i-Tree International

Tools for Assessing and Managing Community Trees and Forests www.itreetools.org

What is i-Tree?

i-Tree is a free software suite developed by the USDA Forest Service and partners that assesses tree and forest structure, ecosystem services, and value of a community's tree resource. The programs are intended to engage land managers, citizens and youth from around the world to apply science-based tools to better understand the services and values provided by their local forest resource.

Who is using i-Tree and how?

Governments - improving urban forest management, tree preservation & community resilience

NGOs - monitoring and improving their tree program effectiveness to increase funding opportunities

Educators & students – researching city or campus tree ecosystem services and values

Consultants - developing urban forest management and climate action plans for clients

Companies - quantifying the natural capital value of their grounds for corporate sustainability initiatives.

Innovators - creating interactive tree maps, educational programs and interpretive tree walks

City of Adelaide, SA, interpretive tree trail sign using i-Tree data. Photo credit - Jenni Garden

How does i-Tree work?

i-Tree's basic premise starts with assessing structure which is the physical characteristics of the tree and forest resource based on direct measurements or statistical estimates. Structural data is used with local environmental data including hourly weather and pollutant data to estimate functions (e.g. gas exchanges). Functions are converted into services such as pollution removal, and then monetized.

Structure	Function	Value	Management
Number of trees *Species composition* *Tree size and health* *Distribution* *Canopy cover* *Leaf area & biomass*	*Air pollution removal* *CO_2 sequestration* *carbon storage* *Stormwater & hydrology* *Ultraviolet (UV) mitigation* *Energy effects - limited for international use*	*Monetary values are applied to ecosystem services based on economic models & available literature values.*	*Data-driven strategic management of tree resources to optimize benefits based on desired objectives & community priorities*

Where can I get i-Tree & learn more?

Visit www.itreetools.org to learn more & download the free software.

Explore online resources, project examples, and video learning segments.

Email us at info@itreetools.org or visit the Forum FAQs forums.itreetools.org

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Which i-Tree tools can be used internationally?

i-Tree Canopy can be used in most global cites where online Google Maps imagery is available.

i-Tree Eco is functional throughout several countries including Australia, Mexico, Canada, the UK, Colombia and most of Europe. Many global cities are also available in i-Tree Eco in countries not yet completely integrated.

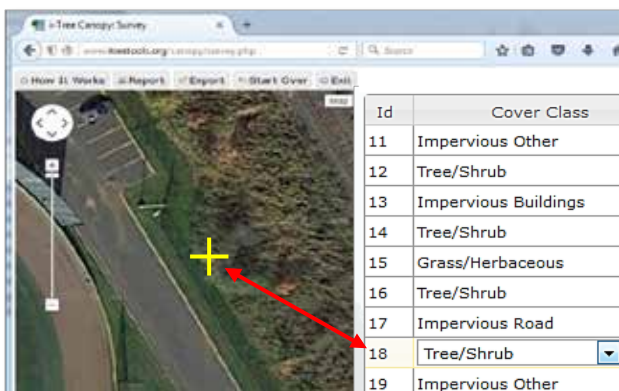*i-Tree Database* is a web portal used to submit data needed for cities to be integrated into i-Tree.

i-Tree user map based on software downloads and tool use

i-Tree Canopy

Estimates tree & other cover types for your project area in a few hours

- A free web tool at canopy.itreetools.org
- Simple, random point surveying of a project area to estimate tree and other cover types
- Estimate base line canopy cover
- Monitor canopy change over time
- Compare canopy & impervious cover between cities or management units
- Assist with identifying priority areas for tree planting or preservation efforts

i-Tree Eco

Estimates structural characteristics, ecosystem services and value for community trees & forests

- i-Tree's most comprehensive and continuously improved model www.itreetools.org/tools/i-tree-eco
- Field based tool installed on Windows PCs
- Flexible data collection and project options
- Import system for analysis of existing street or park tree inventory data
- Scalable: single tree or entire city analyses
- Includes mobile field data collection system

Canopy random point surveying using a Google Map interface

Eco mobile data collection - Spanish language version. Photo credit Felix Ayala

i-Tree Database

An online system for i-Tree users to submit new data for i-Tree model integration: database.itreetools.org

- Submit new tree species to be integrated into i-Tree's species database
- Submit new city location information, hourly pollutant & precipitation data using templates
- Check to see which global cities are available in Eco: database.itreetools.org/#/viableLocations