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MEASURING THE URBAN FOREST WITH i-TREE

Submitted by Erin Givens, Consulting Urban Forester - Legacy Arborist Services



Whether you're a homeowner interested in learning what energy benefits and cost savings your nearby tree is providing or an urban forester looking at the canopy coverage of your city, i-Tree has

six applications that can assist you. These include: i-Tree Eco, i-Tree Streets, i-Tree Vue, i-Tree Canopy, i-Tree Design (beta), and i-Tree Hydro (beta).

Do you want to assess the trees at your favorite park or the urban forest as a whole? **i-Tree Eco** uses field data from complete inventories or randomly located plots throughout the community to quantify the structure of the urban forest (e.g., species composition, number of trees, tree health, and density) and the environmental benefits (e.g., total carbon stored and net carbon sequestered by the urban forest). These values can be used to not only make effective urban forest management decisions, but to develop or refine existing policies and set priorities.

Want to determine the value of the publiclyowned street trees? **i-Tree Streets** is for urban forest managers who want to input their street tree inventory data and get dollar values of annual environmental and aesthetic benefits (*e.g.*, energy conservation, CO2 reduction, stormwater control, and property value increase). i-Tree Streets allows managers to look at the diversity, canopy cover, planting, pruning, and removal needs of their street trees. It also allows users to evaluate whether the benefits of the street trees outweigh their management costs.

Perhaps you're curious as to the canopy coverage of your city and want to determine whether policies and ordinances are preventing the loss of the green infrastructure. i-Tree Vue and i-Tree Canopy provide canopy coverage information that can assist with your analysis. i-Tree Vue allows users to assess their community's land cover, including tree canopy, and some of the ecosystem services provided by the urban forest. i-Tree Canopy allows users to estimate tree and other cover classes within their city. Uniquely, i-Tree Vue provides users with a snapshot of the ecosystem services provided by the urban tree canopy and i-Tree Canopy allows the user to define the cover classes.

Alternatively, are you interested in learning the environmental benefits provided by an individual tree? With four simple inputs (location, species, tree size, and condition), users can utilize **i-Tree Design** to gain insight into the greenhouse gas mitigation, air quality improvements, stormwater interception, and the tree's effects on the building energy usage. This can all be done in less than five minutes.

Ever wonder how trees and impervious cover influence your local hydrology and/ or watershed? **i-Tree Hydro** simulates the effects of changes in tree and impervious cover and allows users to quantify the impacts of these changes on local hydrology. This application is designed to improve urban forest management by illustrating which management practices improve water quality and reduce the risk of flooding.

As you can see, i-Tree offers numerous applications to assist with managing the urban forest. These applications are free and available for download from itreetools.org. Coming soon is i-Tree version 5.0. Version 5 will include web-based data collection for i-Tree Eco and Streets, growth simulation for individual or populations of trees, the ability to survey historical Google images in i-Tree Canopy to assess past canopy coverage, and much more. Release of Version 5 is slated within the next several months.

If you're interested in learning more about i-Tree, then mark your calendar for the Council's second annual Urban Forestry Institute (UFI) being held in Tampa at USF's Patel Center for Global Solutions on March 14-15, 2013. Dr. David Nowak, one of the lead developers of i-Tree, will be speaking at the conference. Visit http://fufc.org/urban_forestry_institute.html for more details to come.

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