

# TampaTreeMap.org: A tree inventory system built for citizen science

January 22, 2015

Arbor Day Workshop  
Tampa, Florida

Source: Hampton Dunn Postcards Collection, USF Library



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Research Associate Professor  
School of Geosciences

# Outline

- ▶ Introduction
- ▶ System overview
- ▶ Example Uses
- ▶ Demonstration

The screenshot shows the homepage of the Tampa Tree Map website. The header includes the site logo, user information (shawnlandry 1895 rep), and navigation links (Home, About, Resources, Explore Trees, Contact). A search bar is present with options to search by location (Tampa, FL) and species (All trees). The main content area features a green banner with the text "Mapping Tampa and USF's trees and growing a green future together" and a sub-headline "Tampa & USF Tree Map is a web-based map database of trees within the City of Tampa and USF campus." Below the banner are buttons for "Explore Trees", "Add a Tree", and "How to Map Trees". The bottom section is divided into three columns: "Most Common Trees" with counts for live oak (781), cabbage palm (309), laurel oak (259), and crape myrtle (137); "Active Neighborhoods" listing various areas like Hillsborough County and Hyde Park; and "Recent Additions" with a gallery of tree photos and a "Mobile Apps" download button.

The screenshot shows the search results page on the Tampa Tree Map website. The search criteria are "Tampa, FL" and "All trees", resulting in "4,381 trees selected". A "Yearly Eco Impact" section lists the following benefits for the selected trees:

- Total Benefits: \$367,451 saved
- Greenhouse Gas Benefits: 2,253,274 lbs CO2 reduced, \$90,130 saved
- Water Benefits: 23,770,273 gallons conserved, \$237,702 saved
- Energy Benefits: 276,387 kWh conserved, \$33,166 saved
- Air Quality Benefits: -109 lbs pollutants reduced, \$6,451 saved

The right side of the page features a map of Tampa with green markers indicating the locations of the 4,381 trees. A "View Satellite" button is available for the map. The bottom of the page includes a "Locate Me" button and an "Export this search: KML, CSV, Shapefile" option.





# Introduction: Matching the Need with the Resources

- ▶ Tampa needed a tree inventory system
- ▶ Wanted to encourage neighborhood stewardship
- ▶ Lacked support to manage urban forest website and mapping
- ▶ USF and UF had experience to develop an inventory system
- ▶ Florida Forest Service, Tampa, UF / HC Extension and USF provided funding

wateratlas.org  
www.wateratlas.usf.edu

"When the well is dry, we know the worth of water"  
—Benjamin Franklin

Home About Partners Atlases Services Contact Us

Participate in Volunteer Monitoring Programs

Welcome to the Water Atlas

The Water Atlas Program was designed to help meet the needs of local governments by providing the means through technology to connect multiple stakeholders in water resource management. The Atlas serves as a one-stop data warehouse, which provides unprecedented access to a wealth of water resource information. This information is presented in a variety of ways, including interactive graphs, tables, maps and graphics, so as to be understandable to both water research professionals and those people simply interested in learning more about the water resources within their area.

Learn more about the Water Atlas >

PlantAtlas.org - Visit our  
plantatlas.usf.edu

plantatlas.org

Become a Partner

What is the Plant Atlas? The Plant Atlas is an evolving partnership of herbaria, universities, conservation organizations, government agencies, and information technology professionals. Project partners are united by a common need to manage and disseminate vascular and non-vascular plant information with colleagues and the public. The online Plant Atlas application, originally developed by the University of South Florida, is the tool that these partners have chosen to meet their needs. Project partners share the development and membership costs and benefits from the ongoing improvements to the system.

[CONTACT US for more information](#)

Partner List

Partner	Species	Specimens	Images
Alabama Plant Atlas Sponsors: Alabama Herbarium Consortium, The University of West Alabama	4,041	121,364	57,163
Atlas of Florida Vascular Plants Sponsors: Institute for Systematic Botany	4,292	94,910	109,748
New York Flora Atlas Sponsors: The New York Flora Association	3,899	156,100	2,511

New

Developed in partnership with Orange County, FLEPPC and USF, FLIP (Florida Invasive Plants) is a mobile field guide that can be accessed by a computer, smart phone, tablet, or other device with internet browser capability. [Learn more about FLIP](#)

Features

The Plant Atlas website incorporates standards-based data-driven internet technologies to disseminate plant information, images and distribution maps to the public. The following is an abbreviated list of functionality available:

- Plant species are searchable by scientific and common name, including synonyms; known presence within a county; nomenclature citation information; availability of a herbarium specimen image; and listing as threatened/endangered, native, endemic, invasive, wetland and other characteristics.
- Search results can be presented as a spreadsheet-style list of plant species or as a gallery of plant images along with summary information for the purpose of comparison.
- Search result pages provide options to improve usability, including sort by family, genus or other columns; filter based on selected characteristics, such as presence of a photograph or specimen image, or

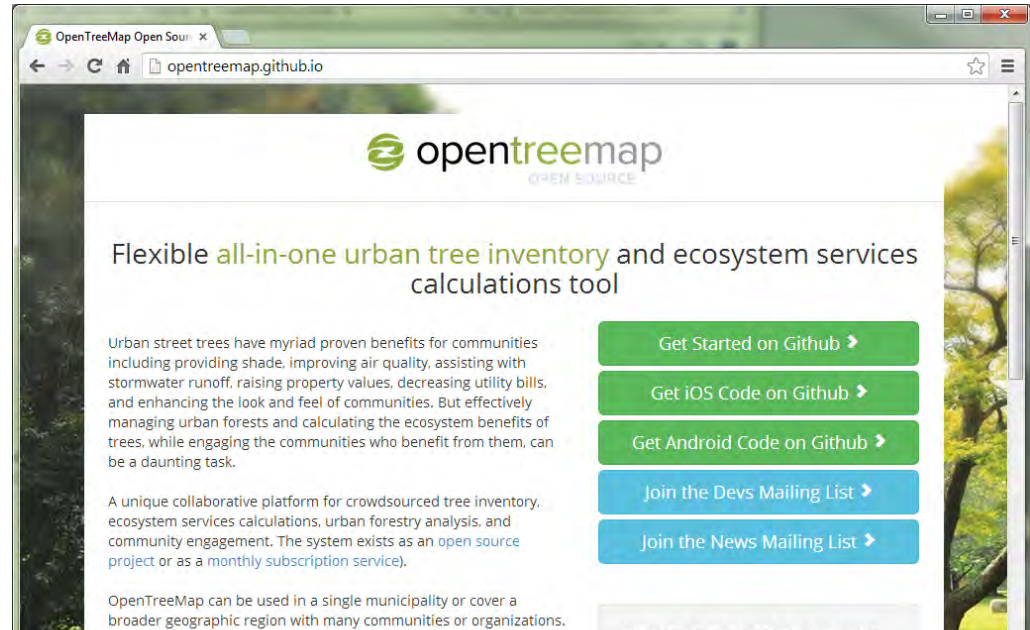
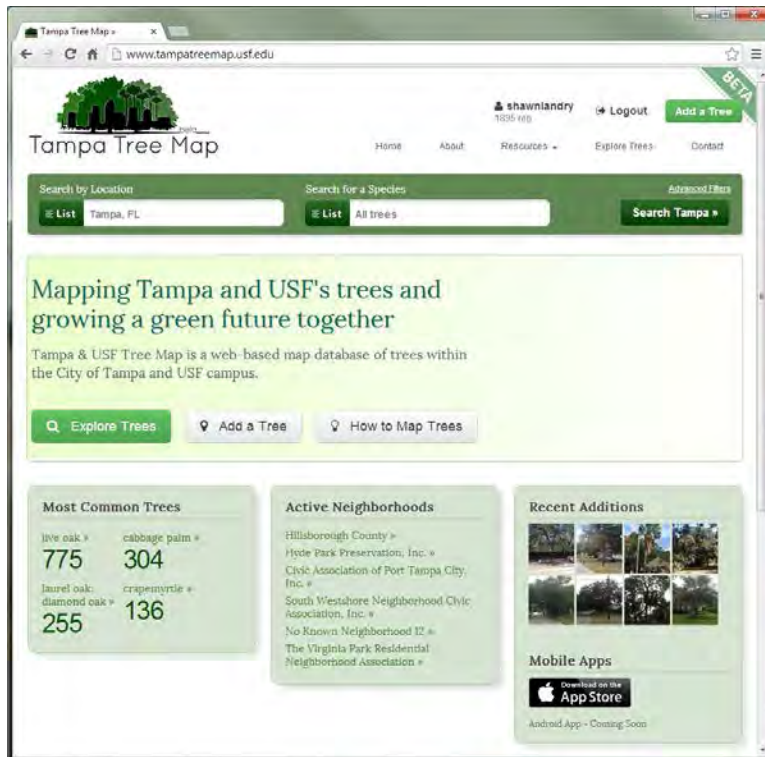
# Project Partners

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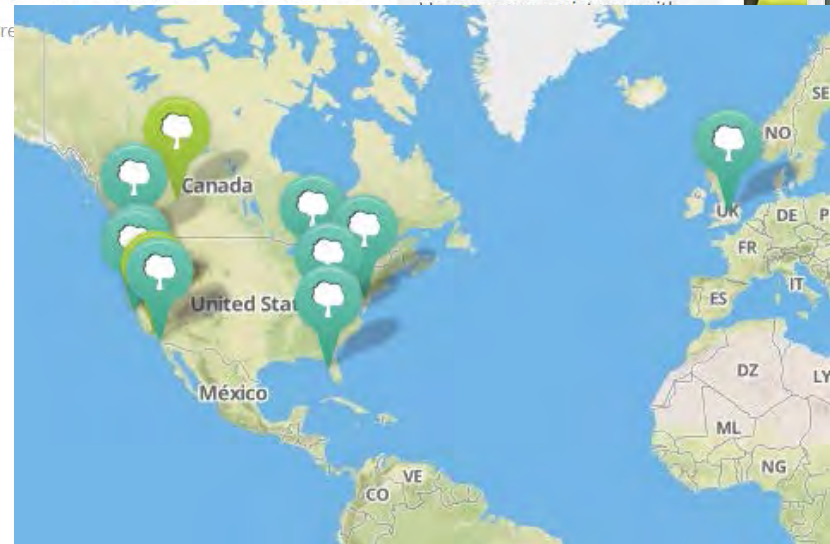
- ▶ **City of Tampa**
  - ▶ Kathy Beck
  - ▶ Rob Irving
  - ▶ Cathy Coyle
- ▶ **University of Florida**
  - ▶ Michael Andreu
  - ▶ Andrew Koeser
  - ▶ Rob Northrop
- ▶ **University of South Florida**
  - ▶ Shawn Landry
  - ▶ Christian Wells
  - ▶ Barbara Donerly
  - ▶ students
- ▶ **Florida Forest Service**
  - ▶ Charlie Marcus
- ▶ **The “crowd”**



# Open Tree Map open-source technology



- ▶ Cost paid by grant – maintenance by City
- ▶ Open Tree Map – One of few cities
- ▶ Tampa-specific master tree list and key
- ▶ Tested with students and foresters
- ▶ Developed training materials (ongoing)

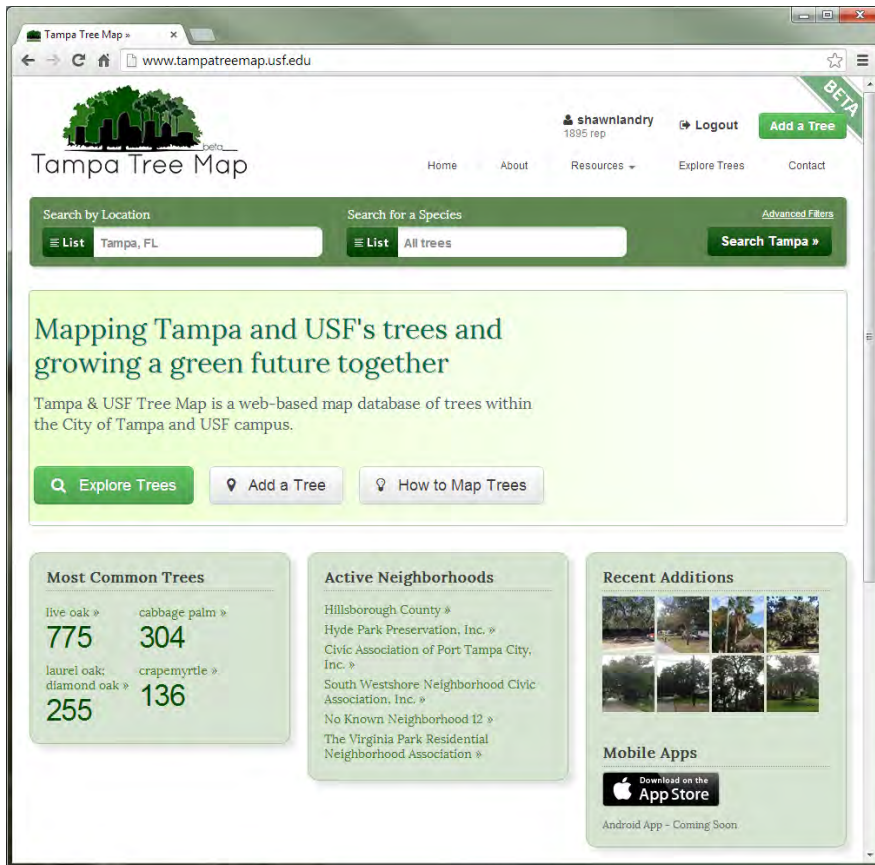




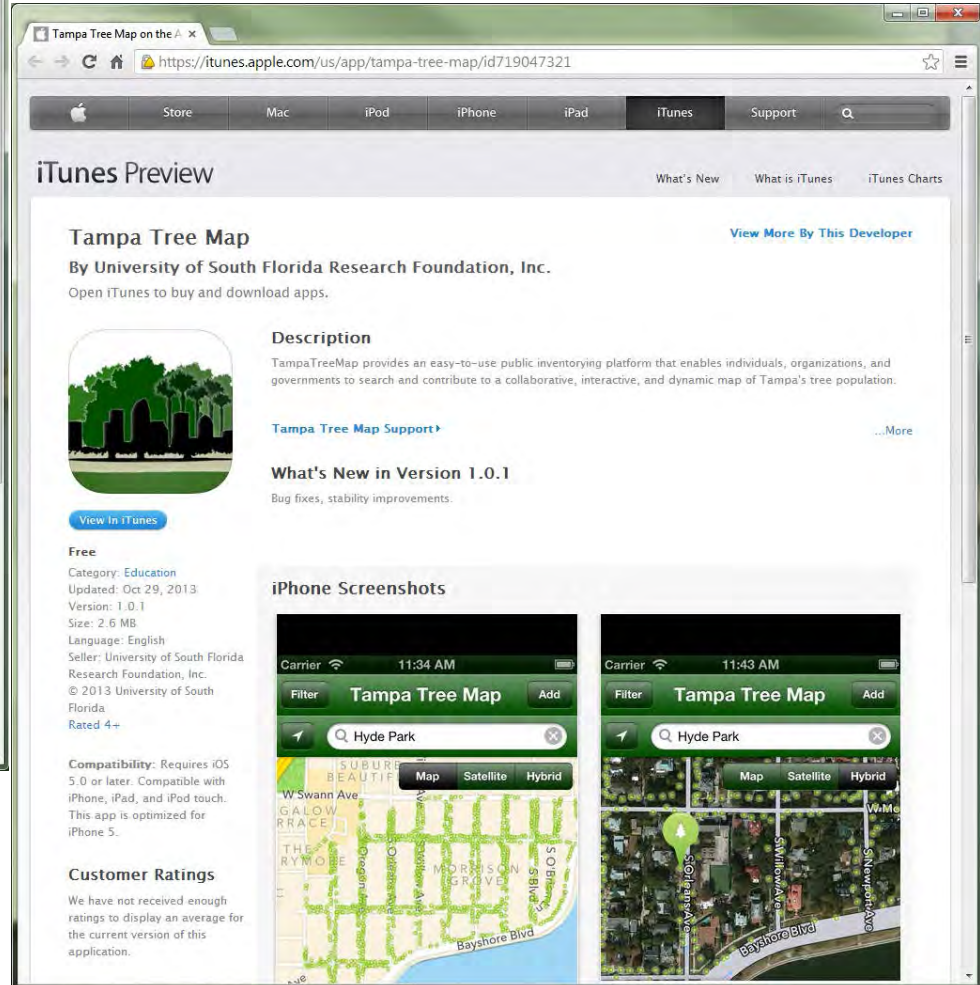
# System Overview

A perspective view of a tree-lined street. The street is paved and runs straight into the distance. On both sides, there are rows of mature trees with dense green foliage. To the left, a stone wall and a building with classical architectural features are visible. The lighting is soft, suggesting a late afternoon or early morning setting.

# System Overview



Web-browser version



IOS app version



# System Overview: Viewing the details

Tampa Tree Map » Search x

www.tampatreemap.usf.edu/map/

shawnlia  
1895 rep

Home About Resources

Search by Location Search for a Species

List Hyde Park Preservation, Inc. List All trees

1,116 trees selected

**Yearly Eco Impact**  
Selected trees in Hyde Park Preservation, Inc.

- Total Benefits**  
\$95,192 saved
- Greenhouse Gas Benefits**  
619,262 lbs CO2 reduced  
\$24,770 saved
- Water Benefits**  
5,952,340 gallons conserved  
\$59,523 saved
- Energy Benefits**  
75,711 kWh conserved  
\$9,085 saved
- Air Quality Benefits**  
40 lbs pollutants reduced  
\$1,813 saved

live oak  
*Quercus virginiana*

- View all details  
Tree's profile page
- Edit details  
Tree's edit page
- Add as favorite

Nearby address: 822 South Oregon Avenue  
Trunk diameter: 10.10 in  
Last updated: June 27, 2013

Locate Me

Tampa Tree Map » x

www.tampatreemap.usf.edu/plots/557/

live oak Edit Info

822 South Oregon Avenue, Tampa FL  
None

Plot number: 557

Common Attributes +

**General Tree Information**

Scientific name	<i>Quercus virginiana</i>
Common name	live oak
Tree number	611
Trunk diameter	10.10 inches
Tree height	18.00 feet
Canopy height	Missing

**Yearly Ecosystem Services**

	Value
Stormwater intercepted	3237 gal \$32.37
Energy conserved	50 kWh \$5.96
Air pollutants removed	-0.144 lbs \$0.95
Carbon dioxide reduced	401 lbs \$16.05
Total CO <sub>2</sub> stored to date	1663 lbs \$66.54

**Environment & Plot Information**

Nearby address	822 South Oregon Avenue Tampa FL 33606
Plot size	8.00 ft x 30.00 ft
Plot type	Tree Lawn
Powerlines overhead	Missing
Sidewalk damage	Minor or No Damage
Additional Info	None

**Your Turn**  
Our database of trees comes from public records and citizen foresters like you. Update the information for this tree and help us grow!

**Recent Contributors**

- today - medliph0
- 06/27/2013 - medliph0
- 06/27/2013 - medliph0
- 06/27/2013 - medliph0
- 06/27/2013 - medliph0

**Tools**

- Add as favorite
- Like 0
- Tweet
- +1

**Latest Update**

Username medliph0  
Date Jan. 10, 2014

50% complete

Edit this tree »

**Comments**

No comments yet!

Post

The comment system does not serve as a way to report problems with a tree.



# System Overview: Adding Trees

Tampa Tree Map

shawnlndry 1895 rep Logout Add a Tree

Search by Location: Tampa, FL Search for a Species: All trees

### Add a New Tree

**Step 1** 2801 san rafael st Tampa Update Map

**Step 2 Specify Placement**  
Click-and-drag the orange circle to move it to the correct location.

**Address Found:** 1905-1923 South Habana Avenue, Tampa, FL 33629, USA

#### Nearby Trees

Found 2 planting site(s) that are too close to the tree you want. Please double-check that you are adding a tree that is already on the map.

- cabbage palm (#2194) Sabal palmetto
- goldenrain tree (#2192) Koelreuteria paniculata

**Step 3 Enter Tree & Plot Information**

#### Tree Information

Species name: Enter a Species Name [Not sure what kind of tree it is? Find out in the Tree Key.](#)

Trunk size (inches):  Trunk diameter or circumference (at 4.5 ft. above ground) in inches. Note: Circumference measurements will automatically be converted into diameter values.

Diameter  Circumference

Tree height (feet):

#### Plot Information (Also Known as Planting Site)

Plot type:

Plot length (feet):  Measure and enter the length of the plot. Leave blank if you are unsure or cannot measure.

Plot width (feet):  Measure and enter the width of the plot. Leave blank if you are unsure or cannot measure.

Power lines:  Is a power line above the tree (within 10 ft. of trunk)?

Sidewalk damage:

Additional Management Info:  Add any additional comments you think may help us understand more about your tree (e.g. insect damage, storm damage, pruned for power lines, etc.)

**Step 4 After I add this tree...**

- Add another tree using the same details
- Add another tree with new details
- Continue editing this tree
- I'm finished

Add this Tree!

Tampa Tree Map

www.tampatreemap.usf.edu/trees/add/

### Step 3 Enter Tree & Plot Information

#### Tree Information

Species name:  [Not sure what kind of tree it is? Find out in the Tree Key.](#)

Trunk size (inches):  Trunk diameter or circumference (at 4.5 ft. above ground) in inches. Note: Circumference measurements will automatically be converted into diameter values.

Diameter  Circumference

Tree height (feet):

#### Plot Information (Also Known as Planting Site)

Plot type:

Plot length (feet):  Measure and enter the length of the plot. Leave blank if you are unsure or cannot measure.

Plot width (feet):  Measure and enter the width of the plot. Leave blank if you are unsure or cannot measure.

Power lines:  Is a power line above the tree (within 10 ft. of trunk)?

Sidewalk damage:

Additional Management Info:  Add any additional comments you think may help us understand more about your tree (e.g. insect damage, storm damage, pruned for power lines, etc.)

#### Step 4 After I add this tree...

- Add another tree using the same details
- Add another tree with new details
- Continue editing this tree
- I'm finished

Add this Tree!

# System Overview: Interactive Key

**www.tampatreemap.usf.edu/treekey/start/**

**Scales**

What kind of leaves does this tree have?

**Leaves**

- Simple
  - Opposite
    - Lobed
      - Not lobed
      - Not total
      - Total
    - Alternate
      - Lobed
        - Not lobed
        - Smooth
          - Leaves fragrant when crushed
          - Leaves not fragrant when crushed
        - Acorns (oak trees)
          - Serrate (toothed)
  - Compound
    - Twice compound
    - Once compound
    - Palmately compound
- Needles
  - Single
    - Bundles (fascicles)
      - 2 per bundle (fascicle)
      - 3 per bundle (fascicle)
      - 2 or 3 per bundle (fascicle)
- Fronds
  - Feather shaped
    - Unarmed petioles (no teeth or spines on leaf stem)
    - Armed petioles (with teeth or spines on leaf stem)
  - Fan shaped
    - Armed petioles (with teeth or spines on leaf stem)
    - Unarmed petioles (no teeth or spines on leaf stem)

**Leaves**

Does the tree have scale-like evergreen leaves?

**Needles**

Does the tree have needle-like evergreen leaves?

**Fronds**

Does the tree have fronds? (is it a palm?)

**www.tampatreemap.usf.edu/treekey/node/15/**

**Scales**

**Leaves**

- Simple
  - Opposite
    - Lobed
      - Not lobed
      - Not total
      - Total
    - Alternate
      - Lobed
        - Not lobed
        - Smooth
          - Leaves fragrant when crushed
          - Leaves not fragrant when crushed
        - Acorns (oak trees)
          - Serrate (toothed)
  - Compound
    - Twice compound
    - Once compound
    - Palmately compound
- Needles
  - Single
    - Bundles (fascicles)
      - 2 per bundle (fascicle)
      - 3 per bundle (fascicle)
      - 2 or 3 per bundle (fascicle)
- Fronds
  - Feather shaped
    - Unarmed petioles (no teeth or spines on leaf stem)
    - Armed petioles (with teeth or spines on leaf stem)
  - Fan shaped
    - Armed petioles (with teeth or spines on leaf stem)
    - Unarmed petioles (no teeth or spines on leaf stem)

**Acorns (oak trees)**

**sand live oak**

**Distinguishing Features:** Similar to live oak (*Quercus virginiana*) though typically smaller in stature. Sand live oak can be distinguished from live oak by its heavily cupped leaves with deeply pressed veins on surface and pale pubescence (hairs) underneath.

**Darlington oak**

**Distinguishing Feature:** from *Quercus laurifolia* (d. hemisphaerica typically to sites)

**water oak**

**Distinguishing Feature:** (30-50 years) tree, semi-

**live oak**

**Distinguishing Feature:** One of the broadest sp...

**laurel oak**

**Distinguishing Feature:** indistinguishable from *Q. f...* in natural areas. *Q. f...* *laurifolia* found on wet s...

**www.tampatreemap.usf.edu/treekey/species/106/**

**Scales**

**Leaves**

- Simple
  - Opposite
    - Lobed
      - Not lobed
      - Not total
      - Tidal
    - Alternate
      - Lobed
        - Not lobed
        - Smooth
          - Leaves fragrant when crushed
          - Leaves not fragrant when crushed
        - Acorns (oak trees)
          - Serrate (toothed)
  - Compound
    - Twice compound
    - Once compound
    - Palmately compound
- Needles
  - Single
    - Bundles (fascicles)
      - 2 per bundle (fascicle)
      - 3 per bundle (fascicle)
      - 2 or 3 per bundle (fascicle)
- Fronds
  - Feather shaped
    - Unarmed petioles (no teeth or spines on leaf stem)
    - Armed petioles (with teeth or spines on leaf stem)
  - Fan shaped
    - Armed petioles (with teeth or spines on leaf stem)
    - Unarmed petioles (no teeth or spines on leaf stem)

**water oak**

*Quercus nigra*

**Distinguishing Features:** Medium sized, fast growing but short lived tree (30-50 years) tree, semi-evergreen with brief showy color in the fall.

**Type:** Deciduous

**Form at maturity:** Medium sized tree, height 60-80 ft, spread 50-70 ft, slender bole and rounded crown with ascending branches.

**Leaf:** Alternate, simple, 2 to 4 inches long and extremely variable in shape (from spatulate to lanceolate), may be 0 to 5 lobed, margins may be entire or bristle-tipped, both surfaces are glabrous, but axillary tufts may be present below

**Flower:** Staminate flowers borne on catkins. Pistillate flowers borne on spikes, appearing with the leaves.

**Bark:** Bark dark and quite tight, smooth when young and later with irregular rough patches; much later developing wide, scaly ridges. Twigs slender, red-brown; buds short, sharp-pointed, angular, red-brown, multiple at the tip.

**Fruit or Seed:** Acorns are 1/2 inch long, very dark in color, and 1/3 covered by a flattened cap with appressed scales, maturing in fall of the second year.

**Other:** Source: <http://dendro.cnr.vt.edu/dendrology/syllabus/factsheet.cfm?ID=73>  
<http://edis.ifas.ufl.edu/ist563>

View additional tree information >>

**Helpful Identification Photos**

Click an image to see the original/larger version in a new window.

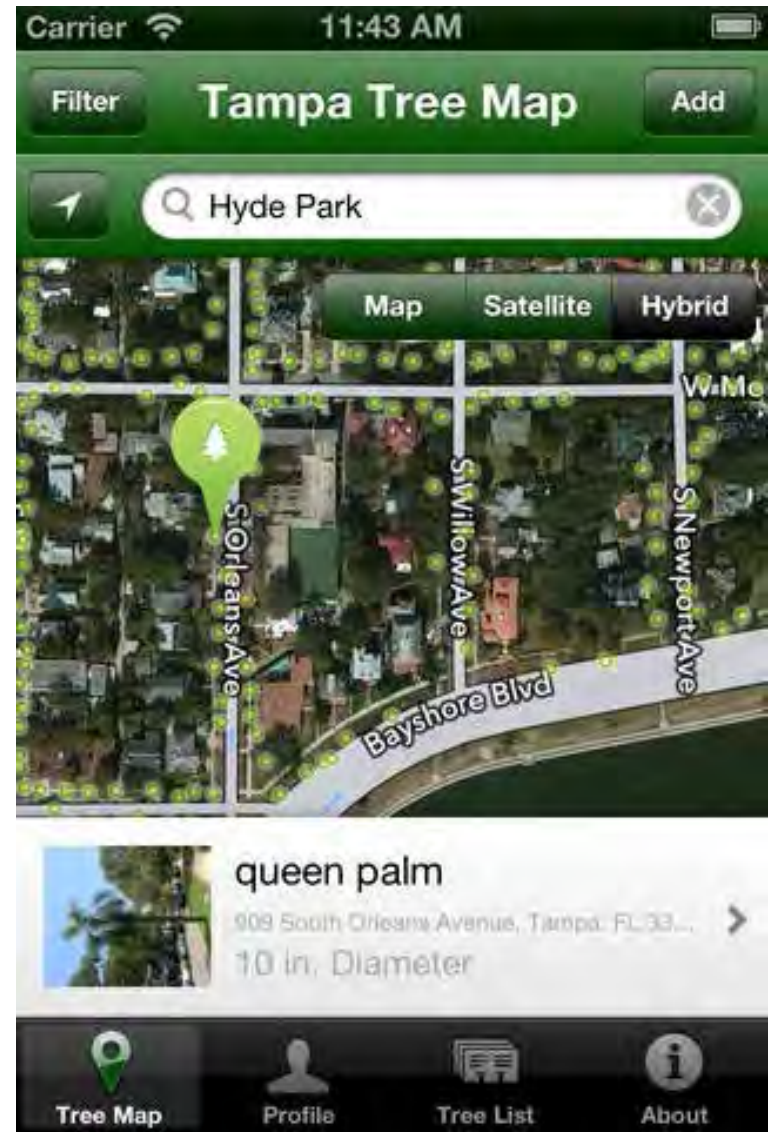
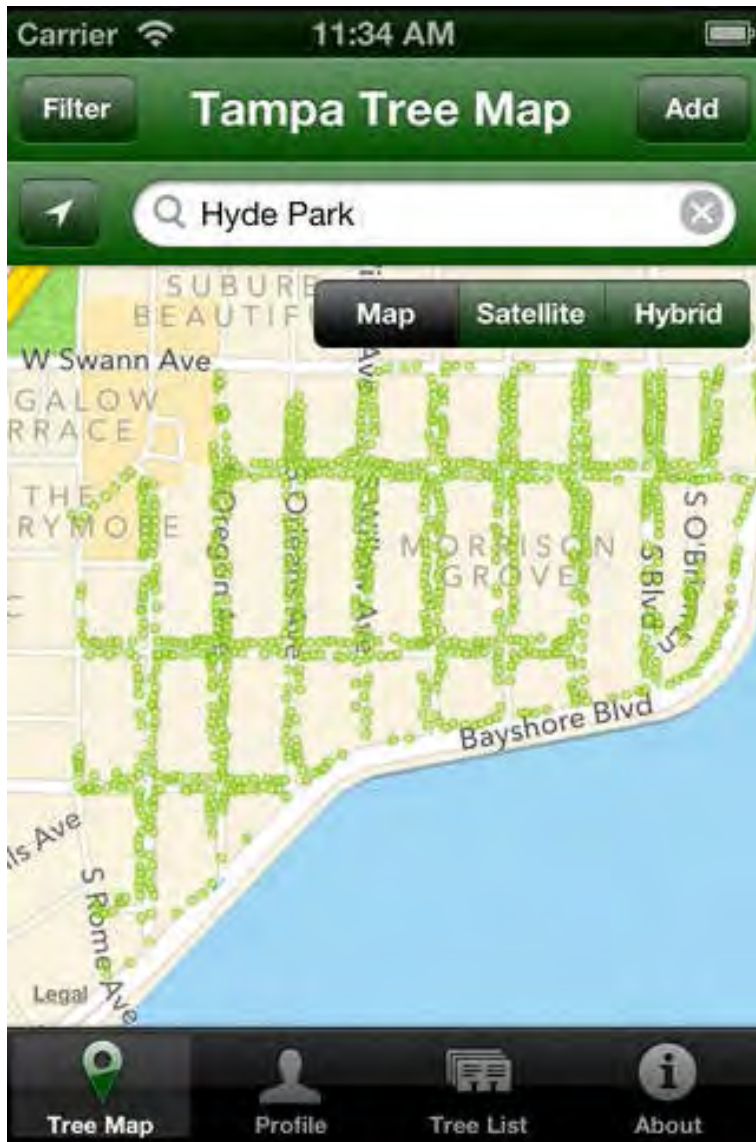
*Quercus nigra* leaf  
Atlas of Florida Vascular Plants

*Quercus nigra* main catkin  
Atlas of Florida Vascular Plants

*Quercus nigra* acorn  
Atlas of Florida Vascular Plants




# System Overview: iOS App



# System Overview: Users and Reputation Points

Tampa Tree Map » x  
www.tampatreemap.usf.edu/profiles/shawnlandry/


 **Tampa Tree Map** beta

shawnlandry 1895 rep [Logout](#) [Add a Tree](#) **BETA**

Home About Resources Explore Trees

Search by Location Search for a Species

List Tampa, FL List All trees Search



Change photo »

**shawnlandry**  
Joined on Mar 14, 2013

**Profile**  
Not publicly displayed

Shawn Edit  
Landry Edit  
landry@usf.edu Edit  
33620 Edit  
Password Reset

**Keep Me Updated with Occasional Emails**  
Not publicly displayed

No Change

**Account Active?**  
Keep this as "yes" unless you want to delete your account

Yes Change

**Feedback**


**Profile**

**Favorite Trees**  
You have not favorited any trees yet!


**20 Most Recently Added/Edited Trees**

	Tree Species	Date Planted	Last Updated
<a href="#">View</a>	cabbage palm	Unknown	12/26/13 11:55
<a href="#">View</a>	cabbage palm	Unknown	12/26/13 11:55
<a href="#">View</a>	cabbage palm	Unknown	12/26/13 11:55
<a href="#">View</a>	cabbage palm	Unknown	12/26/13 11:55
<a href="#">View</a>	laurel oak; diamond oak	Unknown	12/12/13 06:18
<a href="#">View</a>	Unknown	Unknown	10/12/13 03:15
<a href="#">View</a>	common bamboo	Unknown	08/16/13 07:13
<a href="#">View</a>	common bamboo	Unknown	08/16/13 07:13
<a href="#">View</a>	goldenrain tree	Unknown	08/15/13 02:34
<a href="#">View</a>	goldenrain tree	Unknown	08/15/13 02:34
<a href="#">View</a>	goldenrain tree	Unknown	08/15/13 02:34
<a href="#">View</a>	goldenrain tree	Unknown	08/15/13 02:34


**Recent Photos Added**




Tree #: 2542  
Added on: Dec 26, 2013




Tree #: 2239  
Added on: Aug 15, 2013




Tree #: 2231  
Added on: Aug 15, 2013



Tree #: 2233  
Added on: Aug 15, 2013



Tree #: 2232  
Added on: Aug 15, 2013



Tree #: 2230  
Added on: Aug 15, 2013

**Total Reputation: +1895**

**Recent Reputation Changes**

Action	Date	Value
add tree	12/26/13 11:55 AM	+25
add tree	12/12/13 06:18 AM	+25
add tree	10/12/13 03:15 PM	+25
edit plot	10/12/13 03:15 PM	+5
edit tree	10/12/13 03:14 PM	+5
edit plot	10/12/13 03:14 PM	+5
edit plot	09/19/13 03:15 PM	+5

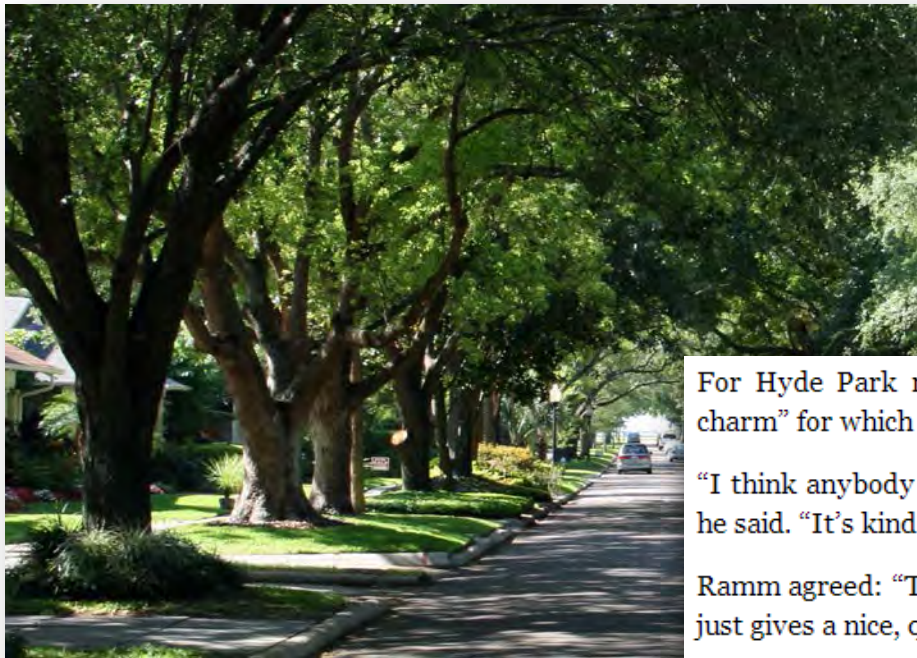


# Example Uses



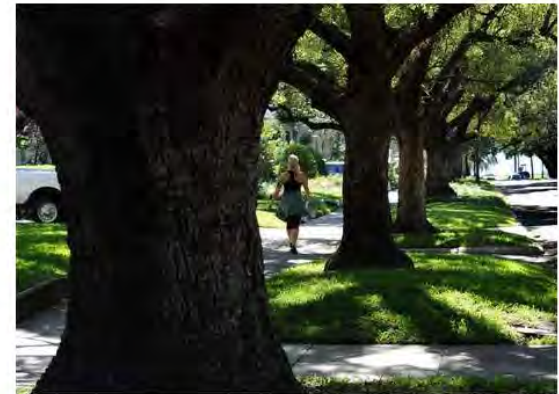
# User Experience: Neighborhood Street Tree Mapping

- ▶ Hyde Park Neighborhood
- ▶ Trees in decline (laurel oaks)
  - ▶ >80 trees removed since 2012
- ▶ Residents wanted replanting plan
  - ▶ And, willing to pay to plant 62 larger trees
- ▶ City staff wanted tree inventory



## Hyde Park's dying laurel oaks replaced

Photos



The city is removing between 100 dead and dying laurel oak trees from the Hyde Park area. The neighborhood association's board recently allocated \$15,000 to buy more mature oak trees to replace the ones that have to come down. CLIFF MCBRIDE/STAFF

◀ 1 of 2 ▶

By ELIZABETH BEHRMAN  
Tribune staff

Published: October 28, 2013

TAMPA — In Old Hyde Park, as in many of Tampa's older neighborhoods, the canopy of mature trees is a point of pride for residents.

For Hyde Park residents, the trees help give the historic neighborhood the “southern charm” for which it is known, Walker said.

“I think anybody from Tampa knows that this is Tampa when they come to Hyde Park,” he said. “It’s kind of a unique neighborhood.”

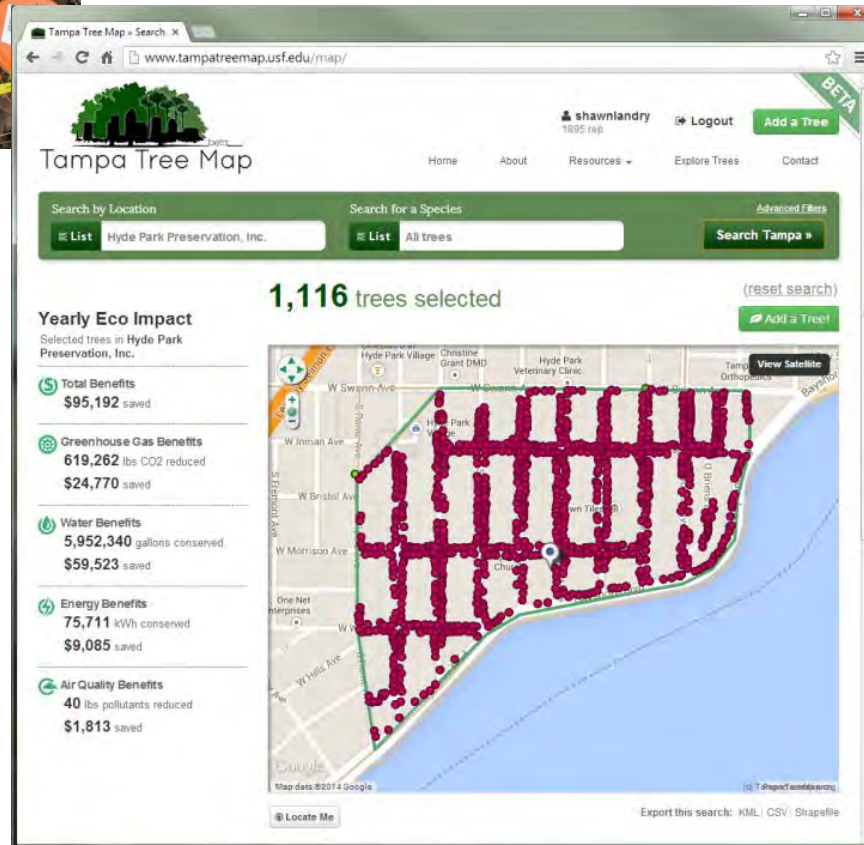
Ramm agreed: “The trees are important because it’s the character of the neighborhood. It just gives a nice, quiet feeling in a very urban area.”



# Neighborhood Street Tree Mapping

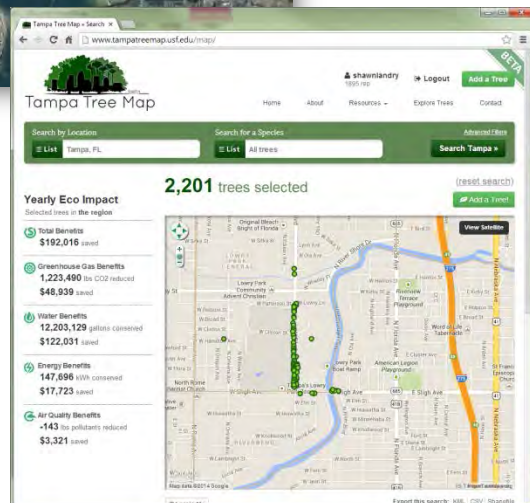
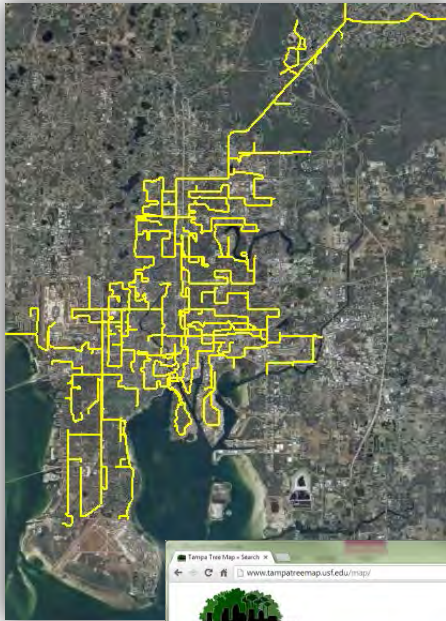


- ▶ Neighborhood is test location for Tree Map
- ▶ Forestry intern works with City Forester
- ▶ 1,116 trees surveyed



# Push-Route Sampling (led by Andrew Koeser at UF)

- ▶ First routes to be opened up after a storm – to critical facilities
- ▶ Estimate of tree condition on push routes (sample of the total 321 miles)





# Push-Route Sampling

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- ▶ Model the factors that impact risk and health ratings
- ▶ Baseline for growth and longevity related research (e.g., pruning cycle optimization)
- ▶ Storm damage and debris prediction modeling (after Tampa is hit by a future storm)



# Neighborhood inventories

- ▶ Highlight neighborhood and/or single tree benefits
- ▶ Educate neighbors about tree stewardship
- ▶ Identify tree health / risks
- ▶ Track new plantings over time

## Yearly Eco Impact

Selected trees in Hyde Park  
Preservation, Inc.

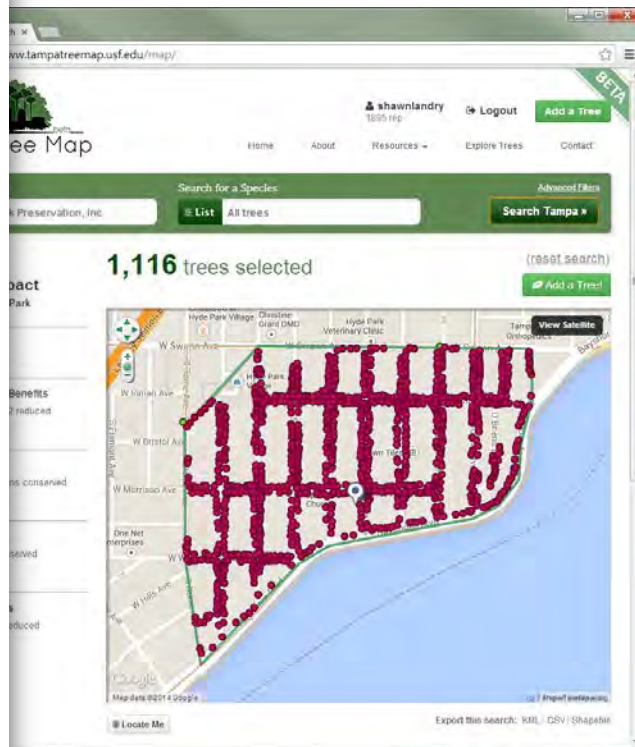
**Total Benefits**  
\$95,192 saved

**Greenhouse Gas Benefits**  
619,262 lbs CO2 reduced  
\$24,770 saved

**Water Benefits**  
5,952,340 gallons conserved  
\$59,523 saved

**Energy Benefits**  
75,711 kWh conserved  
\$9,085 saved

**Air Quality Benefits**  
40 lbs pollutants reduced  
\$1,813 saved



## live oak

820 South Orleans Avenue, Tampa FL  
None

Plot number: 850

### Common Attributes

### General Tree Information

Scientific name	<i>Quercus virginiana</i>
Common name	live oak
Tree number	903
Trunk diameter	22.80 inches
Tree height	25.00 feet
Canopy height	Missing

### Yearly Ecosystem Services

		Value
Stormwater intercepted	13040 gal	\$130.40
Energy conserved	151 kWh	\$18.17
Air pollutants removed	-1.379 lbs	\$2.21
Carbon dioxide reduced	1301 lbs	\$52.06
Total CO <sub>2</sub> stored to date	12366 lbs	\$494.64

### Environment & Plot Information

Nearby address	820 South Orleans Avenue Tampa FL 33606
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Comments



# Mapping with minimal technology

## Use paper forms in the field



**TampaTreeMap.org**  
**Tree Inventory Field Data Sheet**

Mark and number the tree on a printed aerial image. Enter the identifying number: \_\_\_\_\_

Nearby Street Address: \_\_\_\_\_

Species Name (if known): \_\_\_\_\_

Trunk Size (inches): \_\_\_\_\_ Tree Height (feet): \_\_\_\_\_ Canopy Height (feet): \_\_\_\_\_ Date Planted (if known): \_\_\_\_\_

Plot Type:  Well or Pit  Median  Tree Lawn  Island  
 Planter  Open Area  Natural Area  Other

Plot Length (feet): \_\_\_\_\_ Plot Width (feet): \_\_\_\_\_ (leave blank if not applicable, e.g. open area or natural area)

Is there a power line overhead?:  Yes  No  Unknown (within 10ft of trunk)

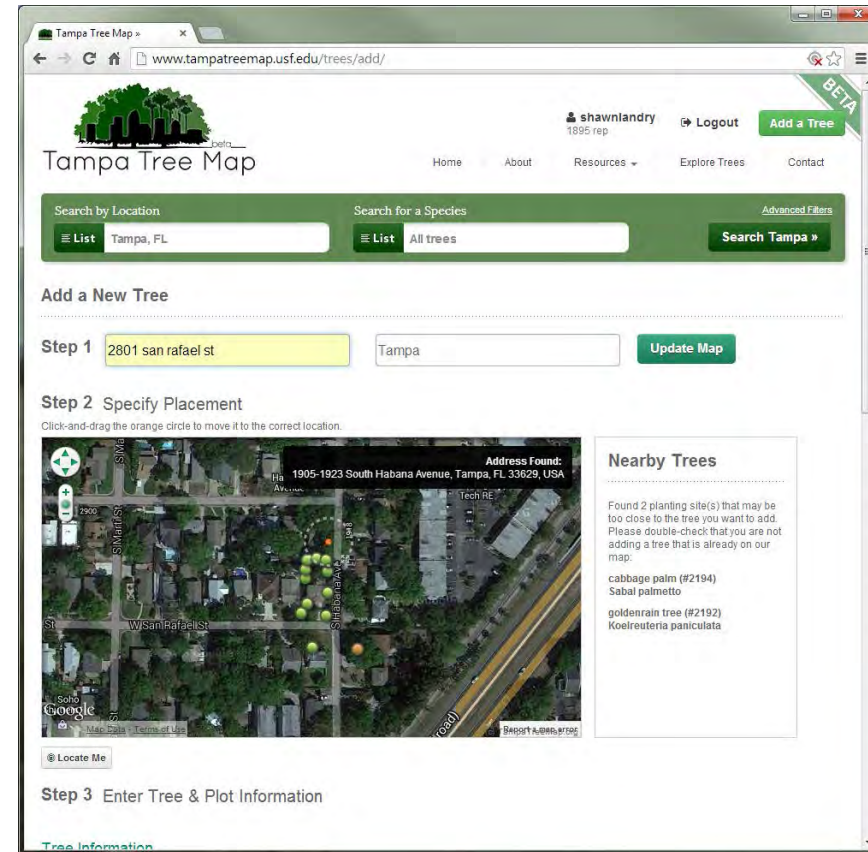
Sidewalk Damage:  No Sidewalk  Minor or no damage  Raised more than ¼ inch

Tree Condition: Tree condition requires a trained eye to evaluate, except for two categories. If a tree is missing or has been removed, select REMOVED. If the tree contains no living parts, no leaves, and is completely dead, select DEAD.  
 Dead  Removed  
For trained foresters only  Excellent  Very Good  Good  Fair  Poor  Critical

Canopy Condition: Estimate the fullness of the tree canopy. Visualize an idealized outline of the tree canopy and estimate the percent of foliage on the top or sides of the canopy that are absent.  
 Full: no gaps  Small gaps: up to 25% missing  Moderate gaps: up to 50% missing  
 Large gaps: up to 75% missing  Little or no canopy: up to 100% missing

Additional management info (comments about the tree, e.g. insect/storm damage, pruned for power lines, etc.):  
\_\_\_\_\_

## Enter data on desktop computer



The screenshot shows the Tampa Tree Map web application interface. The browser address bar displays "www.tampatreemap.usf.edu/trees/add/". The page features a navigation menu with "Home", "About", "Resources", "Explore Trees", and "Contact". A search bar is present with "Search by Location" and "Search for a Species" options. The "Add a Tree" button is highlighted in green. The main content area is titled "Add a New Tree" and includes a "Step 1" section with a text input field containing "2801 san rafael st" and a "Tampa" dropdown menu, followed by an "Update Map" button. The "Step 2 Specify Placement" section includes a map view showing a satellite image of a residential area with an orange circle indicating the tree location. A sidebar on the right lists "Nearby Trees" with species names and IDs. The "Step 3 Enter Tree & Plot Information" section is partially visible at the bottom.

# Tree mapping events

- ▶ Organize a tree mapping event on campus
- ▶ Help students learn how to map and measure trees

The screenshot displays the Tampa Tree Map website interface. At the top, there is a navigation bar with links for Home, About, Resources, Explore Trees, and Contact. A search bar is prominently featured, showing the current search criteria: 'USF' for location and 'All trees' for species. The main content area is titled '504 trees selected' and includes a 'View Satellite' button. On the left side, a 'Yearly Eco Impact' section provides a detailed breakdown of the environmental benefits of the selected trees. The map on the right shows the University of South Florida campus with numerous green tree icons indicating the locations of the mapped trees.

**Yearly Eco Impact**  
Selected trees in USF

- Total Benefits**  
\$87,450 saved
- Greenhouse Gas Benefits**  
498,016 lbs CO2 reduced  
\$19,920 saved
- Water Benefits**  
5,935,328 gallons conserved  
\$59,353 saved
- Energy Benefits**  
58,486 kWh conserved  
\$7,018 saved
- Air Quality Benefits**  
-278 lbs pollutants reduced  
\$1,157 saved

**504 trees selected** (reset search) [Add a Tree!](#)

Map data ©2015 Google

Export this search: [KML](#) | [CSV](#) | [Shapefile](#)



# Demonstration



# Demo of major steps

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- ▶ Accessing website <http://www.TampaTreeMap.org>
- ▶ View information about a tree:  
<http://www.tampatreemap.usf.edu/trees/3766/>
- ▶ Sign up a new user: <http://www.tampatreemap.usf.edu/accounts/register/>
- ▶ Learn “How to map trees” <http://www.tampatreemap.usf.edu/how-to/>
  - ▶ Step By Step "How To" to Use the Tampa Tree Map
    - ▶ Add a New Tree
    - ▶ Edit Info
    - ▶ View the Details
- ▶ Add a Tree: <http://www.tampatreemap.usf.edu/trees/add/>
- ▶ Download iOS App from link on home page:  
<https://itunes.apple.com/us/app/tampa-tree-map/id719047321>



# Questions?

Contact:  
Shawn Landry  
landry@usf.edu

The screenshot shows the Tampa Tree Map website interface. At the top, there is a search bar with "Tampa, FL" entered. The page displays "4,381 trees selected" and a "Yearly Eco Impact" section with the following data:

Category	Value
Total Benefits	\$367,451 saved
Greenhouse Gas Benefits	2,253,274 lbs CO2 reduced \$90,130 saved
Water Benefits	23,770,273 gallons conserved \$237,702 saved
Energy Benefits	276,387 kWh conserved \$33,166 saved
Air Quality Benefits	-109 lbs pollutants reduced \$6,451 saved

The map shows a dense cluster of green tree icons in the central urban area of Tampa, Florida, with various neighborhoods and highways labeled. The interface includes navigation links like Home, About, Resources, Explore Trees, and Contact, as well as user options like Logout and Add a Tree.