



i-Tree Academy

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Colorado State Forest Service
June 2, 2021



Overview

A banner for the i-Tree Academy online training. It features the i-Tree logo on the left, the title "i-Tree Academy" in large green letters, and the text "Online Training" and "March 3rd – June 2nd, 2021". On the right side of the banner are logos for ReGreen Springfield, the US Forest Service, and Davey Institute.

 **i-Tree Academy**
Online Training
March 3rd – June 2nd, 2021

ReGreen Springfield  **DAVEY** 
Institute
A Division of The Davey Tree Forest Center

The US Forest Service, Davey Institute and ReGreen Springfield are offering the on-line i-Tree Academy training, designed to introduce the i-Tree suite of tools to a class of 45 participants from across the U.S. The Academy instruction will be delivered by experienced members of the i-Tree project team, focused on helping users learn key i-Tree applications that can be used to inventory, assess, and report on the value of urban forests and greenspace.

Objectives



Program Learning Objectives

The program goal is to develop a cadre of individuals who can use i-Tree to complete community projects or conduct training for others.

- Learn how to use several core online i-Tree assessment tools including Design, Canopy, and Landscape
- Develop an understanding of the i-Tree Eco field-based assessment application options and project phases
- Improve i-Tree project planning, tool selection, decision-making, and advocacy competency
- Understand advantages and limitations of i-Tree
- Apply new learning by designing and completing a required community i-Tree assessment project

Session 1 – Course Introduction



- Course learning objectives, format, student project requirement, and instructors.
- i-Tree introduction, key concepts, website, and resources



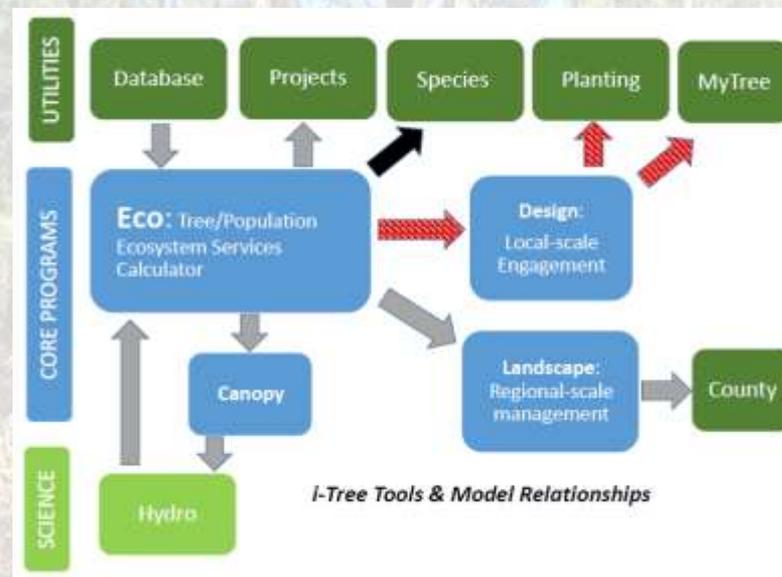
i-Tree Tools

	i-Tree Landscape Rapidly assess human and forest population information; threats to help prioritize areas for tree planting, protection.
	i-Tree Canopy Easily estimate tree canopy and benefits using aerial photographs.
	i-Tree Design Parcel level analysis of current and future tree benefits.
	i-Tree Eco Flagship tool that quantifies the structure of, threats to, and benefits and values provided by forest populations globally.
	More tools... See all the i-Tree tools, past and present, listed here.
	Which Tool Should I Use? A brief guide to appropriate uses of i-Tree tools.

Session 2 – i-Tree Design, MyTree and Planting



- Online tools for assessing trees, tree planting projects
- Understanding online tool estimates, differences and limitations
- Explore tool uses for engagement, education, and adding value to projects



Session 2 – i-Tree Design, MyTree and Planting



Imagery ©2021, Maxar Technologies, USDA Farm Service Agency	Terms of Use	Re	
84	Bearing: 308.7	Tree: Quaking aspen (3 Inches)	Energy S
17046	Distance: 97.5m (319.8ft)	Total Savings: \$0.21	kWh:

Less desirable  More desirable



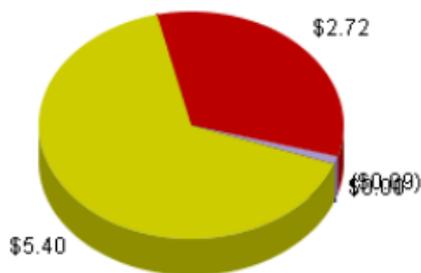
Imagery ©2021, Maxar Technologies, USDA Farm Service Agency	Terms of Use	Re
Bearing: 312.4	Tree: Quaking aspen (3 Inches)	Energy S
Distance: 129.0m (423.3ft)	Total Savings: \$0.21	kWh:

Less desirable  More desirable

Session 2 – i-Tree Design, MyTree and Planting



- Stormwater
- Air Quality
- Winter Savings
- CO2
- Summer Savings



Your selected trees will provide overall benefits of \$8 in the current year.

While some functional benefits of trees are well documented, others are difficult to quantify (e.g., human social and communal health). Trees' specific geography, climate, and interactions with humans and infrastructure are highly variable and make precise calculations that much more difficult. Given these complexities, the results presented here should be considered initial approximations to better understand the environmental and economic value associated with trees and their placement.

Benefits of trees do not account for the costs associated with trees' long-term care and maintenance.

If these trees are cared for and grow, they will provide \$22 worth of annual benefit in 12 years. See 'Future Year (2033)' tab at left for details.

Individual Tree Benefits

Tree	DBH (in)	Condition	Location to Structure	Benefits			
				Current Year (2021)	Future Year (2033)	Projected Total (2021-2033)	Total to Date
1. Quaking aspen	3	Excellent	Northwest (8 ft)	\$2.65	\$6.91	\$40	\$21
2. Quaking aspen	3	Excellent	North (13 ft)	\$2.23	\$6.38	\$33	\$19
3. Quaking aspen	3	Excellent	West (48 ft)	\$2.29	\$6.34	\$34	\$19
4. Quaking aspen	3	Excellent	East (27 ft)	\$0.86	\$2.02	\$4	\$13
Total				\$8.04	\$21.64	\$110	\$72

Session 2 – i-Tree Design, MyTree and Planting



MyTree Benefits



2012 planting: Blue spruce, (*Picea pungens*)

Serving Size: 6.00 in. diameter

Condition: Good

Total benefits for this year: \$0.71

Carbon Dioxide (CO₂) Sequestered \$0.34

Annual CO₂ equivalent of carbon¹ 14.67 lbs

Storm Water Runoff Avoided \$0.12

Runoff Avoided 13.71 gal

Rainfall Intercepted 110.66 gal

Air Pollution Removed Each Year \$0.25

Carbon Monoxide < 0.1 oz

Ozone 2.46 oz

Nitrogen Dioxide < 0.1 oz

Sulfur Dioxide 0.3 oz

PM_{2.5} < 0.1 oz

CO₂ Stored To Date³ \$7.17

Lifetime CO₂ equivalent of carbon³ 308.47 lbs

Benefits are estimated based on USDA Forest Service Research and are meant for guidance only.

¹ For large trees sequestration is overtaken by CO₂ loss with decay/maintenance.

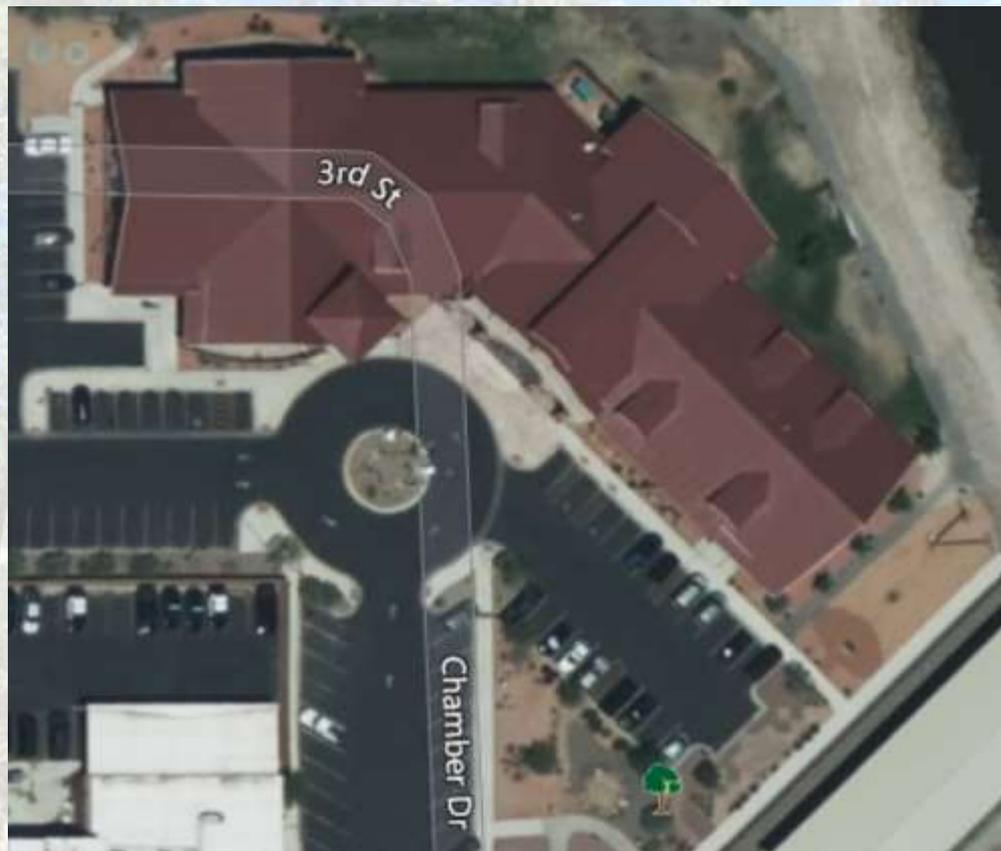
² Positive energy values indicate savings or reduced emissions. Negative energy values indicate increased usage or emissions.

³ Not an annual amount or value.

Visit www.itreetools.org to learn more.

MyTree 2.9.0

Powered by the i-Tree Engine



Session 2 – i-Tree Design, MyTree and Planting



This data was produced from the i-Tree Planting Calculator version 2.1.2 for Hooper, CO.
 Location: Hooper, CO 81136
 Electricity Emissions Factor: 787.77
 Fuel Emissions Factor: 84.32
 Lifetime: 40
 Tree Mortality: 10
 Run Date: 3-30-2021

Group Id	Tree Groi	CO2 Avoide	CO2 Avoide	CO2 Seque	CO2 Sequ	Electricity	Electricity	Fuel Save	Fuel Saver	Tree Bior	Rainfall In	Avoided	Avoided	O3 Remo	NO2 Avoi	NO2 Rem	SO2 Avoi	SO2 Rem	VOC Avoi	PM2.5	PM2.5
1	(2.0) App	3,639.90	\$84.65	2,252.10	\$52.38	1,384.80	\$167.97	5.5	\$43.84	0.6	12,520.00	70	\$0.63	6.8	1.1	0	4	0.9	0.1	0.1	0.1
2	(2.0) Chol	3,715.20	\$86.40	607.4	\$14.13	1,432.50	\$173.76	5.4	\$43.20	0.2	7,295.30	40.8	\$0.36	4.1	1.1	0	4.1	0.5	0.1	0.1	0.1
3	(14.0) Elm	120,267.40	\$2,797.05	41,619.50	\$967.94	46,888.40	\$5,687.56	170.8	\$1,356.91	13.1	205,253.10	1,147.30	\$10.25	138.6	35.1	0.8	131.8	17.2	2.2	4.9	3.1
4	(2.0) Spru	10,816.40	\$251.56	1,338.30	\$31.13	1,930.00	\$234.11	38.6	\$306.60	0.4	6,776.90	37.9	\$0.34	16.6	3.2	0.1	11.9	2	0.3	0.2	0.4
5	(1.0) Hon	3,108.80	\$72.30	2,871.90	\$66.79	1,200.50	\$145.61	4.5	\$36.01	0.8	12,176.60	68.1	\$0.61	4.7	0.9	0	3.4	0.6	0.1	0.1	0.1
6	(5.0) Cott	43,542.80	\$1,012.67	7,016.90	\$163.19	16,946.90	\$2,055.66	62.1	\$493.61	2.1	37,711.10	210.8	\$1.88	25.9	12.7	0.1	47.7	3.2	0.8	1.8	0.6

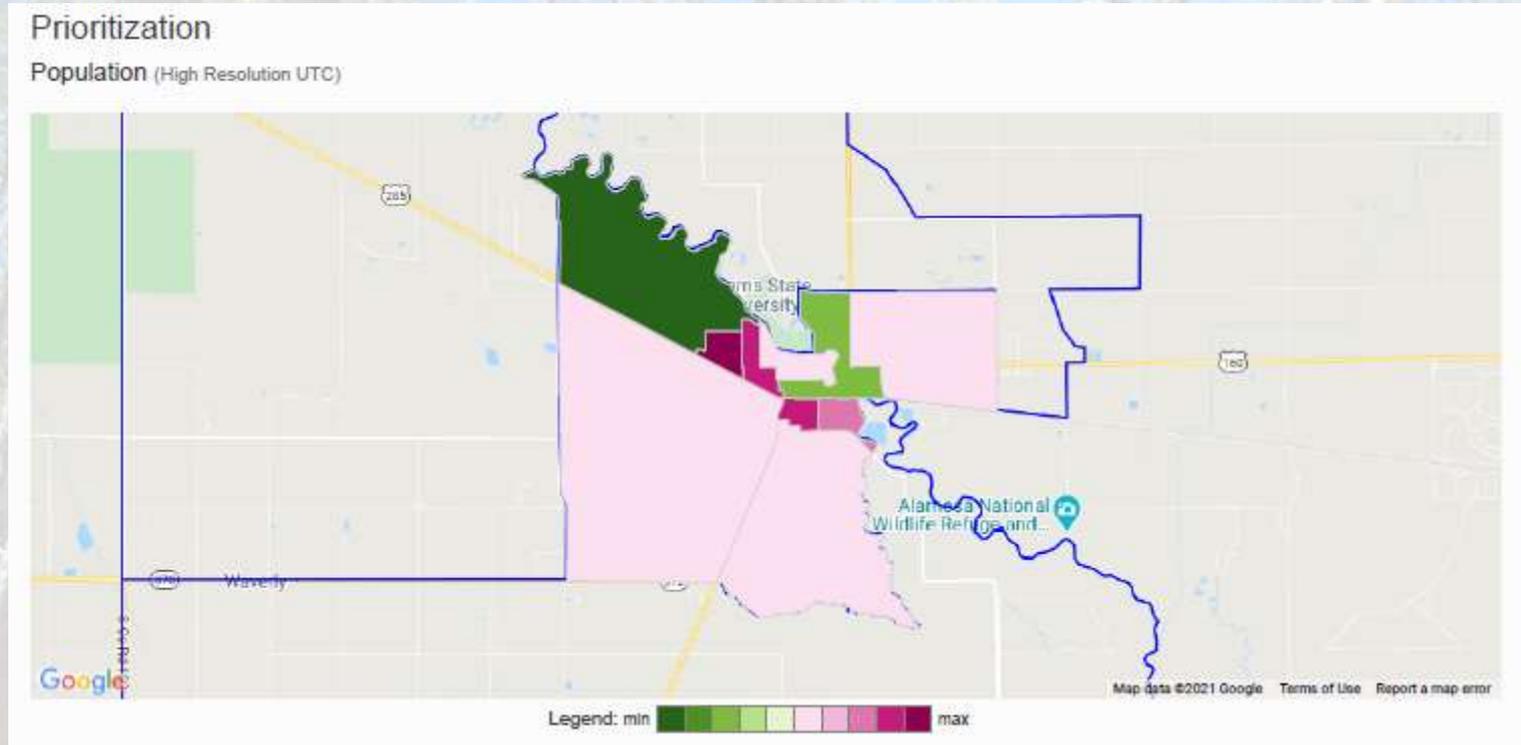
Session 3 – Aerial Applications: I-Tree Landscape and County



- Explore spatial relationships between tree canopy and human populations
- Optimize tree planting and preservation efforts
- Quickly generate ecosystem service estimates and reports with i-Tree County



Session 3 – Aerial Applications: I-Tree Landscape and County



Session 4 – i-Tree Canopy



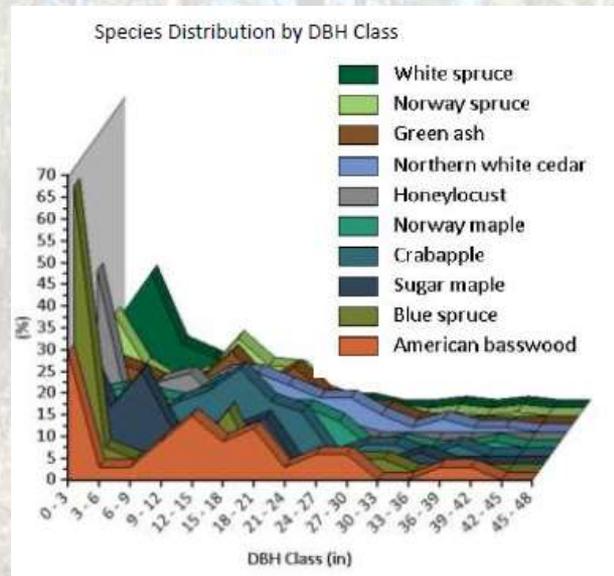
- Estimate canopy and other cover types using i-Tree Canopy
- Explore options to estimate canopy change using Google historical images



Session 5 – Eco Project Phases



- Eco project configuration and data collection for complete & sample projects
- Flexible import system overview
- Exploring Eco project reports, data exporting, and mapping options



Session 6 – Scenario-based learning



- Apply multiple i-Tree applications and options to address real-world challenges
- Gain understanding of how to effectively use Eco for common municipal uses
- Explore the relationship between trees and socioeconomic issues



Questions?

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