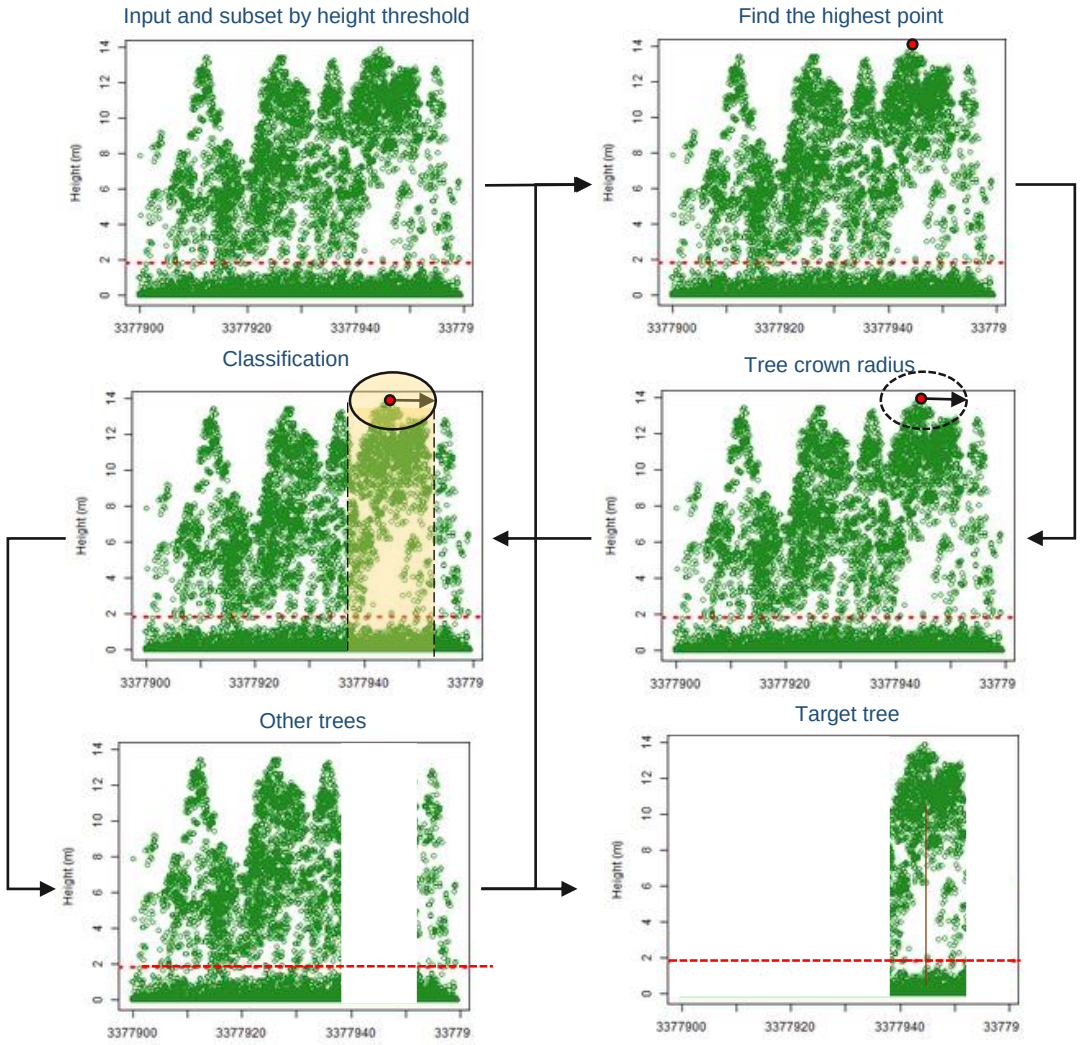
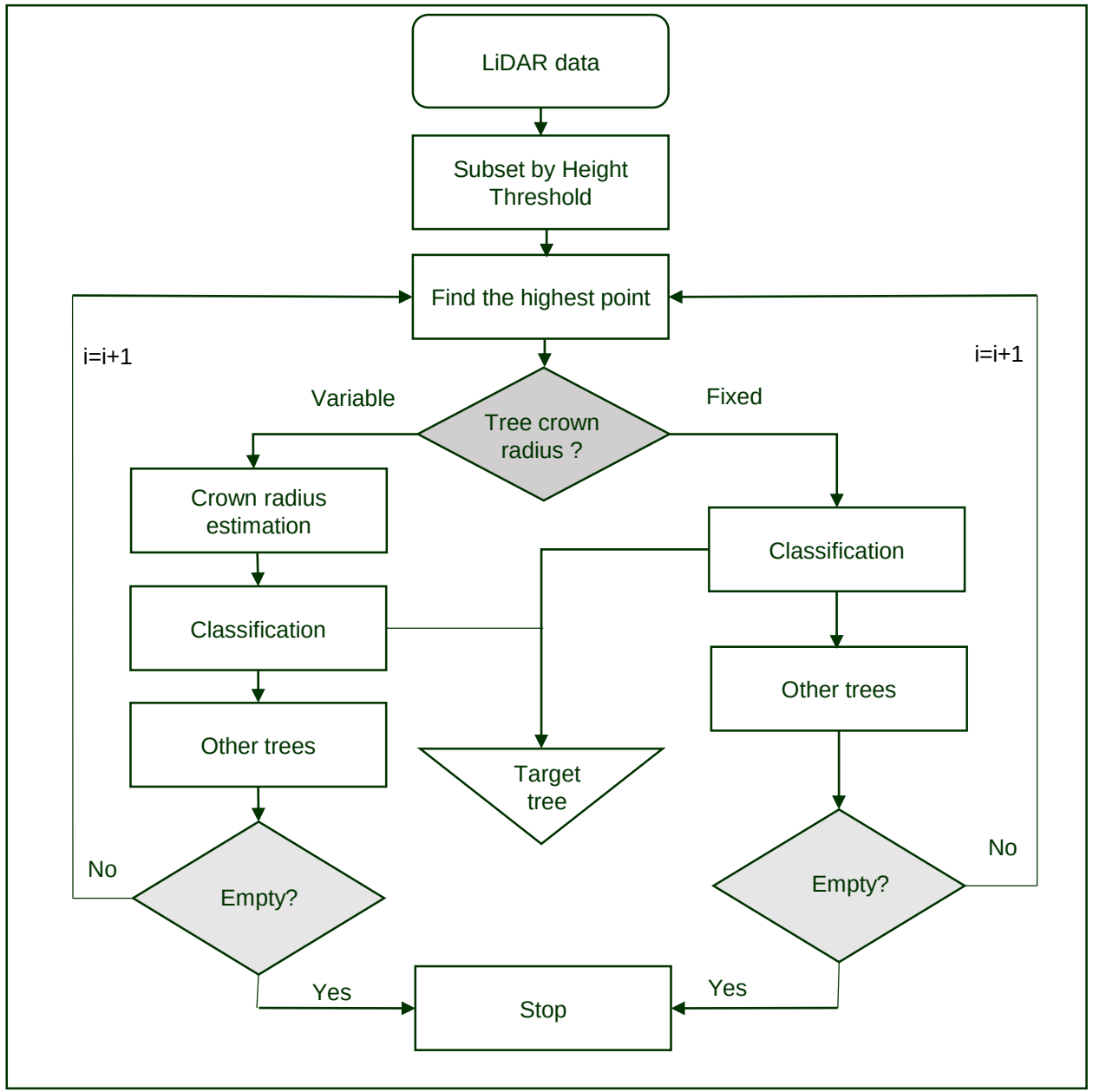
Tutorial “ Web-LiDAR forest inventory application”

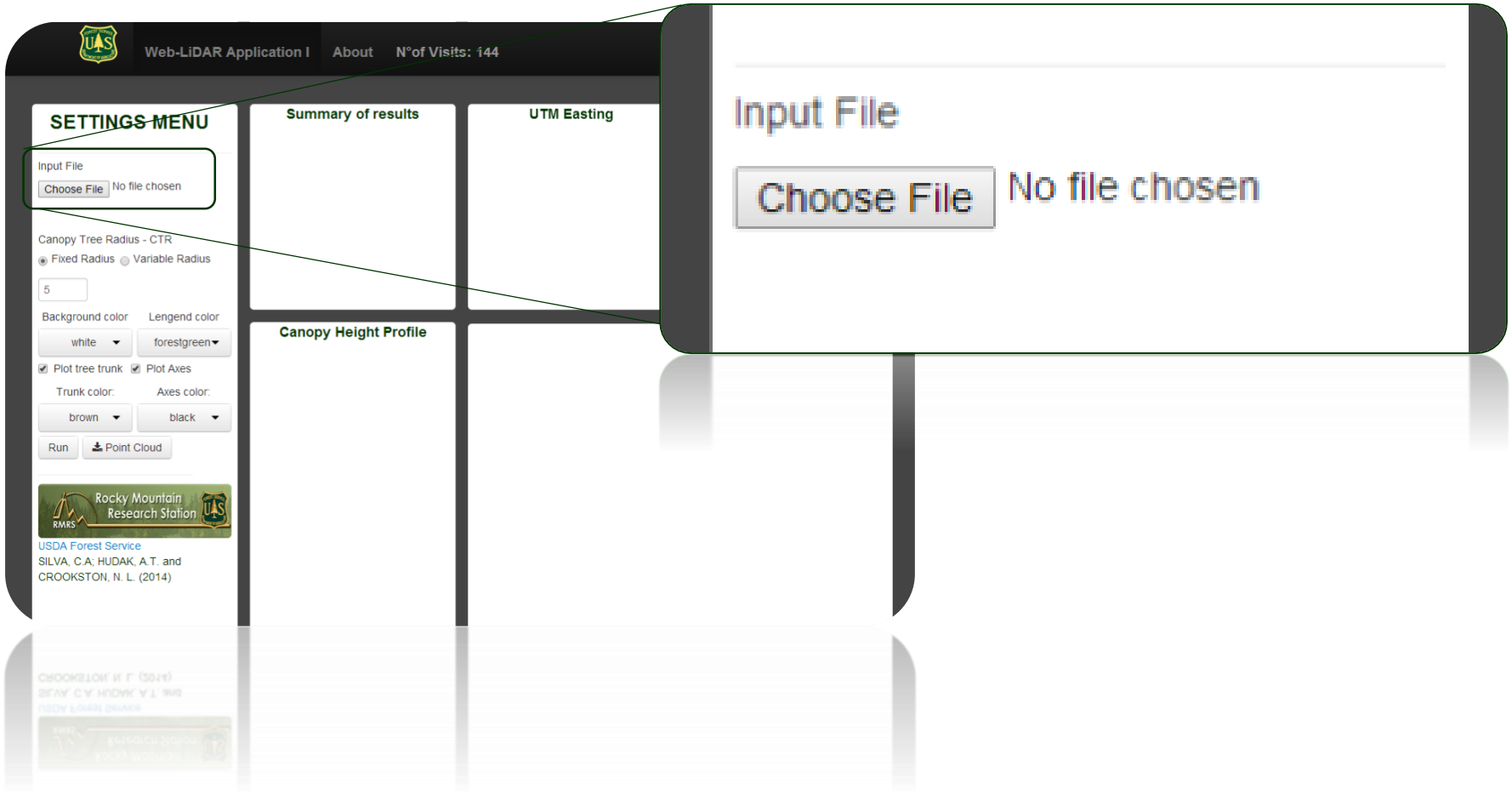
USDA - Rocky Mountain Research Station - RMRS
SILVA, C.A.; HUDAK, A. T.; CROOKSTON, N. L. (2014)

1. How does the algorithm works?

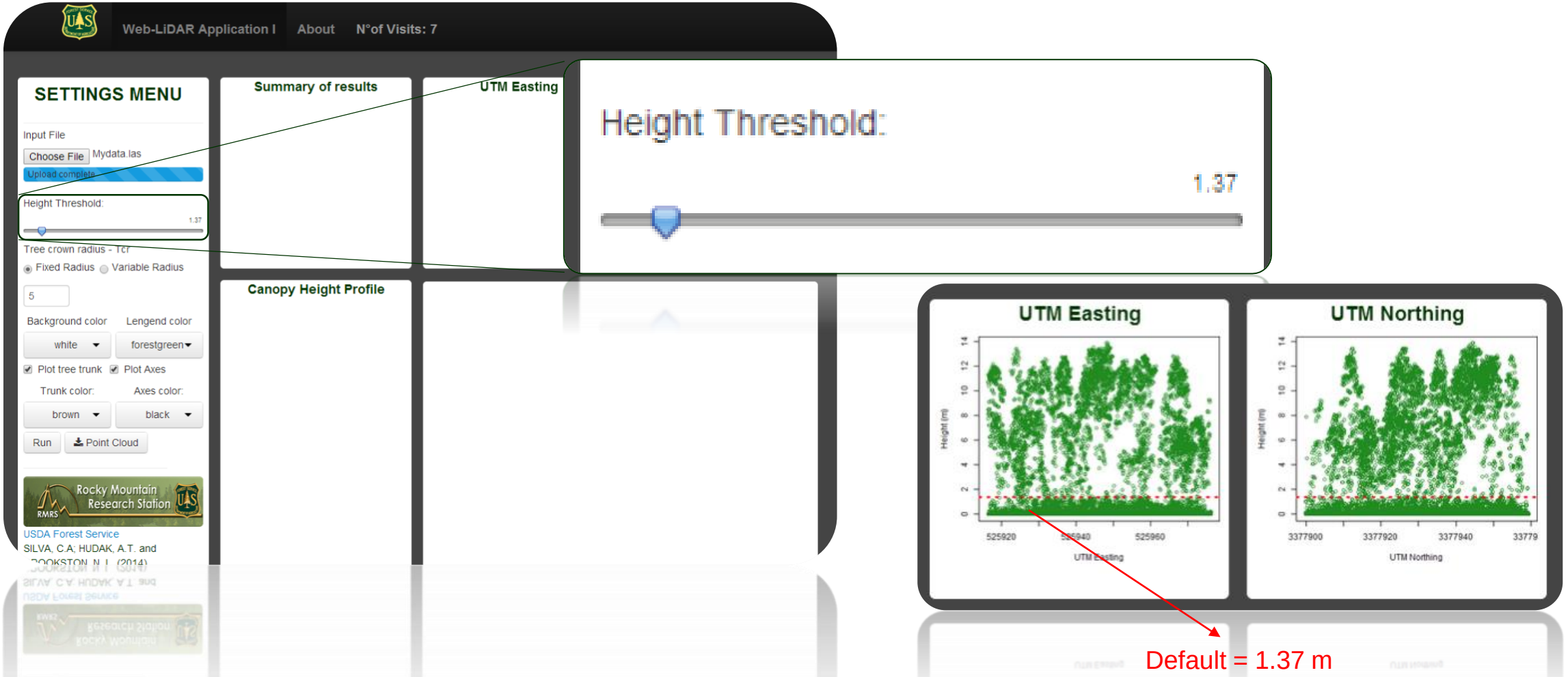




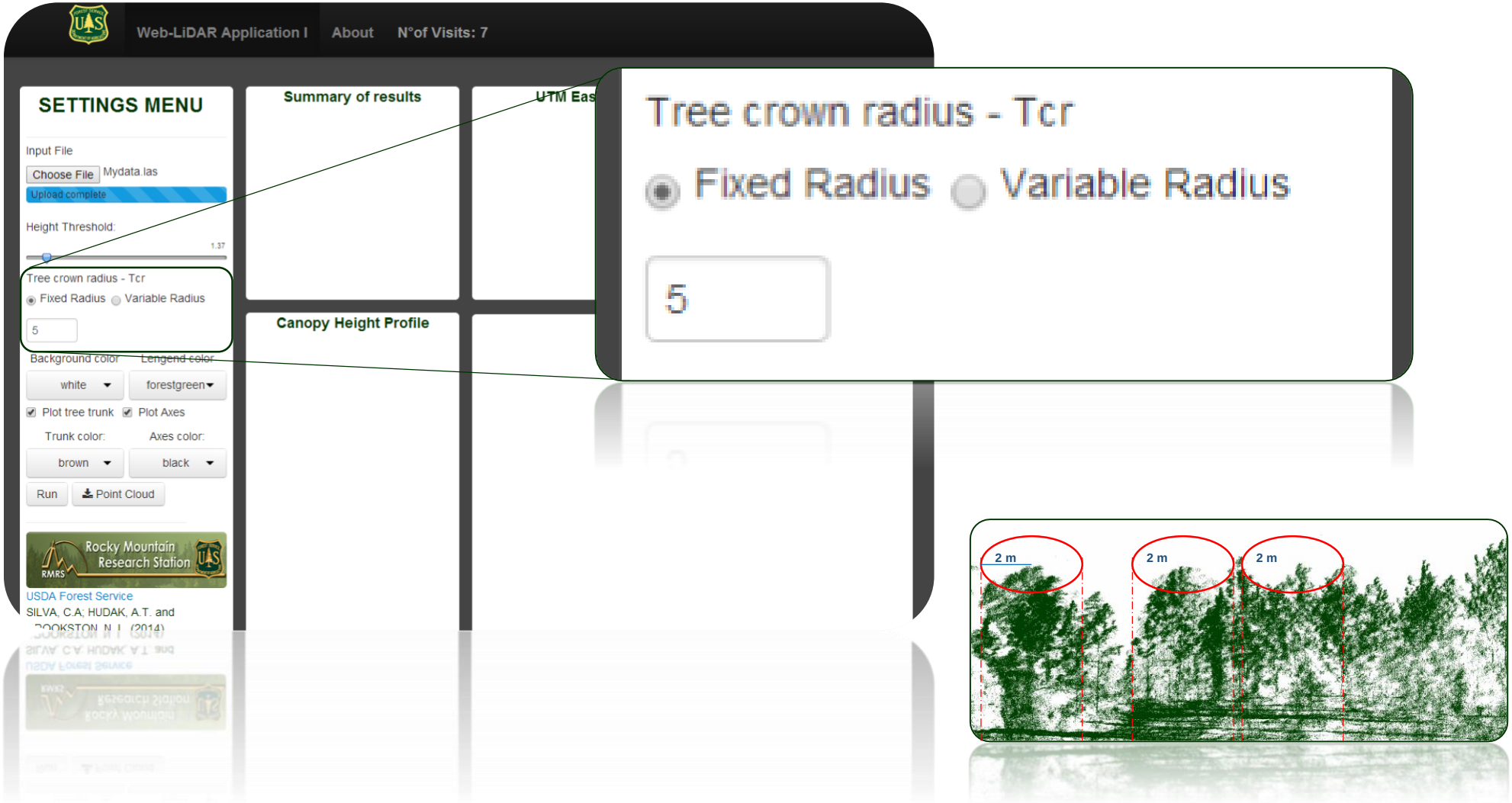
2. Input LiDAR data (.las)



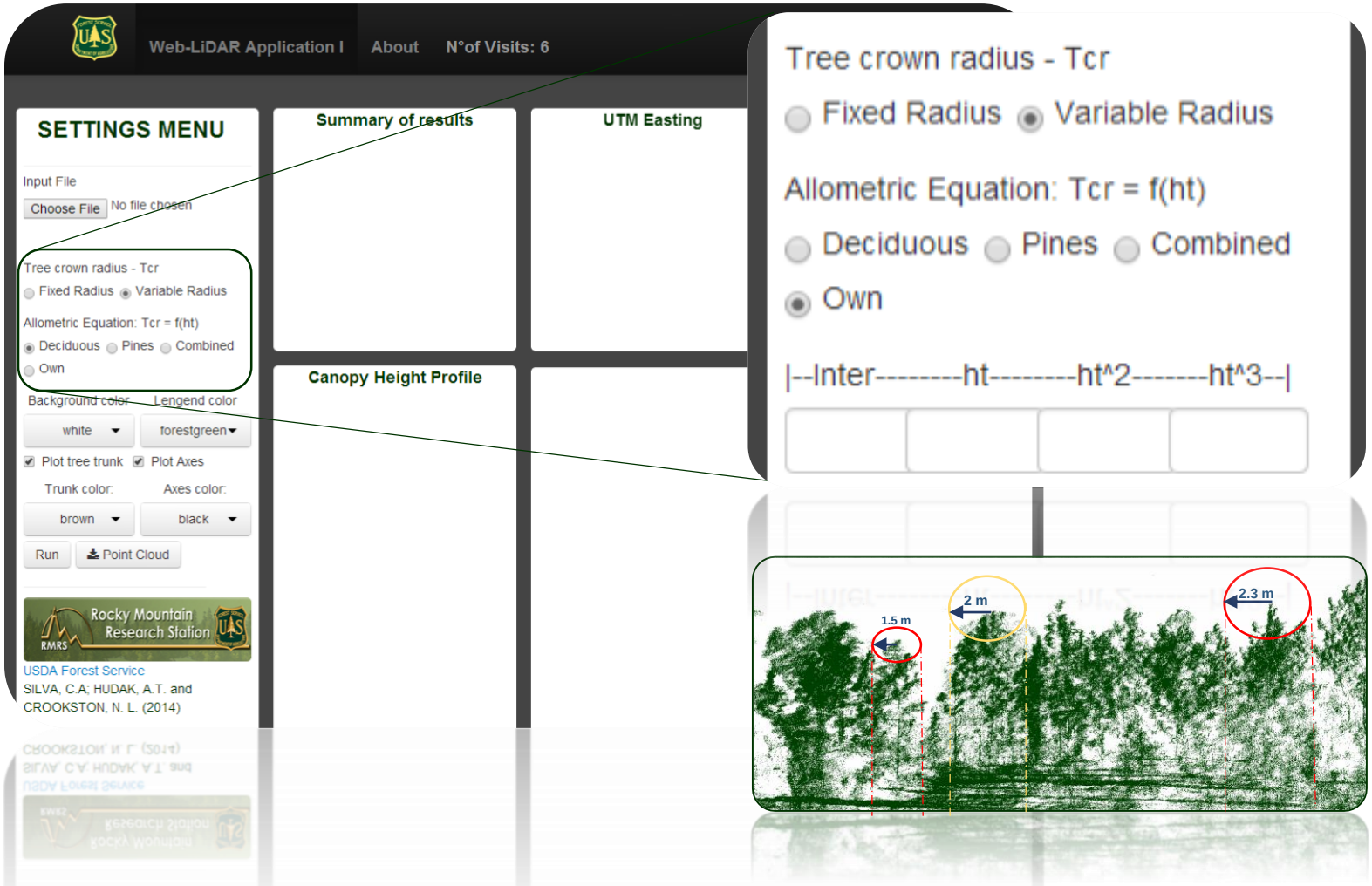
3. Height Threshold (m) parameter



4. Tree crown radius (m) – Fixed Radius

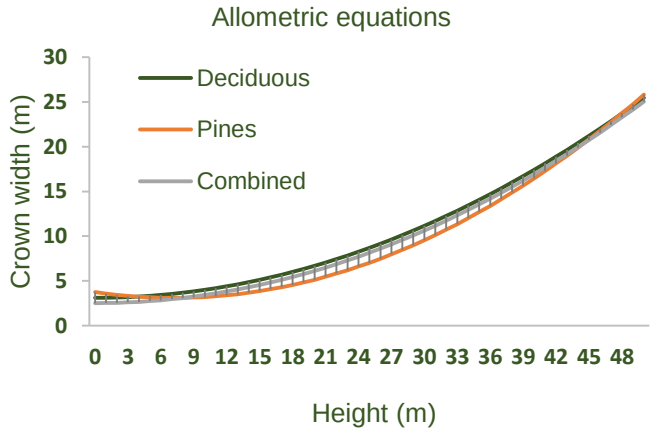


4. Tree crown radius (m) – Variable Radius



The deciduous, pines and combined allometric equations are from Popescu and Wynne (2004).

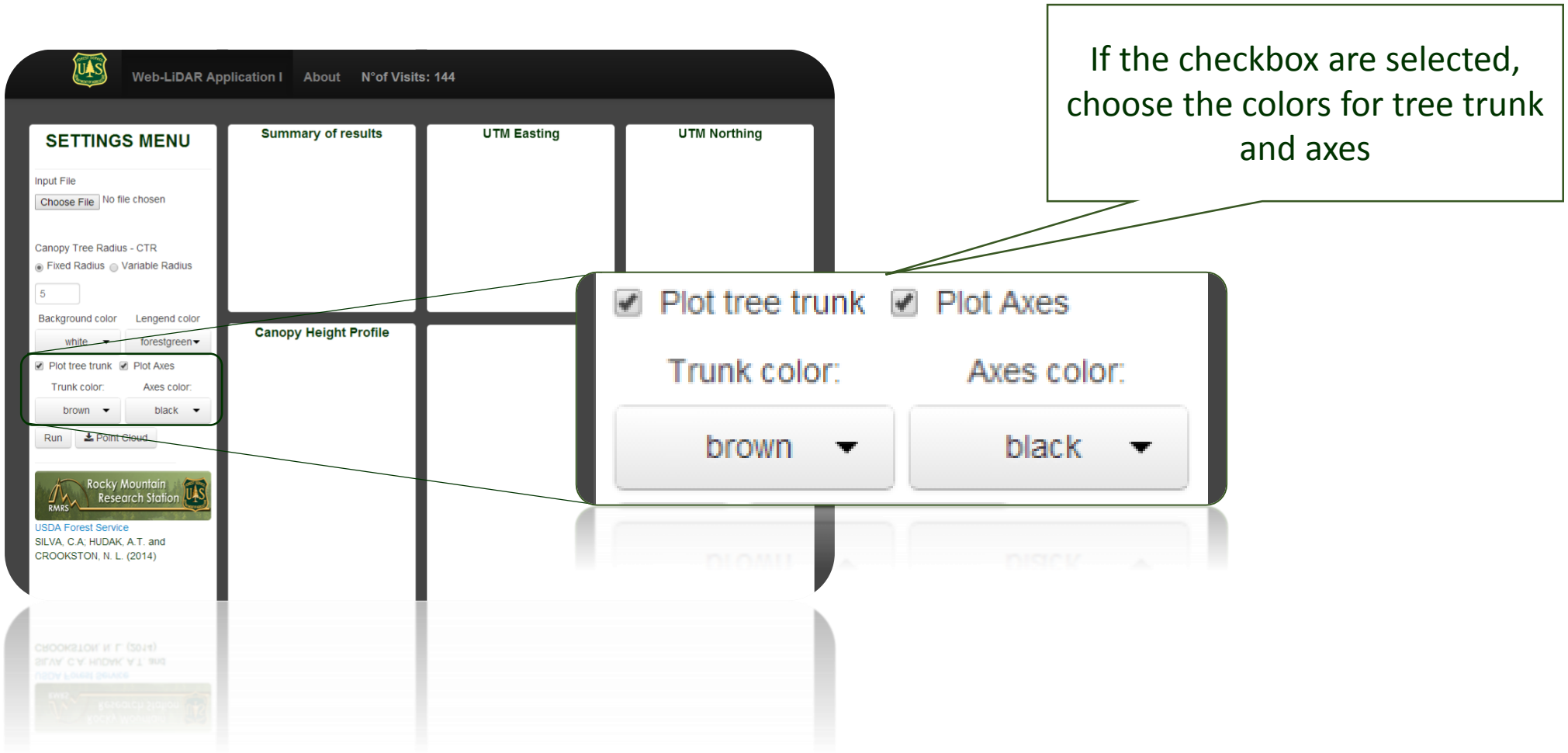
Popescu, S.C. and R.H. Wynne, 2004. Seeing the trees in the forest: using lidar and multispectral data fusion with local filtering and variable window size for estimating tree height. Photogrammetric Engineering & Remote Sensing 70(5): 589-604.



Crown Radius = (crown width) / 2

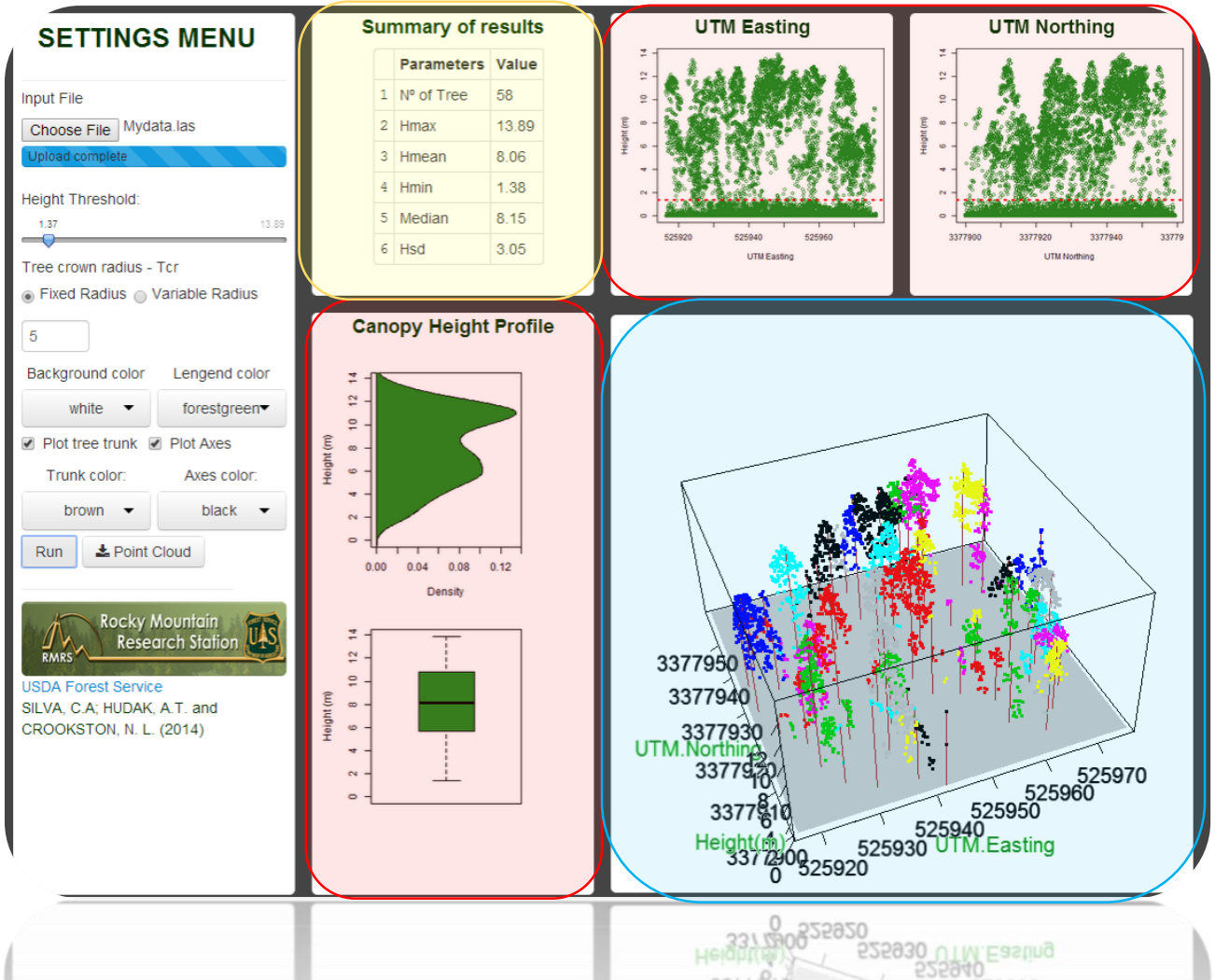
5. Background and legend color

7. Plot tree trunk and axes



8. Start the LiDAR data processing

9. LiDAR data viewer

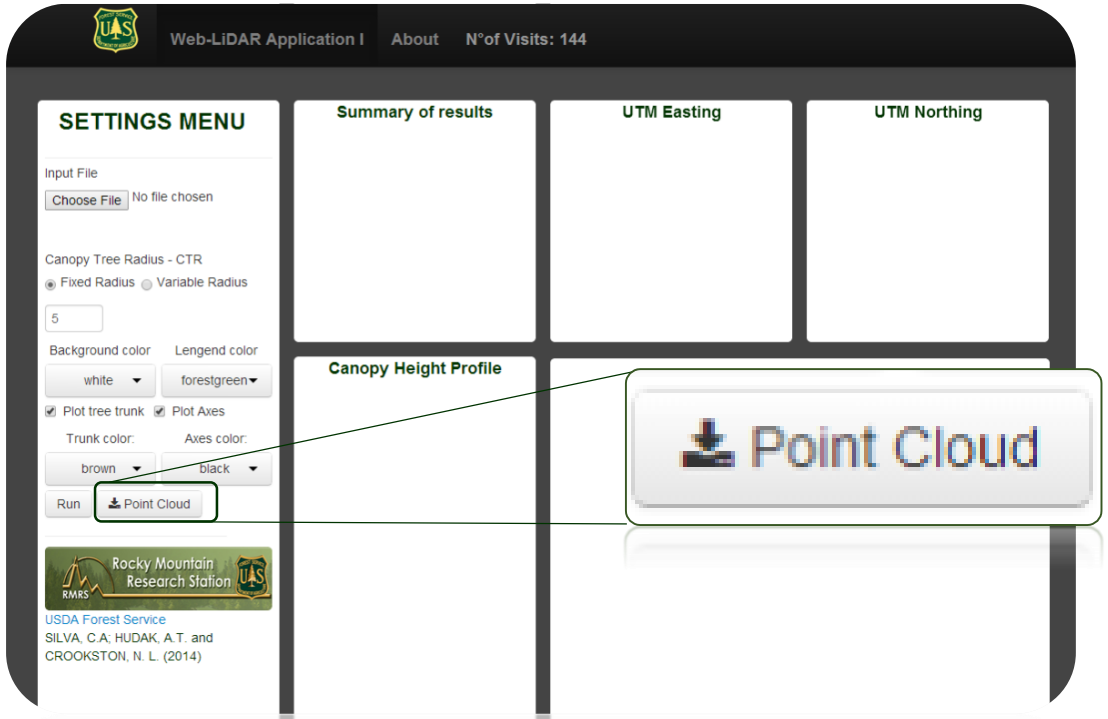


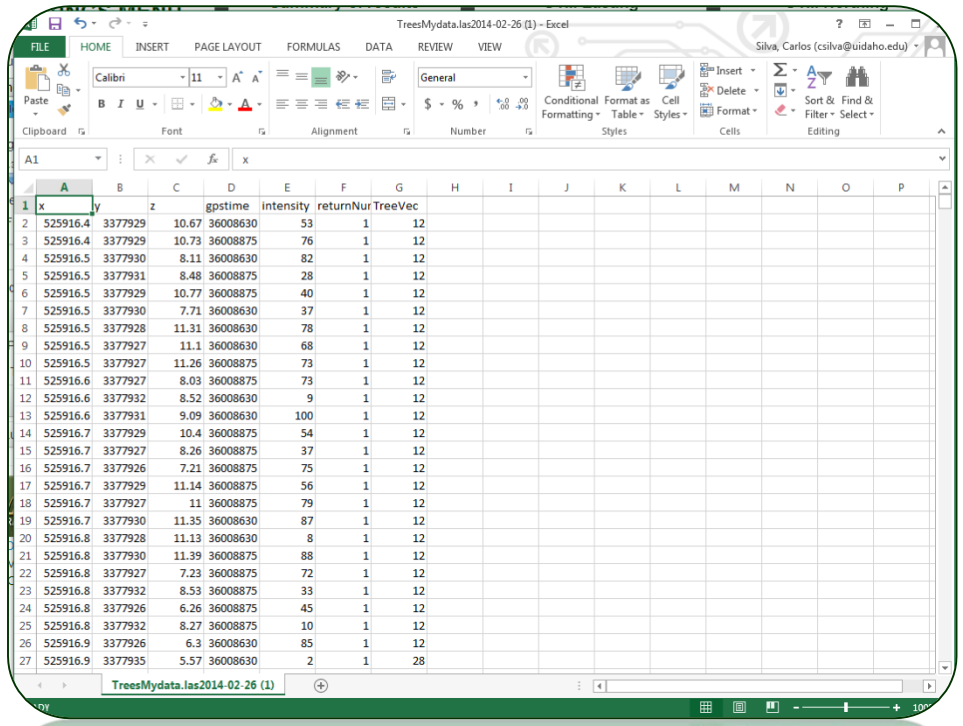
Summary of the LiDAR Metrics

Profile viewer of the LiDAR data

3D LiDAR viewer

10. Download of the LiDAR data processed





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The airborne lidar data provided as an example dataset is from a longleaf pine forest at Eglin AFB. It's collection was funded by a grant (11-2-1-11) from the Joint Fire Science Program: Data set for fuels, fire behavior, smoke, and fire effects model development and evaluation—the RxCADRE project. R. Ottmar, PI; multiple Co-Is.

Objective:

Web-LiDAR was developed to support lidar-based forest inventory and management at Eglin Air Force Base (AFB), Florida, USA. However, it has general applicability to other forests in other ecosystems, and we encourage users to test it broadly.

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