

	sq. km	sq. mi	FIA Plots
Area of Region	8,507.4	3,284.7	163

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	22	24	Increase	22	24	Very Good	5	7	Likely	2	1
Hickory	4			Medium	33	52	No Change	10	11	Good	22	23	Infill	26	31
Maple	5	Abundant	3	Low	33	12	Decrease	30	27	Fair	6	6	Migrate	2	3
Oak	14	Common	31	FIA	5		New	21	21	Poor	16	14			
Pine	5	Rare	33				Unknown	10	10	Very Poor	10	9			
Other	37	Absent	26							FIA Only	0	0			
	<b>67</b>		<b>93</b>		<b>93</b>	<b>88</b>		<b>93</b>	<b>93</b>	Unknown	5	5			
											<b>64</b>	<b>64</b>			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	55.3	57.0	59.2	59.5	
	CCSM85	55.3	57.4	59.9	63.0	
	GFDL45	55.3	58.9	60.8	61.9	
	GFDL85	55.3	58.5	61.9	65.9	
	HAD45	55.3	57.8	61.2	62.6	
	HAD85	55.3	58.0	62.1	66.6	
Growing Season (May—Sep)	CCSM45	70.9	72.7	74.6	75.1	
	CCSM85	70.9	73.0	75.7	79.5	
	GFDL45	70.9	75.1	77.4	79.0	
	GFDL85	70.9	75.0	78.9	83.3	
	HAD45	70.9	73.8	77.0	78.8	
	HAD85	70.9	73.8	78.6	83.7	
Coldest Month (Average)	CCSM45	31.8	33.7	35.1	35.6	
	CCSM85	31.8	34.3	35.5	37.0	
	GFDL45	31.8	35.0	35.5	36.2	
	GFDL85	31.8	34.5	35.6	37.0	
	HAD45	31.8	33.4	35.5	35.7	
	HAD85	31.8	33.8	35.6	37.4	
Warmest Month (Average)	CCSM45	76.7	78.9	79.8	80.0	
	CCSM85	76.7	78.9	80.9	82.4	
	GFDL45	76.7	79.8	81.6	83.0	
	GFDL85	76.7	81.3	83.5	86.2	
	HAD45	76.7	80.1	82.2	83.2	
	HAD85	76.7	80.5	83.5	86.9	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	42.1	45.7	48.1	48.7	
	CCSM85	42.1	46.4	47.7	54.5	
	GFDL45	42.1	46.9	49.9	50.5	
	GFDL85	42.1	43.4	50.0	51.2	
	HAD45	42.1	44.8	45.9	44.7	
	HAD85	42.1	48.3	43.8	47.3	
Growing Season (May—Sep)	CCSM45	19.3	22.6	23.9	24.2	
	CCSM85	19.3	22.6	23.0	26.4	
	GFDL45	19.3	20.5	21.9	22.2	
	GFDL85	19.3	18.7	21.5	21.9	
	HAD45	19.3	21.2	20.0	18.8	
	HAD85	19.3	21.6	18.5	19.7	

**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-DGP30 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	74.1	872.3	15.3	Lg. dec.	Lg. dec.	High	Abundant	Good	Good	Infill ++	Infill ++	2	1
white oak	Quercus alba	WDH	Medium	59.7	747.8	13.8	Sm. dec.	Sm. dec.	High	Abundant	Good	Good	Infill ++	Infill ++	2	2
red maple	Acer rubrum	WDH	High	69.5	601.8	10.3	Sm. dec.	Sm. dec.	High	Abundant	Good	Good	Infill ++	Infill ++	2	3
Virginia pine	Pinus virginiana	NDH	High	44.4	414.9	10.7	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	4
eastern redcedar	Juniperus virginiana	WDH	Medium	41	381.6	11.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	2	5
chestnut oak	Quercus prinus	NDH	High	42.2	378.2	13.5	Lg. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	6
black oak	Quercus velutina	WDH	High	46.1	275.8	7.0	Sm. inc.	No change	Medium	Common	Good	Fair	Infill ++	Infill +	2	7
pignut hickory	Carya glabra	WDL	Medium	54.6	268.7	5.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	8
mockernut hickory	Carya alba	WDL	Medium	44.1	250.7	6.1	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	2	9
black locust	Robinia pseudoacacia	NDH	Low	35.6	242.0	10.6	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	10
American beech	Fagus grandifolia	WDH	High	36.6	224.2	7.4	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	11
northern red oak	Quercus rubra	WDH	Medium	49.5	218.5	5.7	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	2	12
blackgum	Nyssa sylvatica	WDL	Medium	63.6	212.8	4.1	No change	Sm. inc.	High	Common	Good	Very Good	Infill ++	Infill ++	2	13
white ash	Fraxinus americana	WDL	Medium	45.1	196.9	6.2	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	2	14
black cherry	Prunus serotina	WDL	Medium	53.3	190.8	4.9	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	2	15
southern red oak	Quercus falcata	WDL	Medium	26.1	143.3	5.8	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			2	16
black walnut	Juglans nigra	WDH	Low	31.7	130.4	5.6	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	17
sweetgum	Liquidambar styraciflua	WDH	High	15.9	125.5	8.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			2	18
pin oak	Quercus palustris	NSH	Low	16.5	118.7	9.3	Lg. dec.	Sm. dec.	Low	Common	Very Poor	Poor		Infill +	2	19
American elm	Ulmus americana	WDH	Medium	40.6	113.7	4.5	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	20
boxelder	Acer negundo	WSH	Low	14.8	100.0	8.6	Sm. dec.	No change	High	Common	Fair	Good	Infill +	Infill ++	2	21
green ash	Fraxinus pennsylvanica	WSH	Low	17.2	91.2	6.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			2	22
American holly	Ilex opaca	NSL	Medium	21.7	86.5	3.9	Sm. dec.	No change	Medium	Common	Poor	Fair		Infill +	2	23
flowering dogwood	Cornus florida	WDL	Medium	31.3	81.0	2.9	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	24
sassafras	Sassafras albidum	WSL	Low	24.8	76.8	3.5	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	25
bitternut hickory	Carya cordiformis	WSL	Low	18.8	74.9	7.4	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	2	26
sycamore	Platanus occidentalis	NSL	Low	30	70.2	6.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	2	27
hackberry	Celtis occidentalis	WDH	Medium	25.4	69.2	3.8	Sm. dec.	No change	High	Common	Fair	Good		Infill ++	2	28
scarlet oak	Quercus coccinea	WDL	Medium	30.1	68.3	3.6	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	2	29
eastern cottonwood	Populus deltoides	NSH	Low	1.2	65.5	55.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	30
Norway spruce	Picea abies	NSH	FIA	1.2	58.8	50.0	Unknown	Unknown	NA	Common	NNIS	NNIS			0	31
ailanthus	Ailanthus altissima	NSL	FIA	25.5	58.5	4.1	Unknown	Unknown	NA	Common	NNIS	NNIS			0	32
loblolly pine	Pinus taeda	WDH	High	2.4	55.5	23.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			2	33
eastern redbud	Cercis canadensis	NSL	Low	14.1	52.0	5.0	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	34
willow oak	Quercus phellos	NSL	Low	11.3	38.4	3.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	35
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	18.2	38.1	2.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	36
slippery elm	Ulmus rubra	WSL	Low	11.8	37.9	3.2	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	37
post oak	Quercus stellata	WDH	High	8.2	36.8	4.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	38
bigtooth aspen	Populus grandidentata	NSL	Medium	7.1	35.6	5.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
common persimmon	Diospyros virginiana	NSL	Low	13.6	31.0	3.1	Sm. inc.	Lg. inc.	High	Rare	Good	Good			2	40
eastern white pine	Pinus strobus	WDH	High	2.4	27.5	11.7	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	41
silver maple	Acer saccharinum	NSH	Low	2.4	21.5	9.1	No change	No change	High	Rare	Fair	Fair		Infill +	2	42
shortleaf pine	Pinus echinata	WDH	High	5.9	21.2	3.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	43
pawpaw	Asimina triloba	NSL	Low	11.2	21.1	2.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	44
sweet birch	Betula lenta	NDH	High	5.9	17.7	3.0	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	45
river birch	Betula nigra	NSL	Low	5.9	14.4	2.5	No change	Sm. inc.	Medium	Rare	Poor	Fair		Infill +	2	46
swamp chestnut oak	Quercus michauxii	NSL	Low	1.2	12.0	10.2	No change	No change	Medium	Rare	Poor	Poor			0	47

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
sugar maple	Acer saccharum	WDH	High	4.7	10.7	2.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	48
red mulberry	Morus rubra	NSL	Low	5.9	8.7	11.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	49
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	1.2	6.7	5.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	50
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	1.2	5.5	4.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	51
white mulberry	Morus alba	NSL	FIA	1.2	3.9	3.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	52
black willow	Salix nigra	NSH	Low	1.2	3.5	3.0	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair			2	53
shagbark hickory	Carya ovata	WSL	Medium	2.4	3.4	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	54
paulownia	Paulownia tomentosa	NSL	FIA	2.4	2.9	1.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	55
blackjack oak	Quercus marilandica	NSL	Medium	2.4	2.6	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	56
serviceberry	Amelanchier spp.	NSL	Low	1.2	2.0	1.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	57
eastern hemlock	Tsuga canadensis	NSH	High	1.2	1.7	1.4	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	58
pin cherry	Prunus pensylvanica	NSL	Low	1.2	1.7	1.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
Norway maple	Acer platanoides	NSL	FIA	4.7	1.5	5.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	60
honeylocust	Gleditsia triacanthos	NSH	Low	1.2	1.3	1.1	Sm. dec.	Lg. inc.	High	Rare	Poor	Good			2	61
quaking aspen	Populus tremuloides	WDH	High	1.1	1.1	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	62
yellow birch	Betula alleghaniensis	NDL	High	1.2	1.0	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	63
shingle oak	Quercus imbricaria	NDH	Medium	1.2	0.8	0.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	64
laurel oak	Quercus laurifolia	NDH	Medium	1.2	0.7	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	65
winged elm	Ulmus alata	WDL	Medium	1.2	0.3	0.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	66
pitch pine	Pinus rigida	NSH	High	4.7	0.3	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	67
slash pine	Pinus elliotii	NDH	High	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	68
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	69
bald cypress	Taxodium distichum	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	70
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	71
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	72
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	73
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	74
water hickory	Carya aquatica	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	75
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	76
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	78
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	79
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	80
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	81
water tupelo	Nyssa aquatica	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	82
swamp tupelo	Nyssa biflora	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	83
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	84
redbay	Persea borbonia	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	85
water elm	Planera aquatica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	86
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	87
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	88
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	89
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	90
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	91
American basswood	Tilia americana	WSL	Medium	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown	Likely +		3	92
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	93