

## GENERAL INFORMATION

<b>author(s)</b>	Samson R, Lemeur R
<b>year</b>	2000
<b>English title</b>	The role of surface temperature in the simulation of forest canopy photosynthesis
<b>original title</b>	
<b>reference</b>	In: Ceulemans R, Veroustraete F, Gond V, Van Rensbergen J (eds) Forest ecosystem modelling, upscaling and remote sensing. Academic Publishing bv, Den Haag
<b>pages</b>	69–86
<b>type</b>	book chapter (b)
<b>ecosystem service</b>	supporting – photosynthesis
<b>keywords</b>	FORUG
<b>taxa</b>	<i>Fagus sylvatica</i> , <i>Fraxinus excelsior</i> , <i>Quercus robur</i>
<b>project</b>	
<b>supervisor</b>	Lemeur R
<b>institution</b>	Ghent University, Laboratory of Plant Ecology
<b>location</b>	pdf, hardcopy
<b>data</b>	

## MATERIALS & METHODS

<b>study area</b>	5n (measuring tower)
<b>time period</b>	August-October 1997
<b>goal</b>	Investigation of the diurnal and seasonal changes in surface temperature and air temperature. Comparison of measured and modelled surface temperatures. Investigate the differences in the predicted net canopy photosynthesis (FORUG) when using air temperature, modelled/measured surface temperature.
<b>set-up</b>	infrared radiometer installed 2 m above the canopy shielded Pt100 temperature sensor at 37 m
<b>data collection</b>	surface temperature (10 min data), air temperature (30 min data)
<b>remarks</b>	

## RESULTS

The diurnal course of air and surface temperature differed according to the meteorological situation, but the surface temperature was always lower than the air temperature. Surface temperature seemed to be correlated with the physiological status of the canopy, and the modelled surface temperature overestimated the measured one, because the physiological status was not incorporated in the calculation. Including surface temperature in the FORUG model can be relevant when using hourly input values. If no data on surface temperature are available, it is better to use data on air temperature than modelled surface temperature data.