

# USDA Forest Service Pacific Southwest Research Station

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## Urban Ecohydrology Project Explores Impacts from Water Demand for City Trees

*ALBANY, California, November 15, 2009.* Cities and their regions are complex ecological systems dominated by humans. Human activities have greatly modified climate, soil, hydrology, species composition, population dynamics and flows of energy and matter, nowhere more intensely than in cities. At the same time there has been growing recognition of the value of ecosystem services to human well-being, including contributions to economic productivity, to environmental quality, and to processes that are important for human life. Yet in the urban environment, and in highly urbanized regions like the Los Angeles area, what constitutes an ecosystem service is not as simple as it might appear: the magnitude, patterns, and processes of ecosystem services are poorly understood. How ecosystem services will be affected by climate change has yet to be determined.

With a grant from the Urban Long Term Research Areas-Exploratory Awards (ULTRA-Ex), a program administered by National Science Foundation, Dr. Stephanie Pincetl, a social scientist with the USDA Forest Service Pacific Southwest Research Station (PSW) will collaborate with an interdisciplinary team from University of California Los Angeles Institute of the Environment (UCLA IoE) to investigate ecosystem transformation in cities, with a focus on water. The research will examine the human planted urban vegetation and water-use impacts on water supply in a context of climate change. Water comes to Los Angeles primarily from three sources: The Owens Valley, 250 miles away; the Colorado River, 200 miles away; and the State Water Project, 500 miles away.

Dr. Pincetl and her team of hydrologists, geographers, ecologists, biologists and urban planners from five institutions (PSW Center for Urban Forestry, IoE, and University of California campuses at Riverside, Irvine, and Santa Barbara) are conducting biophysical and social science research on the urban ecohydrology of the city of Los Angeles. The research hopes to illustrate the different domestic water uses in Los Angeles, such as how much is used for outdoor landscaping and how much is used inside residences. This information could assist policymakers in establishing water pricing, understanding the impacts of different vegetation types on water consumption, and developing policies to reflect priorities.

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