

Spring 2023 – i-Tree Open Academy

Session 2: Online with MyTree, i-Tree Design, and i-Tree Planting



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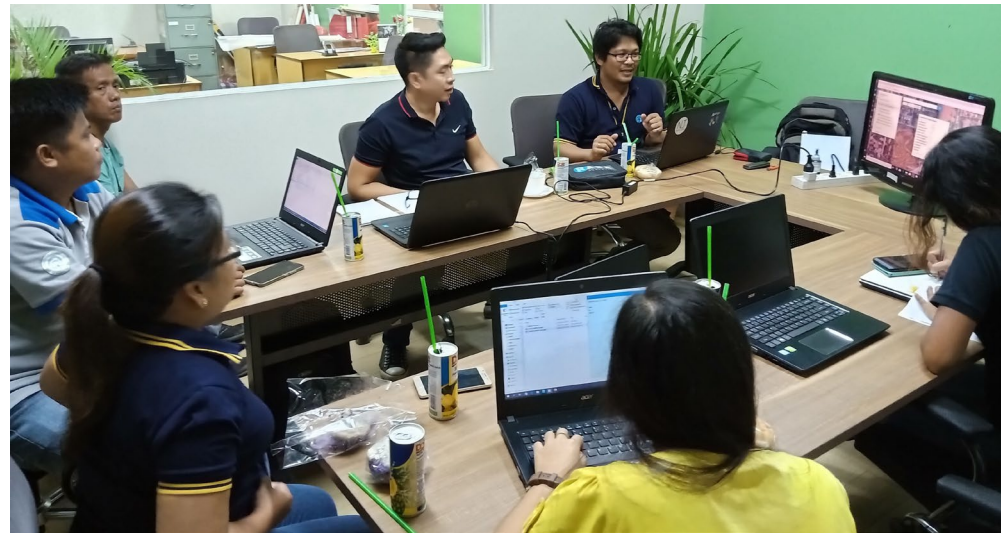
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Eric Greenfield

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Plan for today

1. Introduce the online tree tools
2. MyTree Demo
3. i-Tree Planting Demo
4. i-Tree Design Demo
5. Comparing these online tools



The 2023 i-Tree Suite of Tools



Core individual tree tools



Core canopy tools



Utilities



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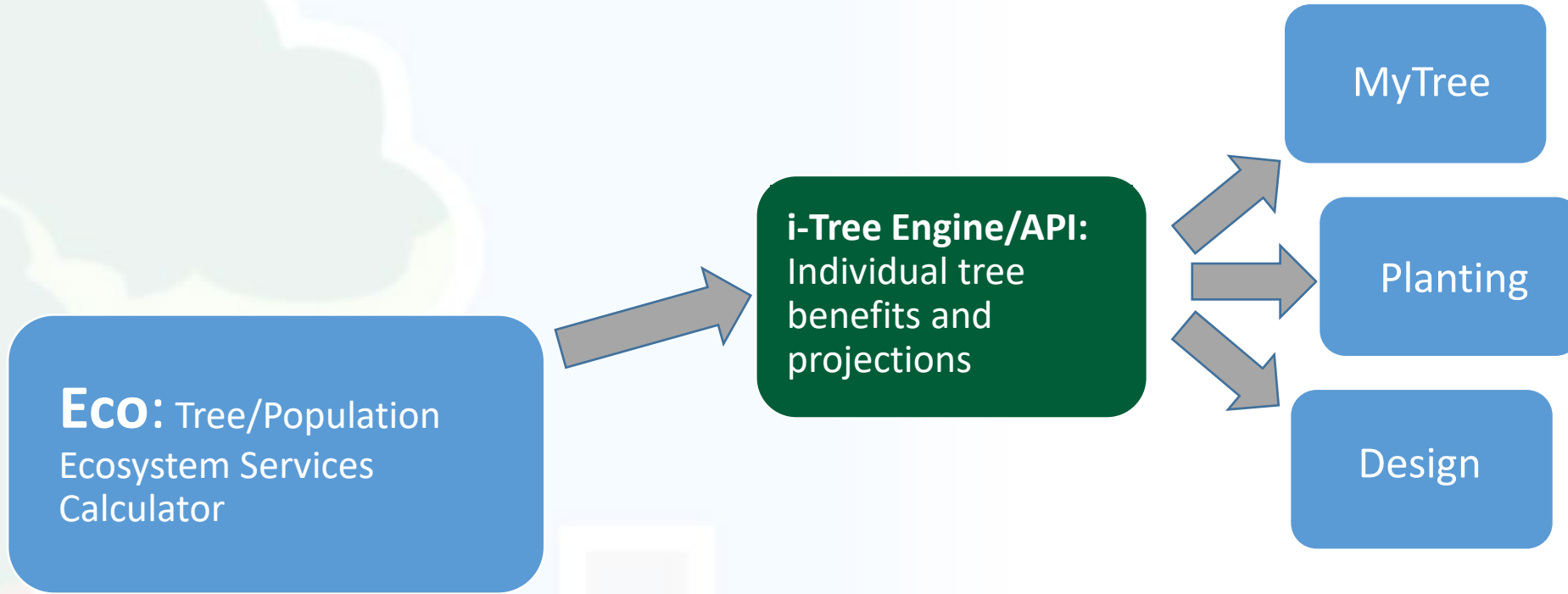
* i-Tree Tools that can be used internationally



i-Tree is a
Cooperative
Initiative
among these
partners



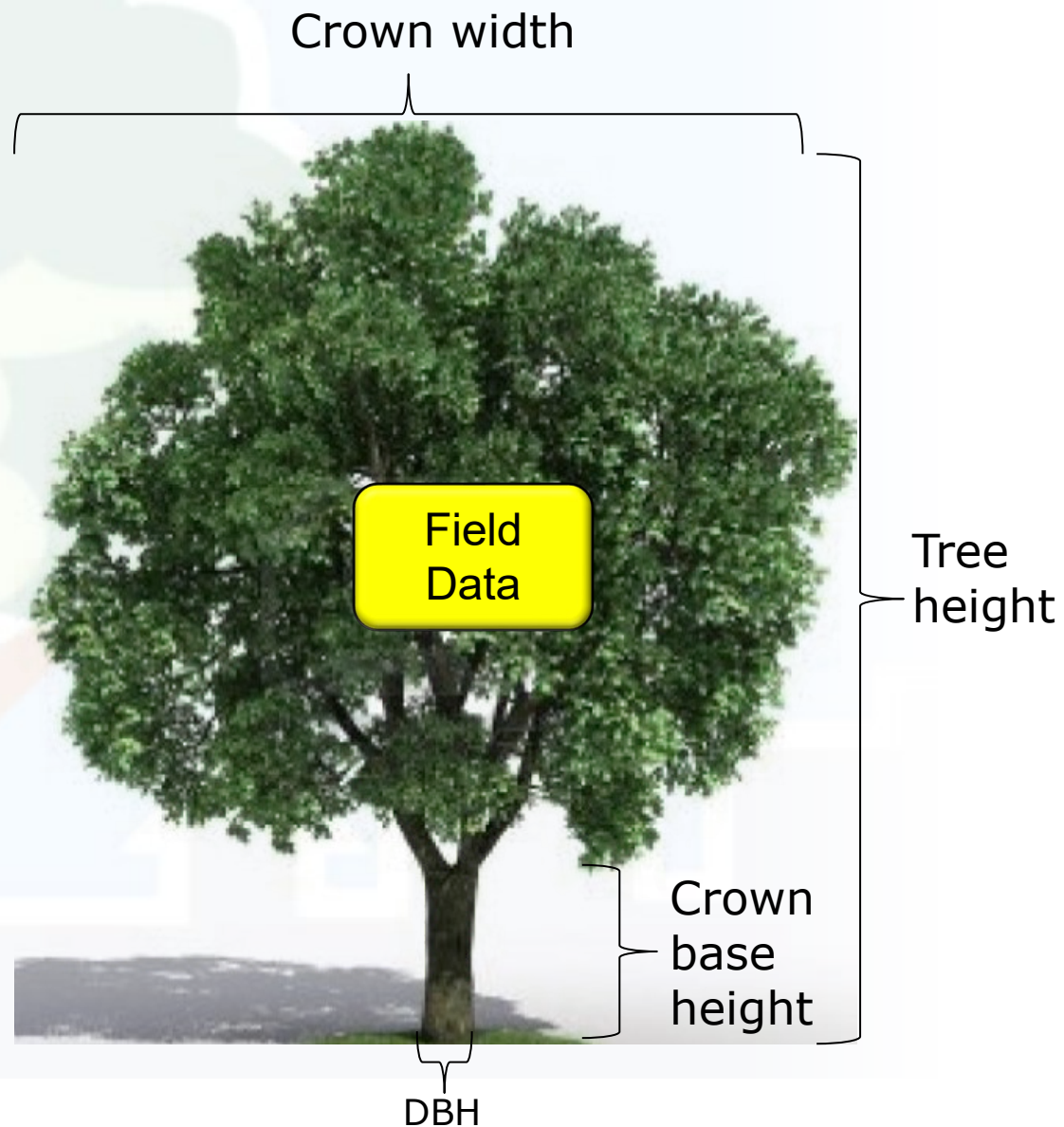
i-Tree Tool Relationships



i-Tree is a Cooperative Initiative among these partners



i-Tree model basics: data → tree benefits



Key field variables

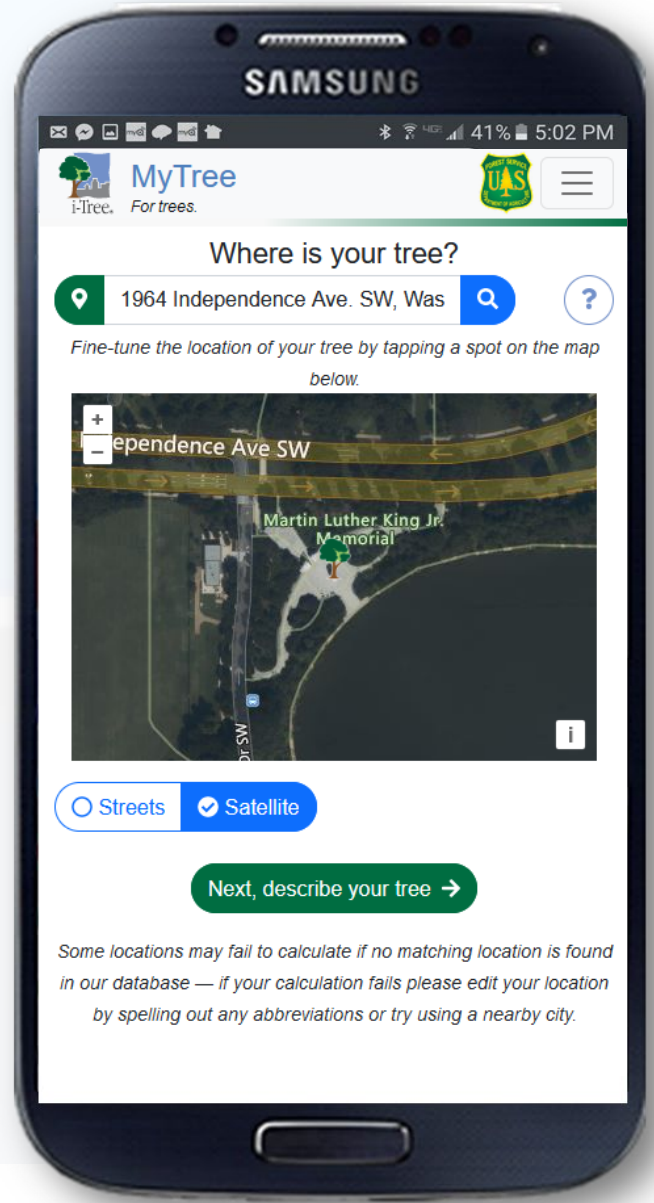
- DBH
- Species
- Crown measurements
- Tree health
- Building interactions
- Light availability

Simple tools require simplifying assumptions

- Crown assumptions
- Less specific inputs
 - e.g. Health categories
- Fewer outputs
- Species list excludes shrubs
- Mortality assumptions



Let's give MyTree a try



MyTree: Common uses

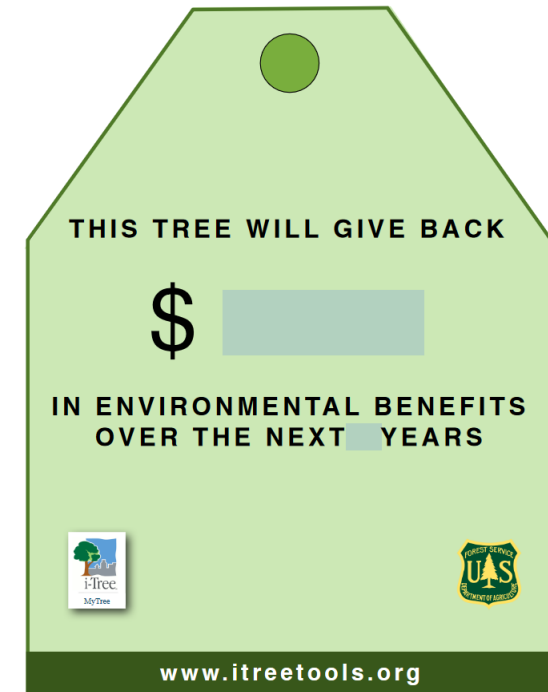
- Education
- Engagement
- Connect people to the benefits of the trees around them



[Photo Source: L. Paqueo 2022]



[Photo Source: J. Garden 2017]



MyTree: Strengths and limitations

Strengths

- Simple to use
- Created for mobile devices
- Easy to grasp outputs
- Quick
- 20 year projection

Limitations

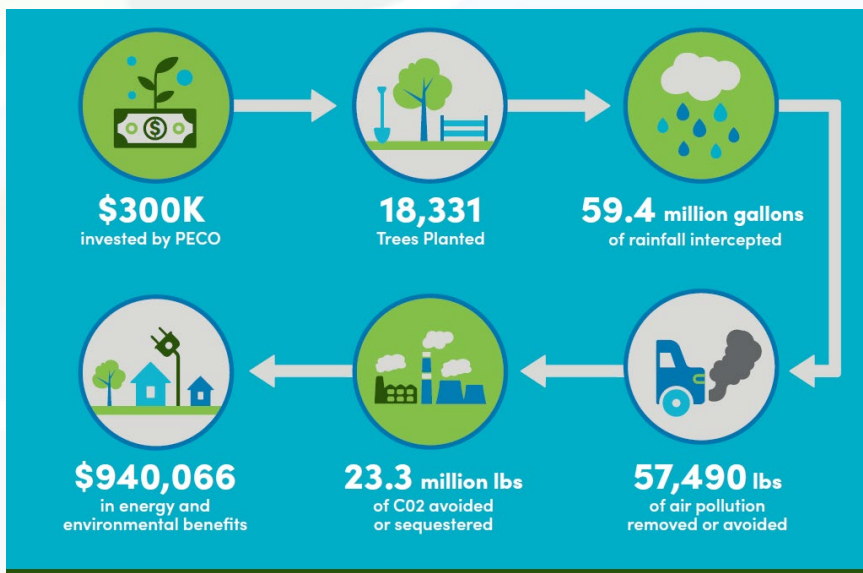
- No ability to save projects
- Not great for more than 10 trees
- No internet = no MyTree

Upcoming Features

- Mapping collected trees (in beta, trilliontrees.itreetools.org)
- Support for group projects

i-Tree Planting: Common uses

- Tracking planting projects
- LEED Certification of landscapes
- Carbon accounting
- Funding requests/reporting
- Sustainability impact reporting



Sustainability

A single Giving Grove orchard, with an average of 15 trees, has the ability to sequester approximately **2.7 tons of carbon** over 25 years.

Orchard trees and shrubs remove carbon dioxide from the atmosphere through their natural process of photosynthesis. Orchard trees store carbon in their biomass including: leaves, trunk, branches, and roots. Carbon is stored in soil organic matter as a result of fallen leaves and branches.

i-Tree Planting: Strengths and limitations

Strengths

- Easily project thousands of trees
- Flexible projection length
- Editable parameters

Limitations

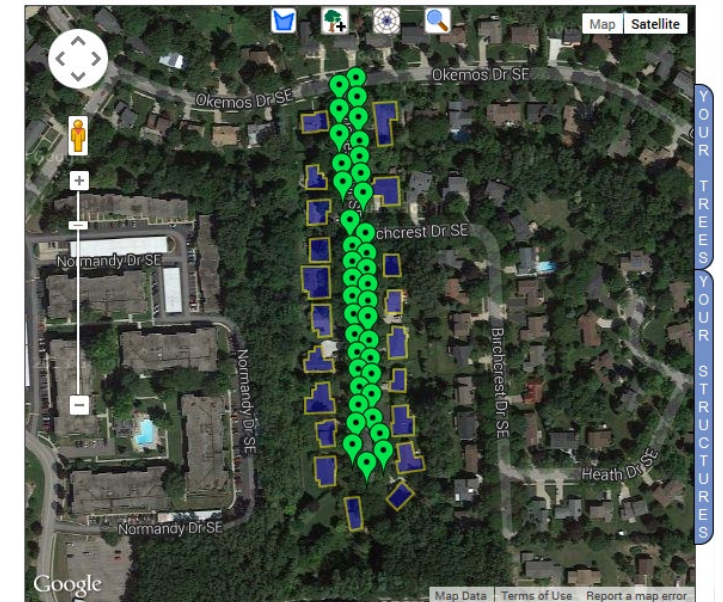
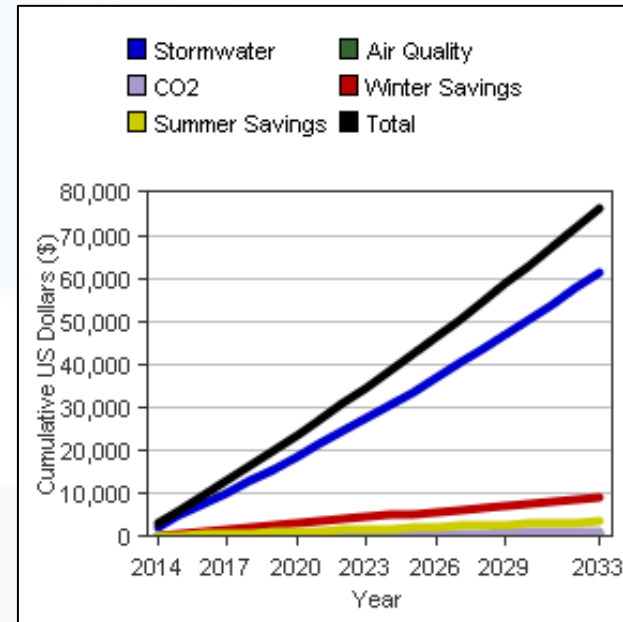
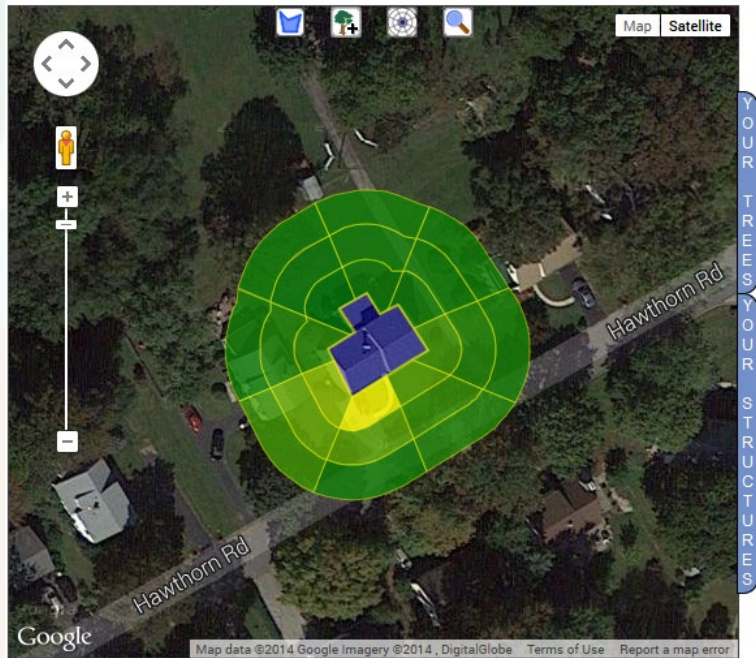
- Regionalized planting list
- Simplifies mortality schemes

Upcoming Features

- Ability to import
- Expanded species list

i-Tree Design: Common uses

- Connecting with property owners
- Engaging visuals
- Landscape planning
- Scenario evaluation



Preferred planting zones to maximize tree benefits are shown around the structure.

i-Tree Design: Strengths and limitations

Strengths

- Great visuals (maps, benefits web, graphs)
- Shareable report
- Interactive evaluation

Limitations

- Limited to a handful of buildings and few dozen trees
- Helps to have a mouse for drawing

Upcoming Features

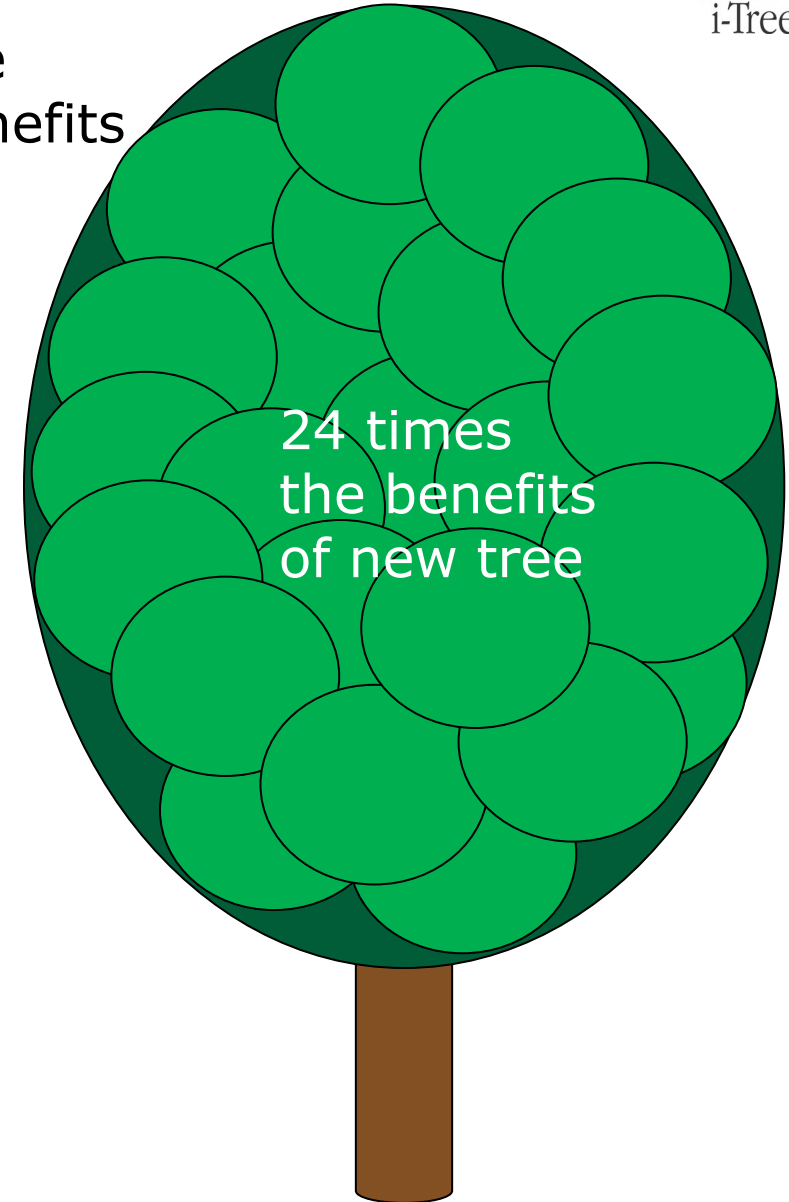
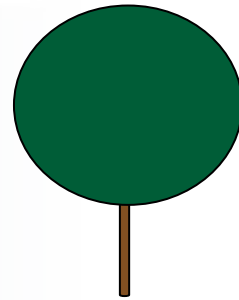
- Modernization
- Expanded capacity

Flexible applications

- Compare species
- Evaluate the impact of maintenance (change condition or mortality)
- Estimate time to replacement for removed trees
- Evaluate policy decisions

18 inch red maple
\$40.35 / yr in benefits

2 inch red maple
\$1.64 / yr in benefits

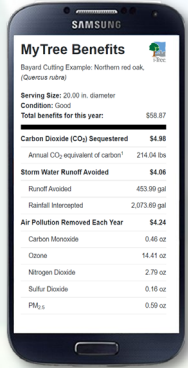


24 times
the benefits
of new tree

Tool Characteristics



MyTree



- Great for groups
- Quickest and easiest
- Simple to use on a mobile device
- Education settings
- Good for up to 5-10 trees per person



Planting

Planting Report

NOTE: Printing is recommended as the "landscape" orientation.

Project Report - i-Tree Planting Calculator

Location: Norristown, Pennsylvania 19401
Electricity Emissions Factor: 517.24 kilograms CO2 equivalent/MW
Fuel Emissions Factor: 84.69 kilograms CO2 equivalent/MMBtu
Lifetime: 20 years
Tree Mortality: 50%

All amounts in the tables are for the full lifetime of the project.

Units

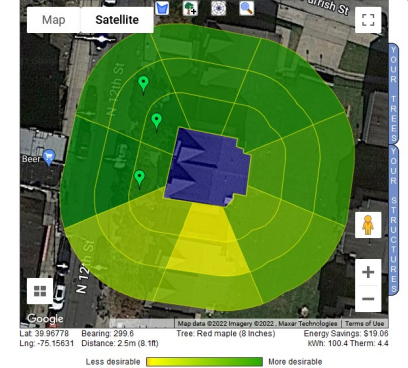
English (pounds & tons; kWh & MMBtu; gallons) Metric

Copy Export CO₂ Energy Eco Air Pollution

- Perfect for planting projects
- Easily project hundreds of trees
- Ideal for carbon accounting
- Funding requests/reporting
- Use if you have many trees of each species
- More convenient on a desktop/laptop



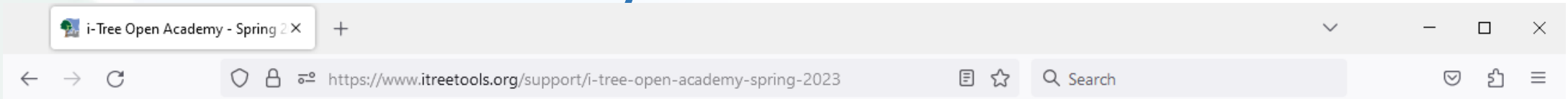
Design



- Great visuals
- Connect people to their own trees
- Multiple buildings and a few dozen trees
- Nice to have a mouse for drawing



Give the homework a try



How:

All sessions will be streamed live via this [Microsoft Teams link](#). Ensure you have the up-to-date session information by [filling out the participant form](#). All sessions will be recorded and posted to this page as well as the [i-Tree YouTube channel](#), so that you can catch up on anything you missed. There are no requirements for this course, and there will be self-directed exercises that you can use to gain experience using the tools. You are encouraged to submit any questions related to the course via info@itreetools.org, and there will be opportunities to ask questions during certain live sessions and office hours.

When:

Each session is one hour long and offered at 1:00 pm (Eastern US time).

- **March 14th – Introduction to i-Tree.** Understand the basic science of i-Tree and the USFS research behind it. Explore the relationships between the i-Tree tools and the data they provide. Start to consider which i-Tree tools will be best for the application you have in mind.
 - [Video recording](#)
 - [Presenter slides](#)
 - [Self-directed exercise - Session 1](#)
 - [Q&A](#)
- **March 21st – Online with MyTree, i-Tree Design, and i-Tree Planting.** Explore the easiest to use online i-Tree tools for individual trees. Get a better sense of their advantages and most common uses.
 - [Video recording \(coming soon\)](#)
 - [Self-directed exercise - Session 2](#)

<https://www.itreetools.org/support/i-tree-open-academy-spring-2023>