

Tree mortality from harvest, bark beetles, and fire across the western United States

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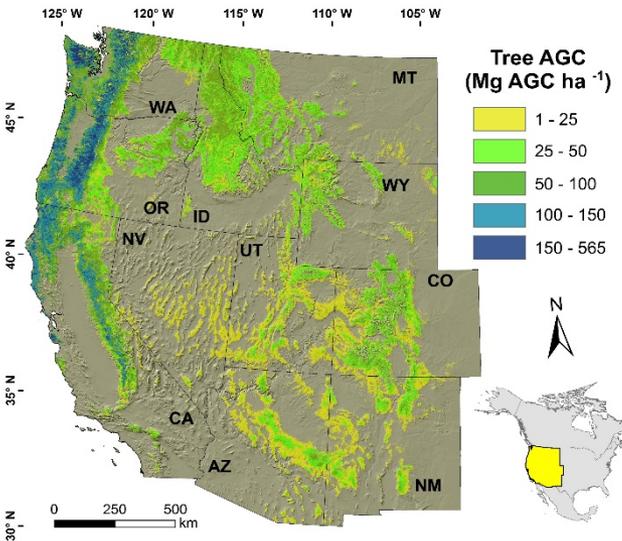
Background

- Forests help regulate Earth's climate by sequestering carbon
- Forest disturbance accelerates carbon release from ecosystem → atmosphere
- Extensive forest disturbance from fires and bark beetles during 2000s in western US

Research Question

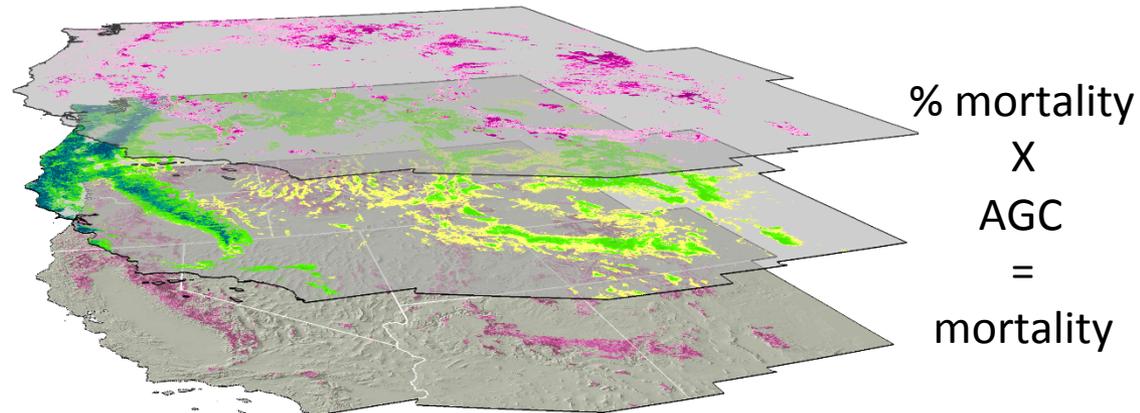
How much tree mortality was caused by fires, bark beetles, and timber harvest (2003-2012)?

Study Area

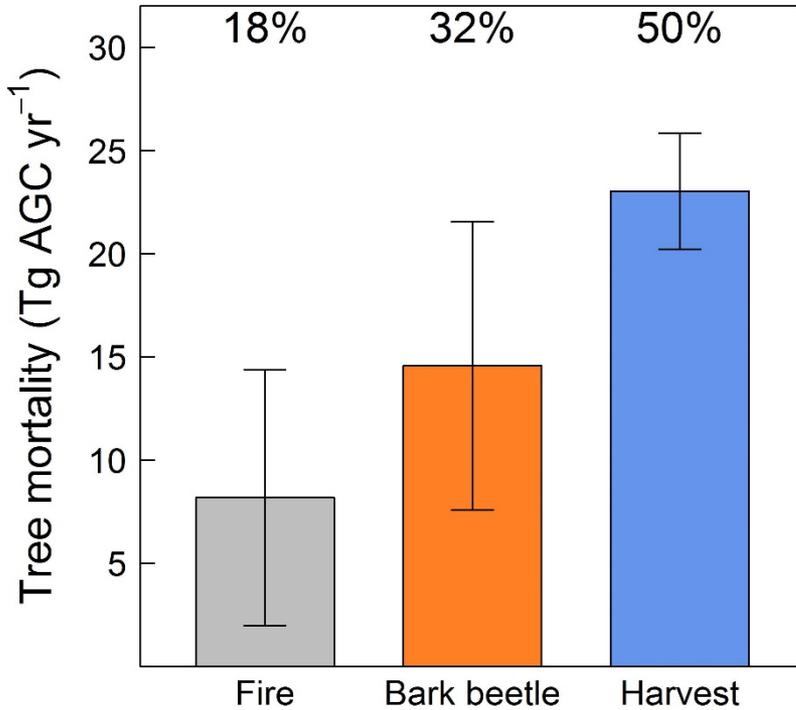


General Approach

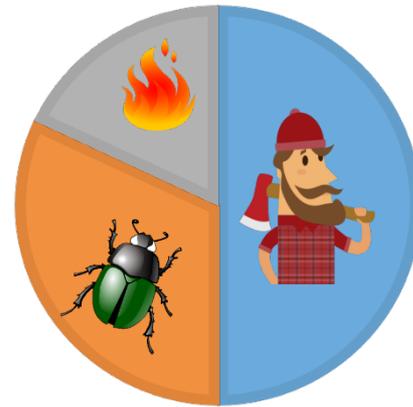
- Focused on carbon in tree aboveground biomass
- USFS timber product output
- Geospatial biomass, fire, and beetles data sets



Regional tree mortality



- Averaged 45.8 ± 16.0 Tg AGC yr⁻¹ (\pm 95% CI)
- Harvest > bark beetles > fire
- Equivalent to 18% of regional f.f. emissions



State tree mortality

