

OPERATION TREE CANOPY



Get Under Cover!

Help scientists study the benefits of urban trees in Riverside.

Citizen scientists (volunteers who collect research data) are needed to collect important information about urban trees in Riverside area locations. Key to the success of the mission is ground verification to help scientists understand which tree species are actually having positive localized impacts. Volunteers will contribute real-time data to a larger spatial data set collected concurrently by NASA for UC Riverside researchers, a project of Earthwatch Institute.

When?

Leader Training: March 30, 2015 1-5 PM*.

Volunteer Events: Four quarterly surveys will be conducted, the first being late April-early May. Field collections are conducted within three days of the NASA fly over so ground-collected data will correlate to high altitude aerial photos.

Where?

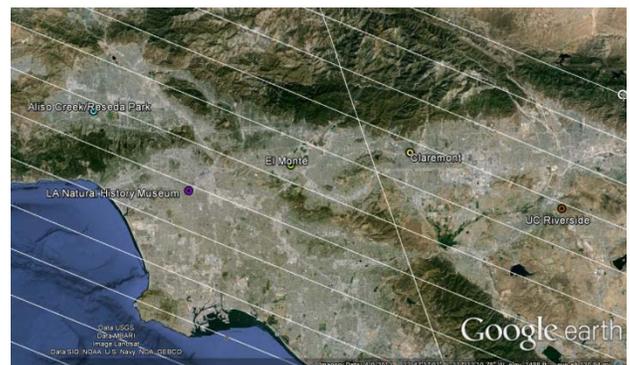
Riverside neighborhood park settings

How?

Volunteers will collect data about tree condition, size, and location from designated plots. Leaves will be collected and delivered to UC Riverside within 24 hours of sampling.

Why?

The mission of this project is to gain a better understanding of the cooling impact of well-planned urban green spaces. From the concurrent sets of data, scientists will develop models; identify interacting relationships between climate, land cover, surface energy and balance variables including temperature, evaporation, and demographic patterns across the dramatic coastal to desert climate gradient.



***To volunteer to be a Team Leader, please contact Diana Ruiz at ruiz@rcrcd.org or (909) 238-8338. You will be sent directions to the “Train the Trainer” class on March 30.**

To volunteer to sample at a Riverside location, please contact Erin Snyder at snyder@rcrcd.org , (951) 683-7691, ext 207.

Research Objectives

Studies suggest that the cooling effect of urban trees may be linked to growth rates and water use efficiency. Not all tree species use the same strategy for growing and dealing with water stress. Current research suggests that tree species with high leaf size-to-weight ratios and high nitrogen in leaves grow faster.

Consequently, if we want to manage vegetation for human benefits, it's essential to understand how different tree species respond to different urban environments and climatic conditions.



Citizen Scientists will help answer these questions:

- Does variation in urban leaf traits reflect variation among microclimates (i.e. localized “hot” or “cool” spots)?
- What kinds of relationships exist between urban leaf traits and potential cooling benefits? For example, do trees with higher leaf size-to-weight ratios provide more cooling benefit?
- What is the relationship between nitrogen content in leaves as detected by airborne sensor data collected by NASA, and ACTUAL nitrogen content found in leaves collected from trees, when sampled across a broad spatial and microclimatic extent? Validation of these models is extremely helpful in predicting the performance (i.e. cooling effect and growth) of trees in different environments.
- How effectively do different tree species and various configurations of trees cool the parks where they grow, as well as the neighborhoods those parks border?

For More Information

www.mytreetracker.org

Gitte Venicx, Earthwatch Institute, Urban Tree Program Manager, gvenicx@earthwatch.org

Sheri Shiflett, University of California Riverside, Post-Doctoral Fellow, shiflettsa@gmail.com

James Bryant, Museum Department, Riverside, CA (Natural History), jbryant@riversideca.gov

