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Supplement of

A model using marginal efficiency of investment to analyze carbon and nitrogen interactions in terrestrial ecosystems (ACONITE Version 1)

R. Q. Thomas and M. Williams

Correspondence to: R. Q. Thomas (rqthomas@vt.edu) and M. Williams (mat.williams@ed.ac.uk)

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R. Q. Thomas^{1*} and M. Williams^{2*}

[1] Department of Forest Resources and Environmental Conservation, Virginia Tech, Blacksburg, Virginia, 24061, USA

[2] School of GeoSciences, University of Edinburgh, Edinburgh, and NERC National Centre for Earth Observation, EH9 3JN, UK

Correspondence to: R. Q. Thomas (rqthomas@vt.edu) or M. Williams(mat.williams@ed.ac.uk)

Supplemental material

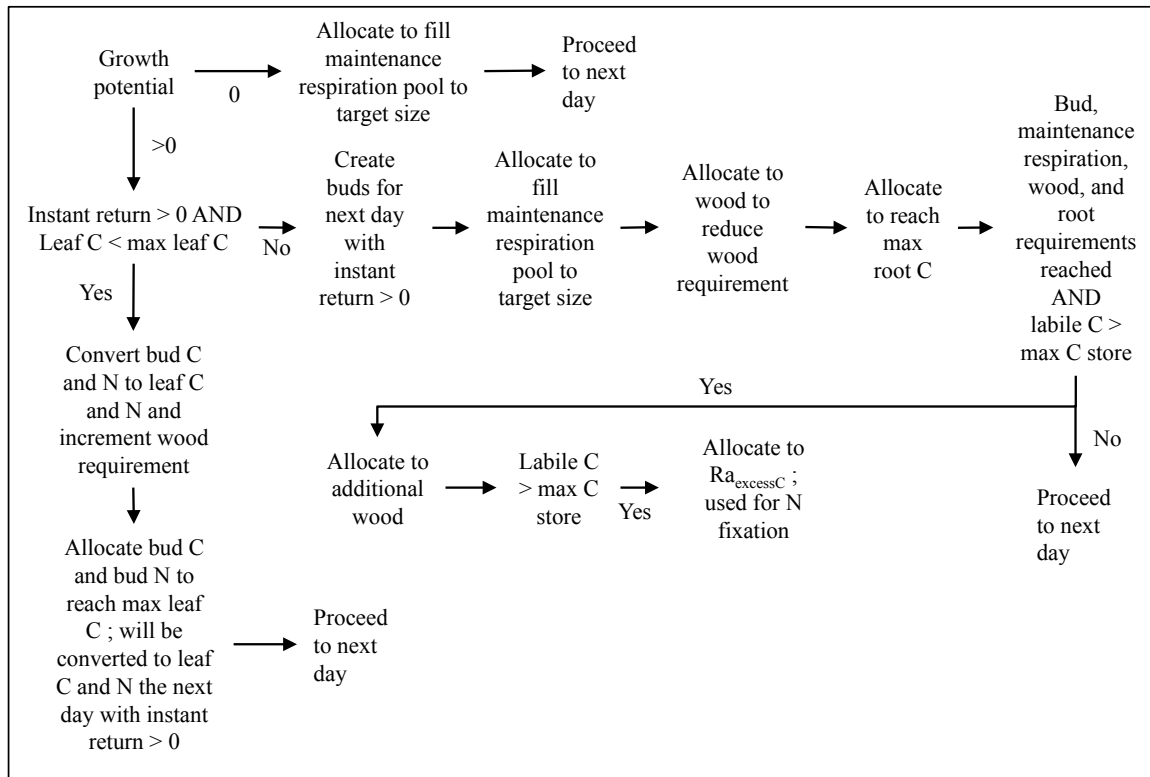


Figure S1. Plant allocation strategy used in ACONITE. The schematic shows how, beginning from the assessment of whether active growth is occurring (top left), the model makes choices for allocation based on a decision tree.

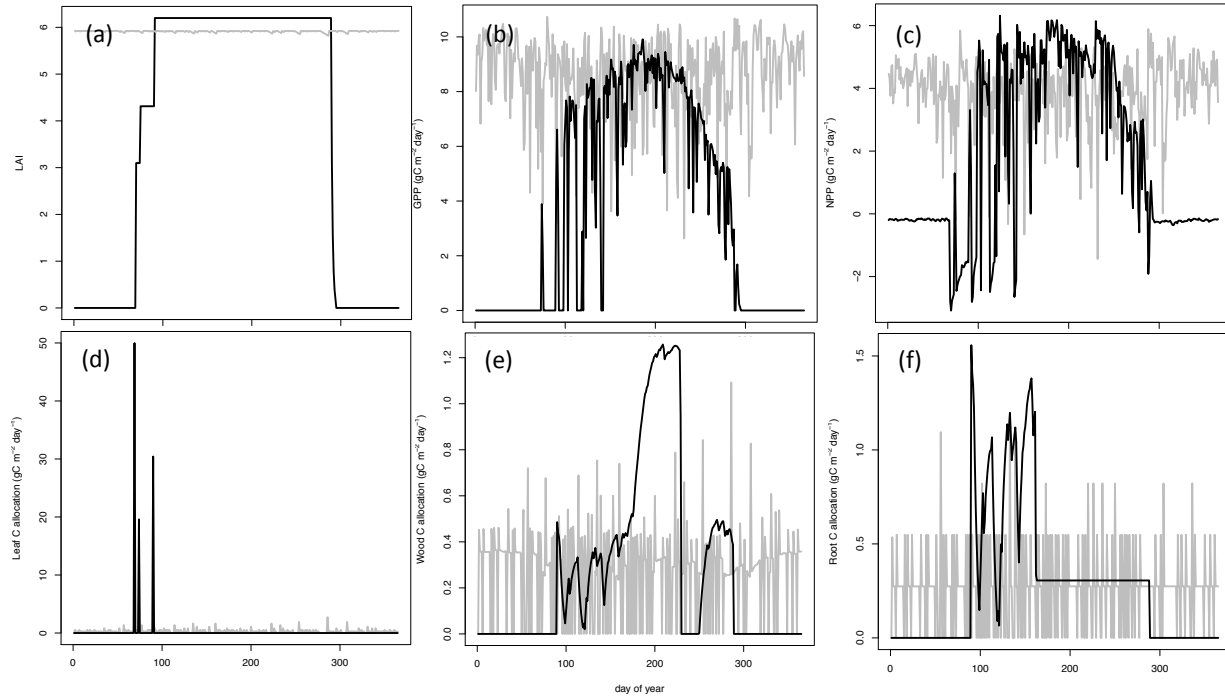


Figure S2. Seasonal dynamics of key pools and fluxes for temperate deciduous (black) and tropical (grey) ecosystems at annual steady state. Daily values for (a) leaf area index (LAI), (b) gross primary production (GPP), net primary production (NPP), (d) allocation to leaves, (e) allocation to wood, and (f) allocation to roots are shown. LAI (a) and leaf C (b) allocation reflect growing degree-day and senescence date parameterizations in the temperate forest. Wood (e) and root allocations (f) reflect the allocation rules described in the main text. The wood allocation initially meets the requirement based on the parameterized leaf allocation to wood allocation ratio. A second growth of wood is associated with the allocation of excess carbon fixed during the year in the temperate seasonal forest. Root allocation (f) is associated with meeting and maintaining a maximum root C target.