

## AEOIP Spring Workshop

March 22-24, 2022

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

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# About Us



## NASA Senior Earth Science Outreach Lead

ICESat-2 Mission  
Education Lead Trees Around the GLOBE  
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Earth Science Outreach  
Hydrosphere, Biosphere, Cryosphere, NASA GLOBE Program  
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## Land Cover Scientist

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Geography, Environmental Sciences, and Marine Resource Management, Remote Sensing and GIS





# Challenges

## Challenges

1. Merging/mashing two (NASA GLOBE Observer and USFS) databases. Two different agencies combining datasets;
2. Having the scientists to have confidence in the reliability of the NASA GLOBE Observer citizen science data (i.e. QA Flags);
3. Getting the NASA GLOBE Observer data where the USFS wants it;
4. Integrating USFS-created datasets into GLOBE Program education materials;
5. Different scales within the forest service;
6. Consistency in comparing NASA GLOBE Observer Tree Height data with NASA ICESat-2 tree height data.



## Solutions

1. ArcGIS Online Merged USFS and GLOBE Land Cover and Tree Height Dashboard;
- 2a. Demonstration and use of the NASA GLOBE Observer Tool by USFS personnel;
- 2b. Paper published (Land Cover - P.Nelson) and paper under review (Tree Height – B.Campbell);
- 3a. Continual conversations with Kevin Megown and Stacie Bender from GTAC-USFS targeting specific USFS locations;
- 3b. The All-Lands approach to mapping;
  - The Landscape Change Monitoring System “All Lands – including the recently-released Puerto Rico.” and Tree Canopy Cover
4. Future Forests lesson plan (<https://cires.colorado.edu/outreach/resources/unit/future-forests>)
  - Adapted from an AGU Geophysical Information for Teachers (GIFT) workshop presentation by Peder Nelson and Brian Campbell at Fall AGU 2019;
5. A combined USFS and NASA contact list and a series of meet-and-greet events between both agencies working with local to international land cover and tree height;
6. Potential NASA GLOBE Observer satellite data matching and the latest release of the ICESat-2 Orbit Track App for Android (<https://bit.ly/ICESat2OrbitApp> GooglePlay) and iOS (<https://apple.co/3LwvPfl>).



<https://doi.org/10.3389/fclim.2021.658063>

Roadblocks to Implementation

# Feedback to AEOIP

## Lessons Learned:

- *There is still some hesitation from researchers regarding the use of citizen science data;*
- *Difficulty in sustaining collaboration and relationship-building between NASA GLOBE and USFS personnel;*
- *Generational science is hard and requires investments (time, money and dedication);*
- *Time constraints among NASA and USFS personnel are a real factor in continued collaboration*

## Suggestions:

*Join us in celebrating*

- *the 2022 GLOBE International Virtual Science Symposium (<https://bit.ly/GLOBEIVSS22>)*
- *50 years of Earth observations with Landsat in the 2022 NASA GLOBE Land Cover Challenge (June 21 – July 23, 2022)*
- *GLOBE Citizen Science Workshop as part of the 2022 GLOBE Annual Meeting (July 26 or 27, 2022)*
- *the 2022 NASA GLOBE Observer Fall Trees Challenge (exact date TBD)*



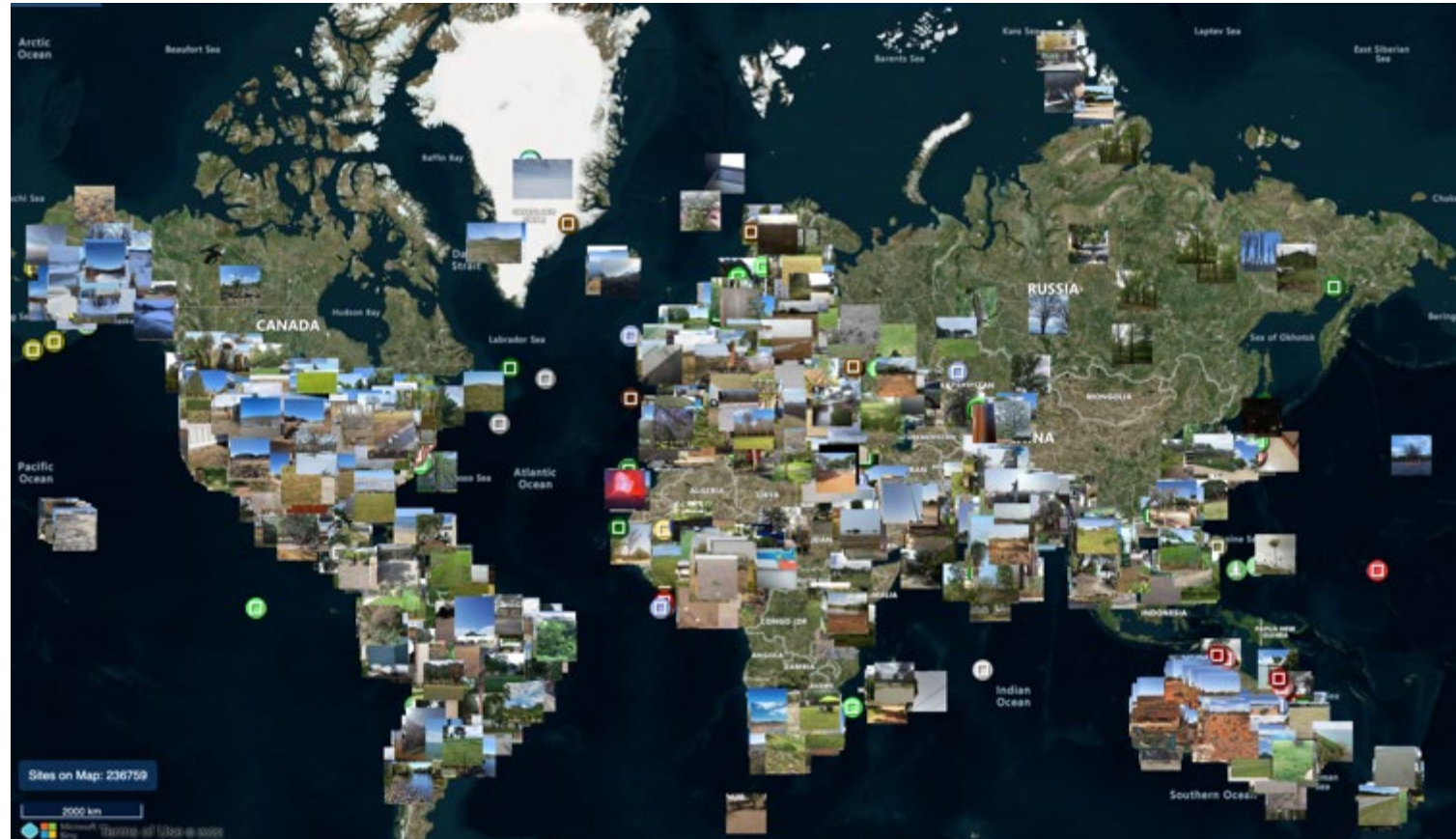
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Thank You!

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## GLOBE Land Cover and Tree Height



A Few Links:

The GLOBE Program: <https://www.globe.gov>

NASA GLOBE Observer: <https://observer.globe.gov/>