



Pinus glabra spruce pine

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Spruce pine (*Pinus glabra*) is one of the least seen pines of the South. In dense mixed species forests, spruce pines may not be recognized as a pine from only the appearance of its trunk. Spruce pine was recognized as a species early (1788). The scientific name is derived from its relatively smooth periderm. Other common names include cedar pine, Walter's pine, Walter pine (named for its identifier), white pine and bottom white pine. It is a tree of the Southern and Southeastern coastal plain ranging from Eastern South Carolina to Southeastern Louisiana, but not growing far into North Florida. See Georgia range map figure. It is usually found growing as single stems and in isolated areas across the lower Coastal Plain in river bottoms and along stream banks on coarse but moist soils.

Spruce pine has a moderate growth rate and normal lifespan of 80 years. Spruce pine reaches a height of 85 feet (maximum is 110 feet) and a diameter of 2.5 feet (maximum of 4 feet). It can be found growing beside many species of trees in a mixed pine-hardwood forest or mixed swamp forest. Spruce pine is tolerant of shade and stress, but needs a mycorrhizal fungal associate for best growth. Moist sandy soils provide the best growing and seed germination sites.

It grows in Hardiness Zone 8a - 8b and Heat Zone 8-9. 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 5-7. Figure 2

Spruce pine needles are medium to dark green in color, with an occasional hint of grey. Needles grow in bundles of 2 and are 1.8 - 3.8 inches long. Needles are slender, flexible, twisted, and stay attached to the twigs for 2-3 seasons.

Spruce pine becomes sexually mature by age 10. Seeds produced on isolated trees are usually less viable because of lack of cross-pollination. Cones tend to be a rounded egg-shape and smaller than shortleaf pine (*Pinus echinata*) cones. Cone scales have a weak, small prickle on the ends. Cones are 1.3 - 3.2 inches long and open at maturity. Cones tend to stay attached to the stem and branches for 3-4 years, many times in clusters of 2-3 cones. Cones are reddish brown in color and somewhat shiny. Spruce pine cones point downward or back along the twig. Spruce pine has no contrasting borders on cone scale tips.

Spruce pine twigs are smooth, slender, and grey-green to reddish brown in color. Twig periderm tends to be rough, but not flaky. Branches self prune well and can make it difficult to get a sample or even see foliage held high in the air. Branch ends tend to droop. Periderm on spruce pine is thin, smooth, and silver grey-brown in color on twigs and young stems. Stem periderm color develops toward dark grey-brown with age and

becomes narrowly furrowed. Periderm is furrowed into long, thin, flat, scaly ridges (like a spruce *Picea* spp. or Southern red oak *Quercus falcata*) on older stems.

Spruce pine hybridizes with shortleaf pine *Pinus echinata* and this can create some limited identification problems because they have overlapping ranges. Spruce pine also overlaps ranges with sand pine *Pinus clausa*. Spruce pine differs from sand pine in several ways in mature female cones. Spruce pine has small, weak prickles on cone scale ends where sand pine has sharp thick prickles. Spruce pine cones tend to fall from a tree where sand pine cones stay on a tree and may become embedded in stem and branches. Spruce pine does not overlap Virginia pine *Pinus virginiana* native range, but for comparison spruce pine has a weak small prickles on cone scale ends while Virginia pine has slender pointed prickles on cone scale ends.

Spruce pine is utilized for low quality lumber, weak pulp, Christmas trees, fuelwood, limited resin products (naval stores), and essential oils for pine scents. Historic medicinal use include treatment of worms, diarrhea, painful joints, rheumatism, colds and flu, cough, bruises, fever, colic, gout, hemorrhoids, constipation, measles, mumps, tuberculosis, and venereal disease.

Citation:

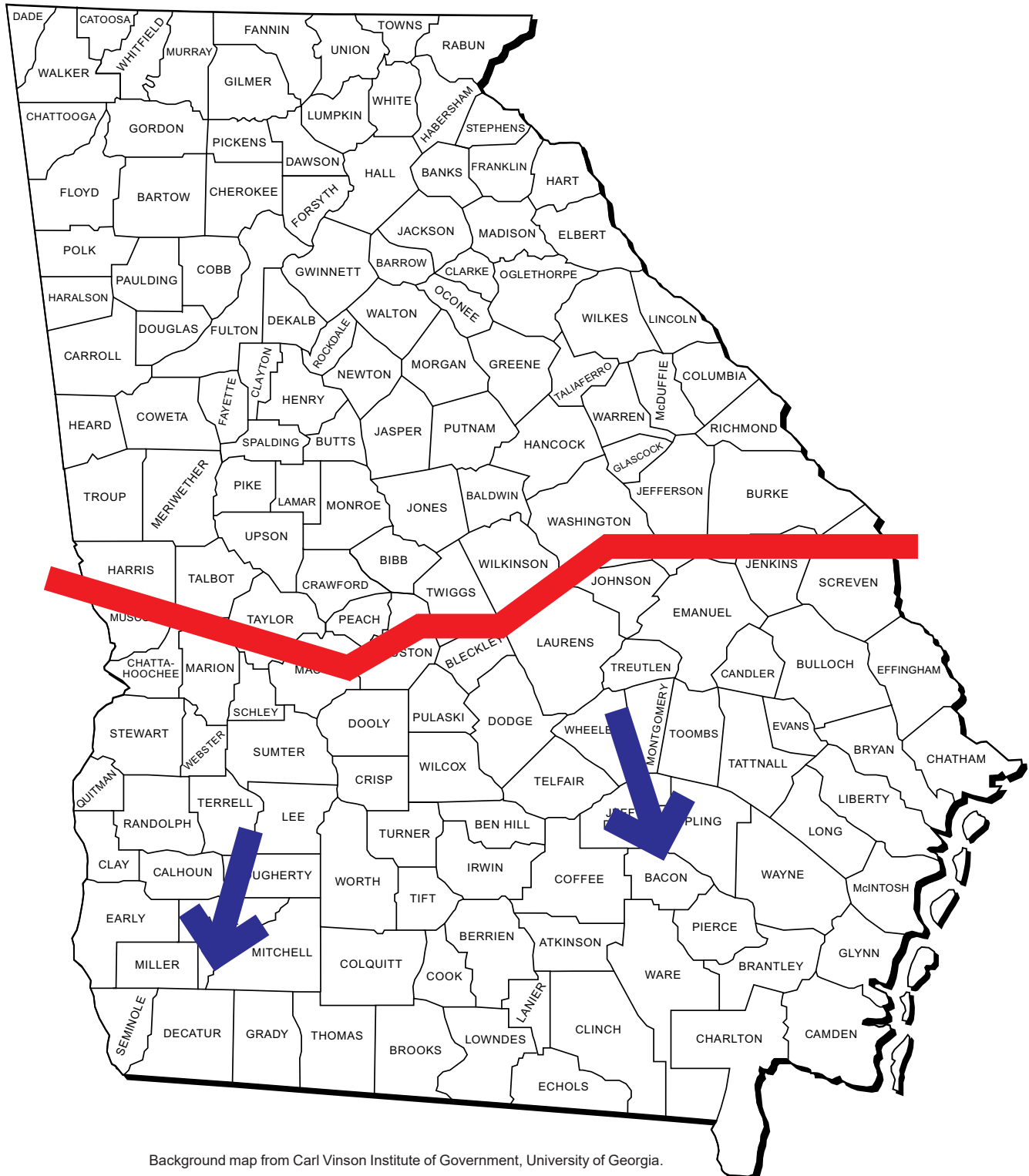
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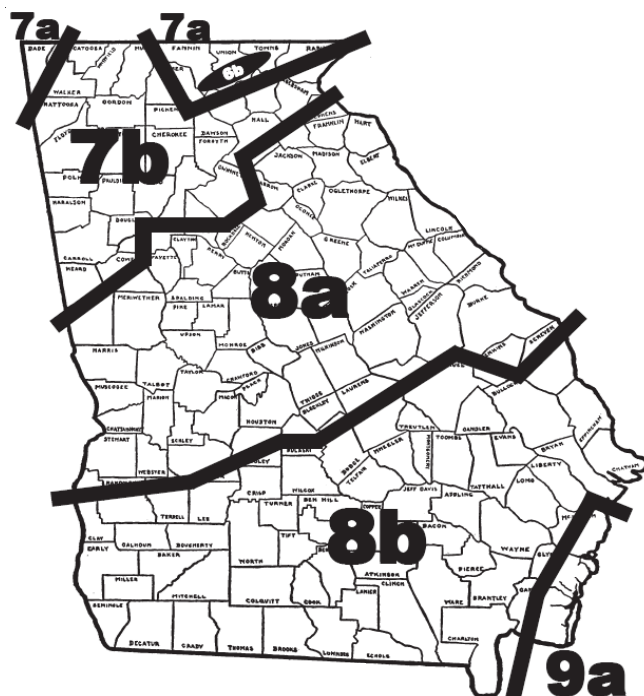
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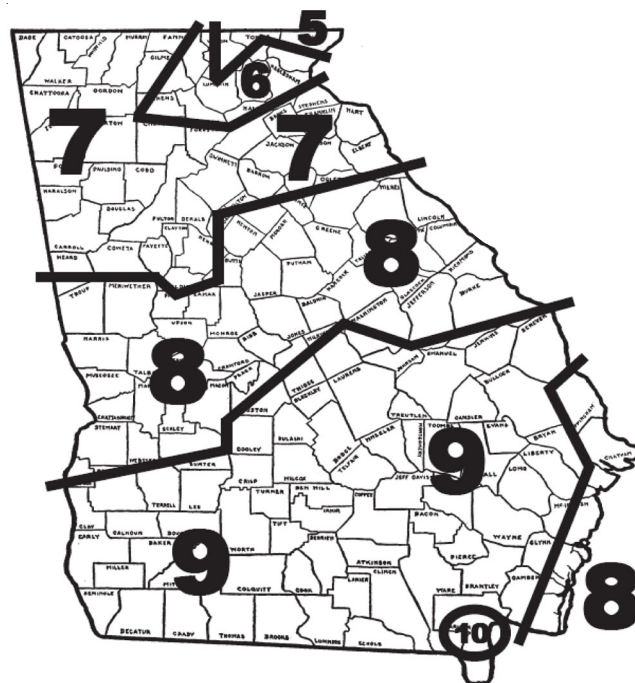
Figure 1: Native range for *Pinus glabra* -- spruce pine in Georgia.

Native range from federal and state maps, herbarium samples and personal observations. Native range includes all areas South of line.

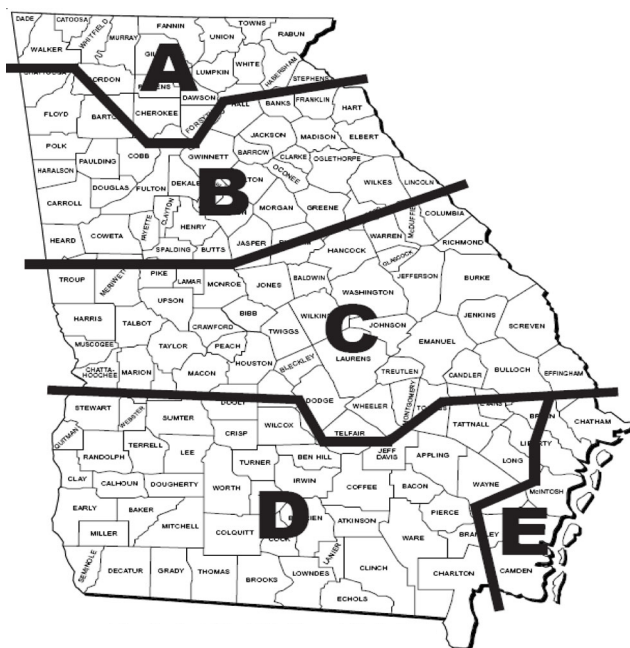




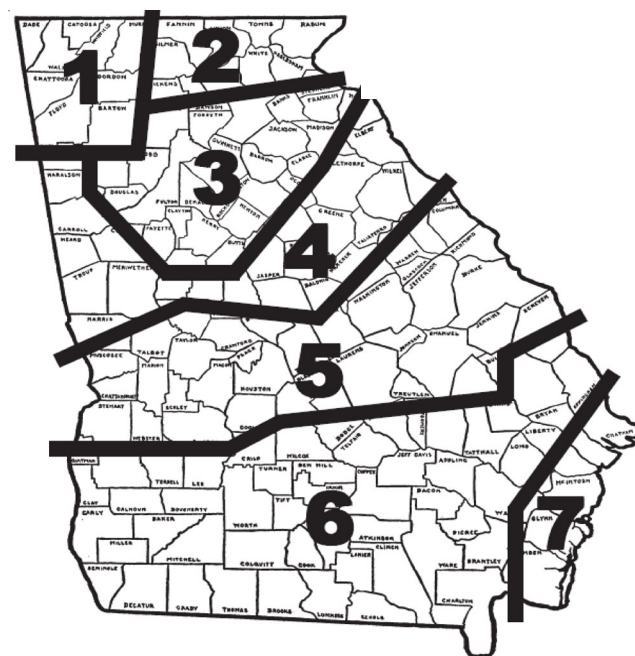
Georgia Hardiness Zones
(cold temperatures)



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.