

EFFECTIVE USE OF TECHNOLOGY TO ACHIEVE A BREAKTHROUGH IN INVENTORY ACCURACY, PRECISION, AND SILVICULTURAL DATA

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Abstract

Using patented software, ImageTree is able to extract key inventory metrics from remote images with a level of accuracy and precision much greater than available through normal, plot-based, labor-intensive forest inventory techniques. After making improvements on the technology for over four years, ImageTree has combined the use of LiDAR and CIR to produce a co-registered, three-dimensional image of every tree crown in the forest which usually represents 80% of all trees. Using minimal ground correlation plots, which observe a true random sampling design, its patented software provides stand-level data for height, DBH, grade, number of trees, volume, etc. The resulting data has a demonstrated accuracy and precision significantly greater than traditional methods. This architectural platform - a stand-level spatial map of every visible tree crown within the entire forest - is combined with high resolution imagery during the next four years to show which visible tree crowns have been removed by thinning, harvest, theft, or by natural disaster. This change management platform can also show trends in forest health on a stand by stand basis by using standard vegetative indices. Thus, not only is the quality of the inventory data much more robust, it provides a tool for allowing the forester to be more proactive in forestry management.

[Abstract Only]

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