

Verifying Tree Planting with Land Cover Data

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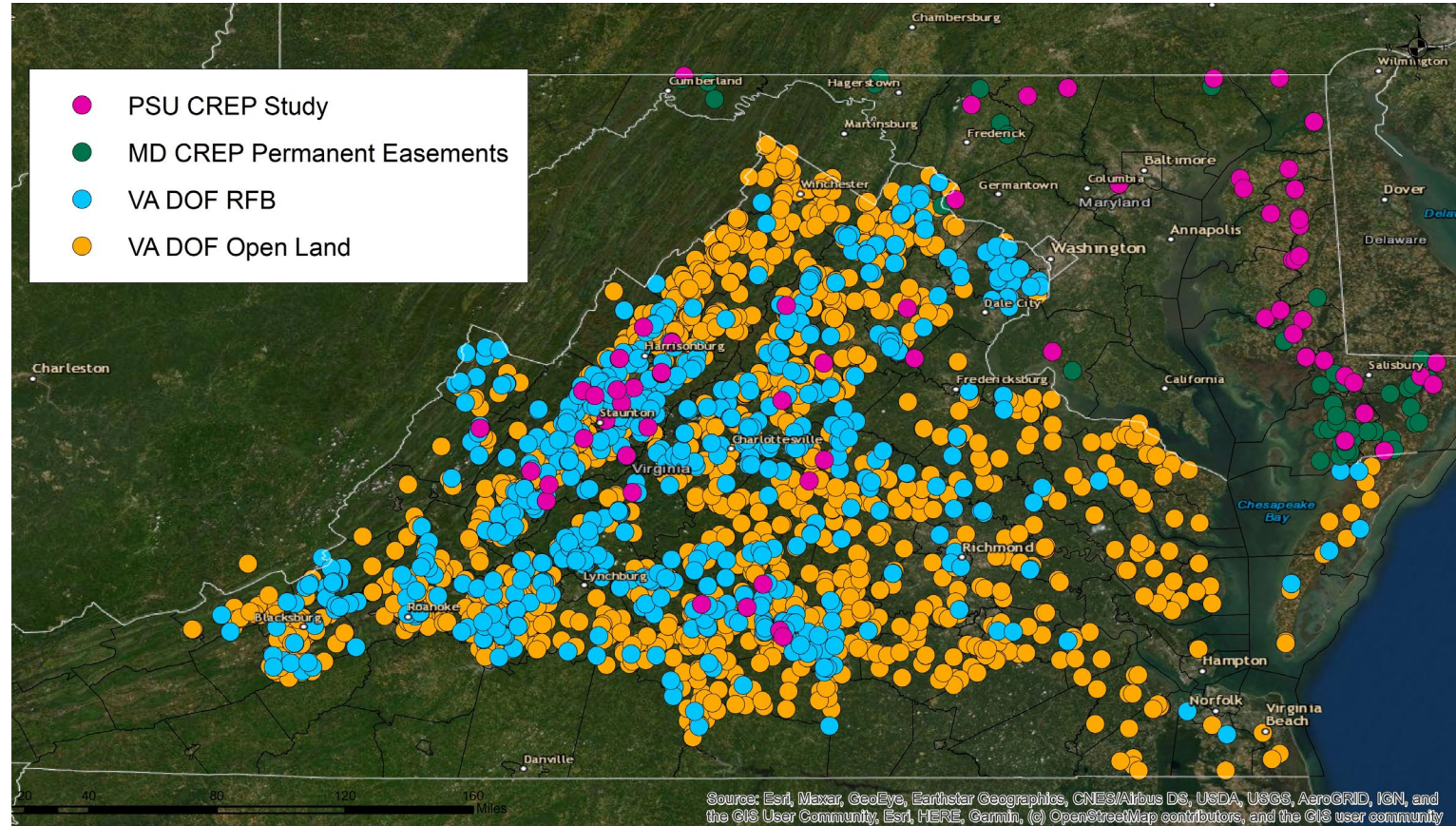


Purpose

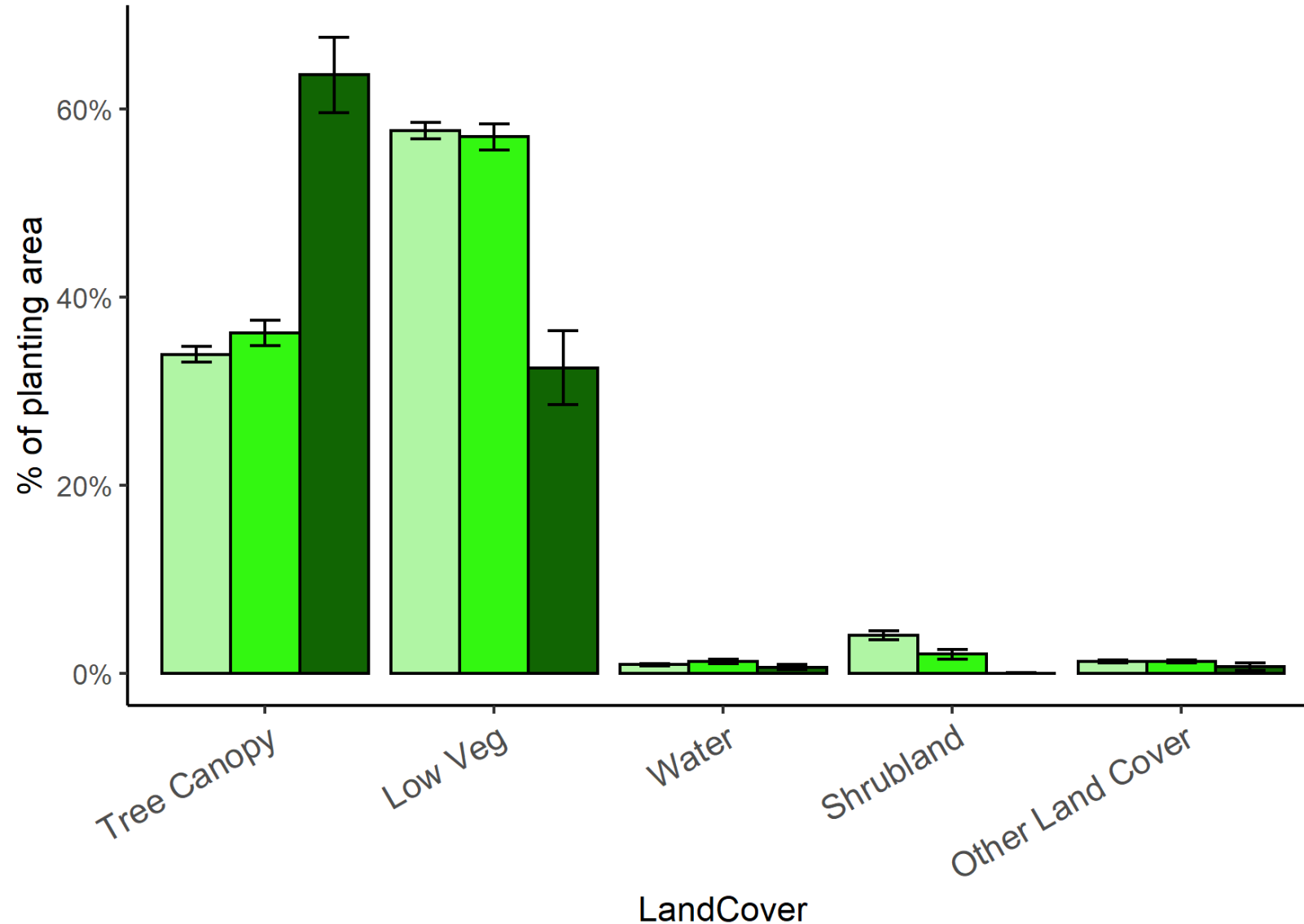
- Determine when tree plantings get detected with remote imagery
- When should tree planting credits get “backedout”?
- Are there any factors that influence this?

Methods/Data

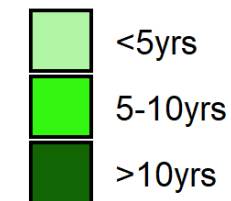
- CREP buffer shapefiles from PA, VA, and MD used in Penn State Study
 - Could not locate planting dates for PA plantings
- Maryland CREP Easements
- VA DOF Buffer and Open Land Plantings
- CC 2013 and 2017 land cover
 - 2017 LC not available for all counties
- Calculated area of different **land cover** in each shapefile



Avg% Landcover in Plantings



age_class



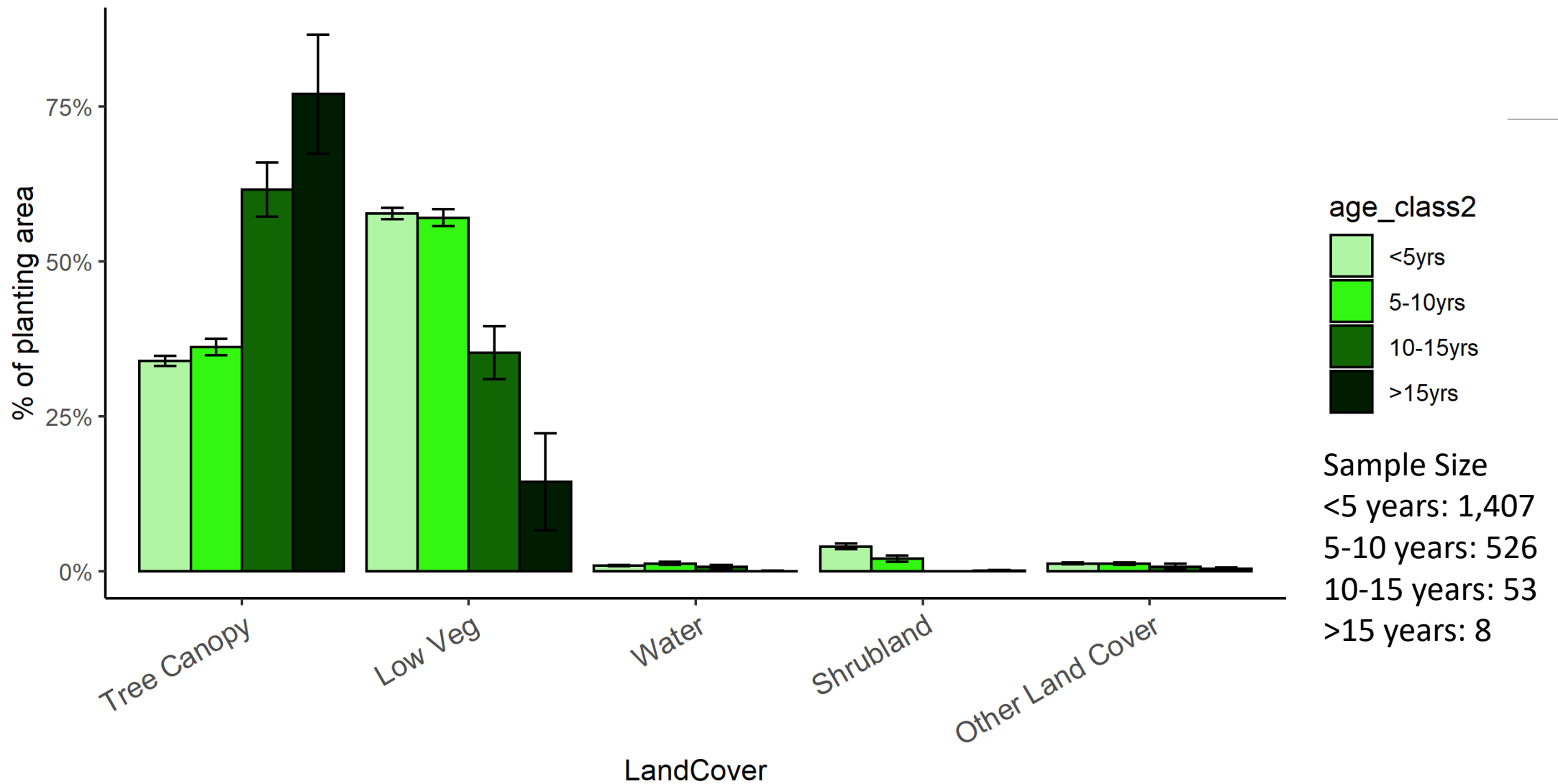
Sample Size

<5 years: 1,407

5-10 years: 526

>10 years: 61

Avg% Landcover in Plantings



TC in 2013 = 14%
Age 10



TC in 2017 = 98%
Age 14



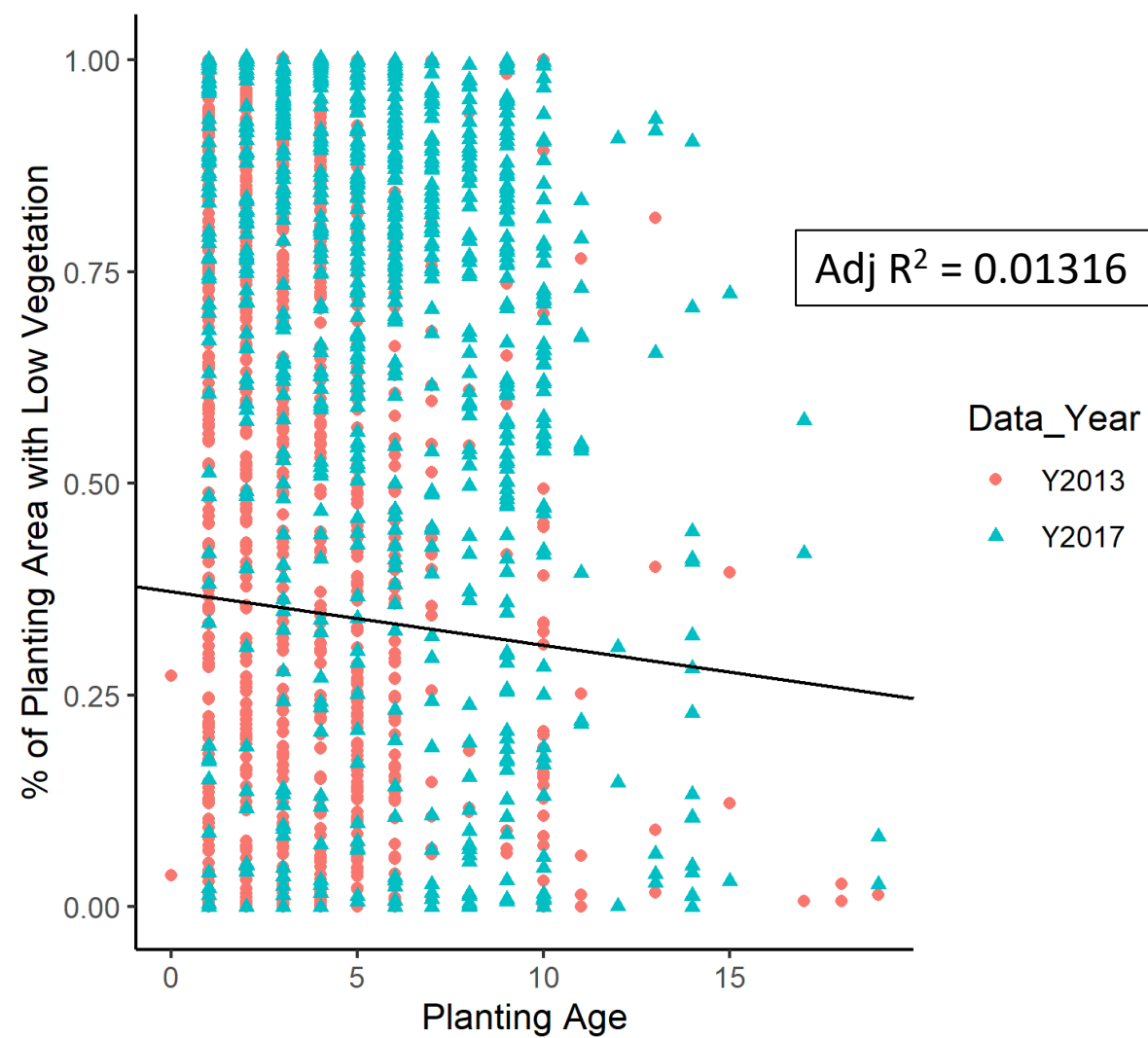
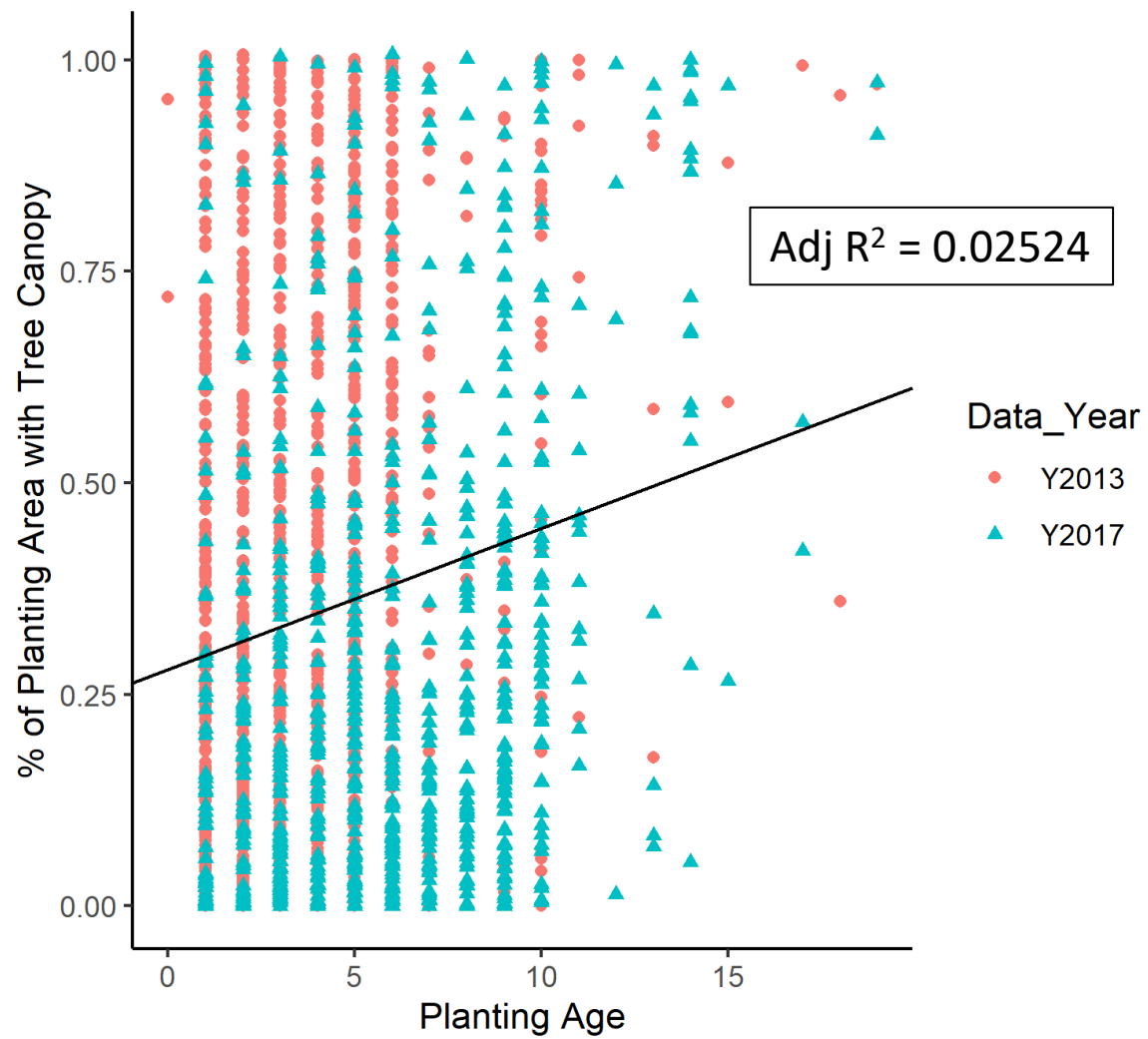
TC in 2013 = 11%
Age 8



TC in 2017 = 99%
Age 12



1 dot = 1 planting



Issues with Data

- Different regions have different growth rates
- States have different planting practices
 - VA doesn't plant as many pines as MD
- Effect of planting density?
- LiDAR date can differ between states + not match perfectly with date from NAIP imagery
- Some planting dates are not clear
- Maybe not all parts in buffer shapefile get planted
- Only 2 States represented in data set

A photograph of a calm river or stream flowing through a dense forest. The water is still, acting as a perfect mirror for the surrounding greenery. Tall trees with thick canopies line both banks, their leaves in various shades of green. Some tree trunks are visible, leaning over the water. The lighting is soft, suggesting a quiet time of day like dawn or dusk. The overall mood is peaceful and natural.

Questions?

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