

	sq. km	sq. mi	FIA Plots
Area of Region	8,500.0	3,281.9	274

### 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	21	25	Increase	27	31	Very Good	12	10	Likely	2	4
Hickory	4			Medium	25	48	No Change	16	14	Good	13	20	Infill	8	13
Maple	5	Abundant	5	Low	37	13	Decrease	16	14	Fair	11	9	Migrate	4	11
Oak	8	Common	25	FIA	5		New	15	19	Poor	13	15			
Pine	6	Rare	34				Unknown	14	10	Very Poor	9	4			
Other	39	Absent	23							FIA Only	3	3			
	<b>64</b>		<b>87</b>		<b>88</b>	<b>86</b>		<b>88</b>	<b>88</b>	Unknown	9	5			
											<b>70</b>	<b>66</b>			

### Potential Changes in Climate Variables

#### Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	53.0	54.9	57.0	57.2	
Average	CCSM85	53.0	55.3	57.7	60.6	
	GFDL45	53.0	55.9	58.3	59.1	
	GFDL85	53.0	56.1	59.4	63.2	
	HAD45	53.0	55.4	58.5	59.7	
	HAD85	53.0	55.6	59.7	63.9	
Growing Season	CCSM45	66.9	68.8	70.8	71.3	
	CCSM85	66.9	69.1	71.7	75.5	
May—Sep	GFDL45	66.9	70.2	73.0	74.3	
	GFDL85	66.9	70.7	74.5	78.8	
	HAD45	66.9	69.9	72.9	74.4	
	HAD85	66.9	69.9	75.4	79.8	
Coldest Month	CCSM45	32.3	34.4	35.4	35.6	
Average	CCSM85	32.3	34.8	35.8	36.9	
	GFDL45	32.3	35.6	35.8	36.5	
	GFDL85	32.3	34.4	35.4	36.4	
	HAD45	32.3	32.8	34.7	35.0	
	HAD85	32.3	33.5	34.9	36.5	
Warmest Month	CCSM45	71.9	74.0	75.1	75.2	
Average	CCSM85	71.9	74.2	75.9	77.6	
	GFDL45	71.9	75.3	76.8	77.7	
	GFDL85	71.9	76.2	78.5	80.9	
	HAD45	71.9	75.4	77.4	78.2	
	HAD85	71.9	76.2	79.6	82.3	

#### Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	51.1	55.0	58.0	58.4	
Total	CCSM85	51.1	56.5	58.3	64.0	
	GFDL45	51.1	56.9	59.4	62.3	
	GFDL85	51.1	54.5	60.5	61.1	
	HAD45	51.1	52.8	55.0	55.0	
	HAD85	51.1	56.2	52.9	55.4	
Growing Season	CCSM45	22.8	26.0	27.6	28.0	
Season	CCSM85	22.8	26.2	26.2	28.9	
May—Sep	GFDL45	22.8	26.0	27.1	28.3	
	GFDL85	22.8	24.1	27.6	27.8	
	HAD45	22.8	24.0	23.7	24.0	
	HAD85	22.8	25.8	23.3	24.1	

**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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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
yellow-poplar	Liriodendron tulipifera	WDH	High	96.5	1319.7	14.3	Sm. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
chestnut oak	Quercus prinus	NDH	High	87.1	1246.3	15.1	No change	No change	High	Abundant	Very Good	Very Good			1	2
red maple	Acer rubrum	WDH	High	98.8	1111.7	11.8	No change	Sm. dec.	High	Abundant	Very Good	Good			1	3
eastern white pine	Pinus strobus	WDH	High	68.2	783.2	12.1	No change	No change	Low	Abundant	Fair	Fair			0	4
northern red oak	Quercus rubra	WDH	Medium	87.1	534.7	6.4	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	5
scarlet oak	Quercus coccinea	WDL	Medium	74.1	428.1	6.1	No change	No change	Medium	Common	Fair	Fair			1	6
sourwood	Oxydendrum arboreum	NDL	High	67.1	335.4	5.3	Sm. inc.	No change	High	Common	Very Good	Good			1	7
white oak	Quercus alba	WDH	Medium	71.8	334.8	5.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	8
sweet birch	Betula lenta	NDH	High	75.3	330.0	4.6	No change	Sm. dec.	Low	Common	Poor	Poor			0	9
black locust	Robinia pseudoacacia	NDH	Low	80	306.9	3.8	No change	No change	Medium	Common	Fair	Fair			1	10
blackgum	Nyssa sylvatica	WDL	Medium	78.8	235.8	3.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	11
Virginia pine	Pinus virginiana	NDH	High	42.4	215.1	5.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	12
pignut hickory	Carya glabra	WDL	Medium	54.1	197.5	3.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	13
mockernut hickory	Carya alba	WDL	Medium	50.6	153.0	3.3	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	14
black oak	Quercus velutina	WDH	High	50.6	148.0	3.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
eastern hemlock	Tsuga canadensis	NSH	High	44.7	147.6	3.6	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	16
black cherry	Prunus serotina	WDL	Medium	58.8	141.6	2.6	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	17
white ash	Fraxinus americana	WDL	Medium	35.3	121.3	3.4	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	18
yellow birch	Betula alleghaniensis	NDL	High	23.5	120.5	5.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	19
pitch pine	Pinus rigida	NSH	High	31.8	110.7	4.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	20
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	27.1	78.3	2.9	No change	No change	Low	Common	Poor	Poor			0	21
red spruce	Picea rubens	NDH	High	8.2	72.2	8.8	No change	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	2	22
cucumber tree	Magnolia acuminata	NSL	Low	35.3	65.9	2.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	23
black walnut	Juglans nigra	WDH	Low	16.5	64.6	3.9	No change	Sm. inc.	Medium	Common	Fair	Good			1	24
sugar maple	Acer saccharum	WDH	High	25.9	61.6	2.4	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
ailanthus	Ailanthus altissima	NSL	FIA	17.6	59.3	3.4	Unknown	Unknown	NA	Common	NNIS	NNIS			0	26
serviceberry	Amelanchier spp.	NSL	Low	42.4	58.5	1.5	No change	No change	Medium	Common	Fair	Fair			1	27
sassafras	Sassafras albidum	WSL	Low	34.1	56.6	1.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	28
American beech	Fagus grandifolia	WDH	High	24.7	53.4	2.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	29
flowering dogwood	Cornus florida	WDL	Medium	40	50.3	1.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	30
American basswood	Tilia americana	WSL	Medium	23.5	48.3	2.6	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	31
silverbell	Halesia spp.	NSL	Low	11.8	47.3	4.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	32
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	11.8	41.9	3.6	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair			1	33
Table Mountain pine	Pinus pungens	NSL	Low	15.3	41.5	3.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	34
pin cherry	Prunus pensylvanica	NSL	Low	8.2	39.1	4.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	35
shortleaf pine	Pinus echinata	WDH	High	18.8	35.2	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	36
striped maple	Acer pensylvanicum	NSL	Medium	24.7	34.0	1.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	37
southern red oak	Quercus falcata	WDL	Medium	9.4	30.1	3.2	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	38
green ash	Fraxinus pennsylvanica	WSH	Low	18.8	27.1	2.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	39
yellow buckeye	Aesculus flava	NSL	Low	11.8	18.3	1.6	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor	Infill +	Infill +	1	40
bitternut hickory	Carya cordiformis	WSL	Low	14.1	17.6	1.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	41
shagbark hickory	Carya ovata	WSL	Medium	8.2	17.4	2.1	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	42
eastern redbud	Cercis canadensis	NSL	Low	8.2	16.3	2.0	No change	No change	Medium	Rare	Poor	Poor			1	43
common persimmon	Diospyros virginiana	NSL	Low	4.7	16.2	3.4	No change	No change	High	Rare	Fair	Fair			1	44
eastern redcedar	Juniperus virginiana	WDH	Medium	3.5	15.3	4.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	45
American elm	Ulmus americana	WDH	Medium	10.6	13.8	1.3	Sm. dec.	Lg. inc.	Medium	Rare	Very Poor	Good		Infill ++	2	46
American holly	Ilex opaca	NSL	Medium	3.5	12.5	3.5	No change	No change	Medium	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
American chestnut	Castanea dentata	NSLX	FIA	11.8	11.2	1.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	48
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	2.4	9.9	4.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	49
paulownia	Paulownia tomentosa	NSL	FIA	4.7	8.6	1.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	50
loblolly pine	Pinus taeda	WDH	High	2.4	8.2	3.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	51
boxelder	Acer negundo	WSH	Low	4.7	6.5	1.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	52
post oak	Quercus stellata	WDH	High	3.5	5.8	1.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	53
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	5.9	5.7	1.0	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	54
sycamore	Platanus occidentalis	NSL	Low	4.7	4.9	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	55
slippery elm	Ulmus rubra	WSL	Low	9.4	4.3	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	56
pawpaw	Asimina triloba	NSL	Low	4.7	4.0	0.9	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	57
American mountain-ash	Sorbus americana	NSL	Low	3.5	2.8	0.8	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	58
hackberry	Celtis occidentalis	WDH	Medium	2.4	2.7	1.2	No change	Sm. inc.	High	Rare	Fair	Good			2	59
red mulberry	Morus rubra	NSL	Low	1.2	1.8	1.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	60
southern magnolia	Magnolia grandiflora	NSL	Low	2.4	1.3	0.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	61
mountain maple	Acer spicatum	NSL	Low	1.2	0.9	0.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	62
butternut	Juglans cinerea	NSLX	FIA	1.2	0.8	0.7	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	63
river birch	Betula nigra	NSL	Low	1.2	0.7	0.6	Very Lg. dec.	Lg. inc.	Medium	Rare	Lost	Good		Infill ++	2	64
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	65
pond cypress	Taxodium ascendens	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	66
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	67
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	68
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	69
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	70
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			3	71
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	72
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	73
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	74
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	75
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Likely +	3	76
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	77
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	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	Unknown	Low	Absent	Unknown	Unknown			0	80
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	81
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	82
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	83
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	84
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	85
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	86
black willow	Salix nigra	NSH	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat		Likely +	3	87
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	88