TREESNAP: A CITIZEN SCIENCE PROJECT AND MOBILE APP TO TAG TREES FOR SCIENCE

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To help scientists find forest trees of particular species and characteristics, we have built a new mobile app and citizen science outreach project, TreeSnap. TreeSnap uses the ubiquity of smartphones in our society to engage the public in scouting for trees affected by invasive insects and diseases, including North American ashes, American chestnut, eastern and Carolina hemlocks, and American elm. This strategy provides tree locations, images, and characteristics to tree research programs while also engaging citizens and promoting public awareness of forest health threats and the benefits of forest health. The TreeSnap mobile app is available for free on both iOS and Android. The list of highlighted tree species may be updated to reflect current needs across many forest health research programs. To increase the utility of the collected data for scientists, we ask a set of customized questions for each species, such as a list of signs of Emerald Ash Borer for ash trees and presence of cones for hemlocks. This information is paired with photos taken by the user and GPS coordinates automatically detected by the mobile device. TreeSnap has an accompanying website where users can view their own and others' tagged trees. The website also serves as a data curation and outreach workspace for scientists. They can login to sort and filter trees, download user observations, and contact individual users for more information. Also, scientists can set up an email alert to be notified when new observations fitting their criteria are submitted (i.e., American Chestnuts in Tennessee with a diameter of at least 10 inches). We envision TreeSnap as a crucial long term research tool for threatened forest trees, which often lack a large pool of lingering genotypes to study. We are actively seeking new partner scientists to expand the trees available in TreeSnap and partner forest outreach groups that can promote the App to interested citizens, or incorporate it into their existing activities.

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