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NASA GLOBE Observer Trees Tool for Mobile Tree Height: ICESat-2, Online Tools and Datasets

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About Us

NASA Senior Earth Science Outreach Lead

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Earth Science Outreach
Hydrosphere, Biosphere, Cryosphere
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College of Earth, Ocean, and Atmospheric Sciences
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Geography, Environmental Sciences, and Marine Resource Management, Remote Sensing and GIS

We have worked with several folks, internal and external to NASA, on this effort since the release of the NASA GLOBE Observer Trees Tool on March 26, 2019, including Tom Neumann, Amy Neuenschwander, Laura Duncanson, Christopher Shuman, Nancy Glenn and others.

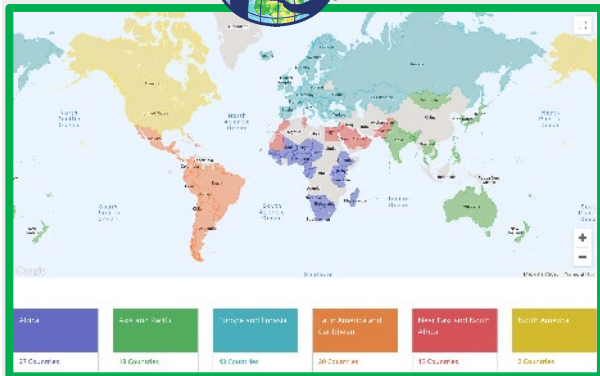
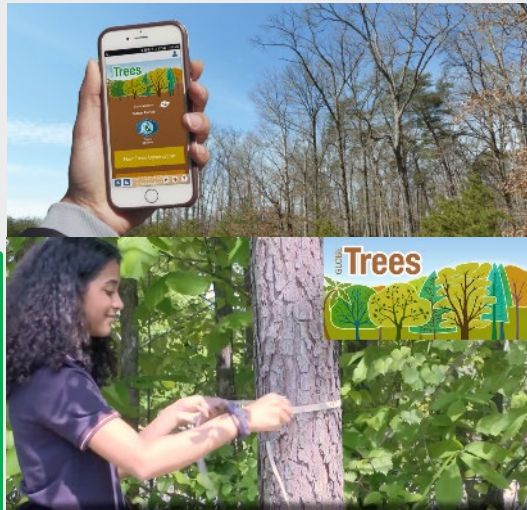
NASA GLOBE Observer Trees Tool for Mobile Tree Height, ICESat-2, and Open Altimetry

The Idea

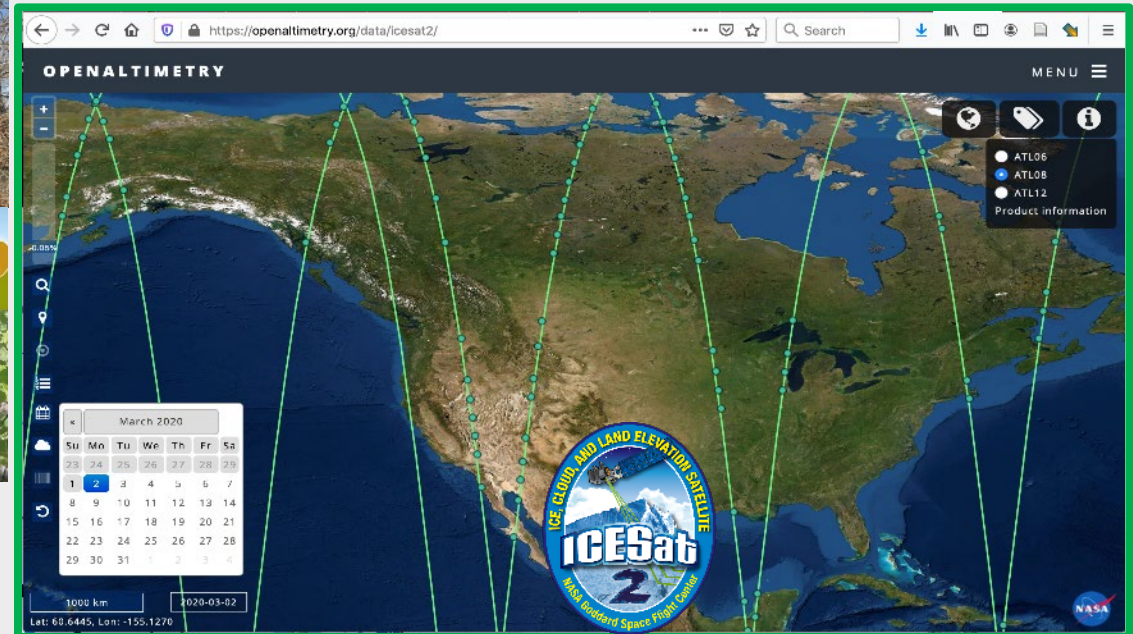


Scope:

- Local
- Regional
- National
- International

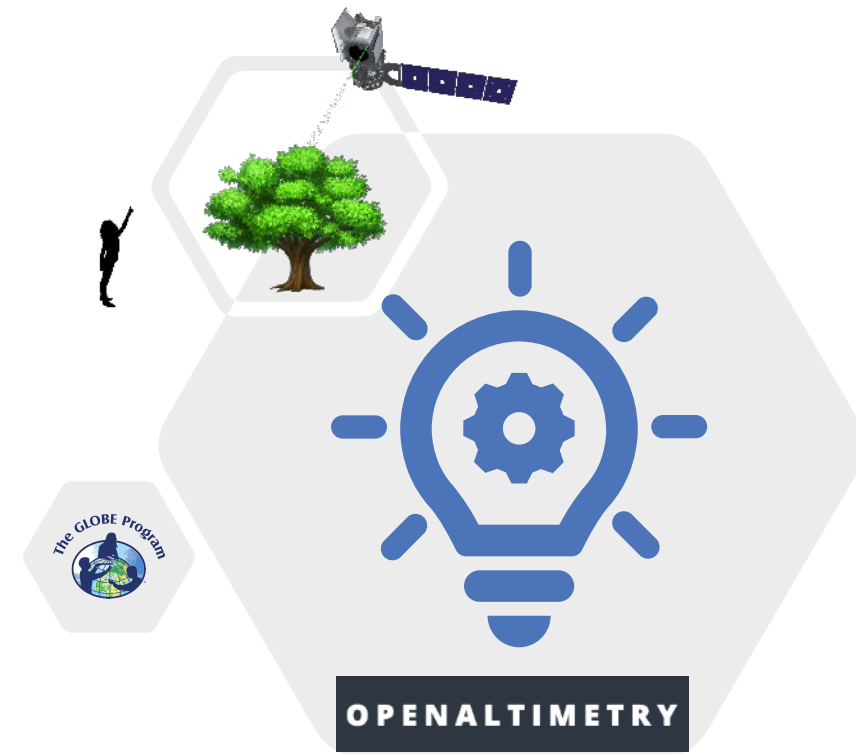


The Global Learning and Observations to Benefit the Environment (GLOBE) Program



The Idea

- **Support mutual** citizen science programs
- Provide additional **ground reference/comparison** data
- Deliver **benefits to the public**



Issues being addressed (There's an app for that!)

Forest health

- Tree height
- Community based-monitoring opportunities
- Carbon monitoring

Vegetation mapping

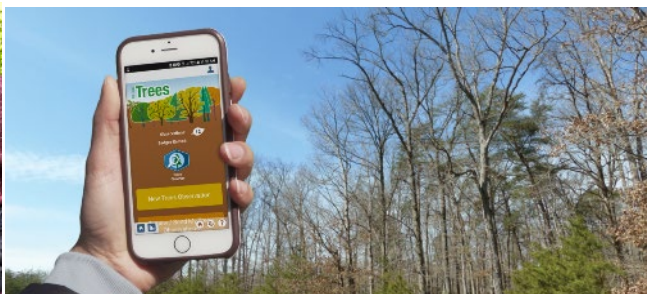
- Point location of trees (across ownerships)
- Occurrence of tree damage

Public Engagement

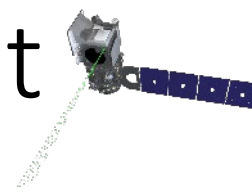
The Idea



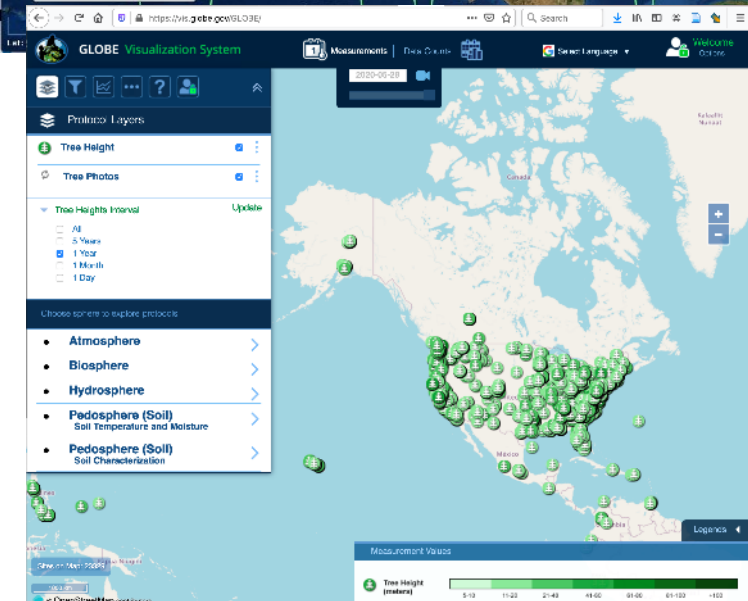
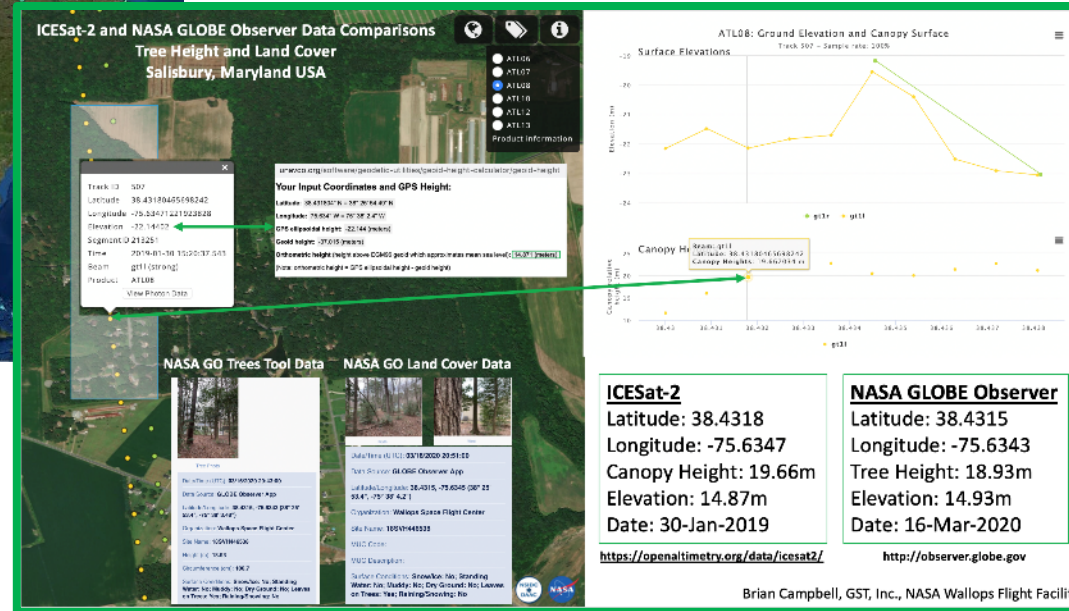
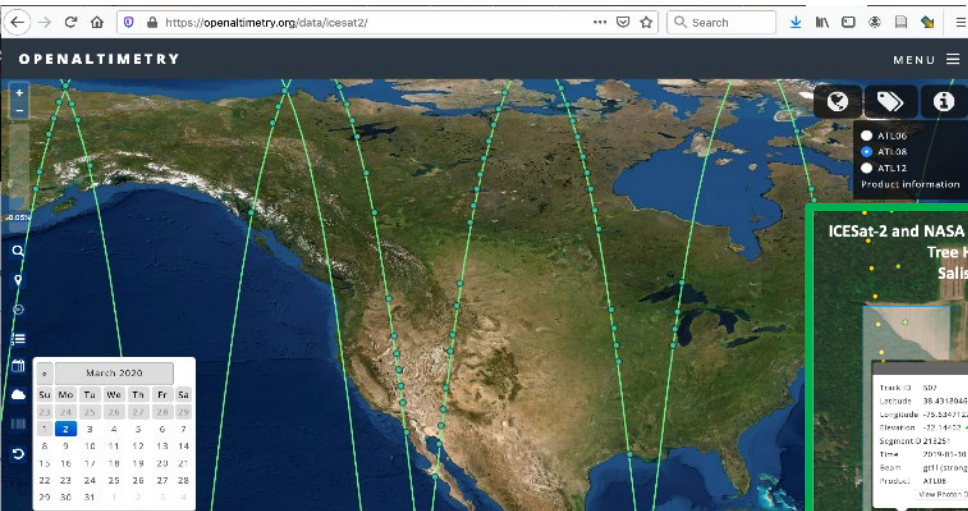
Issues Addressed



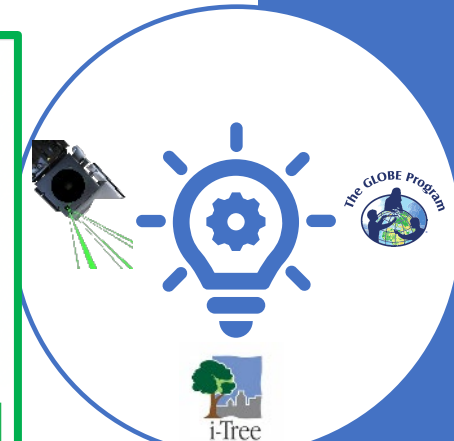
ICESat-2 + GLOBE = Tree height



The Idea



- <https://vis.globe.gov/GLOBE/>
- <https://datasearch.globe.gov/>
- <https://api.globe.gov/search/>



Earth Observation Tools

The Idea – Outcomes / Societal Benefits



Useful Links

<https://observer.globe.gov/do-globe-observer/trees>

<http://openaltimetry.org>

<http://www.globe.gov>

<https://vis.globe.gov/GLOBE/>

<https://datasearch.globe.gov/>

<https://www.globe.gov/globe-data/globe-api>

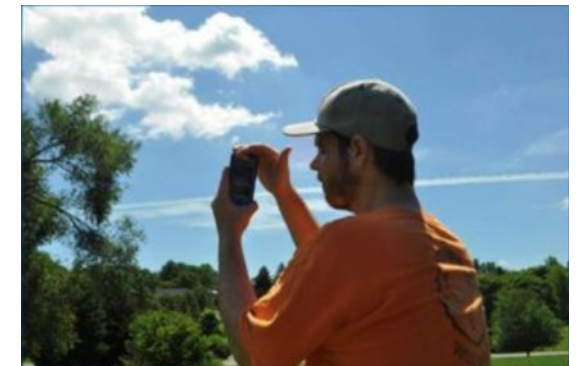
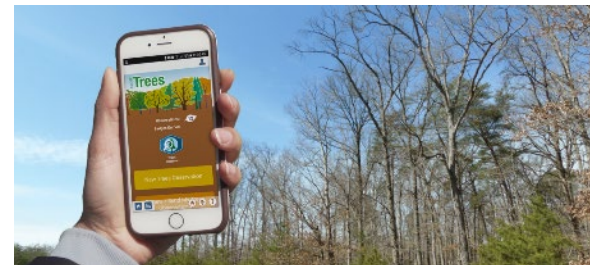
<https://www.globe.gov/web/trees-around-the-globe/>

Expected management and/or decision support outcomes

- *Public engagement in monitoring* forest resources, science, and management
- Increased ground reference data to compliment authoritative data

Benefitting the Forest Service and other land management agencies

- *Already created* mobile app and browser-based visualization tools
- Potential for add to *local* tree height data density, tree count, and tree growth.
- Engage under-represented groups and next generation workforce.





Thank You!

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