



Wood phenology: from organ-scale processes to terrestrial ecosystem models

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In temperate and boreal trees, a dormancy period prevents organ development during adverse climatic conditions. Whereas the phenology of leaves and flowers has received considerable attention, to date, little is known regarding the phenology of other tree organs such as wood, fine roots, fruits and reserve compounds.

In this presentation, we review both the role of environmental drivers in determining the phenology of wood and the models used to predict its phenology in temperate and boreal forest trees. Temperature is a key driver of the resumption of wood activity in spring. There is no such clear dominant environmental cue involved in the cessation of wood formation in autumn, but temperature and water stress appear as prominent factors.

We show that wood phenology is a key driver of the interannual variability of wood growth in temperate tree species. Incorporating representations of wood phenology in a terrestrial ecosystem model substantially improved the simulation of wood growth under current climate.