Tree Analyser : Software to Compute Tree Structure Parameters from Photographs

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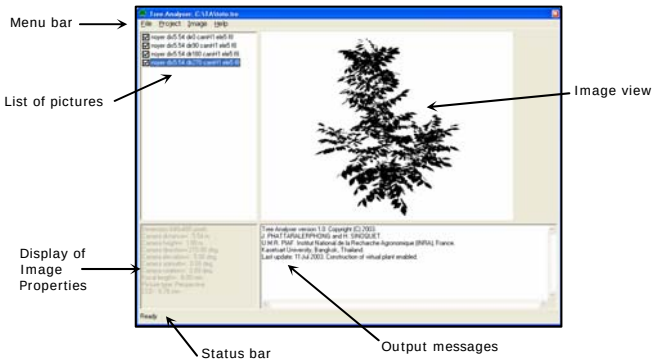
Objective of the software

Using photographs of isolated tree taken from a digital camera to compute structural parameters i.e. height, diameter, volume and total leaf area.

Software interface

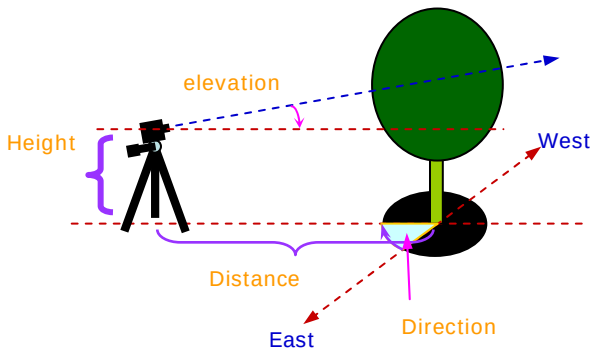


System Requirement

- Windows 98/2000/XP (Windows XP recommended).
- 4 MB of hard disk space for the software.
- Additional 10 MB of hard disk space for the output.

Data required for Tree Analyser

1. Black and white images in format bmp.
   *At least 1 image for tree height, diameter or total leaf area.
   *At least 4 images around the tree for canopy volume.
2. Camera parameters for each image
   - Height
   - Distance
   - Direction
   - Elevation
   - Focal length
3. Average leaf size and mean leaf angle (for the estimation of leaf area)



Acknowledgement
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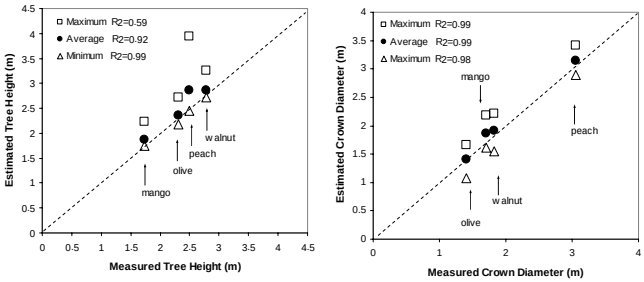
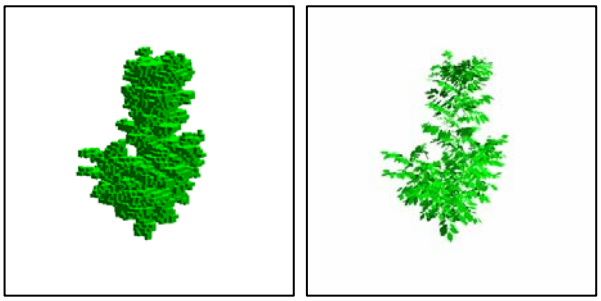
Output of Tree Analyser

1. Tree Height and Diameter

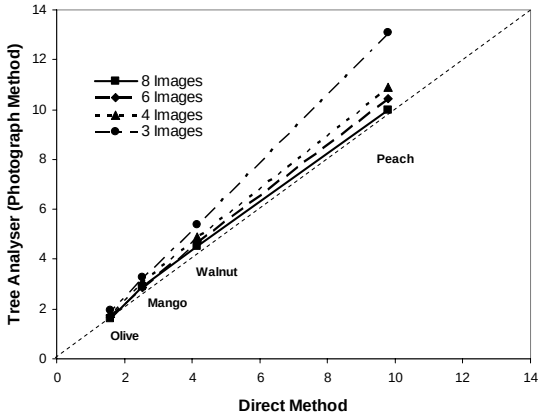


2. Viewable 3D Reconstructed Canopy using VegeSTAR version 3.1; e.g. walnut tree.



Reconstructed Canopy **Actual Canopy**

3. Canopy Volume (m^3)



4. Total Leaf Area