



***Pinus elliotii* slash pine**

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Slash pine (*Pinus elliotii*) is a great timber tree of the Coastal Plain. It was first described in 1824 as a variety of loblolly pine (*Pinus taeda* var. *heterophylla*). Since its first identification as a species or variety, it has been called *Pinus elliotii* (1875 & 1880), *Pinus heterophylla* (1849 & 1893), *Pinus caribaea* (1927), and *Pinus palustris* (1933). The scientific name is derived from famous botanist Stephen Elliott, who named the tree. Its common names are slash pine, yellow slash pine, yellow pine, Southern pine, Honduras pine, Cuban pine, swamp pine, and pitch pine.

There are two generally accepted types of slash pine – a standard type and a South Florida type. The Southern Florida slash pine was first identified as a variety in 1952 and suggested as a species (*Pinus densa*) in 1960. The Southern Florida slash pine (*Pinus elliotii* var. *densa*) grows in South Florida and the Keys, and is sometimes called Dade County slash pine.

The standard slash pine (*Pinus elliotii* var. *elliotii*) grows over the Southern and Southeastern United States into central Florida. The standard slash pine was once identified as *Pinus densa* var. *austrokeyensis* in 1960. Slash pine range generally follows the lower Coastal Plain Southeast of a line from the far Southeast corner of North Carolina to Louisiana, with some naturalized escapees in Eastern Texas. It has a relatively small range. Note the Georgia range map figure.

Slash pine is tall, growing from 80-100 feet in height (maximum = 130 feet tall), and 2-3 feet in diameter (maximum = 4 feet). Slash pine grows to be 150 years old. It grows in Hardiness Zone 8a - 10b and Heat Zone 9-11. 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) C-E (a multiple climatic attribute based map), and in the temperature and precipitation cluster based Coder Tree Planting Zone 6-7. Figure 2.

Slash pine grows well in many types of warm Coastal Plain sites, but grows best in lowland coastal areas, especially in sandy soils with plenty of water. Slash pine does not grow well in wet areas with poorly drained soils, and does not grow in swamps or on deep dry sands. Slash pine is not as resistant to fire as many of the other Southern pines.

Slash pine needles are dark, shiny green in color, 7 - 11 inches long, and are found in bundles of two and three on the same branch. Needles are thick, stiff and not twisted. They are held on the tree only about two years which gives the tree crown an open look with needles crowded near ends of branches and twigs. Slash pine does not have a “grass” stage of early growth like longleaf pine *Pinus palustris*. Needles usually drop all at once.

Slash pine becomes sexually mature by 12 years of age and produces heavy cone crops every 3 years. Female cones are 2.5 - 6.5 inches long, egg-shaped and open at maturity before they quickly fall.

Cones are shiny (varnished looking) chocolate brown to reddish brown in color with a thin small sharp prickle on ends of cone scales. Cross pollination is needed for best seed yield.

Twigs are thick, rough, and orange brown in color. Buds have reddish scales with reddish to light tan tricombes (hairs). The tree crown holds a few heavy branches and appears more open than most pines. Periderm is thin but deeply furrowed, with orangish to purplish colored plates which peel away in papery layers. Periderm cross-sections have thin layers of purplish and ivory colors. Slash pine has rapid stem and branch growth, notoriously brittle branches, and solid wind-firm root plates.

Slash pine will hybridize with other pines where their ranges overlap. Slash pine will form hybrids with loblolly pine *Pinus taeda*, Southern florida slash variety *Pinus elliotii* var. *densa*, sand pine *Pinus clausa*, longleaf pine *Pinus palustris*, shortleaf pine *Pinus echinata* (generating many dwarf offspring), pitch pine *Pinus rigida*, and Caribbean pine *Pinus caribaea*.

Slash pine hybridization can lead to confusion in identification. Slash pine can be mistaken with loblolly pine *Pinus taeda* which has 3 needles per bundle, a smaller cone by several inches in length, a dull brown colored cone, and cone scales with sharp prickles. Slash pine can also be confused with longleaf pine *Pinus palustris* which has 3 needles per bundle, a cone 5-10 inches long, and a silvery white-trichome (hair) covered terminal bud.

Slash pine is one of the most important woods for human use in the Southeastern United States. It is used extensively for lumber, plywood, pulp, and resin products (naval stores). It has also been used for fuelwood and pine straw mulch. Slash pine is now planted extensively in warm parts of the world for timber. Native Americans used slash pine for basket work, lodge building, torches, glue, chairs, poles, and for tanning hides. Medicinally slash pine was historically used to make a water bath and rubbed on eternally for treatment of pain and soreness, back pain, and hemorrhoids. The wood, periderm, buds, and roots were soaked in water and then applied to sore spots.

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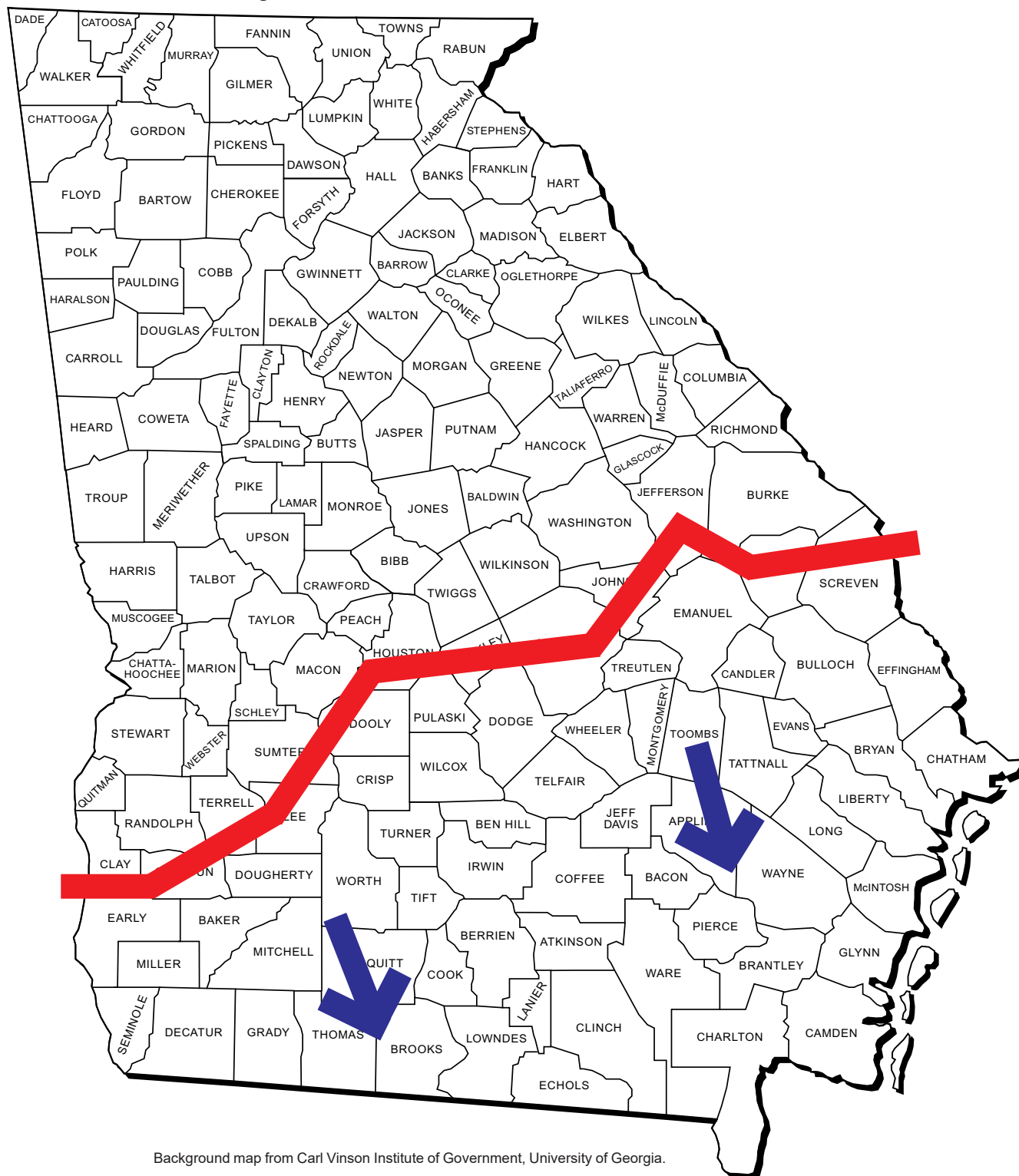
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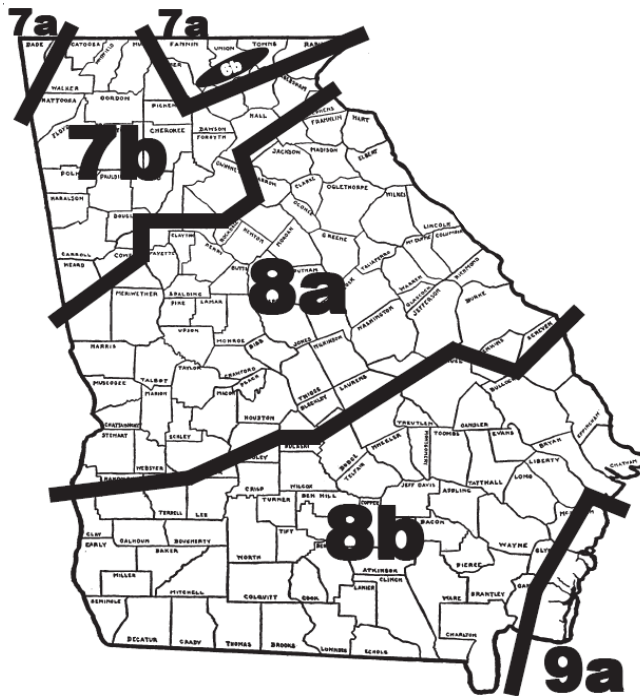
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Figure 1: Native range of growth for *Pinus elliotii* -- slash pine in Georgia.

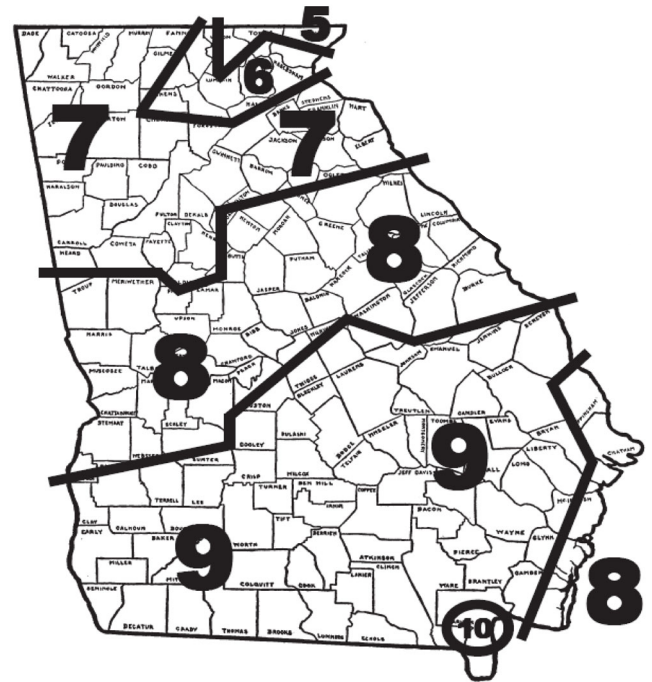
Native range from federal and state maps, herbarium samples and personal observations.

Native range includes all areas South of line on the side with arrows.

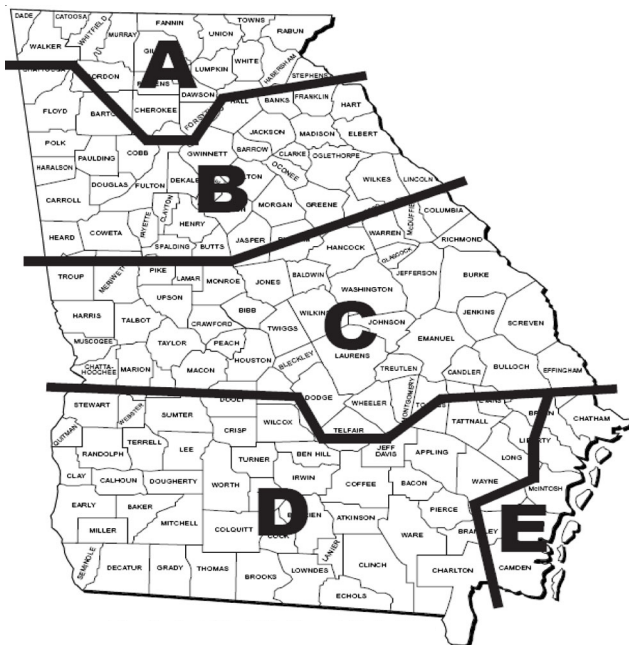




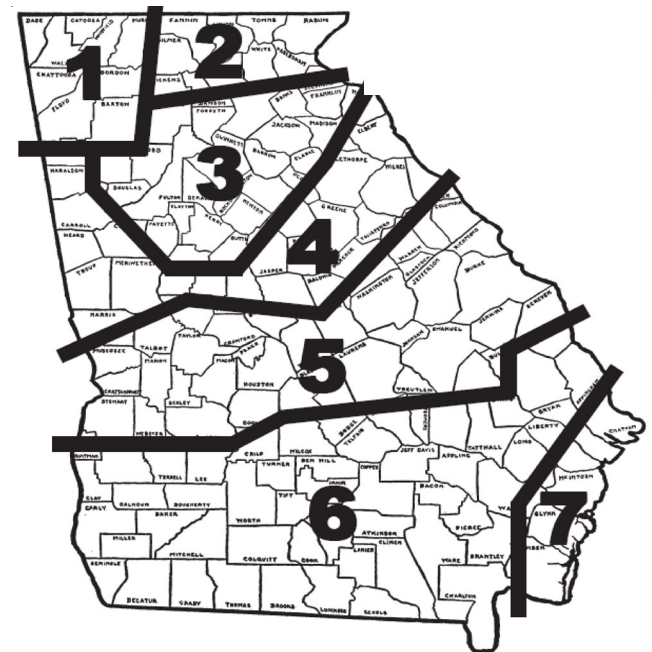
Georgia Hardiness Zones
(cold temperatures)



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.