

COMPARING GROWTH AND MORPHOLOGICAL CHARACTERISTICS OF NORTH CAROLINA LONGLEAF PINE STANDS

This study examines radial growth and morphological characteristics among six longleaf pine tracts in North Carolina. The six sites, two from each of the three physiographic regions of Piedmont, Sandhills and Coastal Plain, form a regional transect to test tree-stand characteristics by region. Two core samples and additional measurements of tree diameter, height, and needle length were recorded for 15 trees per site. From the samples collected, measurements in total and latewood ring-width as well as wood density were used to assess climate/growth relationships.



longleaf pine and turkey oak

Significant correlations were found for latewood ring-width for June-October precipitation, summer and June–October temperatures with maximum latewood density, and for Palmer Drought Severity Index and latewood ring-width. Significant differences were also found for needle length and tree height by region using two-way ANOVA testing. Evidence for a gradient effect exists for several variables, indicating, influences of geography on longleaf pine growth characteristics.