

PROJECT INFORMATION

Project title: Assessing self-thinning trajectories across landscapes and its implications on carbon storage

Project ID: 163

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PROJECT DESCRIPTION

In this project, we compiled a long-term dataset of largely unmanaged forest plots from 1951 to 2016 that contained at least five censuses across tropical ($n = 84$), temperate ($n = 81$) and boreal forests ($n = 1477$) in South and North America, Europe and Australia. We then applied the reduced major axis (RMA) regressions to quantify the slope of the self-thinning trajectory at scales of each forest stand, vegetation functional groups and forest biomes. We also examined the climate, vegetation and soil controls on the self-thinning trajectory across landscape and evaluated the role of self-thinning trajectory in spatial and temporal trends of carbon storage.

We found that estimates of self-thinning trajectory had large uncertainty in temperate forests because of limitations of sample size. That is why we think that ICP dataset, which have many plots in temperate forests, is very useful for our study. Thus we would be very pleased to incorporate these plots into our current analysis.