Table S1. Variables used in the developed method with descriptions.

Variable	Description
ε_{max}	Maximum light use efficiency for undisturbed birch forest
$\varepsilon_{max, def}$	Maximum light use efficiency for defoliated birch forest
f_{8day}	Reduction factor that reduces ε_{max} depending in temperature
$fAPAR_{8day}$	fAPAR for a MODIS 8-day period
GDD_{thres}	Threshold set to control when temperature no longer influences ε_{max}
GPP_{lue}	GPP estimated with the LUE model
GPP_{EC}	GPP derived from the EC-data
$NDVI_{DL}$	NDVI smoothed with double logistic functions in TIMESAT
P_{frost}	Reduction factor the influence f_{8day} depending on frost events
PAR_{8day}	Mean daily PAR over an MODIS 8-day period
S_{GDD}	Reduction factor that influence f_{8day} depending on P_{frost} and GDD
T_{mean8}	Mean temperature for a MODIS 8-day period
T_{min8}	Min temp for a MODIS 8-day period
T_{thres}	Factor controlling how T_{mean8} influences f_{8day} in the 2nd part of the season