i-Tree Open Academy

2025

Session 2: Tools for Individual Trees

Online with MyTree, i-Tree Design, and i-Tree Planting

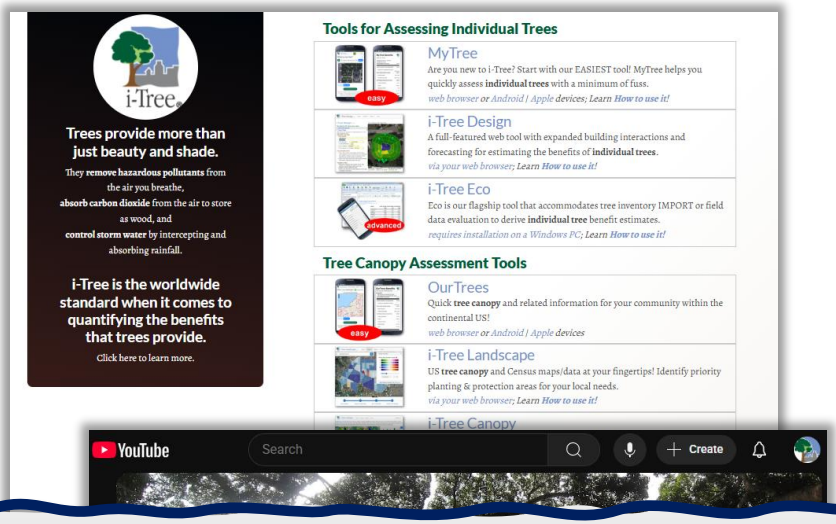
May 14, 2025
1:00pm ET

i-Tree is a Cooperative Initiative among these partners

i-Tree · USFS · DAVEY · Arbor Day Foundation · UCFS Urban & Community Forestry Society · ISA · Casey Trees · ESF State University of New York College of Environmental Science and Forestry · National Association of State Foresters · American Forests

Accessing the Science of Tree Benefits

- *www.itreetools.org*
- Session 1 now online!
- Exercises available
- Use Chat for questions
- Q&A at the end with i-Tree Team and fellow i-Tree users
- CEUs/CFEs available for live sessions after Academy ends



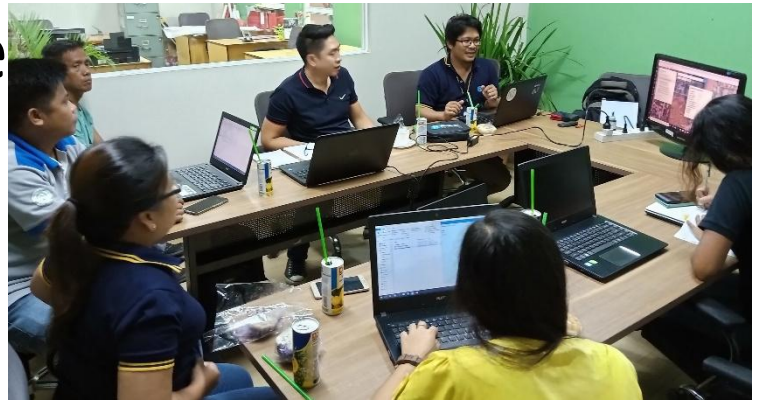
Reminders for today:

- Please try to refrain from using tools as they are demonstrated
- Used i-Tree tools before? LET US KNOW!!

Email us anytime: ***info@itreetools.org***

Plan for today

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



The 2023 i-Tree Suite of Tools

i-Tree* Eco

Core individual tree tools

i-Tree* MyTree

i-Tree* Planting

i-Tree* Design

Core canopy tools

i-Tree OurTrees

i-Tree* Canopy

i-Tree Landscape

Utilities

i-Tree Count

i-Tree* Database

i-Tree* Species

i-Tree* Research Suite

i-Tree* Tree Map

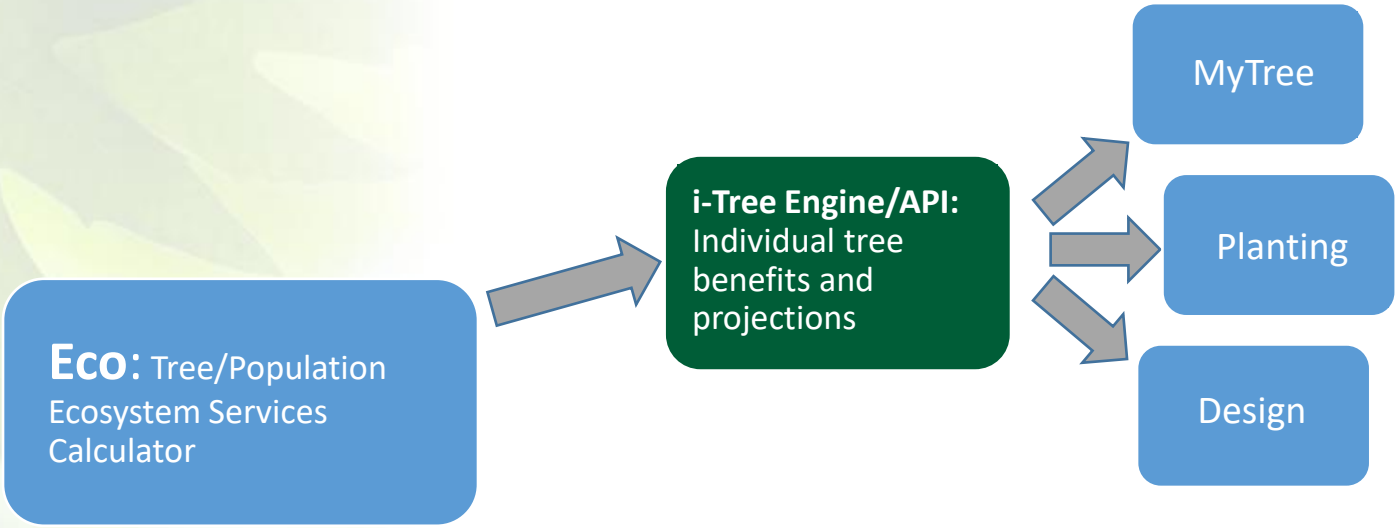
i-Tree* API

...

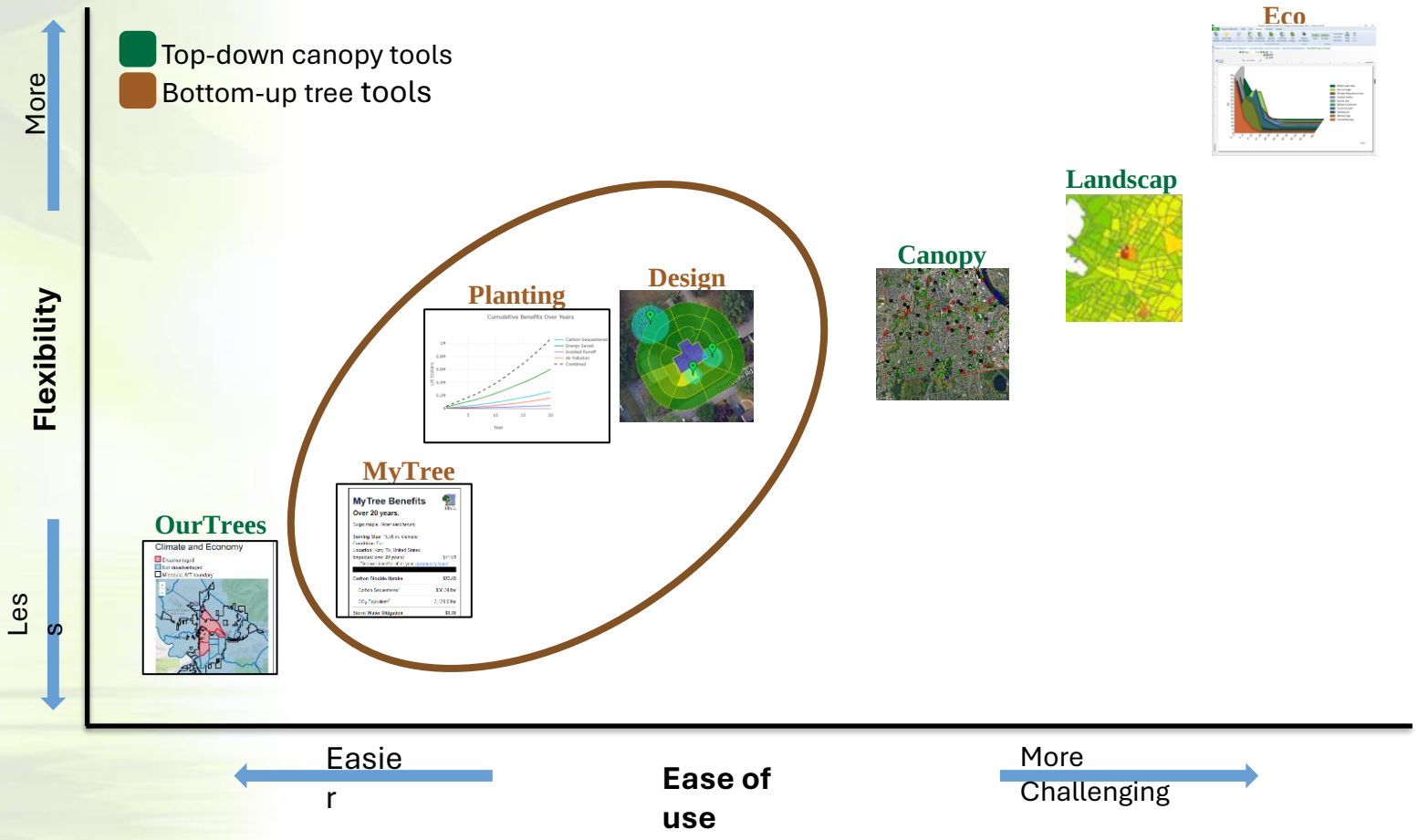
**i-Tree Tools that can be used internationally*

i-Tree is a Cooperative Initiative among these partners

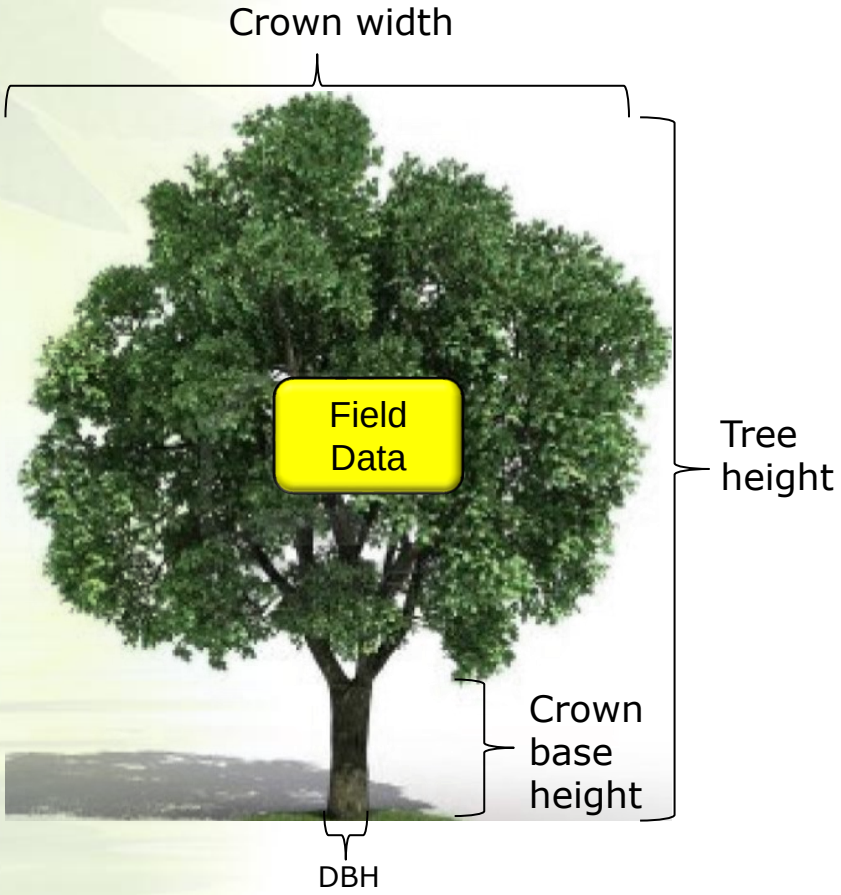
i-Tree Tool Relationships



i-Tree is a Cooperative Initiative among these partners


Top-down canopy tools
Bottom-up tree tools
More
Flexibility
Less
Eco
Landscap
Canopy
Design
Planting
MyTree
OurTrees
Climate and Economy
MyTree Benefits
Over 20 years.
Easier
Ease of use
More Challenging

i-Tree model basics: data ➡ tree benefits



Key field variables

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

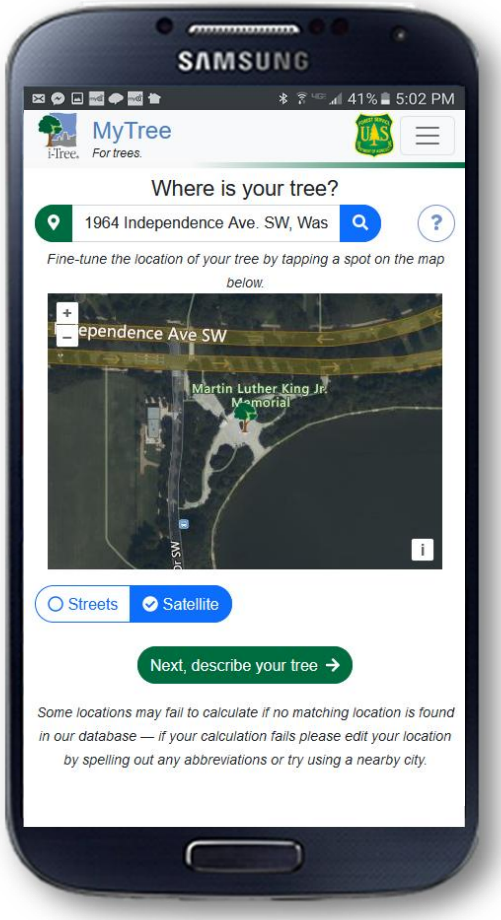
Simple tools require simplifying assumptions

- Crown assumptions
- Less specific inputs
- Fewer outputs
- Mortality assumpti

Key field variables

- DBH
- Species
- Crown measurements < **Modeled**
- Tree health < **Simplified**
- Building interactions < **Simplified**
- Light availability < **Simplified**

How does this look in MyTree?

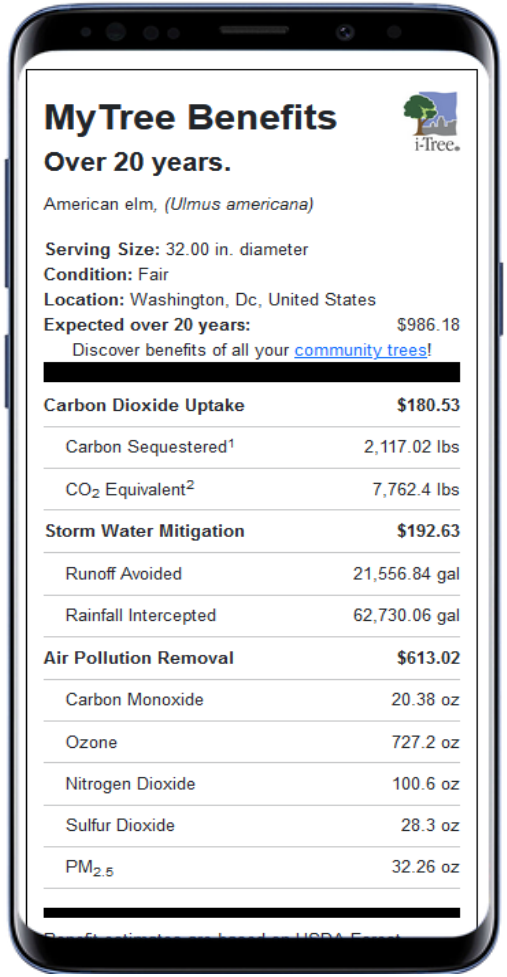


Introduction to MyTree

Ana Castillo
i-Tree Support and Outreach
Ana.Castillo@davey.com

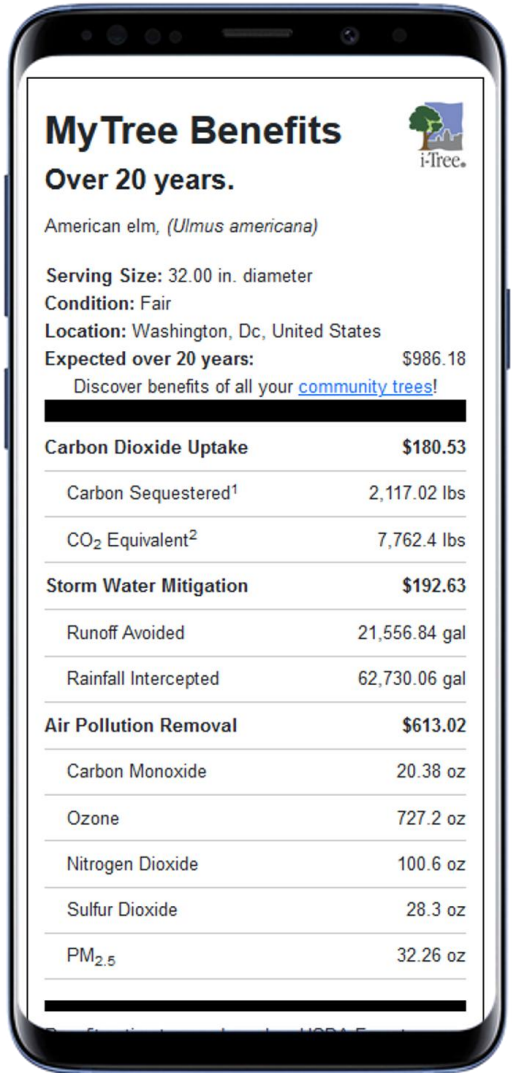
MyTree

- Gateway tool to the i-Tree suite
- Simple, easy to digest outputs
- Make general comparisons of trees of different species, conditions, etc.

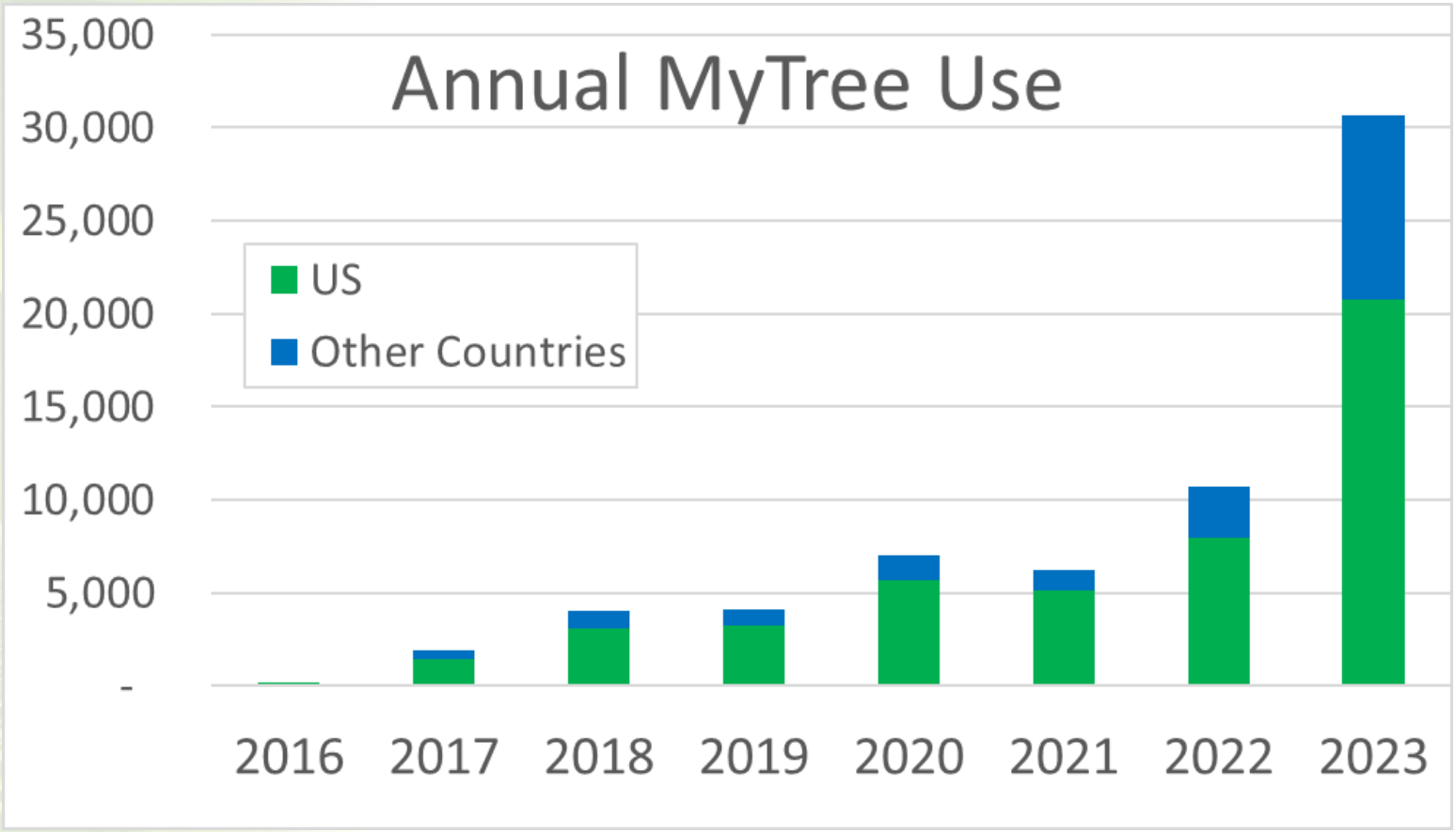


MyTree

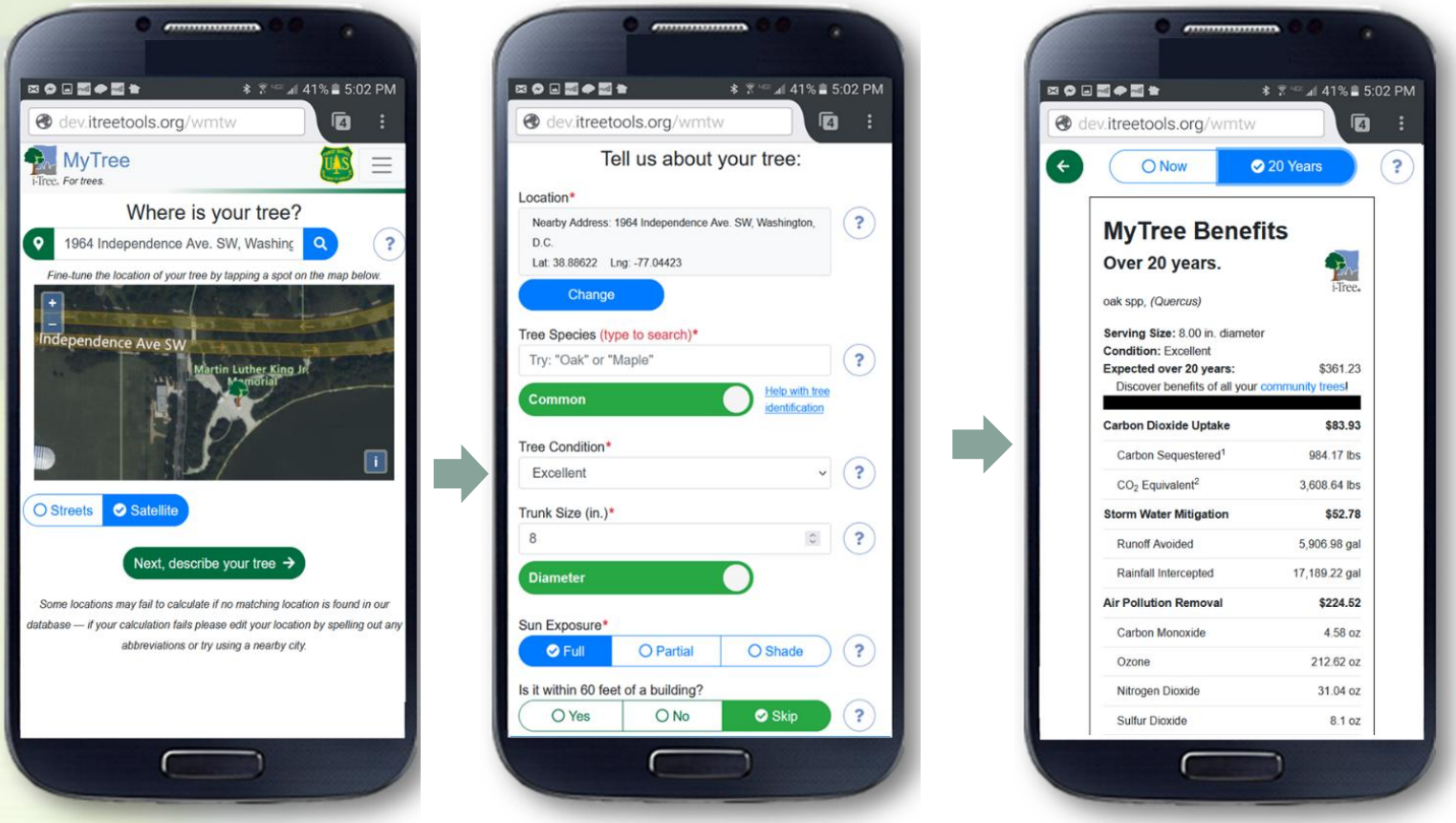
- Individual tree tool
- Easy to use – only species ID and DBH measurement needed
- Available worldwide



MyTree: Driving new users

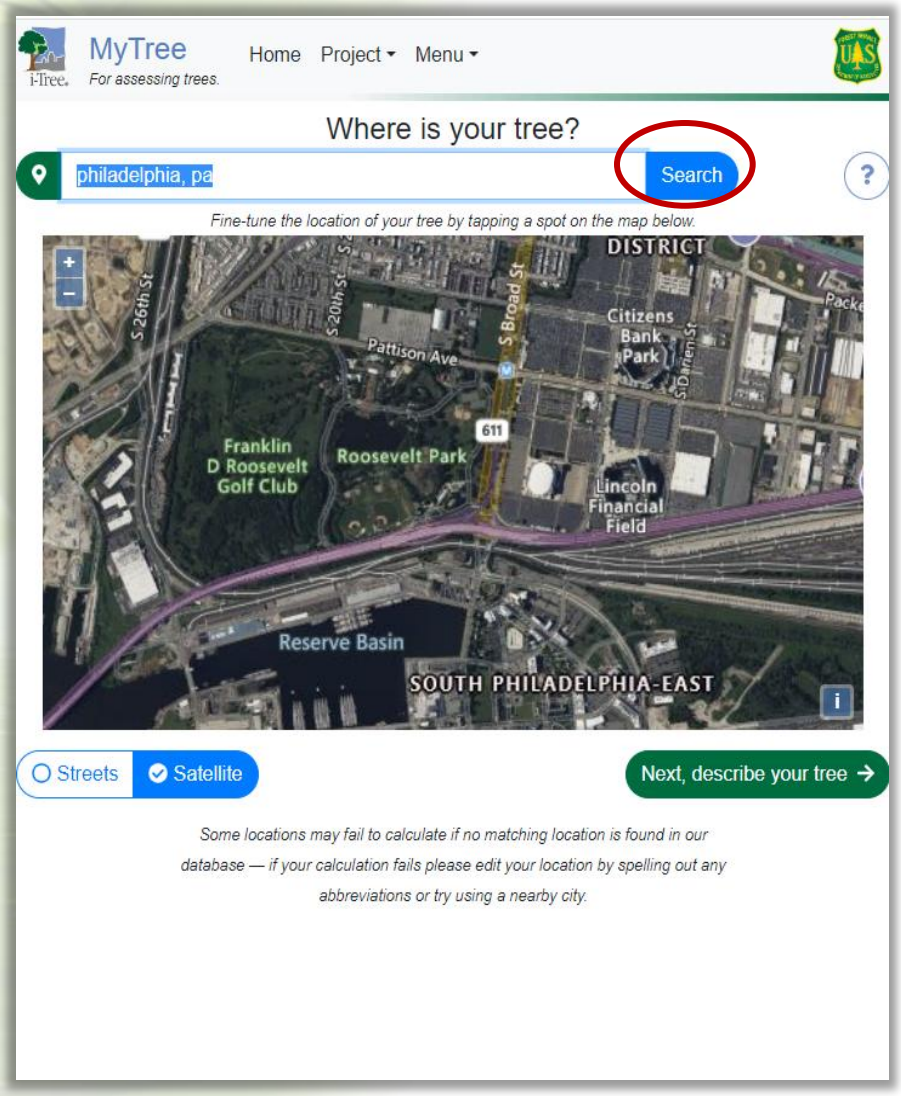


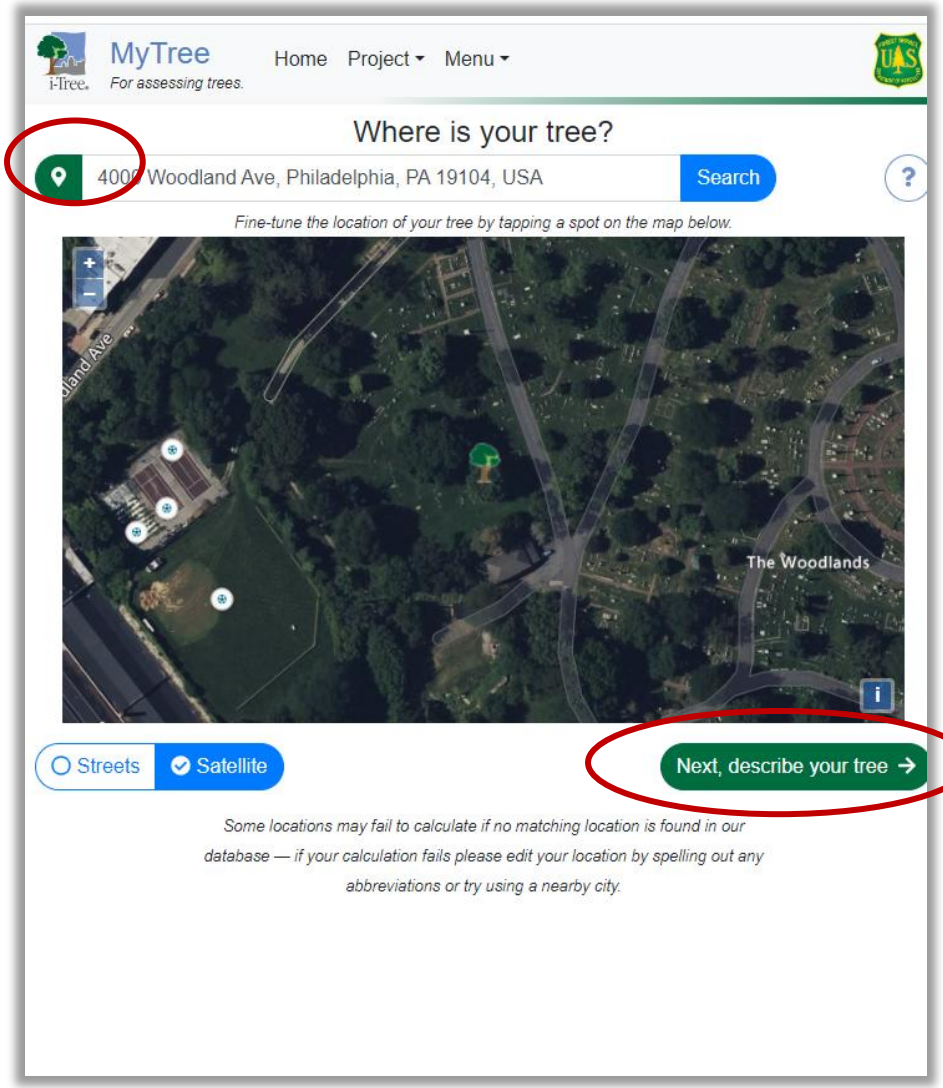
https://youtu.be/Ll-YLQMqbL8?si=dpfqCf6Xq0LgACk5



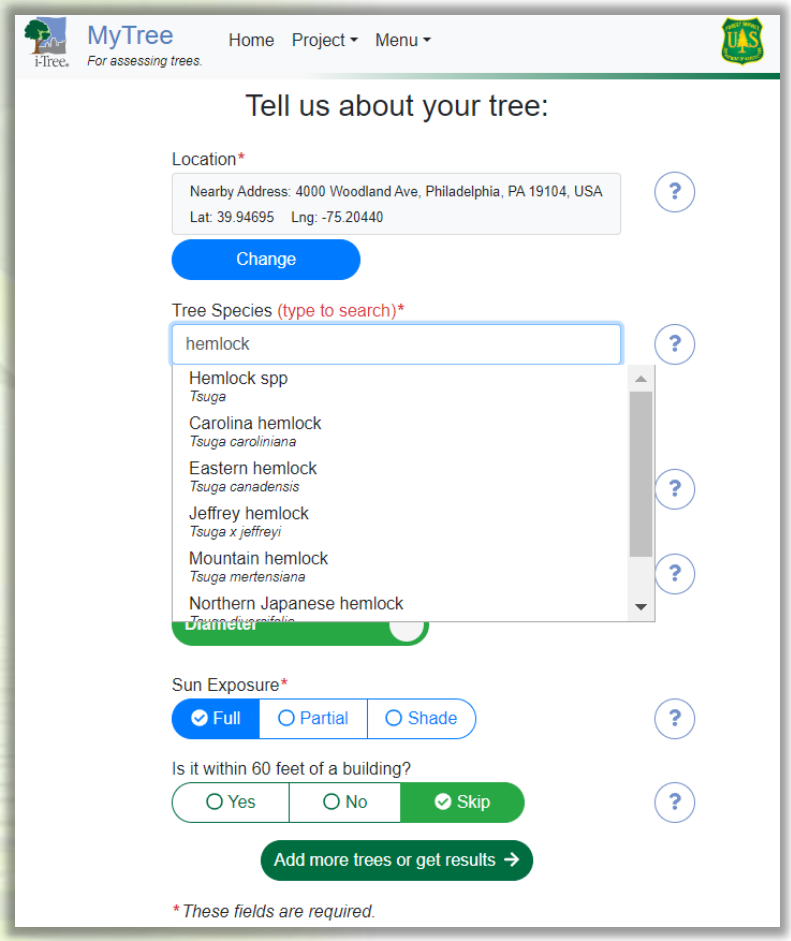
MyTree.itreetools.org

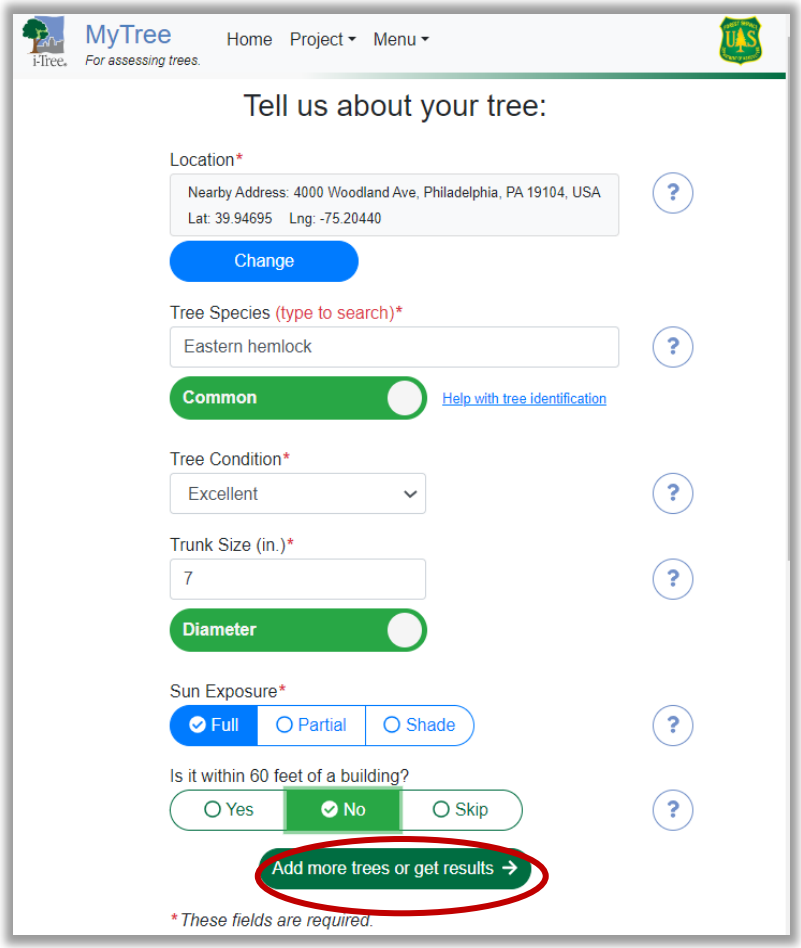
Demo:

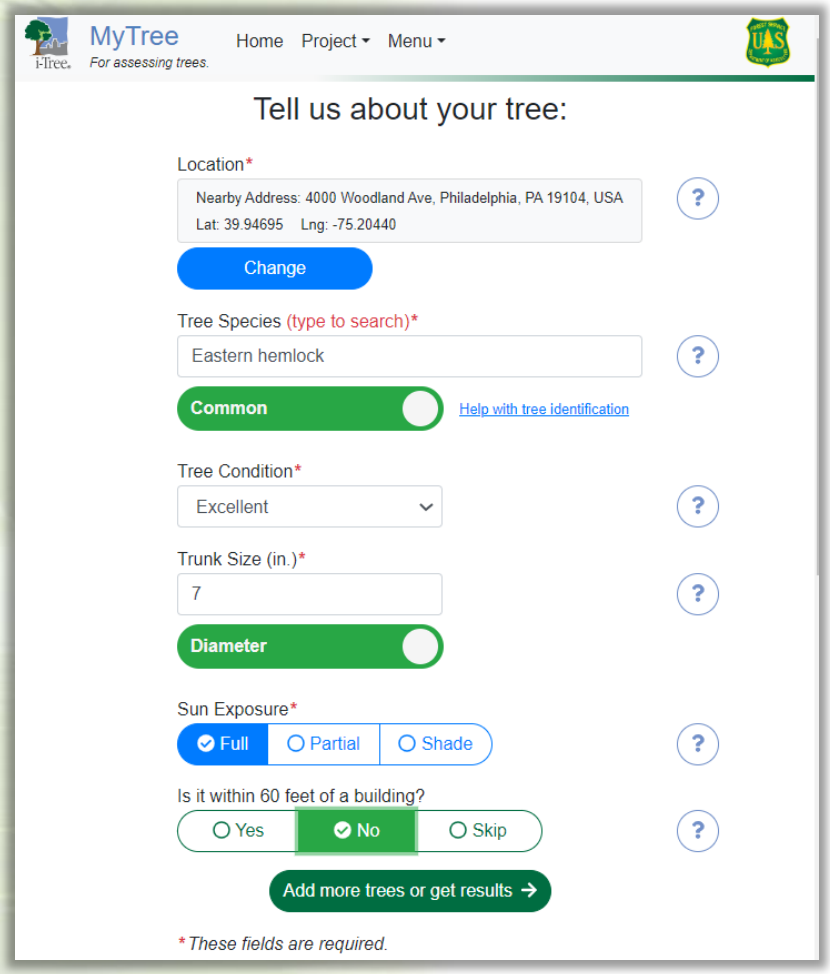

MyTree
For assessing trees.
Home
Project
Menu
Where is your tree?
philadelphia, pa
Search
Fine-tune the location of your tree by tapping a spot on the map below.
DISTRICT
S 26th St
S 20th St
S Broad St
Pattison Ave
Citizens Bank Park
S Darien St
Franklin D Roosevelt Golf Club
Roosevelt Park
611
Lincoln Financial Field
Reserve Basin
SOUTH PHILADELPHIA-EAST
Streets
Satellite
Next, describe your tree
Some locations may fail to calculate if no matching location is found in our database — if your calculation fails please edit your location by spelling out any abbreviations or try using a nearby city.


MyTree
For assessing trees.
Home
Project
Menu
Where is your tree?
4000 Woodland Ave, Philadelphia, PA 19104, USA
Search
Fine-tune the location of your tree by tapping a spot on the map below.
The Woodlands
Streets
Satellite
Next, describe your tree
Some locations may fail to calculate if no matching location is found in our database — if your calculation fails please edit your location by spelling out any abbreviations or try using a nearby city.

Demo:


MyTree
For assessing trees.
Home
Project
Menu
Tell us about your tree:
Location*
Nearby Address: 4000 Woodland Ave, Philadelphia, PA 19104, USA
Lat: 39.94695 Lng: -75.20440
Change
Tree Species (type to search)*
hemlock
Hemlock spp
Tsuga
Carolina hemlock
Tsuga caroliniana
Eastern hemlock
Tsuga canadensis
Jeffrey hemlock
Tsuga x jeffreyi
Mountain hemlock
Tsuga mertensiana
Northern Japanese hemlock
Diameter
Sun Exposure*
Full
Partial
Shade
Is it within 60 feet of a building?
Yes
No
Skip
Add more trees or get results
*These fields are required.


MyTree
For assessing trees.
Home
Project
Menu
Tell us about your tree:
Location*
Nearby Address: 4000 Woodland Ave, Philadelphia, PA 19104, USA
Lat: 39.94695 Lng: -75.20440
Change
Tree Species (type to search)*
Eastern hemlock
Common
Help with tree identification
Tree Condition*
Excellent
Trunk Size (in.)*
7
Diameter
Sun Exposure*
Full
Partial
Shade
Is it within 60 feet of a building?
Yes
No
Skip
Add more trees or get results
*These fields are required.


MyTree
For assessing trees.
Home
Project
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Tell us about your tree:
Location*
Nearby Address: 4000 Woodland Ave, Philadelphia, PA 19104, USA
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Tree Species (type to search)*
Eastern hemlock
Common
Help with tree identification
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Trunk Size (in.)*
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Diameter
Sun Exposure*
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Partial
Shade
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Yes
No
Skip
Add more trees or get results
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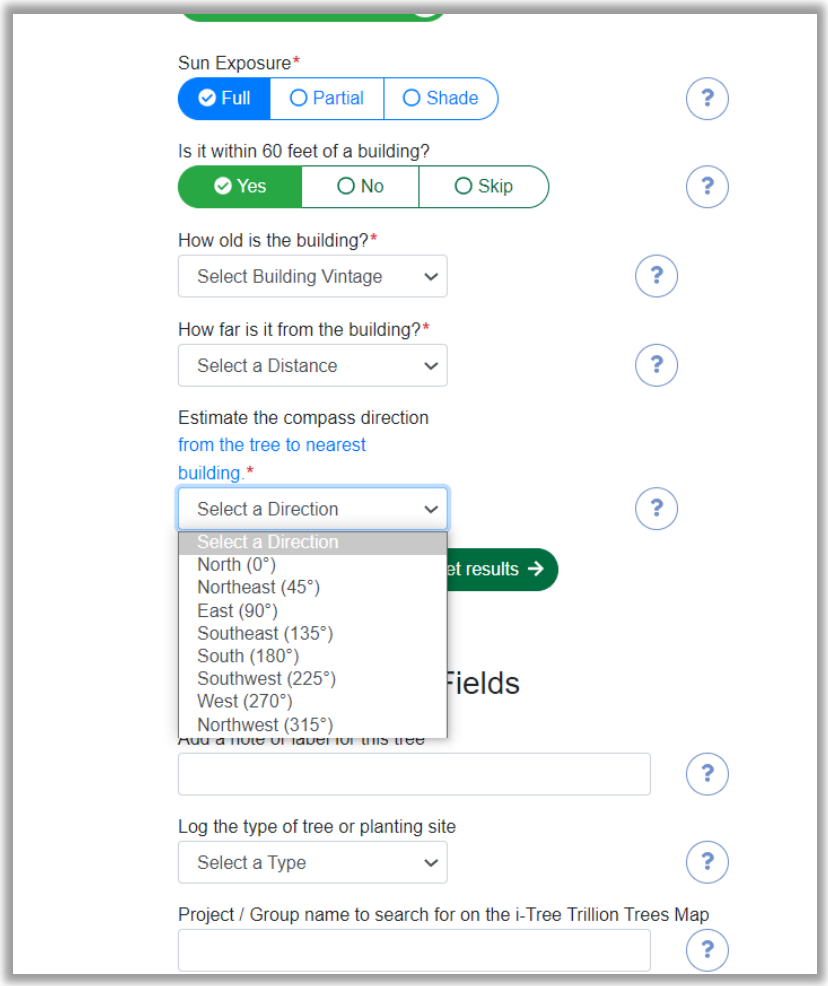

Sun Exposure*
Full
Partial
Shade
Is it within 60 feet of a building?
Yes
No
Skip
How old is the building?*
Select Building Vintage
How far is it from the building?*
Select a Distance
Estimate the compass direction from the tree to nearest building.*
Select a Direction
Select a Direction
North (0°)
Northeast (45°)
East (90°)
Southeast (135°)
South (180°)
Southwest (225°)
West (270°)
Northwest (315°)
Log the type of tree or planting site
Select a Type
Project / Group name to search for on the i-Tree Trillion Trees Map

Results!

MyTree Benefits

Over 20 years.

Chinese elm, *(Ulmus parvifolia)*

Serving Size: 10.00 in. diameter
Condition: Excellent
Location: Knoxville, Tn, United States
Expected i-Tree benefits over 20 years: $534.71

Discover benefits of all your community trees!

Carbon Dioxide Uptake	**$444.20**
Carbon Sequestered[1]	2,053.02 lbs
CO_2 Equivalent[2]	7,527.74 lbs
Storm Water Mitigation	**$50.35**
Runoff Avoided	5,634.82 gal
Rainfall Intercepted	32,731.96 gal
Air Pollution Removal	**$40.16**
Carbon Monoxide	3.22 oz
Ozone	204.91 oz
Nitrogen Dioxide	3.07 oz
Sulfur Dioxide	21.29 oz
$PM_{2.5}$	10.61 oz

Benefit estimates are based on USDA Forest Service research and are meant for guidance only. Visit www.itreetools.org to learn more.

Footnotes

[1] For large trees sequestration is overtaken by CO_2 loss with decay/maintenance.

[2] CO_2 equivalent is estimated by calculating how much atmospheric CO_2 is taken in by trees to provide the carbon stored in the tissues of individual trees.

[3] Positive energy values indicate savings or reduced emissions. Negative values indicate increased usage or emissions. Electricity used for cooling and heating and fuels like natural gas or

TreeTags

Beyond the written report

Infographics, story maps, tree tags, and other unique communication examples

Tree tags

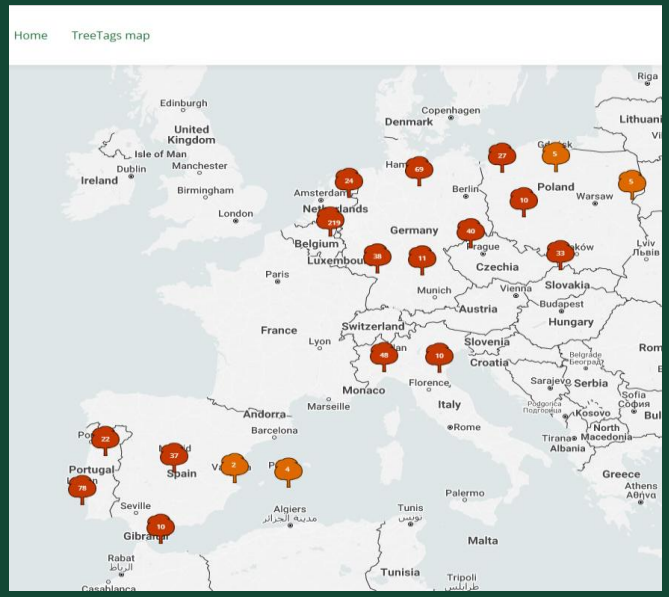
- Clear and concise tree tag from a volunteer urban tree steward in Lancaster PA
  - Tag image for printing - add your own logos and tree details
  - Instructions for using MyTree to fill in your tag
- Editable tree tag pdf from our collaborators at UNRI.

[Beyond the written report]

#EUTreeTag Campaign

- Led by Pius Floris Boomverzorging with participation from 12 other organizations
- Created tree tags and placed them on them trees on a specific day
- Over 700 trees tagged!

#EUTreeTag Campaign



www.treetags.eu/en

Nature-Based Tree Management
39 followers
1mo •

🌳 Today, as the European TreeTag Campaign unfolds across Europe, the southwest region of Poland, including several participating cities, is facing severe flooding. 💧

While local events have prevented some of us from fully carrying out the campaign, this situation only strengthens our belief in the need to raise awareness about the vital role trees play in our environment — especially in their water retention and soil reinforcement capacities.

Despite the challenges, we proudly placed approximately 80 TreeTags on trees across Poland today, reminding everyone of the critical benefits trees provide. ⏳

Let's continue working together to spread this important message, now more than ever. 🌎

The map of TreeTagged trees is available here: https://lnkd.in/d3KJ2AzQ

#EUTreeTag #TreeTagCampaign #SustainableFuture #UrbanForestry #ClimateResilience #NBTM

i-Tree Design

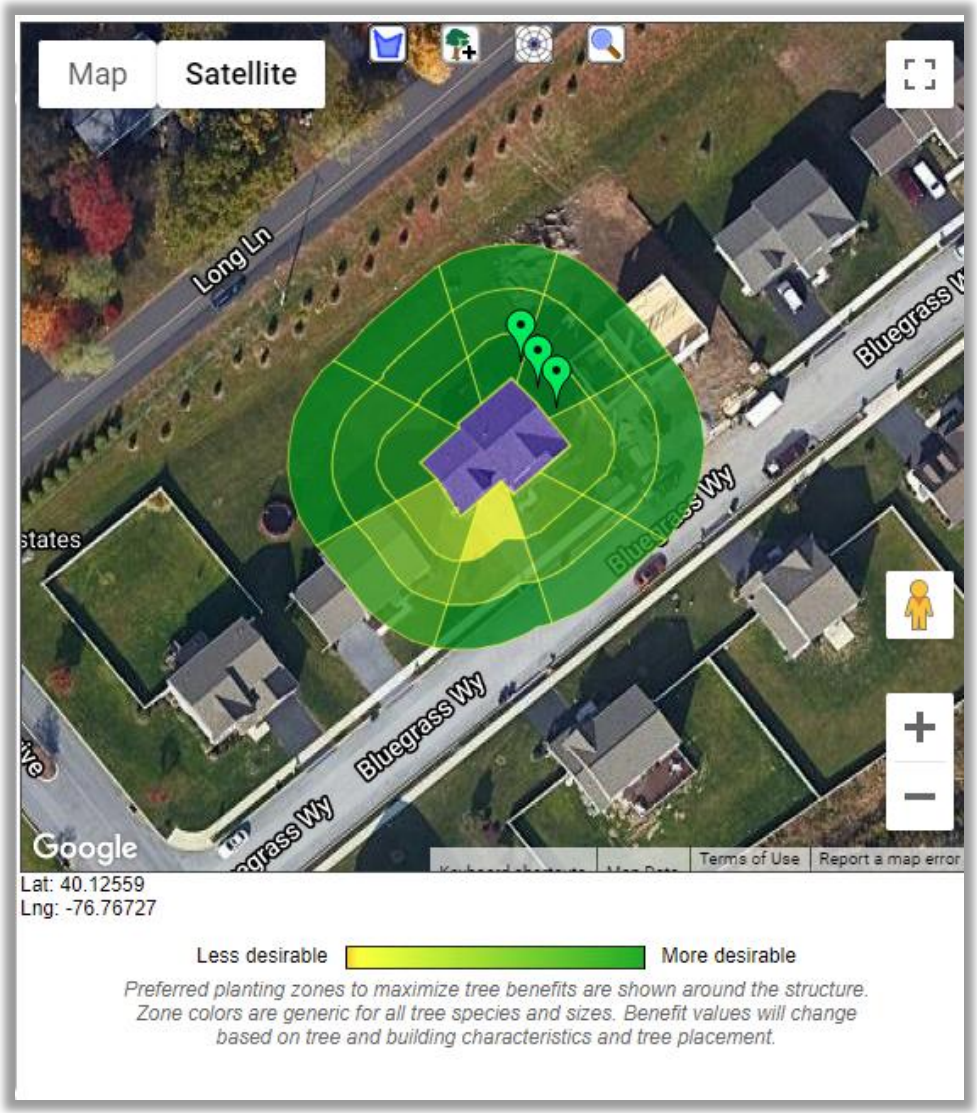
Demonstrate the Value of Trees

i-Tree Design

Features -

- Accessible online
- Easy to use, easy to edit
- Valuates CO2/Pollution removal/Stormwater/Energy
- Estimates current year, benefits-to-date, and future benefits
- Printable report summary

Considerations *– Better for smaller scale projects, benefits processing can be …slow, can not export tree data*

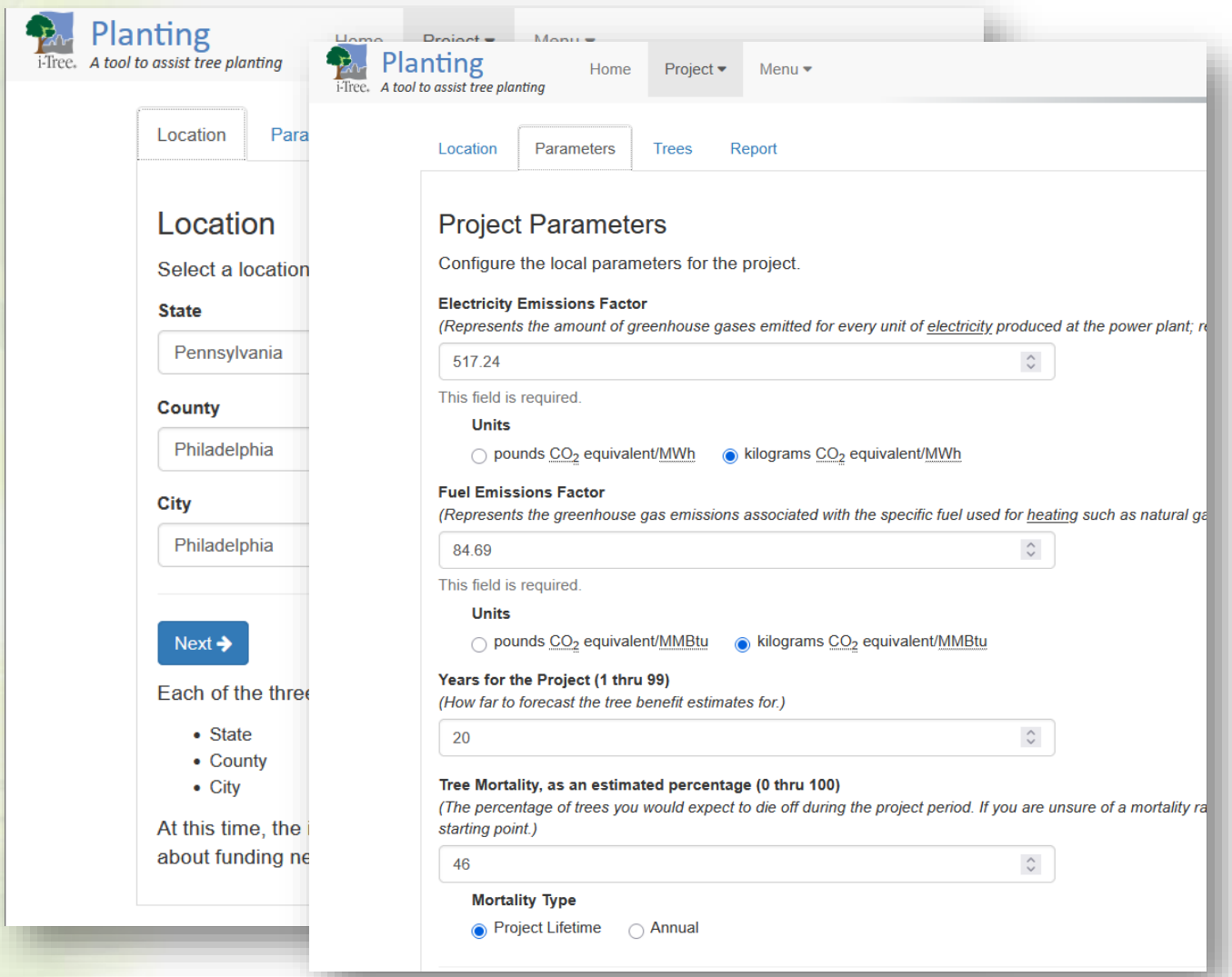


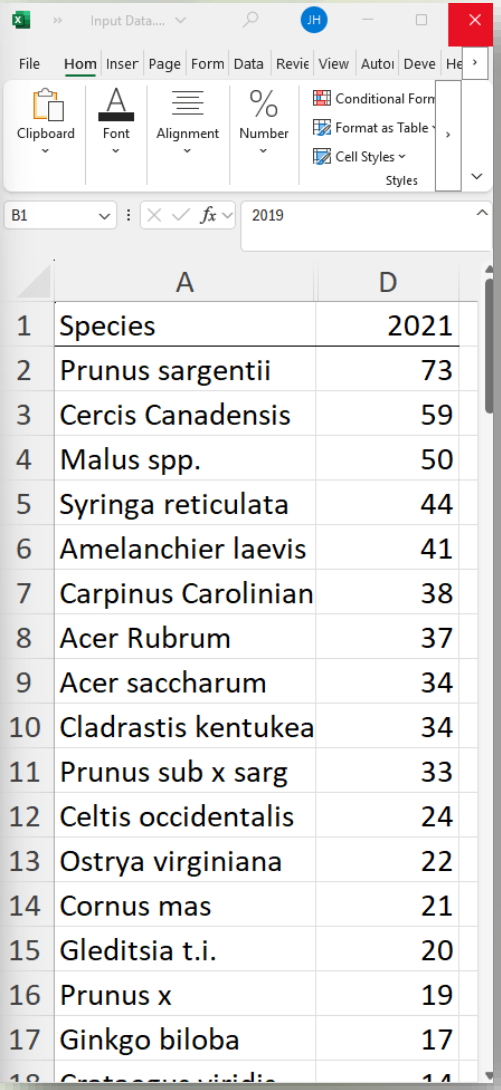
i-Tree Design

- Can be used on a tablet…but test it first
- Highlight local gems
- Reports can be printed or you can save and email a PDF document
- Project saving and sharing is possible
- Can help show trees are an investment: advocate for tree care

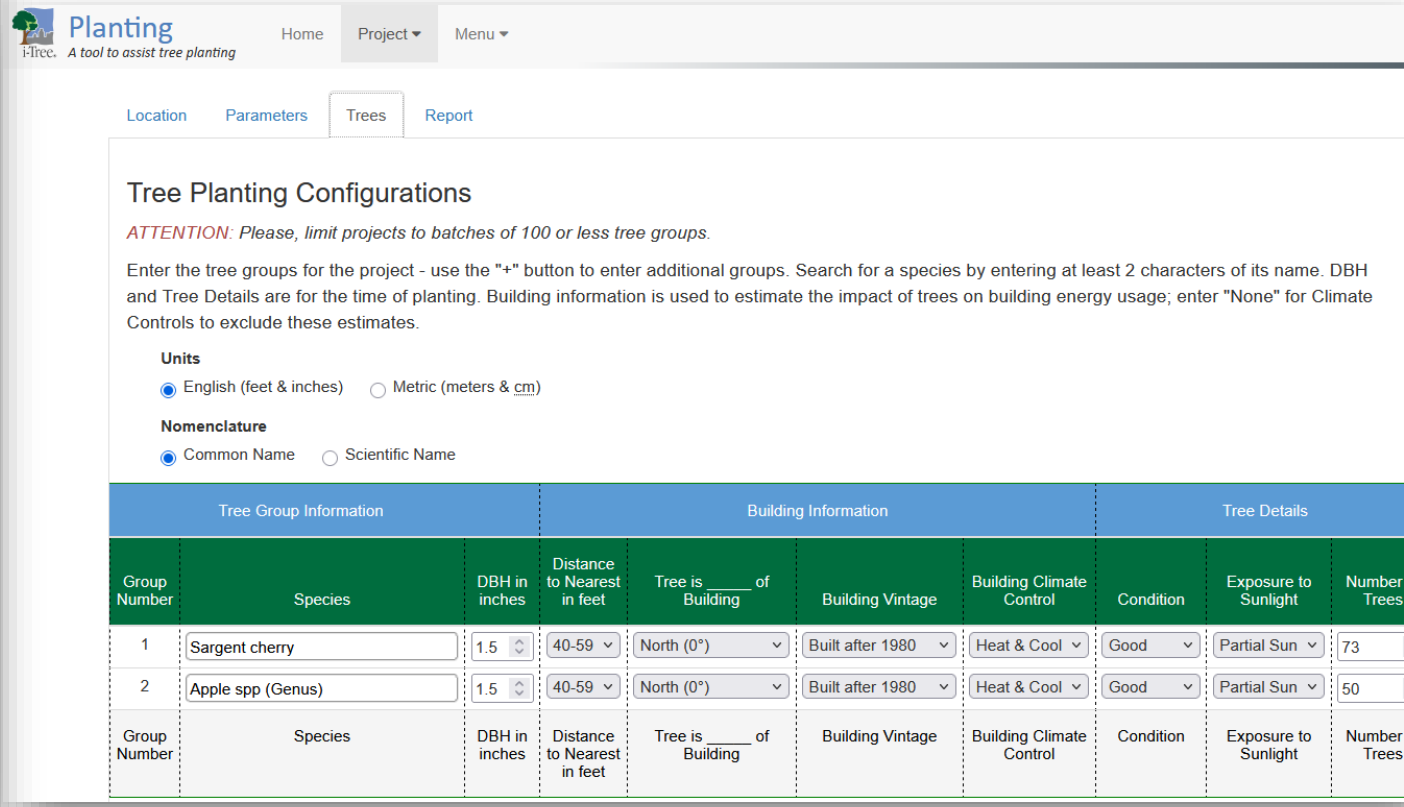
Crown Growth Modeler

i-Tree Planting


Planting
A tool to assist tree planting
Location
Para
Location
Select a location
State
Pennsylvania
County
Philadelphia
City
Philadelphia
Next
Each of the three
State
County
City
At this time, the
about funding ne
Planting
A tool to assist tree planting
Home
Project
Menu
Location
Parameters
Trees
Report
Project Parameters
Configure the local parameters for the project.
Electricity Emissions Factor
(Represents the amount of greenhouse gases emitted for every unit of electricity produced at the power plant; r
517.24
This field is required.
Units
pounds CO2 equivalent/MWh
kilograms CO2 equivalent/MWh
Fuel Emissions Factor
(Represents the greenhouse gas emissions associated with the specific fuel used for heating such as natural ga
84.69
This field is required.
Units
pounds CO2 equivalent/MMBtu
kilograms CO2 equivalent/MMBtu
Years for the Project (1 thru 99)
(How far to forecast the tree benefit estimates for.)
20
Tree Mortality, as an estimated percentage (0 thru 100)
(The percentage of trees you would expect to die off during the project period. If you are unsure of a mortality ra
starting point.)
46
Mortality Type
Project Lifetime
Annual



	A	D
1	Species	2021
2	Prunus sargentii	73
3	Cercis Canadensis	59
4	Malus spp.	50
5	Syringa reticulata	44
6	Amelanchier laevis	41
7	Carpinus Carolinian	38
8	Acer Rubrum	37
9	Acer saccharum	34
10	Cladrastis kentukea	34
11	Prunus sub x sarg	33
12	Celtis occidentalis	24
13	Ostrya virginiana	22
14	Cornus mas	21
15	Gleditsia t.i.	20
16	Prunus x	19
17	Ginkgo biloba	17



Planting
A tool to assist tree planting

Home | Project | Menu

Location | Parameters | Trees | Report

Tree Planting Configurations

ATTENTION: Please, limit projects to batches of 100 or less tree groups.

Enter the tree groups for the project - use the "+" button to enter additional groups. Search for a species by entering at least 2 characters of its name. DBH and Tree Details are for the time of planting. Building information is used to estimate the impact of trees on building energy usage; enter "None" for Climate Controls to exclude these estimates.

Units

(•) English (feet & inches) ( ) Metric (meters & cm)

Nomenclature

(•) Common Name ( ) Scientific Name

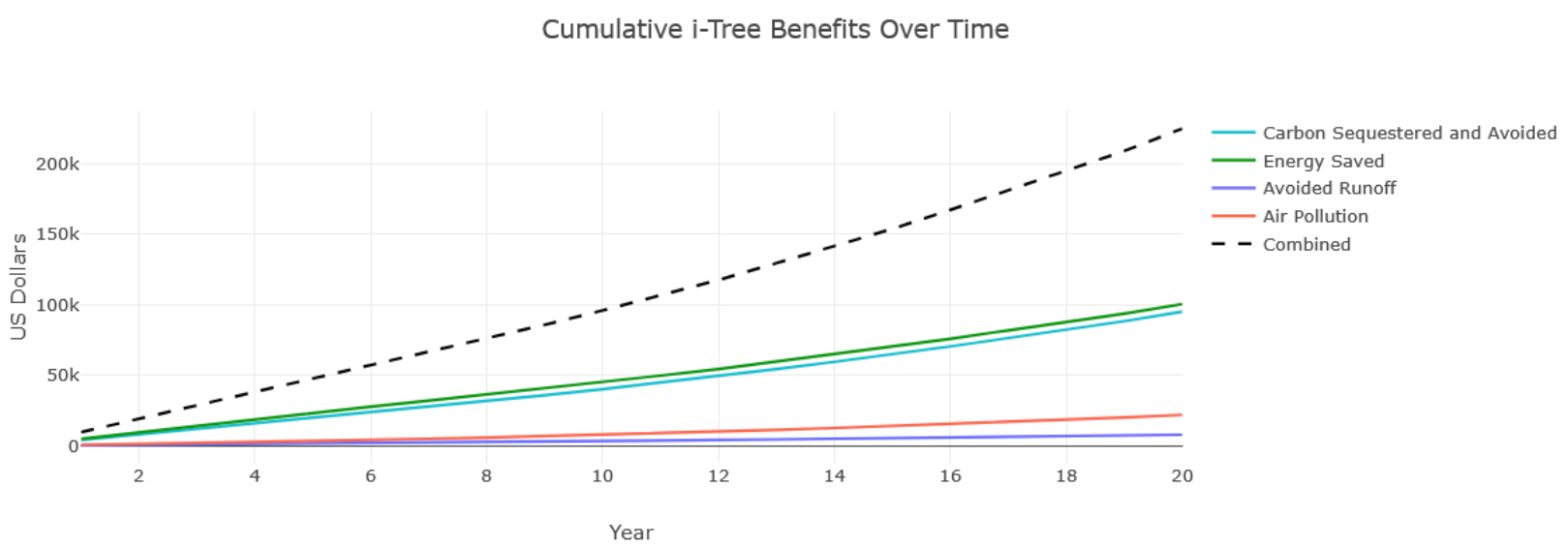
Tree Group Information			Building Information				Tree Details		
Group Number	Species	DBH in inches	Distance to Nearest in feet	Tree is _____ of Building	Building Vintage	Building Climate Control	Condition	Exposure to Sunlight	Number Trees
1	Sargent cherry	1.5	40-59	North (0°)	Built after 1980	Heat & Cool	Good	Partial Sun	73
2	Apple spp (Genus)	1.5	40-59	North (0°)	Built after 1980	Heat & Cool	Good	Partial Sun	50
Group Number	Species	DBH in inches	Distance to Nearest in feet	Tree is _____ of Building	Building Vintage	Building Climate Control	Condition	Exposure to Sunlight	Number Trees

i-Tree Planting Report

i-Tree Benefits and Tree Growth Forecast

Location: Philadelphia, Pennsylvania 19133

Total number of trees planted in this project: 764



Mortality is modeled as a fractional (not whole) tree estimate and may not align year-over-year.
Sequestration does not account for net differences like decay.
Tree canopy cover estimate assumes no overlap between crowns.

Application v2.7.2, powered by engine v0.17.0 (APIv3) and database v12.0.90.

- Trees are in good condition and planted in partial sun.

MyTree: Common uses

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

[Photo Source: L. Paqueo 2022]

[Photo Source: K. Thomas 2024]

[Photo Source: J. Garden 2017]

https://www.unri.org/news/treetags042019/

MyTree: Strengths and limitations

Strengths

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

Limitations

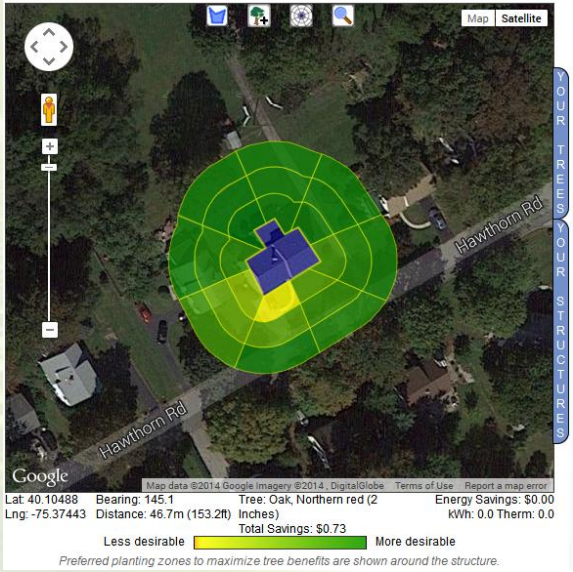
- No ability to save projects
- Not great for more than 10 trees
- No internet = No MyTree

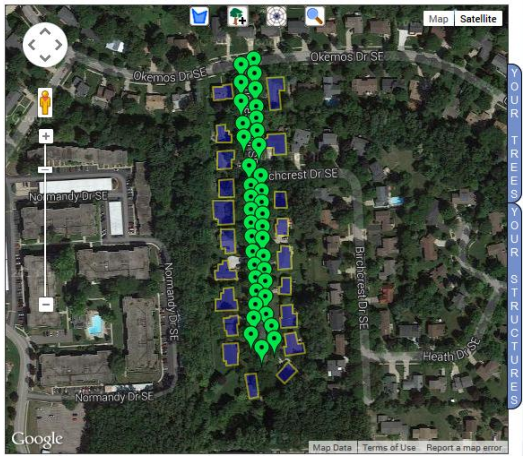
Potential Upcoming Features

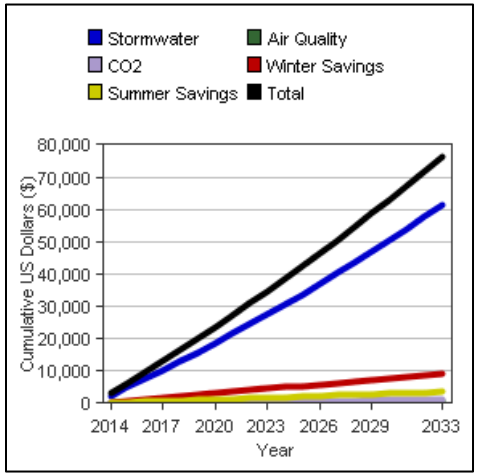
- Mapping collected trees
- Support for group projects

i-Tree Design: Common uses

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







i-Tree Design: Strengths and limitations

Strengths

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

Limitations

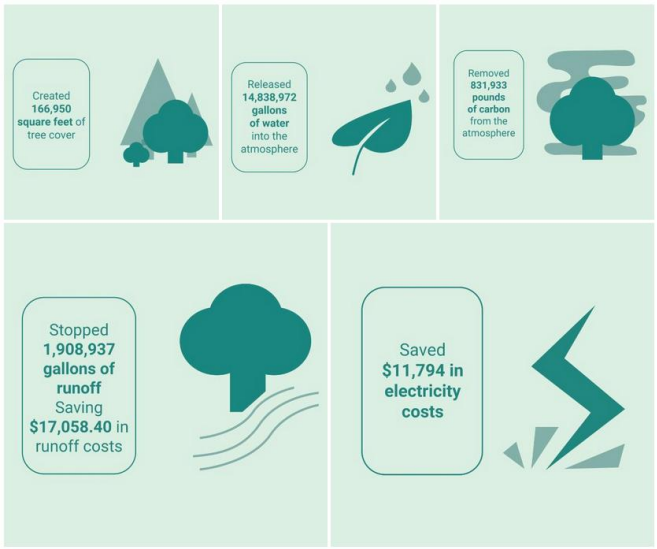
- Limited to a handful of buildings and few dozen trees
- Helps to have a mouse for drawing

Upcoming Features

- Modernization
- Expanded capacity

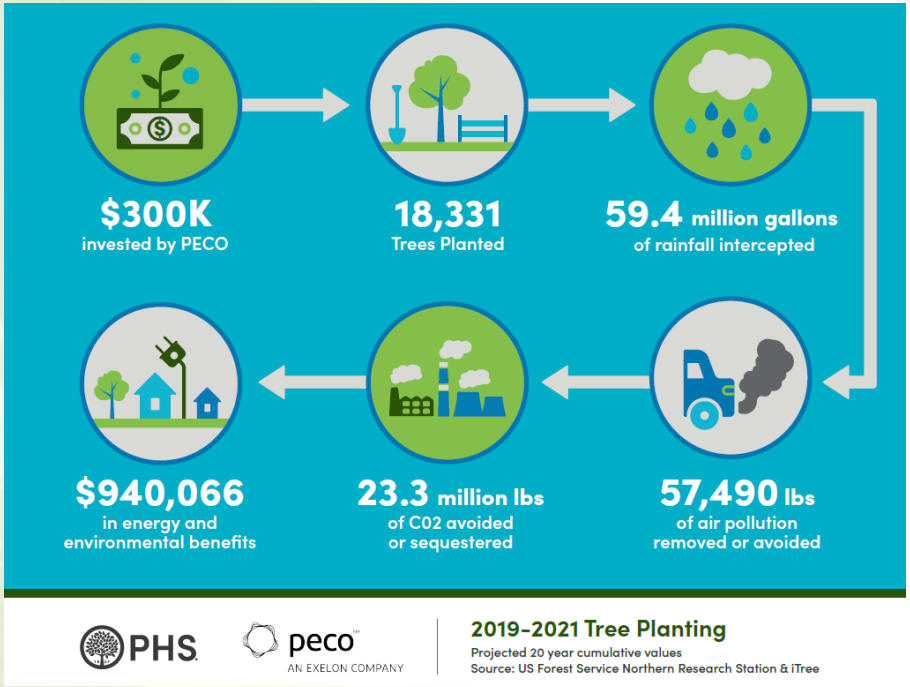
i-Tree Planting: Common uses

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



https://storymaps.arcgis.com/stories/1140f07f5212458592c3b60c8e2b59e5

i-Tree Planting for reporting impact



PECO Announces Increased Investment in Tree Planting and Expanded Support of PHS with Launch of ReLeaf Program

PHILADELPHIA, PA | April 19, 2022

PECO Communications | PECO.Communication@exeloncorp.com

https://www.peco.com/news/news-releases/peco-announces-increased-investment-in-tree-planting-and-expanded-support-of-phs-with-launch-of-re-leaf-program-04262022

"When planted right, trees offer our customers a number of benefits, including energy and money savings, and help support our efforts to promote a cleaner, brighter future for the communities we serve." Riscoe Brinson, Director of Corporate and Community Impact

Funding doubled to $200,000/year

i-Tree Planting: Strengths and limitations

Strengths

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

Limitations

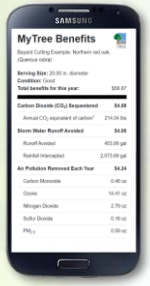
- No import ability
- Simplified mortality schemes

Upcoming Features

- Annual results
- Expanded results

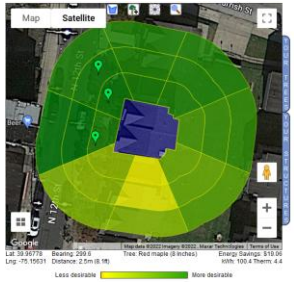
Tool Characteristics

i-Tree 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

i-Tree Design



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

i-Tree Planting

- 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