



Project Impacts

NSRC-FUNDED RESEARCH FINAL REPORT

Aboveground Forest Biomass Change in Northeastern U.S.

PROJECT AWARD YEAR AND TITLE:

2013

Dynamics of Institutional Timberland Ownership and Its Impact on Forest Management in Northern Forest Region, United States

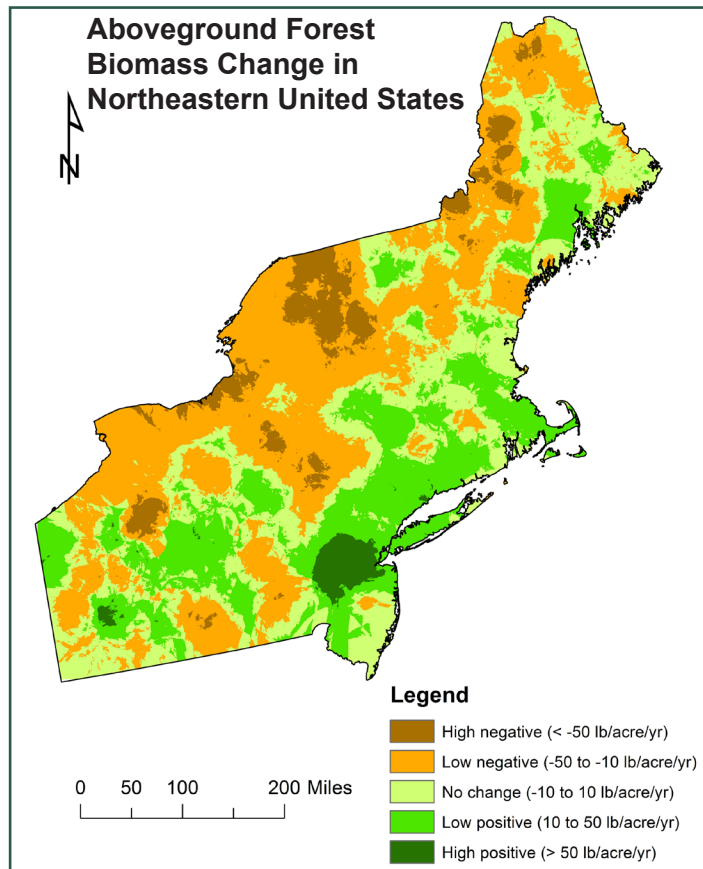
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Forest ownership patterns in the Northern Forest region have changed dramatically over the past couple of decades. Traditional Vertically Integrated Forest Products Companies (VIFPCs) have sold timberlands to institutional owners: Timber Investment Management Organization (TIMOs) and Real Estate Investment Trust (REITs). Reasons include tax issues, international and domestic competition, and realization of timber industry by outside financial investors. Institutional owners are often perceived as oriented towards maximizing profit, which influences their landholding objectives and time horizons, as compared to traditional VIFPCs.

It is important to understand if these changes in timberland ownership have a role in affecting species composition, biomass, and health of the forest. NSRC researchers quantified changes in forest composition and aboveground biomass across the nine state region of the Northeast. Researchers used USDA Forest Inventory and Analysis (FIA) data based on permanent plots measured twice from 2003 to 2012. Change in aboveground biomass (lbs/acre/year) for each plot was calculated based on measurements from individual trees.

Aboveground biomass decreased across the study area based on the last two forest inventories. Spatial patterns in biomass change showed that southern areas tended to have increases in forest biomass compared to the rest of the region, and changes in biomass differed by state. Moreover, biomass change was significantly different for each forest type with biomass increasing most for oak-hickory and decreasing most for maple-beech-birch forest. However, no distinct relationship of biomass change was observed with respect to land ownership or proximity to roads and cities. Findings will help decision making for timberland management and carbon sequestration in the Northeast.

