making to plant and maintain a variety of trees, according to a new study by the US Forest Service’s Center for Urban Forest Research, a Pacific Southwest Research Station. The findings are published in the “Piedmont Community Tree Guide: Benefits, Costs, and Strategic Planting.”

Center Director, Dr. Greg McPherson stated “As communities in the Piedmont continue to grow during the next decade, sustaining healthy community forests is critical to the quality of life residents expect. The role of community trees is to improve human health, conserve stormwater runoff and energy, increase community attractiveness and livability, and foster civic pride. As communities strive to balance economic growth with environmental quality and social well-being, trees take on a significant role.”

The Guide will help communities promote energy efficiency through tree planting and stewardship programs that strategically locate trees around homes and businesses. These same trees, along with other trees planted in backyards, along streets, and in

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parks, will provide additional benefits such as improved air quality, stormwater reduction, increased property values, reduced stress, and economic growth.

The report quantifies benefits and costs for typical large-, medium-, and small-stature, deciduous trees (*red maple*, *Southern magnolia*, and *flowering dogwood*), as well as a conifer (*loblolly pine*). The analysis assumed that trees were planted in a residential yard site or a public (street/park) site, a 40-year time frame, and a 55% survival rate. Tree care costs were based on findings from a survey of municipal and commercial arborists. Benefits were calculated using tree growth curves and numerical models that consider regional climate, building characteristics, air pollutant concentrations, and prices. Benefits such as energy savings, stormwater runoff reduction, and air pollutant uptake, were two to five times greater than tree care costs for medium and large trees.

Average annual benefits increased with mature tree size, \$31 to \$36 for a small tree, \$41 to \$53 for a medium shade tree, \$47 to \$60 for a conifer, and \$103 to \$112 for a large tree. Benefits associated with reducing stormwater runoff and increasing property value account for the largest proportion of total benefits. Decreased energy use, lower levels of air pollutants and reduced levels of carbon dioxide in the air are the next most important benefits. Energy conservation benefits varied with tree location as well as size. Trees located opposite west-facing walls provide the greatest net heating and cooling energy savings.

The guide covers the entire Piedmont region which extends in a wide band from southern New Jersey through the heart of Virginia, North and South Carolina, Georgia, Alabama, Mississippi, and Louisiana. Its western and southern extreme is in East

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Texas. The climate is mild in winter, allowing a great number of tree species to thrive.

Summers are hot and humid. Annual precipitation ranges from 40-60 inches.

Study partners include Charlotte City Engineering, Davey Resources Group, USDA Forest Service Southern Region, and the USDA Forest Service Pacific Southwest Research Station.

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