Documentation for SimpleTree Plugin

Jan Hackenberg

Laboratory of Forest Inventory (LIF)
Institut National de l'Information Gographique et Forestire (IGN)
11 rue de l'Ile de Corse
54000 Nancy
jan.hackenberg@nancy.inra.fr

Abstract

This file contains a documentation to use the beta release of the SimpleTree Plugin within Computree.

Keywords: SimpleTree, QSM, Computree

1. The First Section

Figure 1: SimpleTree Method

This document describes the usage of a plugin of the method available within the SimpleTree software [1] to produce quantitative structure models of laserscanned tress.

The plugin needs to be used properly:

1. A point cloud cut out in a format accessible with Computree. The cloud has to be an isolated tree. Noise should have been removed. At the moment the de-noising procedures from the SimpleTree stand alone software are not available.
2. The cut above ground of the cloud needs to be done paralell to the x-y plane to ensure best results.
3. Rather than the SimpleTree method this method needs no Input parameters. All parameters are estimated by the software itself. Optimization of those parameters is user hidden.
4. To run the method into a pipeline one has to put a comma separated value file of the form presented in Table 1. No header included.

Tree ID	**Output path**	**species**	**GT**	**Switch**
Q01.asc	D:/Data/output/temp	*Quercus_petraea*	0.722	TRUE
Ery_01.asc	D:/Data/output/temp	*Erythrophleum_fordii*	0.405	FALSE
Pinus01.asc	D:/Data/output/temp	*Pinus_massoiana*	0.865	TRUE

Table 1: Parameter file

Those parameters describe:

1. **Tree ID** The file name of the loaded cloud. This one is used to make an allignment between the output model and the point cloud.
2. **Output path** A string containing the path to the output folder
3. **species** The species name. This one is included in the output file as well. Later you will be able to separate by species within R.
4. **GT** The Ground Truth volume in [m^3]. At the moment this one is not used, but I plan to include to make the error of pipelined tree models visible by this. Can also be set to zero or another number if not known.
5. **Switch** Activate with TRUE if your cloud is both of high quality and the twigs are lost during leave de-noising. In this case no allometry is performed.

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1.2. Subsection Two

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2. The Second Section

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References

[1] H. Jan, Simpletree homepage, 2016.