1128-92-303 **Leonardo Calle*** (leonardo.calle@montana.edu), P.O. Box 173460, Bozeman, MT 59715, and **Benjamin Poulter**. *Epistemic uncertainties in global-scale modeling of secondary forest dynamics.*

Secondary forests are known to represent an important global carbon sink. In large-scale vegetation models, however, it remains a challenge to represent every forest stand that differs in age, mainly due to limits in computation. A common solution has been to represent forests in different stages of succession, but to set limits on the maximum number of stands represented, and then to combine, by a weighted-average, state variables for similar forest stands when the number of stands tracked exceeds such limit. We present an alternate approach for representing ecosystem heterogeneity at large scales by using a fixed-width age-structured model of forest age. We compare the state variables (e.g. aboveground biomass, stem density, tree height) simulated using alternate models of secondary forests to observations from forest inventory data. We demonstrate how alternate representations of forest age can result in artifacts of biomass 'dilution' and 'inflation', resulting in down-stream effects on ecosystem function and altering the perceived sensitivity of forest stands to climatic stress. We also highlight the importance of alternate approaches for representing tree establishment within the context of large-scale age-structured forest models. (Received February 28, 2017)