

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

	sq. km	sq. mi	FIA Plots
Area of Region	17,709	6,837.5	476

#### 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	24	28	Increase	28	32	Very Good	13	16	Likely	2	2
Hickory	6			Medium	31	52	No Change	22	23	Good	15	17	Infill	17	19
Maple	6	Abundant	6	Low	38	16	Decrease	26	21	Fair	18	14	Migrate	3	4
Oak	15	Common	31	FIA	6		New	12	13	Poor	14	16			
Pine	7	Rare	45				Unknown	11	10	Very Poor	16	12			
Other	46	Absent	16							FIA Only	3	3			
	<b>82</b>		<b>98</b>		<b>99</b>	<b>96</b>		<b>99</b>	<b>99</b>	Unknown	5	4			
											<b>84</b>	<b>82</b>			

#### Potential Changes in Climate Variables

##### Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	52.7	54.1	55.8	55.9	
Average	CCSM85	52.7	54.4	56.3	58.6	
	GFDL45	52.7	54.9	56.7	57.4	
	GFDL85	52.7	55.0	57.6	60.5	
	HAD45	52.7	54.5	56.9	57.9	
	HAD85	52.7	54.7	57.9	61.2	
Growing Season	CCSM45	63.8	65.2	66.7	67.1	
	CCSM85	63.8	65.4	67.4	70.3	
May—Sep	GFDL45	63.8	66.2	68.3	69.3	
	GFDL85	63.8	66.6	69.4	72.7	
	HAD45	63.8	66.2	68.4	69.6	
	HAD85	63.8	66.2	70.3	73.9	
Coldest Month	CCSM45	36.4	38.1	38.8	38.8	
	CCSM85	36.4	38.2	39.0	39.9	
Average	GFDL45	36.4	39.0	39.1	39.7	
	GFDL85	36.4	38.0	38.8	39.5	
	HAD45	36.4	36.8	38.2	38.4	
	HAD85	36.4	37.3	38.2	39.4	
Warmest Month	CCSM45	67.9	69.5	70.3	70.3	
	CCSM85	67.9	69.6	70.8	72.2	
Average	GFDL45	67.9	70.3	71.2	71.9	
	GFDL85	67.9	70.8	72.4	74.3	
	HAD45	67.9	70.5	72.0	72.5	
	HAD85	67.9	71.1	73.7	75.7	

##### Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	35.6	38.7	40.8	41.9	
Total	CCSM85	35.6	39.5	41.5	45.7	
	GFDL45	35.6	39.7	42.5	44.7	
	GFDL85	35.6	38.7	43.6	43.9	
	HAD45	35.6	37.4	38.7	38.7	
	HAD85	35.6	39.2	36.6	38.1	
Growing Season	CCSM45	16.1	18.6	19.8	20.7	
	CCSM85	16.1	18.4	19.0	21.1	
May—Sep	GFDL45	16.1	18.9	20.7	21.6	
	GFDL85	16.1	17.9	21.5	21.5	
	HAD45	16.1	16.7	16.8	17.3	
	HAD85	16.1	18.2	16.2	16.1	

**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
yellow-poplar	Liriodendron tulipifera	WDH	High	79.5	1320.6	11.7	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
red maple	Acer rubrum	WDH	High	87.2	1112.6	8.9	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	2
loblolly pine	Pinus taeda	WDH	High	33.6	941.9	19.1	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	3
sweetgum	Liquidambar styraciflua	WDH	High	59.9	802.4	10.4	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
Virginia pine	Pinus virginiana	NDH	High	58	694.2	9.5	Lg. dec.	Lg. dec.	Medium	Abundant	Fair	Fair			0	5
white oak	Quercus alba	WDH	Medium	78.7	685.7	7.1	No change	No change	High	Abundant	Very Good	Very Good			1	6
shortleaf pine	Pinus echinata	WDH	High	53.7	445.2	7.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	7
sourwood	Oxydendrum arboreum	NDL	High	65.8	378.3	4.3	Sm. dec.	Lg. dec.	High	Common	Fair	Fair			1	8
eastern white pine	Pinus strobus	WDH	High	19.2	340.0	8.2	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	9
chestnut oak	Quercus prinus	NDH	High	33.3	329.9	7.5	No change	No change	High	Common	Good	Good			1	10
eastern redcedar	Juniperus virginiana	WDH	Medium	55.4	304.1	5.3	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	11
southern red oak	Quercus falcata	WDL	Medium	52	234.8	3.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	12
black cherry	Prunus serotina	WDL	Medium	66.8	219.9	2.5	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	13
scarlet oak	Quercus coccinea	WDL	Medium	40.2	217.1	3.9	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	14
pignut hickory	Carya glabra	WDL	Medium	58	199.6	2.8	No change	No change	Medium	Common	Fair	Fair			1	15
northern red oak	Quercus rubra	WDH	Medium	49.2	181.3	2.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	16
white ash	Fraxinus americana	WDL	Medium	32.5	169.1	3.0	Sm. dec.	No change	Low	Common	Poor	Poor			0	17
flowering dogwood	Cornus florida	WDL	Medium	68.9	164.9	1.9	No change	No change	Medium	Common	Fair	Fair			1	18
blackgum	Nyssa sylvatica	WDL	Medium	60.7	154.0	1.8	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
winged elm	Ulmus alata	WDL	Medium	34	132.2	3.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	20
mockernut hickory	Carya alba	WDL	Medium	45.9	117.1	2.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	21
post oak	Quercus stellata	WDH	High	27.6	107.3	3.4	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	22
American beech	Fagus grandifolia	WDH	High	32.4	102.1	2.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	23
willow oak	Quercus phellos	NSL	Low	17.7	87.7	4.3	No change	Sm. inc.	Medium	Common	Fair	Good			1	24
green ash	Fraxinus pennsylvanica	WSH	Low	14.4	79.1	4.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	25
black walnut	Juglans nigra	WDH	Low	17.2	77.7	3.9	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	26
ailanthus	Ailanthus altissima	NSL	FIA	10	76.6	6.6	Unknown	Unknown	NA	Common	NNIS	NNIS			0	27
black locust	Robinia pseudoacacia	NDH	Low	18.3	76.4	3.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	28
black oak	Quercus velutina	WDH	High	29.4	75.4	2.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	29
American elm	Ulmus americana	WDH	Medium	25.9	72.5	2.4	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	30
common persimmon	Diospyros virginiana	NSL	Low	17.6	72.2	3.7	Lg. dec.	Lg. dec.	High	Common	Fair	Fair			1	31
American holly	Ilex opaca	NSL	Medium	29.5	69.5	1.9	No change	No change	Medium	Common	Fair	Fair			1	32
sweet birch	Betula lenta	NDH	High	10.6	67.8	3.0	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	2	33
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	24.1	64.2	2.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	34
shagbark hickory	Carya ovata	WSL	Medium	14	63.9	3.8	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	35
hackberry	Celtis occidentalis	WDH	Medium	11.4	61.6	3.3	Sm. dec.	No change	High	Common	Fair	Good			1	36
sycamore	Platanus occidentalis	NSL	Low	14.9	56.4	3.5	No change	Lg. inc.	Medium	Common	Fair	Very Good			1	37
eastern hemlock	Tsuga canadensis	NSH	High	8.6	41.8	3.3	No change	No change	Low	Rare	Very Poor	Very Poor			2	38
boxelder	Acer negundo	WSH	Low	5.9	41.4	3.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	39
pitch pine	Pinus rigida	NSH	High	7.3	41.3	4.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	40
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	8.7	34.9	2.0	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	41
eastern redbud	Cercis canadensis	NSL	Low	12.9	30.7	1.4	Lg. dec.	No change	Medium	Rare	Very Poor	Poor			1	42
slippery elm	Ulmus rubra	WSL	Low	8.6	29.9	2.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	43
longleaf pine	Pinus palustris	NSH	Medium	1.2	29.8	2.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	44
florida maple	Acer barbatum	NSL	Low	7.8	26.6	3.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	45
water oak	Quercus nigra	WDH	High	6	25.7	2.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	46
river birch	Betula nigra	NSL	Low	6.5	24.1	3.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	47

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butternut	Juglans cinerea	NSLX	FIA	2.2	17.7	5.6	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	48
sassafras	Sassafras albidum	WDL	Low	12	16.1	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	49
sugarberry	Celtis laevigata	NDH	Medium	1.3	16.0	9.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	50
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	9	14.7	2.0	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	51
Table Mountain pine	Pinus pungens	NSL	Low	2.4	14.0	4.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	52
red mulberry	Morus rubra	NSL	Low	4.7	12.8	1.4	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	53
black willow	Salix nigra	NSH	Low	3.1	12.4	3.5	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	54
blackjack oak	Quercus marilandica	NSL	Medium	3.3	8.0	1.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	55
sugar maple	Acer saccharum	WDL	High	2.7	7.5	2.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	56
sweetbay	Magnolia virginiana	NSL	Medium	0.3	7.2	1.9	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	57
cucumbertree	Magnolia acuminata	NSL	Low	5.4	6.9	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	58
silverbell	Halesia spp.	NSL	Low	0.9	6.8	3.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
swamp tupelo	Nyssa biflora	NDH	Medium	0.3	6.8	2.1	No change	No change	Low	Rare	Very Poor	Very Poor			2	60
overcup oak	Quercus lyrata	NSL	Medium	0.6	4.1	7.3	No change	No change	Low	Rare	Very Poor	Very Poor			2	61
American basswood	Tilia americana	WSL	Medium	1.6	3.8	1.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	62
turkey oak	Quercus laevis	NSH	Medium	0.4	3.7	1.2	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	63
serviceberry	Amelanchier spp.	NSL	Low	5	3.6	0.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	64
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	1.3	3.1	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	65
swamp chestnut oak	Quercus michauxii	NSL	Low	0.6	2.1	3.7	No change	No change	Medium	Rare	Poor	Poor	Infill +		2	66
laurel oak	Quercus laurifolia	NDH	Medium	1.1	1.9	1.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	67
southern magnolia	Magnolia grandiflora	NSL	Low	0.3	1.6	1.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	68
bitternut hickory	Carya cordiformis	WSL	Low	4.1	1.6	0.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	69
striped maple	Acer pensylvanicum	NSL	Medium	2.8	1.4	0.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	70
pin cherry	Prunus pensylvanica	NSL	Low	0.1	1.2	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	71
pawpaw	Asimina triloba	NSL	Low	0.6	1.0	1.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	72
yellow birch	Betula alleghaniensis	NDL	High	0.4	0.9	1.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	73
paulownia	Paulownia tomentosa	NSL	FIA	0.6	0.6	1.0	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	74
American chestnut	Castanea dentata	NSLX	FIA	0.1	0.6	0.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	75
shellbark hickory	Carya laciniosa	NSL	Low	0.6	0.5	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	76
honeylocust	Gleditsia triacanthos	NSH	Low	0.6	0.4	0.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	77
silver maple	Acer saccharinum	NSH	Low	0.6	0.4	0.6	Lg. dec.	Very Lg. dec.	High	Rare	Poor	Lost			0	78
pecan	Carya illinoensis	NSH	Low	0.6	0.3	0.6	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair		Infill +	2	79
yellow buckeye	Aesculus flava	NSL	Low	0.2	0.2	0.1	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			2	80
white mulberry	Morus alba	NSL	FIA	0.5	0.2	0.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	81
wild plum	Prunus americana	NSLX	FIA	0.5	0.2	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	82
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	83
sand pine	Pinus clausa	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	84
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	85
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	86
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	87
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	88
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	89
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	90
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	91
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Migrate +	3	92
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	93
redbay	Persea borbonia	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	94

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
Nuttall oak	Quercus texana	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	95
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	96
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	97
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	98
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	99