

Native Pine (*PINUS*) Species Ranges in Georgia

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December 2006

Georgia pines are more than filters for romantic moonlight. These pines have been and continue to be the most important trees for our quality of life. Georgia pines are the cardboard boxes which carry our food, the wood of our houses, and the materials which drove the industrial revolution in the South. Pines are considered by many to be the lowest of the trees because they are so common. Yet they are both the lead actors in an ecological play of the rural lands and urban communities of Georgia, and a backdrop for our lives.

Pines are the trees which smell, sound, and look like home to many people. Pines are also the most important industrial tree group in the Northern hemisphere of Earth. Georgia has eleven native pines. Each is akin to the others, but unique in where it grows and how it grows. This publications will help define what pines are, where they grow in Georgia, and how they are related to each other and to their cousins around the world. This will be an exploration of the background of Georgia's pines.

Pride of the Conifers

The pines are in one of six families within the conifers (*Pinales*). The conifers are divided into roughly 50 genera and more than 500 species. The conifer families include the pine (*Pinaceae*) and the cypress (*Cupressaceae*) of the Northern Hemisphere, and the podocarp (*Podocarpaceae*) and the araucaria (*Araucariaceae*) of the Southern Hemisphere. The *Cephalotaxaceae* (plum-yew) and the *Sciadopityaceae* (umbrella-pine) families are less commonly seen conifers. Members of all of these conifer families can be found as ornamental and specimen trees in yards around the world, governed only by climatic constraints.

Family

The pine family (*Pinaceae*) has many genera (~9) and many species (~211). The most common of the genera are fir (*Abies*), cedars (*Cedrus*), larch (*Larix*), spruce (*Picea*), pine (*Pinus*), Douglas-fir (*Pseudotsuga*), and hemlock (*Tsuga*). The pines and hemlocks are native to Georgia.

Genus

The trees generically considered pines were first placed in the *Pinus* genus in 1753. Other historic names for the genus have been *Apinus* (1790), *Strobus* (1854), and *Caryopitys* (1903). The name of the genus is the Latin word for pine. The pine genus (*Pinus*) contains ~95 species (range from 66-120 species) from around the Northern Hemisphere. One pine species range crosses the equator into the Southern Hemisphere in Sumatra.

Worldwide pines are divided into 15 sub-sections of the genus. Georgia's native pines can be placed into three of these sub-sections. The different groupings for Georgia pines are: 1) white pine group = *Pinus strobus* ñ Eastern white pine; 2) southern yellow pine group = *Pinus echinata* -- shortleaf pine, *Pinus elliottii* ñ slash pine, *Pinus glabra* ñ spruce pine, *Pinus palustris* -- longleaf pine, *Pinus pungens* -- table mountain pine, *Pinus rigida* -- pitch pine, *Pinus serotina* -- pond pine, *Pinus taeda* -- loblolly pine; and, 3) jack pine group = *Pinus clausa* -- sand pine, *Pinus virginiana* ñ Virginia pine.

Species

Of the worldwide total of ~95 pines, ~60 are in the Western Hemisphere. Mexico has ~35 different species, the United States has ~36 species, and Canada has 9 species. Pines can be found as far south in Central America (8 species) as Nicaragua. Pines can also be found across the Caribbean islands (4 species). The Eastern United States has 13 native pines, of which 11 are native to Georgia.

Georgia's eleven native pines are: *Pinus clausa* -- sand pine, *Pinus echinata* -- shortleaf pine, *Pinus elliottii* -- slash pine, *Pinus glabra* -- spruce pine, *Pinus palustris* -- longleaf pine, *Pinus pungens* -- table mountain pine, *Pinus rigida* -- pitch pine, *Pinus serotina* -- pond pine, *Pinus strobus* -- Eastern white pine, *Pinus taeda* -- loblolly pine, *Pinus virginiana* -- Virginia pine

Home Range Races

The ranges of pines can be immense or minute. Within each pine's native growth range are genetic differences which allow for more efficient survival and growth under a variety of conditions. Many pines have regional races which do not perform well outside their native area. The pine species may be the same, but regional races within one species may have widely variable attributes based upon climate, soil, and pests differences. Pines also form hybrids, where one species will interbreed with another species. The hybrid off-spring may pose identification problems and regeneration opportunities with their mix of growth attributes.

Native Range

Knowing the native ranges of Georgia pines can assist in identification. Knowing a species' native range is also helpful in judging potential tree stress from being out-of-range. The maps in this publication (map number 1 - 11) provide the native ranges of each Georgia pine. These native or naturalized range maps were developed over time through referencing federal species maps, state species maps, herbarium specimens, and personal observations by the author. Outlying and disjunct small populations are not shown. Without other supporting information for within-county distributions, the mapping lines follow county political boundaries. For example, if the species is found in the southern end of a county, the whole county could be included in the native species range.

Species Distributions

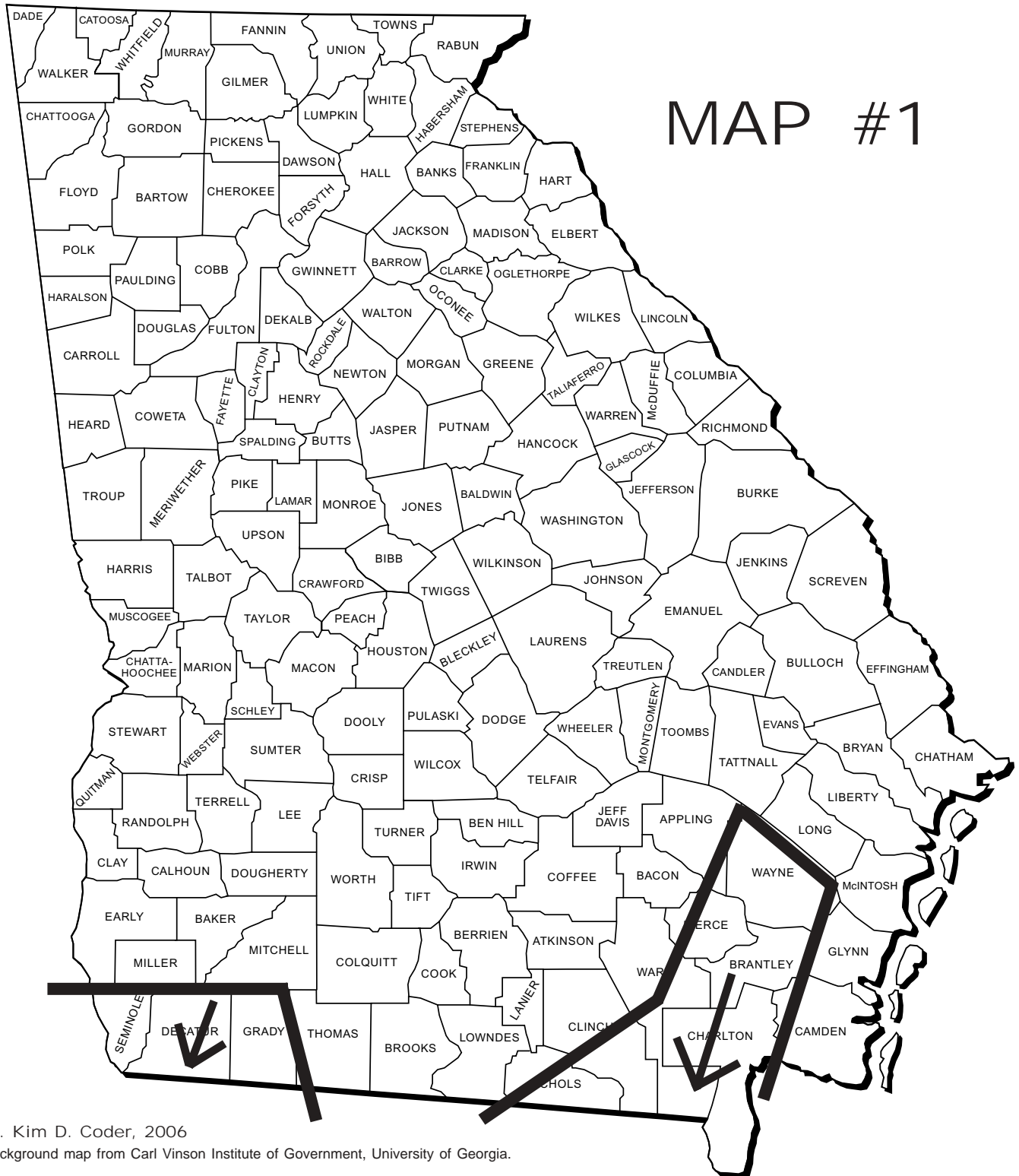
Georgia map number 12 demonstrates the north / south distribution of the native pine species. Generally Georgia has mountain pines, statewide pines and Coastal plain pines. Georgia map number 13 provides the estimated number of native pines for each Georgia county by species number class. Note the relatively low numbers of native pines in the Piedmont area of Georgia.

Summary

Georgia's native pines have been a great asset for the State. These native pines will continue to be a green gold for Georgia into the future. Urban, rural, or interface sites all can make use of pines whether for recreation, plywood, pine straw, lumber, resin products, watershed protection, carbon-dioxide capture, or aesthetics. Pines represent both Georgia's glorious past and its wonderful future.

Native Range Of Growth For *Pinus clausa*: sand pine

Native / naturalized range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas south of the lines on the side of the lines with the arrows.

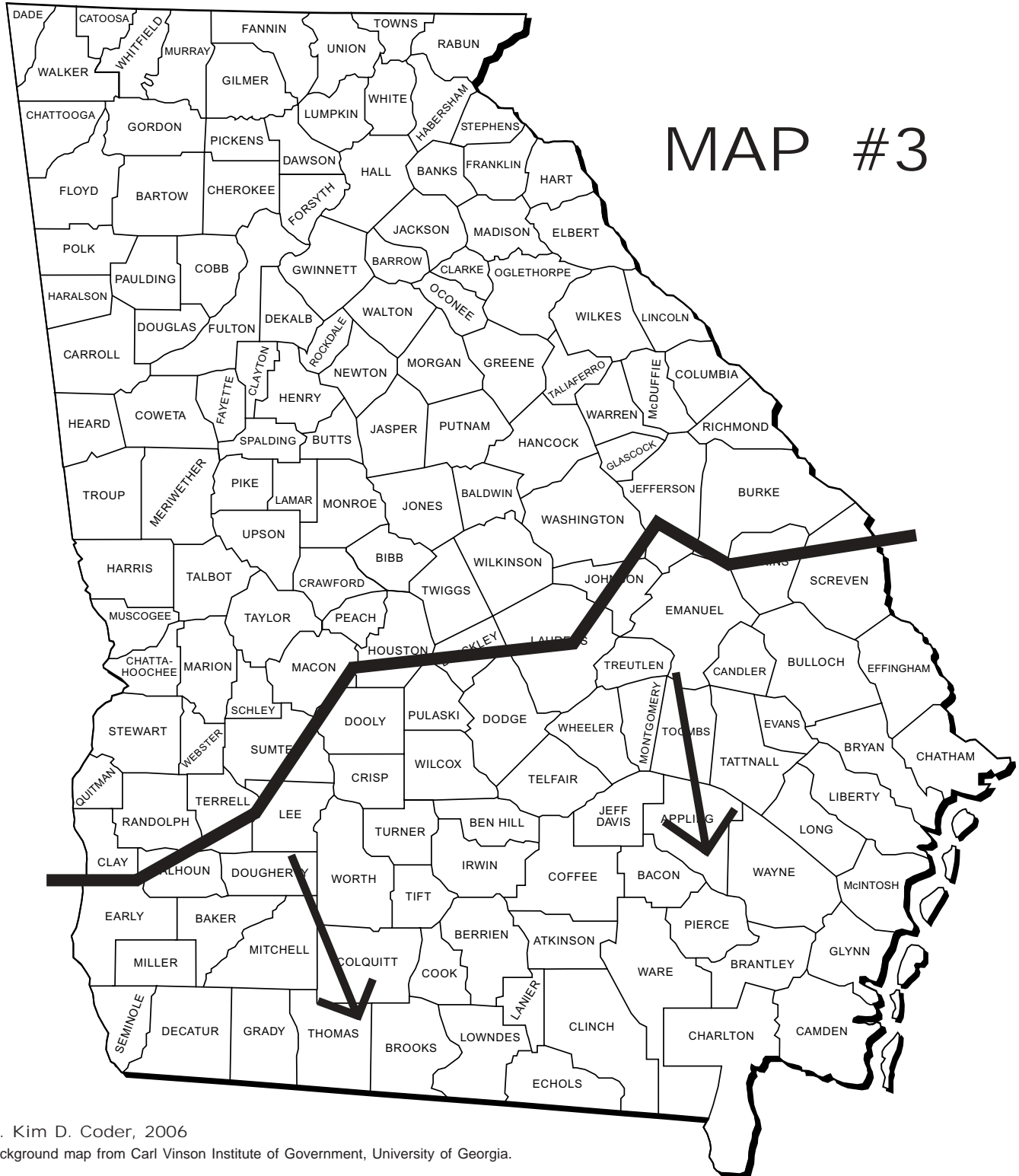


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Background map from Carl Vinson Institute of Government, University of Georgia.

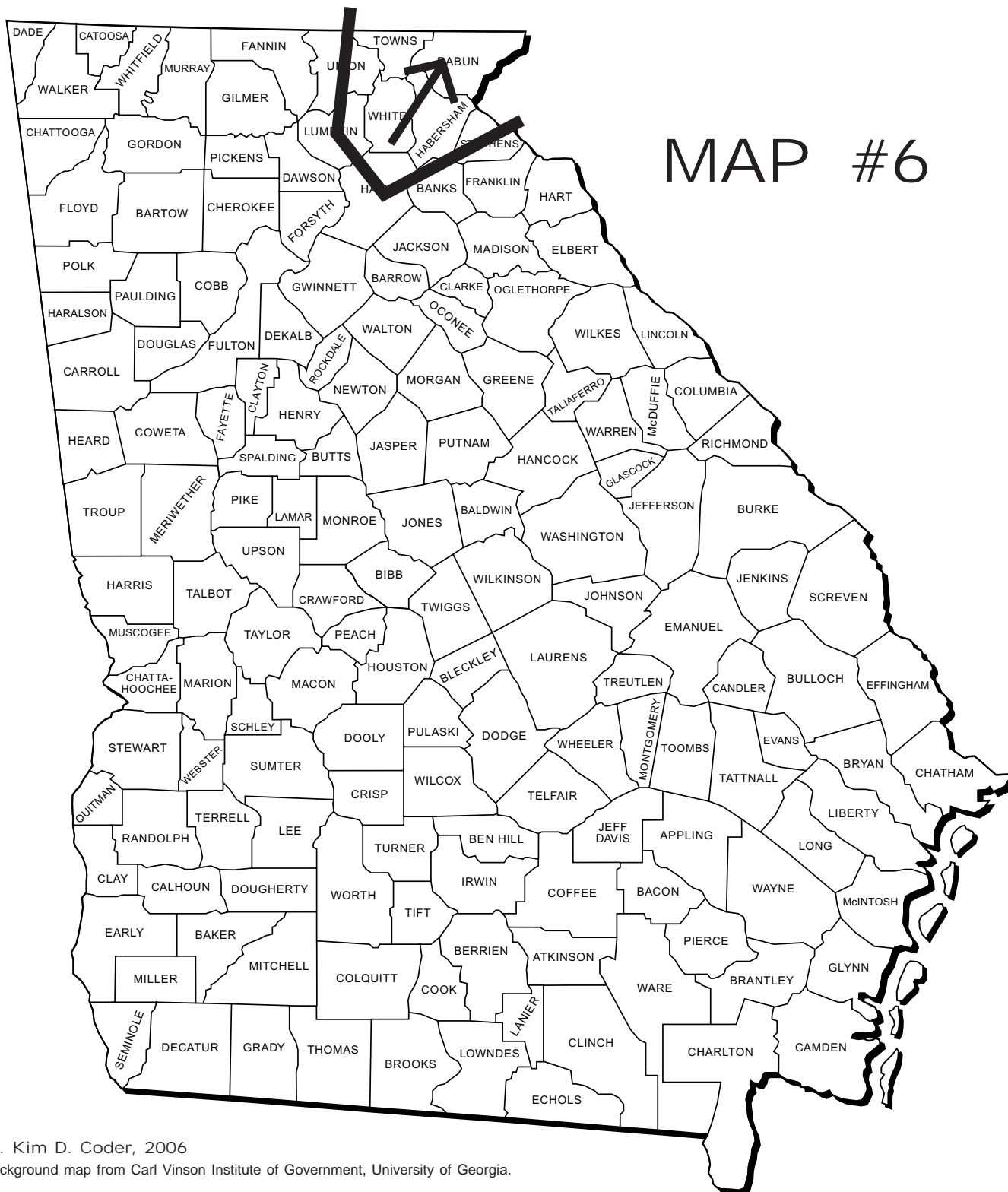
Native Range Of Growth For *Pinus elliottii*: slash pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas south of the lines on the side of the lines with the arrows.



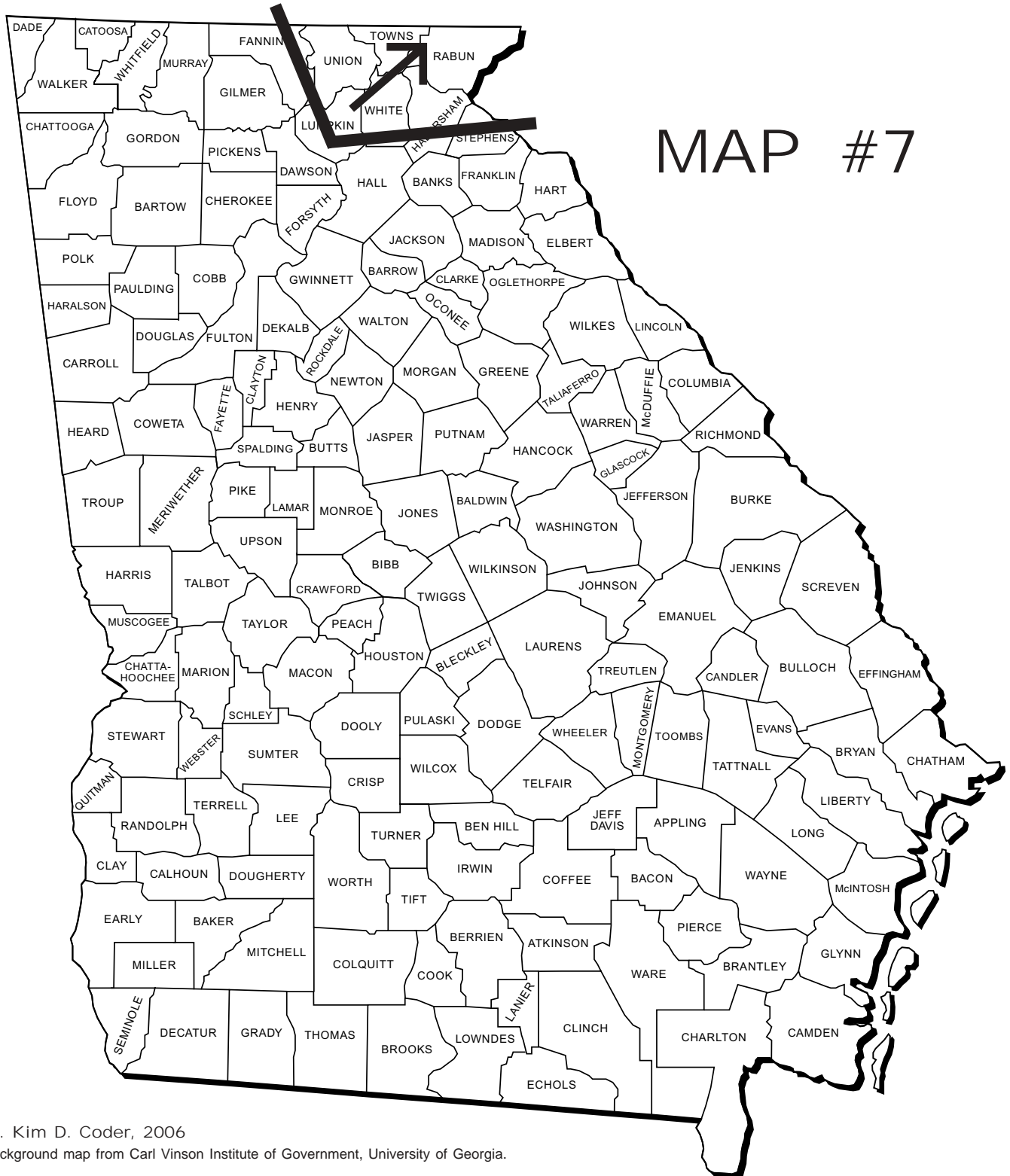
Native Range Of Growth For *Pinus pungens*: table mountain pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas north and east of the lines on the side of the lines with the arrows.



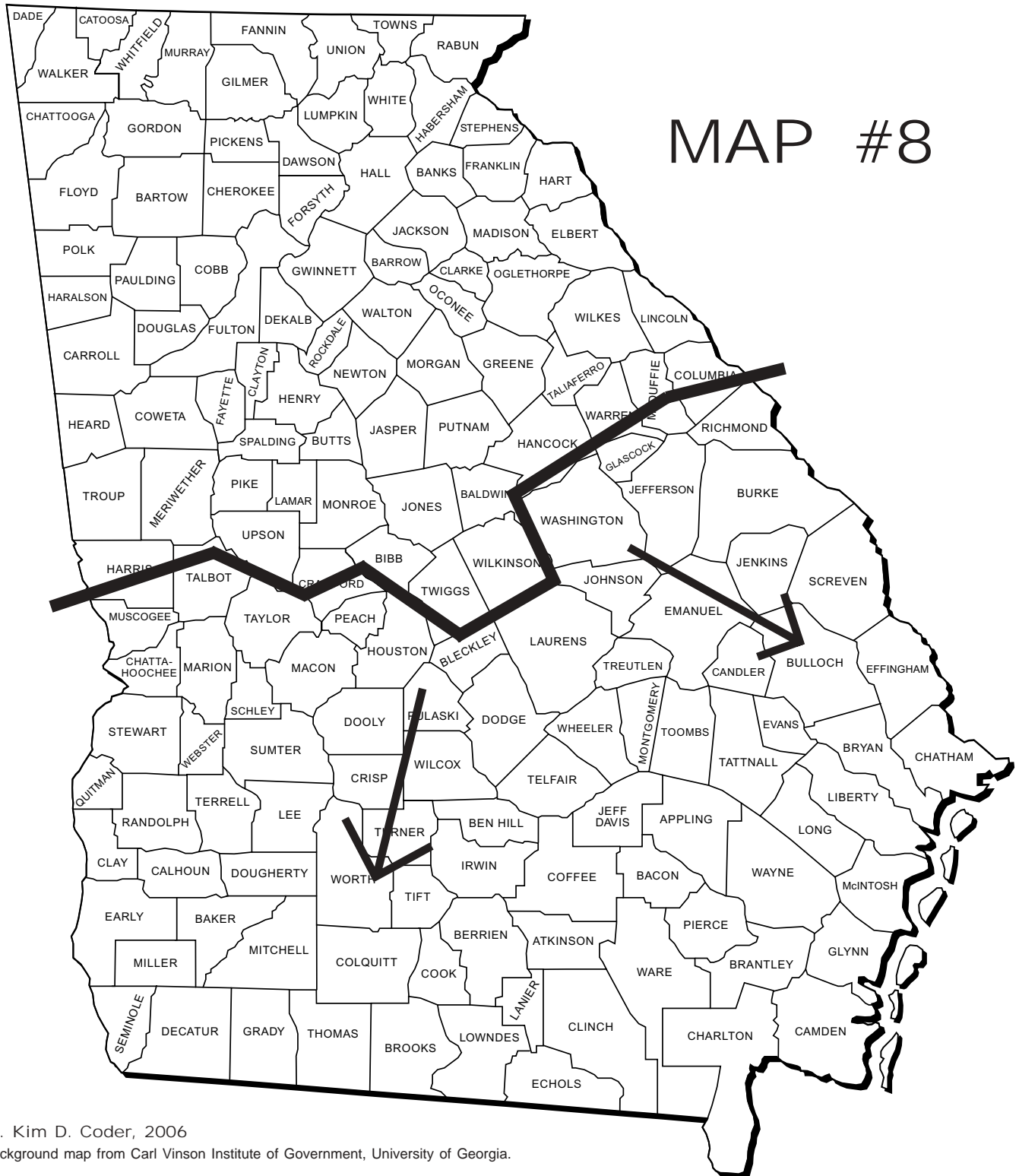
Native Range Of Growth For *Pinus rigida*: pitch pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas north and east of the lines on the side of the lines with the arrows.



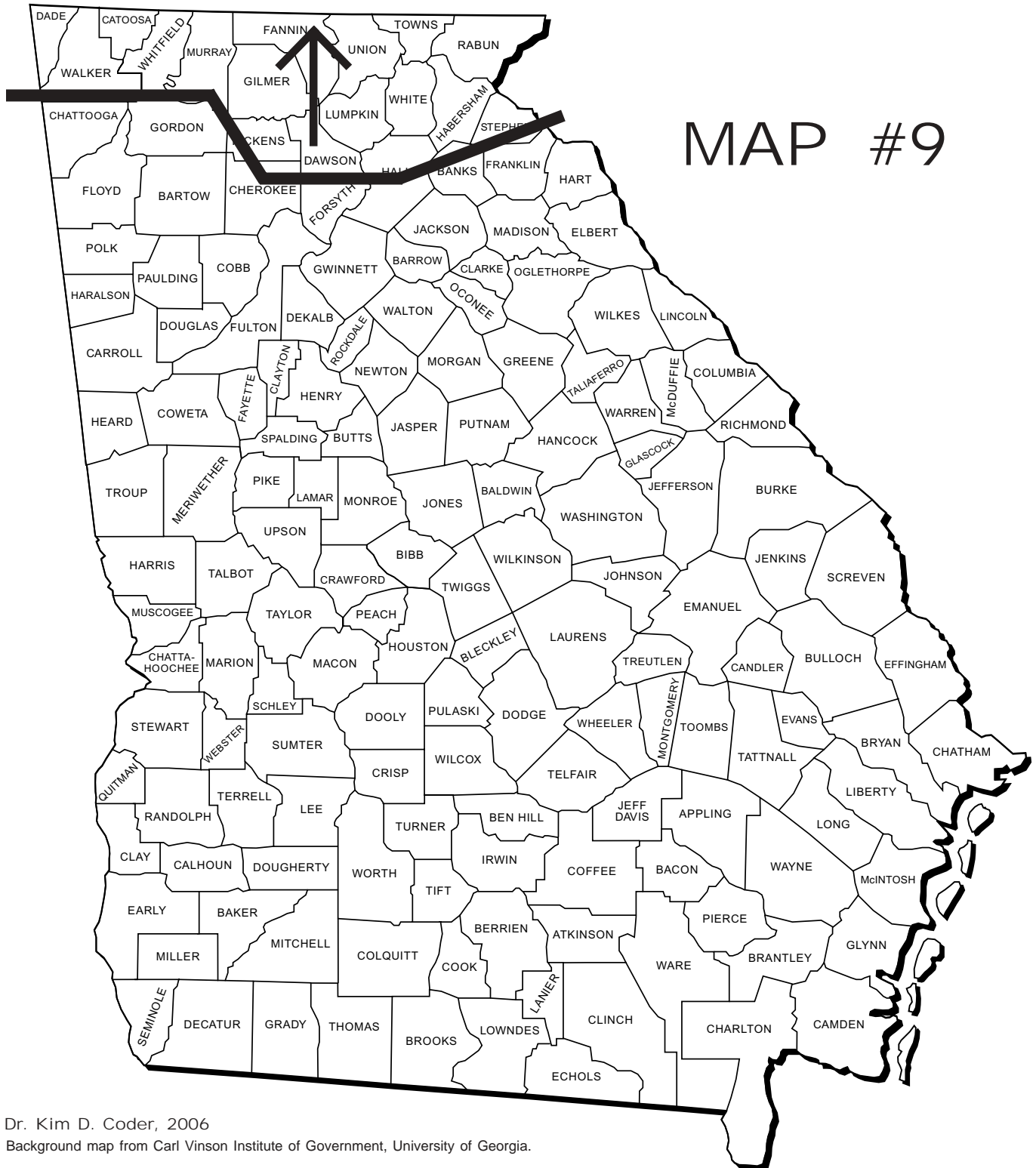
Native Range Of Growth For *Pinus serotina*: pond pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas south and east of the lines on the side of the lines with the arrows.



Native Range Of Growth For *Pinus strobus*: Eastern white pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas north of the lines on the side of the lines with the arrows.

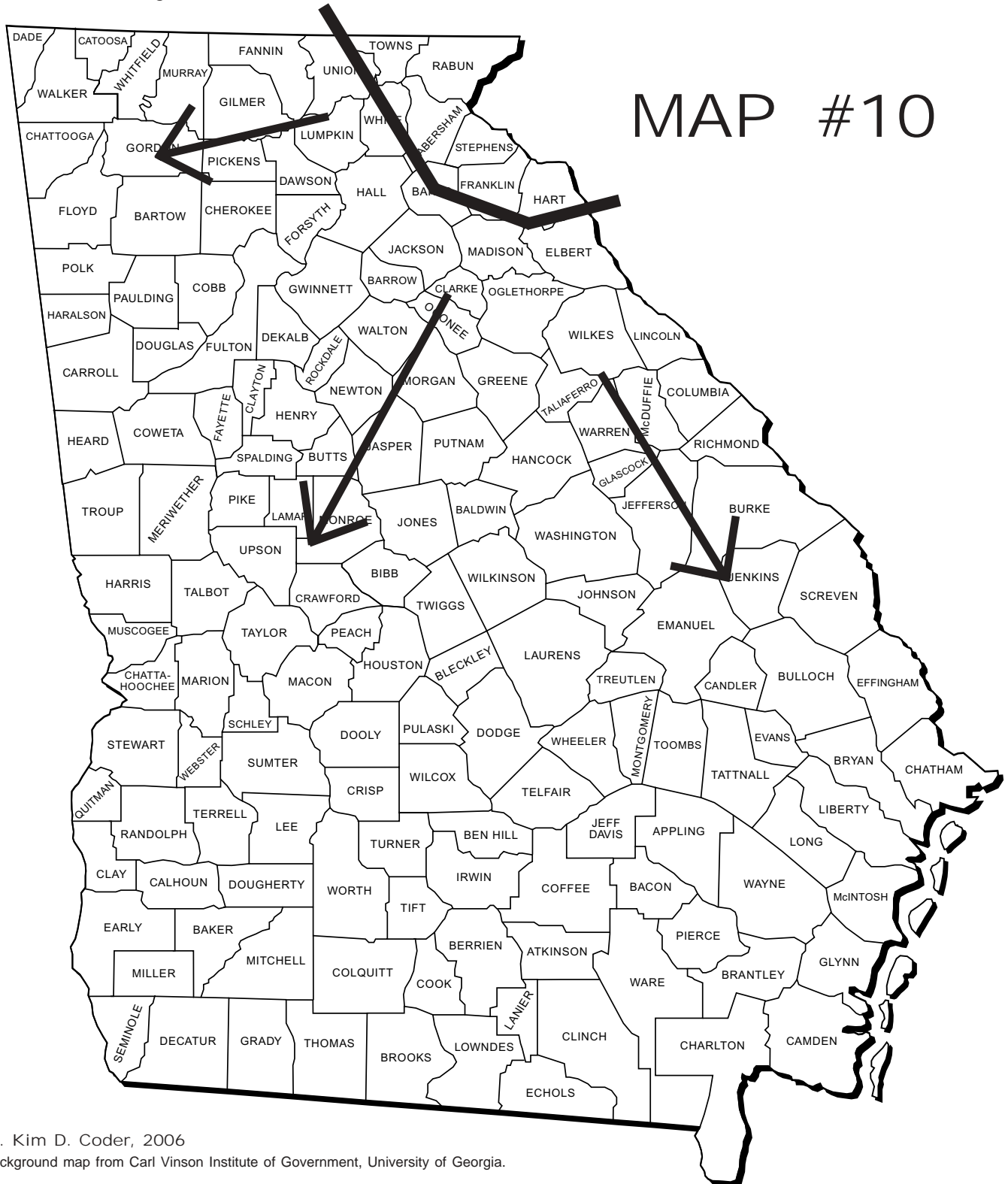


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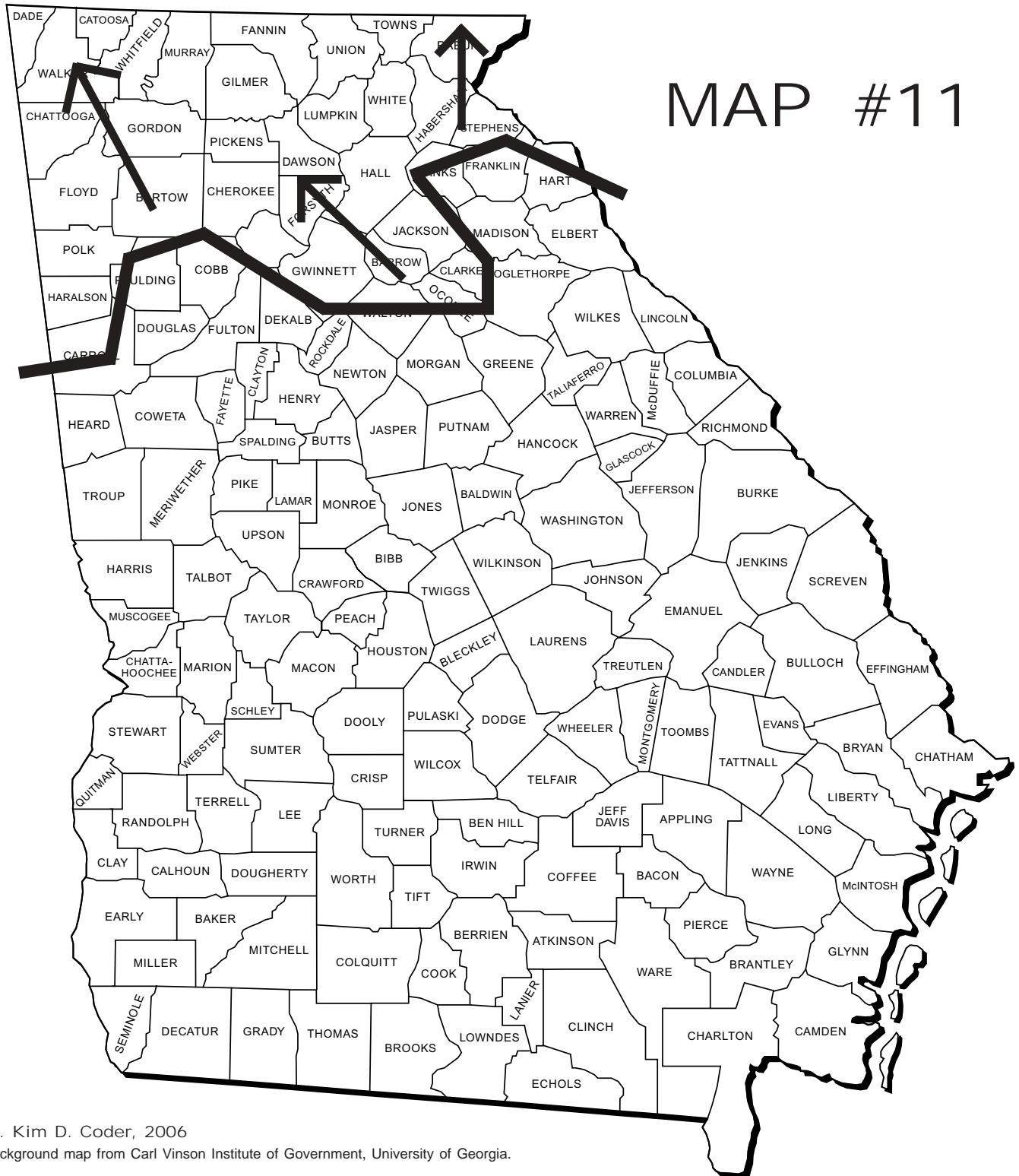
Native Range Of Growth For *Pinus taeda*: loblolly pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas south and west of the lines on the side of the lines with the arrows.



Native Range Of Growth For *Pinus virginiana*: Virginia pine

Native contiguous range derived from federal and state maps, herbarium samples and personal observations.
The native range includes all areas north and west of the lines on the side of the lines with the arrows.



Native Range Centroids For Georgia's Pines

Numbers represent common names of pines and are placed in the idealized center of their native range within Georgia.

