

sq. km sq. mi FIA Plots
Area of Region 123,419 47,652 3,623

Species Information

The columns below provide brief summaries of the species associated with the region and described in the table on the next pages. Definitions are provided in the Excel file for this region.

Genus	Species	Abundance		Model		Potential Change in Habitat Suitability		Capability to Cope or Persist		Migration Potential					
				Reliability	Adaptability	Scenario RCP45	Scenario RCP85	Scenario RCP45	Scenario RCP85	SHIFT RCP45	SHIFT RCP85				
Ash	2			High	17	29	Increase	39	44	Very Good	14	15	Likely	1	1
Hickory	9			Medium	40	60	No Change	23	21	Good	17	23	Infill	30	29
Maple	5	Abundant	3	Low	41	11	Decrease	25	22	Fair	23	18	Migrate	0	0
Oak	21	Common	29	FIA	7		New	7	6	Poor	15	15			
Pine	6	Rare	62				Unknown	11	12	Very Poor	17	15			
Other	51	Absent	10							FIA Only	5	5			
	94		104		105	100		105	105	Unknown	4	5			
											95	96			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	63.7	65.3	67.2	67.5	
Average	63.7	65.7	68.2	70.7	
GFDL45	63.7	66.8	68.1	69.0	
GFDL85	63.7	66.3	69.3	72.7	
HAD45	63.7	66.1	69.0	70.2	
HAD85	63.7	66.4	70.5	74.2	
Growing Season	77.2	78.7	80.2	80.7	
May—Sep	77.2	80.1	83.4	87.5	
HAD45	77.2	80.5	83.1	84.2	
HAD85	77.2	80.6	86.4	89.7	
Coldest Month	43.2	45.5	46.5	46.5	
Average	43.2	46.9	47.0	47.1	
GFDL45	43.2	46.9	47.0	47.1	
GFDL85	43.2	44.8	45.9	46.4	
HAD45	43.2	43.7	45.5	46.2	
HAD85	43.2	44.9	46.4	48.1	
Warmest Month	81.4	82.7	83.3	83.5	
Average	81.4	85.2	85.4	86.5	
GFDL45	81.4	85.2	85.4	86.5	
GFDL85	81.4	84.4	85.9	88.3	
HAD45	81.4	85.7	87.5	87.8	
HAD85	81.4	86.2	89.9	91.0	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	57.1	59.9	65.1	62.8	
Total	57.1	60.5	61.7	66.3	
GFDL45	57.1	63.7	68.8	68.0	
GFDL85	57.1	63.3	65.9	68.2	
HAD45	57.1	55.1	59.7	61.8	
HAD85	57.1	59.5	53.2	57.5	
Growing Season	22.0	22.2	23.0	22.9	
May—Sep	22.0	25.4	28.2	26.7	
GFDL45	22.0	26.4	28.1	29.2	
HAD45	22.0	20.3	21.9	21.1	
HAD85	22.0	22.1	17.2	17.7	

NOTE: For the six climate variables, four 30-year periods are used to indicate six potential future trajectories. The period ending in 2009 is based on modeled observations from the PRISM Climate Group and the three future periods were obtained from the NASA NEX-DCP30 dataset. Future climate projections from three models under two emission scenarios show estimates of each climate variable within the region. The three models are CCSM4, GFDL CM3, and HadGEM2-ES and the emission scenarios are the 4.5 and 8.5 RCP. The average value for the region is reported, even though locations within the region may vary substantially based on latitude, elevation, land-use, or other factors.

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Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIaiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
loblolly pine	Pinus taeda	WDH	High	76.4	2774.6	34.3	No change	No change	Medium	Abundant	Good	Good			1	1
sweetgum	Liquidambar styraciflua	WDH	High	84.4	935.4	11.0	No change	No change	Medium	Abundant	Good	Good			1	2
water oak	Quercus nigra	WDH	High	72.8	562.9	7.6	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	3
southern red oak	Quercus falcata	WDL	Medium	54.7	264.4	4.6	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	4
slash pine	Pinus elliottii	NDH	High	12.5	242.8	17.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	2	5
white oak	Quercus alba	WDH	Medium	48.2	234.8	4.6	No change	No change	High	Common	Good	Good			1	6
shortleaf pine	Pinus echinata	WDH	High	40.7	230.4	5.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	7
red maple	Acer rubrum	WDH	High	64.7	210.5	3.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	8
yellow-poplar	Liriodendron tulipifera	WDH	High	43.5	199.6	4.2	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	9
blackgum	Nyssa sylvatica	WDL	Medium	57.4	183.1	3.0	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	10
sugarberry	Celtis laevigata	NDH	Medium	24.9	174.6	7.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	11
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	38	169.9	4.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	12
winged elm	Ulmus alata	WDL	Medium	52.7	161.2	3.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
post oak	Quercus stellata	WDH	High	40.8	156.4	3.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	14
green ash	Fraxinus pennsylvanica	WDH	Low	38.3	141.9	4.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	15
eastern redcedar	Juniperus virginiana	WDH	Medium	30.2	139.5	4.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	16
longleaf pine	Pinus palustris	NSH	Medium	12.3	126.1	9.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	17
black cherry	Prunus serotina	WDL	Medium	53.5	121.0	2.1	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	18
sweetbay	Magnolia virginiana	NSL	Medium	19	111.6	5.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	19
black willow	Salix nigra	NSH	Low	17.6	95.9	5.8	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	20
willow oak	Quercus phellos	NSL	Low	25.7	94.8	4.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	21
mockernut hickory	Carya alba	WDL	Medium	37.4	92.9	2.4	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	22
pignut hickory	Carya glabra	WDL	Medium	35.4	92.7	2.5	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	23
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	31.1	89.1	2.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	24
American elm	Ulmus americana	WDH	Medium	34.3	89.0	2.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	25
boxelder	Acer negundo	WSH	Low	15.7	84.1	4.9	Sm. dec.	No change	High	Common	Fair	Good			1	26
sycamore	Platanus occidentalis	NSL	Low	17.1	83.2	4.3	No change	No change	Medium	Common	Fair	Fair			1	27
flowering dogwood	Cornus florida	WDL	Medium	44.9	70.5	1.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	28
bald cypress	Taxodium distichum	NSH	Medium	8.8	61.0	7.6	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	29
swamp tupelo	Nyssa biflora	NDH	Medium	8.7	56.8	5.6	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	30
American beech	Fagus grandifolia	WDH	High	18.2	54.1	2.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	31
overcup oak	Quercus lyrata	NSL	Medium	13.7	53.3	5.2	Sm. inc.	Lg. inc.	Low	Common	Fair	Good	Infill +	Infill ++	1	32
pecan	Carya illinoensis	NSH	Low	9.8	49.5	5.5	No change	No change	Low	Rare	Very Poor	Very Poor			0	33
common persimmon	Diospyros virginiana	NSL	Low	38.9	48.2	1.4	No change	Sm. inc.	High	Rare	Fair	Good			1	34
laurel oak	Quercus laurifolia	NDH	Medium	16	46.1	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	35
slippery elm	Ulmus rubra	WSL	Low	22	46.1	2.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	36
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	21.4	45.8	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	37
Nuttall oak	Quercus texana	NSH	Medium	10.3	45.4	8.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	38
black oak	Quercus velutina	WDH	High	17.6	42.5	2.2	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	39
sassafras	Sassafras albidum	WSL	Low	20.3	35.9	1.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	40
eastern cottonwood	Populus deltoides	NSH	Low	6.4	33.8	5.8	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	41
water hickory	Carya aquatica	NSL	Medium	11.2	31.4	5.6	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	42
sourwood	Oxydendrum arboreum	NDL	High	18.2	30.0	1.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	43
American holly	Ilex opaca	NSL	Medium	15	28.1	1.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	44
shagbark hickory	Carya ovata	WSL	Medium	10.3	25.7	2.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	45
Shumard oak	Quercus shumardii	NSL	Low	10.6	25.7	2.7	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	1	46
swamp chestnut oak	Quercus michauxii	NSL	Low	10.8	25.3	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	47

Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
water tupelo	Nyssa aquatica	NSH	Medium	4.3	24.7	5.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	48
white ash	Fraxinus americana	WDL	Medium	14.4	23.3	1.7	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	1	49
spruce pine	Pinus glabra	NSL	Low	8.3	22.4	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	50
river birch	Betula nigra	NSL	Low	4.7	21.2	4.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	51
blackjack oak	Quercus marilandica	NSL	Medium	10.9	20.3	1.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	52
southern magnolia	Magnolia grandiflora	NSL	Low	9.9	16.6	1.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	53
black locust	Robinia pseudoacacia	NDH	Low	4.1	16.3	3.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	54
scarlet oak	Quercus coccinea	WDL	Medium	6	15.8	2.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	55
red mulberry	Morus rubra	NSL	Low	11.6	14.0	1.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	56
honeylocust	Gleditsia triacanthos	NSH	Low	6.6	12.6	2.3	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	2	57
Osage-orange	Maclura pomifera	NDH	Medium	3.4	12.2	4.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	58
eastern redbud	Cercis canadensis	NSL	Low	8.3	12.0	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
northern red oak	Quercus rubra	WDH	Medium	6.3	11.6	1.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	60
bitternut hickory	Carya cordiformis	WSL	Low	6.8	10.4	1.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	61
florida maple	Acer barbatum	NSL	Low	4.9	9.8	2.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	62
water elm	Platanus aquatica	NSL	Low	3.8	9.4	4.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	63
redbay	Persea borbonia	NSL	Low	6.2	7.5	1.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	64
black walnut	Juglans nigra	WDH	Low	2.7	6.2	2.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	65
live oak	Quercus virginiana	NDH	High	1.8	5.9	3.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	66
chinkapin oak	Quercus muehlenbergii	NSL	Medium	2.5	5.6	1.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	67
silver maple	Acer saccharinum	NSH	Low	2.3	4.7	2.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	68
cedar elm	Ulmus crassifolia	NDH	Medium	2.4	4.7	2.6	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	69
shellbark hickory	Carya laciniosa	NSL	Low	2.3	4.2	1.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	70
bigleaf magnolia	Magnolia macrophylla	NSL	Low	2.7	4.1	1.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	71
chestnut oak	Quercus prinus	NDH	High	0.4	3.7	4.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	72
cucumbertree	Magnolia acuminata	NSL	Low	1.7	3.4	1.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	73
turkey oak	Quercus laevis	NSH	Medium	1.4	3.3	2.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	74
pond cypress	Taxodium ascendens	NSH	Medium	0.6	2.5	4.3	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +		2	75
pawpaw	Asimina triloba	NSL	Low	1.9	2.4	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	76
waterlocust	Gleditsia aquatica	NSLX	FIA	1.3	2.3	3.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	77
black hickory	Carya texana	NDL	High	1.7	2.3	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	78
durand oak	Quercus sinuata var. sinuata	NSL	FIA	0.9	2.0	1.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	79
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0.4	1.0	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	80
serviceberry	Amelanchier spp.	NSL	Low	1	1.0	0.7	No change	No change	Medium	Rare	Poor	Poor			0	81
paulownia	Paulownia tomentosa	NSL	FIA	0.6	1.0	1.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	82
Virginia pine	Pinus virginiana	NDH	High	0.2	0.9	0.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	83
hackberry	Celtis occidentalis	WDH	Medium	0.6	0.8	7.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	84
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0.1	0.6	1.0	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +		2	85
bluejack oak	Quercus incana	NSL	Low	0.5	0.5	0.8	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	86
chokecherry	Prunus virginiana	NSLX	FIA	0.3	0.2	0.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	87
American basswood	Tilia americana	WSL	Medium	0.4	0.2	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	88
sand hickory	Carya pallida	NSL	FIA	0.1	0.2	2.4	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	89
ailanthus	Ailanthus altissima	NSL	FIA	0.2	0.1	0.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	90
sugar maple	Acer saccharum	WDH	High	0	0.1	0.3	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	91
pin cherry	Prunus pensylvanica	NSL	Low	0	0.0	0.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			0	92
loblolly-bay	Gordonia lasianthus	NSH	Medium	0.1	0.0	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	93
wild plum	Prunus americana	NSLX	FIA	0.1	0.0	0.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	94

States
 Climate Change Atlas Tree Species
 Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	NA	Absent	New Habitat	New Habitat			0	95
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	96
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	97
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	98
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	99
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	100
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	101
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	102
shingle oak	Quercus imbricaria	NDH	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	103
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	New Habitat	Unknown	High	Absent	New Habitat	Unknown			3	104
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	NA	Absent	New Habitat	New Habitat			0	105