

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	15,382	5,938.8	451

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	1		High	16	21	Increase	26	29	Very Good	10	11	Likely	2	3
Hickory	6		Medium	36	56	No Change	17	19	Good	15	19	Infill	17	21
Maple	3	Abundant	Low	34	12	Decrease	25	20	Fair	12	10	Migrate	0	1
Oak	16	Common	FIA	4		New	8	11	Poor	11	10		19	25
Pine	8	Rare				Unknown	14	11	Very Poor	18	17			
Other	38	Absent							FIA Only	4	4			
	72	88		90	89		90	90	Unknown	10	7			
										80	78			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	56.9	58.0	59.5	59.5	
	CCSM85	56.9	58.2	60.0	61.9	
	GFDL45	56.9	58.8	60.3	60.9	
	GFDL85	56.9	58.8	61.1	63.7	
	HAD45	56.9	58.4	60.3	61.4	
	HAD85	56.9	58.6	61.2	64.0	
Growing Season (May—Sep)	CCSM45	66.2	67.2	68.4	68.7	
	CCSM85	66.2	67.3	69.1	71.4	
	GFDL45	66.2	68.2	69.6	70.5	
	GFDL85	66.2	68.3	70.6	73.5	
	HAD45	66.2	68.3	70.0	71.2	
	HAD85	66.2	68.3	71.9	74.6	
Coldest Month Average	CCSM45	42.9	44.6	45.1	45.0	
	CCSM85	42.9	44.4	45.2	46.1	
	GFDL45	42.9	45.0	45.2	45.6	
	GFDL85	42.9	44.4	45.2	45.6	
	HAD45	42.9	43.0	44.1	44.7	
	HAD85	42.9	43.7	44.4	45.6	
Warmest Month Average	CCSM45	69.3	70.4	71.0	71.2	
	CCSM85	69.3	70.5	71.5	72.9	
	GFDL45	69.3	70.9	71.5	72.1	
	GFDL85	69.3	71.1	72.2	73.9	
	HAD45	69.3	71.8	72.7	73.2	
	HAD85	69.3	71.9	74.1	75.3	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	34.1	36.4	37.9	39.0	
	CCSM85	34.1	36.0	39.2	41.7	
	GFDL45	34.1	38.8	40.6	42.5	
	GFDL85	34.1	38.2	42.2	41.8	
	HAD45	34.1	32.5	33.7	35.1	
	HAD85	34.1	34.8	32.5	33.5	
Growing Season (May—Sep)	CCSM45	16.3	18.5	19.5	19.7	
	CCSM85	16.3	17.5	19.9	20.6	
	GFDL45	16.3	20.8	21.9	22.6	
	GFDL85	16.3	20.1	23.3	23.5	
	HAD45	16.3	15.9	15.8	15.9	
	HAD85	16.3	16.6	13.9	13.9	

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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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	92.2	4358.8	32.6	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
slash pine	Pinus elliotii	NDH	High	55.1	1182.8	15.2	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
sweetgum	Liquidambar styraciflua	WDH	High	82.9	895.7	7.5	No change	No change	Medium	Abundant	Good	Good			1	3
water oak	Quercus nigra	WDH	High	81.3	698.8	6.4	Sm. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	4
red maple	Acer rubrum	WDH	High	70.9	616.8	6.6	No change	No change	High	Abundant	Very Good	Very Good			1	5
swamp tupelo	Nyssa biflora	NDH	Medium	55.3	532.1	7.5	Sm. inc.	Sm. inc.	Low	Abundant	Good	Good			1	6
laurel oak	Quercus laurifolia	NDH	Medium	54	371.9	5.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
longleaf pine	Pinus palustris	NSH	Medium	23.3	338.4	10.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	8
yellow-poplar	Liriodendron tulipifera	WDH	High	24.4	184.1	5.7	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	9
southern red oak	Quercus falcata	WDL	Medium	25	144.4	4.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	10
pond cypress	Taxodium ascendens	NSH	Medium	17.7	113.1	5.2	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	11
live oak	Quercus virginiana	NDH	High	22	102.6	4.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	12
black cherry	Prunus serotina	WDL	Medium	44.4	101.9	1.7	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	13
black willow	Salix nigra	NSH	Low	13.1	75.2	3.4	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	14
white oak	Quercus alba	WDH	Medium	11.9	69.9	2.9	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	15
redbay	Persea borbonia	NSL	Low	24.3	69.5	1.9	No change	No change	High	Common	Good	Good			1	16
blackgum	Nyssa sylvatica	WDL	Medium	23.3	63.5	1.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	17
loblolly-bay	Gordonia lasianthus	NSH	Medium	8	61.8	4.5	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	18
post oak	Quercus stellata	WDH	High	20.2	60.5	2.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	19
sweetbay	Magnolia virginiana	NSL	Medium	24.5	58.3	1.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	20
green ash	Fraxinus pennsylvanica	WSH	Low	18.1	55.6	1.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	21
pond pine	Pinus serotina	NSH	Medium	8.5	51.5	4.4	No change	No change	Low	Common	Poor	Poor			0	22
willow oak	Quercus phellos	NSL	Low	14.6	50.8	2.7	No change	Sm. inc.	Medium	Common	Fair	Good			1	23
cabbage palmetto	Sabal palmetto	NDH	Medium	4	47.3	18.3	No change	No change	Medium	Rare	Poor	Poor			0	24
shortleaf pine	Pinus echinata	WDH	High	7.3	42.3	2.7	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	25
bald cypress	Taxodium distichum	NSH	Medium	7.4	35.6	4.9	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	26
American holly	Ilex opaca	NSL	Medium	14.4	34.0	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	27
eastern redcedar	Juniperus virginiana	WDH	Medium	9.8	32.5	3.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	28
water tupelo	Nyssa aquatica	NSH	Medium	7	31.7	3.0	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	29
turkey oak	Quercus laevis	NSH	Medium	5.3	30.5	3.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	30
mockernut hickory	Carya alba	WDL	Medium	12.2	27.5	1.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	31
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	12.2	26.0	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	32
pignut hickory	Carya glabra	WDL	Medium	11.4	25.9	1.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	33
winged elm	Ulmus alata	WDL	Medium	12.2	25.9	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	34
sycamore	Platanus occidentalis	NSL	Low	5.8	20.3	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	35
American elm	Ulmus americana	WDH	Medium	9	19.7	1.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	36
southern magnolia	Magnolia grandiflora	NSL	Low	5.6	18.9	3.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	37
swamp chestnut oak	Quercus michauxii	NSL	Low	5.5	18.2	2.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	38
common persimmon	Diospyros virginiana	NSL	Low	14.9	18.0	1.1	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor			1	39
overcup oak	Quercus lyrata	NSL	Medium	4.7	17.9	3.9	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	40
pecan	Carya illinoensis	NSH	Low	3.6	13.2	3.0	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	41
flowering dogwood	Cornus florida	WDL	Medium	10.8	12.8	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	42
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	6.5	12.5	1.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	43
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	2.2	10.0	2.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	44
slippery elm	Ulmus rubra	WSL	Low	3.9	9.8	1.0	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	45
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	2.3	9.7	3.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	46
sassafras	Sassafras albidum	WSL	Low	4.9	8.9	0.8	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
river birch	Betula nigra	NSL	Low	3	7.5	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	48
sugarberry	Celtis laevigata	NDH	Medium	3.2	7.0	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	49
shagbark hickory	Carya ovata	WSL	Medium	1.4	6.7	2.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	50
scarlet oak	Quercus coccinea	WDL	Medium	1.7	6.3	1.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	51
bluejack oak	Quercus incana	NSL	Low	2.8	6.1	0.9	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good		Infill ++	2	52
black oak	Quercus velutina	WDH	High	3.8	5.1	0.9	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	53
florida maple	Acer barbatum	NSL	Low	4.3	5.0	0.6	Sm. dec.	No change	High	Rare	Poor	Fair			0	54
sand hickory	Carya pallida	NSL	FIA	0.8	4.4	2.1	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	55
northern red oak	Quercus rubra	WDH	Medium	1.6	3.8	1.6	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	56
water hickory	Carya aquatica	NSL	Medium	2.1	3.2	1.1	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	57
red mulberry	Morus rubra	NSL	Low	3.7	3.2	0.4	Lg. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	58
spruce pine	Pinus glabra	NSL	Low	1.4	2.9	2.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
wild plum	Prunus americana	NSLX	FIA	2.9	2.1	0.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	60
American beech	Fagus grandifolia	WDH	High	1.4	1.9	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	61
blackjack oak	Quercus marilandica	NSL	Medium	1.6	1.7	0.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	62
cucumbertree	Magnolia acuminata	NSL	Low	0.7	1.7	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	63
eastern cottonwood	Populus deltoides	NSH	Low	0.1	1.6	0.2	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	64
eastern redbud	Cercis canadensis	NSL	Low	1.9	1.5	0.4	Very Lg. dec.	Sm. dec.	Medium	Rare	Lost	Very Poor			0	65
black walnut	Juglans nigra	WDH	Low	2.1	1.4	0.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	66
boxelder	Acer negundo	WSH	Low	1	1.3	0.7	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor			0	67
sand pine	Pinus clausa	NDH	High	0.7	1.1	1.7	No change	No change	Low	Rare	Very Poor	Very Poor			0	68
Virginia pine	Pinus virginiana	NDH	High	0.2	0.9	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	69
waterlocust	Gleditsia aquatica	NSLX	FIA	1.4	0.7	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	70
sourwood	Oxydendrum arboreum	NDL	High	1	0.5	0.3	No change	No change	High	Rare	Fair	Fair			0	71
water elm	Planera aquatica	NSL	Low	0.5	0.2	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	72
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	73
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	74
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	75
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	76
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	78
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	79
white ash	Fraxinus americana	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	80
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	81
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	82
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	84
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	85
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	86
Nuttall oak	Quercus texana	NSH	Medium	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			0	87
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Likely +	3	88
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	89
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	90