



# 6<sup>th</sup> North American Forest Ecology Workshop



## **Patterns of Growth Dominance in Forests: What do we gain by quantifying dominance?**

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Volunteer Oral Presentation

Foresters have a long tradition of distinguishing among dominance classes of trees; silvicultural decisions typically focus removing or fostering suppressed trees or dominant trees. We have proposed an approach for quantifying the level of dominance within stands and suggest this approach can provide novel insights on stand development and the scaling of productivity from individual trees to stands. The level of dominance in a stand is quantified from the relationship between the distribution of stand biomass (or volume or basal area) and growth among trees. Strong growth dominance occurs when the largest trees account for a greater share of current stand growth than of current stand biomass. Some forests show little growth dominance and some even reverse growth dominance. These patterns are explored for a wide range of conditions including monoculture plantations of Eucalyptus and natural forests in the Rocky Mountains.