New Phytologist Supporting Information

Article title: **Probability distributions of non-structural carbon ages and transit times provide insights in carbon allocation dynamics of mature trees**

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Article acceptance date: 16 January 2020

The following Supporting Information is available for this article:

Figure S1: Mean sensitivity value μ and its correspondent variance σ for each flux of each species: *Pinus halepensis*, *Acer rubrum* and *Pinus taeda,* calculated by the Elementary Effects method. The larger the mean sensitivity value the more sensitive is the mean age or the mean transit time to changes in that flux. The bigger the variance of the indexes the higher the nonlinear response of the mean age and mean transit time to changes in that fluxes. The fluxes are labeled as defined in Table 2.

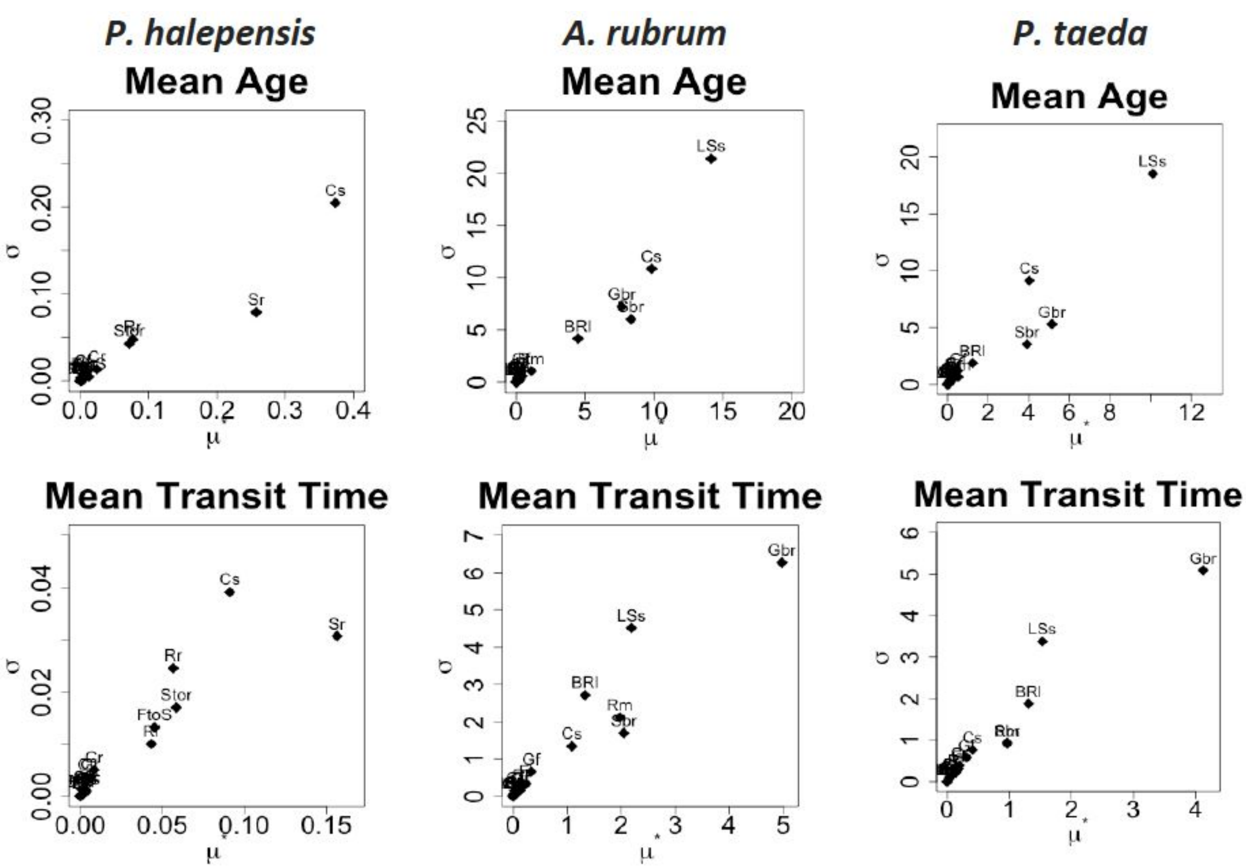


Figure S2: Association between the most sensitive NSC transfer coefficients (Figure S1) and the mean age and mean transit time for each species: *Pinus halepensis*, *Acer rubrum* and *Pinus taeda*.

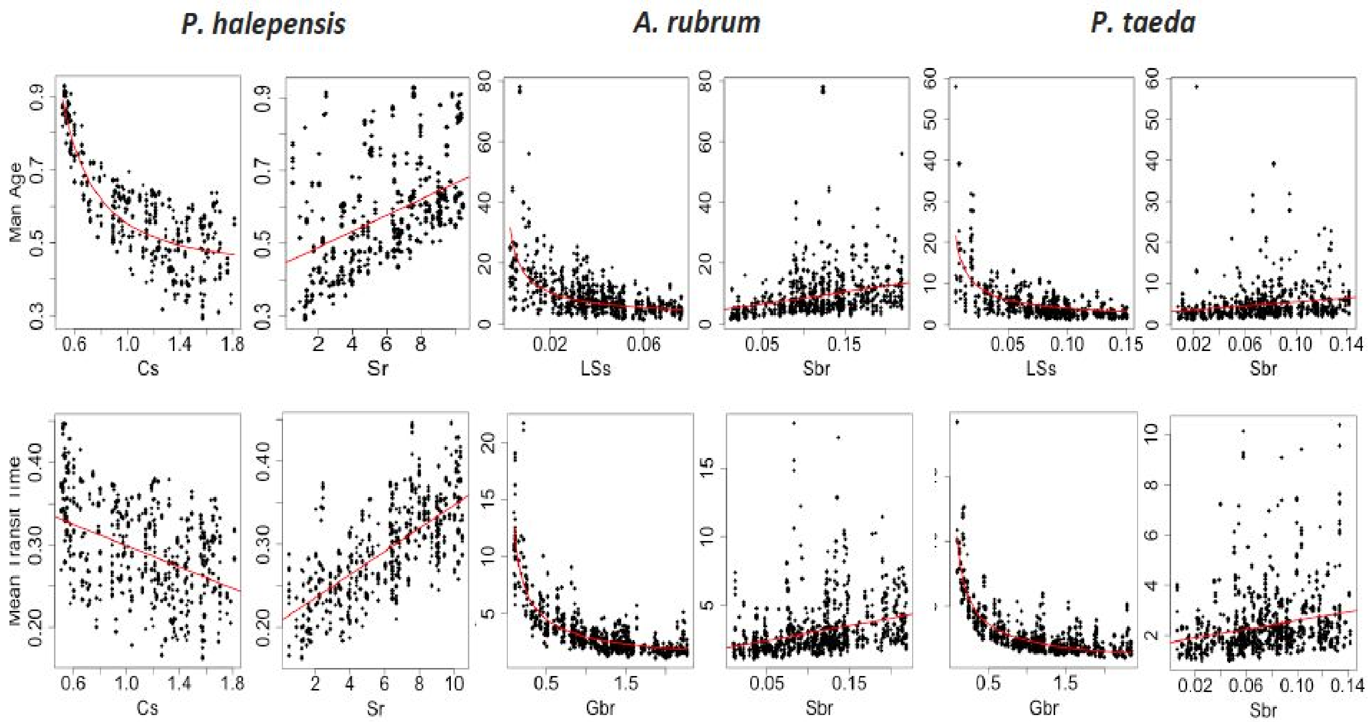
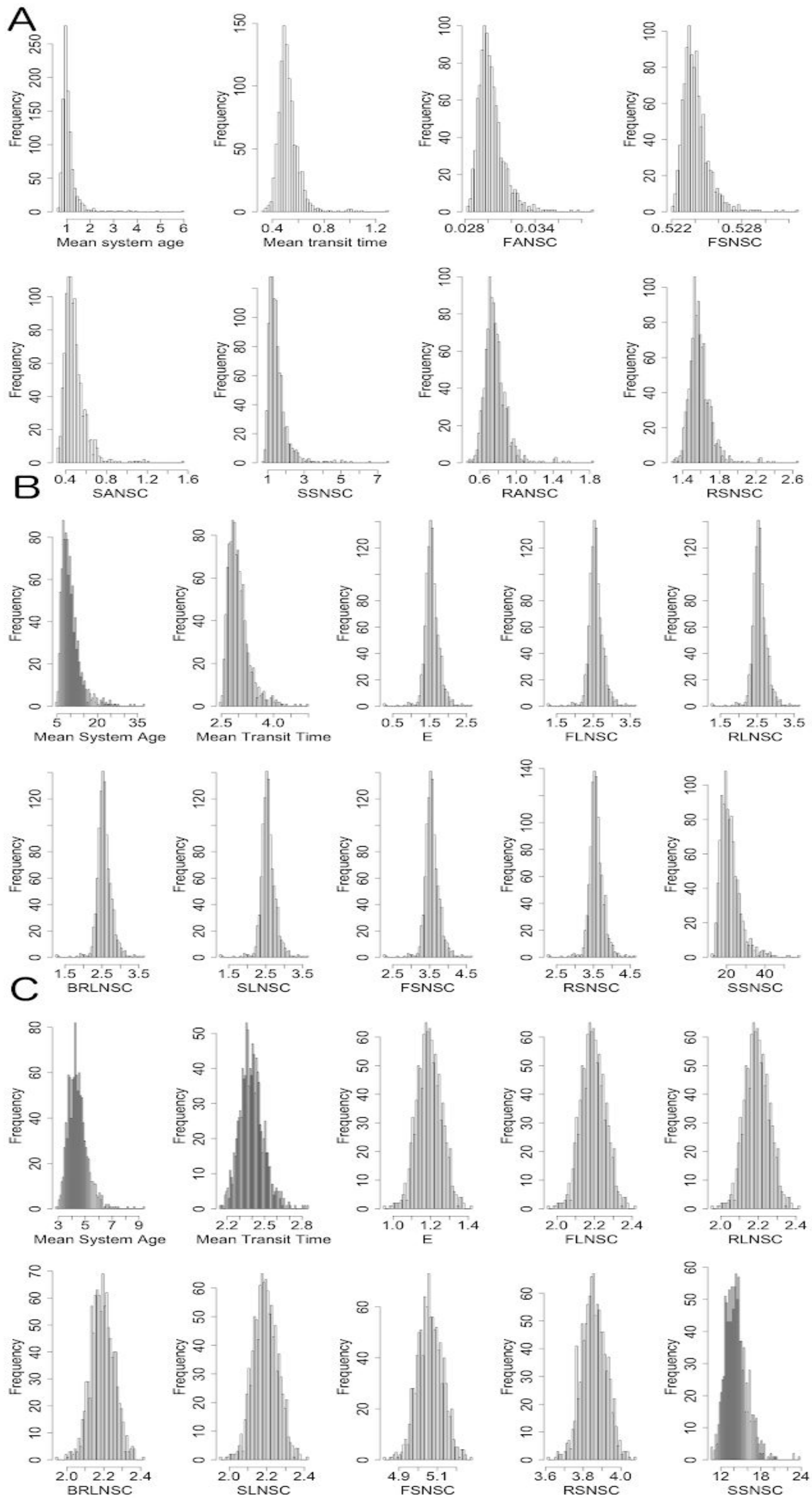


Figure S3: Uncertainties associated with the model parameters with the largest influence in the NSC mean age and mean transit time per species **A**) *Pinus halepensis*, **B**) *Acer rubrum*, and **C**) *Pinus taeda*. These uncertainties are shown as density distributions of the mean age and transit time of the NSC. These density distributions are the result of 1000 Monte Carlo simulations, where each model parameter varied randomly within its parameter space reported in Table 2.


A
Frequency
Mean system age
Mean transit time
FANSC
FSNSC
SANSC
SSNSC
RANSC
RSNSC
B
Mean System Age
Mean Transit Time
E
FLNSC
RLNSC
BRLNSC
SLNSC
FSNSC
RSNSC
SSNSC
C
Mean System Age
Mean Transit Time
E
FLNSC
RLNSC
BRLNSC
SLNSC
FSNSC
RSNSC
SSNSC