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Pinus palustris longleaf pine

Dr. Kim D. Coder, Professor of Tree Biology & Health Care / University Hill Fellow
University of Georgia Warnell School of Forestry & Natural Resources

Longleaf pine (*Pinus palustris*) is one of our heritage trees because it represents a historic forest type. The cultural and romantic connections to longleaf pine and the forest ecosystem it dominates is seeped in traditions of the South. Longleaf pine was first identified as a species in 1768. Historic scientific names included *Pinus australis* (1810). Other common names for longleaf pine include long-leaf pine, long-leaved pine, longleaf yellow pine, Southern yellow pine, swamp pine, Georgia pine, marsh pine, yellow pine, Southern pine, longstraw pine, hill pine, pitch pine, hard pine, and heart pine. The scientific name means "pine of the marshes."

Longleaf pine grows on sandy, well drained upland soils, and in flatwoods along the Coastal Plain from Southeast Virginia to far Eastern Texas, dropping South into central Florida. It does grow up into the Piedmont and foot hill areas of Georgia and Alabama. Note the Georgia range map figure. Only tattered fragments of longleaf pine forests remain today even though it once covered large areas of the Southern Coastal Plain.

It grows in Hardiness Zone 7b - 9b and Heat Zone 7 - 11. The lowest number of Hardiness Zone tends to delineate the Northern range limit and the largest Heat Zone number tends to define the Southern edge of the range. This native Georgia pine grows in Coder Tree Grow Zone (CTGZ) B-E (a multiple climatic attribute based map), and in temperature and precipitation cluster based Coder Tree Planting Zone 4-7. Figure 2.

Longleaf pine is unique among Southern pines in its growth patterns. Seed requires bare mineral and moist soil to germinate. The seedling delays stem height growth while a large dense clump of needles are produced and almost all of the tree's energy is put into root growth. Because young longleaf pine seedling looks similar to a clump of grass, this stage of growth is called the "grass phase."

Once roots have successfully colonized a large area of space, and the stem base has become much larger in diameter, height growth begins. Up to this time, if the top of a seedling is damaged, longleaf pine can resprout. The main stem grows upward and appears like a thick "candle." Branching is delayed until stem height has greatly elongated. Finally after 4-15 years, a traditional stem and branch form is developed.

The grass stage of longleaf pine is fire resistant. Longleaf pine grows in fire dominated savannahs. Without periodic fire, scrub hardwoods usually start to dominate sites. In the past, lightning strikes and associated fires would help maintain longleaf pine forest ecosystem. This ecosystem is cited as one of the most diverse and rich forests in the United States, containing many species of plants and animals. Longleaf pine grows moderately quickly after it grows out of the grass stage.

Longleaf pine thrives on wet Springs and dry, hot Summers. Longleaf pine is a tall pine reaching 80-105 feet in height (maximum = 140 feet tall) and 2 - 2.5 feet in diameter (maximum = 4 feet). Expected lifespan is about 160 years. Trees can be found older than 300 years of age.

Needles of longleaf pine grow in bundles of 3. Needles are 9-17 inches long and are held on a tree for 2 years, making the crown appear open and needles clumped near ends of twigs and branches. Needles are a shiny yellow-green to bright green in color and are slender, thick but flexible.

Longleaf pine becomes sexually mature at 30 years of age, producing a good seed crop every 6-10 years. Female cones are 6-9 inches long and open at maturity. Female cones are an elongated egg-shaped, and dull brown to dull reddish-brown in color, aging to ash grey. Cone scales have a short, weak, curved, stiff prickle. The cone base usually remains attached to its branch while the rest of the cone falls away. Longleaf pine can hybridize with *Pinus taeda* to produce *P. x sondereggeri*.

Longleaf pine twigs are thick and stiff, orange-brown in color aging to a dark brown, and rough. The oval terminal bud is large (1.5 inches long) and covered in long silvery white tricombes (hairs). Thick twigs and needles crowded near twig ends give tree crowns an open appearance. Periderm is an orange-brown to grey-brown in color and relatively thin. Periderm has a coarse texture with rectangular, rough, scaly plates.

Longleaf has been used for lumber, plywood, pulp, fuelwood, pine straw mulch, resin products (naval stores), ship masts, ship planking, poles and posts, and wooden ship building. It is a premium naval stores and pole product tree.

Citation:

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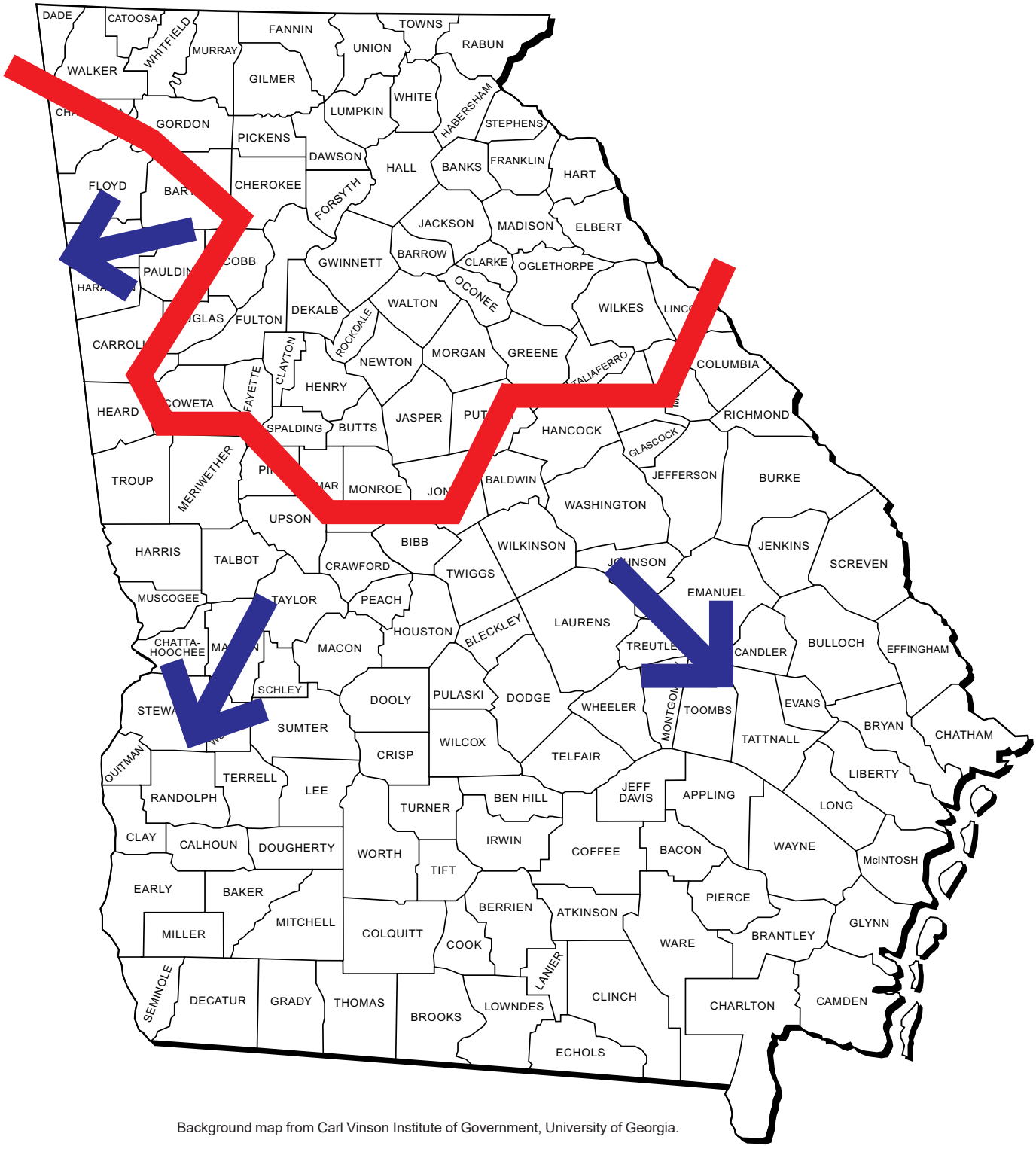
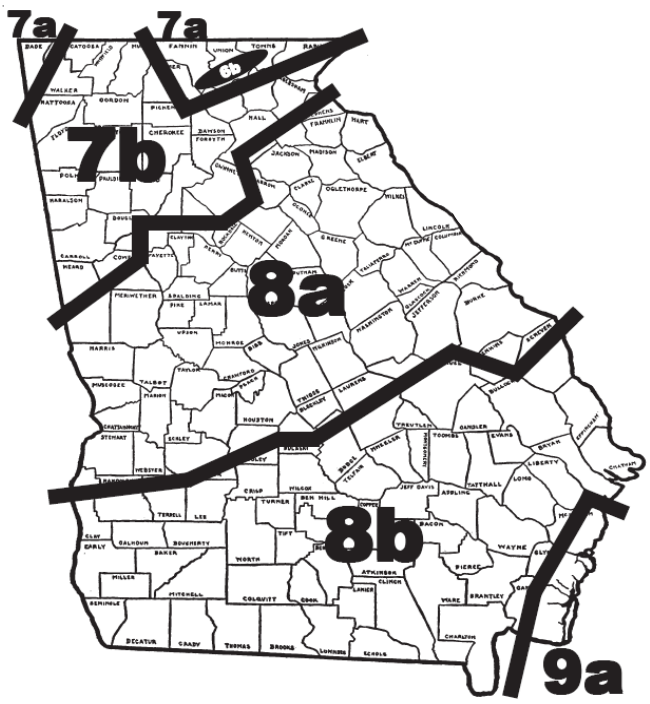
Figure 1: Native range for *Pinus palustris* -- longleaf pine in Georgia.

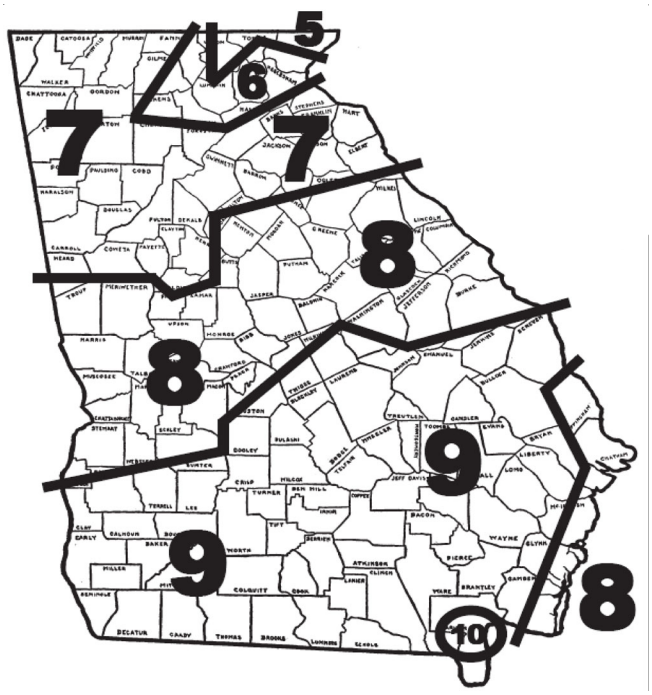
Native range from federal and state maps, herbarium samples and personal observations.
Native range includes all areas South and West of line on the side with arrows.



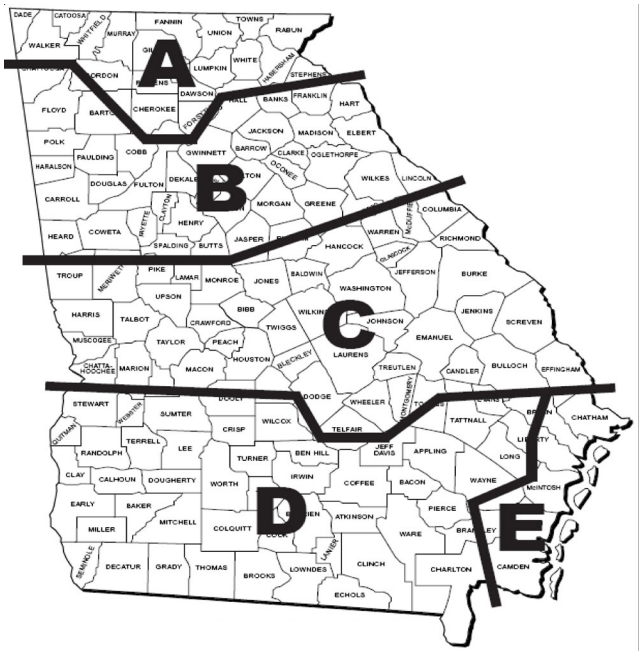
Background map from Carl Vinson Institute of Government, University of Georgia.



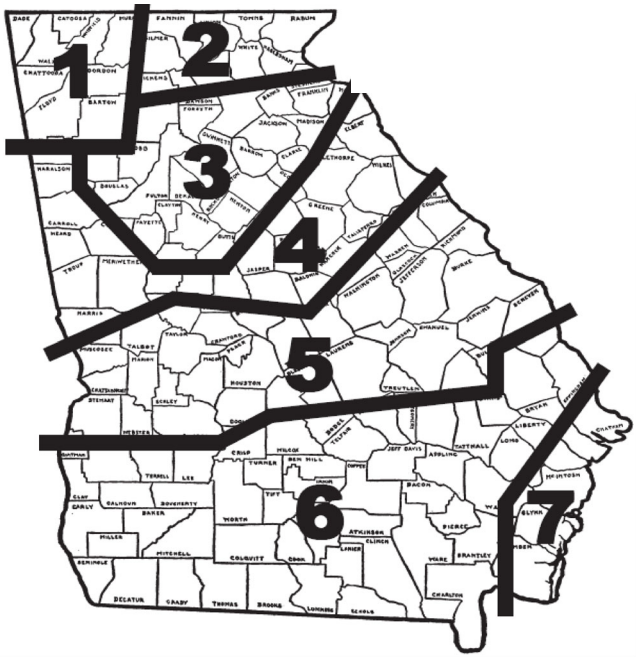
Georgia Hardiness Zones
(cold temperatures)



Georgia Heat Zones
(number of hot days)



Coder Tree Grow Zones
(multiple climatic attributes)



Coder Tree Planting Zones
(temperature & precipitation clusters)

Figure 2: Four types of tree growth zone maps for Georgia.