

### Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	12,414	4,792.9	369

### 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	14	23	Increase	32	40	Very Good	10	11	Likely	1	1
Hickory	6			Medium	33	53	No Change	21	17	Good	22	24	Infill	18	22
Maple	3	Abundant	3	Low	39	10	Decrease	18	14	Fair	9	14	Migrate	1	1
Oak	16	Common	28	FIA	1		New	7	6	Poor	17	14			
Pine	5	Rare	41				Unknown	9	10	Very Poor	12	6			
Other	40	Absent	14							FIA Only	0	0			
										Unknown	8	9			
	<b>72</b>		<b>86</b>		<b>87</b>	<b>86</b>		<b>87</b>	<b>87</b>		<b>78</b>	<b>78</b>		<b>20</b>	<b>24</b>

### Potential Changes in Climate Variables

#### Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	58.5	59.7	61.0	61.1	
	CCSM85	58.5	59.9	61.7	63.4	
	GFDL45	58.5	60.5	61.6	62.3	
	GFDL85	58.5	60.3	62.6	65.1	
	HAD45	58.5	60.2	62.3	63.1	
HAD85	58.5	60.4	63.1	65.9		
Growing Season (May—Sep)	CCSM45	67.7	68.7	69.7	70.0	
	CCSM85	67.7	68.8	70.6	72.6	
	GFDL45	67.7	69.8	70.9	72.2	
	GFDL85	67.7	69.7	72.1	75.1	
	HAD45	67.7	69.9	71.8	72.4	
HAD85	67.7	70.0	73.5	75.9		
Coldest Month (Average)	CCSM45	44.4	46.2	46.8	46.7	
	CCSM85	44.4	46.5	47.5	48.3	
	GFDL45	44.4	47.0	47.1	47.1	
	GFDL85	44.4	45.4	46.1	46.6	
	HAD45	44.4	44.8	46.1	46.7	
HAD85	44.4	45.9	46.9	48.2		
Warmest Month (Average)	CCSM45	70.1	71.0	71.3	71.4	
	CCSM85	70.1	71.2	71.9	73.0	
	GFDL45	70.1	72.6	72.6	73.5	
	GFDL85	70.1	72.3	73.4	75.1	
	HAD45	70.1	72.8	73.9	74.1	
HAD85	70.1	73.1	75.2	76.0		

#### Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	48.1	50.2	54.3	52.3	
	CCSM85	48.1	50.1	51.4	53.8	
	GFDL45	48.1	52.9	57.7	54.3	
	GFDL85	48.1	51.6	52.8	53.7	
	HAD45	48.1	46.5	48.0	50.5	
HAD85	48.1	50.7	45.0	48.2		
Growing Season (May—Sep)	CCSM45	20.4	21.2	22.0	21.7	
	CCSM85	20.4	19.9	20.8	20.8	
	GFDL45	20.4	23.4	27.0	23.6	
	GFDL85	20.4	23.3	25.1	26.4	
	HAD45	20.4	19.9	20.3	20.8	
HAD85	20.4	20.2	17.0	17.4		

**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	70.7	3461.1	35.4	No change	No change	Medium	Abundant	Good	Good			1	1
sweetgum	Liquidambar styraciflua	WDH	High	85.2	1127.8	9.3	No change	No change	Medium	Abundant	Good	Good			1	2
water oak	Quercus nigra	WDH	High	86.2	955.6	8.7	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
water tupelo	Nyssa aquatica	NSH	Medium	18.5	386.0	18.2	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	4
bald cypress	Taxodium distichum	NSH	Medium	22.4	365.6	11.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	5
red maple	Acer rubrum	WDH	High	63.9	305.7	3.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	6
blackgum	Nyssa sylvatica	WDL	Medium	60.2	269.1	3.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	7
sugarberry	Celtis laevigata	NDH	Medium	19.7	249.3	6.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	51.2	207.8	3.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	9
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	39.6	178.0	3.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
yellow-poplar	Liriodendron tulipifera	WDH	High	28.7	171.6	4.3	No change	Sm. dec.	High	Common	Good	Fair			1	11
American elm	Ulmus americana	WDH	Medium	30	171.5	3.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	12
laurel oak	Quercus laurifolia	NDH	Medium	26.6	166.3	5.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	13
green ash	Fraxinus pennsylvanica	WSH	Low	35.5	160.6	2.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	14
white oak	Quercus alba	WDH	Medium	32.2	153.4	3.7	No change	No change	High	Common	Good	Good			1	15
spruce pine	Pinus glabra	NSL	Low	20.4	137.0	5.7	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	16
American beech	Fagus grandifolia	WDH	High	29.9	133.8	3.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	17
black willow	Salix nigra	NSH	Low	15.8	128.2	5.4	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	18
southern red oak	Quercus falcata	WDL	Medium	32.4	123.4	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
shortleaf pine	Pinus echinata	WDH	High	22.7	118.7	4.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	20
black cherry	Prunus serotina	WDL	Medium	34.2	118.7	2.4	Sm. inc.	No change	Low	Common	Fair	Poor			1	21
pecan	Carya illinoensis	NSH	Low	14.5	112.9	4.4	No change	Sm. inc.	Low	Common	Poor	Fair			1	22
winged elm	Ulmus alata	WDL	Medium	40.3	94.6	1.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
southern magnolia	Magnolia grandiflora	NSL	Low	25.1	94.1	2.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	24
post oak	Quercus stellata	WDH	High	22.5	92.0	3.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
swamp tupelo	Nyssa biflora	NDH	Medium	15.5	88.1	6.5	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	26
swamp chestnut oak	Quercus michauxii	NSL	Low	26.5	84.3	2.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	27
willow oak	Quercus phellos	NSL	Low	15.2	72.7	3.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	28
sycamore	Platanus occidentalis	NSL	Low	13.1	72.0	3.1	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	29
longleaf pine	Pinus palustris	NSH	Medium	5.9	63.4	6.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	2	30
boxelder	Acer negundo	WSH	Low	11.4	63.0	2.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	31
water hickory	Carya aquatica	NSL	Medium	15.8	49.9	1.9	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	32
pignut hickory	Carya glabra	WDL	Medium	19.1	48.0	1.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	33
flowering dogwood	Cornus florida	WDL	Medium	24.2	40.4	1.0	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	34
slash pine	Pinus elliotii	NDH	High	4.2	38.1	5.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	35
sweetbay	Magnolia virginiana	NSL	Medium	13.3	36.9	2.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	36
Nuttall oak	Quercus texana	NSH	Medium	8.6	32.3	2.4	No change	No change	High	Rare	Fair	Fair			0	37
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	20.5	30.2	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	38
honeylocust	Gleditsia triacanthos	NSH	Low	10.3	28.7	2.8	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	1	39
mockernut hickory	Carya alba	WDL	Medium	16	26.8	1.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	40
sassafras	Sassafras albidum	WSL	Low	8.4	25.6	1.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	41
common persimmon	Diospyros virginiana	NSL	Low	24.3	25.2	0.6	Sm. dec.	No change	High	Rare	Poor	Fair			1	42
live oak	Quercus virginiana	NDH	High	6.5	22.8	3.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	43
American holly	Ilex opaca	NSL	Medium	16.6	22.0	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	44
redbay	Persea borbonia	NSL	Low	5.8	21.9	1.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	45
bitternut hickory	Carya cordiformis	WSL	Low	4.6	21.9	1.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	46
sourwood	Oxydendrum arboreum	NDL	High	13.6	20.4	0.9	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			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
overcup oak	Quercus lyrata	NSL	Medium	7.6	19.4	3.1	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	48
pond cypress	Taxodium ascendens	NSH	Medium	1.6	18.9	11.7	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair		Infill +	2	49
white ash	Fraxinus americana	WDL	Medium	6.2	15.6	1.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	50
Shumard oak	Quercus shumardii	NSL	Low	3.4	12.6	3.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	51
slippery elm	Ulmus rubra	WSL	Low	13	11.9	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	52
eastern cottonwood	Populus deltoides	NSH	Low	3.2	10.1	1.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	53
black oak	Quercus velutina	WDH	High	6.4	8.8	1.4	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	54
blackjack oak	Quercus marilandica	NSL	Medium	4.8	8.5	1.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	55
river birch	Betula nigra	NSL	Low	3.2	7.3	2.3	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	56
red mulberry	Morus rubra	NSL	Low	2.3	6.8	2.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	57
eastern redcedar	Juniperus virginiana	WDH	Medium	2.6	6.6	0.9	No change	Lg. inc.	Medium	Rare	Poor	Good			2	58
silverbell	Halesia spp.	NSL	Low	3.2	3.8	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
northern red oak	Quercus rubra	WDH	Medium	0.3	3.7	2.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	60
black hickory	Carya texana	NDL	High	0.8	3.5	4.3	No change	Lg. inc.	Medium	Rare	Poor	Good	Infill +		2	61
water elm	Planera aquatica	NSL	Low	0.8	2.8	0.2	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	62
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0.9	2.6	0.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	63
white mulberry	Morus alba	NSL	FIA	0.8	2.3	2.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	64
American basswood	Tilia americana	WSL	Medium	3	2.3	0.7	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	65
eastern redbud	Cercis canadensis	NSL	Low	0.4	1.4	0.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	66
Osage-orange	Maclura pomifera	NDH	Medium	1.3	1.2	0.6	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	67
black locust	Robinia pseudoacacia	NDH	Low	1.2	1.1	0.6	No change	No change	Medium	Rare	Poor	Poor			0	68
florida maple	Acer barbatum	NSL	Low	0.6	1.1	0.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	69
pawpaw	Asimina triloba	NSL	Low	1.2	1.0	0.5	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	70
cedar elm	Ulmus crassifolia	NDH	Medium	0.8	0.7	0.9	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	71
swamp white oak	Quercus bicolor	NSL	Low	0.8	0.6	0.7	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	72
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	73
Virginia pine	Pinus virginiana	NDH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	74
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	75
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	76
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	77
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	78
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	79
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	80
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	81
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	82
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	84
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	85
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	86
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	87