

# General Workflow for Tree Segmentation

1. Data acquisition with sensor (if applicable)
2. Point cloud generation with LP360 Drone (if applicable)
3. Geometrical corrections
4. Remove the noise
5. Classify the ground
6. Classify out non-veg vertical features
7. Segment and Classify trees automatically using "Tree Segmentation"

Video tutorial



Information about the parameters

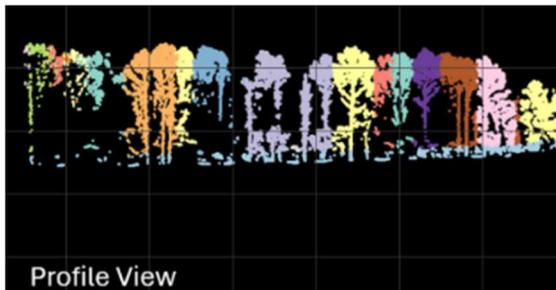


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[Support.lp360.com](https://support.lp360.com)

# Tree Segmentation in LP360

In this exercise, we will review the workflow for executing the Tree Segmentation tool using LP360.





## About the Tree Segmentation Tool

Optimized for managed forests such as orchards and plantations, the **Individual Tree Segmentation (ITS)** tool has the flexibility to support a broad range of applications, making it a versatile asset for various types of forestry projects. This feature excels at determining tree counts, locations, heights, and tree crowns from LiDAR data, although it does not specify tree species. The tool efficiently creates a new LAS layer for visualizing individual trees and generates a point feature layer (in .shp or .csv format) detailing the location and height of each tree crown.

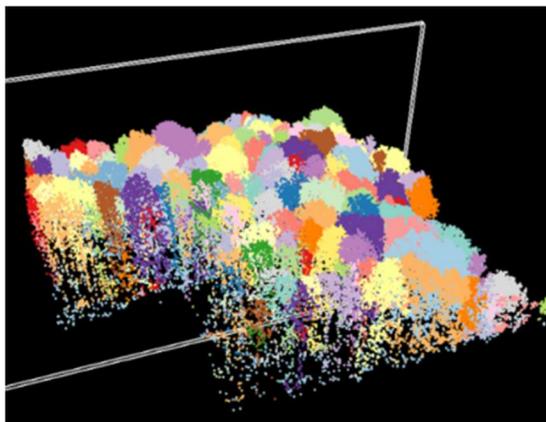
Before executing this tool, you will need to classify your ground points for your dataset. This will allow LP360 to measure the height above ground to identify and classify trees in your LAS dataset.

## Understanding Your Parameters

The ITS tool has several parameters needed to successfully identify trees in LAS data. The Tree Points Filter is a point filter for the classes the trees will be identified from. This can remain as default or if the dataset has already been classified for the vegetation, the point filter can be modified to include these classes. The Ground Points Filter is crucial for identifying and measuring the heights of your trees.

### Segmentation Parameters

The segmentation parameters must be set to a value greater than 0 to execute the tool. The *Average Crown Diameter* refers to the average expected diameter of the trees in your area of interest. This diameter can be estimated by measuring the width of tree crowns in the Profile Window. The *Average Inter-Tree Distance* refers to the average distance expected between trees in a given area. The *Minimum Tree Height* is the minimum height you expect your trees to be. This parameter is important for separating trees from low (possibly dense) vegetation.



## Executing the ITS Tool

This tool can be executed either using **Extent the Active LAS Layer** or by the **Filter with Feature Layer** option which would allow you to execute by regional boundaries (example: plot boundaries). If you choose to execute the tool using a feature layer for the Area Selection, the feature layer will need to be created or added to the project before opening the Tree Segmentation dialog.

### Displaying Results

You will need to set the Filter (found on the Navigation Toolbar) to Trees (System) and change the Display option to Extra Byte 1. See the screenshot below.



The Tree Attributes Output can either be a CSV or a shapefile. This output will contain the Tree ID, XYZ, Height, and estimated Surface area of the tree's canopy.

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