

	sq. km	sq. mi	FIA Plots
Area of Region	8,400.0	3,243.3	225

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	20	24	Increase	26	32	Very Good	10	10	Likely	0	0
Hickory	4			Medium	23	41	No Change	18	11	Good	17	21	Infill	38	40
Maple	4	Abundant	5	Low	30	10	Decrease	7	8	Fair	10	9	Migrate	7	11
Oak	8	Common	25	FIA	5		New	14	15	Poor	8	5		45	51
Pine	6	Rare	26				Unknown	13	12	Very Poor	5	4			
Other	32	Absent	21							FIA Only	2	2			
	56		77		78	75		78	78	Unknown	8	7			
											60	58			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	51.9	53.8	56.0	56.2	
	CCSM85	51.9	54.2	56.6	59.7	
	GFDL45	51.9	54.6	57.4	58.3	
	GFDL85	51.9	55.1	58.5	62.4	
	HAD45	51.9	54.3	57.6	58.9	
	HAD85	51.9	54.7	58.8	63.1	
Growing Season (May—Sep)	CCSM45	66.4	68.4	70.5	71.0	
	CCSM85	66.4	68.7	71.3	75.3	
	GFDL45	66.4	69.6	73.0	74.2	
	GFDL85	66.4	70.5	74.5	78.8	
	HAD45	66.4	69.5	72.7	74.2	
	HAD85	66.4	69.7	75.2	79.7	
Coldest Month (Average)	CCSM45	29.6	31.5	32.8	33.2	
	CCSM85	29.6	32.3	33.3	34.5	
	GFDL45	29.6	33.1	33.6	34.2	
	GFDL85	29.6	32.0	33.0	34.1	
	HAD45	29.6	30.3	32.3	32.6	
	HAD85	29.6	31.0	32.4	34.1	
Warmest Month (Average)	CCSM45	71.5	73.7	74.9	75.1	
	CCSM85	71.5	73.9	75.6	77.4	
	GFDL45	71.5	75.1	77.0	77.9	
	GFDL85	71.5	76.5	79.0	81.5	
	HAD45	71.5	75.1	77.5	78.4	
	HAD85	71.5	76.2	79.8	82.6	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	42.2	45.2	47.0	47.2	
	CCSM85	42.2	46.6	47.4	51.8	
	GFDL45	42.2	46.2	47.6	50.3	
	GFDL85	42.2	44.0	48.7	49.6	
	HAD45	42.2	43.5	44.0	43.8	
	HAD85	42.2	44.4	42.6	44.2	
Growing Season (May—Sep)	CCSM45	19.8	22.2	23.0	22.9	
	CCSM85	19.8	22.4	21.7	24.0	
	GFDL45	19.8	21.8	21.8	23.1	
	GFDL85	19.8	20.1	21.9	22.1	
	HAD45	19.8	20.8	19.6	19.9	
	HAD85	19.8	20.8	19.4	20.0	

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
red maple	Acer rubrum	WDH	High	82.1	986.8	12.0	No change	Sm. dec.	High	Abundant	Very Good	Good			1	1
yellow-poplar	Liriodendron tulipifera	WDH	High	76.2	975.7	12.8	No change	Sm. dec.	High	Abundant	Very Good	Good	Infill ++	Infill ++	1	2
chestnut oak	Quercus prinus	NDH	High	71.4	891.9	12.5	No change	No change	High	Abundant	Very Good	Very Good	Infill ++	Infill ++	1	3
white oak	Quercus alba	WDH	Medium	75	634.7	8.5	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good	Infill ++	Infill ++	1	4
northern red oak	Quercus rubra	WDH	Medium	78.6	554.7	7.1	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good	Infill ++	Infill ++	1	5
black oak	Quercus velutina	WDH	High	64.3	491.5	7.7	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	6
black locust	Robinia pseudoacacia	NDH	Low	75	482.8	6.4	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	7
sugar maple	Acer saccharum	WDH	High	73.8	478.5	6.5	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	8
scarlet oak	Quercus coccinea	WDL	Medium	58.3	325.6	5.6	Sm. inc.	No change	Medium	Common	Good	Fair	Infill ++	Infill +	1	9
eastern white pine	Pinus strobus	WDH	High	34.5	315.6	9.1	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	1	10
sourwood	Oxydendrum arboreum	NDL	High	61.9	280.2	4.5	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	11
American beech	Fagus grandifolia	WDH	High	48.8	261.2	5.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	12
white ash	Fraxinus americana	WDL	Medium	50	260.9	5.2	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	13
eastern hemlock	Tsuga canadensis	NSH	High	36.9	231.2	6.3	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	14
pignut hickory	Carya glabra	WDL	Medium	59.5	220.1	3.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	15
black cherry	Prunus serotina	WDL	Medium	51.2	214.2	4.2	No change	Sm. inc.	Low	Common	Poor	Fair	Infill +	Infill +	1	16
Virginia pine	Pinus virginiana	NDH	High	16.7	166.7	10.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	17
sweet birch	Betula lenta	NDH	High	46.4	165.6	3.6	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	18
mockernut hickory	Carya alba	WDL	Medium	53.6	158.9	3.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	19
yellow buckeye	Aesculus flava	NSL	Low	25	132.7	5.3	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor	Infill +		0	20
blackgum	Nyssa sylvatica	WDL	Medium	54.8	115.8	2.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	21
American basswood	Tilia americana	WSL	Medium	27.4	111.3	4.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	22
sassafras	Sassafras albidum	WSL	Low	39.3	106.4	2.7	Lg. inc.	Sm. inc.	Medium	Common	Very Good	Good	Infill ++	Infill ++	1	23
cucumbertree	Magnolia acuminata	NSL	Low	35.7	95.2	2.7	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	24
eastern redcedar	Juniperus virginiana	WDH	Medium	7.1	82.7	11.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	25
shagbark hickory	Carya ovata	WSL	Medium	31	78.8	2.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	26
bitternut hickory	Carya cordiformis	WSL	Low	21.4	72.4	3.4	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	27
black walnut	Juglans nigra	WDH	Low	17.9	69.8	3.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	28
American elm	Ulmus americana	WDL	Medium	11.9	67.3	5.7	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	29
slippery elm	Ulmus rubra	WSL	Low	14.3	55.3	3.9	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	30
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	20.2	38.8	1.9	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor			0	31
flowering dogwood	Cornus florida	WDL	Medium	28.6	38.6	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	32
sycamore	Platanus occidentalis	NSL	Low	7.1	35.1	4.9	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	33
serviceberry	Amelanchier spp.	NSL	Low	23.8	33.1	1.4	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	34
chinkapin oak	Quercus muehlenbergii	NSL	Medium	4.8	32.7	6.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	35
yellow birch	Betula alleghaniensis	NDL	High	6	32.5	5.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	36
striped maple	Acer pensylvanicum	NSL	Medium	16.7	29.1	1.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	37
pitch pine	Pinus rigida	NSH	High	11.9	29.1	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	38
ailanthus	Ailanthus altissima	NSL	FIA	3.6	29.0	8.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	39
butternut	Juglans cinerea	NSLX	FIA	6	28.9	4.8	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	40
Table Mountain pine	Pinus pungens	NSL	Low	6	25.9	4.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	41
eastern hophornbeam; ironw	Ostrya virginiana	WDL	Low	16.7	20.1	1.2	Sm. inc.	Lg. inc.	High	Rare	Good	Good		Infill ++	1	42
post oak	Quercus stellata	WDH	High	3.6	17.7	5.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	43
Norway spruce	Picea abies	NSH	FIA	3.6	16.8	4.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	44
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	10.7	14.5	1.4	Sm. dec.	Lg. inc.	Medium	Rare	Very Poor	Good		Infill ++	1	45
eastern redbud	Cercis canadensis	NSL	Low	6	13.0	2.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	46
American chestnut	Castanea dentata	NSLX	FIA	13.1	10.6	0.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			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			
shortleaf pine	Pinus echinata	WDH	High	3.6	8.3	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	48			
boxelder	Acer negundo	WSH	Low	3.6	6.4	1.8	No change	Sm. inc.	High	Rare	Fair	Good		Infill ++		2	49		
red pine	Pinus resinosa	NSH	Medium	2.4	5.4	2.3	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor				0	50		
green ash	Fraxinus pennsylvanica	WSH	Low	4.8	3.3	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++		2	51		
hackberry	Celtis occidentalis	WDH	Medium	2.4	3.1	1.3	No change	Lg. inc.	High	Rare	Fair	Good					2	52	
paulownia	Paulownia tomentosa	NSL	FIA	2.4	3.0	1.3	Unknown	Unknown	NA	Rare	NNIS	NNIS					0	53	
southern red oak	Quercus falcata	WDL	Medium	1.2	2.4	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good					2	54	
pin cherry	Prunus pensylvanica	NSL	Low	1.2	0.9	0.8	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost					0	55	
American holly	Ilex opaca	NSL	Medium	1.2	0.8	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost					0	56	
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++			3	57	
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat						3	58
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +				3	59
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown						0	60
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown						0	61
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown						0	62
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat						0	63
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown						0	64
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat						0	65
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +				3	66
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++				3	67
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat						3	68
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Migrate +				3	69
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++				3	70
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown						3	71
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown						3	72
red mulberry	Morus rubra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +				3	73
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++				3	74
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +				3	75
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +				3	76
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown						0	77
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++				3	78