

Forest Carbon & Climate Program

FCCP i-Tree MyTree Activity

Introduction

Carbon tools provide a wealth of information to natural resource professionals, scientists, and landowners. However, understanding the scale at which each specific carbon tool operates, and knowing the necessary prior data needed can be a challenge. A variety of tools exists to understand the carbon benefits of trees from the individual tree level to the regional/continental level. One suite of tools that allows users of all levels to learn about the carbon benefits of trees is the U.S. Forest Services' i-Tree platform. The U.S. Forest Service created i-Tree as a peer-reviewed software suite that provides urban and rural forestry analysis and benefits assessment tools.

Trees provide a variety of benefits from removal of atmospheric carbon dioxide to storm water reduction. In this activity, we will utilize the i-Tree MyTree tool which is a web-based software that allows for the quantification of individual tree benefits in urban landscapes. The user simply inputs a small amount of data about an individual tree into the software, and then software generates a variety of benefits in dollar amounts, volume, and weights. This specific tool is useful from the individual tree scale to a few trees primarily in urban

Objectives

1. Understand the scale at which i-Tree MyTree can be useful in urban settings.
2. Demonstrate familiarity with the web interface of i-Tree MyTree.
3. **Produce a report of a tree's carbon benefits, volume, and weight.**
4. Apply knowledge of i-Tree MyTree in both personal and professional settings.

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Part I: MyTree v2.1.8 example exercise



Fig. 1. Placement of example tree from Google



Fig. 2. Vertical profile of example tree


Address: 480 Wilson Road, East Lansing, MI, 48825

Common Name:	Kentucky Coffeetree	Scientific Name:	<i>Gymnocladus dioicus</i>
Tree Condition:	Good	Diameter at Breast Height (DBH):	22 inches
Sun:	Full Sun	Is the tree < 60 ft from building?	yes
Building age:	Built Between 1950-1980	Distance from Building:	41 feet
Building Direction:	West (270°)		

Table 1: Example tree measurements and characteristics

1. Proceed to the [i-Tree MyTree tool](#).
2. Enter “480 Wilson Road, East Lansing, MI, 48824” into the street address box and press “Next”. This is the address for the Natural Resources Building at Michigan State University where the Department of Forestry is located.
3. Type “Example 1” into the Name box
4. In the Tree Species box start typing “Kentucky Coffeetree” for the common name or “Gymnocladus dioicus” for the scientific name. You can click to switch between the “Common” and “Scientific” name beneath the “Tree Species” box. Select that species from the options listed.
5. Select “Good” from the dropdown menu for Tree Condition.

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6. Enter 22 inches for the trunk measurement diameter. You may also click to switch between “Diameter” and “Circumference” beneath the “Trunk Measurement” box, depending on the data available.
7. Select “Full Sun”. from the “Sun Exposure” box.
8. Click “Next”.
9. Select “Yes” to the question “Is your tree within 60 feet of a building?”
10. Select “Built between 1950-1980”.
11. Select “40-59 feet”.
12. Select “West (270°)”.
13. Click “Finish”.
14. Click the blue calculator icon  to calculate the carbon benefits of the tree.

Part I: Questions

1. What is the total dollar amount of benefits provided by the tree this year?
2. What is the volume of runoff avoided by this tree?
3. What is the dollar amount of avoided energy emissions this year?
4. How much CO₂ has been stored over the entire lifetime of the tree in lbs or kg?

Part II: Activity (optional)

For the second part of the activity, we encourage you to select a tree outside of your place of work or home, and repeat the exercise. Below is a list of materials that you will need to complete this exercise. Upon finishing, view the report generated from the software to learn about the trees in your immediate surroundings.

Part II: Materials

1. Soft tape measure, Diameter at Breast Height (DBH) tape, calipers, or yard stick
2. Measuring tape at least 50ft in length
3. Tree ID guide/book

Here we’ve provided some useful tools for identifying trees specific to temperate North America. Please let us know if you need help identifying your tree. i-Tree can be used outside of the United States as well; however, the amount of information and species is limited.

- [Arbor Day: What Tree Is That?](#)
- [Identifying Trees of Michigan](#)

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Part II: Methods

Using a soft measuring tape (or DBH tape if you have one), measure the trees circumference at the appropriate height, 4.5 feet off the ground. If using a DBH tape, simply record the number because the tape automatically converts to diameter (not circumference). If using a measuring tape, converting your measurement to diameter is not necessary because the MyTree software package allows you to input either diameter or circumference. Other alternatives with lower accuracy are using calipers if available or even a yard stick.

Below, we have provided the equation (**eq. 1**) for circumference to diameter if you feel inclined to do so. Complete all of the remaining measurements from Table 1 and then enter them into the MyTree software.

(1) $d=C/\pi$ where C=circumference, $\pi=3.1416$, and d=diameter