

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	11,149	4,304.5	323

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	4		High	14	20	Increase	16	18	Very Good	6	6	Likely	2	2
Hickory	4		Medium	36	48	No Change	21	24	Good	13	14	Infill	7	12
Maple	2	Abundant	Low	30	13	Decrease	23	18	Fair	8	12	Migrate	0	1
Oak	13	Common	FIA	3		New	7	8	Poor	17	13		9	15
Pine	7	Rare				Unknown	16	15	Very Poor	14	13			
Other	33	Absent							FIA Only	3	3			
	63	82		83	81		83	83	Unknown	13	12		74	73

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	55.4	56.4	57.5	57.5	
Average	55.4	56.5	58.0	59.5	
GFDL45	55.4	57.1	58.3	58.8	
GFDL85	55.4	57.0	59.0	61.2	
HAD45	55.4	56.7	58.3	59.2	
HAD85	55.4	57.0	59.1	61.5	
Growing Season	62.3	63.1	63.9	64.2	
May—Sep	62.3	63.1	64.6	66.3	
GFDL45	62.3	63.8	65.0	65.7	
GFDL85	62.3	63.9	65.8	68.3	
HAD45	62.3	64.2	65.5	66.5	
HAD85	62.3	64.3	67.0	69.2	
Coldest Month	44.7	46.2	46.8	46.5	
Average	44.7	45.9	46.7	47.5	
GFDL45	44.7	46.5	46.7	47.1	
GFDL85	44.7	46.2	46.9	47.5	
HAD45	44.7	44.6	45.4	46.0	
HAD85	44.7	45.1	45.7	47.0	
Warmest Month	64.0	64.9	65.4	65.6	
Average	64.0	65.0	65.8	66.8	
GFDL45	64.0	65.5	66.0	66.5	
GFDL85	64.0	65.6	66.5	67.9	
HAD45	64.0	66.2	66.9	67.3	
HAD85	64.0	66.3	67.8	68.8	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	35.6	38.5	39.9	40.3	
Total	35.6	37.7	39.8	40.3	
GFDL45	35.6	40.1	41.6	43.3	
GFDL85	35.6	38.7	42.9	41.2	
HAD45	35.6	34.3	35.3	37.2	
HAD85	35.6	34.9	33.2	34.1	
Growing Season	19.4	21.4	21.9	21.6	
May—Sep	19.4	20.2	22.2	22.1	
GFDL45	19.4	23.0	23.6	24.1	
GFDL85	19.4	22.5	25.2	24.3	
HAD45	19.4	18.9	18.9	18.7	
HAD85	19.4	18.4	16.2	16.2	

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
slash pine	Pinus elliottii	NDH	High	81.1	3490.4	31.4	No change	No change	Medium	Abundant	Good	Good			1	1
loblolly pine	Pinus taeda	WDH	High	57.3	1109.3	12.6	No change	No change	Medium	Abundant	Good	Good			1	2
laurel oak	Quercus laurifolia	NDH	Medium	72.9	845.0	6.5	No change	No change	Medium	Abundant	Good	Good			1	3
pond cypress	Taxodium ascendens	NSH	Medium	52.9	609.5	9.1	Sm. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	4
swamp tupelo	Nyssa biflora	NDH	Medium	56.6	491.9	6.8	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	5
water oak	Quercus nigra	WDH	High	63.2	446.5	4.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	6
sweetgum	Liquidambar styraciflua	WDH	High	62	430.1	4.6	No change	No change	Medium	Common	Fair	Fair			1	7
live oak	Quercus virginiana	NDH	High	52.8	418.9	6.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	8
red maple	Acer rubrum	WDH	High	63.2	303.0	3.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	9
cabbage palmetto	Sabal palmetto	NDH	Medium	29.2	245.7	6.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			0	10
longleaf pine	Pinus palustris	NSH	Medium	14.2	243.9	10.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
sweetbay	Magnolia virginiana	NSL	Medium	43.7	236.9	3.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	12
bald cypress	Taxodium distichum	NSH	Medium	31.8	219.8	6.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	13
redbay	Persea borbonia	NSL	Low	43	151.0	2.6	No change	No change	High	Common	Good	Good			1	14
turkey oak	Quercus laevis	NSH	Medium	10	135.0	6.5	No change	No change	High	Common	Good	Good			1	15
loblolly-bay	Gordonia lasianthus	NSH	Medium	13.3	108.8	7.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	16
sand pine	Pinus clausa	NDH	High	4.8	92.8	19.3	No change	No change	Low	Rare	Very Poor	Very Poor			0	17
green ash	Fraxinus pennsylvanica	WSH	Low	18.5	86.1	3.3	No change	No change	Medium	Common	Fair	Fair			1	18
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	21.9	79.3	2.9	Sm. dec.	No change	Medium	Common	Poor	Fair			1	19
American elm	Ulmus americana	WDH	Medium	36.3	65.4	1.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	20
southern red oak	Quercus falcata	WDL	Medium	4.1	57.5	4.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	21
black cherry	Prunus serotina	WDL	Medium	15.5	57.1	1.2	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	22
pumpkin ash	Fraxinus profunda	NSH	FIA	11.4	50.8	3.5	Unknown	Unknown	NA	Common	FIA Only	FIA Only			0	23
blackgum	Nyssa sylvatica	WDL	Medium	17.8	47.8	1.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	24
pignut hickory	Carya glabra	WDL	Medium	10.2	40.7	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	25
mockernut hickory	Carya alba	WDL	Medium	7.7	39.2	2.6	Sm. dec.	No change	High	Rare	Poor	Fair			1	26
shortleaf pine	Pinus echinata	WDH	High	3.9	31.6	2.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	27
pond pine	Pinus serotina	NSH	Medium	3.9	30.7	7.6	No change	No change	Low	Rare	Very Poor	Very Poor			0	28
eastern redcedar	Juniperus virginiana	WDH	Medium	15.2	29.6	1.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	29
Carolina ash	Fraxinus caroliniana	NSL	FIA	9.9	24.6	2.4	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	30
black willow	Salix nigra	NSH	Low	6.5	20.1	2.3	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			0	31
florida maple	Acer barbatum	NSL	Low	3	19.7	7.2	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	32
southern magnolia	Magnolia grandiflora	NSL	Low	8.7	16.6	0.9	No change	No change	Medium	Rare	Poor	Poor			1	33
white oak	Quercus alba	WDH	Medium	2	16.3	2.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	34
American holly	Ilex opaca	NSL	Medium	4.3	14.9	0.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	35
spruce pine	Pinus glabra	NSL	Low	3.4	14.8	0.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	36
common persimmon	Diospyros virginiana	NSL	Low	14.1	14.3	0.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	37
post oak	Quercus stellata	WDH	High	3	14.0	0.4	Sm. inc.	Lg. inc.	High	Rare	Good	Good			2	38
swamp chestnut oak	Quercus michauxii	NSL	Low	2.7	12.2	3.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	39
yellow-poplar	Liriodendron tulipifera	WDH	High	0.9	10.8	0.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	40
flowering dogwood	Cornus florida	WDL	Medium	7.6	8.5	0.6	No change	No change	Medium	Rare	Poor	Poor			1	41
blackjack oak	Quercus marilandica	NSL	Medium	0.8	7.8	7.1	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	42
hackberry	Celtis occidentalis	WDH	Medium	5.7	7.4	1.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	43
water tupelo	Nyssa aquatica	NSH	Medium	4.7	6.5	1.0	No change	No change	Low	Rare	Very Poor	Very Poor			2	44
white ash	Fraxinus americana	WDL	Medium	0.8	6.5	5.6	Sm. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	45
bluejack oak	Quercus incana	NSL	Low	3.5	5.6	0.9	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	46
willow oak	Quercus phellos	NSL	Low	1.8	5.0	2.1	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	3.1	5.0	1.9	No change	No change	High	Rare	Fair	Fair		Infill +		1 48
American beech	Fagus grandifolia	WDH	High	1.6	4.8	1.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +		2 49
slippery elm	Ulmus rubra	WSL	Low	2.5	3.5	1.0	No change	No change	Medium	Rare	Poor	Poor		Infill +		2 50
Shumard oak	Quercus shumardii	NSL	Low	1.3	3.1	1.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 51
American basswood	Tilia americana	WSL	Medium	1	2.5	2.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 52
wild plum	Prunus americana	NSLX	FIA	1	1.9	2.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 53
winged elm	Ulmus alata	WDL	Medium	4.3	1.7	0.4	No change	Lg. inc.	Medium	Rare	Poor	Good		Infill ++		2 54
sugarberry	Celtis laevigata	NDH	Medium	4.1	1.3	0.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 55
cedar elm	Ulmus crassifolia	NDH	Medium	1	0.9	1.0	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair		Infill +		2 56
pecan	Carya illinoensis	NSH	Low	0.6	0.7	0.4	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost				0 57
black locust	Robinia pseudoacacia	NDH	Low	1	0.7	0.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 58
sourwood	Oxydendrum arboreum	NDL	High	0.5	0.7	0.3	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 59
water elm	Planera aquatica	NSL	Low	1	0.6	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost				0 60
eastern redbud	Cercis canadensis	NSL	Low	2.1	0.4	0.2	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 61
Nuttall oak	Quercus texana	NSH	Medium	1	0.4	0.4	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 62
bitternut hickory	Carya cordiformis	WSL	Low	0.5	0.3	0.1	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 63
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 64
Virginia pine	Pinus virginiana	NDH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 65
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 66
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 67
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat				3 68
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 69
river birch	Betula nigra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 70
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown				3 71
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 72
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0 73
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 74
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 75
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 76
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 77
red mulberry	Morus rubra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 78
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 79
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat				3 80
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 81
sassafras	Sassafras albidum	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 82
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0 83