

2016 Urban Forest Award
Application for Outstanding Project

Project Overview

The tree-mapping project at the University of South Florida Tampa campus (USF) is a unique initiation. This ongoing survey completed by student interns is establishing a tree repository on campus with detailed information of trees. This data will provide an important tool for campus tree management, research, and education as well as for developing future campus sustainability reports. The project utilizes the TampaTreeMap software, a web-based mapping database, that can be accessed through a mobile phone application. It is unique in that it supports the interactive engagement with the public to enhance tree awareness and stewardship that will also be used by the facilities department for tree management. The tool has been used with student volunteers to inventory trees on campus and it has been demonstrated to Hillsborough County school students during Arbor Day events. The project involves experts from USF the City of Tampa and Hillsborough County. Funded by the Florida Forest Service and USF, this project strives to make USF one of the first institutions to have an inventory of its entire tree population in a dynamic web-based platform accessible to the public. Project implementation has been successful with over 8000 trees documented.

Project Description

USF is a recognized leader in sustainability in the nation. One of its core initiatives is to significantly increase the tree canopy of the campus and mobilize the university community in these greening efforts. USF has a Campus Tree Advisory Committee that has developed several initiatives and implemented many green projects. For example, it has created a green corridor including a dedicated Forest Preserve and Park. It is constantly increasing its tree population by planting trees from its own budget and supported with grants. This year, students and staff were able to get a Student Green Energy Funding for 74 new trees.

USF has been designated as a Tree Campus USA since 2011 and celebrates the Florida and National Arbor Days by organizing different activities related to tree planting, outreach, and educational activities to the local community and K-12 school children. Over the years USF has mobilized students to plant trees and for maintenance of the landscape and partnered with the City of Tampa to educate students from Hillsborough County Schools on the importance of trees and the benefits of urban forest.

The USF campus master plan takes the greening effort seriously and is attempting to develop a better management plan for more than 10,000 trees. One of the important aspects of the plan is to collect good quality and relevant data of the trees. For this, USF embarked on establishing a database of its trees using a tree-mapping tool. USF, in partnership with University of Florida and City of Tampa, developed the TampaTreeMap (a web based tool that is customized from the Open TreeMap software). The map currently covers the USF campus and neighboring areas of the City of Tampa.

Recently, USF received a grant from Florida Forest Service to inventory all the campus trees using TampaTreeMap. The aim of the project was to build a complete picture of the urban forest on campus and to use the database for tree management. TampaTreeMap is a one-stop repository for tree data that

contains information of trees including species, size, height, canopy cover and health conditions. The tool also estimates the capture of Green House Gases (GHG), ecological benefits, improvements in air quality and stormwater reduction of the trees. It is supported by the spatial information of each tree, referenced using its longitude and latitude coordinates based on readings from a GPS unit. The tree information is also supported by a picture of the tree to help easily identify the specific tree. The tool uses the iTree species found in Florida.

The tree mapping is done using a mobile device such as iPhones or iPads where tree information can be entered using an aerial map of the site. Although TampaTreeMap provides an accurate geographic location of each tree, the resolution of the application in high-density areas is not very accurate to identify each individual tree. In order to increase accuracy, we use a separate GPS unit to enter the coordinates. Finally, tree heights are measured using a laser hypsometer.

The wealth of information from the database is used for research and education, as a source of data for GHG and STARS (Sustainability Tracking, Assessment and Rating System) reports and for educating students and members of the community about the values of trees and the benefits of urban forests. The database will be an important tool for the grounds department to better manage trees and plan future tree plantings or replacements. The spatial and visual features of the database allows grounds personnel to easily spot the trees for maintenance or other operational needs. It also provides full information of the number of trees, species, tree canopy, tree condition, and other important properties that will help them manage risk and diversify tree species to maximize ecological benefits.

The funding from Florida Forest Services has been used to hire students to carry out this inventory. The students have the educational background for plant species identification and have been properly trained to use the tools. The students are supported by staff and faculty at USF and by an advisory committee composed of experts in various fields relevant to urban forestry.

The advisory committee ensures quality of the work and provides guidance in the implementation of the project. The committee involves several faculty and staff from USF including the director and staff members of the Office of Sustainability, faculty from Geosciences who developed the tree mapping tool, Curator at USF Herbarium, staff members from USF Facilities Management, Arborists and Natural Resources Coordinators from the City of Tampa and Hillsborough County and an Extension Forester from University of Florida IFAS Extension. Engagement of such a diverse group of experts has enabled the project to proceed efficiently. Over a short period of time over 8000 trees have been inventoried. A snapshot of the mapped trees is shown in Figure 1.

In addition to the inventory of trees, this project is also serving as a means of increasing awareness among the university community and students in Hillsborough County. During Arbor Day events, the Office of Sustainability mobilized close to 100 students volunteers and staff to use TampaTreeMap to inventory trees around campus using their iPhones. This was a fun exercise for the students and an important occasion to increase awareness on the benefits of urban forestry. We also demonstrated the tool to several students from Hillsborough County schools on how to use the tool and why we need an inventory of trees.

The TampaTreeMap uses a dynamic and open sources software that is supported by a freely accessible mobile phone application. This allows community members to easily engage in the inventory process and help them learn about the role trees play in the urban ecosystem and the various benefits we get from

the urban forest. The boundary of the map includes the City of Tampa and we believe that this project will be a great model to add momentum to the efforts of the city in accelerating the tree mapping practice throughout the city.

In order to ensure that the database is updated when new trees are planted or removed, staff from the Facilities Management Department has already started the training in using the mapping tools. In addition to updating the tree inventory, the Grounds Department will also assess the health of trees to help identify risks and prepare plans for tree removal and replacement. The tree map will also be useful in maintaining diversity of the tree species and guide the greening efforts of the campus.

Once completed, we will inform all university community, especially students and faculty to use it for educational purposes or research activities. This will also be used for educational efforts in Hillsborough county schools.

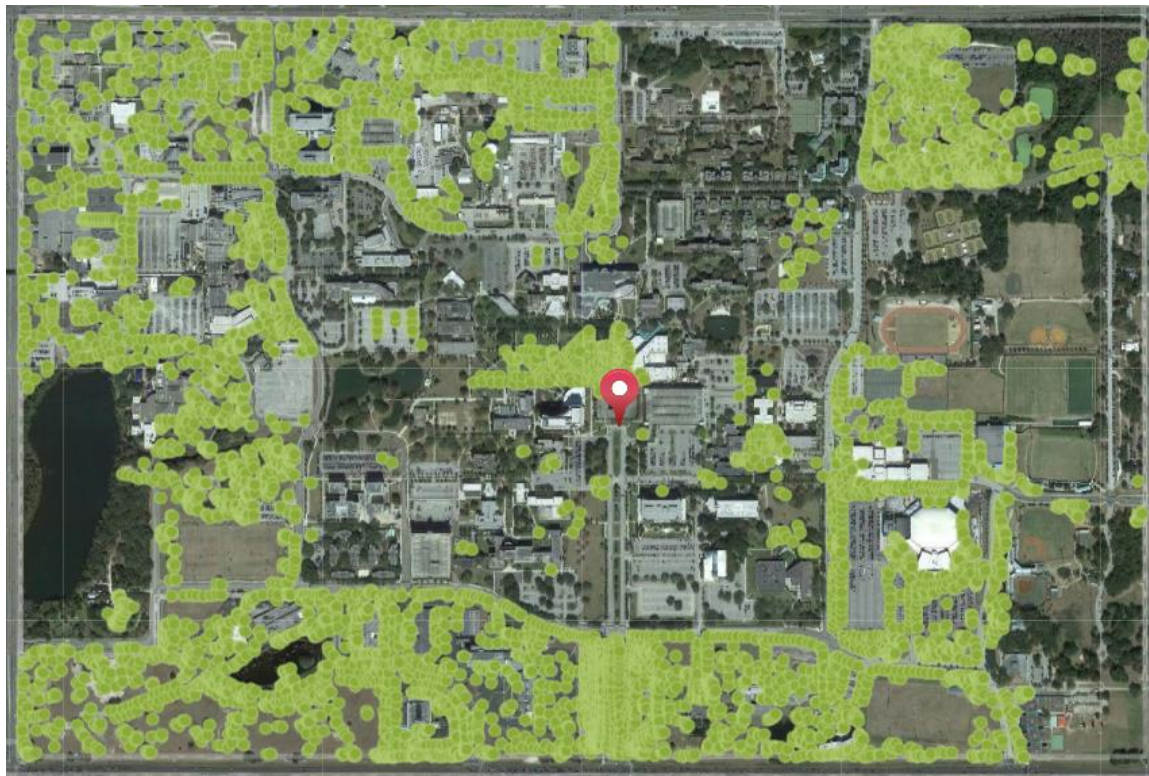


Figure 1: Snapshot of the trees mapped at USF campus as of 10/21/2016. An up to date map can be obtained from this link <https://www.opentreemap.org/tampa/map/?z=16/28.0633/-82.4149>



Purple Trumpet Tree ☆

1001 peninsular st, Tampa

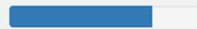
[Edit](#) [Delete](#)

Add Photo



Latest Update

TreemendousTampaProgram created a planting site on June 8, 2016



75% Complete

- Add the diameter

Recent Edits

TreemendousTampaProgram

June 8, 2016 (3 months ago)

- created a planting site
- set date planted to 2015-

Tree Information

Tree Number	1106395
Common Name	Purple Trumpet Tree
Scientific Name	<i>Tabebuia impetiginosa</i>
Trunk Diameter	
Tree Height	
Canopy Height	
Date Planted	05/21/2015
Date Removed	
Tree Condition	
Sponsor	
Canopy Condition	
Tree Stewardship	

