

Forestry

Natural resource management and environmental monitoring are increasingly important areas of both scientific and economic interest. In forestry, laser scanning is one of the best methods for rapid and accurate mapping beneath the canopy and is also increasingly being used to acquire information about the trees and forests themselves.

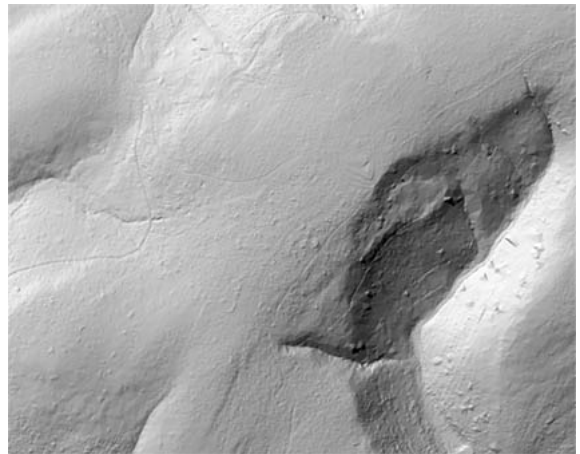
During data acquisition, part of a laser pulse emitted by the laser scanner is reflected by the canopy surface, whereas another part of it penetrates the vegetation and is reflected from the ground. The first step in the data processing consists of distinguishing the points of the canopy from those describing the ground.

Thanks to the high point density obtained with existing scanners, it is now possible to extract much more useful and detailed information for accurate forest inventories. First of all, individual trees can be identified and therefore counted on a given part of the land. Then their height and the size of their crown can be computed and the stem volume can be estimated with a very high accuracy using these parameters and very limited field sampling.

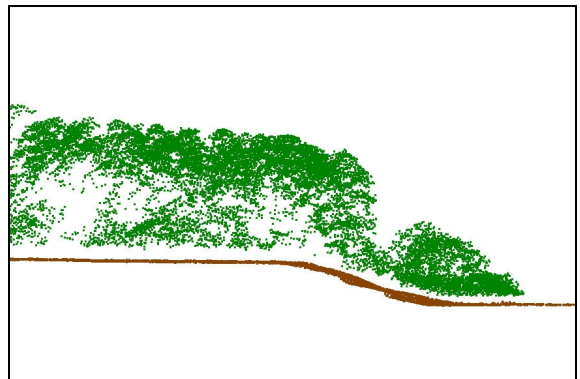
As well as being used for detailed forest inventories, laser scanning is a valuable scientific tool for the estimation of the biomass of extended forest areas, which can provide a quantitative base for the discussions concerning CO₂ policies.



*Germany, Harz Forest:
shaded relief of non-ground elevation data with vegetation*



Shaded relief of terrain model without vegetation



Profile of forested area with ground and canopy data



TerraImaging B.V.
Groenewoudsedijk 40
3528 BK Utrecht
The Netherlands
Tel.: +31 (0)30 686 61 60
Fax: +31 (0)30 686 61 66
E-mail: info@terraimaging.nl
Web: www.terraimaging.nl

TerraImaging B.V. Berlin
Köpenicker Str. 10a
10997 Berlin
Germany
Tel.: +49 (0)30 53 21 77 20
Fax: +49 (0)30 53 21 77 26
E-mail: info@terraimaging.de
Web: www.terraimaging.de

TerraImaging B.V. France
99 bis avenue du Général Leclerc
Paris 75014
France
Tel.: +33 (0)686 511 463
E-mail: info@terraimaging.fr
Web: www.terraimaging.fr