



Technical Notes

Periodic Updates on Current Technology
From Urban Forestry South

Date: February 19, 2010

i-Tree Application: Vue

Subject: Canopy cover estimation

Executive Summary: i-Tree Vue tends to underestimate urban tree canopy cover.

Brief Report: i-Tree Vue is a new tool in the i-Tree suite that allows the user to assess urban tree canopy (UTC) and some of the ecosystem services that it provides using freely available national land cover data maps on-line. The on-line satellite imagery was compiled in 2001 and has a resolution of 30 m². Because the resolution is so coarse, tree canopy estimation tends to be underestimated.

Recent urban tree canopy assessment projects in Virginia using 1 m² resolution satellite imagery from 2007-2008 were compared with i-Tree Vue estimations (See table below). In each of the projects, canopy cover was underestimated by over 50%. A Northeastern Area study¹ suggested similar caution when using 30 m² NLCD for UTC studies.

While i-Tree Vue is a good tool for communities to use as a quick UTC assessment or as a pre i-Tree Eco tool, the environmental services and canopy cover results generated from a Vue project should be treated as an estimate for preliminary planning and community discussions. For information about the limitations of i-Tree Vue, read the i-Tree Vue User's Manual (pp 9-12).

City	%UTC '07-'08 ^{*2}	%UTC VUE ^{#3}	% Difference
Leesburg, VA	27	11	59
Winchester, VA	27	9	67
Lexington, VA	44	17	61

¹ Troy, A.R., O'Neil-Dunne, J.P.M., and Grove, J.M., 2006, Geospatial Assessment in Support of Urban & Community Forestry Programs, Univ. of Vermont, Cooperative Agreement #06-CA-112244225-338.

² Urban Tree Canopy estimation using high resolution (<1 m) imagery acquired from either Quickbird satellite imagery (October, 2007) or National Agriculture Imagery Program (NAIP) in 2008.

³ Urban Tree Canopy estimation using 30 m² National Land Cover Database (NLCD) satellite imagery from 2001.



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