

	sq. km	sq. mi	FIA Plots
Area of Region	32,023	12,364	1,023

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	Scenario	Scenario	Scenario	SHIFT	SHIFT			
				High	26	Increase	RCP45	RCP85	RCP45	RCP85	RCP45	RCP85		
Ash	2			Medium	37	No Change	16	15	Very Good	12	13	Likely	0	0
Hickory	9			Low	39	Decrease	28	25	Good	22	23	Infill	17	21
Maple	4	Abundant	5	FIA	6	New	7	7	Fair	8	9	Migrate	0	1
Oak	20	Common	16			Unknown	9	9	Poor	16	16		17	22
Pine	6	Rare	66						Very Poor	23	20			
Other	46	Absent	10						FIA Only	4	4			
	87		97		97		97	97	Unknown	3	3			
										88	88			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	60.0	61.3	62.8	62.9	
Average	60.0	61.5	63.6	65.6	
GFDL45	60.0	62.2	63.6	64.3	
GFDL85	60.0	62.0	64.6	67.4	
HAD45	60.0	61.9	64.1	65.2	
HAD85	60.0	62.1	65.2	68.3	
Growing Season	70.5	71.7	72.9	73.2	
May—Sep	70.5	72.8	74.1	75.4	
GFDL45	70.5	72.6	75.2	78.5	
GFDL85	70.5	72.0	75.1	76.0	
HAD45	70.5	73.0	75.1	76.0	
HAD85	70.5	73.1	77.4	80.1	
Coldest Month	44.0	46.0	46.7	46.5	
Average	44.0	47.1	47.2	47.3	
GFDL45	44.0	47.1	47.2	47.3	
GFDL85	44.0	45.4	46.3	46.8	
HAD45	44.0	44.2	45.6	46.3	
HAD85	44.0	45.3	46.4	47.8	
Warmest Month	73.5	74.6	75.0	75.1	
Average	73.5	74.6	75.5	76.9	
GFDL45	73.5	76.1	76.3	77.1	
GFDL85	73.5	75.4	76.6	78.4	
HAD45	73.5	76.7	78.0	78.3	
HAD85	73.5	77.0	79.6	80.6	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	50.4	52.6	56.9	55.6	
Total	50.4	53.5	54.3	58.5	
GFDL45	50.4	56.2	60.1	58.9	
GFDL85	50.4	55.5	57.2	58.3	
HAD45	50.4	49.0	52.7	54.2	
HAD85	50.4	53.8	47.9	50.5	
Growing Season	20.8	21.7	22.9	22.6	
May—Sep	20.8	24.8	27.4	25.3	
GFDL45	20.8	25.2	27.1	28.1	
GFDL85	20.8	25.2	27.1	28.1	
HAD45	20.8	19.8	21.2	21.4	
HAD85	20.8	21.7	16.9	17.5	

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-DPC30 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	93.1	3342.0	32.4	No change	No change	Medium	Abundant	Good	Good			1	1
slash pine	Pinus elliottii	NDH	High	47.5	949.6	18.4	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
water oak	Quercus nigra	WDH	High	88.5	788.6	8.0	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
sweetgum	Liquidambar styraciflua	WDH	High	80.7	623.1	6.9	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
longleaf pine	Pinus palustris	NSH	Medium	47.8	560.2	11.1	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	5
sweetbay	Magnolia virginiana	NSL	Medium	63.1	403.0	6.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	6
blackgum	Nyssa sylvatica	WDL	Medium	80.3	370.8	4.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	7
red maple	Acer rubrum	WDH	High	81.9	284.3	3.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	8
yellow-poplar	Liriodendron tulipifera	WDH	High	55	247.9	4.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	9
southern red oak	Quercus falcata	WDL	Medium	58.4	194.0	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	10
shortleaf pine	Pinus echinata	WDH	High	38.7	190.6	4.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
white oak	Quercus alba	WDH	Medium	41.2	149.7	2.9	No change	Sm. inc.	High	Common	Good	Very Good			1	12
laurel oak	Quercus laurifolia	NDH	Medium	44.4	148.3	2.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
swamp tupelo	Nyssa biflora	NDH	Medium	26.7	144.8	5.6	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	14
black cherry	Prunus serotina	WDL	Medium	59.5	124.0	1.8	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	15
post oak	Quercus stellata	WDH	High	40.7	104.7	2.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	16
American holly	Ilex opaca	NSL	Medium	39.3	90.7	2.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	17
flowering dogwood	Cornus florida	WDL	Medium	54.2	84.8	1.4	No change	No change	Medium	Common	Fair	Fair			1	18
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	27.1	79.4	2.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	19
bald cypress	Taxodium distichum	NSH	Medium	10.8	64.0	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	20
willow oak	Quercus phellos	NSL	Low	20.1	54.5	2.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	21
spruce pine	Pinus glabra	NSL	Low	19.8	42.3	2.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	22
green ash	Fraxinus pennsylvanica	WSH	Low	17.2	41.1	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	23
pignut hickory	Carya glabra	WDL	Medium	19.2	39.7	1.6	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	24
sourwood	Oxydendrum arboreum	NDL	High	25.8	36.6	1.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	25
winged elm	Ulmus alata	WDL	Medium	20.6	36.6	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	26
water tupelo	Nyssa aquatica	NSH	Medium	4.2	36.5	7.3	No change	No change	Low	Rare	Very Poor	Very Poor			2	27
sugarberry	Celtis laevigata	NDH	Medium	10.2	35.2	3.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	28
mockernut hickory	Carya alba	WDL	Medium	27.2	35.1	1.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	29
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	18.3	34.1	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	30
redbay	Persea borbonia	NSL	Low	23	29.0	1.1	Sm. inc.	Sm. inc.	High	Rare	Good	Good			1	31
eastern redcedar	Juniperus virginiana	WDH	Medium	12.5	26.6	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	32
live oak	Quercus virginiana	NDH	High	7.2	26.1	2.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	33
common persimmon	Diospyros virginiana	NSL	Low	30	25.9	0.8	Sm. dec.	No change	High	Rare	Poor	Fair			1	34
southern magnolia	Magnolia grandiflora	NSL	Low	17.1	23.8	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	35
American beech	Fagus grandifolia	WDH	High	11.7	23.6	2.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	36
swamp chestnut oak	Quercus michauxii	NSL	Low	9.1	22.9	2.2	No change	No change	Medium	Rare	Poor	Poor			1	37
blackjack oak	Quercus marilandica	NSL	Medium	14.2	20.4	1.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	38
turkey oak	Quercus laevis	NSH	Medium	5.6	17.7	2.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	39
black willow	Salix nigra	NSH	Low	7.9	17.5	1.7	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	40
American elm	Ulmus americana	WDH	Medium	13	17.3	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	41
pecan	Carya illinoensis	NSH	Low	2.4	16.1	5.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	42
sycamore	Platanus occidentalis	NSL	Low	5	16.0	3.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	43
sassafras	Sassafras albidum	WSL	Low	19.2	15.8	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	44
overcup oak	Quercus lyrata	NSL	Medium	4.9	14.7	3.0	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	45
pond cypress	Taxodium ascendens	NSH	Medium	2.7	14.3	3.7	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	46
river birch	Betula nigra	NSL	Low	3.4	10.9	3.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	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 hickory	<i>Carya aquatica</i>	NSL	Medium	4	10.4	2.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				2 48
eastern hophornbeam; ironw	<i>Ostrya virginiana</i>	NSL	Low	8.5	8.9	0.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		1 49
red mulberry	<i>Morus rubra</i>	NSL	Low	3.3	8.6	1.9	No change	No change	Medium	Rare	Poor	Poor		Infill +		1 50
white ash	<i>Fraxinus americana</i>	WDL	Medium	4.2	7.7	1.7	No change	No change	Low	Rare	Very Poor	Very Poor				2 51
black oak	<i>Quercus velutina</i>	WDH	High	6.9	7.4	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 52
boxelder	<i>Acer negundo</i>	WSH	Low	3.5	6.2	1.8	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +		2 53
shagbark hickory	<i>Carya ovata</i>	WSL	Medium	4	5.5	1.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 54
Nuttall oak	<i>Quercus texana</i>	NSH	Medium	3.1	5.3	1.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 55
Shumard oak	<i>Quercus shumardii</i>	NSL	Low	1.8	4.3	1.8	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +		2 56
bluejack oak	<i>Quercus incana</i>	NSL	Low	2.4	4.3	1.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +		2 57
florida maple	<i>Acer barbatum</i>	NSL	Low	1.4	4.1	2.6	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +		2 58
slippery elm	<i>Ulmus rubra</i>	WSL	Low	3.5	3.4	0.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +		2 59
eastern redbud	<i>Cercis canadensis</i>	NSL	Low	3.1	3.2	0.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 60
eastern cottonwood	<i>Populus deltoides</i>	NSH	Low	0.3	2.7	8.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 61
bitternut hickory	<i>Carya cordiformis</i>	WSL	Low	1.7	2.6	1.0	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 62
scarlet oak	<i>Quercus coccinea</i>	WDL	Medium	2.2	2.2	0.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 63
Atlantic white-cedar	<i>Chamaecyparis thyoides</i>	NSH	Low	0.7	2.1	3.4	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +			2 64
bigleaf magnolia	<i>Magnolia macrophylla</i>	NSL	Low	1.9	1.9	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 65
northern red oak	<i>Quercus rubra</i>	WDH	Medium	1.5	1.9	1.0	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 66
serviceberry	<i>Amelanchier spp.</i>	NSL	Low	1	1.7	1.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 67
black hickory	<i>Carya texana</i>	NDL	High	1.7	1.1	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 68
cucumbertree	<i>Magnolia acuminata</i>	NSL	Low	1	1.1	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 69
black walnut	<i>Juglans nigra</i>	WDH	Low	0.5	1.0	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 70
durand oak	<i>Quercus sinuata</i> var. <i>sinuata</i>	NSL	FIA	1.4	0.7	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 71
cedar elm	<i>Ulmus crassifolia</i>	NDH	Medium	0.3	0.6	1.9	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +		2 72
chokecherry	<i>Prunus virginiana</i>	NSLX	FIA	0.3	0.5	1.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 73
shellbark hickory	<i>Carya laciniosa</i>	NSL	Low	0.7	0.4	0.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 74
cittamwood/gum bumelia	<i>Sideroxylon lanuginosum</i> ssp.	NSL	Low	0.3	0.4	1.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good				2 75
water elm	<i>Planera aquatica</i>	NSL	Low	0.7	0.4	0.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +		2 76
chinkapin oak	<i>Quercus muehlenbergii</i>	NSL	Medium	0.5	0.4	0.4	No change	No change	Medium	Rare	Poor	Poor				0 77
silver maple	<i>Acer saccharinum</i>	NSH	Low	0.7	0.4	0.6	No change	No change	High	Rare	Fair	Fair				0 78
pawpaw	<i>Asimina triloba</i>	NSL	Low	1	0.3	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 79
honeylocust	<i>Gleditsia triacanthos</i>	NSH	Low	0.3	0.3	1.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good				2 80
sand hickory	<i>Carya pallida</i>	NSL	FIA	0.2	0.2	0.5	Unknown	Unknown	NA	Rare	FIA Only	FIA Only				0 81
Virginia pine	<i>Pinus virginiana</i>	NDH	High	0.6	0.2	0.2	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 82
loblolly-bay	<i>Gordonia lasianthus</i>	NSH	Medium	0.3	0.1	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 83
paulownia	<i>Paulownia tomentosa</i>	NSL	FIA	0.3	0.1	0.4	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 84
wild plum	<i>Prunus americana</i>	NSLX	FIA	0.4	0.1	0.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 85
black locust	<i>Robinia pseudoacacia</i>	NDH	Low	0.3	0.1	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 86
ailanthus	<i>Ailanthus altissima</i>	NSL	FIA	0.3	0.1	0.2	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 87
Table Mountain pine	<i>Pinus pungens</i>	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 88
striped maple	<i>Acer pensylvanicum</i>	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 89
mountain maple	<i>Acer spicatum</i>	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 90
black ash	<i>Fraxinus nigra</i>	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 91
silverbell	<i>Halesia spp.</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 92
Osage-orange	<i>Maclura pomifera</i>	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +		3 93
pin cherry	<i>Prunus pensylvanica</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 94

HUC 031700 Pascagoula

HUC 6 Watershed

Climate Change Atlas Tree Species

Current and Potential Future Habitat, Capability, and Migration

USDA Forest Service
 Northern Research Station
 Landscape Change Research Group
 Iverson, Peters, Prasad, Matthews

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIaiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
chestnut oak	Quercus prinus	NDH	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	95
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	96
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	97