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Mathematical model of annual growth in trees: a response to perturbation by fire. Preliminary report.

We present an overview of the structure and dynamics of annual wood growth in trees. First we discuss typical, natural growth under ideal circumstances and follow this by discussing growth in the aftermath of major wood injury. Motivated by preliminary data from recently burned trees, we present a spatio-temporal mathematical model of individual tree growth and preliminary model results. Ultimately we are interested in the response of trees to repeated fires, and the interaction between fire and the healing process which shape the long-term health of forests. (Received September 17, 2019)