

# Tools for assessing and managing community trees and forests

## What is i-Tree 2019?

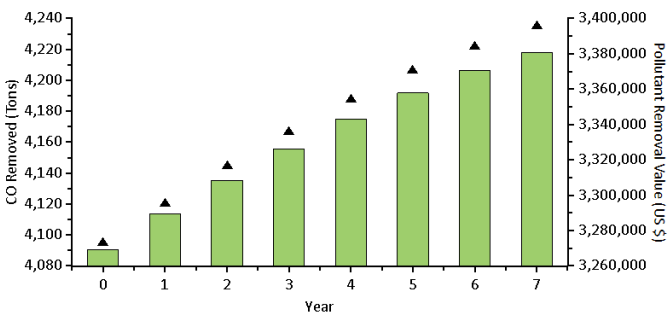
The i-Tree suite of software tools was developed by the USDA Forest Service and their cooperators to help users assess and manage the structure, function, and value of trees and forests regardless of community size or technical capacity. i-Tree supports effective natural resource management by providing information for advocacy, planning, informed decision-making, and standardization for monitoring. It promotes a better understanding of the ecosystem services provided by trees and forests, and helps justify investment in stewardship, operations, and maintenance.



**Since i-Tree was introduced in 2006, thousands of communities have been able to determine tree and forest benefits, values, and management needs.**

## i-Tree provides the tools to help you promote strategic, cost-effective forest management:

- Determine and understand tree and forest benefits, values and management costs.
- Plan and manage to optimize tree and forest environmental services to benefit people.
- Integrate trees and forests in green infrastructure strategies and resilience planning.
- Identify potential pests, diseases and threats.



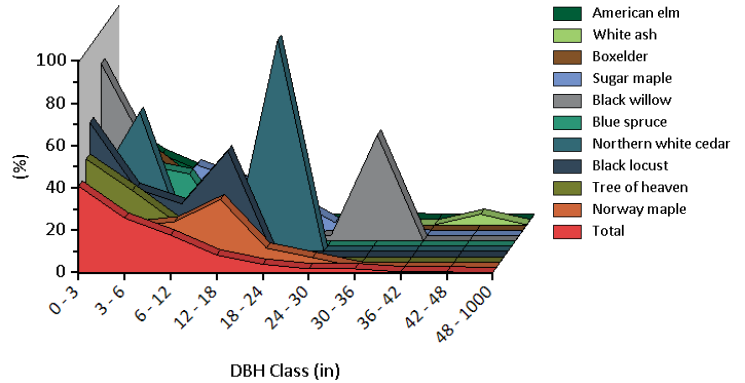
Forecasted carbon monoxide (CO) air pollutant removal over 7 years

## Based on Scientific Research

The U.S. Forest Service, Davey Tree Expert Company, Arbor Day Foundation, Society of Municipal Arborists, International Society of Arboriculture, Casey Trees and State University of New York, College of Environmental Science and Forestry (SUNY-ESF) have established a cooperative partnership to make i-Tree freely available, supported and continuously refined.

## What are the benefits of an i-Tree Analysis?

- Better understanding of tree and forest structure such as canopy cover, species importance rankings, available planting space, species composition and dbh distribution.



i-Tree Eco Species Distribution by DBH class report

- Assessment of management concerns such as tree health, diversity, infrastructure conflicts and potential impacts of pests.
- Estimate tree and forest ecosystem services and monetary values of annual environmental benefits such as
  - ◇ Air quality improvement and associated public health impacts
  - ◇ Carbon dioxide reduction
  - ◇ Storm water control
  - ◇ Tree-building related energy effects
- Summary reports that can be used to brief elected officials, managers, advisory groups and others to promote well-informed decision making, and justify future program funding.



# Tools for assessing and managing community trees and forests

## i-Tree 2019 Online Applications

**Landscape** is an online tool that allows you to explore geospatial data for an area of interest. It makes use of datasets, such as land cover and U.S. Census data, to provide local information, tree benefits, and planting prioritization by designated management boundaries.

**Design** is an online tool for assessing how tree species, size, and location of existing trees or proposed plantings affect benefits including energy use in nearby structures. Design forecasts and summarizes benefits over time.

**Canopy** is an online survey tool which produces a statistical estimate of tree and other land cover types using Google Maps. Canopy also estimates air pollution reduction, and atmospheric carbon reduction based on the amount of tree cover in your study area, and can be used to assess canopy change. *\*Int'l*

**MyTree** is an online application which calculates individual tree benefits on a smartphone or tablet.

**Species** is an online tool to aid tree species selection based on desired environmental services and geographic area.

**Database** is an online system for international users to submit new location, pollution, precipitation data, and new species for integration into the Eco model. *\*Int'l*

**Planting** is an online tool for estimating the long-term environmental benefits of tree planting projects.

## i-Tree 2019 Desktop Applications

**Eco v6** uses field data from complete inventories or sampled plots with local hourly air pollution and meteorological data to quantify forest structure, environmental effects, and values. *\*Int'l*

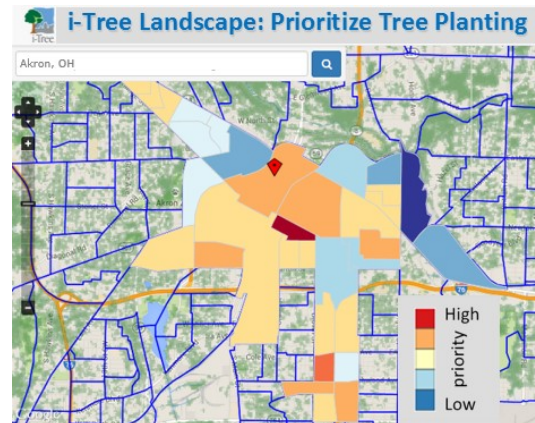
**Hydro** simulates the effects of changes in tree and impervious cover on hourly stream flow and water quality. Hydro has a user-friendly interface, pre-calculated topographic indexes that eliminate the need for GIS expertise, and applicability for non-watershed areas.

**Streets** estimates structure and ecosystem services for street trees using a sample or complete inventory option.

*\*Int'l - indicates tools adaptable for international use*

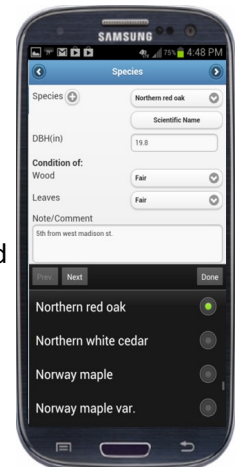
## How do I use i-Tree?

- i-Tree online tools can be accessed and used directly on the i-Tree website. Desktop applications require installing software and offer instruction manuals and learning resources to plan and complete a project.



*i-Tree Landscape priority planting based on user criteria by census block.*

- i-Tree is scalable and data can be collected by foresters, arborists, consultants, volunteers and students, depending on your resources.
- Complete or sample inventory data can be collected using mobile devices or paper tally sheets.
- New or existing inventories can be used to run the software and conduct analyses.
- Online resources and technical assistance are available to help users successfully use i-Tree.



*Mobile data collection system for field data collection.*

## How can I get more information about i-Tree?

- Visit the i-Tree website at [www.itreetools.org](http://www.itreetools.org)
- Register online and download the free software
- Contact i-Tree support staff at [info@itreetools.org](mailto:info@itreetools.org)

